Appendix J.1.2 13 240419 Re: NLC response to Tamboran slides

From: Emily Beresford-Cane
Sent: Friday, 19 April 2024 4:39 PM
To: [redacted]
Cc: Matt Kernke; Armando de la Flor Olavide; Russell Jeffrey
Subject: Re: NLC response to Tamboran slides

Hi [redacted]

Thanks for your comments and the call earlier today.

I can confirm Tamboran is amending presentation materials to incorporate the NLC's feedback for the meetings next week. I appreciate that we have provided updated slides outside the two-week window, but note that the nature of the updates are in line with the information provided in December, March and April of this year.

In each set of information we have provided the NLC, we have sought to include feedback from the NLC with the key objective of ensuring the technical information contained in the presentation material is accessible to NTHs. As mentioned during our call, we request that you accept this information in good faith from Tamboran as we continue to communicate project material and enhance the accessibility of this information to the NTHs - this is very important to us.

We will touch base again with the NLC after the meetings in Mataranka and Katherine next week and provide presentation material ahead of the JNWG/WP Meetings scheduled on 8/9th of May in Elliott. I note that the NLC has already received draft material from Tamboran for those meetings (in December and March), and we have incorporated the NLCs feedback into these slides. We will send updated versions of the presentation material to the NLC next week for final comment.

Finally, please be advised that communication between Tamboran and the NLC will remain between myself and Armando going forward.

Thanks
Emily
[redacted]

On 19 Apr 2024, at 1:23 pm, [redacted] > wrote:

[redacted]

Northern Land Council

NORTHERN LAND COUNCIL

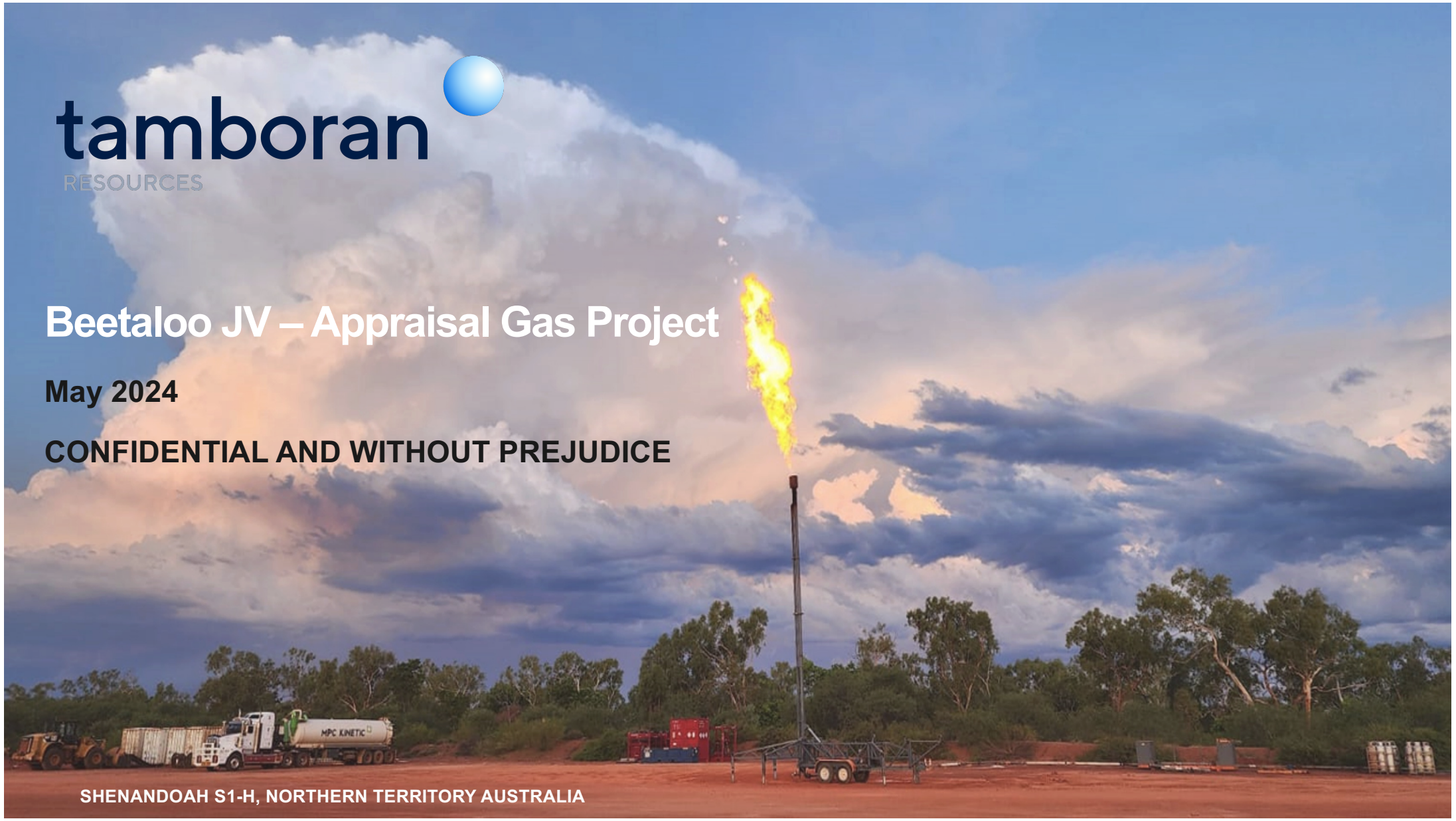
Our Land, Our Sea, Our Life

[redacted]

Email: [redacted] | Website: www.nlc.org.au

Disclaimer

Appendix J.1.2 14 240508 Beetaloo JV – Appraisal Gas Project May 2024



tamboran
RESOURCES

Beetaloo JV – Appraisal Gas Project

May 2024

CONFIDENTIAL AND WITHOUT PREJUDICE

SHENANDOAH S1-H, NORTHERN TERRITORY AUSTRALIA

Agenda

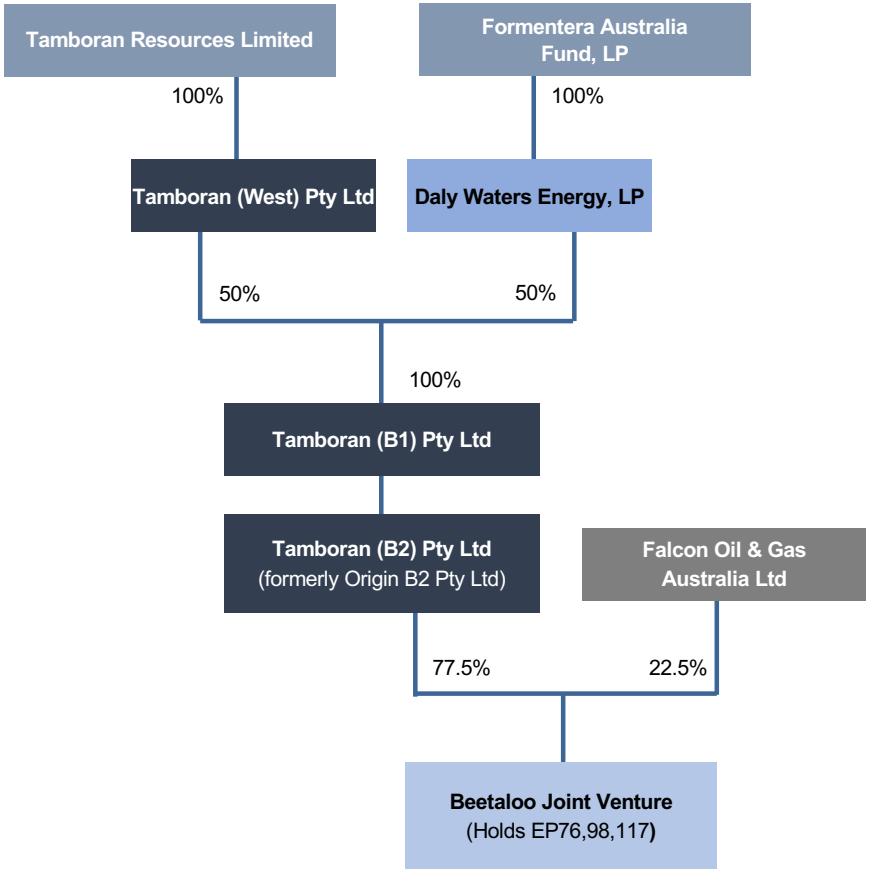
1. Introductions and Acknowledgement
2. Purpose of meeting – Appraisal Gas Project
3. Well results
4. Exploration activities Vs Appraisal activities
5. Project Location
6. Appraisal Gas Project
   - Project Overview
   - Sturt Plateau Compression Facility
   - [redacted]
   - Gathering Lines
   - [redacted]
   - End of Appraisal Gas Project and Rehabilitation

[redacted]

9. Next Steps and QLD Site Visit

Introductions

- Tamboran Resources Limited
  - Faron Thibodeaux – Chief Operating Officer
  - Emily Beresford-Cane – ILUA Advisor
  - Matt Kernke – VP Environment and Permit Approvals
  - Dave Armstrong – Land Access Advisor
  - Robbie Wear – Field Operations Manager
  - Russell Jeffrey – Regional Relationship Advisor
  - Armando de la Flor Olavide – Social Performance Lead
- Daly Waters Energy
  - Alex Cote – Head of Australia DWE



Purpose of Meeting: Appraisal Gas Project

- Tamboran would like to provide an update on our activities and **discuss the details** of the Appraisal Gas Project with Native Title Holders.
- We would like to answer any **questions** Native Title Holders and NLC have about the Appraisal Gas Project.
- We would like to outline the **benefits** that Native Title Holders would see from the approval of the Appraisal Gas Project and **listen to what Native Title Holders** may like to see in an Appraisal Gas Agreement.
- Tamboran would like to discuss the next steps for the Appraisal Gas Project.

Exploration Well Results – good Gas from the Well!

