DEPARTMENT OF MINES AND ENERGY

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YORKE PENINSULA REVIEW OF GEOLOGY AND MINERAL EXPLORATION

PART 1:

MINERAL EXPLORATION SUMMARY AND RECOMMENDATIONS FOR FUTURE WORK

PART 2:

SUMMARY COMPILATION OF THE GEOLOGY OF YORKE PENINSULA

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YORKE PENINSULA

REVIEW OF GEOLOGY AND MINERAL EXPLORATION

PART 1

MINERAL EXPLORATION SUMMARY AND RECOMMENDATIONS FOR FUTURE WORK

Compiled by C.H.H. Conor, Geological Consultant

ABSTRACT

The metallic exploration activity conducted during the period 1970 to present (Part 1) and the geology of central Yorke Peninsula, viz. Maitland and Stansbury 1:100 000 sheet areas (Part 2), are summarised.

The principal companies involved were North Broken Hill Ltd., Aquitaine Australia Minerals Pty Ltd, BHP/Dampier Mining Ltd, CRAE Pty Ltd, Esso Exploration/ Pegmin Ltd/Otter Exploration NL, and Poseidon Ltd. Western Mining Corporation conducted work in the area before 1970 and, for many years until recently, was involved to the north in the Moonta province. Exploration in the vicinity of Moonta is outside the scope of this report.

The principal metallic targets were Moonta Cu-Au vein and Olympic Dam Cu-Au-U style deposits in the Proterozoic basement, and carbonate-hosted lead-zinc, and sedimentary uranium respectively in the Lower Cambrian limestones and Tertiary clastics cover sediments.

Tertiary and Quaternary cover is extensive therefore most exploration involved geophysics, including magnetics, electrical methods and local seismic, as well as extensive auger/RAB drilling. Aquitaine conducted a program of systematic mapping of the Cambrian carbonates in the vicinity of Curramulka.

No deposit of economic significance was discovered, although anomalous grades were encountered by drilling in the Weetulta Dome near Balgowan (BHP/CRAE), a possible extension of the Moonta Province. The mineralisation at Weetulta was considered to have alkaline carbonatitic affinities and similar alteration was encountered in a skarn near Port Julia.

Potential remains for Cambrian carbonate-hosted lead-zinc deposits along faults connecting with the basal Cambrian Weetulta Formation, for vein, skarn and diatreme related deposits in the basement, and for gold in the Winulta Formation and in the basal Tertiary fluviatile gravels.

MINERALIZATION; HIGHEST VALUES

TABLE 1

Highest Metal Values (ppm unless otherwise stated)

	ELEMENT								
	Cu	Ni	Pb	Zn	Co	Cr	Ag	Au	other
Tertiary									
Tertiary/Cambrian unconformity	-	-	-	-	8000	-	-	-	
Cambrian									
Ramsay Lst	-	-	260	430	-	-	-	-	
Parara Lst	310	-	370	310	-	-	-	-	
Parara/Kulpara contact	-	-	1500	1300	-	-	-	-	
Kulpara	1600	-	6500	4800	-	-	-	-	
Kulpara/Winulta	-	300	150	400	400	100	-	-	
Pre-Adelaidean									
Willamulka Volcanics	2500	-	-	-	-	-	-	-	
Silicious dolomite	1300	-	-	-	-	-	-	-	
Crystalline Basement									
sulphides in schists	7700	3500	-	-	1200	-	3.4	_	43U, 1.9%Ce
skarn	550	_	_	105	_	_	_	0.24	
vein (ie. Moonta style)									

INTRODUCTION

The aim of this study is two-fold:

1. to summarise all metallic exploration data held in the SADME open file system, within the confines of the Stansbury and Maitland 1:100 000 sheet areas[1]. Exploration in the Moonta-Wallaroo-Kadina Cu-Au province is not included.

2. Help evolve ideas for future exploration.

The reader is recommended to refer to the SADME Mineral Exploration Index Series (MEIS) compilations. The geology of Yorke Peninsula is described by Crawford (1965), the results of more recent work are summarised in Part 2 of this report.

EXPLORATION POTENTIAL

Central Yorke Peninsula has received a considerable amount of attention, with a number of approaches being followed. The following constitute the main targets:

1. Crystalline mid-Proterozoic basement:
    a. Wallaroo-Moonta style Cu-Au (Ag) vein deposits
    b. stratabound sulphide deposits in the metamorphics
    c. Olympic Dam style deposits (various models)

2. Cambrian carbonates:
    a. MVT style deposits (syn or semi-syngenetic)
    b. strata-bound syngenetic base metal deposits
    c. structurally controlled epigenetic deposits

3. Tertiary sedimentary uranium

In no case was exploration economically successful (Table 1), although BHP/CRAE extended mineralisation first found by SADME associated with felsic volcanics in the Weetulta Dome south of Moonta (YP7). Poseidon withdrew, for political reasons, from their sedimentary uranium search in the Clinton area at a stage when anomalous results were in hand from drilling (YP4). Also the assessment of a coincident

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[1] Thoughout the text page index numbers (eg. YP3) are used to refer the reader to the relevant summary data sheets in Appendix 1.

aeromagnetic+gravity high at Roger Corner (SE Stansbury 1:100 000 sheet) failed to find financial backing for drilling(YP15,16).

In spite of the degree of exploration which has taken place it is felt that further work is still justified.

Comments are restricted to the crystalline basement and the Lower Cambrian. The potential for sedimentary uranium in the Permian and Tertiary carbonaceous clastics is not discussed. Also, since SADME have an on going project looking at Tertiary fluviatile channel deposits, the Tertiary is also not considered, apart for drawing attention to the potential for placer gold and heavy mineral deposits.

Crystalline Basement

The Proterozoic basement is considered prospective for the following reasons:

1. the Doora Schist is a lithological package which is rich in metals and may have been the source for the vein deposits at Wallaroo and Moonta.

2. CRAE, in discussing the geochemical signature of the Weetulta district (YP7), likened it to that of alkaline carbonatitic provenances citing the Mt Painter Province. Hence by extension of the argument a similarity exists with the Stuart Shelf basement.

3. Exploration has located several zones of skarn-type alteration.

4. The occurrence of volcanics and felsic and basic intrusives.

Cambrian Carbonates

Much work has been carried out in unsuccessful search for lead-zinc mineralisation in the Cambrian carbonates. However it is felt that one avenue remains open; whilst company open file data indicates an intention to look for structurally controlled deposits, in actual fact the concept does not appear to have been followed through seriously.

In order to develop the argument a brief summary of the MVT model is set out below. Required are:

1. a sedimentary basin of sufficient size to evolve a large volume of metal-bearing brines during dewatering,

2. the presence of karstic or otherwise porous carbonates to be the locus of metal deposition at the basin margin,

3. conduit features including permeable sedimentary pathways, and dilatant structural zones,

4. sealing unconformities.

As far a the classic MVT model is concerned, Yorke Peninsula appears to constitute a reasonable target regime, with the following possible exceptions:

1. no significant hydrocarbon deposits are known as evidence of organic brine accumulation,

2. no major Cambrian karstic features are known although there is evidence of minor karstification.

To counter these negative points there is one important aspect which does not appear to have been considered, at least in any detail, that is the Winulta Formation.

Winulta Formation

The Winulta Formation has a dominantly clastic make up and is equated with the Mt Terrible Formation on Fleurieu Peninsula, the latter occupying a more distal position in the Stansbury/Murray Basin. Therefore the Winulta Formation has a large areal coverage.

The Winulta Formation or equivalents elsewhere in the State, sometimes referred to as the 'Transitional Beds', is known to be enriched in metals and has been the subject of some work (eg. Johns and Thomson, 1960).

On Yorke Peninsula some attention has been directed to the Winulta Formation as a possible host for copper or uranium. Such work was not successful in a direct economic sense although geochemical anomalism was detected.

To explain the anomalous metal content of the Winulta Formation and to fit it in the framework of a lead-zinc search, the following is suggested (Fig.1):

1. the Winulta Formation was a highly permeable layer underlying the Lower Cambrian carbonates and overlying Adelaidean strata which in places were not lithified,

2. the Winulta Formation constituted an ideal pathway for the expulsion of metal charged, dense brines from the base of the sedimentary pile during dewatering of the basin.

3. Metallic anomalism of the Winulta Formation, which is recorded at places within the Adelaide Geosyncline and on Yorke Peninsula, is direct evidence for the movement of metals through this horizon (Johns and Thomson, 1960).

4. The copper mineralisation of the Moonta Province is paired with gold, therefore the presence of placer gold deposits is a possibility in the basal Winulta Formation (also in the basal Tertiary gravels).

Following from the above mentioned points, any fracture penetrating the overlying, less porous, carbonate lithologies has the potential of being mineralised. There is no lack of fracturing of the carbonate shelf of Yorke Peninsula because it is intensely deformed by the western margin of the Torrens Hinge Zone. Moreover this portion of the Torrens Hinge Zone was known to have been active during the Kangarooian Movements at least during upper Parara times (ie. Koolywurtie Member).

An example of the type of mineralisation suggested is provided by Aquitaine at the Dowlingville Prospect, where anomalous Pb-Zn values were attributed to metallic enrichment along a fault penetrating Lower Cambrian carbonates.

Although all explorers have considered faulting, no company appears to have carried out studies which specifically define fractures and then concentrates effort upon them as the main target zones for ensuing exploration (geophysics and drilling). This aspect constitutes a gap in exploration procedures to date.

In summary an exploration model is valid which concentrates on mineralisation along fault generated pathways which connect the postulated conduit layer (Winulta Formation) with the potential host lithologies (Cambrian carbonates).

RECOMMENDATIONS FOR EXPLORATION FOR LEAD-ZINC MINERALISATION ON YORKE PENINSULA

Crystalline Basement

Wallaroo-Moonta style vein systems, Olympic Dam style volcanic breccia pipes associated with Tickera Granite stocks, and skarn type deposits are considered to be the types of mineralisation which have most promise on Yorke Peninsula. The occurrence of vein and skarn deposits are the most likely because those are the observed styles of mineralisation/ alteration in the region.

Such deposits have already been the subject of search but, due to the paucity of exposure, are still worthy of exploratory effort.

Any future exploratory program should involve the holistic use of geology, geophysics, and drilling.

Carbonate-hosted Lead-zinc

The location of faults penetrating the Cambrian carbonates is a primary requirement. This can be effected by geophysical interpretation and detailed geological mapping with geochemical follow-up. Suitable faults should be tested by drilling.

EXPLORATION, PRELIMINARY STAGE

Geophysics

Both target groups above demand a detailed geophysical appraisal of Yorke Peninsula data. Currently aerial survey data are available only as a somewhat confusing mosaic of different surveys, the data should be assembled in a form to eliminate as far as possible the effects of survey margins. A digital presentation is prefered which will have the benefit of computer manipulation and combination with other data (eg. Landsat TM, geochemistry).

Winulta Formation

It is recommended that a database be compiled (from work already done and from new sampling programs) on the distribution and geochemistry of the Winulta Formation. As mentioned above the Winulta Formation is considered a likely conduit for the passage of metalliferous fluids migrating from out of the basin centre to the basin margins. The formation also is a potential host for placer gold derived from the basement.

Sampling of the Winulta Formation at depth is recommended as a secondary target of shallow drilling programs (eg. construction sands).

Knowledge of metallic distribution within the Winulta Formation will assist selection of areas where the overlying carbonates have a higher potential for mineralisation.

SUMMARY OF COMPANY EXPLORATION INFORMATION

The main intent of this report is to summarise the recent exploration of central Yorke Peninsula; this is set-out below and detailed in Appendix 1.

There is a marked disparity in density of exploration when the Moonta province and the remainder of Yorke Peninsula are compared. Exploration within the Moonta province has been on-going since the discovery of the Moonta-Wallaroo-Kadina lodes. From 1960 onwards the North Broken Hill-Western Mining Corporation partnership extended the search outwards via a series of leases comprising SMLs 87, 87a, 87b, 624, and ELs 32,124, 249. The sheer volume of this earlier exploratory work prevents it from being included in this report. Data sheets for some non-metallic explorers are included either for completeness or because the lessees' drilling provides useful information (ie. YP8, YP11-13)

A more recent phase of exploration took place during the decade 1977-1987. This work was initiated by Aquitaine Australia Minerals Pty Ltd whose principal target was lead-zinc mineralisation in the Lower Cambrian carbonates; they utilised earlier seismic data together with the well data of Beach Petroleum NL.

Other explorers in the 1977-87 period are shown in Table 2. Summaries of exploration are presented in Appendix 1.

Subsequent to the work of Aquitaine Australia Minerals the following comprised the principle targets:

1] carbonate-hosted lead-zinc (including MVT models),

2] basement-hosted base metals and uranium with a lesser emphasis on gold. Models included Moonta vein-style mineralisation, strata-bound mineralisation and, in the later stages, Olympic Dam-type models.

3] sedimentary uranium.

Each organisation appears to have had a different approach; for example:

• Aquitaine Australia Minerals used a balanced program involving well thought-out conceptual modelling, detailed geology, geophysics, geochemistry and drilling.

• North Broken Hill and BHP/Dampier Mining used a pragmatic geochemical sampling approach which involved blanket RAB or auger drilling to retrieve sample; such drilling has had an unintended benefit in helping delineate an important construction sand resource in the overlying fluviatile Tertiary. Also the drilling will provide much information regarding lithological distribution below the Tertiary and Quaternary cover.

• CRAE generally entered as a joint venture partner late in the lives of several projects and and concentrated upon geophysical targeting methods followed up by drilling.

All major projects included investigation for lead-zinc mineralisation in the Lower Cambrian carbonates and search for base metal deposits in the metamorphic basement. Focus of the latter was initially towards Moonta-style mineralisation but swung to Olympic Dam models as more became known of that deposit. Uranium was a principal target commodity in the initial stages for both Esso and Poseidon. However change in government policy regarding uranium mining lead to the abandonment, not only of specific sedimentary uranium targets, but also those polimetallic plays which involved uranium, eg. Cu-U-Au Olympic Dam-type targets.

TABLE 2

Yorke Peninsula; Cross-reference Listing of Exploration Companies, Tenements & SADME Open File Envelopes

COMPANY	TENEMENT(S)	SADME ENVELOPES	Appendix page index
North Broken Hill Ltd. (not summarised in this report)	SMLs 87a & b, 624} ELs 32, 1254, 249}	{646, 727, 844, 920, {1259, 1786, 2235, {2407, 3042	
Western Mining Corporation (not summarised in this report)	SMLs 87a & b, 624 ELs 32, 1254, 249	646, 727, 844, 920, 1259, 1786, 2235, 2407, 3042	
North Broken Hill Ltd.	248, 420, 577, 972	3767	YP 1
	528	3702	YP 2
Dampier Mining Company Ltd.	no tenement	656	
(and/or BHP Minerals Ltd.)	253	2815	YP 8
	808, 1128	4214	YP 7
	499,906, 1112	3567, 4214, 5685	YP10
	1228	5685, 5686	
Aquitaine Australia Minerals	129, 180, 314	2425, 2550, 3040	YP 2
	128, 181, 315	2424, 2551, 3041	YP 9
Poseidon Ltd.	923, 1110	4503, 5091	YP 4
CRA Exploration Pty. Ltd.	923, 1110	4503, 5091	YP 4
	1276	6132	YP 5
	1128	4214	YP 7
Esso Exploration & Production Australia Inc.	525	3616	YP 6
Pegmin Ltd.	525, 870	3616	YP 6
Otter Exploration NL.	870	3616	YP 6
Aberfoyle Exploration P.L.	1018	4841	YP15
Concept Exploration Pty. Ltd.	1242	5816	YP16

PART 2

THE GEOLOGY OF YORKE PENINSULA
A SUMMARY COMPILATION

INTRODUCTION

The aim of this compilation (ie. Part 2) is to provide a summary of the geology of central Yorke Peninsula by compiling selected extracts from various Industry (SADME Open File), Government and University sources. It is intended that the report be read in conjunction with the summary of exploration activity (ie. Part 1).

This compilation is not intended to be definitive; for detail the reader is advised to study the large body of available literature, some of which is listed in the attached bibliography.

The geology of Yorke Peninsula is the subject of SADME Bulletin No.39 (Crawford, 1965). Since that date numerous studies have been carried out both as regional syntheses (eg. Stuart & Von Sanden (1972), Daily (1989)) and at exploration tenement and prospect level. A section of the new SADME Handbook of South Australian geology (Gravestock et al., in prep.) will look directly at the Early Cambrian geology; the Proterozoic is addressed by A.J. Parker in the same publication.

Six 1:50 000 scale geological sheets (Figs. 22-27), showing Cambrian and older lithologies below younger cover, are attached. The legend to these maps is presented as Table 4. Data for the geological sheets comes from a variety of sources; the reliability of information ranges from outcrop and drillhole based to speculative interpretation. Figure 21 shows the location of the map sheets (ie. part Moonta, Kainton, Maitland, Ardrossan, Curramulka and Port Julia) and also serves as a reliability indicator.

The reader should refer to Part 1 (Appendix 1) for drillhole details.

GEOLOGY

Central Yorke Peninsula occupies a part of a block of ground characterised by a high intensity magnetic signature and generally coincident with a positive gravity feature (Figures 3 and 4). The highly magnetic block is referred to as the Wallaroo-Moonta Province by Gerdes (pers comm.); it and other attached magnetic provinces (also named by Gerdes, pers comm.) are listed as follows (also see Figure 5).

Wallaroo-Moonta Province
including

Hardwicke Subprovince
Curramulka Subprovince
Stansbury-Ninnes Subprovince

Orontes Province

Vincent Province

Joseph Banks Province

The Wallaroo-Moonta Province, which, as indicated above, includes the Hardwicke, Curramulka, and Stansbury-Ninnes Subprovinces, comprises all of central Yorke Peninsula. The Hardwicke and Curramulka Subprovinces represent areas of noticeably different magnetic character. The Stansbury-Ninnes Subprovince represents easterly down-stepping of the Wallaroo-Moonta Province across the western portion of the Torrens Hinge Zone.

The western boundary of the Wallaroo-Moonta Province is discrete and stepped, and lies about 40km off-shore (Fig. 5).

Eight kilometres off-shore to the east of Yorke Peninsula is the N-S trending, 175km long Orontes magnetic feature which essentially defines the Orontes Province (Fig. 5); this was interpreted by Gunn (1984) to represent a major dyke, emplaced during stretching and thinning of the lithosphere as the Adelaide Geosyncline developed.

Finally, further east is the Vincent Province where the magnetics show a rapid reduction in intensity due to massive deepening of the Stansbury Basin. The Vincent Province is terminated abruptly against the Mt Lofty Ranges, which are interpreted as having been overthrust during the Delamerian Orogeny (Fig. 19)(Stuart and Von Sanden 1972).

Discontinuity sets are responsible for magnetic structuring visible within the Wallaroo-Moonta Province. Linear trends show some consistency along three main trends, ie. NNE (025°), NE (60°) and NW (320°) (Fig. 6). These trends are partly responsible for the stepped form of the western margin of the Wallaroo-Moonta Province (Fig.5). Linear trends from LANDSAT imagery, visible even through the high degree of cultural interference, coincide with a few of the NNE and NW directed magnetic trends. Crawford (1965) maintained that the NW trend dominates, being characterised by axes to open folds which deform the Cambrian sequence. Also Crawford (1965) showed off-shore scarps, which are roughly coincident with the position of the western and eastern magnetic boundaries. These scarps signify recent reactivation along boundary structures.

Lithostratigraphy

The greatest problem concerning the study of the geology of Yorke Peninsula is the degree of blanketing by Recent, earlier Quaternary and Tertiary deposits. Nevertheless there has been sufficient mapping and drilling during the last 30 years to provide a general outline. Six 1:50 000 scale compilations are presented as Figures 22-27 (legend Table 4). The general succession is exempified by the cross-section Figure 15.

Yorke Peninsula basement is a part of the Gawler Craton but occupies a position on the thinned craton margin bordering the Adelaide Geosyncline. Basement rocks, comprising moderately high grade metamorphics and granitoids, are interpreted as being equivalent to some of those present on Eyre Peninsula. Overlying rocks are shelf and ramp sediments deposited during the rift and sag phases of the Adelaide Geosyncline aulocogen (Fig. 7) and the tectonically related Kanmantoo Trough.

Cambrian basal siliciclastics, transgressive shelf carbonates, regressive clastics, and late stage evaporites, carbonates and clastics were generally deposited over Yorke Peninsula, but are greatly thickened south of Curramulka (Figs.8, 14).

Permian fluvioglacials and brackish-marine sediments are preserved in the Troubridge Basin, which coincides with the area of greatest thickness of Cambrian on Yorke Peninsula (Fig.8).

Tertiary sediments, both fluviatile and marine, represent the development of the St Vincent and Spencer Gulfs.

There are nine major, unconformity-bounded groups which make up the geology of Yorke Peninsula (Fig. 9), these are:

QUATERNARY

1. Soils, wind-blown sands, calcrete, playa evaporites

TERTIARY

Australia/Antarctia break-up. Eocene-Miocene

2. marine - clayey sands and limestones
   non-marine - fluviatile sands and gravels

LATE PALAEOZOIC

3. Permian, fluvioglacial diamictites, minor lignites

Delamerian Orogeny

EARLY PALAEOZOIC

LOWER-MIDDLE CAMBRIAN

4. Coarse to fine grained clastics, carbonates and evaporites

Kangarooian 'earth' movements

5. shelf carbonates, paralic clastics

Kanmantoo Trough formation

LATE PROTEROZOIC

6.rift and sag phase sediments (only on the northeastern part of the Peninsula) and volcanics (not found within the area under discussion),

Adelaidean, aulocogen formation

MID PROTEROZOIC

7. Wandearah Metasiltstone, Willamulka Volcanics, Bute amphibolite (restricted to northern Yorke Peninsula)

8. Tickera/Arthurton Granite (late-post orogenic) 1585±3Ma[2]

EARLY PROTERZOIC

Kimban Orogeny

9. Doora Schist, amphibolites and Moonta Porphyry 1737±5Ma[3].

CRYSTALLINE BASEMENT LITHOLOGIES.

North Broken Hill, Dampier Mining/BHP and to a lesser extent other companies carried out extensive auger/RAB and deeper drilling programs in order to sample basement lithologies and test geophysical anomalies. In some cases rock classification studies were made of basement rocks and sometimes lithological maps produced from the results. The following lithological descriptions in Table 3 come from Dampier Mining (EL 499, Envelope 3567):

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[2] Creaser, 1989

[3] Fanning et al., 1988

TABLE 3: CRYSTALLINE BASEMENT LITHOLOGIES

ROCK TYPE	DESCRIPTION	Grain Size mm
Dolerite	Massive to weakly foliated; amphibole/ pyroxene>>feldspar; some magnetite.....	<1
Amphibolite	Weakly foliated; hornblende, chlorite felsics; feldspar veinlets (<5mm wide).....	0.2
Hematite Rocks	Massive quartz+hematite (+feldspar); hematite veinlets ~30%.....	---
Magnetite rocks	Massive quartz+magnetite (+feldspar); white translucent quartz or pink feldspar with clusters and 'chips' of magnetite.....	8
Granite	massive or foliated; pink feldspar, quartz ±botite, hornblende & magnetite (<20%). Rare hematite.....	2-8
Granodiorite	Massive quartz, pink, cream or pale green feldspar ± minor biotite.....	2
Aplite	Massive; quartz eyes (<2mm, ave 1mm long) in feldspar matrix.....	---
Porphyry	Massive or foliated; pink feldspar > white quartz. Irregular grain boundaries.....	2
Pegmatite	Massive; quartz >>feldspar; muscovite (or biotite) ± minor tourmaline.....	---
Microgranite	Fine-grained granite equivalent.	1
Granitic gneiss	Generally feldspar >>quartz; ±biotite, hornblende, chlorite, magnetite (total < 20%).....	2-4
Hornblende-biotite gneiss or schist.	Generally feldspar > quartz; hornblende + biotite 10-15%.....	variable
Hornblende gneiss	Variable feldspar+quartz; hornblende 10-90%, magnetite 0-10%.....	variable
Biotite gneiss	Variable feldspar + quartz; biotite 10-80% magnetite 0-10%.....	0.2-2
	(occasionally porphyritic feldspar ~3mm, wrapped by foliation)	
Magnetite gneiss	Variable feldspar+quartz+magnetite (15-20%).Minor biotite and hornblende.....	variable
Muscovite schist	Lineated; muscovite+quartz±feldspar; ±disseminated magnetite or hornblende.....	0.2-1
Biotite schist	Variable quartz and feldspar+biotite (10-60%)±minor magnetite, chlorite, sericite.....	0.2-2

Doora Schist

The schistose and gneissic lithologies shown above comprise the Doora Schist, which is a possible equivalent of the Broadview Schist of Eyre Peninsula (Parker in prep.). The Doora Schist is highly deformed and was metamorphosed to mid-amphibolite facies grade prior to the intrusion of the Tickera Granite.

The high iron content of the metamorphics is noteworthy and sulphides, generally in the form of pyrite, are common.

Moonta Porphyry

The porphyry is considered to represent metamorphosed hypabyssal, porphyritic microgranite intrusives and co-genetic rhyodacitic flows (Parker et al. 1989) interlayered with members of the Doora Schist. The porphyry is dated at 1737±5Ma (U-Pb zircon, Fanning et al., 1988), which is similar to a date obtained from rhyolitic volcanics on Wardang Island ie. 1734 Ma. (Bone, 1984). The exact relationship of the Moonta Porphyry to the Doora Schist is not certain, however Parker (in prep.) states a possible correlation with the Myola Volcanics of Eyre Peninsula.

Whilst the Moonta-Wallaroo district typifies the occurrence of the Moonta Porphyry, it is likely that both the felsic porphyry reported within the core of the Weetulta Ring Structure and those encountered by the BHP/Dampier RAB drilling are related.

Altered Lithologies

In addition to the lithotypes shown in Table 3, some geophysical targets which have been investigated by drilling have proven to be diorite/gabbro or skarn-type alteration zones. Skarn-type assemblages (eg. andradite garnet +actinolite, sphene +hematite/magnetite ±sulphides, calcite +quartz +schorl +pyrite) have been found at a number of places across the peninsula, eg. Tea Tree Glen, Curramulka, Port Julia and the Parara Mine. Metasomatism is apparently widespread causing Na+K enrichment, the introduction of iron as both magnetite and hematite, and the oxidation of magnetite to form martite.

Tickera Granite

'Tickera Granite' and 'Arthurton Granite' are names given to a varied suite of granitoids dated at 1585±3Ma (U-Pb Creaser, 1989). The suite includes granites, adamellites, granite gneisses and pegmatites. It is equated with the post-orogenic Hiltaba Suite of Eyre Peninsula and the Olympic Dam Granite of the Stuart Shelf.

Deformation of pegmatitic veins in the enclosing Doora Schist, a local indistinct foliation and the presence of the granite gneisses suggest that the Tickera Granite may have been introduced late during the Kimban orogeny.

WANDEARAH METASILTSTONE, WILLAMULKA VOLCANICS, BUTE AMPHIBOLITE

The Wandearah Metasiltstone, the basic Willamulka Volcanics and rhyolite-dacite volcanics are restricted to the northern part of the peninsula. Although the Wandearah Metasiltstone appears to overly the Doora Schist, the possibility remains that it represents a less highly metamorphosed equivalent of the Doora Schist.

The Wandearah Metasiltstone is a dolomitic, hematitic and carbonaceous metasiltstone with interbedded dolomite, limestone and minor jaspilite (Plimer, 1980).

The Bute Amphibolite represents a basic suite comprising dark green gabbro, amphibolite, dolerite and possibly tonalite (Plimer, 1980).

It is possible that the Wandearah Metasiltstone and the Willamulka Volcanics are equivalents of the Moonabie Formation and the Roopena Volcanics of northern Eyre Peninsula (Parker et al., 1989).

ADELAIDEAN

Plimer (1982 and SADME Open File Envelope 3767) outlined the Adelaidean stratigraphy for northern Yorke Peninsula as follows:

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Wilpena Group

A.B.C. Range Quartzite (Simmons Quartzite or Barunga Sandstone)
- medium grained white quartzite

Brachina Formation (Tregolana Shale)
- maroon and green shales

Seacliff Sandstone
- cream feldspathic sandstone, quartzite, minor shale

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Umberatana Group

Willochra Subgroup (undifferentiated)
- maroon siltstones and shales, grey feldspathic sandstone, calcareous sandstone, minor dolomite, limestone, conglomerate.

Brighton Limestone
- grey sandy and silty dolomitic limestone, limestone

Tapley Hill Formation
- interbedded carbonaceous shale and siltstone, and grey dolomite.
Woocalla Dolomite - basal grey dolomite.
McLeay Beds-grey quartzite and conglomerate.

Sturt Tillite
- grey boulder and pebble tillite, intraglacial grey dolomitic and feldspathic quartzite and sandstone

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Burra Group

undifferentiated - grey feldspathic quartzite and siltstone

Emeroo Quartzite
- grey, pink, orange feldspathic quartzite and conglomerate

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Representatives of the Adelaidean succession are not known south of the Kainton 'feature' structure (Fig. 2) (ref: POSEIDON in SADME Open File Envelope 4503).

CAMBRIAN

Since the discovery of 'corals' (actually archaeocyatha) by Tepper at Horse Gully near Ardrossan (1879), considerable, though sporadic, attention has been given to the Lower Cambrian carbonates and clastics on Yorke Peninsula. There is a substantial literature, some of which is listed in the bibliography.

Jenkins and Gravestock (1988) have reconstructed the palaeogeography of early Cambrian times in South Australia (Fig. 10). They show Yorke Peninsula as occupying a position on the submerged eastern flank of the Gawler Craton, in-shore from a northeasterly trending basin margin. The Yorke Peninsula carbonates therefore represent shelf sedimentation with progressively deeper water facies being in turn represented by the Upper Normanville and Kanmantoo Groups of the Kanmantoo Trough. A lithostratigraphic correlation between the Yorke and Fleurieu Peninsulas is shown in Figure 12 (Alexander, 1990).

Cook (1982) shows the basin margin to be of continental scale, extending NNE to Cape Yorke Peninsula (Figure 11). In Cook's interpretation the western half of Australia is emergent, the eastern portion deeply submerged, whilst the dividing central strip forms a shallow marine shelf. Yorke Peninsula is a small portion of the shelf strip which extends across the Arrowie Basin into the Warburton and Georgina Basins. Fitted into this interpretation, Yorke Peninsula was the locus of shallow marine sedimentation comprising, in the main, shelf carbonate deposition. Clastic sediments, both underlying and overlying the carbonates, represent the respective evolutionary stages of subsidence and uplift of the basin margin in response to the overall tectonic and eustatic controls.

Sedimentation

Daily (1956) established a faunal succession and the stratigraphy has been refined since. Gravestock (in prep.) demonstrates a correlation of the Lower Cambrian rocks on Yorke Peninsula with those on Kangaroo Island and Fleurieu Peninsula. A summary of the lithostratigraphy and depositional environments is shown in Figure 12, and Figure 15 shows the general sequence in section.

There are a number of important breaks or part breaks in Cambrian sedimentation of Yorke Peninsula, some of which are eustatic and some tectonic. Three such breaks are:

1. a basal unconformity between the metamorphic basement or Adelaidean and the basal Cambrian Winulta Formation clastics. This marks a major transgressive stage extending northward into the Arrowie Basin (ie. base of Parachilna Formation).

2. A eustatic break in sedimentation at the Kulpara Formation \ Parara Limestone boundary, visible north of the Curramulka 'hinge line' and extending into parts of the Arrowie Basin, but not affecting deposition to the south of Curramulka.

3. A local break in sedimentation in the marginal marine continental Minlaton Formation which extends downwards into the underlying Koolywurtie Member. This break, together with the major change in sedimentation style, represents the Kangarooian Movements of Daily and Forbes (1969).

Aquitaine considered the sedimentology of Yorke Peninsula in some detail relating samples to the Minlaton Stratigraphic Bore No.1. Faunal and textural assemblages are recognised. Aquitaine's summary is set-out below in order to illustrate the early Cambrian lithotypes. Cambrian facies groupings are labelled Cha to Che and interpreted lateral time equivalents of facies are indicated thus: Cha' to Che' (see Fig. 26).

"Winulta Formation (Chw-a)

This formation was previously defined as Proterozoic by Crawford (1965) and 'transitional beds' by Beach Petroleum, but is now regarded as Early Cambrian, being equivalent to the Mt Terrible Formation (Daily, 1976). *[The distribution of Winulta Formation outcrop on Yorke Peninsula is shown in Figure 13 (Daily, 1989)]* The formation is a transgressive sandstone sequence composed of interbedded coarse to fine grained clastics (sandstones, arkoses, micro conglomerates, and conglomerates). In the vicinity of Mt Rat, the unit is highly glauconitic. Evidence from deep stratigraphic bores and oil wells indicates that interbedded dolomites exist towards the top of the formation on southern Yorke Peninsula.

The Winulta Formation has not been studied in detail, as interest is chiefly in the overlying carbonate sequence. Environmentally the formation probably represents sediments of the supratidal to intertidal zone deposited, at least in part, contemporaneously with the Kulpara Formation carbonates, the latter forming upon a broad shelf on intertidal flats (Chk-b) and in shallow infratidal environments (Chk-c).

The Winulta Formation is coeval with the clastic Parachilna Formation of the Arrowie Basin exposed in the Flinders Ranges.

Kulpara Formation (Chk)

As indicated above two very broad facies groupings have been defined:

Chk-b

The basal unit of the Kulpara Formation consists of buff to light brown to light grey dolomicrosparites ± intraclasts, algae, pellets, silt, and is frequently silicified. The rocks are markedly unfossiliferous, well oxidised, and almost exclusively dolomitic. The environment of deposition is thought to represent a very shallow intertidal zone on a shelf area.

Chk-c

This unit broadly consists of buff-brown weakly dolomitised and silty limestones (microsparites). Other characteristics are the presence of oolites, ghosts of organisms, secondary silica and relatively good porosity. In the immediate vicinity of Curramulka a distinct sub-facies can be defined (Chk-c') consisting of an algal and archaeocyathan faunal assemblage. Traces of galena were located at the surface in the vicinity of SYC 605, within a silty dolomite.

The environmental indications for the facies are consistent with a shallow infratidal shelf (seawards from facies Chk-b) with possible biostromal development indicated by Chk-c'.

Parara Limestone (Chp)

'Glauconitic Facies' Chp-d

(a) Chp-d: The basal facies of the Parara Limestone consists broadly of a phosphate and glauconite rich unit, with a faunal assemblage of Chancelloria, Trilobites, Hyolithes, and Girvanella.

West of Curramulka the unit is a grey limestone, with often moderate carbonaceous material (TOC 0.4%) and minor pyrite. At the Curramulka Quarry, a nodular mottled limestone with traces of galena and fluorite crops out, and is typical of the Chp-d facies. The nodular limestone consists of a silty, weakly dolomitic matrix, with elongated carbonate nodules of average 30 mm length. The unit is typical of the Parara Limestone elsewhere, and it is thought that the texture is due to a soft-sediment pressure solution activity.

(b) Chp-d': To the immediate south and east of Curramulka, the Parara Limestone (where observed in outcrop) consists of a grey to buff glauconitic sub-facies. Two copper occurrences are known in this area associated with recrystallization of the host rocks.

Although glauconite and phosphate are poor environmental indicators, other features indicate that (d') is a shallow shelf equivalent of (d) which was being deposited in a suboxic, possibly subphotic environment. The thinning of Chp-d in the area west of Curramulka indicates that possibly the large northwest trending fault may have acted as a subsidiary hinge during sedimentation. Of note also is the possible disconformable relationship between Chp-d' and Chp-b near Roscommon.

The Parara Limestone (Chp-e)

Analysis of depositional trends within Chp-e indicate consistent features as defined in the lower glauconitic unit (Chp-d), ie. Chp-d and Chp-e are consistent with deeper water environments, and Chp-d' with shallower intratidal environments.

Characteristic of the unit as a whole is the presence of archaeocyathids, sponges, trilobites, small skeletal fossils (inc. molluscs, Chancelloria) and phosphates.

(a) Chp-e: This facies occurs to the southwest and east of Curramulka where it is expressed by dark grey richly fossiliferous limestones.

(b) Chp-e': To the south of Curramulka, defining the shelf or 'nose' of the basement 'high', a buff to yellow (microsparite) limestone occurs. Sampling indicates that the facies broadens to the southwest, but is not present in the hinge zone area to the east of Curramulka. The unit possibly is equivalent to the Koolywurtie Limestone (Daily, 1976)."

Gravestock (in prep.) points out the importance of a 'hinge line' in the vicinity of Curramulka (see comment above, an observation also made by Aquitaine (ie. last paragraph in section "Parara Limestone (Chp) - 'Glauconitic Facies' Chp-d").

The Koolywurtie Member of the Parara Limestone is an archaeocyathid biohermal complex representing a reef system fringing the southeastern shoreline of the Gawler Craton (Daily, 1989). In places it is present at the expense of the Parara Limestone.

To the south of the 'Curramulka hinge line' the Parara Limestone is 270m thick in Aquitaine drillhole SYC101, where several tuffaceous layers are correlated with the Truro Volcanics. Thicknesses are interpreted as being greater in the vicinity of Stansbury (Fig. 14).

To the north of the hinge line the Parara Limestone is only 25m thick and characterised by the development of numerous phosphatic hardgrounds. However, Daily (1956) reports 135m of Parara Limestone in the Kulpara area, perhaps related to the 'Kainton feature'; a structure informally named by Poseidon (SADME envelope 4503).

Stuart and von Sanden (1972) identified a second hinge line set, this one trending NNE and representing the western portion of the Torrens Hinge Zone (Torrens Fault Zone in Figure 19). Re-activation of the Torrens Hinge Zone occured from mid Parara Limestone times and contributed to the Kangarooian Movements of Daily and Forbes (1969).

Figure 18 demonstrates the complexity of structure, mainly attributed to the Kangarooian event, which has affected the distribution of Cambrian strata.

Younger Cambrian Units

The contact of the Minlaton Formation with the underlying Koolywurtie Member is either conformable or erosional due to local uplift related to the Kangarooian Movements. Only the Ramsay Limestone is visible in outcrop, all other overlying units are known only from drilling.

Quoting from Gravestock (in prep.):

"Two contrasting facies associations (*of the Minlation Formation*)[4] are evident. The first is a red-bed, conglomerate suite (*Fig.16 from Blissett 1968*), the other is a succession of clastics, carbonate and evaporites, both found in Minlaton-1 drillcore (Crawford, 1965). There is a conformable passage from Parara Limestone to grey-green shale of the Minlaton Formation which becomes red-brown, silty and micaceous over a 20m interval, before interbeds of conglomerate first appear. The conglomerate (10m thick) is composed of clasts of Kulpara Formation and Parara Limestone and is crudely interbedded with muddy fine-grained sandstone and shale which then predominate over the following 65m. A 20m thick dolomitic limestone follows. This is stromatolitic, peloidal, bioturbated, and vuggy, corresponding to 'Unit D' of Watts and Gausden (1966) in Stansbury West -1. It is correlated here with the Milendella Limestone Member of the Carrickalinga Head Formation. Finally, 13m of buff stromatolitic dolostone, with numerous anhydrite interbeds, thin sandstones and shales, intervenes before the Minlaton Formation is overlain transitionally by Ramsay Limestone.....

The transgressive marine Ramsay Limestone is richly fossiliferous and elements of Faunal Assemblage 10, found also in the Wirrealpa and Aroona Creek

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[4] Phrases and figure references in italics have been introduced by the present author.

Limestones of the Arrowie Basin (Daily 1956, 1957). Basal quartz sandy ooid grainstone, oncolitic and skeletal beds pass into black nodular lime mudstone."

Overlying the Ramsay Limestone is a sequence of alternating siliciclastics and carbonates namely the Corrodgery Formation, Stansbury Limestone, Moonan Formation and Coobowie Limestone (Figs. 12, 18).

Above the Ramsay-Coobowie sequence is the shallow water, clastic Yuruga Formation (548m thick in Stansbury Town-1 borehole). Sediments are dominantly red-brown, cross-bedded, fine grained, feldspathic sandstone and siltstone, but include locally conglomeratic lenses sourced by rocks of the Gawler Craton. No younger Cambrian sediments are known from Yorke Peninsula.

PERMIAN

Much of the Cambrian succession in the southern portion of Yorke Peninsula is obscured by a considerable thickness of Permian fluvioglacial, sandy diamictite, which infilled the Troubridge Basin (Figs. 8 & 15).

TERTIARY-QUATERNARY

The dominantly marine Tertiary sediments east of the Ardrossan Fault were the subject of work by Poseidon (Bluck 1983). More recently Pain et al. (1992) investigated, by drilling, the dominantly fluviatile Tertiary sands west of the fault as a source of construction material.

The description by Bluck (1983) of the Cainozoic geology of northeastern Yorke Peninsula, west of the Ardrossan Fault, is quoted below:

"2.1.4 Cainozoic sequence

2.1.4(a) Introduction

"The most complete Cainozoic section was obtained in drillhole AP-8 drilled immediately east of the Ardrossan Thrust zone: the upper portions of this section can be readily correlated with the coastal marginal marine stratigraphy presented by Stuart (1970) however, the lower portion represents an apparently new, prograding, mature, fluviatile sequence.

The section and proposed correlations from AP-8 are:

From	To	Thickness	Description	Formation
0.0	3.5	3.5m	Sandy soils, calcrete nodules and pink to red-brown clay	Sub-recent soil and weathering profile
3.5	22.0	18.5m	Red-brown to buff claystones, siltstones, and clayey fine grained sands; minor silicified fossiliferous (Turritella) sandstones and some glauconitic bands	Rogue Formation
22.0	28.0	6.0m	Pale khaki claystones (kaolinite?) with minor fine siltstone	Throoka Silts
28.0	53.0	25.0m	Red to grey to khaki claystone, siltstone, and clayey fine to medium grained sandstone, minor medium to coarse grained well sorted sands	Muloowartie
53.0	61.0	8.0m	White, cream and buff massive to variegated clay with minor to accessory silt	} }Cream Clay } Unit (informal name) }
61.0	63.0	2.0m	Cream to light grey clay, silt and fine sand	} }
63.0	113.0	50.0m	Grey to brown, occasionally buff, fine grained to granular sands, accessory silty phases towards top and numerous pebble bands towards base; clasts predominantly well rounded quartzose and tough lithic materials. Individual bands mature and commonly fining up. Carbonaceous wisps and lignitic fragments or thin bands commonly	Mature Sand Unit (informal name)

			present in the grey, un-oxidised phases.	
113.0	118.0	5.0m	Grey to brown fine grained to granular sands with prominent pebble bands, intercalated claystone and lignite.	Basal Sand Unit (informal name)

This section, and in particular, the three informal units, can be recognised in all of the holes drilled to the west of the Ardrossan Thrust zone in the area outlined by the +20m Cainozoic isopach (Plate 1). The individual units, their local facies variations, and the basis for their correlation from hole to hole, are discussed below.

2.1.4(b) Basal Sand Unit

This unit, which was intersected in all of the holes drilled, varies from 1.5 metres of soft brown lignite with a thin basal proximal conglomerate (AP-4), to 4.5 metres of cream and brown clays with minor granular sands (AP-9), to 5 metres of grey to dark grey coarse grained to pebbly silty sands with included basement boulders overlying 2 metres of black silt and clays (AP-6). Despite this variance the unit is readily differentiated from the overlying Mature Sand Unit by:

- a predominance of silty and clayey phases, these are often variegated in colour, or black grading to carbonaceous muds and poor lignites

- dirty, immature, pebble to boulder bands

- frequently a proximal conglomerate is developed at the basal unconformity, and isolated basement boulders often occur higher up in the unit

- the unit has an anomalous radiometric response, and the clay or lignite units which are invariably present produce a pronounced neutron low.

Though relatively thin, the unit is laterally persistent: the depositional environment varies from active, high energy, fluviatile channels to over bank settings. On the available data it appears a lacustrine environment may develop west and southwest of hole AP-4.

2.1.4(c) Mature Sand Unit

This unit was intersected in all of the holes drilled; while thickness varies markedly (4.5 m in AP-10 to 33.5 m in AP-7, both west of the Ardrossan Thrust, to 50.00m in AP-8 east of the Ardrossan Thrust) the unit is characterised by mature sands with

minor silt and clay components. the unit displays a gross grain size variation with pebble bands being relatively common towards the base, while finer sand and silt units become more common towards the top. Additionally, individual sand units could be observed during drilling to vary from silty fine sands, through medium coarse grained or granular sands over distances of 1 to 4 metres. Clasts are invariably well rounded, with a high sphericity, and consist predominantly of clear and milky quartz (predominantly in the sand sizes) and accessory various light and dark coloured fine grained to aphyric intrusive and metamorphic rocks (predominantly in the granule to pebble sizes).

To the west of the Ardrossan Thrust the unit is commonly light grey to grey with traces of lignite fragments and dispersed wispy carbonaceous material, or a pale yellow brown with limonitic or jarosite films on the constituent grains. To the east of the Ardrossan Thrust, in hole AP-8, general colourations are very similar but lignitic fragments and carbonaceous wisps are far more common and some discrete lignitic bands are developed.

The unit is readily characterised by:

- the preponderance of clean, mature sands

- a gross grain size gradation through the unit with pebble bands concentrated towards the base and silts towards the top

- upward fining in individual sand horizons

- a general paucity of clays, and an absence of the red clays and silty clays characteristic of the Muloowurtie and Rogue Formations

- a restricted range of lithologies in the clasts; they are invariably composed of physically tough and chemically stable rock types and no ironstone, calcrete? or limestone fragments were observed in the unit

- the geophysical response is not particularly characteristic with both the gamma and neutron profiles being relatively flat.

The unit represents an active fluvial valley system opening to a deltaic front system to the east of the Ardrossan Thrust. No information is available on source areas or transport direction, though the maturity of the clastic components indicates fluvial transport over a substantial distance. It is probable that the principle channel flowed from the north-northeast to south-southwest through Clinton Centre, turning southeast to debouch over the Ardrossan Thrust zone west of Price into a marginal marine environment. The area northwest of Dowlingville may contain a tributary running

back southwest to the Ardrossan basement high, or a flood plain and over bank facies.

2.1.4(d) Cream Clay Unit

All of the holes intersected this quite distinct unit which, where best developed in hole AP-8, consists of a basal 2.0 metres of cream to light grey to buff or brown, clayey silt and fine sand which graded up into 8.0 metres of cream and buff, massive to variegated clay with minor silty clay. To the west of the Ardrossan Thrust the unit is generally thinner (4.4m in AP-7 to 2.4m in AP-2) but consists of the same elements of an upper clay and intercalated silts with underlying silty clays to fine sands.

None of the drill intersections provided any coherent samples, however, a water sump excavation in the bottom of Crowell's sand quarry has exposed a pale grey, massive, claystone with fine silt bands which correlates with the cream clay unit in hole AP-9. A sample of the quarry material was collected for petrographic examination: the report is attached as Appendix III. The material is a silty argillite consisting predominantly of kaolinite-illite with small dispersed splinters of quartz and muscovite, occasional thin silty laminae and a few heavy mineral grains. A feature of the rock is that it displays simultaneous extinction due to lithification recrystallisation, suggesting that the unit was originally overlain by a reasonably substantial sedimentary section.

The principle features of the unit are:

- its lateral persistence and relatively uniform thickness over the are investigated

- its consistent composition and gross upward fining from fine sandy-silt to silty-clay

- its apparently consistent stratigraphic position

- pervasive pale colouration and general absence of organic material.

Because of the active fluvial character of the underlying Mature Sand Unit it is possible that the Cream Clay Unit is a complex composite of flood plain and over bank deposits. However, the unit has the characteristics of a prodelta assemblage, and is more likely to have formed as a single event throughout the channel system during a rise in the depositional base level.

2.1.4(e) Muloowurtie Formation

This unit was intersected in all of the holes except possibly AP-3. It is best developed east of the Ardrossan Thrust Zone in hole AP-8 which intersected 25 metres of red to grey to khaki claystone, siltstone and clayey fine to medium grained sandstone, with subordinate medium to coarse grained, and rarely granular, sands.

To the west of the Ardrossan Thrust complete but much thinner sections were obtained in most holes. Thickness decreases from west (14.5m AP-5) to east (7.5m AP-7), and possibly from south (14.5m AP-5) to north (6.0m AP-4 and 11.5m AP-10), though the data is too scattered to be certain in the latter cases.

The sections exposed in Crowell's sand quarry, 4.5 kilometres west-southwest of Price, were assigned to the Basal Fluviatile Sediments by Stuart (1970). However, they overlie the informally named Cream Clay Unit, are themselves overlain by equivalents of the Throoka Silt, and can be traced laterally for some kilometres. It therefore seems more reasonable to place these rocks into the Muloowurtie Formation, rather than group them with the Basal Fluviatile Sediments, which are usually localised developments of conglomerate and fluviatile sands on, or immediately adjacent to basement.

The characteristic features of the unit are:

- it is predominantly immature with a high proportion of siltstone and claystone horizons throughout

- sand beds are generally poorly sorted with a high silt-clay matrix component

- sands are fine to medium grained with only minor granular phases

- the clastic material is rounded to well rounded but sphericity is quite variable

- clasts are predominantly composed of tough lithic materials, but ironstone and calcrete fragments are relatively common

- the radiometric response is invariably flat.

In the quarry area the depositional environment was obviously fluviatile with some 11 metres of laminated to thinly bedded sands exhibiting abundant small to medium scale cross-stratifications, and common coarse channel lag deposits. Stuart (1970) measured channel and cross-strata directions in the quarry and determined a sediment transport direction towards the southeast (1320 Grid).

2.1.4(f) Throoka Silts

This unit was defined by Stuart (1970) as consisting "of laminated to very thinly bedded quartz sands and subordinate silty and arenaceous clays. No overall vertical or lateral textural trends are apparent. Muscovite is a common accessory mineral and kaolinite is the dominant clay mineral. There are also traces of illite and chlorite". The unit was previously referred to as "unfossiliferous ochreous clays" by Tapper (1897). The name is tentatively assigned to the 6.0 metre section of pale khaki claystone (kaolinite) with minor fine siltstones obtained in hole AP-8 east of the Ardrossan Thrust. An equivalent section of red-brown to khaki clays with minor silts was intersected immediately below the soil profile in the majority of the holes drilled west of the Ardrossan Thrust. The unit subcrops over substantial portions of the inferred channel area, and is probably responsible for the U and Th channel spectrometer anomalies obtained in these areas.

The principle features of the unit are:

- a predominance of red to khaki clays, probably predominantly kaolinitic

- accessory thin intercalations of fine sand and silt

- reasonable lateral persistence; thickness variations cannot be assessed as the section is generally incomplete

- typically the downhole geophysical log shows an elevated, spiky, radiometric response with a coincident neutron low.

The unit is interpreted as a lagoonal assemblage by Stuart (1970). the apparent lateral persistence and consistent stratigraphic position suggest the environment was quite extensive, and a similar mechanism to that proposed for the Cream Clay Unit may have operated.

2.1.4(g) Rogue Formation

The unit is "a mainly marine sequence consisting of quartz sands, sandstones and siliceous sandstones, siliceous and arenaceous limestones, mudstones and clays. Sands and siltstones are more common than other rock types" (Stuart, 1970). The unit is characterised by a carbonate-siliceous facies rich in Turritella underlain in places by glauconitic quartz sand.

