Open File Envelope No. 9416

EL 2225

EMU DAM

DATA RELEASE UPON LICENCE RENEWAL : ANNUAL REPORTS FOR THE PERIOD 4/11/96 TO 3/11/2001

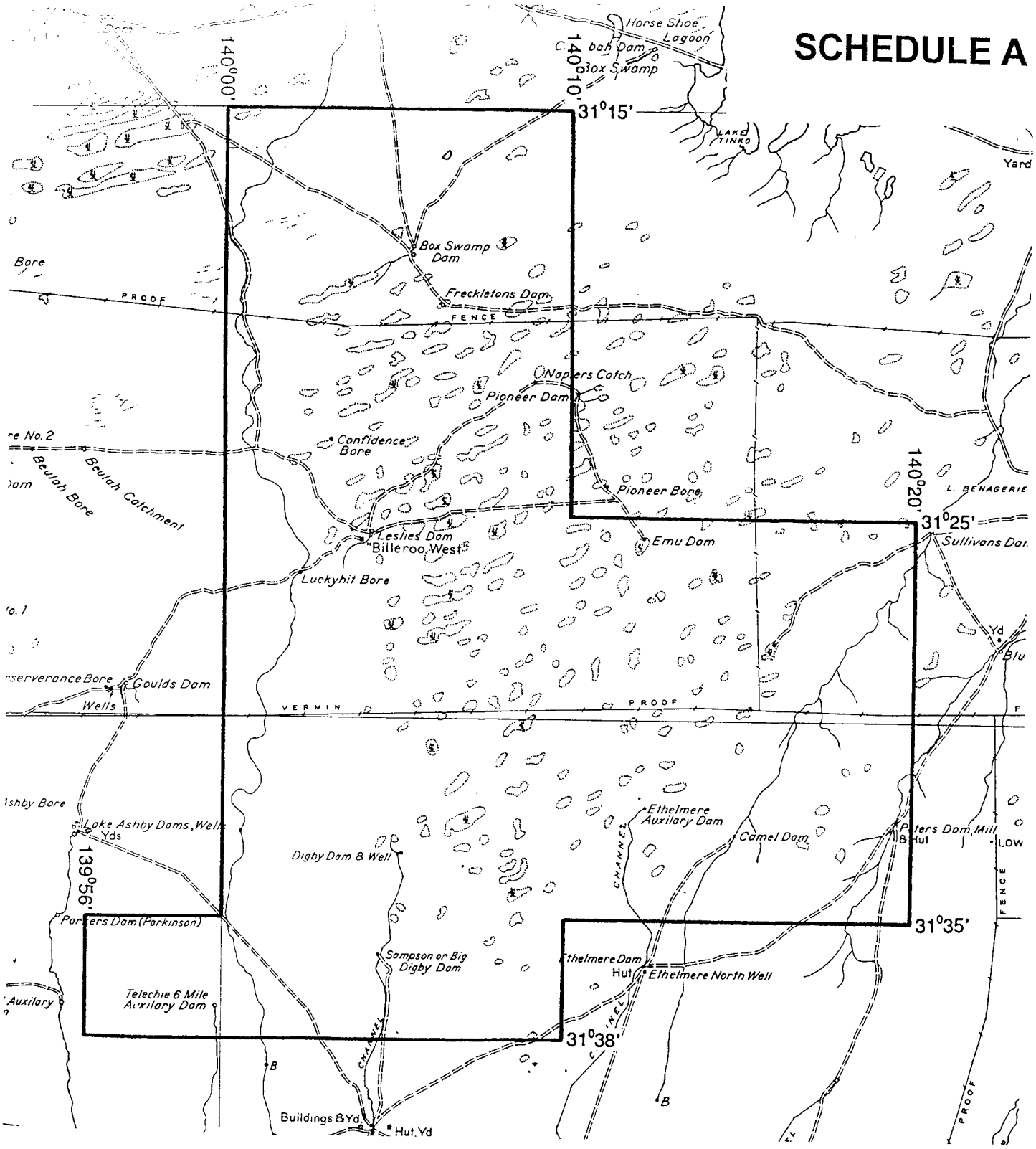
Submitted by
Pasminco Exploration
2001

Enquiries: Customer Services Branch
Minerals and Energy Resources
7th Floor
101 Grenfell Street, Adelaide 5000

Telephone: (08) 8463 3000
Facsimile: (08) 8204 1880

Government of South Australia
Primary Industries and Resources SA

SCHEDULE A



SCALE 1 : 250 000

5 0 5 10 15 20 25

KILOMETRES

APPLICANT : **PASMINCO AUSTRALIA LTD.**

DM : **292/96**

AREA : **999** square kilometres (approx.)

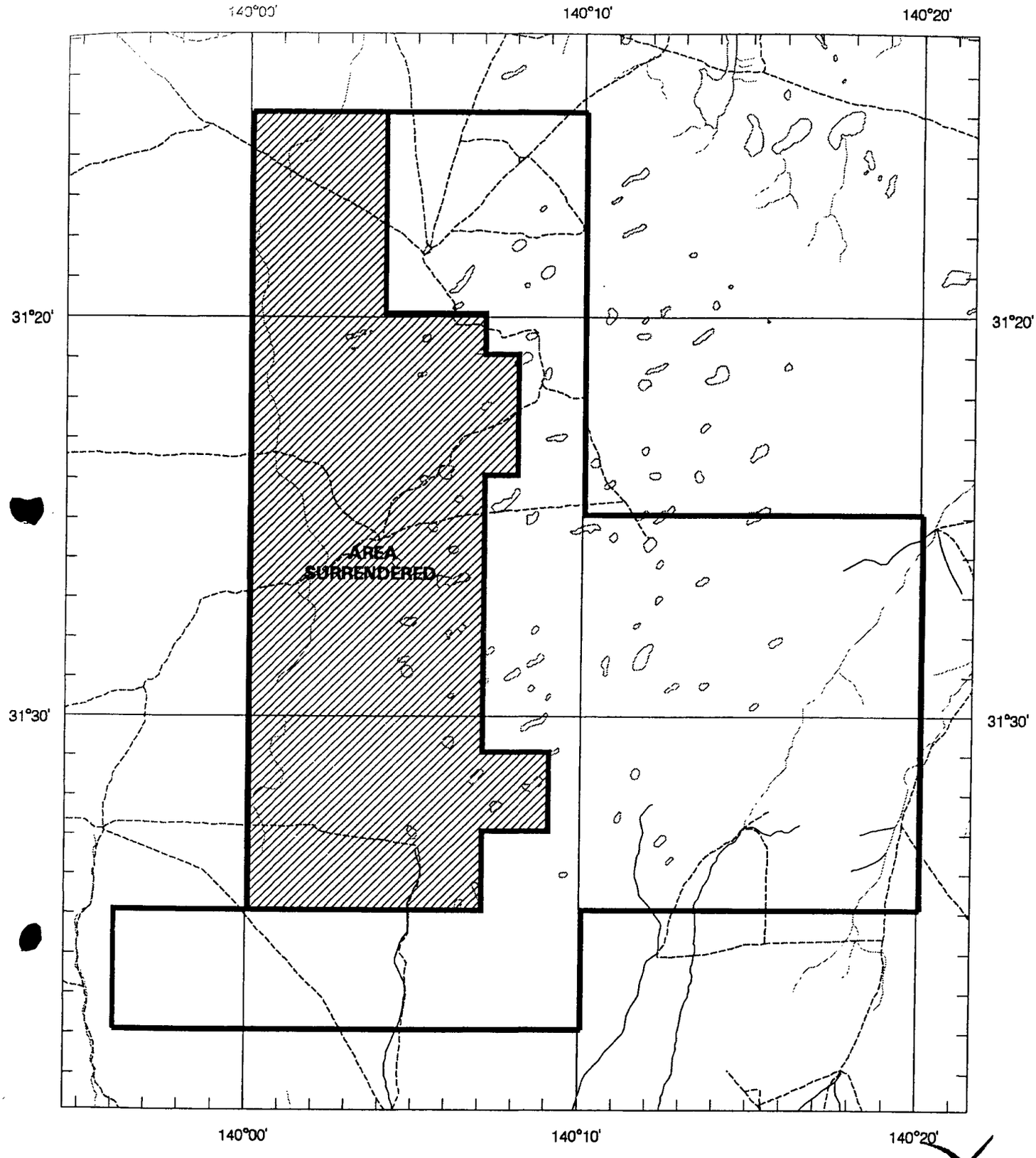
1:250 000 PLANS : **CURNAMONA**

LOCALITY : **BILLEROO WEST AREA - Approximately 80 km north of Olary**

DATE GRANTED : **4 November 1996** DATE EXPIRED : **3 November 1997**

EL No : 2225

SCHEDULE A



SCALE 1 : 250 000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

LICENCE GRANTED IN : DATUM AGD66

GDA
GEOCENTRIC DATUM OF AUSTRALIA

APPLICANT : **PASMINCO AUSTRALIA LTD**

FILE REF : **292/96** TYPE : **MINERAL ONLY** AREA : **614** km² (approx.)

1:250000 MAPSHEETS : **CURNAMONA**

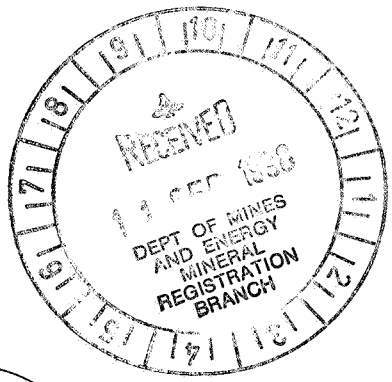
LOCALITY : **BILLEROO WEST AREA - Approximately 80 km north of Olary**

DATE GRANTED : **04-Nov-1996** DATE EXPIRED : **03-Nov-2000** EL NO : **2225**

PASMINCO EXPLORATION

BROKEN HILL, NEW SOUTH WALES

ANNUAL EXPLORATION REPORT FOR THE TWELVE MONTH PERIOD TO 3 NOVEMBER 1998 7 FOR EL 2225 (EMU DAM) SOUTH AUSTRALIA



Author: C P Skidmore

Date: August 1998

Submitted by:

Accepted by:

Copies to: PIRSA (2)
Lynch Mining Ltd
Pasminco Exploration - Melbourne
Pasminco Exploration - Broken Hill (2)

BH 181
PX 1422

7 September 1998

PASMINCO
EXPLORATION

The Director
Mineral Resources
PIRSA
191 Greenhill Rd
PARKSIDE SA 5063

Dear Sir

Re: **EL 2225 (Emu Dam)**

Please find enclosed Pasminco Exploration Report No BH181 titled "Annual Report for the Twelve Month Period to 3 November 1997 for EL 2225 (Emu Dam), South Australia".

Expenditure for EL 2225 (Emu Dam), for the twelve month period ending 3 November 1997 is $7,928.

Expenditure	**$**
Personnel	2,026
Travel & accommodation	1,517
Geological consultants	-
Geochemical consultants & assays	3
Geophysical surveys and consultants	-
Other consultants	20
Drilling	-
Stores & supplies	110
Vehicles plant & equipment	205
Land	3,055
Computing	17
Office	259
Administration Fee 10%	723
Total	**7,928**

To correct previous inaccuracies please amend your records to show total expenditure for EL 2225 on 3 November 1997 as $8643.

Yours faithfully

S P Newbery
Regional Exploration Manager

A Division of Pasminco Australia Limited
ACN 004 074 962

Eyre Street, Broken Hill NSW 2880
PO Box 703, Broken Hill NSW 2880

Telephone (080) 888 298
Facsimile (080) 888 312

SUMMARY

Exploration Licence 2225 Emu Dam (formerly Billeroo West) covering 999km^2 was granted on 4 November 1996 for one year (Plan 2PB2154). The Licence has been renewed by MESA (Appendix 1) for a further twelve months to 3 November 1998 without reduction in area. The tenement is currently held in Joint Venture between Pasminco Exploration (70%) and Lynch Mining (30%).

Expenditure commitments on the licence were deferred in consideration of the significant exploration expenditure on the adjoining tenement, EL2152 Benagerie.

Work completed in the current term includes:

- compilation of open file drill hole data into GIS format.
- re-logging of open file holes at PIRSA Core Library.

Expenditure on EL 2225 to 3 November 1997 is $7,928.

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LIST OF PLANS

Plan No.	Title	Scale
2PB2154	Locality Map	1:300 000
2PB2155	Previous Exploration EL 2225 and EL2152 Boundaries Auslig Drainage, Lakes and Roads	1:250 000

LIST OF APPENDICES

1. TENEMENT HOLDING

Exploration Licence 2225 covering 999km^2 was applied for in July 1996 as "Billeroo West". The application was granted on 4 November 1996 and, to avoid confusion with pre-existing nomenclature was re-named "Emu Dam". A renewal to 3 November 1998 has been granted and expenditure in the first year has been deferred. The expenditure commitment for the period 4 November 1998 to 3 November 1999 has been set at $150,000.

The tenement is located 100kms northeast of Olary, South Australia and is contiguous with Exploration Licence 2152 Benagerie (Figure 2PB2154). These two tenements combined form the Benagerie Ridge Joint Venture between Pasminco Exploration (70%) and Lynch Mining (30%).

2. OVERVIEW OF REGIONAL GEOLOGY

The tenement incorporates a basement of Mesoproterozoic Willyama Supergroup rocks of the Curnamona Province. This basement is almost entirely overlain by Neoproterozoic Adelaidean sequences and Cambrian sediments. Cretaceous and Tertiary sediments cover the entire tenement. The Adelaidean sequences contain Upper Umberatana and Wilpena Groups and can be up to four hundred metres thick. The depth of the remaining overlying sediments varies from ten to one hundred metres and predominantly comprise shales, organic-rich clays and sand units.

The stratigraphy, structure and mineralisation potential of the basement Willyama Supergroup has been characterised and described in detail by various authors for example Ashley et al. (1995). A brief overview of their discussion is given below.

- The stratigraphy of the Willyama Supergroup rocks comprises a basal, highly migmatitic Composite Gneiss Suite (CGS) which stratigraphically underlies an extensive Quartzo-Feldspathic Suite (QFS) of predominantly albite-quartz composition. The QFS grades upwards into a Calc-silicate Suite (CS) which locally appears more potassic than the QFS. This suite is commonly mineralised (Cu-Zn-Co-Mo-Au-As) with low grade deposits identified at various locations throughout the region. This suite also commonly contains stratabound breccias which often display a haematite rich alteration commonly referred to as "Red Rock Alteration".

  Overlying this suite is a thin, relatively continuous but highly heterogeneous unit known as the Bimba Horizon (BH). This unit is often gossanous when exposed, sulphide-rich and relatively magnetic due to the common presence of iron formations. This latter characteristic contrasts the lower units thus making it a suitable marker horizon which is often identifiable on aero-magnetic images. This unit is stratigraphically overlain by a Pelitic Suite (PS) which is conspicuously graphitic towards the base.

- Five phases of deformation have been documented as having affected the region. D_1 and D_2 are considered to be early, predominantly ductile events resulting in refolded tight to isoclinal folds. D_3 generally resulted in retrograde shear-zones of greenschist facies assemblages. D_4 and D_5 which have been recognised in the Olary Block are related to Delamerian deformation.

- Metamorphism within the Olary region is poorly understood but at Emu Dam it appears the metamorphic grade is generally of greenschist facies.

- Several suites of intrusive bodies have been identified including S-, A- and I-type granitoids, mafic intrusives, pegmatites and a mafic alkaline-carbonatite complex. The A-type granitoids have been dated at ~1700 Ma, the I-type granitoids at ~1630 Ma and the S- type granitoids at ~1580 Ma. The date of the other intrusive bodies is not well constrained between ~1700 Ma and ~500 Ma.

- Numerous mineralised occurrences have been located throughout the Olary region within the Willyama Supergroup often dominated by Cu and U, however other

mineralisation including Zn, Pb, Co, As, Mn and Au is reasonably common in sub economic amounts. The genesis of these occurrences appears variable ranging from stratabound and stratiform deposits in the QFS, CS and BH to epigenetic deposits related to the igneous intrusives.

3. PREVIOUS EXPLORATION

The area of Exploration Licence 2225 has been previously covered in whole or in part by at least six tenements which reported significant exploration activity.

Exploration was directed toward Tertiary sedimentary uranium mineralisation as well as base metal targets in Willyama Group rocks.

A summary of exploration leading up to the current tenure is provided below:

3.1. Special Mining Lease (SML) 267 E A Rudd Pty Ltd (1969-1970)

The objective of exploration was to locate roll front sedimentary uranium deposits in Tertiary and Mesozoic sediments of the (then) unexplored Lake Frome Embayment. After reviewing water well and geophysical data nineteen rotary and core holes were drilled on SML 267 and adjoining SML 268. The drilling identified a sand palaeochannel which later proved to host the Gould's Dam uranium deposit west of Exploration Licence 2225. Two holes (EAR 12 and EAR 15) lie on Exploration Licence 2225 (Figure 2PB2155).

3.2. SML 414 Sedimentary Uranium NL (1970-1972)

Following an airborne radiometric survey, two drilling campaigns were completed one of which lies on Exploration Licence 2225. This comprised twelve holes (414-10 to 414-21) on an 18km east-west traverse in the Billeroo West area and totalling 1012.5m. The holes generally ranged from 72m to 130m in depth. No north-south trending sand channels were intersected and no anomalous radioactivity was detected in gamma logs. Hole locations are shown in Figure 2PB2155.

3.3. Exploration Licence (EL) 296 Mines Administration Pty Ltd and Teton Exploration Drilling Co Pty Ltd (Minad-Teton) (1977-1979)

Although sedimentary uranium was the principal target under this licence a report on the potential for mineralisation of the Roxby Downs type in the general area of the Frome Embayment was contracted to Ashley Geophysics. A report was prepared and one target was defined but the report is no longer in MESA's files relating to this licence.

Three resistivity lines (E2 to E4) and four rotary holes (E4 to E7) were completed on the area of Exploration Licence 2225 (Figure 2PB2155). It was concluded that because basement rocks were shallow at depths between 36m and 71m and Lower Tertiary sands were totally oxidised that the potential for sedimentary uranium deposition was low.

3.4. EL 522 Minad-Teton (1979-1981)

Minad-Teton pursued base metals targets as defined by magnetics and gravity as a follow-on from sedimentary uranium exploration. Airborne magnetic anomalies in the region were identified (and numbered) by Ashley Geophysics: anomaly M5 occurs on Exploration Licence 2225. Geox Pty Ltd were contracted to define M5 by gridding, ground magnetics and gravity surveys. The anomaly was covered with seven 1 to 2km spaced lined with two supplementary infill lines totalling 60km. Magnetic readings were taken at 100m intervals along lines with gravity at 200m. The ground detail lead to differentiation into four individual anomalies M5A north, M5A south, M5B, and M5C. Diamond drill hole ETM 5A-1 was drilled vertically to 541.5m to test the interpreted shallowest anomaly M5A south about 4km east of Emu Dam. The hole was logged with gamma, neutron, spontaneous potential and resistivity probes. Systematic magnetic susceptibility and density measurements were made on core samples but geochemical sampling was limited to 5 samples of basement volcanics which were analysed for Cu, Pb, Zn, Co, U, Mo, Sn, W, Ce, Nb, Y, Zr, Fe, Ti, Na, K, Si and Al. Petrology was also completed.

The hole intersected 76m of Cainozoic rocks, principally Tertiary Namba Formation, followed by 369m of Adelaidean rocks of the Upper Umberatana and Wilpena Groups before intersecting an angular unconformity at 444.6m and penetrating massive pink rhyolite ("Benagerie Volcanics") believed to be Mesoproterozoic. Magnetic susceptibility measurements showed volcanics by virtue of their magnetite content had a thirty fold contrast with the overlying sediments thus explaining the cause of the magnetic anomaly while SG measurements showed there was insufficient density contrast to explain the 0.3 to 3.5 mgal residual bouguer anomaly associated with the magnetic anomaly.

Petrological investigations by Teale (1995) indicate that the supposed volcanics intersected by BWM1A-1 are in fact altered and brecciated quartz-albite and quartz-K-feldspar metasediments.

3.5. EL 722 CSR Limited (1980-1982)

Minad-Teton as managers of a joint venture with CSR continued sedimentary uranium exploration of this licence which included resistivity traverses B3 and B17 which partly occur on Exploration Licence 2225 (2PB2155). Base metal exploration targeted magnetic anomalies identified by Ashley Geophysics including M1 which lies at the northern boundary of Exploration Licence 2225.

At anomaly M1 situated 20km east-north-east of Frome Downs Homestead, five 1km spaced north-south grid lines and two in-fill lines (total 60km) were surveyed with magnetics at 100m spaced stations and gravity at 200m intervals. A SIROTEM survey was also undertaken by Geoex over anomaly M1 at surface and downhole without detecting conductors.

Diamond drill hole BWM 1A-1 was drilled vertically to 600m into anomaly M1A a 1400nT anomaly which is the shallower of three which coalesce to form M1. The hole was logged with gamma, spontaneous potential, resistivity, neutron, and density probes; six samples were examined petrologically; 72 quarter core samples were analysed for Cu, Pb, Zn, Co, U, Mo, Sn, and W; and the magnetic susceptibility and density of the core was measured regularly.

The hole intersected 80m of Tertiary and Mesozoic, 44m of Cambrian and 245m of horizontal Adelaidean sediments (Upper Umberatana and Wilpena Groups) with an unconformity at 391.4m above fine grained orange-pink banded un-metamorphosed acid volcanics which showed limited variation to 600m ('Benagerie Volcanics'). The volcanics contain Na- and K- feldspar and quartz, ultra-fine haematite and patchy pervasive magnetite, with pyrite, trace galena and chalcopyrite in scattered sulphide-carbonate-fluorite veinlets. Magnetic susceptibility of the basement volcanics showed a 500 fold contrast with overlying sediments thus explaining the magnetic anomaly, however SG measurements showed insufficient density contrast to explain the bouguer anomaly. Base metal values were generally less that 100 ppm.

4. EXPLORATION COMPLETED IN THE TWELVE MONTH PERIOD TO 3 NOVEMBER 1997

4.1. Research and data compilation

In the twelve month period to 3 November 1997 exploration activity has comprised:

- Research into available open file drill hole information including compilation into GIS format
- Relogging of open file drill holes, in particular core from BWM 1A-1 and ETM 5A-1, at the MESA core library
- Compilation of geophysical data sets covering the licence area.

No further work has been completed during this period due to the deferment of expenditure by MESA as outlined in Appendix 1.

5. RESULTS AND INTERPRETATIONS

A review of the core from diamond hole BWM1A has shown that the previously logged volcanics are pervasively altered metasediments which are similar in style to Olympic Dam / Ernst Henry and more importantly are very similar to the alteration signatures identified on the Benagerie Ridge associated with significant Cu-Au-Mo mineralisation.

The structural setting inferred from geophysical images and observations made on drill core are considered to enhance the possibility of locating significant mineralisation in the tenement area.

6. RECOMMENDATIONS

Due to the depth of cover (~400m) and the sparsity of previous exploration the key exploration tools are deemed to be geophysics and geochemistry followed by diamond drilling of selected targets. Future planned work includes:

- Extension of the 1km x 1km gravity survey coverage over the entire tenement.
- Further relogging and sampling of existing drill holes.
- Partial leach soil geochemistry over broad geophysical targets.
- Water bore geochemistry.
- Diamond drilling of selected targets.

7. KEY WORDS

Lead, zinc, copper, gold, uranium, Willyama Supergroup, Bimba Formation, albite, pelite, Curnamona SH54-14, geophysics, Emu Dam

8. REFERENCES

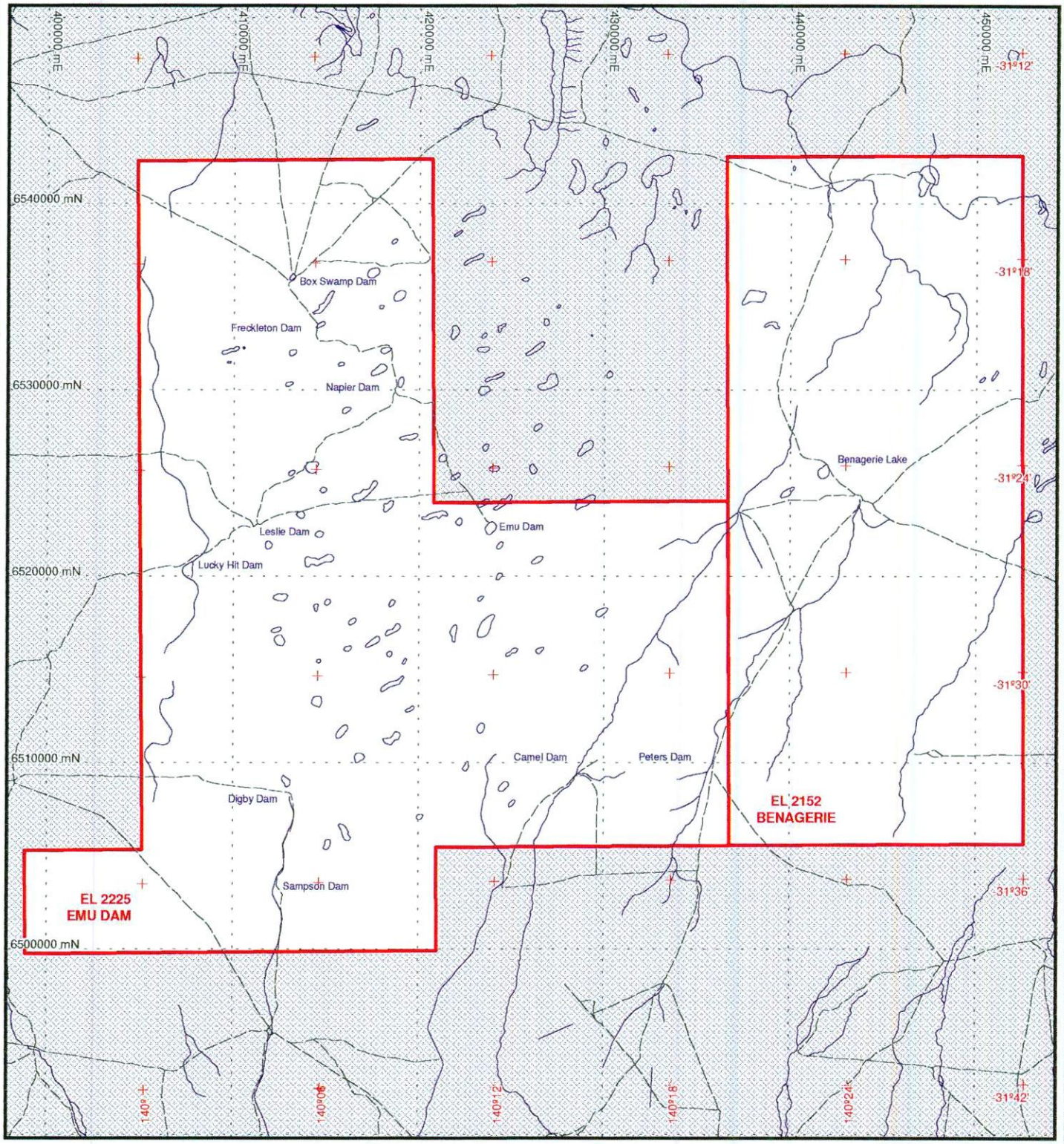
Teale G. and Hodkinson I., 1995. EL 2013, Billeroo West South Australia Summary Report (unpublished report of Lynch Mining Ltd).

Yates K. R. and Randell M. H., 1994. Review of Company Mineral Exploration Curnamona 1:250 000 Sheet South Australia. Department of Mines and Energy Geological Survey South Australia Report Book 93/48.

9. ADDITIONAL INFORMATION

9.1. Map Sheets

Curnamona Sheet 54-14 250K

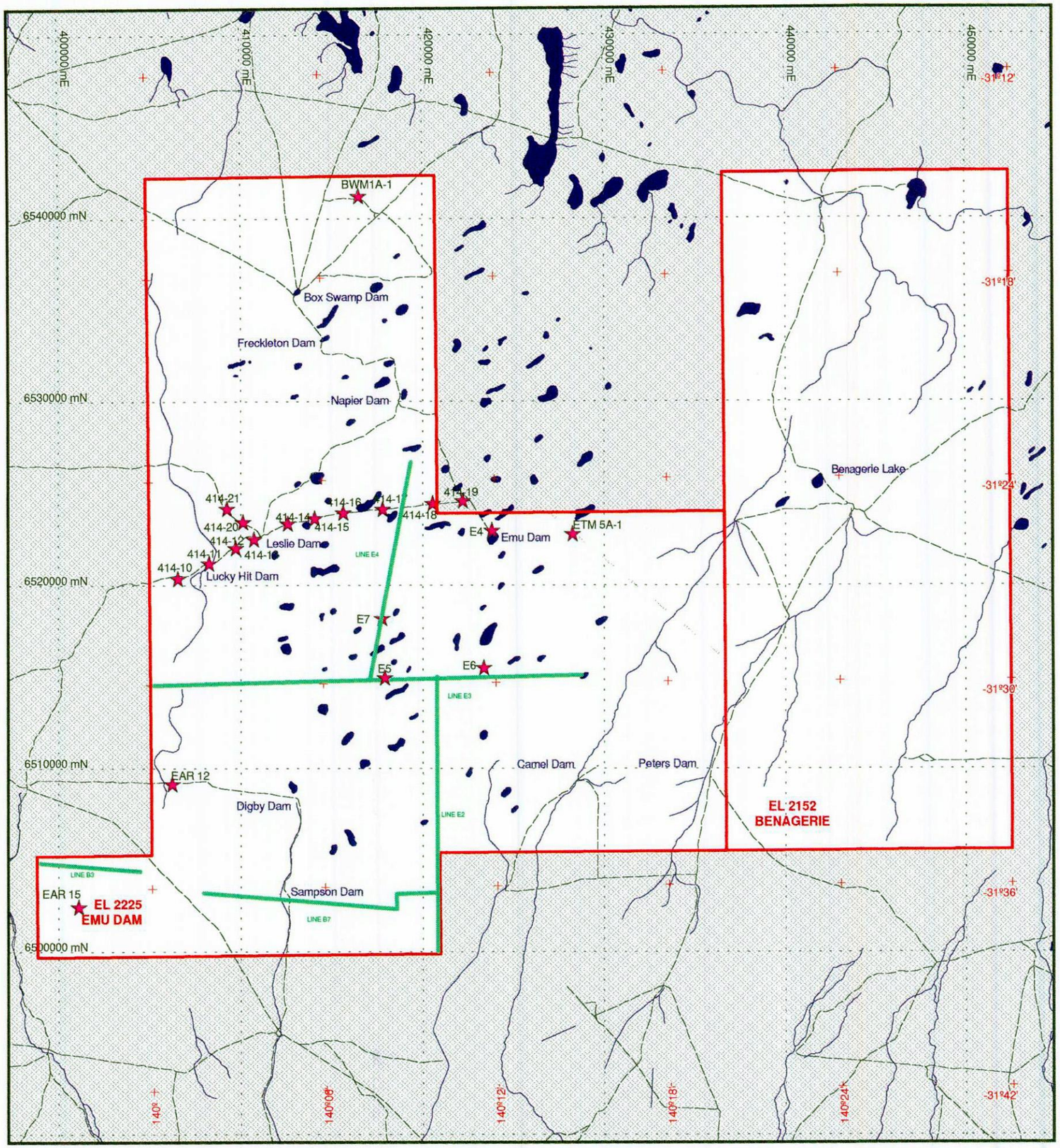


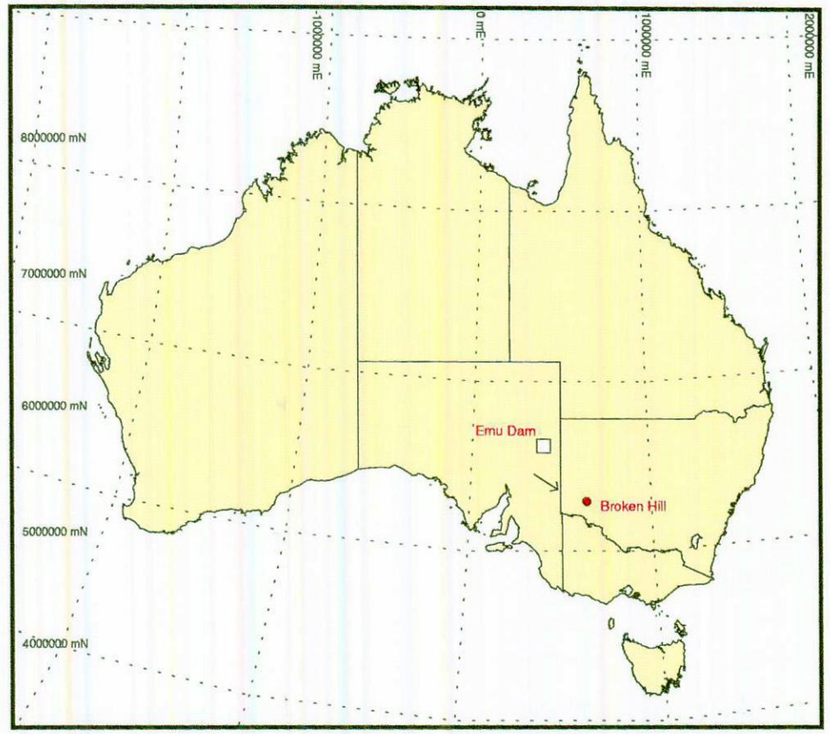
EL Boundary

Tracks

Drainage

	PASMINCO EXPLORATION BROKEN HILL				
	EL 2225 Emu Dam	File: AMG zone 54 (AGD 84)			
PROJECT	OLARY - Benagerie Ridge Joint Venture				
TITLE	Locality Map EL 2225 & EL2152 Boundaries Auslig Drainage, Lakes & Roads				
Author TL Maddern	Drawn TL Maddern	Date July 1998	Scale 1:300 000	Plan No. 2PB2154	





N
W E
S

EL Boundary

Previous Drilling

Resistivity Lines

Drainage

Tracks

0 15

Kilometres

PASMINCO EXPLORATION
BROKEN HILL

EL 2225 Emu Dam	File: AMG zone 54 (AGD 84)	
PROJECT	OLARY - Benagerie Ridge Joint Venture	
TITLE	Previous Exploration EL 2225 & EL2152 Boundaries Auslig Drainage, Lakes & Roads	
Author MH Randell	Drawn TL Maddern	Date July 1998	Scale 1:250 000	Plan No. 2PB2155

Appendix 1

Exploration Expenditure Commitments EL 2225 and EL 2061

MINES and ENERGY
SOUTH AUSTRALIA

RECEIVED 1 3 OCT 1997

191 Greenhill Road
Parkside
PO Box 151
EASTWOOD 5063
South Australia
Telephone:
Facsimile:

Our Ref: EL 2225 & 2061

8 October 1997

Mr S P Newbery
Regional Exploration Manager
Pasminco Exploration
PO Box 703
BROKEN HILL NSW 2880

Dear Steve

EXPLORATION EXPENDITURE COMMITMENTS EL 2225 AND EL 2061

I refer to our recent meeting in Adelaide (25 August 1997) and your follow-up letter 18 September 1997.

Considering the significant exploration effort and expenditure on EL 2152 (Benagerie) I am prepared to defer expenditure commitments on adjoining EL's 2225 and 2061 for the current terms.

The following expenditure commitments will apply on renewal of the licences with all previous expenditure commitment being deemed to have been met.

- EL 2225 - $125 000 for period 4/11/97 to 3/11/98
- EL 2061 - $150 000 for period 24/2/98 to 23/2/99

Yours sincerely

Neville Alley
ACTING DIRECTOR, MINERALS

C C:\MARION\KWITKO\NEWBERY.LTR

PASMINCO EXPLORATION

BROKEN HILL, NEW SOUTH WALES

ANNUAL EXPLORATION REPORT FOR THE TWELVE MONTH PERIOD TO 3 NOVEMBER 1998 FOR EL 2225 (EMU DAM) SOUTH AUSTRALIA

Author: **M.R. Hudson**

Date: **June 1999**

Submitted by:

Accepted by:

Copies to: PIRSA (2)
Lynch Mining Ltd
Pasminco Exploration - Melbourne
Pasminco Exploration - Broken Hill (2)

BH 218
PX 1542

23 June 1999

The Director
Mineral Resources
PIRSA
191 Greenhill Rd
PARKSIDE SA 5063

PASMINCO
EXPLORATION

Dear Sir

Re: **EL 2225 (Emu Dam)**

Please find enclosed Pasminco Exploration Report No BH181 titled "Annual Report for the Twelve Month Period from 4 November 1997 to 3 November 1998 for EL 2225 (Emu Dam), Olary District, South Australia".

Expenditure for EL 2225 (Emu Dam) for the twelve month period ending 3 November 1998 was $27,776.

Expenditure	$
Personnel	13,565
Travel & Accommodation	1,718
Geological Consultants	475
Geochemical Consultants & Assays	129
Geophysical Surveys & Consultants	2,384
Other Consultants	605
Drilling	271
Stores & Supplies	2,186
Vehicles Plant & Equipment	664
Land	6,687
Computing	1,775
Office	-5,208
Administration Fee 10%	2,525
Total Tenement Expenditure	**27,776**

Delays in gaining drill access occurred due to additional time being required to secure heritage clearances. At the end of the reporting period a drill rig was mobilised to EL 2225. As a consequence expenditure in the preceding two months following the reporting period (December 1998 and January 1999) allowed for expenditure to exceed minimum commitments.

Yours faithfully

S P Newbery
Regional Exploration Manager

Pasminco Exploration A Division of Pasminco Australia Limited ACN 004 074 962 • Eyre Street Broken Hill NSW 2880
PO Box 703 Broken Hill NSW 2880 • Telephone (08) 8088 8298 • Facsimile (08) 8088 8312

SUMMARY

Exploration Licence 2225 Emu Dam (formerly Billeroo West) covering 999km^2 was granted on 4 November 1996 for one year (Plan 2PB2154). The Licence has been renewed by MESA for two further twelve month periods to 3 November 1999 without reduction in area. The tenement is currently held in Joint Venture between Pasminco Exploration (70%) and Lynch Mining (30%).

Work completed in the current term includes:

- Compilation of open file drill hole data into GIS format.
- Collection of 1651 gravity stations at the Oberon Prospect and 615 gravity stations collected at the Titania Prospect.
- Ongoing work includes gaining heritage clearances, while processing and interpretation of the gravity data, in combination with pre-existing magnetic and drilling data has identified two drill targets.

Expenditure for EL 2225 (Emu Dam) for the twelve month period ending 3 November 1998 was $27,776.

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LIST OF PLANS

Plan No.	Title	Scale
2PB2154	Locality Map	1:300 000
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2PB2434	EL 2225 Emu Dam 1VD Gravity Titania and Oberon Prospects	1:300 000

LIST OF APPENDICES

1. TENEMENT HOLDING

Exploration Licence 2225 covering 999km^2 was applied for in July 1996 as "Billeroo West". The application was granted on 4 November 1996 and, to avoid confusion with pre-existing nomenclature was re-named "Emu Dam". A renewal to 3 November 1999 has been granted.

The tenement is located 100km northeast of Olary, South Australia and is contiguous with Exploration Licence 2152 Benagerie (Plan 2PB2154). These two tenements combined form the Benagerie Ridge Joint Venture between Pasminco Exploration (70%) and Lynch Mining (30%).

2. OVERVIEW OF REGIONAL GEOLOGY

The tenement incorporates a basement of Mesoproterozoic Willyama Supergroup rocks of the Curnamona Province. This basement is almost entirely overlain by Neoproterozoic Adelaidean sequences and Cambrian sediments. Cretaceous and Tertiary sediments cover the entire tenement. The Adelaidean sequences contain Upper Umberatana and Wilpena Groups and can be up to four hundred metres thick. The depth of the remaining overlying sediments varies from ten to one hundred metres and predominantly comprise shales, organic-rich clays and sand units.

The stratigraphy, structure and mineralisation potential of the basement Willyama Supergroup has been characterised and described in detail by various authors for example Ashley et al. (1995). A brief overview of their discussion is given below.

- The stratigraphy of the Willyama Supergroup rocks comprises a basal, highly migmatitic Composite Gneiss Suite (CGS) which stratigraphically underlies an extensive Quartzo-Feldspathic Suite (QFS) of predominantly albite-quartz composition. The QFS grades upwards into a Calc-silicate Suite (CS) which locally appears more potassic than the QFS. This suite is commonly mineralised (Cu-Zn-Co-Mo-Au-As) with low grade deposits identified at various locations throughout the region. This suite also commonly contains stratabound breccias which often display a haematite rich alteration commonly referred to as "Red Rock Alteration".

  Overlying this suite is a thin, relatively continuous but highly heterogeneous unit known as the Bimba Horizon (BH). This unit is often gossanous when exposed, sulphide-rich and relatively magnetic due to the common presence of iron formations. This latter characteristic contrasts the lower units thus making it a suitable marker horizon which is often identifiable on aero-magnetic images. This unit is stratigraphically overlain by a Pelitic Suite (PS) which is conspicuously graphitic towards the base.

- Five phases of deformation have been documented as having affected the region. D_1 and D_2 are considered to be early, predominantly ductile events resulting in refolded tight to isoclinal folds. D_3 generally resulted in retrograde shear-zones of greenschist facies assemblages. D_4 and D_5 which have been recognised in the Olary Block are related to Delamerian deformation.

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mineralisation including Zn, Pb, Co, As, Mn and Au is reasonably common in sub economic amounts. The genesis of these occurrences appears variable ranging from stratabound and stratiform deposits in the QFS, CS and BH to epigenetic deposits related to the igneous intrusives.

3. PREVIOUS EXPLORATION

The area of Exploration Licence 2225 has been previously covered in whole or in part by at least six tenements which reported significant exploration activity.

Exploration was directed toward Tertiary sedimentary uranium mineralisation as well as base metal targets in Willyama Supergroup rocks.

A summary of exploration leading up to the current tenure is provided below:

3.1. Special Mining Lease (SML) 267 E A Rudd Pty Ltd (1969-1970)

The objective of exploration was to locate roll front sedimentary uranium deposits in Tertiary and Mesozoic sediments of the (then) unexplored Lake Frome Embayment. After reviewing water well and geophysical data nineteen rotary and core holes were drilled on SML 267 and adjoining SML 268. The drilling identified a sand palaeochannel which later proved to host the Gould's Dam uranium deposit west of Exploration Licence 2225. Two holes (EAR 12 and EAR 15) lie on Exploration Licence 2225 (Plan 2PB2155).

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Following an airborne radiometric survey, two drilling campaigns were completed one of which lies on Exploration Licence 2225. This comprised twelve holes (414-10 to 414-21) on an 18km east-west traverse in the Billeroo West area and totalling 1012.5m. The holes generally ranged from 72m to 130m in depth. No north-south trending sand channels were intersected and no anomalous radioactivity was detected in gamma logs. Hole locations are shown in Plan 2PB2155.

3.3. Exploration Licence (EL) 296 Mines Administration Pty Ltd and Teton Exploration Drilling Co Pty Ltd (Minad-Teton) (1977-1979)

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Three resistivity lines (E2 to E4) and four rotary holes (E4 to E7) were completed on the area of Exploration Licence 2225 (Plan 2PB2155). It was concluded that because basement rocks were shallow at depths between 36m and 71m and Lower Tertiary sands were totally oxidised that the potential for sedimentary uranium deposition was low.

3.4. EL 522 Minad-Teton (1979-1981)

Minad-Teton pursued base metals targets as defined by magnetics and gravity as a follow-on from sedimentary uranium exploration. Airborne magnetic anomalies in the region were identified (and numbered) by Ashley Geophysics: anomaly M5 occurs on Exploration Licence 2225. Geox Pty Ltd were contracted to define M5 by gridding, ground magnetics and gravity surveys. The anomaly was covered with seven 1 to 2km spaced lined with two supplementary infill lines totalling 60km. Magnetic readings were taken at 100m intervals along lines with gravity at 200m. The ground detail lead to differentiation into four individual anomalies M5A north, M5A south, M5B, and M5C. Diamond drill hole ETM 5A-1 was drilled vertically to 541.5m to test the interpreted shallowest anomaly M5A south about 4km east of Emu Dam. The hole was logged with gamma, neutron, spontaneous potential and resistivity probes. Systematic magnetic susceptibility and density measurements were made on core samples but geochemical sampling was limited to 5 samples of basement volcanics which were analysed for Cu, Pb, Zn, Co, U, Mo, Sn, W, Ce, Nb, Y, Zr, Fe, Ti, Na, K, Si and Al. Petrology was also completed.

The hole intersected 76m of Cainozoic rocks, principally Tertiary Namba Formation, followed by 369m of Adelaidean rocks of the Upper Umberatana and Wilpena Groups before intersecting an angular unconformity at 444.6m and penetrating massive pink rhyolite ("Benagerie Volcanics") believed to be Mesoproterozoic. Magnetic susceptibility measurements showed volcanics by virtue of their magnetite content had a thirty fold contrast with the overlying sediments thus explaining the cause of the magnetic anomaly while SG measurements showed there was insufficient density contrast to explain the 0.3 to 3.5 mgal residual bouguer anomaly associated with the magnetic anomaly.

Petrological investigations by Teale (1995) indicate that the supposed volcanics intersected by BWM1A-1 are in fact altered and brecciated quartz-albite and quartz-K-feldspar metasediments.

3.5. EL 722 CSR Limited (1980-1982)

Minad-Teton as managers of a joint venture with CSR continued sedimentary uranium exploration of this licence which included resistivity traverses B3 and B17 which partly occur on Exploration Licence 2225 (Plan 2PB2155). Base metal exploration targeted magnetic anomalies identified by Ashley Geophysics including M1 which lies at the northern boundary of Exploration Licence 2225.

At anomaly M1 situated 20km east-north-east of Frome Downs Homestead, five 1km spaced north-south grid lines and two in-fill lines (total 60km) were surveyed with magnetics at 100m spaced stations and gravity at 200m intervals. A SIROTEM survey was also undertaken by Geoex over anomaly M1 at surface and downhole without detecting conductors.

Diamond drill hole BWM 1A-1 was drilled vertically to 600m into anomaly M1A a 1400nT anomaly which is the shallower of three which coalesce to form M1. The hole was logged with gamma, spontaneous potential, resistivity, neutron, and density probes; six samples were examined petrologically; 72 quarter core samples were analysed for Cu, Pb, Zn, Co, U, Mo, Sn, and W; and the magnetic susceptibility and density of the core was measured regularly.

The hole intersected 80m of Tertiary and Mesozoic, 44m of Cambrian and 245m of horizontal Adelaidean sediments (Upper Umberatana and Wilpena Groups) with an unconformity at 391.4m above fine grained orange-pink banded un-metamorphosed acid volcanics which showed limited variation to 600m ('Benagerie Volcanics'). The volcanics contain Na- and K- feldspar and quartz, ultra-fine haematite and patchy pervasive magnetite, with pyrite, trace galena and chalcopyrite in scattered sulphide-carbonate-fluorite veinlets. Magnetic susceptibility of the basement volcanics showed a 500 fold contrast with overlying sediments thus explaining the magnetic anomaly, however SG measurements showed insufficient density contrast to explain the bouguer anomaly. Base metal values were generally less that 100 ppm.

3.6. Previous Work By Pasminco Exploration (1996-1997)

Deferred expenditure commitments on the licence were granted by Mines and Energy South Australia (now Primary Industry and Resources South Australia) in October 1997 for the period to 4/1/97 in consideration of the significant exploration expenditure on the adjoining tenement, EL2152 Benagerie.

Work completed during the period included:

- compilation of open file drill hole data into GIS format.
- re-logging of open file holes at PIRSA Core Library.

4. EXPLORATION COMPLETED IN THE TWELVE MONTH PERIOD TO 3 NOVEMBER 1998

4.1. Research and Data Compilation

Research into available open file drill hole information including compilation into GIS format continued during the period, together with compilation of geophysical data sets covering the licence area.

4.2. Gravity Surveys

In October 1998 Haines Surveys collected 2266 gravity stations over two areas within the Emu Dam Exploration License (Figure 1 in Appendix 1). In the Oberon Area 1651 gravity stations were collected, while 615 gravity stations were collected over the Titania area. The two survey areas were selected to investigate high intensity magnetic complexes. Data stations for the two areas were collected on a 250m square grid. Both survey areas were tied into the national gravity grid at the time of collection. Appendix 1 contains the logistical report for the survey which outlines survey specifications and data processing.

4.3. Ongoing Work

Heritage assessments were organised to be completed in early December 1998.

Processing and interpretation of the gravity data, in combination with pre-existing magnetic and drilling data at the Titania and Oberon prospects has identified two drill targets. The Olympic Dam-style target model will test gravity and magnetic anomalies, coincident against interpreted major fault and fold structures. Drilling is planned to commence in December 1998.

5. RESULTS AND INTERPRETATIONS

5.1. Geological Synthesis

A review of the core from diamond hole BWM1A has shown that the previously logged volcanics are pervasively altered metasediments which are similar in style to Olympic Dam / Ernest Henry and more importantly, are very similar to the alteration signatures identified on the Benagerie Ridge associated with significant Cu-Au-Mo mineralisation. Therefore the main targets sought are gravity and magnetic anomalies adjacent to batholith-size gravity lows within Na-, Fe-, Ca-, K- altered sequences

5.2. Gravity Interpretation

The aim of increasing the gravity data acquisition on a regular 1x1 km grid was to:

- Aid in mapping of structures (both a regional and local), not readily discernible in aeromagnetic data.
- Define geological/terrain boundaries under the extensive cover.
- Delineate coincident magnetic and gravity anomalies.

5.2.1. Oberon Interpretation

A strong regional gradient decreases from west to east in the area (Figure 1 in Appendix 1 and Plan 2PB2434). The data also defines a large gravity high (2 milligal) in the northwest of the area and a subtle anomaly (1 milligal) is defined to the southwest. The two anomalies are separated by a northwesterly striking linear. The large anomaly corresponds with the western edge of the high intensity magnetic complex.

A northerly striking feature appears to abruptly truncate the gravity high zone on the western side of the area from the gravity low associated with the Benagerie Ridge granite on the east.

5.2.2. Titania Interpretation

A large amplitude (5 milligal) anomaly was defined to the south of the magnetic complex. However, the first vertical derivative defines isolated north-northeasterly trending gravity highs offset by north-easterly and northwesterly structures (Plan 2PB2434). These residual gravity highs tend to correspond with the magnetic highs defined in the 1VD magnetic image.

6. RECOMMENDATIONS

Due to the depth of cover (~400m) and the sparsity of previous exploration, the key exploration tools are detailed analysis of the gravity and magnetic data followed by diamond drilling of selected targets. Recommendations for future work includes:

1. Gain site access and heritage clearances.
2. Establish minimum target size and grade through reverse economic modelling.
3. Diamond drilling of selected gravity/magnetic targets.

7. KEY WORDS

Lead, zinc, copper, gold, uranium, Willyama Supergroup, Bimba Formation, albite, pelite, Curnamona SH54-14, geophysics, Emu Dam

8. REFERENCES

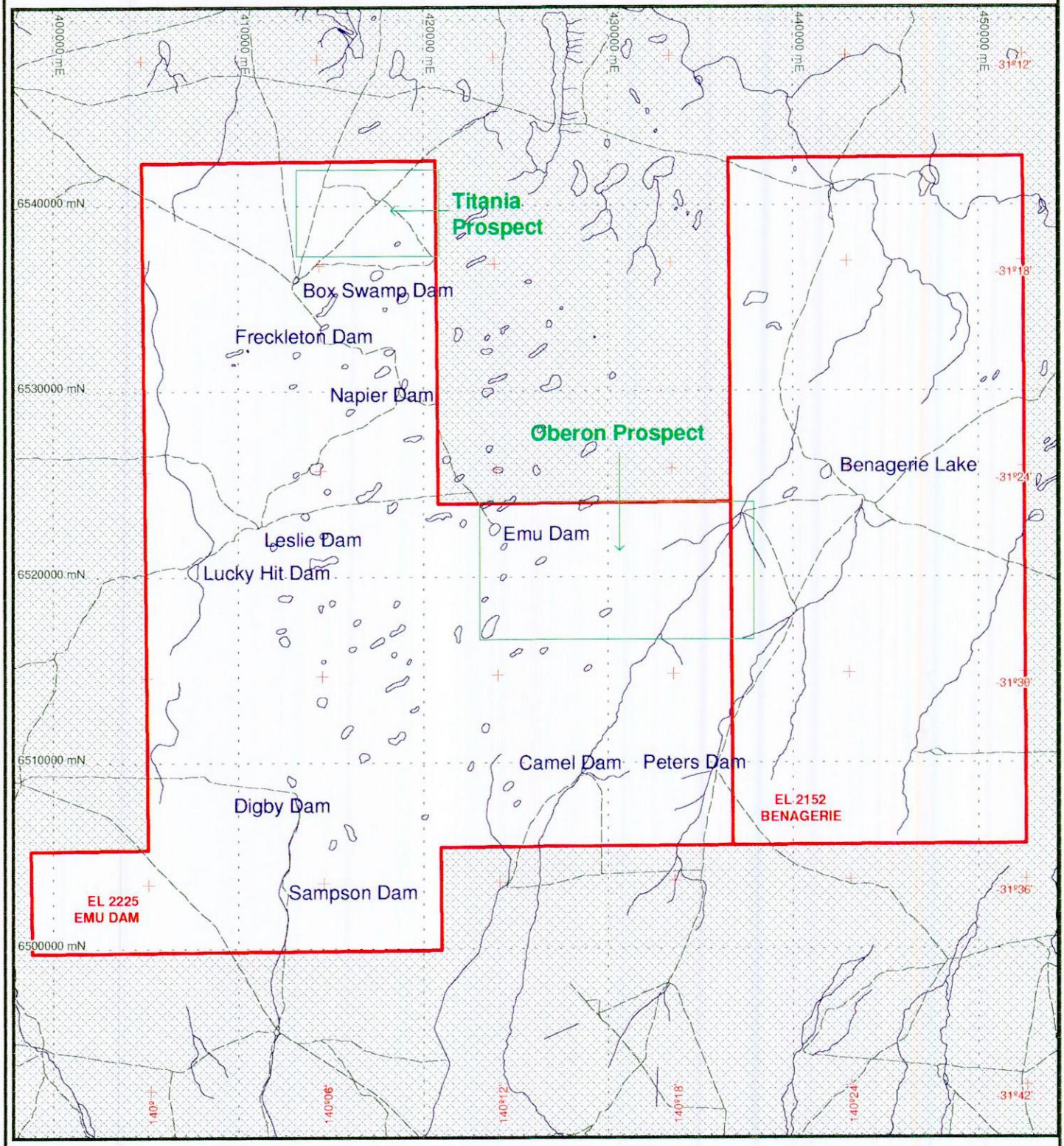
Teale G. and Hodkinson I., 1995. EL 2013, Billeroo West South Australia Summary Report (unpublished report of Lynch Mining Ltd).

Yates K. R. and Randell M. H., 1994. Review of Company Mineral Exploration Curnamona 1:250 000 Sheet South Australia. Department of Mines and Energy Geological Survey South Australia Report Book 93/48.

