APPENDIX 1

Geothermal Energy Potential In CTP'S Tenements in the Pedirka/Eromanga Basin (Adado Shelf) And The Southern Georgina Basin.

Executive Summary –Geothermal Exploration in the Pedirka Basin (Andado Shelf) and in the Southern Georgina Basin

Andado Shelf

- Recent coal exploration drilling has confirmed geothermal gradients on the Andado Shelf are high enough (41-59 Deg C) to underwrite potential hot dry rock (HDR) geothermal project(s). Extrapolating these gradients to 5 km depth suggests basement lithologies (? HHP granites) lies in the range 225-320 Deg C on the middle-upper Andado Shelf and Newlands Range Ridge; these merit further study and in time, exploration drilling should proceed.

- Future geothermal exploration should also target Algebuckina Sandstone reservoirs on the mid - Andado Shelf where depths of burial exceed 1.3 km. This is a hot sedimentary aquifer play (HSA) partly defined by newly derived geothermal gradients which suggest aquifer temperatures at these depths could reach 100 Deg C. This is similar to aquifer temperatures at the successful Innaminka Geothermal (HSA) project in South Australia.

- Stratigraphically deeper Poolowanna Formation and Permian aquifers also have potential and future exploration studies should consider this possibility. Deliverability and depth constraints militate against potential targets in the Pre – Permian sedimentary sequence i.e. Cambrian – Devonian sediments.

- In an era of rapidly expanding energy demand and price, together with increasing environmental concerns, Central hopes to underwrite potentially massive hydrocarbon resource projects in the medium to long term with geothermally generated electricity. The latter aspect is important as the projects will not eventuate overnight but could be accelerated by new technological breakthroughs; for example in the area of coal conversion to diesel. Central's approach of marrying these hydrocarbon/coal exploration projects with geothermal exploration projects is innovative and incorporates many synergies.

- Viability of exploration for geothermal projects is enhanced by the new Carbon Emissions Scheme Tax which aims to expedite economic validity of "green and renewable" energy projects. CTP should pursue Federal Government financial assistance in all of its geothermal exploration ventures.

Southern Georgina Basin

- CTP's hot dry rock (HDR) geothermal potential in the southern Georgina Basin remains untested but is favoured by the highest geothermal gradients in the basin (up to 49 Deg C/km), the presence of HPP granitoid outcrops in the general area and intersection of granite in two key exploration wells. Extrapolation of the highest geothermal gradients yields a BHT at 5 km of about 270 Deg C.

- Hot sedimentary aquifer projects (HSA) in this permit are unlikely as viable Ordovician reservoirs are uniformly too shallow to exploit while the Cambrian sequence is generally devoid of high deliverability reservoirs. Potential conventional/unconventional petroleum projects in the southern part of the basin, including the CTP's vast exploration holdings, could underwrite local demand for clean renewable energy as promoted by the new carbon tax.

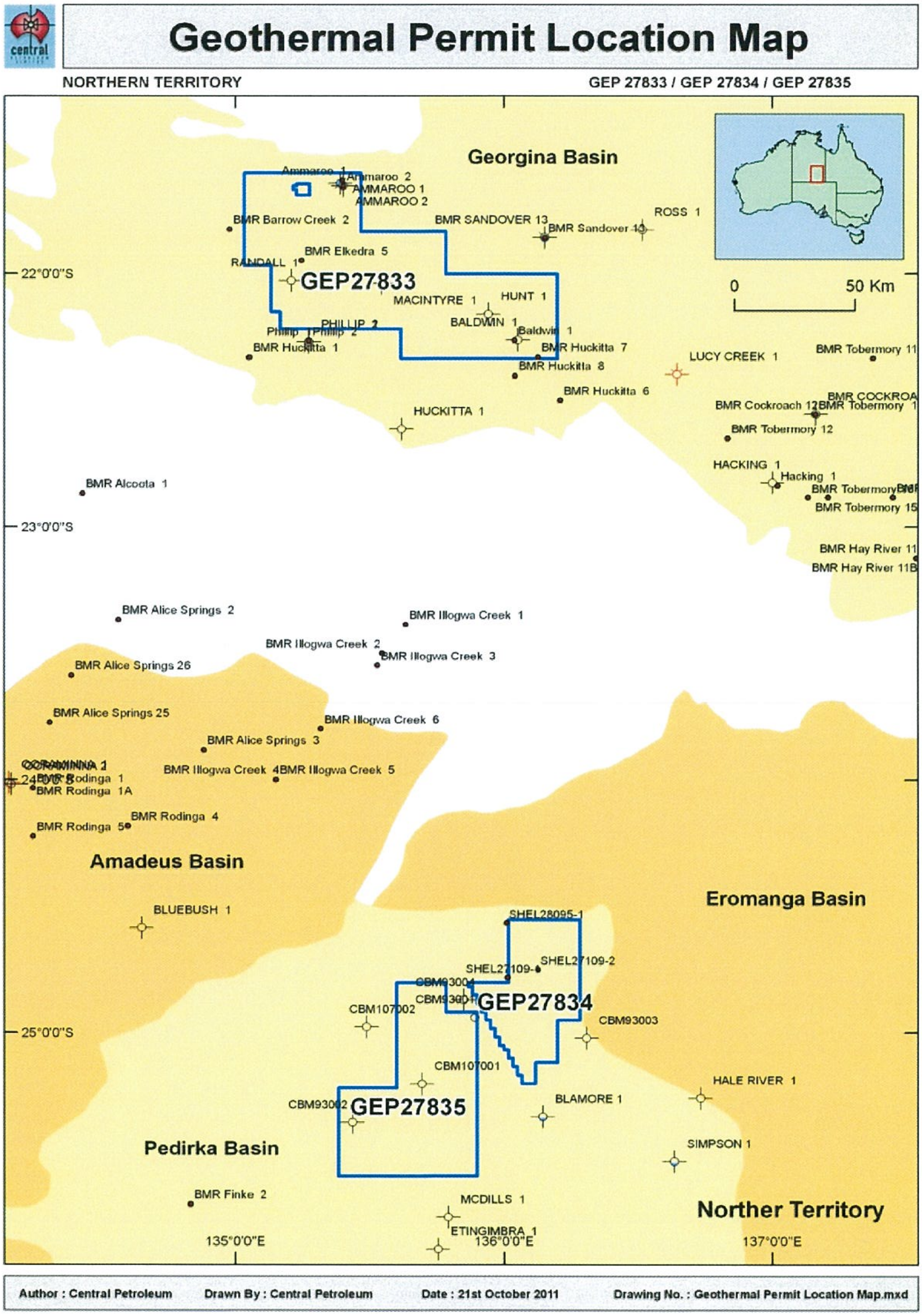

Figure 1: Location of CTP's Geothermal Permits in the Georgina and Pedirka Basins.

Geothermal Potential of the Andado Shelf

Introduction

Australia's geothermal resources which have considerable potential to fuel power generation fall into two categories: (1) Hot Sedimentary Aquifer (HSA) plays (e.g. hydrothermal groundwater resources); and(2) Hot Rock (HR) plays, including Hot Dry Rocks (HDR) and Hot Fractured Rocks (HFR) which are likely to be fluid saturated.

Regional review of geothermal gradients, including the new CBM wells, suggest that **at 5 km depth** BHT temperatures on the Andado shelf are of the order 225 - 320 Deg.C. This compares with values of 180 – 300 Deg C in the hottest parts of the Cooper Basin which are currently being explored. Individual high heat producing (HHP) granites are the dominant point sources for thermal anomalies. These features are often defined by a characteristic gravity signature (gravity low). It is uncertain if HHP granite underlies any portion of Central's geothermal permits considering no defining gravity signatures or well intersections are known in this sparse data area; however recent drilling has revealed some anomalously high geothermal gradients worthy of further study.