Hole AP-8, collared immediately east of the Ardrossan Thrust, intersected a sequence of red-brown to buff, fine grained to granular sands with a predominantly clayey to

silty matrix and occasional pebble bands, between surface and 22.0 metres. Siliceous fine quartz sandstones with abundant Turritella fragments were intersected between 6.0 and 11.0 metres, and were underlain by 5.2 metres of intermittently glauconitic khaki clayey sands. Equivalent sediments were not recognised in the holes drilled west of the Ardrossan Thrust, though the extensive areas of sandy clays and calcrete incorporated in the recent soil profile may represent a laterally equivalent facies.

The unit was deposited in a marginal marine environment and may indicate a major marine transgression terminating the previously dominant fluvial regime.

2.1.4(h) Conclusion

The fluviatile sequence formed by the Basal Sand Unit, the Mature Sand Unit, and the Cream Clay Unit represents a major palaeodrainage system. Flow appears to have been from the north of the Licence area, along the present valley floor through the Clinton Centre, thence turning southeast to debouch over the Ardrossan Thrust forming a major delta immediately south of Price. The system is informally referred to as the Clinton palaeochannel."

STRUCTURE

Viewed regionally there appear to be three main structural elements, which generally coincide with the magnetic trends already mentioned (Fig. 6). The structural trends are as follows:

1. NE Structural Trend.

Short elements of this trend are visible in the magnetics (Fig.5). Gravestock and Gatehouse (1990) and Alexander and Gravestock (1990) suggest that sedimentation along the Stansbury-Arrowie-Murray basin margin followed this direction (Fig. 10).

2. NW Structural Trend

Northwesterly trending discontinuities are clearly visible in the magnetics and at least one, in the vicinity of Curramulka and Wardang Island, is associated with an obvious Landsat lineament which is visible in spite of intense cultural overprint. This latter lineament is herein tentatively correlated with the 'hinge line near Curramulka' of Gravestock (in prep.).

Three NW linear trends are important in that they appear to coincide with basin margins, Cambrian depositional features or Tertiary karstification; therefore by inference they represent sporadically active structures initiated during the early Cambrian or even earlier. The following three NW trending structures were recognised by Crawford (1965) and are:

• Warooka fault and the Wallaroo-Moonta Magnetic Province Boundary; approximates the SW margin of the Permian Troubridge Basin,

• Curramulka 'hinge line' (Gravestock in prep.); appears to have affected sedimentation during basal Parara Limestone times. To the southwest nodular carbonates indicate subtidal shelf conditions, whereas tidal-flat algal deposition and meteoric dissolution represent the subaerially exposed time-equivalent to the northeast. The 'hinge line' is in the vicinity of the NW margin of the Permian Troubridge Basin.

• Kainton 'feature' (ref. see Poseidon reports); Wandearah Metasiltstone of possible mid-Proterozoic age and Adelaidean sediments do not appear to be present south of this structure. The Kainton 'feature' parallels a NW-trending syncline highlighted by Cambrian carbonate which appears to be karstified to the northeast below Tertiary sediments.

3. NNE Structural Trend

The NNE trend is represented by the critical Torrens Hinge Zone which became important at the start of Torrensian times. The general shape of the Peninsula, including the Orontes Shelf and the 'Orontes (magnetic) Province' parallels this trend (Fig. 7b).

The initiation of the NNE trending structures represents a stage in the development of the Adelaide Geosyncline and was caused by general extension of the crust to the east (Preiss 1987). The early rift phase of Callana times developed SSE trending structures parallel to the G2 direction (see Crystal Brook Lineament, Fig 7a). Co-dominance of N-S faults (NNE on Yorke Peninsula) is characteristic of the late rift phase marking the Torrensian period (Fif.7b). During the Torrensian the NNE trend was represented by the Torrens Hinge Zone which comprises a wide zone characterised by easterly, down stepping, normal faulting affecting the eastern margin of the Gawler Craton (eg. Parker et al. 1990). Lack of Torrensian sediment on central Yorke Peninsula suggests that it was exposed, perhaps being on the raised flanks of a pre-rift dome.

An inference from recent mapping (eg. Tucker, 1989 & Gravestock pers. comm.) is that the Torrens Hinge Zone, in the vicinity of Yorke Peninsula, was a zone of transpressional activity during the late? Early Cambrian Kangarooian movements.

Characteristics of oblique slip zones are the high intensity of faulting and the rapid erosional changes between relatively restricted, structural subdomains within such a zone. Features such as 'flower structures' are evident in interpretations of seismic sections (Fig. 17) and the carbonate succession shows local, violent disordering in a sequence which is generally flat lying. It is considered a possibility that erosion of both the Kulpara and Parara Limestones was effected to varying depths along such features as 'pop-up' and 'flake' structures.

Gravestock (in press) shows, in an interpretation at Ramsay-Coobowie Limestone time, graben type faulting but with mismatching unconformity surfaces; such a geometry is consistent with oblique-slip tectonics (Fig. 18).

In Figure 19 Stuart and von Sanden (1972) show the western portion of the Torrens Hinge Zone (ie. Torrens Fault Zone) and the extent to which the Ordovician Delamerian Orogeny modified the morphology of the greater Stansbury Basin (ie. incuding Cambrian deposition below the Tertiary Murray Basin).

A seismic survey and drilling project carried out by BHP, immediately east of the Minlaton Stratigraphic Bore, confirmed that the Cambrian succession was down-faulted to the east across elements of the Torrens Hinge Zone during comparatively recent times (Figs. 20a, b).

Evidence of the most recent reactivation of the NNE trending structural zone is the existence of a set of easterly facing fault scarps (Crawford,1965) traversing the length of the Peninsula to as far south as Stansbury (Fig. 6). The development of commercial Tertiary sand deposits is likely to have been controlled by this extensional step faulting.

TABLE 4

YORKE PENINSULA PRE-PERMIAN GEOLOGY

LEGEND TO 1:50 000 SCALE GEOLOGICAL MAPS

LOWER CAMBRIAN

Cr-g	Ramsay Limestone; dark grey limestone and buff dolomites.
Cm-f	Minlaton Formation; Red shales, siltstones, sandstone/red-buff breccia limestone.

Hawker Group

Parara Limestone

Chp-b	Dark grey nodular limestone - argillaceous, phosphatic, fossiliferous (Archaeocyatids, Chancelloria, corals).
Chp-a'	Buff - light gray limestone and dolomite.
Chp-a	Dark grey nodular limestone - glauconitic, phosphatic, argillaceous, fossiliferous (Chancelloria, trilobites, hyolithes, Girvanella).

[Chp-a & Chp-a' only differentiated in the Curramulka area by Aquitaine Australia Minerals]

Chp	Undifferentiated Parara Limestone.

Kulpara Formation

Chk-d'	Light grey - white limestone - glauconitic, phosphatic, bioclastic.
Chk-c'	Buff-light grey limestone and dolomite - silicified, stromatolitic, oolitic.

Chk-c Buff - brown - grey dolomite and dolomitic limestone - oolitic, silty.

[Chk-c & Chk-c' only differentiated in the Curramulka area by Aquitaine Australia Minerals]

Chk-b	Buff dolomite - silty, azoic, algal.
Chk	Undifferentiated Kulpara Formation.
Chw-a	Winulta Formation - glauconitic sandstone, red siltstone, grit, arkose.

C	Undifferentiated Cambrian sediments.

ADELAIDEAN

Wilpena Group (P-w)

Pwa	ABC Range Quartzite.
Pwb	Brachina Formation.
Pws	Seacliffe Sandstone.

Umberatana group

Willochra Subgroup

Phr	Reynella Siltstone.
Phw	Wilmington Formation and Etina Limestone.
Pha	Angepena Formation.

Farina Subgroup

Pfb	Brighton Limestone.
Pft	Tapley Hill Formation.
Pfw	Woocalla Dolomite.

Pua	Sturt Tillite.

Burra Group

Pba	Aldgate Sandstone.

PRE-ADELAIDEAN

P-wm	Wandearah Metasiltstone.

PROTEROZOIC CRYSTALLINE BASEMENT

pCd	(Pd)	amphibolite or dolerite.
pCp	(Pp)	quartz porphyry.
pCg	(Pga or Pg)	Granite, microgranite, granodiorite (ie Arthurton Granite).
pCn	(Pn)	Undifferentiated gneisses.
pC	(P, PC)	Undifferentiated precambrian basement.

Legend adapted from the following plans - Aquitaine 2551(IV)-1 and 2. Aquitaine 3041 (1)-1 (Cambrian). Poseidon 4503-2 (Adelaidean). BHP 3567(5)-4 (Proterozoic crystaline basement).

These maps are a compilations of company data and interpretations, the information shown is subjective.

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APPENDIX 1

SUMMARY

OF

SADME EXPLORATION OPEN FILE INFORMATION

OPEN FILE INFORMATION, INTRODUCTION

Summaries of all the SADME open file envelopes are listed in Table 2 and follow in Appendix 1; A4 sized location maps of tenements are included. Tenement boundaries are also shown in SADME MEIS compilations.

Prospects or anomalous areas which received special attention during exploration are detailed on the various 1:50 000 scale drillhole location maps (Figures 30-37) and also are summarised in Figure 28.

The location of all drillholes, both shallow and deep, are detailed in Figures 30-37. The RAB/auger exploratory drilling coverage is shown by Figure 29 with the deep holes being shown on Figure 28. Reference drilling data are provided in Appendix 2.

Tenements are referenced to one or more lithological domains, which are illustrated in Figure 2. Domains were selected partly from geographical information and partly from the underlying geology. Stratigraphic notation is based upon SADME 1:250 000 State atlas series.

EXPLORATION DATA SUMMARY: YORKE PENINSULA

YP1

Company: North Broken Hill

Tenement: ELs 248, 420, 577, 972.

Tenement dates: EL248; 10/6/76-> EL420; 27/9/75-> EL577;
16/1/80->,EL972;18/3/82->17/3/83.

SADME Open File Envelope: 3767

1:100 000 sheet: Maitland, Wakefield, Wallaroo, Blyth

Domain: Ww, Wa, Mca

Age/Stratigraphy: Pm, Pw, Adelaidean

Pre-existing Mines Prospects: Minor Cu in DDH Bute 2 &3 ; basal Woolcalla Dolomite. Bute 5; pre-Adelaidean Willamulka Volcanics (6m @ 0.25%Cu). Bute 7; Sturt Tillite. DDH Wokurna 2; upper part of McLeay Beds. Wokurna 4; ?Backy Point Beds. Wokurna 6; basal Seacliffe Sandstone.

Target-commodities: Pb, Zn, Cu ie. general base metals (& phosphate).

-styles: Various models ie.:

1. Mt Isa-style volcano sedimentary - Proterozoic shales+Cu-bearing acid & basic volcanics/intrusives+lineament control.
2. Mt Gunson-style: Cu at unconformity on presumed Pandurra (later found to be Emeroo Quartzite).
3. Pernatty Lagoon-style: Stratbound Pb-Zn in Woolcalla Member of the Tapley Hill Formation.
4. Olympic Dam Mt Gunson-style model: coincident unconformities, large magnetic and gravity highs.
5. Pridham's-style (Moonta) Cu in Wandearah metasiltstone.
6. MVT in Cambrian carbonates.
7. General wild-catting.

Work-Geology: float mapping (eg. plan 3767(III)-7)

-**Geophysics**: ground magnetometer, gravity, resistivity.

-**Geochemistry**: Cu, Pb, Zn, Ni, Co, Mo, (Ag), (Au), scintillometer.
Augering, limited soil sampling.

-**Drilling**: Augering (100-200m spacing along roads and fence lines)
Rotary, 15 pre-collars for DDH
DDH, 27 holes

Exploration Summary: Followed SADME work on EL 248 which showed mineralisation at various horizons. Air and ground magnetics to define Torrens Hinge Zone and to select magnetic anomalies. Gravity to select anomalies. IP to test anomalies. Geochemistry (1) from systematic blanket augering to bedrock, and (2) from percussion chips and DDH sludge. DDH testing of conceptual models, selected geophysical anomalies and extensions to mineralisation previously detected by augering etc..

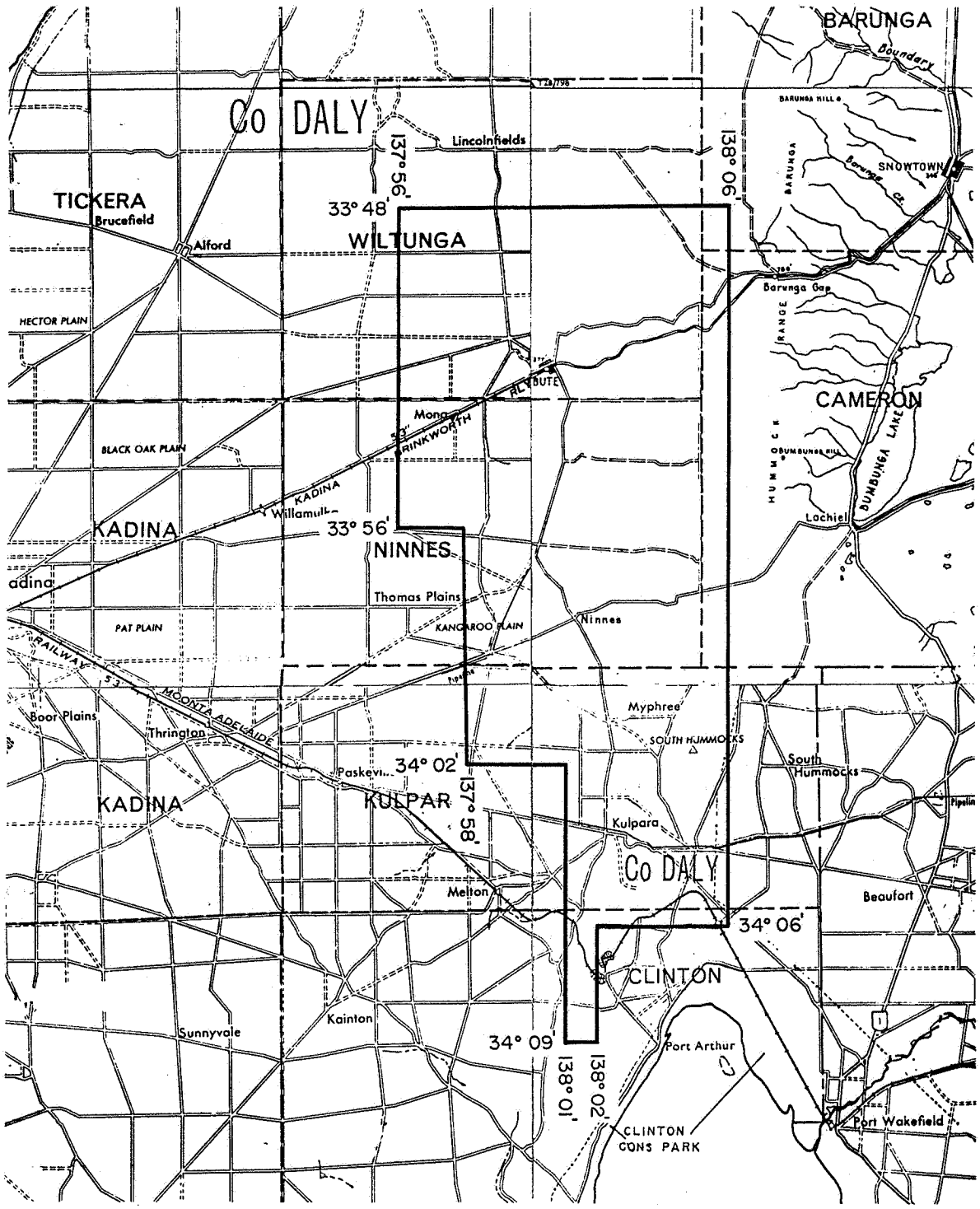
Mineralisation/Prospects/Best Results: The most significant anomalous zones discovered relate spatially to unconformities, eg. Pre-Adelaidean\Adelaidean, and basal Cambrian.

Basal Cambrian, Pb-Zn: Wehr's, McPherson's, West Fidge's, Mona Trend and Belair prospects.

Basal Adelaidean: Tapley Hill Fm; Pb-Zn (DDH B23)
Sturt Tillite

Pre-Adelaidean (proximal to unconformity):
Wandearah metasiltstones; Pb-Zn (DDHB23).
Willamulka Volcanics(DDH B5 6m@0.25% Cu).
Silicious dolomite; Cu DDHs B31,
B46 (15m @ 0.13%Cu), B32/32a, B39/39a.
dolerites; Cu.
acid volcanics & porphyry; Cu (DDH B44).
jaspalite; Cu. Fidges (auger samples).

SCHEDULE A



SCALE 1:250,000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

SURRENDERED

APPLICANT: NORTH BROKEN HILL LTD.

DM: 682/81 AREA: 430 square kilometres approximately

1:250000 PLANS: WHYALLA · BURRA
MAITLAND · ADELAIDE

LOCALITY: BUTE AREA – Approx. 30km north west of Port Wakefield.

DATE GRANTED: 18·3·82 DATE EXPIRED: 17·3·83 EL No: 972

EXPLORATION DATA SUMMARY: YORKE PENINSULA

YP2

Company: Aquitaine Australia Minerals P/L.

Tenement: EL 129, 180, 314 (Price)

Tenement dates: EL129; 29/4/74-> EL180; 24/2/75-> EL314; ->126/4/79.

SADME Open File Envelope: 2425, 2550, 3040.

1:100 000 sheet: Maitland, Wakefield

Domain: Mc2, Mt, (& Wakefield)

Age/Stratigraphy: Pre-Adelaidean, Adelaidean, Cambrian carbonates, Tertiary.

Pre-existing Mines Prospects:

Target-commodities: Pb-Zn

-styles: initially MVT, 1977; presumed Pandurra Fm (later identified as belonging to Emeroo Subgroup), Torrens Hinge Zone, general.

Work-Geology: extensive review, interpretive mapping from RAB drilling and geophysics.

-Geophysics: Aeromagnetic survey, magnetic depth determination. IP at Dowlingville Prospect. IP west of Clinton.

-Geochemistry: Cu, Pb, Zn, F. Stream sediment. Drill samples (761 samples analysed).
Means ppm: Parara Pb= 122, Zn=190 (best Zn= 2 200ppm)
Kulpara Pb= 130, Zn= 65

-Drilling: RAB (211 holes for 3415m).

RP - SYD 600, SYP 600, SYP 601, SYP 602, SYM 600 (ie 5 holes for 706m).

DDH - SYM 600/102 (RP hole SYM 600 deepened), SYM 101 (209m depth).

Exploration Summary: 1] MVT model in Cambrian carbonates in the vicinity of the Torrens Hinge Zone.

1974 •Aeromagnetic survey over the entire EL area (10 gamma contour interval, 500m line spacing, 70m flight altitude.

• Stream geochemical survey, chiefly in the Hummocks area (Adelaidean, basal Cambrian) - 200 samples analysed for Cu, Pb, Zn, F.

1975 • Bedrock geochemical drilling program, chiefly in the southern half of the EL area - 78 RAB holes for 1062m; bedrock samples analysed for CU, Pb, Zn.

1976 • Compudepth study, ie. depth to magnetic basement - 330 line km, 22 flight profiles.

• Petrographic study of 6 bedrock samples.

• Follow-up bedrock geochemical drilling program in the Clinton and Dowlingville areas - 62 RAB holes for 1418m; bedrock samples analysed for Cu, Pb, Zn.

• Rotary percussion drilling of three stratigraphic drill holes ie. SYD 600, SYP 600, SYP 601 (364m drilled); holes geophysically logged.

• IP orientation survey in the Clinton and Dowlingville areas; 12 line km.

1977 • Follow-up bedrock geochemical RAB drilling program at Dowlingville; 35 holes for 627m. Reconnaissance drilling in the northern part of the EL; 36 RAB holes for 308m.

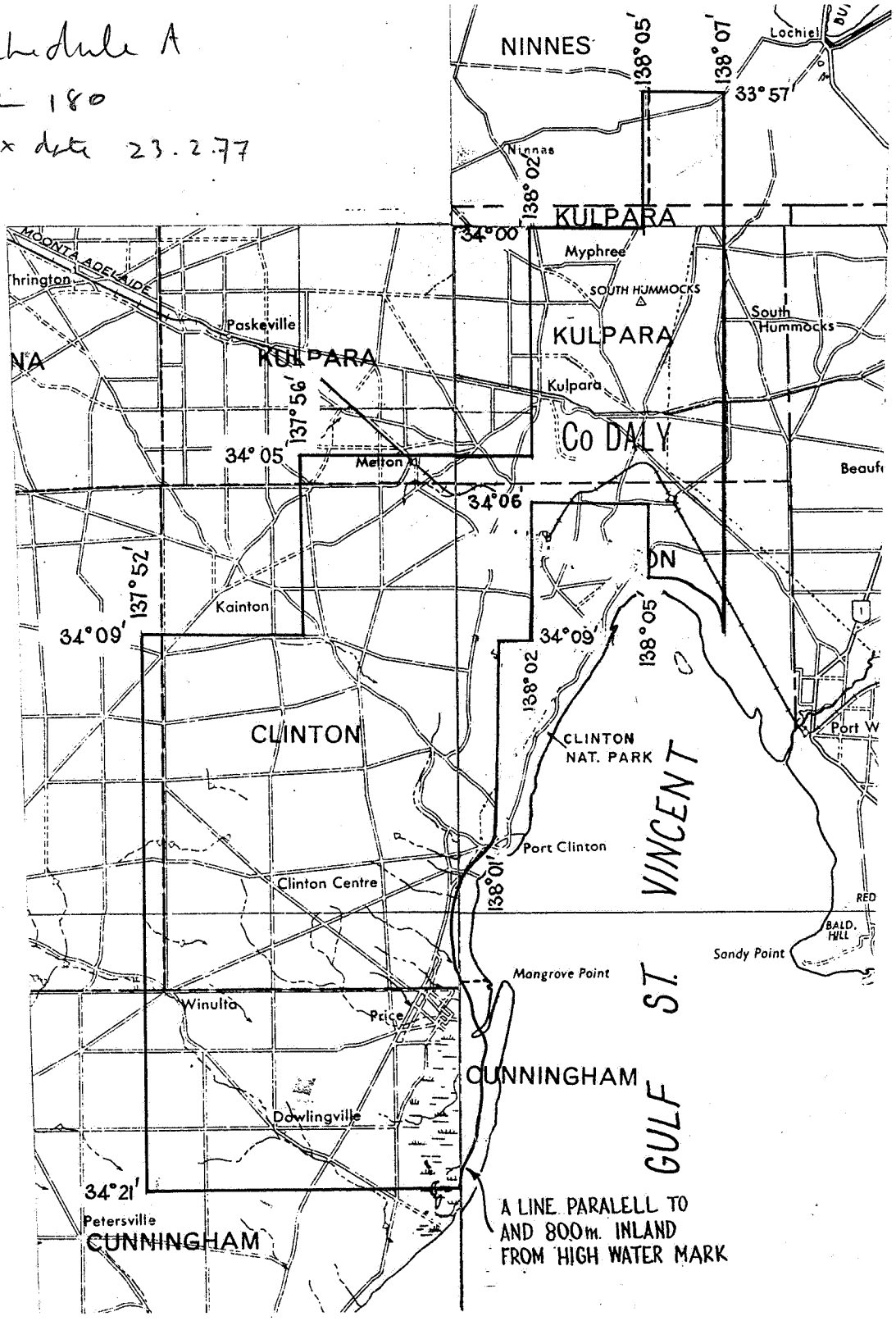
2] General testing of the Adelaidean (Emeroo quartzite then equated with Pandurra Fm) and basal Cambrian.

1977 • Rotary percussion drilling of 2 stratigraphic holes: SYP 602 & SYM 600 (342m); geophysical logging.

• Compudepth study ie. depth to magnetic basement, by processing of 212 line km data in the kainton-Melton area.

1978 • Gravity survey in the Kainton-Melton area; 78 km levelling, 230 gravity readings.

Schedule A
EL 180
Ex date 23.2.77



SCALE 1:250,000

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APPLICANT : AQUITANE AUSTRALIA MINERALS PTY LTD

D.M. : 1181/74 AREA : 485 Square Kilometres

1:250 000 PLANS : BURRA
MAITLAND • ADELAIDE

EL 180

LOCALITY : PRICE - YORKE PENINSULA

• Diamond drilling in the Kainton-Melton area; SYM101 & SYM 600/102 (309m).

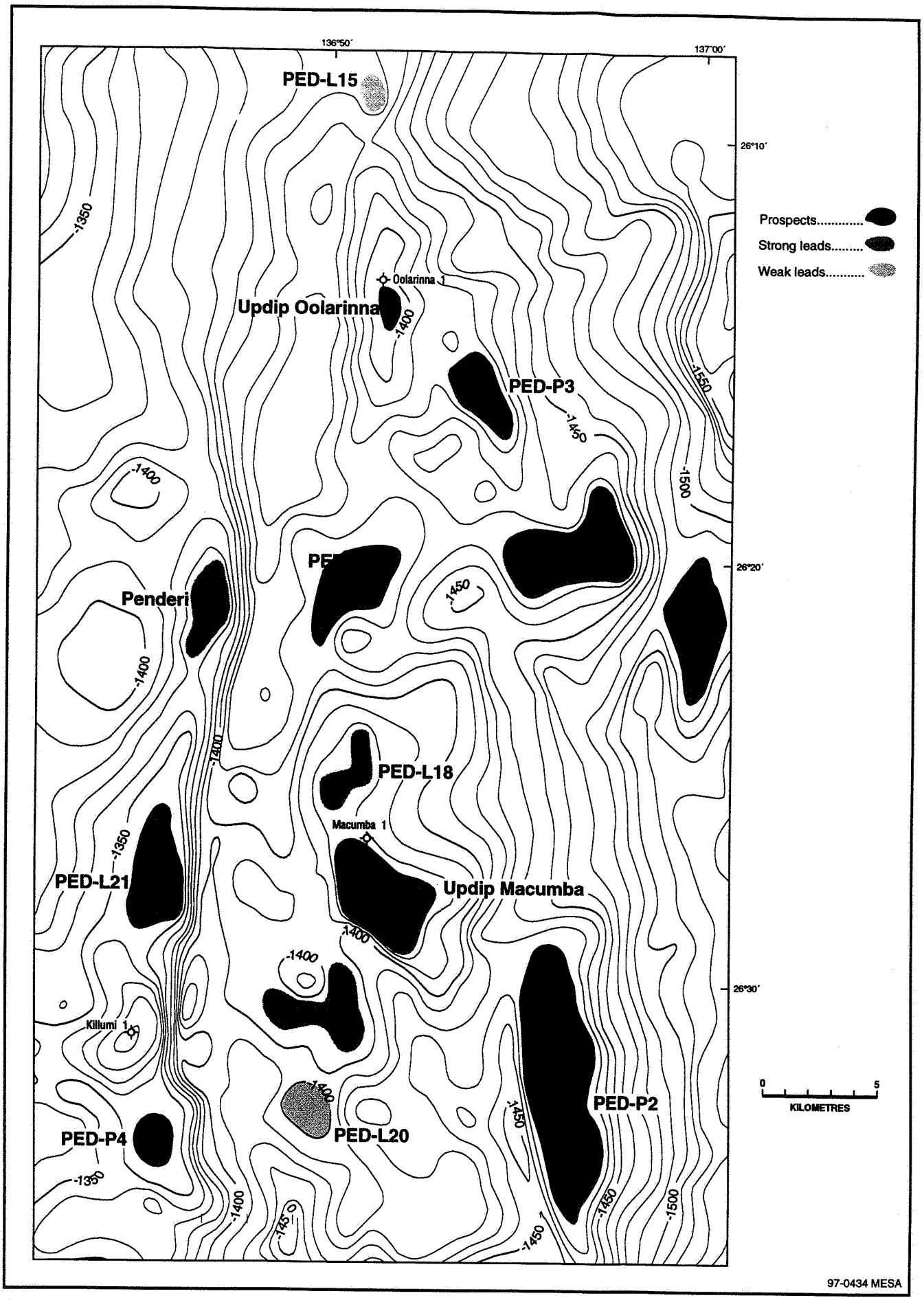
0-52m Tertiary sands & silts, 52-130m Kulpara Lst (py), 130-174m Winulta Fm, 147-200m Woolcalla Dolomite

Mineralisation/Prospects/Best Results:

Dowlingville: 900ppmPb, 400pmZn in Parara Limestone, mineralisation possibly fault controlled.

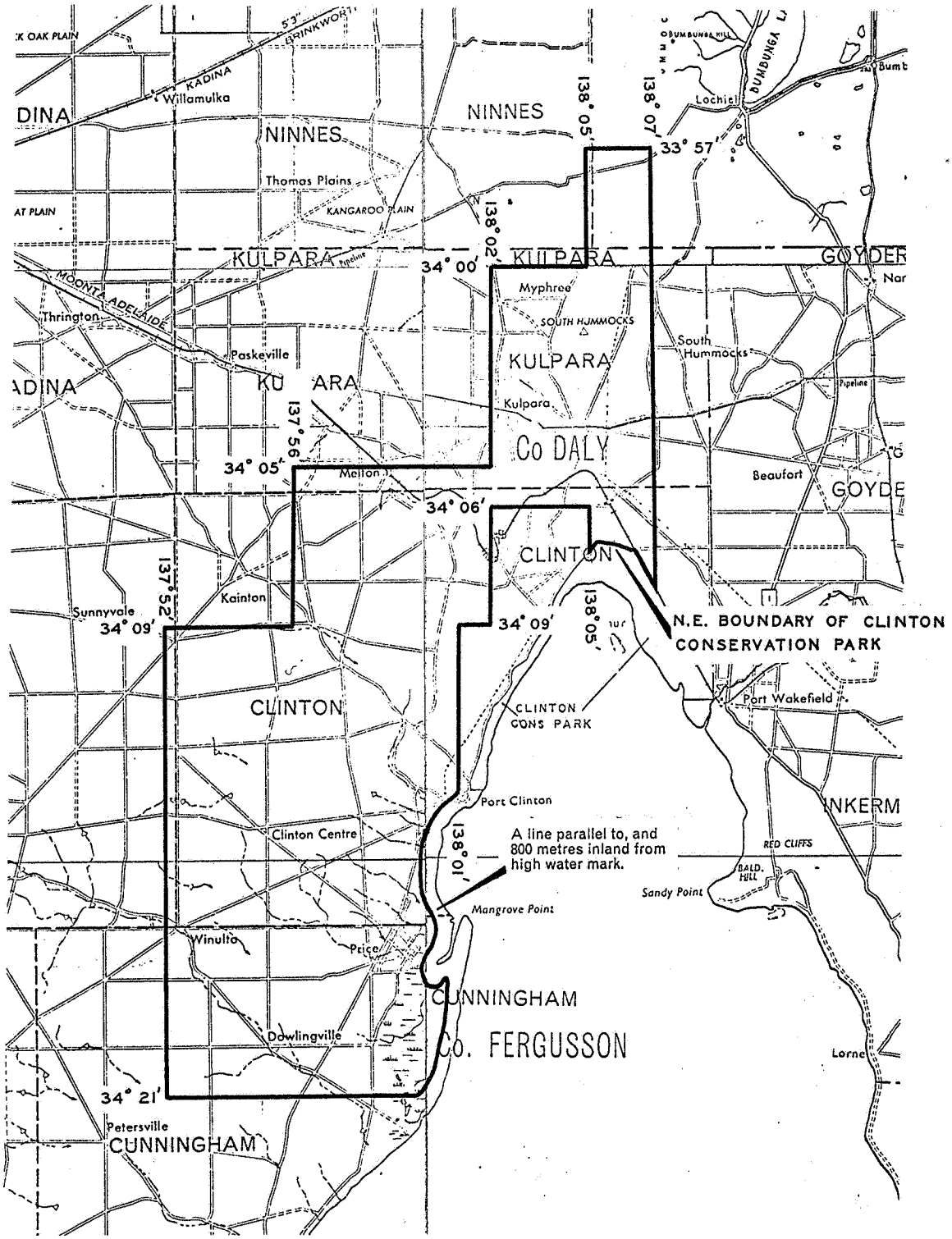
Clinton: Zn values ≤700ppmZn in lower Parara Limestone, possibly related to the Kulpara Fault.

Kainton Basement structure: trace Cu (1 600ppm)in basal Kulpara, the Winulta Fm & Willamulka volcanics.



Killumi - Oolarinna area prospects and leads. Top C Horizon depth structure map. MESA, 1997.

SCHEDULE A



SCALE 1:250 000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

APPLICANT: AQUITAINE AUSTRALIA MINERALS PTY LTD

D.M. 68 / 77 AREA 480 Square kilometres

1: 250000 PLANS

SURRENDERED

BURRA

MAITLAND • ADELAIDE

LOCALITY: PRICE AREA - YORKE PENINSULA

EXPIRY DATE 26 · 4 · ~~78~~ 79 E.L. No. 314

EXPLORATION DATA SUMMARY: YORKE PENINSULA

YP3

Company: North Broken Hill P/L

Tenement: EL 528 (in two parts; A Price area, B Killkerran area)

Tenement dates: 12/9/79-11/9/80

SADME Open File Envelope: 3702

1:100 000 sheet: Maitland, Wakefield.

Domain: Wt, Mt, Wa, Mc2, Mca.

Age/Stratigraphy: Proterozoic basement, Adelaidean, Lower Cambrian.

Pre-existing Mines Prospects:

Target-commodities: Pb, Zn, Cu, Co.

-styles: MVT at Kulpara\Parara interface. Winulta.

Work-Geology: minor

-Geophysics: none

-Geochemistry: Rock chip (32 samples) Cu, Pb, Zn, Ag, Ni, Co, Mo, Mn.
Auger sampling.

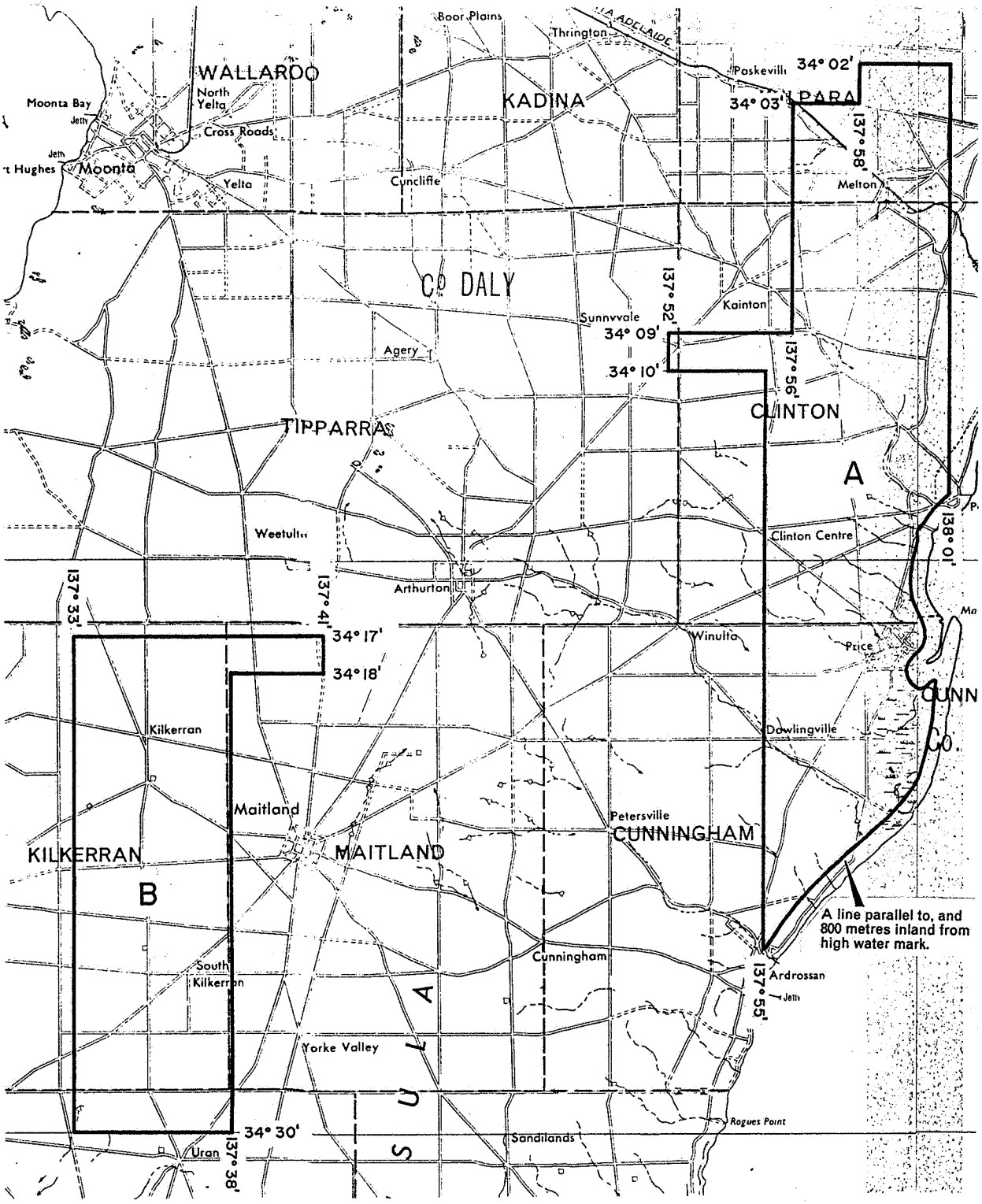
-Drilling: Auger; 941 holes for 6 839m (90% EOH Cambrian)
Percussion: 31 holes for 426m.

Exploration Summary: Geochemically based search using auger/ percussion drilling as the principal sampling technique. Failed to locate mineralisation in the Cambrian carbonates.

Mineralisation/Prospects/Best Results: Melton Cobalt Prospect, 4km NW of Melton. Ferruginous deposition on karstified Cambrian below Tertiary sandy silts. Co-Mn association. 0.8% Co, 0.5% combined Cu+Pb+Zn.

Comments: Values at basal Kulpara Limestone not dissimilar, eg. Belair Prospect (NBH - EL 248 etc.)

SCHEDULE A



SCALE 1:250,000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

APPLICANT: NORTH BROKEN HILL LTD.

DM: 243/79 AREA: 514 square kilometres

1:250000 PLANS: MAITLAND ADELAIDE

LOCALITY: A PRICE AREA – Approx. 30 km N.E. of Maitland.
B KILLKERRAN AREA – Approx. 10km West of Maitland.

DATE GRANTED: 12-9-79 DATE EXPIRED: 11-9-80

EL No: 528

EXPLORATION DATA SUMMARY: YORKE PENINSULA

YP4

Company: Poseidon Ltd. (later JV with CRAE)

Tenement: ELs 923, 1110

Tenement dates: 923; 16/11/81->, 1110; 15/2/83 -> 14/2/85

SADME Open File Envelope: 4503, 5091

1:100 000 sheet: Maitland, Wakefield(including off-shore St.Vincent Gulf)

Domain: Poseidon Area 1 (included within the gegraphic limit of this study) Mc1, Mt

Age/Stratigraphy: Pre-Adelaidean, Adelaidean, Cambrian , Tertiary.

Pre-existing Mines Prospects: Gravity±magnetic anomalies - M1, M2, G1, G2. Possible kimberlite plug (see Fig. 4503-8), Hart's Mine (Cu), Yararoo Phosphate Mine.

Target-commodities: Cu, U, (Pb-Zn)

-styles: Initially sedimentary uranium associated with all rock groups (mid-Prot. to Tertiary), but especially Tertiary palaeochannel environment. Also mineralisation at various unconformities, and pre-Cambrian basement, Whyalla Sandstone, Woolcalla Dolomite and MVT in Cambrian carbonates.

Work-Geology: mapping (B.P.Thomson) and excellent summary of Tertiary geology (5091pp7-14)

-Geophysics: K, Th, U ground spectometry. Ground magnetics at Wirrahill. Ground EM (CRAE JV).

-Geochemistry: Cu, Pb, Zn (minor Au). Rock chip sampling of Cambrian carbonates.

-Drilling: Percussion: PW1 (Wirrahill), PA1 & PA1A (Tertiary), PD85AN1.
(RCP) AP2 to AP10.

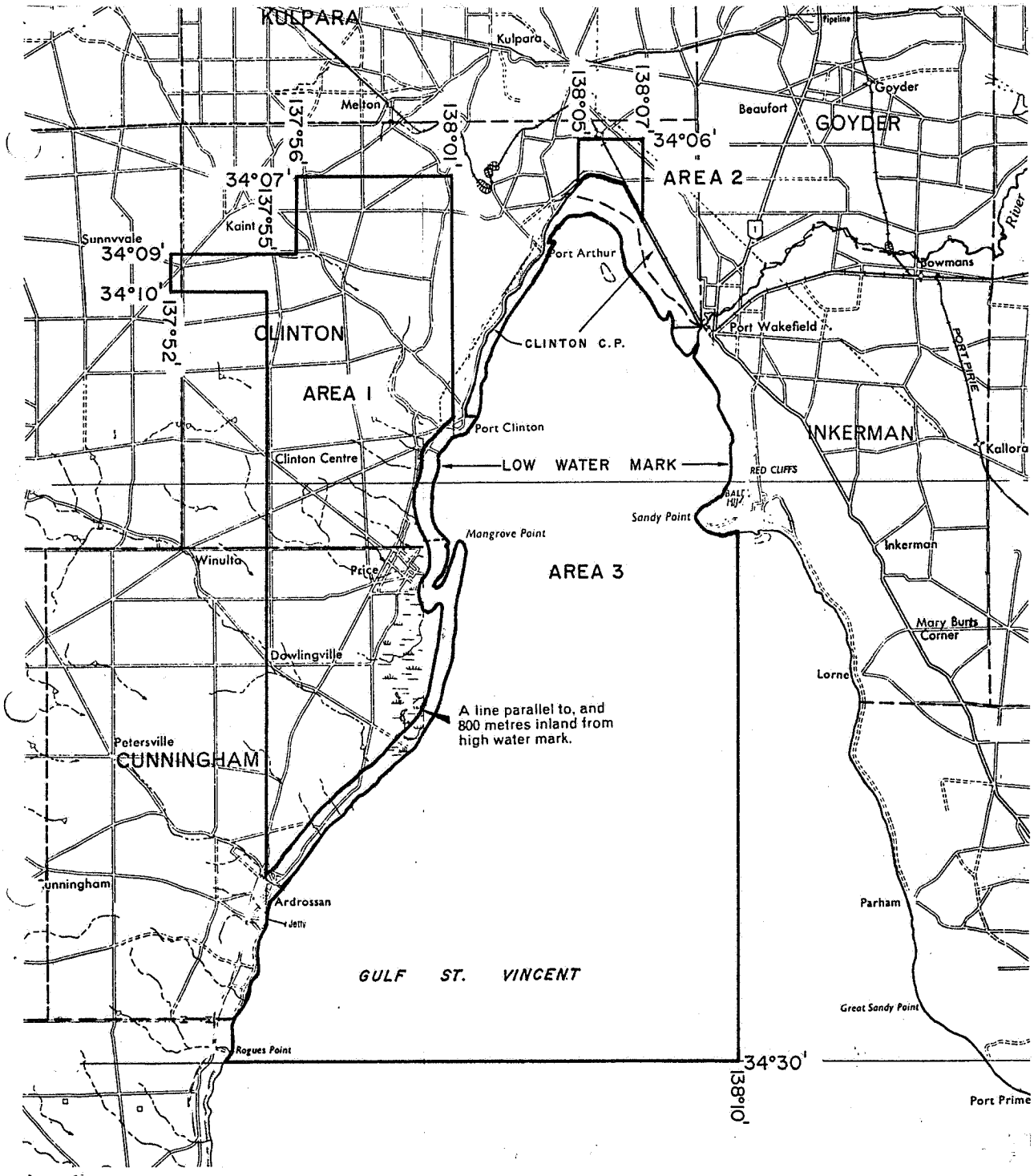
Exploration Summary: The tenement includes a large area on and off-shore at the northern end of St. Vincent's Gulf, only Area 1 is considered here. Detailed geological and geophysical literature search by B.P. Thomson, heavily reliant upon the earlier Aquitaine Australia Minerals work (cf SADME envelopes 2425, 2550, 3040) - comprehensive plans and sections. Wirrahill magnetic anomaly drilled (amphibolite; hole PW1, log 3045pp44-46). 'Kainton feature' recognised as controlling karst development on Cambrian limestone at base of the Tertiary to the north. May 1983; intrabasement targets dumped, but Tertiary uranium search continued (DH AP2-10) and re-evaluation of Aquitaine's work. Consultant (C. Giles) employed to assess Au potential. October 1983 uranium exploration shelved due to political climate; MVT considered. CRAE JV from 14.2.84; Sirotem over selected portions of the Cambrian limestone. Ground magnetics; one anomaly tested by drilling ie. PD85AN1.

Mineralisation/Prospects/Best Results:

Wirrahill Magnetic Anomaly (amphibolite or intrusive dolerite)
Dowlingville potassium channel radiometric anomaly.
Hart's Mine (12.5km south of Ardrossan).
Yararoo phosphate occurrence.
Kainton Magnetic Anomaly.

Comments:

SCHEDULE A



SCALE 1:250,000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

EXPIRED

APPLICANT: POSEIDON LIMITED

DM: 186/81

AREA: 875 square kilometres

1:250000 PLANS: MAITLAND ADELAIDE

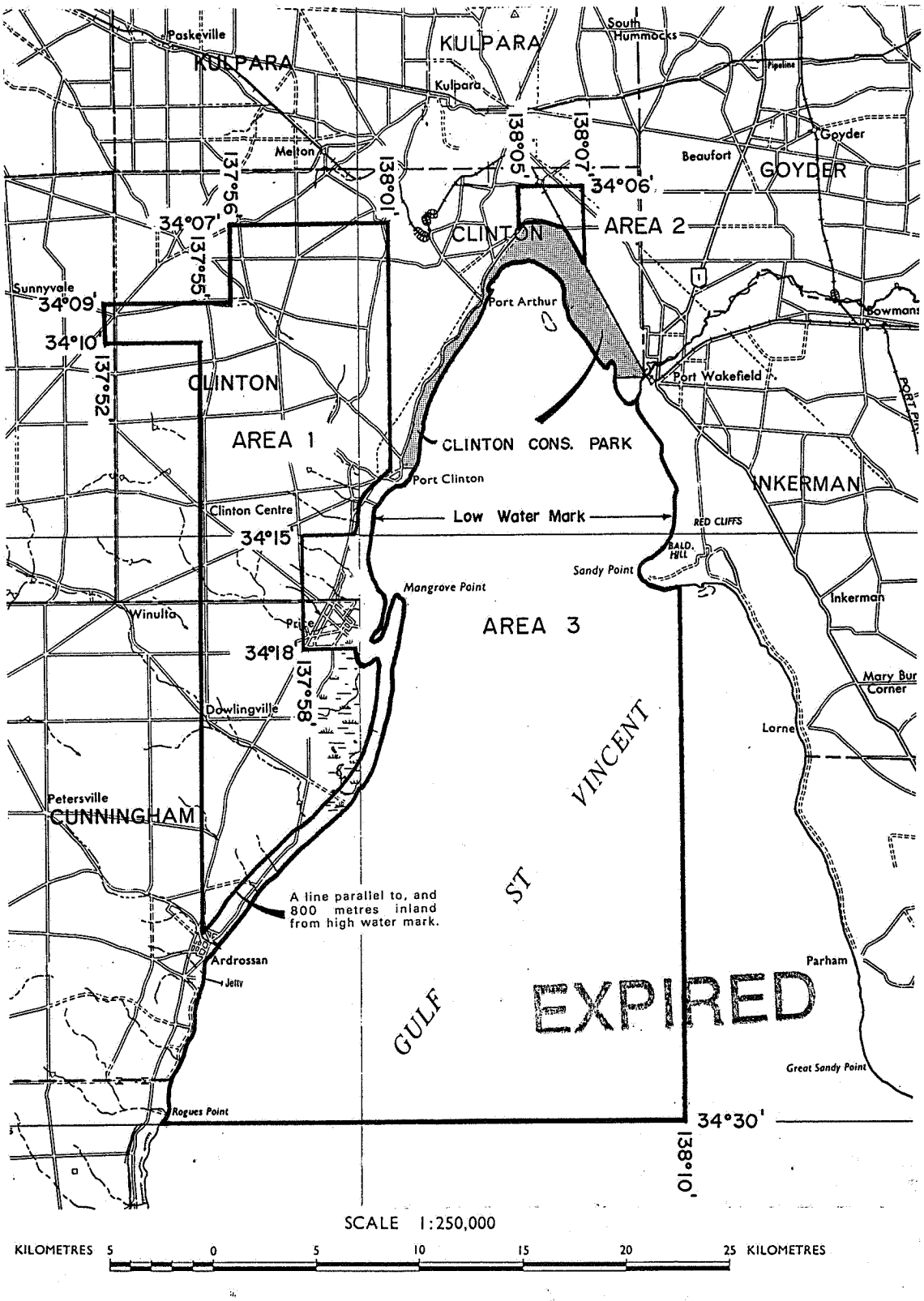
Reapp DM420/82

LOCALITY: ARDROSSAN AREA - Yorke Peninsula

DATE GRANTED: 16·11·81 DATE EXPIRED: 15·11·82

EL No: 923

SCHEDULE A



SCALE 1:250,000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

APPLICANT: **POSEIDON LIMITED**

DM: **440/82** AREA: **858** square kilometres (approx.)

1:250000 PLANS: **MAITLAND · ADELAIDE**

LOCALITY: **ARDROSSAN AREA – Yorke Peninsula**

DATE GRANTED: **15·2·83** DATE EXPIRED: **14·2·~~8485~~** EL No: **1110**

EXPLORATION DATA SUMMARY: YORKE PENINSULA

YP5

Company: CRA Exploration

Tenement: EL 1276 (Maitland Area)

Tenement dates: 26/2/85-2/7/87

SADME Open File Envelope: 6132

1:100 000 sheet: Maitland

Domain: Mg, Mc1, (Mc2(, (Sc).

Age/Stratigraphy: Pre-Adelaidean, Cambrian.

Pre-existing Mines Prospects: Parara Mine

Target-commodities: Base metals, (U).

-styles: Weetulta-type anomalies. (cf. EL 1128, BHP/CRAE).

Work-Geology: literature review.

-Geophysics: Aeromagnetics by reprocess of Esso tape (cf EL 525). INPUT trials.

