



MANTLE MINING

ASX: MNM and MNMO

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Quarterly Activities report for period to 31 December 2008

Highlights:

- **Granite Castle yields major uplift in gold prospectivity**
- **Mt Mulligan ILUA under final drafting for Authorisation**
- **Barkly Phosphate exploration yields large-scale targets**
- **ML and EL applications in VIC and NT awarded priority**
- **Costs substantially reduced and under further review**

Mantle Mining Corporation Limited (ASX: MNM), is pleased to report that in the 13 weeks ending 31 December 2008 the Company successfully continued to progress work in all of its mineral portfolio areas whilst undertaking a substantial cost cutting exercise in the face of the continuing tightness in global financial markets.

The Granite Castle gold project saw a major uplift in overall prospectivity with well in excess of 2.5 kms of partially tested mineralised shears defined and available to be drill tested. At the Mt Baldhead gold prospect a geochemical soils and rock-chip sampling programme was completed and a ground magnetics survey commenced. At the Haunted Stream gold prospect, MLA 5505 was awarded priority.

At the Mt Mulligan coal and coal bed methane project a final ILUA is being drafted and preparations are being made for the Authorization (signing) ceremony. Preparation work continues on development of a detailed, regional and project scale, digital model from available geological & geophysical databases and historic exploration results.

At the Barkly Phosphate prospect a number of large scale targets have been developed based on outcomes from initial geophysical desktop and reconnaissance field work. Evaluation of recently acquired geological databases and historic exploration reports is ongoing, with a number of prior drill intercepts showing mineralized grades up to 11% P₂O₅ from 35m depth. We have also received a Notice of Proposed Grant of ELA 27035, which is contiguous with EL 26019.

Decisions have been implemented to shut down all field work for the duration of the northern wet season or until the financial situation improves. Geological staff have been retained in order to maintain priority tenements in good standing, develop exploration programmes and review emerging opportunity. Mantle continues to pursue a number of business opportunities, specifically Farm-out and Equity JV's, in order to maintain progress on our priority projects whilst also conserving cash reserves.

Haunted Stream Gold and Base Metals Project:

Haunted Stream and Mount Baldhead (EL's 3576 & 4784 and MLA 5505),

Mantle's Victorian Gold tenements saw completion of a stream sediment, rock-chip and soil geochemistry programme and commencement of two large Ground Magnetics and portable XRF surveys at Mt Baldhead. These were designed to test targets including alluvial gold, magnetics anomalies and mapped regional structures. A number of prospective structures and anomalies were successfully identified, with the area forming the headwaters of the Wentworth River being most significant.

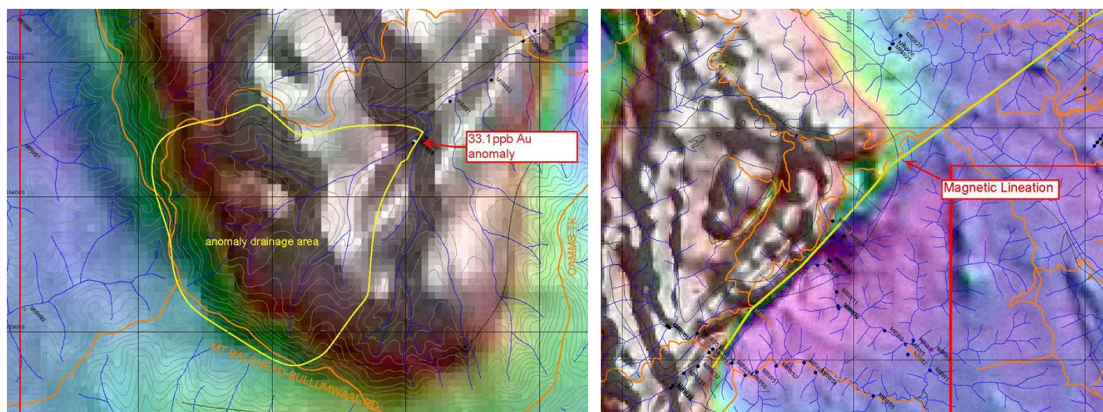


Figure 1: Alluvial gold anomaly and magnetic lineation targets at Mt Baldhead



Figure 2: Ground magnetics (photo left) and portable XRF surveys (photo right)

Application for the small ML 5505 in Haunted Stream tenement was awarded priority.

