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#### 12.4 Sales Gas Metering

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Gas from the TEG dehydration unit will be directed to the Sales Gas Metering Skid which is comprised of a filter vessel which contains coalescing filter elements which remove very fine particulate matter and liquids (particularly TEG) from the gas stream prior to metering and delivery into the pipeline, a gas chromatograph unit/s to measure gas composition, and a custody transfer flowmeter which measures the sales gas flow volumes. **Figure 35** shows an indicative sales gas metering skid.



**Figure 35:** Indicative sales gas metering skid

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## 12.5 Booster Compressor Package

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A booster compressor unit may be installed downstream of the sales gas metering skid to achieve the required delivery pressure into the Daly Waters to McArthur River Gas Pipeline at the EP187 tie-in location. If fitted, the booster compression unit will contain similar equipment as the gas compression units described in Section 12.2, other than it will have an electric drive motor rather than a gas fuelled engine.

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## 12.6 Ancillary equipment

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### 12.6.1 Power Supply

The compressor station will include gas-fired power generation infrastructure to supply the electrical loads for the compressor package fin fan cooler motors, electric motor driven pumps/air compressors, control system hardware, air conditioners, and lighting, etc.

This infrastructure will include gas engine generators, an LV Switchroom, load banks, and a back-up diesel genset with associated diesel fuel storage.

The infrastructure requirements to provide reliable power supply would likely consist of 2x 1500kVA gas fired generator sets and 1x 200kVA diesel generator set.

#### **12.6.2 Fuel Gas System**

The compressor station will use produced gas taken from as fuel gas for the power generator, compressor engine driver, TEG reboiler burner and flare pilot.

#### **12.6.3 Water Processing System**

The liquids removed from the gas stream in the slug catcher, filter/coalescers, and scrubbers will be drained into a fully enclosed in-ground concrete tank and subsequently pumped to an above ground horizontal water storage tank where lube oil from the compressor cylinders will be separated from the water by gravity separation and periodically trucked offsite for disposal.

The water stream leaving the separator may be subsequently processed in processing unit where it will be treated via a timed reaction process to remove oils and greases, suspended solids, and surfactants. The treated water and sludge would then be discharged over a band filter. The treated water will filter through to a Filtrate Catch Tray before being returned to the water/wastewater flowline network. The process wastes will be trapped on the band filter and readily disposed of offsite as a dry sludge.

#### **12.6.4 Flare System**

A horizontal ground flare system will be used for the safe disposal of waste/off-spec gas during compressor station upsets or abnormal conditions. The flare will be equipped with pilot and ignition system. A barrier wall will be installed to protect the surroundings from heat radiation. An air compressor provides pressure-regulated combustion air to the flare ignition system.

#### **12.6.5 Control System.**

The compressor station will be controlled by a Programmable Logic Controller (PLC) based control system located in the equipment room. The plant control system will provide automatic control of the circuit, regulatory and supervisory control of the process with an operator interface (screens) located in the control room. The system will be configured to provide outputs to alarms, control the function of selected process equipment, and provide logging and trending facilities to assist in analysis of the operating plant. It also provides operator access to Plant Stop pushbutton.

The plant control system also consists of the following components:

- A Burner Management System for both pilot and main burners in the TEG unit
- A flow computer which analyses data from the metering system and carries out all the custody transfer calculations
- An uninterruptible power supply (UPS) for the control system and emergency lighting, and the associated back-up batteries
- Back-up batteries for the SCADA system UPS
- A system to allow switching over to an emergency generator in the event of loss of mains power.

## 13 Water/wastewater facility

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### 13.1 Overview

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A water/wastewater facility will be constructed and operated as part of the Carpentaria Pilot Project to enable the safe and efficient handling, storage, and use of water, flowback fluid, and produced water.

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### 13.2 Water/wastewater facility location and design

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The water/wastewater facility will be located so that it is above 1 in 100-year flood modelling inundation areas. The water/wastewater facility will be fenced to prevent the entry of livestock and unauthorised personnel and bunded to prevent overland flow around the tanks during large rainfall events. The area of the facility will be large enough to allow free and easy access for the construction and maintenance of the tank/s, the construction and operation of water/wastewater treatment equipment if required, and the collection and removal of rainwater from inside the bund during storm events. An indicative layout is provided in **Figure 37**.

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### 13.3 Water/wastewater Storage

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#### 13.3.1 Wastewater tank design

Wastewater will be stored in engineered lined tank/s fitted with leak detection and secondary bunding; the secondary bunding may be a secondary liner in the tank/s or bunding external to the tank/s. Wastewater tanks will be built on bases that are constructed and compacted to the tank suppliers' specifications, including drainage away from the outside of the tank to prevent rainwater ponding at the tank's base during rainfall events. **Figure 37** shows an indicative wastewater tank fitted with a cover.

#### 13.3.2 Wastewater tank freeboard

The wastewater tank/s may be covered or uncovered, depending on operational requirements. If the wastewater tank/s are covered, a freeboard of 500mm will be maintained at all times. If the wastewater tank/s are not covered, a freeboard adequate to contain a 1 in 1000-year storm event will be maintained during the local wet season, and a freeboard of 500mm will be maintained during the local dry season. If the wastewater tank/s are covered, the freshwater from above the cover during rainfall will be disposed of to grade or utilised in the water/wastewater stream.

#### 13.3.3 Wastewater tank maintenance

Wastewater tanks will be inspected and maintained following the manufacturers' requirements.



**Figure 36: Indicative Water/wastewater tank, fitted with cover**

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#### 13.4 Fluid movement to and from the water/wastewater facility

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Water/wastewater will primarily be delivered to the water/wastewater facility tanks from the water/wastewater flowline network from water bores, wellpads, and the compressor station; trucking may also be utilised for delivery from the same sources if needed due to operational requirements.

Water/wastewater will be delivered to wellpads for use in Hydraulic Fracturing operations via the same water/wastewater flowline network; trucking may also be utilised for delivery to the wellpads if needed due to operational requirements.

Residues may be removed from the water/wastewater facility from time to time for off-site disposal.

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#### 13.5 Water/wastewater treatment

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It is intended that Wastewater will be blended with fresh water from bores and used for Hydraulic Fracturing without further treatment. If blending with fresh water from bores does not bring the wastewater to a make-up suitable for Hydraulic Fracturing, further treatment may be required, such as chemical treatment, filtering, osmosis, or distillation. If this treatment is required, it will be carried out at the water/wastewater facility, and residues from this processing will be removed from the water/wastewater facility for re-use or off-site disposal.

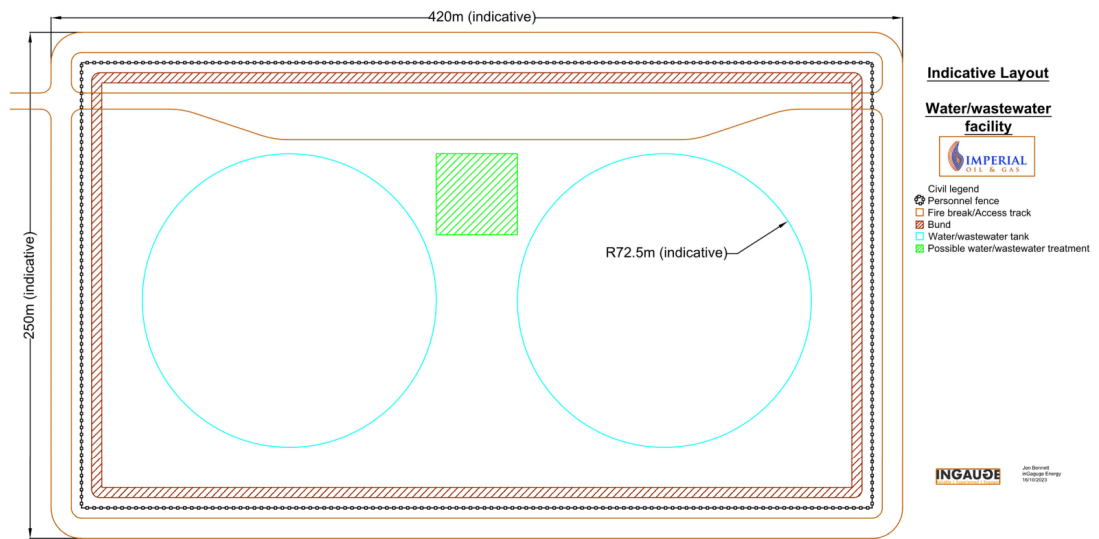


Figure 37: Indicative Water/wastewater facility layout

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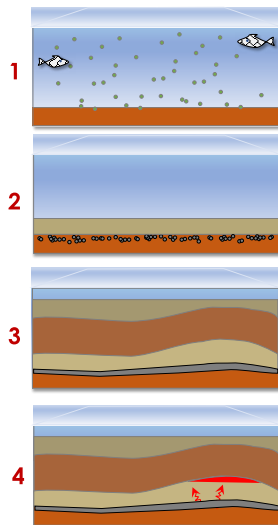
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## 4.3 Community Engagement

### 4.3.1 2023.06.07 – 29 | NT Show Circuit – Story Boards

# Where does oil and gas come from?

## The formation of oil and gas takes place over millions of years



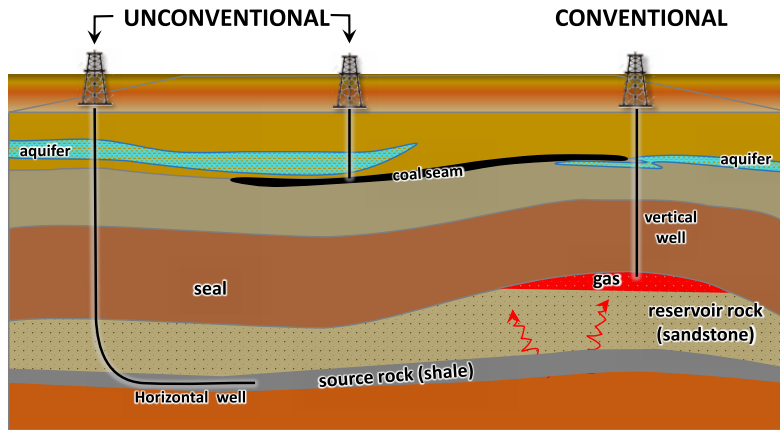
- 1.** Over millions of years, plants, algae and microscopic animals die and then sink to the sea floor or lake bed where the organic matter mixes with sediment.
- 2.** The organic matter is covered by the next layer of sediment which buries and compacts the sediments.
- 3.** More sediment is deposited. It gets hotter with depth, turning the sediments into rocks.
  - The heat changes some of the organic matter into oil and gas
  - This is a natural process that takes place when the sediments are buried at depths of 1 to 4 km.
- 4.** As the oil and gas forms, pressure builds up in the rock and causes the oil and gas to escape out of the source rock or coal into the surrounding rocks.
  - Some of the oil and gas doesn't escape, and remains in the source rock where it formed.

For the oil and gas to form, there has to be enough organic matter in the rocks.

- **Source Rocks** are shale or siltstone that have high levels of organic matter.
- **Coals** are rocks that are made up almost completely of the organic material. They form from land plants that grew in swamps.



# Conventional is different to Unconventional Gas



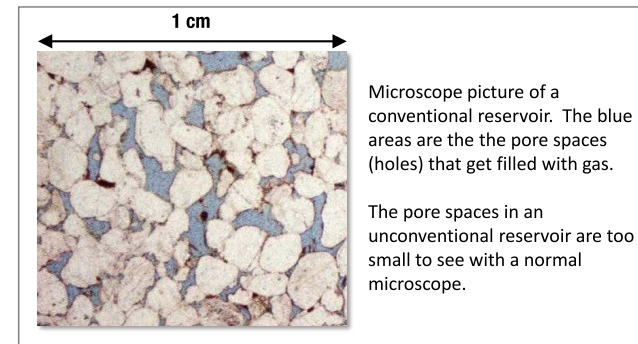
**Conventional:** is exploration and production of the gas that escaped from the source rock:

- The gas migrates into sandstone or limestone reservoir rocks and it gets trapped when it reaches an impermeable seal such as a layer of shale.
- The gas is stored in the pore spaces of the reservoir rock which are large enough that they can flow easily from the reservoir into a well.
- This is called conventional because it is the sort of oil and gas that has usually been produced for over 100 years.

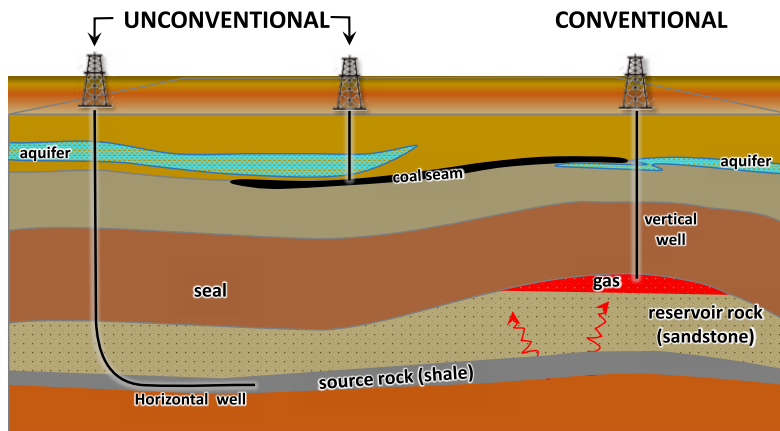
**Unconventional:** the production of the gas that remained in the source rock.

- The gas is trapped in tiny pore spaces in the source rock or stuck to particles of organic matter in the rock.
- The pore spaces are so small that the rocks need to be “stimulated” to get the gas to flow.
- This is called “unconventional” because it doesn’t require conventional traps or reservoirs.
- Unconventional production started in the USA and has been going for around 25 years.

The main types of unconventional gas are **shale gas** and **coal seam gas (CSG)**.



## Shale Gas is different to Coal Seam Gas



**Coal seam gas (CSG)** in Australia is mainly being developed in Queensland.

- CSG is usually shallow, less than 1 km, so closer to aquifers than shale gas. Gas is held in place by water pressure in the coal seam and surrounding rocks.
- Gas flow requires reducing the water pressure by pumping from the coal seam.

**Shale gas** is the target in the **Beetaloo Sub-basin, Northern Territory.**

- The shales are more than 1 km below ground, so is far deeper than CSG and the shallow aquifers that communities rely on.
- Gas is trapped in tiny pore spaces within the shale.
- To release the gas, the tiny pore spaces need to be connected together, and to the producing well.
- This is done by pumping fluid and sand into the ground in a process called "hydraulic fracture stimulation".
- Most water produced from a shale gas well is pumped down during stimulation.