Currently, the only geothermal energy being used in Australia comes from a 120 KW geothermal energy plant located in Birdsville Queensland, which sources hot hydrothermal waters at relatively shallow depths from the Great Artesian Basin (Eromanga Basin- Algebuckina Sandstone). In addition, "proof of concept" has recently been achieved for the Innaminka HDR Project in South Australia. Other projects in South Australia include Pacific Hydro's Eromanga Basin HSA project (Algebuckina Sandstone) and Panax Geothermal's HSA project in the Otway Basin.

Since the grant of the first Geothermal Exploration Licence (GEL) in Australia in 2001 through year-end 2008, over 50 companies have joined the hunt for renewable and emissions-free geothermal energy resources over vast areas of interior Australia. Large areas of the NT were gazetted for geothermal exploration in 2009. Two geothermal permits were awarded to CTP in 2011 in the Pedirka Basin (Applications 27834, 27835) and one in the southern Georgina Basin (Application 27833) under the auspices of the Geothermal Energy Act.

The Federal Government and some of its agencies have invested heavily in geothermal projects, undertaken by Geodynamics and Petratherm for example, and Central should investigate fully the possibilities of gaining similar financial/technical support in its geothermal exploration venture in the Simpson Desert area.

What follows is a brief summary of the perceived geothermal potential in the general area of Centrals vast NT petroleum exploration holdings, the hope being that future gas liquids / coal projects could draw to some extent on electrical power generated at adjacent geothermal power plants.

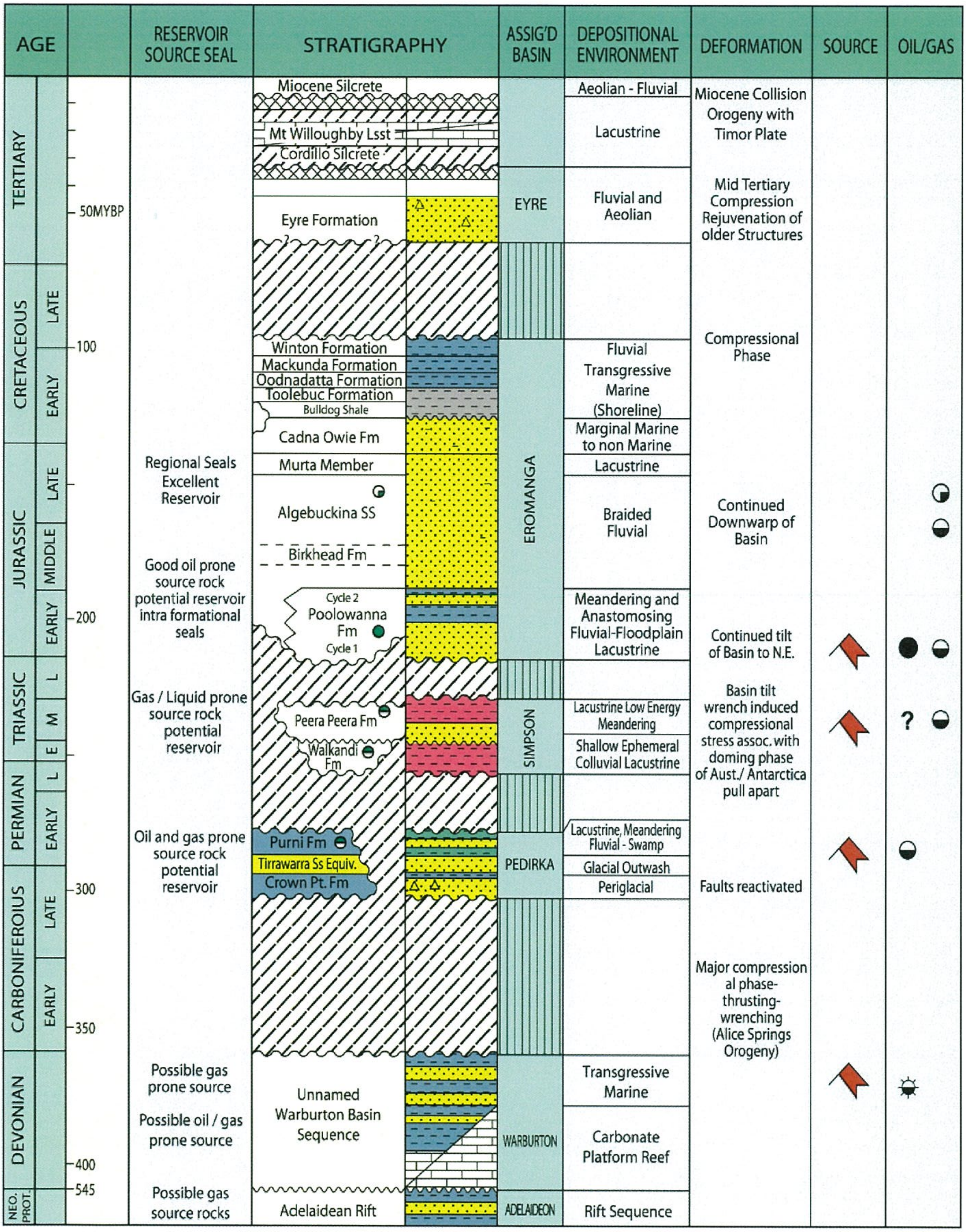

Figure 2: Simpson Desert Area – Stratigraphic Table

Current Geothermal Industry Status (2011)

Volatility in the financial markets and competition for funding from the unconventional shale gas/oil industry has dampened geothermal exploration to some extent with government funding underpinning expenditure over the last 2-3 years. The legislation of a Carbon Emissions Tax will counter this trend to some extent. A summary of recent industry activity occurs below:

Existing Projects

1) In Australia one project is producing electricity – the Birdsville Organic Rankine Cycle Geothermal Power Station which produces 80kW of electricity.
2) The Peninsula Hot Springs Bath House in Victoria is a tourist destination where natural hot water flow heat bathing pools to temperatures between 37-43 deg C.

Deep Drilling Projects

1) PANAX-Salamander-1

The Panax operated HSA geothermal project was substantiated in part by the Salamander-1 well which spudded on 31 January, 2010 before reaching a total depth (TD) of 4,025 m. First steam was produced in late March/ early April, 2010 and subsequently SKM (NZ) designed and managed the well testing programme which was completed in July, 2010.

The Salamander-1 well met its primary objectives. It intersected a total thickness of 673 m of reservoir sandstones over the interval 2,901m – 3,570 m with an average estimated porosity of 13.2% and a total thickness of 411 m of reservoir sandstones over the interval 3,570 m – 4,000 m, with an average estimated porosity of 10.2%. The downhole geothermal temperature of 171.4°C at 4,000m exceeded projected temperature by more than 10°C. Interpretation of the wireline logging data (petrophysical logs) from the more than 1,100 m 8 ½ inch open hole section indicate that the total thickness of the intersected permeable zones or "transmissivity" of the target rocks would meet the requirements for the development of a demonstration plant. .

The well testing programme comprised five discharge tests and a single injection test. An acid "clean-up" treatment was conducted after the first four discharge tests. The testing programme was designed and managed by SKM (NZ). Preliminary results show that transmissivities decreased following each discharge test, indicating that the complications of the well restricts communication between the intersected reservoir and the 1,110m open hole section of the well bore.