Mount Nugong, Mount Elizabeth and Buchan East (EL's 4785, 4786 and 4819),

Applications not yet granted.

Granite Castle Gold and Base Metals Project;

Range Creek (EPM 14179),

Lineament interpretation from regional aeromagnetics was completed over the entire Granite Castle project area. The Granite Castle shear, which contains the current JORC resource on the Range Creek tenement, sits near a site of structural complexity on the SE side of what appears to be a major circular intrusive feature.

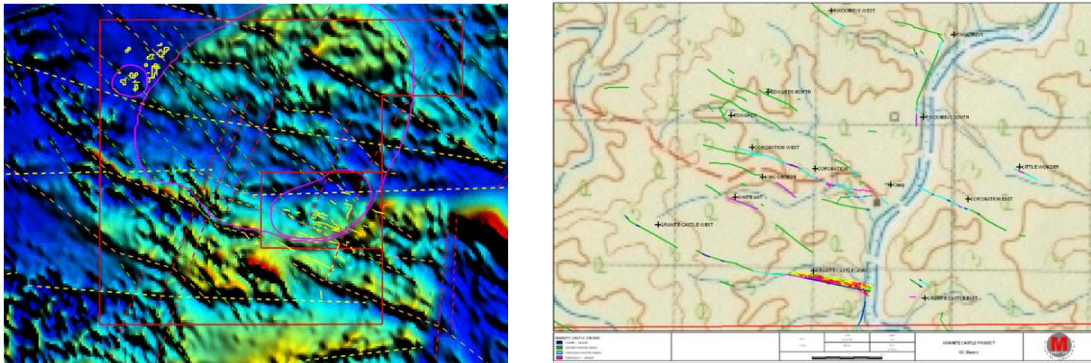


Figure 3: Granite Castle regional TMI, interpreted lineaments and shear locations

Infill and extension soil sampling was completed and compilation of regional exploration data continued. Project review has now confirmed well in excess of 2.5 line kilometres of partially tested, mineralised shears. This is significant given the current JORC resource base is contained in only 600m of a single shear.

Oaky Creek (EPM 15527),

The Tag Alley gold prospect lies on the NW side of the same magnetic feature opposite the Granite Castle lodes. Significant structurally controlled gold – arsenic – base metal anomalies were defined from a programme of soils sampling. These anomalies are coincident with regional lineament intersections located in sequences of volcanics. A programme of follow-up soil sampling has been designed along favourable structures to the south of the Tag Alley prospect.

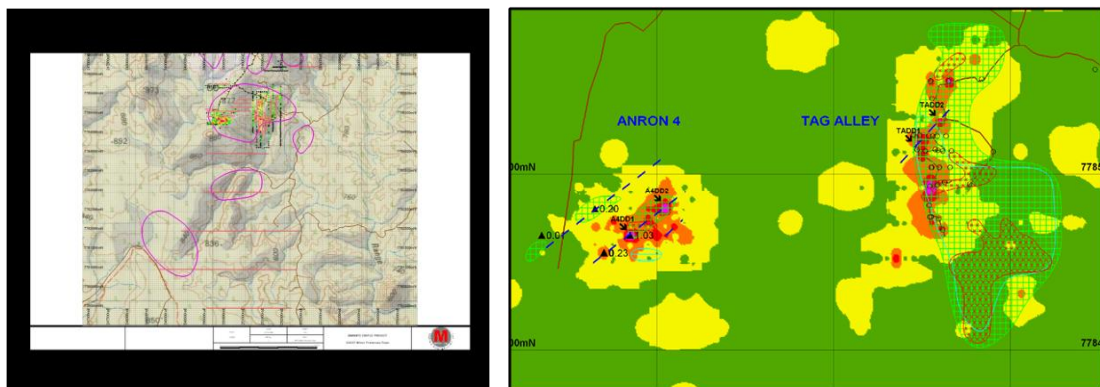


Figure 4: Tag Alley prospect regional targets and proposed field exploration

Charters Towers Gold and Base Metals Project;

Great Britain (EPM 14388),

The Great Britain tenement is prospective for a variety of mineralisation styles, from narrow vein to bulk tonnage disseminated, with a number of commodities, namely gold, copper, molybdenum and silver. A large scale mapping and soils sampling programme continued on the Riddler, Puzzler and Policeman Creek prospects and has been terminated in light of the current global financial slowdown.