- Moving forward with 6 wells in 2 years to confirm the size of gas play

- In 2024 we will:
  - drill 2 wells from one new pad called SS-2
  - [redacted]
  - begin civil work on the pad for the temporary gas compression facility

- In 2025 we will:
  - drill 4 wells and seek to sell the gas rather than flaring it (under the Appraisal Gas legislation)
  - construct temporary gas compression facility
    - Facility is temporary and removable if necessary
    - Sized to sell up to 60 TJ/day of gas
    - Will sit on about 5 hectares of land

- In 2026 we plan to:
  - sell gas from temporary gas compression facility and create benefits and jobs

SHENANDOAH S1-H, NORTHERN TERRITORY AUSTRALIA

Flaring Gas Vs. Appraisal Gas

Existing - Appraisal gas is flared

- Gas burnt and not used or sold
- Higher greenhouse gas emissions
- No additional financial benefits to NTHs or NT
- Fewer job opportunities

New Plan - Appraisal gas is sold

- Gas is likely sold into the NT for electricity
- Less greenhouse gas emissions than flaring
- More financial benefits for NTHs
- More job opportunities in construction and operation
- Requires a slightly larger clearing area of ~5 ha to support the compression facilities

Project Location

- All activity will be located within Subject Land 2 on EP 98 and EP 117.
- Appraisal gas sale likely to start from Shenandoah S2, with wells from other locations connected progressively- this may include new locations to be constructed in 2025/26.

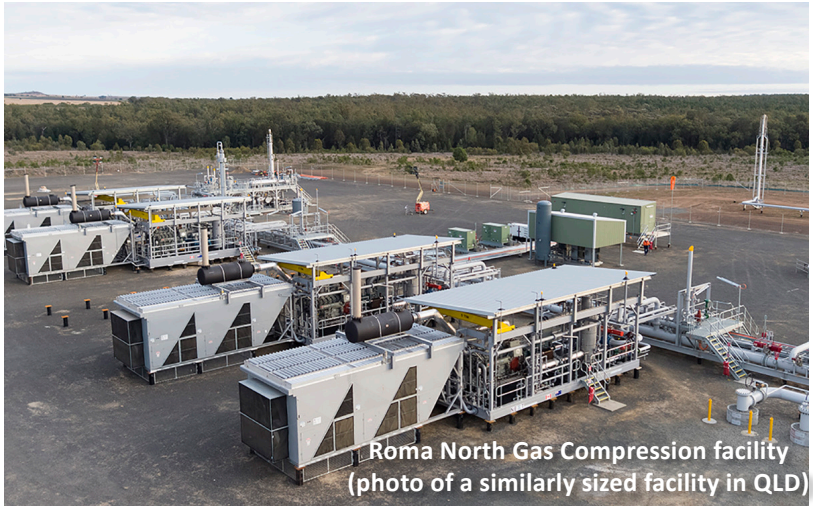
[redacted]

Appraisal Gas Project Overview

- Tamboran needs more gas information so investors and banks will fund a future production project.
- Flaring of this gas causes greenhouse gas emissions - legislation was developed to minimize flaring and allow the sale of appraisal gas, reducing emissions and increasing community benefits.
- Tamboran proposes to build facilities at the Shenandoah S2 location on the Hayfield Shenandoah Station to allow 60 TJ/day appraisal gas produced from Tamboran's project to be sold instead of flared.
- The Sturt Plateau Compression Facility (**SPCF**) will be constructed to pressurise the gas so that it can enter the Amadeus Gas Pipeline (AGP) via a new 35km pipeline called the Sturt Plateau Pipeline (**SPP).**

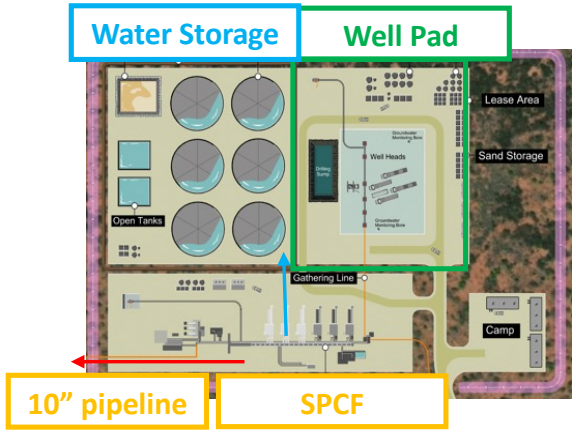
[redacted]

- The gas will likely be sold into the domestic Northern Territory market for NT power supply.
- *Tamboran is seeking consent for the sale of gas for **a minimum of 2 years**, with an option to extend for a period of 12 months.*



Roma North Gas Compression facility
(photo of a similarly sized facility in QLD)

Appraisal Gas Project Overview – sale of 60 TJ per day



Gas and water from first 6 wells from SS-2 pad[1] are piped into the facility via small diameter pipe

Gas is compressed so it can be put in the pipeline to Darwin that is at a higher pressure than our wells – compressor design and number of compressors to be finalized after 2024 well tests

Water is taken out of the gas and put in the storage tanks to reuse

Well Pad

Typical Water Storage Tank

SPCF is the only new addition to our past exploration

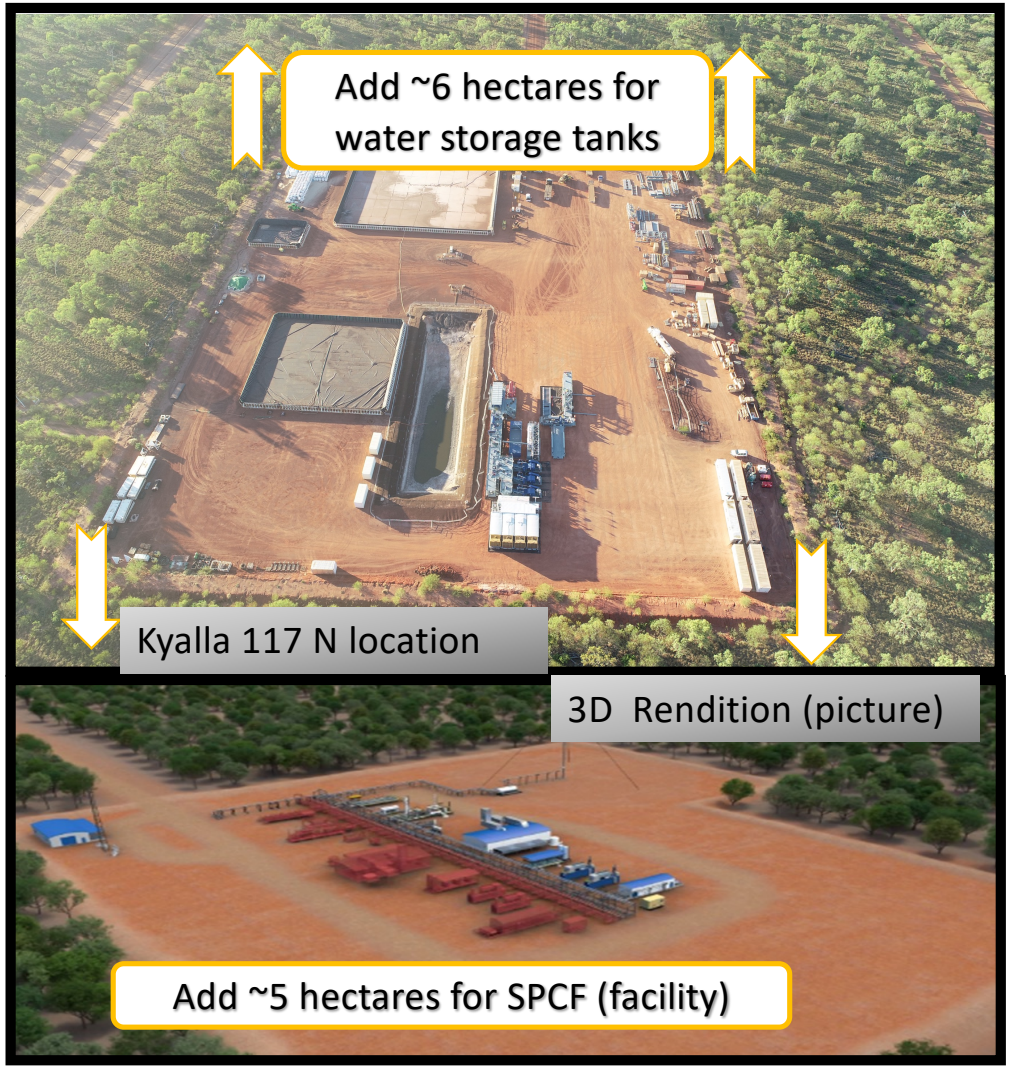
SPCF will look similar to this facility

Roma North Gas Compression facility
(photo of a similarly sized facility in QLD)

There will be a flare line that only operates for safety reasons and plant upsets if needed