**Aquifers** are rock formations under the ground that can store and transport water. Water can flow from them to the surface naturally as springs or be pumped from bores to be water sources for livestock, agriculture and human use.



# Examples of what is made from oil and gas



Lipstick and other cosmetics; skin care, shampoo; detergents and other cleaning products; and the containers they come in



Medical and hygiene equipment; some medicines



Fuel and fertilizer for agriculture and gardens



Paint, tyres, plastic trims, synthetic upholstery, carpet and more in motor vehicles. Petrol, diesel and motor oil



Sportswear, shoes, hi-vis and other synthetic clothing



Sporting equipment, toys, baby nappies



Paint, tools, garden equipment, rucksack straps



Hot water, home heating, cooking with gas



Recreational and sports equipment, fishing gear and fishing line



Tackle boxes, tool boxes, lunch boxes and storage containers



Transportation and fuel



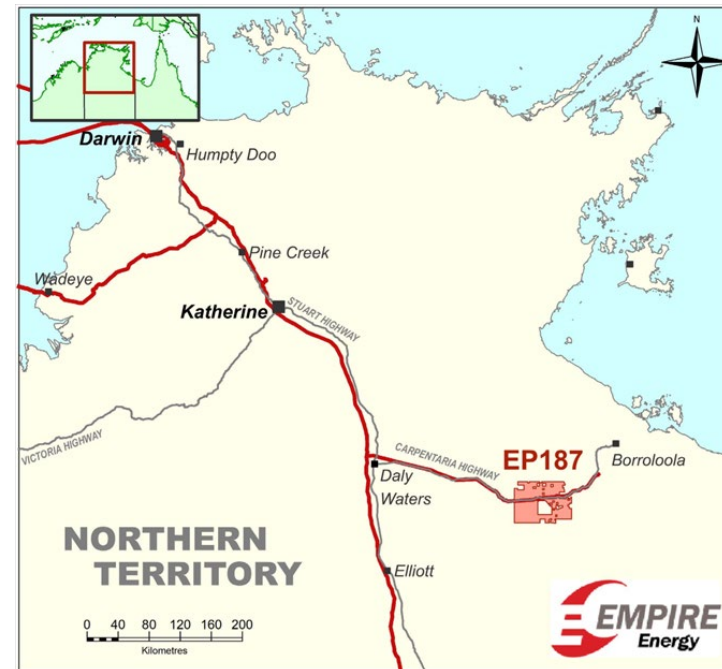
Modern and old technology – laptops, solar panels, smartphones, pens, ink for pens and printers



# Developing the Beetaloo Sub-basin

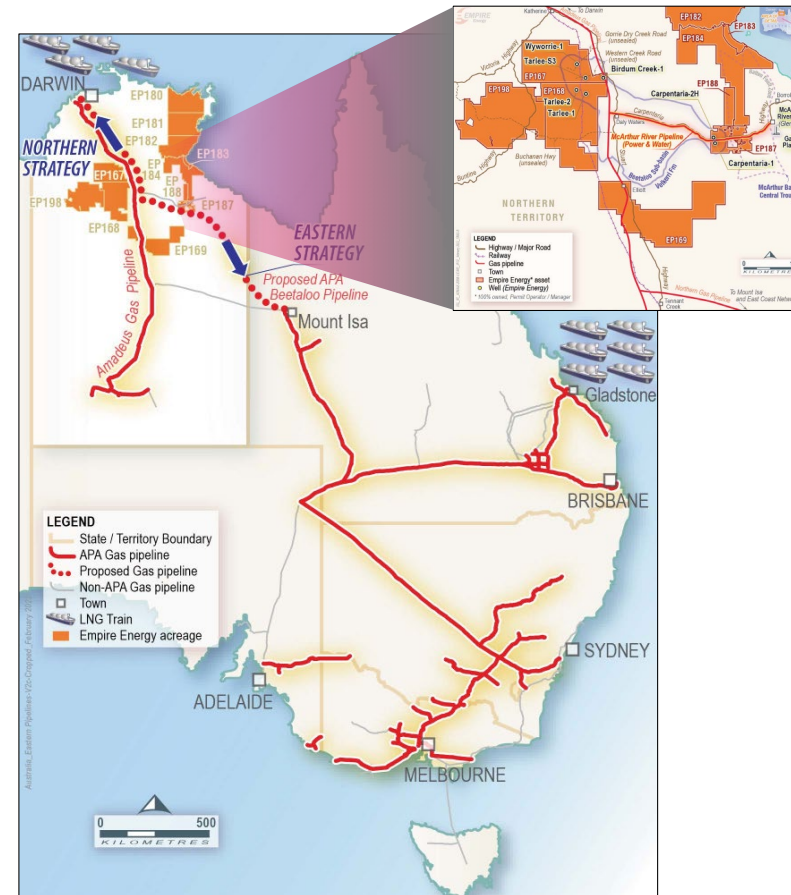
Responsible and successful development of the Beetaloo Sub-basin means:

- More jobs for local companies including regional and Aboriginal employment and procurement opportunities.
- We operate with the consent of Traditional Owners and they will receive financial royalty payments.
- Taxes and royalties will be paid to the NT Government which can go towards improving local community services, regional roads, more police, schools, hospitals and infrastructure.
- Production of the resource will contribute to energy security for Australia with more domestic supply to the market.
- More gas supply will be important for supporting the clean, reliable energy transition for Australia and internationally.

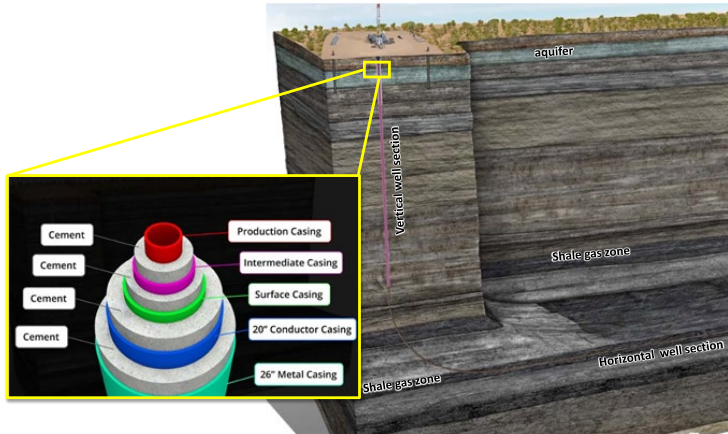


## Early Production - Gas to Market

- APA Group and Empire have executed an MOU to explore opportunities for the development of Beetaloo infrastructure including gas transport through gathering, processing and pipelines.
- APA will support Empire to get production to market, promptly, leveraging its existing network of gas transmission infrastructure.
- 'Northern Strategy' will support the development of a gas-fed manufacturing industry and LNG export expansion at Darwin.
- 'Eastern Strategy' including a new Beetaloo Pipeline to Mount Isa will allow Beetaloo gas to be transported to all Australian east coast domestic markets (Wallumbilla, Brisbane, Sydney and Melbourne) and LNG export through Gladstone.
- Empire has also executed an MOU with NT Government owned utility Power and Water Corporation to facilitate negotiations for potential gas sales and transportation arrangements utilising the McArthur River Pipeline.



# Protecting Aquifers and Ground Water



Example cross section of a well head

- **Well Integrity** is about keeping control of any fluids in the well and underground. With good well integrity, the well remains completely separated from the aquifers, the surrounding rock formations and the environment at the surface.

- Metal casing and special engineered cement are important components to maintain well integrity. After a section of the well is drilled, steel casing is inserted and set in place with cement.

- The steel keeps the hole open and the cement stops any fluid flow between the well and the rock formations.

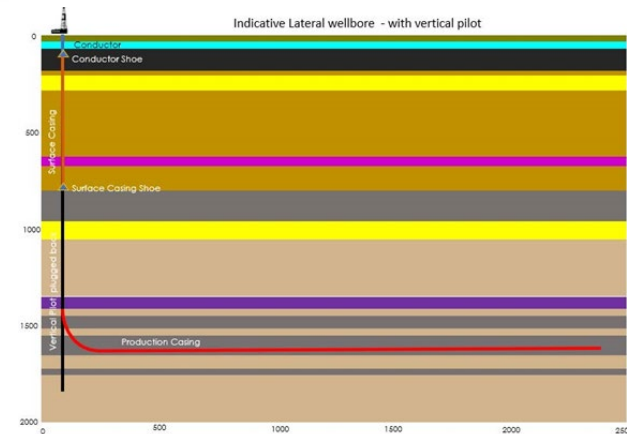
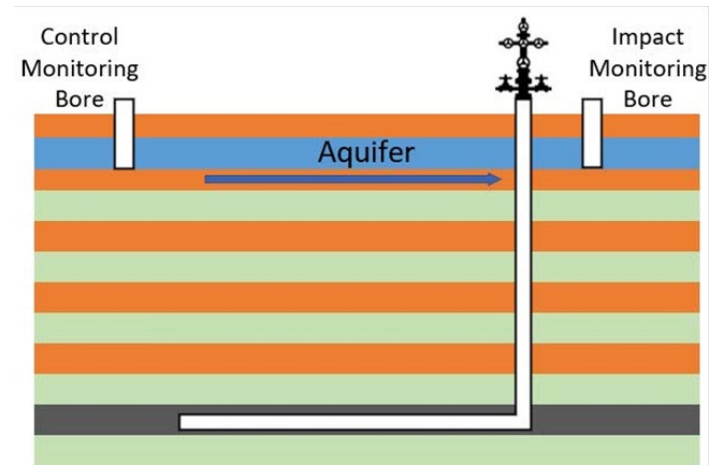
- There are multiple layers of cement and steel casing in any aquifer zones. There is over 600m depth separations between the aquifer and the geological target formation.

- Specialised electric logs are used to check the integrity of the cement and casing protecting the aquifer.



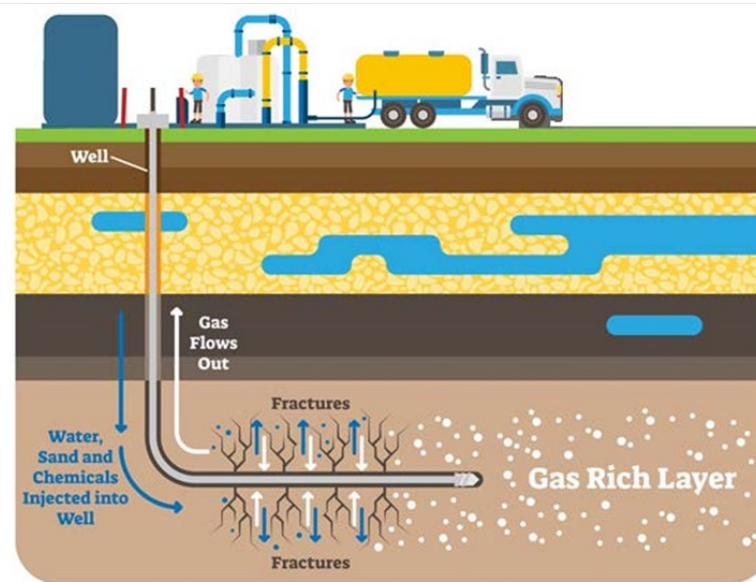
## More about water

- We understand how important aquifers are to Traditional Owners, pastoralists and the community.
- Both geological and engineered barriers are in place to protect the underground aquifers. There are multiple controls in place to protect the environment and groundwater.
- Groundwater is regulated in the NT and groundwater monitoring is required.
- Groundwater monitoring allows us to monitor natural groundwater variation and detect any groundwater impacts that may occur.
- Before, during and after stimulation, water levels and quality are monitored with a control bore and impact bore located on the wellpad.
- All water monitoring results are submitted to the Regulator and are available to the public online: <https://depws.nt.gov.au/onshore-gas/onshore-gas-in-the-northern-territory/industry-compliance-and-reporting/groundwater-monitoring-results>



## Hydraulic Fracture “Stimulation”

- “Stimulation” is the technical process designed to release gas trapped in shale rocks deep underground.
- “Stimulation” is always required for shale gas production and is sometimes used in conventional production.
- Fluids are pumped into the well under pressure until the rock develops fractures. The fluid is 99.5% water and sand.
- The fluids carry sand grains (proppant) which get into the fractures to stop them from closing when pumping stops, enabling the gas to flow to the surface.
- The fractures allow the gas to flow from pore spaces into the well bore and to allow gas to be extracted from the shale.
- Fractures extend horizontally by a few hundred metres and tens of metres vertically.
- Vertical fracture height growth is restricted by overlying rocks which form barriers.

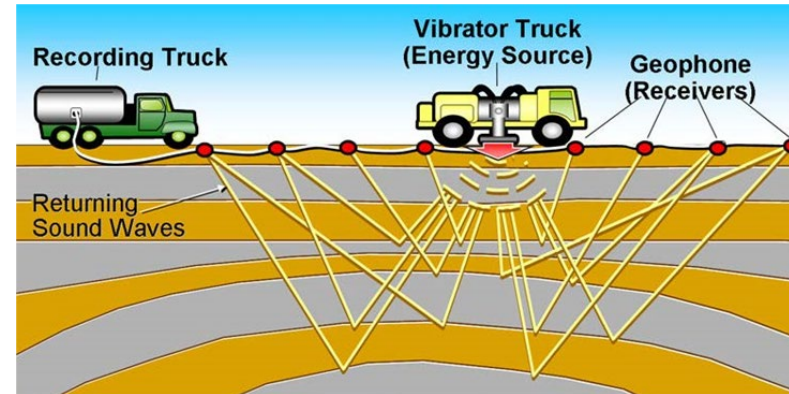


### Key facts

- In EP187 there is around 1 km to 1.5 km of rock between the fracked zones and the shallow water sources.
- World-wide there have been millions of wells stimulated. The fracking process has been used safely in Australia over the last 60 years.