9. ADDITIONAL INFORMATION

9.1. Map Sheets

Curnamona Sheet 54-14 250K



0 5 10
Kilometres

N
W E
S

EL Boundary

Tracks

Drainage

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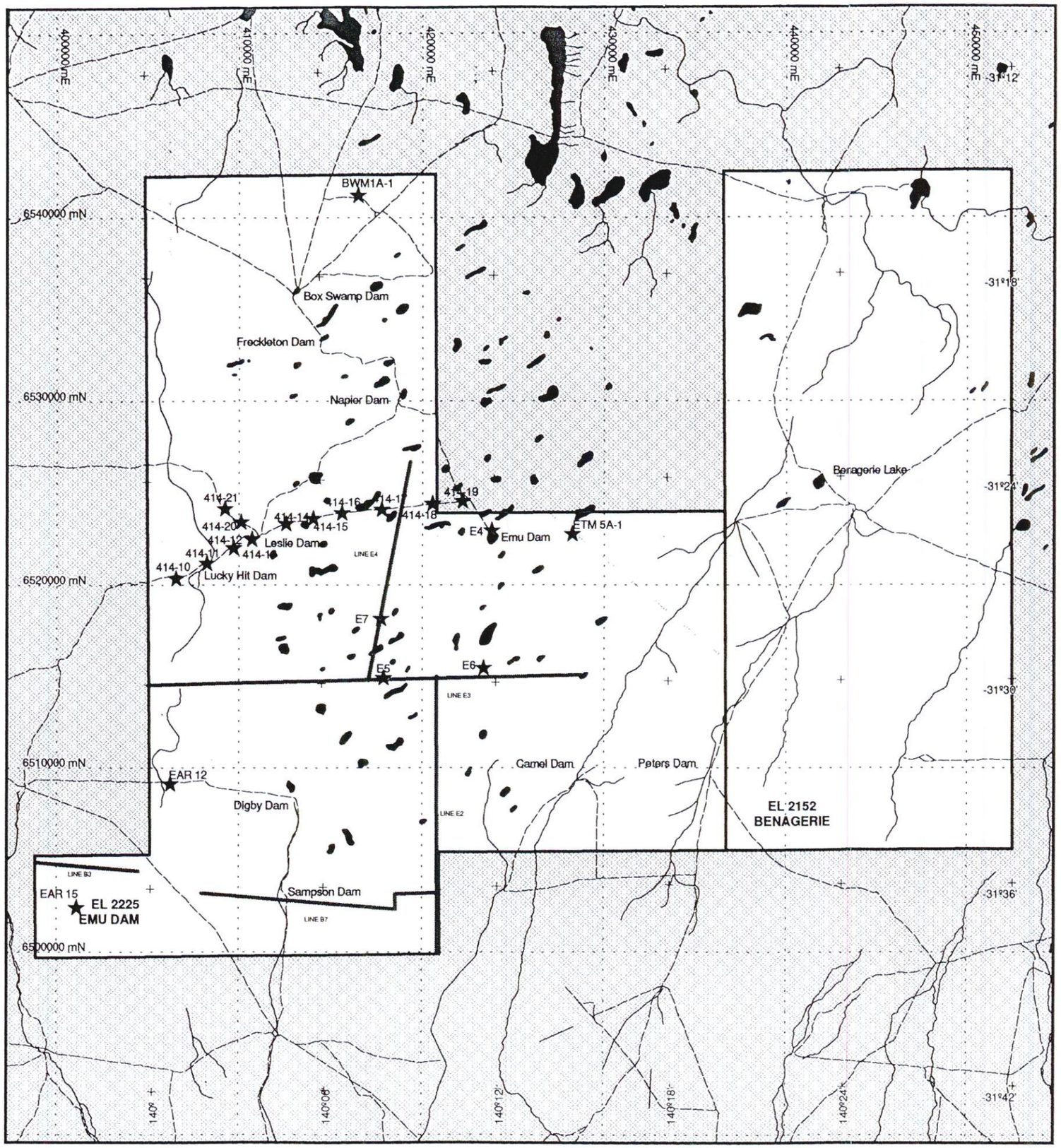
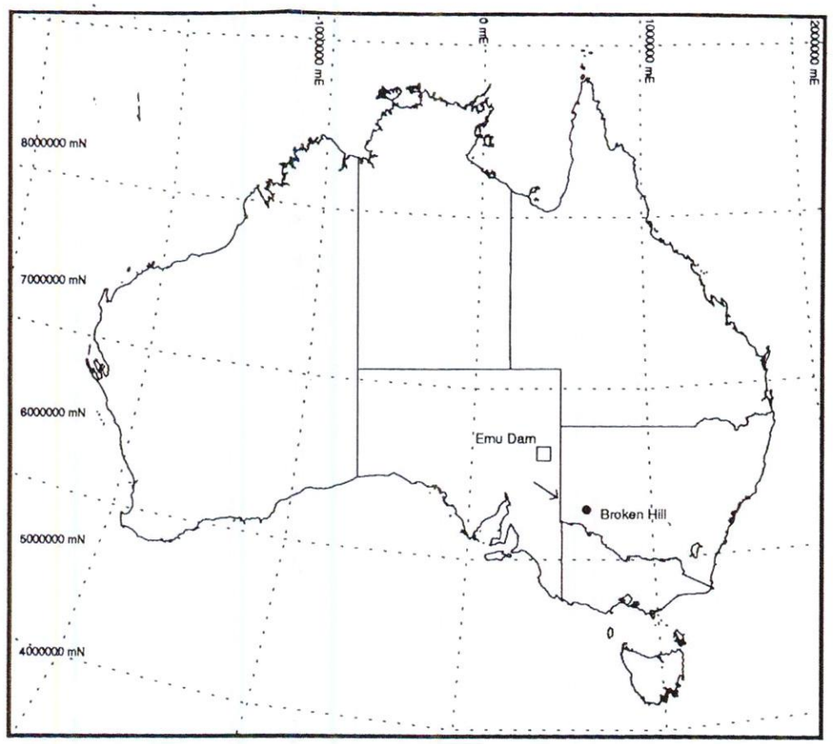
PROJECT	OLARY - Benagerie Ridge Joint Venture				
TITLE	Locality Map EL 2225 & EL2152 Boundaries Auslig Drainage, Lakes & Roads				
Author TL Maddern	Drawn TL Maddern	Date July 1998	Scale 1:300 000	Plan No. 2PB2154	



0 15

Kilometres



N
W E
S

EL Boundary

Previous Drilling

Resistivity Lines

Drainage

Tracks

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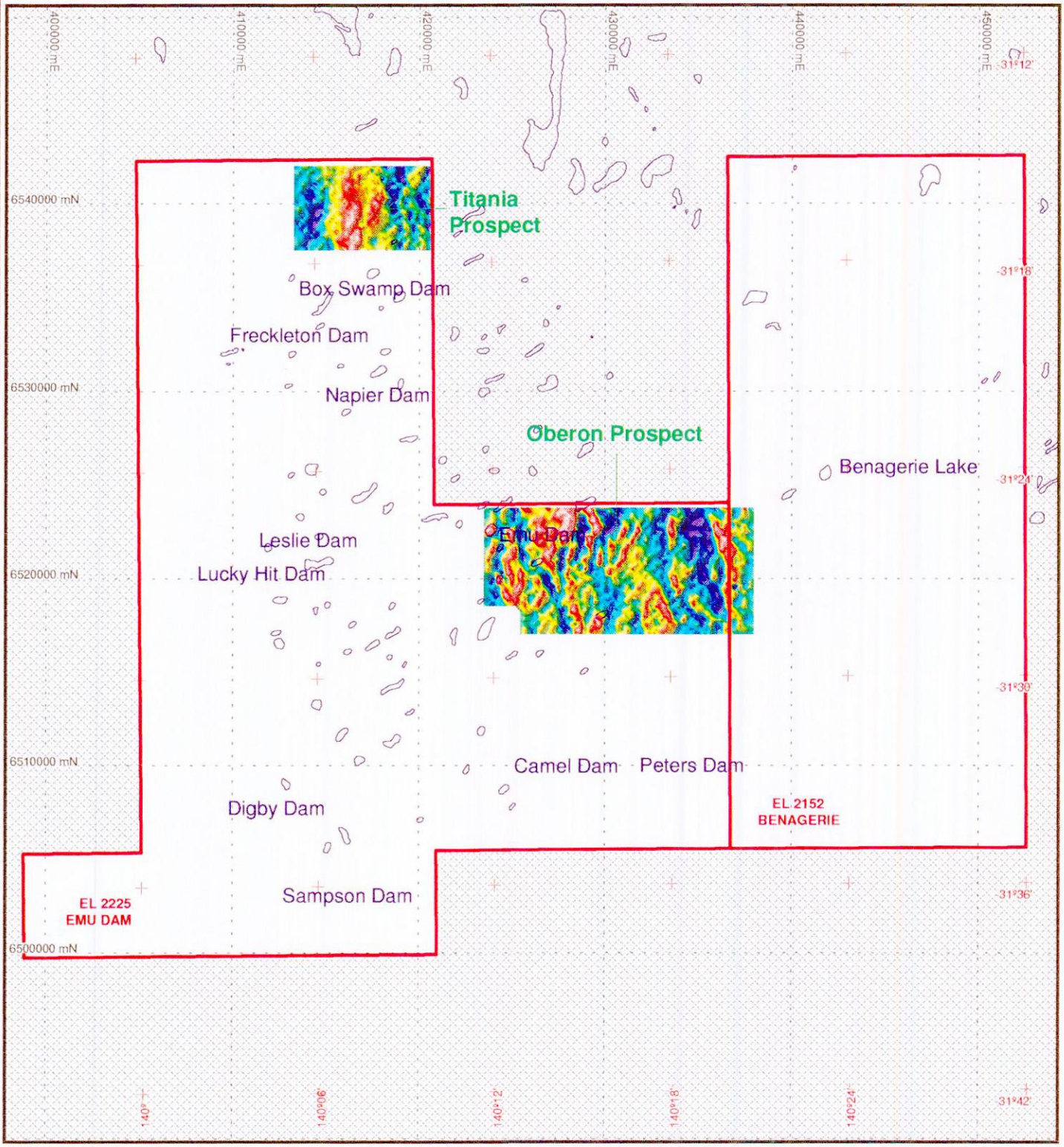
PROJECT	OLARY - Benagerie Ridge Joint Venture				
TITLE	Previous Exploration EL 2225 & EL2152 Boundaries Auslig Drainage, Lakes & Roads				
Author MH Randell	Drawn TL Maddern	Date July 1998	Scale 1:250 000	Plan No. 2PB2155	



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	EL 2225 Emu Dam	File: AMG zone 54 (AGD 84)
PROJECT	OLARY - Benagerie Ridge Joint Venture	
TITLE	EL 2225 Emu Dam 1VD Gravity Titania and Oberon Prospects	

Author	Drawn	Date	Scale	Plan No.
M.R. Hudson	M.R. Hudson	June 1999	1:300 000	2PB2434

Appendix 1

Benagerie Gravity Survey, October 1998

Haines Surveys

PX1486

HAINES SURVEYS

SATELLITE SURVEYING EXPLORATION

BENAGERIE GRAVITY SURVEY

PASMINCO - Exploration

OCTOBER 1998

PERTH
P.O. BOX 483
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Contents

Introduction

GPS gravity surveys have been carried out for Pasminco Exploration in the Benagerie area in South Australia during the period from 19/10/98 to 31/10/98.

The surveys took place in 2 prospects

- Oberon - Area K
- Titania - Area L

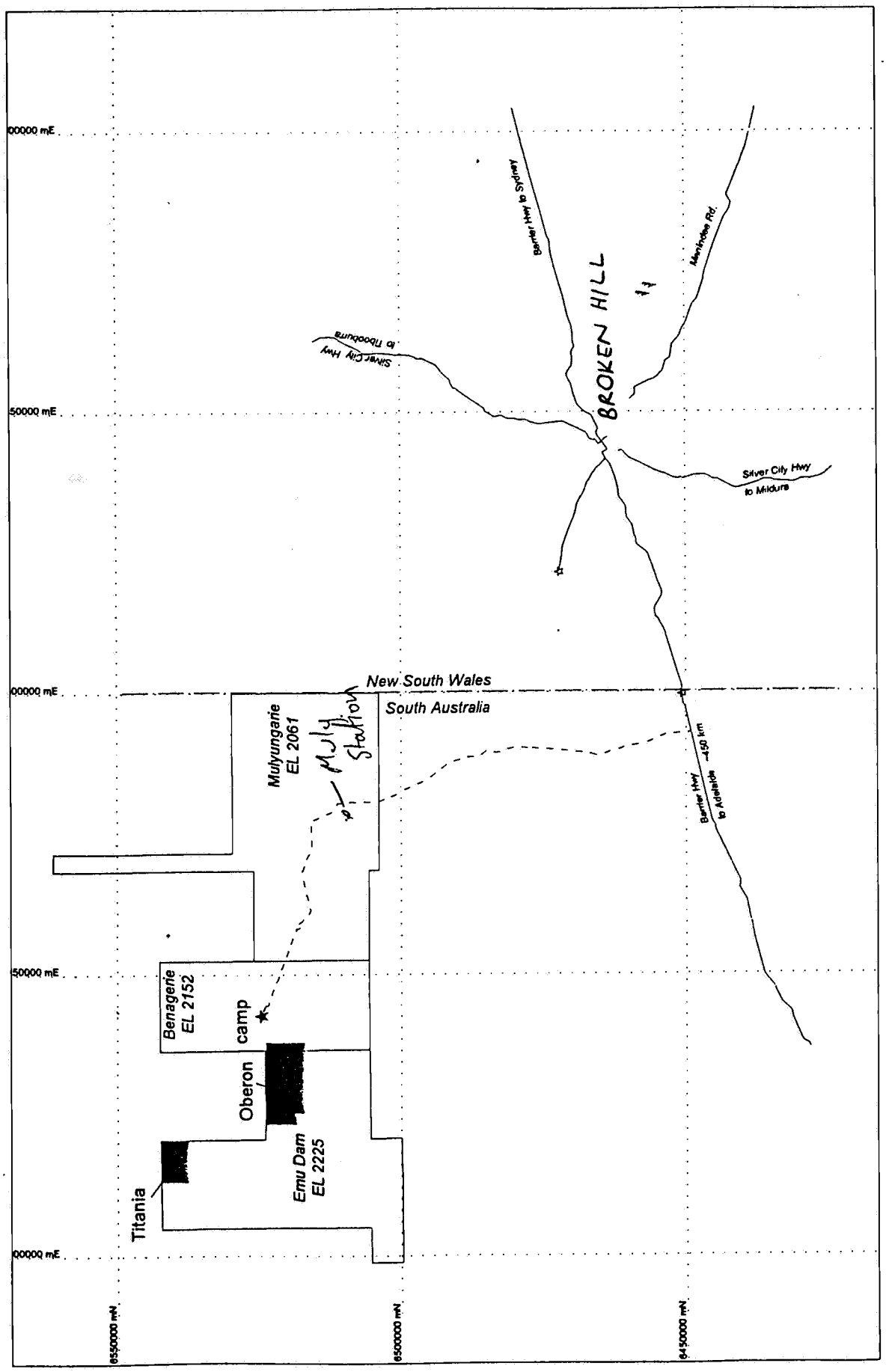


Figure 1: Location Diagram
1:1 000 000

GPS Observations and Processing

Carrier phase GPS data has been collected using *Trimble 4000* series Geodetic receivers.

Measurements to existing control have been made using Static techniques. All static baselines have been processed to double difference fixed solutions resulting in horizontal and vertical precision of approximately 2 cm.

Measurements for gravity observations have been made using Real Time Kinematic techniques giving horizontal and vertical precisions of at least 5 cm.

GPS control data was processed using Trimble's GPSurvey V2.30 and Trimmap V6.05.

The GPS horizontal coordinates (WGS84 datum) have been transformed to AGD 84 coordinates using the ICSM published 7 parameters. The AGD84 Latitude and Longitude is then converted into AMG Zone 54 grid coordinates.

The GPS ellipsoidal heights (WGS84 datum) have been corrected to orthometric heights (AHD) using the OSU91a geoid model.

Details of Horizontal and Vertical control are given in the sections below.

Gravity Observations

Gravity measurements have been made using *2 Scintrex CG3 Autograv* instruments. Instrument # 1177 and 704365 were used in this project.

Readings of 120 seconds were taken at base stations. Readings of 40 seconds were taken at all other gravity survey points.

Base station readings were taken at the beginning of the day and at the end of the days field work.

The CG3 instrument applies an instrument drift correction to its final gravity reading. Any residual drifts between base station readings are corrected by the gravity post processing software. The instrument also applies Earth Tide Correction to its final gravity reading at each station. The instrument calibration constants are contained in the daily gravity data files.

The meter behaviour was monitored throughout the survey and exhibited consistent linear drift patterns.

Repeat readings were taken to check instrument calibration, reading repeatability and to detect any tares in the data. A listing of the repeat values are shown under the sections for each prospect.

Grids and Point Numbering

The grids in both prospects were done on AMG lines running East - West. The line spacing was 250m and the station spacing was 250m.

An 8 digit point number is used to identify each gravity station. The first 4 digits indicate the line number. The second 4 digits the station number. These 4 digits are constructed from the planned local grid coordinates for each gravity station.

eg. Planned gravity station coords
6537500 N 413250 E

Line No = 3750 Stn No = 1325

Pt No = 37501325

Gravity Processing

The gravity values for this survey are related to the *Australian Gravity Base Station Network* using the *Isogal84 (IGSN 71)* values at known Gravity Stations as published by *AGSO*.

Note that all gravity values shown in these surveys are expressed in units of milligals.

The field gravity observations have been processed using standard formulae and constants to produce a Bouguer Anomaly for each gravity station.

The meter reading as recorded in the raw Scintrex data file is corrected for instrument tilts, meter drift and Earth Tide. Post processing corrections are detailed below.

Drift

The residual drift between base station readings is calculated for each station reading proportionately by time. This is the drift value shown in the processing output.

$$\text{Drift} = [\,(t_1 - t_n)\,((b_2 - b_1)/(t_2 - t_1))\,]$$

t_n = time of meter reading at each station
b_1 = base meter reading prior to station reading
t_1 = time of base reading b_1
b_2 = base meter reading after station reading
t_2 = time of base reading b_2

Obs mgal

This is the observed gravity value in milligals.

$$\text{Obs} = b_g + (r_n - \text{drift}) - b_1$$

b_g = base stn gravity value (Isogal84)
r_n = meter reading at each station as shown in the CG3 .dat file
drift = residual drift correction as shown above
b_1 = base meter reading prior to station reading

Anom

This is the difference between the observed gravity and the theoretical gravity value at each station. The theoretical value is calculated using the *1967 International Gravity Formula*.

$$\text{Anom} = \text{Obs} - g_{th}$$

Obs = observed gravity as explained above
$g_{th} = 978031.8\ (1 + 0.0053024 \sin^2\phi - 0.0000059 \sin^2 2\phi)$
ϕ = WGS84 Latitude

Freeair corrn

The freeair correction is calculated using

Freeair corrn = 0.3086 H

H = height above sea level (AHD height)

Bouguer corrn

Bouguer corrn = 0.04192 ρ H

ρ = density (2.67 g/cc used for this survey)

H = height above sea level (AHD height)

Bouguer Anom

Bouguer Anom = Anom + Freeair corrn + Bouguer corrn

Results Formats

The results are supplied in digital form on floppy disk. The following files are supplied.

ALLAMG.XYZ ALLGEO.CSV
*.DAT

ALLAMG.XYZ format

This is a *GEOSOFT* compatible XYZ (space delimited columns) file. The data is sorted by Day then Line and Stn number. The column order is as follows.

AMG E	AMG N	Line	Stn	drift	corr'd meter	obs mgal	anom	freeair corrn	bouguer corrn (2.67)	bouguer anom	height (AHD)

ALLGEO.XYZ format

This is a *GEOSOFT* format XYZ (space delimited columns) file. The data is sorted into Line and Stn number suitable for profiling. The column order is as follows.

Line	Stn	AMG E	AMG N	drift	corr'd meter	obs mgal	anom	freeair corrn	bouguer corrn (2.67)	bouguer anom	height (AHD)

*.DAT

These are the raw data files from the *Scintrex CG3* gravimeter. There is a separate file for each days data and for each meter. The files are identified by the Julian day number (001 = Jan 1st) with the prefix G. eg. G175A = day 175 (24th June). The A refers to Meter A, B to Meter B.

Survey Control

Two new base stations were established near each of the survey areas.

HS0005 near the northern boundary of the Oberon (Area K) survey area, adjacent to the old dog fence.

HS0006 near the South Eastern corner of the Titania (Area L) survey area, next to the track running North West from Rock Dam.

Both marks consist of steel star pickets driven to refusal with an adjacent 1.0m steel star picket as a witness post.

Horizontal, vertical and gravity control were transferred from base station HS0001 which was used in previous surveys.

	WGS 84			AMG Zone 54		AHD	Isogal 84
Station	Latitude	Longitude	Height	Easting	Northing	Height	Gravity mgal
HS0001	31° 26' 09.18514"	140° 27' 16.36464"	81.185	448043.315	6521783.034	69.414	979401.444
HS0005	31° 24' 40.12678"	140° 15' 16.09381"	85.937	429011.193	6524413.223	74.721	979411.984
HS0006	31° 17' 34.23159"	140° 09' 52.76949"	69.955	420374.315	6537464.266	58.896	979401.807

Oberon - Area K

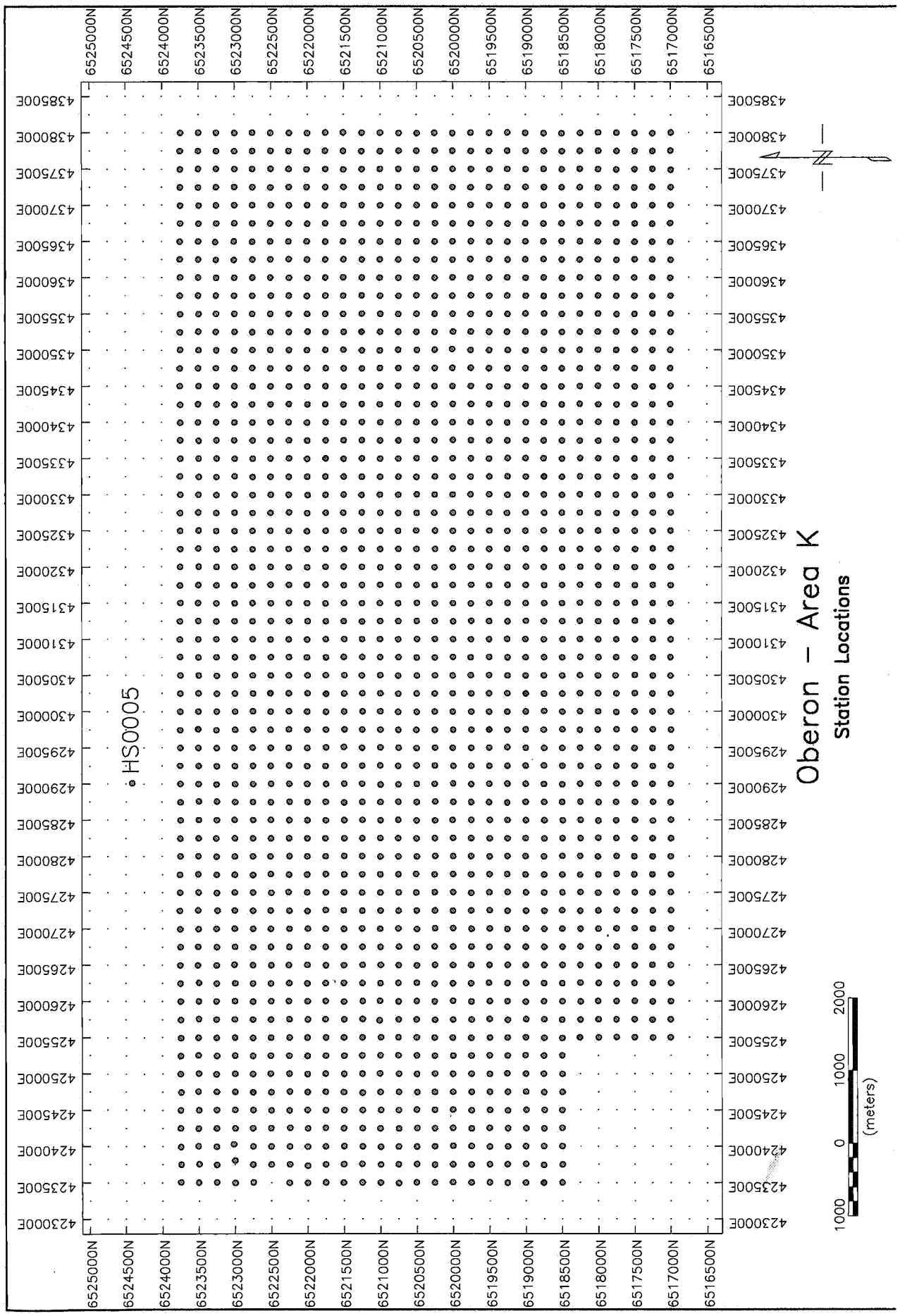
A total of 1651 stations were surveyed in this area.

Diagrams

Station Locations

Station Locations and Bouguer Anomaly Contours

Bouguer Anomaly Contours and Zoned Image


6525000N
6524500N
6524000N
6523500N
6523000N
6522500N
6522000N
6521500N
6521000N
6520500N
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6519500N
6519000N
6518500N
6518000N
6517500N
6517000N
6516500N
438500E
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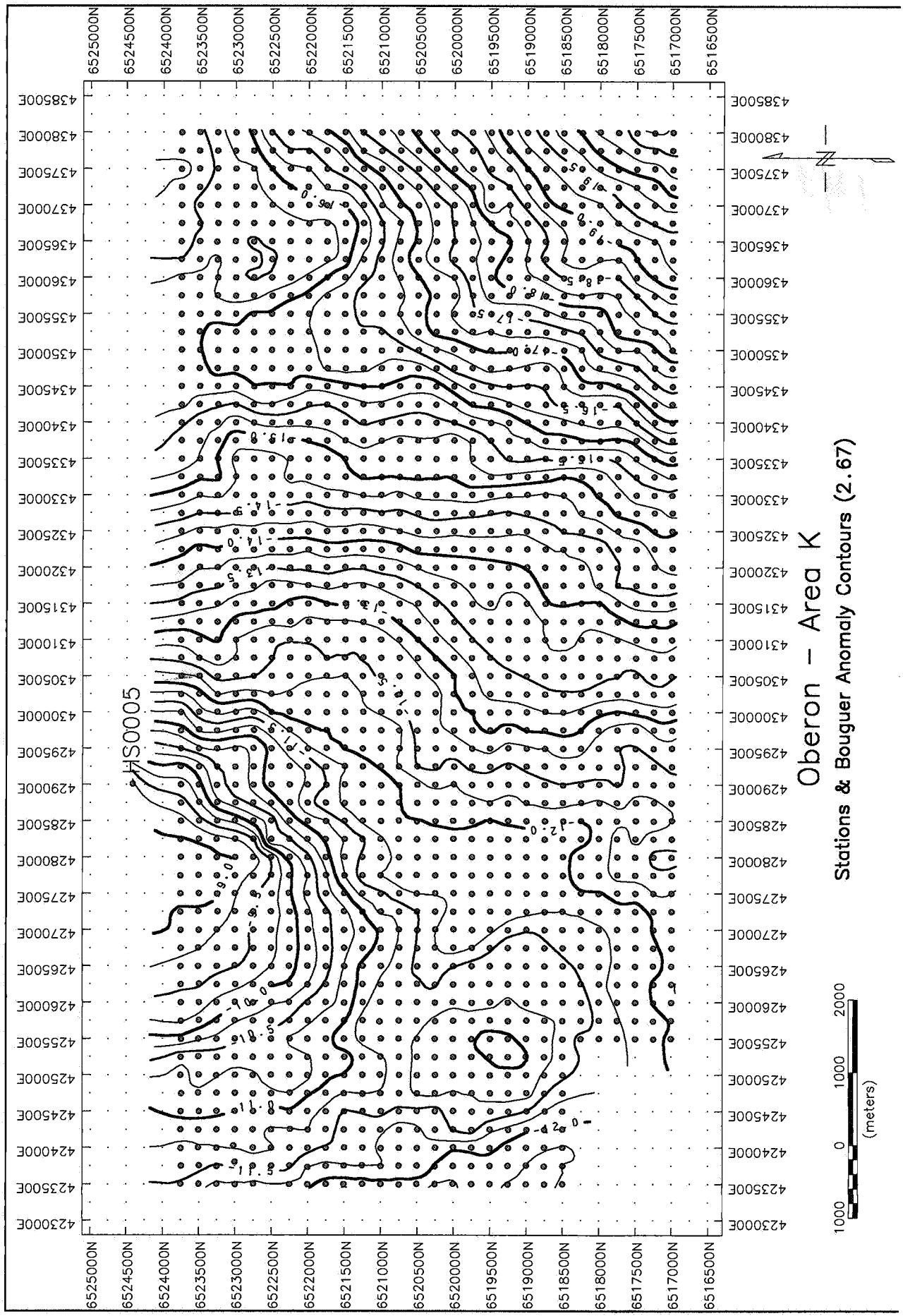
431000E
430500E
430000E
429500E
429000E
428500E
428000E
427500E
427000E
426500E
426000E
425500E
425000E
424500E
424000E
423500E
423000E
HS0005
Oberon – Area K
Station Locations
1000 0 1000 2000
(meters)


Oberon – Area K
Stations & Bouguer Anomaly Contours (2.67)
HS0005
6525000N
6524500N
6524000N
6523500N
6523000N
6522500N
6522000N
6521500N
6521000N
6520500N
6520000N
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4370000E
4365000E
4360000E
4355000E
4350000E
4345000E
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4335000E
4330000E
4325000E
4320000E
4315000E
4310000E
4305000E
4300000E
4295000E
4290000E
4285000E
4280000E
4275000E
4270000E
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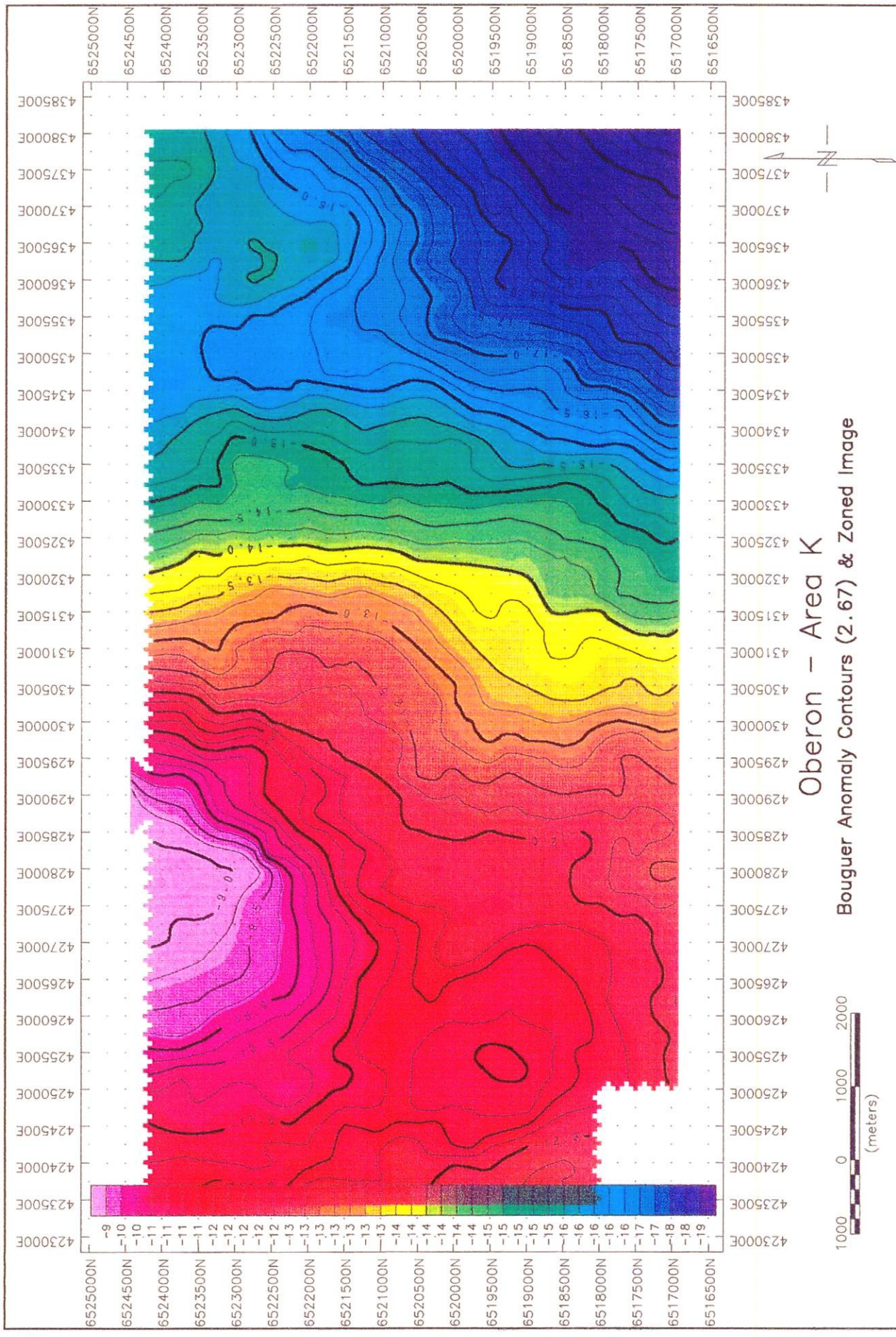
4235000E
4230000E
1000
0
1000
2000
(meters)


Oberon – Area K
Bouguer Anomaly Contours (2.67) & Zoned Image
(meters)
1000 0 1000 2000
6525000N 6524500N 6524000N 6523500N 6523000N 6522500N 6522000N 6521500N 6521000N 6520500N 6520000N 6519500N 6519000N 6518500N 6518000N 6517500N 6517000N 6516500N
4385000E 4380000E 4375000E 4370000E 4365000E 4360000E 4355000E 4350000E 4345000E 4340000E 4335000E 4330000E 4325000E 4320000E 4315000E 4310000E 4305000E 4300000E 4295000E 4290000E 4285000E 4280000E 4275000E 4270000E 4265000E 4260000E 4255000E 4250000E 4245000E 4240000E 4235000E 4230000E
-9 -10 -11 -11 -11 -12 -12 -12 -12 -13 -13 -13 -13 -13 -14 -14 -14 -14 -15 -15 -15 -15 -16 -16 -16 -16 -17 -17 -18 -18 -19

Repeat Readings

Pt #	Day	E	N	H	G	Bouguer
22753000	D294	430,003.204	6,522,748.228	76.556	979,410.371	-11.636
22753000	D295	430,001.340	6,522,747.729	76.532	979,410.376	-11.636
		+1.864	+0.499	+0.024	-0.005	+0.000
22753000	D295	430,001.340	6,522,747.729	76.532	979,410.349	-11.663
		+1.864	+0.499	+0.024	+0.022	+0.027
22503600	D294	435,995.748	6,522,501.423	68.746	979,408.255	-15.495
22503600	D295	435,995.877	6,522,501.404	68.740	979,408.269	-15.482
		-0.129	+0.019	+0.006	-0.014	-0.013
21253325	D295	433,245.496	6,521,250.647	78.952	979,407.571	-15.066
21253325	D296	433,245.554	6,521,248.988	79.103	979,407.600	-15.008
		-0.058	+1.659	-0.151	-0.029	-0.058
22752425	D296	424,249.036	6,522,753.663	79.327	979,410.216	-11.213
22752425	D297	424,249.611	6,522,752.259	79.075	979,410.249	-11.230
		-0.575	+1.404	+0.252	-0.033	+0.017
20253350	D296	433,491.953	6,520,249.653	76.763	979,408.745	-15.050
20253350	D297	433,492.239	6,520,249.439	76.729	979,408.752	-15.049
		-0.286	+0.214	+0.034	-0.007	-0.001
19502925	D297	429,246.711	6,519,500.685	82.739	979,410.605	-12.537
19502925	D298	429,246.737	6,519,500.650	82.790	979,410.595	-12.537
		-0.026	+0.035	-0.051	+0.010	+0.000
21502600	D297	425,994.687	6,521,499.934	78.849	979,411.671	-10.770
21502600	D298	425,994.758	6,521,499.946	78.861	979,411.639	-10.799
		-0.071	-0.012	-0.012	+0.032	+0.029
22502825	D297	428,247.355	6,522,499.332	76.165	979,412.450	-9.805
22502825	D299	428,246.287	6,522,499.420	76.175	979,412.479	-9.774
		+1.068	-0.088	-0.010	-0.029	-0.031
18503600	D298	435,990.461	6,518,500.155	80.607	979,405.843	-18.476
18503600	D299	435,990.474	6,518,500.286	80.567	979,405.832	-18.495
		-0.013	-0.131	+0.040	+0.011	+0.019
20502450	D298	424,505.064	6,520,501.321	84.744	979,410.457	-11.541
20502450	D299	424,505.007	6,520,501.367	84.718	979,410.470	-11.533
		+0.057	-0.046	+0.026	-0.013	-0.008
17752950	D299	429,497.859	6,517,748.243	83.409	979,411.784	-12.499
17752950	D300	429,498.016	6,517,747.917	83.427	979,411.774	-12.506
		-0.157	+0.326	-0.018	+0.010	+0.007
19252900	D299	429,000.227	6,519,248.321	84.270	979,410.772	-12.251
19252900	D300	429,000.255	6,519,248.355	84.137	979,410.790	-12.259
		-0.028	-0.034	+0.133	-0.018	+0.008
18002550	D300	425,501.304	6,517,997.770	84.768	979,412.311	-11.504
18002550	D301	425,501.365	6,517,997.806	84.779	979,412.299	-11.514
		-0.061	-0.036	-0.011	+0.012	+0.010

Titania - Area L

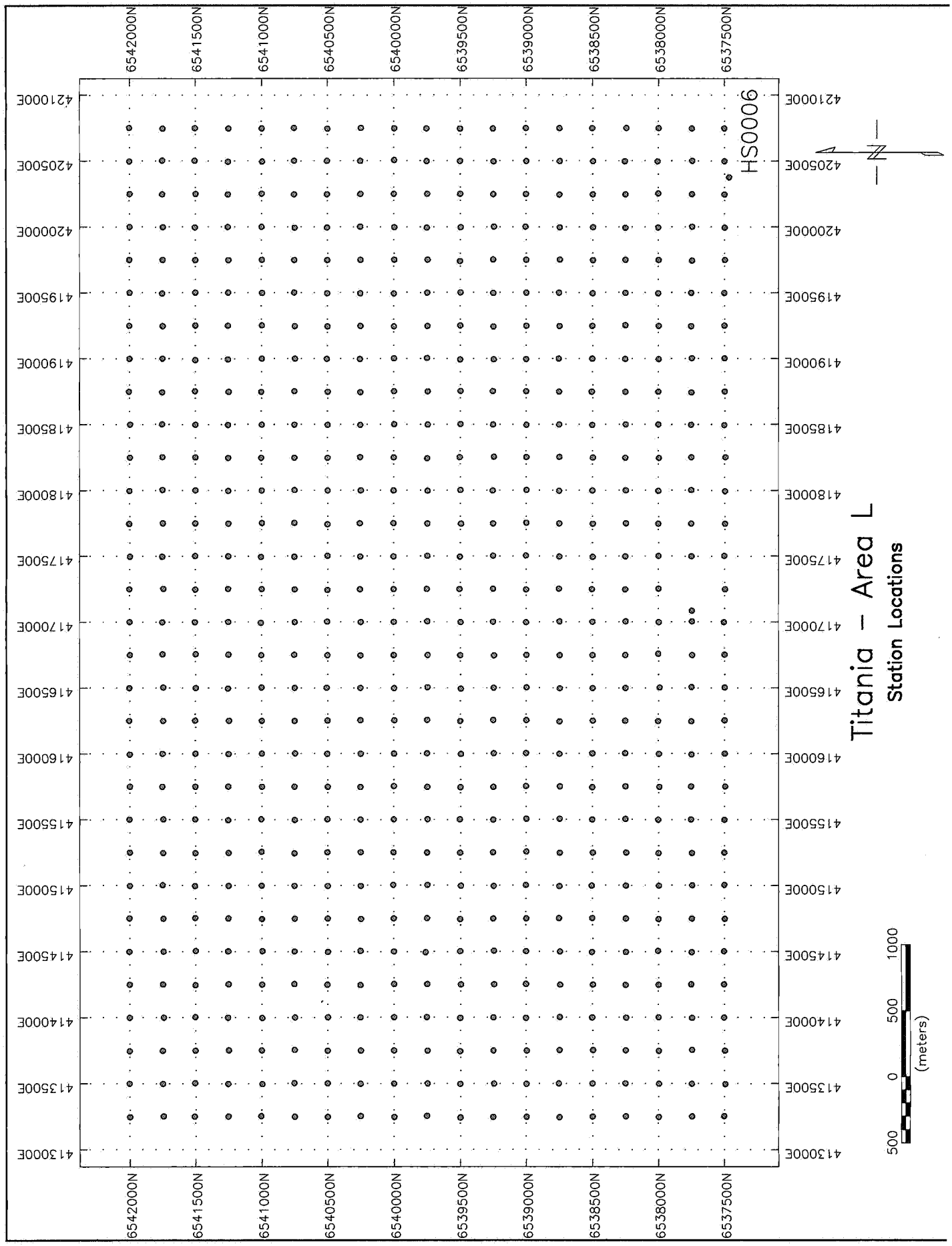
A total of 615 stations were surveyed in this area.

Diagrams

Station Locations

Station Locations and Bouguer Anomaly Contours

Bouguer Anomaly Contours and Zoned Image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6537500N
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416500E
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415500E
415000E
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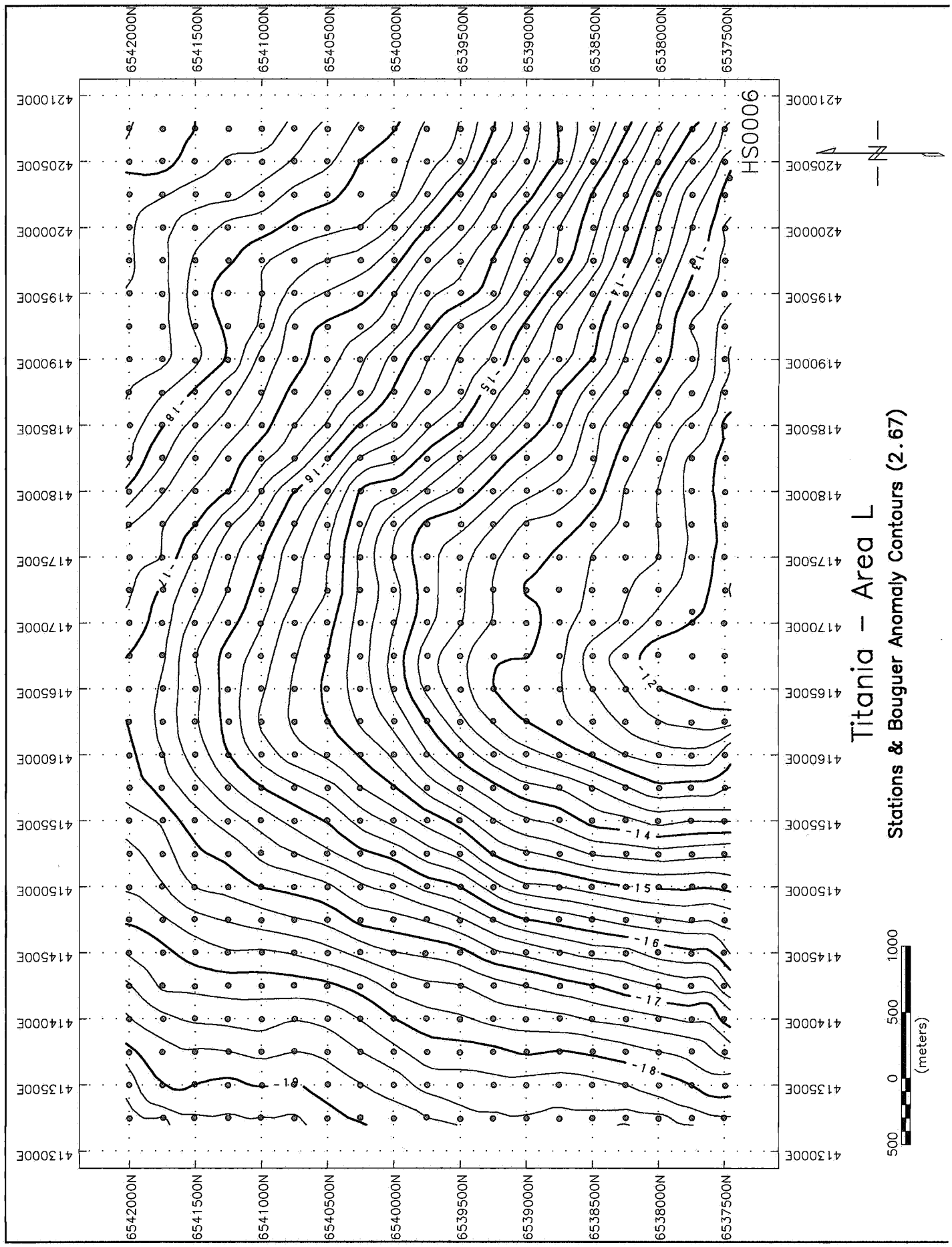
414000E
413500E
413000E
HS0006
Titania - Area L
Station Locations
500
0
500
1000
(meters)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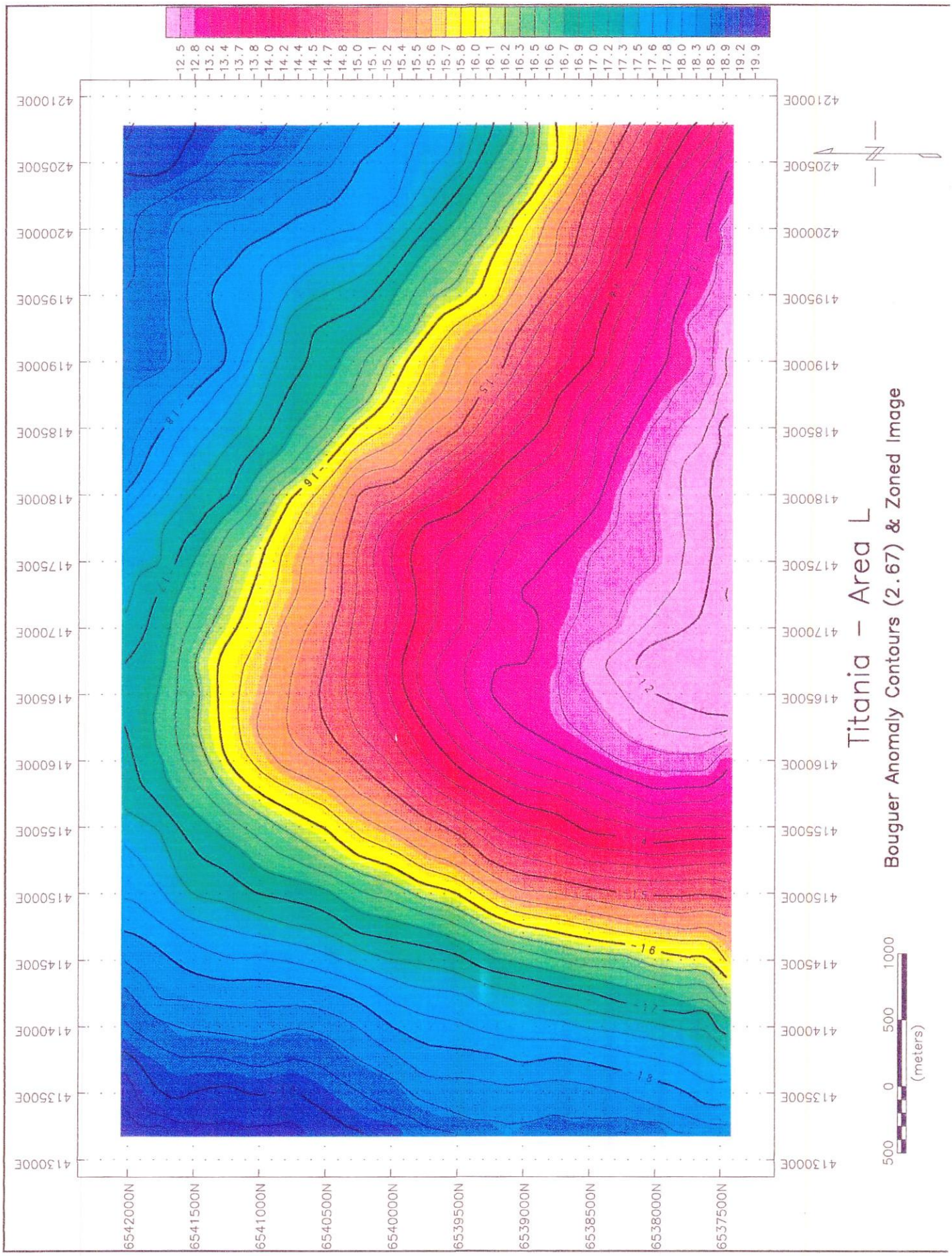
415000E
414500E
414000E
413500E
413000E
HS0006
-18
-17
-16
-15
-14
-13
-12
-19
Titania - Area L
Stations & Bouguer Anomaly Contours (2.67)
500
0
500
1000
(meters)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15.0
15.1
15.2
15.4
15.5
15.6
15.7
15.8
16.0
16.1
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16.5
16.6
16.7
16.9
17.0
17.2
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17.5
17.6
17.8
18.0
18.3
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18.9
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6539000N
6538500N
6538000N
6537500N
-18
-17
-16
-15
-14
-13
-12
N
Titania - Area L
Bouguer Anomaly Contours (2.67) & Zoned Image
500
0
500
1000
(meters)

Repeat Readings

Pt #	Day	E	N	H	G	Bouguer
37751875	D301	418,742.672	6,537,751.385	56.579	979,402.440	-12.571
37751875	D302	418,742.695	6,537,751.344	56.530	979,402.466	-12.555
		-0.023	+0.041	+0.049	-0.026	-0.016
37501875	D301	418,750.098	6,537,498.898	54.647	979,403.403	-12.171
37501875	D302	418,750.056	6,537,498.861	54.623	979,403.410	-12.169
		+0.042	+0.037	+0.024	-0.007	-0.002
39251975	D302	419,751.024	6,539,252.719	53.042	979,398.638	-15.989
39251975	D303	419,750.928	6,539,252.562	53.011	979,398.636	-15.997
		+0.096	+0.157	+0.031	+0.002	+0.008
41251875	D303	418,748.252	6,541,247.124	48.551	979,396.448	-17.614
41251875	D304	418,748.036	6,541,247.197	48.522	979,396.485	-17.583
		+0.216	-0.073	+0.029	-0.037	-0.031
41001650	D303	416,500.951	6,541,000.893	51.300	979,398.164	-15.523
41001650	D304	416,500.901	6,541,000.950	51.268	979,398.118	-15.575
		+0.050	-0.057	+0.032	+0.046	+0.052

PASMINCO EXPLORATION

BROKEN HILL, NEW SOUTH WALES

ANNUAL EXPLORATION REPORT FOR THE TWELVE MONTH PERIOD TO 3 NOVEMBER 1999 FOR EL 2225 (EMU DAM) SOUTH AUSTRALIA

Author: **B.N. Godsmark**

Date: **February 2000**

Submitted by: **B.N.Godsmark**

Accepted by: **D.Fielding**

Copies to:
PIRSA (2)
Lynch Mining Ltd
Pasminco Exploration - Melbourne
Pasminco Exploration - Broken Hill (2)

BH 272
PX 1598

27 January 2000

The Director
Mineral Resources
PIRSA
191 Greenhill Rd
PARKSIDE SA 5063

PASMINCO
EXPLORATION

Dear Sir

Re: **EL 2225 (Emu Dam)**

Please find enclosed Pasminco Exploration Report No BH272 titled "Annual Report for the Twelve Month Period from 4 November 1998 to 3 November 1999 for EL 2225 (Emu Dam), Olary District, South Australia".

Expenditure for EL 2225 (Emu Dam) for the twelve month period ending 3 November 1999 was $297,712.21.

Expenditure	$
Computing Operating	1064.59
Drilling contractors	122,160.75
Geochemical / Assays	2832.79
Geoscience consultants	7944.63
Geophysical contractors	38919.65
Land, Environment	7682.60
Depr. Office and sundry	7780.19
Other contractors	14,282.73
Personnel costs	20657.22
Stores and supplies	2083.92
Travel and accommodation	3822.81
Vehicles, plant, maintenance	41415.58
Administration Fee 10%	27064.75
Total Tenement Expenditure	**297,712.21**

Yours faithfully

B N Godsmark
Geologist (Pasminco Exploration)

SUMMARY

Exploration Licence 2225 Emu Dam (formerly Billeroo West) covering 999km^2 was originally granted on 4 November 1996 for one year (Plan 2PB2154). The Licence has been renewed by MESA for one twelve month period ending 3 November 2000 without reduction in area. The tenement is currently held in Joint Venture between Pasminco Exploration (70%) and Lynch Mining (30%).

Work completed during the current term includes:

- Drilling of two exploration diamond drill holes, EMU001 (520.0m) and EMU002 (542.0m).

Expenditure for EL 2225 (Emu Dam) for the twelve month period ending 3 November 1999 was $297,712.21.

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LIST OF PLANS

Plan No.	Title	Scale
2PB2154	Locality Map	1:300 000
2PB2155	Previous Exploration EL 2225 and EL 2152 Boundaries, Auslig Drainages, Lakes and Roads	1:250 000
BH_EX_10005	Locality map with magnetics and drill hole locations	1:250 000
BH_EX_10006	Diamond Drill Hole EMU001	1:1000
BH_EX_10007	Diamond Drill Hole EMU002	1:1000

LIST OF APPENDICES

1. TENEMENT HOLDING

Exploration Licence 2225 covering 999km^2 was applied for in July 1996 as "Billeroo West". The application was granted on 4 November 1996 and, to avoid confusion with pre-existing nomenclature was re-named "Emu Dam". A renewal to 3 November 1999 has been granted.

The tenement is located 100km northeast of Olary, South Australia and is contiguous with Exploration Licence 2152 Benagerie (Plan 2PB2154). These two tenements combined form the Benagerie Ridge Joint Venture between Pasminco Exploration (70%) and Lynch Mining (30%).

2. OVERVIEW OF REGIONAL GEOLOGY

The tenement incorporates a basement of Mesoproterozoic Willyama Supergroup rocks of the Curnamona Province. This basement is almost entirely overlain by Neoproterozoic Adelaidean sequences and Cambrian sediments. Cretaceous and Tertiary sediments cover the entire tenement. The Adelaidean sequences contain Upper Umberatana and Wilpena Groups and can be up to four hundred metres thick. The depth of the remaining overlying sediments varies from ten to one hundred metres and predominantly comprise shales, organic-rich clays and sand units.

The stratigraphy, structure and mineralisation potential of the basement Willyama Supergroup has been characterised and described in detail by various authors for example Ashley et al. (1995). A brief overview of their discussion is given below.

- The stratigraphy of the Willyama Supergroup rocks comprises a basal, highly migmatitic Composite Gneiss Suite (CGS) which stratigraphically underlies an extensive Quartzo-Feldspathic Suite (QFS) of predominantly albite-quartz composition. The QFS grades upwards into a Calc-silicate Suite (CS) which locally appears more potassic than the QFS. This suite is commonly mineralised (Cu-Zn-Co-Mo-Au-As) with low grade deposits identified at various locations throughout the region. This suite also commonly contains stratabound breccias which often display a haematite rich alteration commonly referred to as "Red Rock Alteration".

  Overlying this suite is a thin, relatively continuous but highly heterogeneous unit known as the Bimba Horizon (BH). This unit is often gossanous when exposed, sulphide-rich and relatively magnetic due to the common presence of iron formations. This latter characteristic contrasts the lower units thus making it a suitable marker horizon which is often identifiable on aero-magnetic images. This unit is stratigraphically overlain by a Pelitic Suite (PS) which is conspicuously graphitic towards the base.

- Five phases of deformation have been documented as having affected the region. D_1 and D_2 are considered to be early, predominantly ductile events resulting in refolded tight to isoclinal folds. D_3 generally resulted in retrograde shear-zones of greenschist facies assemblages. D_4 and D_5 which have been recognised in the Olary Block are related to Delamerian deformation.

- Metamorphism within the Olary region is poorly understood but at Emu Dam it appears the metamorphic grade is generally of greenschist facies.

- Several suites of intrusive bodies have been identified including S-, A- and I-type granitoids, mafic intrusives, pegmatites and a mafic alkaline-carbonatite complex. The A-type granitoids have been dated at ~1700 Ma, the I-type granitoids at ~1630 Ma and the S- type granitoids at ~1580 Ma. The date of the other intrusive bodies is not well constrained between ~1700 Ma and ~500 Ma.

- Numerous mineralised occurrences have been located throughout the Olary region within the Willyama Supergroup often dominated by Cu and U, however other

mineralisation including Zn, Pb, Co, As, Mn and Au is reasonably common in sub economic amounts. The genesis of these occurrences appears variable ranging from stratabound and stratiform deposits in the QFS, CS and BH to epigenetic deposits related to the igneous intrusives.

3. PREVIOUS EXPLORATION

The area of Exploration Licence 2225 has been previously covered in whole or in part by at least six tenements which reported significant exploration activity.

Exploration was directed toward Tertiary sedimentary uranium mineralisation as well as base metal targets in Willyama Supergroup rocks.

A summary of exploration leading up to the current tenure is provided below:

3.1. Special Mining Lease (SML) 267 E A Rudd Pty Ltd (1969-1970)

The objective of exploration was to locate roll front sedimentary uranium deposits in Tertiary and Mesozoic sediments of the (then) unexplored Lake Frome Embayment. After reviewing water well and geophysical data nineteen rotary and core holes were drilled on SML 267 and adjoining SML 268. The drilling identified a sand palaeochannel which later proved to host the Gould's Dam uranium deposit west of Exploration Licence 2225. Two holes (EAR 12 and EAR 15) lie on Exploration Licence 2225 (Plan 2PB2155).

3.2. SML 414 Sedimentary Uranium NL (1970-1972)

Following an airborne radiometric survey, two drilling campaigns were completed one of which lies on Exploration Licence 2225. This comprised twelve holes (414-10 to 414-21) on an 18km east-west traverse in the Billeroo West area and totalling 1012.5m. The holes generally ranged from 72m to 130m in depth. No north-south trending sand channels were intersected and no anomalous radioactivity was detected in gamma logs. Hole locations are shown in Plan 2PB2155.

3.3. Exploration Licence (EL) 296 Mines Administration Pty Ltd and Teton Exploration Drilling Co Pty Ltd (Minad-Teton) (1977-1979)

Although sedimentary uranium was the principal target under this licence a report on the potential for mineralisation of the Roxby Downs type in the general area of the Frome Embayment was contracted to Ashley Geophysics. A report was prepared and one target was defined but the report is no longer in MESA's files relating to this licence.

Three resistivity lines (E2 to E4) and four rotary holes (E4 to E7) were completed on the area of Exploration Licence 2225 (Plan 2PB2155). It was concluded that because basement rocks were shallow at depths between 36m and 71m and Lower Tertiary sands were totally oxidised that the potential for sedimentary uranium deposition was low.

3.4. EL 522 Minad-Teton (1979-1981)

Minad-Teton pursued base metals targets as defined by magnetics and gravity as a follow-on from sedimentary uranium exploration. Airborne magnetic anomalies in the region were identified (and numbered) by Ashley Geophysics: anomaly M5 occurs on Exploration Licence 2225. Geox Pty Ltd were contracted to define M5 by gridding, ground magnetics and gravity surveys. The anomaly was covered with seven 1 to 2km spaced lined with two supplementary infill lines totalling 60km. Magnetic readings were taken at 100m intervals along lines with gravity at 200m. The ground detail lead to differentiation into four individual anomalies M5A north, M5A south, M5B, and M5C. Diamond drill hole ETM 5A-1 was drilled vertically to 541.5m to test the interpreted shallowest anomaly M5A south about 4km east of Emu Dam. The hole was logged with gamma, neutron, spontaneous potential and resistivity probes. Systematic magnetic susceptibility and density measurements were made on core samples but geochemical sampling was limited to 5 samples of basement volcanics which were analysed for Cu, Pb, Zn, Co, U, Mo, Sn, W, Ce, Nb, Y, Zr, Fe, Ti, Na, K, Si and Al. Petrology was also completed.

The hole intersected 76m of Cainozoic rocks, principally Tertiary Namba Formation, followed by 369m of Adelaidean rocks of the Upper Umberatana and Wilpena Groups before intersecting an angular unconformity at 444.6m and penetrating massive pink rhyolite ("Benagerie Volcanics") believed to be Mesoproterozoic. Magnetic susceptibility measurements showed volcanics by virtue of their magnetite content had a thirty fold contrast with the overlying sediments thus explaining the cause of the magnetic anomaly while SG measurements showed there was insufficient density contrast to explain the 0.3 to 3.5 mgal residual bouguer anomaly associated with the magnetic anomaly.

Petrological investigations by Teale (1995) indicate that the supposed volcanics intersected by BWM1A-1 are in fact altered and brecciated quartz-albite and quartz-K-feldspar metasediments.

3.5. EL 722 CSR Limited (1980-1982)

Minad-Teton as managers of a joint venture with CSR continued sedimentary uranium exploration of this licence which included resistivity traverses B3 and B17 which partly occur on Exploration Licence 2225 (Plan 2PB2155). Base metal exploration targeted magnetic anomalies identified by Ashley Geophysics including M1 which lies at the northern boundary of Exploration Licence 2225.

At anomaly M1 situated 20km east-north-east of Frome Downs Homestead, five 1km spaced north-south grid lines and two in-fill lines (total 60km) were surveyed with magnetics at 100m spaced stations and gravity at 200m intervals. A SIROTEM survey was also undertaken by Geoex over anomaly M1 at surface and downhole without detecting conductors.

