24th June 2015

NSW Government

Macquarie Street, Sydney, 2000.

Re: ILUKA EIS - BALRANALD PROJECT, STATE SIGNIFICANT DEVELOPMENT PROPOSAL.

At the outset I write to support Mineral Sands Mining in New South Wales;

Our State has one of the largest proven deposits of mineral sands in the world and this development and subsequent export will be positive for Australia. However, I also believe all EIS proponents have a duty of care to provide accurate and effective community information to assist analysis of their proposal. Our company has an investment interest in mineral sands and provides professional independent advice. The author was involved with the establishment of Water Australia, has examined the EIS and has visited the mining project area.

I provide the following Executive Summary, Issues Review and Recommendations on behalf of the many citizens who could not read or print the +500 page EIS report with close spaced text.

EXECUTIVE SUMMARY.

1. This New South Wales project will generate AUD$965m each year in economic output.
2. West Balranald Deposit size: 12MillionT. 64.1% Ilmenite, 11.9% Rutile, Zircon 10.8%
3. West Balranald Mine total area: 2987Ha. Excavation Route 506Ha, Final Hole (void) 40Ha.
4. Nepean Deposit size: 2.4Mt. Ilmenite 59.7%, Rutile 14.5%, Zircon 14.4%
5. Nepean Mine total area: 804Ha. Excavation Route 136Ha.
6. Estimated 5% local operational workforce. 366 peak staff on-site. Employment range 315 to 450 people. Estimated effective combined mine life of 7 years.
7. Average yearly production: Heavy Mineral Concentrate (HMC) 500,000Tpa. Ilmenite 600,000Tpa. Head grade feed rate 440T per hour. 150T/h HMC of Wet Concentrate. Estimated 34% recovery grade. Further TiO_2 coal & gas processing using the Becher Process.
8. There are 2 open cut mine projects. The first project (West Balranald pit) has an ore depth of +80m. The second mine proposal would not commence for a further 5 years. This second mine is called “Nepean” but is located nowhere near Sydney.
9. Both mineral sands deposits are below the water table. The height of the water table in parts of the project area is estimated to be 0.5m below ground level. 25 GigaLitres (that is 10,000 Olympic swimming pools) of water will be “incidentally” extracted at the mine site to operate a “dry mine”. Total project area: 9964Ha (that is over 3900 MCG playing fields).
10. The proposed development would result in direct disturbance of an estimated 5160Ha of native vegetation.

11. The majority of the final mine area (external to pit) will be unsuitable for grazing for many years. The majority of the site area will be re-graded, top soiled and seeded.
12. The northern most mine development is within 23 Km of a World Heritage area. 20 Fauna species are identified that are listed as Threatened Species (TSC Act) including Malleefowl, Bats etc. Several are also protected by the (EPBC Act). A separate EIS is to be lodged by the company with the Australian Government. NSW Western Lands Act 1901 protects the Southern Mallee and associated habitat of endangered species. Both are present on the proposed development sites.
13. We recommend the tolling of heavy vehicles on Arumpo Road. The proposal expects to deliver HMC to Victoria on NSW public roads. The roads near the site are in poor condition and represent a primary route to the World Heritage area from Balranald. Balranald Shire Council has made repeated requests to the proponent to agree to road improvements and the Council are current spending increased road funding on sealing adjacent roads.
14. We recommend delayed approval of the Balranald Mine and accelerated development of Nepean Open Cut. There remains considerable concern about the EIS analysis including 4.2Mt CO2 emissions, damage to the surrounding water table and transfer of underground salt within the lower Lachlan River floodplain.
15. The NSW Government has an inherent conflict of interest in relation to this project. Estimated royalties paid to the state amount to $96m NPV. Any licence approval should be referred to an independent third party tribunal considering this significant financial conflict of interest. The net economic social contributions to Australia are estimated at $132M as 45% of this project is Australian owned.