-Geochemistry:

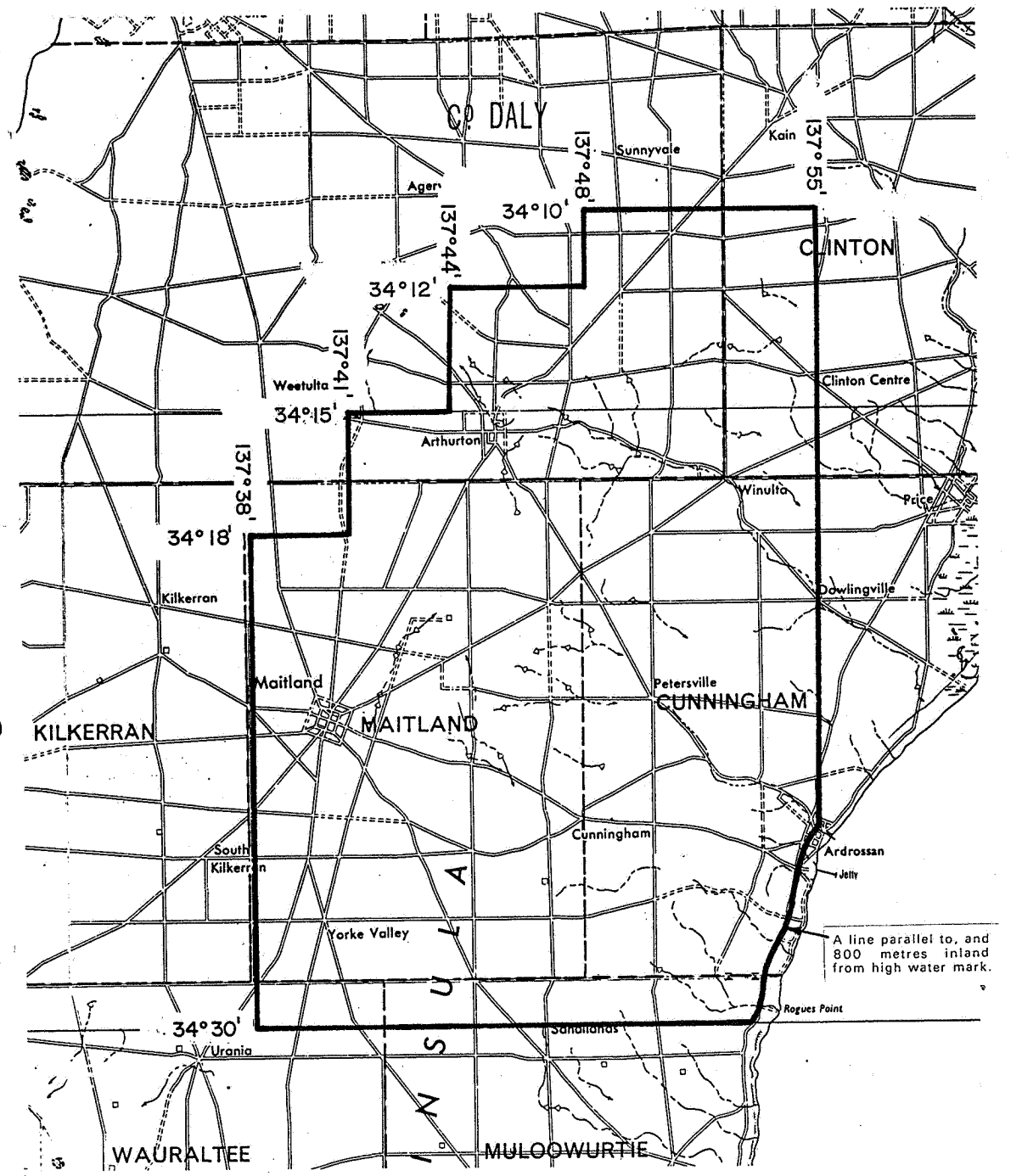
-Drilling:

Exploration Summary: Tenement retained to work in conjunction with EL 1128 (Weetulta). No Weetulta-type targets detected.

Mineralisation/Prospects/Best Results:

Comments:

SCHEDULE A



SURRENDERED

SCALE 1:250,000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

APPLICANT: CRA EXPLORATION PTY. LIMITED

DM: 290/84 AREA: 778 square kilometres (approx.)

1:250000 PLANS: MAITLAND

LOCALITY: MAITLAND AREA – YORKE PENINSULA

DATE GRANTED: 26-2-85 DATE EXPIRED: 25-2-86 87 EL No: 1276

EXPLORATION DATA SUMMARY: YORKE PENINSULA

YP6

Company: Esso+Pegmin, later Otter+Pegmin.

Tenement: ELs 525, 870, 1083

Tenement dates: EL 525; 12/9/79--> EL 870; 17/7/81--> EL 1083; 15/11/82-->14/5/84.

SADME Open File Envelope: 3616

1:100 000 sheet: Maitland

Domain: Mg, Sc, Mc1, Mt

Age/Stratigraphy: Proterozoic, Cambrian, Tertiary.

Pre-existing Mines Prospects: Hillside Mine, Parara Mine.

Target-commodities: mainly U (Cu, Au)

-styles: Emphasis upon unconformity models,

1) Arnhemland-type intra-Proterozoic unconformity,
2) sedimentary uranium in Tertiary, sourced from basement,
3) uranium at the base of the Winulta Fm, related to the Ardrossan (hydrothermal) dolomite trend,
4) Cu/Au target in vicinity of the Parara Mine.

Work-Geology: Derived from RAB drilling and petrographic reporting.

-Geophysics: Airborne radiometric and magnetics. 'Track-etch'.

-Geochemistry: RAB; Ni, Co, U3O8, Ag, Cu, Zn, Pb, Mn.

-Drilling: RAB; 266 holes; 3111m (logs 3616pp158-167)

DDH Ardrossan #1 (Pavey Anomaly); 220m (summary log 3616p321, logs pp325-329)

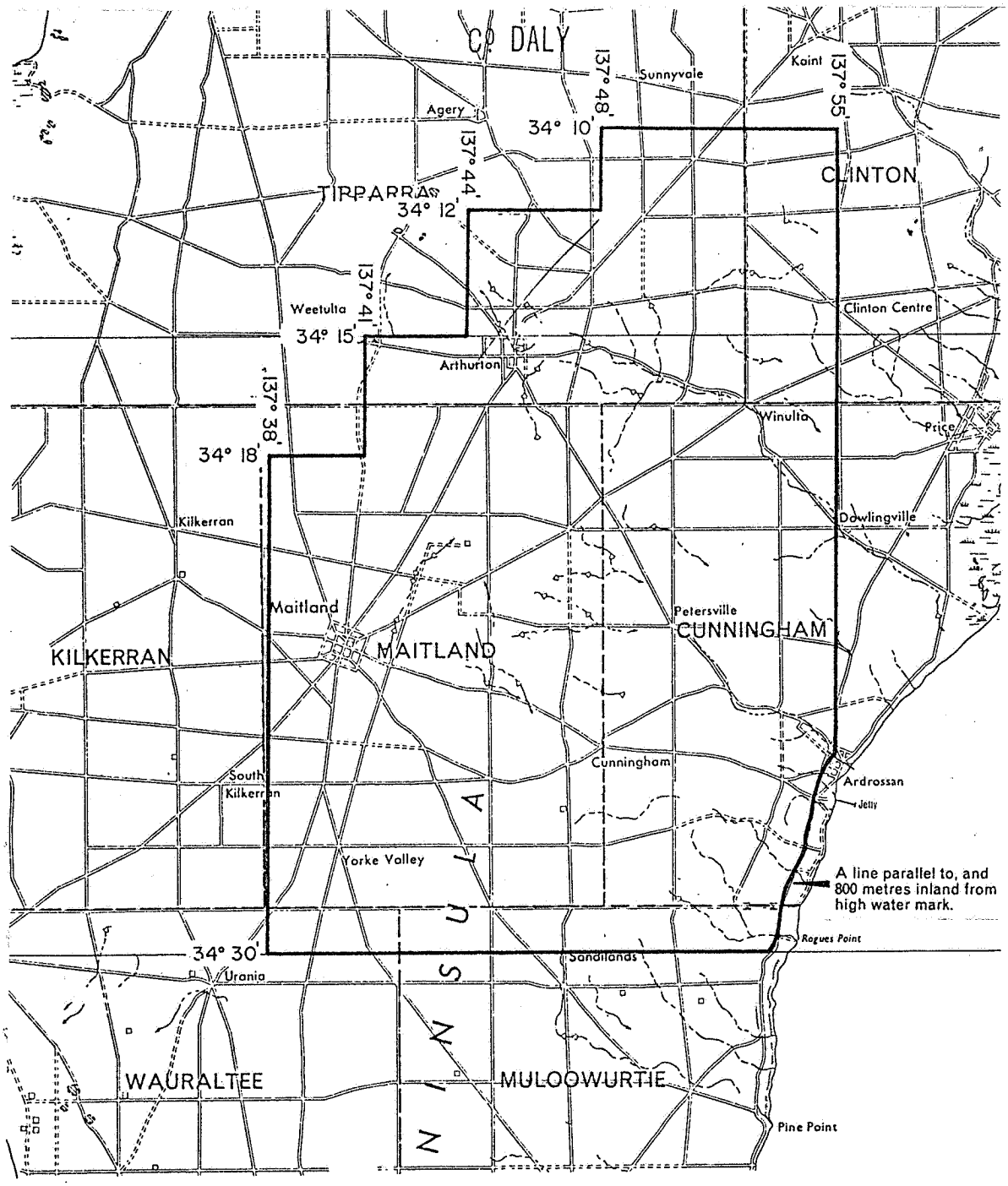
DDH P1 to P5 (Parara Mine); 371m (logs p404 to 434)

Exploration Summary: 1979-1982 target commodity was uranium. Geophysics including radiometrics, RAB drilling. RAB drilling indicated no intra-metamorphic Proterozoic unconformity therefore initial Arnhemland model shelved and Esso, withdrew and Otter JV partner with Pegmin. Other uranium models considered eg. uranium in clastics of the basal Cambrian Winulta Fm, Tertiary sandstones influenced by basin bounding faults. Track-etch survey; various anomalies and Pavey Structure near Ardrossan selected, diamond drilled (Ardrossan #1) without success. Uranium search dropped; investigation of the Parara Mine including IP & diamond drilling (P series) - unsuccessful therefore lease terminated.

Mineralisation/Prospects/Best Results: Para Mine & Kanyaka Cu anomaly 4km NW of Ardrossan in vicinity of Parara Mine. Cunningham Anomaly (U, Cu) 13km SE of Maitland (target
Tertiary basin adjacent Proterozoic source area).
Glenburnie Anomaly(Cu, U)(target mineralisation-Winulta Fm)
Anomaly 7km SSW of Maitland (target radiometric anomaly in
Winulta Fm).
Pavey Structure ie. Ardrossan anomaly (target mineralisation at and above basal Cambrian, adjacent to basement
structures).

Comments:

SCHEDULE A



RE AP 314/81

APPLICANT: ESSO EXPLORATION & PRODUCTION AUSTRALIA INC.
PEGMIN LTD.

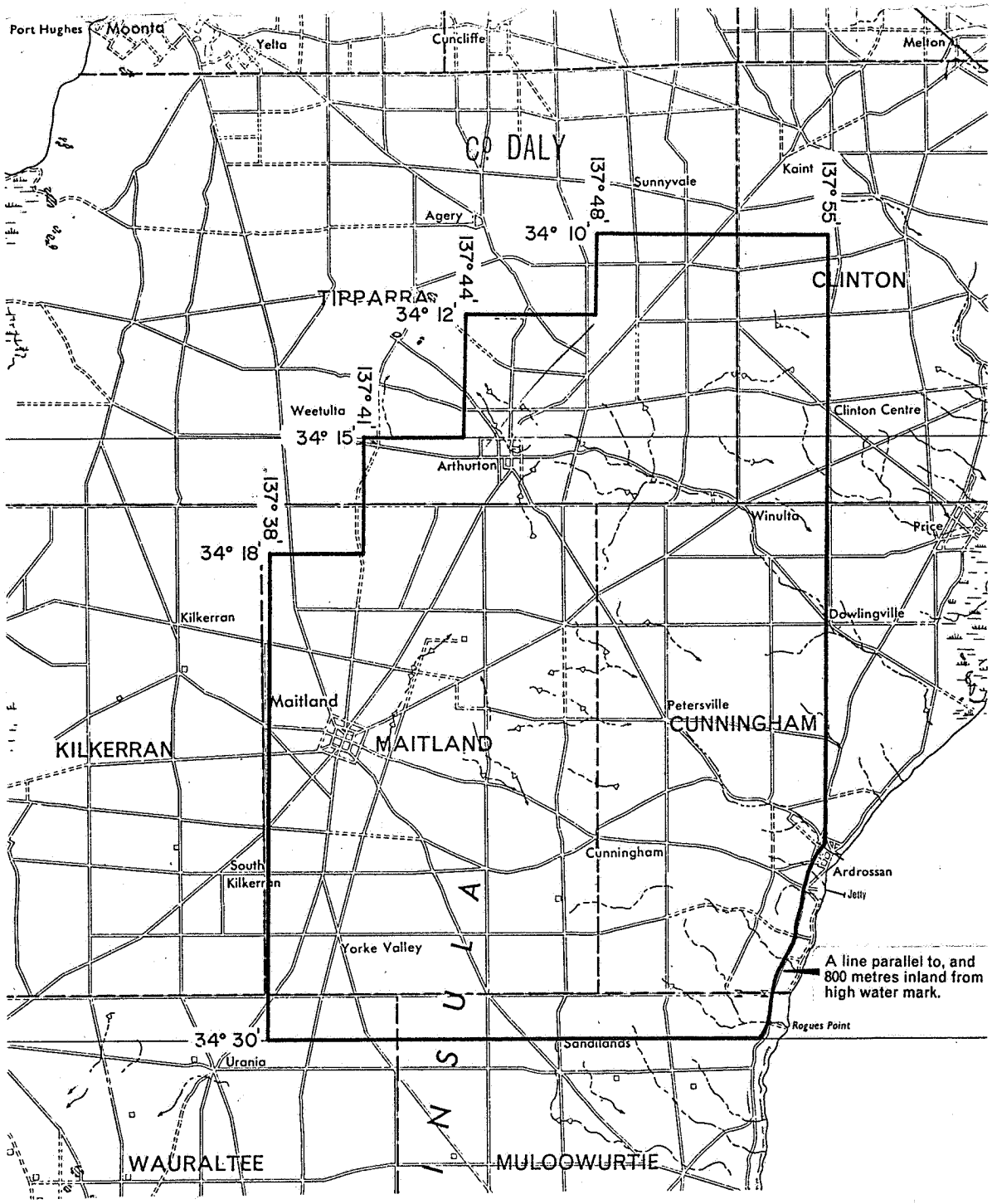
DM: 208/79 AREA: 778 square kilometres

1:250000 PLANS: MAITLAND

LOCALITY: MAITLAND AREA - Yorke Peninsula.

DATE GRANTED: 12 - 9 - 79 DATE EXPIRED: 11 - 9 - ~~80~~ 81 EL No: 525

SCHEDULE A



Reapp 351/82

APPLICANT: PEGMIN LIMITED & OTTER EXPLORATION N.L.

DM: 314 / 81 AREA: 778 square kilometres

1:250000 PLANS: MAITLAND

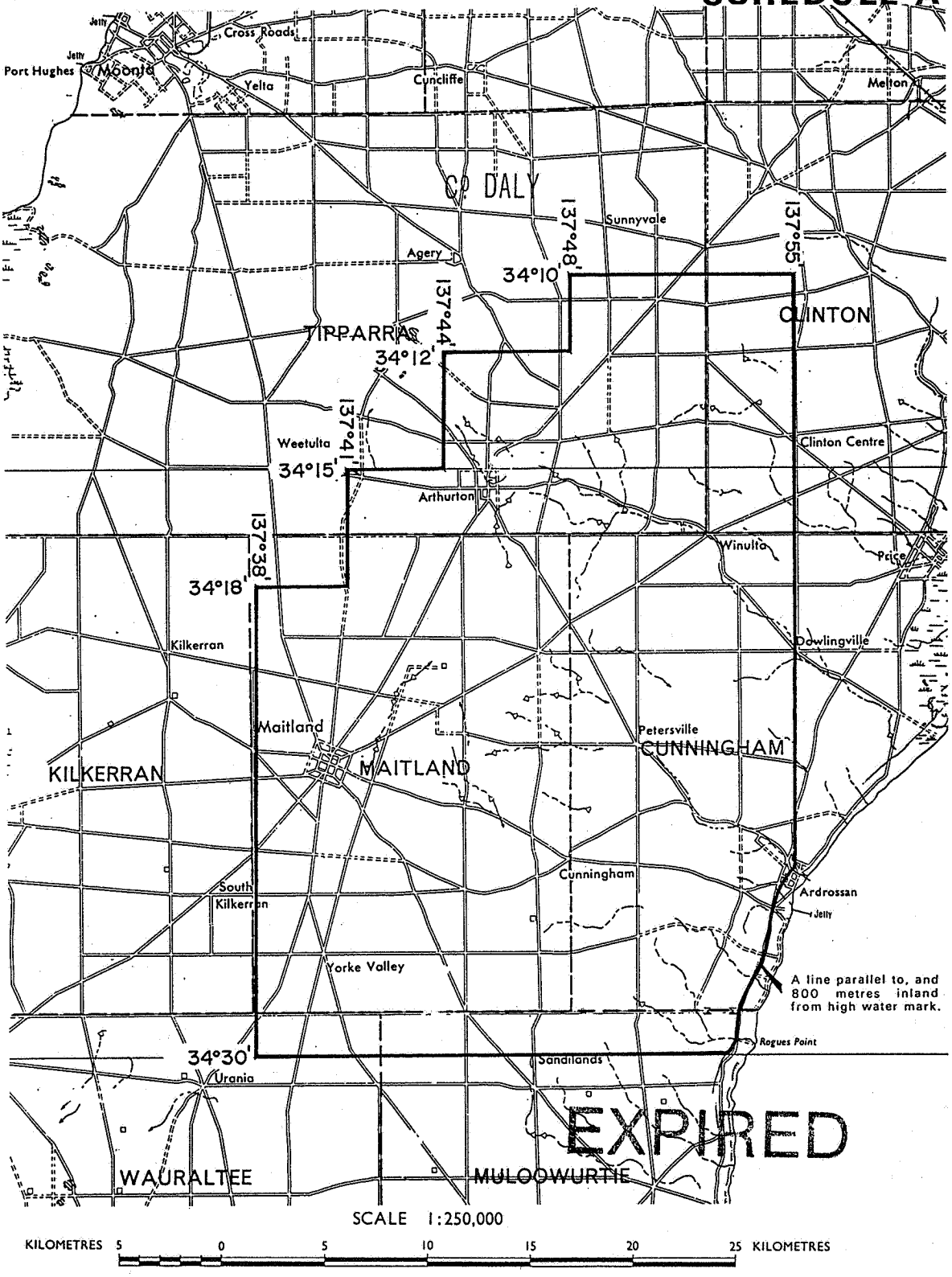
LOCALITY: MAITLAND AREA - YORKE PENINSULA

DATE GRANTED: 17·8·81 DATE EXPIRED: 16·8·82

EXPIRED

EL No: 870

SCHEDULE A



APPLICANT: PEGMIN LIMITED (50%) OTTER EXPLORATION NL (50%)

DM: 351/82 AREA: 778 square kilometres (approx.)

1:250000 PLANS: MAITLAND

LOCALITY: MAITLAND AREA – Yorke Peninsula

DATE GRANTED: 15·11·82 DATE EXPIRED: 14·11·83
14·5·84

EL No: 1083

see EL 870

EXPLORATION DATA SUMMARY: YORKE PENINSULA

YP7

Company: BHP Exploration/Dampier Mining Company, later CRAE JV partner.

Tenement: EL 808 (Maitland), EL 1128 (Maitland & Weetulta)

Tenement dates: EL 808; 2/3/81-27/3/83, EL 1128; 28/3/83-27/3/88
CRAE JV from 3/12/84 to 14/4/87.

SADME Open File Envelope: 4214

1:100 000 sheet: Maitland.

Domain: Mg

Age/Stratigraphy: Proterozoic basement

Pre-existing Mines Prospects: Balgowan Anomaly SADME DDH2 111.6-111.9m;
0.3% Cu,).31% Ni, 260ppm Co, 46ppm U.
DDH 87/88 Anomaly.

Target-commodities: Base metals (Au, U).

-styles: Moonta and Roxby styles,
Gravity and magnetic complexes.

Work-Geology: Compiled from RAB 'bottom-of-hole' samples. Examination of pre-existing drill core. Prospect mapping.

-Geophysics: Scintillometer, gravity, aeromagnetics, radiometrics, Sirotem, INPUT, electrical field surveying.

-Geochemistry: RP- Cu, Pb, Zn, Co, Mo, Ag, Au (CRAE). Also analysis of pre-existing drill core (DH 87).

-Drilling: RP; M-series (average 21m/hole, 400m spacing)
M1-108, logs 4214pp12-118
M109-423 logs 4214pp125-493

M424-429 logs 4214pp533-538
M-series drill analyses 4214pp593-607.

DDH; RD/DD85WE1 & DDWE6 (Tea Tree Glen), RD/DD85WE2 (DDH 87/88 Anomaly), DD86WE3 to 5 (Hillview Grid).
RD/DD85WE1; logs 4214pp698-707;} pet.rept. pp715-742,
RD/DD85WE2; logs 4214pp708-713;} & analyses pp725-742.
DD86WE3; summary logs 4214pp783-4 } full
DD86WE4; summary logs 4214pp784 } logs &
DD86WE5; summary logs 4214pp785 } assays
DD86WE6; summary logs 4214pp787-9 } pp871-901.

Exploration Summary: Target selection, pragmatic approach during early exploration by Dampier mainly by RP drilling through cover. Later CRAE approach using sophisticated geophysical techniques.
Dampier geochemical drilling, M-series holes:
From 14/12/84; general work on Weetulta EL: analysis of core from pre-existing drill holes, Alpha card survey, bedrock drilling program, analysis of RAB samples for gold. Aeromagnetic survey. Arthurton INPUT survey, Geoterrex. Geochemistry of SADME DDH 87 and detailed work on prospects, see below

Mineralisation/Prospects/Best Results:

DDH 87/88 Anomaly
DDH 87 re-analysis of core. EM. TMI profiles.

Balgowan Grid
Magnetic contouring. Sirotem. Ground magnetics profiling.
Sampling os SADME DDH 1&2.

Tea Tree Glen grid
TMI contouring. EM. Mise-a-la-masse contouring. Sirotem. Ground magnetics profiling. Drilling RD/DD85WE1, DD86WE6.
RDDD85WE1 sulphide (15-20%) zones in schist ie. 72.9-89m, 114.9-125m, 115-125m; 0.4%Cu, 0.16%Ni, 0.06%Co, 0.64%LRE.

DD86WE6115-117.6m; 0.77%Cu, 0.35% Ni, 0.12% Co, 3.4ppm Ag, 43ppm U, 1.9%Ce. These explain Sirotem anomaly.

Hillview Grid

Rock float sampling. diamond drilling DD86WE3 to -6 (geophysically logged and petrological study). Sirotem. Ground magnetics profiling. DD86WE 5.

Oxidised, hydrothermal Cu vein, Moonta-style.

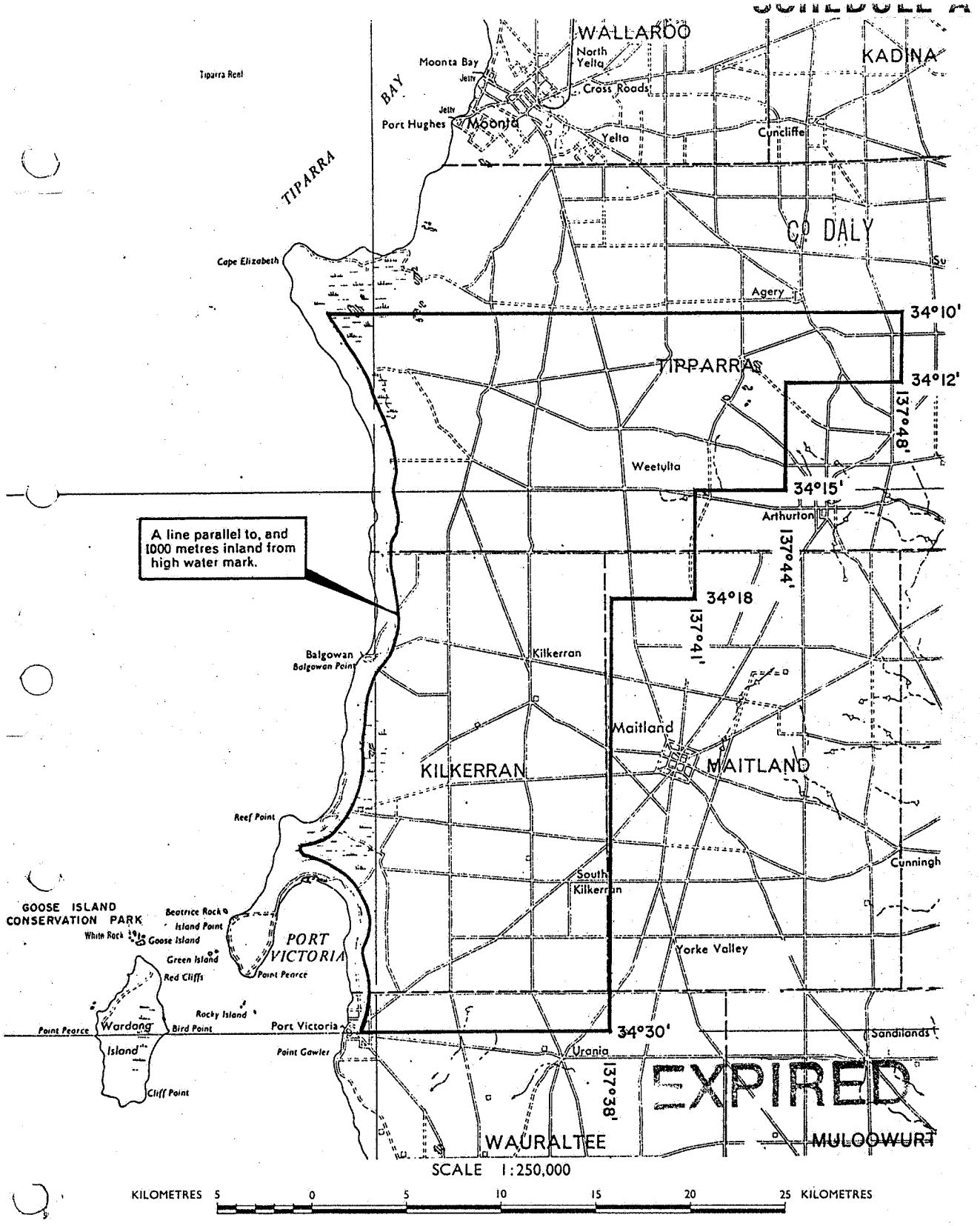
Anna Villa Prospect

EM

Section 225 Uranium anomaly

Rock chip chemistry. Radiometric (uranium channel).

Comments: Tea Tree Glen grid; geochemistry similar to Wallaroo. Alkaline igneous or carbonatite hydrothermal source suggested.



B.H.P. MINERALS LIMITED

APPLICANT: ~~DAMPIER MINING COMPANY LIMITED~~

DM: 564/80

AREA: ~~608~~ 600 square kilometres

1:250000 PLANS: MAITLAND

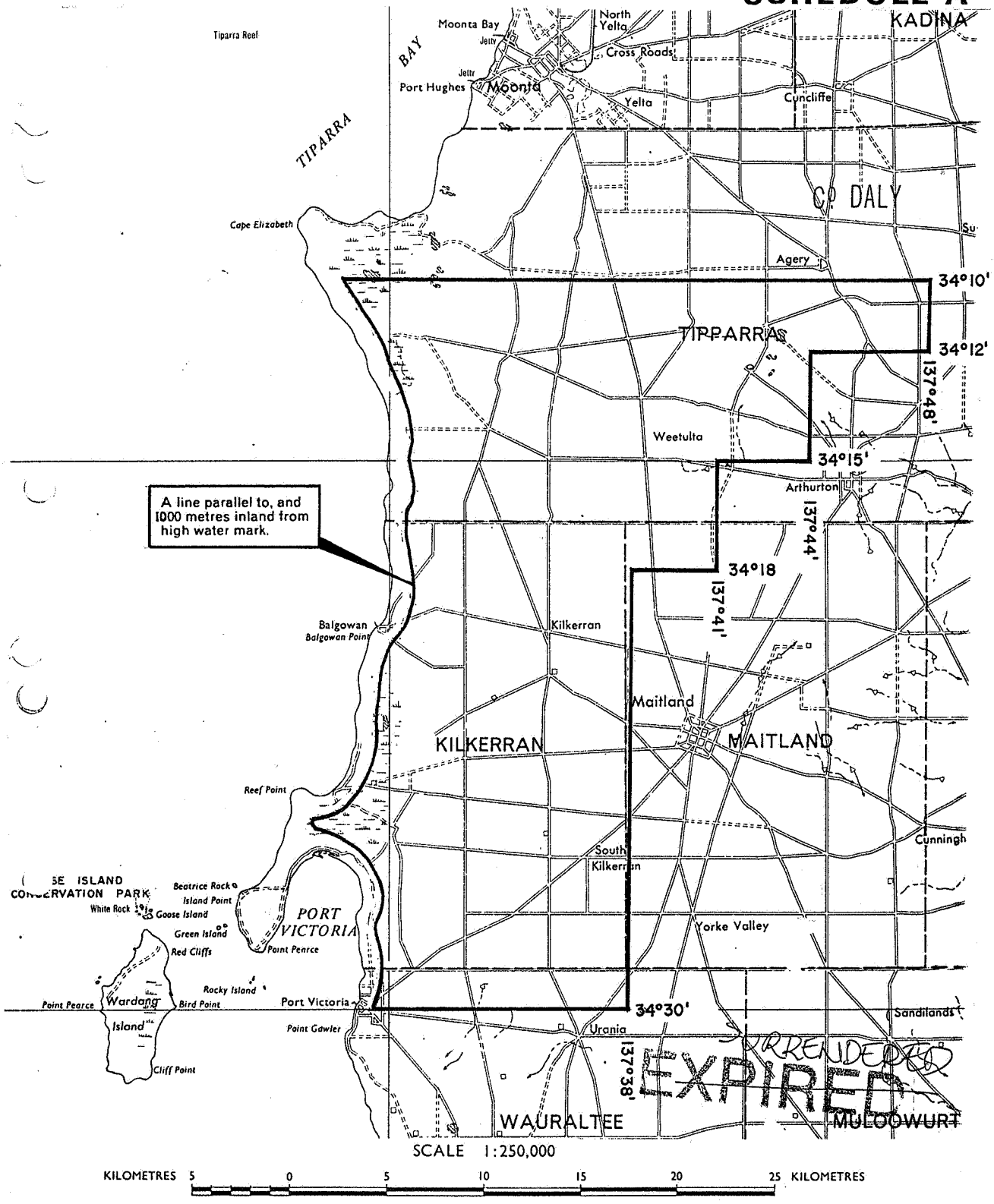
LOCALITY: MAITLAND AREA - Yorke Peninsula

DATE GRANTED: 2-3-81

DATE EXPIRED: 1-3-~~82~~ 83

EL No: 808

SCHEDULE A



APPLICANT: **BHP MINERALS LIMITED**

DM: **12/83** AREA: **600** square kilometres (approx.)

1:250000 PLANS: **MAITLAND**

LOCALITY: **MAITLAND AREA – Yorke Peninsula**

DATE GRANTED: **28·3·83** DATE EXPIRED: 27·3·84 85/K 86 mk. 87 88 EL No: **1128**

EXPLORATION DATA SUMMARY: YORKE PENINSULA

YP8

Company: BHP Exploration

Tenement: EL 253

Tenement dates: -> 1/7/77

SADME Open File Envelope: 2815

1:100 000 sheet: Maitland

Domain: Mc1

Age/Stratigraphy: Lower Cambrian, Kulpara Dolomite

Pre-existing Mines Prospects: Ardrossan Quarry

Target-commodities: Metallurgical grade dolomite

-styles:

Work-Geology: map 1:5000 scale

-Geophysics:

-Geochemistry: Pb, Zn. Pb 10-40ppm. Zn <50ppm D.L.

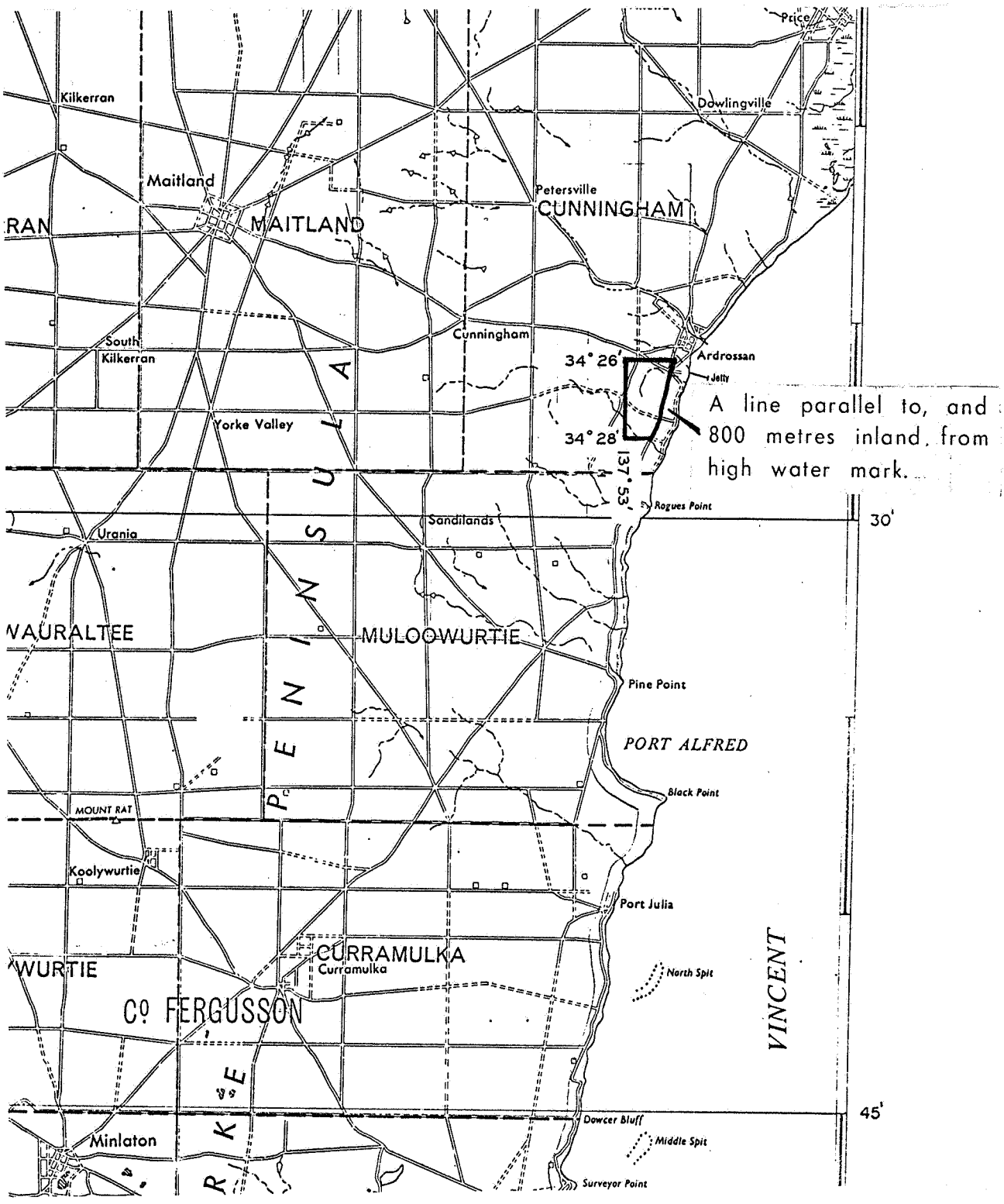
-Drilling: DDH EX1(600m NNW of Ardrossan Quarry).
0-22m tertiary sands and grits,
22.5-84.5m karstic top/Kulpara Limestone (low MgO),
84.5-91.44m EOH. Kulpara Dolomite, MgO>20%.

Exploration Summary:

Mineralisation/Prospects/Best Results:

Comments:

SCHEDULE A



SCALE 1:250 000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

APPLICANT: THE BROKEN HILL PROPRIETARY COMPANY LIMITED

D.M. 156|76 AREA 8 Square kilometres

1: 250000 PLANS MAITLAND

LOCALITY ARDROSSAN AREA

EXPIRY DATE 1·7·77 E.L. No. 253

EXPLORATION DATA SUMMARY: YORKE PENINSULA

YP9

Company: Aquitaine Australia Minerals Ltd.

Tenement: ELs 128, 181, 315

Tenement dates: EL128; 2/74-> EL181;->23/2/77 EL315; 4/77-> 26/4/79.

SADME Open File Envelope: 2424, 2551, 3041

1:100 000 sheet: Stansbury (Maitland)

Domain: Sp1, Sp2, Sc, (Mg)

Age/Stratigraphy: Pre-Adelaidean, Cambrian, Permian, Tertiary (marine).

Pre-existing Mines Prospects: Hillside Mine. Showings: Curramulka Mine (malachite), Curramulka Quarry(py, cpy, galena, fluorite) Minlaton Strat. Bore (trace Cu in Ramsay Lst.), Water bore Ikm north of Minlaton Strat. Bore (trace Cu), petroleum exploration wells south of ELs 128 etc. (trace Cu, Pb, Zn mineralisation, ref. 2551pp23-27).

Target-commodities: Cu, Pb, Zn.

-styles: Lead-zinc in Cambrian carbonates - stratigraphic ie. stratabound deposition, unconformity related deposition, MVT

Work-Geology: Mapping includes drill data, petrological reports, definitive stratigraphic work including petrography of the carbonates (geol. summary 2551pp35-45)

-Geophysics: Aeromagnetid survey (3250 flight line km). IP (50km). Gravity (58km). Compudepth; ie. depth to magnetic basement. (nb. detailed work hampered by cultural features)

-Geochemistry: 726 soil samples. Rock sampled by chip, RAB (353 bottom of hole samples)&RP drilling (700 samples); Pb,Zn,Cu.

-Drilling: RAB; 353 holes for 4871m
RP; 13 holes for 1479m (SYC 600 -12)
DDH; 1 hole for 456m (SYC 101)

Exploration Summary: Target to specifically test base metal potential of the Lower Cambrian carbonates. Aeromagnetics, magnetic basement interpretation, RAB drilling to test below cover, geophysical logging of water bores and water chemistry. Curramulka area considered prospective and investigated by rock chip sampling, RAB and percussion drilling (SYC 600-612), soil sampling, and IP. MVT model downgraded in mid-1977. Unsuccessful attempt to locate basement high as a composite magnetic+gravity anomaly by diamond drilling (SYS 101).

Mineralisation/Prospects/Best Results: Curramulka area; Kulpara/Parara contact; stromatolitic horizon (Chk-c'). Geochemical guide:

Metal	Threshold (ppm)	'probably anomalous' (ppm)
Pb	240	580
Zn	250	630

Geochemical anomalies: Rock chip Anomalies A-N & Soil sample Zones A-D:

Anomaly A. Parara/Kulpara contact
Rock chip; 960ppm Zn, 280pp Cu
IP anomaly,
DH SYC 604 did not determine cause of IP anomaly;
18-20m interval @ 1500ppm Pb, 240ppm Zn.

Anomaly B. Kulpara Lst (Chk-c)
galena showings at the surface,
DH SYC 601; 80-82m @ 6500ppm Pb, 4800ppm Zn
DH SYC 605; 0-2m @ 390ppm Pb, 6-8m @ 350ppm Zn)

Anomaly C. Kulpara Lst (Chk-c)
Rock chip; 680ppm Pb
IP no anomalous response

Anomaly D. Parara/Kulpara contact

Rock chip; 1300ppm Zn

IP no anomaly

Anomaly E. Kulpara Lst (Chk-c/Chk-b)

Rock chip; 240ppm Pb, 510ppm Cu (possible contamination)

Anomaly F. Parara Lst (Chp-e/Chk-b)

Rock chip; 260ppm Pb

Anomaly G. Ramsay Lst

Rock chip; 430ppm Zn

Anomaly H. Ramsay Lst

Rock chip; 250ppm Zn

Anomaly I. Ramsay Lst

Rock chip; 260ppm Pb, 220ppm Zn.

Anomaly J. Lower Kulpara Fm (Chk-b)

Rock chip; 420ppm Pb, 410ppm Zn

Anomaly K. Winulta Fm

Rock chip; 270ppm Cu+Zn

Anomaly L. Parara Lst (Chp-d', glauconite facies)

Rock chip; 310ppm Cu

Anomaly M. Parara Lst (Chp-d', glauconite facies)

Rock chip; 270ppm Cu

Anomaly N. Minlaton Fm, basal breccia.

Rock chip; slightly elevated Cu.

Soil sample anomalies

Zone A. Kulpara Lst. (Chk-c')

≤580ppm Pb, 110ppm Cu (Zn slightly higher than background)

IP negative

Zone B. ?Parara/Kulpara contact

≤1060ppm Pb

IP negative

DH SYC 612-negative results

Zone C. Parara Lst

370ppm Pb, 310ppm Zn

IP negative

Zone D.

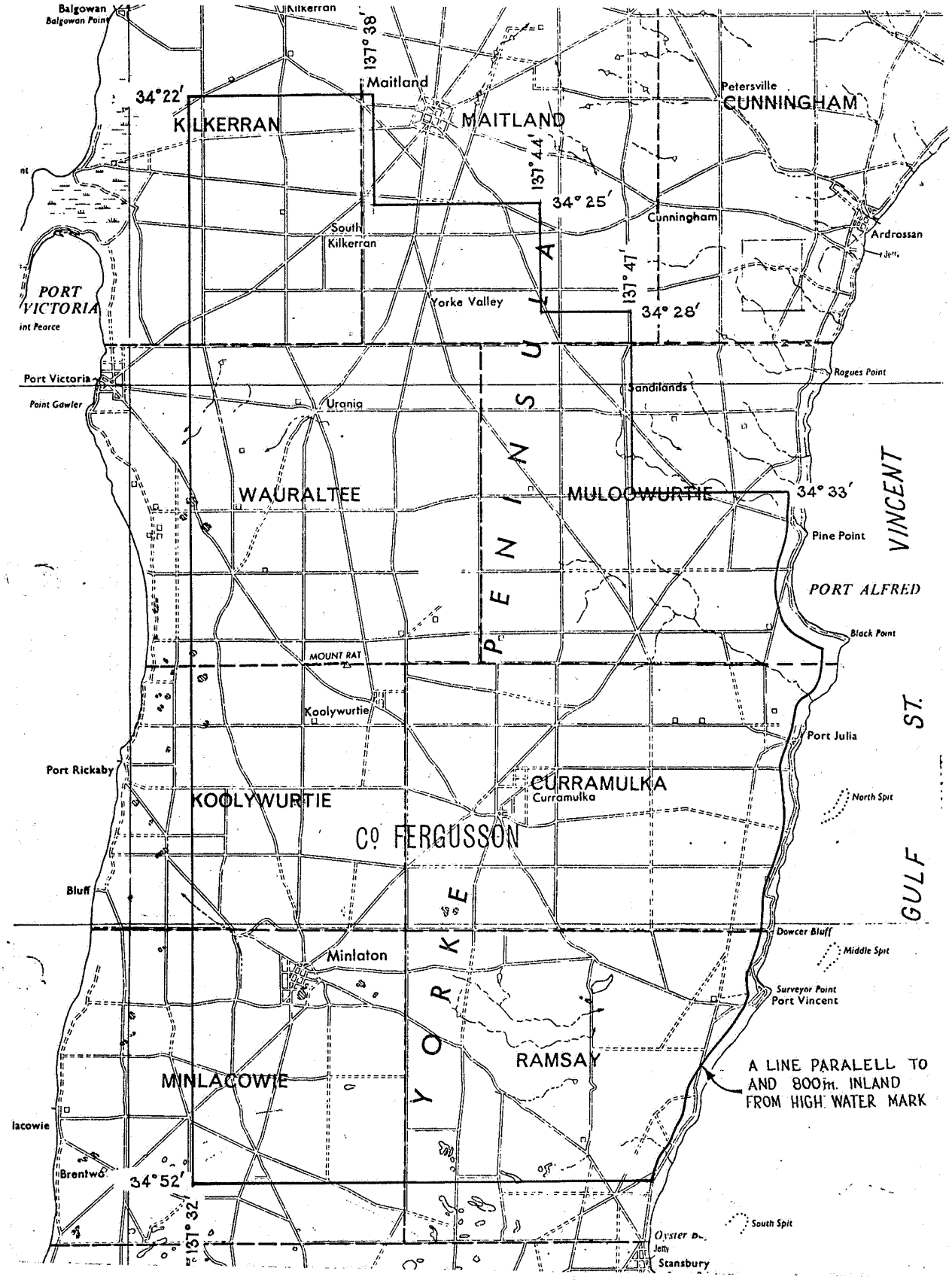
malachite surface showings

260ppm Cu

IP anomaly

DH SYC IP anomaly caused by saline, saturated karst.

Comments:



SCALE 1:250000

0 5 10 km

0 4 mls

AQUITANE AUSTRALIA MINERALS PTY. LTD.

DOCKET DM 99/74 AREA 1407 km²

1:250000 PLANS MAITLAND

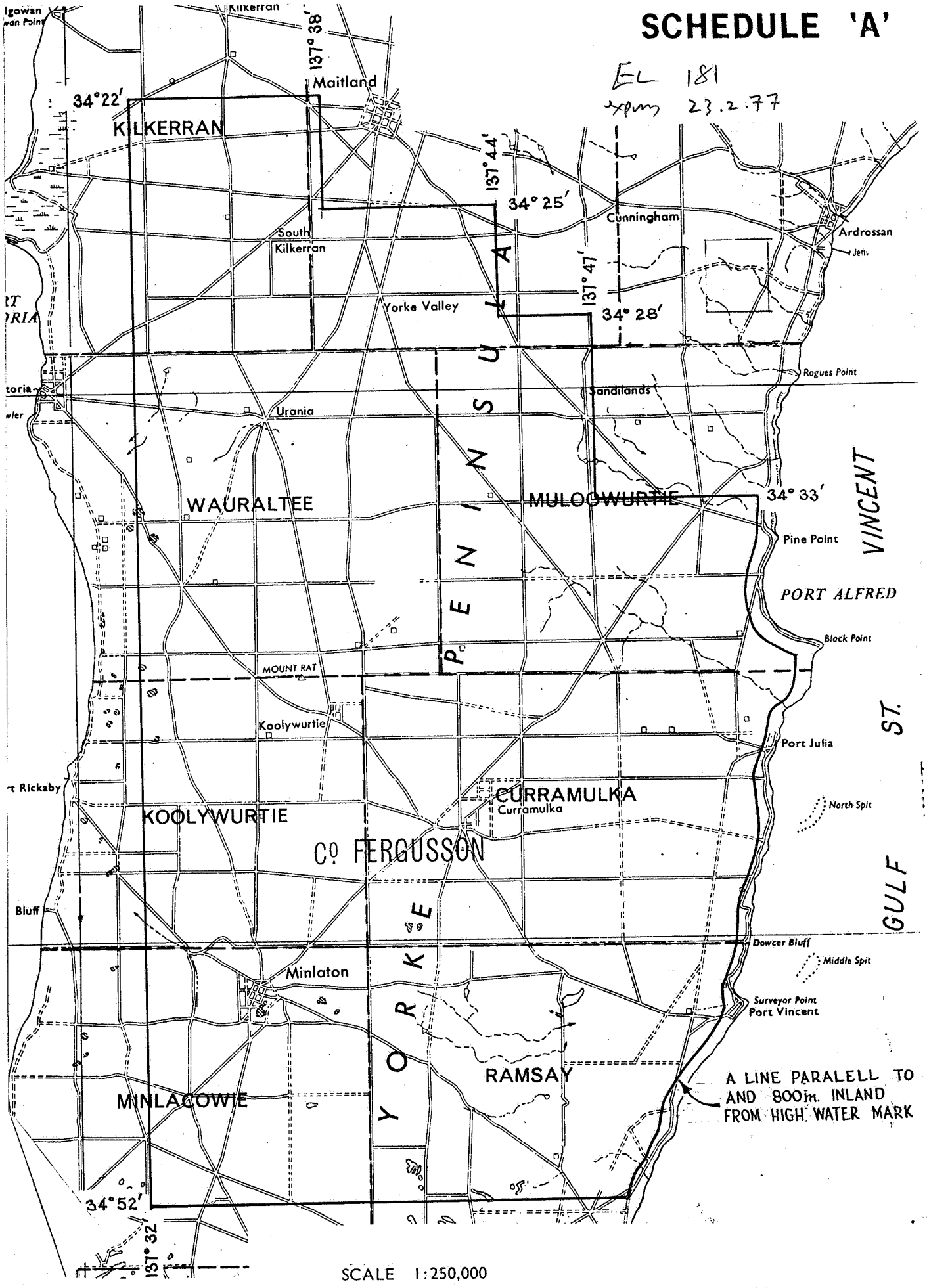
LOCALITY MINLATON — YORKE PENINSULA.

EL No. 128 EXPIRY DATE

= EL 128

SCHEDULE 'A'

EL 181
expires 23.2.77



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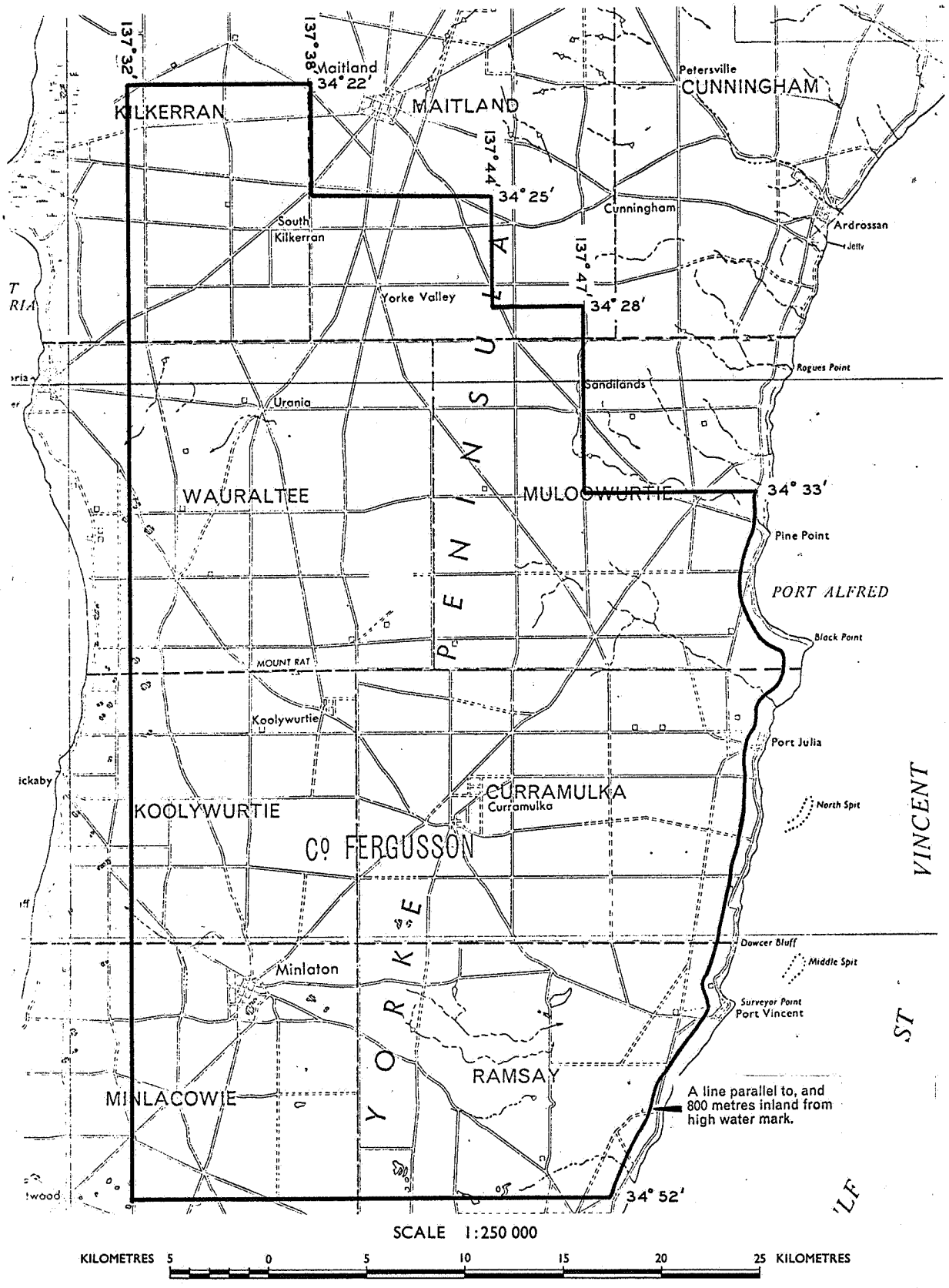
KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

EL 181

APPLICANT : AQUITANE AUSTRALIA MINERALS PTY LTD

D.M. : 1182 | 14 AREA : 1407 Square Kilometres

SCHEDULE A



APPLICANT: AQUITAINE AUSTRALIA MINERALS PTY LTD

D.M. 69 / 77 AREA 1407 Square kilometres

1: 250000 PLANS

MAITLAND SURRENDERED

LOCALITY: MINLATON AREA - YORKE PENINSULA

EXPIRY DATE 26 · 4 · ~~78~~ 79 E.L. No. 315

EXPLORATION DATA SUMMARY: YORKE PENINSULA

YP10

Company: BHP Minerals/Dampier Mining Co. later JV. CRA Exploration.