Diamond drill hole BWM 1A-1 was drilled vertically to 600m into anomaly M1A a 1400nT anomaly which is the shallower of three which coalesce to form M1. The hole was logged with gamma, spontaneous potential, resistivity, neutron, and density probes; six samples were examined petrologically; 72 quarter core samples were analysed for Cu, Pb, Zn, Co, U, Mo, Sn, and W; and the magnetic susceptibility and density of the core was measured regularly.

The hole intersected 80m of Tertiary and Mesozoic, 44m of Cambrian and 245m of horizontal Adelaidean sediments (Upper Umberatana and Wilpena Groups) with an unconformity at 391.4m above fine grained orange-pink banded un-metamorphosed acid volcanics which showed limited variation to 600m ('Benagerie Volcanics'). The volcanics contain Na- and K- feldspar and quartz, ultra-fine haematite and patchy pervasive magnetite, with pyrite, trace galena and chalcopyrite in scattered sulphide-carbonate-fluorite veinlets. Magnetic susceptibility of the basement volcanics showed a 500 fold contrast with overlying sediments thus explaining the magnetic anomaly, however SG measurements showed insufficient density contrast to explain the bouguer anomaly. Base metal values were generally less that 100 ppm.

3.6. Previous Work By Pasminco Exploration (1996-1997)

Deferred expenditure commitments on the licence were granted by Mines and Energy South Australia (now Primary Industry and Resources South Australia) in October 1997 for the period to 4/1/97 in consideration of the significant exploration expenditure on the adjoining tenement, EL2152 Benagerie.

Work completed during the period included:

- compilation of open file drill hole data into GIS format.
- re-logging of open file holes at PIRSA Core Library.

3.7. Previous Work By Pasminco Exploration (1997-1998)

Work completed during the period ending 3rd November 1998 included the following;

- Collection of 1651 gravity stations at the Oberon Prospect and 615 gravity stations collected at the Titania Prospect.
- Cultural Heritage clearance.

4. EXPLORATION COMPLETED IN THE TWELVE MONTH PERIOD TO 3 NOVEMBER 1999

4.1. Diamond Drilling

Two diamond drill holes were drilled to test the Au-Cu-iron oxide potential of a large coincident gravity and magnetic complex in the north east of the Tenement , see figure ?

The first diamond drill (EMU001) hole was targeted on a 1VD gravity and 1VD magnetic anomaly at the centre of the Titania total magnetic intensity anomaly. It was collared approximately 1.5 km to the SE of diamond drill hole BWM1A-1 which intersected intense red rock alteration and pervasive magnetite alteration, see figure BH_EX_10005. Trace pyrite, galena and chalcopyrite was also observed in carbonate and fluorite veins.

EMU001 drilled through Namba formation (0-71m), Cambrian and Adelaidean metasediments (71-420.2m) before intersecting the basement (420.4 - 530.0m EOH). The basement is composed of intermediate to mafic intrusive with multiple phases of red rock alteration and K-Na metasomatism.

Minor copper and zinc anomalism was detected in pyritic metasediments within the Adelaidean Super Group, the best intersection was 0.15m @ 0.425% Cu and 0.305% Zn. Minor chalcopyrite was observed in the basement, this mineralisation occurred in a very small vein breccia and as a coating on some joints. No significant mineralisation was observed.

The second diamond drill hole (EMU002) was targeted into the main body of the magnetic anomaly but in a zone where two large structures were interpreted to intersect, see figure BH_EX_10005. This hole intersected Namba Formation (0-69.5m), Cambrian and Adelaidean metasediments (69.5 - 433.1m) and basement (433.1 - 542.0m). Minor copper, lead, zinc mineralisation was intersected in a quartz veined pyritic metasediment within the Adelaidean metasediments, the best intersection was 1.25m @ 0.88%Pb and 0.415% Zn (370.45 - 371.7m)

The basement in EMU002 is composed of very strongly red rock altered intermediate to mafic intrusive with ubiquitous hematite and magnetite alteration. No significant anomalism was observed in the basement.

5. RESULTS AND INTERPRETATIONS

5.1. Geological Synthesis

Observation of core from diamond hole BWM1A, EMU001 and EMU002 has shown that the altered metasediments and volcanics occur over a very large area and that there is no obvious correlation between iron metasomatism and Au-Cu mineralisation.

6. RECOMMENDATIONS

Due to the depth of cover (~400m) and the sparsity of previous exploration, the key exploration tools are detailed analysis of the gravity and magnetic data followed by diamond drilling of selected targets. Recommendations for future work include;

1. Review geophysical data to determine whether other anomalies warrant testing.

2. It is recommended that if this review is negative the tenement should be dropped.

7. KEY WORDS

Lead, zinc, copper, gold, uranium, Willyama Supergroup, Bimba Formation, albite, pelite, Curnamona SH54-14, geophysics, Emu Dam

8. REFERENCES

Teale G. and Hodkinson I., 1995. EL 2013, Billeroo West South Australia Summary Report (unpublished report of Lynch Mining Ltd).

Yates K. R. and Randell M. H., 1994. Review of Company Mineral Exploration Curnamona 1:250 000 Sheet South Australia. Department of Mines and Energy Geological Survey South Australia Report Book 93/48.

9. ADDITIONAL INFORMATION

9.1. Map Sheets

Curnamona Sheet 54-14 250K

Appendix 1

Diamond Drill logs

DataSet	Hole_ID	Depth_From	Depth_To	Lithological	Description
EMU001					
EMU	EMU001	0	2	NF	Red to pale grey calcareous clays and sand
EMU	EMU001	2	5	NF	Light grey to medium grey sandy clay with minor red staining (contamination)
EMU	EMU001	5	8	NF	Light grey to medium grey sandy clay with minor red staining (contamination)
EMU	EMU001	8	11	NF	White leached clay
EMU	EMU001	11	14	NF	Dark olive grey clay
EMU	EMU001	14	17	NF	Light grey very fine grained clayey sand
EMU	EMU001	17	20	NF	Light grey very fine grained clayey sand
EMU	EMU001	20	23	NF	Light grey very fine grained clayey sand
EMU	EMU001	23	26	NF	Light olive grey sandy clay
EMU	EMU001	26	29	NF	Dark olive grey sandy clay
EMU	EMU001	29	32	NF	Dark olive grey sandy clay
EMU	EMU001	32	35	NF	Dark olive grey sandy clay
EMU	EMU001	35	38	NF	Light olive grey and dark olive grey sandy clay
EMU	EMU001	38	41	NF	Dark grey to light grey sandy clay
EMU	EMU001	41	44	NF	Dark grey to light grey sandy clay
EMU	EMU001	44	47	NF	Light grey to dark grey sandy clay
EMU	EMU001	56	59	NF	Lost sample - no return
EMU	EMU001	59	62	NF	Dark grey to light grey clay with minor goethite staining
EMU	EMU001	62	65	NF	Dark grey to light grey to yellow strongly goethite stained saprolite
EMU	EMU001	65	68	NF	Dark grey to light grey to yellow strongly goethite stained saprolite
EMU	EMU001	68	71	NF	Dark grey to light grey to yellow strongly goethite stained saprolite
EMU	EMU001	71	75	KQS	Kaolinite saprolite
EMU	EMU001	75	78	KQS	Kaolinite saprock with goethite staining and only weakly weathered
EMU	EMU001	78	81	KQS	Kaolinite saprock with goethite staining and only weakly weathered
EMU	EMU001	81	84	KQS	Kaolinite saprock with goethite staining and only weakly weathered; dark grey layered siltstone
EMU	EMU001	84	87	KQS	Kaolinite saprock with goethite staining and only weakly weathered
EMU	EMU001	87	90	LST	Light grey limestone
EMU	EMU001	90	93	SLTST	Dark grey to light grey laminated fine grained sandstone and siltstone
EMU	EMU001	93	96	SLTST	Dark grey laminated siltstone shales > fine grained sandstones, very minor pyrite <1%
EMU	EMU001	96	99	SLTST	Dark grey laminated siltstone shales > fine grained sandstones, very minor pyrite <1%
EMU	EMU001	99	102	SLTST	Dark grey laminated siltstone shales > fine grained sandstones, very minor pyrite <1%
EMU	EMU001	102	105	SLTST	Dark grey laminated siltstone shales > fine grained sandstones, very minor pyrite <1%
EMU	EMU001	105	108	SLTST	Dark grey laminated siltstone shales > fine grained sandstones, very minor pyrite <1%
EMU	EMU001	108	111	SLTST	Dark grey laminated siltstone shales > fine grained sandstones, very minor pyrite <1%
EMU	EMU001	111	114	SLTST	Dark grey laminated siltstone shales > fine grained sandstones, very minor pyrite <1%
EMU	EMU001	114	117	SLTST	Dark grey laminated siltstone shales > fine grained sandstones, very minor pyrite <1%
EMU	EMU001	117	120	SLTST	Dark grey laminated siltstone shales > fine grained sandstones, very minor pyrite <1%
EMU	EMU001	120	123	SLTST	Dark grey siltstone and shale with very rare pyrite as small (5mm) blobs elipical mS0
EMU	EMU001	123	126	SLTST	Dark grey siltstone and shale with very rare pyrite as small (5mm) blobs elipical mS0
EMU	EMU001	126	129	SLTST	Dark grey siltstone and shale with very rare pyrite as small (5mm) blobs elipical mS0
EMU	EMU001	129	132	SLTST	Dark grey siltstone and shale with very rare pyrite as small (5mm) blobs elipical mS0
EMU	EMU001	132	135	SLTST	Dark grey siltstone and shale with very rare pyrite as small (5mm) blobs elipical mS0
EMU	EMU001	135	138	SLTST	Dark grey siltstone and shale with very rare pyrite as small (5mm) blobs elipical mS0
EMU	EMU001	138	141	SLTST	Dark grey siltstone and shale with very rare pyrite as small (5mm) blobs elipical mS0
EMU	EMU001	141	144	SLTST	Dark grey siltstone and shale with very rare pyrite as small (5mm) blobs elipical mS0
EMU	EMU001	144	147	SLTST	Dark grey siltstone and shale with very rare pyrite as small (5mm) blobs elipical mS0
EMU	EMU001	147	150	SLTST	Dark grey siltstone and shale with very rare pyrite as small (5mm) blobs elipical mS0
EMU	EMU001	150	153	SLTST	Dark grey siltstone and shale with very rare pyrite as small (5mm) blobs elipical mS0
EMU	EMU001	153	156	SLTST	Dark grey siltstone and shale with very rare pyrite as small (5mm) blobs elipical mS0
EMU	EMU001	156	159	SLTST	Dark grey siltstone and shale with very rare pyrite as small (5mm) blobs elipical mS0
EMU	EMU001	159	162	SLTST	Dark grey siltstone and shale with very rare pyrite as small (5mm) blobs elipical mS0

EMU	EMU001	162	165	SLTST	Dark grey siltstone and shale with very rare pyrite as small (5mm) blobs elipical mS0
EMU	EMU001	165	168	SLTST	Dark grey siltstone and shale with very rare pyrite as small (5mm) blobs elipical mS0
EMU	EMU001	168	171	SLTST	Dark grey siltstone and shale with very rare pyrite as small (5mm) blobs elipical mS0
EMU	EMU001	171	174	SLTST	Dark grey siltstone and shale with very rare pyrite as small (5mm) blobs elipical mS0
EMU	EMU001	174	177	SLTST	Dark grey siltstone and shale with very rare pyrite as small (5mm) blobs elipical mS0
EMU	EMU001	177	180	SLTST	Dark grey siltstone and shale with very rare pyrite as small (5mm) blobs elipical mS0
EMU	EMU001	180	183	SLTST	Dark grey laminated shale with very minor pyrite
EMU	EMU001	183	186	SLTST	Dark grey laminated shale with very minor pyrite
EMU	EMU001	186	197.7	ADL	Dark grey green horizontal bedded siltstone with slaty cleavage
EMU	EMU001	197.7	209.1	ADL	Dark olive grey horizontal bedded siltsone to fine grained silstone with slatty cleavage and light to medium brown siltstone with horizontal bedding and slatty cleavage.
EMU	EMU001	209.1	250.5	ADL	Medium brown horizontal bedded siltstone / fine grained sandstone with slatty cleavage.
EMU	EMU001	250.5	260.5	ADL	Grey, white and pink dolomite with interbedded grey silstone and stylolitic silts.
EMU	EMU001	260.5	263.5	ADL	Medium brown fine grained sandstones to siltstones with large interbed of medium to coarse grained (1m thick), and coarse graded units with clastic fragments to 4mm. Some solitary coarse grained fragments occur in fine grained siltsones.
EMU	EMU001	263.5	298	ADL	Medium brown fine grained sandstones to siltstones with medium grey sandstones and siltstones. Light to yellow grey beds and nodules occur which show evidence of calcification and compaction around nodules (274 to 278)
EMU	EMU001	298	308.5	ADL	Medium brown horizontal bedded siltstone / fine grained sandstone with common carbonate in cement. Thin units of coarse sandstone and conglomerate occur interbedded in fine grained sandstone. Interp. intermediate unit between above and below units.
EMU	EMU001	308.5	312	ADL	Pink Yellow to dark grey silty unit with minor carbonate cement and minor sulphide staining.
EMU	EMU001	312	312.95	ADL	Green grey very fine grained metasediment with ubiquitous fine grained pyrite
EMU	EMU001	312.95	313.7	ADL	Angular sedimentary breccia with angualr clasts to 10cm in diametre with dark grey fine grained pyritic groundmass
EMU	EMU001	313.7	315.2	ADL	Dark grey and light grey finely laminated and interbedded siltsones and calcareous siltstones, Very fine grained pyritic veins cross cut primary laminations
EMU	EMU001	315.2	318.5	ADL	Vuggy carbonate with dolomitite veins occasionaly containing chalcopyrite eg. 315.3, 315.5, 316.3m. Protolith @ 318m is a corase detrital carbonate.
EMU	EMU001	318.5	324.7	ADL	Dark grey green siltstone interbedded with light pinky grey very fine grained sandstone, siltstone has ubiquitous fine grained pyrite.
EMU	EMU001	324.7	326.4	ADL	Light grey very well sorted fine grained sandstone with 1mm to 1cm laminations of dark grey siltstone, more common towards 324.7. Coarse dolomite veins occurs between 325.8 and 326.0
EMU	EMU001	326.4	328.8	ADL	Dark to medium grey fine grained siltstone interbedded with light grey very finegrained sandy beds with abundant truncated bedding and gradded bedding on 1 cm scale. Brading indicated right way up.
EMU	EMU001	328.8	329.55	ADL	Dark red brown siltstones interbedded with light grey thin graded sandstones. Bedding is disrupted between 329.0 and 329.3.
EMU	EMU001	329.55	329.6	ADL	Coarse very poorly sorted conglomerate with red and white clasts to 1 cm in diametre. Clast are mainly quartz and feldspar.
EMU	EMU001	329.6	332	ADL	Light grey brown siltstone
EMU	EMU001	332	335.3	ADL	Dark grey siltstone interbedded with light grey calacerous sandstone with minor carbonate veins from 334.9 to 335.3.
EMU	EMU001	335.3	339.1	ADL	Medium grey siltstone interbedded with light grey fine grained sandstone. Coarse poorly sorted sandstone at 336.2m.
EMU	EMU001	339.1	345.2	ADL	Light green grey siltstone with ubiquitous pyrite (1-5%). So is horizontal.
EMU	EMU001	345.2	345.4	ADL	Coarse poorly sorted detrital unit with quartz and feldspar clasts upto 3mm.
EMU	EMU001	345.4	347.8	ADL	Dark grey siltstone interbedded with light grey sandstones.
EMU	EMU001	347.8	357.3	ADL	Dark grey to light grey dolomitic sediment with multi-phase carbonate veining @ 350.1 and 350.5.
EMU	EMU001	357.3	357.55	ADL	Light green grey siltstone, fine stylolitic textures. Light grey alteration occurs around fractures Perpendicular to S0.
EMU	EMU001	357.55	361.1	ADL	Light grey to dark grey laminated and vuggy dolomite with abundant stylolite textures. Vugs are upto 2cm in diametre with lensoidal shape. Vugs are infilled wioth dolomite and calcite.
EMU	EMU001	361.1	362.6	ADL	Dark grey laminated dolomitic siltstone with large vertical vugs. Vugs are upto 5cm thick and have been filled with pink and white dolimite. Very minor pyrite.
EMU	EMU001	362.6	367.5	ADL	Dark grey to light grey dolimitic siltstone and limestone with vugs that have been in filled with carbonate, dolomite and very minor pyrite.
EMU	EMU001	367.5	367.55	ADL	Coarse poorly sorted graded gritty unit with clasts of quartz, feldspar. Grading indicates right way up.
EMU	EMU001	367.55	371.65	ADL	Light grey siltstone with one quartz carbonate vein @ 370.4m.
EMU	EMU001	371.65	371.95	ADL	Brecciated siltstone (Hydrothermal breccia) with quartz carbonate and minor pyrite
EMU	EMU001	371.95	372.7	ADL	Dark grey siltstone and light fine grained sandstone with sandstone becoming more common towards the base of the interval.
EMU	EMU001	372.7	401.1	ADL	Light green grey siltstone with fine lamiations to 1mm interbedded with red and white poorly sorted, angular gritty beds with grit clasts to 3mm. Grit is composed of quartz-feldspar with siliceous cement filling the voids between clasts.
EMU	EMU001	401.1	407.9	ADL	Dark red grey siltstone with fine lamiations to 1mm interbedded with red and white poorly sorted, angular gritty beds with grit clasts to 3mm. Grit is composed of quartz-feldspar with siliceous cement filling the voids between clasts.
EMU	EMU001	407.9	410.7	ADL	Light grey to red grey siltstone interbedded with dark red and white gritty poorly sorted conglomerate with clasts upto 10mm in diametre. Clasts are composed of quartz and feldspar with fine grained quartz, feldspar,pyrite matrix.
EMU	EMU001	410.7	416	ADL	Red very poorly sorted conglomerate with clast between 1mm and 10 cm. Clast include dark red quartz feldspar porphyry. Matrix is very fine grained matred feldspar, green feldspar and quartz. Some quartz veins cut both clasts and matrix.
EMU	EMU001	416	420.2	ADL	Light green grey siltstone (retrogresses) interbedded with red poorly sorted conglomerate with clasts between 10mm and 10cm in diaetre.
EMU	EMU001	420.2	423.7	WR	Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red,green or dark green.Moderate red rock alteration in veins to 2mm.
EMU	EMU001	423.7	426.7	WR	Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red,green or dark green. Weak dark red alteration pervasively alteraing host rock.
EMU	EMU001	426.7	450.3	WR	Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red,green or dark green. Strong red rock alteration in veins to 5 cm wide. 50% of rock is hematised.
EMU	EMU001	450.3	459	WR	Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red,green or dark green.Very weak red rock alteration. Minor biotite and albitite alteration eg. 454.3.
EMU	EMU001	459	471.5	WR	Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red,green or dark green.Strong red rock alteration with disseminated magnetite, hematite and biotite.
EMU	EMU001	471.5	473.8	WR	Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red,green or dark green.Very weak red rock alteration in veins.
EMU	EMU001	473.8	478.4	WR	Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red,green or dark green. Moderate red rock alteration in veins and disseminated through out rock.
EMU	EMU001	478.4	480	WR	Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red,green or dark green. Weak red rock alteration adjacent to quartz veins. One large albitite-magnetite-pyrite-chalcopyrite vein at 479.5.
EMU	EMU001	480	485	WR	Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red,green or dark green.Weak Red rock alteration adjacent to quartz veins.
EMU	EMU001	485	497.8	WR	Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red,green or dark green. Weak red rock alteration at 486.5, 489.6, 493.7 to 494.2, 495.5 and 497.0.

EMU	EMU001	497.8	500	WR	Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red,green or dark green.Strong red rock alteration with ematite-magnetite-caronate-chalcopyrite at 497.9 and 498.4
EMU	EMU001	500	502	WR	Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red,green or dark green. Weak red rock alteration with minor disseminated hematite.
EMU	EMU001	502	509.7	WR	Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red,green or dark green.Strongly red rock altered with disseminated hematite and hematite veining.
EMU	EMU001	509.7	509.9	WR	Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red,green or dark green. Red rock alteration is overprinted by carbonate-ampohibole veining.
EMU	EMU001	509.9	515	WR	Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red,green or dark green. Very minor red rock alteration associated with quartz albitite veining.
EMU	EMU001	515	520	WR	Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red,green or dark green. Minor quartz albitite with pervassive red rock alteration.

EMU 002

EMU	EMU002	0	2	Q	Coarse light briown sand with abundabnt gypsum and calcrete.
EMU	EMU002	2	3	NFU	Compact olive green to reddish brown clay, Minor quartz grit, goethite and hematite staining.
EMU	EMU002	3	6	NFU	Light olive green grey clay with minor goethite and hematite staining
EMU	EMU002	6	9	NFU	Coarse loose olive green clay with white calcaeroius clayy, goethite staining
EMU	EMU002	9	12	NFU	Fine to coarse olive grey gritty clay, quartz and calcareous clay
EMU	EMU002	12	15	NFU	Olive green grey clay with moderate goethite staining
EMU	EMU002	15	18	NFU	Compacted light grey to dark olive green-grey clay, moderate gothite in fracture, minor coarse whiteleached clay. (Sample lost - poor returen)
EMU	EMU002	18	21	NFU	Pale grey to pale olive clay: fine moderate olive brown gritty quartz clay.
EMU	EMU002	21	24	NFM	Dark compact greenish grey clay, mionr gritty quartz with moderate goethite
EMU	EMU002	24	27	NFM	Dark compact greenish grey clay, mionr gritty quartz with moderate goethite
EMU	EMU002	27	30	NFL	Light olive grey clay , minor black carbonaceous grit. Moderate goethite, minor hematite.
EMU	EMU002	30	33	NFL	Light olive grey clay , goethtie, minor dark grey to black carbonaceous clay.
EMU	EMU002	33	36	NFL	Light olive grey clay , goethtie, minor dark grey to black carbonaceous clay.
EMU	EMU002	36	39	NFL	Light olive grey clay , goethtie, minor dark grey to black carbonaceous clay.
EMU	EMU002	39	42	NFL	Light olive grey clay, goethtie staining disseminated throught out clay, minor hematite staining in dark grey clay.
EMU	EMU002	42	45	NFL	Olive green grey clay and dark grey gritty clay with moderate goethite staining.
EMU	EMU002	45	48	NFL	Dark grey gritty clay, moderate goethtie staining.
EMU	EMU002	48	51	NFL	Dark grey gritty clay, moderate goethtie staining.
EMU	EMU002	51	54	NFL	Light olive green grey clay, moderate goethite staining.
EMU	EMU002	54	57	NFL	Light olive grey clay and dark grey/black organic rich clay abundant goethite staining.
EMU	EMU002	57	60	NFL	Light olive grey clay and minor dark grey clay. Moderate goethite staining.
EMU	EMU002	60	63	NFL	Light olive grey clay and minor dark grey clay. Moderate goethite staining.
EMU	EMU002	63	66	NFL	Light olive grey clay and minor dark grey clay. Moderate goethite staining.
EMU	EMU002	66	69.5	NFL	Olive green grey clay and minor grey black clay. Abundant coarse quartz fragmetns and minor dark mafic fragments. Moderate goethite staining and minor hematite staining on quartz fragments.
EMU	EMU002	69.5	70	ADL	White and yellow weakly weathered carbonate
EMU	EMU002	70	72.6	ADL	Strongly weathered greeny yellow kaolinitic saprock
EMU	EMU002	72.6	82.8	ADL	Yellow to light grey weakly oxidised light grey and dark grey siltstone with cross bedding indicating right way up
EMU	EMU002	82.8	108	ADL	Dark grey carboaceous siltstone and shale with strongly disrupted beds. Disruption is interpretted to be due to slumping and soft sediment deformation.
EMU	EMU002	108	130	ADL	Carbonaceous dark grey to medium grey siltstone and carbonates with abundant stylolites.
EMU	EMU002	130	134.6	ADL	Wilkawillina formation?: Interbedded carbonates and siltstones, carbonates have common stylolite textures with occasional coarse gritty carbonate units.
EMU	EMU002	134.6	144.3	ADL	Wilkawillina formation?:White fodssiliferous carbonate and black fine grained shales @ base of interval. Stylolites are common.
EMU	EMU002	144.3	150	ADL	Dark grey carbonaceous shale with stylolitic veins @ top of interval and en-echelon quartz carbonate veins to 2mm wide.
EMU	EMU002	150	203.6	ADL	Dark grey to light grey dolomitic siltstones with minor veining to 1mm from 177 to 188.1. Veins composed of quartz and caronate. Pyritic nodules common throughtout interval but normally parallel to S0.
EMU	EMU002	203.6	244.9	ADL	Medium grey to red very weakly carbonaceous shale and siltstone with slatty cleavage.
EMU	EMU002	244.9	251.1	ADL	Red to pinky grey red weakly carbonaceous shales and slates with occasional carbonate nodules to 5cm eg. 147.9.
EMU	EMU002	251.1	262.3	ADL	Very fine grained dolomite with abundant stylolites and pyrite veining to 1mm.
EMU	EMU002	262.3	263.3	ADL	Light grye siliceous and weakly carbonaceous ground mass with poorly sorted clasts to 5cm in diametre, interp previously as tillite in BMW1a-1
EMU	EMU002	263.3	266.1	ADL	Red to light grey finely laminated slates with three thin(10cm) white siliceous intervals.
EMU	EMU002	266.1	266.9	ADL	Red coarse grained sandstones
EMU	EMU002	266.9	271	ADL	White moderate to well sorted sandstone, coarser at the base of beds (grading Right way up)
EMU	EMU002	271	279.8	ADL	Interbedded red sandstones with both light grey and red slates.
EMU	EMU002	279.8	302.5	ADL	Red brown slates with minor very light grey carbonaceous units with thin sandy beds at the base.
EMU	EMU002	302.5	317.6	ADL	Red brown slates and light grey carbonaceous units with wispy light grey veins / carbonate alteration
EMU	EMU002	317.6	325.1	ADL	Dark red brown medium to fine grained sandstones grading into slates, interbedded with white calcareous limestone / silica units. Large round carbonae nodule at 321.9m.
EMU	EMU002	325.1	333.1	ADL	Light grey to red carbonates with calcareous slates and poorly sorted conglomerate units at the base of 1 metre thick depositional packages.

EMU	EMU002	333.1	337.6	ADL	Dark grey and light grey calcareous shale and carbonate with very minor carbonate veins parallel to LCA @ 335.85. Stylolites are common in the carbonate units.
EMU	EMU002	337.6	339.2	ADL	White carbonate with minor stylolites.
EMU	EMU002	339.2	342.6	ADL	Light grey and red borwn slate/carbonaceous shale with minor gritty quartz/feldspar units at the base.
EMU	EMU002	342.6	345.6	ADL	Light browny grey slate
EMU	EMU002	345.6	353.2	ADL	Dark grey to light grey calcareous slates with strong laminations
EMU	EMU002	353.2	357.4	ADL	Dark brown redy grey calcareous siltstones
EMU	EMU002	357.4	360	ADL	Light green grey calcaerous siltsones
EMU	EMU002	360	366.9	ADL	Light grey carbonate and dark grey siltstone. Light grey carbonate varies from very fine grained to medium grained.
EMU	EMU002	366.9	367.1	ADL	Pyritic coarse unit @ base of sedimentary package.
EMU	EMU002	367.1	370.5	ADL	Interbedded fine grained black pelitic unit and light grey carbonaceous units occasional coarse grained units at the base of depositional packages.
EMU	EMU002	370.5	371.7	ADL	Pyritic dark grey and light grey sedimentary units which have undergone pyritic alteration centered around quartz veins @ 371.5
EMU	EMU002	371.7	374.5	ADL	Light grey coarse carbonate interbedded with finely laminated calcareous siltstones
EMU	EMU002	374.5	385	ADL	Dark grey and light grey calcareous slates with coarse grit unit at the base of sedimetary packages.
EMU	EMU002	385	388.3	ADL	Dark grey fine grained slate gradding to interbedded red gritty arkosic sands and light green grey slates.
EMU	EMU002	388.3	423.1	ADL	Dark red brown siltstones and coarse poorly sorted sandy beds with grains of feldspar and quartz.
EMU	EMU002	423.1	433.1	ADL	Very coarse boulder conglomerate with boulders of igneous rocks and altered metasediments in a coarse feldspar quartz matrix.
EMU	EMU002	433.1	439	WR	Red coarse grained porphyritic volcanic or igneous intrusive. Porphyritic crystals include white feldspar, red feldspar, quartz and quartz veins.Dark red and light red hemaatite alteration.
EMU	EMU002	439	457.4	WR	Red very strongly altered metasediment. Fine grained quartz veining and disseminated hematite is ubiquitous.
EMU	EMU002	457.4	458.3	WR	Red coarse grained porphyritic volcanic or igneous intrusive. Porphyritic crystals include white feldspar, red feldspar, quartz and quartz veins.Dark red and light red hemaatite alteration.
EMU	EMU002	458.3	458.6	WR	Dark grey siliceous porphyritic rock sililar to previous interval but with intense silicification.
EMU	EMU002	458.6	485.7	WR	Strongly red rock altered porphyritic metavolcanic/intrsive (same as 433.1-439.0)
EMU	EMU002	485.7	496.3	WR	Red metasedimentary rock with minor intervals of red rock alteration being altered to amphibole and sericite. Small faults with cm displacements are common. Strong magnetite alteration between 492.0 amd 494.0m.
EMU	EMU002	496.3	500.4	WR	Dark green grey porphyritic volcanic groundmass with red feldspar crystals to 1cm..
EMU	EMU002	500.4	524.3	WR	Dark red porphyritic volcanic and fine grained volcanic with feldspar crystals to 2cm in diametre.
EMU	EMU002	524.3	531.8	WR	Red rock altered metasediment partially replaced by dark greenish grey amphibole and hematite. Hematite-quartz veins with hematite selvages @ 527.5
EMU	EMU002	531.8	542	WR	Red coarse grained porphyritic volcanic or igneous intrusive. Porphyritic crystals include white feldspar, red feldspar, quartz and quartz veins.Dark red and light red hemaatite alteration.

Appendix 2

Diamond Drill Assays

MINERAL CHEMISTRY

Amdel Laboratories Ltd
PO Box 338
Torrensville Plaza SA 5031
ACN 009 076 555

Telephone (08) 8416 5300
Facsimile (08) 8234 0321

Mr Graham Warren
Pasminco Exploration
PO Box 703
BROKEN HILL NSW 2880

FINAL ANALYSIS REPORT

Your Order No: 3261

Our Job Number : 9AD0638

Sample rec'd : 18/03/99

Results reported : 09/04/99

No. of samples : 123

Report comprises a cover sheet and pages 1 to 15

Please Note: 'K' values >1% by code IC3E may bias low due to the insolubility of potassium perchlorate.

Approved Signature:

for
Alan Ciplys
Manager - Mineral Chemistry

Report Codes:
N.A. - Not Available.
L.N.R. - Listed But Not Received.
I.S. - Insufficient Sample.

Distribution Codes:
CC - Carbon Copy
EM - Electronic Media
MM - Magnetic Media

amdel

Job: 9AD0638
O/N: 3261

Final

ANALYTICAL REPORT

SAMPLE	As	Ca	Ce	Co	Cr	Cu	Fe
315279	310	1.92%	10	16	220	24	2.84%
315280	48	16.1%	25	16	18	850	5.05%
315281	500	17.9%	15	7	11	4250	5.67%
315282	4	18.3%	15	7	10	420	5.63%
315283	22	17.9%	15	13	13	25	4.41%
315284	12	18.7%	10	<2	13	13	3.85%
315285	<3	17.7%	15	<2	21	2	2.41%
315286	4	17.7%	15	<2	17	8	3.57%
315287	18	17.8%	20	<2	17	10	3.12%
315288	20	15.7%	25	2	21	2	3.04%
315289	24	4.98%	80	75	83	4450	3.46%
315290	160	18.6%	15	<2	20	12	3.08%
315291	210	17.9%	35	<2	21	55	4.57%
315292	700	13.6%	<10	5	26	600	3.80%
315293	800	19.4%	20	<2	21	45	4.96%
315294	310	17.3%	30	19	34	260	4.50%
315295	80	7900	145	5	74	55	1.22%
315296	40	1.57%	100	7	105	11	1.59%
315297	310	9250	55	14	175	460	3.43%
315298	32	2.00%	115	8	125	270	2.07%
315299	56	4200	85	5	135	27	1.33%
315300	120	6250	120	7	120	13	1.51%
315301	6	7.09%	50	13	165	21	4.07%
315302	12	7.55%	30	38	260	28	7.10%
315303	16	6.69%	<10	54	260	46	6.26%
315304	18	6.73%	20	34	260	54	6.06%
315305	16	5.45%	25	30	270	34	6.62%
315306	16	4.56%	35	32	310	<2	8.11%
315307	18	5.73%	30	39	270	45	6.49%
315308	20	6.10%	20	45	270	56	7.07%
315309	24	5.70%	35	34	260	42	6.40%
315310	14	6.53%	25	36	280	39	6.90%
315311	18	6.78%	25	32	270	46	6.57%
315312	26	5.74%	85	84	87	4400	3.77%
315313	14	5.96%	20	37	310	43	6.59%
315314	18	5.18%	25	30	300	31	7.20%
315315	10	7.77%	45	41	290	35	6.55%
315316	<3	7.91%	25	43	300	51	6.54%
315317	14	6.15%	20	39	260	48	6.73%
315318	6	4.62%	90	17	240	4	6.47%
315319	4	5.60%	40	6	240	9	13.0%
315320	6	4.78%	55	27	240	35	7.06%
315321	6	5.49%	25	42	270	77	7.70%
315322	4	5.12%	35	21	240	28	7.93%
315323	6	6.15%	25	42	250	58	7.51%
315324	16	7.84%	<10	44	290	73	7.45%
315325	24	5.82%	15	45	270	105	9.26%
315326	6	6.37%	50	31	270	77	8.51%
315327	20	5.75%	20	39	260	72	8.33%
315328	8	5.55%	75	26	270	43	8.56%
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DET.LIM	3	20	10	2	2	2	100
SCHEME	IC3E	IC3E	IC3E	IC3E	IC3E	IC3E	IC3E

amdel

Job: 9AD0638
O/N: 3261

Final

ANALYTICAL REPORT

SAMPLE	As	Ca	Ce	Co	Cr	Cu	Fe
315329	18	6.01%	40	37	290	35	10.0%
315330	6	5.84%	30	39	240	115	8.88%
315331	10	5.48%	30	35	300	90	9.31%
315332	10	5.63%	25	33	260	48	7.67%
315333	6	6.14%	20	37	260	70	8.45%
315334	<3	4.97%	15	35	250	57	8.25%
315335	<3	6.05%	20	25	240	72	8.02%
315336	4	5.99%	70	18	240	30	8.93%
315337	4	5.39%	30	29	240	43	8.33%
315338	6	5.66%	25	36	240	52	8.29%
315339	14	4.68%	75	72	70	4750	3.67%
315340	8	6.26%	15	30	260	69	7.60%
315341	6	6.49%	20	33	270	50	8.00%
315342	14	5.69%	25	29	240	45	7.89%
315343	8	6.21%	25	5	210	30	11.5%
315344	6	5.15%	25	12	230	6	9.55%
315345	4	4.75%	35	17	250	7	9.78%
315346	<3	5.01%	35	15	260	15	10.9%
315347	<3	5.91%	40	13	240	11	10.0%
315348	8	5.81%	50	17	220	4	8.02%
315349	8	5.89%	35	21	240	7	7.86%
315350	<3	9.81%	55	8	120	<2	7.59%
315351	4	6.54%	65	27	230	25	6.70%
315352	4	6.08%	30	31	240	37	7.29%
315353	<3	8.13%	15	31	230	41	6.39%
315354	<3	6.03%	30	30	200	50	7.31%
315355	<3	2.30%	70	24	60	14	3.85%
315356	750	8.55%	<10	<2	58	1200	1.84%
315357	32	5650	165	6	120	175	2.64%
315358	28	3500	150	5	125	47	2.98%
315359	20	3150	220	2	140	6	3.29%
315360	22	2000	240	<2	105	4	2.74%
315361	14	1600	105	4	115	8	2.36%
315362	14	2100	155	<2	83	15	2.13%
315363	18	5050	70	9	48	<2	2.91%
315364	4	8950	45	3	70	<2	4.24%
315365	<3	1.10%	70	<2	85	3	4.62%
315366	<3	1.01%	40	6	67	<2	4.57%
315367	8	6750	65	4	85	4	8.57%
315368	6	8850	80	5	77	5	6.62%
315369	20	4000	65	3	110	4	5.55%
315370	30	1450	135	<2	150	6	3.47%
315371	24	4.76%	85	74	105	4100	3.63%
315372	20	1500	195	7	155	8	2.89%
315373	10	1600	150	5	135	5	2.41%
315374	4	2600	115	3	165	10	2.18%
315375	12	1400	115	3	110	6	2.31%
315376	<3	1150	105	4	135	8	2.51%
315377	<3	1800	125	2	145	5	2.83%
315378	8	2250	150	3	125	6	3.18%
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DET.LIM	3	20	10	2	2	2	100
SCHEME	IC3E	IC3E	IC3E	IC3E	IC3E	IC3E	IC3E

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SAMPLE	As	Ca	Ce	Co	Cr	Cu	Fe
315379	20	5250	105	3	120	5	3.76%
315380	8	5150	95	7	100	5	3.85%
315381	8	1.69%	115	8	81	<2	7.31%
315382	4	1.64%	115	7	74	30	7.27%
315383	10	2.01%	105	13	74	19	6.74%
315384	16	9200	115	9	47	11	3.87%
315385	22	1.15%	95	5	79	4	3.18%
315386	12	3150	90	3	87	4	2.82%
315387	<3	3900	95	<2	51	4	2.14%
315388	4	3550	125	<2	130	6	2.63%
315389	32	4.71%	95	70	73	4300	3.67%
315390	14	3950	125	3	68	9	2.48%
315391	10	3050	120	3	98	7	2.20%
315392	12	2300	115	<2	85	5	2.19%
315393	10	2850	110	5	74	6	2.09%
315394	16	2650	75	<2	120	6	2.02%
315395	8	3100	95	4	100	7	2.12%
315396	<3	5150	70	6	71	2	4.57%
315397	6	7950	65	6	73	<2	5.59%
315398	<3	7650	140	7	58	2	3.79%
315399	10	2400	200	3	95	7	2.84%
315400	6	2900	180	4	52	4	2.79%
315401	10	2600	155	5	100	6	2.99%
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DET.LIM	3	20	10	2	2	2	100
SCHEME	IC3E	IC3E	IC3E	IC3E	IC3E	IC3E	IC3E

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SAMPLE	K	Mg	Mn	Na	Ni	P	Pb
315279	9150	7800	1000	550	22	230	55
315280	5900	6.63%	1.03%	430	23	130	100
315281	1150	7.20%	1.22%	390	20	95	35
315282	1600	7.34%	1.29%	400	19	120	55
315283	1250	7.76%	9150	410	22	170	15
315284	2050	8.48%	8500	420	17	90	15
315285	5600	8.56%	5950	420	15	90	80
315286	4650	8.01%	7400	410	17	135	10
315287	4850	7.43%	7400	430	16	130	100
315288	1.00%	7.27%	6350	600	15	230	5
315289	1.17%	1.52%	950	4.26%	54	700	30
315290	7550	8.51%	6600	550	17	210	60
315291	6250	7.08%	9300	550	17	150	40
315292	4650	5.15%	6950	410	22	120	170
315293	5550	6.12%	9700	400	23	135	280
315294	8850	5.48%	8350	500	29	190	120
315295	5.69%	3550	490	1100	21	185	25
315296	5.41%	6850	1000	1000	21	220	10
315297	5.48%	4850	550	950	27	195	30
315298	4.96%	9700	1300	1100	29	500	10
315299	4.63%	2600	310	950	24	150	10
315300	6.18%	3400	420	1150	24	220	10
315301	3.19%	2.93%	4300	2900	52	390	<5
315302	2.17%	4.51%	3300	1.49%	130	200	<5
315303	1.28%	5.74%	1900	1.81%	135	180	5
315304	1.34%	5.86%	1600	1.99%	120	170	15
315305	1.08%	5.58%	1350	2.16%	105	170	<5
315306	1.70%	6.22%	1450	1.32%	110	260	<5
315307	1.35%	6.37%	1100	1.99%	120	165	<5
315308	1.90%	6.48%	1250	1.73%	150	200	<5
315309	1.78%	6.42%	1200	1.98%	115	160	<5
315310	1.60%	6.14%	1200	2.06%	130	185	10
315311	1.66%	5.58%	1350	2.24%	125	175	<5
315312	1.21%	1.67%	1050	4.18%	61	800	20
315313	1.81%	6.31%	1150	2.04%	125	175	<5
315314	2.56%	6.21%	1150	1.52%	115	170	15
315315	2.00%	5.90%	1100	1.43%	135	160	15
315316	1.77%	5.66%	1100	1.19%	135	155	10
315317	1.66%	5.42%	900	1.56%	120	125	<5
315318	2.08%	5.11%	600	1.74%	71	105	<5
315319	7100	3.62%	600	1.95%	52	45	<5
315320	2.00%	5.31%	650	1.84%	100	120	<5
315321	2.14%	6.13%	750	1.61%	110	140	<5
315322	1.96%	5.39%	700	1.96%	87	120	<5
315323	1.35%	6.09%	900	1.89%	115	110	10
315324	1.30%	6.64%	1100	1.69%	130	145	5
315325	1.01%	6.44%	650	1.97%	165	135	<5
315326	1.42%	6.25%	800	2.38%	105	120	<5
315327	2.06%	6.06%	800	1.86%	110	115	10
315328	2.41%	6.14%	700	1.56%	100	120	5
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DET.LIM	50	20	5	20	2	10	5
SCHEME	IC3E	IC3E	IC3E	IC3E	IC3E	IC3E	IC3E

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SAMPLE	K	Mg	Mn	Na	Ni	P	Pb
315329	2.31%	6.28%	650	1.49%	110	95	<5
315330	2.02%	5.28%	550	2.38%	120	200	<5
315331	1.82%	6.71%	700	1.25%	145	135	<5
315332	1.43%	5.96%	650	2.47%	100	125	<5
315333	1.69%	6.53%	850	1.92%	120	125	<5
315334	2.19%	5.52%	950	2.02%	92	125	<5
315335	2.27%	4.92%	1000	2.39%	115	110	<5
315336	2.28%	5.14%	1000	2.17%	73	85	<5
315337	1.67%	6.39%	700	2.28%	105	85	<5
315338	2.16%	6.14%	700	1.68%	100	90	<5
315339	1.27%	1.54%	900	4.74%	43	700	15
315340	1.95%	5.59%	650	1.68%	100	105	<5
315341	1.93%	5.64%	650	1.53%	100	100	<5
315342	2.36%	5.58%	650	1.60%	105	75	<5
315343	2.73%	4.71%	1100	1.35%	43	25	<5
315344	2.06%	5.67%	950	2.01%	66	90	<5
315345	2.36%	5.54%	800	1.61%	75	50	<5
315346	1.68%	5.15%	700	2.46%	61	55	<5
315347	1.79%	5.28%	700	2.25%	59	135	<5
315348	1.39%	5.55%	750	2.46%	72	85	<5
315349	7200	5.70%	750	2.88%	82	75	<5
315350	6400	6.09%	850	1.02%	36	10	<5
315351	1.23%	5.55%	800	2.12%	90	75	<5
315352	1.21%	5.81%	600	2.21%	96	90	<5
315353	1.40%	5.55%	850	1.64%	100	105	<5
315354	2.12%	5.42%	550	2.39%	89	90	10
315355	2.91%	1.91%	500	1.17%	35	700	15
315356	1.36%	7000	1300	1600	9	360	8800
315357	5.80%	3000	1100	4550	9	135	70
315358	5.47%	2850	1000	1750	7	145	15
315359	5.30%	2750	490	2000	7	195	10
315360	5.35%	2350	500	1650	5	220	<5
315361	4.67%	1400	240	1.05%	5	125	<5
315362	4.22%	1400	310	1.85%	4	70	<5
315363	3.10%	4250	480	4.35%	14	390	<5
315364	1.58%	6800	500	5.39%	14	500	<5
315365	2.43%	1.01%	850	4.92%	24	600	<5
315366	3.88%	8500	750	3.85%	26	600	5
315367	2.12%	1.54%	950	3.75%	44	650	<5
315368	2.68%	1.49%	950	3.65%	20	550	<5
315369	2.16%	9400	550	3.88%	15	460	<5
315370	2.62%	4650	310	7000	5	40	<5
315371	1.18%	1.49%	1000	4.35%	46	700	10
315372	3.70%	3650	300	1.54%	6	105	<5
315373	3.25%	3050	230	2.16%	4	100	<5
315374	2.82%	2400	230	3.02%	7	95	10
315375	3.45%	2300	185	2.27%	7	105	<5
315376	3.29%	2000	160	2.63%	6	120	<5
315377	3.59%	3450	240	2.25%	7	140	<5
315378	3.64%	4800	340	1.44%	6	175	<5
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DET.LIM	50	20	5	20	2	10	5
SCHEME	IC3E	IC3E	IC3E	IC3E	IC3E	IC3E	IC3E
UPPER SCHEME							MET1R

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SAMPLE	K	Mg	Mn	Na	Ni	P	Pb
315379	3.98%	7250	550	8750	7	180	<5
315380	3.47%	6150	550	1.79%	9	210	<5
315381	2.89%	1.43%	1650	2.51%	27	750	<5
315382	2.85%	1.61%	1600	3.35%	24	750	<5
315383	2.73%	1.45%	1400	4.04%	25	700	<5
315384	3.45%	1.12%	700	2.69%	10	340	<5
315385	4.46%	1.23%	600	4800	9	160	<5
315386	3.72%	7050	210	2.24%	6	140	<5
315387	3.34%	3800	250	2.92%	5	165	<5
315388	4.07%	4050	260	2.69%	8	180	<5
315389	1.18%	1.48%	950	4.36%	44	700	30
315390	4.00%	4900	290	1.70%	5	140	<5
315391	3.82%	3300	220	1.99%	6	90	<5
315392	3.83%	2600	160	3.03%	6	100	<5
315393	3.88%	2150	190	2.70%	6	135	<5
315394	2.83%	2750	170	3.60%	6	120	<5
315395	3.38%	3900	280	2.89%	9	40	10
315396	2.97%	1.03%	460	4.23%	22	550	5
315397	1.48%	1.45%	750	4.88%	25	650	<5
315398	3.04%	9150	550	3.74%	19	500	<5
315399	3.66%	3100	320	2.49%	6	240	<5
315400	3.50%	2950	330	2.57%	4	220	<5
315401	3.84%	3250	340	2.59%	5	210	<5
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DET.LIM	50	20	5	20	2	10	5
SCHEME	IC3E	IC3E	IC3E	IC3E	IC3E	IC3E	IC3E

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SAMPLE	Ag	Bi	Cd	Mo	Sb	U	W
315279	1.6	0.3	<0.2	24.5	16	1.75	3.2
315280	1.0	0.6	<0.2	1.4	5	1.70	0.5
315281	60	0.8	19.5	2.1	1800	1.05	<0.2
315282	0.3	0.4	0.3	49.5	25	1.05	<0.2
315283	<0.2	0.3	0.2	40.0	11	1.30	<0.2
315284	0.4	0.2	<0.2	2.9	2	1.10	<0.2
315285	0.2	<0.2	<0.2	0.9	2	1.60	0.3
315286	0.4	0.2	0.3	1.1	6	1.50	0.3
315287	0.5	<0.2	0.4	1.5	6	1.20	0.6
315288	<0.2	<0.2	<0.2	0.4	2	1.00	2.0
315289	1.8	2.4	1.2	600	1	16.5	13.0
315290	0.2	<0.2	0.2	2.0	4	0.90	1.5
315291	0.6	0.7	0.7	1.3	13	0.90	1.2
315292	6.0	0.2	4.4	1.0	260	1.35	0.8
315293	1.4	0.5	3.1	0.7	19	1.05	0.6
315294	4.3	0.5	0.8	1.2	115	1.25	0.7
315295	1.0	1.6	<0.2	9.5	24	5.0	4.4
315296	<0.2	0.5	<0.2	3.8	8	4.7	3.4
315297	0.5	6.5	<0.2	14.0	21	10.5	4.6
315298	<0.2	0.7	<0.2	4.1	12	6.0	5.5
315299	<0.2	1.9	<0.2	11.0	10	4.4	3.2
315300	<0.2	1.6	<0.2	6.5	8	5.0	3.9
315301	<0.2	0.4	<0.2	1.6	8	4.6	3.5
315302	<0.2	0.2	<0.2	0.7	7	1.00	3.8
315303	<0.2	<0.2	<0.2	0.5	5	0.40	1.2
315304	<0.2	0.2	<0.2	0.7	5	0.80	1.2
315305	<0.2	0.2	<0.2	0.9	7	1.10	1.1
315306	<0.2	0.4	<0.2	0.6	4	1.60	1.6
315307	<0.2	0.4	<0.2	0.9	4	1.10	1.2
315308	<0.2	0.4	<0.2	0.8	3	0.95	1.2
315309	<0.2	0.3	<0.2	1.3	3	1.15	2.1
315310	<0.2	0.3	<0.2	0.9	3	1.15	1.2
315311	<0.2	0.3	<0.2	2.3	2	1.00	1.7
315312	1.8	2.4	1.2	650	1	16.5	13.0
315313	0.2	0.4	<0.2	11.0	2	1.10	1.1
315314	<0.2	0.2	<0.2	3.2	2	1.05	1.1
315315	<0.2	0.3	<0.2	2.3	2	0.90	0.8
315316	<0.2	0.3	<0.2	1.8	2	0.70	0.7
315317	<0.2	0.2	<0.2	1.1	2	0.80	1.0
315318	<0.2	<0.2	<0.2	1.6	2	1.60	0.9
315319	<0.2	<0.2	<0.2	2.0	2	2.2	0.6
315320	<0.2	0.2	<0.2	1.7	2	1.60	0.8
315321	<0.2	0.2	<0.2	0.9	1	0.95	0.9
315322	<0.2	<0.2	<0.2	2.1	1	1.40	0.7
315323	0.2	0.3	<0.2	1.1	2	1.20	1.1
315324	<0.2	0.2	<0.2	0.9	2	0.55	0.7
315325	0.2	0.4	<0.2	2.0	2	1.10	1.1
315326	<0.2	0.3	<0.2	1.6	2	1.30	1.1
315327	<0.2	0.2	<0.2	1.0	2	0.95	1.0
315328	<0.2	<0.2	<0.2	1.9	2	1.10	0.7
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DET.LIM	0.2	0.2	0.2	0.2	1	0.05	0.2
SCHEME	IC3M	IC3M	IC3M	IC3M	IC3M	IC3M	IC3M
UPPER SCHEME	IC3E						

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SAMPLE	Ag	Bi	Cd	Mo	Sb	U	W
315329	<0.2	<0.2	<0.2	1.3	1	0.90	1.0
315330	<0.2	0.2	0.7	1.6	1	0.80	0.9
315331	<0.2	0.2	<0.2	0.9	1	1.75	1.3
315332	<0.2	0.2	<0.2	1.1	2	0.95	1.0
315333	<0.2	<0.2	<0.2	0.9	1	1.00	1.0
315334	<0.2	0.2	<0.2	1.1	1	0.85	2.3
315335	<0.2	0.3	<0.2	1.0	<1	1.05	3.1
315336	<0.2	0.2	<0.2	1.8	1	1.75	2.8
315337	<0.2	0.2	<0.2	0.7	2	1.00	1.2
315338	<0.2	<0.2	<0.2	1.3	1	0.85	1.1
315339	1.4	2.2	1.2	650	1	17.0	14.0
315340	0.2	0.2	<0.2	3.9	2	0.95	1.1
315341	<0.2	<0.2	<0.2	1.4	2	0.90	1.1
315342	0.2	0.3	<0.2	1.7	2	1.00	1.1
315343	<0.2	<0.2	<0.2	1.3	1	2.2	0.8
315344	<0.2	<0.2	<0.2	1.6	1	1.65	0.8
315345	0.3	<0.2	<0.2	8.5	5	1.50	0.7
315346	<0.2	<0.2	<0.2	1.8	1	2.0	0.8
315347	<0.2	<0.2	<0.2	3.3	<1	1.85	1.0
315348	<0.2	0.2	<0.2	3.4	1	1.45	1.2
315349	<0.2	<0.2	<0.2	1.4	1	1.35	1.3
315350	<0.2	<0.2	<0.2	1.9	1	1.35	3.1
315351	<0.2	0.3	<0.2	1.2	1	0.80	0.9
315352	<0.2	0.2	<0.2	1.5	1	0.95	1.0
315353	<0.2	<0.2	<0.2	1.2	1	0.60	0.7
315354	0.3	0.2	0.2	1.8	1	0.95	0.8
315355	0.4	0.5	<0.2	3.2	2	4.7	2.1
315356	37.0	0.4	19.0	1.1	900	1.85	2.2
315357	0.7	0.7	0.2	3.2	1	5.5	3.2
315358	<0.2	0.9	<0.2	3.2	1	5.5	3.7
315359	<0.2	0.4	<0.2	3.7	7	5.5	5.5
315360	<0.2	0.6	<0.2	2.6	7	6.0	4.8
315361	<0.2	0.7	<0.2	2.9	4	3.4	3.4
315362	<0.2	0.7	<0.2	2.0	3	3.7	2.1
315363	<0.2	0.3	<0.2	0.7	2	0.80	2.5
315364	<0.2	<0.2	<0.2	1.1	3	0.90	5.0
315365	<0.2	0.9	<0.2	1.9	3	1.05	2.2
315366	<0.2	1.4	<0.2	0.9	3	0.95	1.8
315367	<0.2	2.1	<0.2	1.6	4	1.75	1.5
315368	<0.2	1.3	<0.2	1.8	4	2.0	3.3
315369	0.3	0.6	<0.2	2.0	3	0.85	3.3
315370	<0.2	0.4	<0.2	3.4	3	3.7	4.3
315371	1.3	2.2	1.0	600	1	15.5	12.5
315372	0.3	0.8	<0.2	3.7	3	3.4	2.5
315373	<0.2	0.2	<0.2	3.0	2	3.2	2.6
315374	<0.2	<0.2	<0.2	4.1	2	4.0	3.2
315375	<0.2	<0.2	<0.2	2.7	2	3.7	3.1
315376	<0.2	0.3	<0.2	3.0	2	4.6	3.0
315377	<0.2	0.2	<0.2	3.3	2	4.4	2.5
315378	<0.2	0.4	<0.2	3.1	3	4.8	2.6
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DET.LIM	0.2	0.2	0.2	0.2	1	0.05	0.2
SCHEME	IC3M	IC3M	IC3M	IC3M	IC3M	IC3M	IC3M

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SAMPLE	Ag	Bi	Cd	Mo	Sb	U	W
315379	<0.2	0.4	<0.2	2.8	3	3.6	2.9
315380	<0.2	0.4	<0.2	2.3	3	3.5	3.9
315381	<0.2	0.8	<0.2	1.8	3	4.0	1.5
315382	0.2	1.1	0.2	1.9	3	6.0	1.5
315383	<0.2	1.1	<0.2	2.2	3	7.0	0.7
315384	<0.2	0.3	<0.2	1.4	2	4.4	1.0
315385	<0.2	0.3	<0.2	2.3	4	5.5	3.1
315386	<0.2	0.2	<0.2	2.2	3	5.0	4.3
315387	<0.2	0.2	<0.2	1.4	2	3.7	2.2
315388	<0.2	0.2	<0.2	3.3	2	3.9	1.9
315389	1.3	2.2	1.0	600	1	16.5	13.0
315390	<0.2	0.3	<0.2	5.5	2	4.3	1.6
315391	<0.2	0.2	<0.2	2.7	2	4.3	1.6
315392	<0.2	<0.2	<0.2	3.0	2	3.4	2.9
315393	<0.2	0.3	<0.2	2.1	2	4.3	2.2
315394	<0.2	0.2	<0.2	3.4	2	1.50	2.9
315395	<0.2	0.6	<0.2	2.5	2	4.0	1.2
315396	<0.2	0.6	<0.2	1.1	2	1.00	1.8
315397	<0.2	1.1	<0.2	1.7	2	1.10	2.5
315398	<0.2	0.6	<0.2	1.1	2	1.70	1.8
315399	<0.2	0.7	<0.2	2.9	2	3.9	1.4
315400	<0.2	0.6	<0.2	1.5	2	3.4	1.5
315401	<0.2	0.8	<0.2	2.9	2	3.4	2.2
UNITS	ppm	ppm	ppm	ppm	ppm	ppm	ppm
DET.LIM	0.2	0.2	0.2	0.2	1	0.05	0.2
SCHEME	IC3M	IC3M	IC3M	IC3M	IC3M	IC3M	IC3M

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ANALYTICAL REPORT

SAMPLE	Au	Au Rpt	Au Rpt	Au SP
315279	<0.001	--	--	<0.001
315280	<0.001	--	--	--
315281	0.001	--	--	--
315282	<0.001	--	--	--
315283	<0.001	--	--	--
315284	<0.001	--	--	--
315285	<0.001	--	--	--
315286	<0.001	--	--	--
315287	0.003	--	--	--
315288	<0.001	--	--	--
315289	0.40	--	--	--
315290	<0.001	--	--	--
315291	<0.001	<0.001	--	--
315292	0.001	--	--	--
315293	0.002	--	--	--
315294	<0.001	--	--	--
315295	0.003	--	--	--
315296	0.002	--	--	--
315297	0.014	--	--	--
315298	0.002	--	--	--
315299	0.001	--	--	0.003
315300	0.003	--	--	--
315301	0.002	--	--	--
315302	0.001	--	--	--
315303	0.002	--	--	--
315304	0.002	--	--	--
315305	0.003	--	--	--
315306	0.006	--	--	--
315307	0.002	--	--	--
315308	0.003	--	--	--
315309	0.003	--	--	--
315310	0.002	--	--	--
315311	<0.001	--	--	--
315312	0.38	--	--	--
315313	0.002	--	--	--
315314	0.002	--	--	--
315315	0.001	--	--	--
315316	0.003	--	--	--
315317	0.002	--	--	--
315318	0.001	--	--	--
315319	<0.001	--	--	0.001
315320	0.006	--	--	--
315321	0.002	--	--	--
315322	<0.001	<0.001	--	--
315323	0.002	--	--	--
315324	0.002	--	--	--
315325	0.007	--	--	--
315326	0.002	--	--	--
315327	0.005	--	--	--
315328	0.002	--	--	--
UNITS	ppm	ppm	ppm	ppm
DET.LIM	0.001	0.001	0.001	0.001
SCHEME	FA3	FA3	FA3	FA3