## Seismic Survey Activities

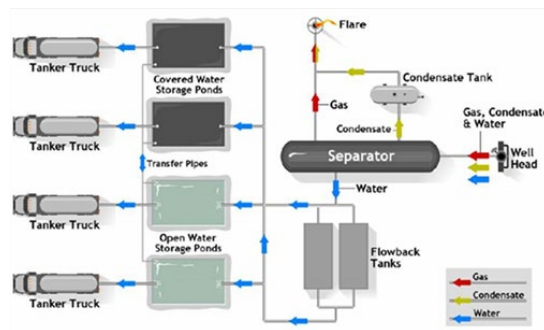


- A seismic survey is used by geologists to make a picture of the layers of rock formations under the ground.
- Vibroseis buggies drive across the ground surface and put vibrations into the ground. The vibration sound waves travel through the different layers of rock reflecting off different formations back to the surface. Geophone receivers on the surface pick up the reflected vibrations and collect the information from the sound waves to build an image of the formations. The image is then interpreted to generate a map of the subsurface.
- Existing tracks are used where possible. Tracks are cleared for the buggies to drive through avoiding trees wherever possible to limit disturbance.
- Sacred site clearances are undertaken before starting any activities and a certificate for this purpose is required from the Aboriginal Areas Protection Authority. Traditional Owners are engaged as Cultural Heritage Monitors before first disturbance activities on the ground.
- The seismic lines are rehabilitated immediately after the acquisition has been completed so that grasses and trees can regrow over the cleared tracks.



# Extended Production Testing

- Production testing is the process that occurs after a well is successfully drilled and fracture stimulated. The purpose of production testing is to understand the rate and volume of gas can be extracted from a well.
- Firstly, a proportion of fluids pumped into a well during “stimulation” is returned to surface to allow the well to flow gas on its own.
- Gas flow from the well is sent to a separator so any fluids can be removed and redirected to waste water tanks. The gas is sent to a flare where it is combusted or may be put in to a pipeline for commercial use.
- The gas is measured over a period of time to provide information about the composition of the gas and the amount of recoverable resource.



## Working with Traditional Owners

- We recognise and respect the connection Traditional Owners have to country. Our relationship and continued engagement with Traditional Owners is essential to how we work in the Beetaloo, both now and in a future development scenario.
- Empire Energy has a strong track record of consultation with Traditional Owners and has participated in more than 30 On Country Meetings since 2011.
- Communication materials used for engagement include presentations, pictures and videos to explain various stages of activity facilitating open dialogue. Company representatives are present to listen to any concerns and answer questions.
- We have already facilitated multiple field visits for Traditional Owners and their communities to offer opportunities to see activities on the ground while being undertaken.
- Feedback from stakeholders who have participated in these site visits has been positive, further helping them to understand the scale and impact of our project activities and potential future Empire activities that may arise from developing the Beetaloo Sub-basin.



Empire Managing Director and local contractor working on EP187



## Working with the Community

- Empire Energy seeks to create a positive legacy working towards building enduring relationships with communities where we operate.
- We aim to contribute to communities by supporting local initiatives that are important to them to help build a more vibrant and inclusive region.
- In 2023 we have already committed to regional sponsorship opportunities including:



**Isolated Children's and Parents' Association** Annual Conference - dedicated to ensuring all geographically isolated children's educational needs and aspirations are not disadvantaged because of where they live.



**Borroloola Bushman's Carnival** - a four day event and showcase of Territory Talent incorporating Campdrafting, Rodeo, Gymkhana and the Race that stops the town.



## Working with Pastoralists

- Building and maintaining positive relationships with host pastoralists is important to Empire.
- Proactive, early and ongoing engagement has been fundamental to effectively communicating with our stakeholders.
- Prior to undertaking petroleum activities on the land in the NT, a land access agreement must be negotiated with the land holders.
- Our strong relationships with our host pastoralists are built on mutual respect and coexisting on the land. Communication is open and transparent to ensure we deliver on our commitments and minimise the impact of our operations.



**4.3.2 2023.11.21 | Drop-in Poster Adverts**

## COMMUNITY DROP-IN SESSION ROBINSON RIVER

**Empire Energy** is holding a community drop-in information session about proposed activities for the **Imperial Carpentaria Pilot Project**.

An Environment Management Plan is being prepared and we are seeking early feedback on proposed activities to help inform project planning.

Imperial's Carpentaria Pilot Project relates to the exploration and appraisal of Petroleum Exploration permit EP187, located approximately 135 kilometres southwest of Borroloola within the Beetaloo Sub-basin.

Empire representatives will be available at an informal community drop-in session to share information with community members about the project and answer questions.

**TUESDAY 21 NOVEMBER 2023**  
**MUNGOORBADA OFFICE**  
**9.00am - 12.00pm**

For more information:

**Website:** [empireenergygroup.net/consultation](http://empireenergygroup.net/consultation)

**Email:** [Consultation@empiregp.net](mailto:Consultation@empiregp.net)

Scan here:





## COMMUNITY DROP-IN SESSION BORROLOOLA

**Empire Energy** is holding a community drop-in information session about proposed activities for the **Imperial Carpentaria Pilot Project**.

An Environment Management Plan is being prepared and we are seeking early feedback on proposed activities to help inform project planning.

Imperial's Carpentaria Pilot Project relates to the exploration and appraisal of Petroleum Exploration permit EP187, located approximately 135 kilometres southwest of Borroloola within the Beetaloo Sub-basin.

Empire representatives will be available at an informal community drop-in session to share information with community members about the project and answer questions.

**THURSDAY**

**30 NOVEMBER 2023**

**MAWA Office**

**10.00am - 1.00pm**

For more information:

**Website:** [empireenergygroup.net/consultation](http://empireenergygroup.net/consultation)

**Email:** [Consultation@empiregp.net](mailto:Consultation@empiregp.net)

**Scan here:**





## COMMUNITY DROP-IN SESSION HI-WAY INN, DALY WATERS

**Empire Energy** is holding a community drop-in information session about proposed activities for the **Imperial Carpentaria Pilot Project**.

An Environment Management Plan is being prepared and we are seeking early feedback on proposed activities to help inform project planning.

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Empire representatives will be available at an informal community drop-in session to share information with community members about the project and answer questions.

**FRIDAY 1 DECEMBER 2023**  
**HI-WAY INN, DALY WATERS**  
**1.00pm - 4.00pm**

For more information:

**Website:** [empireenergygroup.net/consultation](http://empireenergygroup.net/consultation)

**Email:** [Consultation@empiregp.net](mailto:Consultation@empiregp.net)

**Scan here:**





## COMMUNITY DROP-IN SESSION ELLIOTT

**Empire Energy** is holding a community drop-in information session about proposed activities for the **Imperial Carpentaria Pilot Project**.

An Environment Management Plan is being prepared and we are seeking early feedback on proposed activities to help inform project planning.

Imperial's Carpentaria Pilot Project relates to the exploration and appraisal of Petroleum Exploration permit EP187, located approximately 135 kilometres southwest of Borrooloola within the Beetaloo Sub-basin.

Empire representatives will be available at an informal community drop-in session to share information with community members about the project and answer questions.

**SATURDAY**  
**2 DECEMBER 2023**  
**Across the road from Shire**  
**9.30am - 12.30pm**

For more information:

**Website:** [empireenergygroup.net/consultation](http://empireenergygroup.net/consultation)

**Email:** [Consultation@empiregp.net](mailto:Consultation@empiregp.net)

**Scan here:**



**4.3.3 2023.11.22 | Carpentaria Pilot Project – General Information Booklet**

# EMPIRE ENERGY CARPENTARIA PILOT PROJECT





**Acknowledgement of Country**  
 The Board and Management Team at Empire Energy Group acknowledge the traditional custodians of country throughout the Northern Territory and their traditions and connections with land, sea and community.

We pay our respects to all Aboriginal people on the land where we operate – past, present and emerging.

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## Company Overview

Empire Energy Group Limited (Empire) is an Australian oil and gas company listed on the Australian Securities Exchange (ASX:EEG). Empire, with its wholly owned subsidiaries, Imperial Oil & Gas Pty Ltd (Imperial) and Imperial Oil & Gas A Pty Ltd (Imperial A), own and operate exploration permits across the McArthur Basin and the Beetaloo Sub-basin (Beetaloo). Imperial has carried out two seismic programs and drilled four wells in the Beetaloo, including Carpentaria-3H, the longest horizontal section of any well onshore Australia. Following encouraging flow testing results, Imperial is now proposing to move into the appraisal stage of its petroleum exploration through the Carpentaria Pilot Project.

Empire is proud of its role in the exploration and appraisal of the world-class Beetaloo and, together with the exploration undertaken on the exploration permits Imperial A acquired from Pangasa (NT) Pty Ltd, has invested ~\$200m in the Northern Territory to explore and appraise the Beetaloo. This investment has contributed to generating economic opportunities for the region, traditional owners and all Territories. Empire has established strong connections with businesses and communities in the Northern Territory and is working hard to progress further opportunities from the Carpentaria Pilot Project.

## Appraising the Beetaloo

### RESPONSIBLE AND SUCCESSFUL APPRAISAL OF THE BEETALOO MEANS:

- More jobs for local companies, increased regional and Aboriginal employment and procurement opportunities due to the transition from exploration to appraisal activities.
- Empire carries out on-ground activities with the consent of traditional Aboriginal owners.
- Royalties will be paid to the Territory which can go towards improving local community services, regional roads, more police, schools, hospitals, and infrastructure.
- Appraisal gas recovered under the Carpentaria Pilot Project will contribute to energy security for the Northern Territory with increased domestic gas supply to the market.

### EXPLORATION AND APPRAISAL ACTIVITY INDICATIVE TIMELINE

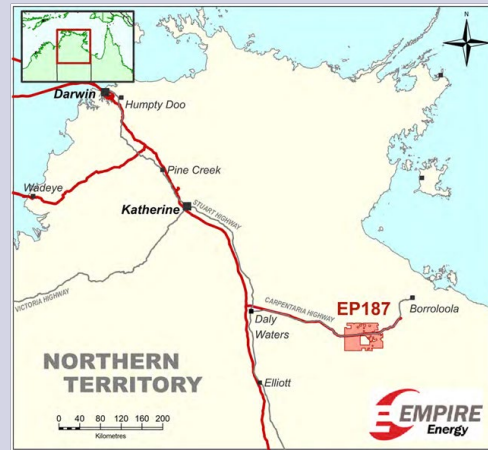
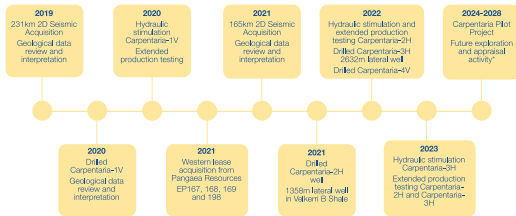


Image: Location of EP187

### PROPOSED APPRAISAL ACTIVITIES UNDER THE CARPENTARIA PILOT PROJECT WILL INCLUDE:

- Constructing up to 25 km of new access tracks
- Constructing up to four new wellpads
- Extension of up to two existing wellpads
- Construction of up to 60km of water and wastewater flowlines
- Construction of up to 60km of gas flowlines
- Drilling and stimulating up to 10 new horizontal wells
- Construction of a compressor station
- Construction of a small camp facility
- Construction of a small office, warehouse, and workshop facility
- Installation of a water/wastewater facility
- Operation of the above infrastructure constructed under the exploration phase to facilitate the appraisal of the project area

## About Imperial's Carpentaria Pilot Project

### INDICATIVE PROJECT BRIEF AND LOCATION OF ACTIVITIES

Imperial's Carpentaria Pilot Project relates to the appraisal of a part of petroleum exploration permit 187 (EP187), located approximately 135 kilometres southwest of Borroloola within the Burtree and greater McArthur Basin. Imperial proposes a multi-year appraisal program in the western flank of EP187, commencing in 2024, building on the flatwork carried out under the previous 2019 to 2023 work programs.

The Carpentaria Pilot Project multi-year extended well testing program is required to determine whether the shale gas reservoir identified by Imperial is commercially exploitable. Instead of venting or flaring the gas produced from extended well testing to the environment, Imperial proposes to seek the consent of relevant traditional Aboriginal owners and the Minister responsible for the Petroleum Act<sup>1</sup> to recover gas on an appraisal basis and provide that gas to the domestic market. Imperial believes the Carpentaria Pilot Project is consistent with comments in the Australian Government

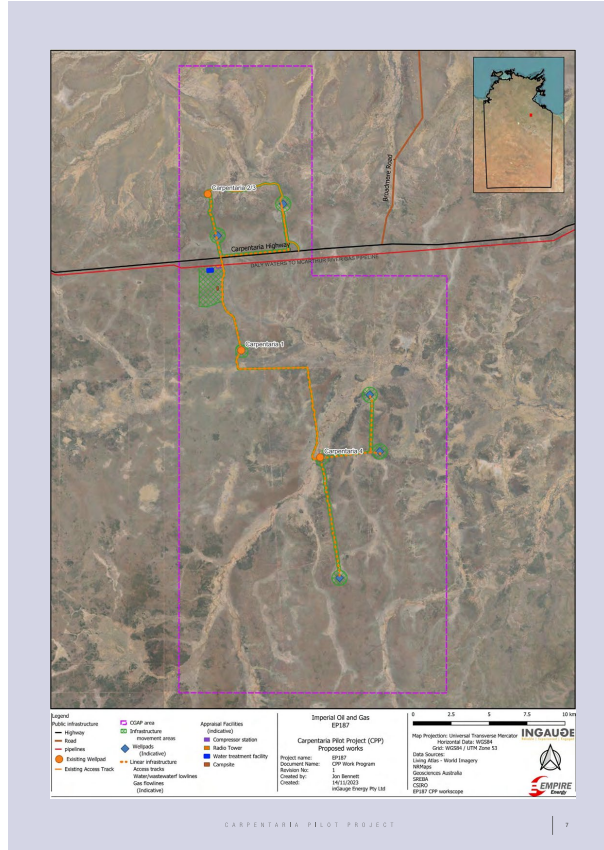
(Department of Industry, Science and Resources) *Future Gas Strategy* consultation paper<sup>2</sup> that "Producers can reduce production-related emissions by working to ensure more gas gets to customers. Minimising venting, flaring, fugitives and fuel gas are some of the ways to do this."

Appraisal gas recovery under the Carpentaria Pilot Project will deliver royalty payments directly to the Territory and provide economic benefits to traditional Aboriginal owners and to suppliers, contractors and employees of the Carpentaria Pilot Project.

The following information is provided as an overview of proposed activities for the Carpentaria Pilot Project. Imperial is seeking early feedback to help inform Carpentaria Pilot Project planning.

An Environment Management Plan (EMP) is being prepared by Imperial. An EMP must be approved under the *Petroleum (Environment) Regulations 2016* (NT)<sup>3</sup> before any regulated activities commence.