Other than the Company's existing JORC resource at the Great Britain prospect, the most advanced prospect within the Great Britain tenement package is Gromac/Puzzler. Recent drilling at Gromac appears to have intersected the margin of a Molybdenum Copper porphyry system.

A two hole drilling programme, perpendicular to the interpreted mineralized structures was undertaken at Gromac with both holes completed to target 150m depth. Minor, widespread, sub vertical vein style copper and molybdenum mineralization was intersected in both holes from 77m to 148m depth with mineralisation persisting at the bottom of one hole.



Figure 5: Gromac prospect drill core with zone of intense veining

Granny's Swamp (EPM 14604),

Preparations are underway to relinquish the tenement.

Mount Boddington (EPM 17543),

Application not yet granted.

Trafford Coal and Coal Bed Methane Project:

Mount Mulligan (EPC 772 and ATP 718P),

At the Mount Mulligan project Mantle is targeting early development options designed to best capture the current upsides from low impact, low capital and low emission energy production by initial targeting of Coal Seam Gas (CSG) development. The scope for and prospective attractiveness of using Coal Bed Methane (CBM) for power generation and sale of electricity to local mines and/or the grid is significant. The emergence of an east coast Australian export LNG industry to be fed by an emerging network of CBM gas pipelines in central Queensland adds further value.

Prerequisite to accessing the tenements for exploration is an access agreement with the traditional custodians of Mt Mulligan. Mantle continues to make good progress in that regard albeit more slowly than originally envisaged. The tenements contain high cultural value and the approach being taken has seen agreement reached in principle and a full draft Indigenous Land Use Agreement (ILUA) progressed.

Work during the quarter focussed on negotiating the access agreement. Current work involves completion of agreement on the final ILUA and preparation for an Authorisation (signing) meeting. This process was delayed somewhat by the recent holiday period however is now back on track. A final date for the Authorisation meet has not yet been set however the Company's expectation is that the process will be completed first quarter of Calendar 2009.

In parallel with access discussions, the company progressed a high level desktop study modelling both regional and tenement prospectivity. The purpose of this work is to target more regional areas for consideration and to allow for planning and field reconnaissance to begin immediately once access is confirmed. This involves generation of digital datasets from historical exploration programmes and the compilation of geological and geophysical databases.

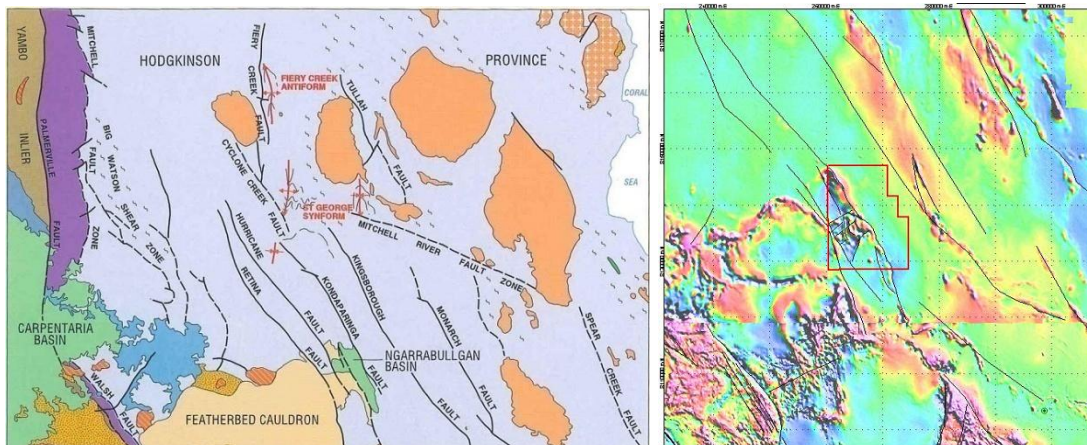


Figure 6: Principal geological units and regional magnetics in the Mt Mulligan region

Julia Creek Uranium Project:

Holy Joe's Creek and Gidya Creek (EPM's 15537 and 15538),

Annual and Relinquishment reports submitted

Clark River Uranium and Base Metals Project:

Phantom Creek and Mount Brown (EPM's 15534 and 15535),

During the quarter the Company undertook compilation of annual reports and preparation planning for field reconnaissance.

