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ASX: MNM & MNMOA

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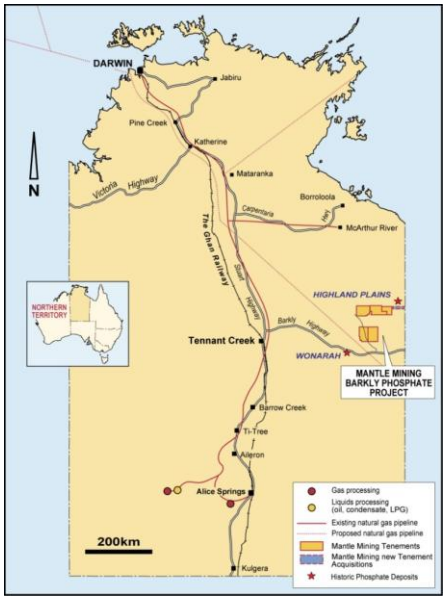
ASX Release **12 February 2010**

Mantle Update on Barkly Phosphate

Mantle Mining Corporation Limited (ASX: MNM), wishes to advise that it has received final results from laboratory analyses of the recent scout drilling program at the Barkly Phosphate project in the Georgina Basin, completed an analysis of the previously announced discrepancy between results from its portable XRF machine and laboratory XRF analysis, and applied for a number of additional tenements in the region.



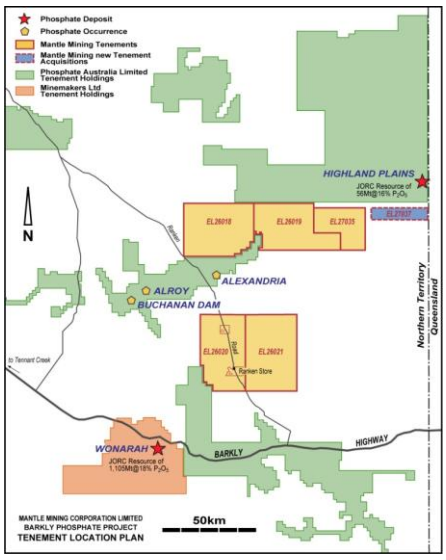


Figure 1: Mantle's Barkly Project location

Key Points:

- Initial laboratory results confirmed correct by a second NATA accredited laboratory and results for 35 of the 36 hole program received with only trace amounts of P_2O_5 reported (Figure 2, Table 1),
- Some thick (7 - 31m) intervals of stratigraphic interest (Table 1) were located near historic holes reported to contain 11 to 13% P_2O_5 (Figure 3). These may represent fringes or channels to the historic holes,
- The discrepancy between the portable XRF and the laboratory results is being attributed to high levels of calcium in the sedimentary sequence causing interference with the phosphorous signature within the x-ray response of the portable XRF instrument,
- Future programs at the Barkly Phosphate project where a portable XRF instrument is used will include an instrument with higher sensitivity for light elements and with project-specific calibration,
- Four new applications have been lodged over an additional 5037km^2 of ground 15km to the south west of Mantle's project area and 60km to the east of Minemaker's (ASX: MAK) Wonarah deposit (Figure 4).