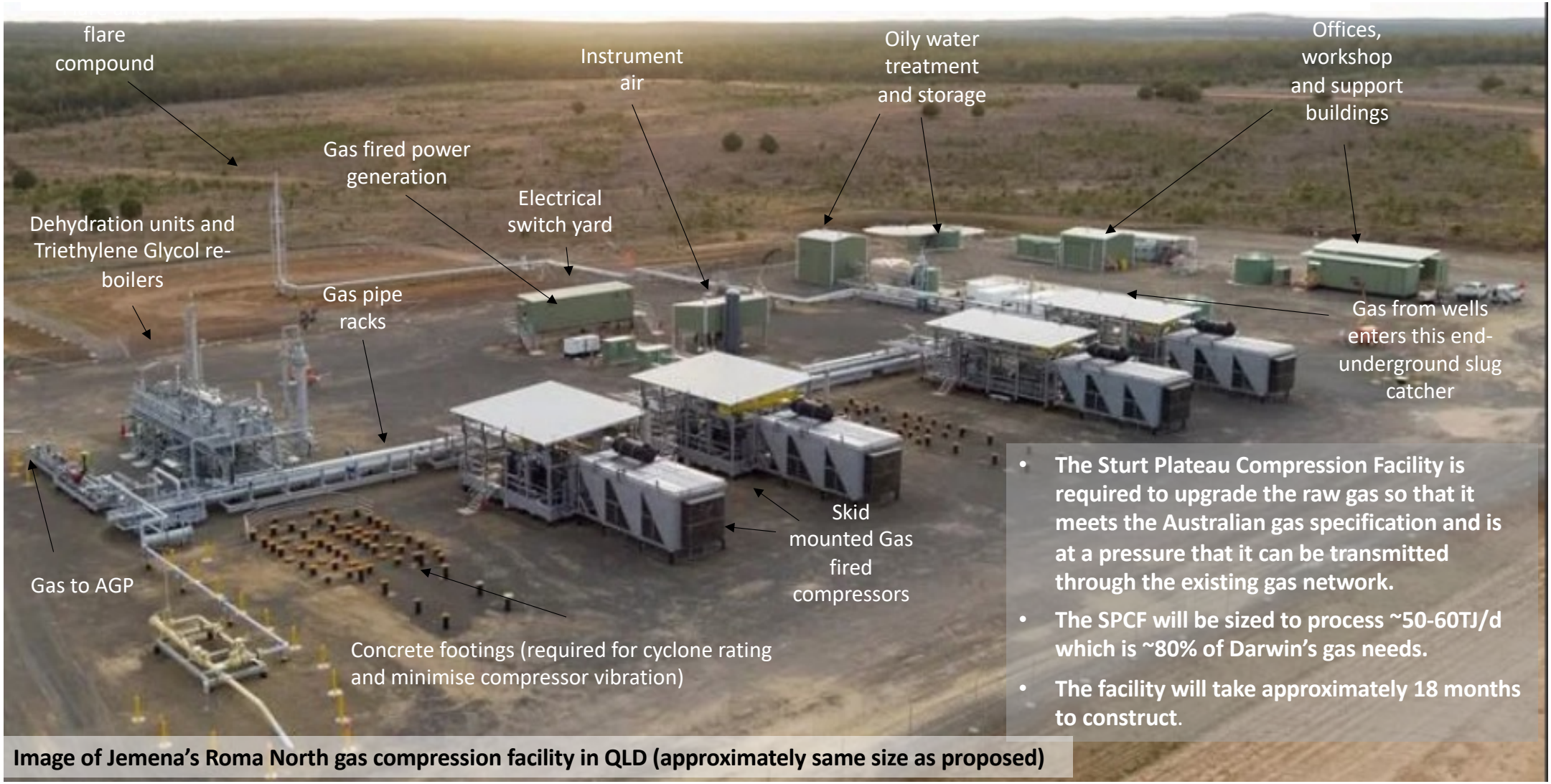
[1]There will likely be additional wells and one or more pads added via gathering lines to the SPCF for testing within the 2 year period after startup and before production commences.

Appraisal Gas Project Overview – Land Use Areas



Existing Exploratory Work	Appraisal Work
Well Pad Construction	Well Pad Construction
Road Access	Road Access
Water Storage	Larger Water Surface Storage needed (~+5 hectares)
Portable small testing equipment only for flaring	Temporary large testing facility that can sell gas
No pipeline	Pipeline corridor needed for ~35 km

Sturt Plateau Compression Facility – overview of equipment

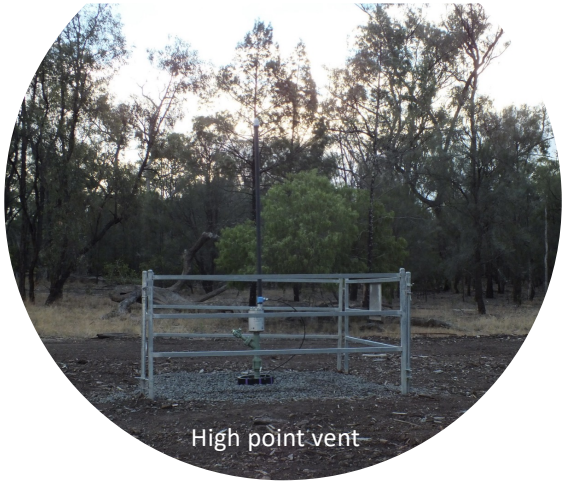


- **The Sturt Plateau Compression Facility is required to upgrade the raw gas so that it meets the Australian gas specification and is at a pressure that it can be transmitted through the existing gas network.**
- **The SPCF will be sized to process ~50-60TJ/d which is ~80% of Darwin's gas needs.**
- **The facility will take approximately 18 months to construct**.

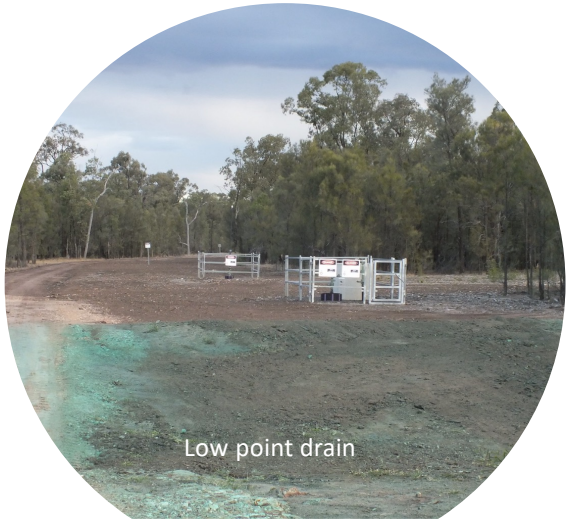
Image of Jemena's Roma North gas compression facility in QLD (approximately same size as proposed)

Appraisal Gas Project Overview: Gathering Lines

- Gathering lines are Gas and Water pipelines
- Future sites will be connected to the Shenandoah S2 location by gas and water pipelines
- These are likely to be buried - though temporary above ground water pipelines may be used (gas lines will be buried)
- Allow gas to be sent to the SPCF and water to wastewater tanks
- Allow wastewater to be recycled between sites to reduce water
- ~14m wide “right of way” with valve pits, low point drains and high point vents


High point vent

Reinstated gathering right of way


Low point drain

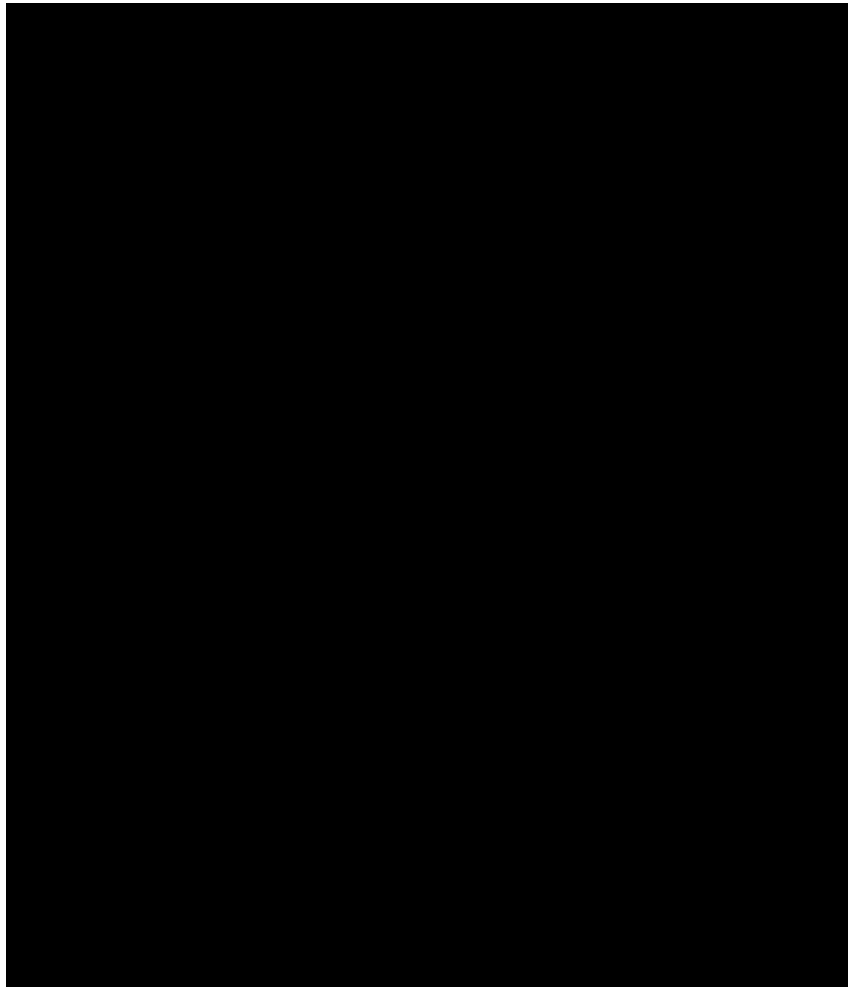
End of Appraisal Gas Project

- At the end of the appraisal phase of the project, Tamboran will either:
    a) remove all facilities, plug and abandon the wells, and rehabilitate the site consistent to surrounding land use, Code of Practice and Exploration Agreement requirements, or
    b) if commercially feasible and once all relevant approvals have been obtained (including ILUA , Production Licence, Environment Protection Act and EPBC referrals, Land access) – transition the facilities to a permanent facility covered under the ILUA.

Example of a site being progressively rehabilitated in QLD

Appraisal Gas Project: Approvals

- Some appraisal gas project information provided to NLC as part of the 2023 and 2024 Sacred Site Clearance requests.
- EMP covering Wells and Gathering Lines has been submitted to DEPWs for approval (Shenandoah South E&A EMP).
- New EMP covering appraisal gas sale and Sturt Plateau Compression Facility planned to be submitted Q2 2024.
- The new EMP will be submitted to the NLC for comment as per E&A agreements and will cover:
    - impact assessments to flora and fauna, noise and vibration, emissions, cultural heritage, groundwater, surface water soils etc.
- NT Environment Protection Act referral is not anticipated.
- Commonwealth EPBC trigger not anticipated.
- Beneficial Use of Gas approval to be submitted to DITT in Q2/3 2024- Tamboran intends to submit a draft version to the NLC 4 weeks prior to submission.
- APA to lead pipeline NTH and EP Act approvals.