KEY ISSUES TO CONSIDER IN THE REPORT

A. WATER

Landcare members in the Lachlan & Murrumbidgee catchment have worked very hard to improve downstream flows in the river system. In many cases farmers have made significant voluntary water savings to improve these rivers. This water is “our water”. Any downstream wastage could impact our upstream determination to make water savings in the future. The proposed water to be used did not fall in the region and by the EIS’s own admission (pg. 266) the recharge is not derived from the local area due to low precipitation and high evaporation rates.

The use of 450 MegaLitres of high security river water for controlling dust is an insult to the 1000’s of farmers upstream who have adopted Landcare practice to return water to the river voluntarily to ensure a quality riparian flow. Again I state, the proposal to use high security fresh river water for dust control is obscene. All farms have dust, but we don’t use the river on roads.

Many Australian in the region know about wine, the simple truth is addition of low grade wine to good base wine does not make for a good wine. The addition of saline bore water to bores in new locations may be expected to have a similar result.

No use of Reverse Osmosis is recommended in the proposal. Why was desalination considered but discounted? All water reinjected should be of a higher grade than the current water quality in the receiving bore. Addition of new contaminants is unacceptable. All individual wells should be logged monthly and no water grade should be allowed to be added that is below the normalised water quality logged in the well at a prior measurement.

Our experience suggests that exact locations are required for boreholes to avoid ambit claims and destruction of valuable habitat. The current EIS specification of location is inadequate and reflects either 1; No current knowledge of the location (not good enough), or 2; An intention to mislead, or 3, An intention to possibly adjust later after approval with possible further damage to sensitive unregulated sites. Please note the: 2 x 50m corridors 350m apart with 100m intervals appears excessive. There is No advice on the number of individual lines within the corridor, just the spacing along the line. This is a very important issue. Exact bore location by peg (+or- 2m) should be provided to the community and individual peg inspection required.

The proposed establishment of a 350MegLitre bore water extraction dam is unreasonable. For clarity that is 350 Olympic swimming pools of water on 20Ha surface area (200m x 1km of land). The EIS proposes using uncovered above ground storage in a semi arid climate. This sound like a good evaporation strategy to avoid pumping costs in summer. We suggest that all volumetric storage should be covered and require lids to eliminate any evaporation loss. We also suggest an immediate increase in dam depth to lower the overall surface area of evaporation.

B. DAMAGE TO THE WATER TABLE AND LOWER LACHLAN RIVER SYSTEM.

Box Creek is an anabranch of the Lachlan River Inland Delta. Similar in structure to the Darling River anabranches that are so important to native fish in times of flood. There is insufficient explanation in the EIS of the management and diversion of surface water from Box Creek, the adjacent channels and the neighbouring floodplain lakes. There is also a lack of clarity on the draw down cones and their impact for each mine site. This information is required for further stakeholder consultation.

The terrain height in the proposal area is 62-100m. Considering the water table lies at an estimated 0.5m -14m below ground level, this presents a critical risk to deep rooted plants typical of trees in these arid conditions. The report indicates the lower Lachlan – Murrumbidgee catchment receives only 324.8mm of rainfall with the majority of precipitation typically in winter. Underground recharge is required from the local ephemeral streams. Box Creek is the most important ephemeral streams in the local area and derives its flow from the Lachlan River in flood conditions. The Box Creek eventually falls to the Murray & Murrumbidgee Rivers through complex western porous rock structures (pg. 263). The West Balranald site is directly adjacent to Box Creek and the pit encroaches on a recharge lake. Extraction of any water will directly reduce underground water regional recharge and downstream flows in times of flood.

The licence proposal provides No definition of boreholes depth by site. Site location of each bore hole and there maximum depth is important due to the contaminant risk to existing ground water and the variable rock basement. Independent site inspection should be contracted for each pegged bore hole (exact site approval) prior to construction & any water injection.