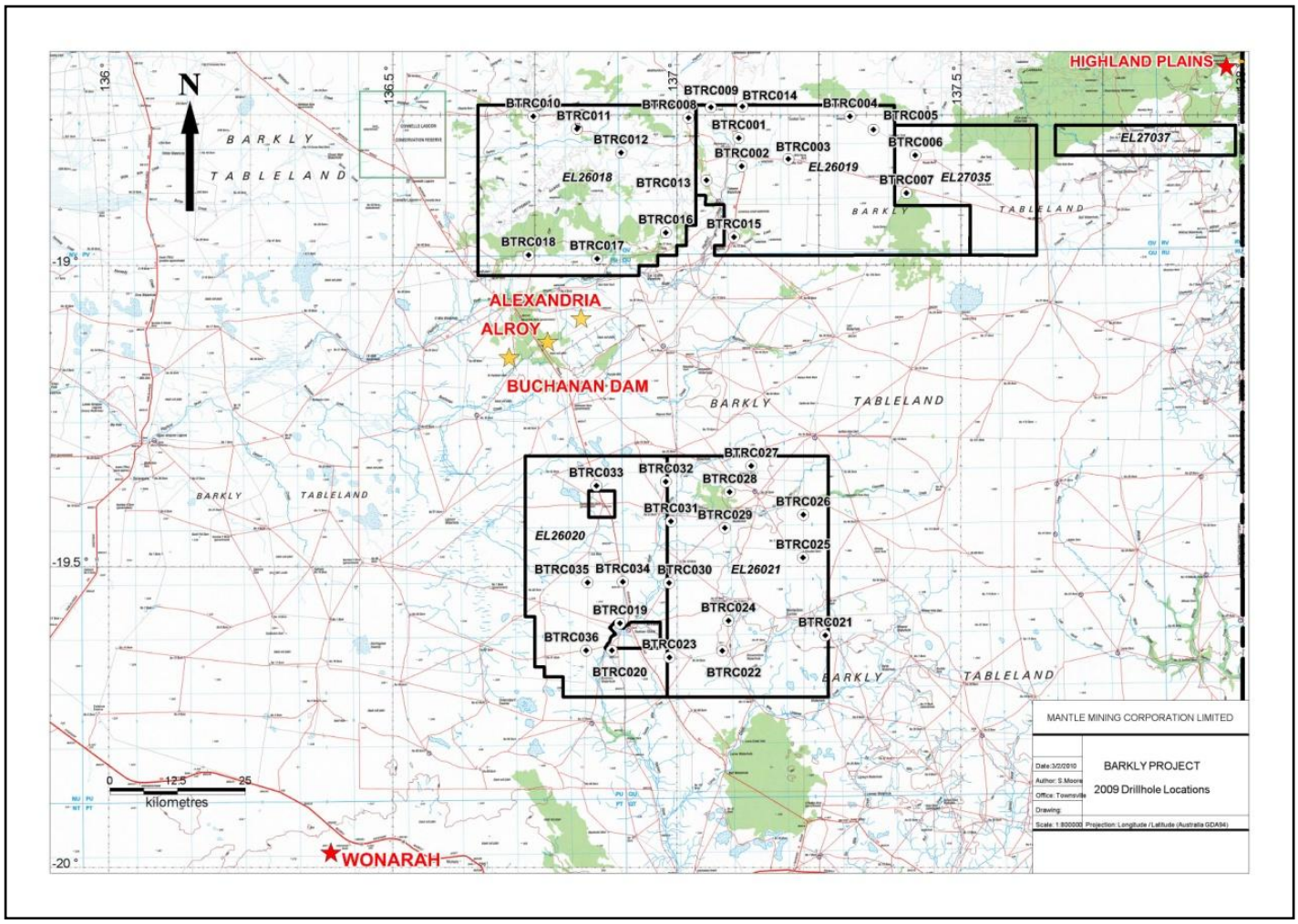


Figure 2: Final drill hole locations on topographic image.

Detailed review of a recently announced discrepancy between results from a portable XRF instrument (which showed high levels of phosphorous at the Company's Barkly project) and the subsequent laboratory analysis (which reported only trace amounts of P_2O_5) has now been completed.

The review has confirmed that the laboratory results were correct. The original drill samples were sent to a second NATA accredited laboratory which also returned only trace amounts of P_2O_5.

Reanalysis with Mantle's portable XRF instrument under bench conditions on the sample pulps from the original laboratory returned repeatable high phosphorous levels, confirming the effectiveness of field operating procedures and consistency of the instrument error.

The discrepancy between the portable XRF instrument and the laboratory results is being attributed to the effect of high levels of calcium from limestone-rich lithologies in the sedimentary sequences causing an interference with the phosphorous signature. Strong intensity x-ray responses from the calcium (CaO) is thought to have caused the instrument to use an elevated background level against which to read the weak intensity x-ray responses from very low levels of phosphorous, resulting in the elevated P_2O_5 levels initially reported.