Stuart Plateau Compression Facility: EMP

- New EMP covering the construction and operation of the of the SPCF and Appraisal Gas Sale at the Shenandoah S2 location
- EMP currently being drafted, with sacred site clearance scheduled for 2024 (via NLC)
- Main Environmental aspects and controls:
  - **Minimise Air emissions-** Low NOX compression, leak detection and minimization of venting/ flaring
  - **Minimise Noise-** using exhaust silences on compressors, large separation distance to sensitive receptors
  - **Eliminate and reduce GHG emissions-** 90% reduction compared to flaring.
  - **Minimise impacts to groundwater-** existing WEL with small 10-20Ml water used for construction. No impacts to quality of water resources
  - **Minimise Disturbance-** 5ha- use of existing laydown to be used for proppant storage
  - **Prevent Bushfire -** firebreaks, separation distances and fire detection
  - **Safely manage wastewater-** oily water separation and treatment to remove oil residue from compressors
  - **Reduce erosion and sediment releases-** erosion and sediment controls in place to prevent erosion
  - **Minimise impacts to fauna and stock-** site fenced to prevent animal and livestock access
  - **Prevent and manage weeds -** all equipment and vehicles washdown and certified weed free
  - **Protect sacred sites- a**ll areas cleared by NTH to ensure no impacts
  - **Undertake rehabilitation –** all sites to be rehabilitated to pre-disturbance levels


Compression facility under construction


Newly constructed compression facility

Native Title Holder Consent for Sale of Appraisal Gas

- Tamboran is seeking NTH consent for the sale of up to 60 TJ/day (21.9bcf) of appraisal gas from Tamboran's Beetaloo Joint Venture Project which includes:

    - Construction and operation of the Sturt Plateau Compression Facility (SPCF) for the intention of selling appraisal gas.

    - Sale of appraisal gas from the SPCF into the proposed Sturt Plateau Pipeline (SPP) for a minimum of 2 years upon commencement of sale from the SPCF - including a mechanism for a 12 month extension.

    - It is proposed that the appraisal gas consent applies to the point of sale of appraisal gas from the SPCF facility - with proposed wells and well sites approved under the standard annual work consent process.

- All Appraisal Infrastructure to be located in the area of the Exploration Permits will be of a design that is temporary/semi permanent and not of a scale sufficient to support full petroleum production activities that might otherwise be carried out on a granted petroleum production licence. However, some infrastructure may be retained and converted into parts of future Production facilities subject to additional approvals.

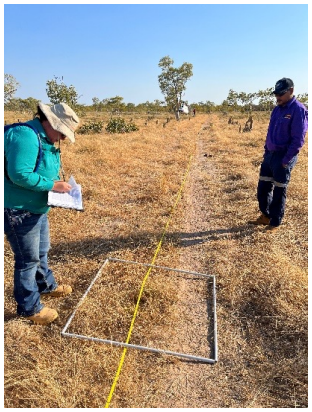
Native Title Holder Benefits and Opportunities

- Tamboran wants to understand what NTHs would like to see from the Appraisal Gas Project.
- Maximising the number of NTH opportunities during the appraisal gas sale program will be a focus of the project which Tamboran would like to work on with NTHs.
- An increase in activity in the region will increase the number of longer-term employment positions and the ability for Tamboran to include higher Traditional Owner targets in our contracts.
- Tamboran has recently filled the Logistics Role and is working with our camp contractor to potentially engage a local cleaning contractor.

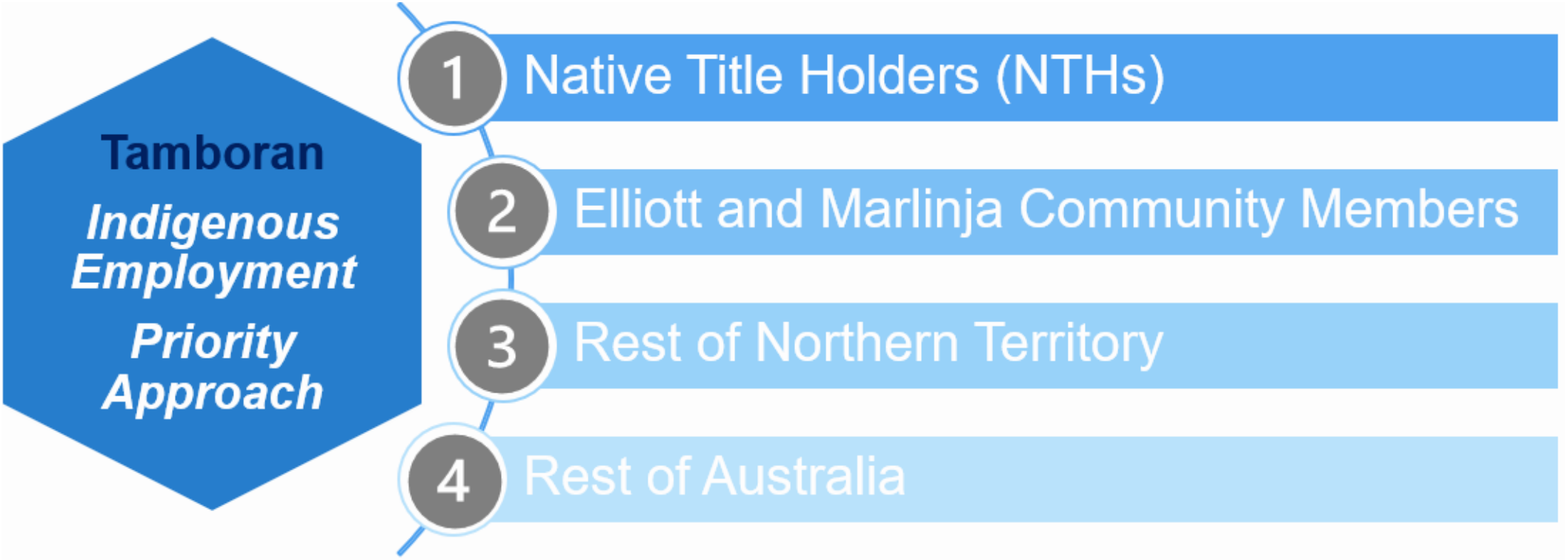
- Near-term opportunities within appraisal gas sale include:
  - Pipeline and compression facility construction related jobs.
  - Operational roles (field maintenance and operators).
  - Pre-clearance scouts and cultural management services.
  - 3D seismic field support
  - Camp and accommodation support.
  - Transport and logistics support.
  - Waste management services.
  - Weed inspection and washdown services.
  - Water sampling and monitoring.
  - Gas leak detection

Local employment opportunities

- <u>What has happened so far:</u>
- Since late 2022 Tamboran took over the Beetaloo Project and has been focused on continuing the implementation of a range of Indigenous business opportunities covering:
  - Ongoing waste management support
  - Site inspection and maintenance
  - Security services
  - Weed monitoring and management
  - Groundwater monitoring
  - Equipment gas leak detection
  - Field scouting and rehabilitation monitoring (Cultural managers/ tradition knowledge holders)
  - Hire vehicles

