

SUBMISSION TO THE SENATE ECONOMICS COMMITTEE.

Inquiry: National Radioactive Waste Management Amendment (Site Specification, Community Fund and Other Measures) Bill 2020.

This submission is made by Azark Project Pty Ltd who, in conjunction with the Shire of Leonora did apply to be the site to house the storage facility.

We were not chosen.

Our submission will deal with, what we believe, was an unfair inquiry by the Department of Industry Innovation and Science who ran the inquiry having already decided that the facility would be above ground. They said as much when they stipulated when calling for applications that “they required no less than 100 hectares of land for the facility”.

In a letter from the Shire of Leonora to the department dated 9 December 2016 the Shire CEO Mr Epis spells out the factors that make the Leonora site the best option for the storage facility. It was an underground proposal. He then goes on to detail state government departments that would need to be involved in clearing the way for the facility to be sited near Leonora.
(Attachment 1)

So the department had early notice that the Leonora proposal was available and willing to house the facility. Discussions did take place between the department and the Azark Project resulting in a letter to the department from Mr Epis dated 28 June 2017. This letter answered queries from the department under the headings Social License, Additional Consultations and Suitability.
(Attachment 2).

The task force were aware of the proposal to store radioactive waste being Low Level Waste (LLW) and intermediate Level Waste (ILW) underground at depth since at least December 2016 and given the statement below it is hard to understand why Leonora was not proceeded with.

The National Radioactive Waste Management Facility project has a Facebook page. Posted on the Facebook site on the 5 March at 16.01 was this statement:

***“Intermediate level waste will be stored at the NRWMF until a permanent disposal solution is developed.*”**

Intermediate level waste disposal will require a different solution- likely a deep geological repository that will take several decades to site and build.”

Attachment 3

So on the one hand the department are saying that ILW has to be buried at depth and this will take decades knowing all the time that they had such a site at Leonora. This doesn't take decades. We could have it operating this year.

Our submission would like to concentrate on the most important factors in recommending to the senate that this bill not be passed.

There is no greater responsibility that the government has to its people than to keep them safe. The current Corona Virus is a good example. The proposed site at Kimba fails miserably on this score. ILW is deadly to humans if they are exposed to it.

The safest storage for ILW is below ground in solid rock. Even the department admit this. This is what the Leonora site does. The body of rock selected for the site is 16 kilometres from the town site. It is 4 kilometres deep and has been seismically stable for 50,000 years. There are no water issues and it is easy to secure.

All ILW waste transported to Kimba will have to be by truck. Rail is much safer and Leonora is connected to rail.

The Kimba proposal by the government admits that it can only be a temporary site for ILW and that it will have to be shifted before that time. This double handling presents yet another danger. Leonora is a permanent site. Once the ILW is stored it doesn't have to be shifted again.

The second factor the committee should consider is the cost to the taxpayer.

Press reports, which have not been denied, put the construction cost of the Kimba facility at \$325M. Because this will be borrowed money there is an additional interest bill of \$6.5M per year. That is \$65M for ten years and they have a time frame of 30 years.

Azark Project Pty Ltd is a private company. We will raise the money for our project commercially. The cost of burying ILW 100 metres below ground is about \$40M.

Because Leonora is a mining town we have all the construction, transport, logistics and security services provided by the private sector. We can contract these services on an as needs basis and slash the cost of ongoing storage and maintenance.

The private sector is much more efficient than a government run business, something all governments in the last 40 years have known. The proposal by the government to have a government owned business flies in the face of all that has been learnt by previous governments.

There is no cost in buying the land in Leonora unlike the land needed in Kimba. Another saving of taxpayers money.

There is also the cost of finding a new “deep geological repository” and constructing it within 30 years. It is safe to assume that this will run in to hundreds of millions of dollars given the cost of the current proposal.

Another major consideration is the stability of the land on which the storage facility is sited.