Future programs at the Barkly Phosphate project where a portable XRF instrument is used will include an instrument with higher sensitivity for light elements and with project-specific calibration.

NORTHERN TENEMENTS EL 26018, EL 26019 and EL 27035					
HOLE NO	DEPTH (m)	FROM (m)	TO (m)	INTERVAL (m)	P_2O_5 (%)
BTRC001	60	10	13	3	0.11
		27	28	1	0.11
		56	57	1	0.11
BTRC002	50				<0.10
BTRC003	50				<0.10
BTRC004	50				<0.10
BTRC005	45				<0.10
BTRC006	50				<0.10
BTRC007	50	14	15	1	0.20
		21	22	1	0.20
BTRC008	60	10	11	1	0.10
		13	**21**	**8**	**0.24**
		24	25	1	0.14
		29	**60**	**31**	**0.24**
BTRC009	50	8	9	1	0.22
		10	13	3	0.19
		14	17	3	0.37
		24	28	4	0.11
		44	47	3	0.11
BTRC010	35	15	16	1	0.10
		20	21	1	0.12
		28	29	1	0.17
BTRC011	50	24	25	1	0.13
		32	33	1	0.14
		41	42	1	0.16
BTRC012	50				<0.10
BTRC013	50				<0.10
BTRC014	50	23	24	1	0.13
BTRC015	50	21	22	1	0.10
		25	26	1	0.22
		31	**38**	**7**	**0.54**
BTRC016	41	14	15	1	0.16
		24	25	1	0.28
		32	33	1	0.10
BTRC017	35		Analysis	Pending	
BTRC018	60	37	38	1	0.20
		42	43	1	0.74
		51	**53**	**2**	**3.43**
		59	60	1	0.56

SOUTHERN TENEMENTS EL 26020 and EL 26021					
HOLE NO	DEPTH (m)	FROM (m)	TO (m)	INTERVAL (m)	P_2O_5 (%)
BTRC019	60	0	2	2	0.12
		4	5	1	0.19
		6	8	2	0.17
		55	56	1	0.11
BTRC020	58	41	42	1	0.10
		51	53	1	0.13
BTRC021	60				<0.10
BTRC022	60	40	41	1	0.14
BTRC023	60	5	6	1	0.13
BTRC024	60	35	37	2	0.12
		39	40	1	0.10
BTRC025	60				<0.10
BTRC026	60	17	18	1	0.10
BTRC027	60				<0.10
BTRC028	60				<0.10
BTRC029	61	58	60	2	0.13
BTRC030	60				<0.10
BTRC031	60	37	38	1	0.10
BTRC032	60				<0.10
BTRC033	60				<0.10
BTRC034	60	45	46	1	0.10
BTRC035	60				<0.10
BTRC036	60	57	60	3	0.13

Table 1: Laboratory analysis results highlighting stratigraphic and trace P_2O_5 indicators.

All results for 35 of the 36 hole program have now been received with only trace amounts of P_2O_5 reported (Figure 2 and Table 1). Intervals not shown in the table reported <0.10% P_2O_5. Analysis results for BTRC017 remain outstanding and are expected in approximately two weeks time.

Some thick (7 - 31m) intervals of stratigraphic interest (Table 1) were located. These are in the region of the historic holes reported to contain from 11 to 13% P_2O_5 along the edge of the Mittiebah Ranges (Figure 3).

These thicker intervals may represent fringes of, or channels to lithologies related to the historic holes and are all located in the Company's northern set of tenements.

ELs 27035 and 27037, which are located close the Phosphate Australia's (ASX: POZ) Highland Plains Deposit, remain to be tested in future field programs.

