Srijittra Muir

From: Carol Randall [redacted]
Sent: Friday, 23 September 2022 10:13 AM
To: Minister Manison
Subject: Objection Petroleum Exploration Permit 220

Dear Nicole, Natasha, Lauren and Jo
as a fellow citizen in the region of the Nt I would like to express my concerns re fracking
in the Katherine region. I have been defending the water and environment for all of us and our future.

The last 10 years when it comes to fracking, my precious spare time has been spent volunteering to protect this amazing land and water.
I attended the Pepper Inquiry and presented my submission before the panel.
Many of the recommendations have not been implemented.

Do I have another 10 years to protest against an economically and environmental disaster?

Gas is poisonous in the home try an induction cooktop.
Pipelines are filthy and threatening for communities.

Fracking is a filthy extractive industry that people have very little or real knowledge about its consequences.

These corporations do not care about you nor your families .
I could continue ...

Kind Regards
Carol Randall

Srijittra Muir

From: Bodil Conroy [redacted]
Sent: Friday, 23 September 2022 11:35 AM
To: Minister Manison
Cc: Chief Minister; Minister Moss; Jo.Hersey@gov.au
Subject: EP 220 Objection.
Attachments: EP220 Katherine NT.docx

Ms Bodil Conroy
[redacted]
Palmerston
NT 0831
Mob: [redacted]

To the Honourable Nicole Manison, Minister for Mining and Industry,

My Name is Bodil Conroy, and I live at [redacted] Gray, NT.

My objection and concern are what will happen to the pristine environment after the EP 220 begins.

I have a friend who I visit outside Katherine, and I know that this EP 220 will, likely impact her quality of life as she lives in the immediate vicinity of this exploration permit.

Before fracking we must look at various recommendations from the SREBA-Pepper Inquiry.

My main objections are the quality of water which will be impacted by drawdown from the aquifers in the same vicinity. (Recommendation 7.4)

We do not know how the contaminants will impact future water and the purity as the "unintentional Chemical release" either through spills from well casings or blowback from the lifting of the bore drill can impact water in a significant way. (Recommendation 7.12 and 7.13)

We also have the problem of spills from the holding tanks for the dirty (toxic) water as they, in all likelihood are not covered and are exposed to the weather and rain during the "Wet" season. (Recommendation 4.5)

There is also the real possibility of contaminants into the aquifers leading to increase in toxins, over time. This will depend on the ability of the aquifer to recharge, from rain events and whether there is flowing water from other aquifers which can also contaminate the quality of the water. (The other aquifers can also present a problem if they consist of different chemicals or salts/brine, and if they are under pressure).

The report "Contaminant Data Screening" (Creative Commons CC-BY 4.0, 2022) Upon further reading it was discovered that the sample was indeed small, consisting of only 10 different sample types used in Hydraulic Fracturing and the timescale was remediation of surface soils to be completed in their timescale of ten years. There are at least over 100 different chemicals used in Fracturing and after a few years the wells are abandoned, it is unlikely that the same company will be fracking after the 6–7-year mark. Therefore, I suggest that the likelihood of contaminants contaminating the environment after the first wet season is high. And the likelihood of the holding tanks failing and contaminating water upon entering the streams and rivers is high also. Is this a case of becoming diluted during the first year and during the 2nd year becoming less diluted?

This is dangerous for the environment and animals which depend on the rivers for uncontaminated water and uncontaminated grasses and seeds. It is even more dangerous for communities and stations who rely on bore water as their primary source of potable water.

We have another huge problem as there is several Fault lines in the north of EP 220.

This in effect will lead to problems in the future as this area is not stable. The wells will most likely fail, and the equipment will most likely be structurally damaged. The bore casing will not be recoverable if and when, the fault decides to shift due to pressure from the injected sands and chemicals or from fracturing which could set off a chain reaction, it would certainly be an occupational and health and safety concern as then it is not a safe work environment.

The recommendation from the NT Fracking Inquiry needs to be implemented in their fullest (Recommendation 15.3) prior to any exploration or fracking in the Northern Territory. (Government, Northern Territory, 2018)

An Overview of the Implementation framework – Pg 9
Building Trust Through Transparency

- Strengthening Regulation
- Ensuring Accountable Industry Practice
- Safeguarding Water and the Environment
- Respecting Community and Culture
- Maximising Regional Benefits and Local Opportunities
- Planning for Industry

Ensuring Accountable Industry Practices

Managing wastewater and chemical safety will be another challenge to overcome as the facility for storage of wastewater, I am told, by the previous Minister, is a long way down the highway. (Recommendation 5.5 and 7.12)
Therefore, we have an added potential for spillage outside the EP 220, and this will cause other problems which are equally dangerous for the driver, other road users and the environment. (Recommendation 8.16).
How will the roads be upgraded to transported this additional, very heavy, cargo through and along a major highway, until it can be offloaded at Tenant Creek at an approved storage facility?
(Recommendation 7.8) Should this also consider the nearby streams and rivers whereby stock will drink?

Safeguarding Water and the Environment.

I was unable to form an opinion as to the Existing Bore - Baseline figures as they have been excluded from the govt portal at this point in time. Although, from my observations from previous interrogations, there did not appear to be sufficient data over the years from approximately 1989 to get an accurate reading on the level of different salts etc. The bores did not have enough data registered to ascertain whether the figures went up or down since the first baseline testing of water quality. So, I do not understand how this will be monitored efficiently to complete the picture because of the lack of data. (Recommendation 7.11 and 7.13) Groundwater must be monitored using multilevel monitoring bores.