<sup>1</sup> <https://legislation.nt.gov.au/en/legislation/PETROLEUM-ACT-1982>  
<sup>2</sup> <https://www.industry.gov.au/future-gas-strategy>  
<sup>3</sup> <https://legislation.nt.gov.au/en/legislation/PETROLEUM-ENVIRONMENT-REGULATIONS-2016>



## Aquifer protection

Imperial understands the importance of aquifers to traditional Aboriginal owners, pastoralists, and the broader community. Protecting the water quality in the region's aquifers and the availability of water for all users is fundamental to Imperial's exploration and appraisal activities. To achieve this, Imperial is required to:

- build a baseline understanding of aquifer quality before drilling gas wells
- monitor the aquifer quality on an ongoing basis
- drill through the aquifers using water-based drilling fluids
- construct and maintain the integrity of a barrier between the gas well and the aquifer
- monitor the aquifer during hydraulic fracturing operations
- obtain a Ground Water Extraction License for water used by the Carpentaria Pilot Project.

### BUILDING AN UNDERSTANDING OF AQUIFER QUALITY

Before drilling a gas well, Imperial collects data to build an understanding of the aquifer water quality

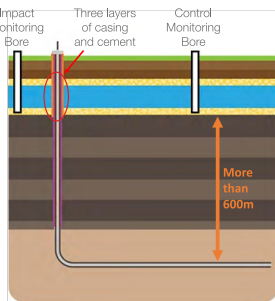


Diagram: Water monitoring bores and wellbore isolation

at each wellpad by taking multiple samples from a control water monitoring bore located on the wellpad over six months. Accredited laboratories analyse these water samples to build a baseline of the water quality to which all future water analyses will be compared.

### ONGOING AQUIFER MONITORING

Before drilling a gas well that will be hydraulically fractured, Imperial drills a second water bore to monitor potential impacts. Each wellpad then has:

- a Control Monitoring Bore (CMB) within 100m of the well pad upstream relative to the water flow direction in the aquifer; and
- an Impact Monitoring Bore (IMB) within 20m downstream of the gas wells on that wellpad.

Water from both bores is sampled and sent for analysis at accredited laboratories at frequencies determined by the Regulator.

Information from all of Imperial's water bore analysis is available at: <https://depwv.nt.gov.au/onshore-gas-in-the-northern-territory/industry-compliance-and-reporting/groundwater-monitoring-results>

### WELLBORE BARRIERS

There is a minimum of 600m of vertical separation between the bottom of any aquifer present and the top of any hydrocarbon-bearing formation that Imperial will extract gas from under the Carpentaria Pilot Project. Imperial builds on and maintains this natural barrier to protect aquifers from contamination.

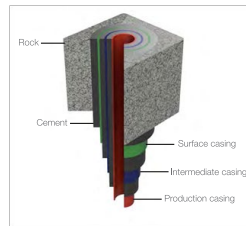


Diagram: Wellbore isolation through aquifer

When drilling, Imperial sets and cements the first casing string on all gas wells as soon as practicable after drilling through the base of the aquifer/s present. This surface casing string provides a barrier of engineered cement and ~1cm thick high-grade steel between the aquifer and all subsequent drilling operations. A second casing string is set on the well before drilling into any hydrocarbon-bearing formation. Combining the surface and intermediate casing strings provides two engineered cement barriers and 2 - 1cm thick high-grade steel between the aquifer and all subsequent drilling operations.

Before drilling into the hydrocarbon-bearing zone, Imperial carries out a Formation Integrity Test to ensure that the barriers present at the base of

the second casing string are adequate to contain any pressures likely to be encountered in the hydrocarbon-bearing formations. The gas well is then drilled to its full depth and length before a third string of casing is run and cemented in place. Once this is complete, a cement bond log is carried out on this production casing string to check the integrity of the engineered cement.

A Well Barrier Integrity Validation (WBIIV) assessment is carried out by an independent auditor after each gas well operation that affects the wellbore barriers. The WBIIV report is then verified by the Regulator. The WBIIV reports for Imperial's gas wells are on the NT POINT website at <https://point.nt.gov.au/wbiiv/point.html>.

### AQUIFER MONITORING DURING HYDRAULIC FRACTURING

During hydraulic fracturing operations, Imperial monitors the groundwater pressure and level of the water in the Impact Monitoring Bore on the wellpad where hydraulic fracturing operations are taking place. This is to provide an indicator of well integrity failure, particularly during the well hydraulic fracturing when the differential pressure between the aquifer and well annulus is extremely high, and thus a breach of well integrity would be instantaneously detected.

Before, during and after hydraulic fracturing activities, the monitoring bores have a logger that will take a reading at the wellpad every four minutes:

- two weeks before hydraulic fracturing
- during hydraulic fracturing
- four weeks after hydraulic fracturing

After this logging period, the data is downloaded and assessed, and a report is compiled and supplied to the Regulator.

No effect on the aquifers has been recorded during Imperial's hydraulic fracturing operations.

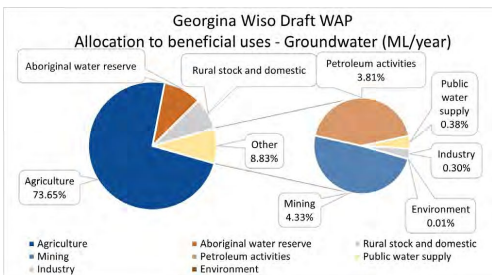
### GROUNDWATER EXTRACTION

Before groundwater can be used for any activities, Imperial must apply for a groundwater extraction licence (GWEL) from the Northern Territory in accordance with the Water Act (NT) 1. The Territory can issue a licence based on their data analysis and considering how much water is being used by other industries and water users.

Groundwater is regulated in the Northern Territory by the Water Act (NT) 1, and consistent monitoring is required. Monitoring allows Imperial to understand the natural groundwater variation and detect any groundwater impacts that may occur. No surface water will be used for the Carpentaria Pilot Project. The Carpentaria Pilot Project is located within the Georgina-Wiso Water Allocation Plan 1 (WAP) area. The estimated sustainable yield in the WAP is 262 GL per year. This is approximately 0.11% of the estimated storage volume (~2,000,000 GL) in the Gum Ridge aquifer (Knapton 2020) 1 and underscores the conservative approach adopted in the WAP.

The allocation to Beetaloo petroleum activity is capped at 10 GL p.a. in the WAP. The estimated total stock and domestic groundwater extraction for the Georgina Basin is approximately 14 GL p.a. The total present GWELs in the Gum Ridge aquifer in the Beetaloo for petroleum-related activities is 0.75GL p.a.

Imperial will apply for an increased volume in its GWEL from 85ML p.a. up to 750ML p.a. from the Gum Ridge aquifer for the Carpentaria Pilot Project. 750ML p.a. is 7.5% of the proposed 10GL GWEL cap on Beetaloo petroleum production in the WAP; and less than 0.3% of the overall proposed GWEL cap in which the estimated sustainable yield is 262 GL p.a. in the WAP.



1 https://legislation.nt.gov.au/en/legislation/WATER/ACT/1802  
 2 https://nt.gov.au/water-allocations/2018-2022/2021.pdf  
 3 Knapton 2020 - Knapton A. 2020(1) Update on the Coupled Model of the Carpentaria Estuarine Aquifer and Roper River Systems. Report prepared by CoupledMod for the NT Department of Environment and Natural Resources.

## Exploration and appraisal activities

### DRILLING

Gas wells are drilled to safely extract gas from the hydrocarbon-bearing formations whilst protecting the environment, including aquifers. Before drilling into hydrocarbon-bearing formations, blowout preventers will be fitted to the wellhead and tested to verify operations. The blowout preventers are designed and function to give added protection to hydrocarbon well drilling operations by containing the pressure in the wellbore and releasing it in a controlled manner if required.

Drilling operations are carried out using specialised petroleum well drilling rigs and contractors. When drilling, drill fluid is used to maintain well control and to bring the drill cuttings from the drill bit to the surface. Imperial proposes to only use water-based drilling fluids on the Carpentaria Pilot Project.

Drilling fluid and cuttings are stored in lined ponds with an impermeable barrier and banded to prevent entry from overland flow. The drilling fluid ponds are fitted with sensors and remote monitoring capability to monitor the fluid level in the pond. The drilling fluid may be re-used on subsequent Carpentaria Pilot Project drilling operations or disposed of by evaporation. The residue from drilling fluid and cuttings after evaporation may be disposed of on-site after independent testing and regulatory approval. If independent testing does

not demonstrate the residue is suitable for on-site disposal the residue will be disposed of at a licensed waste facility.

The Carpentaria Pilot Project aims to drill horizontal well sections approximately 3km long to reach large areas of the target hydrocarbon-bearing formation. Multiple wells will be drilled on the same wellpad. This reduces the number of wellpads, access tracks, and flowline right of ways required and significantly reduces the surface impact of activities. Wellpad surface infrastructure can also be utilised for the multiple wells on the wellpad, allowing one set of tanks and ponds to be re-used for several wells.

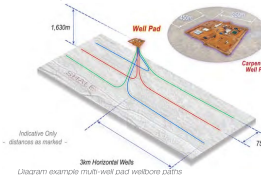


Diagram example multi-well pad wellbore pattern

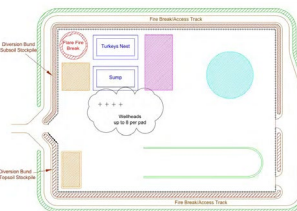


Diagram: Example wellpad layout for multi-well pad

### HYDRAULIC FRACTURING

The hydrocarbon-bearing formations in the Carpentaria Pilot Project area are shale formations. Before gas can be extracted from the shale gas reservoir, hydraulic fracturing must occur. Hydraulic fracturing is a technique used to enhance the production of gas.

During hydraulic fracturing operations fluids are pumped into the well under pressure until the rock develops very small fractures. The fluids carry sand grains (proppant), which move into the fractures to stop them from closing when pumping stops, enabling the gas to flow to the surface. The fractures allow the gas to flow from pore spaces into the well bore and allows gas to be extracted from the shale.

Fractures extend horizontally by a few hundred metres and vertically by tens of metres. Detailed engineering and design work is carried out to ensure fractures stay within the shale rock and do not extend too far from the well bore. Vertical fracture height growth is restricted by overlying rocks, which form a barrier.

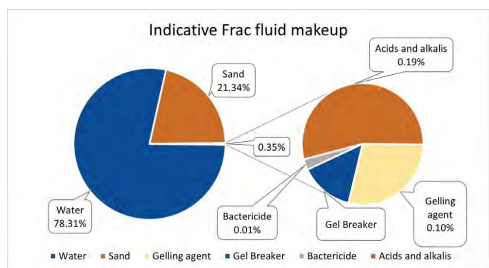
### HYDRAULIC FRACTURING FLUIDS

Hydraulic fracturing fluid comprises approximately 99.65% water and sand; other chemical additives make up the other 0.35%. The chemicals commonly used in the fluid are similar to products found in everyday uses:

- a gelling agent, such as guar gum, is used to create a gel to suspend the proppant in the water and transport the proppant through the fracture
- a gel breaker, such as ammonium persulfate (used in hair bleach), that reduces the viscosity or thickness of the hydraulic fracturing gels so that they can transmit water and gas surfactants, such as ethanol, together with a cleaning agent, to allow high pump rates and reduce pressure

- a bactericide or disinfectant, such as sodium hypochlorite (pool chlorine) and sodium hydroxide (used to make soap), to control bacteria growth in the well that contaminates the gas and restricts gas flow
- acids and alkalis, such as acetic acid (vinegar) and sodium carbonate (washing soda), assist in the initiation of the fracture and improve fluid flow in the rocks.

Imperial will not use BTEX chemical additives (benzene, toluene, ethylbenzene and xylenes) in the Carpentaria Pilot Project.



### EXTENDED PRODUCTION TESTING

Production testing is the process that occurs after a well is successfully drilled and fracture stimulated. The purpose of production testing is to understand the rate and volume of gas that can be extracted from a well.

Firstly, a proportion of the fluid pumped into a well during hydraulic fracturing is returned to the surface to allow the well to flow gas on its own. Gas flow from the well is sent to a separator so fluids can be removed and redirected to the wellpad wastewater tanks or the water/wastewater flowline network. The gas is measured over a period of time to provide information about the composition of the gas and the amount of recoverable resources.

Previously, Extended Production Testing (EPT) has been carried out for ~30-120 days to build a preliminary understanding of the recoverable resources. During the appraisal phase of the Project, extended production testing will be carried out over a much longer duration to evaluate the recoverable resources.

During the initial EPT in exploration, the gas was sent to flare when it was burned. For the extended well testing of the Carpentaria Pilot Project Imperial proposes to capture the gas produced from extended well testing and to gather the gas, process and compress the gas and then have the gas transported to market for use.



Image: Carpentaria-3H site during EPT



Image: Separator on Carpentaria site

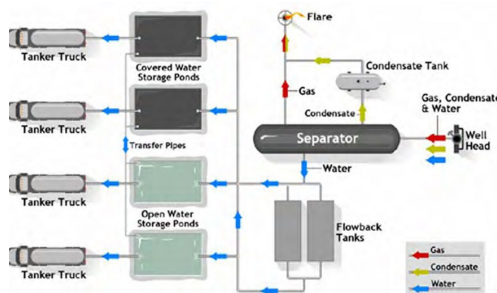


Diagram: Example EPT schematic

**WATER/WASTEWATER FLOWLINE NETWORK**

Imperial will construct, operate and maintain a low-pressure polyethylene water/wastewater flowline network to provide safe and efficient transfer of high volumes of fluids between wellpads and the water/wastewater facility as part of the Carpentaria Pilot Project.

Fluids transferred in the water/wastewater flowline network may include groundwater, flowback fluids, and produced formation water.

The motivation to install and operate the water/wastewater flowline network is to:

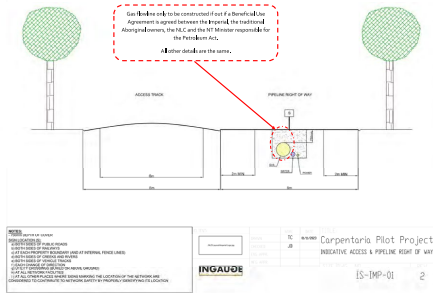
- reduce the land clearing requirements for storage tanks at each well site
- provide the capability for recycling and reuse of fluids between well sites
- optimise in-field flowback fluid and wastewater treatment to a centralised location
- reduce trucking requirements
- reduce the amount of wastewater for final disposal
- operate the well site to minimise the potential for contaminant releases to the environment and any potential impacts of such releases.