2) PETRATHERM LIMITED

Petratherm's flagship, the Paralana Geothermal Energy Project is sited adjacent to the Mt Painter region in South Australia's northern Flinders Ranges. Petratherm and its joint venture partners, Beach Energy and Truenergy Geothermal, have begun the process of tapping into this vast renewable energy resource to create Australia's first base load geothermal energy project.

In the second half of 2009, Paralana 2, the first injector well was drilled and cased to 3725 m recording a BHT temperature of 176°C at approximately 3,670 m with modelled temperatures of 190°C at 4,000 metres. In July 2011, the large scale fracture stimulation works were successfully completed. The primary aim of the fracture stimulation was to create fractures in the subsurface at least 500 metres from the Paralana 2 well. This was achieved and preliminary analysis suggests that the stimulated zone extends approximately 900 metres to the east of the Paralana 2 well at a depth of 3,500 to 4,000 m. A flow test of the Paralana 2 well is planned to be undertaken in Sept/Oct 2011.

The Paralana joint venture partners were awarded $62.8 million under the Federal Government's Renewable Energy Demonstration Program and a further $7.0 million under the Geothermal Drilling Program to support the drilling and commercial demonstration stages of the project.

GEODYNAMICS LIMITED

Geodynamics Limited is Australia's most advanced geothermal energy developer, having drilled three deep wells (to > 4,000m) at its Habanero site, one at the Savina site and one at the Jolokia site, all in the Cooper Basin, South Australia. The first 'proof of concept' (POC) hot rock project began with the Innamincka Hot Fractured Rock Project (Geodynamics Ltd) in 2004 with the development of a large sub horizontal enhanced permeability zone (fractured granite) as a heat exchanger at > 4 km within the Innamincka Granite. The final stage of the proof of concept was completed in 2009 and was confirmed by testing the circulation between the heat exchanger in the granite and the surface, energy extraction, and dynamic stability of requisite water temperatures. To date the measured resource is 1800 PJ compared with an indicated resource of 7600 PJ (note energy value of one petajoule equates to about one Bcf of sales gas).

The fractured granite heat exchanger at Innamincka was unexpected. Such zones are advantageous but if not managed carefully (e.g. excessive production) can reduce the effectiveness of uniform heat extraction which may lead to cold temperature breakthrough. When complete the field will comprise 41 wells at 500 m spacing covering an area of 48 km2 at a capital cost of $ 150-200 m. As was the case for this project, similar projects could expect substantial financial support from Federal and State Governments.

Geodynamics is currently completing a work program to re-enter Jolokia 1, run a completion into the well and undertake hydraulic fracture stimulation of this well originally drilled in late 2008. This will demonstrate the creation and existence of an underground heat exchanger 9km away from that demonstrated at Habanero.

Following the stimulation of Jolokia 1, Geodynamics, and its Joint Venture Partner, Origin Energy, plan to return to the Habanero site to drill Habanero 4 and Habanero 5. Subsequent to the drilling of these wells the Company plans to commission a 1MW Pilot Plant facility linked to this working doublet. Geodynamics plans to take the investment decision to build a 25 MW commercial demonstration plant by early 2013, with a view to having the plant operational by early 2014.

Geothermal Potential – Eromanga/Pedirka Basin

The exploration tenements outlined on the Andado Shelf were originally chosen because of the relatively shallow depths to the main Algebuckina aquifer and the presence of an overlying insulating blanket of Cretaceous shales. Subsequent drill hole data records some very high geothermal gradients which in turn support the original exploration model. These are summarised in Table-1.

Well	Deg C/km	Alg. Top	Alg. DegC	Tirr. Ss Depth m	Tirr. Ss DegC
Beachcomber-1	45.0	1133.5	75		
Colson-1	38.7	1372.3	53		
Simpson-1	34.6	1189.6	66.1	1969	93
Etingimbra-1	38.9	333.0	38	~ 900	60
McDills-1	29.8	463.0	39		
Poeppels Corner-1	37.5				
Thomas -1	40.0	1455.0	83		
Blamore-1	38.4 42.9 S 1 S 2	995.3	68	2098	115
CBM 93-001	49.3 40.7 44.5 S1 T1 T2	518.0	51	~1300	89
CBM 93-002*	47.9 45.1 S1 T1	314.0	40	~1060	76
CBM 93-003*	43.0 S1	389.0	42	~910	64
CBM 93-004*	59.0 54.6 56.8 S1 T3 T4	427.0	50	~1000	84
CBM 107-001*	58.6 46.5 S1 T1	483.0	53	~1300	76
CBM 107-002*	46.3 43.5 S1 T1	154.0	34	absent	
*Wells drilled post 2009	T = TEST S = Logging Suite			~ Tirr. Not intersected	

Table 1

Since CTP's application were made in 2009 a further five exploration wells have been drilled on the Andado Shelf in the Pedirka Basin targeting coal seam gas, but also acquiring valuable geothermal data. Geothermal gradients for the five new wells are listed above. The results are encouraging with anomalously high gradients measured in all wells. In particular, drill holes CBM 107-001 and CBM 93-004 had very high gradients of around 58 Deg C/Km. The other 3 wells recorded gradients varying between 43-50 Deg C /Km, all above the average world gradient in sedimentary basins of 29 Deg C/Km.

The geothermal gradients in some wells may not be linear throughout the entire intersected section but this is difficult to ascertain due to the paucity of data. For instance, some distance into the basin, exploration well Thomas -1 records a break in gradient. The overall gradient for the well is about 40 Deg C/km but in the Eromanga sequence in the top 1400 m the gradient