Respecting Community and Culture.
The methane emissions from Fracking are very dangerous and need to be monitored as they will assist to increase greenhouse gases and our govts target to reduce emissions by 43% will not be achievable. (Recommendation 9.3) Methane gas is also dangerous to the health of workers and anyone else (tourists) impacted in close vicinity. (Recommendation 7.4)
There is additional problem of Flaring of gas during the dry season. We have dry season fires already, what are the impacts when the firies are unable to go to site to fight fires and what are the chemicals stored on site, what danger to they represent to normal firies, who have not been trained to fight chemical fires. There needs to be an assessment made for the transport of the chemicals onto the wellpads for fracking. 1 and 2 percent translates to hundreds of kilograms when multiplied by thousands of gigalitres of water used for fracking. (Recommendation 7.10)

Considering the impact of 7 wellheads and the amount of chemicals needed to start fracking, it is a dangerous proposition transporting this amount of chemicals through the main road of Katherine and down the highway.

I would like to be kept informed of the situation with EP220 and further baseline studies conducted by the government or Arafura Oil and Gas.

Thank you for your attention to my concerns

Kind regards
Bodil Conroy.

Srijittra Muir

From: Monica Fountain [redacted]
Sent: Sunday, 25 September 2022 6:30 PM
To: Minister Manison
Subject: Do not frack Katherine or Edith farms area

To Nicole Manison,

In response to the news that a petroleum exploration permit 2020 has been applied for in the Edith and Katherine area in general, for fracking, I oppose this license to be issued, As it would be a gross misconduct of the environment and environmental issues yet to be discovered, I'm a land owner very close to the area of exploration/ neighbour, I'm very concerned about water as we have a bore to keep us surviving, from research that I have done there is a good reason to be very concerned, fracking has done a lot of environmental damage already and problems are arising , the list long, PLEASE DO NOT grant this license for the sake of all of us and the NTs environment, Kind regards Monica Sent from Monica

Srijittra Muir

From: Monica Fountain [redacted]
Sent: Tuesday, 27 September 2022 12:42 PM
To: Minister Manison
Subject: Do not frack Katherine or Edith farms area

To Nicole Manison,

In response to the news that a petroleum exploration permit 2020 has been applied for in the Edith and Katherine area in general, for fracking, I oppose this license to be issued, As it would be a gross misconduct of the environment and environmental issues yet to be discovered, I'm a land owner very close to the area of exploration/ neighbour, I'm very concerned about water as we have a bore to keep us surviving, from research that I have done there is a good reason to be very concerned, fracking has done a lot of environmental damage already and problems are arising , the list long, PLEASE DO NOT grant this license for the sake of all of us and the NTs environment, Kind regards Monica
Sent from Monica. I have sent this one more time as I have had no response from your department.?

Srijittra Muir

From: Protect NT [redacted]
Sent: Tuesday, 27 September 2022 9:19 AM
To: Minister Manison; Chief Minister; Minister Moss
Subject: Objection to EP220
Attachments: Protect NT Letter of Obection to EP220.pdf

Dear Minister Manison,

Please find Protect NT's objection to EP220 attached on behalf of our members, family and friends in Katherine and Edith Farms.

Thank you,

Pauline Cass

--
Protect NT Inc.
Phone: [redacted]
Email: [redacted]
Facebook: https://www.facebook.com/groups/743562139323193/

27 September 2022

To Minister of Mines and Industry, Nicole Manison,

Re: Objection to the granting of Petroleum Exploration Permit (EP) 220 to Arafura Oil Pty Ltd.

Protect NT Incorporated is a group of over 1,300 Territorians determined to protect our land, water, climate and lifestyles for future generations of Territorians. Onshore shale oil and gas hydraulic fracturing and its associated activities threatens everything we value about living in the Northern Territory. This land is our home, the people are our family and friends, and everything we cherish relies on fresh, potable water to survive.

We are vehemently opposed to the granting of EP220 to Arafura Oil Pty Ltd, and all that it entails.

Firstly, we would like to convey our deep disappointment with the total lack of community consultation and engagement by both the Department of Mines and Industry and Arafura Oil Pty Ltd, not even the affected stations were aware of this EP being granted until we informed them. This lack of communication is unacceptable.

Secondly, we found the lack of any information available for EP220 to be totally unacceptable. Where are the plans and schedules for this EP? Where are the Environmental Management Plans? Where are the water studies? Where are the SREBA's for this area? Is there an Environmental Impact Statement? There is nothing publicly available online except for the STRIKE map and the Minister's notice in Government Gazette G30. As a result of this complete paucity of EP220 specific information, our objection to this EP is based on the findings of the generic NT Fracking Inquiry's Pepper Report.

The NT Fracking Inquiry consulted widely with the oil and gas companies, scientists, economists, and Territorians from all walks of life. The Final (Pepper) Report provides us with contamination pathways diagrams, an economic report which shows fracking will provide very few jobs, a Final List of Issues, a risk assessment matrix, and 135 recommendations to mitigate (not eliminate) the risks, with the residual risk after mitigation often 'undetermined'.

There is a huge difference between mitigating a risk and being safe. The risk assessment matrix found that the effectiveness of many risk mitigation measures were 'undetermined' – in other words, they couldn't predict the seriousness of the outcomes. Many other risks were mitigated to a "low" residual risk, but "low" risk is defined as a community losing their water for a week (Chapter 4). We consider losing access to water for a week to be a serious and unacceptable consequence, not low risk.

The Fracking Inquiry identified 116 issues in its Final List of Issues (Appendix 2, p. 7). 20 issues relating to water, 27 issues relating to land, and 26 Health & Social issues. These risks include – increased crime, traffic, lights & noise and emissions. All of these risks are concerning, but the threat to our water concerns us most. Everything needs water to survive, including us. We've already seen what shale oil and gas fracking has done in other parts of the world and the NT, especially our friends in Katherine and Edith Farms, cannot afford to have our water contaminated or depleted by this dangerous industry.

There are some who believe these risks, whilst making the NT unliveable for locals, are acceptable for the promise of jobs. However, the NT Fracking Inquiry's economic report by ACIL Allen (Appendix 17, The Economic Impacts of a Potential Shale Gas Development in the Northern Territory, Figure 12.3) found that the best case scenario will only be an average of 524 extra jobs created by fracking each year, not the thousands of jobs spruiked by our politicians and the oil and gas industry.