The water/wastewater and flowline network will be constructed, operated, maintained, and abandoned per the Code of Practice for Upstream PE Gathering Lines in the CSG Industry and Companion Papers<sup>7</sup>.

Imperial will bury any flowlines outside wellpad fences to protect them from fire, flood, and livestock and human activity damage. Flowlines will be installed with a 750mm depth of cover, except where the flowline crosses an access track or watercourse, where it will have a depth of cover of no less than 1,200mm.

The flowlines will follow the disturbance footprint of access tracks or other disturbed areas where practicable to reduce the amount of land clearing required and allow efficient construction, operation, and maintenance.

Marker signs will be installed to alert people of the water/wastewater flowlines network's presence and, if they plan to carry out work nearby, of the possible consequences of inflicting unintended damage. Markers instruct those intending to work near the flowline network to contact the nominated network operator and provide relevant contact details.



<sup>7</sup><https://www.wapa.org.au/code-practice-upstream-pe-gathering-lines-csg-industry>

**WATER/WASTEWATER FACILITY**

A water/wastewater facility will be constructed and operated as part of the Carpentaria Pilot Project to enable the safe and efficient handling, storage, and use of water, flowback fluid, and produced water. The water/wastewater facility will be fenced to prevent livestock and unauthorised personnel entry and be bonded to prevent overland flow around the tanks during large rainfall events.

Wastewater will be stored in engineered lined tank/s fitted with leak detection and secondary bunding. Wastewater tanks will be built on bases constructed and compacted to the tank suppliers' specifications, including drainage away from the outside of the tank to prevent rainwater ponding at the tank's base during rainfall events.

The wastewater tank/s may be covered or uncovered, depending on operational requirements. If the wastewater tank/s are covered, a freeboard of 500mm will be maintained at all times. If the wastewater tank/s are not covered, a freeboard adequate to contain a 1 in 100-year rainfall event will be maintained during the local wet season, and a freeboard of 500mm will be maintained during the local dry season.

Water/wastewater will primarily be delivered to the water/wastewater facility tanks from the water/

wastewater flowline network from water bores, wellpads, and the compressor station. Water/wastewater will be delivered to wellpads for use in Hydraulic Fracturing operations via the same water/wastewater flowline network. Trucking may also be utilised for delivery from the same sources due to operational requirements. Residues may be removed from the water/wastewater facility from time to time for off-site disposal.

It is intended that wastewater will be blended with fresh water from bores and used for Hydraulic Fracturing without further treatment. If blending with fresh water from bores does not bring the wastewater to a make-up suitable for hydraulic fracturing, further treatment may be required, such as chemical treatment, filtering, osmosis, or distillation. If this treatment is required, it will be carried out at the water/wastewater facility, and residues from this processing will be removed from the water/wastewater facility for re-use or off-site disposal.

It is expected that 40% of the water used for hydraulic fracturing will be recovered during flowback operations and re-used on subsequent hydraulic fracturing operations, thereby reducing the groundwater water required for the Carpentaria Pilot Project.



Image: Water/wastewater tank on wellpad with fitted cover

**GAS COMPRESSOR STATION**

If the necessary approvals and agreements are obtained for appraisal gas, a gas compressor station will be installed and operated as part of the Carpentaria Pilot Project. The compressor station will take gas from the low-pressure gas gathering network, condition it and increase the gas pressure for discharge into the high-pressure sales gas pipeline, then into the Daily Waters to McArthur River Gas Pipeline. The compressor station will run 24 hours per day, seven days per week. A high-level process flow of the Project compressor station includes the following stages:

- water removal upstream of compression
- gas compression
- water removal and gas dehydration downstream of compression
- metering and composition analysis of sales gas
- fuel gas and flare systems.

**Water removal upstream of compression**

Gas from the field gathering network will first enter a separator to capture any potential water that may enter the compression station from the gas gathering network. Water collected in the separator drains to the wastewater system. Downstream of the slug catcher, filter/coalescer vessels further remove water from the gas stream.

**Gas compression**

Gas from the filter/coalescer vessel/s will be compressed to a typical pressure of 7500kPag via compressor packages. Each package comprises a gas-powered compressor to raise the gas pressure, and a fin-fan cooler to reduce the gas temperature after compression. The figure opposite shows an indicative compressor package, including the compressor (right of the image) and fin fan cooler (left of the image). There will be multiple of these compressor packages at the Project compressor station.

**Water removal and gas dehydration downstream of compression**

The cooled gas leaving the compressor packages will pass through a scrubber vessel, where any condensed water/lube oil will be removed from the gas stream. The gas from the scrubber vessel will be sent to a Tri-Ethylene Glycol (TEG) dehydration unit to remove moisture from the gas to meet the sales gas specifications. The key equipment items comprising the TEG dehydration unit are the contactor, reboller, and TEG pumps. TEG liquid is constantly pumped through the contactor, where water vapour transfers from the gas to the TEG liquid; the TEG liquid flows from the contactor to the reboller, where the water is removed from the TEG by heating the TEG above the boiling point of water, the TEG is then cooled before returning to the contactor.

**Metering and composition analysis of sales gas**

Gas from the TEG dehydration unit will be directed to the Sales Gas Metering Skid, where a gas chromatograph unit/s to measure gas composition and a custody transfer flowmeter to measure the sales gas flow volumes.

**Fuel gas and flare**

The compressor station will use produced gas taken as fuel gas for the power generator, compressor engine driver, TEG reboller burner and flare pilot. A horizontal ground flare system will be used to dispose of gas during compressor station upsets or abnormal conditions safely. The flare will be equipped with a pilot and ignition system. A barrier wall will be installed to protect the surroundings from heat radiation.

**Booster compression**

A booster compressor unit may be installed downstream of the sales gas metering skid to achieve the required delivery pressure into the Daily Waters to McArthur River Gas Pipeline at the EP187 tie-in location. If fitted, the booster compression unit will contain similar equipment as the gas compression units described in the section above.

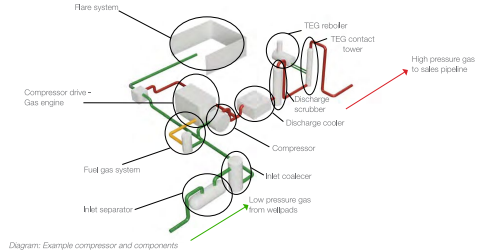


Diagram: Example compressor and components

**GAS GATHERING NETWORK FLOWLINE**

If the necessary approvals and agreements are obtained for appraisal gas, a gas gathering network will be installed, operated and maintained to gather gas from wellpads to the Carpentaria Pilot Project compressor station. The gas gathering flowline network will be constructed, operated, maintained, and abandoned per the Code of Practice for Upstream PE Gathering Lines in the CSG Industry and Companion Papers<sup>7</sup>.

Imperial will bury any flowlines outside wellpad fences to protect them from fire, flood, and livestock and human activity damage. Flowlines will be installed with a 750mm depth of cover, except where the flowline crosses an access track or watercourse, where it will have a depth of cover of no less than 1,200mm. The flowlines will follow the disturbance footprint of access tracks or other disturbed areas where practicable to reduce the amount of land clearing required and allow efficient construction, operation, and maintenance. Gas gathering flowlines will be installed in the same trench as the water/wastewater flowlines where practicable, requiring little to no extra land disturbances.

If they plan to carry out work nearby, of the possible consequences of inflicting unintended damage. Markers instruct those intending to work near the flowline network to contact the nominated network operator and provide relevant contact details.

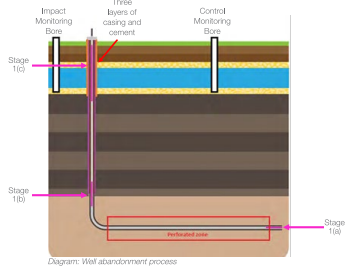
**GAS SALES PIPELINE**

To enable any appraisal gas to be transported to market it is proposed that a high-pressure sales gas pipeline will be constructed, operated and maintained from the compressor station to a tie-in point on the Daily Waters to McArthur River Gas Pipeline.

<sup>7</sup><https://www.wapa.org.au/code-practice-upstream-pe-gathering-lines-csg-industry>

**WELL ABANDONMENT AND REHABILITATION**

Well abandonment is carried out when a gas well is no longer required; it is carried out to fully isolate the hydrocarbon-bearing formation from the environment and reinforce the isolation of aquifers that lie just in place as part of the drilling operation. Wellpad rehabilitation is carried out when there are no gas wells on that wellpad that are not abandoned, and there is no plan to drill further gas wells on that pad in the foreseeable future. There are multiple stages of well abandonment and wellpad rehabilitation undertaken when a gas well is no longer required to be operational.



**Stage 1:**

- (a) An engineered cement plug is placed at the end of the horizontal well and the end of any perforated sections.
  - (b) A mechanical plug is inserted at the top of the hydrocarbon bearing formation, then a 50m engineered cement plug is placed above it, isolating the hydrocarbon bearing formation from the well bore above the cement plug.
  - (c) An engineered cement plug is placed from 50m below the bottom of the deepest aquifer present to 15m below the ground surface, reinforcing the multiple engineered cement and steel barriers that are isolating the aquifers present from the wellbore, hydrocarbon-bearing formations, other aquifers and from the surface.
- Wellpad surface rehabilitation is undertaken to recontour most of the wellpad to the natural contours and to return vegetation to the condition before the wellpad was built. All pits that were constructed as part of the wellpad are rehabilitated at this time and all infrastructure other than wellheads and external fencing is removed.

**Stage 2:**

- After the initial stage one rehabilitation steps, verification must be provided, showing no pressure build up has been measured within the casing or annulus over 12 months, proving that the hydrocarbon bearing formations are isolated from the environment. The regulator must approve this before continuing with well abandonment operations.
- The wellhead is then removed 1.5m below the ground surface.
- The wellpad surface is then fully rehabilitated, leaving only a marker indicating the location of the well underneath the ground, wellpad fencing is left in place to assist with revegetation.
- Wellpad fencing is removed after vegetation is well established over the rehabilitated wellpad.

Before undertaking any exploration, appraisal or production activities, companies must pay a security bond to the Territory, which ensures that if rehabilitation has not been completed by the company, the Territory can undertake the required activities. This security bond is only returned to the company when restoration works are completed and verified.

# Managing Environmental Impacts

Before undertaking any work, Imperial must have an EMP approved by the Minister for Environment, Climate Change and Water Security, The Minister, assisted by the Northern Territory Department of Environment, Parks and Water Security (**Regulator**), must be satisfied that any potential environmental risks can be managed and mitigated to 'As Low As Reasonably Possible' (**ALARP**) and acceptable. The Code of Practice: Onshore Petroleum Activities in the Northern Territory<sup>1</sup>, the Petroleum (Environment) Regulations 2016<sup>2</sup>, and the Schedule of Petroleum Onshore Requirements<sup>3</sup> provide the minimum environmental standards that the onshore petroleum industry in the Northern Territory must adhere to.

During the completion of an EMP, Imperial carries out on-site archaeological and ecological assessments for the full disturbance footprint. These assessments are carried out in conjunction with on-ground scoping operations to assist in choosing the least disturbance locations for well pads that will allow the drilling of wells into the target hydrocarbon-bearing formations and place other infrastructure in the least disturbance locations while meeting operational requirements. Where practical, existing disturbances are used for access tracks and flowline right of ways linking wellpads and other infrastructure. All petroleum infrastructure, including wellpads, flowlines, pipelines and compressor stations, have a setback distance of at least 2km from an existing or proposed habitable dwelling. Wellpads are also not located within 1km of an existing water supply bore used for domestic or stock consumption.

A risk assessment is carried out as part of the EMP completion process, identifying significant environmental risks for the Carpentaria Pilot Project and identifies how these risks can be managed. Controls aligned with the risk assessment are integrated into the EMP and on-ground practices.

EMPs are submitted to the Regulator for assessment, where environmental risks and controls are scrutinised. If the EMP is found to manage these environmental risks the EMP is approved by the Minister. EMPs are advertised for public comment during this assessment process. Approved EMPs can be found at <https://depws.nt.gov.au/onshore-gas/environment-management-plan/approved-emps>.

Imperial is required to comply with regular reporting requirements to the Regulator across multiple areas of activities. The Regulator may inspect the operations on-site at any time. Imperial has had multiple on-site audits of its regulated activities in the Northern Territory and no environmental damage has been found in these audits.

The Northern Territory has implemented their Management of Greenhouse Gas Emissions from the Onshore Gas Industry<sup>4</sup> Policy Statement outlining the minimum requirements for any company undertaking onshore petroleum production. This Policy Statement aligns with the Australian Government's reforms to the Safeguard Mechanism to manage greenhouse gas emissions from onshore gas production in the Northern Territory.

Imperial intends to obtain the necessary approvals and agreements for the sale of appraisal gas to greatly reduce the greenhouse gas emissions that would be generated if the gas was vented or flared. Therefore, the Carpentaria Pilot Project emissions will be well below the 100,000 tCO<sub>2</sub>e scope 1 emissions threshold for appraisal and exploration activities in the Large Emitters Policy<sup>5</sup>, as stated in the Management of Greenhouse Gas Emissions from the Onshore Gas Industry<sup>6</sup> Policy Statement. A full analysis of the Carpentaria Pilot Project emissions will be included in the EMP submission and approval process.

<sup>1</sup>GPREG, 3 OCT 2018, Code of Practice: Onshore Petroleum Activities in the Northern Territory, Department of Environment, Parks and Water Security. Retrieved from <https://depws.nt.gov.au/assessments-and-approvals/2018/08/03/code-of-practice-onshore-petroleum-activities-copap>.  
<sup>2</sup><https://legislation.gov.au/urn:nz:reg:2016/0008> THE PETROLEUM (ENVIRONMENT) REGULATIONS 2016  
<sup>3</sup><https://depws.nt.gov.au/assessments-and-approvals/2016/08/25/schedule-of-petroleum-onshore-requirements.pdf>  
<sup>4</sup>NT Policy Statement: Management of greenhouse gas emissions from the onshore gas industry. Retrieved from <https://depws.nt.gov.au/assessments-and-approvals/2018/08/03/policy-statement-management-of-greenhouse-gas-emissions-from-the-onshore-gas-industry.pdf>  
<sup>5</sup><https://depws.nt.gov.au/assessments-and-approvals/2017/08/28/large-emitters-policy-2017-version-1.pdf>

# Local business opportunities and engagement

Imperial regularly participates in industry forums in the Northern Territory to share information regarding our activities. Participation in conferences, industry briefings, networking events and community forums provides beneficial opportunities to continue to engage with local businesses and people.