Burke Uranium Project:

Eight Mile Creek and Lagoon Creek (EPM's 16878 and 16880),

Notice of proposed granting is pending with initial negotiations with traditional custodians being undertaken.

Barkly Phosphate and Uranium Project:

Mittiebah, Mitchiebo, Alexandria and Lignum (EL's 26018, 26019, 26020 and 26021),

Mantle holds four exploration tenements in the Georgina Basin prospective for Phosphate and Uranium. The tenements are located in the Barkly Region of the Northern Territory 1500km south of Darwin and 450km east of Tennant Creek.

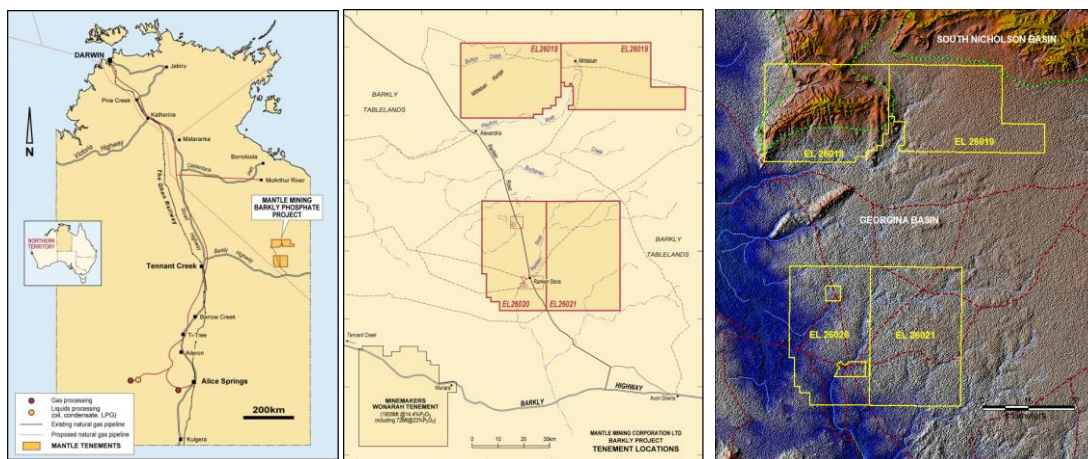


Figure 7: Project Location and Topography

In the prior quarter Mantle completed an initial high level targeting study based on review of geophysical datasets as related to known existing phosphate deposits. Regional radiometric, magnetic, landsat and Seebase data was used to define areas that had unique spectral characteristics. Based on these broad targeting methods an initial three week field reconnaissance programme was completed by two teams each of a geologist and a field assistant.

In addition to field checking the targets from the geophysical study, the field reconnaissance targeted major exploration criteria for Primary Marine Deposit styles of phosphate mineralisation. Criteria included shallow, restricted marine basins with the presence of limestone and existing phosphorite deposits. It is also known that phosphate in large doses is a poison to plants and that limestone removal/replacement is an important factor in phosphate deposition.

The tenements sit centrally between Minemaker's Wonarah deposit, 80km to the southwest, and more recently listed Phosphate Australia's ground including Highland Plains, 140km to the northeast. The Wonarah beds extend northeast of the Wonarah deposit and an outcropping of the unit is mapped within EL 26020. The Highlands Plains deposit occurs in the Camooweal Dolomite which occurs in EL 26021.

Alexandria, Alroy and Buchanan Dam occurrences also sit nearby Mantle's project area. These latter four known deposits occur on the northern side of an area of elevated magnetics whilst the Wonarah deposit lies to the south of the same feature.