Tenement: ELs 499, 906, 1112 Curramulka (Pine Point)

Tenement dates: EL 499; 10/7/79-> EL 906; 19/10/81-> EL 1112; 25/2/82-24/2/87. JV with CRAE from 3/12/84, EL 1112 name change to Pine Point.

SADME Open File Envelope: 3567, 4214, 5685

1:100 000 sheet: Stansbury

Domain: Sp1, Sp2, Sc, Mg

Age/Stratigraphy: Proterozoic basement, Cambrian carbonates

Pre-existing Mines Prospects: Hart's Mine. Hillside Copper Mine. Curramulka area (cf. Aquitaine's work EL 128 etc.)

Target-commodities: Lead-zinc, other base metals, Permian coal, Cu+U.

-styles: MVT - unconformity and fault controlled. Base metals in basement eg. Curramulka Gravity+Magnetic Complex. Later Roxby model and kimberlite/carbonatite.

Work-Geology: RAB drill petrological classification and geological map.

-Geophysics: Mini-sosie seismic. Regional gravity. Radiometrics. Alpha card. Local gravity, ground magnetics , scintillometer, Sirotem.

-Geochemistry: Rotary drill sampling,local rock chip.Cu,Pb,Zn,Co,(Au)

-Drilling: RAB; C-series (1-356)

Rotary/Diamond; CURD 1-12
CA1-2 (Permian coal target)
PJ1a

Exploration Summary: Literature search and inspection of Minlaton Oil Bores 1 & 2, Stansbury Stratigraphic Bore, Aquitaine SYC 107. Mini-sosie seismic. Gravity.

DDH CURD 1b in Cambrian limestone, traces galena, sphalerite, chalcopyrite in Ramsay Lst and pyrite in Parara Lst.

DDHs CURD 2-6 to test gravity+magnetic targets in the basement approx. 3km north of Curramulka (logs & analyses 3567pp83-129).

CURD 2 magnetic anomaly, magnetite-bearing metagabbro.

CURD 3 gravity anomaly, gneisses to 43m then metagabbro.

CURD 4 magnetic anomaly, magnetite-bearing paragneisses with rare disseminated and vein chalcopyrite.

CURD 5 gravity anomaly, amphibolite.

CURD 6 aeromagnetic anomaly, magnetite-bearing gneisses.

CURD 7 situated east of NS fault to test unconformity at top of Kulpara Limestone, Pb & Zn each 40ppm above and 10ppm below (Logs 3567, analyses pp145-157). CURD 8 (logs pp159-161) CURD 9 (logs 3567pp162-4) pyrite ubiquitous. Alpha card.

C-series drilling, Precambrian basement; 282 holes 400m spacing, average depth/hole = 20m (logs 3567pp172-455; analysis of bottom-hole-samples for Cu, Pb, Zn, Co, Ag, Mo (see 3567pp 457-469). Geochem range Cu: 2-860ppm (10% >100ppm). Pb: <4-60ppm. Zn: 4-200ppm.

DDH CURD 10, 11, traces cpy in Parara Lst (logs 3567pp 379-484, analyses pp491-2).

Geochem DDH CURD 11; Cu: 4-570ppm (126-130m, 4m@231ppm Cu). Pb: <4-22ppm. Zn: 4-24ppm.

C-series RAB ctd. Curramulka area, C283-299, C319-356; 400-800m spacing, av. depth 17m. C121, 161, 369-481, av.depth 26m (logs 3567pp 593-715).

C-series RAB ctd. Pt. Victoria area. C300-318, av. depth 24m (logs 3567pp493-537). C357-368 (logs pp 579-592). C482-520 (logs pp 742-788). C-series assay list+coordinates+geological classification 3567pp 801-820.

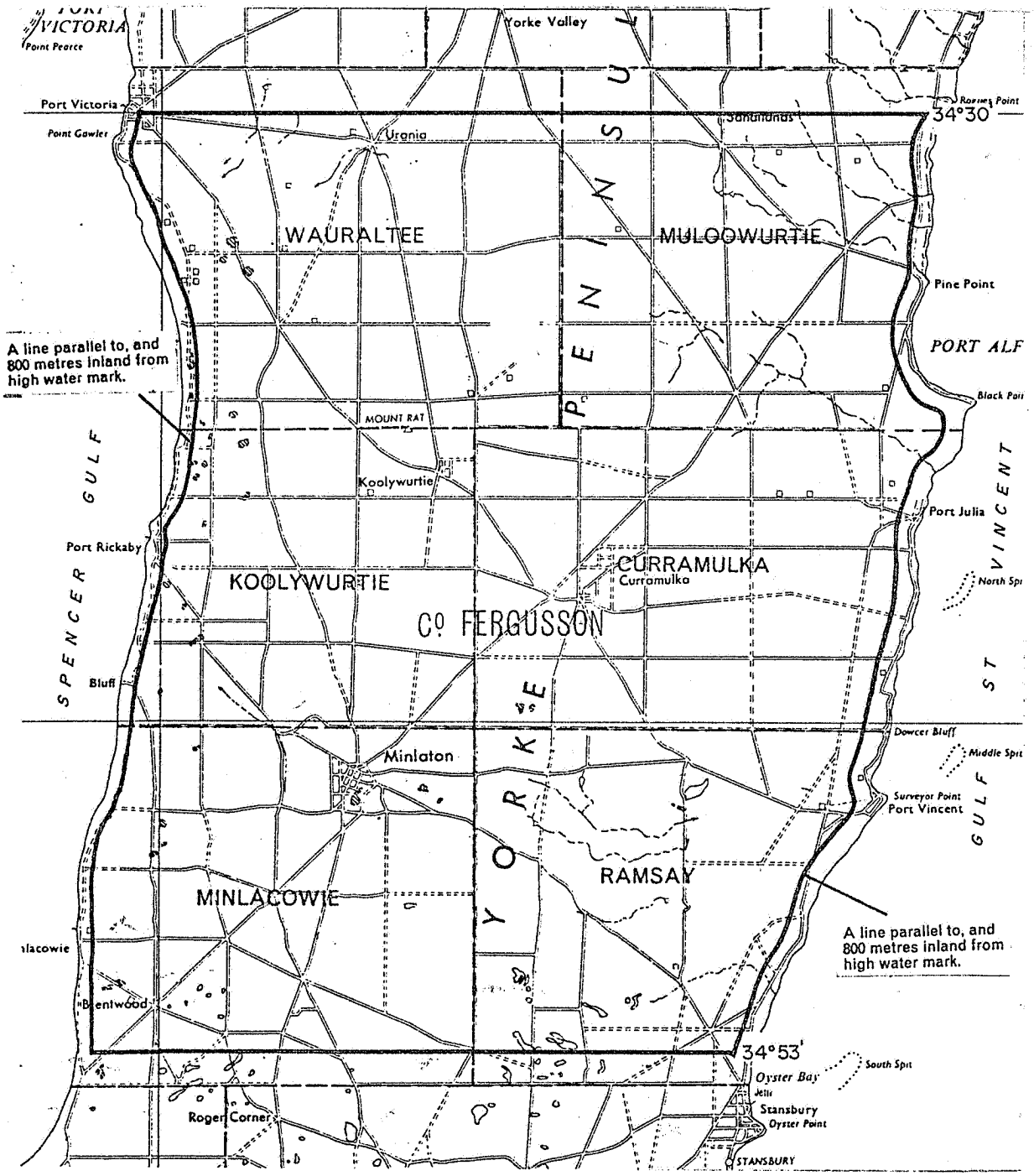
DDH CURD 12 no mineralisation (logs 3567pp 723-726)

DDH PJ-1/1a, bullseye magnetic anomaly, brecciated, Na+K metasomatised Fe-rich, magnetite (hematite) veined sediments. Skarn type mineralisation with intrusion suggested at depth ie. not Olympic Dam-style mineralisation, minor cpy-py (Cu ≤550ppm, Zn ≤105ppm,

Au ≤0.024ppm) (log 3567pp 906-910, assay p902 & 940, petrographic report pp919-935).
CRAE Au assay of 102 C-series holes, all <0.03ppm Au.
Local geophysics on Kenmore and Pine Point (Cu-Co) grids

Mineralisation/Prospects/Best Results: Curramulka Gravity+Magnetic Complex. Pine Point Cu-Co anomaly. Kenmore Cu-Co anomaly. PJ1 Bullseye magnetic anomaly (skarn).

SCHEDULE A



EXPIRED

SCALE 1:250,000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

APPLICANT: DAMPIER MINING COMPANY LIMITED

DM:142/79 AREA:1428 square kilometres

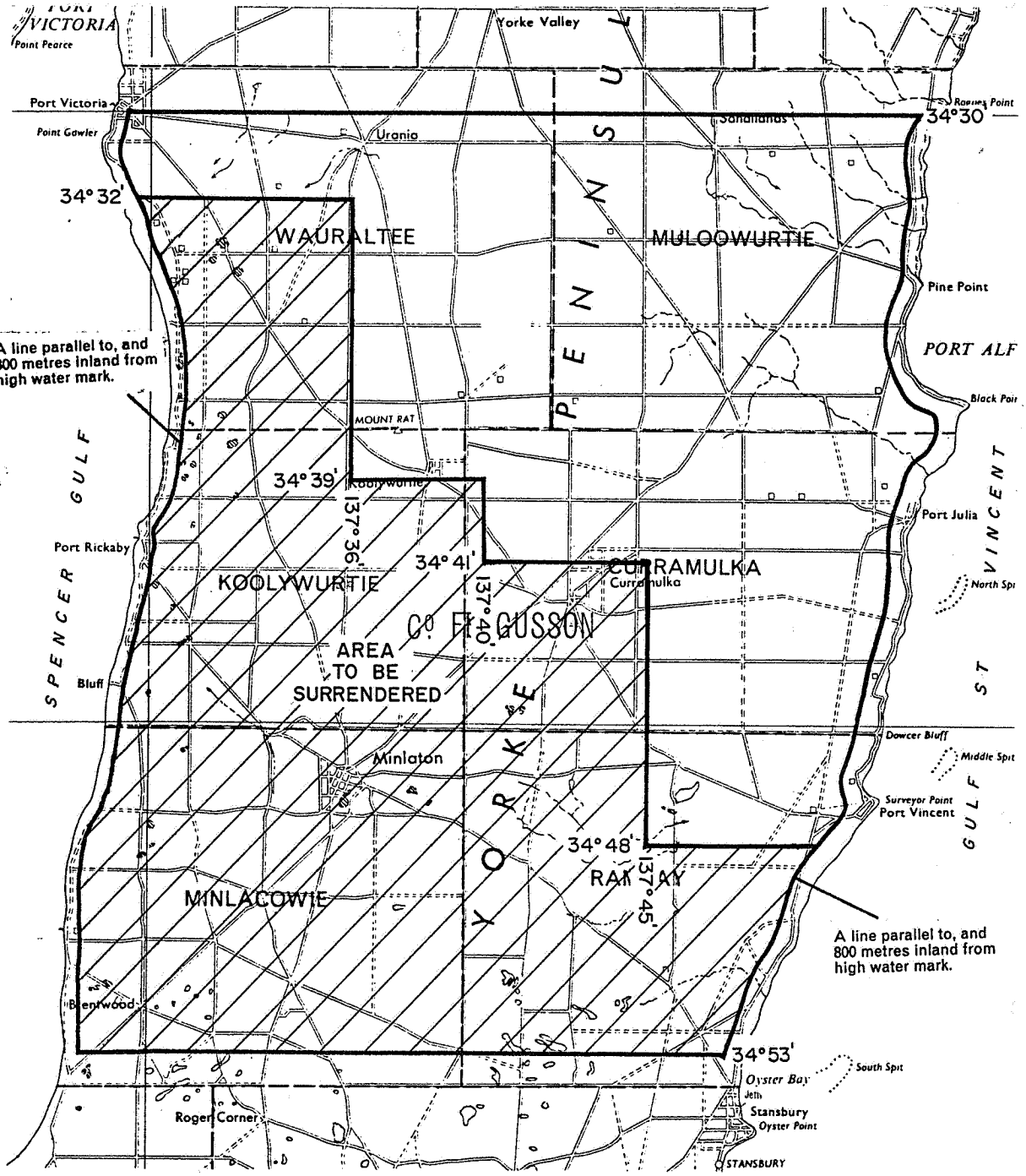
1:250000 PLANS:MAITLAND Reapp. 301/81

LOCALITY: CURRAMULKA AREA – YORKE PENINSULA

DATE GRANTED: 10-7-79 DATE EXPIRED: 9-7-~~80~~ 81

EL No: 499

SCHEDULE A



EXPIRED

APPLICANT: BHP MINERALS LIMITED

DM: 381/81

AREA: ~~1428~~ 667 square kilometres

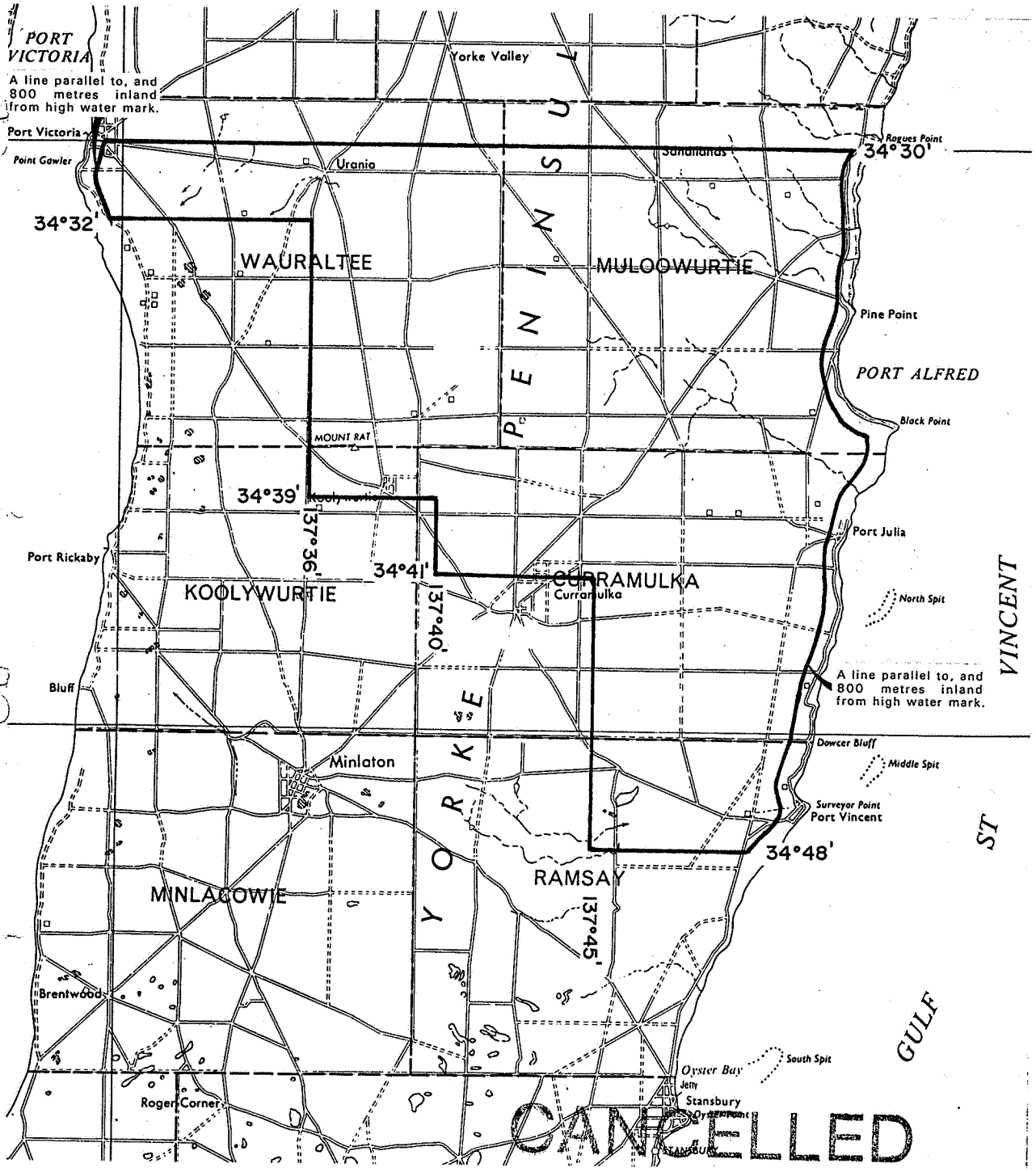
1:250000 PLANS: MAITLAND

LOCALITY: CURRAMULKA AREA – Yorke Peninsula

DATE GRANTED: 19·10·81 DATE EXPIRED: 18·10·82

EL No: 906

SCHEDULE A



SCALE 1:250,000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

APPLICANT: **BHP MINERALS LIMITED**

DM: **428/82** AREA: **667** square kilometres (approx.)

1:250000 PLANS: **MAITLAND**

LOCALITY: **CURRAMULKA AREA - Yorke Peninsula**

DATE GRANTED: **25·2·83** DATE EXPIRED: **24·2·87** ~~86~~ ~~85~~ ~~84~~

EL No: **1112**

EXPLORATION DATA SUMMARY: YORKE PENINSULA

YP11

Company: Nelson, W.B.

Tenement: SML 382 (Curramulka area)

Tenement dates:

SADME Open File Envelope: 1332

1:100 000 sheet: Stansbury

Domain: Sc

Age/Stratigraphy: Cambrian

Pre-existing Mines Prospects:

Target-commodities:

-styles:

Work-Geology:

-Geophysics: Ground magnetometer survey, completion of earlier Dept. Mines survey (Seedsman)

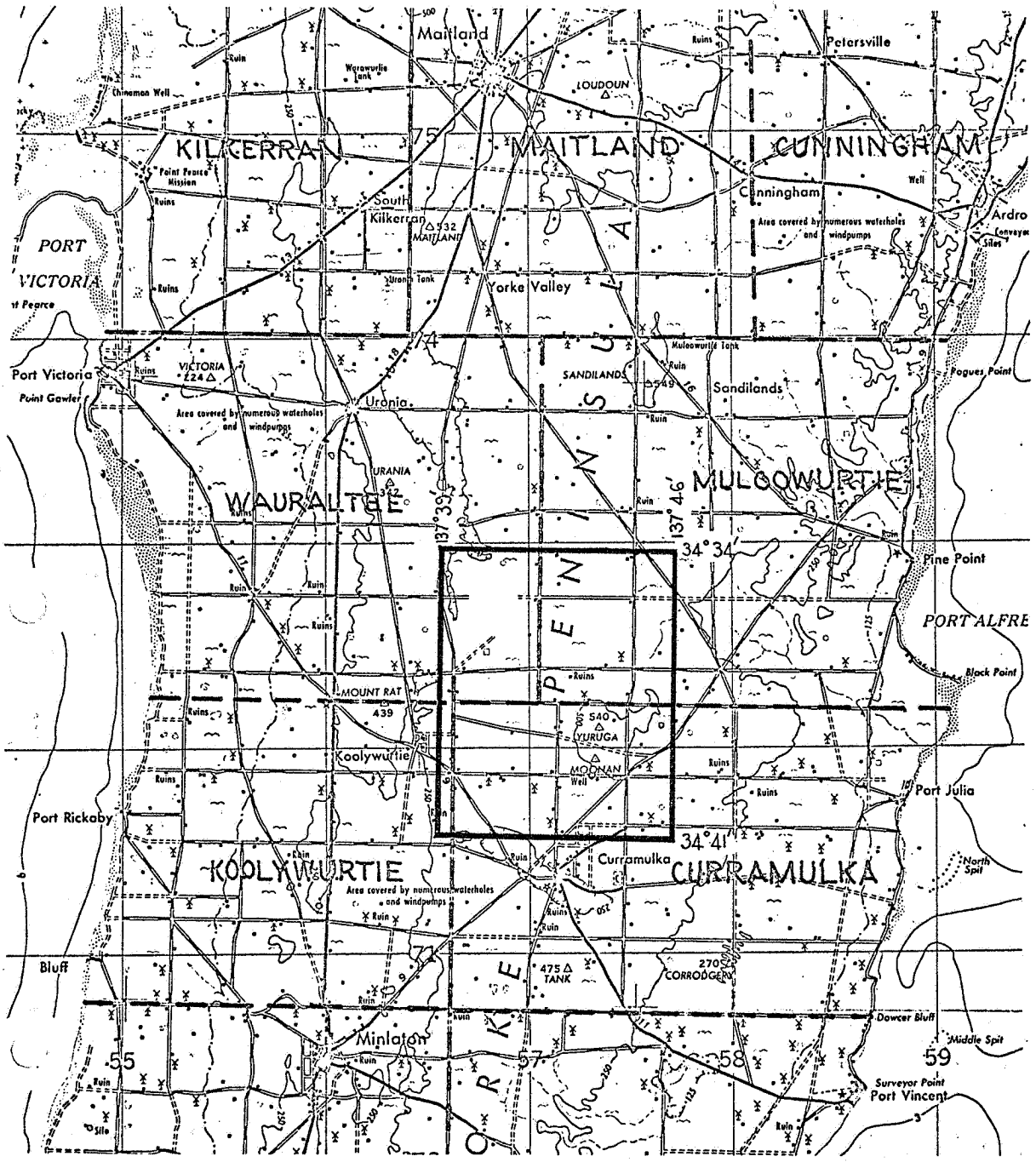
-Geochemistry:

-Drilling:

Exploration Summary:

Mineralisation/Prospects/Best Results:

Comments:



SCALE 1:250,000

W.B. NELSON

DOCKET D.M. 103/70 55

1:250000 PLANS MAITLAND

LOCALITY

S.M.L. No. 382 EXPIRY DATE 25·2·70

EXPLORATION DATA SUMMARY: YORKE PENINSULA

YP12

Company: Geosurveys

Tenement: SML 187

Tenement dates:

SADME Open File Envelope: 945, 1063

1:100 000 sheet: Stansbury

Domain: Sp2

Age/Stratigraphy: Permian/Cambrian

Pre-existing Mines Prospects:

Target-commodities: Salt, potash brines

-styles: Brine. Mainly Kulpara Limestone as a reservoir and producer of brine suitable as a salt source.

Work-Geology:

-Geophysics:

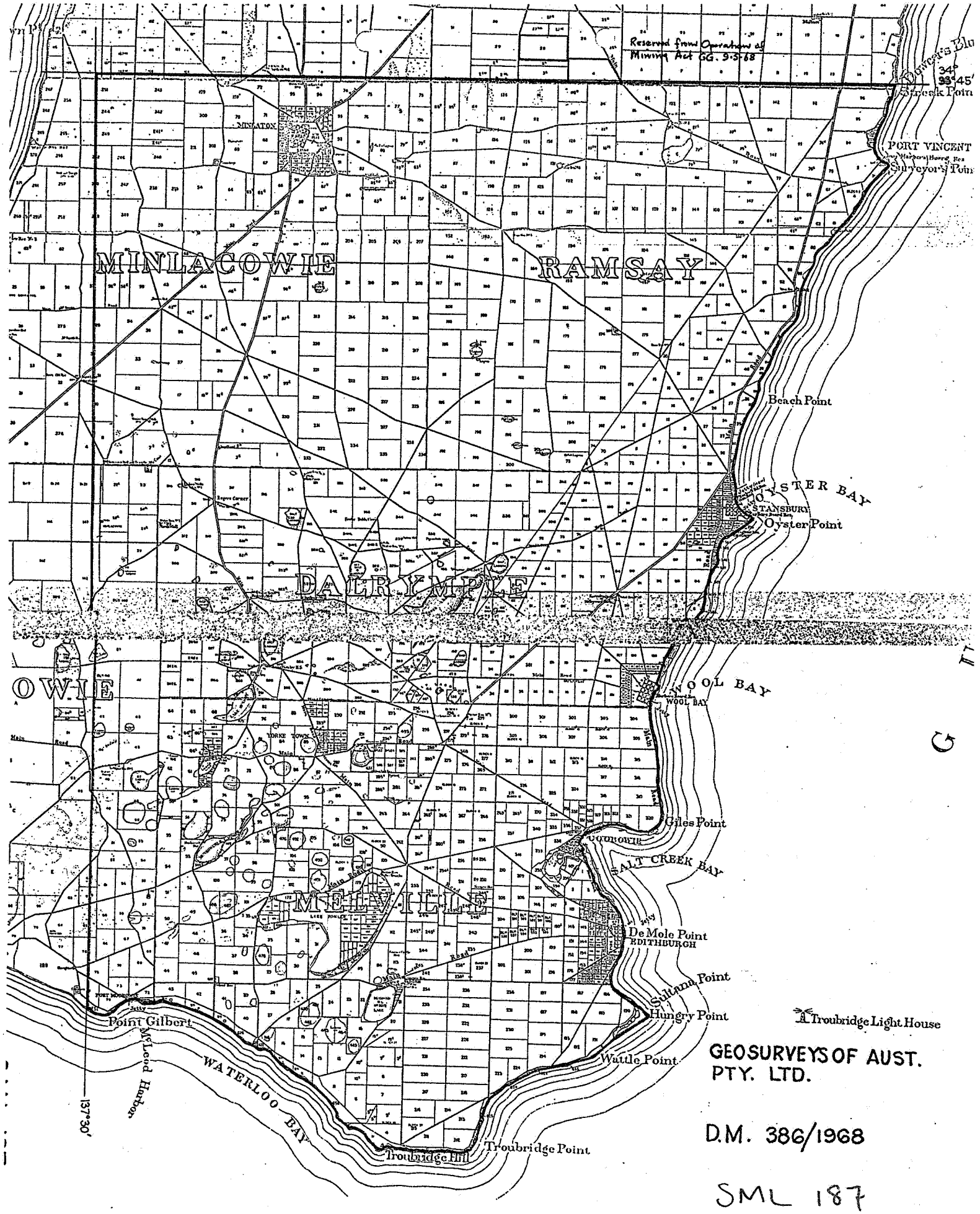
-Geochemistry:

-Drilling: PDH1. Bull's Lagoon 1 (mainly in Permian sandy clays)

Exploration Summary:

Mineralisation/Prospects/Best Results:

Comments: Majority of work focussed as a comprehensive feasibility study. Cambrian carbonate not penetrated, therefore brine as a source of metal not tested.



GEOSURVEYS OF AUST. PTY. LTD.

D.M. 386/1968

SML 187

EXPLORATION DATA SUMMARY: YORKE PENINSULA

YP13

Company: Beach Petroleum N.L.

Tenement:
Tenement dates:
SADME Open File Envelope:

1:100 000 sheet:

Domain:

Age/Stratigraphy:

Pre-existing Mines Prospects:

Target-commodities:

-styles:

Work-Geology: Cross-section, stratigraphy

-Geophysics:

-Geochemistry:

-Drilling: Stansbury West No.1 (1745m)

Exploration Summary:
Mineralisation/Prospects/Best Results:

Comments: Not a metallic project but a fundamental reference point for future work on Yorke Peninsula/Stansbury Basin. Notes in well logs to traces of pyrite, fluorite and carbonaceous material at various places in the Cambrian carbonate succession - used by Aquitaine Australia Minerals as an encouraging sign for the existence of Pb-Zn mineralisation.
BHP in SADME Envelope 656 reviewed data from this hole.

EXPLORATION DATA SUMMARY: YORKE PENINSULA

YP14

Company: BHP Company Ltd.

Tenement: EL 1228 (Minlaton)

Tenement dates: 9/4/74-> reduced in size 9/4/84 ->28/3/85

SADME Open File Envelope: 5685, 5686

1:100 000 sheet: Stansbury

Domain: Sp1

Age/Stratigraphy: Proterozoic, (Cambrian, Permian).

Pre-existing Mines Prospects:

Target-commodities: Cu, Au, U

-styles: Olympic Dam model (graben/sedimentary version)

Work-Geology: Seismic interpretation using petroleum data. Envelope 5686 is a part relinquishment report and contains summaries of 1] Jododex Warooka EL 635, aeromagnetics, and drilling of magnetic targets for base metals (cf. SADME Envelope 3852)

2] Aquitaine Aust. Mins.EL 315, target MVT Pb-Zn type mineralisation in Cambrian carbonates (cf. SADME Envelope 3852).

-Geophysics: Ground magnetics. Interpretation of earlier gravity, magnetics and seismic data. Depth to magnetic basement study.

-Geochemistry:

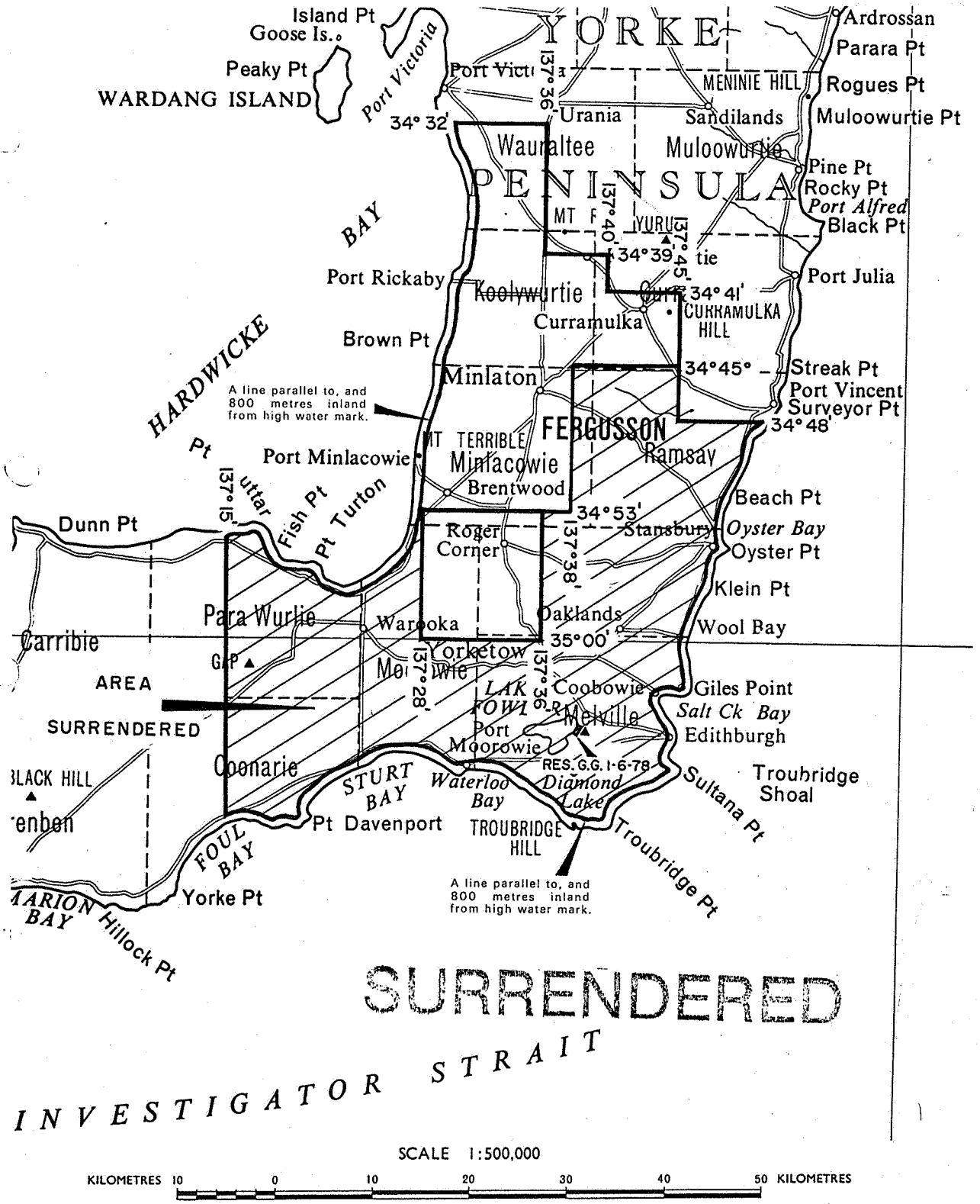
-Drilling:

Exploration Summary: Interpretation of Pan Pacific Petroleum NL seismic lines. Magnetic and gravity interpretation. Ground magnetics. Relinquishment due to depth (600m) and lack of obvious drill targets.

Mineralisation/Prospects/Best Results:

Comments: Seismic interpretation interesting re: structural interpretation.

SCHEDULE A



APPLICANT: **BHP MINERALS LIMITED**

DM: **356/83**

AREA: ~~1697~~ 549 square kilometres (approx.)

1:250000 PLANS: **MAITLAND KINGSCOTE**

LOCALITY: **MINLATON AREA – YORKE PENINSULA**

DATE GRANTED: 9-4-84

DATE EXPIRED: 8-4-85 Part Surr. No. 9884 Remainder 10218 28.3.85

EL No: ~~1228~~

EXPLORATION DATA SUMMARY: YORKE PENINSULA

YP15

Company: Aberfoyle

Tenement: EL 1018 (Roger Corner)

Tenement dates: 28/7/82- 27/7/83

SADME Open File Envelope: 4841

1:100 000 sheet: Stansbury

Domain: Sp1, Sp2

Age/Stratigraphy: Proterozoic, (Cambrian, Permian)

Pre-existing Mines Prospects: SADME hydrochemical metal anomaly

Target-commodities: Cu, U, Au

-styles: Olympic Dam model ie. coincident gravity+magnetic highs

Work-Geology:

-Geophysics: Use of pre-existing geophysics. Seismic survey

-Geochemistry: Hydrochemical sampling from water bores Cu, Pb, Zn, Hg, F, U.

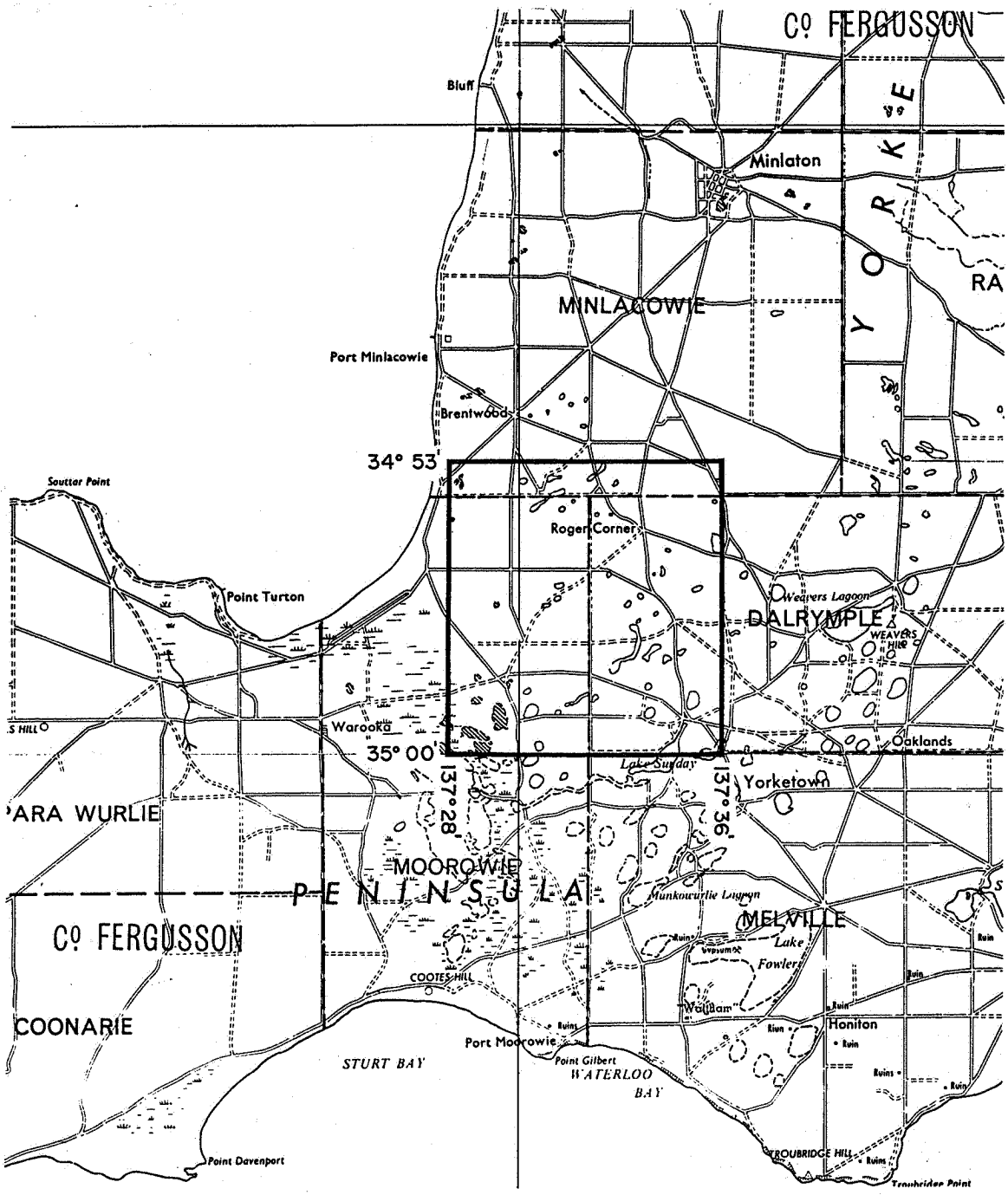
-Drilling: drillhole proposed but not drilled.

Exploration Summary: Coincident gravity+magnetics+groundwater metal anomaly investigated by further water sampling - not successful in repeating original hydrochemical results. Seismic survey (utilising SADME services) to check depth to basement. Drillhole proposed to test geophysical anomaly but not followed up.

Mineralisation/Prospects/Best Results:

Comments:

SCHEDULE A



SCALE 1:250,000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

EXPIRED

APPLICANT: **ABERFOYLE EXPLORATION PTY LTD**

DM: **103/82** AREA: **158** square kilometres

1:250000 PLANS: **MAITLAND**

LOCALITY: **ROGER CORNER AREA – Approx. 25 km N.W. of Edithburgh.**

DATE GRANTED: **28·7·82** DATE EXPIRED: **27·7·83** EL No: **1018**

27.

EXPLORATION DATA SUMMARY: YORKE PENINSULA

YP16

Company: Concept Exploration PL.

Tenement: EL 1242 (Roger Corner)

Tenement dates: 9/7/84-8/7/86

SADME Open File Envelope: 5816

1:100 000 sheet: Stansbury

Domain: Sp1, Sp2

Age/Stratigraphy: Proterozoic, (Cambrian, Permian)

Pre-existing Mines Prospects: Geophysical + hydrochemical anomaly

Target-commodities: Cu, Au, U

-styles: Moonta-type mineralisation, geophysical target.

Work-Geology: Interpreted depth to basement map

-Geophysics:

-Geochemistry: Groundwater chemistry, Cu, U, Ag anomalous.

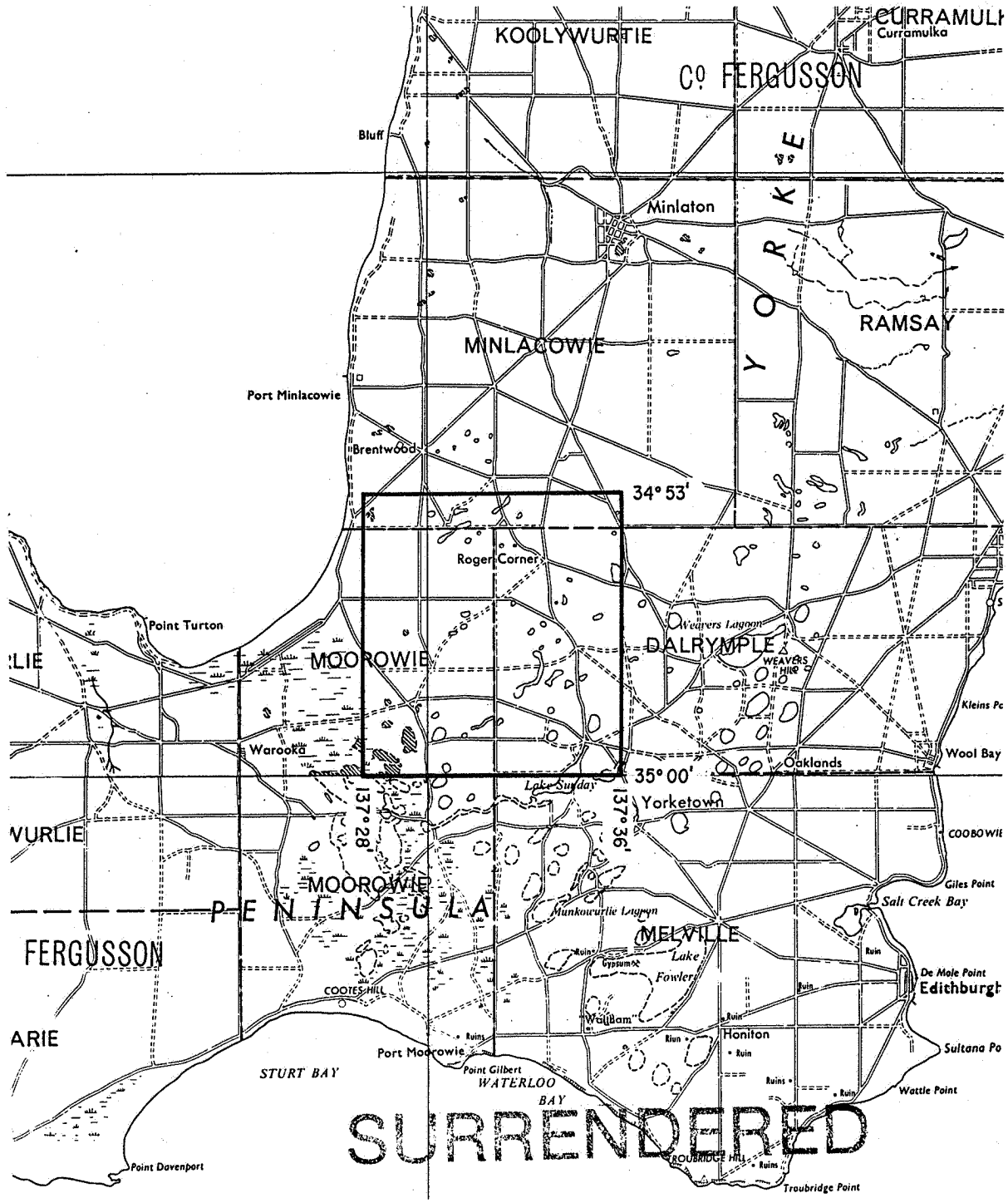
-Drilling: Drillhole recommended, not drilled.

Exploration Summary: Reconsideration of earlier Aberfoyle target (see SADME Envelope 4841). Interpretation of geophysics. Groundwater geochemical sampling. Drillhole proposed but no JV partner forthcoming because Cu-U targets not favoured.

Mineralisation/Prospects/Best Results:

Comments:

SCHEDULE A



SCALE 1:250,000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

APPLICANT: CONCEPT EXPLORATION PTY. LTD.

DM: 43/84 AREA: 158 square kilometres (approx.)

1:250000 PLANS: MAITLAND

LOCALITY: ROGER CORNER AREA — Yorke Peninsula

DATE GRANTED: 9·7·84 DATE EXPIRED: 8·7·~~85~~86 EL No: 1242

APPENDIX 2

DRILLING DATA

1. YORKE PENINSULA PB-ZN DRILL SUMMARY

Company: North Broken Hill
Tenement: ELs 248, 420, 577, 972.

-Drilling: Augering (100-200m spacing along roads and fence lines)
Rotary, 15 pre-collars for DDH
DDH, 27 holes

Company: Aquitaine Australia Minerals P/L.
Tenement: EL 129, 180, 314 (Price)

-Drilling: RAB (211 holes for 3415m).
RP - SYD 600, SYP 600, SYP 601, SYP 602, SYM 600 (ie 5 holes for 706m).
DDH - SYM 600/102 (RP hole SYM 600 deepened), SYM 101 (209m depth).

Company: North Broken Hill P/L
Tenement: EL 528

-Drilling: Auger; 941 holes for 6 839m (90% EOH Cambrian)
Percussion: 31 holes for 426m.

Company: Poseidon Ltd. (later JV with CRAE)
Tenement: ELs 923, 1110

-Drilling: Percussion: PW1 (Wirrahill), PA1 & PA1A (Tertiary), PD85AN1. (RCP)
AP2 to AP10.

Company: Esso+Pegmin, later Otter+Pegmin.
Tenement: ELs 525, 870, 1083

-Drilling: RAB; 266 holes; 3111m (logs 3616pp158-167)
DDH Ardrossan #1 (Pavey Anomaly); 220m (summary log 3616p321, logs pp325-329)
DDH P1 to P5 (Parara Mine); 371m (logs p404 to 434)

Company: BHP Exploration/Dampier Mining Company, later CRAE JV partner.
Tenement: EL 808 (Maitland), EL 1128 (Maitland & Weetulta)

-Drilling: RP; M-series (average 21m/hole, 400m spacing)
M1-108, logs 4214pp12-118
M109-423 logs 4214pp125-493
M424-429 logs 4214pp533-538
M-series drill analyses 4214pp593-607.

DDH; RD/DD85WE1 & DDWE6 (Tea Tree Glen), RD/DD85WE2 (DDH 87/88 Anomaly), DD86WE3 to 5 (Hillview Grid).
RD/DD85WE1; logs 4214pp698-707;} pet.rept. pp715-742,
RD/DD85WE2; logs 4214pp708-713;} & analyses pp725-742.
DD86WE3; summary logs 4214pp783-4 } full
DD86WE4; summary logs 4214pp784 } logs &
DD86WE5; summary logs 4214pp785 } assays
DD86WE6; summary logs 4214pp787-9 } pp871-901

Company: BHP Exploration
Tenement: EL 253

-Drilling: DDH EX1(600m NNW of Ardrossan Quarry).
0-22m tertiary sands and grits,
22.5-84.5m karstic top/Kulpara Limestone (low MgO),
84.5-91.44m EOH. Kulpara Dolomite, MgO>20%.

Company: Aquitaine Australia Minerals Ltd.
Tenement: ELs 128, 181, 315

-Drilling: RAB; 353 holes for 4871m
RP; 13 holes for 1479m (SYC 600 -12)
DDH; 1 hole for 456m (SYC 101)

Company: BHP Minerals/Dampier Mining Co. later JV. CRA Exploration.
Tenement: ELs 499, 906, 1112 Curramulka (Pine Point)

-Drilling: RAB; C-series (1-356)
Rotary/Diamond; CURD 1-12
CA1-2 (Permian coal target)
PJ1a

Company: Geosurveys
Tenement: SML 187

-Drilling: PDH1. Bull's Lagoon 1 (mainly in Permian sandy clays)

Company: Beach Petroleum N.L.
Tenement:

-Drilling: Stansbury West No.1 (1745m)

Company: Aberfoyle
Tenement: EL 1018 (Roger Corner)

-Drilling: drillhole proposed but not drilled.

Company: Concept Exploration PL.
Tenement: EL 1242 (Roger Corner)

-Drilling: Drillhole recommended, not drilled.