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ANALYTICAL REPORT

SAMPLE	Au	Au Rpt	Au Rpt	Au SP
315329	<0.001	--	--	--
315330	0.003	--	--	--
315331	0.002	--	--	--
315332	0.002	--	--	--
315333	0.001	--	--	--
315334	0.006	--	--	--
315335	0.004	--	--	--
315336	0.002	--	--	--
315337	0.005	--	--	--
315338	<0.001	--	--	--
315339	0.41	0.41	--	I.S.
315340	0.003	--	--	--
315341	0.004	--	--	--
315342	0.003	--	--	--
315343	0.001	--	--	--
315344	0.004	--	--	--
315345	0.002	--	--	--
315346	0.002	--	--	--
315347	0.002	--	--	--
315348	<0.001	--	--	--
315349	0.002	--	--	--
315350	0.012	--	--	--
315351	0.003	--	--	--
315352	0.005	--	--	--
315353	0.001	--	--	--
315354	0.002	--	--	--
315355	0.003	--	--	--
315356	0.002	--	--	--
315357	0.001	--	--	--
315358	0.001	--	--	--
315359	0.001	--	--	<0.001
315360	0.005	--	--	--
315361	<0.001	--	--	--
315362	<0.001	--	--	--
315363	0.001	0.002	--	--
315364	0.002	--	--	--
315365	0.001	--	--	--
315366	0.007	--	--	--
315367	0.003	--	--	--
315368	0.004	--	--	--
315369	<0.001	--	--	--
315370	0.002	--	--	--
315371	0.39	--	--	--
315372	0.002	--	--	--
315373	0.002	--	--	--
315374	0.002	--	--	--
315375	<0.001	--	--	--
315376	0.003	--	--	--
315377	0.002	--	--	--
315378	0.005	--	--	--
UNITS	ppm	ppm	ppm	ppm
DET.LIM	0.001	0.001	0.001	0.001
SCHEME	FA3	FA3	FA3	FA3

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SAMPLE	Au	Au Rpt	Au Rpt	Au SP
315379	<0.001	--	--	0.001
315380	<0.001	--	--	--
315381	0.004	<0.001	--	--
315382	0.004	--	--	--
315383	0.005	--	--	--
315384	0.010	--	--	--
315385	<0.001	--	--	--
315386	<0.001	--	--	--
315387	0.001	--	--	--
315388	0.003	--	--	--
315389	0.43	--	--	--
315390	<0.001	--	--	--
315391	<0.001	--	--	--
315392	0.002	--	--	--
315393	0.004	--	--	--
315394	0.001	--	--	--
315395	<0.001	--	--	--
315396	<0.001	--	--	--
315397	0.001	--	--	--
315398	0.001	--	--	--
315399	0.002	--	--	0.002
315400	<0.001	--	--	--
315401	<0.001	<0.001	--	--

UNITS	ppm	ppm	ppm	ppm
DET.LIM	0.001	0.001	0.001	0.001
SCHEME	FA3	FA3	FA3	FA3

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SAMPLE	Ti	Y	Zn	Ba	La
315279	1050	10	37	130	5
315280	750	24	33	700	15
315281	230	29	3050	90	10
315282	280	28	51	105	10
315283	260	19	30	40	10
315284	320	13	24	35	5
315285	430	12	22	90	5
315286	600	13	58	70	10
315287	750	19	87	115	10
315288	1400	14	21	145	15
315289	2950	24	48	500	50
315290	1050	12	71	700	10
315291	950	28	145	1350	20
315292	700	15	1000	310	<5
315293	800	16	750	600	10
315294	1100	29	155	430	20
315295	1650	52	40	3100	85
315296	1950	53	35	1650	65
315297	1750	60	37	210	30
315298	3800	40	73	1400	85
315299	1700	32	37	4050	55
315300	1750	48	31	2700	85
315301	4050	35	63	3100	30
315302	3800	21	68	650	20
315303	3800	16	135	430	5
315304	3800	21	145	1100	10
315305	4100	27	155	800	15
315306	4200	27	165	750	25
315307	4000	17	95	950	20
315308	4050	14	85	850	10
315309	3850	17	115	1000	25
315310	4000	21	115	700	15
315311	3900	19	105	360	15
315312	3300	24	45	550	50
315313	3950	22	100	400	15
315314	3900	27	110	750	15
315315	3550	19	84	650	40
315316	3350	14	68	900	20
315317	3250	13	65	400	15
315318	3200	24	64	480	70
315319	3100	49	61	35	20
315320	3300	18	70	600	40
315321	3400	15	84	850	15
315322	3100	23	85	310	25
315323	3250	14	100	290	20
315324	3300	14	97	240	5
315325	3150	10	89	115	10
315326	3450	13	105	140	40
315327	3250	15	89	700	10
315328	3300	17	81	1750	65
UNITS	ppm	ppm	ppm	ppm	ppm
DET.LIM	20	2	2	5	5
SCHEME	IC3E	IC3E	IC3E	IC3E	IC3E

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SAMPLE	Ti	Y	Zn	Ba	La
315329	3300	15	67	1650	30
315330	2700	13	67	1100	20
315331	3300	11	89	600	20
315332	3100	13	61	290	20
315333	3250	15	69	550	15
315334	3300	13	84	1850	10
315335	3350	16	72	800	15
315336	3200	22	60	700	55
315337	3100	14	69	500	25
315338	3050	14	63	900	15
315339	2750	24	42	550	50
315340	2900	13	50	550	10
315341	2850	13	49	490	15
315342	2950	14	66	500	20
315343	2400	43	95	290	10
315344	2650	35	87	220	15
315345	2750	29	74	650	25
315346	3050	40	59	240	25
315347	3100	35	62	330	25
315348	2850	27	58	220	40
315349	2750	23	65	55	20
315350	1300	24	91	95	40
315351	2550	16	58	185	55
315352	2950	14	54	240	25
315353	2700	13	52	165	10
315354	3050	14	54	410	20
315355	4950	27	78	390	40
315356	1600	17	4150	260	<5
315357	1300	61	86	3850	90
315358	1500	61	88	2500	95
315359	1550	60	51	1450	125
315360	1650	69	71	1400	130
315361	1350	52	36	1500	50
315362	1150	55	20	1000	80
315363	2400	20	19	600	30
315364	2500	23	13	300	20
315365	2700	31	20	650	30
315366	2850	17	21	1250	20
315367	2250	33	38	450	30
315368	2650	34	35	550	45
315369	2350	20	29	550	25
315370	1200	49	20	700	65
315371	2650	23	45	280	45
315372	1400	43	19	1050	95
315373	1250	39	17	1000	70
315374	1350	40	16	900	55
315375	1500	42	13	1100	50
315376	1500	43	15	1050	50
315377	1600	36	22	1200	60
315378	1700	37	24	1650	75
UNITS	ppm	ppm	ppm	ppm	ppm
DET.LIM	20	2	2	5	5
SCHEME	IC3E	IC3E	IC3E	IC3E	IC3E

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SAMPLE	Ti	Y	Zn	Ba	La
315379	1700	51	24	2300	45
315380	1750	39	27	1350	40
315381	2850	28	41	1550	55
315382	2800	30	82	1300	50
315383	2850	31	77	1350	50
315384	2150	31	39	1500	50
315385	1750	41	34	3050	40
315386	1650	34	24	750	35
315387	1750	25	19	1150	35
315388	1850	33	24	1650	50
315389	2750	24	43	550	50
315390	1750	37	20	1600	50
315391	1400	35	19	1250	50
315392	1450	36	18	1000	45
315393	1550	39	13	1300	45
315394	1600	23	13	750	30
315395	950	37	16	900	40
315396	2750	19	29	1000	30
315397	2750	20	42	450	30
315398	2250	22	28	1100	70
315399	2000	38	27	1550	100
315400	2050	36	25	1500	90
315401	1950	39	24	1550	75
UNITS	ppm	ppm	ppm	ppm	ppm
DET.LIM	20	2	2	5	5
SCHEME	IC3E	IC3E	IC3E	IC3E	IC3E

Hole_ID	Depth_From	Depth_To	Sample_No	Ag_ppm	As_ppm	Au_ppm	Ba_ppm	Bi_ppm	Ca_ppm	Cd_ppm	Ce_ppm	Co_ppm	Cr_ppm	Cu_ppm	Fe_ppm	K_ppm	La_ppm	Mg_ppm	Mn_ppm	Mo_ppm	Na_ppm	Ni_ppm	P_ppm	Pb_ppm	Sb_ppm	Ti_ppm	U_ppm	W_ppm	Y_ppm	Zn_ppm
EMU001	313	313.7	315279	1.6	310	-0.001	130	0.3	19200	-0.2	10	16	220	24	28400	9150	5	7800	1000	24.5	550	22	230	55	16	1050	1.75	3.2	10	37
EMU001	315.2	315.5	315280	1	48	-0.001	700	0.6	161000	-0.2	25	16	18	850	50500	5900	15	66300	10300	1.4	430	23	130	100	5	750	1.7	0.5	24	33
EMU001	315.8	315.95	315281	60	500	0.001	90	0.8	179000	19.5	15	7	11	4250	56700	1150	10	72000	12200	2.1	390	20	95	35	1800	230	1.05	-0.2	29	3050
EMU001	315.95	316.5	315282	0.3	4	-0.001	105	0.4	183000	0.3	15	7	10	420	56300	1600	10	73400	12900	49.5	400	19	120	55	25	280	1.05	-0.2	28	51
EMU001	316.5	317	315283	-0.2	22	-0.001	40	0.3	179000	0.2	15	13	13	25	44100	1250	10	77600	9150	40	410	22	170	15	11	260	1.3	-0.2	19	30
EMU001	317	317.7	315284	0.4	12	-0.001	35	0.2	187000	-0.2	10	-2	13	13	38500	2050	5	84800	8500	2.9	420	17	90	15	2	320	1.1	-0.2	13	24
EMU001	317.7	318.2	315285	0.2	-3	-0.001	90	-0.2	177000	-0.2	15	-2	21	2	24100	5600	5	85600	5950	0.9	420	15	90	80	2	430	1.6	0.3	12	22
EMU001	323.75	324.4	315286	0.4	4	-0.001	70	0.2	177000	0.3	15	-2	17	8	35700	4650	10	80100	7400	1.1	410	17	135	10	6	600	1.5	0.3	13	58
EMU001	349	352	315287	0.5	18	0.003	115	-0.2	178000	0.4	20	-2	17	10	31200	4850	10	74300	7400	1.5	430	16	130	100	6	750	1.2	0.6	19	87
EMU001	352	354	315288	-0.2	20	-0.001	145	-0.2	157000	-0.2	25	2	21	2	30400	10000	15	72700	6350	0.4	600	15	230	5	2	1400	1	2	14	21
EMU001	354	357	315290	0.2	160	-0.001	700	-0.2	186000	0.2	15	-2	20	12	30800	7550	10	85100	6600	2	550	17	210	60	4	1050	0.9	1.5	12	71
EMU001	357	360	315291	0.6	210	-0.001	1350	0.7	179000	0.7	35	-2	21	55	45700	6250	20	70800	9300	1.3	550	17	150	40	13	950	0.9	1.2	28	145
EMU001	360	362.6	315292	6	700	0.001	310	0.2	136000	4.4	-10	5	26	600	38000	4650	-5	51500	6950	1	410	22	120	170	260	700	1.35	0.8	15	1000
EMU001	362.6	364.5	315293	1.4	800	0.002	600	0.5	194000	3.1	20	-2	21	45	49600	5550	10	61200	9700	0.7	400	23	135	280	19	800	1.05	0.6	16	750
EMU001	366	371.9	315294	4.3	310	-0.001	430	0.5	173000	0.8	30	19	34	260	45000	8850	20	54800	8350	1.2	500	29	190	120	115	1100	1.25	0.7	29	155
EMU001	413	414	315295	1	80	0.003	3100	1.6	7900	-0.2	145	5	74	55	12200	56900	85	3550	490	9.5	1100	21	185	25	24	1650	5	4.4	52	40
EMU001	414	415	315296	-0.2	40	0.002	1650	0.5	15700	-0.2	100	7	105	11	15900	54100	65	6850	1000	3.8	1000	21	220	10	8	1950	4.7	3.4	53	35
EMU001	415.5	416	315297	0.5	310	0.014	210	6.5	9250	-0.2	55	14	175	460	34300	54800	30	4850	550	14	950	27	195	30	21	1750	10.5	4.6	60	37
EMU001	416	416.6	315298	-0.2	32	0.002	1400	0.7	20000	-0.2	115	8	125	270	20700	49600	85	9700	1300	4.1	1100	29	500	10	12	3800	6	5.5	40	73
EMU001	416.6	417	315299	-0.2	56	0.001	4050	1.9	4200	-0.2	85	5	135	27	13300	46300	55	2600	310	11	950	24	150	10	10	1700	4.4	3.2	32	37
EMU001	417	418	315300	-0.2	120	0.003	2700	1.6	6250	-0.2	120	7	120	13	15100	61800	85	3400	420	6.5	1150	24	220	10	8	1750	5	3.9	48	31
EMU001	418	421	315301	-0.2	6	0.002	3100	0.4	70900	-0.2	50	13	165	21	40700	31900	30	29300	4300	1.6	2900	52	390	-5	8	4050	4.6	3.5	35	63
EMU001	421	424	315302	-0.2	12	0.001	650	0.2	75500	-0.2	30	38	260	28	71000	21700	20	45100	3300	0.7	14900	130	200	-5	7	3800	1	3.8	21	68
EMU001	424	427	315303	-0.2	16	0.002	430	-0.2	66900	-0.2	-10	54	260	46	62600	12800	5	57400	1900	0.5	18100	135	180	5	5	3800	0.4	1.2	16	135
EMU001	427	430	315304	-0.2	18	0.002	1100	0.2	67300	-0.2	20	34	260	54	60600	13400	10	58600	1600	0.7	19900	120	170	15	5	3800	0.8	1.2	21	145
EMU001	430	433	315305	-0.2	16	0.003	800	0.2	54500	-0.2	25	30	270	34	66200	10800	15	55800	1350	0.9	21600	105	170	-5	7	4100	1.1	1.1	27	155
EMU001	433	436	315306	-0.2	16	0.006	750	0.4	45600	-0.2	35	32	310	-2	81100	17000	25	62200	1450	0.6	13200	110	260	-5	4	4200	1.6	1.6	27	165
EMU001	436	439	315307	-0.2	18	0.002	950	0.4	57300	-0.2	30	39	270	45	64900	13500	20	63700	1100	0.9	19900	120	165	-5	4	4000	1.1	1.2	17	95
EMU001	439	440	315308	-0.2	20	0.003	850	0.4	61000	-0.2	20	45	270	56	70700	19000	10	64800	1250	0.8	17300	150	200	-5	3	4050	0.95	1.2	14	85
EMU001	440	440.1	315309	-0.2	24	0.003	1000	0.3	57000	-0.2	35	34	260	42	64000	17800	25	64200	1200	1.3	19800	115	160	-5	3	3850	1.15	2.1	17	115
EMU001	440.1	443	315310	-0.2	14	0.002	700	0.3	65300	-0.2	25	36	280	39	69000	16000	15	61400	1200	0.9	20600	130	185	10	3	4000	1.15	1.2	21	115
EMU001	443	445	315311	-0.2	18	-0.001	360	0.3	67800	-0.2	25	32	270	46	65700	16600	15	55800	1350	2.3	22400	125	175	-5	2	3900	1	1.7	19	105
EMU001	445	448	315313	0.2	14	0.002	400	0.4	59600	-0.2	20	37	310	43	65900	18100	15	63100	1150	11	20400	125	175	-5	2	3950	1.1	1.1	22	100
EMU001	448	451	315314	-0.2	18	0.002	750	0.2	51800	-0.2	25	30	300	31	72000	25600	15	62100	1150	3.2	15200	115	170	15	2	3900	1.05	1.1	27	110
EMU001	451	454	315315	-0.2	10	0.001	650	0.3	77700	-0.2	45	41	290	35	65500	20000	40	59000	1100	2.3	14300	135	160	15	2	3550	0.9	0.8	19	84
EMU001	454	457	315316	-0.2	-3	0.003	900	0.3	79100	-0.2	25	43	300	51	65400	17700	20	56600	1100	1.8	11900	135	155	10	2	3350	0.7	0.7	14	68
EMU001	457	460	315317	-0.2	14	0.002	400	0.2	61500	-0.2	20	39	260	48	67300	16600	15	54200	900	1.1	15600	120	125	-5	2	3250	0.8	1	13	65
EMU001	460	460.7	315318	-0.2	6	0.001	480	-0.2	46200	-0.2	90	17	240	4	64700	20800	70	51100	600	1.6	17400	71	105	-5	2	3200	1.6	0.9	24	64
EMU001	460.7	461	315319	-0.2	4	-0.001	35	-0.2	56000	-0.2	40	6	240	9	130000	7100	20	36200	600	2	19500	52	45	-5	2	3100	2.2	0.6	49	61
EMU001	461	464	315320	-0.2	6	0.006	600	0.2	47800	-0.2	55	27	240	35	70600	20000	40	53100	650	1.7	18400	100	120	-5	2	3300	1.6	0.8	18	70
EMU001	464	467	315321	-0.2	6	0.002	850	0.2	54900	-0.2	25	42	270	77	77000	21400	15	61300	750	0.9	16100	110	140	-5	1	3400	0.95	0.9	15	84
EMU001	467	470	315322	-0.2	4	-0.001	310	-0.2	51200	-0.2	35	21	240	28	79300	19600	25	53900	700	2.1	19600	87	120	-5	1	3100	1.4	0.7	23	85
EMU001	470	473	315323	0.2	6	0.002	290	0.3	61500	-0.2	25	42	250	58	75100	13500	20	60900	900	1.1	18900	115	110	10	2	3250	1.2	1.1	14	100
EMU001	473	473.8	315324	-0.2	16	0.002	240	0.2	78400	-0.2	-10	44	290	73	74500	13000	5	66400	1100	0.9	16900	130	145	5	2	3300	0.55	0.7	14	97
EMU001	473.8	474	315325	0.2	24	0.007	115	0.4	58200	-0.2	15	45	270	105	92600	10100	10	64400	650	2	19700	165	135	-5	2	3150	1.1	1.1	10	89
EMU001	474	477	315326	-0.2	6	0.002	140	0.3	63700	-0.2	50	31	270	77	85100	14200	40	62500	800	1.6	23800	105	120	-5	2	3450	1.3	1.1	13	105
EMU001	477	479	315327	-0.2	20	0.005	700	0.2	57500	-0.2	20	39	260	72	83300	20600	10	60600	800	1	18600	110	115	10	2	3250	0.95	1	15	89
EMU001	479	479.4	315328	-0.2	8	0.002	1750	-0.2	55500	-0.2	75	26	270	43	85600	24100	65	61400	700	1.9	15600	100	120	5	2	3300	1.1	0.7	17	81
EMU001	479.4	479.55	315329	-0.2	18	-0.001	1650	-0.2	60100	-0.2	40	37	290	35	100000	23100	30	62800	650	1.3	14900	110	95	-5	1	3300	0.9	1	15	67
EMU001	479.55	480.15	315330	-0.2	6	0.003	1100	0.2	58400	0.7	30	39	240	115	88800	20200	20	52800	550	1.6	23800	120	200	-5	1	2700	0.8	0.9	13	67
EMU001	480.15	480.25	315331	-0.2	10	0.002	600	0.2	54800	-0.2	30	35	300	90	93100	18200	20	67100	700	0.9	12500	145	135	-5	1	3300	1.75	1.3	11	89
EMU001	480.25	481	315332	-0.2	10	0.002	290	0.2	56300	-0.2	25	33	260	48	76700	14300	20	59600	650	1.1	24700	100	125	-5	2	3100	0.95	1	13	61
EMU001	481	482	315333	-0.2	6	0.001	550	-0.2	61400	-0.2	20	37	260	70	84500	16900	15	65300	850	0.9	19200	120	125	-5	1	3250	1	1	15	69
EMU001	482	482.9	315334	-0.2	-3	0.006	1850	0.2	49700	-0.2	15	35	250	57	82500	21900	10	55200	950	1.1	20200	92	125	-5	1	3300	0.85	2.3	13	84
EMU001	482.9	483.1	315335	-0.2	-3	0.004	800	0.3	60500	-0.2	20	25	240	72	80200	22700	15	49200	1000	1	23900	115	110	-5	-1	3350	1.05	3.1	16	72
EMU001	483.1	484	315336	-0.2	4	0.002	700	0.2	59900	-0.2	70	18	240	30	89300	22800	55	51400	1000	1.8	21700	73	85	-5	1	3200	1.75	2.8	22	60
EMU001	484	485	315337	-0.2	4	0.005	500	0.2	53900	-0.2	30	29	240	43	83300	16700	25	63900	700	0.7	22800	105	85	-5	2	3100	1	1.2	14	69
EMU001	485	488	315338	-0.2	6	-0.001	900	-0.2	56600	-0.2	25	36	240	52	82900	21600	15	61400	700	1.3	16800	100	90	-5	1	3050	0.85	1.1	14	63
EMU001	488	491	315340	0.2	8	0.003	550	0.2	62600	-0.2	15	30	260	69	76000	19500	10	55900	650	3.9	16800	100	105	-5	2	2900	0.95	1.1	13	50
EMU001	491	494	315341	-0.2	6	0.004	490	-0.2	64900	-0.2	20	33	270	50	80000	19300	15	56400	650	1.4	15300	100	100	-5	2	2850	0.9	1.1	13	49
EMU001	494	497	315342	0.2	14	0.003	500	0.3	56900	-0.2	25	29	240	45	78900	23600	20	55800	650	1.7	16000	105	75	-5	2	2950	1	1.1	14	66
EMU001	497.85	497.95	315343	-0.2	8	0.001	290	-0.2	62100	-0.2	25	5	210	30	115000	27300	10	47100	1100	1.3	13500	43	25	-5	1	2400	2.2	0.8	43	95

Hole_ID	Depth_From	Depth_To	Sample_No	Ag_ppm	As_ppm	Au_ppm	Ba_ppm	Bi_ppm	Ca_ppm	Cd_ppm	Ce_ppm	Co_ppm	Cr_ppm	Cu_ppm	Fe_ppm	K_ppm	La_ppm	Mg_ppm	Mn_ppm	Mo_ppm	Na_ppm	Ni_ppm	P_ppm	Pb_ppm	Sb_ppm	Ti_ppm	U_ppm	W_ppm	Y_ppm	Zn_ppm
EMU001	497.95	499	315344	-0.2	6	0.004	220	-0.2	51500	-0.2	25	12	230	6	95500	20600	15	56700	950	1.6	20100	66	90	-5	1	2650	1.65	0.8	35	87
EMU001	499	502	315345	0.3	4	0.002	650	-0.2	47500	-0.2	35	17	250	7	97800	23600	25	55400	800	8.5	16100	75	50	-5	5	2750	1.5	0.7	29	74
EMU001	502	505	315346	-0.2	-3	0.002	240	-0.2	50100	-0.2	35	15	260	15	109000	16800	25	51500	700	1.8	24600	61	55	-5	1	3050	2	0.8	40	59
EMU001	505	508	315347	-0.2	-3	0.002	330	-0.2	59100	-0.2	40	13	240	11	100000	17900	25	52800	700	3.3	22500	59	135	-5	-1	3100	1.85	1	35	62
EMU001	508	509	315348	-0.2	8	-0.001	220	0.2	58100	-0.2	50	17	220	4	80200	13900	40	55500	750	3.4	24600	72	85	-5	1	2850	1.45	1.2	27	58
EMU001	509	509.65	315349	-0.2	8	0.002	55	-0.2	58900	-0.2	35	21	240	7	78600	7200	20	57000	750	1.4	28800	82	75	-5	1	2750	1.35	1.3	23	65
EMU001	509.65	509.9	315350	-0.2	-3	0.012	95	-0.2	98100	-0.2	55	8	120	-2	75900	6400	40	60900	850	1.9	10200	36	10	-5	1	1300	1.35	3.1	24	91
EMU001	509.9	511	315351	-0.2	4	0.003	185	0.3	65400	-0.2	65	27	230	25	67000	12300	55	55500	800	1.2	21200	90	75	-5	1	2550	0.8	0.9	16	58
EMU001	511	514	315352	-0.2	4	0.005	240	0.2	60800	-0.2	30	31	240	37	72900	12100	25	58100	600	1.5	22100	96	90	-5	1	2950	0.95	1	14	54
EMU001	514	517	315353	-0.2	-3	0.001	165	-0.2	81300	-0.2	15	31	230	41	63900	14000	10	55500	850	1.2	16400	100	105	-5	1	2700	0.6	0.7	13	52
EMU001	517	520	315354	0.3	-3	0.002	410	0.2	60300	0.2	30	30	200	50	73100	21200	20	54200	550	1.8	23900	89	90	10	1	3050	0.95	0.8	14	54
EMU002	177.25	178.5	315355	0.4	-3	0.003	390	0.5	23000	-0.2	70	24	60	14	38500	29100	40	19100	500	3.2	11700	35	700	15	2	4950	4.7	2.1	27	78
EMU002	370.45	371.7	315356	37	750	0.002	260	0.4	85500	19	-10	-2	58	1200	18400	13600	-5	7000	1300	1.1	1600	9	360	8800	900	1600	1.85	2.2	17	4150
EMU002	423.15	426	315357	0.7	32	0.001	3850	0.7	5650	0.2	165	6	120	175	26400	58000	90	3000	1100	3.2	4550	9	135	70	1	1300	5.5	3.2	61	86
EMU002	426	429	315358	-0.2	28	0.001	2500	0.9	3500	-0.2	150	5	125	47	29800	54700	95	2850	1000	3.2	1750	7	145	15	1	1500	5.5	3.7	61	88
EMU002	429	432	315359	-0.2	20	0.001	1450	0.4	3150	-0.2	220	2	140	6	32900	53000	125	2750	490	3.7	2000	7	195	10	7	1550	5.5	5.5	60	51
EMU002	432	433	315360	-0.2	22	0.005	1400	0.6	2000	-0.2	240	-2	105	4	27400	53500	130	2350	500	2.6	1650	5	220	-5	7	1650	6	4.8	69	71
EMU002	433	436	315361	-0.2	14	-0.001	1500	0.7	1600	-0.2	105	4	115	8	23600	46700	50	1400	240	2.9	10500	5	125	-5	4	1350	3.4	3.4	52	36
EMU002	436	438.9	315362	-0.2	14	-0.001	1000	0.7	2100	-0.2	155	-2	83	15	21300	42200	80	1400	310	2	18500	4	70	-5	3	1150	3.7	2.1	55	20
EMU002	438.9	440	315363	-0.2	18	0.001	600	0.3	5050	-0.2	70	9	48	-2	29100	31000	30	4250	480	0.7	43500	14	390	-5	2	2400	0.8	2.5	20	19
EMU002	440	443	315364	-0.2	4	0.002	300	-0.2	8950	-0.2	45	3	70	-2	42400	15800	20	6800	500	1.1	53900	14	500	-5	3	2500	0.9	5	23	13
EMU002	443	446	315365	-0.2	-3	0.001	650	0.9	11000	-0.2	70	-2	85	3	46200	24300	30	10100	850	1.9	49200	24	600	-5	3	2700	1.05	2.2	31	20
EMU002	446	449	315366	-0.2	-3	0.007	1250	1.4	10100	-0.2	40	6	67	-2	45700	38800	20	8500	750	0.9	38500	26	600	5	3	2850	0.95	1.8	17	21
EMU002	449	452	315367	-0.2	8	0.003	450	2.1	6750	-0.2	65	4	85	4	85700	21200	30	15400	950	1.6	37500	44	650	-5	4	2250	1.75	1.5	33	38
EMU002	452	455	315368	-0.2	6	0.004	550	1.3	8850	-0.2	80	5	77	5	66200	26800	45	14900	950	1.8	36500	20	550	-5	4	2650	2	3.3	34	35
EMU002	455	458	315369	0.3	20	-0.001	550	0.6	4000	-0.2	65	3	110	4	55500	21600	25	9400	550	2	38800	15	460	-5	3	2350	0.85	3.3	20	29
EMU002	458	459	315370	-0.2	30	0.002	700	0.4	1450	-0.2	135	-2	150	6	34700	26200	65	4650	310	3.4	7000	5	40	-5	3	1200	3.7	4.3	49	20
EMU002	459	462	315372	0.3	20	0.002	1050	0.8	1500	-0.2	195	7	155	8	28900	37000	95	3650	300	3.7	15400	6	105	-5	3	1400	3.4	2.5	43	19
EMU002	462	465	315373	-0.2	10	0.002	1000	0.2	1600	-0.2	150	5	135	5	24100	32500	70	3050	230	3	21600	4	100	-5	2	1250	3.2	2.6	39	17
EMU002	465	468	315374	-0.2	4	0.002	900	-0.2	2600	-0.2	115	3	165	10	21800	28200	55	2400	230	4.1	30200	7	95	10	2	1350	4	3.2	40	16
EMU002	468	471	315375	-0.2	12	-0.001	1100	-0.2	1400	-0.2	115	3	110	6	23100	34500	50	2300	185	2.7	22700	7	105	-5	2	1500	3.7	3.1	42	13
EMU002	471	474	315376	-0.2	-3	0.003	1050	0.3	1150	-0.2	105	4	135	8	25100	32900	50	2000	160	3	26300	6	120	-5	2	1500	4.6	3	43	15
EMU002	474	477	315377	-0.2	-3	0.002	1200	0.2	1800	-0.2	125	2	145	5	28300	35900	60	3450	240	3.3	22500	7	140	-5	2	1600	4.4	2.5	36	22
EMU002	477	480	315378	-0.2	8	0.005	1650	0.4	2250	-0.2	150	3	125	6	31800	36400	75	4800	340	3.1	14400	6	175	-5	3	1700	4.8	2.6	37	24
EMU002	480	483	315379	-0.2	20	-0.001	2300	0.4	5250	-0.2	105	3	120	5	37600	39800	45	7250	550	2.8	8750	7	180	-5	3	1700	3.6	2.9	51	24
EMU002	483	486	315380	-0.2	8	-0.001	1350	0.4	5150	-0.2	95	7	100	5	38500	34700	40	6150	550	2.3	17900	9	210	-5	3	1750	3.5	3.9	39	27
EMU002	486	489	315381	-0.2	8	0.004	1550	0.8	16900	-0.2	115	8	81	-2	73100	28900	55	14300	1650	1.8	25100	27	750	-5	3	2850	4	1.5	28	41
EMU002	489	492	315382	0.2	4	0.004	1300	1.1	16400	0.2	115	7	74	30	72700	28500	50	16100	1600	1.9	33500	24	750	-5	3	2800	6	1.5	30	82
EMU002	492	495	315383	-0.2	10	0.005	1350	1.1	20100	-0.2	105	13	74	19	67400	27300	50	14500	1400	2.2	40400	25	700	-5	3	2850	7	0.7	31	77
EMU002	495	498	315384	-0.2	16	0.01	1500	0.3	9200	-0.2	115	9	47	11	38700	34500	50	11200	700	1.4	26900	10	340	-5	2	2150	4.4	1	31	39
EMU002	498	500	315385	-0.2	22	-0.001	3050	0.3	11500	-0.2	95	5	79	4	31800	44600	40	12300	600	2.3	4800	9	160	-5	4	1750	5.5	3.1	41	34
EMU002	500	502	315386	-0.2	12	-0.001	750	0.2	3150	-0.2	90	3	87	4	28200	37200	35	7050	210	2.2	22400	6	140	-5	3	1650	5	4.3	34	24
EMU002	502	505	315387	-0.2	-3	0.001	1150	0.2	3900	-0.2	95	-2	51	4	21400	33400	35	3800	250	1.4	29200	5	165	-5	2	1750	3.7	2.2	25	19
EMU002	505	506	315388	-0.2	4	0.003	1650	0.2	3550	-0.2	125	-2	130	6	26300	40700	50	4050	260	3.3	26900	8	180	-5	2	1850	3.9	1.9	33	24
EMU002	506	509	315390	-0.2	14	-0.001	1600	0.3	3950	-0.2	125	3	68	9	24800	40000	50	4900	290	5.5	17000	5	140	-5	2	1750	4.3	1.6	37	20
EMU002	509	512	315391	-0.2	10	-0.001	1250	0.2	3050	-0.2	120	3	98	7	22000	38200	50	3300	220	2.7	19900	6	90	-5	2	1400	4.3	1.6	35	19
EMU002	512	515	315392	-0.2	12	0.002	1000	-0.2	2300	-0.2	115	-2	85	5	21900	38300	45	2600	160	3	30300	6	100	-5	2	1450	3.4	2.9	36	18
EMU002	515	518	315393	-0.2	10	0.004	1300	0.3	2850	-0.2	110	5	74	6	20900	38800	45	2150	190	2.1	27000	6	135	-5	2	1550	4.3	2.2	39	13
EMU002	518	521	315394	-0.2	16	0.001	750	0.2	2650	-0.2	75	-2	120	6	20200	28300	30	2750	170	3.4	36000	6	120	-5	2	1600	1.5	2.9	23	13
EMU002	521	524	315395	-0.2	8	-0.001	900	0.6	3100	-0.2	95	4	100	7	21200	33800	40	3900	280	2.5	28900	9	40	10	2	950	4	1.2	37	16
EMU002	524	527	315396	-0.2	-3	-0.001	1000	0.6	5150	-0.2	70	6	71	2	45700	29700	30	10300	460	1.1	42300	22	550	5	2	2750	1	1.8	19	29
EMU002	527	530	315397	-0.2	6	0.001	450	1.1	7950	-0.2	65	6	73	-2	55900	14800	30	14500	750	1.7	48800	25	650	-5	2	2750	1.1	2.5	20	42
EMU002	530	533	315398	-0.2	-3	0.001	1100	0.6	7650	-0.2	140	7	58	2	37900	30400	70	9150	550	1.1	37400	19	500	-5	2	2250	1.7	1.8	22	28
EMU002	533	536	315399	-0.2	10	0.002	1550	0.7	2400	-0.2	200	3	95	7	28400	36600	100	3100	320	2.9	24900	6	240	-5	2	2000	3.9	1.4	38	27
EMU002	536	539	315400	-0.2	6	-0.001	1500	0.6	2900	-0.2	180	4	52	4	27900	35000	90	2950	330	1.5	25700	4	220	-5	2	2050	3.4	1.5	36	25
EMU002	539	542	315401	-0.2	10	-0.001	1550	0.8	2600	-0.2	155	5	100	6	29900	38400	75	3250	340	2.9	25900	5	210	-5	2	1950	3.4	2.2	39	24

Appendix 3

Drill Hole Summary Sheets

Pasminco Exploration

Drill Hole Summary Sheet

Input

DBA	Geo
Data Entry	Post Data
Table	Entry Val

Hole_ID	EMU 001	Project EMU DAM	Cost Code
Hole_Type	DDH	Prospect	SDS Nos 3261
Year	1998	Tenement_No.	
Wedge/Re-entry		Parent Hole_ID	Depth Wedged

Collar Init / Date

UTM_E	417700	Local_E	Ref_System DGPS
UTM_N	6539900	Local_N	Ref_Method
UTM_RL		Local_RL	Ref_Accuracy (±2m).
UTM_Datum		Local_Grid	
UTM_Zone		EOH 520	EOH_Geol

Collar Init / Date

Dip Vert	True Az (UTM) –	Mag Az –	DH Survey Y/N

Survey

Sample_No Ranges	Interval	DH Type	Diam
(261887 → 262000, 262501 → 262533)	0-186	RC	PQ
DUPLICATES 351280 → 351355	186-520	DD	NQ
Duplicates/Intervals			

Assay_Batch Init / Date

DH_Type Init / Date

Date Collared	11-12-98	Date Completed	22-12-98
Logged by		Sampled By	
Purpose for Hole	TEST MAGNETIC/GRAVITY ANOMALY WITH RED ROCK ALTERATION.		
Termination Reason	TARGET DEPTH REACHED		

Collar Init / Date

Drilling Company	SCD	Casing Depth From	
Rig Used		Casing Depth To	
Casing Type		Casing Size	

Collar Init / Date

Orientation Survey Y/N	Method

Collar

Water Table Depth (m)	Quality

Collar

Visible Mineralisation Description

Collar

DH_Mineralisation Inits / Dates

Interval	Summary of Geology	RkCd	Fm.
0-2	RED TO PALE YELLOW GREY CLAY AND SAND	Q	
2-62	DARK GREY TO LIGHT GREY CLAY	NF	
62-87	SAPROCK AND LIGHT GREY TO DARK GREY SILTSTONE	KQS	
87-90	LIGHT GREY YELLOW LIMESTONE	ADL	
90-184.5	DARK GREY FINELY LAMINATED SHALE WITH MINOR PYRITE	ADL	
184.5-250.5	DARK OLIVE GREY FINE GRAINED SANDSTONE / SILTSTONE	ADL	
250.5-260.5	GREY WHITE AND PINK FINE GRAINED SANDSTONE	ADL	
	OR CARBONATE WITH STYLOLITES	ADL	
260.5-298.0	DARK BROWN FINE GRAINED SILTSTONE AND SHALE	ADL	
298.0-318.5	VUGGY CARBONATE WITH MINOR SULPHIDES	ADL	
318.5-410.0	LIGHT GREY SILTSTONE WITH INTERBEDS OF RED POORLY	ADL	
	SORTED SANDSTONE AND ARKOSE	ADL	
410.0-416.0	RED VERY POORLY SORTED CONGLOMERATE, CLASTS UPTO 10cm.	ADL	
416.0-420.2	LIGHT GREY GREEN RETROGRESSED SILTSTONE AND CONGLOMERATE	ADL	
420.2-520.0	DARK GREY INTERMEDIATE TO MAFIC INTRUSIVE WITH RED ROCK ALTERATION.	ADL	

DH_Geol_Summary Init / Date

Pasminco Exploration

Drill Hole Summary Sheet

Input

				DBA	Geo
				Data Entry	Post Data
Hole_ID	EMU 002	Project	EMU DAM	Cost Code	Table	Entry Val
Hole_Type	DD	Prospect		SDS Nos 3261	Collar	
Year	1999	Tenement_No.			Init	Init
Wedge/Re-entry		Parent Hole_ID		Depth Wedged	Date	Date
UTM_E	416200	Local_E		Ref_System	Collar	
UTM_N	6540200	Local_N		Ref_Method	Init	Init
UTM_RL		Local_RL		Ref_Accuracy	Date	Date
UTM_Datum		Local_Grid				
UTM_Zone		EOH	542.0	EOH Geology		

Dip	True Az (UTM)	Mag Az	DH Survey Y/N	Survey	

Sample_No Ranges	Interval	DH Type	Diam	Assay_Batch	
261756 → 261886	0-69	RC	PQ	Init	Init
Comp. 351356 → 351402	69-542.0	DIAM	NQ	Date	Date
Duplicates/Intervals				DH_Type	
				Init	Init
	NB: Incl Pre-collar type			Date	Date

Date Collared	19-1-99	Date Completed	1-2-99	Collar	
Logged by	BNG	Sampled By		Init	Init
Purpose for Hole	TEST MAGNETIC AND GRAVITY ANOMALY			Date	Date
Termination Reason	TARGET DEPTH REACHED				

Drilling Company	SCD.	Casing Depth From	Collar
Rig Used		Casing Depth To	Init Init
Casing Type		Casing Size	Date Date
Orientation Survey Y/N		Method	Collar
Water Table Depth (m)		Quality	Collar

Visible Mineralisation Description		
	Collar	
	DH_Mineralisation	
	Inits	Inits
	Dates	Dates

Interval	Summary of Geology	Rock Code	Formation	DH_Geol_Summary	
0-2	FINE TO COARSE LIGHT BROWN SAND	Q		Init	Init
2-69.5	OLIVE GREY GREEN CLAY	NF		Date	Date
69.5-130	LIGHT GREY TO DARK GREY SILTSTONE	CAMB			
130-144.3	FOSSILIFEROUS CARBONATE AND BLACK SHALE	CAMB			
144.3-203.6	DARK GREY TO ~~DARK~~ LIGHT GREY DOLOMITIC	ADL			
	SILTSTONES WITH MINOR VEINING, PY NODULES COMMON.				
203.6-333.1	MEDIUM GREY TO RED CARBONACEOUS	ADL			
	SHALE AND SILTSTONE				
333.1-337.2	CARBONACEOUS PELITE WITH MINOR	ADL			
	CARBONATE VEINING.				
337.2-388.3	LIGHT BROWNY GREY SILTSTONE AND CALCAROUS SHALE				
388.3-423.1	DARK REDBROWN SILTSTONE AND COARSE	ADL			
	POORLY SORTED CARBONATE BEDS				
423.1-433.1	VERY COARSE BOULDER CONGLOMERATE	ADL			
433.1-542.0	RED COARSE GRAINED PORPHYRITIC	ADL			
	VOLCANIC OR INTRUSIVE WITH FELDSPAR				
	CRYSTALS TO 2cm IN DIAM.				
	V. STRONG IRON METASOMATISM.				

Appendix 4

Drilling Proposals

Pasminco Exploration - Curnamona

Proposed Drill Hole Sheet

Project:	Olary Project	**Cost Code:**	
Tenement:	Benagerie	**EL No:**	2225
Programme:	Emu Dam diamond drilling program		
Prospect:	Titania (previously M1)		
Commencement Date:	Nov-98 Dec-98	**Duration:**	4weeks
Est. Cost (Inc assays):	$70,000	**In / Out of Plan:**	IN

Drilling Type:HQ AC	**AC NQ**	**AC HQ**	**DDH NQ**	**DDH HQ**	**PQ3**	**RAB**	**Blade**
No Holes:				2			
Orientation:							
Est Depth:							
Drilling Co:	Silver City			**Rig Type:**	UDR 1000		
Total Metres:	1000						

Purpose:

To test the Cu and Au potential of a coincident 1 VD gravity and 1 VD magnetic anomaly at the centre of the Titania total magnetic intensity anomaly.

The first hole of the program is planned to be collared within 1500 metres of BWM1A - 1 which intersected intense red rock alteration and pervasive magnetite alteration. Trace pyrite, galena and chalcopyrite in carbonate and fluorite veins.

A second hole will be targeted in the vicinity of the magnetic anomaly when the results of the first diamond drill hole have been assessed.

Hole Location Plan Attached: Yes

Diamond Drill Hole Details	Hole 1	Hole 2	Hole 3
	amgE 417700	amgE N	amgE
	amgN 6539900	amgN	amgN
	dip vert.	dip	dip
	azimuth vert.	azimuth	azimuth
	Hole 4	Hole 5	Hole 6
	amgE	amgE	amgE
	amgN	amgN	amgN
	dip	dip	dip
	azimuth	azimuth	azimuth

Geologist:	B.N. Godsmark and C.Hilton	**Date:**	23/11/98
Comments:	The target basement rocks are expected to be intersected at approx. 400 m. The modelled depth to the top of the magnetic anomaly is approx 450m. and the top of the gravity anomaly is between 300 and 400m.		
Regional Manager:		**Date:**	30/11/98.
Comments:			
Group Geologist:		**Date:**	
Comments:			

Pasminco Exploration - Curnamona

Proposed Drill Hole Sheet

Project:	Olary Project	**Cost Code:**	
Tenement:	Emu Dam	**EL No:**	2225
Programme:	Emu Dam diamond drilling program		
Prospect:	Titania (previously M1)		
Commencement Date:	Jan-99	**Duration:**	2 weeks
Est. Cost (inc assays):	$36,280	**In / Out of Plan:**	IN

Drilling Type:HQ AC	**AC NQ**	**AC HQ**	**DDH NQ**	**DDH HQ**	**PQ3**	**RAB**	**RC**
No Holes:				1			
Orientation:				vert			
Est Depth:				500			
Drilling Co:	Silver City			**Rig Type:**	UDR 1000		
Total Metres:	1 holes with 300m RC pre-collars and 200m diamond tail.						

Purpose:

The first hole (DD98EMU1) of the program was planned to be collared within 1500 metres of BWM1A - 1 which intersected intense pervasive hematite and magnetite alteration. Trace pyrite, galena and chalcopyrite was also intersected, this was hosted in carbonate and fluorite veins.

The first hole of the current program (DD98EMU1) intersected weakly red rock altered mafic to intermediate intrusive.

BWM1A-1 occurs close to a large WNW striking structure. The second hole (DD99EMU002) will be targeted on a parallel structure 1 km from BWM1A- 1. This area has been interpreted to have more chance of hosting a large breccia system due to structural intersections interpreted from magnetics and gravity.

Hole Location Plan Attached: Yes

Diamond Drill Hole Details	Hole 1		Hole 2	Hole 3
	amgE	416200	amgE	amgE
	amgN	6540200	amgN	amgN
	dip	vert.	dip	dip
	azimuth	vert.	azimuth	azimuth
	Hole 4		Hole 5	Hole 6
	amgE		amgE	amgE
	amgN		amgN	amgN
	dip		dip	dip
	azimuth		azimuth	azimuth

Geologist:	B.N. Godsmark	**Date:**	7/01/99
Comments:	Basement is expected at approx. depth of 400m. Previous drilling in the area has inter bulk water at approx 90m, associated with a Cambrian dolomite. Mineralised hematite brecciation at the intersections of lineaments is the target.		

Regional Manager:		**Date:**	
Comments:			

Group Geologist:		**Date:**	
Comments:			

MEMORANDUM

PASMINCO
EXPLORATION

1 January 1999

TO Steve Newbery and Mike Hudson

COPY

FROM Bruce Godsmark

SUBJECT Emu Dam

Observations from the magnetic, gravity data and geology at the Titania Prospect

This is a brief summary of what we know/dont know about the prospect at present.
Attached are 5 figures.
Figure 1: Bouger Graviity
Figure 2 : 1VD Gravity
Figure 3 : TMI Magnetics
Figure 4 : 1VD Magnetics
Figure 5 : compilation of all lineaments

Geology from Drilling:

BWM1A-1:
Basement geology is described by Curtis and Moore 1982 as "fine grained orangey pink volcanics". Microscopic study indicated that the host rocks are mainly sodic and potassic feldspar with lesser quartz as the main mineralogy with textures indicating pyroclastic to extrusive origins for a former very glassy rock which has undergone considerable alteration.

The primary cause of the red colouration is ubiquitous fine grained hematite and patchy pervasive magnetite which has followed the lamination.

Some sulphide-carbonate-fluorite veining at several levels show classic sequential mineral layering and postdates the introduction of the magnetite.

It is considered by Curtis and Moore 1982 that the nature of the alteration and the relatively undisturbed rock fabric indicates that that the rocks have not been affected by regional metamorphism and are entirely the product of igneous activity and magnetic/deuteric alteration.

DD98EMU001:
Initial observations of diamond drill core indicates that

- the intensity of alteration is considerably less than in BWM1A-1
- the host rock is an intermediate to mafic intrusive.
- The only visual cp mineralisation occurs in one very small hematite breccia.
- there are multiple phases of magnetite alteration
- a later phase of amphibole alteration overprints the hematite-magnetite alteration

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- hematite and magnetite alteration are intimately associated
- feldspathisation may be an alteration product as feldspar veins grade into the host rock
- the high proportion of mafic minerals may explain the gravity anomaly
- depth to basement is 30m deeper in DD98EMU001 than in BWM1A-1

Gravity Interpretation:

In the Bouger Gravity image only one major lineament is observed, this strikes WNW. Two smaller lineaments intersect the larger lineament, these strike NNE and NE, see figure 1.

The most significant observation however is that the main bouger gravity anomaly is off set from the magnetic anomaly. The recent gravity survey only partially covers the gravity anomaly and it is strongly recommended that during the next phase of exploration the gravity survey be extended to the south to define the extent of the gravity anomaly.

Gravity 1VD Interpretation:

All three of the lineaments mentioned above are enhanced in the 1VD data. However in addition to this many smaller lineaments are also observed, see figure 2.

The small bumps observed in the 1VD gravity data to the north of BWM1A1 are small and cover only two stations, in addition to this the pervasive alteration system observed in BWM1A1 would be likely to be anomalous in Cu,Au, U or Ag if BWM1A-1 was a "near miss". At Olympic Dam Reeves states "Although the ore zones account for only a small proportion of the total volume of the breccias within the Olympic Dam Breccia Complex, weak mineralisation is widespread throughout most breccia types. Local "background levels" to 0.5% Cu, 0.2kg/t U2O3, 0.5g/t Au and 1g/t Ag are common throughout much of the breccia complex".

DDH BWM1A-1 occurs within 100m metres of an interpreted "second order" WNW striking structure and possibly occurs at the intersection of the WNW and a NE structure.

DDEMU001 was drilled into a discrete 1 VD gravity anomaly between the main WNW striking lineament and the "second order" lineament mentioned above. This philosophy was thought to be consistent with what is observed at Olympic Dam.

DDEMU001 is estimated to be 300 metres from the second order structure (mentioned above) and 500 m from the largest WNW striking structure, its lack of proximity to any major structure may account for the relatively weak alteration.

Magnetic Interpretation:

A large number of diffuse lineaments can be interpreted in the TMI image. The most coherent lineaments are aligned in a WNW or NE orientation, see figure 3.

BWM1A-1 occurs on the top of a magnetic ridge in the centre of a large TMI anomaly. It does not occur near any obvious structures defined in the magnetic image.

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Magnetics 1VD Interpretation:

The 1VD of the magnetic data gives some additional lineaments however the data gives the impression of a more complicated signature. It could also be interpreted as a "ring structure", see figure 4.

BWM1A-1 does not occur near any obvious structures defined in the 1VD magnetic image.

INTERPRETATION TO DATE AND NEXT PHASE OF EXPLORAQTION

BWM1A1 occurs near a WNW striking structure in the 1VD gravity. This is the only obvious structure in the vicinity of BWM1A1. If this structure represents the fluid conduit for the mineralising fluids the next large structure with a large intersection of lineaments must be thought of as prospective.

The first hole DD98EMU001 was drilled into a discrete 1VD magnetic and 1VD gravity anomaly. This hole only intersected weakly red rock altered intermediate to mafic intrusive. The only chalcopyrite observed occurred in a small (5cm wide) hematitic breccia.

The second hole (DD99EMU002) will aim to intersect a large mineralised hematite breccia. It is considered that the largest structural intersect in the known system must be targeted in an attempt to find a larger mineralised breccia. Thus the proposed hole occurs at the point of maximum intersection on the largest parallel structure to that which is interpreted to influence the previously identified "red rock alteration" in BWM1A1.

The Bouger gravity high to the south of the "Titania" magnetic complex is also considered highly prospective and should be followed up during the next phase of the program with a second phase of gravity to define the extent of the bouger gravity anomaly.
This area is considered prospective because

- It is located on the edge of an interpreted circular feature with diameter of 8km, interpretation not attached.
- It is underlain by the Titania magnetic complex, and using the "Olympic Dam" model this could be the source of the fluids and the gravity anomaly may represent the mineralised non-magnetic breccia.

Reference

Moore,M. and Curtis, J.L. 1982. Proterozoic Basement : Exploration 1979 - 1982. EL 722 Billeroo.

Reeve et al. 990. Olympic Dam. Copper-Uranium-Gold-Silver Deposit. In Deposits of Australia and Papau New Guinea.....

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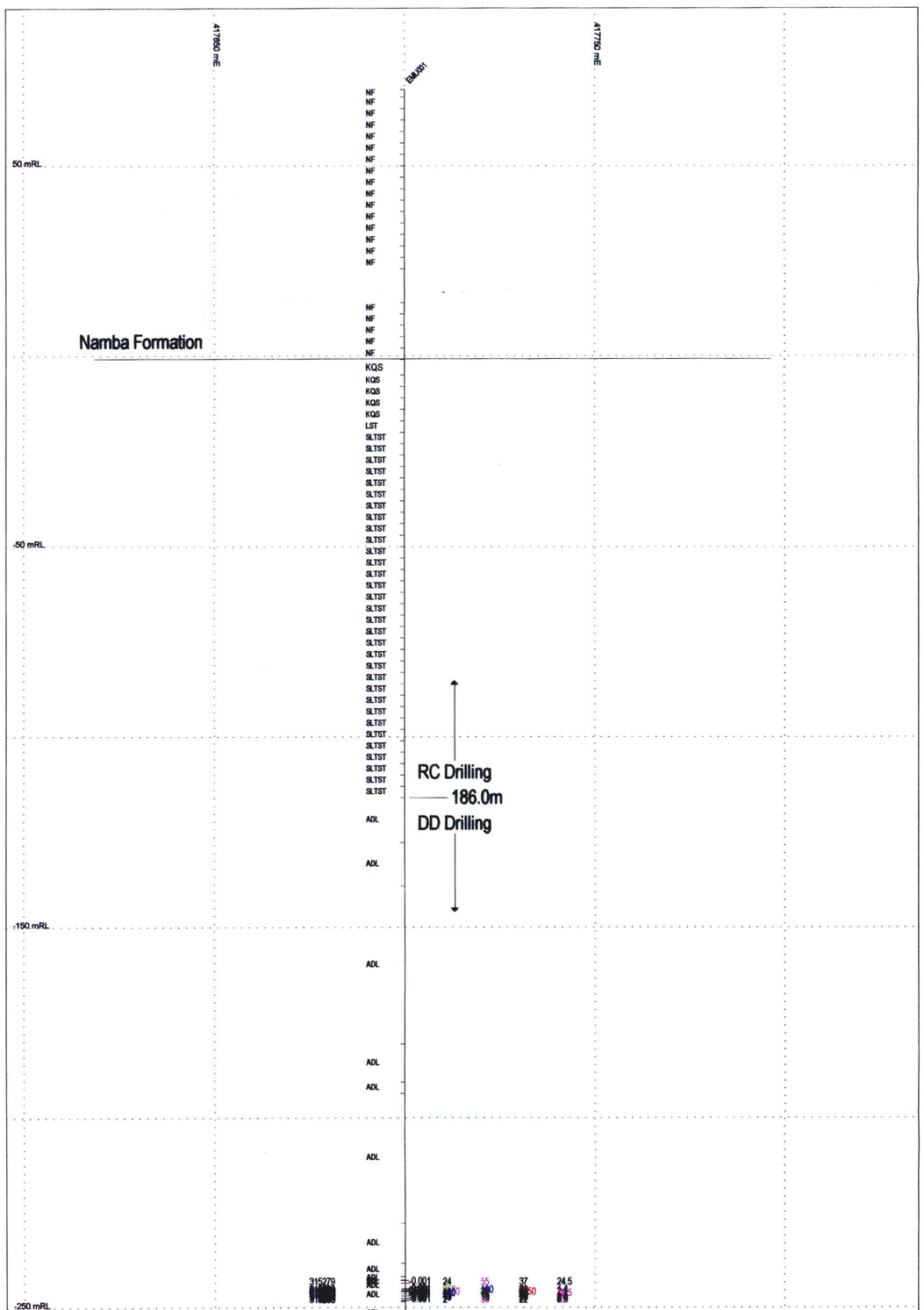
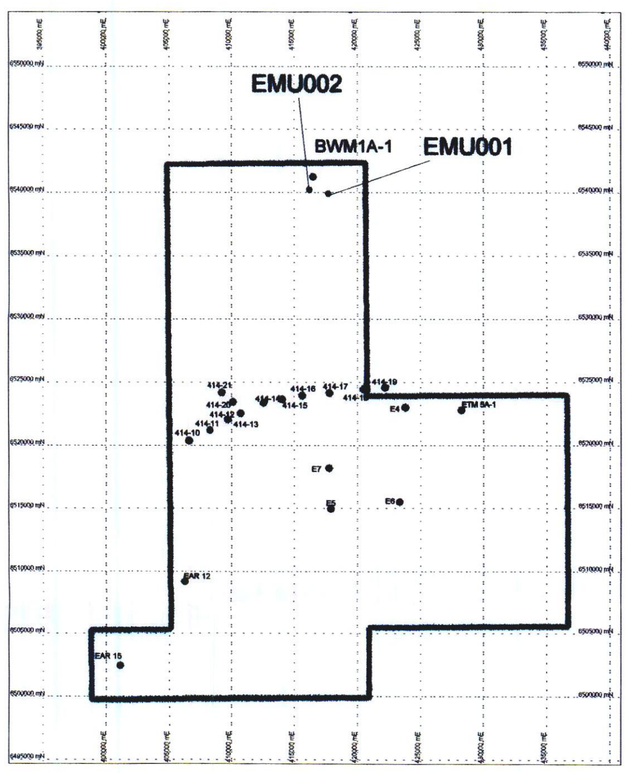
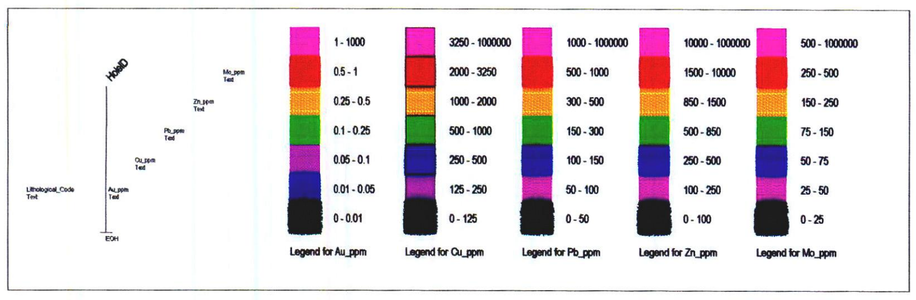
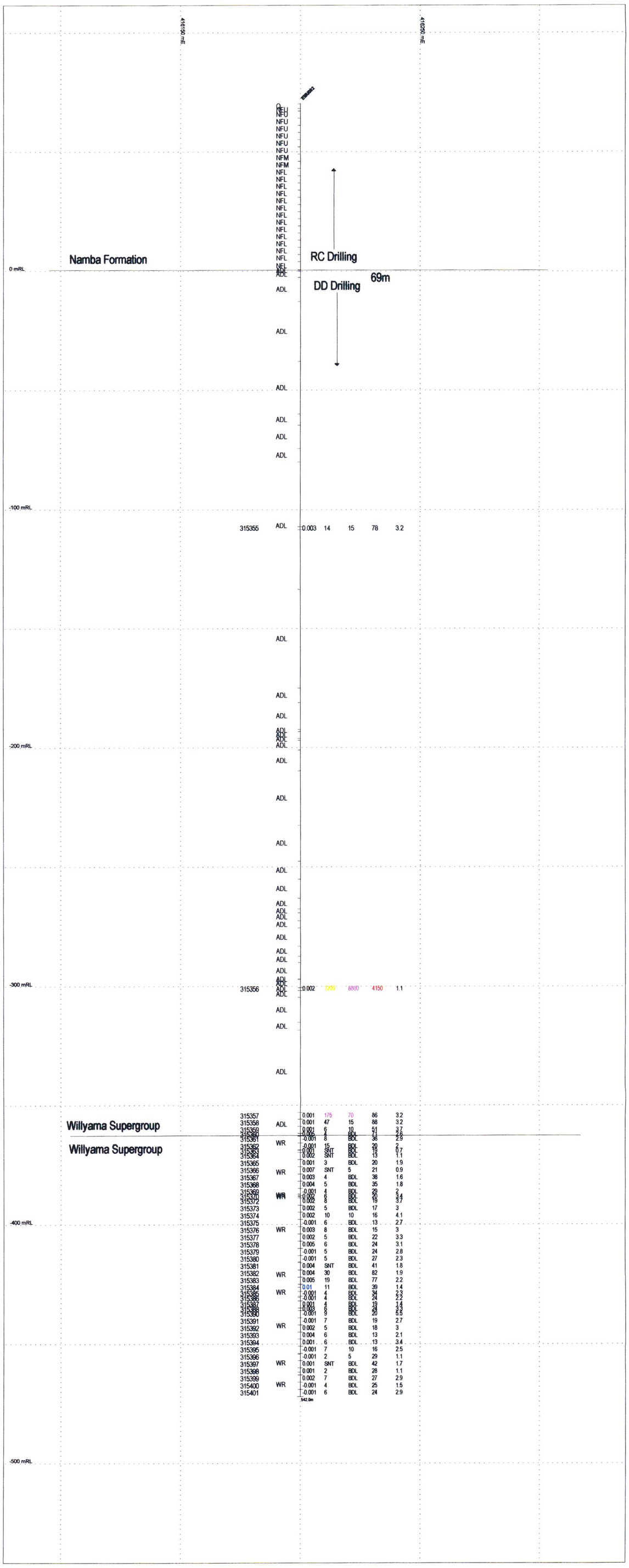
HOLE NUMBER	RC (metres)	COST/m	Cost for hole
1	300	23	6900
	200	100	20000
TOTAL drilling cost			$26,900.00
TOTAL drilling cost (plus 20%)			$32,280.00
ASSAY COSTS			
total metres to be assayed	150		
total samples submitted	200		
Cost of assay per sample	$20		
TOTAL assay cost for program			$4,000
TOTAL COST OF DRILLING AND ASSAYS FOR PROPOSAL			$36,280

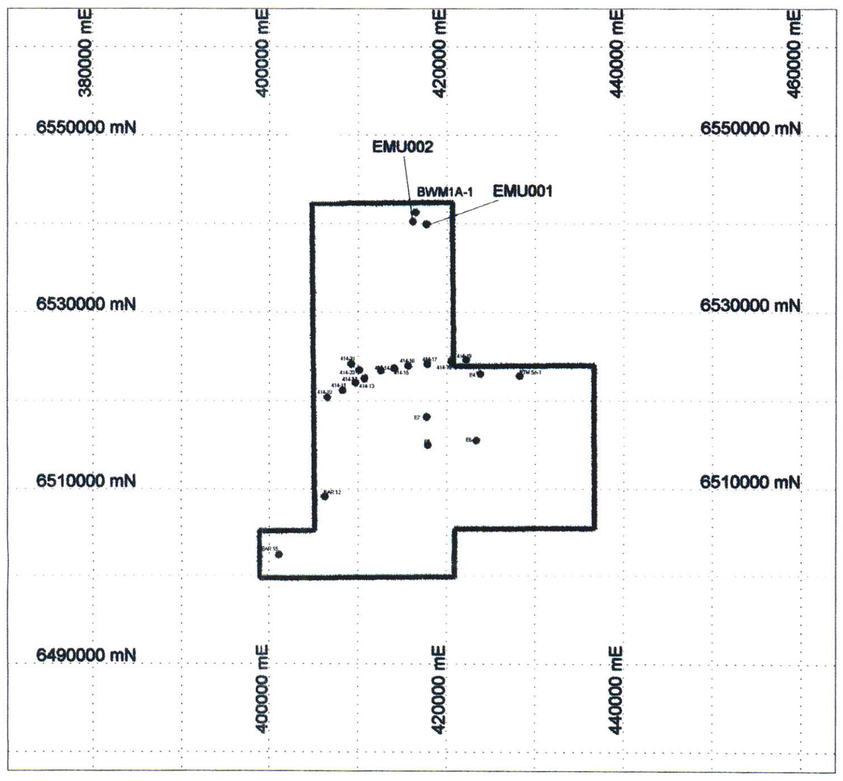


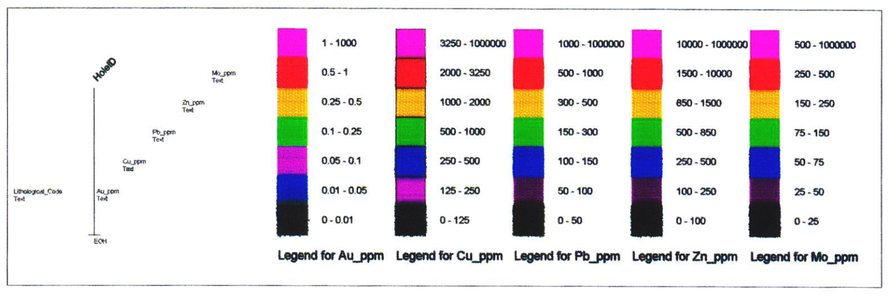




	PASMINCO EXPLORATION **BROKEN HILL**			
	EL 2225 Emu Dam	File: Projection-Datum: AMG zone 54 (AGD 84)		
PROJECT	**Benagerie Ridge Joint Venture**			
TITLE	**EMU001** **Diamond drill section** **6539900 mN**			
Author BNG	Drawn BNG	Date Jan 2000	Scale 1: 1 000	Figure







	PASMINCO EXPLORATION BROKEN HILL			
	EL 2225 Emu Dam	File: Projection-Datum: AMG zone 54 (AGD 84)		
PROJECT	Benagerie Ridge Joint Venture			
TITLE	EMU002 Diamond drill section 6540200mN			
Author BNG	Drawn BNG	Date Jan 2000	Scale 1: 1 000	Figure

PASMINCO EXPLORATION

BROKEN HILL, NEW SOUTH WALES

ANNUAL EXPLORATION REPORT FOR THE TWELVE MONTH PERIOD TO 3 NOVEMBER 2000 FOR EL 2225 (EMU DAM) SOUTH AUSTRALIA

Author: **B.N.Godsmark**

Date: **January 2001**

Submitted by: **Bruce Godsmark**

Accepted by: **Colin Lutherborrow**

Copies to:
PIRSA (2)
Lynch Mining Ltd
Pasminco Exploration - Melbourne
Pasminco Exploration - Broken Hill (2)

VC363

SUMMARY

Exploration Licence 2225 Emu Dam (formerly Billeroo West) covering 999km^2 was granted on 4 November 1996 for one year (Plan 2PB2154). The Licence has been renewed by MESA for two further twelve month periods to 3 November 2000 without reduction in area. The tenement is currently held in Joint Venture between Pasminco Exploration (70%) and Lynch Mining (30%).

