### Vairo, Stella – Wednesday, 29 May 2019 – 13:11:35

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Stella Vairo
Sent	29/05/2019 1:11:35 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

Yours sincerely, Stella Vairo Coburg, Victoria, 3058, Australia

# Valdebenito, Parmella – Wednesday, 29 May 2019 – 21:32:25

Subject	Objection to Origin Energy's Environmental Management Plan for the Kyalla Drilling
	and Hydraulic Fracturing 2019 Program EP117 N2
From	Parmella Valdebenito
Sent	29/05/2019 9:32:25 PM

Write your submission here - use our talking points to guide your submission.

parmella valdebenito \*\*\*\*\*\*\*\*\*\*\*

NSW 2533

### Valentine, Herbert – Thursday, 30 May 2019 – 05:32:24

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Herbert Valentine
Sent	30/05/2019 5:32:24 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

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[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

Yours sincerely, Herbert Valentine

### Valentine, Olivia – Saturday, 25 May 2019 – 09:37:08

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Olivia Valentine
Sent	25/05/2019 9:37:08 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

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Below are a list of my recommendations:

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2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

Yours sincerely, Olivia Valentine Kings Beach, Queensland, 4551, Australia

### Valentine, Sarah – Wednesday, 29 May 2019 – 04:11:37

Subject	Objection to Origin's Kyalla frack site in the NT
From	Sarah Valentine
Sent	29/05/2019 4:11:37 AM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined below.

#### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

#### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flowback fluid.

This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

#### WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

### TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

### BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

Yours sincerely, Sarah Valentine Whitsundays, Queensland, 4801, Australia

### Valladares, Rosita – Wednesday, 29 May 2019 – 11:06:39

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Rosita Valladares
Sent	29/05/2019 11:06:39 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

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Yours sincerely, Rosita Valladares Willetton, Western Australia, 6155, Australia

### Valle, Claudia – Sunday, 26 May 2019 – 07:01:17

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Claudia La Valle
Sent	26/05/2019 7:01:17 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

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### Vallely, Andrew – Wednesday, 29 May 2019 – 12:12:26

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Andrew Vallely
Sent	29/05/2019 12:12:26 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

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Yours sincerely, Andrew Vallely Kewarra Beach, Queensland, 4879, Australia

### Vancea, Sara – Wednesday, 29 May 2019 – 11:41:35

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Sara Vancea
Sent	29/05/2019 11:41:35 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

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Yours sincerely, Sara Vancea

## Vanderhave, M – Thursday, 30 May 2019 – 09:05:20

Subject	Objection to Origin Energy's Environmental Management Plan for the Kyalla Drilling
	and Hydraulic Fracturing 2019 Program EP117 N2
From	M Vanderhave
Sent	30/05/2019 9:05:20 AM

As an Australian citizen, from Lithgow NSW 2790, I object to Origin's mega shale gas plans because of the risks to climate and water - risks that could affect all Australians.

Further, there are serious concerns as to whether Traditional Owners have been able to provide free, prior and informed consent to the fracking process. Regards

### Vanderhelm, Jacqui – Thursday, 30 May 2019 – 10:46:02

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Jacqui Vanderhelm
Sent	30/05/2019 10:46:02 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

[1] The Australia Institute "Cooked with gas" 2018 http://www.tai.org.au/sites/default/files/P510%20Cooked%20with%20gas%20-%20Darwin%20days%20over%2035C%20FINAL.pdf

[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

### Vanhees, Joanne – Thursday, 23 May 2019 – 20:20:10

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Joanne Vanhees
Sent	23/05/2019 8:20:10 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

[1] The Australia Institute "Cooked with gas" 2018 http://www.tai.org.au/sites/default/files/P510%20Cooked%20with%20gas%20-%20Darwin%20days%20over%2035C%20FINAL.pdf

[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

Yours sincerely, joanne vanhees

### Vanhees, Joanne - Friday, 24 May 2019 - 17:37:18

Subject	Objection to Origin's Kyalla frack site in the NT
From	Joanne Vanhees
Sent	24/05/2019 5:37:18 PM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined below.

#### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

#### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flowback fluid.

This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

#### WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

### TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

### BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

Yours sincerely, joanne vanhees

### Varughese, Sucy – Friday, 24 May 2019 – 12:58:41

Subject	Objection to Origin's Kyalla frack site in the NT
From	Sucy Varughese
Sent	24/05/2019 12:58:41 PM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined below.

#### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

#### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flowback fluid.

This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

#### WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

### TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

### BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

Yours sincerely, sucy varughese City Beach, Western Australia, 6015, Australia

# Varughese, Sucy – Tuesday, 28 May 2019 – 18:31:05

Subject	Objection to Origin Energy's Environmental Management Plan for the Kyalla Drilling
	and Hydraulic Fracturing 2019 Program EP117 N2
From	Sucy Varughese
Sent	28/05/2019 6:31:05 PM

I object to this project and don't believe it should go ahead because:

(a) It would be a climate disaster, destroying country and water.

(b) Aboriginal communities overwhelmingly opposed fracking on their land. They should be consulted and their rights and wishes should be respected

(c) Chemicals that will be stored and used on the site could represent a threat to human health, the natural environment and water sources.

Sucy Varughese

WA 6015

# Vassella, Shirley – Thursday, 30 May 2019 – 15:51:59

Subject	Objection to Origin Energy's Environmental Management Plan for the Kyalla Drilling
	and Hydraulic Fracturing 2019 Program EP117 N2
From	Shirley Vassella
Sent	30/05/2019 3:51:59 PM

Write your submission here - use our talking points to guide your submission.

Shirley Vassella \*\*\*\*\*\*\*\*\*\*\*\*\*\* NSW 2322

## Vassilevska, Jiva - Friday, 24 May 2019 - 12:26:45

Subject	Objection to Origin's Kyalla frack site in the NT
From	Jiva Vassilevska
Sent	24/05/2019 12:26:45 PM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined below.

### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flowback fluid.

This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

#### WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

## TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

## BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

Yours sincerely, jiva vassilevska Coogee, New South Wales, 2034, Australia

## Vaughan, Alex – Monday, 27 May 2019 – 20:45:52

Subject	Objection to Origin energy gtacking Kyalla in the NT
From	Alex Vaughan
Sent	27/05/2019 8:45:52 PM

### Dear Origin,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined below.

### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

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### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

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Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

#### WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

## TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

## BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

Yours sincerely, Alex Vaughan Paddington, New South Wales, 2021, Australia

## Vaughan, Dindy – Thursday, 23 May 2019 – 17:40:03

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Dindy Vaughan
Sent	23/05/2019 5:40:03 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

[1] The Australia Institute "Cooked with gas" 2018 http://www.tai.org.au/sites/default/files/P510%20Cooked%20with%20gas%20-%20Darwin%20days%20over%2035C%20FINAL.pdf

[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

[5] Jumbunna Institute for Education and Research "Hydraulic Fracturing and Free, Prior and Informed Consent in the Northern Territory: A Literature Review "https://accr.org.au/wp-content/uploads/Jumbunna-FPIC-review-final.pdf

Yours sincerely, Dindy Vaughan Croydon, Victoria, 3136, Australia

## Vaughan, Hugh – Tuesday, 28 May 2019 – 11:12:38

Subject	Objection to Origin Energy's Environmental Management Plan (EMP)
From	Hugh Vaughan
Sent	28/05/2019 11:12:38 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

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4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I write also in support of my own children and yours, and all of their progeny for generations to come. The science says quite clearly that we cannot open new fossil fuel reserves if we are to preserve any possibility of our children enjoying anything approaching the same levels of prosperity and security that we have enjoyed. This is the time to draw a line under these 19th century ways of conducting our affairs and simply say "no more".

I wait with serious concern for your response to these matters.

[1] The Australia Institute "Cooked with gas" 2018 http://www.tai.org.au/sites/default/files/P510%20Cooked%20with%20gas%20-%20Darwin%20days%20over%2035C%20FINAL.pdf

[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

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[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

[5] Jumbunna Institute for Education and Research "Hydraulic Fracturing and Free, Prior and Informed Consent in the Northern Territory: A Literature Review "https://accr.org.au/wp-content/uploads/Jumbunna-FPIC-review-final.pdf

Yours sincerely, Hugh Vaughan Kenthurst, New South Wales, 2156, Australia

## Vaughan, Janelle - Friday, 24 May 2019 - 16:07:04

Subject	Objection to Origin's Kyalla frack site in the NT
From	Janelle Vaughan
Sent	24/05/2019 4:07:04 PM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined below.

### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

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This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

#### WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

## TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

## BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

## Vaughan, Kieran – Thursday, 23 May 2019 – 19:38:12

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Kieran Vaughan
Sent	23/05/2019 7:38:12 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

[1] The Australia Institute "Cooked with gas" 2018 http://www.tai.org.au/sites/default/files/P510%20Cooked%20with%20gas%20-%20Darwin%20days%20over%2035C%20FINAL.pdf

[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

[5] Jumbunna Institute for Education and Research "Hydraulic Fracturing and Free, Prior and Informed Consent in the Northern Territory: A Literature Review "https://accr.org.au/wp-content/uploads/Jumbunna-FPIC-review-final.pdf

## Vavryn, Dianne – Saturday, 25 May 2019 – 08:45:16

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Dianne Vavryn
Sent	25/05/2019 8:45:16 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

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[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

[5] Jumbunna Institute for Education and Research "Hydraulic Fracturing and Free, Prior and Informed Consent in the Northern Territory: A Literature Review "https://accr.org.au/wp-content/uploads/Jumbunna-FPIC-review-final.pdf

Yours sincerely, Dianne Vavryn The Caves, Queensland, 4702, Australia

## Vavryn, Dianne – Saturday, 25 May 2019 – 11:34:33

Subject	Objection to Origin's Kyalla frack site in the NT
From	Dianne Vavryn
Sent	25/05/2019 11:34:33 AM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined below.

#### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flowback fluid.

This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

#### WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

## TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

## BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

Yours sincerely, Dianne Vavryn The Caves, Queensland, 4702, Australia

## Vaz, Edith – Friday, 24 May 2019 – 11:54:14

Subject	Objection to Origin's Kyalla frack site in the NT
From	Edith Vaz
Sent	24/05/2019 11:54:14 AM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined below.

### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

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### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

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This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

#### WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

## TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

## BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

Yours sincerely, Edith Vaz Vermont South, Victoria, 3133, Australia

## Ve, Ella – Tuesday, 28 May 2019 – 17:11:29

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Ella Du Ve
Sent	28/05/2019 5:11:29 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

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For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

[5] Jumbunna Institute for Education and Research "Hydraulic Fracturing and Free, Prior and Informed Consent in the Northern Territory: A Literature Review "https://accr.org.au/wp-content/uploads/Jumbunna-FPIC-review-final.pdf

Yours sincerely, Ella Du Ve Thornbury, Victoria, 3071, Australia

## Veivers, Hannah – Wednesday, 29 May 2019 – 11:01:55

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Hannah Veivers
Sent	29/05/2019 11:01:55 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

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[5] Jumbunna Institute for Education and Research "Hydraulic Fracturing and Free, Prior and Informed Consent in the Northern Territory: A Literature Review "https://accr.org.au/wp-content/uploads/Jumbunna-FPIC-review-final.pdf

Yours sincerely, Hannah Veivers Brinsmead, Queensland, 4870, Australia

## Vellios, James - Tuesday, 28 May 2019 - 23:20:54

Subject	Objection to Origin Energy's Environmental Management Plan for the Kyalla Drilling
	and Hydraulic Fracturing 2019 Program EP117 N2
From	James Vellios
Sent	28/05/2019 11:20:54 PM

Hello, the message in my submission is simple: tell Origin to stop looking for lazy, old-fashioned energy. How long are we going to take the easy, detrimental short-cut to power generation?? Stop drilling and instead use your capital to invest in wind, solar, ocean energy and hydrogen. Can we start investing in our future and stop being lazy and bleeding the earth dry please!! It's not good enough anymore. Stop it!! Stop being lazy and start being proper environmental citizens of this country and invest in sustainability - not short-term profit margins.