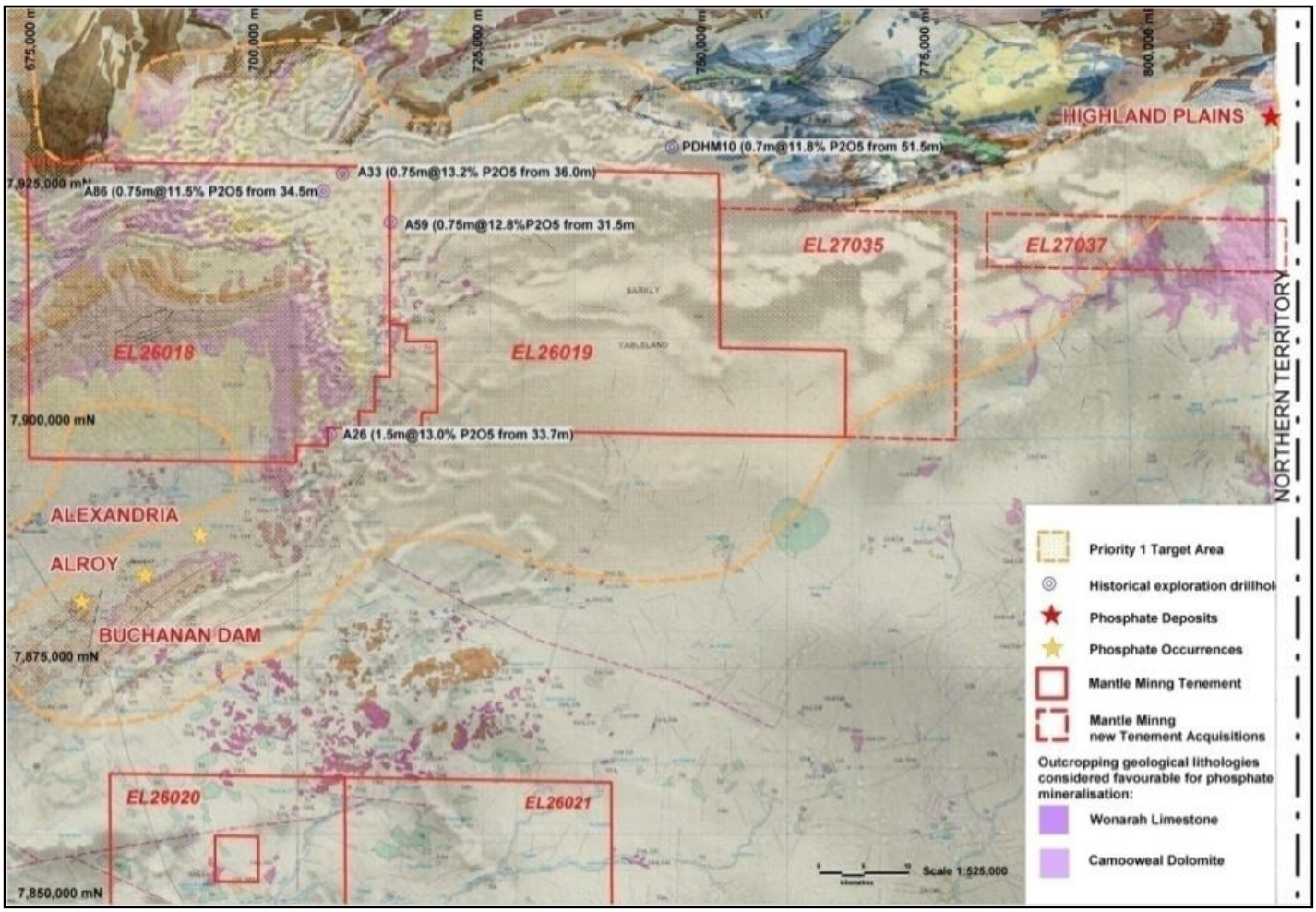


Figure 3: Historic hole locations on surface geology.

The Company will proceed to model all analysis results, stratigraphic and lithographic information in order to ascertain whether any lithologies can be interpreted as pointers to mineralisation. This work will allow for effective relinquishment of areas considered low prospectivity and to focus future drilling on areas holding potential for mineralisation.

Four new applications have been lodged and awarded priority over an additional 5037km^2 of ground (Figure 4). These areas lie 15km to the south west of the current project and 60km east of Minemaker's (ASX: MAK) Wonarah deposit.

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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) and 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.