Work completed in the current term involved regional interpretation of gravity and magnetic data with the aim of identifying large structures which may have been involved in Meso-Proterozoic basin development and later involved in focusing hydrothermal fluids.

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LIST OF PLANS

Plan No.	File Name.	Title	Scale
BH_EX 10123	EL2225_200011_BHEX10123_Location. pdf	Locality Map	1:500 000
BH_EX_ 10124	EL2225_200011_BHEX10124. pdf	EL2225, Regional Gravity upward continued 16km	1:2 000 000
BH_EX_ 10125	EL2225_200011_BHEX10125. pdf	EL2225, Regional Magnetics	1:2 000 000
BH_EX_ 10126	EL2225_200011_BHEX10126. pdf	EL 2225 Emu Dam, Mines Dept Geology Interpretation	1:2 000 000
BH_EX_ 10127	EL2225_200011_BHEX10127. pdf	EL 2225 Emu Dam, Reginal gravity interpretation	1:2 000 000
BH_EX_ 10128	EL2225_200011_BHEX10128. pdf	EL2225, Regional Gravity upward continued 1km	1:2 000 000
BH_EX_ 10129	EL2225_200011_BHEX10129. pdf	EL2225, Regional Gravity upward continued 2km	1:2 000 000
BH_EX_ 10130	EL2225_200011_BHEX10130. pdf	EL2225, Regional Gravity upward continued 4km	1:2 000 000
BH_EX_ 10131	EL2225_200011_BHEX10131. pdf	EL2225, Regional Gravity upward continued 8km	1:2 000 000
BH_EX_ 10124	EL2225_200011_BHEX10124. pdf	EL2225, Regional Gravity upward continued 16km	1:2 000 000
BH_EX_ 10132	EL2225_200011_BHEX10132. pdf	EL2225, Regional Gravity upward continued 32km	1:2 000 000

1. TENEMENT HOLDING

Exploration Licence 2225 covering 999km^2 was applied for in July 1996 as "Billeroo West". The application was granted on 4 November 1996 and, to avoid confusion with pre-existing nomenclature was re-named "Emu Dam". A renewal to 3 November 1999 has been granted.

The tenement is located 100km northeast of Olary, South Australia and is contiguous with Exploration Licence 2152 Benagerie (Plan BH_EX10123). These two tenements combined form the Benagerie Ridge Joint Venture between Pasminco Exploration (70%) and Lynch Mining (30%).

2. OVERVIEW OF REGIONAL GEOLOGY

The tenement incorporates a basement of Mesoproterozoic Willyama Supergroup rocks of the Curnamona Province. This basement is almost entirely overlain by Neoproterozoic Adelaidean sequences and Cambrian sediments. Cretaceous and Tertiary sediments cover the entire tenement. The Adelaidean sequences contain Upper Umberatana and Wilpena Groups and can be up to four hundred metres thick. The depth of the remaining overlying sediments varies from ten to one hundred metres and predominantly comprise shales, organic-rich clays and sand units.

The stratigraphy, structure and mineralisation potential of the basement Willyama Supergroup has been characterised and described in detail by various authors for example Ashley et al. (1995). A brief overview of their discussion is given below.

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The area of Exploration Licence 2225 has been previously covered in whole or in part by at least six tenements which reported significant exploration activity.

Exploration was directed toward Tertiary sedimentary uranium mineralisation as well as base metal targets in Willyama Supergroup rocks.

A summary of exploration leading up to the current tenure is provided below:

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The objective of exploration was to locate roll front sedimentary uranium deposits in Tertiary and Mesozoic sediments of the (then) unexplored Lake Frome Embayment. After reviewing water well and geophysical data nineteen rotary and core holes were drilled on SML 267 and adjoining SML 268. The drilling identified a sand palaeochannel which later proved to host the Gould's Dam uranium deposit west of Exploration Licence 2225. Two holes (EAR 12 and EAR 15) lie on Exploration Licence 2225 (Plan 2PB2155).

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Three resistivity lines (E2 to E4) and four rotary holes (E4 to E7) were completed on the area of Exploration Licence 2225 (Plan 2PB2155). It was concluded that because basement rocks were shallow at depths between 36m and 71m and Lower Tertiary sands were totally oxidised that the potential for sedimentary uranium deposition was low.

3.4. EL 522 Minad-Teton (1979-1981)

Minad-Teton pursued base metals targets as defined by magnetics and gravity as a follow-on from sedimentary uranium exploration. Airborne magnetic anomalies in the region were identified (and numbered) by Ashley Geophysics: anomaly M5 occurs on Exploration Licence 2225. Geox Pty Ltd were contracted to define M5 by gridding, ground magnetics and gravity surveys. The anomaly was covered with seven 1 to 2km spaced lined with two supplementary infill lines totalling 60km. Magnetic readings were taken at 100m intervals along lines with gravity at 200m. The ground detail lead to differentiation into four individual anomalies M5A north, M5A south, M5B, and M5C. Diamond drill hole ETM 5A-1 was drilled vertically to 541.5m to test the interpreted shallowest anomaly M5A south about 4km east of Emu Dam. The hole was logged with gamma, neutron, spontaneous potential and resistivity probes. Systematic magnetic susceptibility and density measurements were made on core samples but geochemical sampling was limited to 5 samples of basement volcanics which were analysed for Cu, Pb, Zn, Co, U, Mo, Sn, W, Ce, Nb, Y, Zr, Fe, Ti, Na, K, Si and Al. Petrology was also completed.

The hole intersected 76m of Cainozoic rocks, principally Tertiary Namba Formation, followed by 369m of Adelaidean rocks of the Upper Umberatana and Wilpena Groups before intersecting an angular unconformity at 444.6m and penetrating massive pink rhyolite ("Benagerie Volcanics") believed to be Mesoproterozoic. Magnetic susceptibility measurements showed volcanics by virtue of their magnetite content had a thirty fold contrast with the overlying sediments thus explaining the cause of the magnetic anomaly while SG measurements showed there was insufficient density contrast to explain the 0.3 to 3.5 mgal residual bouguer anomaly associated with the magnetic anomaly.

Petrological investigations by Teale (1995) indicate that the supposed volcanics intersected by BWM1A-1 are in fact altered and brecciated quartz-albite and quartz-K-feldspar metasediments.

3.5. EL 722 CSR Limited (1980-1982)

Minad-Teton as managers of a joint venture with CSR continued sedimentary uranium exploration of this licence which included resistivity traverses B3 and B17 which partly occur on Exploration Licence 2225 (Plan 2PB2155). Base metal exploration targeted magnetic anomalies identified by Ashley Geophysics including M1 which lies at the northern boundary of Exploration Licence 2225.

At anomaly M1 situated 20km east-north-east of Frome Downs Homestead, five 1km spaced north-south grid lines and two in-fill lines (total 60km) were surveyed with magnetics at 100m spaced stations and gravity at 200m intervals. A SIROTEM survey was also undertaken by Geoex over anomaly M1 at surface and downhole without detecting conductors.

Diamond drill hole BWM 1A-1 was drilled vertically to 600m into anomaly M1A a 1400nT anomaly which is the shallower of three which coalesce to form M1. The hole was logged with gamma, spontaneous potential, resistivity, neutron, and density probes; six samples were examined petrologically; 72 quarter core samples were analysed for Cu, Pb, Zn, Co, U, Mo, Sn, and W; and the magnetic susceptibility and density of the core was measured regularly.

The hole intersected 80m of Tertiary and Mesozoic, 44m of Cambrian and 245m of horizontal Adelaidean sediments (Upper Umberatana and Wilpena Groups) with an unconformity at 391.4m above fine grained orange-pink banded un-metamorphosed acid volcanics which showed limited variation to 600m ('Benagerie Volcanics'). The volcanics contain Na- and K- feldspar and quartz, ultra-fine haematite and patchy pervasive magnetite, with pyrite, trace galena and chalcopyrite in scattered sulphide-carbonate-fluorite veinlets. Magnetic susceptibility of the basement volcanics showed a 500 fold contrast with overlying sediments thus explaining the magnetic anomaly, however SG measurements showed insufficient density contrast to explain the bouguer anomaly. Base metal values were generally less that 100 ppm.

3.6. Previous Work By Pasminco Exploration (1996-1997)

Deferred expenditure commitments on the licence were granted by Mines and Energy South Australia (now Primary Industry and Resources South Australia) in October 1997 for the period to 4/1/97 in consideration of the significant exploration expenditure on the adjoining tenement, EL2152 Benagerie.

Work completed during the period included:

- compilation of open file drill hole data into GIS format.
- re-logging of open file holes at PIRSA Core Library.

3.7. Previous Work Completed By Pasminco Exploration (1997 – 1998)

Work completed during the period ending 3rd November 1998 included the following;

- Collection of 1651 gravity stations at the Oberon Prospect and 615 gravity station collected at the Titania Prospect.

- Cultural Heritage clearance.

3.8. Previous work completed by Pasminco Exploration (1998 – 1999)

Work completed during the period ending 3rd November 1999 included the following;

Two diamond drill holes were drilled to test Au-Cu-Iron oxide potential of a large coincident gravity and magnetic complex.

EMU001 was completed at 530.0m and intersected Namba Formation (0-71m), Cambrain and Adelaidean Metasediments (71-420.2m) Willyama basement (420.4 – 530.0m). Minor copper and zinc aniomalism was detected in pyritic metasediments within the Adelaidean Super Group, best intersection 0.15m @ 0.425% Cu and 0.3 % Zn.

EMU002 was completed at 542.0m and intersected Namba Formatino (0-69.5), Cambrian and Adelaidean (69.5 – 433.1m) and basement (433.1 – 542.0m). Minor Copper. Lead Zinc mineralisation was detected I quartz veined pyritic metasediments , best intersection 1.25m @ 0.88% Pb and 0.415% Zn (370.45 – 371.7m).

4. EXPLORATION COMPLETED IN THE TWELVE MONTH PERIOD TO 3 NOVEMBER 2000

4.1. Regional Magnetic and Gravity interpretation.

Regional Interpretation of gravity and magnetic data has been undertaken with the aim of identifying large structures which may have been involved in Meso-Proterozoic basin development and later involved in focusing hydrothermal fluids, see figure BHEX10124 to BHEX10132.

The gravity interpretation indicates that there is a very large long lived structure that occurs in the vicinity of the western part of EL 2225, there is however a subdued magnetic signature which may indicate thick cover of Adeliadean metasediments such as that intersected in DDHEMU001 and DDHEMU002.

In the eastern lobe of the tenement there are structures that are evident in the 4000m and 2000m upward continued gravity data and coincide with a moderate magnetic response which may indicate that basement is relatively shallower in the east of the tenement than to the west.

Given the lack of outcrop it is recommended that either "stratigraphic" drilling needs to be completed in order to define the geology of individual domains or more detailed geophysics be undertaken with the aim of identifying anomalies for testing.

5. CONCLUSIONS

Due to the depth of cover (~400m) and the sparsity of previous exploration, the key exploration tools are detailed analysis of the gravity and magnetic data followed by diamond drilling of selected targets. Recommendations for future work includes:

- Gain site access and heritage clearances.
- Establish minimum target size and grade through reverse economic modelling.
- Obtain gravity and magnetic data
- Diamond drilling of selected gravity/magnetic targets.

6. EXPENDITURE STATEMENT

Personnel Costs	$5350.38
Land, Environment	$2412.15
Depr, Office, Sundry	$2072.72
10% Administration	$983.53
Total	$10 818.78
Total expenditure on tenement to 3-11-2000	$357 359.49

7. KEY WORDS

Lead, zinc, copper, gold, uranium, Willyama Supergroup, Bimba Formation, albite, pelite, Curnamona SH54-14, geophysics, Emu Dam

8. REFERENCES

Teale G. and Hodkinson I., 1995. EL 2013, Billeroo West South Australia Summary Report (unpublished report of Lynch Mining Ltd).

Yates K. R. and Randell M. H., 1994. Review of Company Mineral Exploration Curnamona 1:250 000 Sheet South Australia. Department of Mines and Energy Geological Survey South Australia Report Book 93/48.

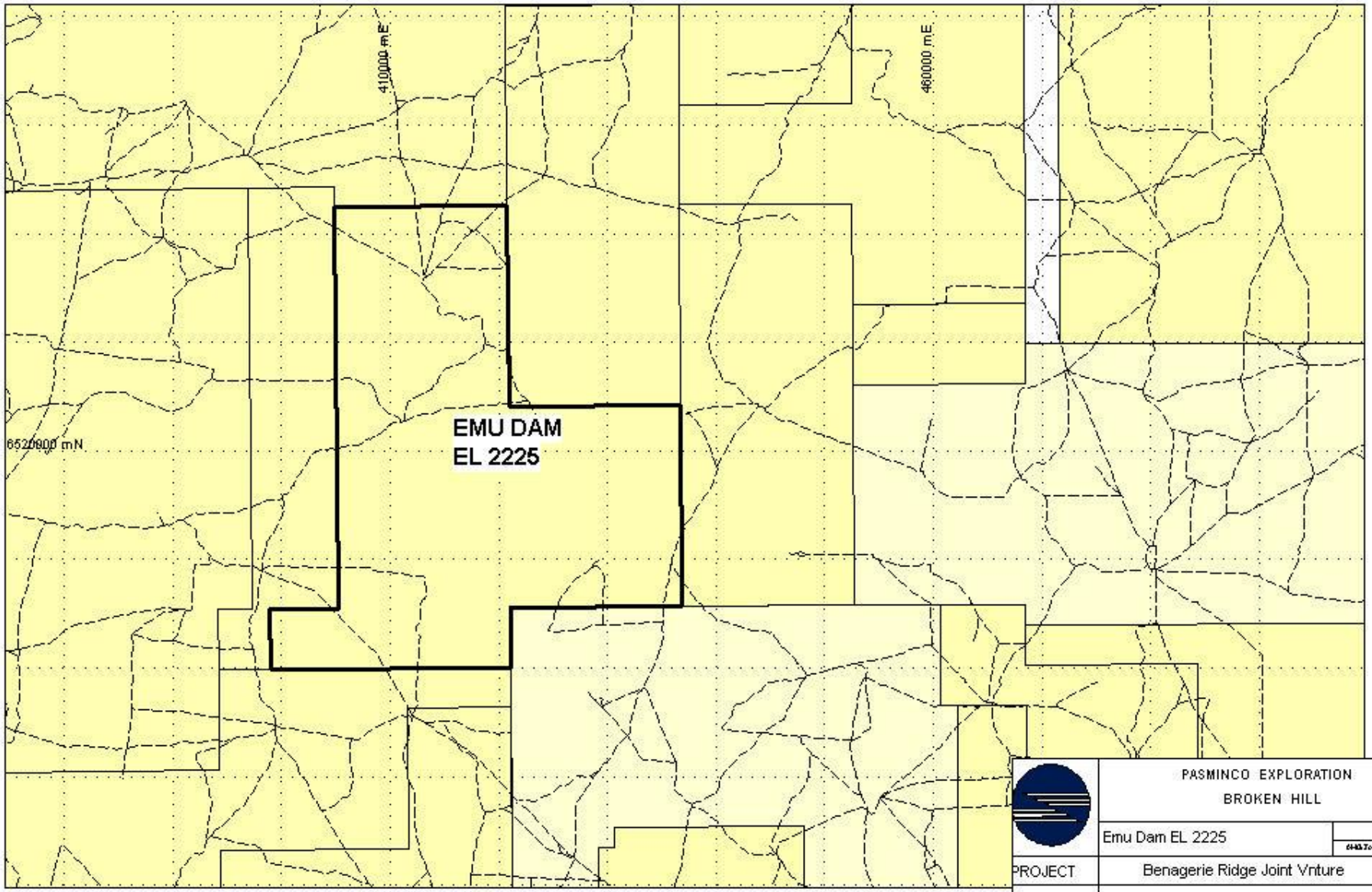
Hudson M.R., 1998. Annual Exploration Report for the twelve month period to 3 November 1998 for EL 2225 Emu Dam, South Australia.

Godsmark, B.N., 1999. Annual Exploration Report for the twelve month period to 3 November 1999 for EL 2225 Emu Dam, South Australia.

9. ADDITIONAL INFORMATION

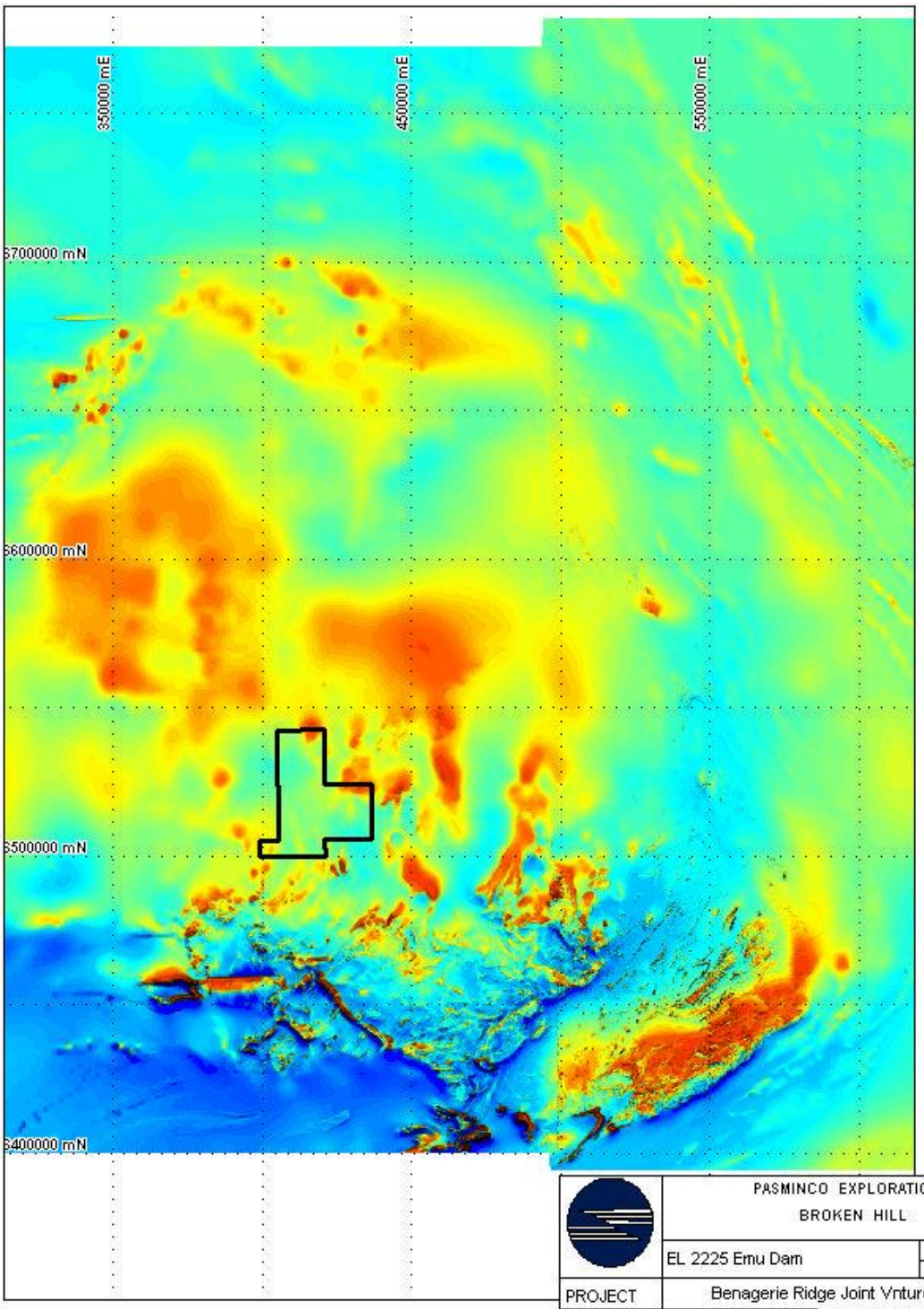
9.1. Map Sheets

Curnamona Sheet 54-14 250K



Emu Dam EL 2225 Locality Map

	PASMINCO EXPLORATION BROKEN HILL				
	Emu Dam EL 2225				
PROJECT	Benagerie Ridge Joint Vnture				
TITLE	**Emu Dam EL 2225 Tennement Location Map**				
Author B Godsmark	Drawn B Godsmark	Date January 2001	Scale 1:500 000	Plan No.	



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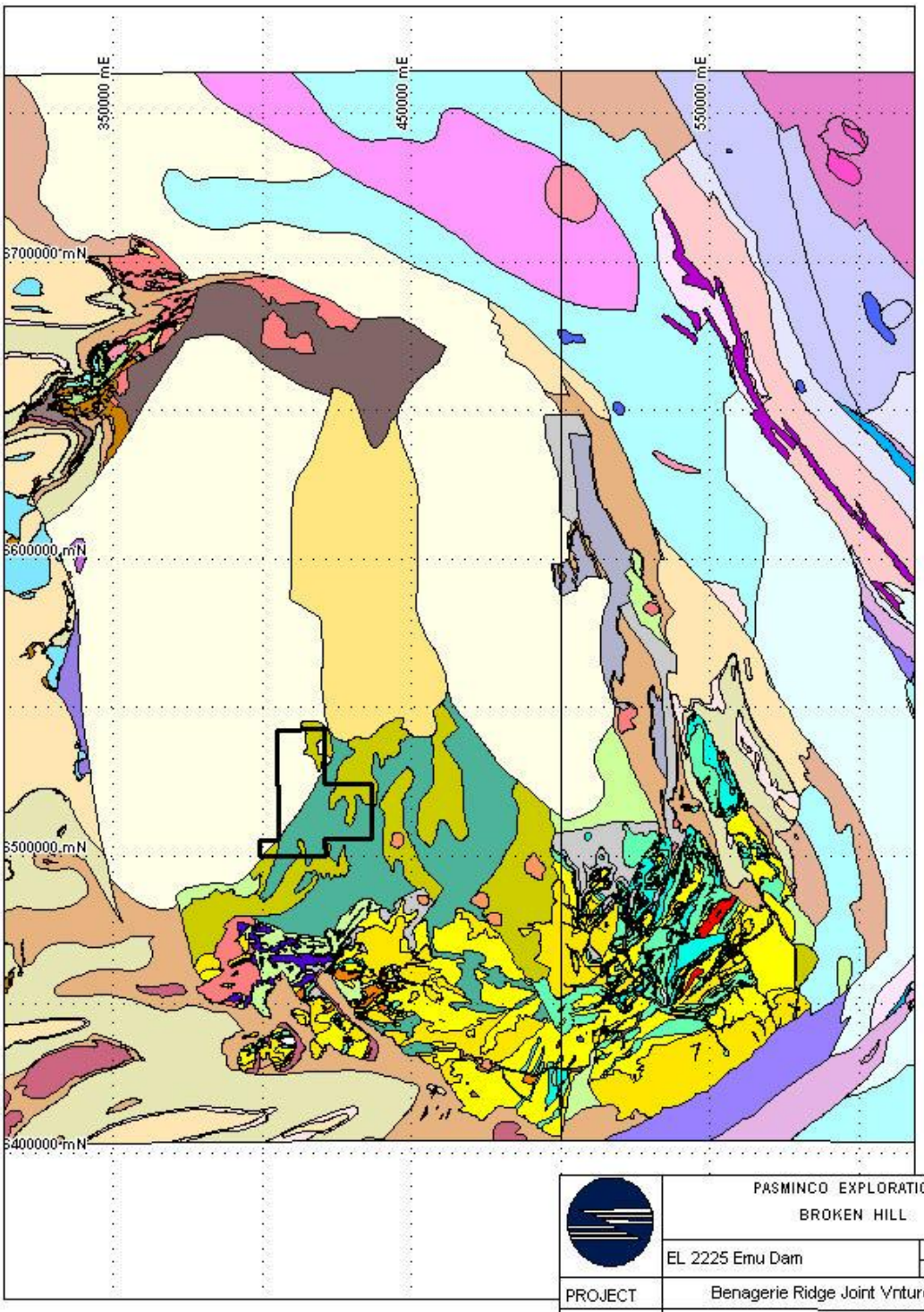
	EL 2225 Emu Dam			
PROJECT	Benagerie Ridge Joint Vnture			
TITLE	**EL 2225 Emu Dam** **Total Magnetic Intensity Image**			
Author B Godsmark	Drawn B Godsmark	Date January 2004	Scale 1:2 000 000	Plan No BREX_1012



	PASMINCO EXPLORATION BROKEN HILL	
	EL 2225 Emu Dam	
PROJECT	Benagerie Ridge Joint Vnture	
TITLE	**EL 2225 Emu Dam** **Mines Dept Geology Interpretation**	
Author: B Godsmark	Drawn: B Godsmark	Date: January 2001
Scale: 1:2 000 000	Plan No: BREX_1012	

GRAVITY LINEAMENT LEGEND

- Gravity Lineament Up Continuation 1000 km
- Gravity Lineament Up Continuation 2000 km
- Gravity Lineament Up Continuation 4000 km
- Gravity Lineament Up Continuation 8000 km
- Gravity Lineament Up Continuation 16000 km
- Gravity Lineament Up Continuation 32000 km

PASMINCO EXPLORATION
BROKEN HILL

EL 2225 Emu Dam

PROJECT: Benagerie Ridge Joint Vnture

TITLE: EL2225 Emu Dam
Interpretation of upward continued
gravity data

Author	Drawn	Date	Scale	Plan No
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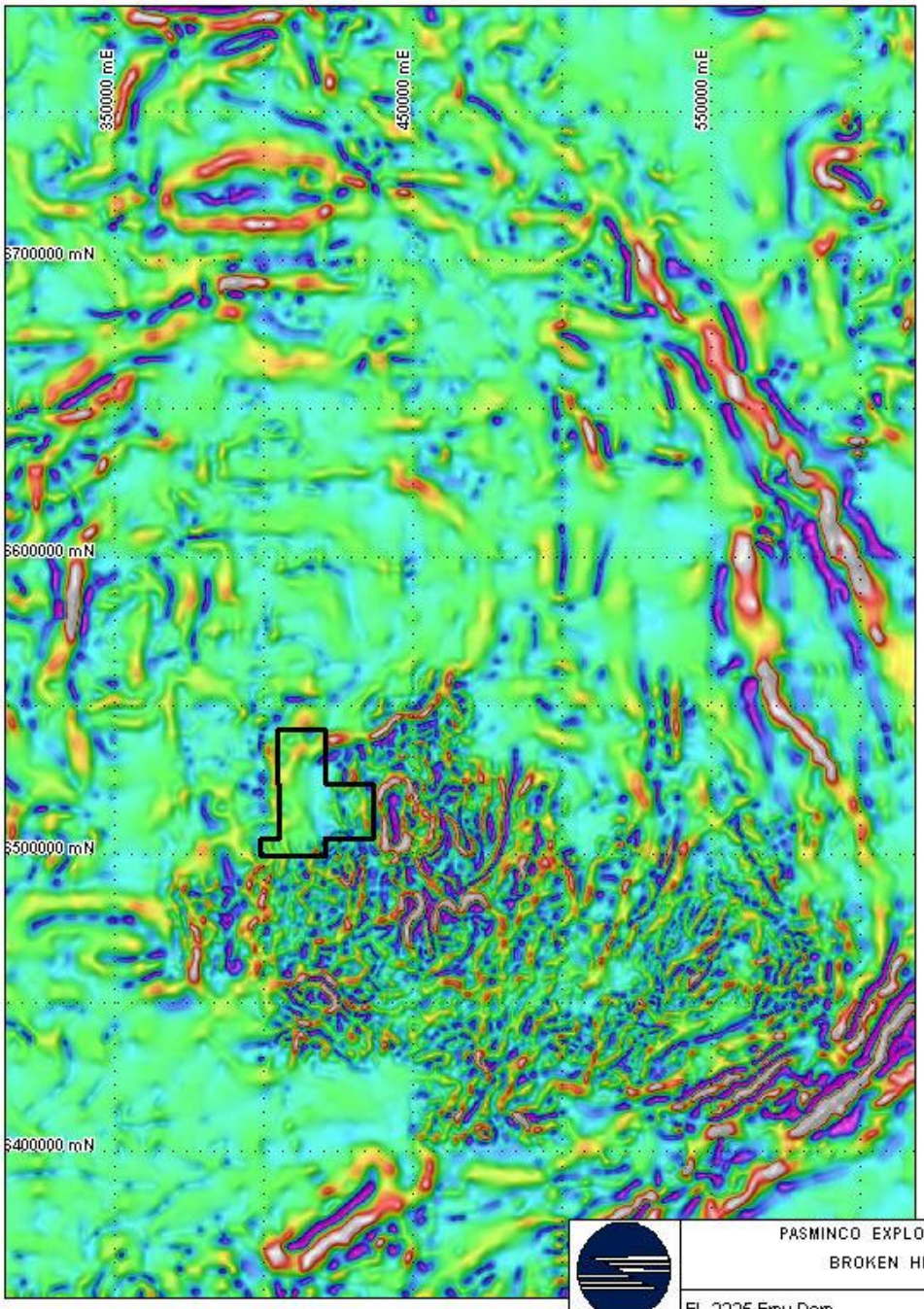

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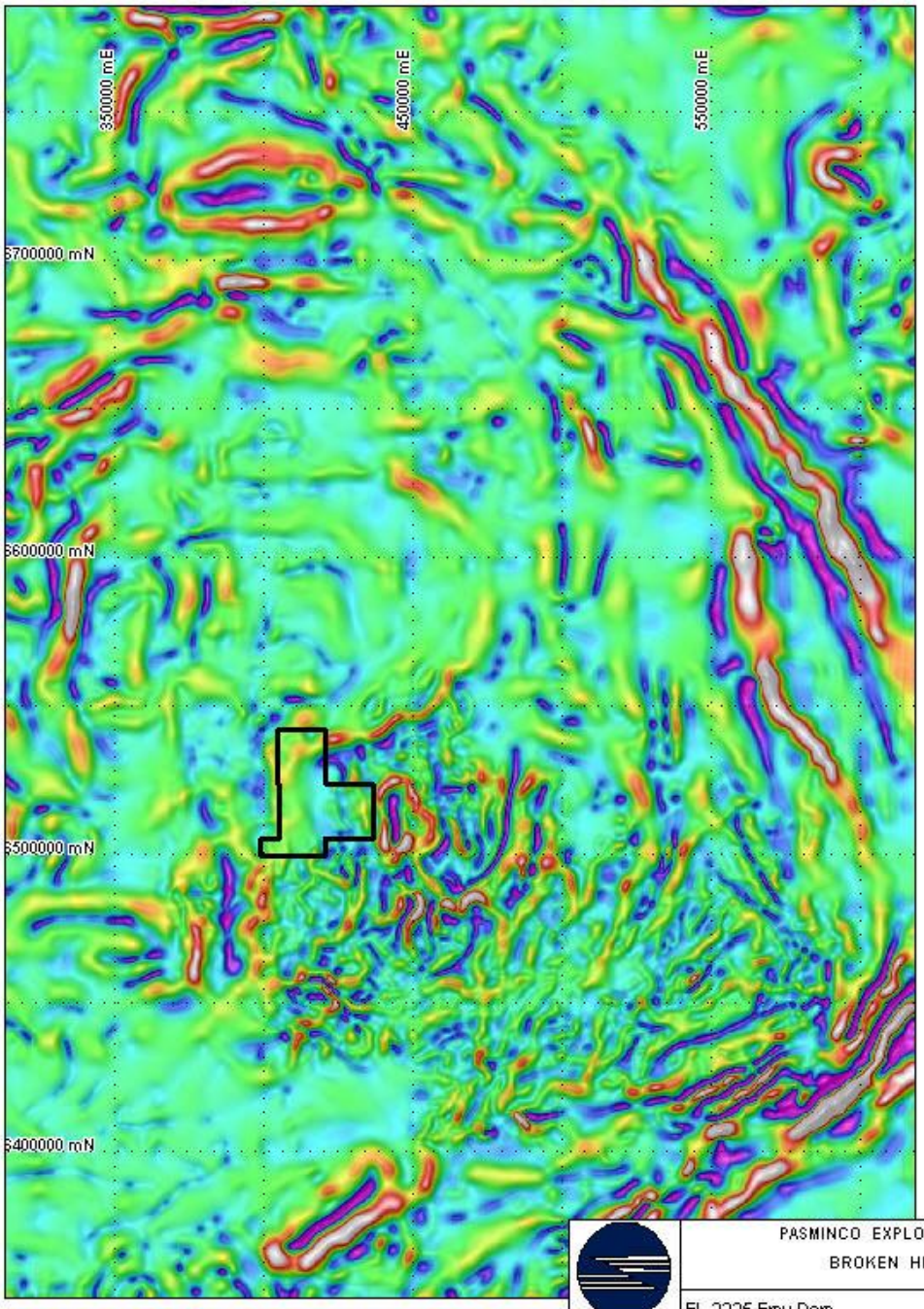
	EL 2225 Emu Dam			
PROJECT	Benagerie Ridge Joint Vnture			
TITLE	EL2225 Emu Dam Regional Gravity upward continued 1000m			
Author B Godsmark	Drawn B Godsmark	Date January 2001	Scale 1:2 000 000	Plan No BREX_1012



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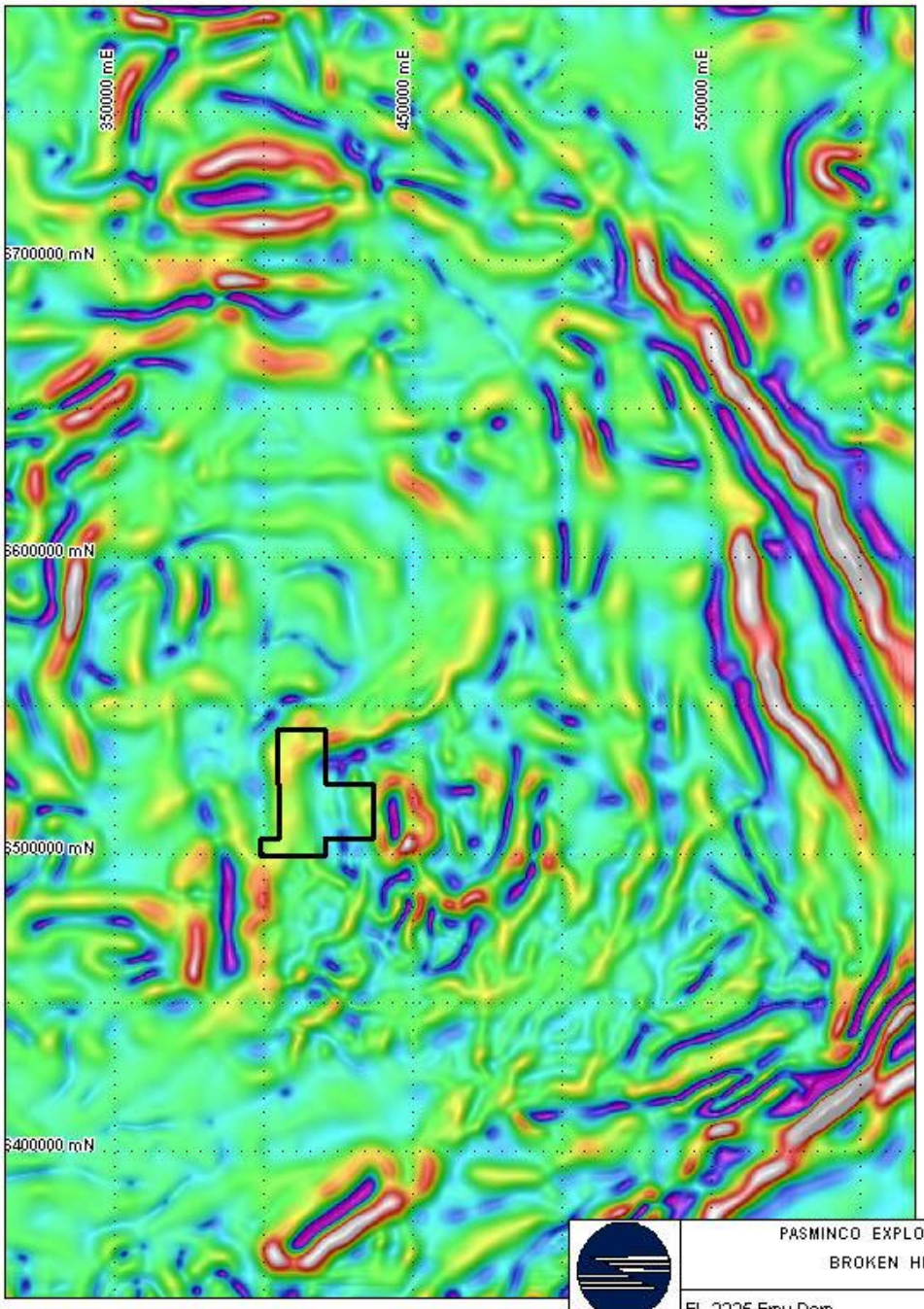

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	EL 2225 Emu Dam	
PROJECT	Benagerie Ridge Joint Vnture	
TITLE	EL2225 Emu Dam Regional Gravity upward continued 4000m	

Author	Drawn	Date	Scale	Plan No
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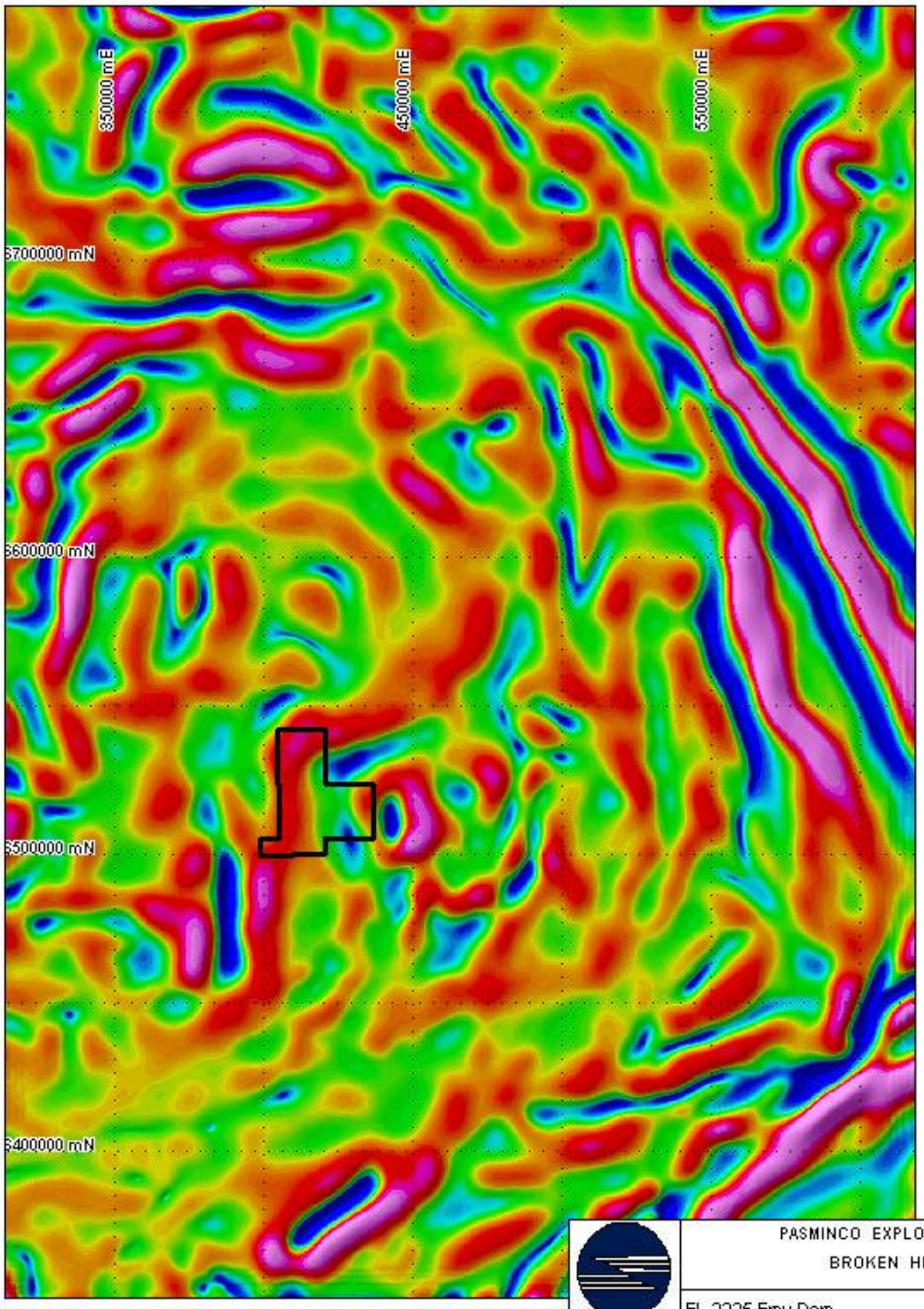

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	EL 2225 Emu Dam	
PROJECT	Benagerie Ridge Joint Vnture	
TITLE	EL2225 Emu Dam Regional Gravity upward continued 8000m	

Author	Drawn	Date	Scale	Plan No
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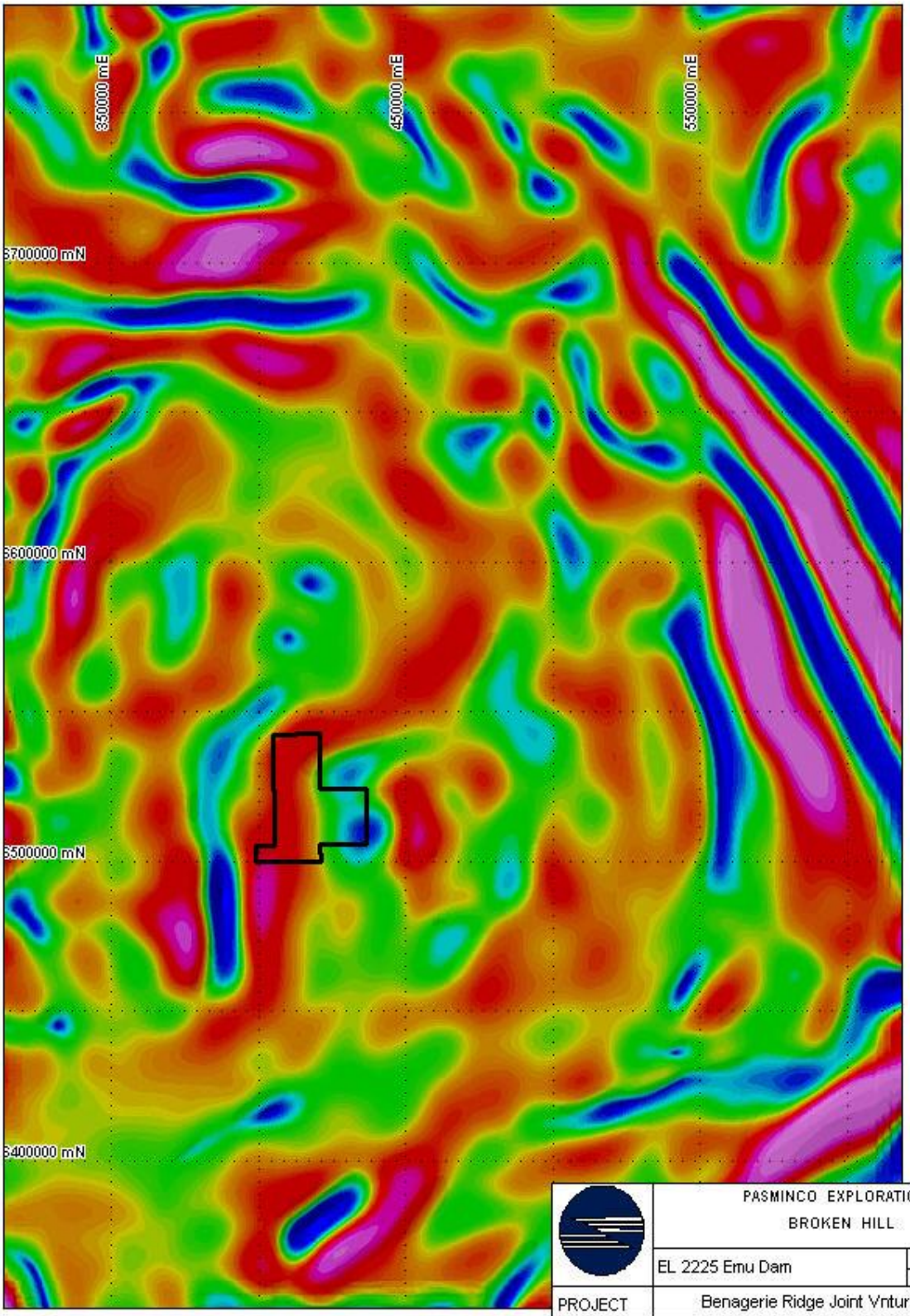

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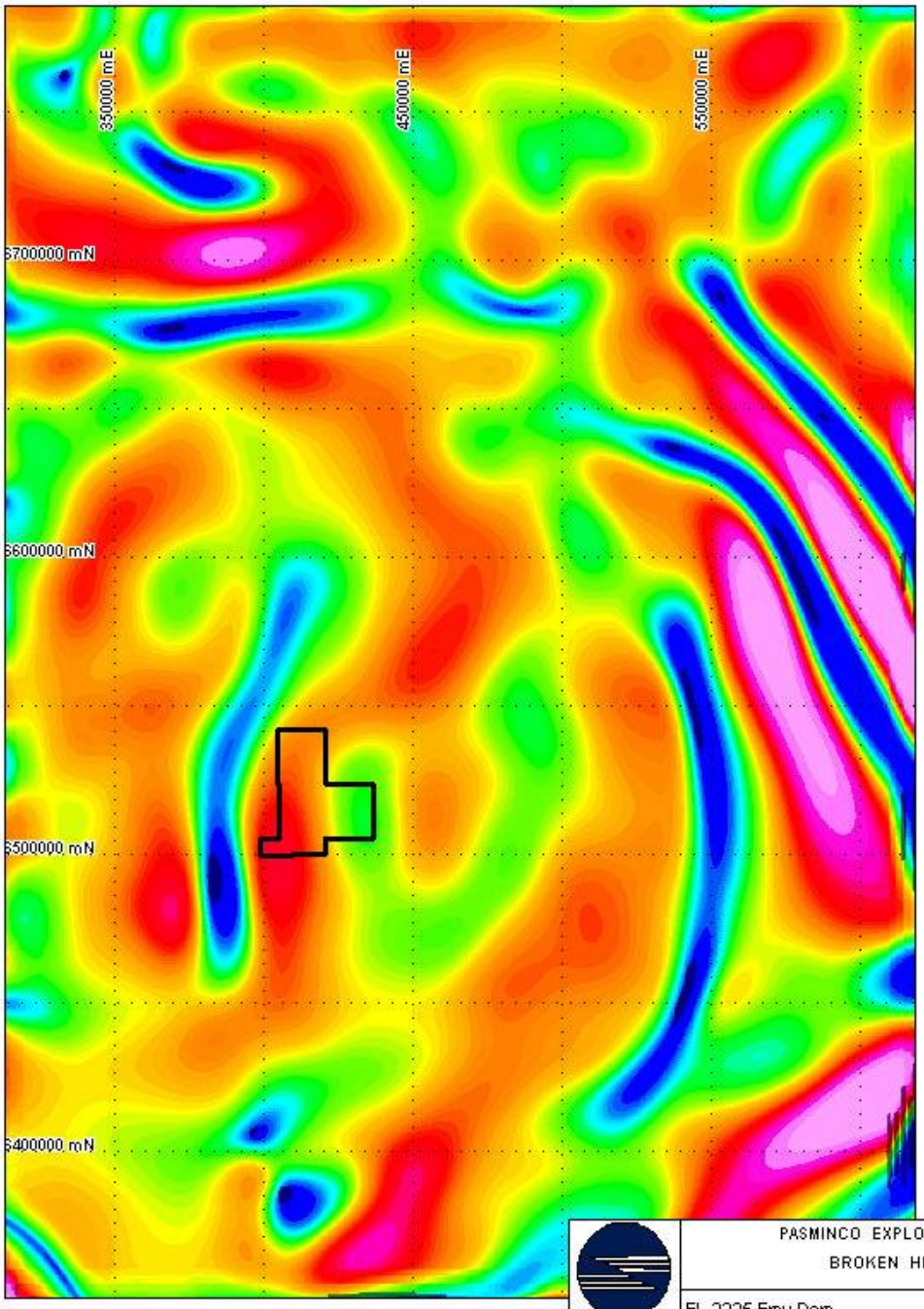
	EL 2225 Emu Dam				
PROJECT	Benagerie Ridge Joint Vnture				
TITLE	**EL 2225 Emu Dam** **Gravity upward continued 16 km**				
Author B Godsmark	Drawn B Godsmark	Date January 2001	Scale 1:2 000 000	Plan No BREX_1012	



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	EL 2225 Emu Dam	
PROJECT	Benagerie Ridge Joint Vnture	
TITLE	EL2225 Emu Dam Regional Gravity upward continued 32000m	
Author: B Godsmark	Drawn: B Godsmark	Date: January 2004
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PASMINCO EXPLORATION

BROKEN HILL, NEW SOUTH WALES

ANNUAL EXPLORATION REPORT FOR THE TWELVE MONTH PERIOD TO 3 NOVEMBER 2001 FOR EL 2225 (EMU DAM) SOUTH AUSTRALIA

Author: **B.N.Godsmark**

Date: **December 2001**

Submitted by: **Bruce Godsmark**

Accepted by: **Colin Lutherborrow**

Copies to: PIRSA (1)
Lynch Mining Ltd (1)
Broken Hill (2)

SUMMARY

Exploration Licence 2225 Emu Dam (formerly Billeroo West) covering 999km^2 was granted on 4 November 1996 for one year (Plan 2PB2154). The Licence has been renewed by PIRSA Until 3 November 2001 with a reduction in area to 615 sq km, as shown in figure 1. The tenement is currently held in Joint Venture between Pasminco Exploration (70%) and Lynch Mining (30%).

Work completed during the current term included data review and target generation.

This is the final report for EL 2225 (a renewal application is pending) all data collected during the life of this lease has been supplied in the standard format required by PIRSA.

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LIST OF PLANS

Plan No.	File Name.	Title	Scale
1	EL2225_200112_3_Location. pdf	Locality Map	1:500 000
2	EL2225_200112_4_Mag. pdf	Emu Dam EL 2225, Magnetic Image with Previous drilling and new targets.	1:200 000
3	EL2225_200112_5_Grav. pdf	Emu Dam EL 2225, Gravity Image with Previous drilling and new targets.	1:200 000
4	EL2225_200112_6_GravDetail. Pdf	Emu Dam EL 2225, Pasminco Gravity Survey Locations	1:200 000

LIST OF APPENDIXES

Appendix.	File Name.	Title
1	EL2225_200112_7_App1_collar..txt	Digital drilling data. Drilling completed in 1999.
	EL2225_200112_8_App1_Survey..txt	
	EL2225_200112_9_App1_Lithology..txt	
	EL2225_200112_10 App1_Assay1..txt'	
	EL2225_200112_11 App1_Assay1..txt	
2	EL2225_200112_12 App2_gravity..txt	Emu Dam gravity Surveys completed in 1998.

1. TENEMENT HOLDING

Exploration Licence 2225 covering 999km^2 was applied for in July 1996 as "Billeroo West". The application was granted on 4 November 1996 and, to avoid confusion with pre-existing nomenclature was re-named "Emu Dam". Subsequent renewals maintained the licence in full until November 2000, when the licence was reduced from 999 km^2 to 615 km^2 and renewal was granted until Novemebr 2001. An application for renewal is pending for the whole 615 sq km at the time of writing.

The tenement is located 100km northeast of Olary, South Australia and is contiguous with Exploration Licence 2152 Benagerie (Figure1). These two tenements combined form the Benagerie Ridge Joint Venture between Pasminco Exploration (70%) and Lynch Mining (30%).

2. OVERVIEW OF REGIONAL GEOLOGY

The tenement incorporates a basement of Mesoproterozoic Willyama Supergroup rocks of the Curnamona Province. This basement is almost entirely overlain by Neoproterozoic Adelaidean sequences and Cambrian sediments. Cretaceous and Tertiary sediments cover the entire tenement. The Adelaidean sequences contain Upper Umberatana and Wilpena Groups and can be up to four hundred metres thick. The depth of the remaining overlying sediments varies from ten to one hundred metres and predominantly comprise shales, organic-rich clays and sand units.