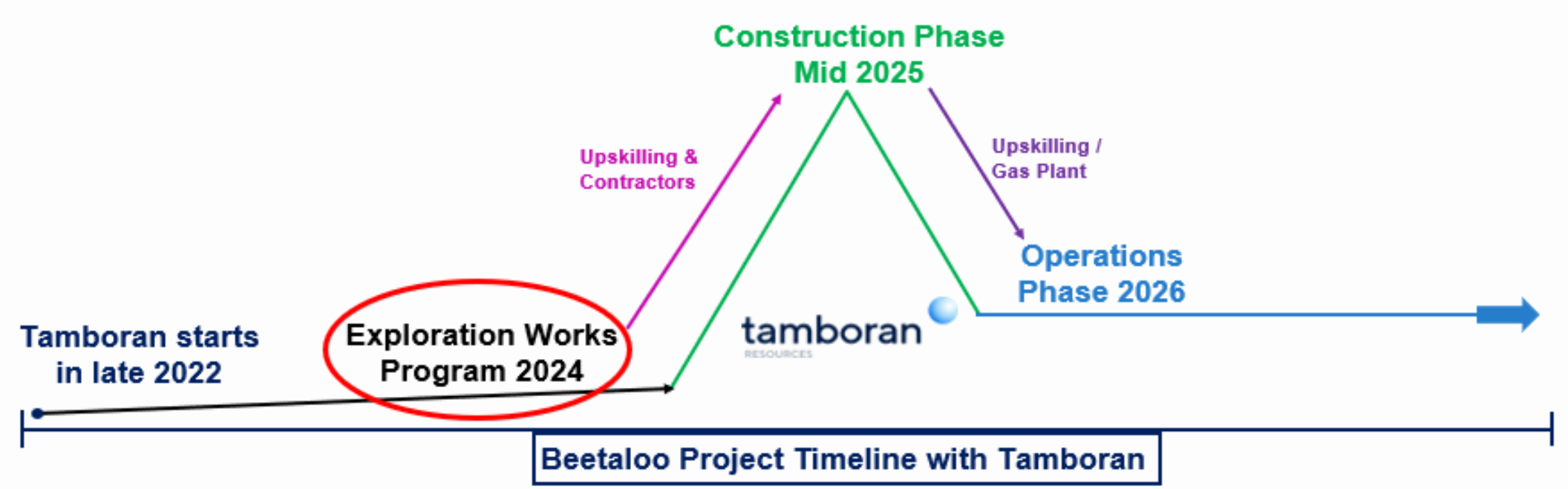


Local employment opportunities -TIEPA



- **TIEPA to prioritise candidates when equally capable**

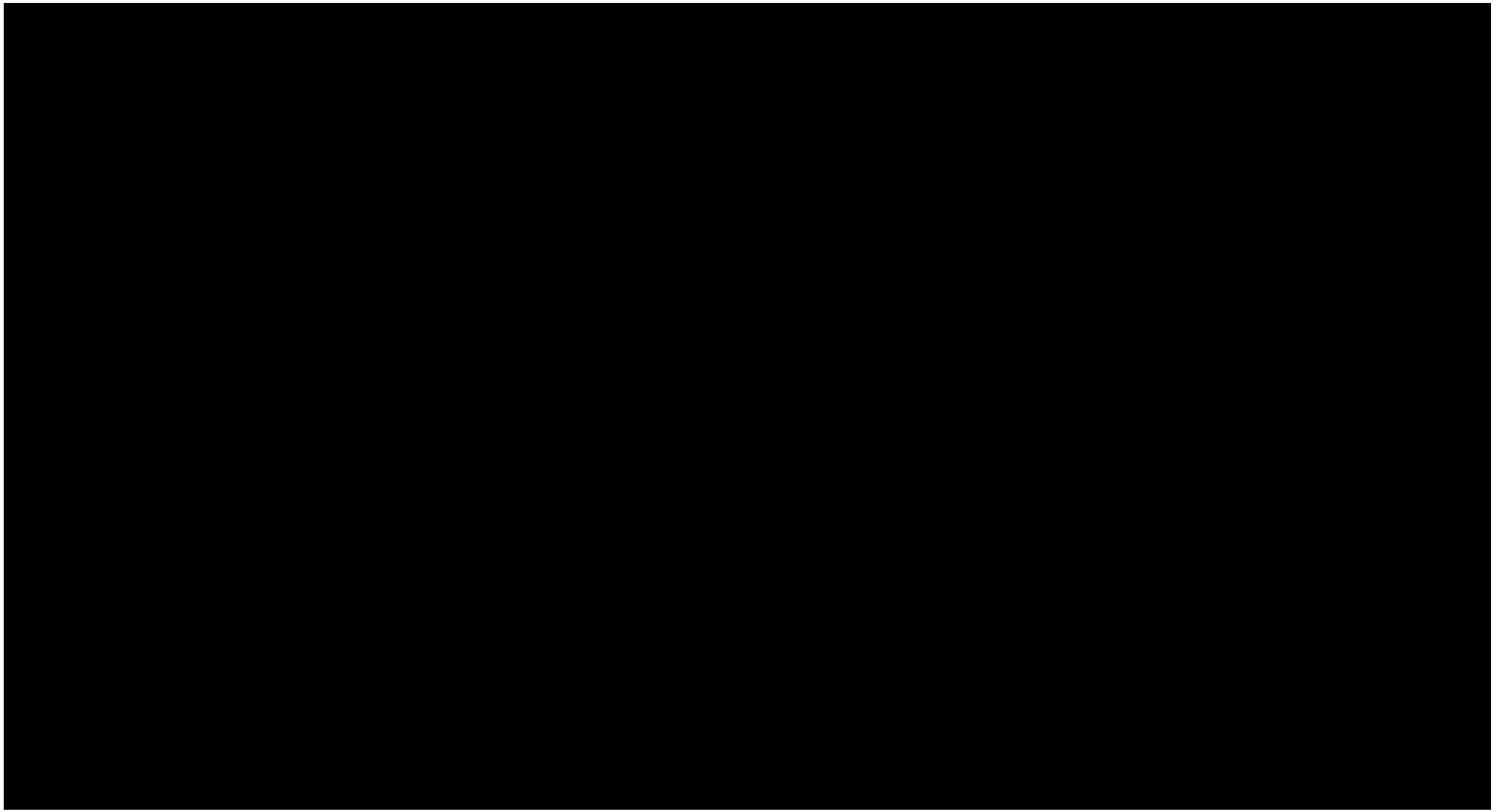
Local employment opportunities - appraisal to production



Local employment opportunities – 2024 Work Program

Tamboran upcoming entry level positions opportunities over the next couple of months for the 2024 Work Program

Position	Description	Vacancies	Duration	Tentative start date
Site Security	Security day/night, visitors check, weed and seed, etc.	3 contractor positions on a roster (TBC)	2024 Program	June/July
Site Camp Ops (Camp Contractor)	Cleaning and maintaining camp	4 contractor positions on a 2x2 week roster	2024 Program	June/July
Logistics support	Daly Waters Yard work	1 position with Tamboran on a 2x2 week roster	2024 Program	June/July
Seismic campaign	Trade assistant role seismic nodes deployment	2 to 4 positions with contractor – campaign based	2024 Program	October/November



QLD Site visit

- 4 day Site visit to Origin's QLD CSG field to visit gas compression facilities
- Anticipated timing: Late May- 27th
- 2 Gas fields visited; Spring Gully and Reedy Creek

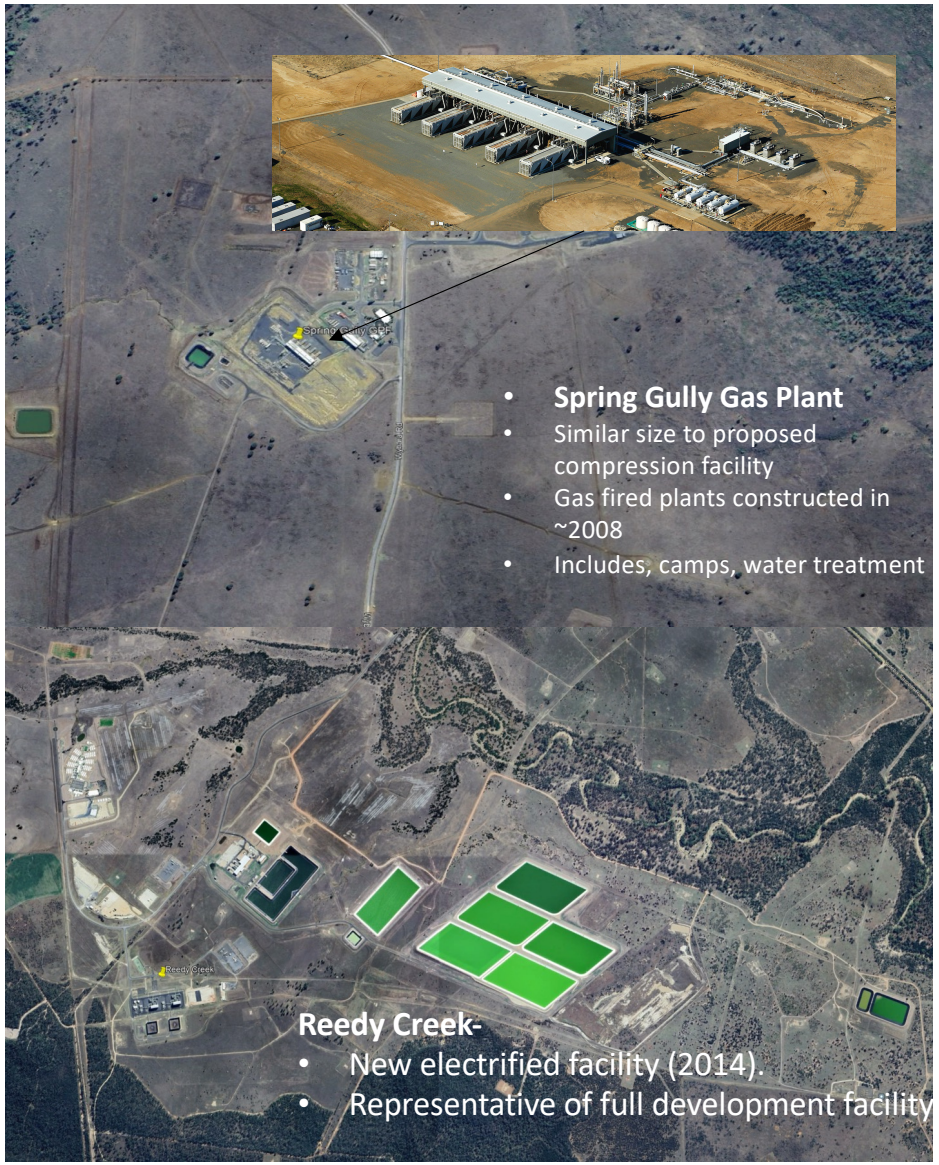
Spring Gully:

- Small gas fired compression, gathering and larger electrified gas plant
- Similar to the scale of the Sturt Plateau Compression Facility