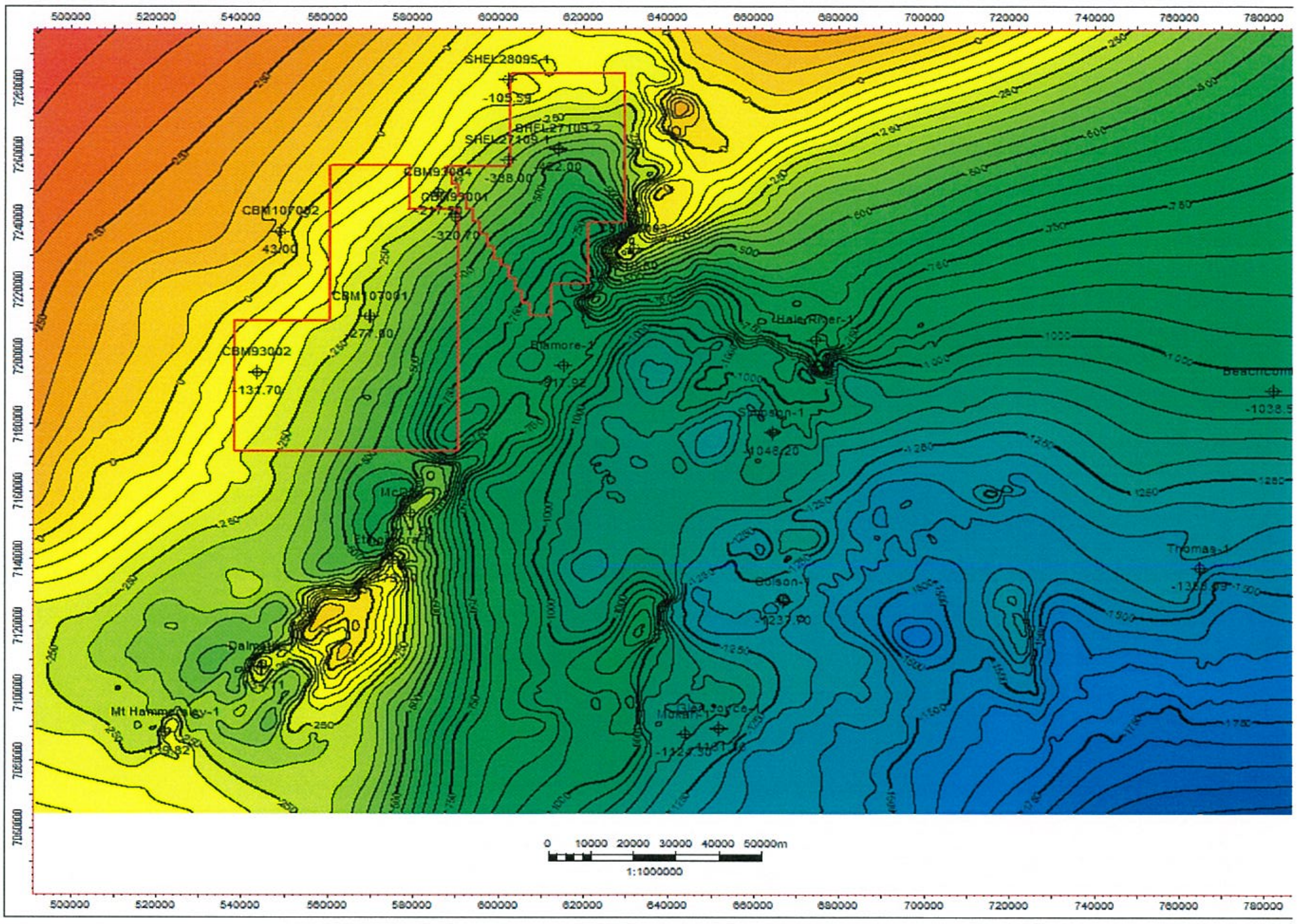

Figure 2 Structure Near Top Algebuckina Sandstone

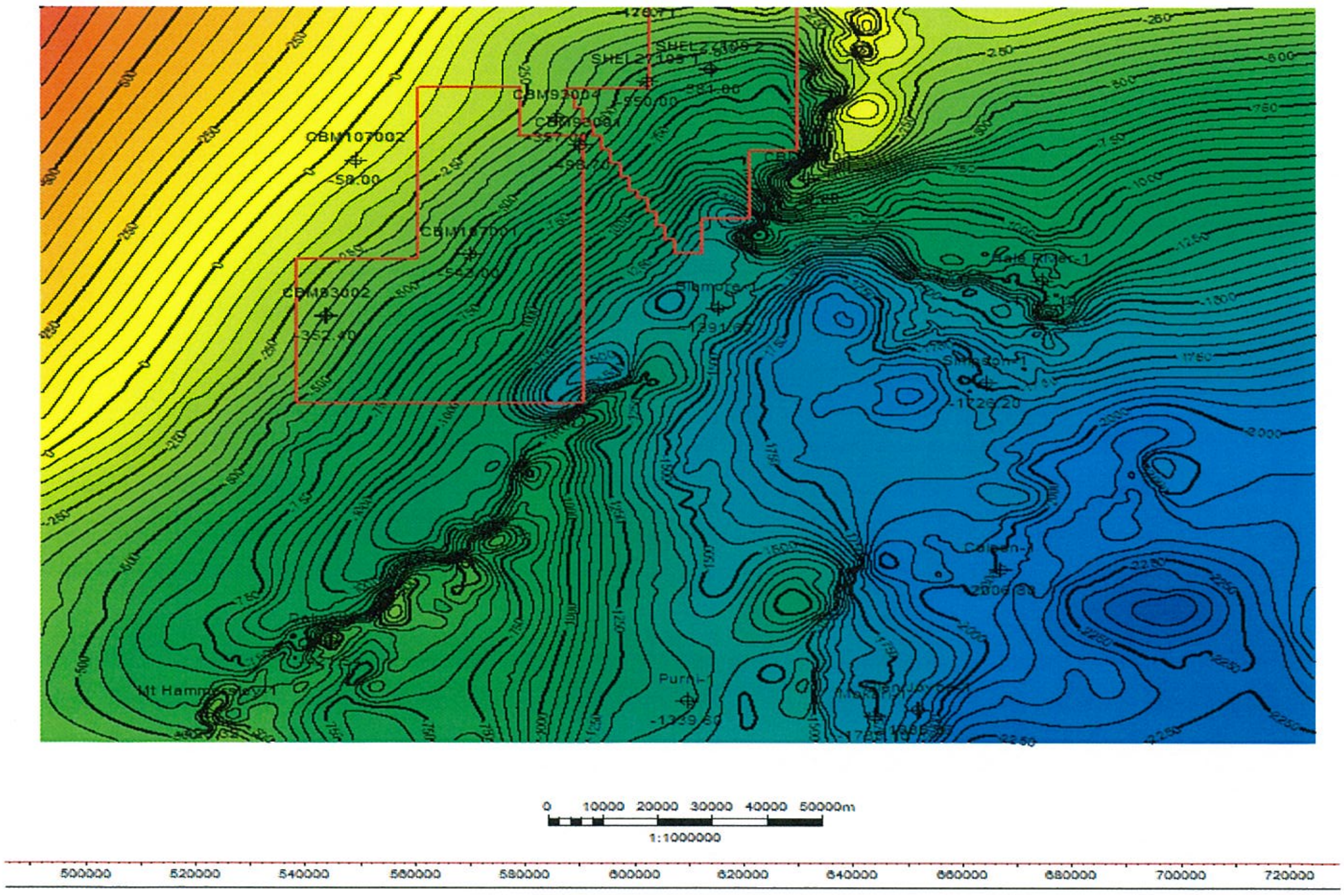

Figure 3 Structure map Near Top Permian (Purni Formation)

was estimated at 45-50 Deg C (Thomas -1 WCR) with a lower gradient in the deeper part of the well.

The origin of these high temperature gradients on the Andado Shelf remains conjectural as there is no definitive lithology (drill hole) or gravity data reflecting the presence of HHP granites except to the northwest of the permit on the SE margin of the Amadeus Basin. It is postulated here that the basement ridge separating the Amadeus and Pedirka basins (Newlands Range Ridge) is defined in part by emplacement of giant granite batholiths along a zone of crustal weakness defining this major NE-SW trending hinge line. These circular features are well delineated by a distinctive aeromagnetic signature (First Derivative Imaging) on the southeast margin of the Amadeus Basin. The granites do not outcrop and their composition is unknown. However, they appear to be a possible source of radiogenic heat flow which may be the cause of high temperature gradients in the general area.

Exploitation of thermal energy within the Great Artesian Basin aquifer system (Eromanga Basin) may be viable over some of Central's Simpson Desert areas but overall this is a much lower-level energy resource for electricity generation than that derived from hot dry rock (HDR). Such a resource is likely to be three orders of magnitude lower than a HDR/HR project as seen in the Innamincka Granite, but is more readily accessible because of shallower depths.

It is significant that within Australia, previous government studies show that the Eromanga Basin holds 83% of estimated geothermal energy. However, it should be emphasized that all governments are now requiring that hot water geothermal projects invoke "sustainability" clauses; this implies aquifer waters which have undergone heat exchange must be reinjected into the reservoir to facilitate conservation of the resource.