James Vellios \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* NSW 2207

## Velnaar, Camille – Wednesday, 29 May 2019 – 18:49:29

Subject	Objection to Origin Energy's Environmental Management Plan for the Kyalla Drilling
	and Hydraulic Fracturing 2019 Program EP117 N2
From	Camille Velnaar
Sent	29/05/2019 6:49:29 PM

To whom it may concern

I wish to object to Origin Energy's Environmental Management Plan for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

My main objections are outlined as per GetUp has provided. In addition I wish to add that the nature of our extreme and unpredictable weather conditions is already impacting our country in ways we cannot foresee. One small but relevant example is how heavy rainfalls in distant areas has prevented tourists from travelling through then Simpson desert this season. We cannot predict what and how far contaminated flood waters will travel in the coming climate change. Don't take a risk that is irreversible.

Our federal elections returned a government that does not take climate change seriously but that doesn't change the FACTS. Climate change is happening and we need to ensure we act now to prevent potentially devastating situations from occurring.

https://www.whichcar.com.au/news/simpson-desert-2019-touring-season-open

Origin's exploration well has the potential to lead to hundreds of Origin's shale gas wells in full production phase, and to the further development of Northern Territory's unconventional gas industry, which NT government sources have said could mean over 6000 gas wells.1 The gas industries' peak body, the Australian Petroleum Production and Exploration Association, has said there are over 200 trillion cubic feet of gas in the Northern Territory, which is the equivalent to 50 power stations operating for thirty years.2 We simply cannot afford such a climate disaster. The fracking processes uses dangerous chemicals that represent a threat to human health, the natural environment and water sources.

Origin have provided a list of chemicals that will be stored and used on the site of their exploration well. Many of these chemicals do not have available health data.3 These chemicals must be adequately health tested before being used in the fracking processes. The health and environmental risks of the dangerous chemicals used in the fracking processes are exacerbated by the use of open storage tanks.

Origin is proposing using open tanks to store liquids that flow back after the fracking process, which will be millions of litres. This is in spite of the fact that the Northern Territory fracking inquiry recommended that all polluted water from the fracking process be stored in closed tanks to minimise risks to human life and the natural environment.4 There are serious concerns as to whether Traditional Owners have been able to provide free, prior and informed consent to the fracking process.

The Scientific Inquiry into Hydraulic Fracturing in the Northern Territory stated that, 'Aboriginal people from regional communities who made submissions to the Panel almost universally expressed deep concern about, and strong opposition to, the development of any onshore shale gas industry on their country.'4 This included communities in the Beetaloo basin where this exploration well will be located. A report from the Jumbunna Institute at UTS, 5 has questioned whether communities have been provided adequate information about the fracking processes, leading to the conclusion that 'based on a review of publicly available information, the report finds that most – if not all – exploration permits issued in the Northern Territory for unconventional gas were issued in the absence of free, prior and informed

consent'. In this context it is not appropriate to proceed with the current exploration permit without further consultation. References:

[1] 'Onshore shale gas in Australia and the Northern Territory', The Scientific Inquiry into Hydraulic Fracturing in the Northern Territory, March 2018.

[2] 'NT gas compared to coal-fired power plants', The Australia Institute.

[3] For more information on chemical information see 'Object to Origin's frack plans', Lock the Gate.

[4] Recommendation 7.12, The Scientific Inquiry into Hydraulic Fracturing in the Northern Territory, March 2018.

[4] 'Aboriginal people and their culture', p 266, The Scientific Inquiry into Hydraulic Fracturing in the Northern Territory, March 2018.

[5] Hydraulic Fracturing and Free, Prior and Informed Consent in the NT, Jumbunna Institute UTS.

Camille velnaar \*\*\*\*\*\*\*

TAS 7109

## Vemis, Ari – Thursday, 23 May 2019 – 19:15:24

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Ari Vemis
Sent	23/05/2019 7:15:24 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

[1] The Australia Institute "Cooked with gas" 2018 http://www.tai.org.au/sites/default/files/P510%20Cooked%20with%20gas%20-%20Darwin%20days%20over%2035C%20FINAL.pdf

[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

[5] Jumbunna Institute for Education and Research "Hydraulic Fracturing and Free, Prior and Informed Consent in the Northern Territory: A Literature Review "https://accr.org.au/wp-content/uploads/Jumbunna-FPIC-review-final.pdf

Yours sincerely, Ari Vemis Mornington, Victoria, 3931, Australia

## Venables, Judith – Monday, 27 May 2019 – 09:59:08

Subject	Objection to Origin's Kyalla frack site in the NT
From	Judith Venables
Sent	27/05/2019 9:59:08 AM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined below.

#### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flowback fluid.