2. COMPANY DEEP DRILLHOLE LISTING

Aquitaine; Price
SYD 600
SYP 600
SYP 601
SYP 602
SYM 600
SYM 600/102
SYM 101

Aquitaine; Curramulka
SYC 600
SYC 601
SYC 602
SYC 603
SYC 604
SYC 605
SYC 606
SYC 607
SYC 608
SYC 609
SYC 610
SYC 611
SYC 612
SYC 101

BHP/NBH (Ardrossan)
EX 1

BHP/Dampier (Curramulka)
CUR D1B
CUR D2-12
CA 1
CA 2
PJ 1A

BHP/CRAE (Weetulta)
RD/DD85WE1
RD/DD85WE2
RD/DD86WE3
RD/DD86WE4
RD/DD86WE5
RD/DD86WE6

Esso/Otter/Pegmin (Price)
DDH Ardrossan 1
DDHP 1 (Parara Mine)
DDHP 2
DDHP 3
DDHP 4
DDHP 5

Poseidon (Price)
PW 1
PA 1/1A
PD85AN 1
AP 2
AP 3
AP 4
AP 5
AP 6
AP 7
AP 8
AP 9
AP 10

Appendix 2

3. SPREADSHEET REFERENCE LIST OF DEEP DRILLHOLES

Drillhole No.	Drillhole type	Company	Tenement No.	Tenement Name	Ref: Envelope	Lithologs: Pages	Analyses: Pages
SYD 600	RP	Aquitaine	EL 314	Price	2550	159-161	159-161
SYP 600	RP	Aquitaine	EL 314	Price	2550	162-164	162-164
SYP 601	RP	Aquitaine	EL 314	Price	2550	165-166	165-166
SYP 602	RP	Aquitaine	EL 314	Price	3040	28-30	28-30
SYM 600	RP	Aquitaine	EL 314	Price	3040	31-34	31-34
SYM 600/102	DDH	Aquitaine	EL 314	Price	3040	113-115	
SYM 101	DDH	Aquitaine	EL 314	Price	3040	116-120	
SYC 600	RP	Aquitaine	EL 181	Curramulka	2551	129-131	129-131
SYC 601	RP	Aquitaine	EL 181	Curramulka	2551	132-134	132-134
SYC 602	RP	Aquitaine	EL 181	Curramulka	2551	135-136	135-136
SYC 603	RP	Aquitaine	EL 181	Curramulka	2551	137-139	137-139
SYC 604	RP	Aquitaine	EL 181	Curramulka	2551	140..	140..
SYC 605	RP	Aquitaine	EL 181	Curramulka	2551	141..	141..
SYC 606	RP	Aquitaine	EL 315	Minlaton	3041	21-22	33-36
SYC 607	RP	Aquitaine	EL 315	Minlaton	3041	22-23	37-41
SYC 608	RP	Aquitaine	EL 315	Minlaton	3041	23-24	42-46
SYC 609	RP	Aquitaine	EL 315	Minlaton	3041	26-	47-51
SYC 610	RP	Aquitaine	EL 315	Minlaton	3041	27-	52-54
SYC 611	RP	Aquitaine	EL 315	Minlaton	3041	24-	55-56
SYC 612	RP	Aquitaine	EL 315	Minlaton	3041	24-25	57-60
SYC 101	DDH	Aquitaine	EL 315	Minlaton	3041	192-197	
EX 1	DDH	BHP/NBH	EL 253	Ardrossan	2815	14-17	
CA 1	RP	BHP/Dampier	EL 499	Curramulka	3567	61	
CA 2	RP	BHP/Dampier	EL 499	Curramulka	3567	61	
CUR D1B	RP/DDH	BHP/Dampier	EL 499	Curramulka	3567	130..	
CUR D2	RP/DDH	BHP/Dampier	EL 499	Curramulka	3567	85-	
CUR D3	RP/DDH	BHP/Dampier	EL 499	Curramulka	3567	86-88	
CUR D4	RP/DDH	BHP/Dampier	EL 499	Curramulka	3567	93-95	
CUR D5	RP/DDH	BHP/Dampier	EL 499	Curramulka	3567	96-98	
CUR D6	RP/DDH	BHP/Dampier	EL 499	Curramulka	3567	102-103	
CUR D7	RP/DDH	BHP/Dampier	EL 499	Curramulka	3567	136-	
CUR D8	RP/DDH	BHP/Dampier	EL 499	Curramulka	3567	161..	
CUR D9	RP/DDH	BHP/Dampier	EL 499	Curramulka	3567	164..	
CUR D10	RP/DDH	BHP/Dampier	EL 906	Curramulka	3567	479..	
CUR D11	RP/DDH	BHP/Dampier	EL 906	Curramulka	3567	479..	
CUR D12	RP/DDH	BHP/Dampier	EL 1112	Curramulka	3567	721..	
PJ 1A	DDH	BHP/Dampier	EL 1112	Curramulka	3567(V)	909-910	
RD/DD85WE1	DDH	BHP/CRAE	EL 1128	Weetulta	4214	698-707	725.....
RD/DD85WE2	DDH	BHP/CRAE	EL 1128	Weetulta	4214	708-713	742
RD/DD86WE3	DDH	BHP/CRAE	EL 1128	Weetulta	4214	873-878	895.....
RD/DD86WE4	DDH	BHP/CRAE	EL 1128	Weetulta	4214	879-880	.....
RD/DD86WE5	DDH	BHP/CRAE	EL 1128	Weetulta	4214	881-884	.....
RD/DD86WE6	DDH	BHP/CRAE	EL 1128	Weetulta	4214	885-893	901
Ardrossan 1	DDH	Esso/Otter/Pegmin	EL 870	Price	3616	321..	
P1 Parara Mine	DDH	Esso/Otter/Pegmin	EL 870	Price	3616	405-412	405-412
P2 Parara Mine	DDH	Esso/Otter/Pegmin	EL 870	Price	3616	413-417	413-417
P3 Parara Mine	DDH	Esso/Otter/Pegmin	EL 870	Price	3616	418-424	418-424
P4 Parara Mine	DDH	Esso/Otter/Pegmin	EL 870	Price	3616	425-427	425-427
P5 Parara Mine	DDH	Esso/Otter/Pegmin	EL 870	Price	3616	428-434	428-434
PW 1	RP	Poseidon	EL 923, 1110	Price	4503	44-46	
PA 1/1A	RP	Poseidon	EL 923, 1110	Price	4503	48..	
PD85AN 1	RP	Poseidon	EL 923, 1110	Price	5041	121..	
AP 2	RC	Poseidon	EL 923, 1110	Price	5041	31..	
AP 3	RC	Poseidon	EL 923, 1110	Price	5041	32..	
AP 4	RC	Poseidon	EL 923, 1110	Price	5041	33..	
AP 5	RC	Poseidon	EL 923, 1110	Price	5041	34..	
AP 6	RC	Poseidon	EL 923, 1110	Price	5041	35-36	
AP 7	RC	Poseidon	EL 923, 1110	Price	5041	37..	
AP 8	RC	Poseidon	EL 923, 1110	Price	5041	38-39	
AP 9	RC	Poseidon	EL 923, 1110	Price	5041	40..	
AP 10	RC	Poseidon	EL 923, 1110	Price	5041	41..	

APPENDIX 2

4. Listing of all drillholes and collar coordinates.

BORE		EASTING	NORTHING	COMPANY
AB	8000	746059	6156996	AQUITAINE
AB	8001	745558	6156996	AQUITAINE
AB	8002	745058	6157000	AQUITAINE
AB	8003	744555	6157005	AQUITAINE
AB	8004	744064	6157007	AQUITAINE
AB	8005	743557	6156996	AQUITAINE
AB	8006	743557	6158000	AQUITAINE
AB	8007	744070	6158007	AQUITAINE
AB	8008	744561	6158015	AQUITAINE
AB	8009	745559	6158012	AQUITAINE
AB	8010	745058	6158014	AQUITAINE
AB	8011	745055	6159009	AQUITAINE
AB	8012	744561	6159007	AQUITAINE
AB	8013	744076	6159002	AQUITAINE
AB	8014	743569	6159007	AQUITAINE
AB	8015	743069	6159005	AQUITAINE
AB	8016	743066	6160000	AQUITAINE
AB	8017	743566	6159998	AQUITAINE
AB	8018	744051	6160000	AQUITAINE
AB	8019	743065	6161000	AQUITAINE
AB	8020	742565	6160999	AQUITAINE
AB	8021	743053	6161986	AQUITAINE
AB	8022	742555	6161981	AQUITAINE
AB	8023	742042	6161976	AQUITAINE
AB	8024	743540	6161984	AQUITAINE
AB	8025	744038	6161979	AQUITAINE
AB	8026	744538	6161978	AQUITAINE
AB	8027	742033	6162983	AQUITAINE
AB	8028	742549	6162985	AQUITAINE
AB	8029	743043	6162990	AQUITAINE
AB	8030	743524	6162982	AQUITAINE
AB	8031	744034	6162980	AQUITAINE
AB	8032	744047	6164000	AQUITAINE
AB	8033	743524	6163996	AQUITAINE
AB	8034	743043	6163991	AQUITAINE
AB	8035	742539	6163995	AQUITAINE
AB	8036	742029	6163991	AQUITAINE
AB	8037	741542	6163989	AQUITAINE
AB	8038	742023	6164988	AQUITAINE
AB	8039	742526	6164977	AQUITAINE
AB	8040	743027	6164979	AQUITAINE
AB	8041	744028	6164979	AQUITAINE
AB	8042	743515	6164984	AQUITAINE
AB	8043	744012	6165980	AQUITAINE
AB	8044	743518	6165978	AQUITAINE
AB	8045	743020	6165989	AQUITAINE
AB	8046	742514	6165981	AQUITAINE
AB	8047	742004	6165980	AQUITAINE
AB	8048	743518	6166989	AQUITAINE
AB	8049	743017	6166997	AQUITAINE
AB	8050	742517	6166995	AQUITAINE
AB	8051	743566	6160996	AQUITAINE
AB	8052	744060	6161007	AQUITAINE
AB	8053	744551	6161002	AQUITAINE
AB	8054	745061	6160997	AQUITAINE
AB	8055	744542	6160008	AQUITAINE
AB	8056	745055	6160006	AQUITAINE

BORE		EASTING	NORTHING	COMPANY
AB	8057	745549	6160008	AQUITAINE
AB	8058	746056	6159005	AQUITAINE
AB	8059	745565	6159007	AQUITAINE
AB	8060	746537	6159014	AQUITAINE
AB	8061	747038	6159009	AQUITAINE
AB	8062	747532	6159014	AQUITAINE
AB	8063	748536	6159014	AQUITAINE
AB	8064	749017	6159009	AQUITAINE
AB	8065	749530	6159004	AQUITAINE
AB	8066	750034	6159012	AQUITAINE
AB	8067	750544	6159008	AQUITAINE
AB	8068	751035	6159013	AQUITAINE
AB	8069	751044	6158018	AQUITAINE
AB	8070	750544	6158016	AQUITAINE
AB	8071	750043	6158015	AQUITAINE
AB	8072	749537	6158013	AQUITAINE
AB	8073	749559	6157012	AQUITAINE
AB	8074	750063	6157014	AQUITAINE
AB	8075	750563	6157012	AQUITAINE
AB	8076	751051	6157011	AQUITAINE
AB	8077	750573	6155013	AQUITAINE
AB	8078	750053	6155012	AQUITAINE
AB	8079	749540	6155017	AQUITAINE
AB	8080	749046	6155015	AQUITAINE
AB	8081	748058	6155012	AQUITAINE
AB	8082	747551	6155013	AQUITAINE
AB	8083	747032	6155021	AQUITAINE
AB	8084	746556	6155004	AQUITAINE
AB	8085	746072	6155015	AQUITAINE
AB	8086	745572	6155013	AQUITAINE
AB	8087	745058	6155015	AQUITAINE
AB	8088	745572	6155014	AQUITAINE
AB	8089	745163	6156014	AQUITAINE
AB	8090	745565	6156014	AQUITAINE
AB	8091	746062	6156015	AQUITAINE
AB	8093	747032	6156016	AQUITAINE
AB	8094	747538	6156014	AQUITAINE
AB	8095	746069	6154030	AQUITAINE
AB	8096	746550	6154028	AQUITAINE
AB	8097	747586	6154022	AQUITAINE
AB	8098	748055	6154017	AQUITAINE
AB	8099	748571	6154016	AQUITAINE
AB	8100	749046	6154002	AQUITAINE
AB	8101	749553	6154016	AQUITAINE
AB	8102	750066	6154024	AQUITAINE
AB	8103	750560	6154022	AQUITAINE
AB	8104	751548	6155014	AQUITAINE
AB	8105	752013.9	6155015	AQUITAINE
AB	8106	752498.3	6154991	AQUITAINE
AB	8107	752012.7	6156004	AQUITAINE
AB	8108	752504.1	6156005	AQUITAINE
AB	8109	751529	6156024	AQUITAINE
AB	8110	752995.1	6155993	AQUITAINE
AB	8111	753524.6	6155986	AQUITAINE
AB	8112	753997.1	6156000	AQUITAINE
AB	8113	754494.8	6155994	AQUITAINE
AB	8114	753505.1	6157008	AQUITAINE

BORE		EASTING	NORTHING	COMPANY
AB	8115	753983.3	6156996	AQUITAINE
AB	8116	754487.6	6157003	AQUITAINE
AB	8117	754480.2	6157998	AQUITAINE
AB	8118	754997.4	6158011	AQUITAINE
AB	8119	755507.9	6158011	AQUITAINE
AB	8120	755508.2	6156984	AQUITAINE
AB	8121	754998	6156997	AQUITAINE
AB	8122	753000.4	6156988	AQUITAINE
AB	8123	752484.1	6157007	AQUITAINE
AB	8124	751535	6157022	AQUITAINE
AB	8125	751979.8	6157001	AQUITAINE
AB	8126	752993.8	6158016	AQUITAINE
AB	8127	753510.4	6158003	AQUITAINE
AB	8128	753989	6158004	AQUITAINE
AB	8129	752508.5	6158002	AQUITAINE
AB	8130	751997.9	6157996	AQUITAINE
AB	8131	751502.2	6157989	AQUITAINE
AB	8132	751494.4	6159998	AQUITAINE
AB	8133	752002.1	6159986	AQUITAINE
AB	8134	752494	6160006	AQUITAINE
AB	8135	753004.5	6160006	AQUITAINE
AB	8136	753501.8	6159988	AQUITAINE
AB	8137	753993.4	6160001	AQUITAINE
AB	8138	754497.3	6159989	AQUITAINE
AB	8139	755007.8	6159989	AQUITAINE
AB	8140	755506	6160009	AQUITAINE
AB	8141	755990.8	6160003	AQUITAINE
AB	8142	756494.8	6159997	AQUITAINE
AB	8143	756998.9	6159998	AQUITAINE
AB	8144	755996	6160992	AQUITAINE
AB	8145	755479	6160994	AQUITAINE
AB	8146	754998	6160984	AQUITAINE
AB	8147	754490	6160987	AQUITAINE
AB	8148	753993	6160990	AQUITAINE
AB	8149	753502	6160986	AQUITAINE
AB	8150	752985	6160976	AQUITAINE
AB	8151	752482	6160991	AQUITAINE
AB	8152	753992	6161997	AQUITAINE
AB	8153	754751	6161993	AQUITAINE
AB	8154	747026	6152098	AQUITAINE
AB	8155	748043	6152073	AQUITAINE
AB	8156	748553	6152074	AQUITAINE
AB	8157	747536	6152087	AQUITAINE
AB	8158	747036	6153086	AQUITAINE
AB	8159	747555	6153078	AQUITAINE
AB	8160	748052	6153070	AQUITAINE
AB	8161	748556	6153072	AQUITAINE
AB	8162	749050	6153064	AQUITAINE
AB	8163	749550	6153059	AQUITAINE
AB	8164	750051	6152070	AQUITAINE
AB	8165	749544	6152055	AQUITAINE
AB	8166	749038	6152082	AQUITAINE
ABSYC	800	760494.4	6169279	AQUITAINE
ABSYC	801	761418.4	6169225	AQUITAINE
ABSYC	802	761812.3	6169157	AQUITAINE
ABSYC	803	762509.2	6169210	AQUITAINE
ABSYC	804	760978.8	6169254	AQUITAINE

BORE		EASTING	NORTHING	COMPANY
ABSYC	805	759976	6169215	AQUITAINE
ABSYC	806	759069.6	6169206	AQUITAINE
ABSYC	807	756177.6	6164485	AQUITAINE
ABSYC	808	758672.9	6164493	AQUITAINE
ABSYC	809	758086.1	6164501	AQUITAINE
ABSYC	810	757344.1	6164430	AQUITAINE
ABSYC	811	759195.9	6164481	AQUITAINE
ABSYC	812	759667.6	6164463	AQUITAINE
ABSYC	813	756010	6161209	AQUITAINE
ABSYC	814	755621.1	6161242	AQUITAINE
ABSYC	815	755034.8	6161309	AQUITAINE
ABSYC	816	754684.5	6161407	AQUITAINE
ABSYC	817	754206.3	6161435	AQUITAINE
ABSYC	818	756635.9	6161384	AQUITAINE
ABSYC	819	757107.8	6161368	AQUITAINE
ABSYC	820	757470.4	6161194	AQUITAINE
ABSYC	821	757987.8	6161351	AQUITAINE
ABSYC	822	754225.7	6164513	AQUITAINE
ABSYC	823	758522.7	6161195	AQUITAINE
ABSYC	824	753683.3	6161425	AQUITAINE
ABSYC	825	751099.3	6159287	AQUITAINE
ABSYC	826	751602.5	6159238	AQUITAINE
ABSYC	827	752098.6	6159237	AQUITAINE
ABSYC	828	752605.2	6159078	AQUITAINE
ABSYC	829	753013.5	6159075	AQUITAINE
ABSYC	830	753498.6	6159082	AQUITAINE
ABSYC	831	753986.6	6159204	AQUITAINE
ABSYC	832	754490.4	6159191	AQUITAINE
ABSYC	833	754994.1	6159173	AQUITAINE
ABSYC	834	755500.2	6158994	AQUITAINE
ABSYC	835	755947.1	6159002	AQUITAINE
ABSYC	836	756323.8	6159012	AQUITAINE
ABSYC	837	756848	6159050	AQUITAINE
ABSYC	838	757305.9	6158988	AQUITAINE
ABSYC	839	757817.7	6159039	AQUITAINE
ABSYC	840	751129	6156527	AQUITAINE
ABSYC	841	751006.4	6155998	AQUITAINE
ABSYC	842	751521.1	6156523	AQUITAINE
ABSYC	843	751981.4	6156547	AQUITAINE
ABSYC	844	752498.4	6156554	AQUITAINE
ABSYC	845	752982.1	6156759	AQUITAINE
ABSYC	846	753467.7	6156785	AQUITAINE
ABSYC	847	753968.6	6156658	AQUITAINE
ABSYC	848	754403.8	6156966	AQUITAINE
ABSYC	849	746955.3	6154274	AQUITAINE
ABSYC	850	746945.3	6153860	AQUITAINE
ABSYC	851	746814.5	6153485	AQUITAINE
ABSYC	852	746747.4	6153109	AQUITAINE
ABSYC	853	746717.3	6152593	AQUITAINE
ABSYC	854	746693.3	6152039	AQUITAINE
ABSYC	855	746548.5	6151530	AQUITAINE
ABSYC	856	750603.2	6149352	AQUITAINE
ABSYC	857	750048.8	6149368	AQUITAINE
ABSYC	858	749639.4	6149330	AQUITAINE
ABSYC	859	748035.3	6163203	AQUITAINE
ABSYC	860	748044.7	6162827	AQUITAINE
ABSYC	861	748033.6	6162298	AQUITAINE

BORE		EASTING	NORTHING	COMPANY
ABSYC	862	748150.3	6161793	AQUITAINE
ABSYC	863	748145.8	6161277	AQUITAINE
ABSYC	864	748008.2	6160864	AQUITAINE
ABSYC	865	748112.8	6160429	AQUITAINE
ABSYC	866	748101.4	6159868	AQUITAINE
ABSYC	867	748085.1	6159467	AQUITAINE
ABSYC	868	748048.8	6158381	AQUITAINE
ABSYC	869	748055.5	6159002	AQUITAINE
ABSYC	870	748043.3	6158005	AQUITAINE
ABSYC	871	743510.9	6158430	AQUITAINE
ABSYC	872	743999.5	6158158	AQUITAINE
ABSYC	873	744374.1	6157988	AQUITAINE
ABSYC	874	744831.8	6157825	AQUITAINE
ABSYC	875	745384.6	6157610	AQUITAINE
ABSYC	876	745848.8	6157472	AQUITAINE
ABSYC	877	746173.1	6157386	AQUITAINE
ABSYC	878	746643.5	6157222	AQUITAINE
ABSYC	879	747100.8	6157021	AQUITAINE
ABSYC	880	750946.8	6154296	AQUITAINE
ABSYC	881	750925.8	6154813	AQUITAINE
ABSYC	882	750917.8	6153908	AQUITAINE
ABSYC	883	750900.4	6153385	AQUITAINE
ABSYC	884	750991.7	6152893	AQUITAINE
ABSYC	885	750987.3	6152390	AQUITAINE
ABSYC	886	750970.2	6151905	AQUITAINE
ABSYC	887	750965.5	6151370	AQUITAINE
ABSYC	888	750982.3	6150942	AQUITAINE
ABSYC	889	752790.6	6161449	AQUITAINE
ABSYC	890	753300.7	6161440	AQUITAINE
ABSYC	891	755296.8	6161410	AQUITAINE
ABSYD	800	769179.4	6195995	AQUITAINE
ABSYD	801	768901.6	6196017	AQUITAINE
ABSYD	802	768686.5	6195994	AQUITAINE
ABSYD	803	768414.9	6196009	AQUITAINE
ABSYD	804	768180.9	6195998	AQUITAINE
ABSYD	805	767934.4	6195988	AQUITAINE
ABSYD	806	769029	6196799	AQUITAINE
ABSYD	807	769463.9	6196675	AQUITAINE
ABSYD	808	768679.5	6197087	AQUITAINE
ABSYD	809	768294.8	6197356	AQUITAINE
ABSYD	810	768650.2	6197517	AQUITAINE
ABSYD	811	769136.6	6197494	AQUITAINE
ABSYD	812	769415	6197529	AQUITAINE
ABSYD	813	769636.4	6197552	AQUITAINE
ABSYD	814	768903	6197521	AQUITAINE
ABSYD	890	771988.7	6211501	AQUITAINE
ABSYD	891	772243.3	6211487	AQUITAINE
ABSYD	892	772486.1	6211505	AQUITAINE
ABSYD	893	772735.1	6211516	AQUITAINE
ABSYD	894	773009.1	6211507	AQUITAINE
ABSYD	895	773258.1	6211518	AQUITAINE
ABSYD	896	772747.9	6212516	AQUITAINE
ABSYD	897	773015.2	6212502	AQUITAINE
ABSYD	898	773257.3	6212494	AQUITAINE
ABSYD	899	772000.8	6212483	AQUITAINE
ABSYD	900	772256.2	6212494	AQUITAINE
ABSYD	901	772499.1	6212512	AQUITAINE

BORE		EASTING	NORTHING	COMPANY
ABSYD	902	768997.4	6211475	AQUITAINE
ABSYD	903	769252.4	6211474	AQUITAINE
ABSYD	904	769520.6	6211484	AQUITAINE
ABSYD	905	769769.6	6211495	AQUITAINE
ABSYD	906	769011.4	6212514	AQUITAINE
ABSYD	907	769259.4	6212494	AQUITAINE
ABSYD	908	769495.3	6212492	AQUITAINE
ABSYD	909	769770	6212509	AQUITAINE
ABSYD	910	776013.8	6212559	AQUITAINE
ABSYD	911	776261.3	6212519	AQUITAINE
ABSYD	912	776503.1	6212505	AQUITAINE
ABSYD	913	776757.9	6212497	AQUITAINE
ABSYD	914	776994.8	6212528	AQUITAINE
ABSYD	915	777281.2	6212512	AQUITAINE
ABSYD	916	777729.3	6212568	AQUITAINE
ABSYD	917	775265.9	6211499	AQUITAINE
ABSYD	918	775507.8	6211485	AQUITAINE
ABSYD	919	775763.4	6211502	AQUITAINE
ABSYD	920	775987.3	6211527	AQUITAINE
ABSYD	921	776266.6	6211486	AQUITAINE
ABSYM	622	777785.3	6219134	AQUITAINE
ABSYM	623	777205.9	6219159	AQUITAINE
ABSYM	624	776645.3	6219177	AQUITAINE
ABSYM	625	776192.9	6219185	AQUITAINE
ABSYM	626	775631.3	6219171	AQUITAINE
ABSYM	627	777793.1	6220983	AQUITAINE
ABSYM	628	777477.3	6221477	AQUITAINE
ABSYM	629	777305.8	6221897	AQUITAINE
ABSYM	630	776970.4	6222176	AQUITAINE
ABSYM	631	776413.9	6222321	AQUITAINE
ABSYM	800	771166.3	6223521	AQUITAINE
ABSYM	801	771718.2	6223433	AQUITAINE
ABSYM	802	772223.2	6223475	AQUITAINE
ABSYM	803	772732.6	6223452	AQUITAINE
ABSYM	804	773216.1	6223417	AQUITAINE
ABSYM	805	773682.1	6223435	AQUITAINE
ABSYM	806	774229.4	6223404	AQUITAINE
ABSYM	807	774708.2	6223421	AQUITAINE
ABSYM	808	775244.1	6223429	AQUITAINE
ABSYM	809	775641.9	6223710	AQUITAINE
ABSYM	810	775969.9	6223795	AQUITAINE
ABSYM	811	770796.4	6221116	AQUITAINE
ABSYM	812	770382.1	6220919	AQUITAINE
ABSYM	813	771482.7	6221043	AQUITAINE
ABSYM	814	771992.6	6221238	AQUITAINE
ABSYM	815	772394.6	6221448	AQUITAINE
ABSYM	816	770868.6	6219380	AQUITAINE
ABSYM	817	770416.6	6219400	AQUITAINE
ABSYM	818	771486.7	6219366	AQUITAINE
ABSYM	819	772129.8	6219339	AQUITAINE
ABSYM	820	772585.4	6219229	AQUITAINE
ABSYM	821	773213.7	6219337	AQUITAINE
ABSYP	800	777012.1	6215875	AQUITAINE
ABSYP	801	776504.3	6215948	AQUITAINE
ABSYP	802	776014.6	6215989	AQUITAINE
ABSYP	803	775520	6216075	AQUITAINE
ABSYP	804	775025.8	6216174	AQUITAINE

BORE		EASTING	NORTHING	COMPANY
ABSYP	805	774511.9	6216254	AQUITAINE
ABSYP	806	774024.1	6216352	AQUITAINE
ABSYP	807	773617.8	6216410	AQUITAINE
ABSYP	808	773213.6	6216531	AQUITAINE
ABSYP	809	772684.9	6216746	AQUITAINE
ABSYP	811	771765	6217094	AQUITAINE
ABSYP	812	771386.9	6217233	AQUITAINE
ABSYP	813	770998.6	6217252	AQUITAINE
ABSYP	814	770489	6217268	AQUITAINE
ABSYP	815	768841.8	6211793	AQUITAINE
ABSYP	816	768531.3	6211854	AQUITAINE
ABSYP	817	767999.8	6211781	AQUITAINE
ABSYP	818	767419.7	6211787	AQUITAINE
ABSYP	819	766934.2	6211758	AQUITAINE
ABSYP	820	766328.1	6211745	AQUITAINE
ABSYP	821	766002.8	6211743	AQUITAINE
ABSYP	822	765504.9	6211727	AQUITAINE
ABSYP	823	764994.9	6211730	AQUITAINE
ABSYP	824	764601.1	6211775	AQUITAINE
ABSYP	825	769468	6211837	AQUITAINE
ABSYP	826	769873.2	6211945	AQUITAINE
ABSYP	827	770268.1	6211932	AQUITAINE
ABSYP	828	770702.6	6211963	AQUITAINE
ABSYP	829	771274.3	6211894	AQUITAINE
ABSYP	830	771600.8	6211934	AQUITAINE
ABSYP	831	772169.9	6211986	AQUITAINE
ABSYP	832	772677.1	6211894	AQUITAINE
ABSYP	833	773187.8	6212113	AQUITAINE
ABSYP	834	773657.8	6212258	AQUITAINE
ABSYP	835	768252.6	6204997	AQUITAINE
ABSYP	836	767307.4	6204627	AQUITAINE
ABSYP	837	766419.2	6204262	AQUITAINE
ABSYP	838	766114.3	6204101	AQUITAINE
ABSYP	839	765505.4	6203866	AQUITAINE
ABSYP	841	765283.6	6203805	AQUITAINE
ABSYP	842	764598.5	6203527	AQUITAINE
ABSYP	843	764122.7	6203336	AQUITAINE
ABSYP	844	765286.6	6200740	AQUITAINE
ABSYP	845	763940.7	6200772	AQUITAINE
ABSYP	846	764408.2	6200748	AQUITAINE
ABSYP	847	764945.4	6200750	AQUITAINE
ABSYP	848	766525.8	6200792	AQUITAINE
ABSYP	849	763885.4	6197562	AQUITAINE
ABSYP	850	764346.6	6197551	AQUITAINE
ABSYP	851	764725.8	6197548	AQUITAINE
ABSYP	852	768432.8	6197241	AQUITAINE
ABSYP	853	768853.1	6196915	AQUITAINE
ABSYP	854	769223.7	6196671	AQUITAINE
ABSYP	855	769702.9	6196553	AQUITAINE
ABSYP	856	768233.3	6197534	AQUITAINE
ABSYP	857	764642.1	6200753	AQUITAINE
ABSYP	858	764142.9	6200764	AQUITAINE
ABSYP	859	763732.2	6200780	AQUITAINE
ABSYP	860	764523.8	6197568	AQUITAINE
ABSYP	861	764144.6	6197566	AQUITAINE
ABSYP	862	763627.1	6197653	AQUITAINE
ABSYP	863	765112.2	6203718	AQUITAINE

BORE		EASTING	NORTHING	COMPANY
ABSYP	864	765689.3	6203934	AQUITAINE
ABSYP	865	765867.3	6204034	AQUITAINE
ABSYP	866	767749.8	6207734	AQUITAINE
ABSYP	867	767219.6	6207904	AQUITAINE
ABSYP	868	766298.7	6208220	AQUITAINE
ABSYP	869	768154.3	6207823	AQUITAINE
ABSYP	870	767719.9	6211803	AQUITAINE
ABSYP	871	769139.6	6211936	AQUITAINE
ABSYP	872	769695.2	6211963	AQUITAINE
ABSYP	873	772508.3	6212001	AQUITAINE
ABSYP	874	775848.7	6212379	AQUITAINE
ABSYP	875	776060.1	6212009	AQUITAINE
ABSYP	876	776440.5	6211742	AQUITAINE
ABSYP	877	776871.1	6211448	AQUITAINE
ABSYP	878	775410.1	6212623	AQUITAINE
ABSYP	879	774908.1	6212677	AQUITAINE
ABSYP	880	774571.6	6212522	AQUITAINE
ABSYP	881	774106.5	6212333	AQUITAINE
ABSYP	922	770671.2	6205474	AQUITAINE
ABSYP	923	771053.5	6205129	AQUITAINE
ABSYP	924	770111.8	6205801	AQUITAINE
ABSYV	800	741602	6166066	AQUITAINE
ABSYV	801	742475.8	6166096	AQUITAINE
ABSYV	802	742992.3	6166104	AQUITAINE
ABSYV	803	743510.1	6166259	AQUITAINE
ABSYV	804	744006	6166108	AQUITAINE
ABSYV	805	744478.4	6166180	AQUITAINE
ABSYV	806	744943.9	6166176	AQUITAINE
ABSYV	807	741998.4	6166196	AQUITAINE
ABSYV	808	740524.5	6166062	AQUITAINE
ABSYV	809	740206.7	6166173	AQUITAINE
ABSYV	810	739703.1	6166184	AQUITAINE
ABSYV	811	741085	6166117	AQUITAINE
ABW	15	756547.2	6159013	AQUITAINE
ABW	17	754659.3	6155422	AQUITAINE
ABW	18	753043.7	6155373	AQUITAINE
ABW	20	754854.1	6158410	AQUITAINE
ABW	21	757225.1	6158818	AQUITAINE
ABW	26	748402.3	6151057	AQUITAINE
ABW	27	748104	6149395	AQUITAINE
AMOIL	1	760721	6039931	AQUITAINE
ARDRO	1	763480	6164864	AQUITAINE
ASSYC	101	742291	6152437	AQUITAINE
ASSYC	600	746000	6157000	AQUITAINE
ASSYC	601	748000	6156630	AQUITAINE
ASSYC	602	749564.3	6155497	AQUITAINE
ASSYC	603	752295.8	6156878	AQUITAINE
ASSYC	604	745991.3	6157611	AQUITAINE
ASSYC	605	747997.6	6157567	AQUITAINE
ASSYC	606	749250	6155950	AQUITAINE
ASSYC	607	747827.6	6155201	AQUITAINE
ASSYC	608	746000	6158000	AQUITAINE
ASSYC	609	756407	6159023	AQUITAINE
ASSYC	610	750066.6	6159918	AQUITAINE
ASSYC	611	748500	6157050	AQUITAINE
ASSYC	612	744513.9	6157453	AQUITAINE
ASSYD	600	768651.8	6197018	AQUITAINE

BORE		EASTING	NORTHING	COMPANY
ASSYM	101	773572.9	6220205	AQUITAINE
ASSYM	600	774137.3	6219307	AQUITAINE
ASSYP	600	769874.2	6206069	AQUITAINE
ASSYP	601	777003.8	6212011	AQUITAINE
ASSYP	602	767485.6	6214457	AQUITAINE
BBC	1	763549.8	6171565	BHP
BBC	2	763252.6	6171674	BHP
BBC	3	762879.3	6171805	BHP
BBC	4	762487.1	6171942	BHP
BBC	5	762152.5	6172091	BHP
BBC	6	761753.6	6172215	BHP
BBC	7	761385.9	6172314	BHP
BBC	8	760987.3	6172451	BHP
BBC	9	760743.3	6172393	BHP
BBC	10	760669.2	6171974	BHP
BBC	11	760621.4	6171586	BHP
BBC	12	760598.1	6171159	BHP
BBC	13	760488.1	6172655	BHP
BBC	14	760127.1	6172766	BHP
BBC	15	759702	6172839	BHP
BBC	16	759373.3	6172989	BHP
BBC	17	759027.2	6173189	BHP
BBC	18	758734.2	6173470	BHP
BBC	19	758459.7	6173726	BHP
BBC	20	758161	6174033	BHP
BBC	21	757905.9	6174301	BHP
BBC	22	757639.3	6174614	BHP
BBC	23	757339.6	6174883	BHP
BBC	24	757052.5	6175145	BHP
BBC	25	756766.2	6175439	BHP
BBC	26	756486.1	6175727	BHP
BBC	27	756282.7	6176019	BHP
BBC	28	756003.1	6176326	BHP
BBC	29	755768.6	6176651	BHP
BBC	30	755508.6	6176976	BHP
BBC	31	755318.9	6177306	BHP
BBC	32	754905.1	6177604	BHP
BBC	33	754650.9	6177910	BHP
BBC	34	754341.1	6178281	BHP
BBC	35	754122.7	6178484	BHP
BBC	36	753849.6	6178797	BHP
BBC	37	755312	6177804	BHP
BBC	38	755279.4	6178296	BHP
BBC	39	755244.4	6178687	BHP
BBC	40	755726.9	6177290	BHP
BBC	41	756160.3	6177267	BHP
BBC	42	756548.8	6177238	BHP
BBC	43	756924.6	6177209	BHP
BBC	44	757339.8	6177225	BHP
BBC	45	757748.4	6177234	BHP
BBC	46	758155.6	6177186	BHP
BBC	47	758525.9	6177196	BHP
BBC	48	758914.8	6177180	BHP
BBC	49	759317.5	6177208	BHP
BBC	50	760185.6	6177219	BHP
BBC	51	759707.3	6177230	BHP
BBC	52	760562.9	6177254	BHP

BORE		EASTING	NORTHING	COMPANY
BBC	53	760990	6177213	BHP
BBC	54	760332.1	6177726	BHP
BBC	55	760316.4	6178128	BHP
BBC	56	760268.3	6178506	BHP
BBC	57	760349.6	6176883	BHP
BBC	58	760432.7	6176109	BHP
BBC	59	760435.6	6175706	BHP
BBC	60	760507.5	6175258	BHP
BBC	61	760511.9	6174920	BHP
BBC	62	760558.7	6174485	BHP
BBC	63	760568.6	6174108	BHP
BBC	64	760748.7	6173389	BHP
BBC	65	761287.9	6173261	BHP
BBC	66	761876	6173820	BHP
BBC	67	762259.4	6174105	BHP
BBC	68	762644.9	6174210	BHP
BBC	69	762940.4	6174547	BHP
BBC	70	763343.1	6174576	BHP
BBC	71	763749.6	6174757	BHP
BBC	72	758730.7	6173068	BHP
BBC	73	758335.3	6173078	BHP
BBC	74	757570.9	6173135	BHP
BBC	75	756424.8	6173234	BHP
BBC	76	755933.1	6173220	BHP
BBC	77	756991.4	6173181	BHP
BBC	78	755523.7	6173179	BHP
BBC	79	755072.8	6173267	BHP
BBC	80	754516.1	6173204	BHP
BBC	81	754159.3	6173225	BHP
BBC	82	753756.5	6173197	BHP
BBC	83	753382.3	6173289	BHP
BBC	84	752968.6	6173331	BHP
BBC	85	752592.1	6173334	BHP
BBC	86	752160.1	6173266	BHP
BBC	87	751879.8	6173294	BHP
BBC	88	751432.8	6173209	BHP
BBC	89	751012.1	6173225	BHP
BBC	90	750610.4	6173229	BHP
BBC	91	750196.4	6173271	BHP
BBC	92	749781.6	6173230	BHP
BBC	93	751882.8	6173625	BHP
BBC	94	751892.8	6174040	BHP
BBC	95	751896.3	6174441	BHP
BBC	96	751923.3	6176041	BHP
BBC	97	751913.5	6175665	BHP
BBC	98	760396.3	6172294	BHP
BBC	99	760153.4	6172019	BHP
BBC	100	759852.2	6171707	BHP
BBC	101	759576.4	6171388	BHP
BBC	102	759069.9	6170776	BHP
BBC	103	758787.6	6170451	BHP
BBC	104	758286.7	6169806	BHP
BBC	105	757813.3	6169237	BHP
BBC	106	757177.9	6168569	BHP
BBC	107	757089.4	6169382	BHP
BBC	108	756374.6	6169381	BHP
BBC	109	755603.4	6169419	BHP

BORE		EASTING	NORTHING	COMPANY
BBC	110	754340.6	6169443	BHP
BBC	111	753932.4	6169453	BHP
BBC	112	753529.4	6169412	BHP
BBC	113	753103.6	6169480	BHP
BBC	114	752668	6169414	BHP
BBC	115	752227.9	6169402	BHP
BBC	116	751845.5	6169411	BHP
BBC	117	751456.5	6169402	BHP
BBC	118	751041.4	6169336	BHP
BBC	119	750646.1	6169326	BHP
BBC	120	750149.7	6169426	BHP
BBC	121	749735.3	6169436	BHP
BBC	122	749276.6	6169466	BHP
BBC	123	748868.5	6169470	BHP
BBC	124	748473.1	6169460	BHP
BBC	125	748071.6	6169477	BHP
BBC	126	747663.8	6169493	BHP
BBC	127	746917.7	6169487	BHP
BBC	128	746133.8	6169519	BHP
BBC	129	745336.7	6169501	BHP
BBC	130	744272.6	6169574	BHP
BBC	131	753506.1	6169764	BHP
BBC	132	753029.5	6170363	BHP
BBC	133	752826.1	6170655	BHP
BBC	134	752579.4	6170999	BHP
BBC	135	752325.8	6171324	BHP
BBC	136	752157.8	6171564	BHP
BBC	137	751962.9	6171871	BHP
BBC	138	751749.1	6171491	BHP
BBC	139	751732.6	6171064	BHP
BBC	140	751729.3	6170694	BHP
BBC	141	751808.3	6170253	BHP
BBC	142	751785.5	6169839	BHP
BBC	143	751771.3	6168953	BHP
BBC	144	751762	6168549	BHP
BBC	145	751764.3	6168163	BHP
BBC	146	751747.9	6167748	BHP
BBC	147	751667.9	6167354	BHP
BBC	148	751670.4	6166920	BHP
BBC	149	751641.1	6166493	BHP
BBC	150	751611.2	6165990	BHP
BBC	151	751601.3	6165595	BHP
BBC	152	751476.5	6165181	BHP
BBC	153	751307.5	6164813	BHP
BBC	154	755188.9	6172798	BHP
BBC	155	755179.3	6172409	BHP
BBC	156	755176.3	6172026	BHP
BBC	157	755165.6	6171593	BHP
BBC	158	755162.9	6171223	BHP
BBC	159	755165.6	6170814	BHP
BBC	160	755182.1	6170450	BHP
BBC	161	755177.9	6170016	BHP
BBC	162	755175.1	6169646	BHP
BBC	163	755183.5	6173360	BHP
BBC	164	755193.3	6173755	BHP
BBC	165	755209.8	6174170	BHP
BBC	166	755206.6	6174559	BHP

BORE		EASTING	NORTHING	COMPANY
BBC	167	755235.8	6174967	BHP
BBC	168	755226.4	6175362	BHP
BBC	169	755223.3	6175752	BHP
BBC	170	755212.8	6176103	BHP
BBC	171	755217.8	6176569	BHP
BBC	172	755246.4	6176951	BHP
BBC	173	754805.9	6177466	BHP
BBC	174	754441.8	6177449	BHP
BBC	175	754079.4	6177503	BHP
BBC	176	753680	6177608	BHP
BBC	177	753257.2	6177542	BHP
BBC	178	752920.1	6177589	BHP
BBC	179	752427.8	6177580	BHP
BBC	180	751994.5	6177609	BHP
BBC	181	751978.9	6177291	BHP
BBC	182	751949.8	6176883	BHP
BBC	183	751926.8	6176443	BHP
BBC	184	751929.1	6175270	BHP
BBC	185	751906.7	6174894	BHP
BBC	186	751977.8	6177890	BHP
BBC	187	751898.7	6178311	BHP
BBC	188	751870.8	6178758	BHP
BBC	189	751503.6	6177614	BHP
BBC	190	751107.5	6177521	BHP
BBC	191	750661.3	6177538	BHP
BBC	192	750292.4	6177637	BHP
BBC	193	749895.9	6177500	BHP
BBC	194	749316.1	6177544	BHP
BBC	195	751773.8	6172836	BHP
BBC	196	751546.2	6172341	BHP
BBC	197	750977.9	6172964	BHP
BBC	198	750246.8	6173927	BHP
BBC	199	749774.2	6174549	BHP
BBC	200	749358.9	6175172	BHP
BBC	201	751192.9	6166268	BHP
BBC	202	750752.2	6166182	BHP
BBC	203	750382.6	6166211	BHP
BBC	204	750000.9	6166304	BHP
BBC	205	749599.4	6166320	BHP
BBC	206	749178.7	6166330	BHP
BBC	207	748796.3	6166346	BHP
BBC	208	748394.6	6166350	BHP
BBC	209	747591.4	6166357	BHP
BBC	210	747228.1	6166366	BHP
BBC	211	746780.6	6166243	BHP
BBC	212	750941.8	6164548	BHP
BBC	213	750509.5	6164699	BHP
BBC	214	750088.6	6164690	BHP
BBC	215	749750.9	6164706	BHP
BBC	216	749304.8	6164722	BHP
BBC	217	748909.3	6164700	BHP
BBC	218	748474.9	6164608	BHP
BBC	219	748098.6	6164593	BHP
BBC	220	747716.3	6164628	BHP
BBC	221	747359.4	6164637	BHP
BBC	222	746888.4	6164737	BHP
BBC	223	746474.3	6164766	BHP

BORE		EASTING	NORTHING	COMPANY
BBC	224	746091.9	6164789	BHP
BBC	225	745677.6	6164793	BHP
BBC	226	745320.6	6164802	BHP
BBC	227	744911.9	6164723	BHP
BBC	228	744555.8	6164828	BHP
BBC	229	747222.5	6165021	BHP
BBC	230	747233.3	6165512	BHP
BBC	231	747243.6	6165965	BHP
BBC	232	747269.3	6166710	BHP
BBC	233	747279.3	6167112	BHP
BBC	234	747276	6167463	BHP
BBC	235	747293	6167947	BHP
BBC	236	747303.6	6168419	BHP
BBC	237	747320.7	6168916	BHP
BBC	238	747330.5	6169298	BHP
BBC	239	747342.6	6169942	BHP
BBC	240	747385	6170420	BHP
BBC	241	747382.5	6170854	BHP
BBC	242	747399.3	6171306	BHP
BBC	243	747409.3	6171720	BHP
BBC	244	747425.3	6172090	BHP
BBC	245	747435.9	6172568	BHP
BBC	246	747426.8	6172976	BHP
BBC	247	747437.1	6173422	BHP
BBC	248	743134.3	6172791	BHP
BBC	249	743140.9	6173537	BHP
BBC	250	743137.9	6173926	BHP
BBC	251	743160.8	6174353	BHP
BBC	252	743167.6	6175118	BHP
BBC	253	743164.4	6175481	BHP
BBC	254	743131.1	6173155	BHP
BBC	255	742636.7	6172764	BHP
BBC	256	741833.6	6172790	BHP
BBC	257	741463.8	6172787	BHP
BBC	258	741004.7	6172784	BHP
BBC	259	743060	6171824	BHP
BBC	260	742991	6171034	BHP
BBC	261	742808	6170240	BHP
BBC	262	743865	6172819	BHP
BBC	263	755805.9	6166236	BHP
BBC	264	754990.9	6166252	BHP
BBC	265	754230.6	6166268	BHP
BBC	266	753325.1	6166297	BHP
BBC	267	752910.9	6166320	BHP
BBC	268	752540.9	6166322	BHP
BBC	269	752113.1	6166314	BHP
BBC	270	751779	6166218	BHP
BBC	271	751732.2	6164529	BHP
BBC	272	752077.8	6164617	BHP
BBC	273	752510.8	6164581	BHP
BBC	274	752957.3	6164570	BHP
BBC	275	753327.1	6164561	BHP
BBC	276	753702.8	6164526	BHP
BBC	277	754130.4	6164529	BHP
BBC	278	755114.7	6164594	BHP
BBC	279	753415.1	6163468	BHP
BBC	280	748194	6163125	BHP

BORE		EASTING	NORTHING	COMPANY
BBC	281	748626.7	6163032	BHP
BBC	282	749072.3	6162952	BHP
BBC	283	748051.6	6163611	BHP
BBC	284	748203.1	6164152	BHP
BBC	285	747737.1	6163365	BHP
BBC	286	747323.3	6163433	BHP
BBC	287	746916	6163526	BHP
BBC	288	746566	6163599	BHP
BBC	289	746152.3	6163679	BHP
BBC	290	745770.4	6163759	BHP
BBC	291	745025.9	6163925	BHP
BBC	292	745388.4	6163820	BHP
BBC	293	748076.4	6162801	BHP
BBC	294	748060.1	6162406	BHP
BBC	295	748049.6	6161941	BHP
BBC	296	748052.8	6161584	BHP
BBC	297	749326.4	6162848	BHP
BBC	298	749765.4	6162742	BHP
BBC	299	750166.4	6162662	BHP
BBC	300	733980	6178699	BHP
BBC	301	734107.1	6177927	BHP
BBC	302	735335.1	6169723	BHP
BBC	303	736157.3	6169684	BHP
BBC	304	736946.8	6169562	BHP
BBC	305	737756.3	6169542	BHP
BBC	306	738553.1	6169529	BHP
BBC	307	733138.8	6178739	BHP
BBC	308	733584.4	6178665	BHP
BBC	309	732763.1	6178799	BHP
BBC	310	731928.8	6178902	BHP
BBC	311	731546.8	6178957	BHP
BBC	312	730731.6	6179066	BHP
BBC	313	729942.1	6179181	BHP
BBC	314	729579.1	6179236	BHP
BBC	315	729196.9	6179277	BHP
BBC	316	728777.1	6179389	BHP
BBC	317	731126.5	6179018	BHP
BBC	318	732304.5	6178848	BHP
BBC	319	750554.1	6162531	BHP
BBC	320	750986.8	6162438	BHP
BBC	321	751179.9	6162640	BHP
BBC	322	751196.7	6163099	BHP
BBC	323	751175.1	6163533	BHP
BBC	324	751351.6	6164028	BHP
BBC	325	751335.2	6164341	BHP
BBC	326	751278	6162199	BHP
BBC	327	751146.5	6161748	BHP
BBC	328	751257.6	6161326	BHP
BBC	329	751222.3	6160950	BHP
BBC	330	751244.2	6160535	BHP
BBC	331	750787.1	6161477	BHP
BBC	332	750385.5	6161487	BHP
BBC	333	749939.6	6161529	BHP
BBC	334	749531.6	6161539	BHP
BBC	335	749174.6	6161548	BHP
BBC	336	748747.5	6161552	BHP
BBC	337	751602.9	6161444	BHP

BORE		EASTING	NORTHING	COMPANY
BBC	338	751998	6161428	BHP
BBC	339	752348	6161487	BHP
BBC	340	752790.9	6161519	BHP
BBC	341	751649.8	6162425	BHP
BBC	342	752031.8	6162358	BHP
BBC	343	752363.6	6162485	BHP
BBC	344	753821.9	6166259	BHP
BBC	345	745984.5	6166333	BHP
BBC	346	745697.6	6166329	BHP
BBC	347	745193.6	6166302	BHP
BBC	348	744772.9	6166305	BHP
BBC	349	744395.4	6166156	BHP
BBC	350	746392.8	6166361	BHP
BBC	351	742734.9	6169441	BHP
BBC	352	742309	6169591	BHP
BBC	353	741881.9	6169602	BHP
BBC	354	741505.8	6169611	BHP
BBC	355	741085	6169609	BHP
BBC	356	740677.1	6169619	BHP
BBC	357	734814.1	6178577	BHP
BBC	358	735590.8	6178449	BHP
BBC	359	736520.6	6178326	BHP
BBC	360	737323.1	6178230	BHP
BBC	361	738203	6178241	BHP
BBC	362	738953.4	6178018	BHP
BBC	363	729127.1	6178583	BHP
BBC	364	729593.9	6178018	BHP
BBC	365	730161.6	6177331	BHP
BBC	366	730577.8	6176804	BHP
BBC	367	731120	6176123	BHP
BBC	368	731681.8	6175475	BHP
BBC	369	755140.7	6168505	BHP
BBC	370	755132.4	6167650	BHP
BBC	371	754793.1	6169419	BHP
BBC	372	753181.1	6170040	BHP
BBC	373	753963.6	6168904	BHP
BBC	374	754184.3	6168535	BHP
BBC	375	756391.5	6167472	BHP
BBC	376	759432.1	6171232	BHP
BBC	377	760947.7	6172918	BHP
BBC	378	761595.6	6173579	BHP
BBC	379	760551.6	6175755	BHP
BBC	380	760457.7	6176606	BHP
BBC	381	757190.5	6173234	BHP
BBC	382	751744.3	6172383	BHP
BBC	383	749178	6175626	BHP
BBC	384	748864.7	6177688	BHP
BBC	385	748322.9	6177706	BHP
BBC	386	748761.7	6173251	BHP
BBC	387	747016.1	6173407	BHP
BBC	388	746135.2	6173281	BHP
BBC	389	744493.8	6172964	BHP
BBC	390	745399.9	6173045	BHP
BBC	391	743164.1	6174729	BHP
BBC	392	742209.8	6172793	BHP
BBC	393	740865.8	6169324	BHP
BBC	394	740798.7	6168954	BHP

BORE		EASTING	NORTHING	COMPANY
BBC	395	740883.2	6168412	BHP
BBC	396	740641.6	6169938	BHP
BBC	397	740563	6170417	BHP
BBC	398	740624.4	6170875	BHP
BBC	399	740448.9	6171221	BHP
BBC	400	740478.3	6171654	BHP
BBC	401	740309.3	6172006	BHP
BBC	402	740255.7	6172434	BHP
BBC	403	740335.7	6172835	BHP
BBC	404	740250.1	6173250	BHP
BBC	405	740177.1	6173640	BHP
BBC	406	740021.4	6174068	BHP
BBC	407	739941.9	6174445	BHP
BBC	408	739888.3	6174866	BHP
BBC	409	739834.4	6175262	BHP
BBC	410	739774.4	6175690	BHP
BBC	411	739759.5	6176168	BHP
BBC	412	739616.3	6176558	BHP
BBC	413	747927.5	6177690	BHP
BBC	414	747499.3	6177579	BHP
BBC	415	747002.3	6177609	BHP
BBC	416	746549.7	6177619	BHP
BBC	417	745988.9	6177656	BHP
BBC	418	748869.2	6176037	BHP
BBC	419	748553.9	6176428	BHP
BBC	420	748270.8	6176852	BHP
BBC	421	748012.6	6177217	BHP
BBC	422	739806.6	6172846	BHP
BBC	423	740628.8	6172807	BHP
BBC	424	744985.6	6173062	BHP
BBC	425	745809.9	6173265	BHP
BBC	426	746709.7	6173359	BHP
BBC	427	748353.7	6173255	BHP
BBC	428	747920.4	6173291	BHP
BBC	429	747445.5	6177981	BHP
BBC	430	747187.6	6178372	BHP
BBC	431	746851.7	6178605	BHP
BBC	432	747512.1	6176865	BHP
BBC	433	747508.3	6176431	BHP
BBC	434	747497.7	6175953	BHP
BBC	435	747598.9	6175143	BHP
BBC	436	747614.4	6174728	BHP
BBC	437	747574.5	6173823	BHP
BBC	438	747591.7	6174326	BHP
BBC	439	749220.7	6173241	BHP
BBC	440	749558.4	6173225	BHP
BBC	441	740409.5	6169646	BHP
BBC	442	739880.3	6169645	BHP
BBC	443	739211.3	6169689	BHP
BBC	444	738758.5	6169680	BHP
BBC	445	741046.4	6168130	BHP
BBC	446	741112.3	6167645	BHP
BBC	447	743051.1	6169158	BHP
BBC	448	743254.3	6168340	BHP
BBC	449	743458.5	6167637	BHP
BBC	450	743641.4	6169580	BHP
BBC	451	743163.6	6169616	BHP