There is no social licence in the Northern Territory for onshore shale oil and gas fracking. Katherine residents have repeatedly and clearly proven this fact through petitions, radio and newspaper polls, letters to the editor, posts on social media, at the NT Fracking Inquiry's community consultations, and through their support of groups such as Protect NT Inc, Don't Frack Katherine, Protect Big Rivers, Climate Action Darwin, Central Australian Frack Free Alliance, Frack Free Darwin, Lock the Gate, Protect Country, Seed Mob, the Environment Centre NT, Arid Lands Environment Centre, and all of the many groups who regularly work to protect the region from fracking. This level of distrust, hostility and abhorrence held by Territorians towards hydraulic fracturing has not and will not abate. Our water, land and climate are too precious to risk and Territorians will never be persuaded to think otherwise. This is especially true for our friends and family in Katherine and Edith Farms.

We also question whether Arafura Oil is a fit and proper person with the ability to meet the responsibilities associated with an exploration permit and all the activities associated with such a permit.

EP220 must never be granted. It is far too close to rural residential areas such as Edith Farms and families dependent on bore water for residential and agricultural use. These families must be allowed to continue living their life in peace and good health without all the risks of fracking being foisted on them.

Yours Sincerely,

Pauline Cass

for Protect NT

E: [redacted]

Srijittra Muir

From: Sam Moorhead [redacted]
Sent: Tuesday, 27 September 2022 10:36 AM
To: Minister Manison
Cc: Chief Minister; Minister Moss
Subject: Proposed grant of EPs 218 and 220 - objection
Attachments: 20220927_EPs 218 & 220_LtG objection.pdf

Dear Minister Manison,

Please find **attached** a letter objecting to the proposed grant of petroleum exploration permits 218 and 220 to Arafura Oil Pty Ltd.

Oil and gas is not the way forward for the NT. It's too late for fossil fuels, and if you keep pushing us in this direction, it'll be too late for the Territory.

Thank you for considering our objection.

Sam (on behalf of the Lock the Gate Alliance)

--
Sam Moorhead
Lock the Gate Alliance
[redacted]

This always was and always will be Aboriginal land.

LOCK THE GATE **ALLIANCE**
AUSTRALIANS WORKING TOGETHER TO PROTECT OUR LAND, WATER, AND FUTURE

The Hon. Minister Nicole Manison
Northern Territory Government

27 September 2022

OBJECTION - Proposed grant of exploration permits 218 and 220

Lock the Gate writes to oppose the proposed grant of petroleum exploration permits 218 and 220 to Arafura Oil Pty Ltd.

The Lock the Gate Alliance is a national collection of grassroots organisations made up of over 120,000 supporters and numerous local groups concerned about risky coal mining, coal seam gas and fracking.

Several of these groups are located in Darwin, Katherine and Alice Springs, as well as rural and remote areas around the NT. Our members include farmers, traditional custodians, conservationists and urban residents. Together, we have a vision of healthy, empowered communities that have fair, democratic processes available to them to care for their land and water.

We are opposed to the grant of new petroleum titles in the NT because of the serious damage to our climate, groundwater, cultures and ecosystems that is inevitably caused by unconventional oil and gas production.

Greenhouse gas emissions must be urgently and absolutely reduced, not merely offset or the problem postponed in light of a nebulous "net zero by 2050" target. Pursuing new or expanded petroleum production is not compatible with a liveable future for the Territory.

Thank you for considering our objection,

Lock the Gate Alliance.

Srijittra Muir

From: Shirley Crane [redacted]
Sent: Tuesday, 27 September 2022 5:28 PM
To: Minister Manison
Cc: Chief Minister; Minister Moss; Jo Hersey; tanya.plibersek.mp@aph.gov.au
Subject: Petroleum Exploration Permit 220 in the Katherine Region

Dear Minister Manison

I am writing to express my extreme concern about the possibility of a Petroleum Exploration Permit 220 for a region near Katherine and Edith Farms.

It is my understanding that the Katherine Municipality is a reserved area, and therefore, should not be subject to such an exploration Permit. As a resident and property owner in the town of Katherine, I was appalled that this is even being considered. We lobbied for five long years to have the Katherine Municipality designated a reserved area, but the issuing of such a licence would seem to cut across the protection that being designated 'Reserved' should offer.

The reasons for my concern are as follows:

1. Petroleum exploration carries the expectation that fracking will be used to extract gas, and that involves the use of enormous amounts of water. That water will have to come from our fragile existing water resources, and given that recharge of the river and aquifers is always dependent on a reasonable Wet Season, and we haven't had one of those for a number of years in this area, we fear for the future of our water supply. In spite of the Water Controller declaring that the last Wet Season was such a good one that she allowed water licence holders to use 100% of their allocation, she didn't take into account that while Darwin seemed to be getting plenty of rain, in the Katherine/Barkley Region, the Wet Season was dismal. There is the added risk that any form of drilling into aquifers carries with it the possibility of contamination of fresh water. In the Dry Season, we are dependent on the aquifer for our drinking water, and if it's contaminated, it spells the end of our town.

2. The Chief Minister at the time of lifting the moratorium on fracking, Michael Gunner, gave a guarantee that the recommendations of the Pepper Inquiry would be fully implemented before any wells were drilled. Since then, we've seen those recommendations watered down and 'adjusted' to favour the interests of big business over the water security of the people and environmental protections, to the point where many of us are concerned for the future viability of life in the NT. There are recommendations that require research before they can even be commenced, and that hasn't happened.

3. The constant pressure to allow fracking and further fossil fuel development in the NT will undoubtedly make it impossible for Australia to reach any of its greenhouse emission targets. Australia will end up being one of the major contributors to climate change, with our own emissions record, and our responsibility for what our trading partners do with the fossil fuels that we export. This is already being recognised by our Pacific Island neighbours who face disappearing under rising sea levels if the effects of climate change are not halted.