This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

#### WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

## TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

## BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

Yours sincerely, Judith Venables Thomastown, Victoria, 3074, Australia

### Venardos, Robyn – Wednesday, 29 May 2019 – 15:19:05

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Robyn Venardos
Sent	29/05/2019 3:19:05 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

Yours sincerely, Robyn Venardos McMahons Point, New South Wales, 2060, Australia

### Venes, Emelia – Wednesday, 29 May 2019 – 11:50:22

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Emelia Venes
Sent	29/05/2019 11:50:22 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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### Venkatesan, Maduvanthi - Tuesday, 28 May 2019 - 20:25:06

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Maduvanthi Venkatesan
Sent	28/05/2019 8:25:06 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Thank you for the opportunity to make a submission regarding this issue.

I ardently implore the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am gravely concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet

seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

This project will lead to the destruction of the climate and planet for future generations and will be an utter desecration of sacred land and nature, an act of violence and disrespect towards the traditional owners and custodians of the land.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

# Venning, Dennis - Tuesday, 28 May 2019 - 12:25:25 PM

Subject	DENR - Consultation Form - 698286
From	Venning, Dennis
Sent	Tuesday, 28 May 2019 - 12:25:25 PM

See Next page

#### **Contact details**

First name:	Dennis
Surname:	Venning
Email	
address:	
Country:	Australia
Postcode:	0860
Phone number:	
Stakeholder type:	Community
Feedback	
Activity you are providing feedback on:	g Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2
Category type:	Chemicals, Climate change, Economic, Regulation and compliance, Social and cultural, Traffic and roads, Waste, Water
If other,	
please	
specify::	
Comments:	To whom it may concern, I am deeply worried about the impacts the project herein proposed could have on the natural environment of the Northern Territory, and on surrounding local communities. In particular, I would highlight the following major concerns: Wastewater must not be kept in open air tanks. This is in line with what was promised under the Fracking Inquiry. Large numbers of birds will be killed if this is allowed to continue, including threatened species. In addition to the above, the wet season could cause open air tanks to overflow. Any overflow would have devastating impacts on the surrounding environment and water. The lack of a determined waste site is another key concern. Waste sites must be identified before any activities can commence and before this EMP can be approved. Finally, the practice of flaring must be banned totally. The potential fire risk is very significant and the cumulative emissions fromflaring are too great to allow it to occur. There has not yet been enough consultation with local communities, including tourism providers and traditional owners on the impacts these activities will have on the area. As someone who frequently camps at Lake Woods I am very concerned about what it will look like if fracking is allowed to happen upstream. Thank you very much for listening to my concerns. I look forward to the proper processes being followed and this EMP being rejected, pending appropriate management and planning in regard to the above. Kind regards, Dennis Venning
Attachments	: No file uploaded

Privacy:

### Venters, Nick – Thursday, 30 May 2019 – 18:14:38

Subject	NT Fracking
From	Nick Venters
Sent	30/05/2019 6:14:38 PM

ALL Governments are DUTY BOUND to preserve the land that they purport to govern for a particular period of time.

They are not permitted to allow its destruction for short term profit or gain to that government or person or business organization.

Once natural systems, flora and fauna, particularly water systems are destroyed or made extinct, they are gone FOR EVER !. For every one.

THIS IS A CRIME. Politicians should dwell on this fact.

N. Venters, Bundaberg.

nick venters \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* QLD 4670

### Verdun, Gwen – Saturday, 25 May 2019 – 06:18:51

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Gwen Verdun
Sent	25/05/2019 6:18:51 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR), I

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

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For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

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1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

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I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

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[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

Yours sincerely, Gwen Verdun

### Verlie, Blanche – Wednesday, 29 May 2019 – 12:41:42

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Blanche Verlie
Sent	29/05/2019 12:41:42 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

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I wait with serious concern for your response to these matters.

[1] The Australia Institute "Cooked with gas" 2018 http://www.tai.org.au/sites/default/files/P510%20Cooked%20with%20gas%20-%20Darwin%20days%20over%2035C%20FINAL.pdf

[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

Yours sincerely, Blanche Verlie Melbourne, Victoria, 3004, Australia

### Verran, Shane – Friday, 24 May 2019 – 16:43:19

Subject	You do not have the right to destroy the biodiversity in this way. You do not have the
	right to put water and therefore land that could be used for more benign purposes.
From	Shane Verran
Sent	24/05/2019 4:43:19 PM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined below.

#### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

#### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flowback fluid.

This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

#### WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

#### TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

#### BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

Yours sincerely, Shane Verran Bundagen, New South Wales, 2454, Australia

### Verratti, Kathy – Wednesday, 29 May 2019 – 16:33:34

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Kathy Verratti
Sent	29/05/2019 4:33:34 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

[1] The Australia Institute "Cooked with gas" 2018 http://www.tai.org.au/sites/default/files/P510%20Cooked%20with%20gas%20-%20Darwin%20days%20over%2035C%20FINAL.pdf

[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

Yours sincerely, Kathy Verratti Bonbeach, Victoria, 3196, Australia

### Vervaet, Frederik – Friday, 24 May 2019 – 04:38:50

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Frederik Vervaet
Sent	24/05/2019 4:38:50 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

Yours sincerely, Frederik Vervaet Coburg, Victoria, 3058, Australia

## Vetma, Sue – Tuesday, 28 May 2019 – 19:38:05

Subject	Objection to Origin Energy's Environmental Management Plan for the Kyalla Drilling
	and Hydraulic Fracturing 2019 Program EP117 N2
From	Sue Vetma
Sent	28/05/2019 7:38:05 PM

Don't allow our land to be mined by

Origin. We need to protect our environment, not allow it to be destroyed for profit.