In the wells drilled thus far on the Andado Shelf, the shallow depths to the Algebuckina Sandstone militate against commercial development of this reservoir above about 1000 m depth (85 deg C) . The trade-off between high geothermal gradients closer to the Newlands Range Ridge, but shallow depths to the Algebuckina Sandstone and often thin Cretaceous shale seal, suggest stratigraphically older/deeper strata or granite bodies may constitute more attractive targets. Obviously deeper sections would have higher BHT's but this is countered by the fact that geothermal gradients fall off down dip of the ?granite cored ridge. This scenario could facilitate two types of geothermal plays as described below:

- Hot sedimentary aquifers (HSA) , in particular the Algebuckina Sandstone, may be exploited where it occurs at depths greater than 1.3 km. The level of the potentiometric surface dictates that wells on the up dip margin of the Andado Shelf would not be artesian. In the high temperature gradient areas (58 deg C / km), wells intersecting the top Algebuckina Sandstone at 1.0-1.5 km should record BHT's of between 85 and 115 deg/c; this is probably the minimum required for an economic project. Note that at 2 km Algebuckina temperatures could reach 145 Deg C if geothermal gradients are maintained at depth. There is also potential in Permian aquifers where they occur at similar depths but these reservoirs would be relatively less well developed with lower deliverability. However, the early Permian Tirrawarra Sandstone shows regional development as do sandstones in the Crown Point and Purni formations (early Permian).

- Hot Dry Rock (HDR). HDR projects are generally more efficient than HAS projects and in this area are probably more attractive as geothermal gradients definitely increase onto the Newlands Range Ridge which is believed to be cored in part by hot granites. One intersection of ?granite occurs in Bore 12943 on the upper shelf but no temperature or detailed lithology data is available. Drilling to 1500 m, adjacent to the basin zero edge, would probably entail intersecting high geothermal gradients in the Jurassic. However to develop a viable HDR project a considerable thickness of ? granitic basement would need to be penetrated with fluid deliverability established via fracture development and stimulation. A reasonable thickness of insulating Cretaceous shales would be required at the project location. Initially, limited exploitation of HDR reservoirs in areas of high geothermal gradients would require granite reservoirs at depths of 1.2-1.5 km yielding BHT's of up to 110 Deg C. At depths of 5 km, BHT's could lie in the range 225-320 Deg C. Southeast of the Newlands Range Ridge, where basement composition and depth are uncertain, pre Permian units comprise Palaeozoic sequences of probable Devonian age which are much higher risk in terms of including viable aquifers or fracture conduits.

Markets

Recent Federal Government studies indicate the electric power industry will have to invest $AU100 billion to keep up with energy demand over the next 10 years, and low emission clean energy will be a priority. The passage through Parliament of Carbon Emission Tax legislation will enhance economic viability of geothermal power as a clean renewable source of electricity.

Central has discovered vast coal resources in the Pedirka Basin and in the medium to long term considerable amounts of electricity could support coal to diesel conversion, perhaps via underground coal gasification (UGC). Utilisation of vast amounts of geothermal energy would be more acceptable, from an environmental standpoint, than burning hydrocarbons and there is a likelihood of government and other financial incentives to take this route. In addition, the Mereenie field is nearing the end of gas production and development of clean electricity to satisfy Alice Spring's burgeoning electricity market may become a priority.

There is some potential to link to the national grid if sufficient energy is available and, any activity such as mining, production of GTL products, pumping gas or oil, extracting water etc. all require energy at a greater or a lesser scale. There are large areas of petroleum potential in Central's petroleum leases in the Simpson Desert which, if exploration is successful, will require considerable energy to bring into production.

Conclusions

Three factors offer encouragement for development of geothermal project (s) on the mid slope and upper margins of the Andado Shelf.: 1) shallow depths to Jurassic and Permian aquifers; 2) High geothermal gradients (up to 59 deg C /km) in parts of this area support the original models provided ; 3) the presence of a sufficiently thick insulating blanket of overlying Cretaceous shales.

Recent drilling by CTP, postdating the application, has revealed some encouraging results. Extrapolating these new gradients to a depth of 5 km indicates temperatures at this depth could range from 225 Deg C to 320 Deg C. The upcoming exploration program will target identification of other "hot spots" and investigate the idea that HHP granites occur at depth and form the core of the Newlands Range Ridge. In time these could form the basis for a hot dry rock project (HDR) at depth in this area which would underwrite power requirements for future GTL/ coal projects in the Pedirka Basin. This project would leverage the newly legislated Carbon Emissions Tax which aims to expedite economic viability of "green and renewable" energy projects.

Future geothermal exploration for HSA projects should target Algebuckina Sandstone reservoirs on the mid - Andado Shelf where depths of burial exceed 1.3 km . The newly derived geothermal gradients suggest aquifer temperatures at these depths could reach 100 Deg C which is similar to aquifer temperatures at the successful Innamincka geothermal (HSA) project in South Australia.

Geothermal Potential of the SE Georgina Basin

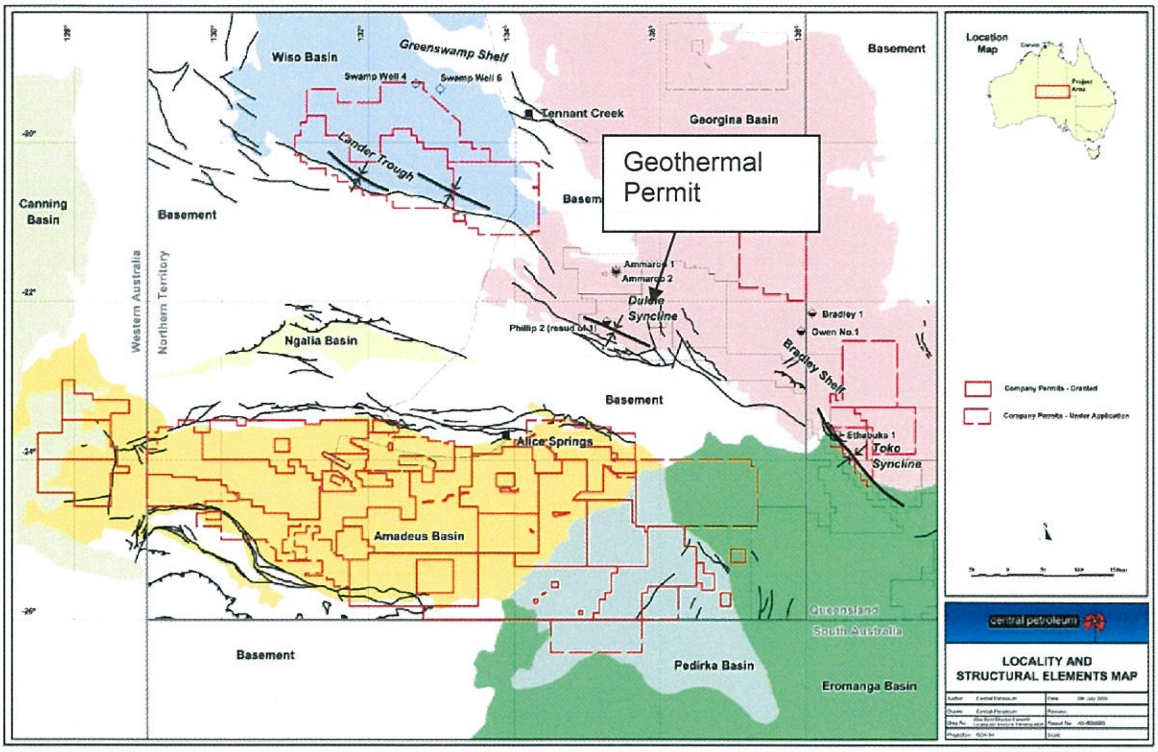

Figure 1: Regional Location Diagram Southern Georgina Basin

The southern Georgina Basin has potential for geothermal project(s) in the shallow crust where direct downhole temperature measurements are possible. Both igneous and radiogenic heat could contribute to enhanced geothermal gradients and drilling has revealed granitic basement (HHP granites) in the area. CTP believes the southern Georgina Basin , where this granite basement terrane is dominant, represents the best possibility for a commercial geothermal project. Geothermal gradient data is listed in Table-1.