4. The NT's economy is heavily dependent on the tourist trade, and Katherine's main source of income is from the thousands of Grey Nomads and recreational fishermen who travel to the NT to enjoy our unique offerings. The risk is that the tourist trade will disappear in the face of the petroleum/gas industry's development, because the very thing that tourists come to enjoy will have been destroyed. The NT's environment faces an additional threat from cotton, and a combination of the two industries will have a devastating impact on the environment. It's unlikely that our beautiful barramundi will survive the

combined impact on the river flow, once both industries are jointly extracting the huge amounts of water they need.

5. Such close proximity to residential areas means that people will be at risk from the health issues associated with exposure to methane when flaring occurs, and the other associated dangerous chemicals used in the exploration process. There will also be the associated increase in heavy traffic, with vehicles carrying those chemicals through built-up areas.

6. As yet, there is no indication of a plan in place to deal with the toxic output of the drilling process. If the exploration company is given the same permission that has occurred in other areas for the storage of contaminated wastewater in open tanks, that represents a very serious threat to the surrounding areas. We all know what a massive flood event in the Katherine Region can be like. We might not have very good Wet Seasons for a number of years, but once in a while, we have a flood event like the one that happened in 1998, when the region becomes an inland sea, and the risk of overflow of storage tanks and the spread of contaminants over the land is very real. There is no recovery from a situation like that.

7. Finally, there has been NO community consultation on this. I only found out about it the other day, when I was sent a copy of the notice in the Government Gazette, and I usually do know what's happening in this area concerning the environment. Before any decision is made, surely at the very least there should be some form of public forum to explain to people what this might mean for them. We have several Indigenous communities in this area that are also at risk of being seriously impacted by any decision to allow this Permit to go ahead.

Thank you,
Yours Sincerely,
Shirley Crane
Resident of Katherine East

[redacted]
Katherine East
Ph: [redacted]
Email: [redacted]

Srijittra Muir

From: Sandy May [redacted]
Sent: Wednesday, 28 September 2022 9:39 AM
To: Minister Manison
Cc: Minister Moss; Minister Fyles; Dheran Young; [redacted]
Subject: FW: Objection to EP220
Attachments: Final Report Contamination Pathways p.145.pdf; Final Report List of Issues.pdf

Importance: High

To Nicole Manison,
Minister for the Department of Industry, Tourism & Trade.

My name is Andrew May, I live near the Township of Adelaide River, I have lived here for 9 years this October.

I object to the granting of Petroleum Exploration Licence EP220 to Arafura Oil Pty Ltd because the aquifer under this area is of very few that have not been contaminated by PFAS, so to have a clean aquifer is critical for the people of the Katherine region, the protection of this underground aquifer is essential as many rely on it to provide water to not only the people but all the animals and their community. It is most likely going to be contaminated if this permit is to be approved.

Nicole, please take the time to watch this documentary **Fractured Country - An Unconventional Invasion**, on how this industry destroyed the families and communities of the Tara/ Chinchilla region in QLD. Put yourself in these people's lives for an hour and learn how devastating it is seeing their children and family so sick, all thanks to the fracking activities in their region. Is this what you would expose the Katherine community too?

Fractured Country - An Unconventional Invasion
https://www.youtube.com/watch?v=XrE7LzZCn1E

A meeting with you to discuss this further with the affected communities would be greatly appreciated.

My biggest issues with this approval are as listed;

- Water Used by Arafura Oil – 10s or Millions of Litres for the Fracking process
- Water Contamination of the aquifers under this EP220
- The Recommendations made by the NT Fracking Inquiry have not been implemented in the exploration phase
- Methane emissions and impact on the climate
- Health impacts for locals
- Effects on Tourism
- Impact on the natural springs in Douglas Hot Springs?
- Impact on the surrounding waterfalls in the Region of this EP220 – Edith Falls and all the falls that fall there during the wet season of the escarpment. The loss of these would be devastating
- Noise and light from compression stations and flaring- affect the birds and all wildlife.
- Increased traffic carrying dangerous chemicals on unsuitable roads
- Impacts on Nitmiluk National Park creeks and waterfalls, Springs like Douglas Hot Springs
- How will they dispose of toxic and/or radioactive wastewater and solids?
- Where are the financial benefits to Territorians?

- The jobs from these activities are minimal Beetaloo was only 524 at maximum operations- taken from the Pepper Report.
- Taxes used to prop up these companies to poison our Land, Water & Air
- Impact on endangered wildlife
- Impact on our rainwater tanks- many rely on these all year round

I requested more information on Arafura Oil's plans and who they are.
I request to be kept up to date on the process of this Exploration Permit.

Yours Sincerely,
Andrew May

Andrew May
[redacted]
Adelaide River NT 0846
[redacted]

Srijittra Muir

From: Sandy May [redacted]
Sent: Wednesday, 28 September 2022 8:37 AM
To: Minister Manison
Cc: Minister Moss; Dheran Young; Minister Fyles; [redacted]
Subject: Objection EP220

Importance: High

To Hon. Nicole Mansion, Minister for Mining and Industry,

My name is Annalise May (I am 12.5) I live in Palmerston but I manly stay with my grandparents at Adelaide River.

I object to the granting of Petroleum Expiration Licence EP220 to Arafura oil Pty Ltd because of:

My Reasons why I object...

- Water-Security
- Water-Contamination
- Damaged-Springs
- Toxins
- Water-Pollution
- Water-Poison
- Water use
- The Recommendations made by the NT Fracking Inquiry have not been implemented yet
- Methane emissions for locals
- Health impacts for locals
- Effects on Tourism
- Noise and light form compression stations and flaring
- Increased traffic carrying dangerous chemicals
- Impacts on Nitmiluk National Park creeks and waterfalls, Edith Falls, Douglas Hot Springs, etc
- How will they dispose of toxic and/or radioactive wastewater and solids?