To further promote opportunities for local businesses, Empire has recently launched a project Gateway page in collaboration with Industry Capability Network NT (**ICN NT**). Recognising the

need to connect businesses to be engaged with our projects, this portal will provide an enhanced platform for regular communications about upcoming opportunities and expressions of interest.

Imperial will collaborate with ICN NT and industry to facilitate additional briefings with businesses. For further information or to register your interest please visit the Empire Energy Gateway page: [empireenergy.icn.org.au](http://empireenergy.icn.org.au)



Image: Alex Underwood, Empire Energy Managing Director meeting with Leble Rice at Carpentaria ZPTSA.

# Stakeholder engagement

**WORKING WITH ABORIGINAL PEOPLE**

Imperial recognises and respects the connection Aboriginal people have to country. Imperial has a strong track record of consultation with traditional Aboriginal owners and native title holders and has participated in more than 35 on-country meetings since 2011.

Archaeological and ecological assessments are carried out in the planning and approval stage of each on-ground activity. Cultural Heritage Managers are present during these on-ground assessments and for all first disturbance to help ensure the activities are planned and carried out in a way that minimizes impacts on cultural heritage.

Imperial has facilitated multiple field visits for Aboriginal people and their communities to provide opportunities to see activities on the ground while they are being undertaken. Feedback from people who have participated in site visits has been very positive, further helping to understand the scale and impact of the Carpentaria Pilot Project and potential activities that may proceed in future development scenarios.

**ENGAGING WITH STAKEHOLDERS**

Imperial's relationships and continued engagement with stakeholders is essential to how Empire and Imperial work in the Northern Territory, now and in the future. Imperial is genuinely committed to early and ongoing stakeholder engagement across all phases of the project life cycle as a fundamental component of project development to ensure information about proposed activities is made available to interested parties and provides an opportunity for meaningful dialogues.

Early engagement will allow stakeholders an opportunity to communicate concerns and identify issues where their feedback can be considered. The feedback and communications from stakeholder consultation will be consolidated to assist with decision-making, where there is an opportunity to influence project decisions and determine processes to meet community expectations for ongoing communication.

The importance of sharing the potential benefits and impacts of project development provides a pathway for establishing community connection, building long-term relationships and understanding the views and issues of the community.

For further information regarding the Carpentaria Pilot Project, please visit the consultation hub on our website: [empireenergygroup.net/consultation](http://empireenergygroup.net/consultation)

Scan here:



**Disclaimer**

This document has been prepared by Empire Energy Group Limited ("Empire" or the "Company"). The information in this document is information of a general nature and is subject to change without notice. It contains information in a summary form only and should be read in conjunction with Empire's other periodic disclosure announcements to the ASX available at [www.asx.com.au](http://www.asx.com.au).

This document contains statements, opinions, projections, forecasts, and other material ("forward looking statements"). These statements can be identified by the use of words like "anticipate", "believe", "intend", "estimate", "expect", "may", "plan", "project", "forecast", "will", "should", "could", "seek" and other similar expressions. Forward looking statements may be based on assumptions which may or may not prove to be correct. None of Empire, its respective officers, employees, agents, advisers or any other person named in this document makes any representation as to the accuracy or likelihood of fulfillment of the forward looking statements or any of the assumptions upon which they are based and disclaim any obligation or undertaking to revise any forward looking statement, whether as a result of new information, future event or otherwise.

Maps and diagrams contained in this document are provided to assist with the identification and description of Empire's lease holdings and Empire's intended targets and potential exploration areas within those leases. The maps and diagrams may not be drawn to scale and Empire's intended targets and exploration areas may change in the future.

To the maximum extent permitted by law, Empire and its respective officers, employees, agents and advisers give no warranty, representation or guarantee as to the accuracy, completeness or reliability of the information contained in this document. Further, none of Empire nor its respective officers, employees, agents or advisers accept, to the extent permitted by law, responsibility for any loss, claim, damages, costs or expenses arising out of, or in connection with, the information contained in this document. Any recipient of this document should independently satisfy themselves as to the accuracy of all information contained herein.





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### 4.3.4 2023.11.22 | Carpentaria Pilot Project – Proposed Environmental Risks and Controls



#### Proposed Environmental Risks and Controls of the Carpentaria Pilot Project

Environmental Factor	Environmental Objective	Potential Impacts and Risks	Controls
Hydrological processes  Inland water environmental quality	<ul style="list-style-type: none"> <li>Protect the hydrological regimes of groundwater and surface water so that environmental values, including ecological health, land uses and the welfare and amenity of people, are maintained.</li> <li>Protect the quality of groundwater and surface water so that environmental values, including ecological health, land uses and the welfare and amenity of people, are maintained.</li> </ul>	<ul style="list-style-type: none"> <li>It is unlikely that groundwater extraction for the Carpentaria Pilot Project (CPP) will reduce water availability to other users, including the environment.</li> <li>It is unlikely that the CPP will contaminate aquifers and surface water.</li> </ul>	<ul style="list-style-type: none"> <li>All groundwater extraction will be licensed under the Water Act (NT) and considering extraction impacts on other users, including the environment.</li> <li>All groundwater use will be monitored and reported to the Regulator quarterly.</li> <li>A spill management plan will be in place covering on-site fluid storage and transport.</li> <li>Baseline groundwater quality will be established at each CPP well pad.</li> <li>Water quality will be monitored in on-site water bores, with the results sent to the Regulator and made publicly available.</li> <li>Only water-based drilling fluids will be used.</li> <li>Gas wells will be constructed with multiple engineered cement and steel barriers protecting aquifers.</li> <li>Aquifers will be monitored at the well pad during Hydraulic Fracturing activities, and the results will be sent to the Regulator.</li> </ul>
Inland water environmental quality	<ul style="list-style-type: none"> <li>Protect the quality of groundwater and surface water so that environmental values, including ecological health, land uses and the welfare and amenity of people, are maintained</li> </ul>	<ul style="list-style-type: none"> <li>It is unlikely that the CPP will reduce surface water availability to other users.</li> <li>It is unlikely that the CPP will contaminate surface water bodies from the offsite release of sediment or contaminants.</li> </ul>	<ul style="list-style-type: none"> <li>No surface water will be used for CPP activities.</li> <li>Well pads and facilities will be preferentially located above the modelled 1-in-100-year flood levels.</li> <li>Well pads and facilities will be constructed and operated with erosion and sediment control devices.</li> <li>Wastewater will be stored and treated in engineered tanks fitted with secondary containment and leak detection.</li> <li>Drilling by-products will be stored in lined earthen sumps.</li> <li>The freeboard for all open-topped wastewater treatment tanks and drilling sumps will be maintained over the local wet season to contain a 1-in-1,000-year storm event.</li> </ul>
Air quality	<ul style="list-style-type: none"> <li>Protect air quality and minimise emissions and their impact so that environmental values are maintained.</li> </ul>	<ul style="list-style-type: none"> <li>The impact on habitable dwellings, pastoral activities, flora and fauna from dust is likely to be minimal.</li> </ul>	<ul style="list-style-type: none"> <li>Well pads, facilities, and access tracks are located away from sensitive receptors, such as habitable dwellings.</li> <li>Dust suppression will be used on access tracks and other worksites during peak activities to minimise dust emissions.</li> </ul>

*The information in this document is information of a general nature and is subject to change without notice as a result of stakeholder feedback, regulatory requirements and project design.*



**Proposed Environmental Risks and Controls of the Carpentaria Pilot Project**

Environmental Factor	Environmental Objective	Potential Impacts and Risks	Controls
Atmospheric process	<ul style="list-style-type: none"> <li>Minimise greenhouse gas emissions to support the NT Government's goal of achieving net zero greenhouse gas emissions by 2050.</li> </ul>	<ul style="list-style-type: none"> <li>The CPP multi-year appraisal program would ordinarily require a material amount of gas to be flared or vented to the environment.</li> </ul>	<ul style="list-style-type: none"> <li>The Petroleum Act 1984 includes provisions allowing the recovery of gas that would otherwise be flared in an appraisal project. Recovery of appraisal gas is subject to approval by the Minister. Imperial proposes to seek Ministerial approval and the consent of traditional Aboriginal owners in consultation with the Northern Land Council to send the appraisal gas from the wells to the project compressor station via a buried gas gathering network for sale.</li> </ul>
Landforms	<ul style="list-style-type: none"> <li>Conserve the variety and integrity of distinctive physical landforms.</li> </ul>	<ul style="list-style-type: none"> <li>The CPP is unlikely to impact distinctive physical landforms.</li> </ul>	<ul style="list-style-type: none"> <li>Due to the location of the CPP, no specific controls are required to reduce the impact on distinctive physical landforms.</li> </ul>
Coastal processes environmental quality Marine ecosystems	<ul style="list-style-type: none"> <li>Protect the geophysical and hydrological processes that shape coastal morphology so that the environmental values of the coast are maintained.</li> <li>Protect the quality and productivity of water, sediment and biota so that environmental values are maintained.</li> <li>Protect marine habitats to maintain environmental values including biodiversity, ecological integrity and ecological functioning.</li> </ul>	<ul style="list-style-type: none"> <li>The CPP is unlikely to impact coastal processes, marine environmental quality, and marine ecosystems.</li> </ul>	<ul style="list-style-type: none"> <li>Due to the location of the CPP, no specific controls are required to reduce the impact on coastal processes, marine environmental quality, and marine ecosystems.</li> </ul>
Culture and heritage	<ul style="list-style-type: none"> <li>Protect culture and heritage.</li> </ul>	<ul style="list-style-type: none"> <li>It is not expected that CPP activities will cause any physical damage to culture and heritage.</li> </ul>	<ul style="list-style-type: none"> <li>Imperial will consult with traditional Aboriginal owners on all CPP activities.</li> <li>Imperial will have an APPA authority certificate for all CPP activities.</li> <li>An archeological inspection will be carried out on all planned disturbance areas before CPP's first disturbance works.</li> <li>Traditional Aboriginal owner Cultural Monitors will be on-site during CPP's first disturbance works.</li> </ul>

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**Proposed Environmental Risks and Controls of the Carpentaria Pilot Project**

Environmental Factor	Environmental Objective	Potential Impacts and Risks	Controls
Terrestrial environmental quality	<ul style="list-style-type: none"> <li>Protect the quality and integrity of land and soils to support and maintain environmental values.</li> </ul>	<ul style="list-style-type: none"> <li>It is not expected that CPP activities will significantly impact the quality and integrity of land and soil due to contamination by wastewater, chemicals or fuels or from erosion and sedimentation.</li> </ul>	<ul style="list-style-type: none"> <li>Well pads, facilities, access tracks, and flowline right of ways will be located with consideration of the NT Land Clearing Guidelines.</li> <li>Well pads and facilities will be constructed and operated with erosion and sediment control devices.</li> <li>Wastewater will be stored and treated in engineered tanks fitted with secondary containment and leak detection.</li> <li>The freeboard for all open-topped wastewater treatment tanks and drilling sumps will be maintained over the local wet season to contain a 1-in-1,000-year storm event.</li> <li>A Rehabilitation Plan will be implemented, and CPP sites will be progressively rehabilitated when no longer required.</li> </ul>
Terrestrial ecosystems	<ul style="list-style-type: none"> <li>Protect terrestrial habitats to maintain environmental values, including biodiversity, ecological integrity, and ecological functioning.</li> </ul>	<ul style="list-style-type: none"> <li>It is not expected that CPP activities will significantly impact terrestrial habitats by excessive land clearing, landscape fragmentation, or the destruction of areas of high conservation value.</li> <li>The risk and impact from the introduction or spread of weeds is considered possible, given the existing presence of weeds at the site and in the vicinity.</li> <li>It is not expected that the CPP will cause an uncontrolled bushfire impacting pastoral infrastructure, environmental habitat and fauna, impacts on culturally- significant sites, public infrastructure and community lands.</li> </ul>	<ul style="list-style-type: none"> <li>Well pads, facilities, access tracks, and flowline right of ways will be located with consideration of the NT Land Clearing Guidelines.</li> <li>An ecological site inspection will be carried out to guide the CPP well pad, facility, access track, and flowline right-of-way site selection to minimise impact on terrestrial habitats.</li> <li>A pre-disturbance weed inspection will be carried out for all CPP sites, followed by annual weed inspections and treatment programs as required.</li> <li>Well pads and facilities will be constructed and operated with fire breaks.</li> <li>A fire tender will be on-site during CPP's first disturbance activities.</li> <li>A Bushfire Management Plan outlining fire response strategies and emergency contact protocols for the CPP will be implemented.</li> <li>Machinery, equipment, and loads are to be free from weeds on entry.</li> <li>A speed limit of 60kph will be implemented on CPP access tracks, and nighttime traffic movements minimised where possible.</li> <li>Dust suppression will be used on access tracks and worksites during peak activities to minimise dust creation.</li> <li>A Rehabilitation Plan will be implemented, and CPP sites will be progressively rehabilitated when no longer required.</li> </ul>

*The information in this document is information of a general nature and is subject to change without notice as a result of stakeholder feedback, regulatory requirements and project design.*



**Proposed Environmental Risks and Controls of the Carpentaria Pilot Project**

Environmental Factor	Environmental Objective	Potential Impacts and Risks	Controls
Community and economy	<ul style="list-style-type: none"> <li>Enhance communities and the economy for the welfare, amenity and benefit of current and future generations of Territorians.</li> </ul>	<ul style="list-style-type: none"> <li>The CPP, it is unlikely to negatively impact the amenity and benefit of current and future generations of Territorians.</li> <li>The CPP, it is not envisaged that it will impact local community recreational and cultural opportunities.</li> <li>It is not envisaged that the CPP will negatively impact the employment opportunities of the local community, the availability or pricing of local housing, or local police and/or emergency services resources.</li> </ul>	<ul style="list-style-type: none"> <li>The CPP is anticipated to increase employment opportunities directly and via contracting companies supporting construction and appraisal activities.</li> <li>Imperial will utilise temporary camps for most of the CPP's short-term and ongoing activities, with no intended use of local housing.</li> <li>Imperial will consult with traditional Aboriginal owners on all CPP activities.</li> <li>CPP activities and facilities are unlikely to be visible from the Carpentaria highway other than localised light glow at night.</li> <li>Most materials, equipment and personnel travelling to and from the CPP will utilise the Carpentaria Highway, which is currently being upgraded as part of the Northern Territory Gas Industry Roads Upgrades project.</li> <li>Imperial will have medical support staff on-site during the facilities' establishment phase of the CPP.</li> </ul>
Human health	<ul style="list-style-type: none"> <li>Protect the health of the Northern Territory population.</li> </ul>	<ul style="list-style-type: none"> <li>It is unlikely that the CPP will adversely impact the health of local Territorians.</li> </ul>	<ul style="list-style-type: none"> <li>A speed limit of 60kph will be implemented on CPP access tracks and nighttime traffic movements minimized where possible.</li> <li>Dust suppression will be used on access tracks and other worksites during peak activities to minimise dust emissions.</li> <li>The CPP will comply with relevant health and safety regulations.</li> </ul>

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4.3.5 2023.11.22 | NT News Printed Advertisement – Launch of Online Consultation Portal

**CARPENTARIA PILOT PROJECT  
PROPOSED ACTIVITIES AND ENVIRONMENT MANAGEMENT PLAN**

**Empire Energy, through its subsidiary Imperial Oil & Gas Pty Ltd, is undertaking consultation with stakeholders and the community regarding proposed activities for the Imperial Carpentaria Pilot Project. Imperial’s Carpentaria Pilot Project relates to the exploration and appraisal of Petroleum Exploration permit EP187, located approximately 135 kilometres southwest of Borroloola within the Beetaloo Sub-basin.**

**An Environment Management Plan is being prepared and we are seeking early feedback on proposed activities to help inform project planning.**

Imperial has carried out two seismic programs and drilled four wells in the Beetaloo, including Carpentaria-3H, the longest horizontal section of any well onshore Australia. Following encouraging flow testing results, Imperial is now proposing to move into the appraisal stage of its gas exploration through the Carpentaria Pilot Project.