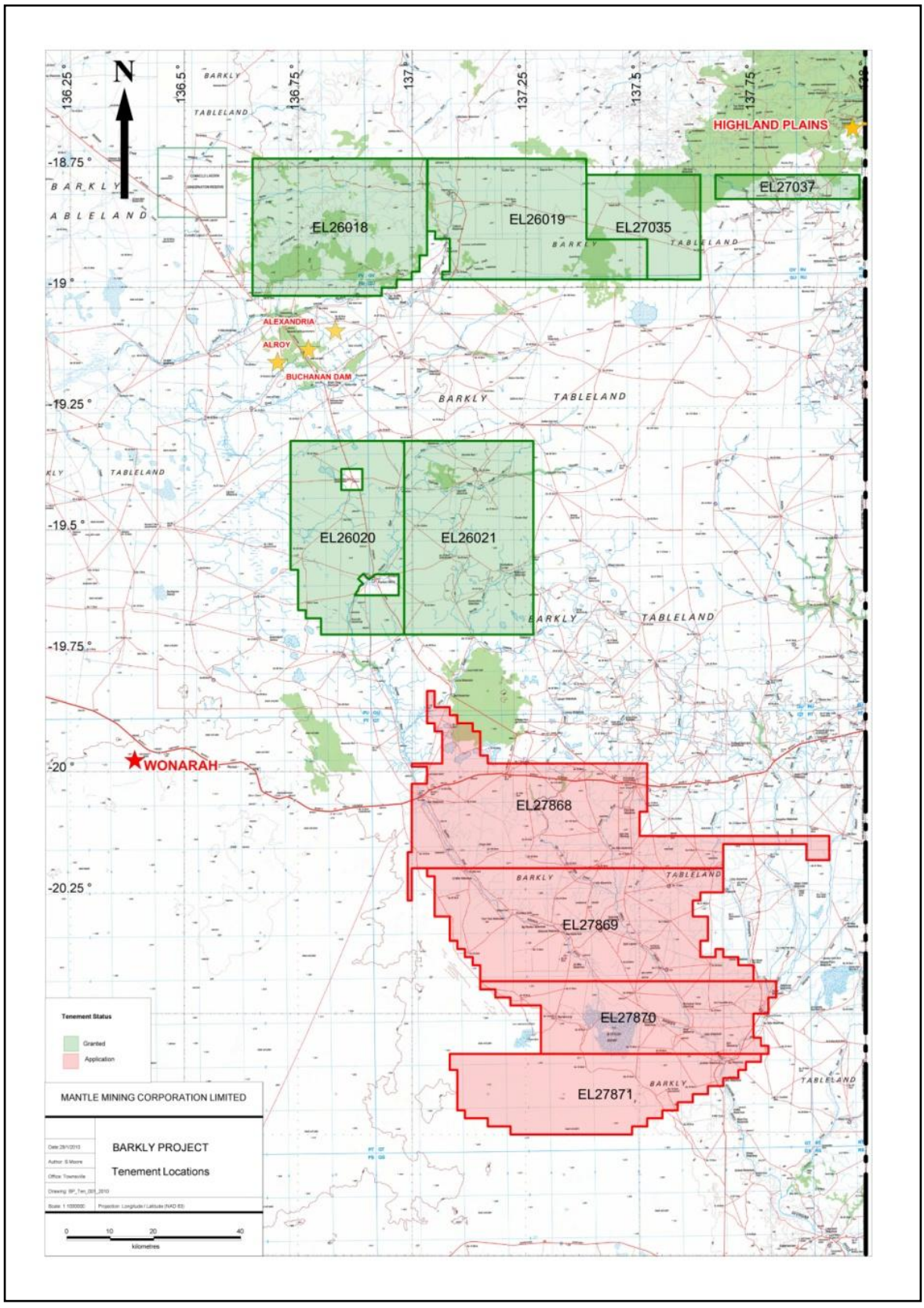

Figure 4: Existing tenement location plan with new application areas.