The current EIS assumes limited lateral movement and common ground water quality. Bore logging should be required that limits contamination and restricts the introduction of salinity below the previously certified test quality for each injection point. Testing should be monthly for water quality to protect each individual bore injection point. No detailed soil investigations were completed for the injection borefields.

The EIS states : “No adverse impacts are anticipated for the lower Murray River”. That is after annual volumes of 23,400MegL are extracted, a further 1580MegL of pit seepage and 450MegL are pumped from the Murrumbidgee River (pg. 276).

C. EASEMENTS & LICENCES

It seems that most easement and licence requests are exaggerated. Some companies use the moto “If you never ask, you never get”. This seems to be the case with this proposal. Certainly the State wants this development, but so does the proponent. The community expect to see balance and reason demonstrated in this approval process. Examples of excessive reach include:

- Width of access required for pipeline (40m). How wide is this pipeline? 25cm wide.
- West Balranald Access Road corridor 150m wide. Wider than the Hume Highway ?
- A corridor request of 100m for each run in the injection borefields.
- No identification of mine depth by location. This is particularly important considering the requirement to de-water below the dry mine base by 5m with a water extraction rate of 846L/second (pg. 278). Specification of final depth by GDA location should be mandatory.
- No clear definition of the contracted quantity of gravel requiring licence approval. In excess of 160,000m3 are mentioned. A specific limit should be agreed prior to approval. All gravel should be valued and sold as a State asset, suggest Department check if outside EL (Class 10)
- Off-path injection upto 30km from the mine site with associated title use claims on land.
- The company seriously believes the best environmental option is pumping fresh water from the River (see page 84).

D. PUBLIC ROADS & INFRASTRUCTURE.

There is a need to maintain access to Arumpo Road for all citizens. Roads are regulated under the Roads Act – section 138 and a permit is required. The request for a 40-50m wide corridor along the public road should be rejected. The current proposal would not provide adequate access to the World Heritage area and limits public asset use. The EIS supports the additional risk to citizens with B-triple truck proposed to operate on the public road.

The road name is not Nepean Access Road as frequently labelled in the EIS and this is misleading. Nepean Access Private Road is only 5km long. The rest is really a series of public roads, it is a name invention to describe various claims to using public roads. The proposed use of 22Km’s of public roads without any offer to seal them while operating B-Triples in close proximity of tourist vehicles is unreasonable. Public road access should be charged on a toll basis with all damage costed to reflect works required. Under no circumstances should public access be restricted on the public roads. The EIS provides No commitment to seal the roads. Tolling will solve this problem for the State Government.

No Borefield should be allowed adjacent to Arumpo Road. All citizens should retain complete vehicle access to all adjoining land. The Establishment of 22Kv power supplies for bores should also provide open access for provision of new power supplies to the community in this area.

E. MAPS & DIAGRAMS.

There is evidence that many of the maps and diagrams are misleading or inaccurate. Inquiries should be made about the various companies who are required to certify accuracy. The proponent and State Government may be advertising information in June2015 that they know is not accurate to the general public. E.g. the current EL7450 boundary. I also provide the following examples for consideration;

Balranald box inset map (Figure 3.3) may cause confusion about the path of important recharge lakes below this box inset and the proposed 90m deep pit. (See alternative map pg. 279).

Maps Figure 3.2. with titles “Water supply pipeline” and “Muckee Lake” disguise the importance of Box Creek flows downstream.

Photograph of northern most injection borefield (PHOTOLOG) is not representative of the area suggesting a barren sand plain or dune. This is clearly not the case.

Figure 6.5. fails to show the connection of Box Creek to the Murrumbidgee River. Perhaps the writers of this section of the document was not aware of the flood plain connecting the Murray?

The West Balranald mine is proposing to mine adjacent to Box Creek and an ephemeral lake ? This explains the bizarre shape of the map (Figure: 4.7). But don’t worry, it will be green according to the PR image (Figure 4.8 and 4.9) when the project is near completion. Please note the colour of the ephemeral lake in Figures: 4.7, 4.8, 4.9.