Reedy Creek

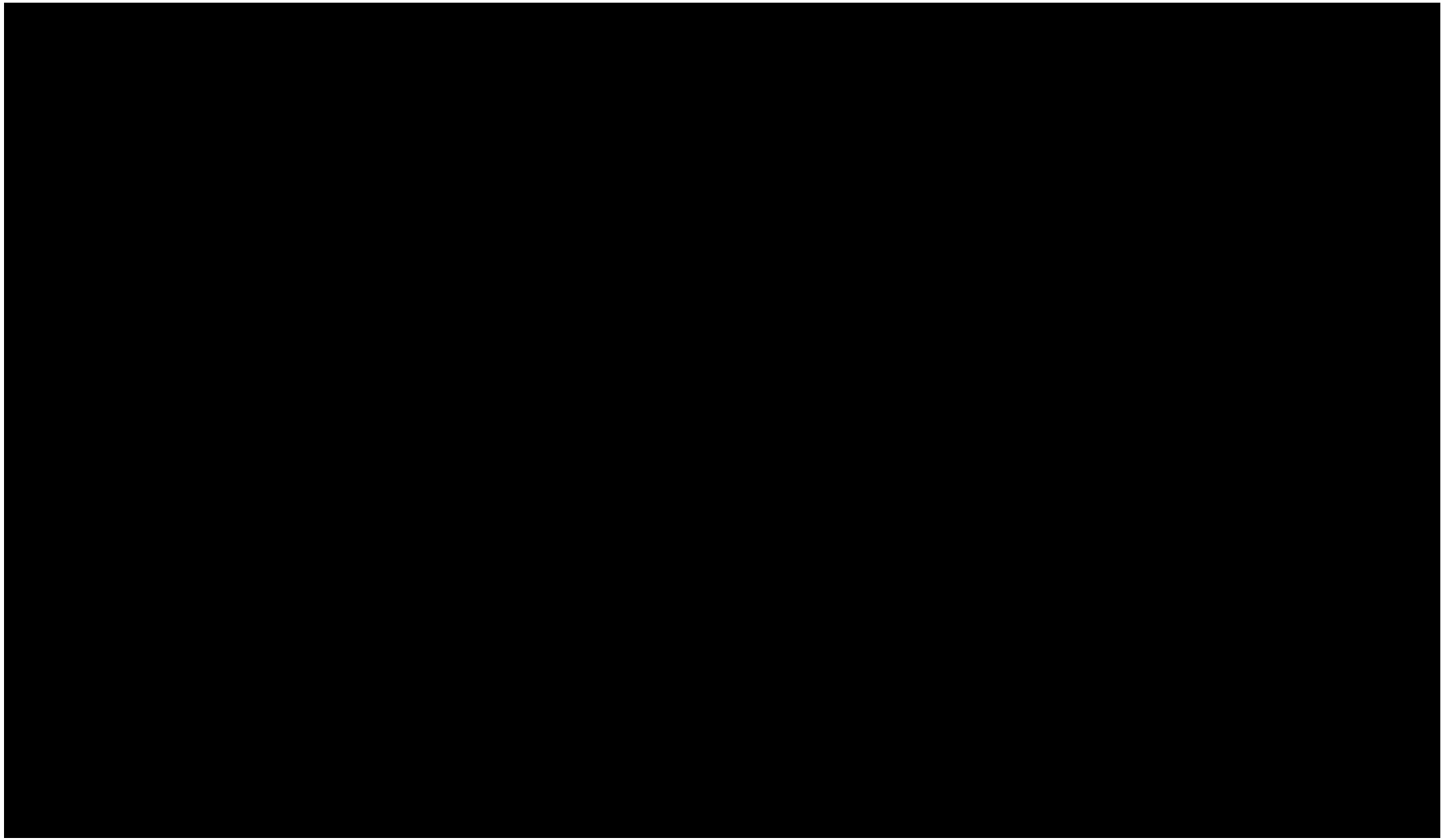
- New electrified facility with camps, warehouses, gas plant and water management

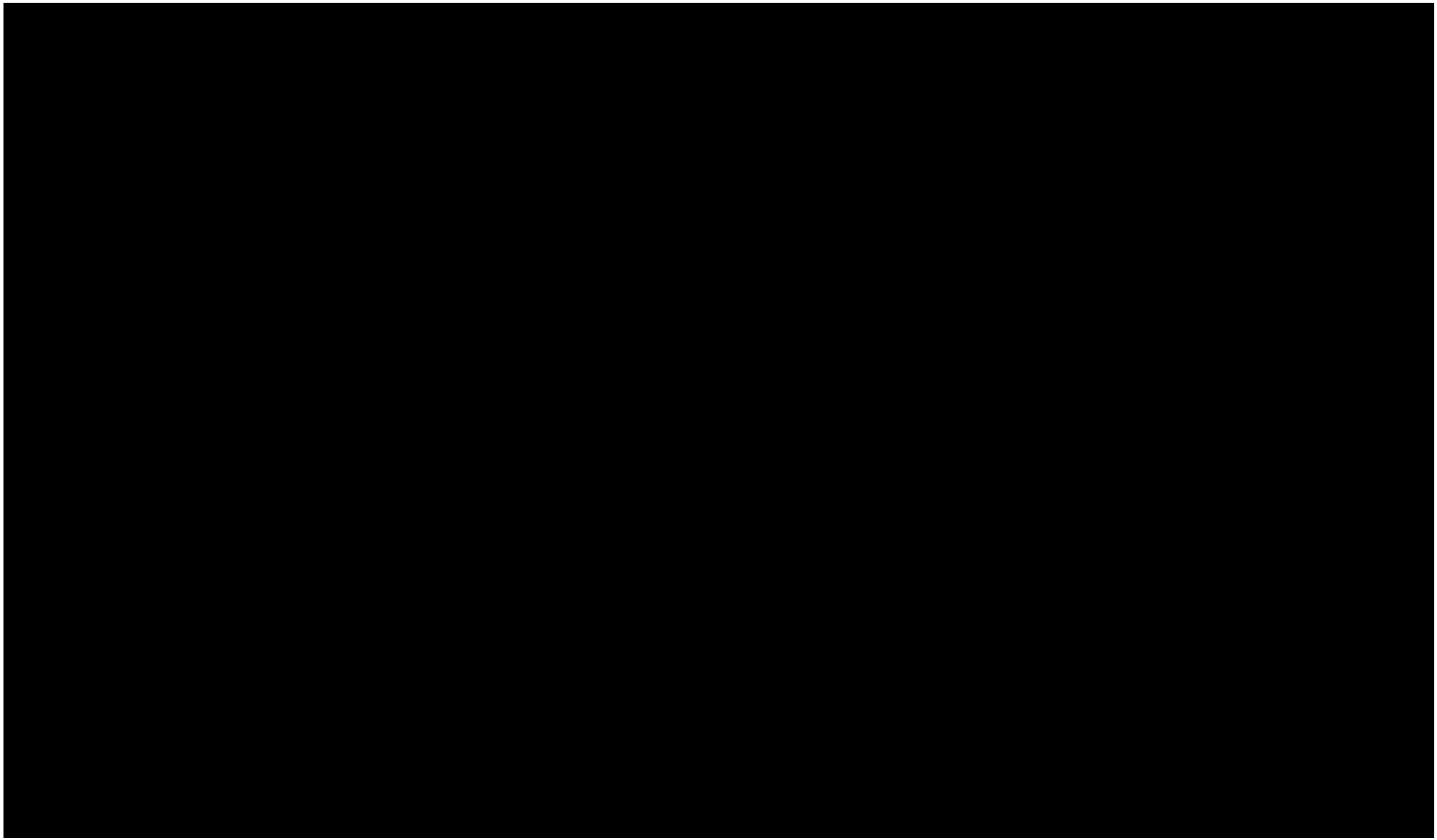
- Draft itinerary:
  - Day 1: Katherine (or Darwin) to Roma via Charter (to be confirmed)
  - Day 2 Roma to Spring Gully (staying Roma) (1 hour each way)
  - Day 3Roma to Reedy Creek to Roma (1 hour each way)
  - Day 4 Roma to Katherine

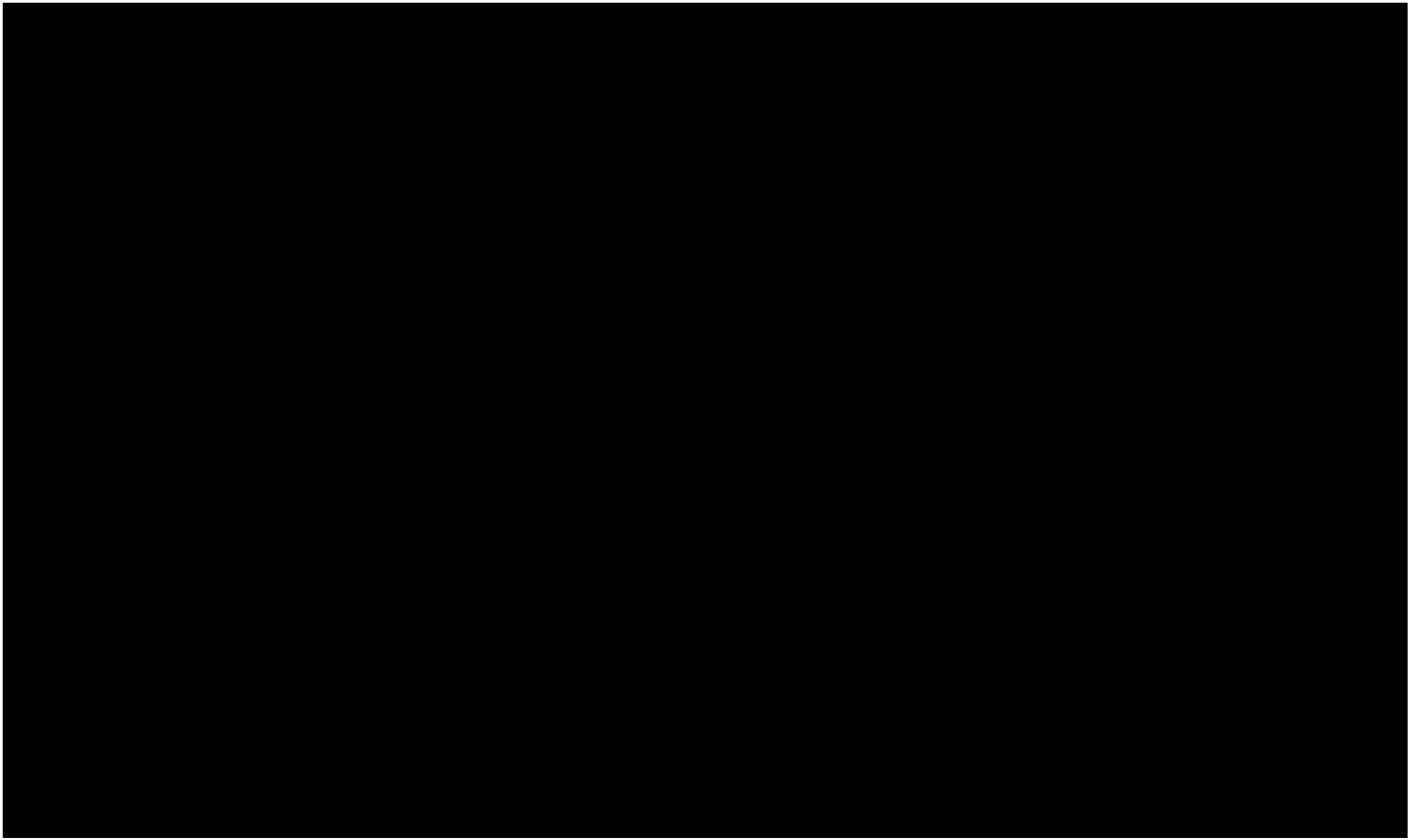


Next Steps

1. Listen to NTH feedback and answer questions about the Project and what NTHs may want to see from the Appraisal Gas Project.
2. Progress drafting of Term Sheet with NLC and lawyers
3. Organise QLD Site Visit: Spring Gully and Condabri/Reedy Creek Facility and potentially the Atlas facility (owned by Jemena)
4. Tamboran continue working on Appraisal Gas Approvals
5. Legal drafting to commence on Appraisal Gas Agreement
6. Authorisation and consent from Native Title Holders