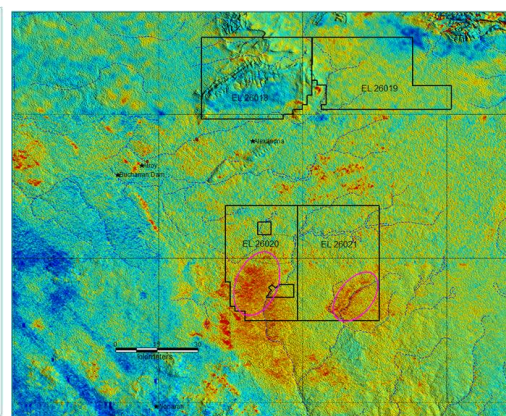
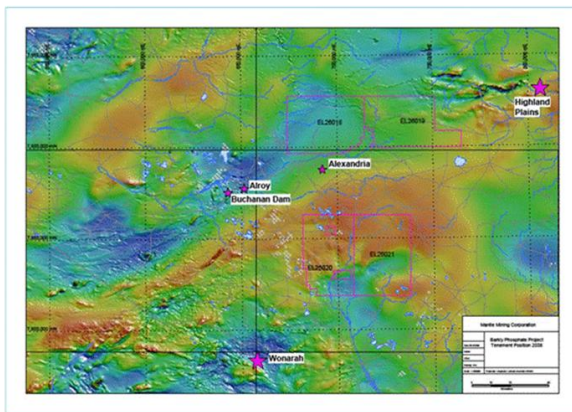


Figure 8: Total Magnetic Intensity

Figure 9: Uranium radiometric anomalies

Magnetic highs are a response to an elevated area in the basin and lower magnetic areas are deeper water sub or restricted basins. In the magnetic data an embayment or sub basin can be seen in the southern half of ELs 26020 and 26021.

Elevated uranium responses from radiometrics covering the southern part of ELs 26020 and 26021 suggests the Tertiary cover is thinner there than elsewhere. The type of depositional model targeted by Mantle is the Phosphoric Uranium model so the clear alignment between the Uranium Radiometric responses and the Total Magnetic Intensity lows is extremely exciting.

The Wonarah deposit is hosted by the Middle Cambrian Wonarah beds, which are described as silicified limestone, siltstone, sandstone, chert and shale. The Wonarah beds extend to the northeast of the Wonarah deposit and an outcropping of the unit is mapped within EL 26020. Highland Plains occurs in the Middle Cambrian Camooweal Dolomite, which is described as dolomite, chert and sandstone lenses. The Camooweal Dolomite is an extensive unit and occurs in EL 26021.

The negative effects of too much phosphate within the tree root zone across Mantle's tenements is amply demonstrated by the following photographs.



Figure 10: Photos showing lack of vegetation with Limestone and Chert pebble cover

During the field reconnaissance a number of surface soils and rock-chip samples were taken and sent for laboratory analysis. Whilst no material results emanated from this reconnaissance sampling, this is not considered detrimental to the project as the reconnaissance survey was extremely wide spaced and it is noted that typical phosphate mineralisation sampling is done by augering well below the surface layers.

Based on the information compiled from the initial geophysical review and field reconnaissance, Mantle has instigated more detailed desktop research based on geological and stratigraphic sequences across the Georgina Basin and known Phosphate occurrences across the NT-QLD border. These data are being correlated with the broad geophysical databases created in the initial study.

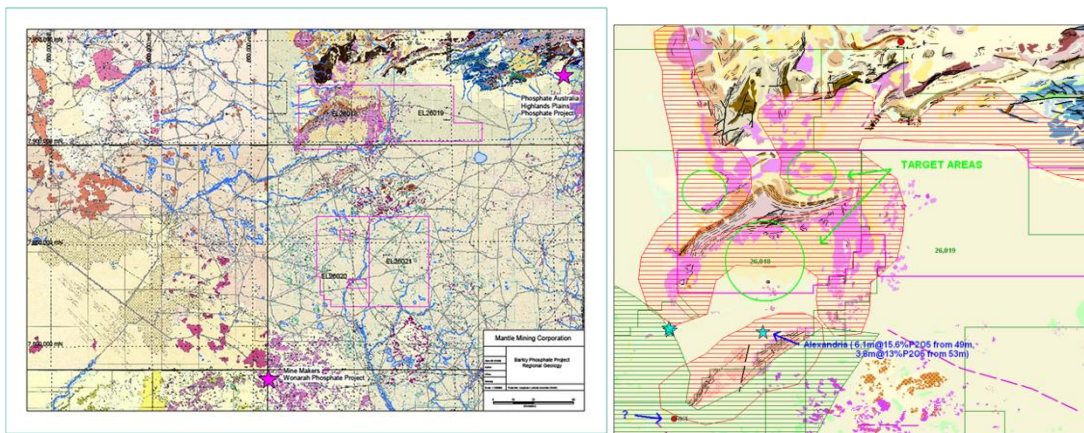


Figure 11: Geology showing limestone units Figure 12: Embayment targets

From this more recent work Mantle has highlighted three basin margin embayments on EL 26018. The larger target on the southern half of the tenement has an anticline wall of basement rocks towards the deeper section of the basin near the blue Alexandria arrow. This is considered a priority target for accumulation of phosphate.