BORE		EASTING	NORTHING	COMPANY
BBC	452	743915.4	6169564	BHP
BBC	453	746555.6	6179009	BHP
BBC	454	747552.9	6177145	BHP
BBC	455	747608.4	6175499	BHP
BBC	456	738335.6	6173764	BHP
BBC	457	738367.9	6174536	BHP
BBC	458	738432.4	6175345	BHP
BBC	459	754429.4	6168127	BHP
BBC	460	754631.8	6167790	BHP
BBC	461	755133.7	6167184	BHP
BBC	462	754859.3	6167440	BHP
BBC	463	755212.3	6166748	BHP
BBC	464	760201.8	6169318	BHP
BBC	465	758126.8	6166160	BHP
BBC	466	759924.6	6166090	BHP
BBC	467	759898.4	6164508	BHP
BBC	468	757318.5	6164536	BHP
BBC	469	755996.2	6163071	BHP
BBC	470	761779	6160884	BHP
BBC	471	761997.3	6160124	BHP
BBC	472	757744	6166163	BHP
BBC	473	757329.5	6166173	BHP
BBC	474	756951.6	6164561	BHP
BBC	475	756179.8	6164574	BHP
BBC	476	756563.3	6164596	BHP
BBC	477	757742.8	6164555	BHP
BBC	478	758239.8	6164523	BHP
BBC	479	758706.2	6164550	BHP
BBC	480	755990.3	6163492	BHP
BBC	481	756024.9	6164021	BHP
BBC	482	755971.1	6162293	BHP
BBC	483	755966.8	6162676	BHP
BBC	484	755954.8	6161630	BHP
BBC	485	755969.3	6161949	BHP
BBC	486	755632.2	6164619	BHP
BBC	487	755888.3	6164913	BHP
BBC	488	760421	6170704	BHP
BBC	489	760347.3	6170304	BHP
BBC	490	760324.1	6169877	BHP
BBC	491	758970.6	6169329	BHP
BBC	492	755937.4	6166909	BHP
BBC	493	755144.6	6165812	BHP
BBC	494	754676.8	6165211	BHP
BBC	495	754946.4	6165536	BHP
BBC	496	753692.8	6163863	BHP
BBC	497	752629.3	6162651	BHP
BBC	498	754694.4	6164630	BHP
BBC	499	755394.8	6166125	BHP
BBC	500	756188.6	6166226	BHP
BBC	501	756590.4	6166217	BHP
BBC	502	757030.1	6166193	BHP
BBC	503	758637.2	6166153	BHP
BBC	504	754633.1	6166290	BHP
BBC	505	758505.2	6169347	BHP
BBC	506	759455.3	6169317	BHP
BBC	507	759851.4	6169340	BHP
BBC	508	760704.9	6173945	BHP

BORE		EASTING	NORTHING	COMPANY
BBC	509	755265.3	6169421	BHP
BBC	510	751562	6172312	BHP
BBC	511	750429.9	6173715	BHP
BBC	512	750507.3	6173823	BHP
BBC	513	738728.5	6172773	BHP
BBC	514	761119.7	6169277	BHP
BBC	515	760735.3	6166102	BHP
BBC	516	752309.4	6162359	BHP
BBC	517	752926.9	6162816	BHP
BBC	518	753468.8	6163575	BHP
BBC	519	755267.9	6164596	BHP
BBC	520	756180.4	6167190	BHP
BBM	1	746706.8	6201376	BHP
BBM	2	746583.2	6202105	BHP
BBM	3	746553.7	6202488	BHP
BBM	4	746576.2	6202915	BHP
BBM	5	746560.1	6203329	BHP
BBM	6	746591.3	6203858	BHP
BBM	7	746574.6	6204247	BHP
BBM	8	746667.3	6204678	BHP
BBM	9	746196.5	6203873	BHP
BBM	10	745795.4	6203895	BHP
BBM	11	744951.2	6203768	BHP
BBM	12	744152.6	6203964	BHP
BBM	13	743741.6	6203827	BHP
BBM	14	743323.3	6203932	BHP
BBM	15	742947.8	6203953	BHP
BBM	16	742489.1	6203964	BHP
BBM	17	742164.3	6203971	BHP
BBM	18	741686.8	6203995	BHP
BBM	19	741292.1	6204017	BHP
BBM	20	740744.1	6204023	BHP
BBM	21	740298.2	6204033	BHP
BBM	22	739852.4	6204050	BHP
BBM	23	739469.9	6204045	BHP
BBM	24	739043.3	6204062	BHP
BBM	25	738642.5	6204096	BHP
BBM	26	738298.5	6204104	BHP
BBM	27	738236.1	6203602	BHP
BBM	28	738220.3	6203188	BHP
BBM	29	738202.7	6202417	BHP
BBM	30	738193	6201990	BHP
BBM	31	738058.3	6201394	BHP
BBM	32	738146.6	6200513	BHP
BBM	33	742274.9	6203516	BHP
BBM	34	742259.9	6203134	BHP
BBM	35	742258.3	6202784	BHP
BBM	36	742254.5	6202338	BHP
BBM	37	742220.3	6201395	BHP
BBM	38	742208.3	6200873	BHP
BBM	39	742218.9	6200496	BHP
BBM	40	742182.8	6199752	BHP
BBM	41	742243.8	6201866	BHP
BBM	42	743479.4	6203508	BHP
BBM	43	741657.4	6202708	BHP
BBM	44	741147.8	6202720	BHP
BBM	45	740689.4	6202743	BHP

BORE		EASTING	NORTHING	COMPANY
BBM	46	740205	6202741	BHP
BBM	47	740212.5	6202231	BHP
BBM	48	739644.7	6202206	BHP
BBM	49	739644.6	6202760	BHP
BBM	50	739186.4	6202790	BHP
BBM	51	738668.2	6202706	BHP
BBM	52	737795.3	6204116	BHP
BBM	53	737387.4	6204118	BHP
BBM	54	736916.6	6204155	BHP
BBM	55	736642.6	6204155	BHP
BBM	56	736209.6	6204177	BHP
BBM	57	733966.9	6204209	BHP
BBM	58	738358.6	6204504	BHP
BBM	59	738262.4	6205035	BHP
BBM	60	738273.3	6205513	BHP
BBM	61	738295.4	6205927	BHP
BBM	62	738285.2	6206316	BHP
BBM	63	738301.4	6206749	BHP
BBM	64	738311.7	6207099	BHP
BBM	65	738692.3	6207288	BHP
BBM	66	739081	6207267	BHP
BBM	67	739469.9	6207258	BHP
BBM	68	739859.5	6207275	BHP
BBM	69	740329.3	6207169	BHP
BBM	70	740666.4	6207123	BHP
BBM	72	741491.3	6207207	BHP
BBM	73	741879.9	6207185	BHP
BBM	74	742288.4	6207189	BHP
BBM	75	742718.9	6207039	BHP
BBM	76	743066.2	6207165	BHP
BBM	77	743307.6	6206597	BHP
BBM	78	743329	6206137	BHP
BBM	79	743358.2	6205741	BHP
BBM	80	743399.6	6205320	BHP
BBM	82	743470.3	6204228	BHP
BBM	83	743514.1	6203074	BHP
BBM	84	743542.1	6202627	BHP
BBM	85	743576.1	6202161	BHP
BBM	86	743579.2	6201734	BHP
BBM	87	743624.7	6207032	BHP
BBM	88	744370.6	6207009	BHP
BBM	89	745262.1	6206932	BHP
BBM	90	746478.1	6206815	BHP
BBM	92	746814.4	6206738	BHP
BBM	93	747642.4	6206962	BHP
BBM	94	747612.8	6207352	BHP
BBM	95	747675.2	6208148	BHP
BBM	96	751699.5	6208084	BHP
BBM	97	751318.6	6208169	BHP
BBM	98	750900.3	6208293	BHP
BBM	99	750374.1	6208445	BHP
BBM	100	749949.9	6208595	BHP
BBM	101	749494.8	6208784	BHP
BBM	102	749090.6	6208971	BHP
BBM	103	748662.7	6208949	BHP
BBM	104	748297.4	6209161	BHP
BBM	105	747181.6	6209479	BHP

BORE		EASTING	NORTHING	COMPANY
BBM	106	746655.6	6209638	BHP
BBM	107	746281.6	6209748	BHP
BBM	108	745923.6	6209718	BHP
BBM	109	745527.7	6209988	BHP
BBM	110	745140.3	6210067	BHP
BBM	111	744619.5	6210174	BHP
BBM	112	744109.5	6210192	BHP
BBM	113	743618.5	6210203	BHP
BBM	114	743236	6210218	BHP
BBM	115	742828.3	6210246	BHP
BBM	116	742382.1	6210262	BHP
BBM	117	741904.1	6210285	BHP
BBM	118	741464	6210289	BHP
BBM	119	741059.4	6210457	BHP
BBM	120A	740686.4	6210612	BHP
BBM	121	743265.1	6207505	BHP
BBM	122	743243.3	6208106	BHP
BBM	123	743217.2	6208508	BHP
BBM	124	743194.1	6208904	BHP
BBM	125	743141.4	6209403	BHP
BBM	126	743137.8	6209818	BHP
BBM	127	743054.1	6210643	BHP
BBM	128	742817.1	6211177	BHP
BBM	129	742724.7	6211613	BHP
BBM	130	742595.9	6212133	BHP
BBM	131	742455.3	6212698	BHP
BBM	132	742367.6	6213057	BHP
BBM	133	742263.7	6213550	BHP
BBM	134	742132.7	6214549	BHP
BBM	135	741785.1	6216132	BHP
BBM	136	751362.6	6209004	BHP
BBM	137	751119.2	6209245	BHP
BBM	138	750891.3	6209614	BHP
BBM	139	750274.9	6210010	BHP
BBM	140	749701	6210581	BHP
BBM	141	749044.7	6210924	BHP
BBM	142	751785.6	6208516	BHP
BBM	143	749533.9	6216292	BHP
BBM	144	747885	6209266	BHP
BBM	145	749504.9	6215852	BHP
BBM	146	749640.4	6215349	BHP
BBM	147	749464.2	6214877	BHP
BBM	148	749601.4	6214447	BHP
BBM	149	749591.2	6213987	BHP
BBM	150	749443.8	6213385	BHP
BBM	151	749447.4	6212970	BHP
BBM	152	749399.3	6212531	BHP
BBM	153	749906.3	6213815	BHP
BBM	154	750279.6	6213959	BHP
BBM	155	750684.1	6214078	BHP
BBM	156	751410.5	6214323	BHP
BBM	157	751815.5	6214461	BHP
BBM	158	752573.6	6214700	BHP
BBM	159	753318.6	6214919	BHP
BBM	160	752933.6	6214819	BHP
BBM	161	753893.4	6214915	BHP
BBM	162	754236	6214859	BHP

BORE		EASTING	NORTHING	COMPANY
BBM	163	754619.1	6214675	BHP
BBM	164	755013.2	6214637	BHP
BBM	165	755382.6	6214625	BHP
BBM	166	755784.3	6214625	BHP
BBM	167	756153.8	6214613	BHP
BBM	168	756545	6214486	BHP
BBM	169	756944	6214601	BHP
BBM	170	757351.9	6214594	BHP
BBM	172	758188.8	6214446	BHP
BBM	173	757417.6	6214254	BHP
BBM	174	757545.8	6213874	BHP
BBM	175	757507.1	6213461	BHP
BBM	176	757507.3	6213065	BHP
BBM	177	757512.9	6212644	BHP
BBM	178	757500	6212237	BHP
BBM	179	757128.3	6215781	BHP
BBM	180	753995.8	6214523	BHP
BBM	182	754247.3	6213813	BHP
BBM	183	754401.4	6213445	BHP
BBM	184	754517.4	6213084	BHP
BBM	185	754665.3	6212722	BHP
BBM	186	754596.4	6212361	BHP
BBM	187	754501.3	6211975	BHP
BBM	188	754969.1	6212451	BHP
BBM	189	755301.9	6212090	BHP
BBM	190	753382	6215269	BHP
BBM	191	753243.6	6215565	BHP
BBM	192	753131.3	6215933	BHP
BBM	193	745584.3	6216271	BHP
BBM	194	745670.9	6215867	BHP
BBM	195	745550.4	6215034	BHP
BBM	196	745769.4	6214264	BHP
BBM	197	745527.2	6214563	BHP
BBM	198	745976.4	6213819	BHP
BBM	199	745565.7	6213586	BHP
BBM	200	745313.8	6213285	BHP
BBM	201	745235.3	6212910	BHP
BBM	202	744991.8	6212577	BHP
BBM	203	744749.1	6212277	BHP
BBM	204	744242.7	6211592	BHP
BBM	205	743750.1	6210959	BHP
BBM	206	743501.1	6210665	BHP
BBM	207	742779.9	6213239	BHP
BBM	208	743560.2	6213324	BHP
BBM	209	743943.3	6213341	BHP
BBM	210	744755.8	6213438	BHP
BBM	211	745132.8	6213468	BHP
BBM	212	745892.6	6213208	BHP
BBM	213	746265.1	6213028	BHP
BBM	214	746838.1	6212403	BHP
BBM	215	747457.4	6211846	BHP
BBM	216	748220.5	6211734	BHP
BBM	217	747839.4	6211885	BHP
BBM	218	749091.5	6213609	BHP
BBM	219	748695.3	6213580	BHP
BBM	220	748279.4	6213525	BHP
BBM	221	747875.7	6213445	BHP

BORE		EASTING	NORTHING	COMPANY
BBM	222	745989.3	6213538	BHP
BBM	223	746749.8	6213598	BHP
BBM	224	747493.6	6213479	BHP
BBM	225	747119.3	6213570	BHP
BBM	226	746347.6	6213587	BHP
BBM	227	745000.2	6213815	BHP
BBM	228	744679.9	6214045	BHP
BBM	229	744393.4	6214358	BHP
BBM	230	743799.6	6214913	BHP
BBM	231	743204.3	6215399	BHP
BBM	232	742557.7	6215873	BHP
BBM	233	739577.6	6216417	BHP
BBM	234	739566.4	6215626	BHP
BBM	235A	739307.4	6214879	BHP
BBM	236	739277.6	6214114	BHP
BBM	237	739235.7	6214524	BHP
BBM	238	739191.9	6213702	BHP
BBM	239	738985.4	6213311	BHP
BBM	240	738912.8	6212910	BHP
BBM	241	739199	6212872	BHP
BBM	241A	739294.8	6212876	BHP
BBM	242	739787.1	6212923	BHP
BBM	243	740298.6	6212975	BHP
BBM	244	741181.1	6213064	BHP
BBM	245	742018.9	6213160	BHP
BBM	246	740364.6	6210773	BHP
BBM	247	739991.9	6210940	BHP
BBM	247A	739884.4	6210981	BHP
BBM	248	739543.4	6211142	BHP
BBM	248A	739435.6	6211170	BHP
BBM	249	738905.3	6211424	BHP
BBM	250	738450.4	6211625	BHP
BBM	251	737742.8	6211935	BHP
BBM	252	738070.9	6211774	BHP
BBM	253	737223.9	6212131	BHP
BBM	254	736884	6212336	BHP
BBM	255	736491.9	6212492	BHP
BBM	256	736807.2	6212612	BHP
BBM	257	737281	6212828	BHP
BBM	259A	738112.6	6212788	BHP
BBM	260	738610.8	6212815	BHP
BBM	261	738934.1	6212431	BHP
BBM	262	738794.8	6211618	BHP
BBM	263	738685.8	6211020	BHP
BBM	264C	738578.8	6210225	BHP
BBM	265	738632.7	6210639	BHP
BBM	266	738334	6207532	BHP
BBM	267	738025.7	6207437	BHP
BBM	268	737672.3	6207610	BHP
BBM	269	737293.5	6207791	BHP
BBM	270	736927.6	6207978	BHP
BBM	272A	736119.6	6208366	BHP
BBM	273	735772.4	6208533	BHP
BBM	274A	735438.3	6208713	BHP
BBM	274B	735312	6208773	BHP
BBM	274C	735394.2	6208739	BHP
BBM	275	735228.8	6209049	BHP

BORE		EASTING	NORTHING	COMPANY
BBM	275A	735348.8	6208995	BHP
BBM	276	735313.9	6209436	BHP
BBM	277	735430.7	6209810	BHP
BBM	278	735548	6210210	BHP
BBM	279	735567	6211064	BHP
BBM	280	735706	6211865	BHP
BBM	282	736389.8	6213068	BHP
BBM	283	736508.9	6213544	BHP
BBM	284	736631.7	6213905	BHP
BBM	285	736726.4	6214432	BHP
BBM	286	736723.4	6214873	BHP
BBM	287	736751.6	6215280	BHP
BBM	288	736683.8	6215678	BHP
BBM	289	736631.3	6216183	BHP
BBM	290	736495.9	6216696	BHP
BBM	291	736055	6212642	BHP
BBM	292	735592.1	6212767	BHP
BBM	293	735216.8	6212820	BHP
BBM	294	734741.6	6212971	BHP
BBM	295	734346.9	6213005	BHP
BBM	296	733947.1	6213103	BHP
BBM	297	733490.1	6213209	BHP
BBM	298	733084.1	6213314	BHP
BBM	299	732690	6213380	BHP
BBM	300	734941	6208730	BHP
BBM	301	734488.5	6208753	BHP
BBM	302	734074.2	6208769	BHP
BBM	303	733672.1	6208765	BHP
BBM	304	732849.4	6208777	BHP
BBM	305	735008.6	6208327	BHP
BBM	306	734878.8	6207940	BHP
BBM	307	734728.3	6207484	BHP
BBM	308	734811.7	6206599	BHP
BBM	309	735218.6	6205436	BHP
BBM	310	734296.3	6206356	BHP
BBM	311	732224.8	6204115	BHP
BBM	312	732170.9	6203708	BHP
BBM	313	732142.6	6203307	BHP
BBM	314	731831.9	6202257	BHP
BBM	315	730994.5	6201313	BHP
BBM	316	732105.8	6202531	BHP
BBM	317	731524.4	6201913	BHP
BBM	318	731262.3	6201594	BHP
BBM	319	730866.9	6199347	BHP
BBM	320	731279.5	6199554	BHP
BBM	321	732467.7	6199673	BHP
BBM	322	733691.2	6199384	BHP
BBM	323	733750.2	6202531	BHP
BBM	324	733732.6	6200919	BHP
BBM	325	733723	6200499	BHP
BBM	326	733636.4	6198098	BHP
BBM	327	733658.3	6197658	BHP
BBM	328	733401.2	6196727	BHP
BBM	329	730180.4	6198030	BHP
BBM	330	730487.3	6197794	BHP
BBM	331	731774	6196923	BHP
BBM	332	731440.4	6197109	BHP

BORE		EASTING	NORTHING	COMPANY
BBM	333	731100.7	6197302	BHP
BBM	334	730813.6	6197570	BHP
BBM	335	732133.5	6196756	BHP
BBM	336	732528.6	6196753	BHP
BBM	337	732917.3	6196751	BHP
BBM	338	733572.8	6194747	BHP
BBM	339	733767.4	6179516	BHP
BBM	340	733619.8	6180310	BHP
BBM	341	733680.9	6179920	BHP
BBM	342	733532.4	6180675	BHP
BBM	343	733452.6	6181085	BHP
BBM	344	733437.7	6181831	BHP
BBM	345	733440.9	6182812	BHP
BBM	346	732400.6	6182747	BHP
BBM	347	730295.4	6181265	BHP
BBM	348	729076.6	6180362	BHP
BBM	349	728758.2	6180096	BHP
BBM	350	729387.6	6180585	BHP
BBM	351	733452.3	6181353	BHP
BBM	352	732167.8	6181484	BHP
BBM	353	734255.1	6181341	BHP
BBM	354	735051.1	6181310	BHP
BBM	355	733618.3	6190036	BHP
BBM	356	734400.3	6189948	BHP
BBM	357	735162.1	6189816	BHP
BBM	358	736057.8	6189687	BHP
BBM	359	736890.2	6189573	BHP
BBM	360	737684.3	6189459	BHP
BBM	361	739342.3	6189217	BHP
BBM	362	740969.6	6189027	BHP
BBM	363	732722.6	6190165	BHP
BBM	364	731920.4	6190413	BHP
BBM	365	730289.9	6190532	BHP
BBM	366	731128.2	6190399	BHP
BBM	367	733554	6190969	BHP
BBM	368	733515	6191675	BHP
BBM	369	734042.8	6192161	BHP
BBM	370	734858.9	6192175	BHP
BBM	372	732827.4	6191966	BHP
BBM	373	732038.3	6191742	BHP
BBM	374	731243.4	6191537	BHP
BBM	375	733521.1	6192479	BHP
BBM	376	733546.3	6193307	BHP
BBM	377	733543.2	6194008	BHP
BBM	378	734416.7	6194581	BHP
BBM	379	735138.8	6194947	BHP
BBM	380	733467.4	6189287	BHP
BBM	382	733424.9	6187701	BHP
BBM	383	734328.2	6187343	BHP
BBM	384	735103.4	6187242	BHP
BBM	385	735758.3	6187170	BHP
BBM	386	736101.3	6187118	BHP
BBM	387	733382.3	6186109	BHP
BBM	388	733381.9	6185255	BHP
BBM	389	733343.8	6184421	BHP
BBM	390	734109.9	6184199	BHP
BBM	391	734970.1	6184186	BHP

BORE		EASTING	NORTHING	COMPANY
BBM	392	735632.4	6184165	BHP
BBM	393	733359.8	6183726	BHP
BBM	394	733868.5	6183395	BHP
BBM	395	734647.4	6183734	BHP
BBM	396	738591	6187016	BHP
BBM	397	740537.8	6186863	BHP
BBM	398	736717.8	6184248	BHP
BBM	399	737596.6	6184215	BHP
BBM	400	738362.1	6207933	BHP
BBM	401	738364.9	6208348	BHP
BBM	402	738389.1	6208864	BHP
BBM	403	738404.3	6209259	BHP
BBM	404	738516.9	6209735	BHP
BBM	405	744578.4	6203910	BHP
BBM	406	736082.5	6203351	BHP
BBM	407	734935.6	6204206	BHP
BBM	408	739628.8	6184169	BHP
BBM	409	735917.1	6181277	BHP
BBM	410	736732.4	6181252	BHP
BBM	411	737624.5	6181245	BHP
BBM	412	739898.6	6181186	BHP
BBM	413	737779.6	6192242	BHP
BBM	414	739864.9	6192296	BHP
BBM	415	738023.5	6196233	BHP
BBM	416	740500	6194752	BHP
BBM	417	739960.1	6198145	BHP
BBM	418	736458.8	6198888	BHP
BBM	419	736570.2	6202098	BHP
BBM	420	745336.8	6203905	BHP
BBM	421	744353	6213402	BHP
BBM	422	731781	6199746	BHP
BBM	423	732601.8	6193813	BHP
BBM	424	738093.3	6197614	BHP
BBM	425	738976.6	6198340	BHP
BBM	426	737489.4	6198527	BHP
BBM	427	735314.4	6199016	BHP
BBM	428	737810.1	6194701	BHP
BBM	429	736549.3	6195591	BHP
BBX	1	765955.5	6184435	BHP
BBX	2	766020	6184573	BHP
BBX	3	766116.4	6184749	BHP
BBX	4	766213.1	6184951	BHP
BBX	5	766285.2	6185222	BHP
BBX	6	766210.4	6185336	BHP
BLAPT	1	764493	6165513	BEACH
BLAPT	1A	766372	6165363	BEACH
BSCA	1	752899.8	6150959	BHP
BSCA	2	754308.6	6150944	BHP
BSCUR	1	751380.4	6150896	BHP
BSCUR	2	747783.8	6164757	BHP
BSCUR	3	751123.5	6162313	BHP
BSCUR	4	744025.3	6163365	BHP
BSCUR	5	748929.4	6164491	BHP
BSCUR	6	745182.4	6165330	BHP
BSCUR	7	755572.4	6153888	BHP
BSCUR	8	754355.1	6151038	BHP
BSCUR	9	754307.4	6148980	BHP

BORE		EASTING	NORTHING	COMPANY
BSCUR	10	755185.3	6155531	BHP
BSCUR	11	754824.2	6156158	BHP
BSCUR	12	757580.2	6156907	BHP
BSEX	1	765950.9	6185294	BHP
BSPJ	1	761829.2	6160504	BHP
BSWE	1	734388	6211122	BHP
BSWE	2	733850	6209520	BHP
BSWE	3	747401.4	6211912	BHP
BSWE	4	748012.6	6212427	BHP
BSWE	5	748002.8	6212275	BHP
BSWE	6	734410.3	6211262	BHP
DKDD	1	772876.7	6226176	DEPT OF MINES
DKDD	2	772729.9	6225971	DEPT OF MINES
DKDD	3	772875.3	6225730	DEPT OF MINES
DKDD	4	773136.1	6225913	DEPT OF MINES
EB	1	760069.7	6180850	ESSO
EB	2	759614.8	6180873	ESSO
EB	3	759052.2	6180853	ESSO
EB	4	758565.8	6180883	ESSO
EB	5	758009.6	6180875	ESSO
EB	6	757377.7	6180881	ESSO
EB	7	756796.2	6180874	ESSO
EB	8	756176.9	6180886	ESSO
EB	9	755835.7	6180889	ESSO
EB	10	755500.6	6180873	ESSO
EB	11	755039.5	6180903	ESSO
EB	12	754565.6	6180914	ESSO
EB	13	753845.2	6180921	ESSO
EB	14	753428.1	6180918	ESSO
EB	15	752941.4	6180910	ESSO
EB	16	752537.2	6180945	ESSO
EB	17	752144.9	6181028	ESSO
EB	18	751672.8	6181007	ESSO
EB	19	751048.7	6181028	ESSO
EB	20	750271.5	6181046	ESSO
EB	21	752138.9	6183839	ESSO
EB	22	752727.7	6183743	ESSO
EB	23	753226.8	6183720	ESSO
EB	24	753644.1	6183735	ESSO
EB	25	754218.8	6183698	ESSO
EB	26	754705.4	6183700	ESSO
EB	27	755090.8	6183683	ESSO
EB	28	755697.6	6183690	ESSO
EB	29	756203.3	6183698	ESSO
EB	30	756784.6	6183686	ESSO
EB	31	757183.3	6183740	ESSO
EB	32	757639.3	6183843	ESSO
EB	33	758209.1	6183951	ESSO
EB	34	758639.6	6184036	ESSO
EB	35	759139.8	6184138	ESSO
EB	36	759710	6184285	ESSO
EB	37	760001	6184314	ESSO
EB	38	760418.3	6184329	ESSO
EB	39	760792.6	6184489	ESSO
EB	40	761160.5	6184631	ESSO
EB	41	761649.1	6184835	ESSO
EB	42	762135.9	6184856	ESSO

BORE		EASTING	NORTHING	COMPANY
EB	43	762583.3	6184713	ESSO
EB	44	763188.8	6184587	ESSO
EB	45	763555	6184552	ESSO
EB	46	764066.6	6184522	ESSO
EB	47	764588.9	6184277	ESSO
EB	48	764995.8	6183856	ESSO
EB	49	765360.4	6183650	ESSO
EB	50	765857.4	6183412	ESSO
EB	51	766211.7	6183446	ESSO
EB	52	766365	6185651	ESSO
EB	53	765830.4	6185927	ESSO
EB	54	765529.4	6186170	ESSO
EB	55	765284.8	6186375	ESSO
EB	56	764824.3	6186461	ESSO
EB	57	764181.6	6186676	ESSO
EB	58	763671.4	6186858	ESSO
EB	59	763129.8	6187065	ESSO
EB	60	762669.9	6187215	ESSO
EB	61	762115.5	6187403	ESSO
EB	62	761553.9	6187503	ESSO
EB	63	761080.6	6187577	ESSO
EB	64	760531.3	6187633	ESSO
EB	65	760026.1	6187676	ESSO
EB	66	759426.3	6187732	ESSO
EB	67	758851.6	6187775	ESSO
EB	68	758378.3	6187855	ESSO
EB	69	757879.4	6187892	ESSO
EB	70	757298.7	6187973	ESSO
EB	71	756849.8	6187952	ESSO
EB	72	756417.8	6187716	ESSO
EB	73	755973.4	6187505	ESSO
EB	74	755516.2	6187263	ESSO
EB	75	755085.5	6187166	ESSO
EB	76	754653.9	6186974	ESSO
EB	77	754209.6	6186769	ESSO
EB	78	753721.8	6186641	ESSO
EB	79	753246.9	6186538	ESSO
EB	80	752633.5	6186506	ESSO
EB	81	752184.8	6186694	ESSO
EB	82	755200.1	6189051	ESSO
EB	83	755260.5	6188595	ESSO
EB	84	755503.2	6187968	ESSO
EB	85	755506.4	6187462	ESSO
EB	86	755522.3	6186969	ESSO
EB	87	755475.5	6186571	ESSO
EB	88	755490.8	6185970	ESSO
EB	89	755461.8	6185383	ESSO
EB	90	755464.9	6184871	ESSO
EB	91	755455.7	6184390	ESSO
EB	92	755439.9	6183891	ESSO
EB	93	755442.1	6183221	ESSO
EB	94	755425.7	6182620	ESSO
EB	95	755428.6	6182070	ESSO
EB	96	755431.9	6181584	ESSO
EB	97	755397.2	6181085	ESSO
EB	98	760175	6181297	ESSO
EB	99	760180.6	6181898	ESSO

BORE		EASTING	NORTHING	COMPANY
EB	100	760187.1	6182586	ESSO
EB	101	760206.9	6183357	ESSO
EB	102	760205.4	6183876	ESSO
EB	103	760216.8	6184406	ESSO
EB	104	760229.9	6185139	ESSO
EB	105	760229.1	6185727	ESSO
EB	106	760231.7	6186005	ESSO
EB	107	760237.4	6186618	ESSO
EB	108	760247.5	6187016	ESSO
EB	109	760259.5	6187629	ESSO
EB	110	760150.4	6188123	ESSO
EB	111	760156	6188723	ESSO
EB	112	760155.1	6189305	ESSO
EB	113	760173.3	6189899	ESSO
EB	114	760216.3	6190429	ESSO
EB	115	760215.1	6190979	ESSO
EB	116	760238.3	6191434	ESSO
EB	117	760255.4	6191914	ESSO
EB	118	760261.9	6192609	ESSO
EB	119	760266.7	6193115	ESSO
EB	120	760104.4	6193331	ESSO
EB	121	759421.9	6193344	ESSO
EB	122	758897.3	6193336	ESSO
EB	123	758151.6	6193337	ESSO
EB	124	757443.9	6193356	ESSO
EB	125	756919.3	6193348	ESSO
EB	126	756236.6	6193336	ESSO
EB	127	755800.9	6193371	ESSO
EB	128	760945.4	6193380	ESSO
EB	129	761760.7	6193385	ESSO
EB	130	762127.1	6193369	ESSO
EB	131	762733.4	6193332	ESSO
EB	132	763250.8	6193232	ESSO
EB	133	763761.9	6193152	ESSO
EB	134	764329.9	6193058	ESSO
EB	135	764904.1	6192964	ESSO
EB	136	765194.3	6192904	ESSO
EB	137	765679.9	6192805	ESSO
EB	138	766260.4	6192698	ESSO
EB	139	766739.9	6192612	ESSO
EB	140	767333.4	6192549	ESSO
EB	141	767812.7	6192444	ESSO
EB	142	767989.1	6192385	ESSO
EB	143	765271.9	6192423	ESSO
EB	144	765273.6	6191930	ESSO
EB	145	765281.5	6191425	ESSO
EB	146	765289.5	6190932	ESSO
EB	147	765297.6	6190445	ESSO
EB	148	765216.4	6189871	ESSO
EB	149	765156.9	6189593	ESSO
EB	150	765275	6189383	ESSO
EB	151	765282.4	6188827	ESSO
EB	152	765290.6	6188347	ESSO
EB	153	765292.1	6187828	ESSO
EB	154	765286.5	6187234	ESSO
EB	155	765301.6	6186824	ESSO
EB	156	766557.7	6188676	ESSO

BORE		EASTING	NORTHING	COMPANY
EB	157	766137.3	6188996	ESSO
EB	158	765772.6	6189202	ESSO
EB	159	764696.5	6189692	ESSO
EB	160	764070.9	6189698	ESSO
EB	161	763364.8	6189888	ESSO
EB	162	762850.2	6190272	ESSO
EB	163	762594.5	6190641	ESSO
EB	164	762239.4	6191188	ESSO
EB	165	761933.6	6191601	ESSO
EB	166	761653.1	6192015	ESSO
EB	167	761270.6	6192334	ESSO
EB	168	760769.8	6192851	ESSO
EB	169	760385.7	6201102	ESSO
EB	170	760403.1	6201614	ESSO
EB	171	760420.4	6202113	ESSO
EB	172	760406.6	6202663	ESSO
EB	173	760398.8	6203175	ESSO
EB	174	760628.6	6203419	ESSO
EB	175	760967.5	6203846	ESSO
EB	176	761156.1	6204413	ESSO
EB	177	761286.2	6204810	ESSO
EB	178	761328.7	6205296	ESSO
EB	179	761385.8	6205991	ESSO
EB	180	761938.8	6206861	ESSO
EB	181	761935.5	6207358	ESSO
EB	182	761970.2	6207848	ESSO
EB	183	761963.4	6208435	ESSO
EB	184	761990.8	6208893	ESSO
EB	185	762005.9	6209371	ESSO
EB	186	762052.3	6210026	ESSO
EB	187	762049.8	6210549	ESSO
EB	188	762075.6	6211160	ESSO
EB	189	762063.1	6211569	ESSO
EB	190	762082	6211759	ESSO
EB	191	759823	6211901	ESSO
EB	192	760179.9	6211896	ESSO
EB	193	760677.1	6211893	ESSO
EB	194	761275.4	6211861	ESSO
EB	195	761766.3	6211859	ESSO
EB	196	762734.3	6211821	ESSO
EB	197	763237.9	6211818	ESSO
EB	198	763925.4	6211783	ESSO
EB	199	764448.6	6211792	ESSO
EB	200	766083.6	6208272	ESSO
EB	201	765660.6	6208406	ESSO
EB	202	765075.6	6208457	ESSO
EB	203	764342.3	6208455	ESSO
EB	204	763884.5	6208495	ESSO
EB	205	763360.6	6208460	ESSO
EB	206	762752.4	6208384	ESSO
EB	207	762266.9	6208355	ESSO
EB	208	761301.3	6208265	ESSO
EB	209	760699.8	6208201	ESSO
EB	210	760225.8	6208133	ESSO
EB	211	759694.9	6208080	ESSO
EB	212	753650.3	6204654	ESSO
EB	213	753955.4	6204171	ESSO

BORE		EASTING	NORTHING	COMPANY
EB	214	754166.1	6203714	ESSO
EB	215	754533.8	6203167	ESSO
EB	216	754910.4	6202898	ESSO
EB	217	755266.4	6202433	ESSO
EB	218	755571.5	6201950	ESSO
EB	219	755763.9	6201575	ESSO
EB	220	756262.3	6200799	ESSO
EB	221	756529.3	6200298	ESSO
EB	222	756759.3	6199891	ESSO
EB	223	756989.8	6199522	ESSO
EB	224	752266.1	6194174	ESSO
EB	225	752296.7	6194677	ESSO
EB	226	752301.5	6195168	ESSO
EB	227	752316.8	6195837	ESSO
EB	228	752328.3	6196340	ESSO
EB	229	752335.8	6197232	ESSO
EB	230	752357.1	6198169	ESSO
EB	231	752395.8	6199583	ESSO
EB	232	752404.3	6200239	ESSO
EB	233	752429.2	6201328	ESSO
EB	234	752457.4	6202290	ESSO
EB	235	752442.6	6202756	ESSO
EB	236	752474.5	6203316	ESSO
EB	237	750335.4	6203141	ESSO
EB	238	750037.5	6202377	ESSO
EB	239	749814.8	6201834	ESSO
EB	240	749518.5	6201140	ESSO
EB	241	749329.3	6200666	ESSO
EB	242	749146.4	6200192	ESSO
EB	243	748897.9	6199637	ESSO
EB	244	748742.8	6199264	ESSO
EB	245	748566.8	6198809	ESSO
EB	246	746669.2	6200006	ESSO
EB	247	746613.4	6199517	ESSO
EB	248	746519.1	6199015	ESSO
EB	249	746532.8	6198492	ESSO
EB	250	746451.1	6197984	ESSO
EB	251	746386.9	6197406	ESSO
EB	252	746313.4	6196981	ESSO
EB	253	742589.8	6197473	ESSO
EB	254	743273.9	6197292	ESSO
EB	255	743674.3	6197238	ESSO
EB	256	744333.3	6197070	ESSO
EB	257	744986.8	6196941	ESSO
EB	258	745570.1	6196806	ESSO
EB	259	746096.6	6196692	ESSO
EB	260	760928.9	6197703	ESSO
EB	261	761535.4	6197679	ESSO
EB	262	762243.3	6197678	ESSO
EB	263	763026.8	6197658	ESSO
EB	264	763594.8	6197577	ESSO
EB	265	764227.6	6197666	ESSO
EB	266	764960.4	6197634	ESSO
EDITH	1	741037	6112345	BEACH
ESP	1	765756.7	6189524	ESSO
ESP	2	765659.6	6189955	ESSO
ESP	3	765756.8	6189537	ESSO

BORE		EASTING	NORTHING	COMPANY
ESP	4	764413.6	6189846	ESSO
ESP	5	764457.8	6189840	ESSO
MAITL	1	746715	6192062	ADELAIDE OIL EXPL
MINL	1	746350	6144892	SADME
MINL	2	748753	6150994	SADME
MINLN	1	737955	6149738	ADELAIDE OIL EXPL
MINLS	1	736344	6143490	BEACH
PENI	2	746934	6142995	PENINSULA OIL
PSAN	1	769338.6	6216782	POSEIDON
PSAP	1	770201.9	6205751	POSEIDON
PSAP	3	769089	6205236	POSEIDON
PSAP	4	768234.2	6205061	POSEIDON
PSAP	5	768216.9	6203215	POSEIDON
PSAP	6	769208.4	6203137	POSEIDON
PSAP	7	770137.6	6203160	POSEIDON
PSAP	8	771101.4	6198088	POSEIDON
PSAP	9	770624.3	6200692	POSEIDON
PSAP	10	769669.8	6207960	POSEIDON
PSPW	1	776110.4	6216394	POSEIDON
PTCLI	1	779650	6216116	SADME
PTVIN	1	764118	6150658	BEACH
RAMS	1	748635	6149456	MINLATON OIL
STAN	1	747877	6134612	SADME
STANT	1	753952	6133767	BEACH
STANW	1	747877	6134612	BEACH
TROUB	1	757770	6110266	BEACH
WAKEF	1	787477	6220507	WAKEFIELD PROSP OI

EXPLANATION FOR ABBREVIATIONS IN COLUMN 1

Company identifyer, Column 1; first column of letters

A Aquitaine
B BHP
C CRA
D SADME
E Esso
P Poseidon

Hole type, Column 1; second column of letters

B bottom of hole sampling, to sample subcropping basement (auger, RAB)
S stratigraphic hole, to sample throughout the sequenced drilled

Hole series identifyer, Column 1; third column of letters onwards

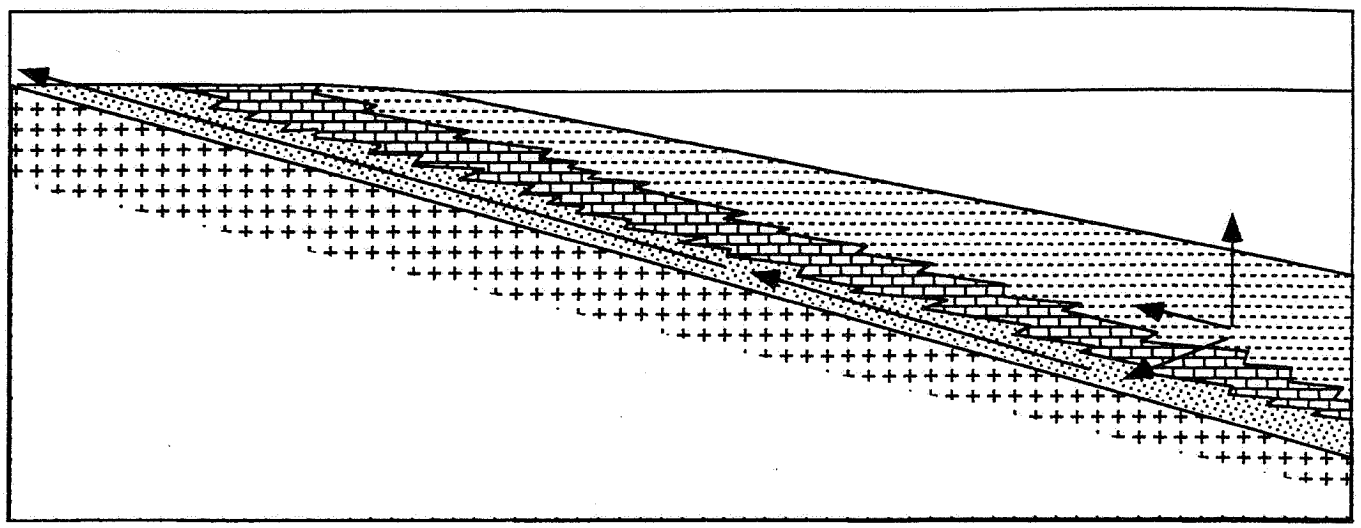
ie: SYC, SYD, SYM, SYP, SYV, C, M, CUR.

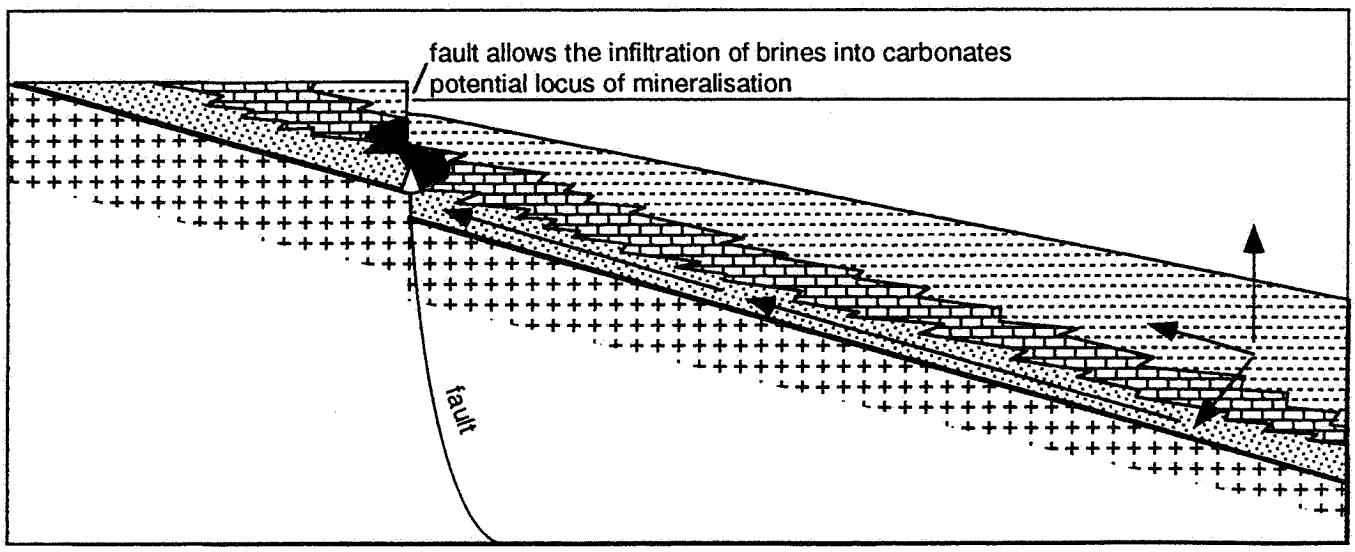
ABBREVIATIONS FOR MISCELLANEOUS DRILLHOLES,
eg. stratigraphic, or petroleum information from SADME Petroleum Exploration Production System (PEPS)

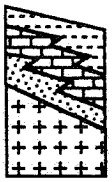
DRILLHOLE NAME	ABBREVIATION	COMPANY
American Beach Oil 1	AMOIL 1	Aquitaine
Ardrossan 1	ARDRO 1	Aquitaine
Black Point 1	BLAPT 1	Beach
Black Point 1 A	BLAPT 1	Beach
Minlaton 1	MINL 1	SADME
Minlaton 2	MINL 2	SADME
Minlaton Northwest 1	MINLN 1	Adelaide Oil Expln
Minlaton South Bore 1	MINLS 1	Beach
Peninsula Oil 2	PENI 1	Peninsula Oil
Port Clinton	PTCL 1	SADME
Port Vincent 1	PTVIN 1	Beach
DRILLHOLE NAME	ABBREVIATION	COMPANY
Ramsay Oil Bore	RAMS 1	Minlaton Oil
Stansbury stratigraphic 1	STAN 1	SADME
Stansbury Town 1	STANT 1	Beach
Stansbury West 1	STANW 1	Beach
Troubridge Island 1	TROUB 1	Beach
Wakefield Prospecting Oil	WAKEF 1	Wakefield Prosp Oil

YORKE PENINSULA, BASIN DEWATERING MODEL

THE WINULTA FORMATION ACTS AS A CONDUIT TRANSMITTING METAL-RICH BRINES TO THE BASIN MARGIN





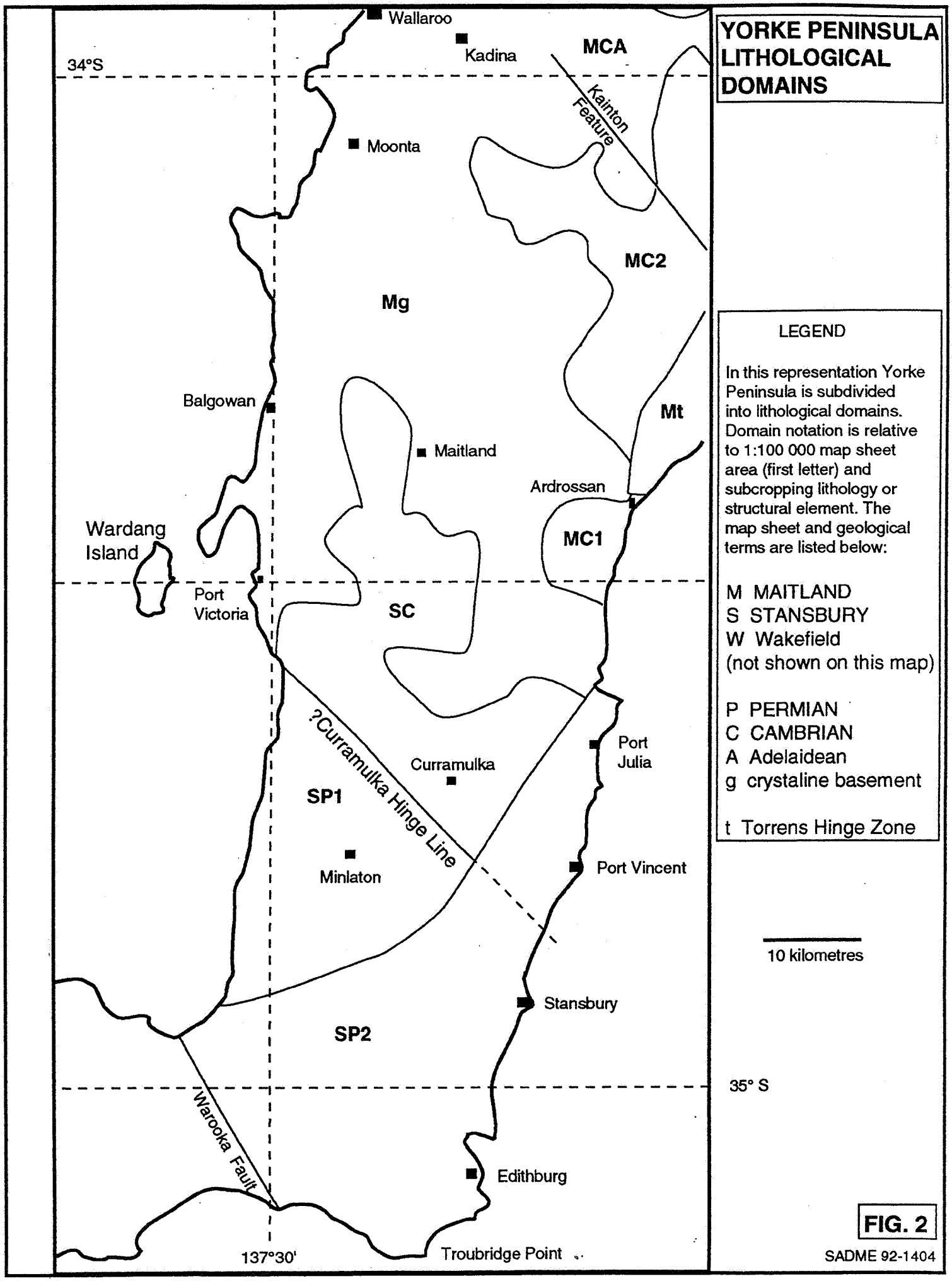


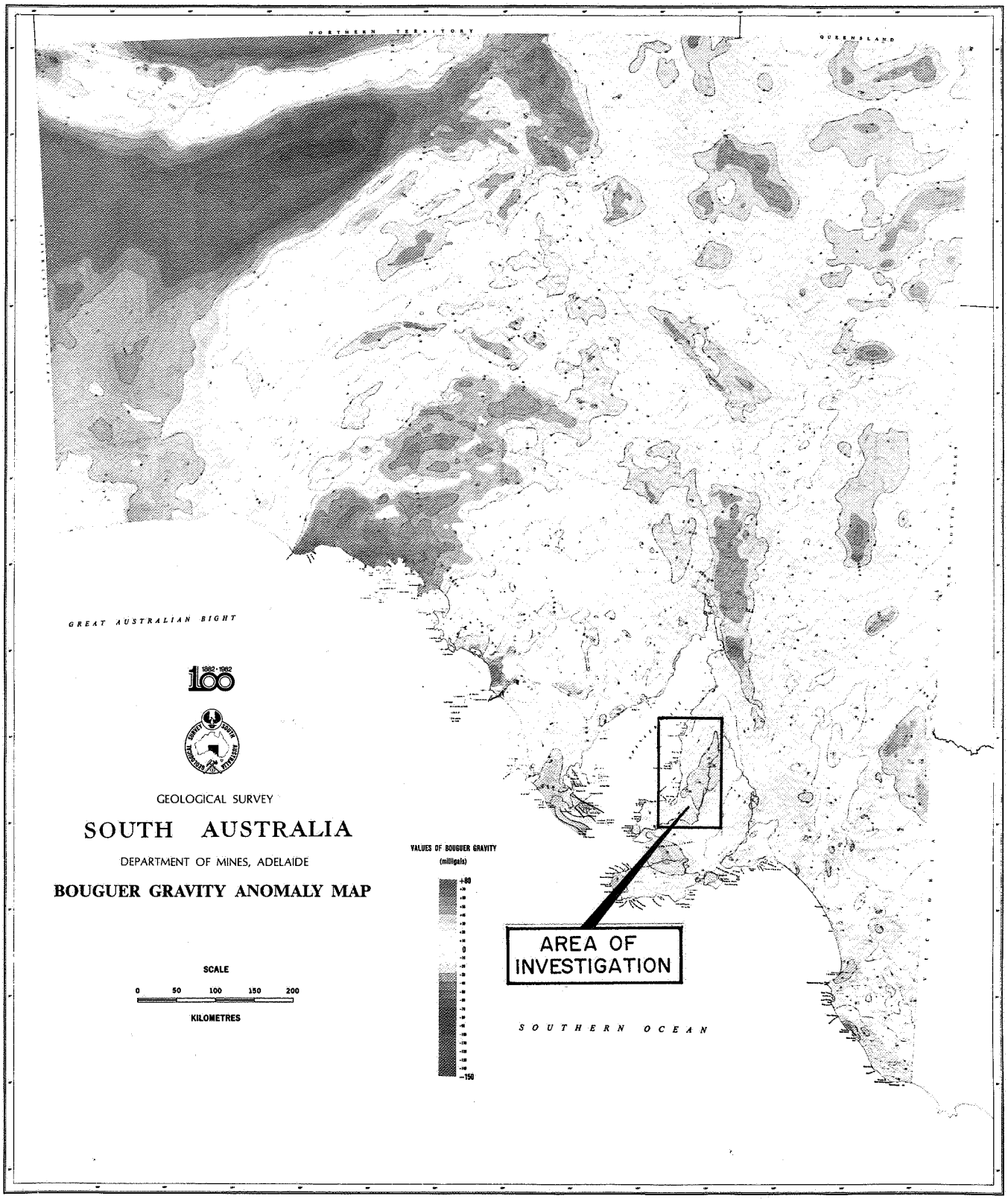
mudrocks
shelf carbonates
Winulta formation, shoreline and fluviatile clastics
crystaline basement

dewatering pathways for metal-rich brines.