Yours Sincerely, Annalise May

Srijittra Muir

From: Sandy May [redacted]
Sent: Tuesday, 27 September 2022 2:38 PM
To: Minister Manison
Cc: Chief Minister; Minister Moss; Dheran Young; [redacted]
Subject: FW: Objection to EP220
Attachments: Final Report Contamination Pathways p.145.pdf; Final Report List of Issues.pdf

Importance: High

To Hon. Nicole Manison,
Minister for the Department of Industry, Tourism & Trade.

My name is Sandy May, I live near the Township of Adelaide River, I have lived here for 9 years this October.

I object to the granting of Petroleum Exploration Licence EP220 to Arafura Oil Pty Ltd because the aquifer under this area is only of very few that have not been contaminated by PFAS so to have a clean aquifer is critical for the people of the Katherine region, the protection of this underground aquifer is essential as many rely on it to provide water to not only the people but all the animals and their community. It is most likely going to be contaminated if this permit is to be approved.

I am also a Driver/ Guide in tourism, this permit would also have an exponential effect on the surrounding Edith Falls area in the Nitmiluk National Park, why would you impact two National Parks that bring thousands of tourists to the region every year, along with the much-needed money they bring into the Katherine & Darwin region, but it's also a popular swimming and trekking area between Edith Falls and Katherine Gorge in the Nitmiluk National Park. Tourism is our 3rd largest industry and this would absolutely destroy it.

The tourism industry is still trying to recover from the impact of Covid, and allowing this so close to Edith Falls is downright stupid
Nicole, please take the time to watch this documentary **Fractured Country - An Unconventional Invasion**, on how this industry destroyed the families and communities of the Tara/ Chinchilla region in QLD. Put yourself in these people's lives for an hour and learn how devastating it is seeing their children and family so sick, all thanks to the fracking activities in their region. Is this what you would expose the Katherine community too?

Fractured Country - An Unconventional Invasion
https://www.youtube.com/watch?v=XrE7LzZCn1E

A meeting with you to discuss this further with the affected communities would be greatly appreciated.

My biggest issues with this approval are as listed;

- Water Used by Arafura Oil – 10s or Millions of Litres for the Fracking process
- Water Contamination of the aquifers under this EP218
- The Recommendations made by the NT Fracking Inquiry have not been implemented in the exploration phase
- Methane emissions and impact on the climate
- Health impacts for locals
- Effects on Tourism
- Impact on the natural springs in Douglas Hot Springs?
- Impact on the surrounding waterfalls in the Region of this EP220 – Edith Falls and all the falls that fall there during the wet season of the escarpment. The loss of these would be devastating
- Noise and light from compression stations and flaring- affect the birds and all wildlife.

- Increased traffic carrying dangerous chemicals on unsuitable roads
- Impacts on Nitmiluk National Park creeks and waterfalls, Springs like Douglas Hot Springs
- How will they dispose of toxic and/or radioactive wastewater and solids?
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- Taxes used to prop up these companies to poison our Land, Water & Air
- Impact on endangered wildlife
- Impact on our rainwater tanks- many rely on these all year round

I requested more information on Arafura Oil's plans and who they are.
I request to be kept up to date on the process of this Exploration Permit.

Yours Sincerely,
Sandy May

Sandy May
[redacted]
Adelaide River NT 0846
[redacted]

Appendix 2 Final list of issues

1 Water

Water quality

Groundwater

- There may be a risk of groundwater contamination as a result of:
  - induced connectivity between hydraulically fractured shale formations and overlying or underlying aquifers;
  - surface spills of chemicals, flowback water or produced water into near-surface groundwater;
  - leaky wells as a result of poor design, construction, operation or abandonment practices or as a result of well degradation over the life of the well;
  - reinjection of flowback water, produced water or treatment brines into a groundwater aquifer;
  - induced connectivity between different groundwater systems as a result of seismic activity caused by hydraulic fracturing or reinjection of water; and/or
  - changed groundwater pressure regimes from hydraulic fracturing activities.

Surface water

- There may be a risk of impacts on surface water quality as a result of the following types of incidents:
  - on-site spills, including as a result of extreme weather events such as cyclones and floods;
  - spills that occur during transportation of chemicals to or from the site during the development and production phases;
  - spills of flowback water, produced water or brines produced by water treatment; and/or
  - inputs of sediment from erosion of road and pipeline corridors.

Water supply and distribution (quantity)

- There may be a risk of adverse environmental impacts as a result of reduced water supply due to the large amounts of water being extracted for use in hydraulic fracturing.
- There may be a risk of changes to the timing and/or quantity of surface water flows because of the discharge of produced water, which may be significant particularly in arid to semi-arid landscapes.
- There may be a risk to surface water and groundwater flow processes as the result of possible seismic activity caused by hydraulic fracturing or reinjection of water.
- There may be a risk of surface disturbance affecting surface flow paths and altering infiltration.

Aquatic ecosystems and biodiversity

- There may be a risk of adverse impacts on aquatic ecosystems and biodiversity, including groundwater dependent ecosystems. This may result from changes in the quality and/or quantity of surface and/or groundwater available to them.

Amenity values

- There may be adverse impacts on general amenity values such as in national parks, rangelands and recreational fishing areas. This may result from changes in the quality and/or quantity of water available.

Public health

- There may be adverse impacts on human and livestock health due to changes to water quality, supply and distribution as a result of hydraulic fracturing and the associated activities.

Aboriginal people and their culture

- Natural water bodies are central to traditional land use and many sites of significance to Aboriginal people relate to water. A reduction in either water quantity or quality may impair the traditional use and/or value of the sites.

Economic

- Changes to water quality, supply and distribution may have an adverse impact on industries that may coexist with the onshore unconventional gas industry, such as agriculture, pastoralism, fishing and tourism.