Current work focuses on a review of all historical drilling by compiling all available open file exploration, water bore and phosphate drilling results. A number of historical phosphate exploration holes drilled on Mantle's tenements are known to have intercepted phosphate mineralization grades up to 11% P_2O_5 from 35m depth.

Mantle recently applied for ELs 27035 and EL 27037, immediately to the east of EL 26019, and has received a "Notice of Proposed Grant" for EL 27035



Corporate Activities

Over the last three months as the full impact of the Global Financial Crisis became apparent, the Company progressively curtailed discretionary expenditure in order to conserve cash. All high cost drilling, geophysics and field exploration programmes have now been substantially wound down or terminated. Only the ground magnetics programme in Victoria is ongoing and this will be completed by the end of January.

Staff requirements have been reduced substantially by progressively terminating all contract field personnel. Offices and facilities continue to be rationalised through closure of our Charters Towers facilities and a small Perth office. In addition a detailed, line by line, cost cutting review has been initiated with savings projected to impact over the next quarter.

However, sufficient Geological staff has been retained in order to maintain priority tenements in good standing, develop exploration programmes and review emerging opportunities. Field programme design work continues in preparation for a resumption of activity following the end north Australian wet season, pending some improvement in the overall economic and minerals sector outlook.

Your Company continues to develop and pursue a number of business opportunities in order to conserve cash whilst still positioning to capture project upside:

- Targeted tenement relinquishments for various tested areas,
- Synergistic tenement applications to enhance our best projects,
- Farm-out exploration JV's for various of the Gold and Uranium tenements,
- Equity investment JV's for the Coal Bed Methane and Phosphate tenements.

For further information:

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Competent Person Statement

The information in this report that relates to Exploration Results is based on information compiled by Mr Stuart Moore, an Executive of Mantle Mining Corporation Ltd. Mr Moore is a Member of the Australasian Institute of Mining and Metallurgy (M.AusIMM). Mr Moore has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2004 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Moore consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.



About Mantle Mining

Mantle Mining is a dynamic minerals exploration company with a diversified portfolio of tenements and resources.

The Company has assembled a high quality suite of precious metals projects, largely to the west of the historic mining precinct of Charters Towers, where the Granite Castle and Great Britain deposits contain standard JORC compliant Measured, Indicated and Inferred gold resources.

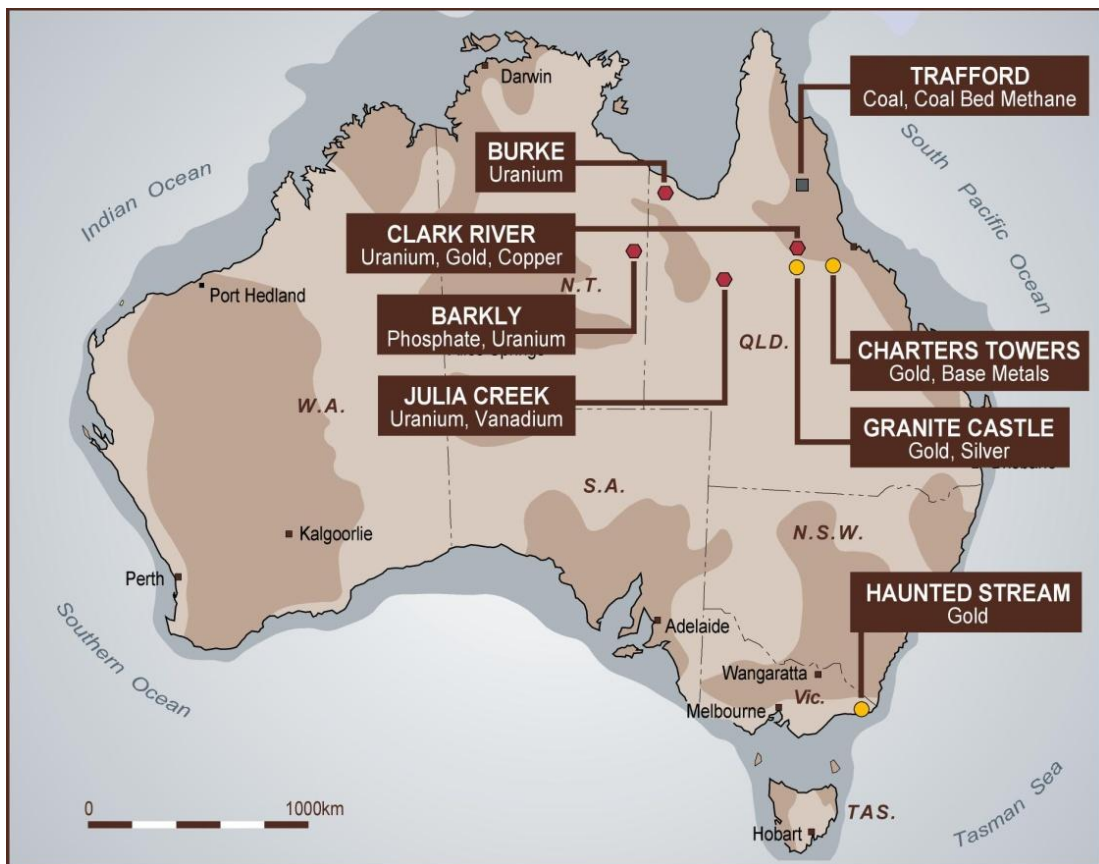
Additionally, highly prospective ground covering a twelve kilometre gold anomalous corridor (with rock chip values to 42gm/t Au) along a major fault structure is held in Eastern Victoria at Haunted Stream.