Imperial proposes a multi-year appraisal program in the western flank of EP187, commencing in 2024, building on the fieldwork carried out under the previous 2019 to 2023 work programs.

The Carpentaria Pilot Project multi-year extended well testing program is required to determine whether development of the shale gas reservoir identified by Imperial is commercially viable.

In the Northern Territory, an Environment Management Plan (EMP) must be approved under the Northern Territory *Petroleum (Environment) Regulations 2016* before any petroleum regulated activities commence. The Regulations include requirements for stakeholder engagement as part of the approval process.

All EMP approvals are also subject to public consultation periods as provided for by the Regulations.

**Proposed appraisal activities under the Carpentaria Pilot Project will include:**

- Constructing up to 25 km of new access tracks
- Constructing up to four new wellpads
- Extension of up to two existing wellpads
- Construction of up to 60km of water and wastewater flowlines
- Construction of up to 60km of gas flowlines
- Drilling and stimulating up to 10 new horizontal wells
- Construction of a compressor station
- Construction of a small camp facility
- Construction of a small office, warehouse, and workshop facility
- Installation of a water/wastewater facility
- Operation of the above infrastructure and of infrastructure constructed under the exploration phase to facilitate the appraisal of the project area

**Consultation and Feedback**

An online consultation portal is available to provide stakeholders and community with information about the Project. This portal provides further detailed information on proposed activities and enables stakeholders to provide feedback. Empire is committed to ongoing dialogue with stakeholders and welcomes their feedback.



For more information or to submit feedback:  
 Website: [empireenergygroup.net/consultation](http://empireenergygroup.net/consultation)  
 or scan the QR code below  
 Email: [Consultation@empiregp.net](mailto:Consultation@empiregp.net)  
 Feedback is sought prior to 15 December 2023.



#### 4.3.6 2023.12.01 | NT News Printed Advertisement – Darwin Regional Community Drop-in Session Advertisement



**Empire Energy is holding an information session for stakeholders and community regarding proposed activities for the Imperial Carpentaria Pilot Project.**

**Imperial's Carpentaria Pilot Project relates to the exploration and appraisal of Petroleum Exploration permit EP187, located approximately 135 kilometres southwest of Borroloola within the Beetaloo Sub-basin.**

An Environment Management Plan is being prepared and we are seeking early feedback on proposed activities to help inform project planning.

Empire representatives will be available at a community drop-in session in Darwin to share information with interested community members about the project and answer questions.

**Please register your interest for attendance by email to:**

**[Consultation@empiregp.net](mailto:Consultation@empiregp.net)**

**Friday 8 December 2023**

Hilton Garden Inn  
122 Esplanade Darwin  
8.30am - 12.30pm



For more information or to submit feedback:  
Website: [empireenergygroup.net/consultation](https://empireenergygroup.net/consultation)  
or scan the QR code



**Empire Energy is holding an information session for stakeholders and community regarding proposed activities for the Imperial Carpentaria Pilot Project.**

**Imperial's Carpentaria Pilot Project relates to the exploration and appraisal of Petroleum Exploration permit EP187, located approximately 135 kilometres southwest of Borroloola within the Beetaloo Sub-basin.**

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4.3.7 2023.12.06 | Industry Capability Network Supply Chain Briefing Pack



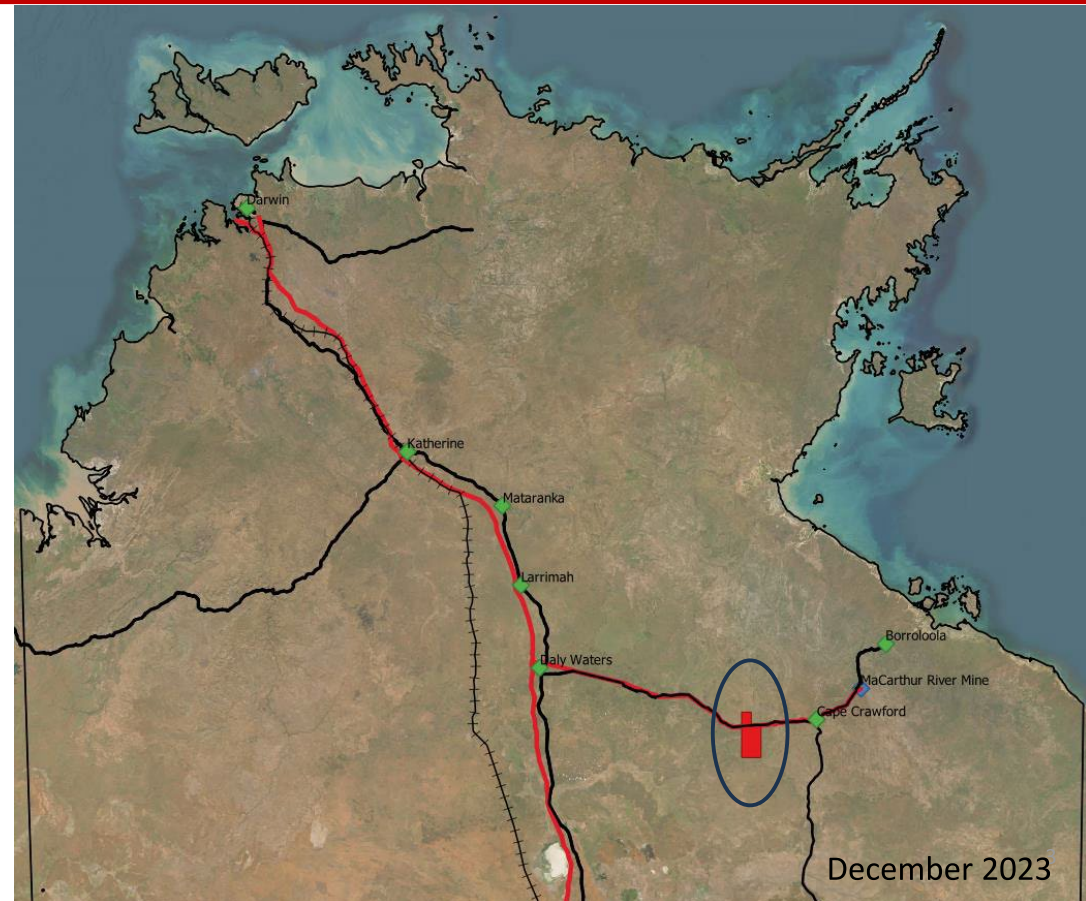
# Imperial Oil & Gas – Carpentaria Pilot Project



EP187 - Carpentaria Pilot Project - Supplier Briefing - December 2023

# Carpentaria Pilot Project location

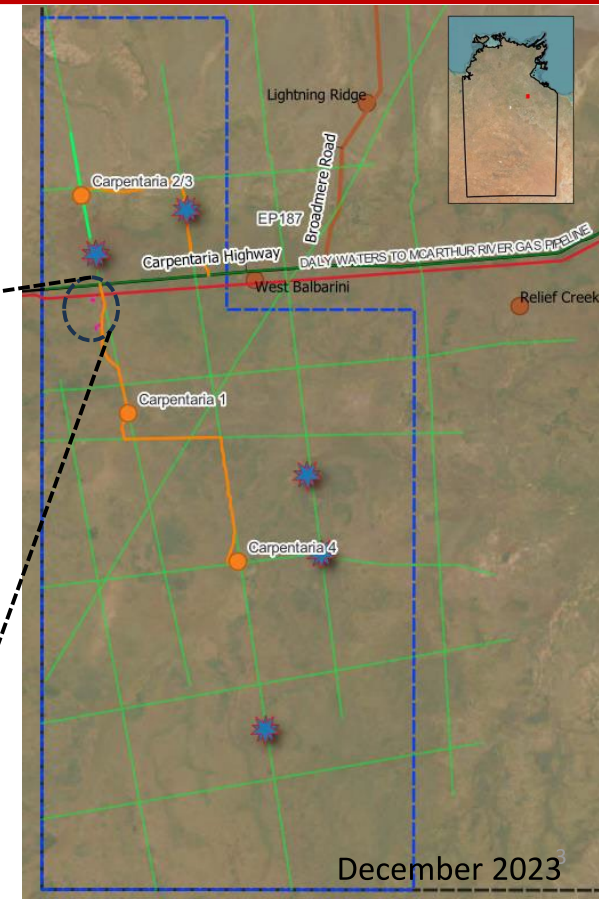
- On the Carpentaria Highway
  - ~205km from Stuart Highway tee
  - ~70km from Cape Crawford
  - ~800km from Darwin
  - ~120km from McArthur River Mine Airport
  - ~180km from Borroloola
- On the Daly Waters to McArthur River gas pipeline



# Carpentaria Pilot Project (CPP)



- The CPP is for the appraisal of part of exploration permit 187 (EP187).
- It is a multi-year program in the western flank of EP187, commencing in 2024, and building on the fieldwork carried out under the previous 2019 to 2023 work programs.
- It is the next step in proving whether the shale gas reservoir identified by Imperial is commercially exploitable.
- Instead of venting or flaring the gas produced from the CPP, Imperial proposes to seek the consent of relevant traditional Aboriginal owners and the Minister responsible for the Petroleum Act to recover gas on an appraisal basis and provide that gas to the domestic market via the Daly Waters to McArthur River gas pipeline.



# Carpentaria Pilot Project - Status



**Scope:** We have a good understanding of the scope of the project

**Consultation:**

- Traditional Owners (TOs):
  - We have been consulting with TOs regarding works in this area since 2019 and have a good relationship; we are early in consultation on this stage of the project.
- Other stakeholders:
  - We are part way through stakeholder engagement and consultation program with directly affected stakeholders and the broader community.

**Approvals:**

- Site scouting and on-site assessments are complete.
- EMP is a fair way through drafting to lodge February 2024.
- WOMP drafting is complete and ready for lodgement this year.
- Carrying out studies and consultation to support GWEL application.

**Procurement:**

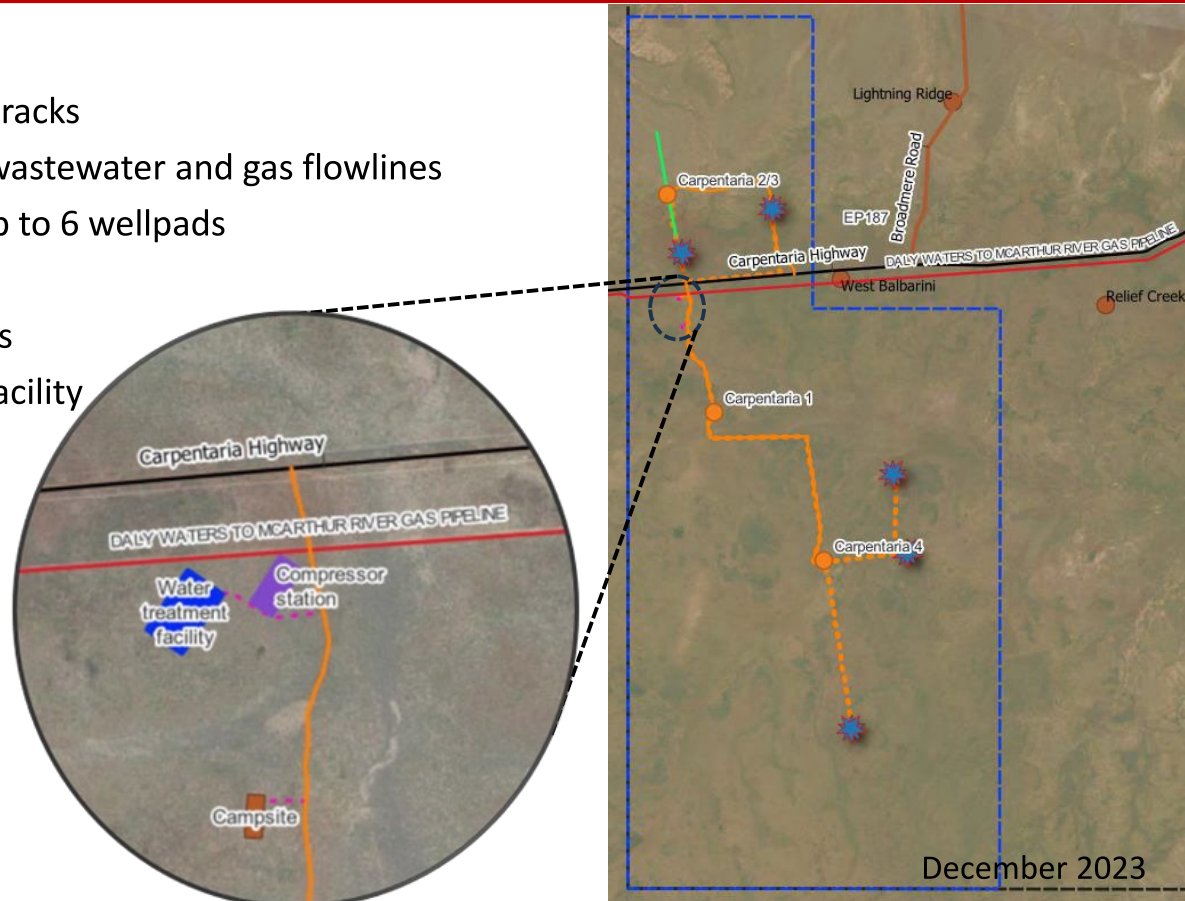
- Have acquired an operational compressor station.
- Well advanced on specialised services and materials; drill and frac.