Cumulative risks

- There may be cumulative risks associated with some or all of the risks identified above.

2 Land

Terrestrial ecosystems and biodiversity

- There may be a risk that hydraulic fracturing and the associated activities will have an adverse impact on terrestrial ecosystems and biodiversity in the Northern Territory. Specifically, there may be a risk of:
  - biodiversity loss on a local and regional scale as a result of areas being cleared for roads, pipelines and drill pads or as a result of spills;
  - biodiversity loss and reduced ecosystem function due to habitat loss and fragmentation;
  - adverse impacts on terrestrial ecosystems, including fauna and flora, as a result of changes to water quality and availability;
  - biodiversity loss and ecosystem function due to the spread of weeds;
  - impacts on biodiversity and greenhouse gas emissions due to changed fire regimes;
  - adverse impacts on fauna as a result of increased noise and light from gas operations;
  - loss of biodiversity due to inadequate knowledge of biodiversity assets leading to inappropriate planning of regional development;
  - disruption of surface water flows at the landscape scale by road and pipeline infrastructure;
  - loss of locally important or sensitive sites due to inappropriate location of infrastructure within a development area; and/or
  - increased human activity, roads and pipelines acting as barriers and corridors for faunal movement and the drinking of wastewater.

Soil health

- There may be a risk that the chemicals used in the drilling and hydraulic fracturing process will have an adverse impact on soil health, including as a result of spills of flowback water.
- There may be a risk that there will be compaction of soils underneath production pads or along pipelines.

Aboriginal people and their culture

- The landscape, terrestrial ecosystems, plants and animals are central to traditional cultural values. Adverse impacts to these things may have an adverse impact on Aboriginal cultural values.

Seismic activity

- There may be a risk of seismic activity caused either by the hydraulic fracturing process or the reinjection of wastewater into the ground.

Subsidence

- There may be a risk that the drilling and hydraulic fracturing process causes land subsidence.

Economic

- An adverse impact on terrestrial ecosystems may be a risk to industries that co-exist with the onshore unconventional gas industry, such as agriculture, pastoralism, fishing and tourism.

Amenity values

- The Panel recognises that the Northern Territory has iconic wilderness values as a core part of the Australian outback. There may be a risk that the development of the unconventional gas industry will have an adverse impact on the outback experience (for example, tourism) through infrastructure development (for example, the construction of pipelines and processing plants) and increased traffic, noise and light (from flaring).
- There may be a risk of solastalgia.

Cumulative risks

- There may be cumulative risks associated with some or all of the risks identified above.

3 Air

Public health

- The possible health risks associated with the release of gases from the hydraulic fracturing process are discussed below in '1.4 Public health'.

Climate change

- There may be a risk that greenhouse gases, including hydrocarbons (methane and ethane) and carbon dioxide, will be released during hydraulic fracturing and the associated activities. Emissions may be from sources such as wellheads, pipelines, compression stations and final use. The potential contribution of hydraulic fracturing and the associated activities to the burden of greenhouse gas emissions will be assessed by the Panel.

Amenity values

- There may be a risk that there will be adverse impacts on amenity values, such as in national parks and rangelands, due to gaseous emissions and flaring.

Air contamination

- There may be a risk that soil contaminated by spills of fracking fluids or wastewater becomes airborne as dust, causing harm to the environment and to human health.

Cumulative risks

- There may be cumulative risks associated with some or all of the risks identified above.

4 Public health

Drilling and fracking chemicals

- There may be a risk that chemicals used during the drilling and hydraulic fracturing process are harmful to humans and livestock. Further, there may be a risk that those chemicals come into contact with humans or livestock via groundwater or atmospheric pathways. While the concentrations of potentially harmful chemicals in the water are low, the actual amount of chemicals can be significant and may pose a threat to the water supply if not properly managed.

Hydrocarbons and BTEX

- There may be a risk that hydrocarbons associated with the extracted gas come into contact with humans or livestock via groundwater or atmospheric pathways. This may include

aromatic hydrocarbons such as BTEX, which have featured prominently in some risk assessments relating to flowback water from petroleum and unconventional gas extraction activities in the US. The addition of BTEX in drilling and fracking fluids is prohibited in the Northern Territory.

Radioactive substances

- There may be a risk that naturally occurring radioactive materials from underground come into contact with humans or livestock as a result of the drilling or hydraulic fracturing process.

Mental health and wellbeing

- There may be a risk that the mental health and wellbeing of persons could be affected by an unconventional gas project. These factors could include increased costs of living associated with changing property values, access to social services, business failures, increased traffic, effects on the natural environment and concerns about the amenity of the local area, including solastalgia.

Diesel fumes

- There may be a risk of emissions from plant and equipment, such as diesel fumes from drilling equipment and pumps, and from off-site increases in road traffic.

Physical safety

- There may be a risk that physical safety may be compromised by factors associated with hydraulic fracturing, including road transport accidents.

Aboriginal health

- There may be a risk that as a consequence of the possible impacts described above, the physical and mental health of Aboriginal persons and communities, as a group that is especially vulnerable and disadvantaged, is particularly affected (that is, the 'gap' is increased and not decreased).

Cumulative risks

- There may be cumulative risks associated with some or all of the risks identified above.

5 Aboriginal people and their culture

Land ownership

- There may be a risk that hydraulic fracturing or the associated activities will disrupt traditional practices that connect Aboriginal landowning groups with their country and underpin recognition of their ownership of that land.
- There may be a risk that there is inadequate or inappropriate consultation with Aboriginal landholders in obtaining access to their lands and/or permission to carrying out any onshore unconventional shale gas development.

Benefits

- There may be a risk that the development of the industry will occur without short and long term benefits flowing to local Aboriginal communities.