At Attachments 4 and 5 are letter from two prominent SA geologists, with over 90 combined years of studying the Kimba region, who both state that the site at Kimba is not suitable and both of them saying what we are saying and that is

Don't choose Kimba as the site to store ILW

Bury it underground

Kimba is in an active earthquake zone

There is one other factor that I want to mention. Ownership. It doesn't matter if the storage facility is private or publicly owned. What is important is that the real responsibility for the safe storage is regulated by ARPANSA and it is that body that will enforce the public safety standards regardless of ownership.

We recommend to the committee that you not only stop this legislation from proceeding but that you recommend to the government that for the reasons I have mentioned in this submission that the national facility be at Leonora.

Hon. George Gear

Chairman Azark Project Pty Ltd



9th December, 2016

Director General
Department of Industry
Innovation and Science

Dear Sir/Madam,

Attached please find Department of Mines and Petroleum Tengraph plan detailing the boundaries of Exploration Licence 37/1255 which is partly within Melita Pastoral Lease 3114/1121 and Clover Downs Pastoral Lease 3114/717. The mining tenement has been applied for by a Glenn William Baker on behalf of the Shire of Leonora.

For the past ten (10) years, the Shire of Leonora has been searching and investigating areas of land which could be considered suitable for the management, storage and disposal of nuclear and radioactive waste.

The criteria required for a Nuclear Waste Disposal Site include and is not limited to:

- large enough area for the storage and possible future expansion of the facility, and to allow for drilling or tunneling to a required depth of up to 5 kilometres;
- accessible well-constructed roads or railway to site to allow safe passage of heavy vehicles transporting radioactive material and equipment
- route to site not passing through sensitive or potentially unsafe areas;
- isolated, away from communities
- land not required for other uses in the future such as mineral deposits or water aquifers;
- no native title issues
- no environmental issues such as, endangered flora or fauna species
- geologically stable with no seismicity's; and
- not located on or near major faults or shears.

The land within the Licence satisfies all criteria.

The Department of Lands does not have any objections to the principle of creating a reserve for the purpose required, however creation of tenure would be the last step in the process.

The Department of Lands has further advised that they would not be in a position to grant any tenure until all other necessary approvals have been provided, including but not limited to:

- Environmental Protection Authority
- Department of Mines and Petroleum
- Any Native Title Holders
- Department of Planning
- Pastoral Lease Holders

The grant of any tenure for the purpose required would also be subject to the favourable outcome of a Future Act process under the Native Title Act 1993. Other forms of tenure in favour of the Shire of Leonora (i.e. leasehold or freehold) will be further investigated, however, this should not be considered at this early stage and will need to be discussed sometime in the future if various approvals are forthcoming.

In regard the principle of creating the reserve for purpose required, is it likely that your department would view the proposal favourably.

The Department of Planning in Western Australia has advised that your agency should be involved in this process being the responsible authority for the establishment of such sites.

Yours response in due course would be appreciated please.