December 2023

# Carpentaria Pilot Project – Scope 2024-29

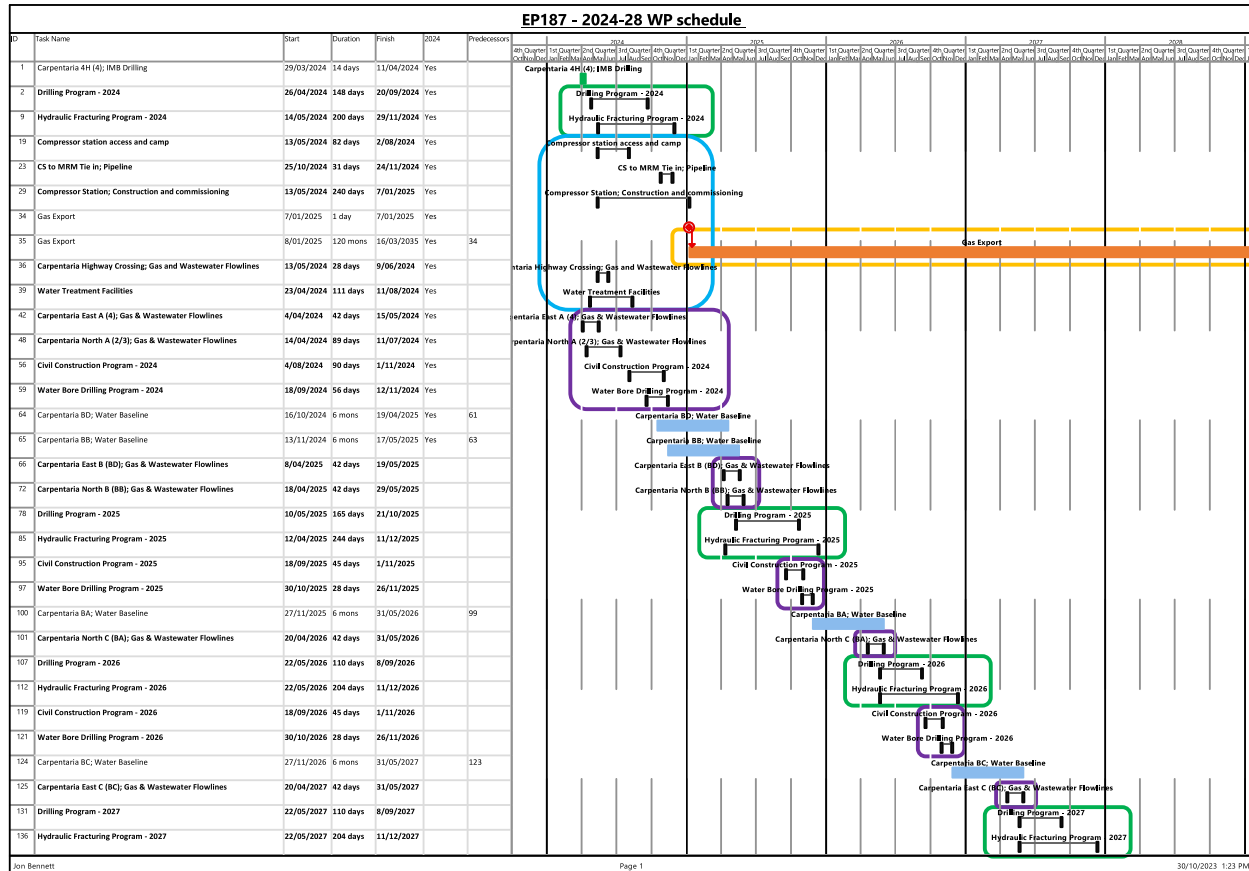
- Construction of up to 4 wellpads
- Construction of up to 30km of access tracks
- Construction of up to 60km of water/wastewater and gas flowlines
- Construction of wellpad facilities on up to 6 wellpads
- Drilling of up to 10 gas wells
- Hydraulic Fracture of up to 10 gas wells
- Construction of a Water/wastewater facility
- Drilling of up to 40 new water bores
- Construction of a compressor station
- Construction of a sales gas pipeline
- Construction of an operations camp
  - Ongoing support services
    - Maintenance
    - Fuel
    - Water



# Carpentaria Pilot Project – Upcoming Works

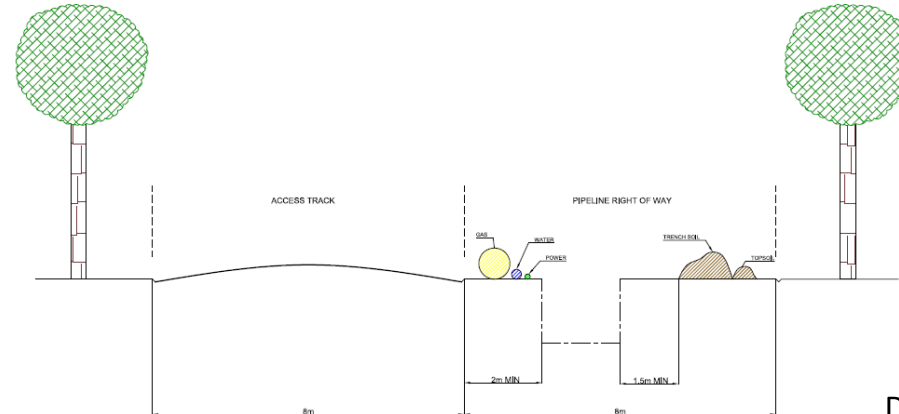
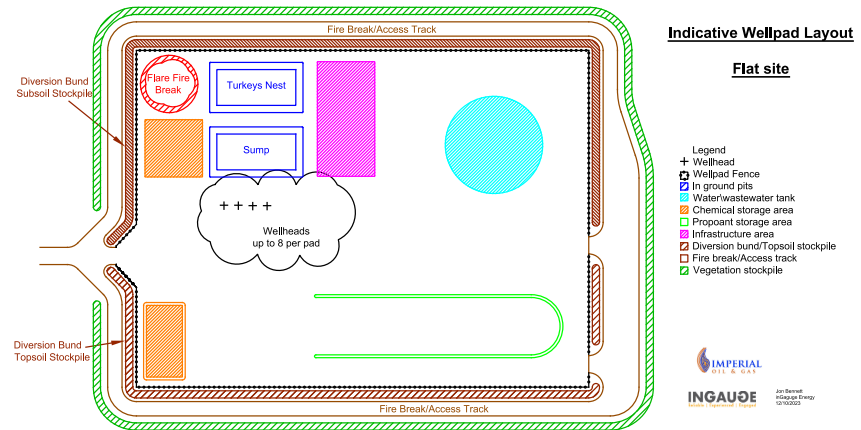
## Multiple project stages:

- Field construction
  - Wellpads and access
  - Flowlines
  - Water bores
- Well Development
  - Drilling
  - Hydraulic fracturing
  - Wellpad infrastructure
- Facilities establishment
  - Wastewater facility
  - Compressor station
  - Camp
  - Gas export pipeline
- Appraisal
  - Facilities operation
  - Facilities maintenance
  - Field maintenance



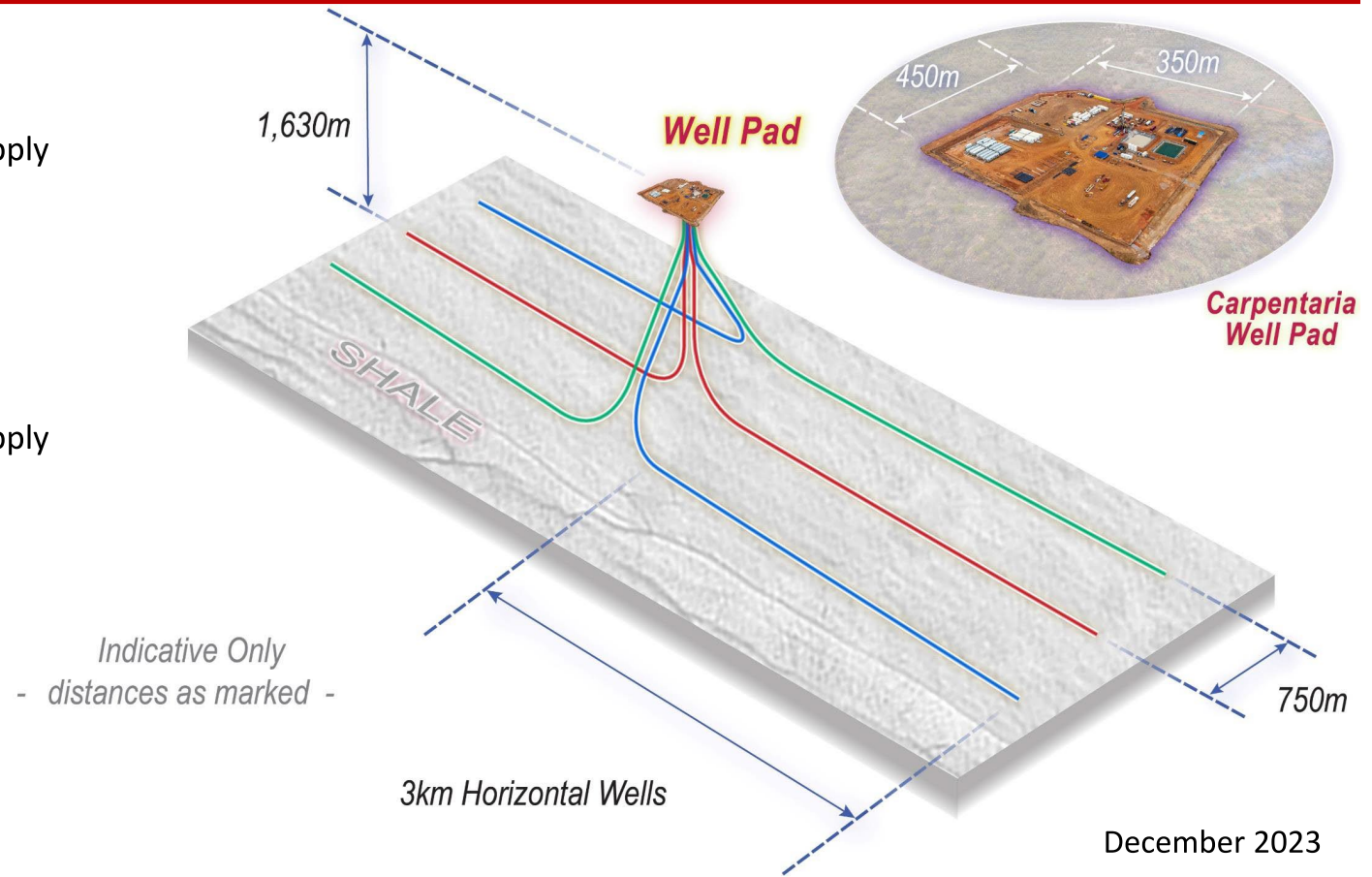
# Upcoming works – Field construction

- Wellpad access (~60km, plus upgrade of 30km) using mainly in-situ material with capping
- Wellpads (~4, plus extension of 2):
  - Using mainly in-situ material with capping
  - Erosion and sediment controls
  - Fencing
  - Tanks and lined ponds
  - Cellar and conductor supply and install
- Water bores (~10)
- Flowline network
  - HDPE
  - Water (~30km) and gas (~30km)
  - Mainly common trenched
  - Mainly along access track alignments



# Upcoming works – Well delivery

- Drilling:
  - Rig supply
  - Support services supply
  - Materials supply
    - Casing
    - Chemicals
- Hydraulic fracturing:
  - Frac spread supply
  - Support services supply
- Ancillary services:
  - Chemical storage
  - Fuel
  - Water
  - Waste



# Upcoming works – Facilities construction

## Civil Construction:

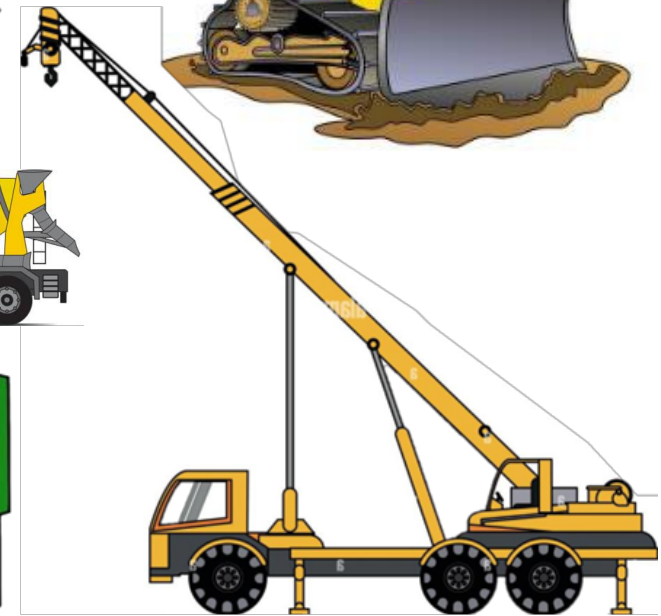
- Compressor station civil construction
- Wastewater facility civil construction
- Camp civil construction.

## Construction:

- Wastewater facility: tank supply and construction
- Campsite: camp supply and construction
- Compressor station (Temporary installation):
  - Foundations – screw pile
  - Instrument and electrical.

## Ancillary services:

- Crane hire
- Chemical storage
- Fuel
- Water
- Waste.



December 2023

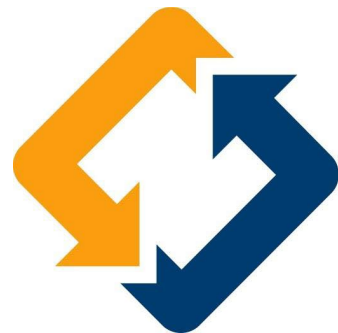
# Carpentaria Pilot Project – Requirements

- Imperial is looking to build ongoing working relationships
- The prequalification process will be fit for purpose of the work scope
- There will be a thorough onboarding process to ensure regulatory compliance
- Licencing relative to delivery of the works cope e.g., licenced water drillers



# Questions, conversation

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