FIG. 1

SADME 92-1403


YORKE PENINSULA
LITHOLOGICAL
DOMAINS
Wallaroo
Kadina
MCA
34°S
Kainton
Feature
Moonta
MC2
Mg
Balgowan
Mt
Maitland
Ardrossan
Wardang
Island
MC1
Port
Victoria
SC
?Curramulka Hinge Line
Port
Julia
Curramulka
SP1
Minlaton
Port Vincent
Stansbury
SP2
35° S
Warooka Fault
Edithburg
137°30'
Troubridge Point
LEGEND
In this representation Yorke Peninsula is subdivided into lithological domains. Domain notation is relative to 1:100 000 map sheet area (first letter) and subcropping lithology or structural element. The map sheet and geological terms are listed below:
M MAITLAND
S STANSBURY
W Wakefield
(not shown on this map)
P PERMIAN
C CAMBRIAN
A Adelaidean
g crystaline basement
t Torrens Hinge Zone
10 kilometres
FIG. 2
SADME 92-1404

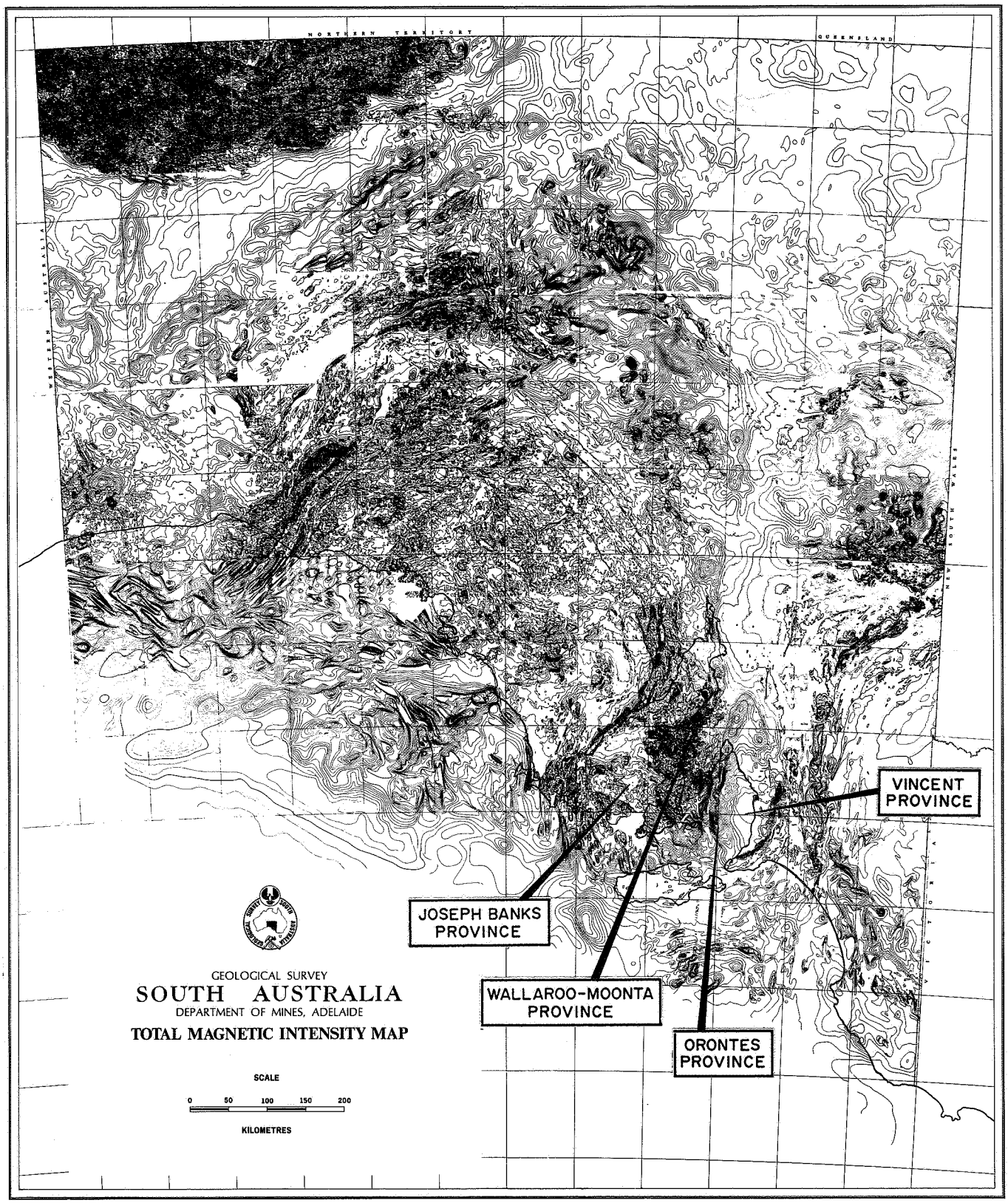


5583

D.J.Woolman, Government Printer.

FIG. 3

SADME 92-1056



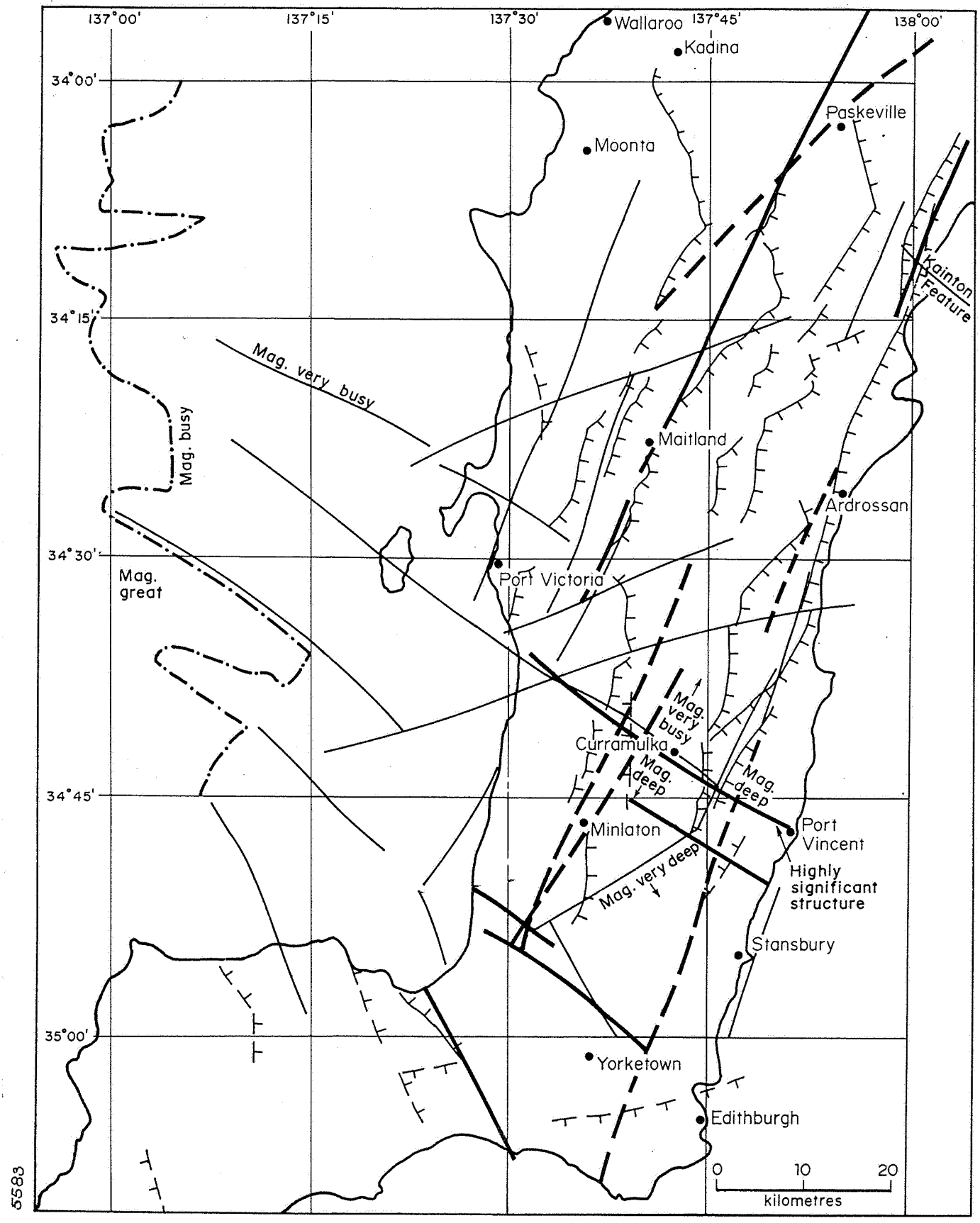
5583

D.J.Woolman, Government Printer.

MAGNETIC PROVINCES OF YORKE PENINSULA
Provinces from R.A. Gerdes, pers. comm.

FIG. 4

SADME 92-1057



Scarps

Magnetic feature

Visual feature, distinct

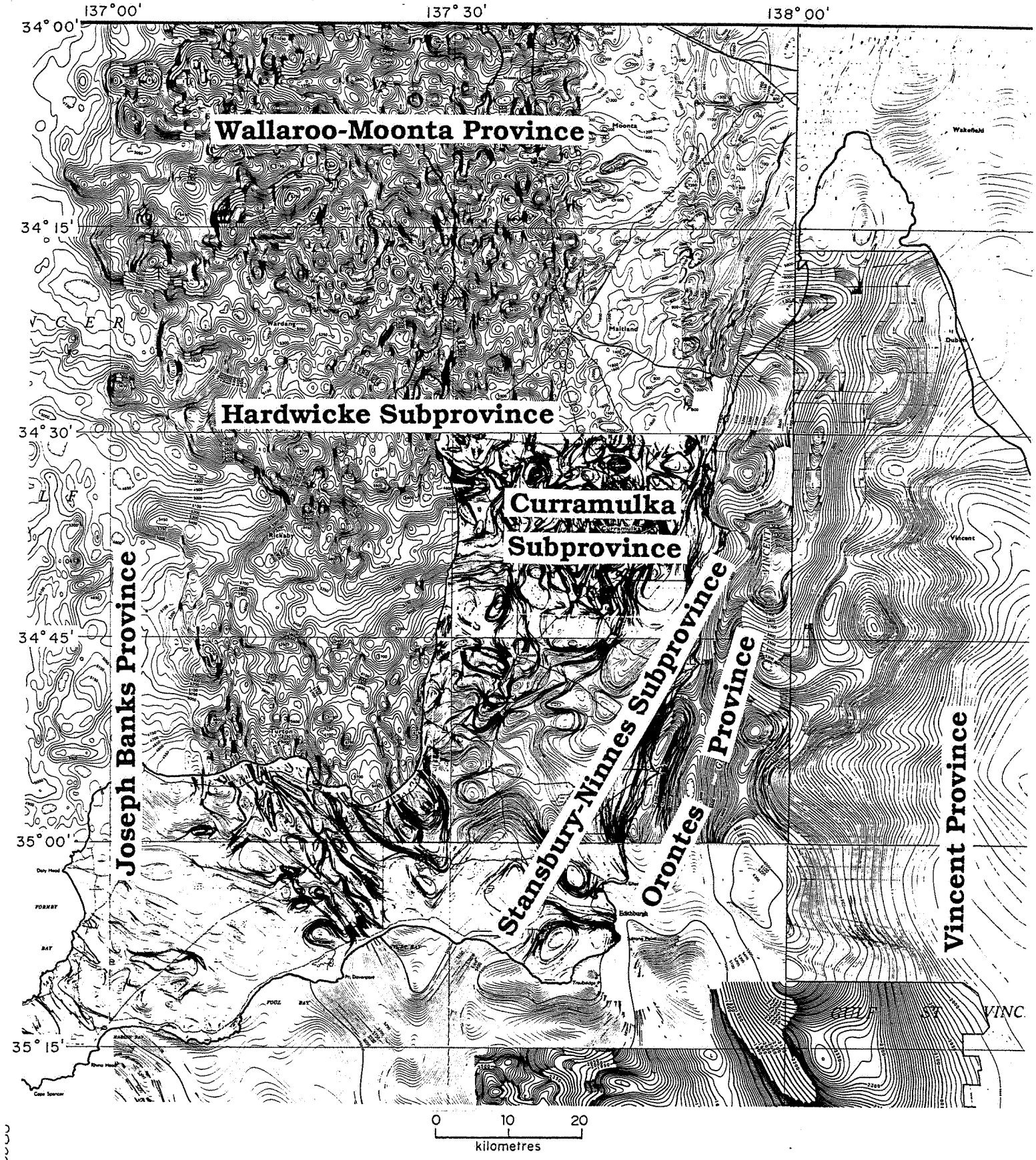
Visual feature, indistinct

Margin of magnetic province, magnetically quiet to the West

YORKE PENINSULA, LINEAR STRUCTURAL ELEMENTS

Scarps from Crawford 1965. Magnetic trends from SADME 1:250 000 compilation. Visual from ACRES, Landsat 5, MSS, Scene 98-84, 29/1/87

FIG. 5



YORKE PENINSULA, MAGNETIC PROVINCES

Base SADME 1:250 000. Provinces from R.A. Gerdes, pers. comm.

FIG. 6

SADME 92-1058

5583

YORKE PENINSULA AND THE FRAMEWORK OF THE ADELAIDE GEOSYNCLINE

From Preiss, 1987

Willouran tectonic framework of the Adelaide Geosyncline.

Torrensian tectonic framework of the Adelaide Geosyncline.

FIG. 7

SADME 92-1060

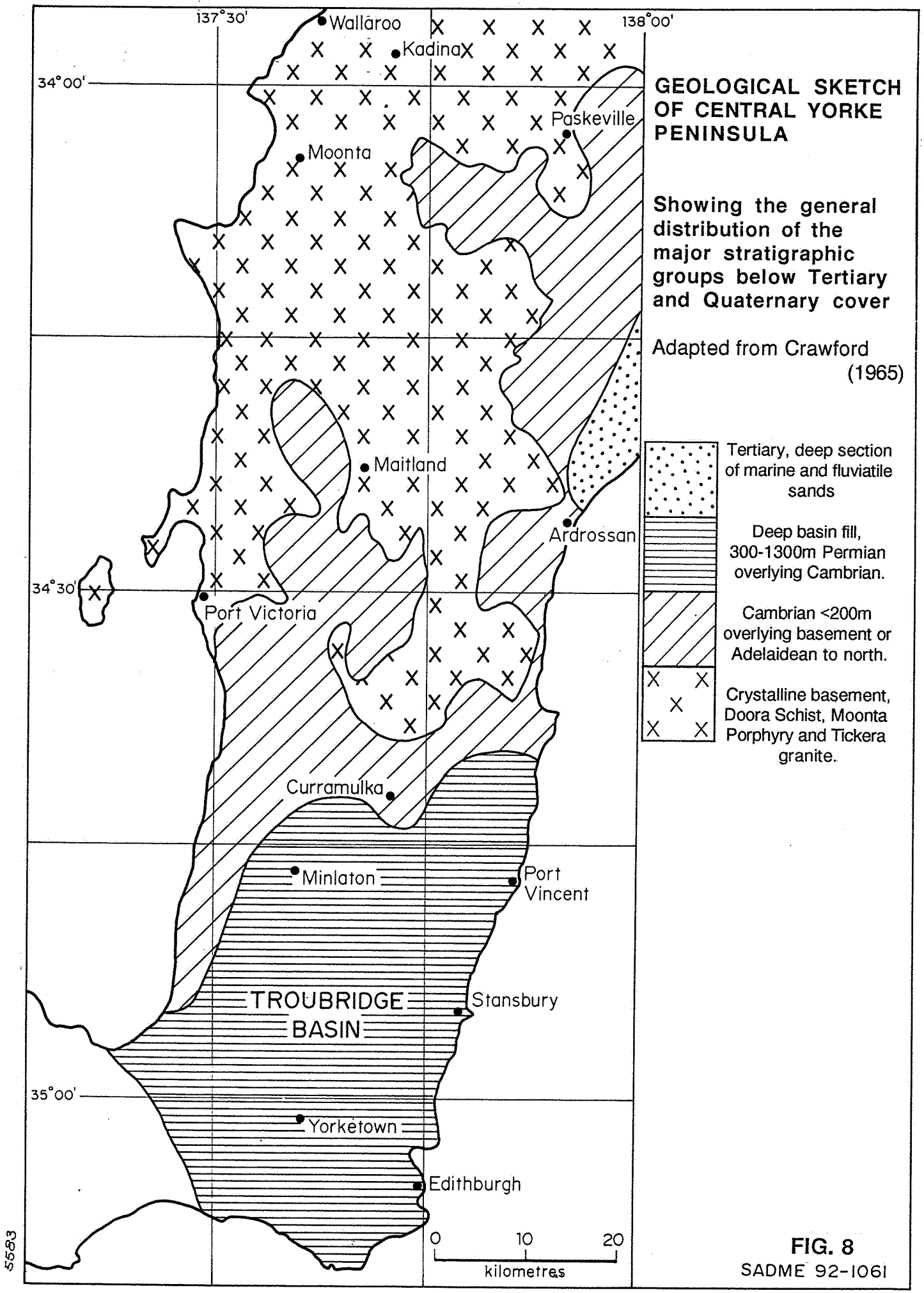
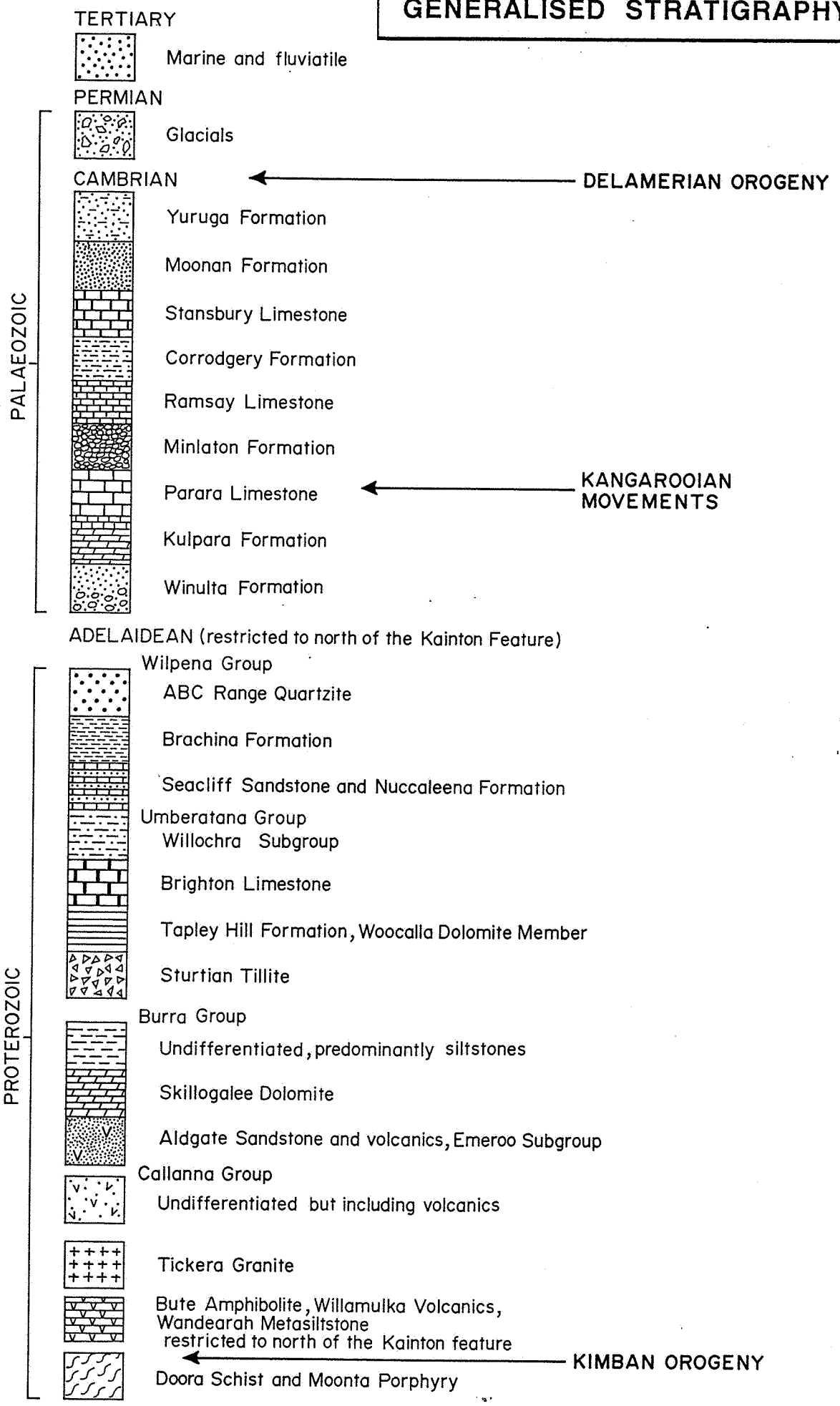


FIG. 8
SADME 92-1061

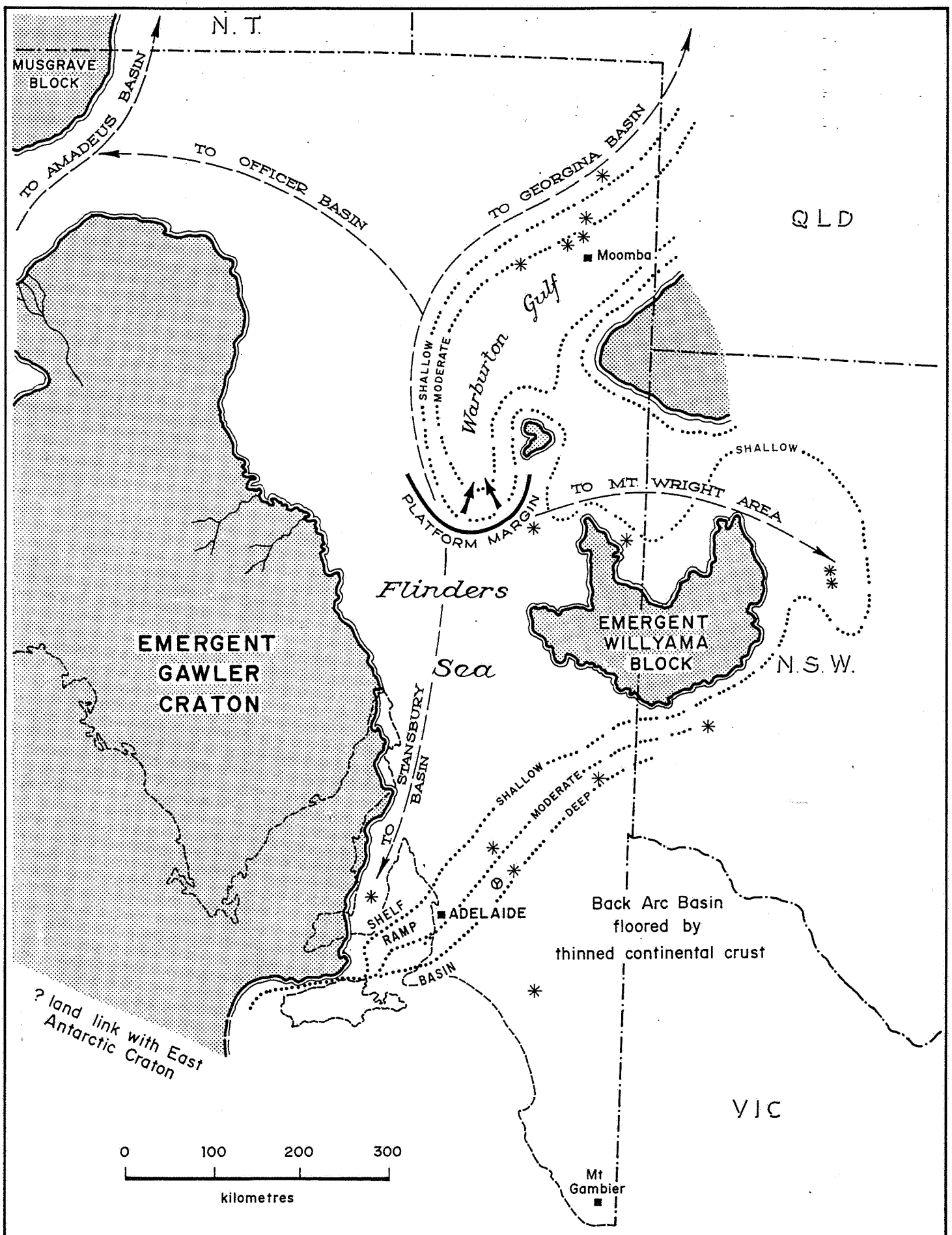
YORKE PENINSULA GENERALISED STRATIGRAPHY



5583

FIG. 9

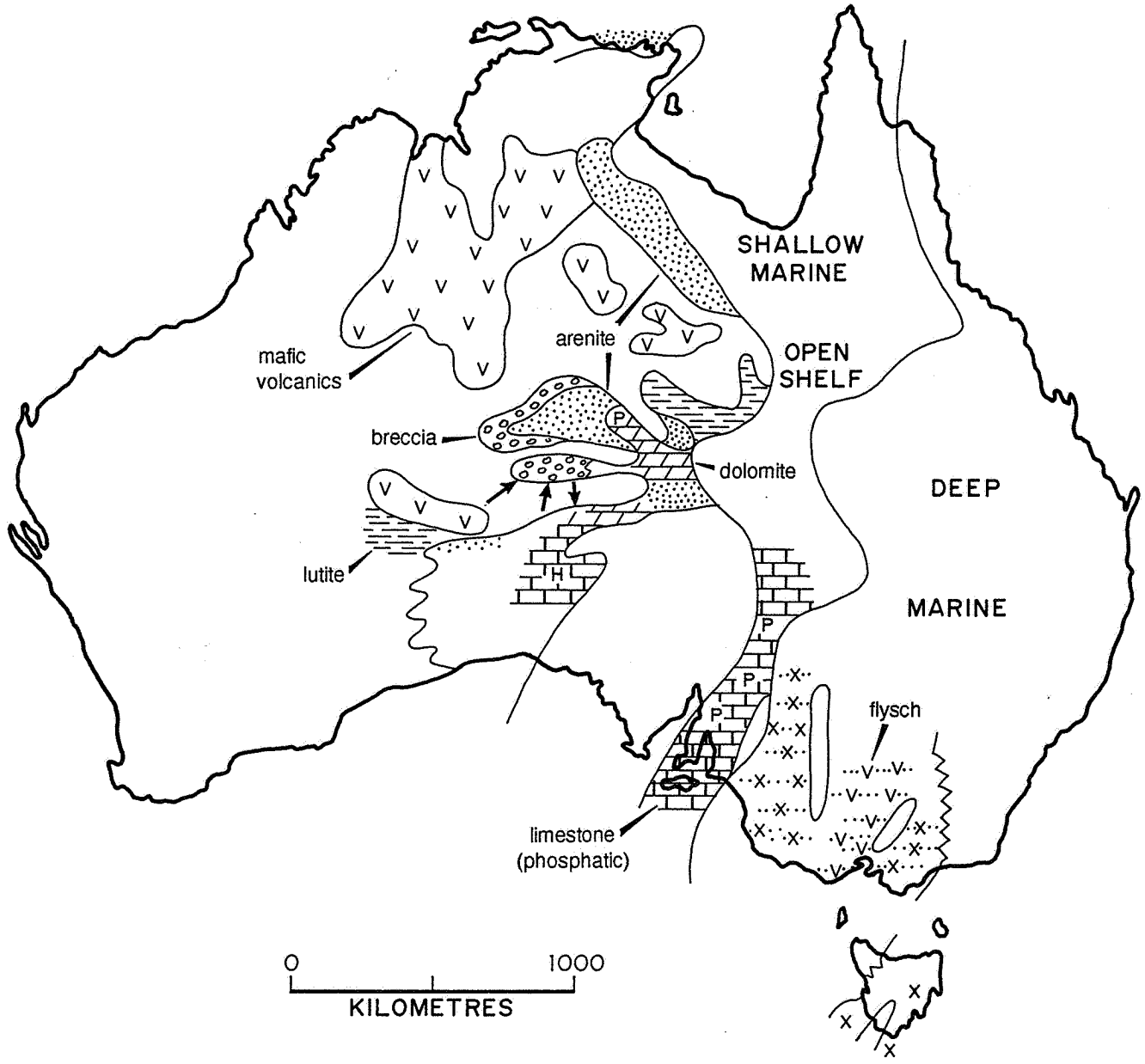
SADME 92-1062



5583

SOUTH AUSTRALIA, THE CAMBRIAN OCEAN AND SEAS **FIG. 10**

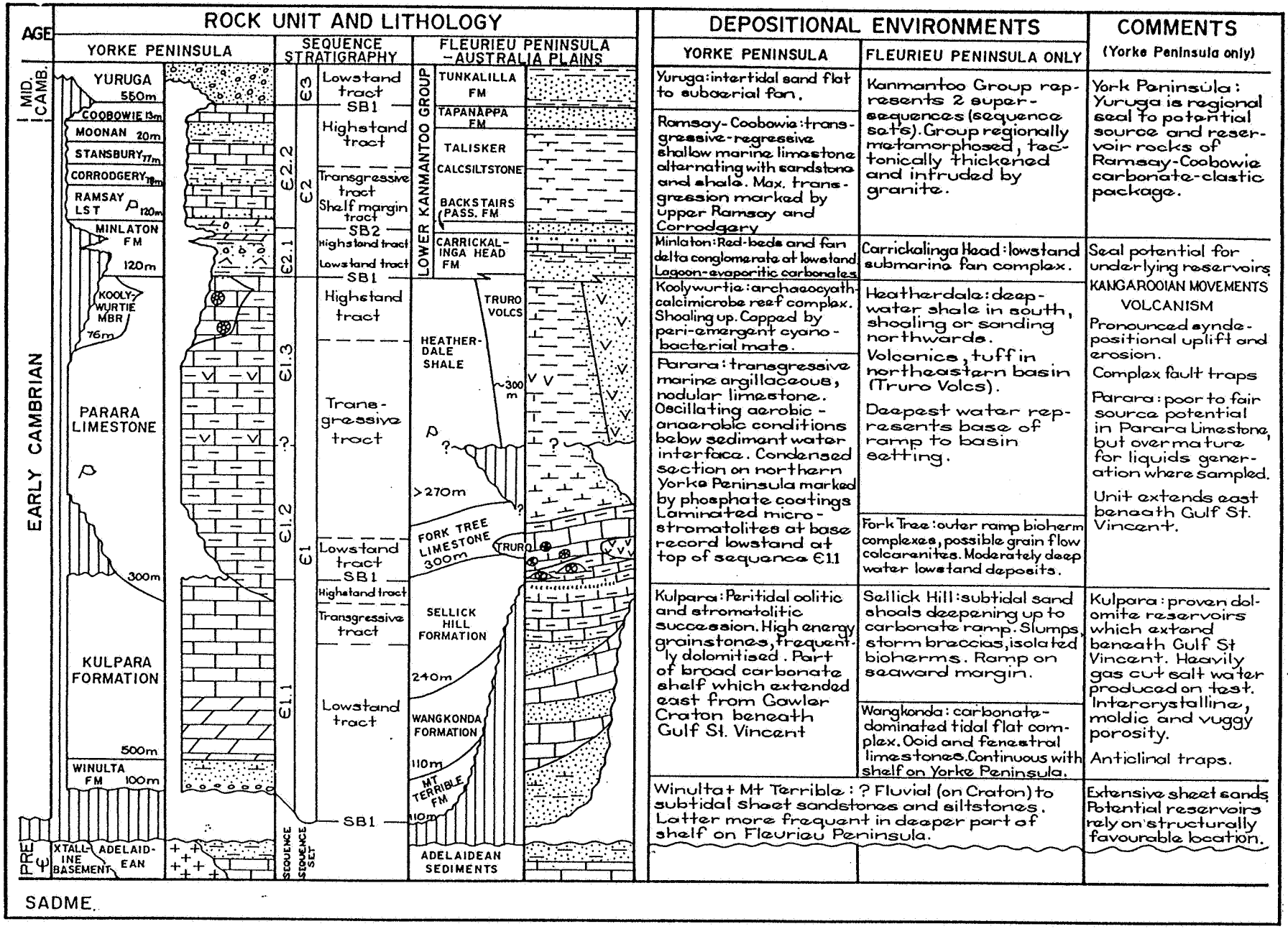
Modified from Jenkins and Gravestock, 1988 SADME 92-1063



Distribution of Early Cambrian carbonates in Australia
Adapted from Cook, 1982

FIG. 11
SADME 92-1064

5583



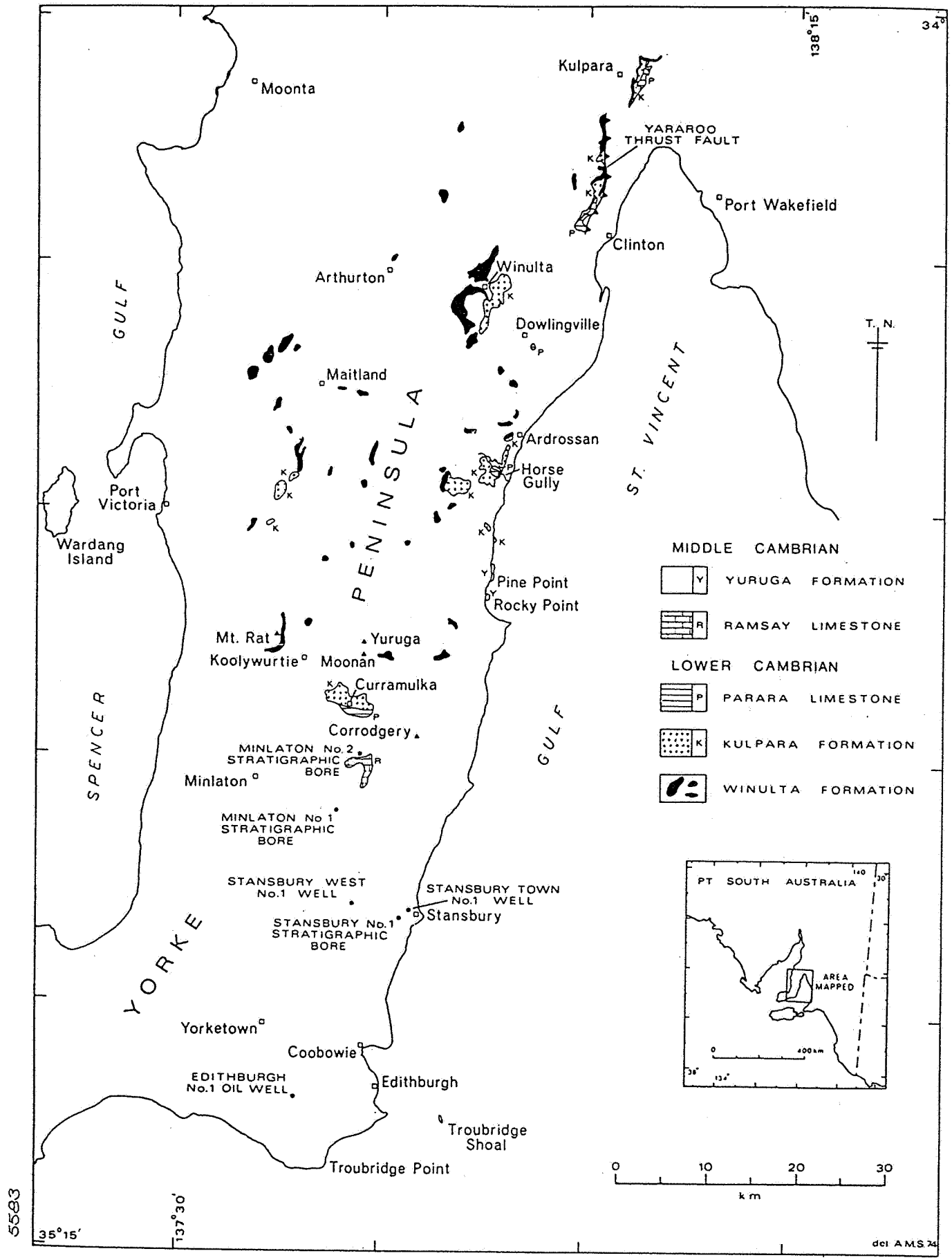
DEPOSITIONAL ENVIRONMENTS		COMMENTS (Yorke Peninsula only)
YORKE PENINSULA	FLEURIEU PENINSULA ONLY	
Yuruga: intertidal sand flat to subaerial fan.	Kanmantoo Group represents 2 super-sequences (sequence sets). Group regionally metamorphosed, tectonically thickened and intruded by granite.	York Peninsula: Yuruga is regional seal to potential source and reservoir rocks of Ramsay-Coobowie carbonate-clastic package.
Ramsay-Coobowie: transgressive-regressive shallow marine limestone alternating with sandstone and shale. Max. transgression marked by upper Ramsay and Corrodgery		
Minlaton: Red-beds and fan delta conglomerate at lowstand. Lagoon-evaporitic carbonates.	Carrickalinga Head: lowstand submarine fan complex.	Seal potential for underlying reservoirs
Koolywurtie: archaeocyath-calcimicrobe reef complex. Shoaling up. Capped by peri-emergent cyano-bacterial mats.	Heatherdale: deep-water shale in south, shoaling or sanding northwards. Volcanics, tuff in northeastern basin (Truro Volcs).	KANGAROOIAN MOVEMENTS VOLCANISM Pronounced syndepositional uplift and erosion.
Parara: transgressive marine argillaceous, nodular limestone. Oscillating aerobic-anaerobic conditions below sediment water interface. Condensed section on northern Yorke Peninsula marked by phosphate coatings. Laminated microstromatolites at base record lowstand at top of sequence Є1.1	Deepest water represents base of ramp to basin setting.	Complex fault traps Parara: poor to fair source potential in Parara Limestone, but overmature for liquids generation where sampled. Unit extends east beneath Gulf St. Vincent.
	Fork Tree: outer ramp bioherm complexes, possible grain flow calcarenites. Moderately deep water lowstand deposits.	
Kulpara: Peritidal oolitic and stromatolitic succession. High energy grainstones, frequently dolomitised. Part of broad carbonate shelf which extended east from Gawler Craton beneath Gulf St. Vincent	Sellick Hill: subtidal sand shoals deepening up to carbonate ramp. Slumps, storm breccias, isolated bioherms. Ramp on seaward margin.	Kulpara: proven dolomite reservoirs which extend beneath Gulf St Vincent. Heavily gas cut salt water produced on test. Intercrystalline, moldic and vuggy porosity. Anticlinal traps.
	Wangkonda: carbonate-dominated tidal flat complex. Ooid and fenestral limestones. Continuous with shelf on Yorke Peninsula.	
Winulta + Mt Terrible: ? Fluvial (on Craton) to subtidal sheet sandstones and siltstones. Latter more frequent in deeper part of shelf on Fleurieu Peninsula.		Extensive sheet sands. Potential reservoirs rely on structurally favourable location.

Stansbury Basin geological summary

From Alexander, 1990.

FIG. 12

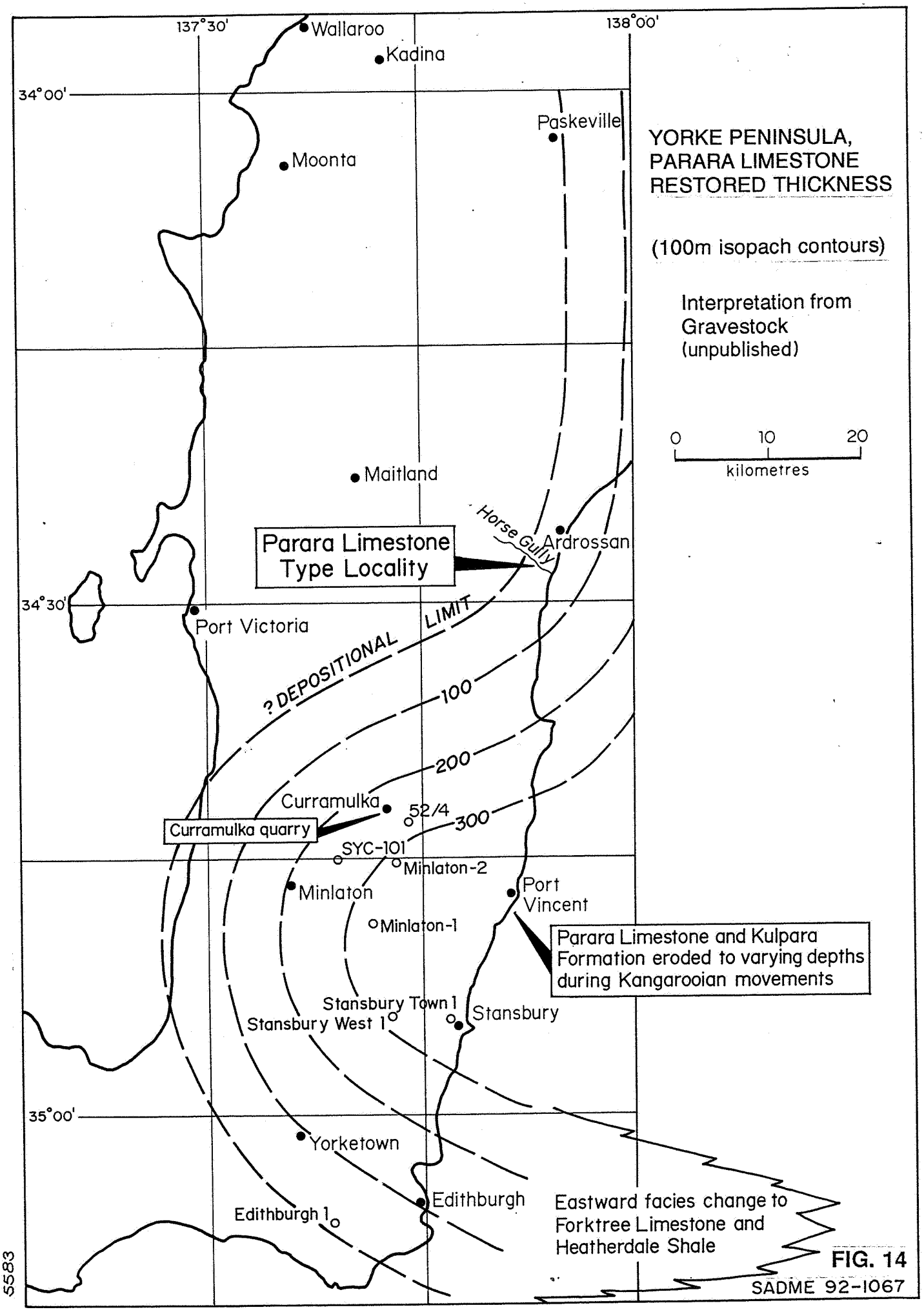
SADME 92-1065

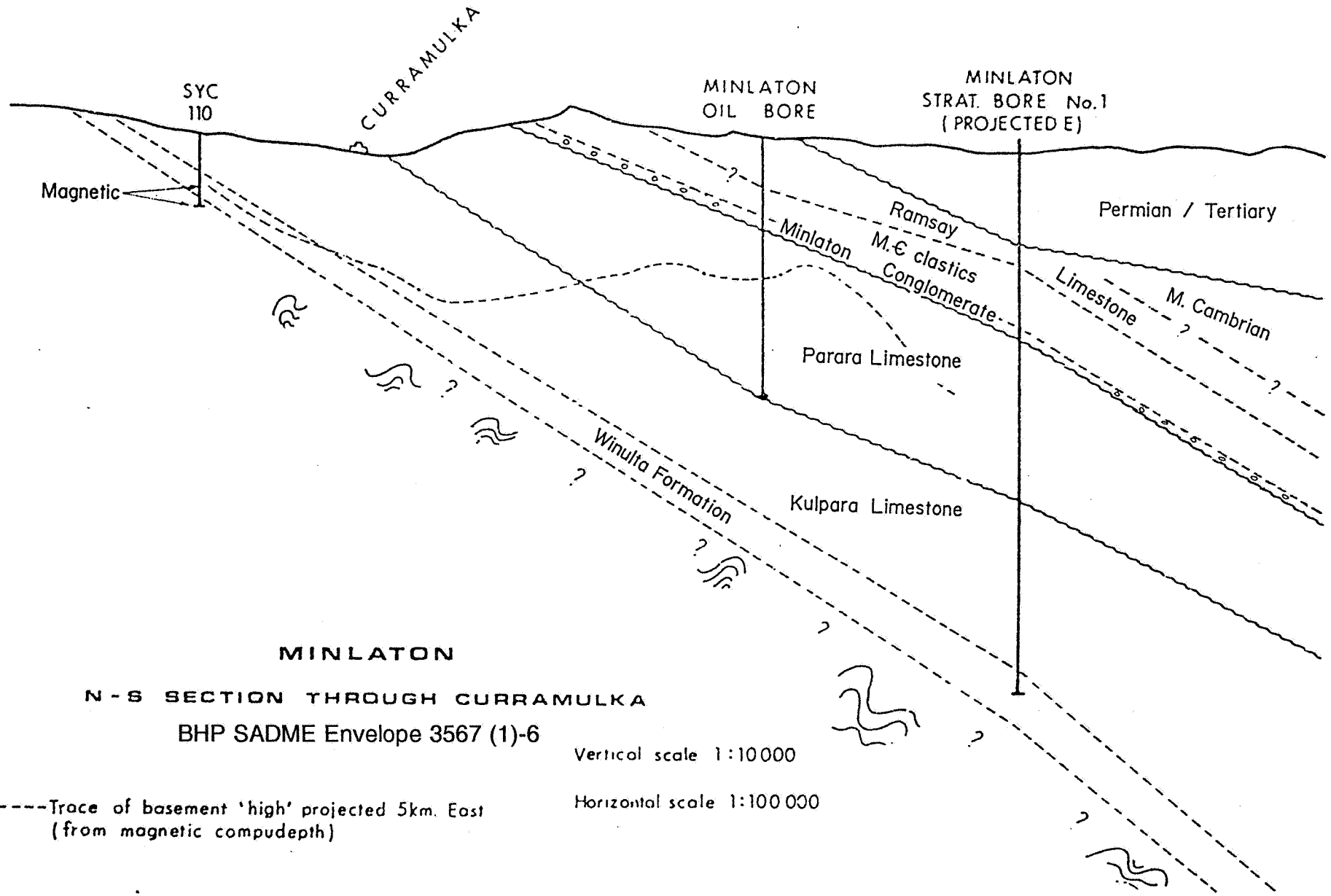


YORKE PENINSULA, DISTRIBUTION OF CAMBRIAN OUTCROP
(from Daily in Jago & Moore, 1989.)