Culture, values and traditions

- There may be a risk that the above and/or below ground disturbance associated with drilling and hydraulic fracturing of onshore shale gas formations will have an adverse impact on Aboriginal culture, values and the traditions that connect landowning groups with their country and sustain community cohesion.
- There may be a risk that access to and the use of traditional lands will be denied or restricted by the presence of any onshore unconventional shale gas development.
- There may be a risk that sacred sites and cultural landscapes are degraded and damaged both above and below the ground.

Community wellbeing

- The development of the onshore unconventional shale gas industry may have an adverse impact on the wellbeing of Aboriginal communities.
- There may be a risk of solastalgia caused by any onshore unconventional shale gas development.
- There may be a risk that any onshore unconventional shale gas industry causes community division in respect of those who may benefit from any industry and those who will not.

Aquatic and terrestrial ecosystems

- The development of the unconventional gas industry may have an adverse impact on aquatic and terrestrial ecosystems important to Aboriginal culture.

Aboriginal health

- There is a risk of an exacerbated adverse impact on Aboriginal health, taking into account the particular vulnerabilities and disadvantage of that population.

Cumulative risks

- There may be cumulative risks associated with some or all of the risks identified above.

6 Social impacts

Housing and rents

- There may be impacts on local housing, which may decrease or increase rents and house prices as a result of an increased population.

Insurance

- There may be a risk that there will be an increase in insurance costs and liabilities of landowners, occupiers, and traditional owners.

Health services

- There may be impacts on the local health system (hospitals, health services and so on) as a result of an increased population, including that there may be increased health services in remote communities as a result of industry's presence.

Education

- There may be an impact on the local education system as a result of an increased population.

Infrastructure

- There may be an impact on infrastructure, such as roads, as a result of increased traffic.

Livelihoods

- There may be an impact on livelihoods.

Long term benefits

- There may be a risk that the development of the industry will occur without short and long term benefits flowing to the local community.

Community cohesion

- There may be an adverse impact on community cohesion and resilience. That is, there may be a risk of social division being created between those who benefit from the development of any onshore unconventional shale gas industry and those who do not.

Crime

- There may be an increase in crime.

Employment

- They may be an impact on local employment and skill levels.
- There may be negative impact caused by an influx of FIFO employees.

Business

- There may be an impact on local business opportunities.

Amenity

- There may be a risk that the amenity of people will be adversely impacted by hydraulic fracturing and its associated activities.

Social licence to operate

- There may be a risk that no social licence to operate an onshore unconventional shale gas industry exists.

Cumulative risks

- There may be cumulative risks associated with some or all of the risks identified above.

7 Economic impacts

Distribution

- There may be a risk that any economic benefits will not be shared by the regions that are directly affected by the industry and/or will not be shared equitably between the gas companies, the government, and the community.

Property values

- There may be a risk that there will be a decrease or increase in existing property values.

Other industries

- There may be a risk that there will be an adverse impact on other businesses, such as tourism, fishing, agricultural and pastoral businesses.

Energy security

- There may be an impact on the energy security of the Territory.

Employment

- There may be an impact on employment in the Territory.

Net impacts

- There may be a risk that any economic benefits will not outweigh economic detriments.
- There may be an opportunity cost of investing in an onshore unconventional shale gas industry rather than in renewable energy.
- There may be a risk of residents leaving a particular region because of the presence of an onshore unconventional shale gas industry.

Management

- **There may be a risk that, if not properly managed, any economic benefits will result in 'boom and bust' economic activity.**

Cumulative risks

- **There may be cumulative risks associated with some or all of the risks identified above.**

8 Land access

Consultation

- There may be a risk that gas companies do not consult adequately with land owners, occupiers, or traditional owners, in gaining access to the land for exploration and extraction purposes.

Consent

- There may be a risk that gas companies enter the land without obtaining the consent of the landowner, occupier, or traditional owners, causing conflict.

Conditions

- There may be a risk that gas companies and landowners, occupiers, and traditional owners, do not negotiate mutually beneficial conditions associated with any agreement permitting access.

Compensation

- There may be a risk that compensation paid for access and/or disturbance to land will not be adequate.
- There may be a risk that if there is an incident in the exploration, extraction or production of any gas, the land may not be properly remediated or the land owners, occupiers, or traditional owners may not be adequately compensated.

Cumulative risks

- There may be cumulative risks associated with some or all of the risks identified above.

9 Regulatory framework

Failure to protect the environment

- There may be a risk that the regulatory framework does not adequately protect the environment (water, land, and air) from risks associated with hydraulic fracturing and its associated activities.
- There may be a risk that the regulatory framework does not ensure adequate, or any, remediation and/or rehabilitation of any environmental damage caused by hydraulic fracturing and its associated activities.
- There may be a risk that the cost of any remediation and/ or rehabilitation of environmental damage caused by hydraulic fracturing and its associated activities is not passed on, either in whole or in part, to the entity that caused the harm, but is passed on to the public.

Land access

- There may be a risk the regulatory framework does not appropriately balance the rights of landowners, occupiers, and traditional owners, with those of gas companies.

Public health

- There may be a risk the regulatory framework does not adequately mitigate public health risks associated with the onshore unconventional shale gas industry.

Aboriginal culture and communities

- There may be a risk the regulatory framework does not adequately protect Aboriginal culture, values, traditions and communities from risks associated with the unconventional shale gas industry.

Social impacts

- There may be a risk the regulatory framework does not adequately mitigate the social risks associated with the onshore unconventional shale gas industry.

Economic impacts

- There may be a risk the regulatory framework does not ensure that any economic benefits are appropriately distributed between the gas companies, the Government and the local community.

Compliance and enforcement

- There may be a risk of inadequate monitoring or enforcement of compliance with the regulatory framework. This may arise from, for example, inadequate resourcing of the regulatory agency, inadequate expertise, or inadequate training.
- There may be a risk that sanctions provided for in the regulatory framework are inadequate or are not utilised by the regulator.
- There may be a risk that the cost of complying with the regulatory framework is too high for industry and the industry becomes uneconomic.