Table 1

Well Gradient	Temperature Deg C / km	TOP THORNTONIA LIMESTONE	TOP BASEMENT
Baldwin-1	38.5-39.4	889.3	-
Hacking-1	30.7	-	--
Huckitta-1	10.9	-	821
Hunt-1	34.5-44.6	347.6	-
Lake Nash-1	20.7	-	-
Lucy Creek-1	32.6	1076	-
MacIntyre-1	46.2-48.8	802.6	960.8
Mulga-1	17.0	-	-
Owen -2	25.0	1053.3	-
Phillip-2	30.1	-	1493.0
Randall-1	35.4	-	1020.4
Ross-1	26.8	934.3	1002.5
Todd-1	24.3	1325	--
Bradley-1	23.0	800	-
Cockroach-1	34.0	1219	-
Mirrica-1	33.0	3245	3263

The lowest gradients in the Georgina Basin occur to the east e.g. Mirrica-1, Owen-2, Todd-1, and Mulga 1. These probably relate to anomalously low temperatures below the Altjawarra Craton. Higher geothermal gradients in Baldwin-1, Hunt-1 and MacIntyre-1 define an anomously hot zone to the west in CTP's geothermal exploration permit. In this general area superposition of geothermal indicators designates a relatively hot basement area in places masked by the influence of earlier, laterally migrating hydrothermal fluids related to the Alice Springs Orogeny. Only two wells have penetrated basement in this zone, namely Phillip-2 (granite at 1493 m) and Randall-1(granite at 1014 m).

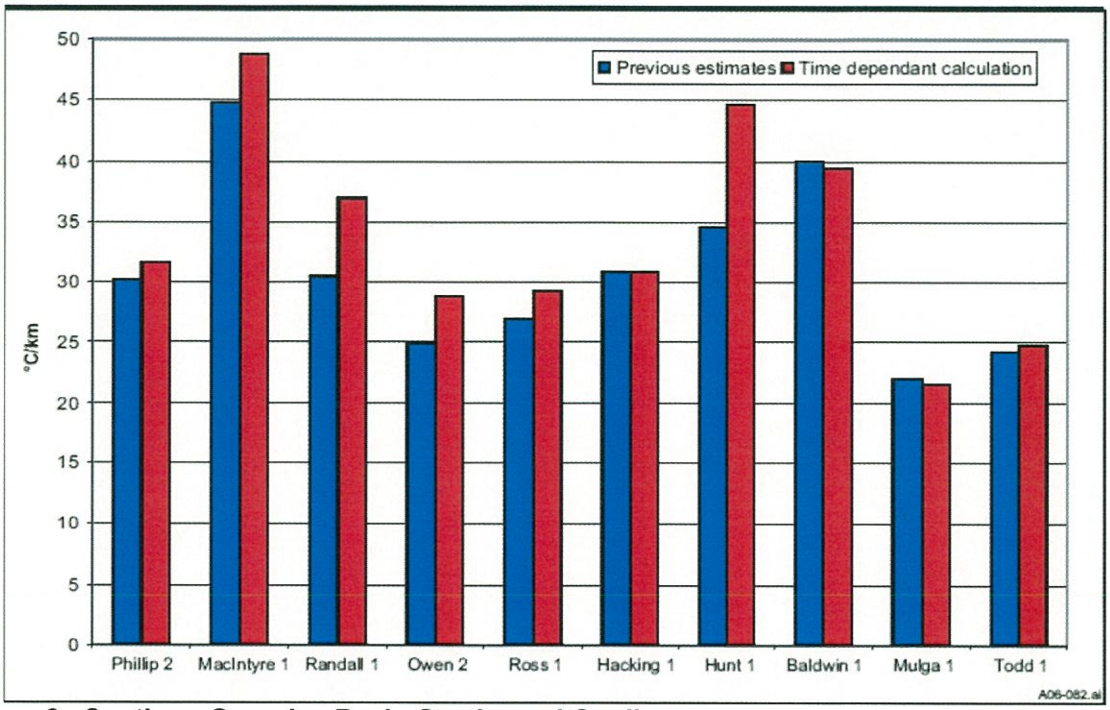

Figure 2: Southern Georgina Basin Geothermal Gradients

The origin of this current high-heat-flow zone in the southern Georgina Basin is hinted at by the presence of Palaeoproterozoic granitoids outcropping in the region. These contain high concentrations of radiogenic elements (K, U, and Th) which generate heat by radioactive decay which can be introduced into overlying basin sediments. Thus the high-heat-flow zones in the southern Georgina Basin appear to have their origin in radiogenic decay in high heat producing granites (HHP) with maximum heat flow during the late Alice Springs Orogeny. This thermal event was succeeded by four major cooling episodes matched to continent scale tectonic events by Gibson et al (2005).

The Georgina and Amadeus basins in particular show ample evidence of basin unroofing as evidenced by high formation thermal maturities occurring at very shallow depths, entirely inconsistent with alginite reflectance, Tmax and other thermal maturity indicators. Gibson et al (2005) used Apatite Fission Track Analysis (AFTA), organic maturity data and Rockeval Tmax data to conduct thermal history modelling in the southern Georgina Basin. There is evidence of up to four post-early Carboniferous cooling episodes beginning in the 1) Late Carboniferous, 2) Late Triassic-Early Jurassic, 3) Mid-Late Cretaceous and 4) Tertiary. Respectively, the cooling effects in these four episodes have been attributed to uplift and erosion associated with: the final stages of the Alice Springs Orogeny, the Fitzroy Movement, Breakup of Australia and Antarctica, and Neogene continental collision to the north of Australia.

A striking observation is that peak palaeotemperatures associated with each of these events decreased with each progressively more recent episode. It follows that timing of maximum maturation can be no younger than the earliest-observed palaeothermal event i.e. Late Alice Springs Orogeny viz. late Carboniferous. Current day geothermal gradients, listed in Table 2 , are a function largely of the cooling event associated with the Neogene collision of the Australian and Timor plates.