Yours faithfully,



J.S. Epis
CHIEF EXECUTIVE OFFICER



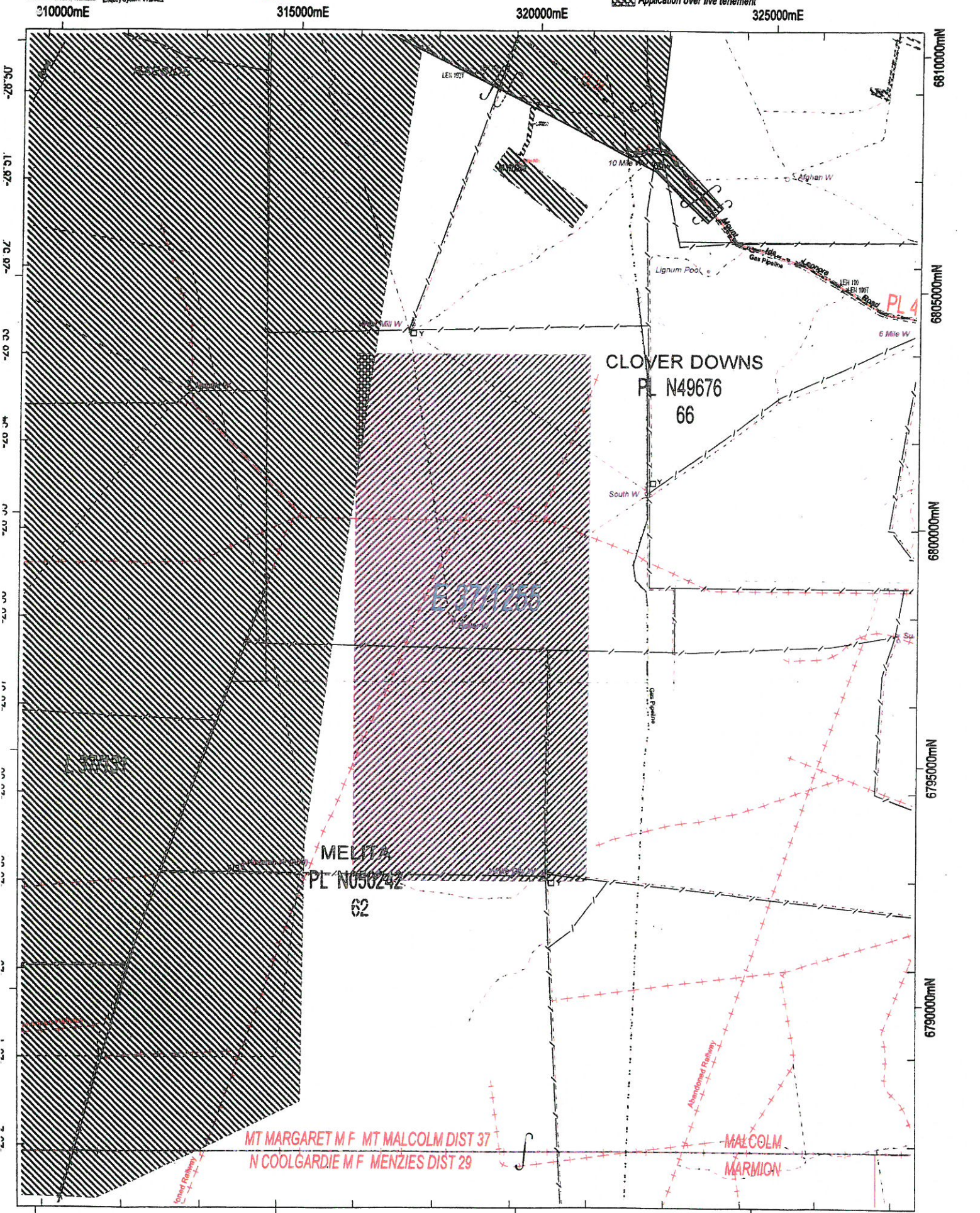
Department of Mines and Petroleum



Map Grid of Australia 1994 - Zone 51
Submission 1

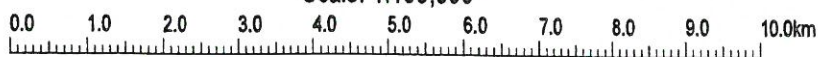
- Live tenement
- Pending application
- Application over live tenement

TENGRAPH (c) 1992, 1993
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[Public Plan] EX13803 TGOL98



This plan has been compiled from various data sources provided from a number of agencies and with information supplied by applicants for mining tenements. No responsibility is accepted for any error or omission. The Commonwealth of Australia (c) 1992, through Geoscience Australia and the Department of Defence, retaining copyright over those parts of the topographic data it has provided for display in TENGRAPH. Users wishing to use the data in the unshaded form should contact Geoscience Australia at www.ga.gov.au. Confirmation of the extent and composition of any tenement. The Crown should be sought from the Minister, The British Overseas Territories. Tenement does not identify any land that has been alienated from the Crown before 1 January 1989 and a search of the records should be carried out through Landgate to identify the category of land. Land alienated from the Crown prior to 1 January 1989 may be open for mining only in respect to gold, silver and precious metals.

Scale: 1:100,000





28th June, 2017

Mr Alex Baxter
National Radioactive Waste Management Project
Resources Division
Department of Industry, Innovation and Science

Dear Mr Baxter,

I understand that you and other members of your Department recently had a telephone conference with the Hon. Albert Jacob and Mr Peter Remta regarding the proposed nomination on behalf of the Shire of Leonora of what is known as the Azark Project site for the disposal of nuclear waste.