Sue Vetma \*\*\*\*\*\*\*\*\*\*

QLD 4179

### Vickery, Carol – Friday, 24 May 2019 – 08:44:00

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Carol Vickery
Sent	24/05/2019 8:44:00 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

### Videan, Oscar – Wednesday, 29 May 2019 – 13:42:22

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Oscar Videan
Sent	29/05/2019 1:42:22 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

Yours sincerely, Oscar Videan Coburg, Victoria, 3058, Australia

### Vido, Carmen – Thursday, 30 May 2019 – 11:58:12

Subject	Objection to Origin Energy's Environmental Management Plan for the Kyalla Drilling
	and Hydraulic Fracturing 2019 Program EP117 N2
From	Carmen Vido
Sent	30/05/2019 11:58:12 AM

To the NT Government,

I wish to express my disapproval of the exploration plan by Origin Energy in the NT. My strong opinion is that this, most definitely, should not be allowed to proceed.

Indigenous communities will be negatively affected, as will climate, water and the environment. Australia must wake up to the fact that fossil fuels are no longer an sustainable source of energy. We must look to alternatives and encourage new initiatives in this area.... they are out there and we should be investing in them.

Please consider this.

Kind regards, Carmen Vido

Carmen Vido \*\*\*\*\*\*\*\*\*\*

VIC 3102

### Viglione, Leanne – Saturday, 25 May 2019 – 06:22:29

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Leanne Viglione
Sent	25/05/2019 6:22:29 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

[5] Jumbunna Institute for Education and Research "Hydraulic Fracturing and Free, Prior and Informed Consent in the Northern Territory: A Literature Review "https://accr.org.au/wp-content/uploads/Jumbunna-FPIC-review-final.pdf

Yours sincerely, Leanne Viglione Plenty, Victoria, 3090, Australia

## Vincent, Elizabeth - Sunday, 26 May 2019 - 14:33:29

Subject	Objection to Origin's Kyalla frack site in the NT
From	Elizabeth Vincent
Sent	26/05/2019 2:33:29 PM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

I have researched fracking problems in America and I am appalled that this could even be contemplated in the NT.

My key concerns with this plan are outlined below.

#### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flowback fluid.

This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

#### WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

#### TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

### BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

Yours sincerely, Elizabeth Vincent Warriewood DC, New South Wales, 2102, Australia

## Vincent, Larry – Wednesday, 29 May 2019 – 11:33:45

Subject	Objection to Origin Energy's Environmental Management Plan for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2
From	Larry Vincent
Sent	29/05/2019 11:33:45 AM

I am an Origin shareholder and opposed to their plans to place in Jeopardy the water resources of remote Aboriginal communities who are also opposed to this plan that will cause irreparable environmental damage to already depleting water resources. The Origin Board could stop this plan proceeding and act as a good corporate entity.

Larry Vincent \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* NSW 2031

## Vincent, Larry – Wednesday, 29 May 2019 – 11:37:07

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Larry Vincent
Sent	29/05/2019 11:37:07 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2.

I am also an Origin shareholder.

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental

Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

[1] The Australia Institute "Cooked with gas" 2018 http://www.tai.org.au/sites/default/files/P510%20Cooked%20with%20gas%20-%20Darwin%20days%20over%2035C%20FINAL.pdf

[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml [5] Jumbunna Institute for Education and Research "Hydraulic Fracturing and Free, Prior and Informed Consent in the Northern Territory: A Literature Review "https://accr.org.au/wp-content/uploads/Jumbunna-FPIC-review-final.pdf

Yours sincerely, Larry Vincent Randwick, New South Wales, 2031, Australia

## Vincent, Renee – Thursday, 30 May 2019 – 11:40:08

Subject	Objection to Origin's Kyalla frack site in the NT
From	Renee Vincent
Sent	30/05/2019 11:40:08 AM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined below.

#### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

#### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flowback fluid.

This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

#### WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

### TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

### BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

Yours sincerely, Renee Vincent White Gums, Northern Territory, 0870, Australia

## Vine, Cherri – Friday, 24 May 2019 – 23:14:32

Subject	Objection to Origin's Kyalla frack site in the NT
From	Cherri Vine
Sent	24/05/2019 11:14:32 PM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined below.

#### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

#### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flowback fluid.

This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

#### WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

### TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

### BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

Yours sincerely, Cherri Vine East Augusta, Western Australia, 6290, Australia

### Vine, Cherri – Wednesday, 29 May 2019 – 19:43:10

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Cherri Vine
Sent	29/05/2019 7:43:10 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

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[5] Jumbunna Institute for Education and Research "Hydraulic Fracturing and Free, Prior and Informed Consent in the Northern Territory: A Literature Review "https://accr.org.au/wp-content/uploads/Jumbunna-FPIC-review-final.pdf

Yours sincerely, Cherri Vine

## Viner, Shirley – Monday, 27 May 2019 – 12:24:14

Subject	Objection to Origin's Kyalla frack site in the NT
From	Shirley Viner
Sent	27/05/2019 12:24:14 PM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

I believe it is vital that we stop damaging the country we live in and instead invest in its protection and the care of our environment for the good of all people. And of course for future generations if we have the time to do this!

My key concerns with this plan are outlined below.

#### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

#### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flowback fluid.

This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

#### WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

#### TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

#### BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

Yours sincerely, Shirley Viner Piggoreet, Victoria, 3351, Australia

### Viner, Shirley – Wednesday, 29 May 2019 – 07:28:22

Subject	Objection to Origin Energy's Environmental Management Plan for the Kyalla Drilling
	and Hydraulic Fracturing 2019 Program EP117 N2
From	Shirley Viner
Sent	29/05/2019 7:28:22 AM

Our world is on the edge of major catastrophe. We urgently need to rethink our whole approach to energy or we may not have a world for our children and their children. Please start here!

Our Northern Territory is a land rich in culture and amazing environment. Fracking will destroy this by destroying the water and the environment. And the energy produced will destroy the planet.

Shirley Viner \*\*\*\*\*\*\*\*\*

VIC 3351

## Viney, Emily – Friday, 24 May 2019 – 11:21:38

Subject	Objection to Origin's Kyalla frack site in the NT
From	Emily Viney
Sent	24/05/2019 11:21:38 AM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined below.

#### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

#### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flowback fluid.

This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

#### WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

### TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

### BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

Yours sincerely, Emily Viney Dallas, Victoria, 3047, Australia

## Viney, Spencer – Friday, 24 May 2019 – 11:23:34

Subject	Objection to Origin's Kyalla frack site in the NT
From	Spencer Viney
Sent	24/05/2019 11:23:34 AM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My name is Spencer Viney and I grew up in the NT. This is my home. Please do not do this to the land.

My key concerns with this plan are outlined below.

#### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

#### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flowback fluid.

This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

#### TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site.

Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

#### BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

Yours sincerely, Spencer Viney Dallas, Victoria, 3047, Australia

## Vinnicombe, Nicki – Friday, 24 May 2019 – 07:59:27

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Nicki Vinnicombe
Sent	24/05/2019 7:59:27 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

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[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

[5] Jumbunna Institute for Education and Research "Hydraulic Fracturing and Free, Prior and Informed Consent in the Northern Territory: A Literature Review "https://accr.org.au/wp-content/uploads/Jumbunna-FPIC-review-final.pdf

Yours sincerely, Nicki Vinnicombe Randwick, New South Wales, 2031, Australia

## Visman, Linda – Friday, 24 May 2019 – 11:29:33

Subject	Objection to Origin's Kyalla frack site in the NT
From	Linda Visman
Sent	24/05/2019 11:29:33 AM

Dear Onshore Gas division,

As a former resident of the N.T., I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined below.

#### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

#### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flowback fluid.

This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

#### WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

### TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

### BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

## Visschers, Carine – Monday, 27 May 2019 – 08:12:16

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Carine Visschers
Sent	27/05/2019 8:12:16 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

[1] The Australia Institute "Cooked with gas" 2018 http://www.tai.org.au/sites/default/files/P510%20Cooked%20with%20gas%20-%20Darwin%20days%20over%2035C%20FINAL.pdf

[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

[5] Jumbunna Institute for Education and Research "Hydraulic Fracturing and Free, Prior and Informed Consent in the Northern Territory: A Literature Review "https://accr.org.au/wp-content/uploads/Jumbunna-FPIC-review-final.pdf

Yours sincerely, Carine Visschers

## Visser, Erin – Wednesday, 29 May 2019 – 14:53:04

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Erin Visser
Sent	29/05/2019 2:53:04 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

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[5] Jumbunna Institute for Education and Research "Hydraulic Fracturing and Free, Prior and Informed Consent in the Northern Territory: A Literature Review "https://accr.org.au/wp-content/uploads/Jumbunna-FPIC-review-final.pdf

Yours sincerely, Erin Visser Northcote, Victoria, 3070, Australia

## Visser, John – Friday, 24 May 2019 – 11:09:31

Subject	Objection to Origin's Kyalla frack site in the NT
From	John Visser
Sent	24/05/2019 11:09:31 AM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined below.

#### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

#### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flowback fluid.

This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

#### WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

### TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

### BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

Yours sincerely, John Visser Orange East, New South Wales, 2800, Australia

# Visser, Judy - Friday, 24 May 2019 - 14:26:01

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Judy Visser
Sent	24/05/2019 2:26:01 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change. I refer the Department to the decision taken in Queensland to ban this process after the environmental disaster this process caused in that State. PLEASE do not put commercial/profit concerns above the health and welfare of the local people and think VERY carefully about the ground water contamination which will inevitably occur if permits are granted.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin

Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml [5] Jumbunna Institute for Education and Research "Hydraulic Fracturing and Free, Prior and Informed Consent in the Northern Territory: A Literature Review "https://accr.org.au/wp-content/uploads/Jumbunna-FPIC-review-final.pdf

Yours sincerely, judy visser Willunga, South Australia, 5172, Australia

## Vivian, Trevor – Friday, 24 May 2019 – 20:13:00

Subject	Objection to Origin's Kyalla frack site in the NT
From	Trevor Vivian
Sent	24/05/2019 8:13:00 PM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined below.

#### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

#### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flowback fluid.

This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

#### WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

### TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

### BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

Yours sincerely, Trevor Vivian South Fremantle, Western Australia, 6162, Australia

### Vlaskine, Vsevolod – Wednesday, 29 May 2019 – 11:08:31

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Vsevolod Vlaskine
Sent	29/05/2019 11:08:31 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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Yours sincerely, Vsevolod Vlaskine Glebe, New South Wales, 2037, Australia

## Volkmer, Kristin – Saturday, 25 May 2019 – 07:31:09

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Kristin Volkmer
Sent	25/05/2019 7:31:09 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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Yours sincerely, Kristin Volkmer Moil, Northern Territory, 0810, Australia

## Volschenk, Erich – Friday, 24 May 2019 – 20:46:58

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Erich Volschenk
Sent	24/05/2019 8:46:58 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

[1] The Australia Institute "Cooked with gas" 2018 http://www.tai.org.au/sites/default/files/P510%20Cooked%20with%20gas%20-%20Darwin%20days%20over%2035C%20FINAL.pdf

[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

[5] Jumbunna Institute for Education and Research "Hydraulic Fracturing and Free, Prior and Informed Consent in the Northern Territory: A Literature Review "https://accr.org.au/wp-content/uploads/Jumbunna-FPIC-review-final.pdf

Yours sincerely, Erich Volschenk

## Voort, Maria – Saturday, 25 May 2019 – 06:23:59

Subject	Origin's Kyalla frack site in the NT - strong community objections
From	Maria Van Der Voort
Sent	25/05/2019 6:23:59 AM

Dear Onshore Gas division,

My name is Maria van der Voort and I'm from Dutch origine (Shell & NAM country!). I've been living in Australia for 30+ years.