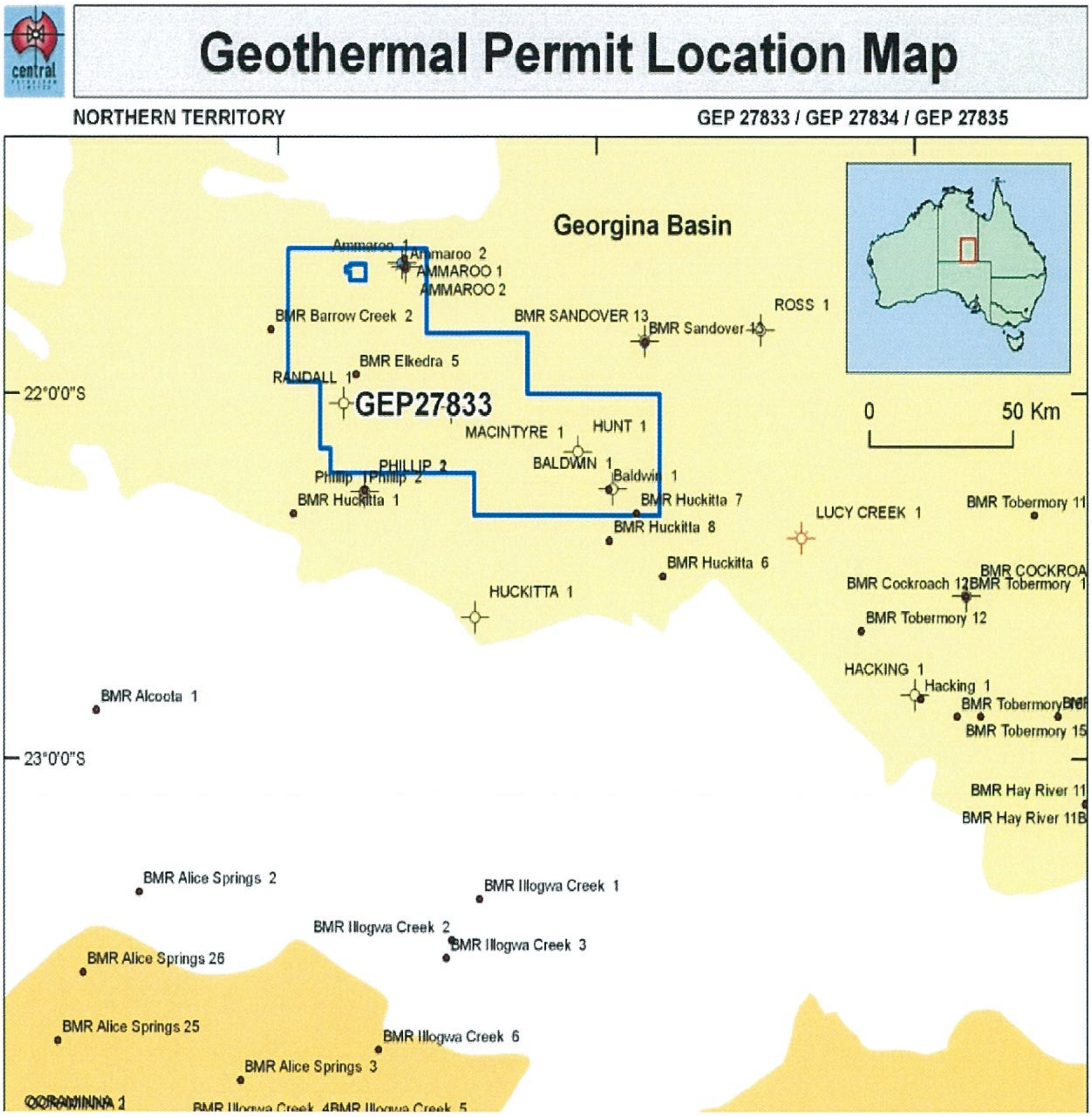

Figure 3: Geothermal Permit Location Map Southern Georgina Basin

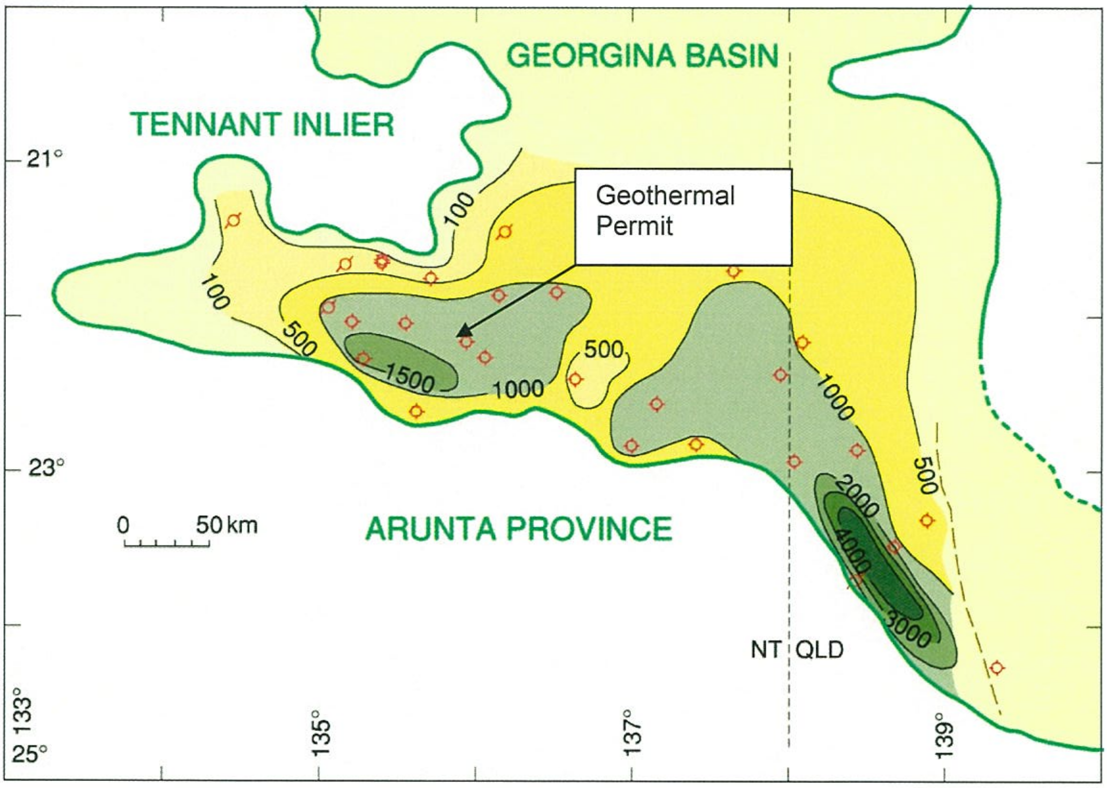

Figure 4: Palaeozoic Isopach Southern Georgina Basin

Geothermal Project

Granite is probably the most common basement lithology in the southern Georgina Basin basement sequence and a hot dry rock (HDR) geothermal model is the most pertinent to possible economic geothermal projects. The hot aquifer model (HSA is higher risk given there are no prolific target aquifers analogous to those in the Great Artesian Basin. However , geothermal gradients in the Georgina Basin permit area are generally above the world average and are relatively high around granite "hot spots" as noted at the Baldwin-1 , Hunt-1 and MacIntyre-1 exploration wells (geothermal gradients of 39, 44 and 49 Deg. C/km respectively).

A comparative project in South Australia is Petratherm's Paralana Project, which aims at exploitation of hot fractured granite with anticipated temperatures of 200 Deg C at 3.6 km. The highest geothermal gradients in the southern Georgina Basin are 49 Deg C yielding temperatures of 195-200 Dec C at 3.6 km. It is significant that regional geochemical maturity studies indicate major unroofing of the southern Georgina Basin with up to 1-2 km (or more) of Palaeozoic section being eroded. However, it is believed the remaining sediment cover (1-2 km thick) would be sufficient to insulate hot granites at depth. It also needs to be considered that the geothermal gradients in the underlying granite terrane may be greater than those measured in the cover section suggesting elevated temperatures could exist at relatively shallow depths of less than 3 km. An estimate of depth to basement occurs in Figure 3 which is a SEEBASE depth to basement image (after Teasdale and Pryer, 2002). It is significant that thermal maturities at Arthur Creek Formation level are highest in CTP's geothermal permit; this is a function of higher heat flows at depth and also reflects the thicker sedimentary section providing better insulation.