Figure 4.12. does not seem to accurately or even practically describe the amount of resource to be removed. We suggest this requires a further release of the actual resource dimensions to further community consultation and improved definition of the water table impact in the region.

F. EXCAVATION – PIT GUIDELINES.

In our view, PAF overburden (acid generating wet soils near ore bodies) require stronger management. PAF runoff should not be transferred to the MUP dam. This requires further community discussion on options.

Oversize material greater than 2.5mm should be captured and further processed. This is an economic resource that would be wasted by the proposal. Suggest a third party processor if the company’s proposed plant does not require all this material.

The Sand by product should be valued by the State Government and sold for further use.

Further analysis of MODCOD toxicity and risk to deep ground water is required. MODCOD may be a “time bomb" waiting to go off when the bore pumps are turned off.

No mention is made of the chemicals stored on each site (Pg. 50). No specification of fuel storage size for example. This seems unlikely that this is not known at this stage ? Fire systems with adequate bunding for petroleum chemicals and fire control systems. We note the recent NSW Governments obligations for Canola Oil processing in Southern NSW fire prone areas.

We also note extraction “Dewatering bores would be screened in the LPS to avoid contamination” (page 44). What contamination is this referring? There has previously been no specification of drilling fluids. The community believe it is important to have clarity on this CSG style process activity. There is No specification of other chemicals eg. Thickener and Flocculants.

There also appears to be insufficient specification of administration facilities at the Nepean site.

In the EIS there is No mention of the proposed “final land use” for a used borrow gravel pits. It would be interesting to hear the company explain the exact final use they will be rehabilitating for. This would establish a guide to a reasonable completion standard on all excavation sites.

G. URGENCY OF APPROVAL

The proposal suggests that closure of a processing plant in Victoria (Hamilton MSP) would be the fault of NSW Government if a delay was experienced in project approval. It is worth remembering the company has undertaken exploration since 2009 and the proponent has had many years to complete the EIS and progress this matter. Any significant project delay would not therefore be due to careful consideration of the EIS by Government.

H. PROJECT GREENHOUSE EMISSIONS AND BIOBANKING.

The project if approved will represent in excess of 1/10 of 1% of all CO_2 emissions in NSW. The estimated volume is 0.3 – 0.6Million CO_2 tonnes each year over the life of the mine. The majority of emissions are from road transport (estimate at 85% of indirect emissions. Appendix E Pg.87). The overall product processing of Titanium at the mine site and interstate requires gas and/or coal. There is an estimated movement of 150 B-Doubles each day on the roads of NSW.

The State Government may consider a trial Ilmenite separation plant that uses co-produced Solar Hydrogen (H_2 - 20% pipeline injection rate) or a renewable Biogas source complimenting LNG/LPG to further avoid or reduce CO_2 emissions. Additional licence requirements and support for this regional agriculture industry should be required as a minimum. All fresh water required for the ISP should be sourced from commercial Reverse Osmosis. This should be a minimum condition of approval.

There is no use of renewable generation or green power supplies actually committed in the EIS. Clearly the increase in CO_2 is not planned to be managed. Best practice would include rail from the mine head for MCH ores, consideration of fuel cell transport equipment and extensive use of solar power for well head bores.

There is limited information on the power requirement of 15mVamp. There is also insufficient information on the proposed electricity supply & planned power line routes. This should be included in the EIS document.

Suggested PAF dam should be lined with a water proof geotextile. We recommend gas tight geotextiles are used to control airborne emissions. (Page 64).

Timber stockpile processing may be managed to produce energy and avoid CO_2 emissions.

No discussion of lighting controls and methods to manage emissions (industrial light pollution) are considered. This will be important to local micro bat communities during 24/7 operations.

The proposal suggests that 28,338Ha will be acquired by the company for Biobanking purposes. Would these offsets be invested and serviced in perpetuity by the company? The new proposed land should not be deducted from existing Malleefowl protection areas as this would have no net improvement in Landcare protection. The proposed land should be identified and agreed prior to EIS approval and should not be part of existing Western Land Lease arrangements to ensure a significant benefit is achieved. The proposed Biobanking in the EIS is positive.