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3.4. EL 522 Minad-Teton (1979-1981)

Minad-Teton pursued base metals targets as defined by magnetics and gravity as a follow-on from sedimentary uranium exploration. Airborne magnetic anomalies in the region were identified (and numbered) by Ashley Geophysics: anomaly M5 occurs on Exploration Licence 2225. Geox Pty Ltd were contracted to define M5 by gridding, ground magnetics and gravity surveys. The anomaly was covered with seven 1 to 2km spaced lined with two supplementary infill lines totalling 60km. Magnetic readings were taken at 100m intervals along lines with gravity at 200m. The ground detail lead to differentiation into four individual anomalies M5A north, M5A south, M5B, and M5C. Diamond drill hole ETM 5A-1 was drilled vertically to 541.5m to test the interpreted shallowest anomaly M5A south about 4km east of Emu Dam. The hole was logged with gamma, neutron, spontaneous potential and resistivity probes. Systematic magnetic susceptibility and density measurements were made on core samples but geochemical sampling was limited to 5 samples of basement volcanics which were analysed for Cu, Pb, Zn, Co, U, Mo, Sn, W, Ce, Nb, Y, Zr, Fe, Ti, Na, K, Si and Al. Petrology was also completed.

The hole intersected 76m of Cainozoic rocks, principally Tertiary Namba Formation, followed by 369m of Adelaidean rocks of the Upper Umberatana and Wilpena Groups before intersecting an angular unconformity at 444.6m and penetrating massive pink rhyolite (“Benagerie Volcanics”) believed to be Mesoproterozoic. Magnetic susceptibility measurements showed volcanics by virtue of their magnetite content had a thirty fold contrast with the overlying sediments thus explaining the cause of the magnetic anomaly while SG measurements showed there was insufficient density contrast to explain the 0.3 to 3.5 mgal residual bouguer anomaly associated with the magnetic anomaly.

Petrological investigations by Teale (1995) indicate that the supposed volcanics intersected by BWM1A-1 are in fact altered and brecciated quartz-albite and quartz-K-feldspar metasediments.

3.5. EL 722 CSR Limited (1980-1982)

Minad-Teton as managers of a joint venture with CSR continued sedimentary uranium exploration of this licence which included resistivity traverses B3 and B17 which partly occur on Exploration Licence 2225 (Plan 2PB2155). Base metal exploration targeted magnetic anomalies identified by Ashley Geophysics including M1 which lies at the northern boundary of Exploration Licence 2225.

At anomaly M1 situated 20km east-north-east of Frome Downs Homestead, five 1km spaced north-south grid lines and two in-fill lines (total 60km) were surveyed with magnetics at 100m spaced stations and gravity at 200m intervals. A SIROTEM survey was also undertaken by Geoex over anomaly M1 at surface and downhole without detecting conductors.

Diamond drill hole BWM 1A-1 was drilled vertically to 600m into anomaly M1A a 1400nT anomaly which is the shallower of three which coalesce to form M1. The hole was logged with gamma, spontaneous potential, resistivity, neutron, and density probes; six samples were examined petrologically; 72 quarter core samples were analysed for Cu, Pb, Zn, Co, U, Mo, Sn, and W; and the magnetic susceptibility and density of the core was measured regularly.

The hole intersected 80m of Tertiary and Mesozoic, 44m of Cambrian and 245m of horizontal Adelaidean sediments (Upper Umberatana and Wilpena Groups) with an unconformity at 391.4m above fine grained orange-pink banded un-metamorphosed acid volcanics which showed limited variation to 600m ('Benagerie Volcanics'). The volcanics contain Na- and K- feldspar and quartz, ultra-fine haematite and patchy pervasive magnetite, with pyrite, trace galena and chalcopyrite in scattered sulphide-carbonate-fluorite veinlets. Magnetic susceptibility of the basement volcanics showed a 500 fold contrast with overlying sediments thus explaining the magnetic anomaly, however SG measurements showed insufficient density contrast to explain the bouguer anomaly. Base metal values were generally less that 100 ppm.

3.6. Previous Work By Pasminco Exploration (1996-1997)

Deferred expenditure commitments on the licence were granted by Mines and Energy South Australia (now Primary Industry and Resources South Australia) in October 1997 for the period to 4/1/97 in consideration of the significant exploration expenditure on the adjoining tenement, EL2152 Benagerie.

Work completed during the period included:

- compilation of open file drill hole data into GIS format.
- re-logging of open file holes at PIRSA Core Library.

3.7. Previous Work Completed By Pasminco Exploration (1997 – 1998)

Work completed during the period ending 3rd November 1998 included the following;

- Collection of 1651 gravity stations at the Oberon Prospect and 615 gravity station collected at the Titania Prospect.

- Cultural Heritage clearance.

3.8. Previous work completed by Pasminco Exploration (1998 – 1999)

Work completed during the period ending 3rd November 1999 included the following;

Two diamond drill holes were drilled to test Au-Cu-Iron oxide potential of a large coincident gravity and magnetic complex.

EMU001 was completed at 530.0m and intersected Namba Formation (0-71m), Cambrain and Adelaidean Metasediments (71-420.2m) Willyama basement (420.4 – 530.0m). Minor copper and zinc aniomalism was detected in pyritic metasediments within the Adelaidean Super Group, best intersection 0.15m @ 0.425% Cu and 0.3 % Zn.

EMU002 was completed at 542.0m and intersected Namba Formatino (0-69.5), Cambrian and Adelaidean (69.5 – 433.1m) and basement (433.1 – 542.0m). Minor Copper. Lead Zinc mineralisation was detected I quartz veined pyritic metasediments , best intersection 1.25m @ 0.88% Pb and 0.415% Zn (370.45 – 371.7m).

3.9. Previous work completed by Pasminco Exploration (1999 – 2000)

Regional interpretation of gravity and magnetic data was undertaken with the aim of identifying large structures which may have been involved in Meso-Proterozoic basin development and later involved in focusing hydrothermal fluids.

The gravity interpretation indicates that there is a very large long lived structure that occurs in the vicinity of the western part of EL 2225, there is however a subdued magnetic signature which may indicate thick cover of Adeliadean metasediments such as that intersected in DDHEMU001 and DDHEMU002.

In the eastern lobe of the tenement there are structures that are evident in the 4000m and 2000m upward continued gravity data and coincide with a moderate magnetic response which may indicate that basement is relatively shallower in the east of the tenement than to the west.

Given the lack of outcrop it is recommended that either “stratigraphic” drilling needs to be completed in order to define the geology of individual domains or more detailed geophysics be undertaken with the aim of identifying anomalies for testing.

4. EXPLORATION COMPLETED IN THE TWELVE MONTH PERIOD TO 3 NOVEMBER 2001

4.1. Data Review.

During the current reporting period regional magnetic and gravity data has been revisited and a number of magnetic targets have been identified. These anomalies will be the focus of the recommended exploration program, see figure 2 and 3.

The eastern part of the tenement contains an area where concentric magnetic rings are interpreted, this pattern is consistent with a buried “Benagerie Ridge Type” magnetic complex. Within this buried magnetic complex are zones of varying magnetic intensity and these are interpreted to be potential alteration zones related to Au-Cu mineralisation, similar to the Benagerie Ridge mineralised system.

4.2. Provision of Digital Gravity and Drilling Data

Digital drilling and gravity data have been provided to PIRSA in the current standard format. The drill hole locations and data are shown in figures 2 and 3 and included in appendix 1. The area of the gravity survey is shown in figure 4 and is included in appendix 2.

5. CONCLUSION AND RECOMMENDATIONS

Three target areas have been identified for further work, they are labelled A, B and C in figure 2 and 3. The program recommended is outlined below.

Recommendations for future work includes:

- Gain site access and heritage clearances.
- Establish minimum target size and grade through reverse economic modelling.
- Obtain gravity and magnetic data
- Diamond drilling of selected gravity/magnetic targets.

6. EXPENDITURE STATEMENT

Personnel Costs	$3242.03
Land, Environment	$999.13
Depr, Office, Sundry	$0.00
10% Administration	$424.12
Total	**$4665.28**
Total expenditure on tenement to 3-11-2001	$362024.77

7.

8. KEY WORDS

Lead, zinc, copper, gold, uranium, Willyama Supergroup, Bimba Formation, albite, pelite, Curnamona SH54-14, geophysics, Emu Dam

9. REFERENCES

Teale G. and Hodkinson I., 1995. EL 2013, Billeroo West South Australia Summary Report (unpublished report of Lynch Mining Ltd).

Yates K. R. and Randell M. H., 1994. Review of Company Mineral Exploration Curnamona 1:250 000 Sheet South Australia. Department of Mines and Energy Geological Survey South Australia Report Book 93/48.

Hudson M.R., 1998. Annual Exploration Report for the twelve month period to 3 November 1998 for EL 2225 Emu Dam, South Australia.

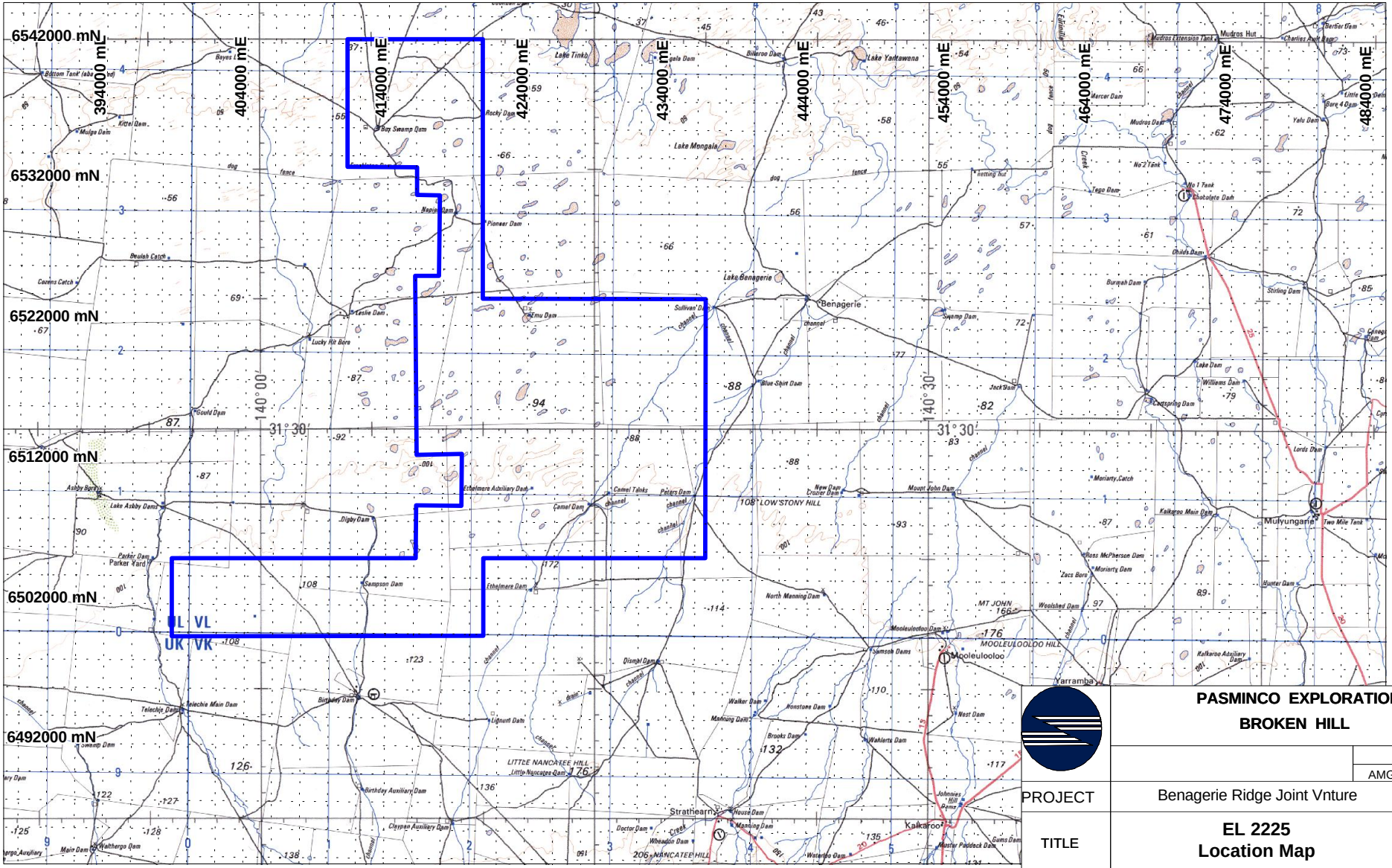
Godsmark, B.N., 1999. Annual Exploration Report for the twelve month period to 3 November 1999 for EL 2225 Emu Dam, South Australia.

Godsmark, B.N., 2000. Annual Exploration Report for the twelve month period to 3 November 2000 for EL 2225 Emu Dam, South Australia.

10. ADDITIONAL INFORMATION

10.1. Map Sheets

Curnamona Sheet 54-14 250K

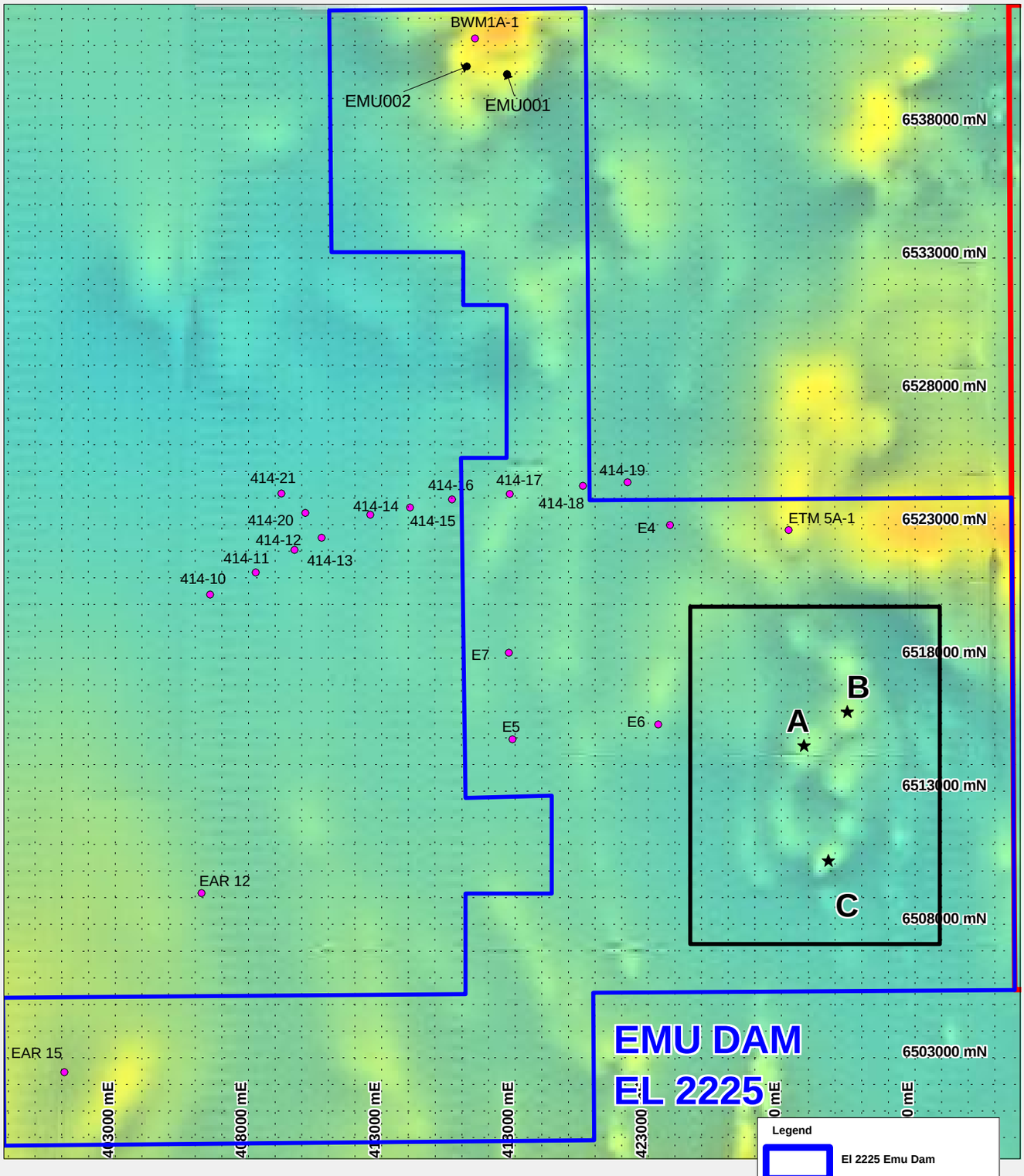


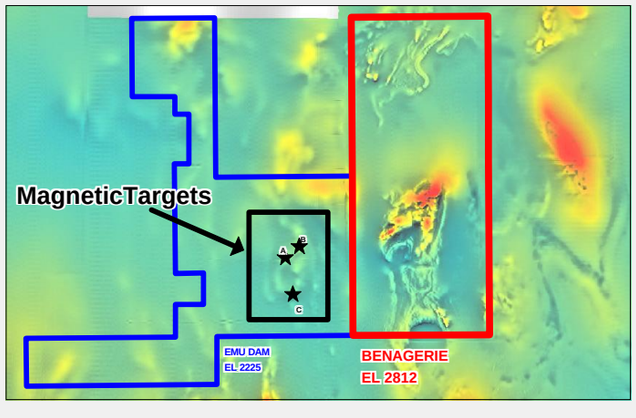
PASMINCO EXPLORATION
BROKEN HILL

AMG Zone 54 (AGD 66)

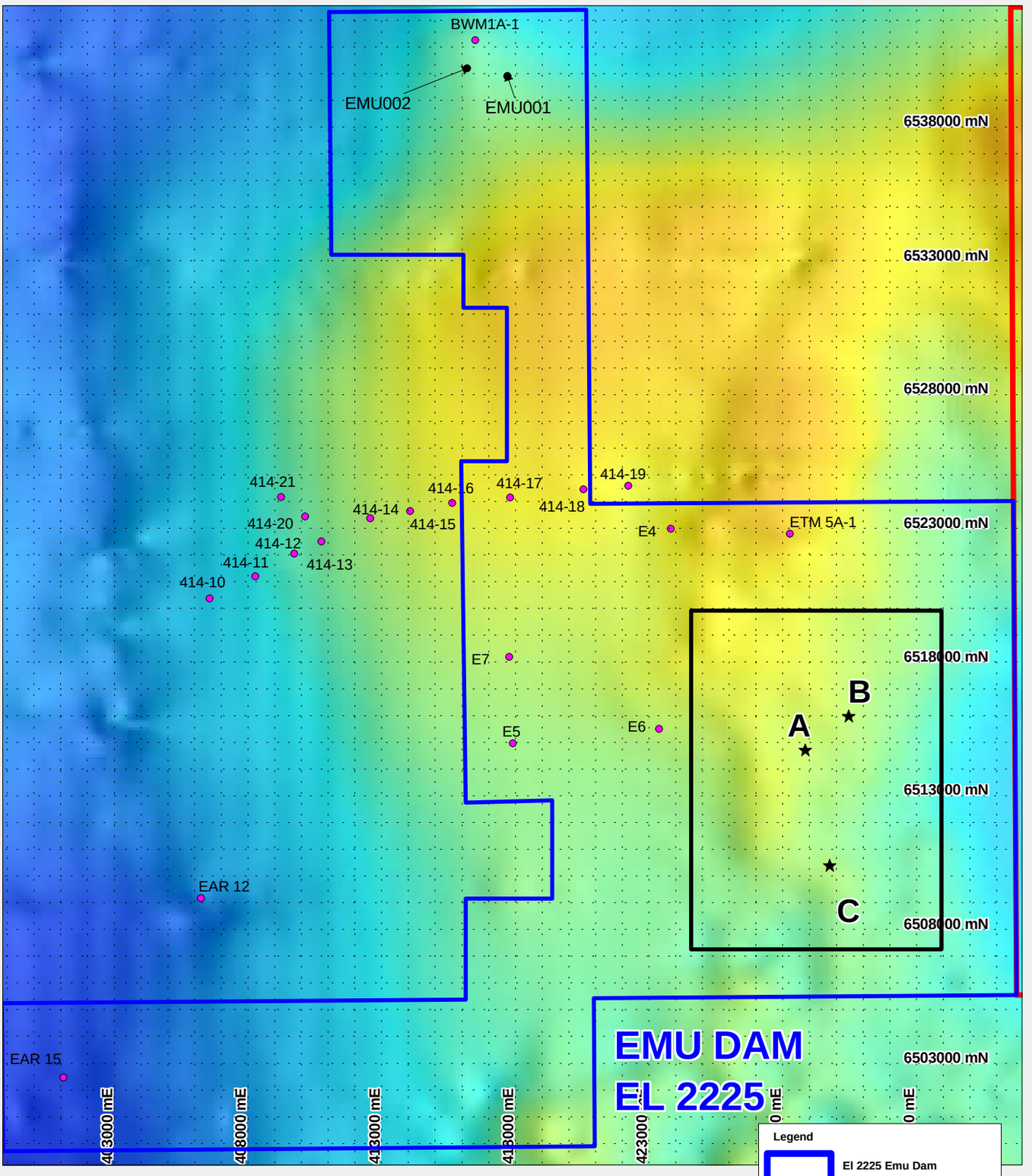
PROJECT	Benagerie Ridge Joint Vnture
TITLE	**EL 2225** **Location Map**

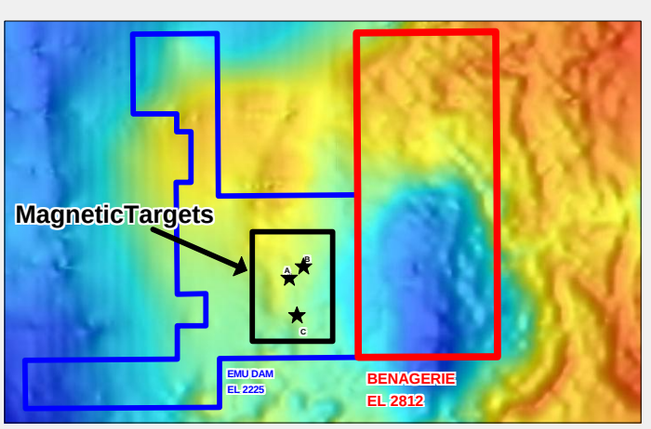
Author	Drawn	Date	Scale	Plan No.
B Godsmark	B Godsmark	January 2001	1:400 000	BHEX1013





	PASMINCO EXPLORATION **BROKEN HILL**			
		File AMG Zone 54 (AGD 84)		
PROJECT	Benagerie Ridge Joint Venture			
TITLE	**Emu Dam EL 2225** **Magnetic Image with** **Previous drilling and new targets**			
Author BN Godsmark	**Drawn** BN Godsmark	**Date** 8 August 2001	**Scale** 1:200 000	**Plan No.**



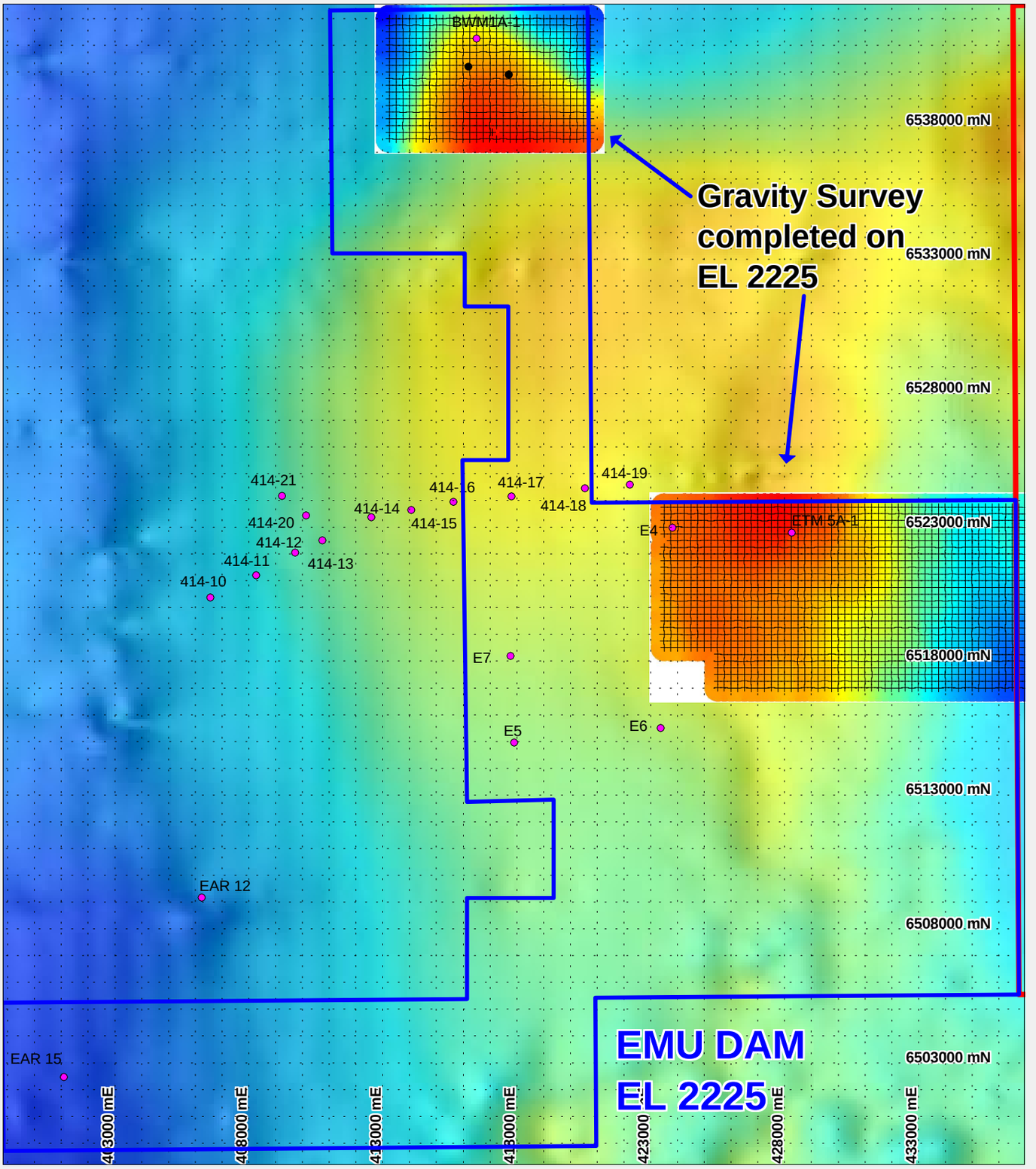


PASMINCO EXPLORATION
BROKEN HILL

File
AMG Zone 54 (AGD 84)

PROJECT	Benagerie Ridge Joint Venture
TITLE	**Emu Dam EL 2225** **Magnetic Image with** **Previous drilling and new targets**

Author	Drawn	Date	Scale	Plan No.
BN Godsmark	BN Godsmark	8 August 2001	1:200 000	



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		File AMG Zone 54 (AGD 84)			
PROJECT	Benagerie Ridge Joint Venture				
TITLE	**Emu Dam EL 2225** **Regional Gravity with** **Pasminco Gravity Survey Location**				
Author BN Godsmark	**Drawn** BN Godsmark	**Date** 8 August 2001	**Scale** 1:200 000	**Plan No.**	

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"D",EMU001,260.5,263.5,ADL,Medium brown fine grained sandstones to siltstones with large interbed of medium to coarse grained (1m thick)- and coarse graded units with clastic fragments to 4mm. Some solitary coarse grained fragments occur in fine grained siltsones.
"D",EMU001,263.5,298,ADL,Medium brown fine grained sandstones to siltstones with medium grey sandstones and siltstones. Light to yellow grey beds and nodules occur which show evidence of calcification and compaction around nodules (274 to 278)
"D",EMU001,298,308.5,ADL,Medium brown horizontal bedded siltstone / fine grained sandstone with common carbonate in cement. Thin units of coarse sandstone and conglomerate occur interbedded in fine grained sandstone.  Interp. intermediate unit between above and below units.
"D",EMU001,308.5,312,ADL,Pink Yellow to dark grey silty unit with minor carbonate cement and minor sulphide staining.
"D",EMU001,312,312.95,ADL,Green grey very fine grained metasediment with ubiquitous fine grained pyrite
"D",EMU001,312.95,313.7,ADL,Angular sedimentary breccia with angualr clasts to 10cm in diametre with dark grey fine grained pyritic groundmass
"D",EMU001,313.7,315.2,ADL,Dark grey and light grey finely laminated and interbedded siltsones and calcareous siltstones- Very fine grained pyritic veins cross cut primary laminations
"D",EMU001,315.2,318.5,ADL,Vuggy carbonate with dolomitite veins occasionaly containing chalcopyrite eg. 315.3- 315.5- 316.3m. Protolith @ 318m is a corase detrital carbonate.
"D",EMU001,318.5,324.7,ADL,Dark grey green siltstone interbedded with light pinky grey very fine grained sandstone- siltstone has ubiquitous fine grained pyrite.
"D",EMU001,324.7,326.4,ADL,Light grey very well sorted fine grained sandstone with 1mm to 1cm laminations of dark grey siltstone- more common towards 324.7. Coarse dolomite veins occurs between 325.8 and 326.0
"D",EMU001,326.4,328.8,ADL,Dark to medium grey fine grained siltstone interbedded with light grey very finegrained sandy beds with abundant truncated bedding and gradded bedding on 1 cm scale. Brading indicated right way up.
"D",EMU001,328.8,329.55,ADL,Dark red brown siltstones interbedded with light grey thin graded sandstones. Bedding is disrupted between 329.0 and 329.3.
"D",EMU001,329.55,329.6,ADL,Coarse very poorly sorted conglomerate with red and white clasts to 1 cm in diametre. Clast are mainly quartz and feldspar.
"D",EMU001,329.6,332,ADL,Light grey brown siltstone
"D",EMU001,332,335.3,ADL,Dark grey siltstone interbedded with light grey calacerous sandstone with minor carbonate veins from 334.9 to 335.3.
"D",EMU001,335.3,339.1,ADL,Medium grey siltstone interbedded with light grey fine grained sandstone. Coarse poorly sorted sandstone at 336.2m.
"D",EMU001,339.1,345.2,ADL,Light green grey siltstone with ubiquitous pyrite (1-5%). So is horizontal.
"D",EMU001,345.2,345.4,ADL,Coarse poorly sorted detrital unit with quartz and feldspar clasts upto 3mm.
"D",EMU001,345.4,347.8,ADL,Dark grey siltstone interbedded with light grey sandstones.
"D",EMU001,347.8,357.3,ADL,Dark grey to light grey dolomitic sediment with multi-phase carbonate veining @ 350.1 and 350.5.
"D",EMU001,357.3,357.55,ADL,Light green grey siltstone- fine stylolitic textures. Light grey alteration occurs around fractures Perpendicular to S0.
"D",EMU001,357.55,361.1,ADL,Light grey to dark grey laminated and vuggy dolomite with abundant stylolite textures. Vugs are upto 2cm in diametre with lensoidal shape. Vugs are infilled wioth dolomite and calcite.
"D",EMU001,361.1,362.6,ADL,Dark grey laminated dolomitic siltstone with large vertical vugs. Vugs are upto 5cm thick and have been filled with pink and white dolimite. Very minor pyrite.
"D",EMU001,362.6,367.5,ADL,Dark grey to light grey dolimitic siltstone and limestone with vugs that have been in filled with carbonate- dolomite and very minor pyrite.
"D",EMU001,367.5,367.55,ADL,Coarse poorly sorted graded gritty unit with clasts of quartz- feldspar. Grading indicates  right way up.
"D",EMU001,367.55,371.65,ADL,Light grey siltstone with one quartz carbonate vein @ 370.4m.
"D",EMU001,371.65,371.95,ADL,Brecciated siltstone (Hydrothermal breccia) with quartz carbonate and minor pyrite
"D",EMU001,371.95,372.7,ADL,Dark grey siltstone and light fine grained sandstone with sandstone becoming more common towards the base of the interval.
"D",EMU001,372.7,401.1,ADL,Light green grey siltstone with fine lamiations to 1mm interbedded with red and white poorly sorted- angular gritty beds with grit clasts to 3mm. Grit is composed of  quartz-feldspar with siliceous cement filling the voids between clasts.
"D",EMU001,401.1,407.9,ADL,Dark red grey siltstone with fine lamiations to 1mm interbedded with red and white poorly sorted- angular gritty beds with grit clasts to 3mm. Grit is composed of  quartz-feldspar with siliceous cement filling the voids between clasts.
"D",EMU001,407.9,410.7,ADL,Light grey to red grey siltstone interbedded with dark red and white gritty poorly sorted conglomerate with clasts upto 10mm in diametre. Clasts are composed of quartz and feldspar with fine grained quartz- feldspar-pyrite matrix.
"D",EMU001,410.7,416,ADL,Red very poorly sorted conglomerate with clast between 1mm and 10 cm. Clast include dark red quartz feldspar porphyry. Matrix is very fine grained matred feldspar- green feldspar  and quartz. Some quartz veins cut both clasts and matrix.
"D",EMU001,416,420.2,ADL,Light green grey siltstone (retrogresses) interbedded with red poorly sorted conglomerate with clasts between 10mm and 10cm in diametre.
"D",EMU001,420.2,423.7,WR,Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red-green or dark green.Moderate red rock alteration in veins to 2mm.
"D",EMU001,423.7,426.7,WR,Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red-green or dark green. Weak dark red alteration pervasively alteraing host rock.
"D",EMU001,426.7,450.3,WR,Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red-green or dark green. Strong red rock alteration in veins to 5 cm wide. 50% of rock is hematised.
"D",EMU001,450.3,459,WR,Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red-green or dark green.Very weak red rock alteration. Minor biotite and albitite alteration eg. 454.3.
"D",EMU001,459,471.5,WR,Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red-green or dark green.Strong red rock alteration with disseminated magnetite- hematite and biotite.
"D",EMU001,471.5,473.8,WR,Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red-green or dark green.Very weak red rock alteration in veins.
"D",EMU001,473.8,478.4,WR,Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red-green or dark green. Moderate red rock alteration in veins and disseminated through out rock.
"D",EMU001,478.4,480,WR,Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red-green or dark green. Weak red rock alteration adjacent to quartz veins. One large albitite-magnetite-pyrite-chalcopyrite vein at 479.5.
"D",EMU001,480,485,WR,Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red-green or dark green.Weak Red rock alteration adjacent to quartz veins.
"D",EMU001,485,497.8,WR,Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red-green or dark green. Weak red rock alteration at 486.5- 489.6- 493.7 to 494.2- 495.5 and 497.0.
"D",EMU001,497.8,500,WR,Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red-green or dark green.Strong red rock alteration with ematite-magnetite-caronate-chalcopyrite at 497.9 and 498.4
"D",EMU001,500,502,WR,Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red-green or dark green. Weak red rock alteration with minor disseminated hematite.
"D",EMU001,502,509.7,WR,Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red-green or dark green.Strongly red rock altered with disseminated hematite and hematite veining.
"D",EMU001,509.7,509.9,WR,Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red-green or dark green. Red rock alteration is overprinted by carbonate-ampohibole veining.
"D",EMU001,509.9,515,WR,Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red-green or dark green. Very minor red rock alteration associated with quartz albitite veining.
"D",EMU001,515,520,WR,Dark grey porphyritic intermediate to mafic intrusive with feldspar porphyroblasts commonly altered from white to red-green or dark green. Minor quartz albitite with pervassive red rock alteration.
"D",EMU002,0,2,Q,Coarse light briown sand with abundabnt gypsum and calcrete.
"D",EMU002,2,3,NFU,Compact olive green to reddish brown clay- Minor quartz grit- goethite and hematite staining.
"D",EMU002,3,6,NFU,Light olive green grey clay with minor goethite and hematite staining
"D",EMU002,6,9,NFU,Coarse loose olive green clay with white calcaeroius clayy- goethite staining
"D",EMU002,9,12,NFU,Fine to coarse olive grey gritty clay- quartz and calcareous clay
"D",EMU002,12,15,NFU,Olive green grey clay with moderate goethite staining
"D",EMU002,15,18,NFU,Compacted light grey to dark olive green-grey clay- moderate gothite in fracture- minor coarse whiteleached clay. (Sample lost - poor returen)
"D",EMU002,18,21,NFU,Pale grey to pale olive clay: fine moderate olive brown gritty quartz clay.
"D",EMU002,21,24,NFM,Dark compact greenish grey clay- mionr gritty quartz with moderate goethite
"D",EMU002,24,27,NFM,Dark compact greenish grey clay- mionr gritty quartz with moderate goethite
"D",EMU002,27,30,NFL,Light olive grey clay - minor black carbonaceous grit. Moderate goethite- minor hematite.
"D",EMU002,30,33,NFL,Light olive grey clay - goethtie- minor dark grey to black carbonaceous clay.
"D",EMU002,33,36,NFL,Light olive grey clay - goethtie- minor dark grey to black carbonaceous clay.
"D",EMU002,36,39,NFL,Light olive grey clay - goethtie- minor dark grey to black carbonaceous clay.
"D",EMU002,39,42,NFL,Light olive grey clay- goethtie staining disseminated throught out clay- minor hematite staining in dark grey clay.
"D",EMU002,42,45,NFL,Olive green grey clay  and dark grey gritty clay with moderate goethite staining.
"D",EMU002,45,48,NFL,Dark grey gritty clay- moderate goethtie staining.
"D",EMU002,48,51,NFL,Dark grey gritty clay- moderate goethtie staining.
"D",EMU002,51,54,NFL,Light olive green grey clay- moderate goethite staining.
"D",EMU002,54,57,NFL,Light olive grey clay and dark grey/black organic rich clay abundant goethite staining.
"D",EMU002,57,60,NFL,Light olive grey clay  and minor dark grey clay. Moderate goethite staining.
"D",EMU002,60,63,NFL,Light olive grey clay  and minor dark grey clay. Moderate goethite staining.
"D",EMU002,63,66,NFL,Light olive grey clay  and minor dark grey clay. Moderate goethite staining.
"D",EMU002,66,69.5,NFL,Olive green grey clay and minor grey black clay. Abundant coarse quartz fragmetns and minor dark mafic fragments. Moderate goethite staining and minor hematite staining on quartz fragments.
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"D",EMU002,69.5,70,ADL,White and yellow  weakly weathered carbonate
"D",EMU002,70,72.6,ADL,Strongly weathered greeny yellow kaolinitic saprock
"D",EMU002,72.6,82.8,ADL,Yellow to light grey weakly oxidised light grey and dark grey siltstone with cross bedding indicating right way up
"D",EMU002,82.8,108,ADL,Dark grey carboaceous siltstone and shale with strongly disrupted beds. Disruption is interpretted to be due to slumping and soft sediment deformation.
"D",EMU002,108,130,ADL,Carbonaceous dark grey to medium grey siltstone and carbonates with abundant stylolites.
"D",EMU002,130,134.6,ADL,Wilkawillina formation?: Interbedded carbonates and siltstones- carbonates have common stylolite textures with occasional coarse gritty carbonate units.
"D",EMU002,134.6,144.3,ADL,Wilkawillina formation?:White fodssiliferous carbonate and black fine grained shales @ base of interval. Stylolites are common.
"D",EMU002,144.3,150,ADL,Dark grey carbonaceous shale with stylolitic veins @ top of interval and en-echelon quartz carbonate veins to 2mm wide.
"D",EMU002,150,203.6,ADL,Dark grey to light grey dolomitic  siltstones with minor veining to 1mm from 177 to 188.1. Veins composed of quartz and caronate. Pyritic nodules common throughtout interval but normally parallel to S0.
"D",EMU002,203.6,244.9,ADL,Medium grey to red very weakly carbonaceous shale and siltstone with slatty cleavage.
"D",EMU002,244.9,251.1,ADL,Red to pinky grey red weakly carbonaceous shales and slates with occasional carbonate nodules to 5cm eg. 147.9.
"D",EMU002,251.1,262.3,ADL,Very fine grained dolomite with abundant stylolites and pyrite veining to 1mm.
"D",EMU002,262.3,263.3,ADL,Light grye siliceous and weakly carbonaceous ground mass with poorly sorted clasts to 5cm in diametre- interp previously as tillite in BMW1a-1
"D",EMU002,263.3,266.1,ADL,Red to light grey finely laminated slates with three thin(10cm) white siliceous intervals.
"D",EMU002,266.1,266.9,ADL,Red coarse grained sandstones
"D",EMU002,266.9,271,ADL,White moderate to well sorted sandstone- coarser at the base of beds (grading Right way up)
"D",EMU002,271,279.8,ADL,Interbedded red sandstones with both light grey and red slates.
"D",EMU002,279.8,302.5,ADL,Red brown slates with minor very light grey carbonaceous units with thin sandy beds at the base.
"D",EMU002,302.5,317.6,ADL,Red brown slates and  light grey carbonaceous units with wispy light grey veins / carbonate alteration
"D",EMU002,317.6,325.1,ADL,Dark red brown medium to fine grained sandstones grading into slates- interbedded with white calcareous limestone / silica units. Large round carbonae nodule at 321.9m.
"D",EMU002,325.1,333.1,ADL,Light grey to red carbonates with calcareous slates and poorly sorted conglomerate units at the base of 1 metre thick depositional packages.
"D",EMU002,333.1,337.6,ADL,Dark grey and light grey calcareous shale and carbonate with very minor carbonate veins parallel to LCA @ 335.85. Stylolites are common in the carbonate units.
"D",EMU002,337.6,339.2,ADL,White carbonate with minor stylolites.
"D",EMU002,339.2,342.6,ADL,Light grey and red borwn slate/carbonaceous shale with minor gritty quartz/feldspar units at the base.
"D",EMU002,342.6,345.6,ADL,Light browny grey slate
"D",EMU002,345.6,353.2,ADL,Dark grey to light grey  calcareous slates with strong laminations
"D",EMU002,353.2,357.4,ADL,Dark brown redy grey calcareous siltstones
"D",EMU002,357.4,360,ADL,Light green grey calcaerous siltsones
"D",EMU002,360,366.9,ADL,Light grey carbonate and dark grey siltstone. Light grey carbonate varies from very fine grained to medium grained.
"D",EMU002,366.9,367.1,ADL,Pyritic coarse unit @ base of sedimentary package.
"D",EMU002,367.1,370.5,ADL,Interbedded fine grained black pelitic unit and light grey carbonaceous units occasional coarse grained units at the base of depositional packages.
"D",EMU002,370.5,371.7,ADL,Pyritic dark grey and light grey sedimentary units which have undergone pyritic alteration centered around quartz veins @ 371.5
"D",EMU002,371.7,374.5,ADL,Light grey coarse carbonate interbedded with finely laminated calcareous siltstones
"D",EMU002,374.5,385,ADL,Dark grey and light grey calcareous slates with coarse grit unit at the base of sedimetary packages.
"D",EMU002,385,388.3,ADL,Dark grey fine grained slate gradding to interbedded red gritty arkosic sands and light green grey slates.
"D",EMU002,388.3,423.1,ADL,Dark red brown siltstones and coarse poorly sorted sandy beds with grains of feldspar and quartz.
"D",EMU002,423.1,433.1,ADL,Very coarse boulder conglomerate with boulders of igneous rocks and altered metasediments in a coarse feldspar quartz matrix.
"D",EMU002,433.1,439,WR,Red coarse grained porphyritic volcanic or igneous intrusive. Porphyritic crystals include white feldspar- red feldspar- quartz and quartz veins.Dark red and light red hemaatite alteration.
"D",EMU002,439,457.4,WR,Red very strongly altered metasediment. Fine grained quartz veining and disseminated hematite is ubiquitous.
"D",EMU002,457.4,458.3,WR,Red coarse grained porphyritic volcanic or igneous intrusive. Porphyritic crystals include white feldspar- red feldspar- quartz and quartz veins.Dark red and light red hemaatite alteration.
"D",EMU002,458.3,458.6,WR,Dark grey siliceous porphyritic rock sililar to previous interval but with intense silicification.
"D",EMU002,458.6,485.7,WR,Strongly red rock altered porphyritic metavolcanic/intrsive (same as 433.1-439.0)
"D",EMU002,485.7,496.3,WR,Red metasedimentary rock with minor intervals of red rock alteration being altered to amphibole and sericite. Small faults with cm displacements are common. Strong magnetite alteration between 492.0 amd 494.0m.
"D",EMU002,496.3,500.4,WR,Dark green grey porphyritic volcanic groundmass with red feldspar crystals to 1cm..
"D",EMU002,500.4,524.3,WR,Dark red porphyritic volcanic and fine grained volcanic with feldspar crystals to 2cm in diametre.
"D",EMU002,524.3,531.8,WR,Red rock altered metasediment  partially replaced by dark greenish grey amphibole and hematite. Hematite-quartz veins with hematite selvages @ 527.5
"D",EMU002,531.8,542,WR,Red coarse grained porphyritic volcanic or igneous intrusive. Porphyritic crystals include white feldspar- red feldspar- quartz and quartz veins.Dark red and light red hemaatite alteration.
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3750	1350	413495.26		6537492.83	-17.87	54.32
3750	1375	413748.82		6537495.88	-17.38	53.84
3750	1400	413999.25		6537502.87	-16.94	53.96
3750	1425	414250.69		6537502.67	-16.4	52.61
3750	1450	414500.85		6537502.35	-15.82	52.71
3750	1475	414746.5		6537496.29	-15.37	53.86
3750	1500	415003.32		6537499.6	-14.88	53.41
3750	1525	415248.56		6537500.25	-14.43	54.34
3750	1550	415497.68		6537500.11	-13.79	53.75
3750	1575	415749.28		6537495.21	-13.23	53.72
3750	1600	415999.24		6537497.36	-12.84	55.06
3750	1625	416252.04		6537499.33	-12.18	54.61
3750	1650	416500.87		6537498.8	-11.81	54.45
3750	1675	416750.57		6537500.05	-11.95	55
3750	1700	416998.05		6537505.34	-11.85	56.53
3750	1725	417247.13		6537496.39	-11.79	55.26
3750	1750	417501.2		6537503.53	-11.85	56.42
3750	1775	417745.92		6537497.98	-11.87	58.12
3750	1800	417992.04		6537497.72	-11.83	56.69
3750	1825	418250.34		6537494.35	-11.85	55.33
3750	1850	418494.34		6537502.96	-11.96	55.39
3750	1875	418750.06		6537498.86	-12.17	54.62
3750	1900	419001.77		6537500.69	-12.3	54.7
3750	1925	419249.74		6537499.91	-12.38	55.66
3750	1950	419497.34		6537502.12	-12.59	57.3
3750	1975	419748.78		6537497.4	-12.69	58.12
3750	2000	419993.83		6537498.53	-12.74	58.47
3750	2025	420245.37		6537499.28	-12.93	58.18
3750	2050	420497.43		6537500.21	-13.2	57.95
3750	2075	420746.47		6537501.69	-13.49	56.27
3775	1325	413251.38		6537748.18	-18.44	53.7
3775	1350	413498.09		6537749.78	-18.03	53.92
3775	1375	413754.63		6537748.09	-17.66	54.01
3775	1400	413996.77		6537748.54	-17.17	53.7
3775	1425	414250.58		6537753.37	-16.56	53.97
3775	1450	414494.18		6537749.69	-16.02	53.54
3775	1475	414748.17		6537747.38	-15.42	51.98
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3775	1525	415245.12		6537746.69	-14.42	52.33
3775	1550	415499.78		6537754.01	-13.77	52.01
3775	1575	415750.02		6537752.81	-13.13	52.09
3775	1600	415993.4		6537750.23	-12.64	52.92
3775	1625	416244.45		6537751.19	-12.22	53.69
3775	1650	416504.27		6537749.49	-11.92	52.94
3775	1675	416747.14		6537744.75	-11.93	53.46
3775	1700	417003.98		6537746.47	-11.99	56.06
3775	1725	417084.52		6537747.72	-12.05	56.99
3775	1750	417498.71		6537750.78	-12.18	56.34
3775	1775	417746.59		6537752.92	-12.19	57.18
3775	1800	418001.6		6537751.93	-12.17	55.93
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3775	1850	418496.93		6537753.49	-12.4	56.19
3775	1875	418742.7		6537751.34	-12.56	56.53
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3775	2000	420000.37		6537748.52	-13.22	56.46
3775	2025	420247.59		6537749.12	-13.35	55.95
3775	2050	420500.79		6537746.4	-13.67	56.96
3775	2075	420746.52		6537749.46	-13.98	56.7
3800	1325	413247.29		6537998.23	-18.59	53.29
3800	1350	413498.47		6537996.01	-18.16	53.21
3800	1375	413747.3		6537997.83	-17.74	53
3800	1400	414000.75		6538000.13	-17.31	53.01
3800	1425	414247.4		6537999.82	-16.73	53.43

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3800	1650	416500.81	6537992.06	-12	51.71
3800	1675	416756.93	6538002.58	-11.82	51.26
3800	1700	416998.43	6537999.25	-12.17	53.84
3800	1725	417252.19	6537999.75	-12.32	54.51
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3800	1775	417746.03	6538001.95	-12.5	55.86
3800	1800	417995.51	6538000.9	-12.49	56.86
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3800	1950	419495.15	6538001.55	-13.36	56.59
3800	1975	419749.13	6537999.15	-13.63	56.24
3800	2000	419994.82	6538001.94	-13.73	53.82
3800	2025	420252.52	6538001.29	-13.91	55.7
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3800	2075	420748.88	6537999.25	-14.45	56.59
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3825	1350	413500.55	6538251.34	-18.27	52.62
3825	1375	413751.32	6538248.75	-17.85	51.54
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3825	1575	415750.63	6538251.15	-13.27	50.98
3825	1600	416002.36	6538253.66	-12.73	51.55
3825	1625	416248.18	6538253.64	-12.46	52.05
3825	1650	416496.7	6538250.84	-12.26	52.8
3825	1675	416747.15	6538252.98	-12.15	54.61
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3825	1725	417245.5	6538254.53	-12.52	54.38
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3825	1775	417747.65	6538248.97	-12.7	53.56
3825	1800	417999.18	6538249.8	-12.71	53.68
3825	1825	418245.39	6538253.61	-12.87	55.09
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3850	1575	415744.23	6538500.98	-13.53	52.76

3850	1600	416001.23	6538499.95	-12.96	53.17
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3875	1425	414248.28	6538745.93	-17.13	50.81
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3875	1475	414751.61	6538754.25	-15.9	49.74
3875	1500	414994.21	6538751.06	-15.27	50.83
3875	1525	415247.07	6538748.06	-14.67	50.45
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3875	1675	416746.54	6538749.19	-12.83	55.44
3875	1700	417003.23	6538749.3	-12.83	54.11
3875	1725	417251.26	6538754.05	-12.9	54.42
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3875	1800	417995.3	6538751.65	-13.41	54.33
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3875	1850	418498.08	6538751.25	-13.89	55.47
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3875	2075	420748.24	6538749.46	-15.99	56.21
3900	1325	413248.09	6538997.24	-18.53	49.79
3900	1350	413497.43	6538998.36	-18.35	52.05
3900	1375	413749.67	6538996.44	-17.95	49.6
3900	1400	413996.2	6539001.97	-17.62	51.18
3900	1425	414253.69	6539000.89	-17.24	52.01
3900	1450	414501.98	6538999.75	-16.67	50.5
3900	1475	414749.89	6538998.51	-16.01	48.05
3900	1500	415002.94	6539001.07	-15.28	47.07
3900	1525	415256.44	6538998.04	-14.78	51.19
3900	1550	415505.18	6538998.07	-14.26	49.99
3900	1575	415752.33	6539001.39	-13.81	50.61
3900	1600	416003.3	6539001.31	-13.33	52.01
3900	1625	416253.6	6538999.29	-12.99	53.94
3900	1650	416501.37	6538997.59	-12.83	54.8
3900	1675	416747.93	6538998.68	-13.02	56.21
3900	1700	416997.45	6539001.01	-13.15	56.88
3900	1725	417245.79	6539001.03	-12.96	54.73

3900	1750	417503.73	6539002.64	-13.12	54.33
3900	1775	417752.6	6538999.8	-13.22	54.31
3900	1800	418002.28	6538997.97	-13.59	54.35
3900	1825	418251.23	6538999.01	-13.86	54.21
3900	1850	418495.83	6538997.65	-14.17	54.19
3900	1875	418751.45	6538999.6	-14.48	54.52
3900	1900	418995.2	6539000.24	-14.68	53.13
3900	1925	419248.63	6538998.92	-14.94	54.59
3900	1950	419499.35	6538997.78	-15.3	54.82
3900	1975	419749.93	6538998.82	-15.55	54.54
3900	2000	420000.51	6539003.92	-15.89	54.61
3900	2025	420247.68	6539001.16	-16.13	53.97
3900	2050	420498.49	6538997.84	-16.41	55.59
3900	2075	420748.94	6539001.08	-16.58	56.69
3925	1325	413246.77	6539253.45	-18.57	48.93
3925	1350	413498.75	6539246.74	-18.34	49.99
3925	1375	413749.92	6539251.61	-18.07	50.77
3925	1400	414000.25	6539251.11	-17.66	48.91
3925	1425	414251.67	6539245.31	-17.35	50.43
3925	1450	414505.29	6539246.11	-16.78	50.62
3925	1475	414748.99	6539251.42	-16.25	49.72
3925	1500	414995.45	6539247.62	-15.61	47.5
3925	1525	415250.36	6539251.99	-14.97	48.24
3925	1550	415498.04	6539250.4	-14.52	51.06
3925	1575	415746.28	6539250 -14.08	51.29	
3925	1600	416001.99	6539246.68	-13.58	52.61
3925	1625	416254.48	6539250.27	-13.22	54.06
3925	1650	416499.12	6539246.69	-12.99	54.27
3925	1675	416744.68	6539244.25	-13.04	55.53
3925	1700	417001.13	6539250.75	-13.23	54.86
3925	1725	417250.91	6539250.72	-13.24	54.91
3925	1750	417501.78	6539251.36	-13.29	55.18
3925	1775	417746.85	6539252.02	-13.54	54.86
3925	1800	417997.38	6539254.18	-13.87	54.92
3925	1825	418254.12	6539248.52	-14.19	54.63
3925	1850	418498.2	6539252.2	-14.54	54.23
3925	1875	418751.95	6539253.44	-14.81	54.16
3925	1900	418993.49	6539247.14	-15.23	52.57
3925	1925	419242.56	6539250.64	-15.37	52.2
3925	1950	419497.34	6539250.85	-15.86	53.57
3925	1975	419750.93	6539252.56	-15.98	53.01
3925	2000	420000.51	6539246.68	-16.26	54.58
3925	2025	420246.32	6539251.7	-16.45	53.16
3925	2050	420495.61	6539249.62	-16.74	54.19
3925	2075	420745.52	6539254 -17.01	55.37	
3950	1325	413243.11	6539499.42	-18.68	48.59
3950	1350	413497.25	6539500.97	-18.37	49.7
3950	1375	413744.61	6539503.13	-18.12	48.51
3950	1400	413996.3	6539501.72	-17.8	48.73
3950	1425	414250 6539496.57	-17.52	48.82	
3950	1450	414501.81	6539501.69	-17.08	49.2
3950	1475	414744.42	6539502.42	-16.55	49.02
3950	1500	414997.06	6539496.67	-16.02	51.45
3950	1525	415247.23	6539501.95	-15.42	50.81
3950	1550	415500.88	6539504.16	-14.9	52.35
3950	1575	415743.72	6539500.05	-14.37	51.26
3950	1600	415996.4	6539496.7	-13.95	53.15
3950	1625	416246.25	6539500.28	-13.57	53.81
3950	1650	416491.39	6539496.26	-13.37	55.36
3950	1675	416746.02	6539500.88	-13.34	55.03
3950	1700	416997.35	6539497.96	-13.53	55.39
3950	1725	417249.4	6539505.43	-13.56	55.23
3950	1750	417494.31	6539502.68	-13.62	55.36
3950	1775	417745.83	6539493.67	-13.84	55.94
3950	1800	418001.87	6539497.44	-14.2	55.81
3950	1825	418250.15	6539503.38	-14.53	54.96
3950	1850	418501.79	6539496.82	-15.03	54.27
3950	1875	418753.26	6539496.7	-15.36	54.63

3950	1900	418992.52	6539499.81	-15.46	51.77
3950	1925	419250.67	6539498.84	-15.67	51.31
3950	1950	419501.78	6539497.12	-16.15	52.33
3950	1975	419739.4	6539500.79	-16.34	52.26
3950	2000	419996.09	6539495.8	-16.62	53.35
3950	2025	420249.06	6539499.79	-16.93	52.27
3950	2050	420498.83	6539501.31	-17.36	54.56
3950	2075	420744.86	6539500.98	-17.48	54.25
3975	1325	413255.16	6539752.06	-18.74	50.28
3975	1350	413499.48	6539746.29	-18.38	48.81
3975	1375	413748.21	6539747.64	-18.12	48.25
3975	1400	414002.05	6539753.46	-17.86	47.87
3975	1425	414252.83	6539750.02	-17.53	49.14
3975	1450	414493.27	6539761.13	-17.2	49.83
3975	1475	414751.7	6539750.28	-16.72	49.01
3975	1500	415003.36	6539747.88	-16.13	48.61
3975	1525	415249.06	6539750.68	-15.61	49.13
3975	1550	415501.92	6539747.06	-15.14	51.2
3975	1575	415746.09	6539750.02	-14.65	51.71
3975	1600	416000.36	6539753.63	-14.27	52.58
3975	1625	416254.73	6539750.27	-14	53.12
3975	1650	416502.4	6539747.95	-13.67	53.87
3975	1675	416747.5	6539746.68	-13.61	53.91
3975	1700	417003.76	6539749.77	-13.83	54.28
3975	1725	417249.74	6539753.43	-13.87	54.35
3975	1750	417501.15	6539748.9	-13.82	54.81
3975	1775	417747.48	6539749.19	-13.94	54.94
3975	1800	417996.18	6539746.51	-14.44	54.52
3975	1825	418242.46	6539749.55	-14.88	55.01
3975	1850	418497.67	6539745.28	-15.29	53.65
3975	1875	418750.39	6539745.65	-15.61	52.66
3975	1900	419004.07	6539750.07	-15.76	51.2
3975	1925	419246.65	6539746.26	-16.07	52.08
3975	1950	419499.44	6539747.93	-16.32	51.34
3975	1975	419750.41	6539745.66	-16.62	51.26
3975	2000	419993.31	6539750.96	-17	52.62
3975	2025	420249.29	6539747.75	-17.38	52.58
3975	2050	420497.98	6539752.13	-17.58	51.82
3975	2075	420745.74	6539753.93	-17.69	53.85
4000	1325	413246.6	6539998.48	-18.91	51.24
4000	1350	413499.47	6539999.4	-18.68	52.03
4000	1375	413750.05	6540000.02	-18.33	48.5
4000	1400	414001.13	6540000.16	-18.01	47.51
4000	1425	414253.43	6539999.44	-17.67	46.99
4000	1450	414499.79	6539999.82	-17.25	46.2
4000	1475	414750.15	6540001.41	-16.85	46.84
4000	1500	415003.22	6540004.84	-16.41	49.65
4000	1525	415251.12	6540002.27	-15.92	48.83
4000	1550	415500.45	6540000.65	-15.45	49.05
4000	1575	415752.45	6540000.74	-15.03	50.43
4000	1600	415999.31	6539998.86	-14.71	53.24
4000	1625	416252.23	6539995.99	-14.41	53.85
4000	1650	416495.93	6539997.31	-14.22	53.78
4000	1675	416747.69	6539999.73	-14.18	54.1
4000	1700	416999.87	6539999.93	-14.3	53.78
4000	1725	417248.37	6540001.59	-14.38	53.43
4000	1750	417496.55	6540002.54	-14.23	52.46
4000	1775	417749.18	6540002.47	-14.37	53.82
4000	1800	417998.47	6540001.79	-14.87	55.02
4000	1825	418248.88	6540000.36	-15.33	53.61
4000	1850	418500.62	6539996.77	-15.71	53.55
4000	1875	418751.4	6539998.47	-15.96	52.64
4000	1900	419001.75	6539998.97	-16.16	51.09
4000	1925	419245.1	6540000.64	-16.57	50.7
4000	1950	419493.26	6539999.48	-16.76	51.31
4000	1975	419750.09	6539997.24	-17.09	51.4
4000	2000	419996.07	6539996.74	-17.46	51.57
4000	2025	420249.03	6540000.57	-17.8	53.18