The formal nomination will be made shortly by the holder of the pastoral lease over the project site in concurrence with the support of the Shire of Leonora and Azark Project Pty Ltd as the overall manager of the project.

It is expected that the Shire of Leonora will receive a special license over the project site from the Western Australian government but in the meantime it was considered appropriate to make some comments to your Department regarding the project.

SOCIAL LICENCE

It is recognised that one of the influencing factors in determining a suitable site for a nuclear waste disposal nomination is the social licence for the establishment and operation of the facility for the disposal.

To that end the Shire of Leonora has already consulted with various community groups within the Shire district and even further afield to neighboring local authorities with regard to the establishment of the nuclear waste disposal facility.

In addition, the Shire of Leonora and others propose to hold a public meeting for the purposes of confirming the support of the general community for the project.

From these consultations, it is believed that there will be practically unanimous and strong support for the waste disposal facility.

It is understood by the general community that the establishment of the nuclear waste disposal facility would bring significant economic benefits including increased employment for the Leonora region which will be of particular importance to the region's indigenous population.

ADDITIONAL CONSULTATIONS

A number of stakeholder consultation programs have been undertaken in Leonora during the past 5 years, in particular, matters relating to the Yeelirrie Uranium Project which borders the local



governments of Leonora and Wiluna. Cameco Australia Pty Ltd has undertaken a comprehensive stakeholder and local consultation process as part of the engagement strategy.

In developing the stakeholder consultation program, Cameco was conscious that significant work had already been completed by BHP Billiton.

In discussion with key stakeholders it became obvious that some stakeholders considered that they had been adequately consulted and informed, while others, in particular some aboriginal community and family groups, were keen to hear more from Cameco. Cameco today continues to consult with all stakeholders having an interest in the Yeelirrie Uranium Project.

SUITABILITY

There would not be a site globally that is as suitable from all perspectives for a nuclear waste disposal facility as that identified by the Shire of Leonora for the Azark Project.


The Project site is geologically and environmentally suitable and completely ideal for the operation of an underground facility for the disposal of nuclear waste.

While the site is remote, it is still relatively close to transport and other infrastructure installations and services for the viable operation of the waste disposal facility being some fifteen kilometres from the Leonora township.

ADDITIONAL INFORMATION

Please advise the Shire of Leonora should you need any other information before your imminent receipt of the formal nomination.

Yours faithfully,



J.G. EPIS
CHIEF EXECUTIVE OFFICER

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3.0 out of 5 - Based on the opinion of 15 people



National Radioactive Waste Management Facility project

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What is high-level waste?

High-level waste is radioactive waste that generates radioactivity and heat over a certain threshold. High-level waste is classified as waste which generates 2 kilowatts of heat per square metre of waste or more.

Australia produces no high-level waste and the NRMWF will not be designed or licensed to store high-level waste. [See more](#)

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Intermediate level waste will be stored at the NRMWF until a permanent disposal solution is developed.

Intermediate level waste disposal will require a different solution - likely a deep geological repository that will take several decades to site and build.