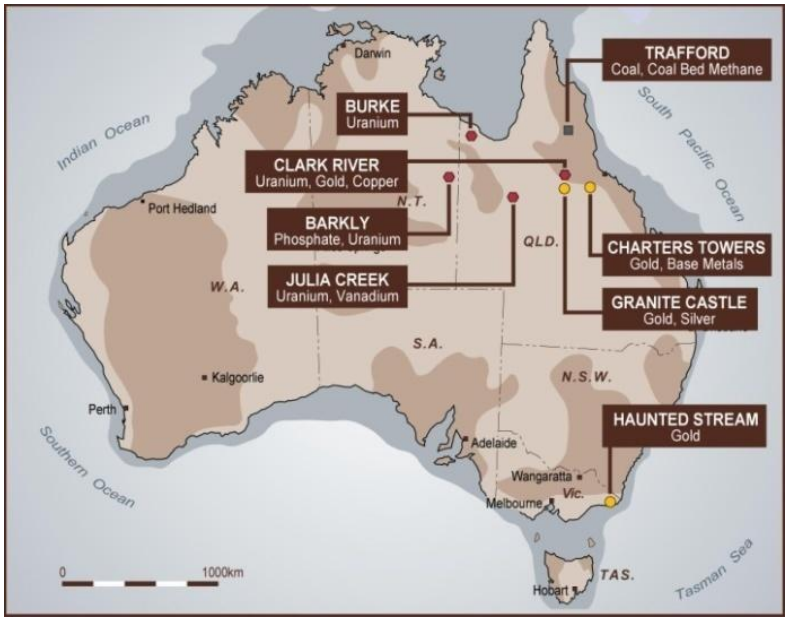

Figure 3: Mantle Mining project locations.

Mantle Mining's Other Projects:

- Haunted Stream Gold
- Granite Castle Gold
- Charters Towers Gold
- Trafford Coal & CBM
- Julia Creek Uranium
- Clarke River Uranium
- Burke Uranium

In Victoria, Mantle controls a number of tenements highly prospective for gold/copper including many historical, high-grade, mines along a twelve kilometre gold anomalous corridor closely tracking the Haunted Stream fault. Anomaly 4 was recently announced as a major drill target for possible deep vein gold or porphyry copper-gold mineralisation. It is the Company's intention to fast-track a diamond core drill hole targeted to intercept the anomaly at depth, followed by down the hole geophysics. Detailed definition by ground magnetics has been completed with drill mobilisation planned for February. The Company was also notified of potential grant of Mining Licence 5505 located within the Haunted Stream exploration licence area.

In Queensland, Mantle's Granite Castle and Charters Towers projects contain standard JORC compliant gold resources. At Granite Castle the JORC compliant gold/silver resource mineralisation occurs in a single sub-vertical shear, 600m long. Over 6 km of additional, sub-parallel shears have been located, all with drillholes and/or rockchip samples at similar grades to the JORC compliant shear. The Company has designed a programme of additional soils sampling and surface based Induced Polarisation (IP) surveys in order to most effectively design a shallow drilling campaign on the next most prospective (Coronation) shear. Drilling is currently proposed for mid-year.

In Queensland, Mantle is negotiating an access agreement with the traditional custodians of Mt Mulligan – Trafford Coal & Coal Bed Methane (CBM) project. The attractiveness of using CBM for low emission power generation and sale of electricity, or supply for LNG production, is significant. The Company progressed very positive discussions with the traditional custodians towards Authorisation (signing) of an Indigenous Land Use Agreement (ILUA), however has been delayed by the advent of a Third Party claim. The Company has retained Special Counsel to work with its legal advisor, Minter Ellison, Lawyers, to resolve the claim.

In Queensland, Mantle controls a number of tenements near Julia Creek, Charters Towers and in the Gulf of Carpentaria near Westmoreland, all prospective for uranium and base metals. Value accretion from these projects is being sought from joint venture activity thereby allowing the Company to focus its own resources on its highest priority projects whilst maintaining exposure to any upsides delivered through joint venture. The Company has entered into its first such joint venture - with Southern Uranium Limited (ASX: SNU) - at its Mt Brown tenement. Mt Brown is immediately adjacent to SNU's Pandanus West Project and forms part of Mantle's Clarke River Project.