4000	2050	420505.74	6539997.7	-17.85	52.69
4000	2075	420747.03	6539996.53	-18.02	53.06
4025	1325	413253.06	6540250.37	-18.98	50.68
4025	1350	413498.08	6540251.22	-18.77	50.64
4025	1375	413749.4	6540249.9	-18.5	49.86
4025	1400	414000.25	6540253.12	-18.24	49.51
4025	1425	414245.25	6540252.34	-17.91	49.12
4025	1450	414503.9	6540252.18	-17.39	47.67
4025	1475	414745.72	6540248.59	-16.91	46.1
4025	1500	414996.03	6540249.59	-16.55	47.93
4025	1525	415251.48	6540250.36	-16.06	47.95
4025	1550	415499.28	6540251.54	-15.65	49.43
4025	1575	415746.12	6540252.09	-15.26	49.7
4025	1600	415998.64	6540249.47	-14.98	51.12
4025	1625	416252.97	6540251.57	-14.71	52.39
4025	1650	416497.65	6540251.01	-14.64	54.66
4025	1675	416744.53	6540250.74	-14.61	55.54
4025	1700	416998.85	6540247.03	-14.63	54.47
4025	1725	417247.71	6540253.24	-14.7	53.96
4025	1750	417496	6540251.3	-14.69	52.23
4025	1775	417749.1	6540254.71	-14.86	52.19
4025	1800	417998.33	6540246.91	-14.96	52.15
4025	1825	418250.83	6540251.94	-15.47	52.25
4025	1850	418496.14	6540250.25	-15.96	54.01
4025	1875	418744.29	6540248.94	-16.42	53.35
4025	1900	418996.22	6540252.5	-16.53	53.1
4025	1925	419247.47	6540249.25	-16.84	52.19
4025	1950	419495.16	6540250.59	-17.1	51.61
4025	1975	419748.95	6540248.46	-17.41	51.41
4025	2000	420000.65	6540250.99	-17.75	51.19
4025	2025	420248.63	6540248.89	-17.86	51.52
4025	2050	420499.81	6540250.56	-17.99	51.57
4025	2075	420750.74	6540246.81	-18.19	53.85
4050	1325	413247.4	6540500.21	-19.1	49.01
4050	1350	413503.07	6540496.81	-18.9	50.14
4050	1375	413748.65	6540500.25	-18.69	51.39
4050	1400	414000.77	6540498.25	-18.42	50.57
4050	1425	414247.84	6540501.83	-18.07	50.06
4050	1450	414496.74	6540497.67	-17.59	47.77
4050	1475	414748.69	6540499.35	-17.19	48.05
4050	1500	414995.6	6540498.77	-16.83	48.42
4050	1525	415250.93	6540501.73	-16.3	47.34
4050	1550	415500.68	6540501.4	-15.99	50.1
4050	1575	415746.99	6540499.03	-15.61	51.02
4050	1600	415998.38	6540503.7	-15.21	50.63
4050	1625	416250.32	6540500.82	-15.01	52.11
4050	1650	416498.74	6540507.8	-14.96	53.5
4050	1675	416745.84	6540501.88	-15.01	54.71
4050	1700	417002.05	6540503.46	-15.09	54.72
4050	1725	417242.18	6540501.24	-15.26	55.15
4050	1750	417501.47	6540501.09	-15.28	54.44
4050	1775	417741.13	6540501.32	-15.35	52.24
4050	1800	417998.01	6540499.06	-15.6	52.14
4050	1825	418245.62	6540499.59	-16.02	51.86
4050	1850	418496.26	6540498.37	-16.48	53.4
4050	1875	418747.62	6540496.95	-16.69	52.57
4050	1900	418997.6	6540503.54	-16.87	49.95
4050	1925	419243.84	6540498.59	-16.95	49.71
4050	1950	419494.99	6540500.49	-17.23	49.56
4050	1975	419747.32	6540500.49	-17.49	50.48
4050	2000	419994.33	6540502.21	-17.82	51.03
4050	2025	420246.18	6540502.37	-18.07	51.24
4050	2050	420499.86	6540502.41	-18.31	50.95
4050	2075	420744.36	6540499.14	-18.41	53.07
4075	1325	413247.99	6540749.92	-19.32	49.69
4075	1350	413502.9	6540752.78	-19.05	48.91
4075	1375	413754.34	6540750.52	-18.75	48.51
4075	1400	413999.38	6540747.27	-18.49	48.47

4075	1425	414253.02	6540751.94	-18.1	48.32
4075	1450	414499.73	6540750.63	-17.73	48.18
4075	1475	414747.8	6540749.09	-17.26	45.78
4075	1500	414996.31	6540750.35	-16.94	46.88
4075	1525	415243.26	6540750.39	-16.52	48.51
4075	1550	415495.74	6540748.2	-16.17	50.29
4075	1575	415747.43	6540750.37	-15.79	50.67
4075	1600	416000.65	6540746.25	-15.34	49.73
4075	1625	416246.97	6540748.95	-15.21	50.74
4075	1650	416497.39	6540748.54	-15.22	53.07
4075	1675	416749.29	6540752.04	-15.27	52.04
4075	1700	416998.13	6540747.48	-15.36	53.23
4075	1725	417246.61	6540748.22	-15.54	53.55
4075	1750	417494.38	6540751.06	-15.57	52.68
4075	1775	417751.47	6540750.82	-15.78	52.99
4075	1800	418001.59	6540750.13	-16	53.12
4075	1825	418246.24	6540749.75	-16.54	52.87
4075	1850	418496.84	6540750.05	-16.74	52.63
4075	1875	418751.55	6540750.57	-16.92	52.32
4075	1900	418999.01	6540746 -17.13	49.37	
4075	1925	419245.93	6540747.5	-17.09	48.4
4075	1950	419500.9	6540751.83	-17.41	48.54
4075	1975	419747.72	6540752.23	-17.65	48.77
4075	2000	419992.78	6540748.51	-17.92	49.79
4075	2025	420245.19	6540752.71	-18.17	50.18
4075	2050	420500.15	6540752.42	-18.47	51.22
4075	2075	420749.5	6540752.54	-18.62	52.3
4100	1325	413253.79	6541005.43	-19.26	48.3
4100	1350	413496.11	6540997.06	-19	47.59
4100	1375	413751.2	6541001.48	-18.65	46.5
4100	1400	413996.91	6540998.25	-18.4	47.28
4100	1425	414249.18	6540998.88	-18.14	48.78
4100	1450	414502.33	6540996.23	-17.79	47.75
4100	1475	414745.4	6541000.63	-17.39	47.58
4100	1500	414998.11	6541002.23	-16.98	45.11
4100	1525	415255.57	6541002.31	-16.68	47.18
4100	1550	415501.93	6541004.37	-16.39	49.89
4100	1575	415748.08	6540999.47	-16.01	50.17
4100	1600	415999.92	6540999.26	-15.66	49.44
4100	1625	416247.95	6541000.6	-15.45	49.75
4100	1650	416500.9	6541000.95	-15.58	51.27
4100	1675	416746.71	6541003.19	-15.64	52.13
4100	1700	416992.79	6541005.31	-15.78	52.81
4100	1725	417249.23	6540998.56	-15.9	52.72
4100	1750	417493.94	6541004.97	-16.02	51.98
4100	1775	417750.79	6540996.86	-16.21	52.18
4100	1800	417998.42	6540998.75	-16.49	52.6
4100	1825	418245.97	6541001.92	-16.82	53.18
4100	1850	418497.82	6540996.76	-17.12	53.39
4100	1875	418746.93	6541001.32	-17.29	52.29
4100	1900	418999.72	6540996.89	-17.4	48.76
4100	1925	419252.01	6540997.17	-17.72	48.45
4100	1950	419497.76	6540995.59	-17.76	48.84
4100	1975	419749.81	6540997.19	-17.78	48.62
4100	2000	419999.63	6540999.14	-18.13	47.61
4100	2025	420250.47	6540998.54	-18.4	48.69
4100	2050	420495.26	6540995.05	-18.67	50.64
4100	2075	420747.01	6540998 -18.92	51.03	
4125	1325	413251.74	6541249.72	-19.32	47.08
4125	1350	413497.7	6541251.55	-19.08	48.76
4125	1375	413751.77	6541247.11	-18.75	48.4
4125	1400	413998.67	6541253.25	-18.43	47.89
4125	1425	414252.75	6541248.37	-18.13	47.8
4125	1450	414501.65	6541251.88	-17.76	45.97
4125	1475	414749.99	6541250.04	-17.48	46.89
4125	1500	414996.88	6541247.76	-17.16	46.97
4125	1525	415247.12	6541247.91	-16.94	48.61
4125	1550	415495.17	6541251.06	-16.63	48.69

4125	1575	415749.98	6541250.3	-16.3	48.5
4125	1600	415996.72	6541249.25	-16.01	49.93
4125	1625	416249.38	6541245.34	-15.91	50.53
4125	1650	416493.95	6541252.4	-15.89	50.79
4125	1675	416751.35	6541249.17	-15.91	51.12
4125	1700	417000.46	6541250.44	-16.1	52.04
4125	1725	417251.1	6541251.94	-16.24	51.35
4125	1750	417498.65	6541250.65	-16.32	51
4125	1775	417747.51	6541249.71	-16.53	51.92
4125	1800	417996.02	6541249.5	-17.02	52.07
4125	1825	418245.81	6541249.34	-17.14	51.59
4125	1850	418496.09	6541250.37	-17.39	50.19
4125	1875	418748.04	6541247.2	-17.58	48.52
4125	1900	418994.6	6541250.56	-18	48.01
4125	1925	419249.96	6541250.6	-17.94	48.34
4125	1950	419501.02	6541248.5	-17.86	48.58
4125	1975	419747.4	6541246.51	-18.05	48.64
4125	2000	419998.41	6541251.38	-18.17	48.3
4125	2025	420245.9	6541249.87	-18.59	48.17
4125	2050	420494.31	6541249.4	-18.71	49.79
4125	2075	420746.04	6541245.28	-18.86	50.25
4150	1325	413250.63	6541507.38	-19.31	45.26
4150	1350	413503.31	6541504.14	-19.02	46.55
4150	1375	413749.18	6541501.55	-18.78	47.53
4150	1400	414003.12	6541502.49	-18.45	48.55
4150	1425	414244.89	6541501.16	-18.2	49.23
4150	1450	414504.38	6541497.82	-17.9	47.65
4150	1475	414753.74	6541502.34	-17.57	47.47
4150	1500	414996.26	6541503.38	-17.24	46.09
4150	1525	415245.3	6541500.08	-17.05	46.21
4150	1550	415501.69	6541502.13	-16.89	48.96
4150	1575	415748.63	6541500.2	-16.61	49.22
4150	1600	416000.25	6541498.81	-16.42	48.64
4150	1625	416250.43	6541501.47	-16.29	50.19
4150	1650	416497.65	6541496.45	-16.34	51.38
4150	1675	416754.09	6541496.63	-16.25	50.71
4150	1700	416998.19	6541502.32	-16.43	49.77
4150	1725	417246.08	6541499.44	-16.6	49.82
4150	1750	417501.09	6541500.97	-16.73	49.29
4150	1775	417748.56	6541499.44	-17.04	49.45
4150	1800	417999.87	6541498.52	-17.22	50.39
4150	1825	418249.6	6541498.33	-17.41	48.83
4150	1850	418497.5	6541499.13	-17.66	47.69
4150	1875	418752.51	6541501.81	-17.95	47.32
4150	1900	418989.07	6541499.16	-18.32	47.53
4150	1925	419251.32	6541499.08	-18.21	48.19
4150	1950	419501.03	6541498.46	-18.14	48.18
4150	1975	419748.69	6541498.8	-18.22	47.99
4150	2000	419995.65	6541501.75	-18.37	46.63
4150	2025	420249.04	6541496.6	-18.62	48.16
4150	2050	420500.12	6541504.32	-18.92	48.99
4150	2075	420748.98	6541501.98	-19.01	49.66
4175	1325	413251.85	6541745.85	-19.51	44.36
4175	1350	413497.03	6541751.6	-19.18	44.55
4175	1375	413747.1	6541752.8	-18.87	44.51
4175	1400	413998.36	6541744.98	-18.59	45.99
4175	1425	414250.45	6541751.22	-18.3	46.74
4175	1450	414499.75	6541745.84	-18.07	47.35
4175	1475	414748.26	6541747.51	-17.79	48.2
4175	1500	415002.03	6541752.31	-17.53	47.96
4175	1525	415245.62	6541748.69	-17.38	48.31
4175	1550	415501.29	6541746.94	-17.22	48.59
4175	1575	415747.89	6541754.94	-16.92	47.59
4175	1600	415998.95	6541752.98	-16.78	48.78
4175	1625	416248.26	6541748.41	-16.68	48.69
4175	1650	416501.95	6541746.35	-16.72	50.55
4175	1675	416753.77	6541751.68	-16.83	48.58
4175	1700	416998.13	6541752.36	-16.9	49.37

4175	1725	417251.7	6541744.01	-16.97	49.98
4175	1750	417495.42	6541753.11	-17.28	48.83
4175	1775	417749.46	6541748.02	-17.26	48.18
4175	1800	418003.47	6541750.66	-17.54	48.14
4175	1825	418251.76	6541750.76	-17.82	47.73
4175	1850	418500.84	6541752.85	-18.03	47.61
4175	1875	418743.95	6541752.67	-18.26	47.44
4175	1900	419000.12	6541749.82	-18.58	47.73
4175	1925	419246.56	6541748.41	-18.57	47.98
4175	1950	419494.5	6541752.21	-18.61	47.98
4175	1975	419749.59	6541748.93	-18.58	47.5
4175	2000	419997.32	6541747.74	-18.59	45.86
4175	2025	420246.43	6541752.51	-18.78	45.78
4175	2050	420502.33	6541752.56	-19.13	48.46
4175	2075	420745	6541749.54	-19.07	49.59
4200	1325	413247.11	6541998.6	-19.71	44.99
4200	1350	413499.13	6542002.2	-19.44	45.18
4200	1375	413744.85	6542001.44	-19.07	44.34
4200	1400	413998	6542000.69	-18.78	45.64
4200	1425	414248.76	6542000.65	-18.6	47.88
4200	1450	414497.85	6542003.24	-18.24	46.32
4200	1475	414751	6542002.73	-17.98	46.35
4200	1500	414995.46	6542000.92	-17.74	45.67
4200	1525	415249.62	6541999.24	-17.58	47.12
4200	1550	415500.05	6542002.62	-17.39	46.64
4200	1575	415748.97	6541999.63	-17.2	46.88
4200	1600	415993.01	6542001.13	-17.13	48.37
4200	1625	416249.25	6542005.61	-17.01	48.38
4200	1650	416497.48	6542003.98	-16.94	48.26
4200	1675	416748.71	6541999.62	-17	48.19
4200	1700	416999.9	6542000.57	-17.15	48.18
4200	1725	417249.44	6542002.88	-17.33	48.42
4200	1750	417496.24	6541998.87	-17.34	48.47
4200	1775	417745.55	6542004.37	-17.57	47.75
4200	1800	417995.59	6542001.95	-17.96	48.65
4200	1825	418248.79	6541997.63	-18.23	48.67
4200	1850	418498.7	6541995.3	-18.38	47.7
4200	1875	418749.45	6542004.03	-18.51	47.46
4200	1900	418999.24	6541999.06	-18.61	47.71
4200	1925	419249.3	6542000.9	-18.72	48.06
4200	1950	419499.98	6541998.61	-18.73	47.46
4200	1975	419749.78	6542001.59	-18.81	47.12
4200	2000	419999.59	6541998.77	-18.81	45.58
4200	2025	420248.98	6541998.46	-18.88	47.48
4200	2050	420496.71	6542000.64	-19.09	47.7
4200	2075	420751.2	6542001.52	-19.29	49.59
1700	2550	425500.94	6517002.61	-12.11	86.74
1700	2575	425750.08	6517002.1	-12.02	86.67
1700	2600	425999.38	6516999.63	-12.18	86.88
1700	2625	426250.6	6516998.38	-12.23	88.18
1700	2650	426499.52	6517000.41	-12.08	89.44
1700	2675	426749.52	6516996.36	-12.14	90.46
1700	2700	427002.54	6516999.05	-12.14	91.27
1700	2725	427253.24	6516998.61	-12.19	90.86
1700	2750	427502.36	6517001.44	-12.25	87.61
1700	2775	427749.85	6516998.77	-12.39	86.95
1700	2800	427997.55	6516999.89	-12.52	87.18
1700	2825	428248.26	6516998.47	-12.44	86.55
1700	2850	428503.57	6516998.16	-12.25	86.18
1700	2875	428744.48	6517005.05	-12.29	85.83
1700	2900	429000.13	6517001.27	-12.47	85.26
1700	2925	429246.42	6516999.8	-12.55	85.54
1700	2950	429499.57	6517000.7	-12.68	85.82
1700	2975	429747.59	6516998.19	-12.87	85.86
1700	3000	429997.63	6516997.5	-13.18	86.71
1700	3025	430248.33	6517001.6	-13.35	85.48
1700	3050	430493.79	6517003.65	-13.53	84.82
1700	3075	430748.83	6517004.05	-13.67	83.47

1700	3100	430997.6	6517002.16	-13.83	83.31
1700	3125	431245.93	6517000.59	-14.05	82.59
1700	3150	431495.13	6517000.22	-14.37	82
1700	3175	431745.13	6516999.69	-14.62	81.82
1700	3200	431995.54	6516998.56	-14.83	82.24
1700	3225	432250.99	6516997.1	-14.85	81.04
1700	3250	432499.25	6517000.3	-15.04	79.67
1700	3275	432749.17	6516996.76	-15.32	79.58
1700	3300	432992.17	6517002.35	-15.46	78.64
1700	3325	433251.8	6516999.5	-15.78	80.4
1700	3350	433496.45	6516997.38	-16.13	80.65
1700	3375	433750.72	6516998.99	-16.58	81.07
1700	3400	433994.96	6517002.63	-16.98	80.92
1700	3425	434247.84	6517001.89	-17.29	81.36
1700	3450	434495.58	6516997.99	-17.61	82.71
1700	3475	434744.31	6517003.06	-17.9	84.31
1700	3500	434996.45	6517002.38	-18.27	86.27
1700	3525	435244.99	6516997.81	-18.39	86.11
1700	3550	435498.29	6516996.8	-18.64	85.28
1700	3575	435745.18	6516997.98	-18.87	85.66
1700	3600	435994.91	6517002.65	-19.2	87.55
1700	3625	436242.22	6516998.75	-19.31	87.92
1700	3650	436491.97	6517002.06	-19.42	86.18
1700	3675	436750.13	6517003.75	-19.6	85.56
1700	3700	436997.38	6516998.06	-19.89	86.46
1700	3725	437244.3	6516997.16	-20.14	86.36
1700	3750	437485.78	6516995.56	-20.35	86.55
1700	3775	437750.5	6517000.08	-20.57	85.56
1700	3800	438000.08	6516995.73	-20.7	83.12
1725	2550	425498.18	6517248.23	-11.93	86.58
1725	2575	425745.82	6517251.72	-11.88	86.24
1725	2600	425996.84	6517249 -12.02	86.56	
1725	2625	426249.49	6517248.79	-12.06	86.54
1725	2650	426501.63	6517255.16	-11.93	87.88
1725	2675	426746.49	6517249.95	-11.95	88.01
1725	2700	426998.31	6517248.56	-12.03	88.44
1725	2725	427250.9	6517249.01	-12.04	89.81
1725	2750	427499.85	6517253.38	-12.26	90.21
1725	2775	427748.97	6517254.05	-12.38	89.22
1725	2800	427997.7	6517251.27	-12.59	89.11
1725	2825	428247.56	6517251.94	-12.39	88.36
1725	2850	428493.84	6517250.78	-12.17	86.38
1725	2875	428750.93	6517247.14	-12.19	86.85
1725	2900	428997.53	6517253.64	-12.43	85.1
1725	2925	429244.57	6517249.63	-12.43	84.24
1725	2950	429494.97	6517254.16	-12.6	83.83
1725	2975	429752.21	6517249.76	-12.82	83.75
1725	3000	429999.89	6517251.9	-13.11	84.24
1725	3025	430247.07	6517254.19	-13.42	84.65
1725	3050	430495.17	6517249.93	-13.57	86.06
1725	3075	430748.42	6517248.86	-13.66	84.55
1725	3100	430999.21	6517249.61	-13.87	85.08
1725	3125	431248.03	6517249.95	-14.01	83.89
1725	3150	431498.32	6517248.78	-14.33	82.65
1725	3175	431749.43	6517249.31	-14.6	81.03
1725	3200	432000.22	6517245.78	-14.73	80.64
1725	3225	432253.32	6517249.52	-14.81	80.13
1725	3250	432494.32	6517246.41	-15.02	80.65
1725	3275	432749.04	6517246.94	-15.16	79.55
1725	3300	432992.94	6517252.4	-15.37	78.49
1725	3325	433249.86	6517252.47	-15.61	78.54
1725	3350	433497.43	6517253.85	-15.96	79.55
1725	3375	433745.13	6517251.08	-16.36	80.61
1725	3400	433999.7	6517248.29	-16.85	80.09
1725	3425	434245.49	6517250.75	-17.13	80.2
1725	3450	434494 6517248.06	-17.43	81.36	
1725	3475	434749.03	6517249.15	-17.74	83.21
1725	3500	434997.11	6517253.74	-17.95	84.92

1725	3525	435247.49	6517246.45	-18.2	84.34
1725	3550	435499.33	6517249.3	-18.5	84.29
1725	3575	435743.27	6517253.64	-18.66	84.91
1725	3600	435999.79	6517252.36	-19.01	85.22
1725	3625	436247.57	6517251.53	-19.2	86.43
1725	3650	436493.8	6517253.67	-19.2	86.32
1725	3675	436741.71	6517252.39	-19.51	86.61
1725	3700	436997.61	6517250.58	-19.71	84.58
1725	3725	437249.66	6517252.71	-19.88	84.63
1725	3750	437498.79	6517248.71	-20.12	85.09
1725	3775	437745.09	6517248.32	-20.42	86.01
1725	3800	437992.49	6517249.81	-20.74	86.14
1750	2550	425502.57	6517500.52	-11.8	87.58
1750	2575	425750.6	6517500.93	-11.81	86.65
1750	2600	426001.53	6517499.53	-11.84	86.53
1750	2625	426250.79	6517503.31	-11.81	86.28
1750	2650	426495.94	6517502.19	-11.85	86.86
1750	2675	426751.49	6517496.9	-11.77	86.28
1750	2700	427004.74	6517501.21	-11.89	86.71
1750	2725	427248.74	6517500.75	-11.91	87.37
1750	2750	427498.44	6517500.5	-12.05	87.78
1750	2775	427749.1	6517503.34	-12.32	88.14
1750	2800	427998.11	6517502.94	-12.31	88.66
1750	2825	428248.73	6517499.93	-12.17	88.91
1750	2850	428499.6	6517496.69	-12.26	88.43
1750	2875	428747.95	6517496.15	-12.15	87.34
1750	2900	429001.57	6517498.05	-12.37	86.19
1750	2925	429249.09	6517501.41	-12.41	84.83
1750	2950	429495.02	6517499.24	-12.49	83.46
1750	2975	429749.66	6517498.9	-12.55	83.09
1750	3000	429999.54	6517500.94	-13.09	83.22
1750	3025	430252.56	6517497.48	-13.35	83.24
1750	3050	430502.8	6517497.25	-13.47	83.22
1750	3075	430744.28	6517498.78	-13.57	83.36
1750	3100	430995.44	6517496.53	-13.83	83.16
1750	3125	431252.88	6517497.63	-14.05	82.23
1750	3150	431503.18	6517497.26	-14.37	84.44
1750	3175	431744.68	6517498.19	-14.53	82.91
1750	3200	431993.52	6517498.44	-14.56	80.38
1750	3225	432246.16	6517496.51	-14.59	79.93
1750	3250	432496.45	6517499.24	-14.83	78.98
1750	3275	432747.05	6517495.93	-15.14	78.73
1750	3300	432993.86	6517499.15	-15.37	77.98
1750	3325	433242.82	6517501.17	-15.51	77.84
1750	3350	433495.83	6517501.8	-15.78	77.94
1750	3375	433752.28	6517499.49	-16.06	78.45
1750	3400	433993.66	6517502.17	-16.51	79.1
1750	3425	434245.73	6517500.03	-16.87	79.12
1750	3450	434491.94	6517498.52	-17.19	80.13
1750	3475	434744.99	6517500.15	-17.46	81.61
1750	3500	434996.69	6517498.61	-17.72	83.33
1750	3525	435247.8	6517499.19	-18.18	84.15
1750	3550	435492.45	6517502.09	-18.28	83.56
1750	3575	435745	6517501.09	-18.47	83.51
1750	3600	435996.86	6517502.35	-18.86	84.14
1750	3625	436249.46	6517498.62	-19.01	85.96
1750	3650	436492.08	6517500.05	-19.12	86.12
1750	3675	436744.02	6517497.52	-19.41	84.89
1750	3700	436996.11	6517504.07	-19.64	84.71
1750	3725	437241.44	6517501.91	-19.75	84.35
1750	3750	437493.34	6517499.37	-20.09	84.82
1750	3775	437745.34	6517497.25	-20.39	85.99
1750	3800	437993.53	6517497.7	-20.67	85.69
1775	2550	425504.47	6517749.13	-11.71	86.52
1775	2575	425749.56	6517750.84	-11.73	87.26
1775	2600	426002.64	6517749.55	-11.79	86.32
1775	2625	426245.77	6517747.47	-11.86	86.3
1775	2650	426500.99	6517749.99	-11.81	86.55

1775	2675	426749.9	6517747.97	-11.82	85.25
1775	2700	427002.09	6517748.77	-11.84	85.26
1775	2725	427255.3	6517746.08	-11.96	86.4
1775	2750	427503.51	6517747.94	-12.1	87.14
1775	2775	427754.25	6517746.62	-12.33	86.89
1775	2800	428001.49	6517747.19	-12.34	86.92
1775	2825	428250.54	6517751.89	-12.34	86.99
1775	2850	428494.02	6517754.12	-12.23	86.98
1775	2875	428748.02	6517754.61	-12.3	88.09
1775	2900	429002.39	6517749.07	-12.54	87.06
1775	2925	429247.25	6517751.86	-12.56	84.88
1775	2950	429498.02	6517747.92	-12.51	83.43
1775	2975	429751.86	6517747.56	-12.66	82.73
1775	3000	429990.43	6517750.44	-12.97	83.2
1775	3025	430248.22	6517748.61	-13.34	84.56
1775	3050	430496.79	6517755.36	-13.52	84.47
1775	3075	430747.5	6517752.71	-13.54	82.11
1775	3100	430996.24	6517752.23	-13.72	81.84
1775	3125	431246.09	6517750.39	-13.93	82.02
1775	3150	431497.7	6517748.92	-14.19	82.86
1775	3175	431750.07	6517745.29	-14.54	84.07
1775	3200	431993.44	6517751.07	-14.48	80.41
1775	3225	432250.04	6517746.82	-14.64	80.68
1775	3250	432499.56	6517749 -14.78	80	
1775	3275	432742.42	6517748.7	-15.06	78.72
1775	3300	432995.51	6517753.86	-15.16	77.96
1775	3325	433251.74	6517749.82	-15.39	77.45
1775	3350	433495.4	6517751.67	-15.54	77.13
1775	3375	433753.89	6517752.76	-15.96	77.47
1775	3400	433996.07	6517751.61	-16.31	78.38
1775	3425	434243.54	6517749.04	-16.48	77.95
1775	3450	434500.58	6517750.37	-17.03	79.33
1775	3475	434750.97	6517748.77	-17.36	80.4
1775	3500	434995.72	6517751.88	-17.76	81.47
1775	3525	435250.53	6517752.32	-18.09	83.37
1775	3550	435489.82	6517747.6	-18.2	83.72
1775	3575	435745 6517751.18	-18.27	83.5	
1775	3600	435998.65	6517751.96	-18.49	83.47
1775	3625	436241.45	6517749.32	-18.73	84.23
1775	3650	436492.25	6517746.49	-19.04	85.14
1775	3675	436749.35	6517755.51	-19.24	85.5
1775	3700	436995.31	6517748.63	-19.46	85.16
1775	3725	437243.45	6517751.51	-19.59	84.85
1775	3750	437488.86	6517750.98	-19.97	85.16
1775	3775	437745.01	6517747.84	-20.21	85.58
1775	3800	437996.94	6517750.11	-20.27	85.63
1800	2550	425501.37	6517997.81	-11.51	84.78
1800	2575	425750.98	6517999.28	-11.54	86
1800	2600	426003.22	6518002.55	-11.61	86.67
1800	2625	426250.41	6517996.98	-11.69	86.23
1800	2650	426492.48	6517998.6	-11.64	85.92
1800	2675	426742.67	6517998.73	-11.65	85.12
1800	2700	426998.56	6517999.84	-11.71	84.64
1800	2725	427249.45	6518001.63	-11.87	84.82
1800	2750	427496.03	6518003.35	-11.95	85.28
1800	2775	427748.01	6517998.97	-12.2	86.31
1800	2800	427995.35	6518003.17	-12.09	87.89
1800	2825	428254.6	6518000.86	-12.1	87.13
1800	2850	428492.48	6517998.82	-12.07	86.13
1800	2875	428746.2	6517995 -12.2	86.27	
1800	2900	429002.46	6517997.64	-12.44	86.89
1800	2925	429239.44	6518000.27	-12.61	86.91
1800	2950	429500.38	6518002.98	-12.63	83.69
1800	2975	429748.7	6518004.96	-12.79	82.67
1800	3000	430001.12	6517999.66	-13.06	82.51
1800	3025	430249.47	6517998.64	-13.43	85.08
1800	3050	430495.77	6518000.05	-13.54	85.62
1800	3075	430748.01	6517995.58	-13.63	84.16

1800	3100	430996.49	6517998.31	-13.7	81.83
1800	3125	431248.07	6517998.16	-13.83	81.2
1800	3150	431497.98	6517998.49	-13.95	81.43
1800	3175	431747.65	6517996.04	-14.34	82.18
1800	3200	432001.77	6518001.52	-14.3	80.21
1800	3225	432246.26	6518001.04	-14.32	79.24
1800	3250	432499.61	6517999.13	-14.64	78.74
1800	3275	432744.23	6517999.17	-14.8	78.43
1800	3300	433000.5	6518001.49	-15.05	78.86
1800	3325	433246.52	6518000.63	-15.14	77.05
1800	3350	433500.36	6517998.16	-15.45	76.84
1800	3375	433741.89	6517996.52	-16.02	76.61
1800	3400	434001.39	6517996.28	-16.37	76.7
1800	3425	434245.37	6517997.94	-16.57	77.41
1800	3450	434501.09	6518001.18	-16.89	78.71
1800	3475	434748.54	6518005.03	-17.31	79.3
1800	3500	435001.18	6518000.48	-17.58	80.19
1800	3525	435248.28	6518001.64	-17.78	81.45
1800	3550	435497.44	6518000.91	-17.9	82.87
1800	3575	435747.65	6517999.69	-18.18	83.6
1800	3600	435995.63	6517997.47	-18.51	83.55
1800	3625	436247.26	6518000.5	-18.76	83.42
1800	3650	436495.91	6518002.89	-18.99	83.79
1800	3675	436747.25	6518001.8	-19.09	84.79
1800	3700	436998.94	6518001.42	-19.22	86.17
1800	3725	437241.79	6518001.7	-19.5	85.74
1800	3750	437495.11	6517998.87	-19.79	84.63
1800	3775	437748.36	6517998.38	-20.1	85.72
1800	3800	438002.23	6518000.73	-20.31	86.22
1825	2550	425497.3	6518253.51	-11.59	84.23
1825	2575	425747.3	6518249.83	-11.39	84.31
1825	2600	425997.11	6518246.4	-11.39	85.19
1825	2625	426253.35	6518251.78	-11.49	86.56
1825	2650	426498.35	6518252.31	-11.56	88.16
1825	2675	426753.14	6518251.11	-11.71	86.23
1825	2700	426997.89	6518250.22	-11.69	84.59
1825	2725	427245.51	6518252.37	-11.77	84.15
1825	2750	427504.15	6518250.52	-11.97	83.87
1825	2775	427744.83	6518251.81	-12.17	84.85
1825	2800	428002.33	6518250.75	-12.1	86.12
1825	2825	428250.2	6518249.27	-11.9	85.62
1825	2850	428500.27	6518249.51	-12	86.26
1825	2875	428751.31	6518248.23	-12.28	86.74
1825	2900	428998.95	6518250.54	-12.46	86.23
1825	2925	429247.53	6518246.73	-12.68	86.51
1825	2950	429498.38	6518251.23	-12.8	85.47
1825	2975	429745.52	6518253.38	-13	83.74
1825	3000	430001.83	6518251.06	-13.21	83.08
1825	3025	430248.78	6518250.62	-13.47	84.3
1825	3050	430499.35	6518250.4	-13.64	85.5
1825	3075	430752.49	6518247.86	-13.73	85.59
1825	3100	431000.33	6518251.22	-13.71	83.34
1825	3125	431251.35	6518252.45	-13.79	81.6
1825	3150	431502.29	6518251.29	-13.99	81.55
1825	3175	431749.57	6518250.85	-14.14	80.74
1825	3200	431999.22	6518248.44	-14.23	79.98
1825	3225	432246.44	6518251.6	-14.29	79.09
1825	3250	432497.61	6518246.87	-14.55	78.69
1825	3275	432749.04	6518250.21	-14.81	78.86
1825	3300	433000.55	6518249.55	-14.9	78.66
1825	3325	433249.61	6518247.66	-15.05	77.01
1825	3350	433500.69	6518246.54	-15.5	78.41
1825	3375	433743.06	6518251.53	-16	76.05
1825	3400	433997.51	6518254.75	-16.29	76.37
1825	3425	434251.54	6518251.51	-16.59	76.88
1825	3450	434497.28	6518249.8	-16.95	77.73
1825	3475	434743.66	6518250.43	-17.17	78.2
1825	3500	434999.35	6518252.34	-17.23	78.81

1825	3525	435247.34	6518248.78	-17.53	79.89
1825	3550	435497.97	6518249.38	-17.85	81.12
1825	3575	435744.93	6518249.99	-18.24	82.81
1825	3600	435999.86	6518250.23	-18.65	83.14
1825	3625	436246.66	6518252.07	-18.87	83.14
1825	3650	436497.59	6518247.27	-18.94	83.03
1825	3675	436750.5	6518252.13	-18.94	83.8
1825	3700	436996.42	6518250.36	-19.13	85.51
1825	3725	437242.83	6518250.48	-19.4	86.24
1825	3750	437496.91	6518251.62	-19.59	87.22
1825	3775	437746.26	6518250.9	-19.79	85.79
1825	3800	437993.55	6518246.07	-20.01	83.86
1850	2350	423501.37	6518500.26	-12.19	85.38
1850	2375	423749.71	6518497.96	-12.24	87.24
1850	2400	424001.67	6518500.63	-12.28	88.4
1850	2425	424252.46	6518501.28	-12.03	89.29
1850	2450	424499.31	6518503.69	-11.85	87.27
1850	2475	424748.73	6518499.47	-11.66	85.85
1850	2500	424997.07	6518499.32	-11.44	84.88
1850	2525	425251.89	6518502.1	-11.32	84.5
1850	2550	425492.67	6518500.68	-11.34	84.8
1850	2575	425745.6	6518502.55	-11.28	83.91
1850	2600	426000.42	6518498.1	-11.36	84.26
1850	2625	426248.17	6518501.74	-11.36	85
1850	2650	426498.65	6518498.35	-11.41	85.19
1850	2675	426748.18	6518499.85	-11.6	85.68
1850	2700	426999.21	6518503.16	-11.75	86.39
1850	2725	427252.24	6518503.77	-11.75	85.6
1850	2750	427499.29	6518501.22	-11.92	85.41
1850	2775	427745.72	6518500.49	-11.91	84.18
1850	2800	428003.08	6518499.13	-11.97	85.08
1850	2825	428248.05	6518502.2	-11.94	85.56
1850	2850	428495.26	6518495.85	-12.03	85.28
1850	2875	428747.92	6518502.13	-12.33	84.94
1850	2900	428990.94	6518500.45	-12.49	84.65
1850	2925	429248.71	6518499.28	-12.68	85.35
1850	2950	429494.42	6518499.03	-12.86	85.31
1850	2975	429751.69	6518498.24	-13.11	85.49
1850	3000	429996.14	6518498.46	-13.26	85.34
1850	3025	430244.95	6518498.6	-13.47	84.17
1850	3050	430495.25	6518497.59	-13.66	84.53
1850	3075	430745.83	6518498.36	-13.7	83.92
1850	3100	430995.71	6518495.69	-13.84	83.82
1850	3125	431247.84	6518497.97	-13.92	82.88
1850	3150	431495.78	6518501.91	-14.02	80.98
1850	3175	431747.77	6518501.58	-14.15	79.92
1850	3200	431996.34	6518501.45	-14.24	80.25
1850	3225	432245.42	6518499.86	-14.25	79.74
1850	3250	432496.55	6518497.69	-14.53	79.84
1850	3275	432748.13	6518501.3	-14.58	78.15
1850	3300	432993.35	6518499.25	-14.76	78.58
1850	3325	433243.3	6518499.24	-14.98	77.41
1850	3350	433494.35	6518498.78	-15.59	77.72
1850	3375	433744.12	6518500.71	-15.9	76.21
1850	3400	433995.08	6518500.99	-16.16	75.58
1850	3425	434243.96	6518501.69	-16.6	76.04
1850	3450	434494.9	6518500.86	-16.75	76.53
1850	3475	434743.32	6518500.06	-16.82	76.92
1850	3500	434993.55	6518498.78	-17.12	77.53
1850	3525	435244.64	6518499.99	-17.44	78.5
1850	3550	435492.89	6518498.91	-17.85	79.76
1850	3575	435745.74	6518499.88	-18.19	81.27
1850	3600	435990.47	6518500.29	-18.5	80.57
1850	3625	436245.64	6518500.74	-18.8	81.28
1850	3650	436499.6	6518503	-18.67	81.82
1850	3675	436745.95	6518502.84	-18.81	83.31
1850	3700	436990.9	6518497.43	-19.06	85.71
1850	3725	437243.46	6518502.11	-19.19	86.92

1850	3750	437492.61	6518500.74	-19.33	85.07
1850	3775	437742.34	6518500.66	-19.62	85.32
1850	3800	437990.42	6518501.03	-19.84	83.8
1875	2350	423497.71	6518749.74	-12.3	84.13
1875	2375	423743.22	6518754.71	-12.38	85.66
1875	2400	424001.58	6518751.84	-12.2	87.43
1875	2425	424248.27	6518751.06	-11.99	88.39
1875	2450	424501.08	6518745.17	-11.77	88.62
1875	2475	424744.87	6518751.51	-11.47	85.49
1875	2500	424999.46	6518752.53	-11.3	85.01
1875	2525	425247.55	6518752.61	-11.16	85.92
1875	2550	425493.89	6518747.96	-11.19	86.85
1875	2575	425751.97	6518746.4	-11.2	84.37
1875	2600	425999.94	6518751.93	-11.39	83.9
1875	2625	426248.26	6518750.23	-11.33	84.49
1875	2650	426498.26	6518749.02	-11.27	84
1875	2675	426747.41	6518749.12	-11.43	83.83
1875	2700	426996.61	6518748.81	-11.58	83.75
1875	2725	427245.64	6518748.19	-11.75	83.72
1875	2750	427496.44	6518749.39	-11.9	83.8
1875	2775	427745.24	6518748.95	-11.85	84.68
1875	2800	427996.12	6518751.28	-11.86	85.14
1875	2825	428243.08	6518749.67	-11.95	85.18
1875	2850	428496.16	6518748.74	-12.14	85.86
1875	2875	428747.87	6518748.25	-12.31	85.66
1875	2900	428996.5	6518751.39	-12.43	84.15
1875	2925	429253.96	6518751.26	-12.68	83.98
1875	2950	429494.58	6518747.76	-12.74	84.11
1875	2975	429747.2	6518753.35	-13.02	84.81
1875	3000	430005.53	6518747.69	-13.26	85.75
1875	3025	430244.45	6518749.67	-13.45	84.8
1875	3050	430497.32	6518752.23	-13.59	84.77
1875	3075	430749.32	6518749.86	-13.72	85
1875	3100	430997.74	6518751.59	-13.75	83.99
1875	3125	431246.8	6518752.59	-13.75	82.16
1875	3150	431497.35	6518748.42	-13.98	82.53
1875	3175	431745.15	6518749.96	-14.13	81.61
1875	3200	431996.55	6518755.6	-14.19	81.03
1875	3225	432248.92	6518748.71	-14.21	78.89
1875	3250	432500.33	6518753.38	-14.41	78.58
1875	3275	432745.19	6518746.34	-14.62	78.18
1875	3300	432999.03	6518750.42	-14.73	77.47
1875	3325	433247.33	6518747.67	-15.1	78.47
1875	3350	433499.39	6518753.98	-15.5	77.39
1875	3375	433744.92	6518751.77	-15.95	77.84
1875	3400	433997.99	6518749.56	-16.12	75.33
1875	3425	434246.12	6518749.76	-16.42	75.18
1875	3450	434491.6	6518746.56	-16.52	75.82
1875	3475	434743.97	6518745.91	-16.64	75.69
1875	3500	434996.5	6518748.55	-17.01	76.24
1875	3525	435242.95	6518745.43	-17.36	77.31
1875	3550	435498.53	6518745.36	-17.68	78.34
1875	3575	435742.63	6518749.76	-18.01	79.06
1875	3600	435998.07	6518750.55	-18.3	80.18
1875	3625	436251.36	6518752.32	-18.59	82.06
1875	3650	436496.26	6518754.34	-18.46	81.72
1875	3675	436741.56	6518753.44	-18.56	82.85
1875	3700	436996.52	6518749.91	-18.94	83.69
1875	3725	437244.72	6518746.48	-19.08	84.94
1875	3750	437496.11	6518750.5	-19.18	84.68
1875	3775	437744.92	6518747.56	-19.4	83.58
1875	3800	437990.7	6518750.59	-19.61	82.14
1900	2350	423499.27	6519001.08	-12.3	83.92
1900	2375	423757.38	6518999.99	-12.25	84.63
1900	2400	424000.85	6518999.32	-12.12	85.9
1900	2425	424248.29	6518996.03	-11.97	87.59
1900	2450	424503.25	6518996.72	-11.5	87.04
1900	2475	424753.22	6518998.79	-11.11	86.21

1900	2500	424999.89	6518999.39	-11.07	85.3
1900	2525	425255.23	6519003.09	-10.98	84.85
1900	2550	425501.08	6519000.47	-11.08	85.99
1900	2575	425752.39	6518995.26	-11.13	85.74
1900	2600	425993.78	6518999.39	-11.31	87.19
1900	2625	426250.25	6518997.73	-11.35	84.5
1900	2650	426497.75	6519001.35	-11.29	84.29
1900	2675	426748.31	6519000.43	-11.35	83.3
1900	2700	427000.84	6518997.72	-11.52	82.94
1900	2725	427245.8	6518996.94	-11.8	82.54
1900	2750	427497.9	6518997.51	-11.9	82.45
1900	2775	427746.43	6519002.18	-11.93	82.95
1900	2800	427999.54	6519002.19	-11.9	83.21
1900	2825	428247.88	6519004.11	-11.89	84.17
1900	2850	428496.79	6518999.45	-12.07	84.74
1900	2875	428748.29	6518999.61	-12.27	85.53
1900	2900	428998.35	6518999.97	-12.36	86.16
1900	2925	429249.94	6518999.35	-12.59	85.33
1900	2950	429497.05	6518998.54	-12.71	83.75
1900	2975	429750.25	6518998.84	-13.03	83.89
1900	3000	429997.54	6518998.08	-13.19	83.48
1900	3025	430245.5	6518997.28	-13.34	82.84
1900	3050	430495.26	6519001.05	-13.52	83.27
1900	3075	430747.4	6519001.05	-13.67	83.65
1900	3100	430998.32	6518997.93	-13.7	84.87
1900	3125	431249.54	6519000.99	-13.67	82.94
1900	3150	431497.34	6519001.72	-13.72	81.94
1900	3175	431747.09	6519000.65	-13.81	81.41
1900	3200	432000.37	6518999.39	-14.02	80.82
1900	3225	432249.6	6518999.15	-14.13	79.51
1900	3250	432497.21	6519003.9	-14.28	78.43
1900	3275	432749.66	6519000.27	-14.56	78.93
1900	3300	433002.75	6518996.97	-14.77	77.79
1900	3325	433246.08	6518997.4	-15.14	76.94
1900	3350	433501.31	6519000.99	-15.57	77.35
1900	3375	433748.85	6518997.18	-15.72	75.9
1900	3400	434000.73	6519000.05	-16.02	75.76
1900	3425	434250	6519000.54	-16.35	74.74
1900	3450	434497.74	6518999.55	-16.48	74.53
1900	3475	434744.86	6519003.9	-16.71	74.95
1900	3500	434990.56	6519002.31	-16.94	75.05
1900	3525	435248.73	6519001.86	-17.38	76.2
1900	3550	435499.72	6519000.76	-17.56	77.05
1900	3575	435745.98	6518997.5	-17.9	77.76
1900	3600	435993.93	6519000.05	-18.22	79.39
1900	3625	436248.95	6519002.99	-18.28	81.46
1900	3650	436498.39	6518999.18	-18.22	81.83
1900	3675	436746.11	6519004.39	-18.38	83.55
1900	3700	436994.5	6519003.97	-18.57	83.28
1900	3725	437246.46	6519000.64	-18.83	82.21
1900	3750	437493.73	6518999.08	-18.99	81.84
1900	3775	437745.43	6518998.99	-19.2	81.85
1900	3800	437993.89	6519003.54	-19.35	81.07
1925	2350	423497.56	6519251.83	-12.26	83.53
1925	2375	423751.83	6519254.82	-12.21	83.49
1925	2400	423997.49	6519248.12	-12.08	84.35
1925	2425	424247.29	6519247.94	-11.82	85.64
1925	2450	424494.75	6519248.74	-11.37	86.81
1925	2475	424750.44	6519248.66	-11.14	86.88
1925	2500	425002.81	6519251.46	-11.08	87.05
1925	2525	425249.09	6519250.66	-10.89	84.42
1925	2550	425498.59	6519250.83	-10.95	84.2
1925	2575	425744.69	6519249.83	-11.17	85.17
1925	2600	426000.36	6519250.66	-11.22	86.64
1925	2625	426249.23	6519251.82	-11.27	86.53
1925	2650	426499.92	6519250.19	-11.37	85.19
1925	2675	426748.15	6519253.39	-11.34	83.92
1925	2700	426994.45	6519252.54	-11.6	83.05

1925	2725	427245.48	6519250.44	-11.89	82.63
1925	2750	427503.71	6519250.55	-11.77	81.77
1925	2775	427750.87	6519252.43	-11.89	81.83
1925	2800	428001.74	6519248.39	-11.86	82.57
1925	2825	428245.26	6519250.7	-11.89	82.69
1925	2850	428499.41	6519250.31	-12.05	82.87
1925	2875	428739.38	6519252.48	-12.21	83.02
1925	2900	429000.26	6519248.36	-12.26	84.14
1925	2925	429247.61	6519249.59	-12.44	85.68
1925	2950	429502.43	6519250.26	-12.65	84.81
1925	2975	429746.19	6519249.41	-12.91	84.24
1925	3000	429994.59	6519249.43	-13.12	82.64
1925	3025	430248.89	6519249.35	-13.33	82.16
1925	3050	430497.15	6519248.2	-13.44	81.78
1925	3075	430744.85	6519247.42	-13.59	82.19
1925	3100	431000.61	6519252.35	-13.56	83.65
1925	3125	431244.91	6519246.87	-13.61	84.98
1925	3150	431498.83	6519247.14	-13.66	84.24
1925	3175	431746.96	6519248.05	-13.79	83.35
1925	3200	431993.52	6519251.32	-13.95	82.17
1925	3225	432247.92	6519251.57	-14.18	82.38
1925	3250	432495.05	6519249.3	-14.27	79.3
1925	3275	432744.47	6519254.33	-14.48	77.97
1925	3300	432994.28	6519248.94	-14.77	77.97
1925	3325	433249.91	6519247.39	-15.22	76.3
1925	3350	433501.24	6519245.91	-15.54	77.14
1925	3375	433744.91	6519250.5	-15.72	76.32
1925	3400	433994.09	6519251.62	-15.77	75.06
1925	3425	434246.21	6519252.32	-16.22	75.26
1925	3450	434492.75	6519250.23	-16.51	74.44
1925	3475	434744.85	6519248.82	-16.77	74.27
1925	3500	434994.98	6519244.85	-17.04	75.11
1925	3525	435247.11	6519255.39	-17.36	75.3
1925	3550	435493.14	6519248.75	-17.55	76.16
1925	3575	435746.71	6519252.27	-17.91	76.81
1925	3600	435998.64	6519252.04	-18.14	78.33
1925	3625	436244.72	6519247.56	-18.03	79.52
1925	3650	436492.58	6519249.83	-17.96	80.74
1925	3675	436740.55	6519248.73	-18.13	82.86
1925	3700	436995.51	6519248.7	-18.22	83.61
1925	3725	437243.08	6519252.48	-18.48	82.54
1925	3750	437494.57	6519251.61	-18.64	80.32
1925	3775	437748.11	6519251.36	-18.96	79.95
1925	3800	437999.84	6519251.15	-19.19	80.23
1950	2350	423502.22	6519500.28	-12.16	83.41
1950	2375	423750.61	6519500.97	-12.08	82.93
1950	2400	423996	6519500.53	-11.91	82.97
1950	2425	424252.06	6519503.05	-11.72	84.08
1950	2450	424500.21	6519498.59	-11.35	85.15
1950	2475	424749.22	6519501.24	-11.18	84.64
1950	2500	424995.44	6519500.49	-11.09	85.72
1950	2525	425252.57	6519501.45	-10.98	84.33
1950	2550	425498.06	6519498.11	-10.89	84.05
1950	2575	425755.17	6519500.36	-11.11	84.92
1950	2600	426001.69	6519497.34	-11.31	85.41
1950	2625	426253.83	6519509.31	-11.33	84.52
1950	2650	426499.36	6519502.39	-11.38	84.03
1950	2675	426746.73	6519502.03	-11.55	84.21
1950	2700	427000.53	6519497.6	-11.79	83.9
1950	2725	427251.91	6519499.16	-11.97	84.5
1950	2750	427500.31	6519501.97	-11.71	83.34
1950	2775	427750.84	6519499.28	-11.85	82.71
1950	2800	427996.35	6519497.17	-11.79	82.81
1950	2825	428246.86	6519496.26	-11.88	82.73
1950	2850	428501.07	6519498.6	-11.98	82.44
1950	2875	428744.5	6519503.92	-12.25	82.16
1950	2900	429000.4	6519499.8	-12.42	82.53
1950	2925	429246.74	6519500.65	-12.54	82.79

1950	2950	429499.31	6519502.66	-12.85	83.17
1950	2975	429748.91	6519499.35	-13.05	83.67
1950	3000	429994.76	6519502.1	-13.14	83.82
1950	3025	430248.27	6519503.24	-13.31	84.01
1950	3050	430500.6	6519500.9	-13.38	82.46
1950	3075	430751.31	6519501.02	-13.49	81.72
1950	3100	430997.23	6519501.88	-13.61	83.04
1950	3125	431248.61	6519500.95	-13.64	83.38
1950	3150	431498.62	6519498.67	-13.85	84.68
1950	3175	431745.64	6519501.25	-13.8	84.77
1950	3200	432001.97	6519498.99	-13.93	82.54
1950	3225	432246.01	6519498.65	-14.14	83.52
1950	3250	432500.73	6519497.94	-14.31	80.99
1950	3275	432749.44	6519498.79	-14.52	79.09
1950	3300	433001.57	6519499.42	-14.81	76.85
1950	3325	433247.15	6519496.97	-15.24	76.95
1950	3350	433494.51	6519502.05	-15.37	76.59
1950	3375	433746.3	6519498.75	-15.51	76.38
1950	3400	433993.5	6519497.05	-15.73	75.17
1950	3425	434247.25	6519500.41	-16.06	74.26
1950	3450	434492.29	6519499.06	-16.47	74.09
1950	3475	434744.62	6519504.03	-16.84	73.9
1950	3500	434993.87	6519501.48	-17.03	74.57
1950	3525	435245.92	6519501.15	-17.22	74.57
1950	3550	435494.86	6519497.52	-17.53	74.84
1950	3575	435744.59	6519498.38	-17.86	75.64
1950	3600	435995.3	6519500.9	-17.97	76.77
1950	3625	436250.39	6519500.97	-17.89	77.87
1950	3650	436493.98	6519499.23	-17.88	78.6
1950	3675	436743.41	6519498.92	-18.01	80.13
1950	3700	436994.65	6519497.93	-18.5	79.89
1950	3725	437245.22	6519504.68	-18.31	83.08
1950	3750	437492.96	6519496.46	-18.6	80.53
1950	3775	437743.76	6519503.73	-18.65	78.81
1950	3800	437995.43	6519501.18	-18.82	78.21
1975	2350	423501.62	6519750 -12.12	83.87	
1975	2375	423749.46	6519751.27	-12.09	82.61
1975	2400	424003.18	6519750.89	-11.94	82.38
1975	2425	424245.68	6519749.45	-11.37	82.34
1975	2450	424496.45	6519749.84	-11.26	82.83
1975	2475	424749.16	6519750.23	-11.25	83.32
1975	2500	424999.56	6519750.23	-11.05	83.89
1975	2525	425249.16	6519750.66	-11.08	84.44
1975	2550	425493.7	6519752.5	-11.03	84.46
1975	2575	425747.47	6519746.37	-11.13	83.61
1975	2600	425995.26	6519748.99	-11.37	83.5
1975	2625	426245.72	6519751.81	-11.32	83.19
1975	2650	426498.99	6519751.96	-11.39	82.31
1975	2675	426751.03	6519748.25	-11.75	81.97
1975	2700	426995.9	6519746.81	-12.02	81.49
1975	2725	427249.63	6519752.63	-11.77	81.76
1975	2750	427493.9	6519750.95	-11.77	82.43
1975	2775	427748.38	6519751.25	-11.98	83.14
1975	2800	428000.59	6519749.73	-11.93	85.47
1975	2825	428249.49	6519750.91	-11.86	85.29
1975	2850	428496.37	6519747.31	-12.06	83.32
1975	2875	428745.1	6519749.3	-12.18	82.14
1975	2900	428994.49	6519749.98	-12.4	81.98
1975	2925	429247.27	6519749.17	-12.58	81.93
1975	2950	429496.24	6519749.2	-12.74	81.74
1975	2975	429747.47	6519745.27	-12.93	81.73
1975	3000	429996.22	6519746.16	-13	81.47
1975	3025	430247.61	6519746.33	-13.16	81.96
1975	3050	430499.59	6519752.55	-13.2	82.26
1975	3075	430746.76	6519753.9	-13.33	81.77
1975	3100	430997.18	6519751.35	-13.49	81.76
1975	3125	431251.92	6519746.68	-13.63	83.12
1975	3150	431493.33	6519748.85	-13.72	84.83