You can read more here: <https://bit.ly/2vQe48g>

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PHIL JONES – GEOLOGIST

ABN: 25 116 285 896

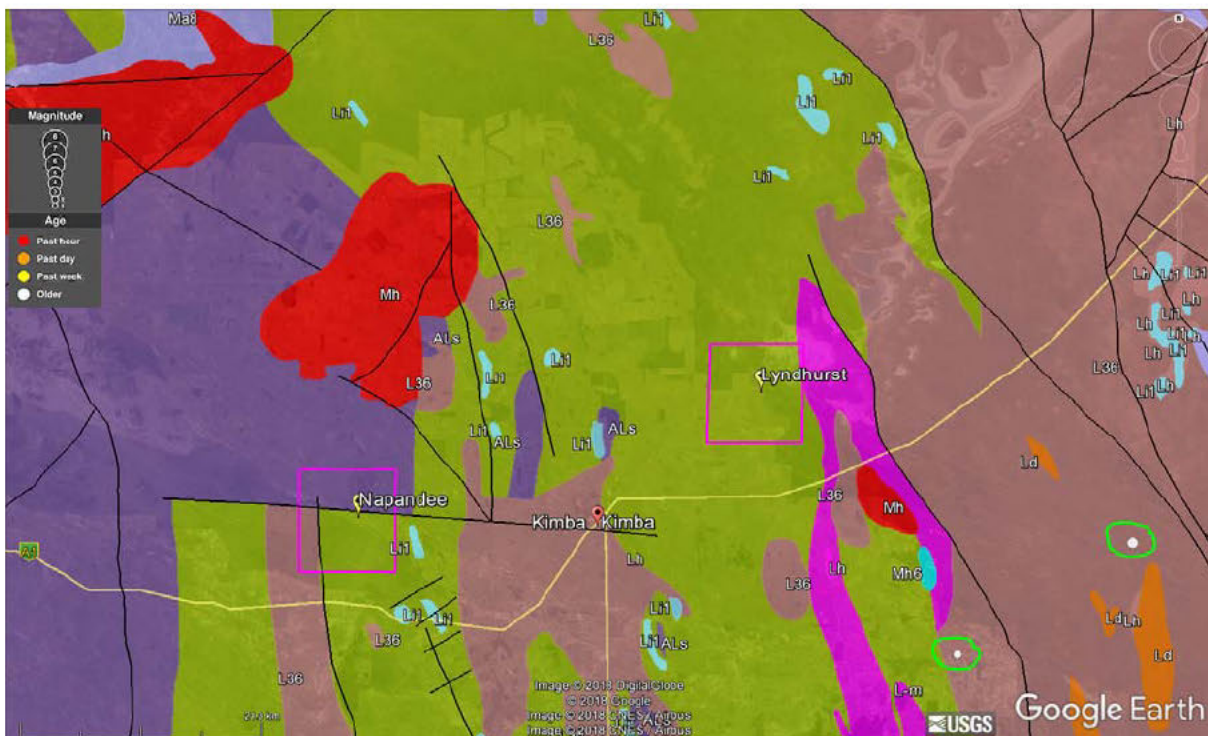
To: Toni Scott
Date: 22 June 2018
SUBJECT: Suitability of Kimba as a Nuclear Waste Disposal Management Facility site.

Further to our recent phone conversation, I would like to confirm in writing my opinion, as a geologist of some 40+ years of experience as a practicing geologist, on the suitability of constructing of a Nuclear Waste Disposal Management Facility (NWMF) at Kimba.

There are no obviously unsuitable rock types in the Kimba area for constructing the NWMF with the main rock types being (see map below):