I grew up under the toxic fall out from the oil refineries of Shell in Pernis, Rotterdam to the detriment of my family and me who suffered deteriorating health over many decades. I remember as a child suffering severe sinus problems and having headaches. My sinus problems are now chronic and symptoms become severe when air quality is poor/toxic.

For communities living near fracking gas wells this means they are at risk (despite your unacceptable denial).

More and more studies now document emissions of airborne pollutants at and near fracking sites that are known to cause cancer and harm the nervous, respiratory, and immune systems. At the same time, people and communities in areas with many hydraulically fractured wells report health problems consistent with these types of exposures. Despite all these reports (residents in Queensland) you keep pushing this toxic industry on Australia's citizens.

Citizens of The Netherlands are now involved in a class court action against Shell for knowingly expanding an industry that has caused climate change and severe health problems and deaths.

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined above and below.

#### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flow back fluid.

This flow back and drilling fluid is full of toxic substances including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to listed threatened bird life that visits the site, including the Gouldian Finch, and should not be open and accessible to bird life at any time.

WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

#### TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

#### BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

Yours sincerely, Maria van der Voort Hurstbridge, Victoria, 3099, Australia

### Voulanas, Steve – Tuesday, 28 May 2019 – 16:01:36

Subject	Objection to Origin's Kyalla frack site in the NT
From	Steve Voulanas
Sent	28/05/2019 4:01:36 PM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined below.

#### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

#### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flowback fluid.

This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

#### WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

### TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

### BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

## Vowles, Trevor – Sunday, 26 May 2019 – 22:32:33

Subject	Objection to Origin's Kyalla frack site in the NT
From	Trevor Vowles
Sent	26/05/2019 10:32:33 PM

Dear Onshore Gas division,

I am writing to express my objection to the Environmental Management Plan submitted by Origin Energy for the Kyalla frack site in the Northern Territory.

My key concerns with this plan are outlined below.

#### FRACKING SUBSTANCES ARE POISON

The fracking chemicals Origin plans to use are harmful to health. The list of substances Origin want to use have known health impacts. An independent review of the substances shows they are linked to: acute toxicity, respiratory irritation, tissue damage, burns, and cancer. Some are very toxic to aquatic life with long lasting effects.

Plus there are 'trade name' fracking chemicals that do not have any health data available.

#### OPEN AIR WASTEWATER TANKS POSE UNACCEPTABLE RISK

It is unacceptable that Origin would use open air wastewater dams or 'tanks' to store the toxic flowback fluid.

This flowback and drilling fluid is full of nasties including heavy metals, fracking chemicals and naturally occurring radioactive materials.

Evaporation pits and open toxic tanks pose a risk to the incredible threatened birdlife that visits the site, including the Gouldian Finch, and should not be open and accessible to birdlife at any time.

#### WET SEASON RISKS WITH WASTE ON SITE

It is deeply concerning that instead of storing toxic wastewater in enclosed tanks, Origin are planning open dams all through the wet and dry seasons. Not only could this kill birds, but extreme weather events could cause downstream pollution impacts.

Origin's site is upstream of Lake Woods, a place of international significance for biodiversity. The catchment should be off limits to fracking.

### TRANSPORT RISKS AND TOURISM IMPACTS

Origin says they care about cumulative impacts, but have failed to talk to tourism operators about the risks of increased traffic on the Stuart Highway, or to people living downstream from their fracking exploration activities.

Plus, Origin want to dump on Queensland and truck the toxic waste to an undetermined site. Already Queensland has millions of tonnes of toxic salt waste that there is no permanent disposal solution for. This is unacceptable.

### BUSHFIRE RISKS AND TOTAL FIRE BAN DAYS

This area is sensitive to bushfires. Rural Fire Brigades have been calling for gas companies to stop ignition sources and flaring on total fire ban days. Origin must be made to stop all flaring on total fire ban days.

Thank you for considering my concerns.

## Vozoff, Nancy - Friday, 24 May 2019 - 08:22:00

Subject	My Objections to Origin Energy's Environmental Management Plan (EMP)
From	Nancy Vozoff
Sent	24/05/2019 8:22:00 AM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as helping to protect our shared future from climate change.

I often live and work in remote communities as a nurse and a midwife. With unleashed fracking in country around these communities I foresee many risks to their wellbeing and ability to stay on the country. It is already a hard existence with unrelenting heat for half the year and often dubious water supplies. Fracking can endanger these water supplies or diminish them significantly. As well, fracking increases the release of carbon into our already globally polluted atmosphere. Much of the release is often uncontrolled and unmeasured. More carbon released makes a hotter and hotter climate, but I assume you're aware of all this already.

I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous

Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

Please strongly consider this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

[1] The Australia Institute "Cooked with gas" 2018 http://www.tai.org.au/sites/default/files/P510%20Cooked%20with%20gas%20-%20Darwin%20days%20over%2035C%20FINAL.pdf

[2] The Australia Institute "NT gas compared to coal-fired power plants" http://www.tai.org.au/content/nt-gas-compared-coal-fired-power-plants

[3] Final Report of the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory 2018 https://frackinginquiry.nt.gov.au/inquiry-reports?a=494286

[4] Bureau of Meteorology "Seasonal Climate Summary for Northern Territory" http://www.bom.gov.au/climate/current/season/nt/summary.shtml

[5] Jumbunna Institute for Education and Research "Hydraulic Fracturing and Free, Prior and Informed Consent in the Northern Territory: A Literature Review "https://accr.org.au/wp-content/uploads/Jumbunna-FPIC-review-final.pdf

Yours sincerely, Nancy Vozoff West Pymble, New South Wales, 2073, Australia

### Vrins, Rachel – Wednesday, 29 May 2019 – 15:17:06

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Rachel Vrins
Sent	29/05/2019 3:17:06 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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Yours sincerely, Rachel Vrins Springfield, Queensland, 4300, Australia