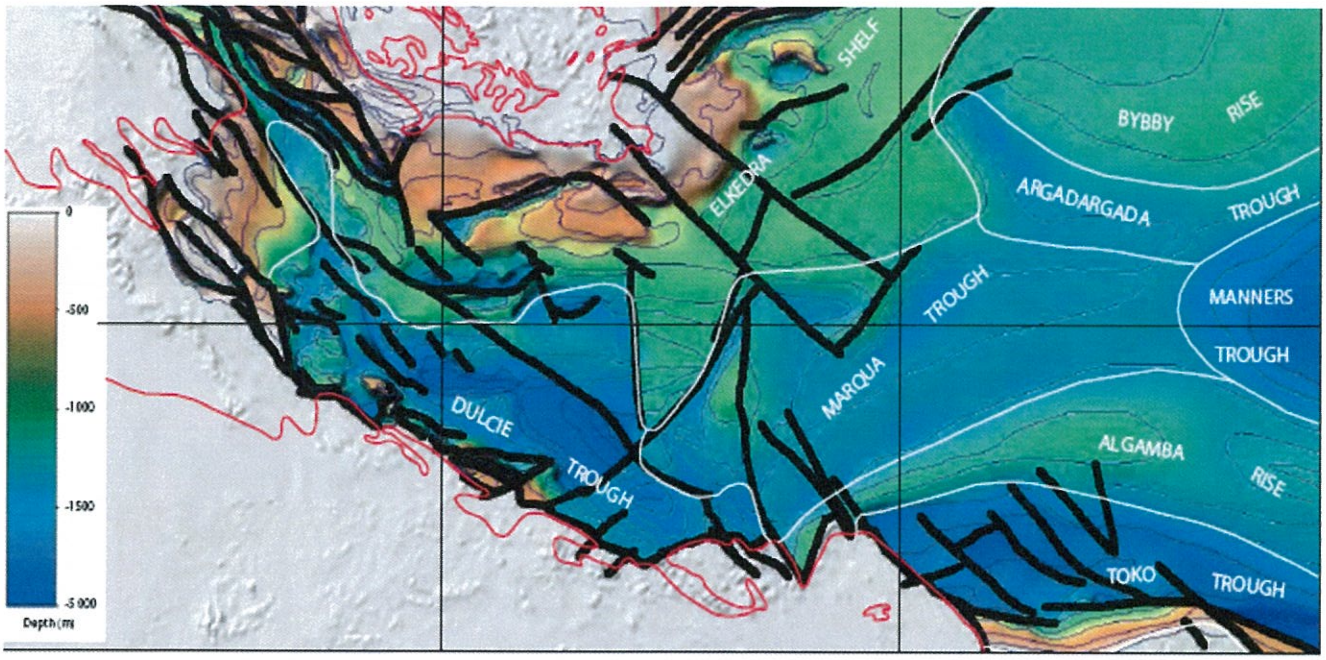

Figure 5: Seabase Depth to basement and Tectonic Elements (after Teasdale and Pryer, 2002)

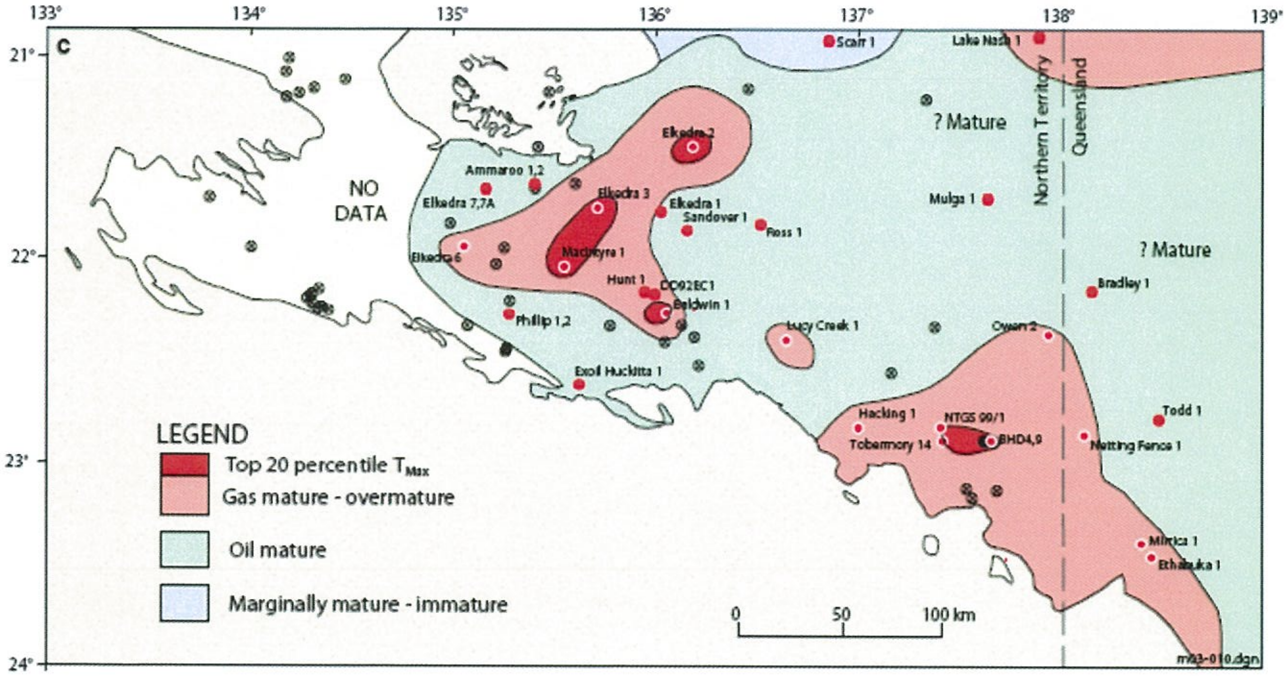

Figure 6: Interpreted Regional Thermal Maturity for the Arthur Creek Formation (after Dunster et al, 2007)

Markets

The potential markets for electricity derived from this area are again medium to long term and revolve around future resource projects and supply of electricity to local population centres. Just one of many factors increasing energy demand is a hotter, more harsh climate triggering increased requirements for air conditioning.

Central will in future invest heavily in resource projects in the Georgina Basin where it has extensive exploration tenements. An extremely rich Middle Cambrian petroleum system has been identified and detailed studies show over 40 billion tonnes of oil have migrated from this system. Unconventional hydrocarbon explorer Petrofrontier, is currently in a drilling program assessing the Lower Arthur Creek Formation in the MacIntyre-1 and Baldwin -1 areas and efforts will be made to access these new geothermal data. Conventionally trapped oil and unconventional oil and gas deposits, including shale gas and basin-centred gas, will be targeted by CTP in their Georgina Basin tenements. These projects could be on a very large scale with commensurate energy feedstock requirements. Over time there will be political and economic incentives for clean geothermal energy to underwrite electricity requirements of these projects.

Conclusions

Three factors offer encouragement for development of geothermal project (s) in the southern Georgina Basin: 1) shallow depths to basement of 1-2 km 2) High geothermal gradients (up to 48.8 deg C /km) and 3) the recognition of HPP granites in the basement terrain in the general area of the tenement.

The upcoming exploration program will target identification of other "hot spots" and investigate the idea that HHP granites occur at depth. In time these could form the basis for a hot dry rock project (HDR) at depth in this area which could underwrite power requirements for future unconventional/conventional petroleum projects in the Georgina Basin. This project would leverage the newly legislated Carbon Emissions Tax which aims to expedite economic viability of "green and renewable" energy projects.

The Federal Government and some of its agencies have invested heavily in geothermal projects, undertaken by Geodynamics and Petratherm for example, and Central should investigate fully the possibilities of gaining similar financial/technical support in its geothermal exploration venture in the southern Georgina Basin.

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