Mantle also acquired the Mt Mulligan Coal and Coal Bed Methane tenements, near Cairns and is currently negotiating to secure an access agreement with the Traditional Custodians as a prerequisite for exploration activities.

In north Queensland, Mantle controls tenements near Julia Creek, Charters Towers and in the Gulf of Carpentaria near Westmoreland, all highly prospective for uranium.

In the Northern Territory, Mantle has been granted four large exploration leases near Barkly that are highly prospective for both uranium and phosphate.

Mantle's Project Locations





Mantle's Tenement Portfolio

Tenement	Name	Grant Date	Expiry	Units	Ownership %
<i>Queensland</i>					
EPM 14179*	Range Creek	25/11/04	24/11/09	6	100
EPM 14388	Charters Towers	23/02/05	22/02/10	79	100
EPM 14604	Granny's Swamp	30/03/05	29/03/10	25	100
EPM 15527	Oaky Creek	30/11/07	29/11/12	54	100
EPM 15534	Phantom Creek	06/03/07	05/03/12	51	100
EPM 15535	Mount Brown	23/11/07	22/11/12	41	100
EPM 15537	Holy Joe's Creek	13/06/06	12/06/11	36	100
EPM 15538	Gidya Creek	13/06/06	12/06/11	38	100
EPM 16878	Eight Mile Creek	Application		111	100
EPM 16880	Lagoon Creek	Application		46	100
EPM 17543	Mount Boddington	Application		100	100
EPC 772**	Mount Mulligan	05/12/02	Renewal	72	100
ATP 718P**	Mount Mulligan	Application		6	100
<i>Victoria</i>					
EL 3576	Haunted Stream	21/10/94	Renewal	77	100
EL 4784	Mount Baldhead	25/01/06	24/01/11	217	100
EL 4785	Mount Nugong	Application		179	100
EL 4786	Mount Elizabeth	Application		495	100
EL 4819	Buchan East	Application		389	100
ML 5505		Application			100
<i>Northern Territory</i>					
EL 26018	Mittiebah	05/12/07	04/12/13	377	100
EL 26019	Mitchiebo	05/12/07	04/12/13	340	100
EL 26020	Alexandria	16/01/08	15/01/14	338	100
EL 26021	Lignum	05/12/07	04/12/13	408	100
EL 27035		Application		155	100
EL 27037		Application		95	100

* held by Zulu Gold Pty Ltd which is a 100% owned subsidiary of Mantle

** held by Calcifer Industrial Minerals Pty Ltd, however Mantle holds 100% beneficial interest in the tenements via its 100% owned subsidiaries Trafford Coal Pty Ltd (87.5% beneficial interest) and Mt Mulligan Coal Pty Ltd (12.5% beneficial interest)