# Vroom, Alan – Tuesday, 28 May 2019 – 19:48:24

Subject	Objection to Origin Energy's Environmental Management Plan for the Kyalla Drilling
	and Hydraulic Fracturing 2019 Program EP117 N2
From	Alan Vroom
Sent	28/05/2019 7:48:24 PM

Fracking has been the cause of too many mistakes, too much destruction of quality of life, there is no excuse for allowing it to destroy our country

alan vroom \*\*\*\*\*\*\*\*\*\*\*\*\*\*\* NSW 2097

## Vuillermin, Lesley – Wednesday, 29 May 2019 – 08:10:36

Subject	Objection to Origin Energy's Environmental Management Plan for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2
From	Lesley Vuillermin
Sent	29/05/2019 8:10:36 AM

I stand with the traditional owners of the Northern Territory Beetaloo Basin in their fight to care for country, air and water. Origins plan to explore for gas or worse oil and gas should not be considered as it is a risk to land air and water. As Australia's first land-based shale, oil and gas field it presents an unacceptable risk to climate change through massive carbon emissions. It is after all aboriginal land and the aboriginal communities in the area are overwhelmingly opposed to the exploration going ahead.

Lesley Vuillermin \*\*\*\*\*

VIC 3833

## Vuuren, Lyn – Thursday, 23 May 2019 – 20:59:06

Subject	Re: Objection to Origin Energy's Environmental Management Plan (EMP)
From	Lyn Van Vuuren
Sent	23/05/2019 8:59:06 PM

To whom it may concern at the Department of Environment and Natural Resources (DENR),

Re: Objection to Origin Energy's Environmental Management Plan (EMP) for the Kyalla Drilling and Hydraulic Fracturing 2019 Program EP117 N2

Thank you for the opportunity to make a submission regarding this issue.

I write this submission to ask the Department of Environment and Natural Resources to outright reject Origin Energy's EMP to protect the land, water, health and wellbeing of impacted communities as well as our shared future from climate change.

As a member of the community, I am deeply concerned about the risks associated with Origin Energy's plans for drilling and hydraulic fracturing in the Northern Territory. I strongly object to the approval of this EMP for the following reasons:

1. Approval of this EMP will lead to irreversible climate change impacts for people of the Northern Territory and beyond. The Northern Territory is already experiencing the impacts of climate change, and is predicted to be one of the most severely impacted if emissions are not rapidly reduced [1]. Remote Aboriginal communities across the NT feel this first and worst: extreme heat waves, water shortages and more extreme flooding could force many Aboriginal people to move off their country. Approving this EMP, one of nine exploration wells, would signal the Beetaloo Basin as "open for business" to the expansion of the gas industry, potentially leading to emissions 20 times Australia's total current annual emissions [2]. This would pose a serious climate change threat to communities across the NT and beyond.

2. Storage of wastewater in open air tanks poses unacceptable risks and is incompatible with the Scientific Inquiry into Hydraulic Fracturing in the Northern Territory (Inquiry) recommendation 7.12 that stated "enclosed tanks must be used to hold all wastewater." [3] Climate change means that seasons and weather patterns are changing, particularly across the NT in relation to wet season (Oct 2018 to April 2019 was the driest wet season since 1992 and the hottest wet season on record) [4]. This means that there can be big storms out of season, and having open tanks with fracking wastewater (at any time of the year) would put drinking water, wildlife and health of community members and children at risk, including communities up and downstream.

3. Origin Energy have failed to appropriately consult with all Traditional Owners, Aboriginal people and impacted communities. A report from the Jumbunna Institute for Indigenous Education and Research (UTS) found that most, if not all, exploration permits issued in the Northern Territory (including Origin Energy) for unconventional gas were issued in the absence of Free, Prior and Informed Consent from Traditional Owners [5]. Furthermore, the Inquiry found that Aboriginal communities overwhelmingly opposed fracking on their land. The findings from the UTS report suggest reasons for concerns regarding all of Origin Energy's consultation practices, including consultation regarding this Environmental Management Plan with all Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas impacted both directly and indirectly.

4. The use of dangerous chemicals poses huge risks to the environment, water and community health and are exacerbated by the use of open storage tanks. There are some really concerning chemicals that Origin Energy plans to use down well and store on-site over the dry and wet seasons. This means that the chemicals will not only be used down the well in the high pressure fracking process, but will also pose a risk at the surface when in open storage as flowback fluid.

For these reasons, any plans for drilling and hydraulic fracturing, including exploration, should not be allowed to go ahead under any circumstances.

Below are a list of my recommendations:

1. The DENR should take a precautionary approach to the cumulative climate impacts of this exploration well - knowing the risk of the expansion of the gas industry in the Northern Territory will have dangerous and irreversible impacts on our climate in a time when we need to rapidly decarbonise the global economy and energy system.

2. All waste water should be held in enclosed tanks at all times.

3. We request that additional time, including a consultation period and process, is allowed for Traditional Owners, Aboriginal communities and appropriate cultural authorities for the areas directly and indirectly impacted by this EMP to consider this information and be given a fair chance to ask questions and respond.

4. All chemicals must be adequately health tested before being used in any fracking processes. They should also require companies to publicly disclose the identities and Chemical Abstracts Service numbers of chemicals that are manufactured commercially, and identify oil and gas wells in which the chemicals are used.

I write this submission in support of many Aboriginal communities across the Northern Territory, primarily within the Beetaloo region, who are concerned about the potential damages that fracking could cause to water, to country, to songlines as well as the long term effects of climate change.

I wait with serious concern for your response to these matters.

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Yours sincerely, Lyn van Vuuren Joyner, Queensland, 4500, Australia