FIG. 13

SADME 92-1066


137°30'
138°00'
34°00'
34°30'
35°00'
Wallaroo
Kadina
Paskeville
Moonta
Maitland
Ardrossan
Horse Gully
Parara Limestone Type Locality
Port Victoria
? DEPOSITIONAL LIMIT
100
200
300
Curramulka
52/4
Curramulka quarry
SYC-101
Minlaton-2
Minlaton
Minlaton-1
Port Vincent
Parara Limestone and Kulpara Formation eroded to varying depths during Kangarooian movements
Stansbury Town 1
Stansbury West 1
Stansbury
Yorketown
Edithburgh
Edithburgh 1
Eastward facies change to Forktree Limestone and Heatherdale Shale
YORKE PENINSULA,
PARARA LIMESTONE
RESTORED THICKNESS
(100m isopach contours)
Interpretation from Gravestock (unpublished)
0 10 20
kilometres
FIG. 14
SADME 92-1067
5583



MINLATON

N-S SECTION THROUGH CURRAMULKA

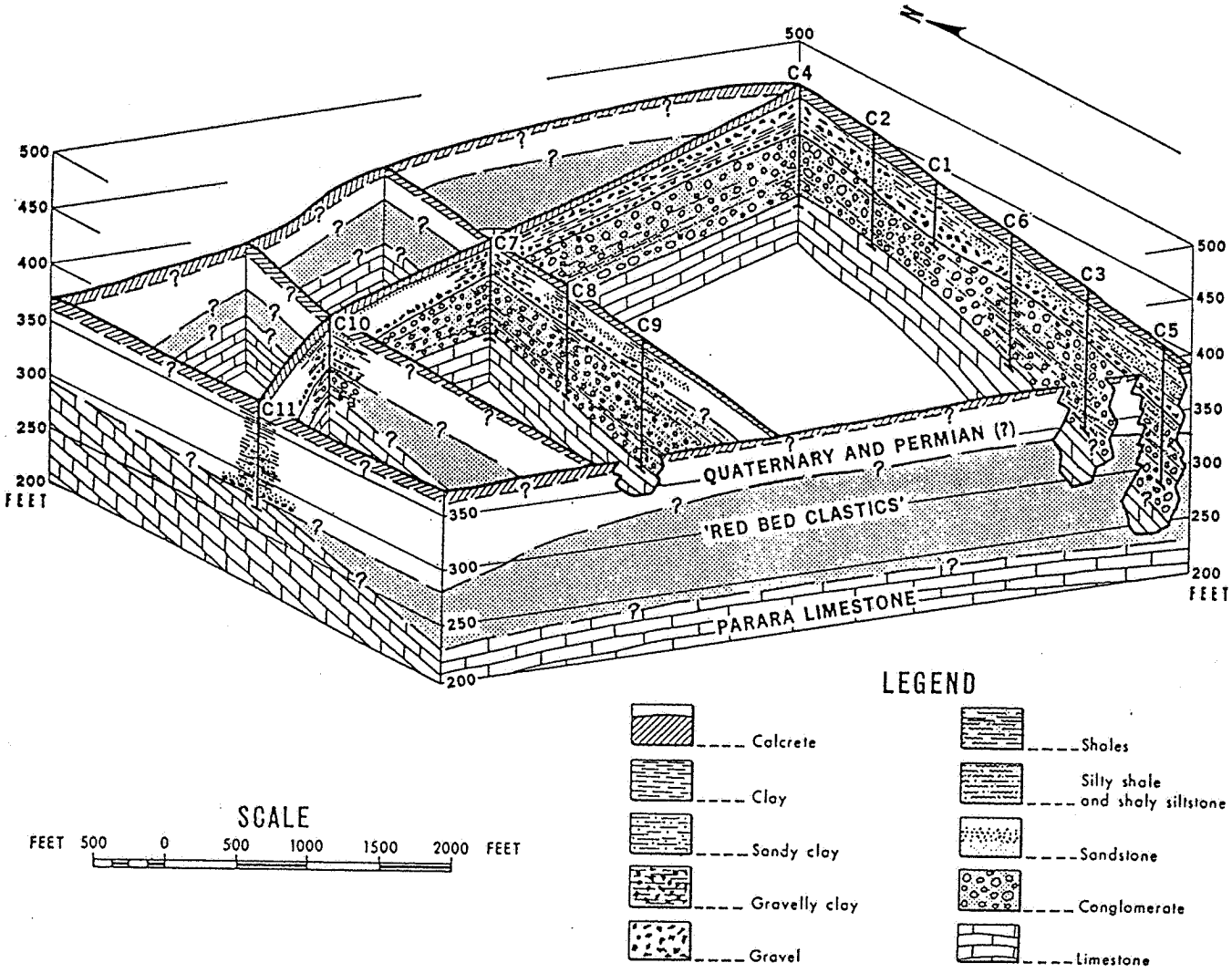
BHP SADME Envelope 3567 (1)-6

Vertical scale 1:10000

Horizontal scale 1:100000

----Trace of basement 'high' projected 5km. East (from magnetic compudepth)

FIG. 15
SADME 92-1068

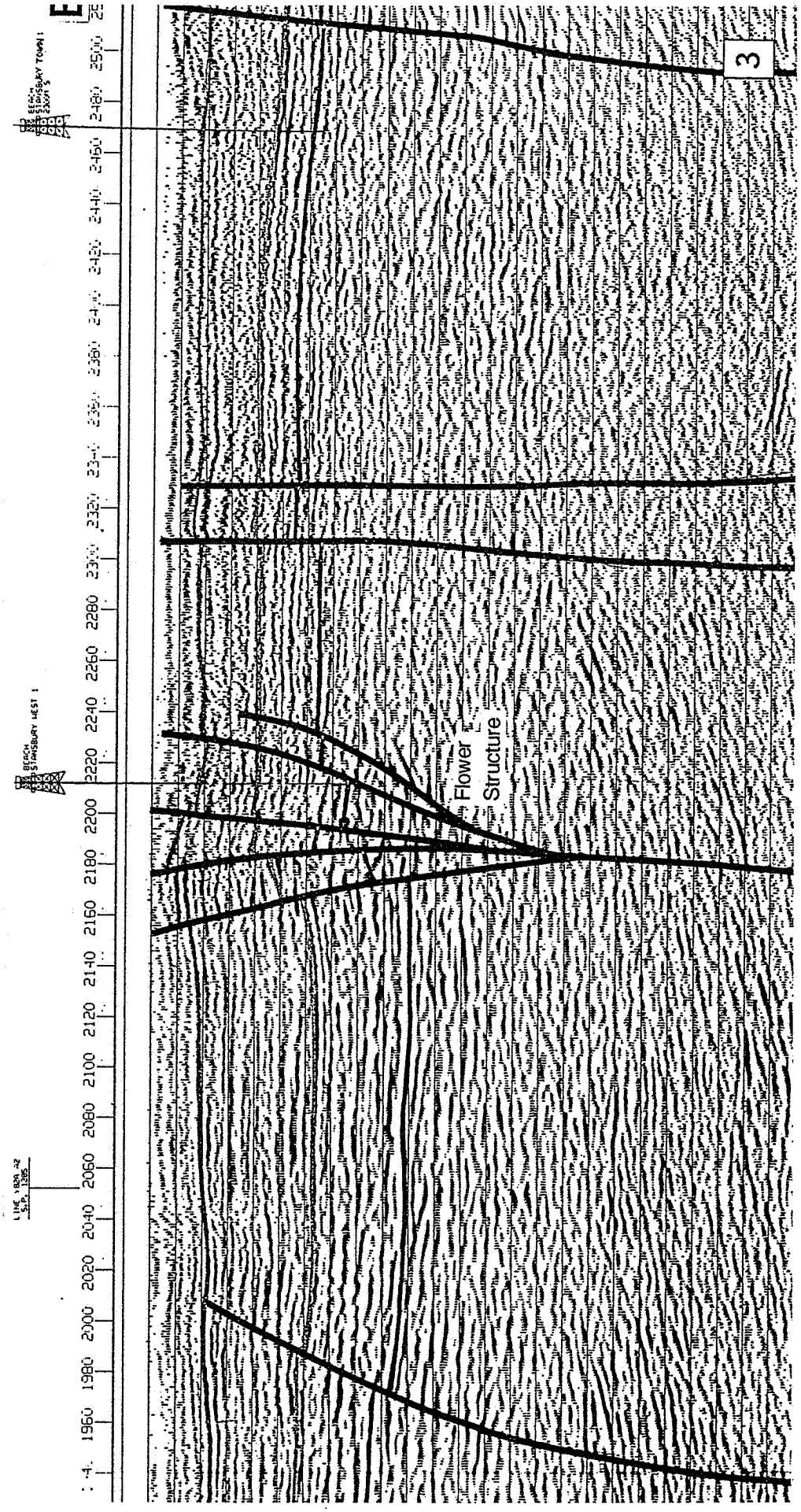


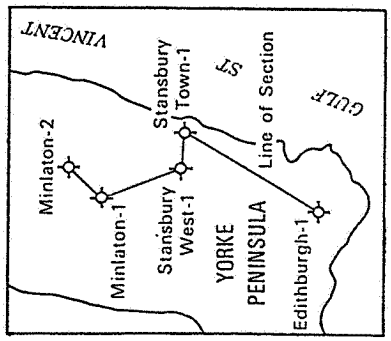
YORKE PENINSULA, ISOMETRIC DIAGRAM OF RED BED CLASTICS

from Blissett, 1968

5583

FIG. 16
SADME 92-1069



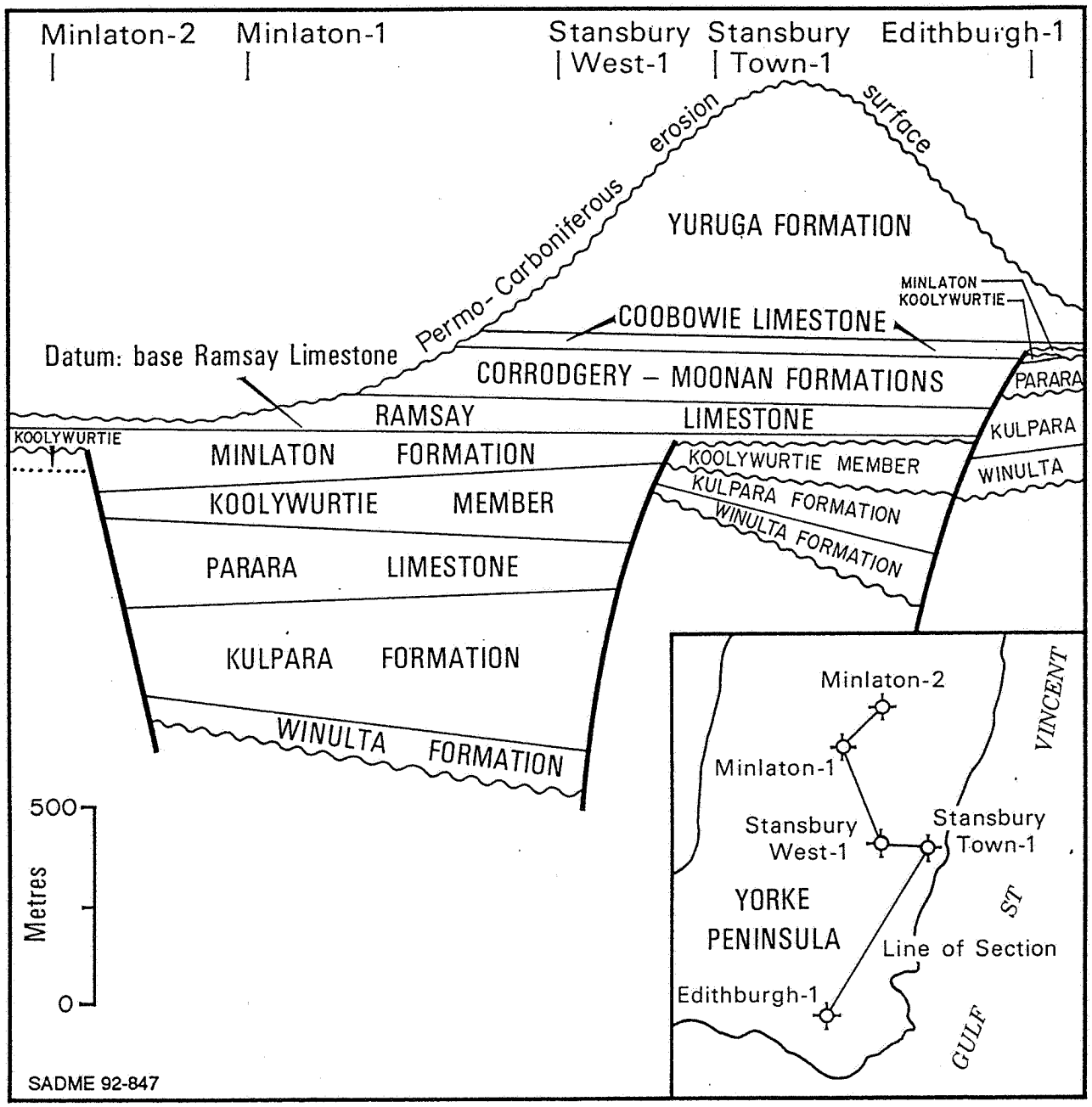


YORKE PENINSULA, INTERPRETED FLOWER STRUCTURE WITHIN THE TORRENS HINGE ZONE
from Gravestock et al. 1987.

FIG. 17

SADME 92-1070

5583

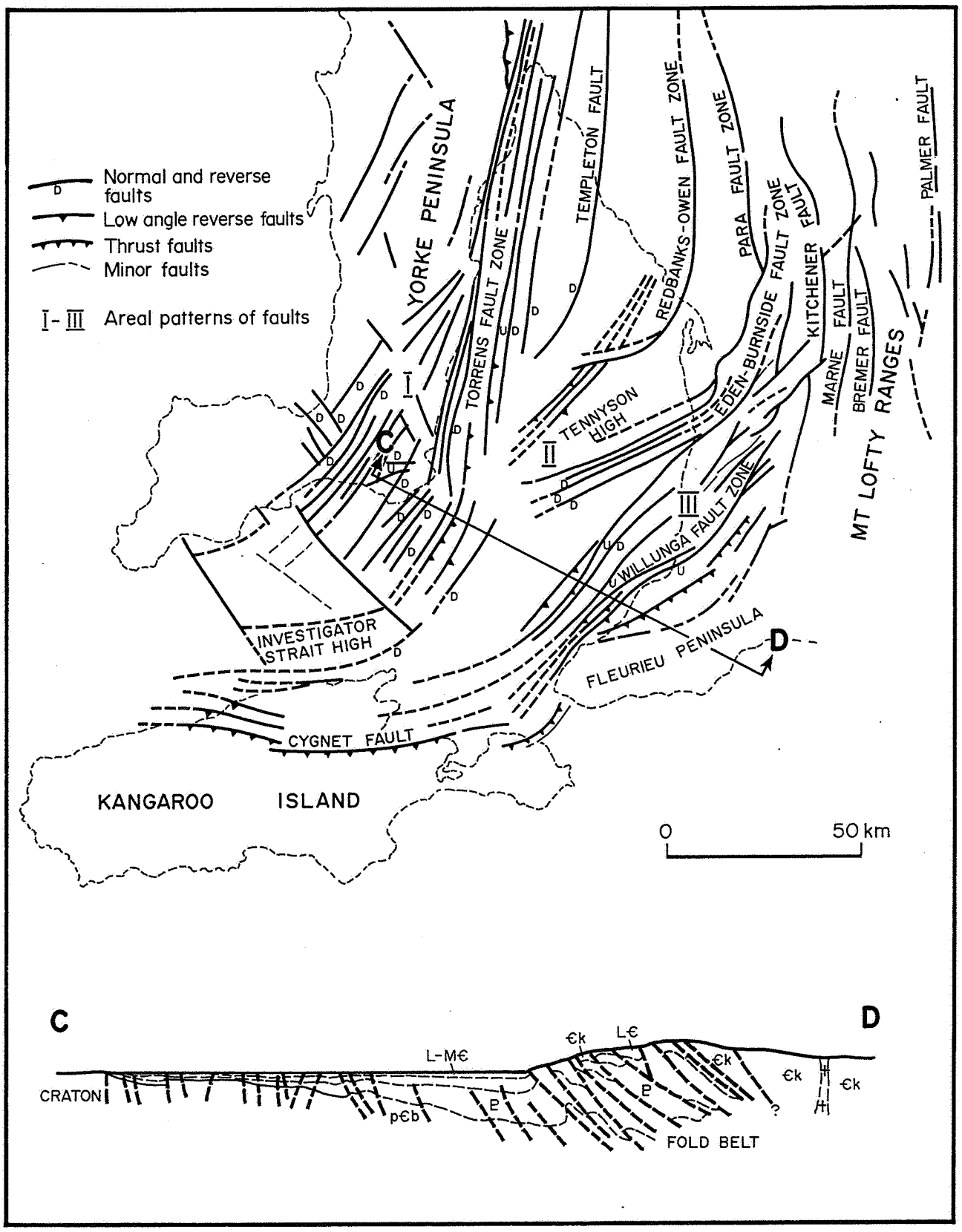


YORKE PENINSULA, FENCE SECTION THROUGH STRATIGRAPHIC BORES TO SHOW THE RESTORATION OF CAMBRIAN AT RAMSAY-COOBOWIE TIME.

From Gravestock in press..

FIG. 18

SADME 92-1071

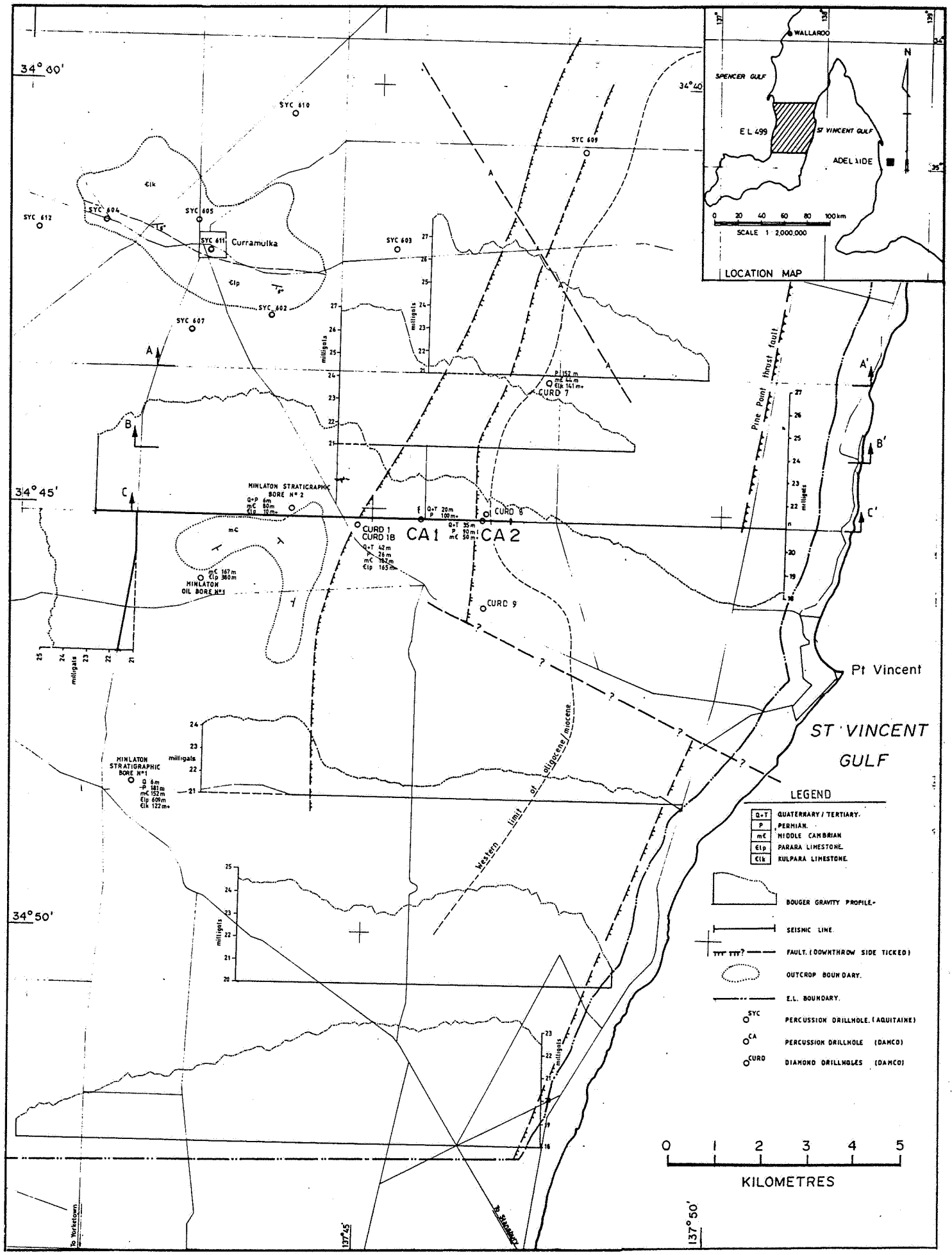


MODIFICATION OF THE STANSBURY BASIN
BY DELAMERIAN THRUST TECTONICS

From Stuart and Von Sanden, 1972

FIG. 19

SADME 92-1072



5583

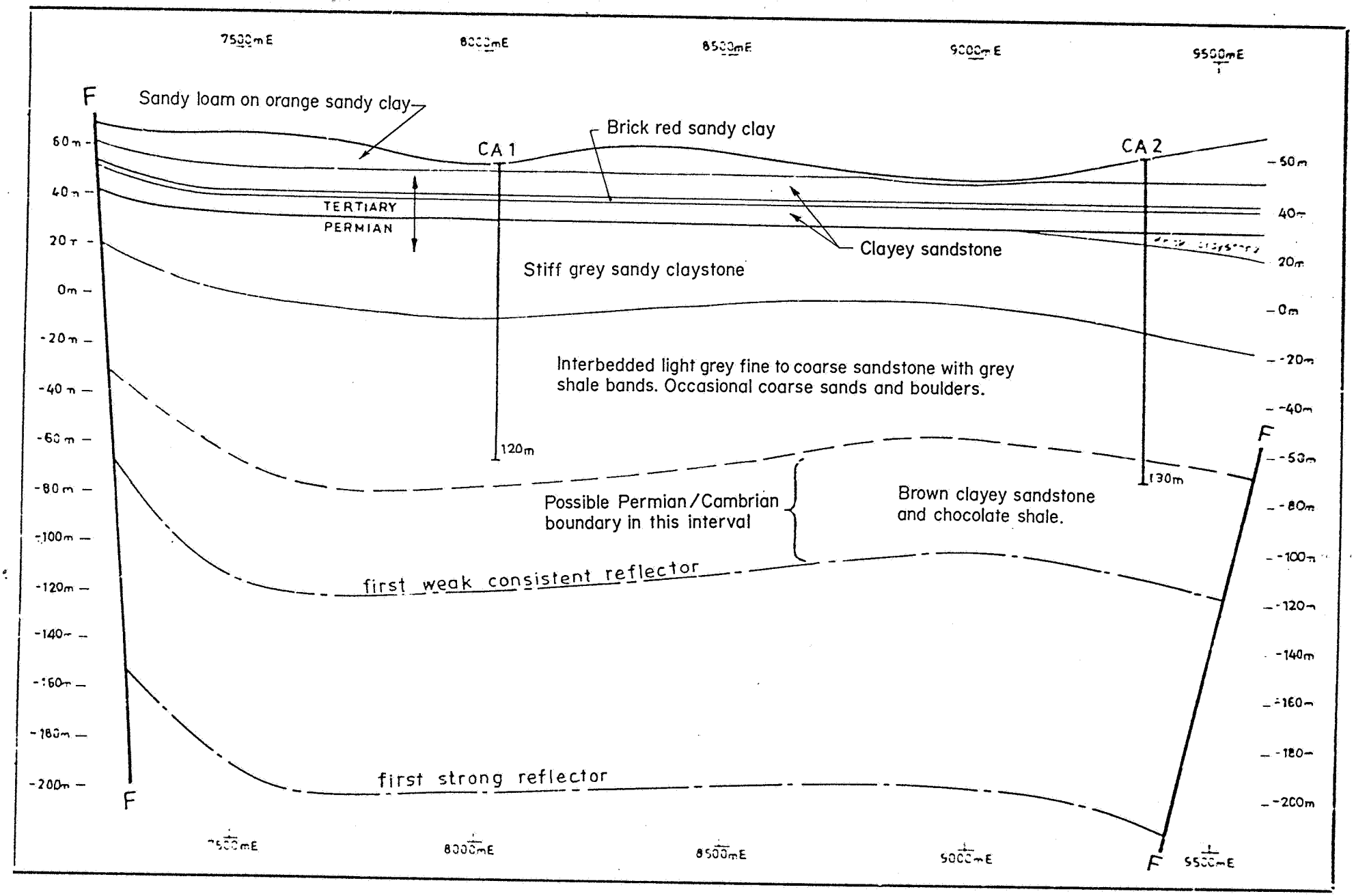
YORKE PENINSULA, STEP FAULTING ACROSS THE TORRENS HINGE ZONE, PLAN

From BHP in SADME Open File Envelope 3567 (1)6.

FIG. 20a

SADME 92-1073

5583

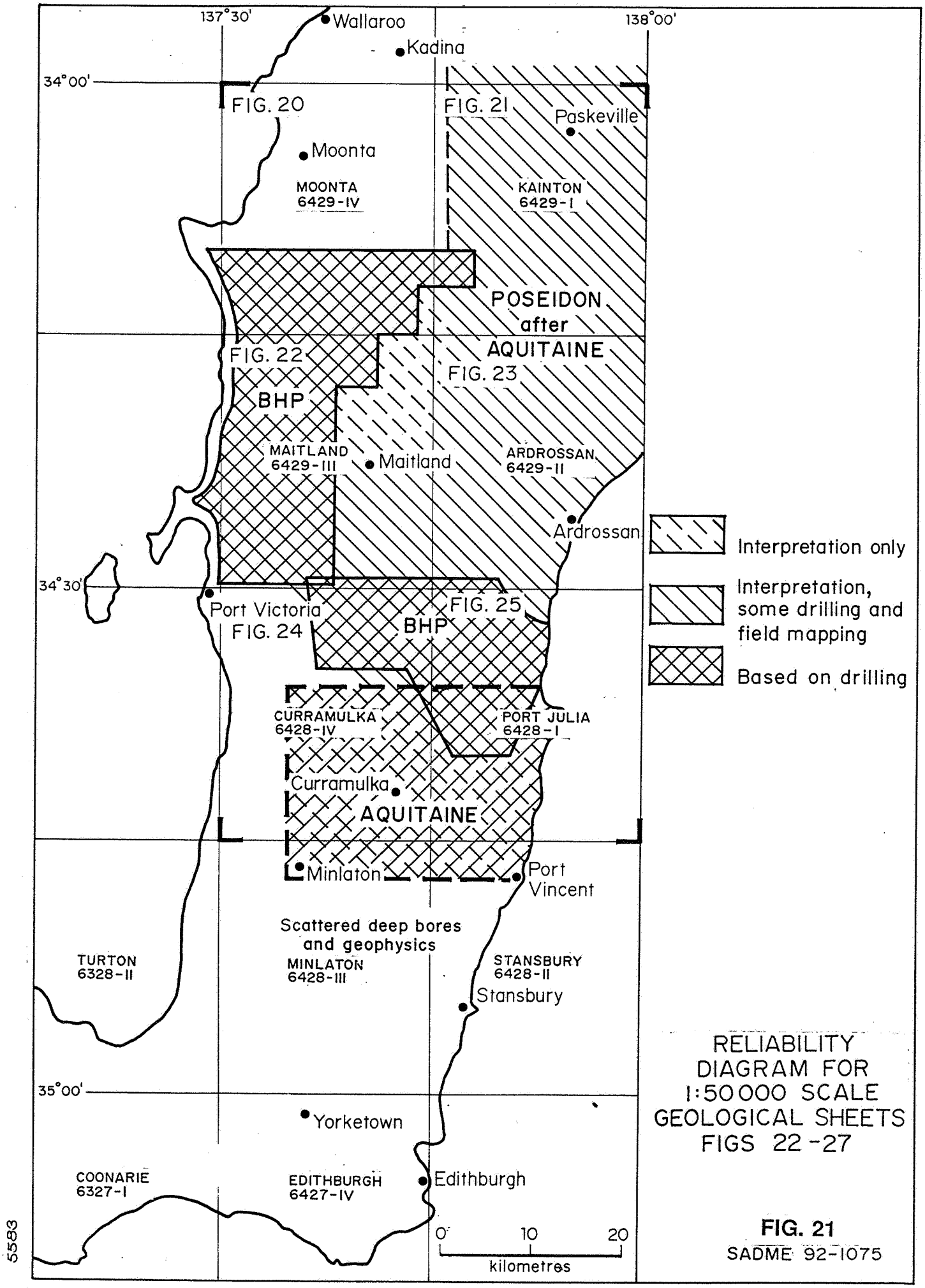


YORKE PENINSULA, STEP FAULTING ACROSS THE TORRENS HINGE ZONE, SECTION

From BHP in SADME Open File Envelope 3567 p.61.

FIG. 20 b

SADME 92-1074


137°30'
138°00'
34°00'
34°30'
35°00'
Wallaroo
Kadina
Paskeville
Moonta
FIG. 20
FIG. 21
MOONTA
6429-IV
KAINTON
6429-I
POSEIDON
after
AQUITAINE
FIG. 22
FIG. 23
BHP
MAITLAND
6429-III
Maitland
ARDROSSAN
6429-II
Ardrossan
Port Victoria
FIG. 24
FIG. 25
BHP
CURRAMULKA
6428-IV
PORT JULIA
6428-I
Curramulka
AQUITAINE
Minlaton
Port
Vincent
Scattered deep bores
and geophysics
TURTON
6328-II
MINLATON
6428-III
STANSBURY
6428-II
Stansbury
Yorketown
COONARIE
6327-I
EDITHBURGH
6427-IV
Edithburgh
0
10
20
kilometres
Interpretation only
Interpretation,
some drilling and
field mapping
Based on drilling
RELIABILITY
DIAGRAM FOR
1:50000 SCALE
GEOLOGICAL SHEETS
FIGS 22-27
FIG. 21
SADME 92-1075
5583

34°00'

137°30'

137°45'

Moonta

p€p

€hw-a

p€g

€hk

p€n

Agery

p€n?

TEA TREE GLEN GRID
ENV. 4214

ANOMALY DDH 87
ENV. 4214

HILLVIEW GRID
ENV. 4214

€

p€g?

p€h?

p€

Weetulta

34°15'

0 5
KILOMETRES

MOONTA 6249-IV
GEOLOGICAL COMPILATION

SADME 92-1076

FIG. 22

5583

34° 00'
137° 45'
34° 00'
138° 00'
Pba
Pba
Pba
Ehk-b
P-wm
Pf
p€g
p€p
Paskeville
Ehk
p€g
Pba
Pf
p€g
P-wm
p€g
Melton
Ehk-a
?p€
Ehk-b
ENV 3040
Ehk
Ehk-b
Pba
Pfw
Pft
Pfw
Pft
Ehk-a
KAINTON
GRID
ENV. 5091
P-w
Ehw-a
p€n
Ehk-b
p€
p€g
ENV 3040(1)
ENV 3040(1)
Ehk-c
Ehw-a
Ehk-b
Ehk-c
Ehp-a
p€
p€
Ehp-b
ENV 5403
137° 45'
34° 15'
5583
138° 00'
34° 15'
0
5
KILOMETRES

KAINTON 6429-I
GEOLOGICAL COMPILATION

SADME 92-1077

FIG. 23

34°15'
137°30'
34°15'
137°45'
p€n?
p€g?
p€
Balgowan
BALGOWAN
GRID
ENV 4214
Maitland
GLENBURNIE
ENV. 3616
GLENBURNIE
SOUTH
ENV. 3616
34°30'
137°30'
34°30'
137°45'
5583
0
5
KILOMETRES

MAITLAND 6429-III
GEOLOGICAL COMPILATION
SADME 92-1078

FIG. 24

34°15'
137°45'
34° 15'
138°00'
Arthurton
ENV. 4503
Price
Winulta
Dowlingville
ENV. 3040
CUNNINGHAM
ENV. 3616
Cunningham
Ardrossan
ENV. 3616
DAVEY STRUCTURE ?
ENV. 3616
34°30'
137°45'
34° 30'
138°00'
0
5
KILOMETRES
5583

ARDROSSAN 6429-II
GEOLOGICAL COMPILATION

SADME 92-1079

FIG. 25

34° 30'
137° 30'
p€
p€n
€hw-a
€hh
Urania
€hk
€
p€n?
p€g?
€?
34° 30'
137° 45'
p€n
p€
€hw-a
p€
KENMORE
ANOMALY
ENV. 3567(V)
(p€g)
€ht
Chk
€hk
Pe
Kenmore
€hw-a
Koolywurtie
p€p
p€g
Pc
Pe
€hk
€hk-b
€hk-c
€hp
€hk-c'
Curramulka
€hk-d'
€hp-a
€hp-b
CURRAMULKA GRID
ENV. 2551(III)
ENV. 3041(I)
€hk-d'
€hp-e
€m (limestone breccia)
€m
(shales)
€kc
Ckc
34°45'
137°30'
34°45'
137°45'
5583
0
5
KILOMETRES

CURRAMULKA 6428 IV & PT 6328-I

GEOLOGICAL COMPILATION

SADME 92-1080

FIG. 26

34° 30'

137° 45'

138° 00'

PINE POINT
ENV. 3567(VI)

KENMORE
ANOMALY
ENV. 3567(V)

p€n

p€g

€

€hk-b

€r-g

€m-f

€hp

Pine Point

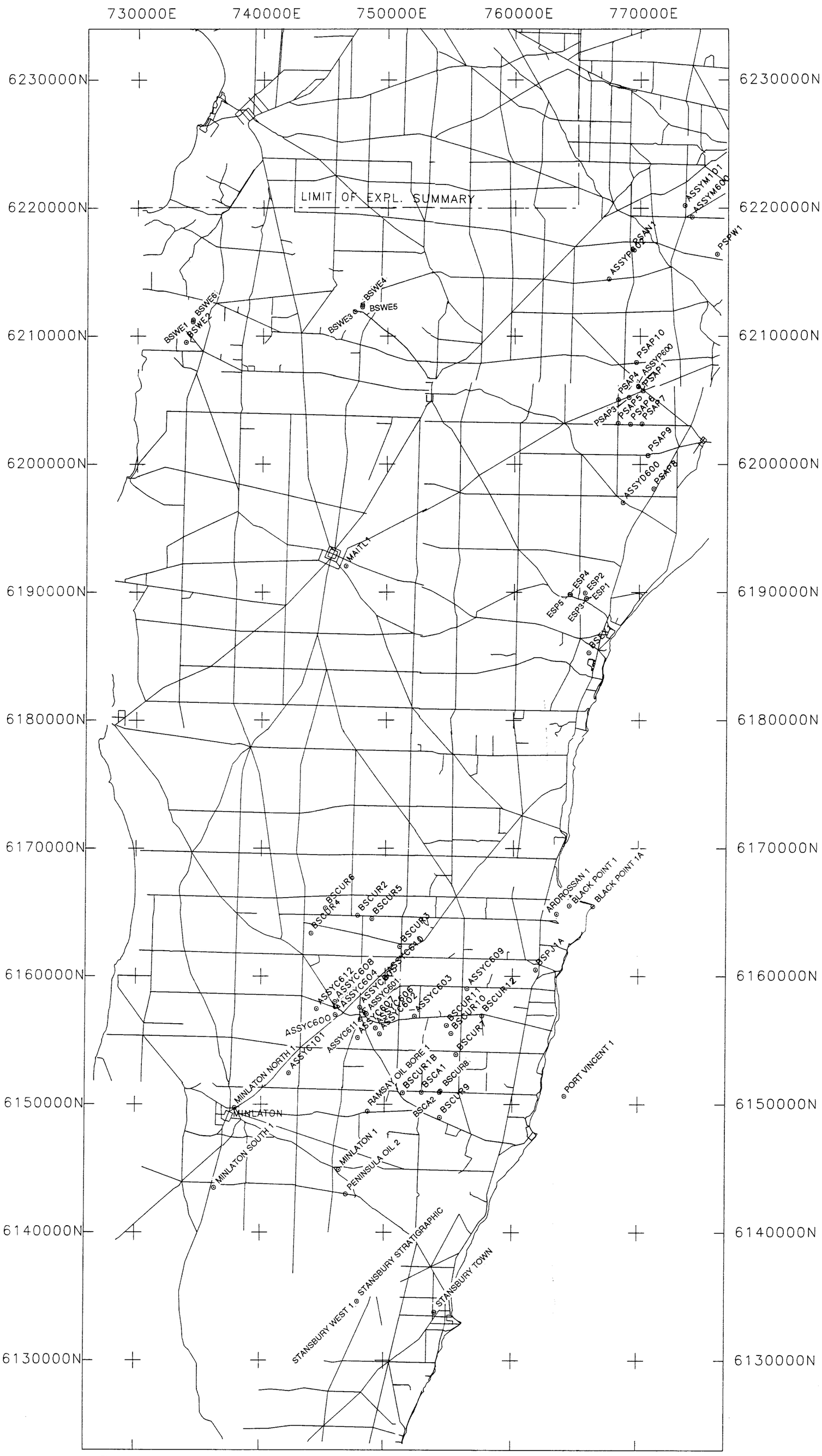
Port Julia

0 5
KILOMETRES

5583

PORT JULIA 6428-I
GEOLOGICAL COMPILATION
SADME 92-1081

FIG. 27

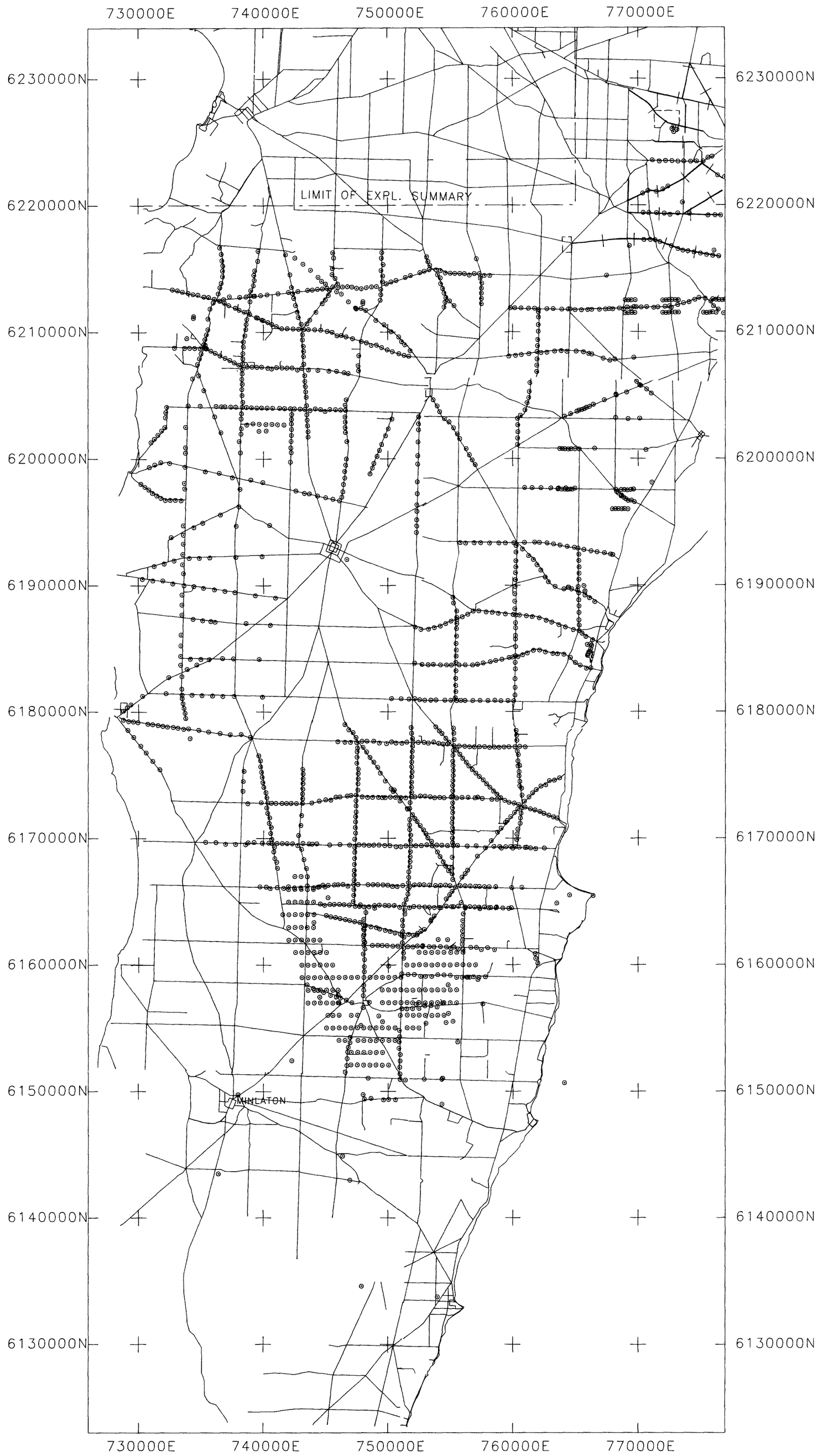


0 5000 10000 15000 20000 25000 30000 35000m

SCALE 1:250000

FIG. 28

SOUTH AUSTRALIAN DEPT OF MINES AND ENERGY
YORKE PENINSULA MINERAL EXPL. SUMMARY DRILL HOLE LOCATION PLANS
DEEP DRILL HOLE LOCATIONS 1: 250000
PROJ NO. 92-1412 | DATE: 16-JUN-92



0 5000 10000 15000 20000 25000 30000 35000m

SCALE 1:250000

FIG. 29

SOUTH AUSTRALIAN DEPT OF MINES AND ENERGY	
YORKE PENINSULA MINERAL EXPL. SUMMARY DRILL HOLE LOCATION PLANS	
RAB AUGER DRILLHOLE LOCATIONS 1: 250000	
PROJ NO.	DATE: 16-JUN-92

92-1413

FIG. 30

SOUTH AUSTRALIAN DEPT OF MINES AND ENERGY	
YORKE PENINSULA MINERAL EXPL. SUMMARY DRILL HOLE LOCATION PLANS	
KAINTON 1: 50000	
PROJ NO.	DATE: 16-JUN-92

92-1414

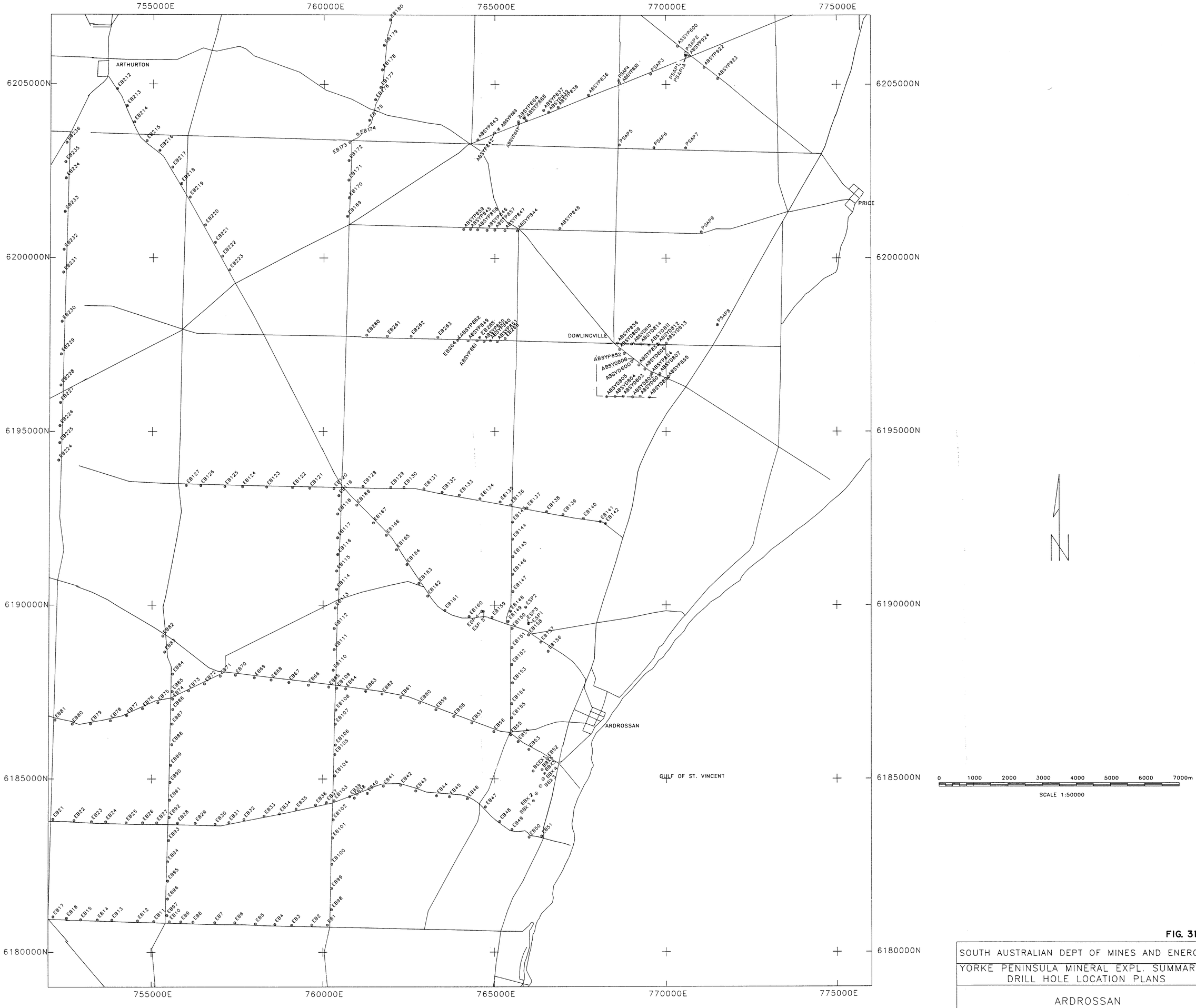


FIG. 31

SOUTH AUSTRALIAN DEPT OF MINES AND ENERGY	
YORKE PENINSULA MINERAL EXPL. SUMMARY DRILL HOLE LOCATION PLANS	
ARDROSSAN 1:50000	
PROJ NO.	DATE: 28-JUL-92

92-1415

730000E 735000E 740000E 745000E 750000E

6205000N 6200000N 6195000N 6190000N 6185000N 6180000N

SPENCER GULF

BALGOWAN

MAITLAND

MAIT1

N

0 1000 2000 3000 4000 5000 6000 7000m

SCALE 1:50000

FIG. 32

SOUTH AUSTRALIAN DEPT OF MINES AND ENERGY

YORKE PENINSULA MINERAL EXPL. SUMMARY
DRILL HOLE LOCATION PLANS

MAITLAND
1: 50000

92-1416

PROJ NO.

DATE: 16-JUN-92

730000E 735000E 740000E 745000E 750000E

6235000N 6230000N 6225000N 6220000N 6215000N 6210000N

SPENCER GULF

PORT HUGHES

MOONTA

LIMIT OF EXPL. SUMMARY

N

0 1000 2000 3000 4000 5000 6000 7000m

SCALE 1:50000

FIG. 33

SOUTH AUSTRALIAN DEPT OF MINES AND ENERGY

YORKE PENINSULA MINERAL EXPL. SUMMARY
DRILL HOLE LOCATION PLANS

MOONTA
1: 50000

92-1417

PROJ NO.

DATE: 16-JUN-92

755000E 760000E 765000E 770000E 775000E

6175000N 6170000N 6165000N 6160000N 6155000N 6150000N

PINE.POINT

GULF ST.VINCENT

PT JULIA

0 1000 2000 3000 4000 5000 6000 7000m

SCALE 1:50000

FIG. 34

SOUTH AUSRTALIAN DEPT OF MINES AND ENERGY

YORKE PENINSULA MINERAL EXPL. SUMMARY
DRILL HOLE LOCATION PLANS

PT JULIA
1: 50000

92-1418

PROJ NO.

DATE: 16-JUN-92

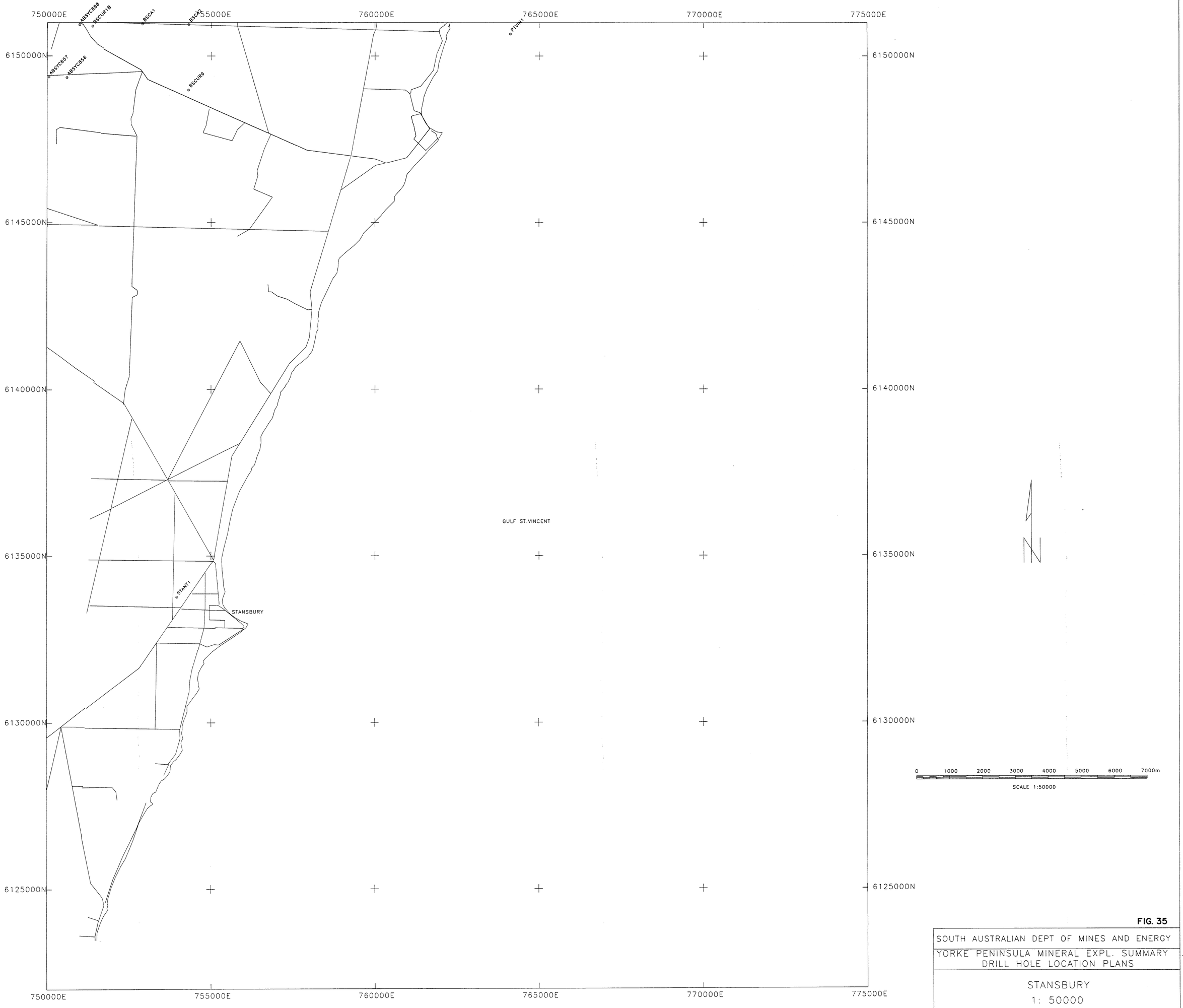


FIG. 35

SOUTH AUSTRALIAN DEPT OF MINES AND ENERGY	
YORKE PENINSULA MINERAL EXPL. SUMMARY DRILL HOLE LOCATION PLANS	
STANSBURY 1: 50000	
PROJ NO.	DATE: 16-JUN-92

92-1419

730000E
735000E
740000E
745000E
750000E
6150000N
6145000N
6140000N
6135000N
6130000N
6125000N
MINLN1
MINLATON
MINLS1
MINL1
PEN12
STANW1
ABSYC855
ABW25
ABSYC886
ABSYC887
ABSYC888
BSCUR1B
MIOIL1
ABW27
RAMS1
ABSYC858
ABSYC857
ABSYC856
N
0 1000 2000 3000 4000 5000 6000 7000m
SCALE 1:50000

FIG. 36

SOUTH AUSTRALIAN DEPT OF MINES AND ENERGY

YORKE PENINSULA MINERAL EXPL. SUMMARY
DRILL HOLE LOCATION PLANS

MINLATON
1: 50000

92-1420

PROJ NO.

DATE: 16-JUN-92

730000E
735000E
740000E
745000E
750000E
6175000N
6170000N
6165000N
6160000N
6155000N
URANIA
SPENCER.GULF
KOOLYWURTIE
CURRAMULKA
SOIL SURVEY, ENV 3041(1)-2
0 1000 2000 3000 4000 5000 6000 7000m
SCALE 1:50000

FIG. 37

SOUTH AUSTRALIAN DEPARTMENT OF MINES AND ENERGY

YORKE PENINSULA LEAD ZINC EXPL. SUMMARY
DRILL HOLE LOCATION PLANS

CURRAMULKA
1: 50000

92-1421

PROJ NO.

DATE: 16-JUN-92