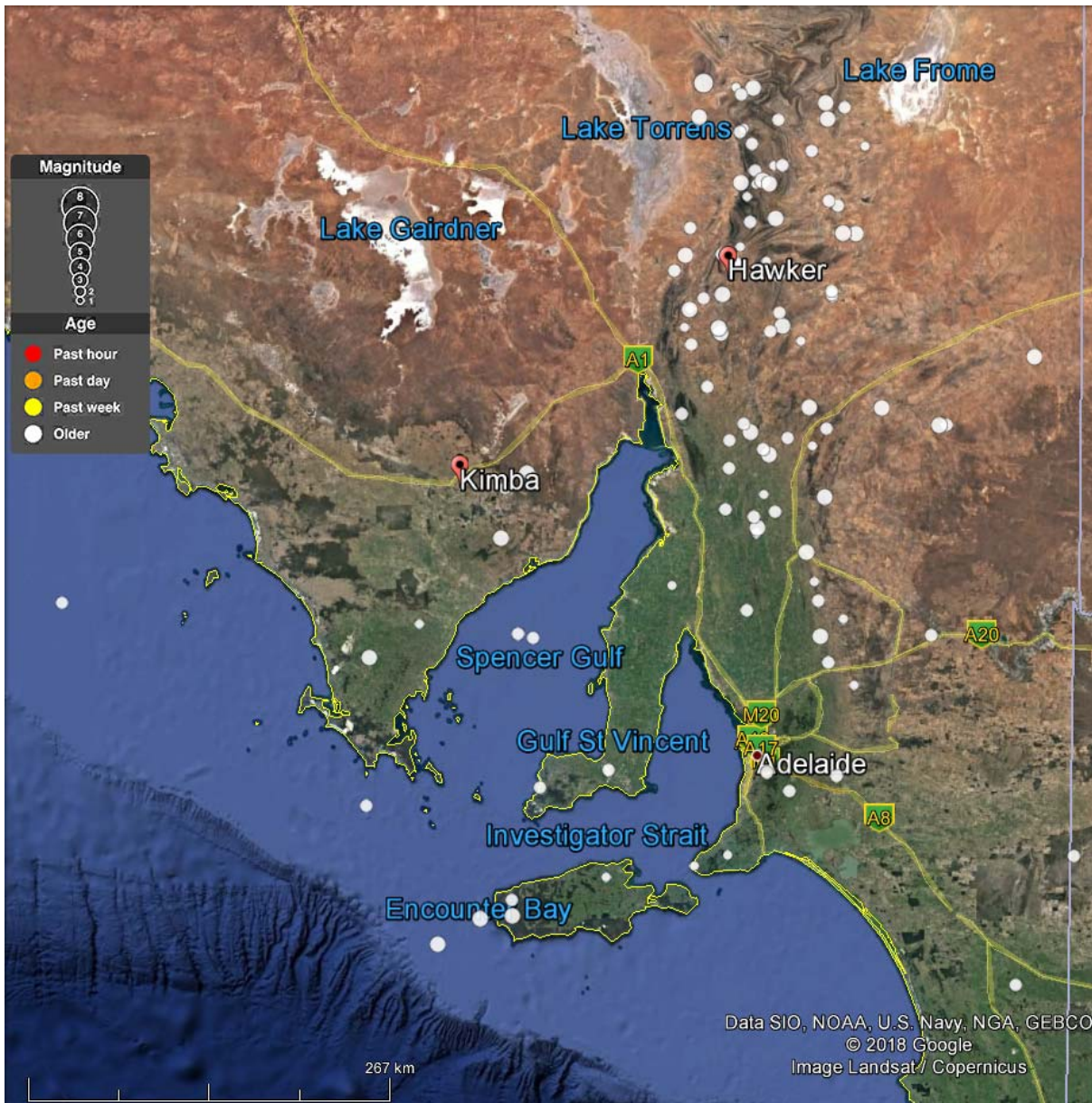
- metasediments (green)
- granite (pale pink and red)
- paragneiss, granitic orthogneiss, iron formation, mafic granulite (purple)
- migmatised granodioritic gneiss (bright pink).

There are several significant faults in the district that may be active so these faults would need to be considered before any major construction of a super secure long-term facility.



There have been several significant earthquakes in the region in the last 50 years with two, marked inside green circles on the map above, that were >4 magnitude. I was only able to get data on earthquakes for the last 50 years so I cannot predict how significant these earthquakes are, but it is

reasonable to expect similar and possibly even significantly stronger earthquakes in the future. The map below clearly shows that Hawker is well within an active earthquake zone.



From what I understand the groundwater in the Kimba area can be shallow, to just 10 or so metres from the surface. Any facility would have to ensure that this important resource is protected from any possible contamination.

It seems to me that it is not at all sensible to construct a NWMF at Kimba, and especially Hawker. The geology at Hawker is totally unsuitable as it is seismically active and includes unsuitable rock types such as limestones and dolomites. The geology at Kimba is better than at Hawker, but it still is not ideal with its proximity to an active seismic area along the east of the Eyre Peninsula. There are huge areas elsewhere in Australia that are much more suitable geologically.

The obvious problems with constructing a NWMF at Kimba are its proximity to population and agricultural areas, the lack of a railway connection and a fairly high rainfall. Security from possible terrorist attack could also be a problem.

Although storing nuclear waste material in suitable secure containers at the surface seems to be all that is being considered at the moment, it would seem to me another sensible inclusion to any such a facility would be provision to process contaminated materials to either recover and recycle nuclear material, enclose the material in synroc or similar or to reduce its volume by incinerating etc. before storage. These types of activities would be most unsuitable at Kimba due to the possibility of contaminating its populated and agriculture areas from fumes, dust etc.