It is reasonable to question this development proposal considering the community's concerns about WA Inc or the recent Rum Corp MKII mining activities. It must be clear that no unreasonably close relationship may exist between the project proponent and the Government on this development application. Critical issues to examine are the claims within the EIS of low environmental impact and genuine submission accuracy. I also highlight the potential conflict of interest for the NSW Government considering the expected royalty of AUD$96 million (Net Present Value, pg. 392).

I therefore make the following substantial recommendations:

RECOMMENDATION 1.

TRIBUNAL. An independent legal tribunal should examine the EIS for compliance requirements. This should include material EIS errors. Action & enforcement should be taken in the event that the community have been deceived in relation to EIS content. A further period of 3 months public examination may be required for a new or revised EIS with corrected content. A further review of EIS audit and certification procedures may be required in New South Wales.

RECOMMENDATION 2.

WATER. The mining area embraces the flood plain anabranch of the Lachlan River inland delta called Box Creek, this is not a tributary (pg. 17) of the Lachlan River as described in the report. Considering the perilous state of the Lachlan and Murrumbidgee catchment this proposal should be required to improve water flow, quality and volume in the lower Lachlan overflow region. It is preferable that the West Balranald pit should be delayed until significant environmental improvements are made to the proposal. It is recommended that the SSD should not be approved at the current time due to material damage to the Lachlan River inland delta ground water table and flood recharge zone.
No reinjection of salt should be accepted under any circumstances.

RECOMMENDATION 3.

PUBLIC ROADS. The document repeatedly describes the Arumpo and Bourke & Wills Roads as "Nepean Access Road". These are public roads and provide an import gateway to the neighbouring World Heritage Area. We travel on these roads and open access should be maintained to all citizens. No community restrictions to access public lands should be accepted.

RECOMMENDATION 4.

The road described by the EIS as "Nepean Access Road" should be tolled by the NSW Government for all B-Double and B-Triple vehicles. The revenue raised from the Toll Road should be used to provide improved roads in the Balranald Shire with a priority to establish a sealed road to the World Heritage Area for increased regional tourism.

RECOMMENDATION 5.

GREENHOUSE GAS. There is very limited evidence that the company has worked to lower CO2 emissions in the proposal. The project proposes extraction of a limited resource that is a State Government asset. The NSW Government should require the company as a term of the approval to trial and use all available low emissions technologies available in power generation, excavation, MCH processing steps and final transport. This should be a minimum requirement considering the proximity to the World Heritage Area.

RECOMMENDATION 6.

Approval of Nepean Mine should only be granted when satisfactory operation of the Balranald Mine has been demonstrated or an accelerated development timeline is agreed. Clearly the current 5 year ambit claim for an exploration or mining reservation is in breach of the Government's "Use it or Lose it policy". This standard policy should be applied equitably to all parties as advertised on the NSW Government website.

RECOMMENDATION 7.

The EIS is a complex document and the brief inspection & comment period remains an unreasonably short period for an SSD project of this scale. We recommend a period of an additional 2 months for community consultation. I also note the limited access to management and no consultation in the Upper Lachlan catchment.

The Balranald project deliver a net economic social contribution to Australia of AUD$132 million under the current project design. However, the estimated cost will be decades of change to the downstream Lachlan River flood plains and surrounding underground water table, 5160Ha of native vegetation reduction and an estimated 4.2Mtonnes of global CO2 emissions. There is now an opportunity for corporate Australia and the company to clearly demonstrate a commitment to delivering an environmentally responsible project in our backyard. The conditions of project approval will represent a moment of truth for Australian industry and Government considering the net economic benefit and quantified intergenerational cost.

I would be pleased to discuss this matter further.

Yours Faithfully,

Robert Sutton – CEO [MBT.UNSW]

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