Appendix J.1.2 15 240509 Tamboran Beetaloo Joint Venture Project Work Program and Appraisal Gas Information Meeting Elliott 9 May 2024

Tamboran Beetaloo Joint Venture Project
Work Program and Appraisal Gas Information Meeting

Elliott

9 May 2024

Kyalla 117 N2- NORTHERN TERRITORY AUSTRALIA

Purpose of Work Program Meeting

- Talk through what exploration activity has occurred on the Exploration Permits throughout 2023
- Talk through the results of 2023 Exploration Activity
- Provide an overview of the exploration activity planned for 2024
- Provide an overview of the new 2024 EMP’s
- Talk about appraisal gas sale
- Talk about future Government approvals, including cultural heritage clearances that will require consideration from Native Title Holders

About Tamboran

Introducing Tamboran

We are a publicly listed Australian company with our headquarters in Sydney and staff across Australia and the USA. We are committed to creating value for our shareholders, communities, Territorians and Australians by appraising and developing the gas resources of the Beetaloo Basin. We strive to follow and exceed the example set by Origin in community engagement since 2014 and will continue to focus on economic, development and employment opportunities for Native Title Holders and local communities.

Our Vision

To play a role in the global energy transition by investing in the development of low CO2 unconventional natural gas resources in the Beetaloo Sub-basin of the Northern Territory of Australia and to become a Net Zero carbon emissions gas producer for our equity share of Scope 1 and Scope 2 emissions when the Company achieves commercial gas sales.

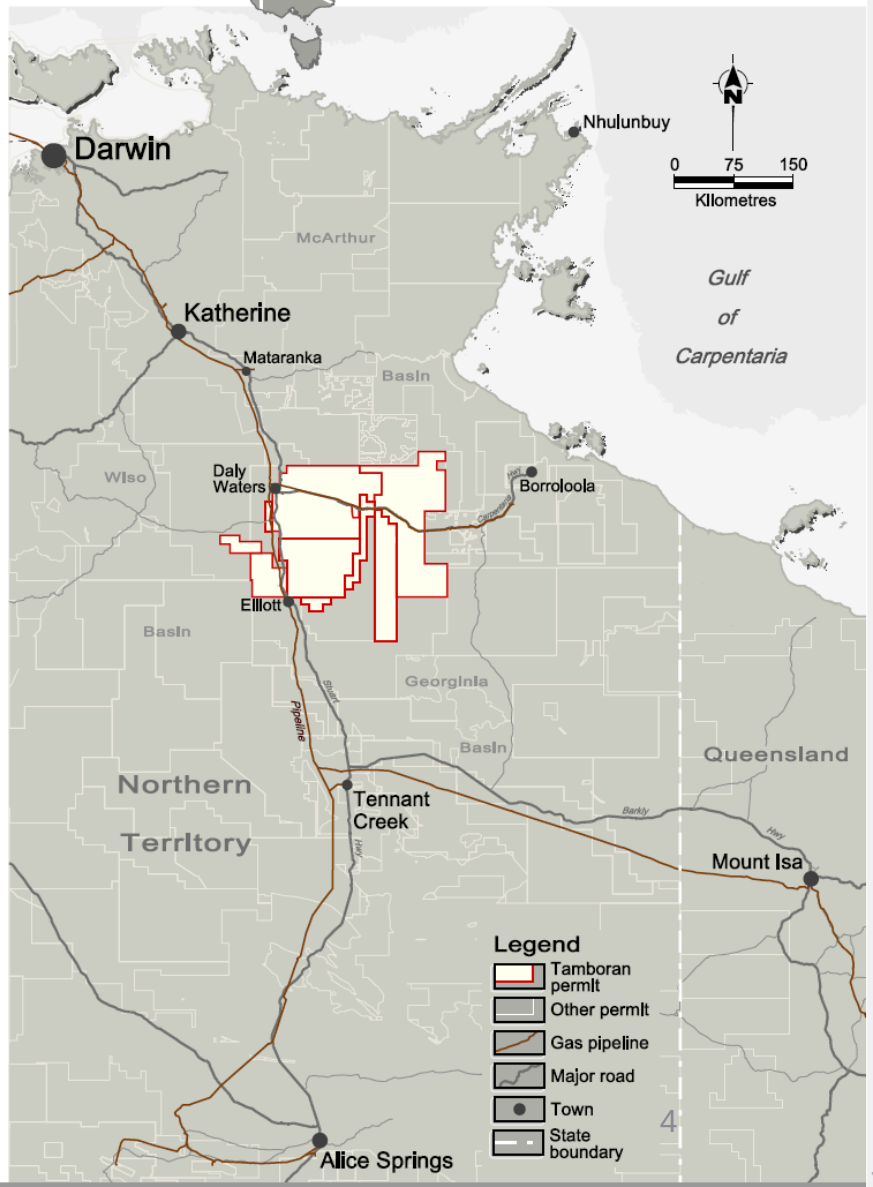
Strategy

- Target is to become a Net Zero equity Scope 1 & 2 emissions producer
- Focused, high growth Beetaloo strategy
- High quality assets with significant scale
- Low-cost development targeting multiple markets, premium pricing
- Expertise in unconventional E&P development

Sustainability

- Health & Safety
- Climate Change
- Environment
- People
- Community
- Economic Sustainability

tamboran RESOURCES



2023 Work Program Summary

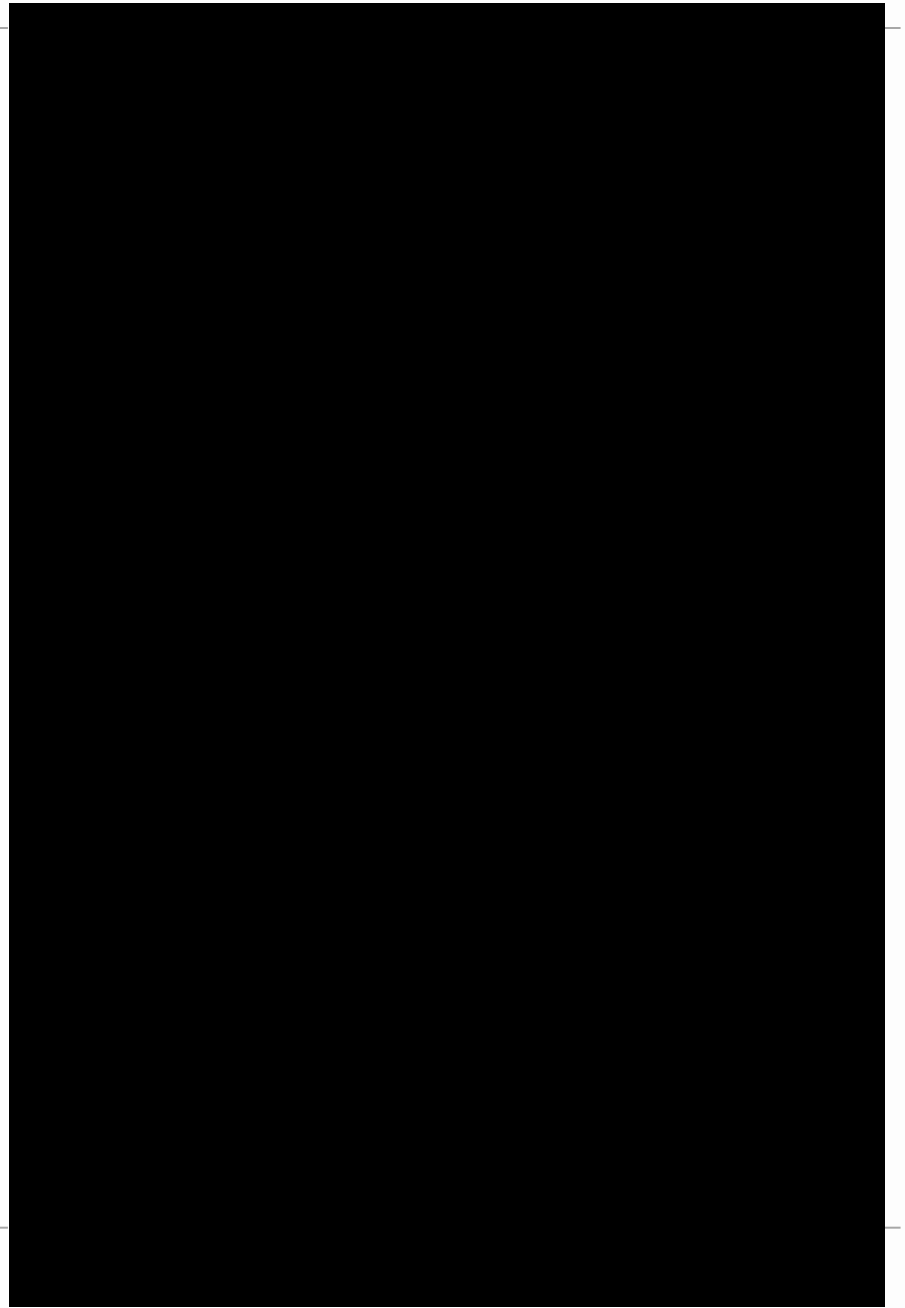
Operations update – 2023 was a big year for the Beetaloo