As mentioned earlier, there must be huge areas of more suitable country in Australia that are well away from populated and agricultural areas, in a drier climate, far less seismically active, more easily secured and with the advantage of being close to a train line that would allow cheap and safe transport of any nuclear waste material.

Dear Senator,

I have recently returned from attending a meeting of the Barndioota Consultative Committee at Hawker, South Australia, regarding the Federal Government proposal to establish a nuclear waste storage facility in the Flinders Ranges on the Lake Torrens alluvial plain at the Barndioota site. This meeting was co-chaired by Bruce Wilson of the DIIS. I presented a geological perspective on the storage of low- and intermediate-level nuclear waste at the Barndioota site.

Having listened attentively to a range of presentations on the subject, including safety considerations, socio-economic impacts, environmental issues, including hydrological modeling, I should like to share my concerns with you.

- (1) The proposed site is located in one of the most active earthquake zones in Australia.
- (2) Major climatic changes including severe winds and massive floods have left their mark on the Lake Torrens alluvial plain.
- (3) Intermediate-level waste should be buried, not left on the surface in temporary structures.
- (4) Surface constructions have consistently underestimated the power of natural world catastrophes.
- (5) Much safer granite locations occur west of Lake Torrens.

For the past 50 years I have led student and international visitors on fieldtrips to the Flinders Ranges as a foremost geological, environmental and cultural tourist destination in South Australia. The Flinders Ranges are also the spiritual home of the Adnyamathanha whose ancient heritage is encrusted in numerous rock art sites and associated Dreamings. Moreover, the area has been recognised as the only site in the southern hemisphere after which a geological time period – the Ediacaran - has been named in recognition of the emergence of the earliest complex life-forms on the planet. These factors in combination have spurred a movement to nominate parts or all of the Flinders Ranges on the World Heritage List – a proposal currently under consideration. For all of these reasons, it seems to me utterly inappropriate and short-

sighted to consider the Flinders Ranges as a possible site for storing nuclear waste.

In conclusion, I should like to record the acknowledgement of the co-chair of the meeting, Mr. Bruce Wilson (DIIS), that the proposed site at Barndioota would at best be but a temporary storage area for intermediary-level nuclear waste. He stated that within a 30-year time-span the waste would have to be relocated to a safer permanent site. May I respectfully plead that common-sense and economic logic prevail. Why invest taxpayer funds on an expensive, potentially problematic temporary facility when the Federal Government's own research identified eight alternative safer sites as far back as 1997.

I thank you for your attention and trust that you will see fit to take up this cause in relevant political and other contexts.

Yours sincerely,

Victor

Dr Victor Gostin
Visiting Research Fellow, Dept Earth Sciences.

Comparison of factors: Kimba SA and Leonora WA

	Kimba	Leonora
Capital cost to taxpayers	\$325M	\$0
Yearly interest bill on capital cost	\$6.5M	\$0
Compensation to LGA of chosen site	\$31M	\$20M
Local Community Support	54%	90%+
Local Aboriginal support	No	Yes
Skilled local workforce	No	Yes
Permanent storage for all waste	No	Yes
World's best storage practice	No	Yes
Proposed site has other purposes (1)	Yes	No
Proposed site compatible with NRWMF (2)	No	Yes

Notes

- (1) Kimba is a prime wheat growing area and it is proposed to use this valuable land to house an above ground facility. There are neighbours who live in close proximity to the proposed site. Leonora is in a remote location and the land can't be used for any other purpose. Nothing grows there and no one goes there.
- (2) A prime wheat growing region is completely incompatible with a radioactive waste facility. It is a farming region with no supporting industry for a radioactive waste facility. Leonora is a mining town. Everyday, road trains carry cyanide, explosives, fuel and radioactive minerals through the town. A radioactive waste facility is just another hazardous undertaking that residents of the town deal with all the time. There is a skilled workforce that will construct the underground storage facility and logistics and security suppliers who can be contracted to move the waste to the storage area and guard it once it is there.