1975	3175	431750.22	6519746.88	-13.8	85.01
1975	3200	431998.32	6519750.27	-13.9	83.82
1975	3225	432244.43	6519747.14	-14.1	82.19
1975	3250	432494.49	6519750.01	-14.34	82.36
1975	3275	432746.87	6519752.72	-14.56	80.27
1975	3300	433000.81	6519753.59	-14.91	77.39
1975	3325	433245.11	6519752.73	-15.17	76.62
1975	3350	433497.47	6519748.43	-15.31	75.61
1975	3375	433747.94	6519749.7	-15.27	76.03
1975	3400	433998.47	6519751.97	-15.66	74.89
1975	3425	434248.1	6519746.94	-16.04	75.66
1975	3450	434497.54	6519750.21	-16.38	73.63
1975	3475	434749.27	6519751.35	-16.69	73.03
1975	3500	434996.17	6519752.35	-16.95	73.75
1975	3525	435249.25	6519750.27	-17.31	73.69
1975	3550	435492.04	6519750.92	-17.48	73.91
1975	3575	435749.36	6519747.45	-17.52	74.36
1975	3600	435994.44	6519753.44	-17.6	75.23
1975	3625	436250.21	6519755.1	-17.74	76.1
1975	3650	436497.75	6519748.64	-17.61	77.41
1975	3675	436743.03	6519748.98	-17.75	78.65
1975	3700	436998.64	6519751.38	-17.84	80.09
1975	3725	437241.98	6519751.41	-18.03	80.91
1975	3750	437494.51	6519747.26	-18.38	81.79
1975	3775	437743.47	6519750.43	-18.43	78.46
1975	3800	437996.75	6519753.52	-18.57	78.06
2000	2350	423505.11	6520000.86	-12.3	85.53
2000	2375	423750.56	6520000.58	-12.18	85.15
2000	2400	424007.34	6519998.47	-11.96	82.36
2000	2425	424252.78	6520000.78	-11.46	81.84
2000	2450	424505.76	6520001.52	-11.36	82.08
2000	2475	424749.2	6519999.42	-11.3	82.05
2000	2500	424998.09	6520001.22	-11	82.3
2000	2525	425249.08	6519998.17	-11.09	83.06
2000	2550	425497.8	6520003.96	-10.98	83.34
2000	2575	425747.29	6519999.06	-11.15	82.75
2000	2600	426004.35	6520004.25	-11.28	83.19
2000	2625	426246.41	6520001.63	-11.33	84.43
2000	2650	426497.91	6519999.71	-11.5	82.27
2000	2675	426751.88	6519998.37	-11.87	81.02
2000	2700	427007.1	6519999 -11.94	80.46	
2000	2725	427247.34	6520002.31	-11.79	80.39
2000	2750	427503.17	6519999.13	-11.76	80.95
2000	2775	427753.28	6519999.49	-11.9	81.04
2000	2800	428002.21	6519998.02	-11.81	82.08
2000	2825	428252.05	6520000.9	-11.93	83.39
2000	2850	428500.06	6520006.33	-12.1	84.79
2000	2875	428748.7	6519995.55	-12.15	85.15
2000	2900	429004.57	6519997.53	-12.24	83.93
2000	2925	429246.33	6519996.2	-12.35	82.57
2000	2950	429495.85	6520002.3	-12.63	82.25
2000	2975	429745.78	6519997.33	-12.78	81.47
2000	3000	429995.64	6520002.18	-12.9	80.98
2000	3025	430249.96	6520001.75	-13	80.82
2000	3050	430496.35	6520001.92	-12.98	80.64
2000	3075	430751.97	6519999.05	-13.17	80.17
2000	3100	431000.78	6520000.48	-13.32	80.86
2000	3125	431244.18	6519996.66	-13.46	82
2000	3150	431496.76	6519998.47	-13.6	83.23
2000	3175	431746.28	6520001 -13.7	83.32	
2000	3200	431997.91	6519999.24	-13.88	84.07
2000	3225	432249.31	6520000.46	-14.1	83.15
2000	3250	432495.97	6519998.92	-14.29	81.62
2000	3275	432746.2	6519999.45	-14.58	79.84
2000	3300	432997.71	6520001.87	-14.82	78.73
2000	3325	433245.34	6520001.25	-15.02	77.57
2000	3350	433499.71	6520001.39	-15.05	76.31
2000	3375	433750.28	6520000.12	-15.1	75.07

2000	3400	433997.13	6520001.28	-15.51	75.48
2000	3425	434248.16	6519998.64	-15.79	74.57
2000	3450	434496.95	6520002.66	-16.16	74.67
2000	3475	434748.41	6520002.95	-16.62	74.04
2000	3500	435008.67	6520007.03	-16.81	72.07
2000	3525	435249.31	6519993.39	-17.11	72.71
2000	3550	435495.13	6519998.29	-17.31	73.49
2000	3575	435744.68	6520001.36	-17.13	73.25
2000	3600	435996.55	6520001.19	-17.24	74.1
2000	3625	436242.42	6520000.5	-17.57	75.12
2000	3650	436497	6520001.33	-17.5	76.27
2000	3675	436743.5	6519998.33	-17.52	77.59
2000	3700	436995.66	6520002.98	-17.52	78.46
2000	3725	437245.73	6519999.92	-17.82	79
2000	3750	437496.64	6520000.04	-18.11	79.71
2000	3775	437747.15	6520002.41	-18.32	78.58
2000	3800	437991.35	6520002.29	-18.48	77.66
2025	2350	423501.23	6520250.5	-12.26	84.63
2025	2375	423745.72	6520251.06	-12.03	85.29
2025	2400	424000.65	6520246.88	-11.84	84.7
2025	2425	424248.02	6520250.03	-11.58	82.61
2025	2450	424502.7	6520251.08	-11.64	82.24
2025	2475	424748.28	6520251.57	-11.17	81.6
2025	2500	425001.06	6520249.04	-11.1	81.78
2025	2525	425245.75	6520251.1	-11.13	81.92
2025	2550	425498.18	6520252.98	-11.06	81.54
2025	2575	425742.64	6520247.55	-11.19	81.15
2025	2600	425996.21	6520250.55	-11.4	81.12
2025	2625	426242.22	6520252	-11.54	81.97
2025	2650	426499.3	6520247.45	-11.61	81.61
2025	2675	426753.69	6520252.11	-11.74	82.7
2025	2700	427003.7	6520246.41	-11.75	81.05
2025	2725	427249.19	6520248.11	-11.63	80.34
2025	2750	427500.98	6520251.54	-11.76	80.26
2025	2775	427747.57	6520254.24	-11.86	80.06
2025	2800	428002.43	6520244.88	-11.76	81
2025	2825	428248.98	6520250.68	-11.97	81.89
2025	2850	428493.5	6520248.86	-12.03	82.46
2025	2875	428754.14	6520244.8	-12.1	83
2025	2900	428997.43	6520253.19	-12.32	83.05
2025	2925	429250.48	6520251.41	-12.58	83.91
2025	2950	429497.48	6520247.94	-12.61	84.78
2025	2975	429745.25	6520250.91	-12.7	83.74
2025	3000	429996.74	6520251.88	-12.71	81.43
2025	3025	430247.02	6520252.19	-12.61	81.15
2025	3050	430496.91	6520247.94	-12.84	81.97
2025	3075	430743.78	6520250.97	-12.99	81.8
2025	3100	431000.52	6520251.24	-13.2	80.68
2025	3125	431248.83	6520250.12	-13.3	81.07
2025	3150	431494.02	6520251.44	-13.47	81.66
2025	3175	431744.73	6520250.63	-13.63	82.19
2025	3200	431992.47	6520253.1	-13.87	82.98
2025	3225	432245.4	6520245.86	-14.06	82.79
2025	3250	432498.33	6520245.81	-14.34	82.39
2025	3275	432744.48	6520252.61	-14.63	83.44
2025	3300	432997.48	6520251.09	-14.79	81.32
2025	3325	433246.25	6520246.97	-15.03	78.88
2025	3350	433492.24	6520249.44	-15.05	76.73
2025	3375	433746.91	6520252.28	-15.23	75.65
2025	3400	433994.68	6520248.17	-15.47	75.02
2025	3425	434243.22	6520252.67	-15.65	75.51
2025	3450	434494.58	6520251.96	-15.85	73.37
2025	3475	434744.9	6520249.28	-16.35	73.92
2025	3500	434997.82	6520250.12	-16.71	72.14
2025	3525	435247.09	6520250.86	-17.08	72.06
2025	3550	435493.1	6520250.88	-17.14	72.18
2025	3575	435741.66	6520248.27	-17.04	72.64
2025	3600	435993.54	6520249.98	-17.13	73.4

2025	3625	436245.73	6520251.02	-17.43	74.98
2025	3650	436493.4	6520248.87	-17.3	76.53
2025	3675	436746.48	6520246.62	-17.34	78.08
2025	3700	436993.5	6520249.65	-17.39	77.5
2025	3725	437245.42	6520249.96	-17.59	77.1
2025	3750	437497.13	6520249.14	-17.84	77.13
2025	3775	437748.65	6520248.35	-18.11	76.91
2025	3800	437995.34	6520252.84	-18.32	77.55
2050	2350	423504.14	6520504.36	-12.1	83.13
2050	2375	423755.13	6520501.57	-11.83	83.23
2050	2400	423995.93	6520500.64	-11.85	84.06
2050	2425	424250.66	6520495.6	-11.79	85.44
2050	2450	424505.01	6520501.37	-11.53	84.72
2050	2475	424745.73	6520498.76	-11.2	82.1
2050	2500	424995.96	6520499.1	-11.2	82.17
2050	2525	425251.25	6520500.51	-11.23	82.39
2050	2550	425500.29	6520500.72	-11.21	81.07
2050	2575	425749.16	6520502.35	-11.41	80.33
2050	2600	426003.96	6520500.74	-11.42	79.79
2050	2625	426253.15	6520499.28	-11.45	80.11
2050	2650	426494.75	6520497.45	-11.57	80.72
2050	2675	426744.34	6520499.37	-11.51	80.77
2050	2700	426993.91	6520496.48	-11.5	80.59
2050	2725	427249.8	6520499.14	-11.5	81.42
2050	2750	427498.16	6520504.32	-11.75	80.97
2050	2775	427754.4	6520507.11	-11.98	79.73
2050	2800	427996.86	6520496.33	-11.79	80.28
2050	2825	428245.2	6520500.87	-11.85	80.47
2050	2850	428492.4	6520502.43	-11.97	80.33
2050	2875	428745.62	6520499.52	-12.2	80.89
2050	2900	428996.82	6520499.28	-12.13	81.04
2050	2925	429251.83	6520500.4	-12.51	82.15
2050	2950	429492.83	6520500.74	-12.54	83.61
2050	2975	429744.05	6520503.57	-12.62	84.88
2050	3000	429992.98	6520499.77	-12.6	82.8
2050	3025	430247.63	6520499.88	-12.57	81.07
2050	3050	430496.77	6520497.91	-12.67	81.39
2050	3075	430744.66	6520498.85	-12.8	82.55
2050	3100	430998.63	6520497.42	-13.01	82.63
2050	3125	431249.83	6520500.08	-13.19	82.16
2050	3150	431499.66	6520497.81	-13.27	80.07
2050	3175	431747.29	6520502.69	-13.53	80.31
2050	3200	431997.13	6520496.08	-13.77	80.62
2050	3225	432245.2	6520501.67	-14.09	81.66
2050	3250	432497.25	6520501.94	-14.33	81.32
2050	3275	432743.86	6520499.43	-14.55	81.46
2050	3300	433000.48	6520498.11	-14.82	82.87
2050	3325	433241.89	6520502.94	-15.04	81.42
2050	3350	433500.17	6520500.5	-15.12	77.93
2050	3375	433747.86	6520499.95	-15.23	76.71
2050	3400	433998.29	6520503.06	-15.43	75.76
2050	3425	434244.76	6520497.21	-15.56	74.59
2050	3450	434499.6	6520499.51	-15.85	73.7
2050	3475	434744.81	6520500.57	-16.12	72.73
2050	3500	434996.08	6520496.82	-16.55	72.46
2050	3525	435245.46	6520501.86	-16.89	71.67
2050	3550	435493.43	6520501.47	-16.9	71.51
2050	3575	435749.3	6520503.59	-16.86	71.87
2050	3600	435997.72	6520502.55	-16.98	72.47
2050	3625	436242.29	6520501.45	-17.16	74.09
2050	3650	436496.25	6520500.5	-17.03	75.72
2050	3675	436745.59	6520500 -17.03	76.87	
2050	3700	436995.43	6520498.61	-17.08	77.59
2050	3725	437246.28	6520497.6	-17.31	76.83
2050	3750	437494.79	6520499.9	-17.59	75.59
2050	3775	437747.26	6520500.57	-17.87	75.58
2050	3800	437990.16	6520497.68	-18.06	76.86
2075	2350	423493.78	6520748.92	-12.12	83.15

2075	2375	423752.41	6520753.47	-11.86	83.19
2075	2400	423996.61	6520750.59	-11.84	83.08
2075	2425	424245.63	6520748.41	-11.89	82.78
2075	2450	424498.93	6520750 -11.59	83.39	
2075	2475	424748.87	6520748.26	-11.31	83.88
2075	2500	425000.18	6520746.76	-11.36	84.37
2075	2525	425251.05	6520748.61	-11.31	84.45
2075	2550	425503.16	6520752.39	-11.38	81.91
2075	2575	425750.27	6520750.09	-11.48	80.05
2075	2600	425997.92	6520750.05	-11.38	79.5
2075	2625	426252.53	6520753.04	-11.47	78.93
2075	2650	426497.32	6520749.25	-11.3	79.37
2075	2675	426752.38	6520744.09	-11.29	79.93
2075	2700	427003.12	6520751.69	-11.25	79.43
2075	2725	427248.49	6520747.31	-11.3	79.64
2075	2750	427500.99	6520747.88	-11.67	79.7
2075	2775	427750.99	6520750.15	-11.9	79.7
2075	2800	427996.72	6520750.47	-11.8	79.8
2075	2825	428249.49	6520753.83	-11.99	80.85
2075	2850	428502.97	6520753.03	-11.93	79.45
2075	2875	428751.6	6520750.4	-11.99	78.85
2075	2900	428991.9	6520750.52	-12	78.89
2075	2925	429247.56	6520754.84	-12.27	79.45
2075	2950	429498.6	6520746.34	-12.23	81.23
2075	2975	429744.74	6520750.42	-12.17	82.17
2075	3000	429993.75	6520751.87	-12.45	83.06
2075	3025	430243.88	6520750.36	-12.5	82.41
2075	3050	430493.67	6520749.01	-12.62	79.87
2075	3075	430749.42	6520746.78	-12.56	80.06
2075	3100	430997.27	6520751.76	-12.82	81.5
2075	3125	431247.76	6520750.43	-13.04	82.23
2075	3150	431495.48	6520752.93	-13.21	81.95
2075	3175	431745.82	6520747.48	-13.38	79.61
2075	3200	431996.51	6520750.01	-13.65	79.6
2075	3225	432245.17	6520749.52	-13.91	80.38
2075	3250	432495 6520752.28	-14.25	81.1	
2075	3275	432743.09	6520751.94	-14.44	80.85
2075	3300	432995.83	6520750.45	-14.67	81.27
2075	3325	433243.92	6520752.05	-15.02	81.47
2075	3350	433494.36	6520751.21	-15.13	79.45
2075	3375	433745.49	6520749.2	-15.19	77.51
2075	3400	433993.53	6520749.59	-15.42	76.08
2075	3425	434247.29	6520753.39	-15.63	75.14
2075	3450	434499.28	6520752.11	-15.95	73.78
2075	3475	434746.61	6520748.76	-16.1	74.03
2075	3500	434999.6	6520752.53	-16.41	72.31
2075	3525	435247.78	6520749.44	-16.62	71.35
2075	3550	435492.17	6520750.96	-16.78	71.2
2075	3575	435743.09	6520748.99	-16.7	71.18
2075	3600	435992.99	6520749.38	-16.77	71.41
2075	3625	436245.35	6520750.32	-16.9	72.68
2075	3650	436492.6	6520752.69	-16.8	73.71
2075	3675	436748.32	6520751.35	-16.71	74.72
2075	3700	436991.1	6520751.43	-16.99	76.46
2075	3725	437247.05	6520749.42	-17.13	76.92
2075	3750	437494.35	6520749.71	-17.34	76.01
2075	3775	437746.11	6520745.68	-17.69	74.83
2075	3800	437991.6	6520744.94	-17.8	75.63
2100	2350	423501.91	6520998.58	-12.11	83.83
2100	2375	423748.55	6520999.22	-11.75	82.86
2100	2400	423993.65	6520998.62	-11.8	85.02
2100	2425	424247.31	6521004.37	-11.7	83.63
2100	2450	424501.34	6520997.15	-11.38	82.06
2100	2475	424748.44	6521002.29	-11.26	81.28
2100	2500	425005.31	6521007.85	-11.2	81.22
2100	2525	425253.06	6521001.96	-11.23	82.13
2100	2550	425502.29	6520997.14	-11.45	84.03
2100	2575	425737.9	6521014.45	-11.52	83.71

2100	2600	426005.36	6521007.49	-11.36	80.79
2100	2625	426248.31	6521001.73	-11.27	79.57
2100	2650	426500.96	6520998.58	-11.18	78.88
2100	2675	426746.64	6521001.84	-11.08	79.68
2100	2700	426998.07	6521003.59	-11.02	78.92
2100	2725	427249.95	6520998.57	-11.32	78.6
2100	2750	427497.98	6521000.7	-11.42	78.78
2100	2775	427750.07	6521001.45	-11.76	79.1
2100	2800	427994.82	6520999.32	-11.56	79.53
2100	2825	428250.64	6521001.74	-11.69	80.56
2100	2850	428495.82	6520998.03	-11.97	80.25
2100	2875	428748.29	6520999.47	-11.83	77.94
2100	2900	428988.79	6520998.07	-11.77	77.82
2100	2925	429253.99	6521001.61	-12.02	78.23
2100	2950	429501.83	6520999.04	-12.15	78.96
2100	2975	429747.04	6520998.66	-12.01	79.62
2100	3000	430000.12	6520998.35	-12.32	80.4
2100	3025	430248.73	6520997.8	-12.36	82.27
2100	3050	430499.45	6520999.65	-12.58	82.06
2100	3075	430748.97	6521000.33	-12.61	81.22
2100	3100	430999.75	6521003.48	-12.58	79.64
2100	3125	431248.38	6520999.3	-12.88	80.57
2100	3150	431497.6	6521003.49	-13.09	80.25
2100	3175	431750.77	6520999.31	-13.31	79.34
2100	3200	431991.87	6520996.81	-13.64	79.8
2100	3225	432244.65	6520998.84	-13.87	78.5
2100	3250	432498.5	6520998.49	-14.19	79.52
2100	3275	432746.91	6520998.81	-14.49	80.12
2100	3300	432998.26	6521002.46	-14.79	80.25
2100	3325	433243.34	6520999.74	-15	79.09
2100	3350	433494.2	6520998.77	-15.12	79.21
2100	3375	433745.35	6520999.81	-15.26	77.77
2100	3400	433995.74	6520996.87	-15.47	77.24
2100	3425	434244.58	6521003.21	-15.71	79.45
2100	3450	434496.8	6520999.74	-16.01	75.78
2100	3475	434746.87	6521001.86	-16.23	72.56
2100	3500	434990.17	6521002.06	-16.32	72.51
2100	3525	435248.02	6521000.05	-16.46	71.11
2100	3550	435493.64	6520996.84	-16.6	70.66
2100	3575	435744.95	6520999.58	-16.62	70.8
2100	3600	435995.12	6521004.81	-16.53	70.2
2100	3625	436246.95	6521003.16	-16.58	71.12
2100	3650	436494.04	6520999.8	-16.45	72.03
2100	3675	436743.69	6520999.54	-16.47	72.91
2100	3700	436992.58	6520997.57	-16.73	74.21
2100	3725	437243.61	6520995.88	-16.86	74.88
2100	3750	437495.71	6521000.83	-17.12	75.31
2100	3775	437742.21	6520999.95	-17.42	75.72
2100	3800	437996.4	6520998.89	-17.68	75.51
2125	2350	423503.26	6521249.02	-12.15	83.41
2125	2375	423757.69	6521254.25	-11.76	83
2125	2400	424000.08	6521246.57	-11.63	82.9
2125	2425	424249.78	6521248.46	-11.66	83.64
2125	2450	424500.22	6521246.23	-11.46	84.07
2125	2475	424740.27	6521247.91	-11.23	81.32
2125	2500	425002.02	6521250.45	-11.12	80.64
2125	2525	425252.21	6521253.43	-11.07	80.75
2125	2550	425502.04	6521250.07	-11.33	81.09
2125	2575	425754.78	6521246.94	-11.36	80.96
2125	2600	426002.98	6521245.15	-11.17	81.44
2125	2625	426250.36	6521248.96	-11.06	81.68
2125	2650	426502.39	6521247.45	-11.06	80.81
2125	2675	426748.99	6521248.67	-10.86	79.67
2125	2700	427001.87	6521251.27	-10.82	78.96
2125	2725	427247.95	6521250.16	-10.99	78.49
2125	2750	427497.63	6521253.74	-11.34	78.94
2125	2775	427748.76	6521251.9	-11.61	79.69
2125	2800	428001.51	6521253.61	-11.53	79.56

2125	2825	428248.29	6521250.79	-11.46	79.8
2125	2850	428501.24	6521247.84	-11.81	79.72
2125	2875	428748.31	6521249.86	-11.87	79.75
2125	2900	429000.76	6521252.76	-11.88	78.39
2125	2925	429249.78	6521250.39	-11.91	77.83
2125	2950	429495.86	6521251.82	-12.13	77.84
2125	2975	429749.01	6521248.41	-11.96	78.3
2125	3000	430001.12	6521245.22	-12.23	79.23
2125	3025	430250.8	6521246.87	-12.26	79.33
2125	3050	430496.29	6521252.73	-12.36	79.81
2125	3075	430752.13	6521247.25	-12.54	80.5
2125	3100	430999.02	6521249.44	-12.52	79.98
2125	3125	431243.35	6521248.91	-12.78	80.61
2125	3150	431497.48	6521249.27	-13.01	79.01
2125	3175	431748.07	6521249.36	-13.2	78.85
2125	3200	431998.6	6521250.2	-13.53	78.73
2125	3225	432251.23	6521251.65	-13.86	79.12
2125	3250	432499.01	6521253.74	-14.14	77.53
2125	3275	432751.23	6521249.55	-14.43	78.72
2125	3300	432993.69	6521251.92	-14.76	79.32
2125	3325	433245.55	6521248.99	-15.01	79.1
2125	3350	433498.18	6521248.34	-15.21	77.63
2125	3375	433748.88	6521248.32	-15.31	76.93
2125	3400	434000.74	6521246.92	-15.55	77.07
2125	3425	434249.04	6521249.59	-15.73	78.24
2125	3450	434493.48	6521247.76	-16	76
2125	3475	434741.29	6521247.5	-16.31	73.55
2125	3500	434991.14	6521247.06	-16.33	71.19
2125	3525	435248.25	6521253.1	-16.5	71.7
2125	3550	435497.9	6521247.75	-16.52	70.09
2125	3575	435750.61	6521249.27	-16.59	69.99
2125	3600	435996.41	6521247.68	-16.46	69.79
2125	3625	436246.47	6521246.7	-16.32	70.21
2125	3650	436493.41	6521248.75	-16.13	71.02
2125	3675	436745.79	6521247.83	-16.08	71.85
2125	3700	436995.58	6521249.96	-16.32	72.77
2125	3725	437243.79	6521246.55	-16.54	73.49
2125	3750	437493.89	6521248.53	-16.9	74.17
2125	3775	437742.03	6521252.93	-17.27	75.3
2125	3800	437995.79	6521251.03	-17.54	76.98
2150	2350	423500.24	6521505.62	-12.19	84
2150	2375	423754.03	6521502.56	-11.77	84.24
2150	2400	424002.83	6521497.93	-11.47	82.98
2150	2425	424248.47	6521502.56	-11.56	82.71
2150	2450	424498.55	6521498.6	-11.52	83.36
2150	2475	424746.66	6521503.1	-11.26	84.07
2150	2500	424997.26	6521498.59	-11.01	80.66
2150	2525	425247.71	6521496.01	-10.87	80.33
2150	2550	425499.68	6521502.18	-11.16	79.96
2150	2575	425749.31	6521498.09	-10.96	79.11
2150	2600	425994.76	6521499.95	-10.8	78.86
2150	2625	426251.58	6521502.4	-10.82	79.53
2150	2650	426496.97	6521500.37	-10.77	80.22
2150	2675	426748.87	6521499.89	-10.69	81.49
2150	2700	426996.14	6521501.48	-10.64	79.68
2150	2725	427252.21	6521502.82	-10.69	79.1
2150	2750	427500.44	6521499.43	-10.93	78.98
2150	2775	427748.1	6521497.59	-11.26	78.87
2150	2800	428002.49	6521498.05	-11.35	79.79
2150	2825	428246.25	6521496.84	-11.25	81.11
2150	2850	428497.38	6521497.53	-11.54	80.92
2150	2875	428740.98	6521499.36	-11.8	79.11
2150	2900	429000.09	6521498.08	-11.83	79.2
2150	2925	429252.46	6521498.27	-11.74	78.49
2150	2950	429507.77	6521501.48	-12.03	78.18
2150	2975	429749.41	6521497.64	-11.98	77.58
2150	3000	429998.3	6521497.89	-12.18	77.67
2150	3025	430246.12	6521497.69	-12.17	78.2

2150	3050	430499.24	6521494.17	-12.23	77.87
2150	3075	430752.2	6521502.45	-12.51	77.81
2150	3100	431000.49	6521494.59	-12.5	78.76
2150	3125	431247.46	6521502.06	-12.72	79.85
2150	3150	431497.79	6521496.63	-13.04	80.15
2150	3175	431745.3	6521499.28	-13.24	77.45
2150	3200	432000.89	6521499.89	-13.54	77.37
2150	3225	432246.28	6521496.25	-13.87	77.6
2150	3250	432497.31	6521499.29	-14.2	77.98
2150	3275	432747.87	6521505.02	-14.45	78.22
2150	3300	432998.48	6521498.38	-14.68	77.97
2150	3325	433247.84	6521495 -14.95	78.4	
2150	3350	433492.54	6521499.88	-15	77.07
2150	3375	433747.72	6521498.32	-15.26	76.99
2150	3400	433996.92	6521498.65	-15.39	76.01
2150	3425	434243.43	6521501.37	-15.64	75.87
2150	3450	434494.12	6521495.84	-15.91	75.67
2150	3475	434743.08	6521497.2	-16.36	73.26
2150	3500	434999.84	6521500.11	-16.28	71.56
2150	3525	435246.4	6521496.52	-16.37	70.78
2150	3550	435492.36	6521504.9	-16.45	70.55
2150	3575	435746.29	6521503.4	-16.37	69.56
2150	3600	435999.54	6521502.67	-16.19	69.78
2150	3625	436249.09	6521498.17	-15.84	69.22
2150	3650	436496.32	6521505.71	-15.91	71.06
2150	3675	436744.47	6521497.76	-15.85	71.29
2150	3700	436998.65	6521498.94	-15.99	71.98
2150	3725	437247.66	6521499.48	-16.35	72.77
2150	3750	437489.56	6521501.58	-16.64	73.86
2150	3775	437745.91	6521503.13	-16.82	74.16
2150	3800	437999.92	6521502.8	-17.18	74.95
2175	2350	423502.53	6521749.1	-12.09	81.66
2175	2375	423751.08	6521749.58	-11.83	82.44
2175	2400	423997.9	6521750.33	-11.51	83.76
2175	2425	424253.95	6521752.05	-11.43	83.69
2175	2450	424498.66	6521749.6	-11.32	82.88
2175	2475	424752.41	6521751.87	-11.08	83.18
2175	2500	425002.23	6521754.21	-10.95	81.68
2175	2525	425248.87	6521749.62	-10.88	80.7
2175	2550	425499.37	6521746.7	-10.94	80.38
2175	2575	425751.09	6521755.19	-10.81	79.05
2175	2600	426003.41	6521750.87	-10.68	78.31
2175	2625	426249.37	6521749.87	-10.54	78.23
2175	2650	426494.7	6521748.66	-10.39	79.73
2175	2675	426747.98	6521750.77	-10.38	80.55
2175	2700	426998.12	6521750.27	-10.45	79.78
2175	2725	427255.8	6521750.08	-10.44	78.93
2175	2750	427499.74	6521749.85	-10.66	79.13
2175	2775	427752.01	6521749.96	-10.7	77.84
2175	2800	427998.21	6521751.54	-10.9	77.78
2175	2825	428244.97	6521755.04	-11.04	78.42
2175	2850	428493.89	6521750.2	-11.22	78.93
2175	2875	428748.7	6521753.1	-11.7	79.65
2175	2900	428995.58	6521747.69	-11.49	79.63
2175	2925	429244.72	6521753.68	-11.54	77.55
2175	2950	429503.05	6521747.56	-11.97	77.17
2175	2975	429747.6	6521748.43	-11.99	77.25
2175	3000	429994.48	6521747.24	-12.26	77.27
2175	3025	430242.6	6521747.8	-12.14	76.86
2175	3050	430498.93	6521750.63	-12.26	76.83
2175	3075	430746.53	6521747.65	-12.52	76.89
2175	3100	430998.04	6521747.75	-12.63	77.02
2175	3125	431246.51	6521746.56	-12.74	78.13
2175	3150	431492.73	6521751.93	-13	78.22
2175	3175	431751.33	6521750.48	-13.34	77.18
2175	3200	431998.57	6521750.9	-13.63	77.24
2175	3225	432246.86	6521751.09	-13.91	77.26
2175	3250	432497.29	6521748.72	-14.22	76.85

2175	3275	432746.16	6521747.79	-14.44	77.72
2175	3300	432995.57	6521750.66	-14.69	78.27
2175	3325	433247.36	6521751.76	-14.93	78.28
2175	3350	433497.51	6521747.32	-14.87	75.78
2175	3375	433747.1	6521748.74	-15.08	75.63
2175	3400	433997.59	6521746.79	-15.41	76.42
2175	3425	434244.17	6521752.27	-15.49	74.88
2175	3450	434496.65	6521748.91	-15.86	73.67
2175	3475	434744.34	6521744.96	-16.32	72.45
2175	3500	434996.77	6521750.19	-16.32	71.66
2175	3525	435243.05	6521749.79	-16.4	70.9
2175	3550	435494.03	6521751.24	-16.48	71.03
2175	3575	435744.89	6521746.84	-16.3	69.27
2175	3600	435996.07	6521750.83	-16.01	68.73
2175	3625	436245.97	6521750.75	-15.7	68.82
2175	3650	436493.21	6521749.82	-15.55	71.1
2175	3675	436744.86	6521750.13	-15.69	71.72
2175	3700	436992.05	6521752.88	-16.01	70.39
2175	3725	437244.47	6521747.93	-16.3	72.35
2175	3750	437493.82	6521748.46	-16.5	74.19
2175	3775	437747.3	6521751.33	-16.65	72.88
2175	3800	437998.45	6521747.88	-16.98	73.01
2200	2350	423497.57	6521998.84	-11.92	79.73
2200	2375	423733.65	6521997.77	-11.8	80.29
2200	2400	423997.22	6521999.22	-11.41	80.9
2200	2425	424247.05	6521996.59	-11.24	81.29
2200	2450	424501.72	6522002.02	-11.14	82.95
2200	2475	424748.46	6522000.83	-10.98	83.45
2200	2500	424996.15	6522000.61	-10.69	81.01
2200	2525	425246.84	6521999.8	-10.72	79.66
2200	2550	425498.65	6522001.11	-10.86	78.99
2200	2575	425749.45	6521995.86	-10.7	77.93
2200	2600	425999.76	6521997.84	-10.55	77.91
2200	2625	426246.06	6521999.62	-10.24	77.81
2200	2650	426501.74	6522000.14	-10.14	78.88
2200	2675	426751.69	6522000.48	-10.09	80.1
2200	2700	427002.23	6521994.42	-10.18	80.77
2200	2725	427243.51	6521997.77	-10.19	79.52
2200	2750	427500.09	6522002.72	-10.35	78.78
2200	2775	427746.71	6522002.37	-10.24	78.23
2200	2800	427997.72	6522001.07	-10.42	78.06
2200	2825	428246.87	6522001.4	-10.82	79.75
2200	2850	428495.73	6522001.11	-11.08	78.17
2200	2875	428746.89	6522000.74	-11.47	77.33
2200	2900	428997.66	6522001.89	-11.29	78.64
2200	2925	429245.03	6522003.97	-11.29	79.46
2200	2950	429495.14	6522000.28	-11.72	77.94
2200	2975	429745.07	6521995.24	-11.93	76
2200	3000	429997.38	6522002.62	-12.15	76.99
2200	3025	430250.34	6521996.46	-12.09	77.03
2200	3050	430498.59	6521997.72	-12.32	77.52
2200	3075	430746.7	6522004.33	-12.32	75.82
2200	3100	430993.09	6522003.25	-12.55	75.73
2200	3125	431247.92	6521995.02	-12.7	76.05
2200	3150	431496.92	6522003.54	-12.87	76.66
2200	3175	431750.33	6522004.35	-13.24	75.74
2200	3200	431993.26	6522001.15	-13.55	75.73
2200	3225	432245.85	6521997.01	-13.76	75.61
2200	3250	432492.25	6522004.64	-14.13	76.05
2200	3275	432742.44	6522000.42	-14.3	75.58
2200	3300	432992.26	6521994.87	-14.58	75.85
2200	3325	433246.57	6521999.75	-14.8	76.44
2200	3350	433492	6522001.68	-14.8	76.6
2200	3375	433744.25	6522000.19	-15.01	75.74
2200	3400	433992.51	6522002.38	-15.32	74.89
2200	3425	434244.46	6521996	-15.52	74.62
2200	3450	434494.08	6521999.35	-15.78	74.46
2200	3475	434744.12	6522003.22	-16.15	75.88

2200	3500	434995.94	6522003.72	-16.15	71.56
2200	3525	435248.34	6521998.59	-16.22	71.43
2200	3550	435494.34	6521998.57	-16.22	70.97
2200	3575	435742.83	6522002.52	-16.04	69.61
2200	3600	435992.69	6521996.49	-15.81	69.06
2200	3625	436245.64	6522001.11	-15.56	68.47
2200	3650	436496.46	6522003.96	-15.41	68.56
2200	3675	436740.51	6521996.83	-15.75	69.5
2200	3700	436996.05	6521998.81	-15.96	70.37
2200	3725	437245.53	6522005.66	-16.06	71.47
2200	3750	437490.9	6522005.68	-16.23	72.46
2200	3775	437740.22	6521998.07	-16.46	71.53
2200	3800	437992.89	6521997.18	-16.75	72.11
2225	2350	423499.92	6522250.78	-11.8	79.02
2225	2375	423753.44	6522247.19	-11.46	78.47
2225	2400	423999.21	6522246.62	-11.4	79.12
2225	2425	424256.03	6522241.48	-11.26	80.08
2225	2450	424495.95	6522248.7	-11.01	81.06
2225	2475	424755.23	6522245.25	-10.75	82.49
2225	2500	425002.04	6522250.08	-10.47	80.24
2225	2525	425248.85	6522251.89	-10.66	79.36
2225	2550	425499.75	6522248.14	-10.79	79.92
2225	2575	425752.87	6522249.4	-10.52	78.14
2225	2600	426002.98	6522254.94	-10.25	77.1
2225	2625	426249.52	6522249.79	-10.01	77.35
2225	2650	426499.37	6522255.21	-9.9	77.2
2225	2675	426746.64	6522248.34	-9.92	77.38
2225	2700	426998.83	6522246.63	-9.87	77.35
2225	2725	427247.88	6522245.89	-9.85	77.35
2225	2750	427504.5	6522258.31	-9.97	77.35
2225	2775	427746.04	6522250.93	-9.96	79.35
2225	2800	428000.18	6522245.42	-10.09	77.88
2225	2825	428247.74	6522249.73	-10.46	77.39
2225	2850	428498.01	6522247.62	-10.87	78.44
2225	2875	428751.75	6522244.04	-11.13	78
2225	2900	428999.06	6522247.23	-11.02	77.96
2225	2925	429252.91	6522249.35	-11.15	77.34
2225	2950	429498.65	6522253.35	-11.36	76.98
2225	2975	429751.71	6522249.44	-11.81	77.56
2225	3000	430002.45	6522250.53	-12.11	76.02
2225	3025	430250.94	6522252.03	-12.23	76.19
2225	3050	430498.63	6522251.4	-12.41	76.39
2225	3075	430750.83	6522248.76	-12.43	77.07
2225	3100	430996.53	6522252.55	-12.51	74.69
2225	3125	431250.4	6522246.23	-12.89	74.65
2225	3150	431499.4	6522248.56	-12.97	74.81
2225	3175	431749.91	6522250.06	-13.2	74.67
2225	3200	431993.87	6522251.03	-13.58	74.4
2225	3225	432247.18	6522252.62	-13.83	74.98
2225	3250	432495.79	6522250.42	-14.16	75.72
2225	3275	432753.1	6522247.37	-14.42	74.76
2225	3300	432995.43	6522251.86	-14.63	74.43
2225	3325	433244.84	6522250.42	-14.83	74.96
2225	3350	433499.59	6522247.9	-14.76	76.62
2225	3375	433748.17	6522247.33	-14.93	77.58
2225	3400	433997.65	6522252.42	-15.34	76.28
2225	3425	434248.68	6522249.77	-15.64	76.49
2225	3450	434493.84	6522246.86	-16.01	77.37
2225	3475	434745.83	6522248.12	-16.07	76.01
2225	3500	434996.44	6522249.21	-16.11	71.75
2225	3525	435245.68	6522249.55	-16.12	70.23
2225	3550	435495.4	6522251.56	-16.16	70.06
2225	3575	435748.2	6522248.46	-15.95	69.6
2225	3600	435994.63	6522245.88	-15.66	69.45
2225	3625	436251.24	6522250.17	-15.55	67.96
2225	3650	436496.35	6522253.54	-15.61	68.1
2225	3675	436743.55	6522251.54	-15.66	67.66
2225	3700	436995.43	6522248.76	-15.86	68.56

2225	3725	437245.95	6522251.5	-15.99	69.19
2225	3750	437498.76	6522249.76	-16.22	70.02
2225	3775	437744.08	6522253.67	-16.49	70.28
2225	3800	437994.08	6522247.7	-16.71	71.86
2250	2350	428247.36	6522499.33	-12.25	76.16
2250	2375	423749.59	6522498.32	-11.45	78.1
2250	2400	423998.2	6522500.96	-11.23	78.27
2250	2425	424250.23	6522501.98	-11.27	80.19
2250	2450	424495.45	6522499.14	-11.11	83.2
2250	2475	424745.5	6522500.59	-10.8	82.61
2250	2500	425002.39	6522503.44	-10.58	80.56
2250	2525	425250.09	6522505.8	-10.64	79.17
2250	2550	425498.41	6522502.33	-10.61	79.06
2250	2575	425748.22	6522503.6	-10.33	79.52
2250	2600	426000.8	6522498.61	-10.24	80.23
2250	2625	426246.14	6522501.89	-9.98	79
2250	2650	426495.83	6522497.72	-9.76	77.12
2250	2675	426747.54	6522501.93	-9.67	76.16
2250	2700	426997.14	6522503.7	-9.7	75.95
2250	2725	427250.87	6522504.42	-9.64	75.36
2250	2750	427495.88	6522495.15	-9.63	75.47
2250	2775	427754.06	6522501.39	-9.5	77.07
2250	2800	427997.31	6522506.13	-9.5	77.66
2250	2825	428246.29	6522499.42	-9.77	76.18
2250	2850	428501.65	6522500.1	-10.32	76.05
2250	2875	428744.45	6522501.4	-10.85	76.8
2250	2900	429000.31	6522497.26	-11.13	77.25
2250	2925	429248.21	6522502.22	-11.13	76.94
2250	2950	429497.46	6522500.38	-11.06	76.99
2250	2975	429746.41	6522502.81	-11.39	76.2
2250	3000	429998.45	6522501.84	-12.03	77.52
2250	3025	430251.46	6522504.74	-12.26	75.93
2250	3050	430498.17	6522498.34	-12.41	74.44
2250	3075	430747.21	6522498.49	-12.51	74.89
2250	3100	430994.95	6522501.49	-12.5	75.32
2250	3125	431249.95	6522495.97	-12.81	74.79
2250	3150	431497.11	6522496.63	-13.1	75.18
2250	3175	431751.35	6522499.74	-13.13	73.92
2250	3200	431998.76	6522498.86	-13.51	73.93
2250	3225	432246.6	6522498.88	-13.84	74.89
2250	3250	432498.77	6522502.99	-14.1	74.46
2250	3275	432746.15	6522500.03	-14.41	75.31
2250	3300	432997.86	6522496.54	-14.58	73.83
2250	3325	433244.8	6522500.42	-14.69	74.33
2250	3350	433497.08	6522500.05	-14.65	75.68
2250	3375	433745.82	6522498.27	-14.95	77.01
2250	3400	433995.07	6522497.75	-15.35	78.03
2250	3425	434247.66	6522499.95	-15.76	79.23
2250	3450	434494.19	6522498.35	-15.97	78.58
2250	3475	434743.01	6522501.48	-16.08	73.87
2250	3500	434996.45	6522503.01	-16.08	71.81
2250	3525	435244.39	6522500.76	-16.09	70.23
2250	3550	435495.33	6522501.75	-16.02	69.41
2250	3575	435744.79	6522497.67	-15.84	68.74
2250	3600	435995.88	6522501.4	-15.48	68.74
2250	3625	436248.32	6522501.19	-15.48	67.69
2250	3650	436496.06	6522502.51	-15.55	68.25
2250	3675	436744.01	6522501.3	-15.65	67.59
2250	3700	436997.68	6522495.65	-15.73	67.24
2250	3725	437241.42	6522499.48	-15.87	67.91
2250	3750	437498.02	6522497.15	-16.02	68.72
2250	3775	437747.52	6522498.04	-16.24	70.18
2250	3800	437995.73	6522502.54	-16.52	72.61
2275	2350	423504.77	6522746.17	-11.84	82.07
2275	2375	423749.83	6522751.96	-11.4	78.09
2275	2400	423999.5	6522751.51	-11.21	78.06
2275	2425	424249.61	6522752.26	-11.24	79.08
2275	2450	424501.05	6522748.63	-11.07	81.46

2275	2475	424742.88	6522750.21	-10.92	83.73
2275	2500	424997.29	6522752.87	-10.8	83.48
2275	2525	425247.38	6522751.31	-10.6	79.43
2275	2550	425494.48	6522749.99	-10.57	78.89
2275	2575	425748.99	6522750.15	-10.33	79.12
2275	2600	425995.94	6522749.76	-10.01	79.11
2275	2625	426246.02	6522750.62	-9.8	78.68
2275	2650	426499.38	6522751.41	-9.56	77.58
2275	2675	426745.7	6522748.3	-9.53	76.33
2275	2700	426997.78	6522748.6	-9.55	75.81
2275	2725	427248.08	6522749.54	-9.5	75.41
2275	2750	427499.45	6522749.54	-9.47	75.05
2275	2775	427742.06	6522748.94	-9.32	75.13
2275	2800	427998.45	6522750.07	-9.14	76.17
2275	2825	428247.62	6522749.3	-9.47	77.73
2275	2850	428500.59	6522747.14	-10.11	78.17
2275	2875	428748.97	6522750.47	-10.59	75.75
2275	2900	428996.03	6522747.34	-10.83	75.5
2275	2925	429248.34	6522748.43	-10.85	75.76
2275	2950	429501.27	6522752.52	-10.78	76.7
2275	2975	429749.9	6522747.23	-11.1	75.71
2275	3000	430001.34	6522747.73	-11.66	76.53
2275	3025	430249.01	6522745.6	-12.18	76.51
2275	3050	430497.7	6522749.51	-12.51	74.45
2275	3075	430752.02	6522749.63	-12.71	74.52
2275	3100	430999.02	6522749.73	-12.66	72.98
2275	3125	431248.49	6522750.97	-12.88	73.48
2275	3150	431499.11	6522750.07	-13.2	72.41
2275	3175	431743.61	6522752.14	-13.28	72.74
2275	3200	431995.78	6522751.17	-13.64	73.95
2275	3225	432242.52	6522750.23	-13.9	74.14
2275	3250	432496.96	6522749.37	-14.19	73.68
2275	3275	432743.5	6522749.27	-14.45	73.83
2275	3300	432992.66	6522747.4	-14.61	73.15
2275	3325	433242.41	6522748.22	-14.66	73.09
2275	3350	433494.51	6522747.69	-14.65	74.57
2275	3375	433746.77	6522747.65	-14.97	75.28
2275	3400	433994.25	6522749.29	-15.28	76.8
2275	3425	434244.82	6522753.23	-15.72	79.38
2275	3450	434494.52	6522746.69	-16.01	77.85
2275	3475	434748.71	6522750.07	-16.12	76.48
2275	3500	434996.73	6522748.68	-16.14	72.51
2275	3525	435241.95	6522750.38	-16.09	70.62
2275	3550	435493.79	6522750.51	-16.07	71.59
2275	3575	435745.61	6522749.79	-15.69	69.34
2275	3600	435996.51	6522749.26	-15.47	67.96
2275	3625	436246.71	6522746.83	-15.6	67.54
2275	3650	436491.64	6522751.06	-15.43	67.21
2275	3675	436745.1	6522749.89	-15.68	67.37
2275	3700	436997.24	6522751.56	-15.64	66.88
2275	3725	437243.99	6522748.11	-15.7	66.69
2275	3750	437495	6522750.46	-15.69	67.48
2275	3775	437744.34	6522750.95	-15.9	68.95
2275	3800	437997.23	6522750.78	-16.02	70.17
2300	2350	423497.8	6522995.9	-11.79	80.4
2300	2375	423804.81	6523000.33	-11.44	79.23
2300	2400	424027.58	6523016.79	-11.2	78.61
2300	2425	424248.94	6522997.94	-11.19	80.08
2300	2450	424503.39	6522999.77	-10.99	81.41
2300	2475	424751.07	6522997.92	-10.87	82.44
2300	2500	425000.93	6522998.53	-10.8	83.7
2300	2525	425251	6522999.73	-10.67	81.5
2300	2550	425498.74	6522999.6	-10.43	78.74
2300	2575	425751.03	6523001.63	-10.22	78.81
2300	2600	426003.79	6523000.03	-9.92	78.37
2300	2625	426248.89	6522995.63	-9.65	78.3
2300	2650	426506.02	6523002.98	-9.48	77.84
2300	2675	426750.2	6522998.89	-9.37	77.58

2300	2700	427000.53	6523002.55	-9.33	77.42
2300	2725	427252.72	6523001.13	-9.29	75.81
2300	2750	427501.06	6523001.5	-9.23	75.05
2300	2775	427745.94	6523001.79	-9.16	74.46
2300	2800	427997.51	6522999.48	-9	74.34
2300	2825	428249.36	6523000.3	-9.25	74.92
2300	2850	428501.76	6523004.54	-9.82	75.74
2300	2875	428748.18	6522997.21	-10.42	77.37
2300	2900	428996.28	6522998.08	-10.58	77.6
2300	2925	429245.35	6522999.83	-10.49	76.18
2300	2950	429495.78	6523004.3	-10.68	74.94
2300	2975	429747.72	6522995.54	-11.21	75.26
2300	3000	429998.27	6522996.89	-11.74	75.16
2300	3025	430247.8	6522997.24	-12.17	76.12
2300	3050	430500.68	6522997.49	-12.56	76.34
2300	3075	430748.73	6522999.74	-12.73	73.86
2300	3100	430997.41	6522998.22	-12.72	72.8
2300	3125	431248.95	6523000.59	-12.94	72.18
2300	3150	431495.89	6522999.35	-13.15	72.86
2300	3175	431744.35	6523003.61	-13.34	72.14
2300	3200	431995.46	6523000.77	-13.59	73.26
2300	3225	432243.58	6523002.87	-13.89	73.8
2300	3250	432494.43	6522998.87	-14.1	74.85
2300	3275	432749.73	6522999.24	-14.51	76.68
2300	3300	432996.59	6522998.07	-14.63	72.63
2300	3325	433251.16	6522998.12	-14.76	72.63
2300	3350	433494.32	6522996.5	-14.67	74.37
2300	3375	433748.04	6523003.34	-14.82	75.01
2300	3400	433995.88	6523000.24	-15.09	76.16
2300	3425	434242.69	6522996.78	-15.46	76.92
2300	3450	434496.92	6522999.96	-15.83	76.2
2300	3475	434743.18	6522998.61	-16.03	77.45
2300	3500	434991.06	6523000.56	-16.09	74.79
2300	3525	435247.46	6522998.53	-16.02	71.31
2300	3550	435494.79	6522999.28	-15.9	70.26
2300	3575	435743.81	6523000.17	-15.64	70.81
2300	3600	435993.74	6522999.41	-15.52	68.6
2300	3625	436240.56	6523005.8	-15.57	68.41
2300	3650	436496.62	6523004.62	-15.55	67.61
2300	3675	436746.94	6522998.09	-15.6	66.56
2300	3700	436996.53	6522998.65	-15.53	66.47
2300	3725	437246.93	6522999.23	-15.62	66.27
2300	3750	437496.04	6522997.25	-15.73	66.5
2300	3775	437741.2	6523002.86	-15.78	67.7
2300	3800	437993.85	6522997.86	-15.87	69.3
2325	2350	423503.23	6523250.49	-11.79	80.68
2325	2375	423745.23	6523250.83	-11.53	79.72
2325	2400	423996.37	6523252.59	-11.25	78.79
2325	2425	424248.99	6523251.54	-11.14	79.18
2325	2450	424501.98	6523250.59	-10.94	80.49
2325	2475	424752.22	6523251.17	-10.85	82
2325	2500	424994.21	6523254.87	-10.74	83.02
2325	2525	425246.01	6523245.88	-10.59	81.2
2325	2550	425495.03	6523250.58	-10.29	79.21
2325	2575	425749.59	6523251.51	-10.02	78.45
2325	2600	426000.12	6523251.83	-9.81	79.52
2325	2625	426245.28	6523249.01	-9.59	77.9
2325	2650	426496.18	6523249.88	-9.43	76.99
2325	2675	426746.46	6523246.92	-9.31	77.27
2325	2700	426998.53	6523250.45	-9.25	78.99
2325	2725	427249.67	6523238.26	-9.1	79.26
2325	2750	427494.43	6523246.48	-8.95	75.78
2325	2775	427744.09	6523248.83	-8.93	74.09
2325	2800	427995.2	6523251.15	-8.99	73.7
2325	2825	428245.85	6523255.68	-9.17	73.41
2325	2850	428500.04	6523246.74	-9.71	74.49
2325	2875	428754.59	6523246.84	-10.2	74.63
2325	2900	428992.07	6523252.2	-10.45	75.29

2325	2925	429244.12	6523247.63	-10.52	76.56
2325	2950	429495.27	6523248.83	-10.79	78.79
2325	2975	429742.2	6523252.53	-11.34	76.15
2325	3000	429999.4	6523247.78	-11.82	73.74
2325	3025	430245.18	6523247.19	-12.28	73.93
2325	3050	430493.25	6523246.33	-12.61	75.06
2325	3075	430750.63	6523249.25	-12.89	75.62
2325	3100	431000.51	6523251.75	-13.04	75.11
2325	3125	431245.45	6523251.04	-13.16	72.05
2325	3150	431495.51	6523250.44	-13.28	71.45
2325	3175	431744.99	6523249.98	-13.56	71.56
2325	3200	431997.9	6523248.56	-13.78	72.81
2325	3225	432244.95	6523247.28	-14.01	73.36
2325	3250	432495.63	6523252.86	-14.21	74.13
2325	3275	432745.11	6523252.09	-14.52	73.84
2325	3300	432993.51	6523249.37	-14.8	73.73
2325	3325	433241.86	6523249.42	-15.09	72.36
2325	3350	433498.26	6523246.93	-14.97	73.51
2325	3375	433750.05	6523247.93	-15.15	74.48
2325	3400	433997.36	6523252.16	-15.35	76.11
2325	3425	434246.1	6523245.26	-15.54	76.09
2325	3450	434497.31	6523249.49	-15.91	75.91
2325	3475	434745.64	6523254.55	-16.1	76.34
2325	3500	434994.22	6523247.92	-16.19	74.49
2325	3525	435247.89	6523254.89	-16.14	70.98
2325	3550	435496.74	6523250.87	-15.89	69.65
2325	3575	435748.15	6523253.17	-15.73	69.25
2325	3600	435994.21	6523248.63	-15.76	68.48
2325	3625	436241.79	6523253.61	-15.81	68.17
2325	3650	436488.59	6523261.51	-15.67	66.84
2325	3675	436744.19	6523246.62	-15.63	66.32
2325	3700	436995.07	6523251.86	-15.71	65.83
2325	3725	437245.64	6523251.94	-15.6	65.68
2325	3750	437497.79	6523249.89	-15.55	65.56
2325	3775	437744.17	6523249.52	-15.59	66.37
2325	3800	437995.49	6523250.74	-15.69	67.38
2350	2350	423502.78	6523499.83	-11.65	79.72
2350	2375	423755.03	6523494.92	-11.46	78.59
2350	2400	424003.8	6523506.84	-11.25	78.38
2350	2425	424245.82	6523504.14	-11.17	80.15
2350	2450	424499.82	6523496.99	-10.88	79.36
2350	2475	424755.54	6523505.82	-10.77	80.24
2350	2500	425003.41	6523499.66	-10.63	81.87
2350	2525	425254.9	6523503.85	-10.61	79.66
2350	2550	425496.99	6523503.71	-10.22	79.36
2350	2575	425754.57	6523496.44	-9.83	78.33
2350	2600	425999.94	6523496.72	-9.6	77.9
2350	2625	426254.74	6523494.58	-9.47	77.89
2350	2650	426495.96	6523508.86	-9.36	77.91
2350	2675	426750.52	6523505.55	-9.24	76.32
2350	2700	426994.62	6523500.25	-9.13	77.24
2350	2725	427253.82	6523503.93	-9.03	78.84
2350	2750	427499.43	6523498.19	-8.86	79.53
2350	2775	427750.5	6523502.71	-8.75	75.02
2350	2800	428001.43	6523500.75	-8.82	73.37
2350	2825	428247.53	6523499.16	-9.07	73.13
2350	2850	428499.86	6523495.96	-9.43	73.02
2350	2875	428756.01	6523495.54	-9.75	73.45
2350	2900	428996.65	6523499.5	-9.93	73.64
2350	2925	429246.31	6523497.78	-10.13	74.45
2350	2950	429496.52	6523500.85	-10.72	75.83
2350	2975	429755.54	6523497.99	-11.33	77.84
2350	3000	429999.35	6523500.53	-11.7	78.72
2350	3025	430251.22	6523499.62	-11.89	75.28
2350	3050	430497.68	6523496.45	-12.27	74.44
2350	3075	430747.28	6523499.69	-12.77	73.96
2350	3100	430998.8	6523500.77	-12.95	73.62
2350	3125	431251.2	6523500.92	-13.13	74.47

2350	3150	431500.42	6523505.74	-13.3	72.19
2350	3175	431749.36	6523500.56	-13.58	70.7
2350	3200	432002.42	6523495.92	-13.76	72.85
2350	3225	432254.89	6523503.21	-13.93	73.26
2350	3250	432502.92	6523498.39	-14.19	74.4
2350	3275	432751.49	6523501.45	-14.51	73.88
2350	3300	432997.55	6523498.76	-14.76	72.53
2350	3325	433244.11	6523494.08	-15.02	74.01
2350	3350	433497.68	6523496.21	-15.25	75.7
2350	3375	433742.04	6523495.36	-15.32	75.02
2350	3400	433995.81	6523504.58	-15.37	76.24
2350	3425	434247.95	6523505.02	-15.6	77.71
2350	3450	434498.05	6523497.18	-15.89	77.9
2350	3475	434745.75	6523502.46	-15.89	74.03
2350	3500	434995.71	6523496.26	-15.98	72.43
2350	3525	435250.21	6523500.3	-15.96	70.41
2350	3550	435492.48	6523495.62	-15.89	69.3
2350	3575	435749.02	6523501.94	-15.8	69.32
2350	3600	435997.55	6523500.86	-15.8	69.83
2350	3625	436246.48	6523499.92	-15.68	68.62
2350	3650	436496.54	6523499.64	-15.57	68.09
2350	3675	436742.39	6523495.55	-15.47	66.4
2350	3700	436992.19	6523493.09	-15.55	65.63
2350	3725	437241.49	6523501.2	-15.44	65.39
2350	3750	437496.13	6523500.9	-15.29	65.39
2350	3775	437744.47	6523501.81	-15.32	65.33
2350	3800	437997.48	6523496.54	-15.44	66.57
2375	2350	423503.98	6523752.1	-11.53	77.77
2375	2375	423749.59	6523744.97	-11.4	78.13
2375	2400	423993.74	6523749.96	-11.31	79.11
2375	2425	424250.51	6523753.63	-11.16	78.02
2375	2450	424498.02	6523750.37	-10.91	77.99
2375	2475	424744.93	6523743.52	-10.74	79.15
2375	2500	424997.59	6523753.02	-10.84	79.95
2375	2525	425245.11	6523748.81	-10.69	80.01
2375	2550	425492.97	6523744.85	-10.05	77.6
2375	2575	425743.14	6523745.75	-9.7	77.23
2375	2600	425997.93	6523748.2	-9.55	77.95
2375	2625	426246.35	6523750.19	-9.48	79.02
2375	2650	426495.67	6523751.68	-9.32	78.66
2375	2675	426746.57	6523749.19	-9.18	76.58
2375	2700	426994.14	6523751.34	-8.99	76.22
2375	2725	427244.71	6523753.78	-9.05	77.74
2375	2750	427497.11	6523753.18	-8.93	78.33
2375	2775	427744.67	6523755.39	-8.83	78.15
2375	2800	427999.23	6523748.67	-8.88	74.39
2375	2825	428243.2	6523750.79	-8.98	72.98
2375	2850	428496.28	6523747.39	-9.14	72.71
2375	2875	428744.54	6523746.85	-9.38	72.48
2375	2900	428999.16	6523748.92	-9.62	72.95
2375	2925	429250.33	6523752.06	-9.89	73.02
2375	2950	429496.92	6523748.87	-10.51	74.24
2375	2975	429742.46	6523751.2	-10.85	74.82
2375	3000	429997.18	6523749.7	-11.2	75.51
2375	3025	430248.04	6523750.25	-11.68	75.93
2375	3050	430498.66	6523746.62	-12.22	74.43
2375	3075	430753.33	6523749.97	-12.59	73.88
2375	3100	430995.61	6523753.35	-12.8	74
2375	3125	431247.28	6523752.08	-13.15	73.15
2375	3150	431501.75	6523746.6	-13.45	71.88
2375	3175	431743.39	6523751.18	-13.72	70.9
2375	3200	431999.5	6523749.58	-13.9	72.42
2375	3225	432246.15	6523748.1	-14.07	72.55
2375	3250	432498.59	6523749.43	-14.31	72.91
2375	3275	432745.25	6523751.1	-14.63	72.96
2375	3300	432998.5	6523747.24	-14.89	71.87
2375	3325	433250.54	6523752.39	-15.18	74.18
2375	3350	433496.16	6523745.87	-15.45	74.61

2375	3375	433750.04	6523747.98	-15.41	77.47
2375	3400	433993.83	6523747.61	-15.54	78.35
2375	3425	434241.07	6523747.12	-15.83	77.37
2375	3450	434497.79	6523749.97	-15.96	77.83
2375	3475	434742.87	6523753.62	-16.03	75.45
2375	3500	435000.26	6523748.81	-15.93	71.43
2375	3525	435241.86	6523751.49	-15.91	70.19
2375	3550	435491.18	6523750.42	-15.89	69.16
2375	3575	435746.98	6523751.5	-15.9	69
2375	3600	435998.98	6523747.96	-15.81	69.1
2375	3625	436249.65	6523751.98	-15.49	68.77
2375	3650	436495.21	6523751.51	-15.34	67.45
2375	3675	436744.36	6523748.1	-15.37	66.55
2375	3700	436992.29	6523748.26	-15.43	66.03
2375	3725	437242.9	6523750.24	-15.36	64.84
2375	3750	437491.1	6523750.68	-15.13	64.94
2375	3775	437743.19	6523752.12	-15.37	64.57
2375	3800	437994.64	6523747.34	-15.47	66.36