Access to justice

- There may be a risk that access to justice by the public is denied or restricted by the regulatory framework.

Complexity

- There may be a risk that the regulatory framework developed is too complex.
- There may be a risk that given its complexity, any regulatory framework that is developed is rushed and inadequate.
- There may be a risk that there is inadequate information about the long term risks associated with hydraulic fracturing and its associated activities to develop a suitably robust regulatory framework.

Regulatory capture

- There may be a risk of 'regulatory capture', whereby the regulatory body becomes inappropriately aligned with industry and becomes reluctant to regulate against the interest of any onshore unconventional shale gas industry.
- There may be a risk of the perception of regulatory capture which may have a tendency to undermine confidence in both the regulatory body and the Government.

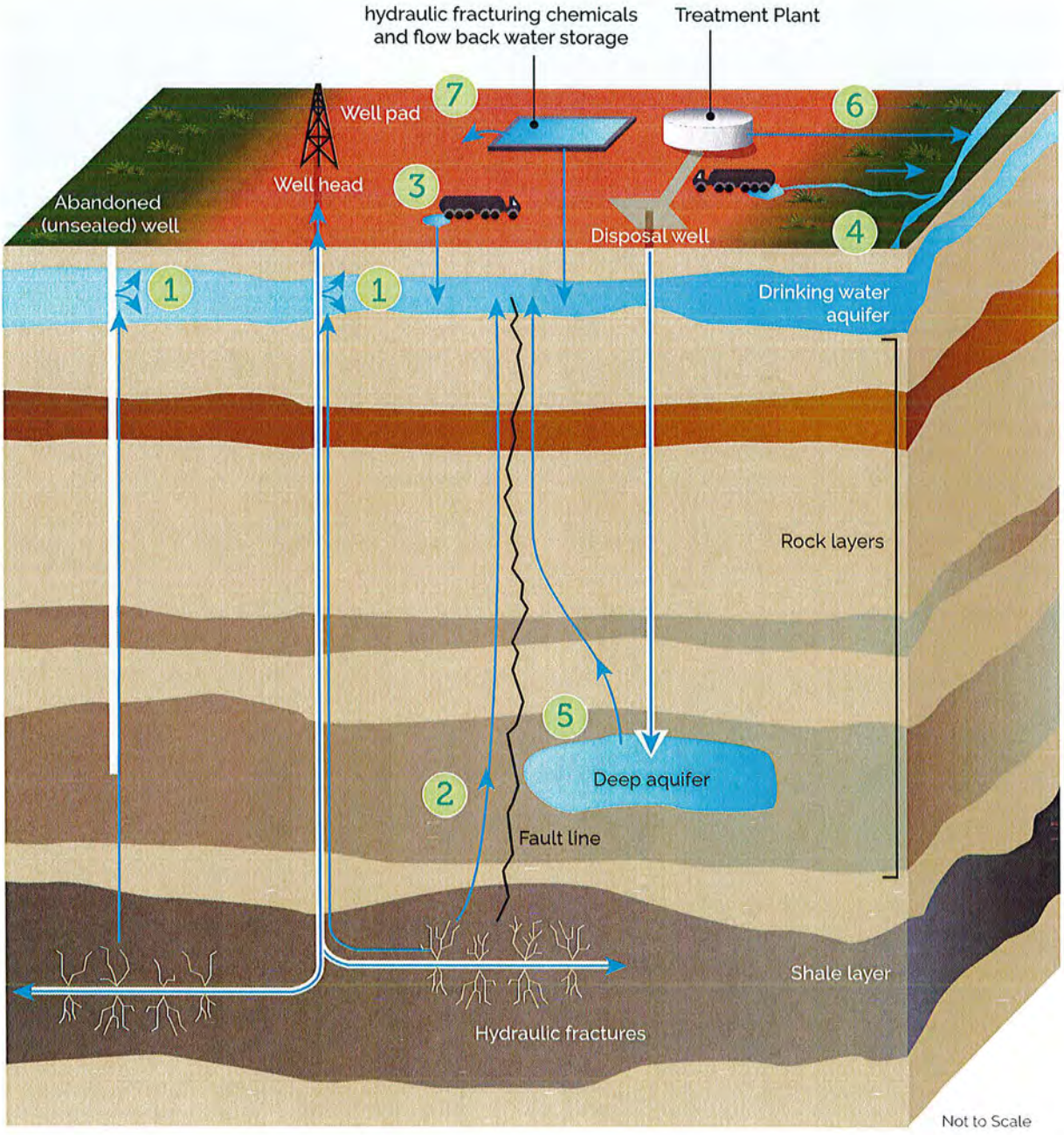
Political risks

- There may be a risk that the Government is perceived to be subject to undue influence by the gas industry thereby leading to a loss of public confidence in the Government and the democratic process.
- There may be a risk that, given the short term nature of the political cycle, the long term consequences of any onshore unconventional shale gas industry cannot be appropriately regulated.

Cumulative risks

- There may be cumulative risks associated with some or all of the risks identified above.

Figure 7.10: Schematic of the potential contamination pathways from a shale gas site.



Path 1 - leakage of either hydraulic fracturing fluid, flowback or produced water, or methane from operating or abandoned wells;
Path 2 - contamination of shallow groundwater via fractures induced by the hydraulic fracturing process;
Path 3 - surface spills of chemicals, hydraulic fracturing fluid, flowback water or produced water at the well site or other handling facility within the well pad;
Path 4 - surface spills of chemicals, hydraulic fracturing fluid, flowback water or produced water within the well pad that is washed off-site into a waterbody;
Path 5 - reinjection of untreated wastewater to deep aquifers, with possible seismic activity and fault reactivation;
Path 6 - direct discharge of treated or untreated wastewaters to surface waters or drainage lines;
Path 7 - overtopping or failure of wastewater storage ponds;
Path 8 - spills during transport of chemicals or wastewater from either road transports or pipelines (not shown).