Key Exploration Results

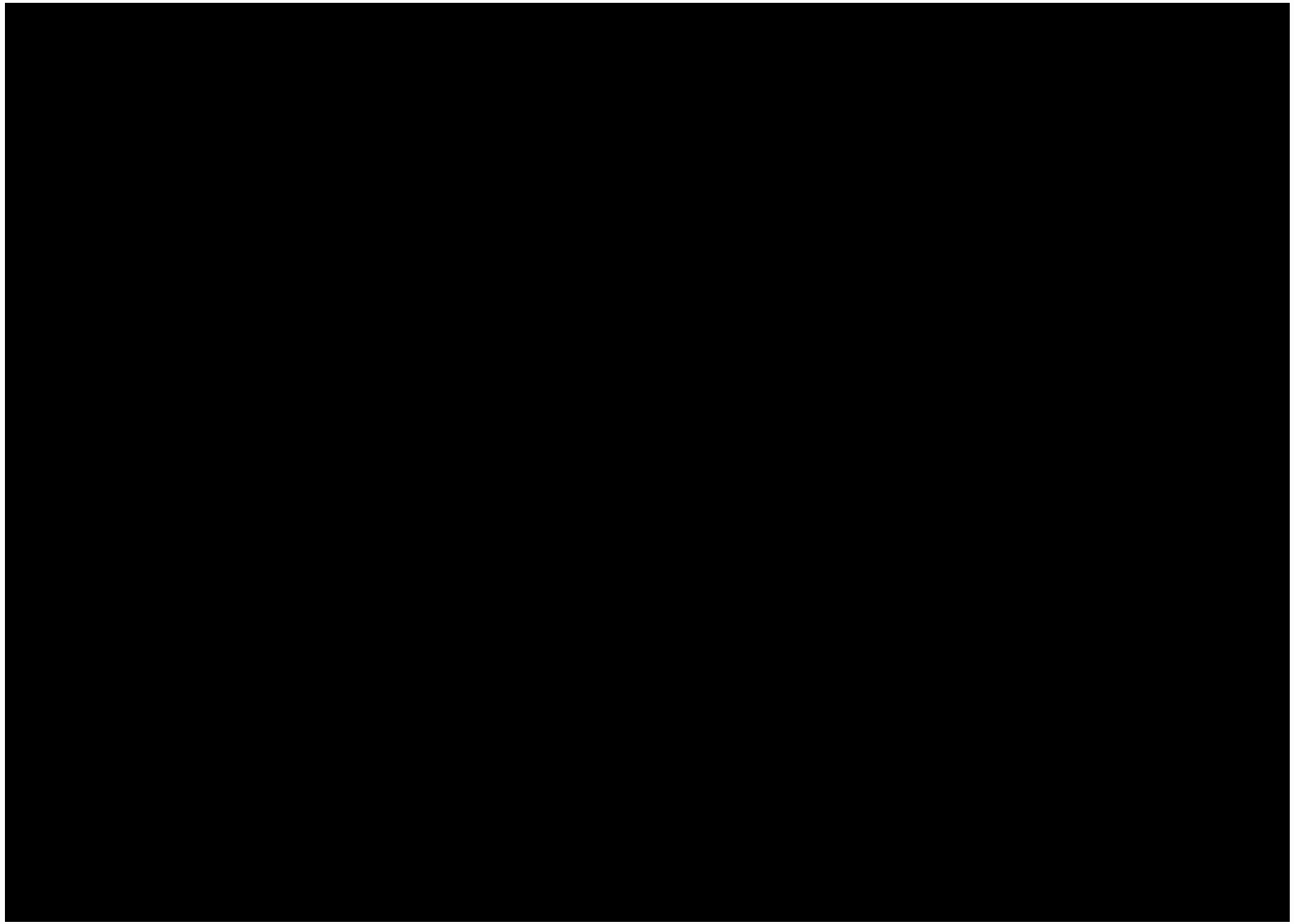
- Tested the Amungee NW 2H well
- Drilled the Amungee NW 3H well; moved to Shenandoah S area
- Shenandoah S 1H well was successfully drilled, stimulated and tested with economic flow rates of 6.4mmcfd / 1000 m of lateral - **a very good result.**

Setting the project up for success

- H&P rig mobilised the super-spec FlexRig® Flex 3 Rig (2023)
- Entered an agreement with Liberty Energy to bring in modern frac fleet (2024)
- Applied to increase in Water Extraction Licence Volume from 175ML to 450ML
- Extractive mineral exploration licences (~14) submitted to find sand (2024)
- 2024 EMP needs to be approved by minister on in mid-May for activity to commence



Roadmap to production recap



2024 Proposed Work Program

Proposed 2024 Work Program

Existing approved scope

- Continue well testing the Shenandoah S-1H well (already approved)

New scope under the Shenandoah South E&A EMP:

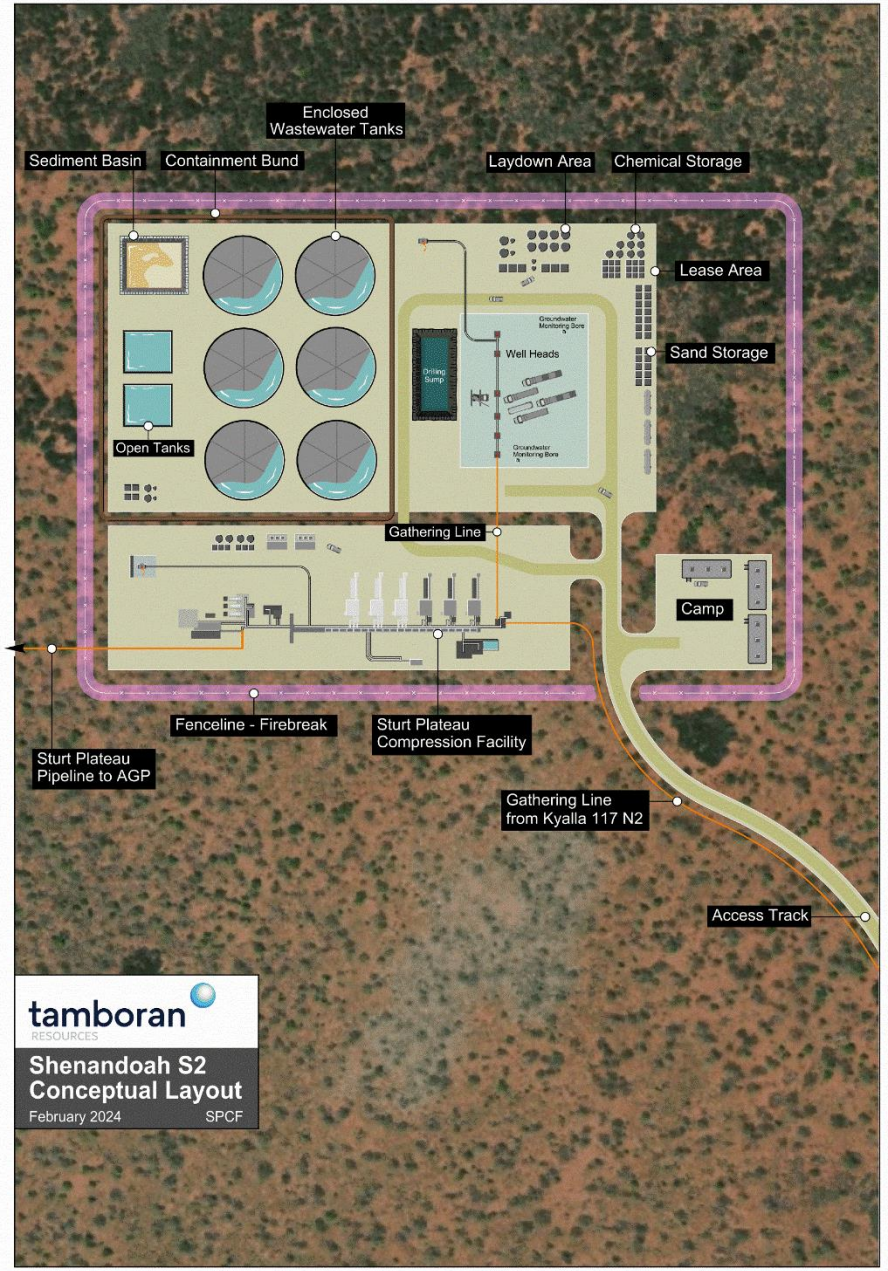
- Construct the new Shenandoah S2 location (civils and water bores)
- Drill, stimulate and well testing of 2 new wells on the Shenandoah S2
- Construct the new location Shenandoah North A and drilling of a new E&A well (contingent)

[redacted]

- Sturt Plateau Compression Facility EMP covering appraisal gas sale and compression facility

Shenandoah South 2 Construction

- Construction of new Shenandoah S2 including lease pad, camp pad, gravel pit, access tracks and laydown yard
- Located ~3.5km NW of existing Kyalla 117 N2
- Land clearing and civil construction to support activities (~20-25 hectares)
- Drilling water bores (4-6 bores)
- *Images from the Beetaloo*




Lease pad being constructed with water bore being drilled


Drill sump being dug


Access track being maintained/ upgraded

Drilling, stimulation and testing 2 new horizontal wells

- Similar activities as before- with larger horizontals
- Drilling of 2 new 3000m horizontal wells on Shenandoah S2
- Stimulation and well testing up to 360 days
- Wastewater storage and evaporation (4-6 tanks)

Images from the Beetaloo project

tamboran RESOURCES

Shenandoah North A

- Located within Subject Land 1
- Construction of new 3 ha Shenandoah NA including lease pad, camp pad and access tracks, land clearing and civil construction
- 2024/2025
- Drilling water bores (1-2)
- Drilling of a vertical stratigraphy well
- Example provided is Amungee NW 1 being drilled

Drilling rig

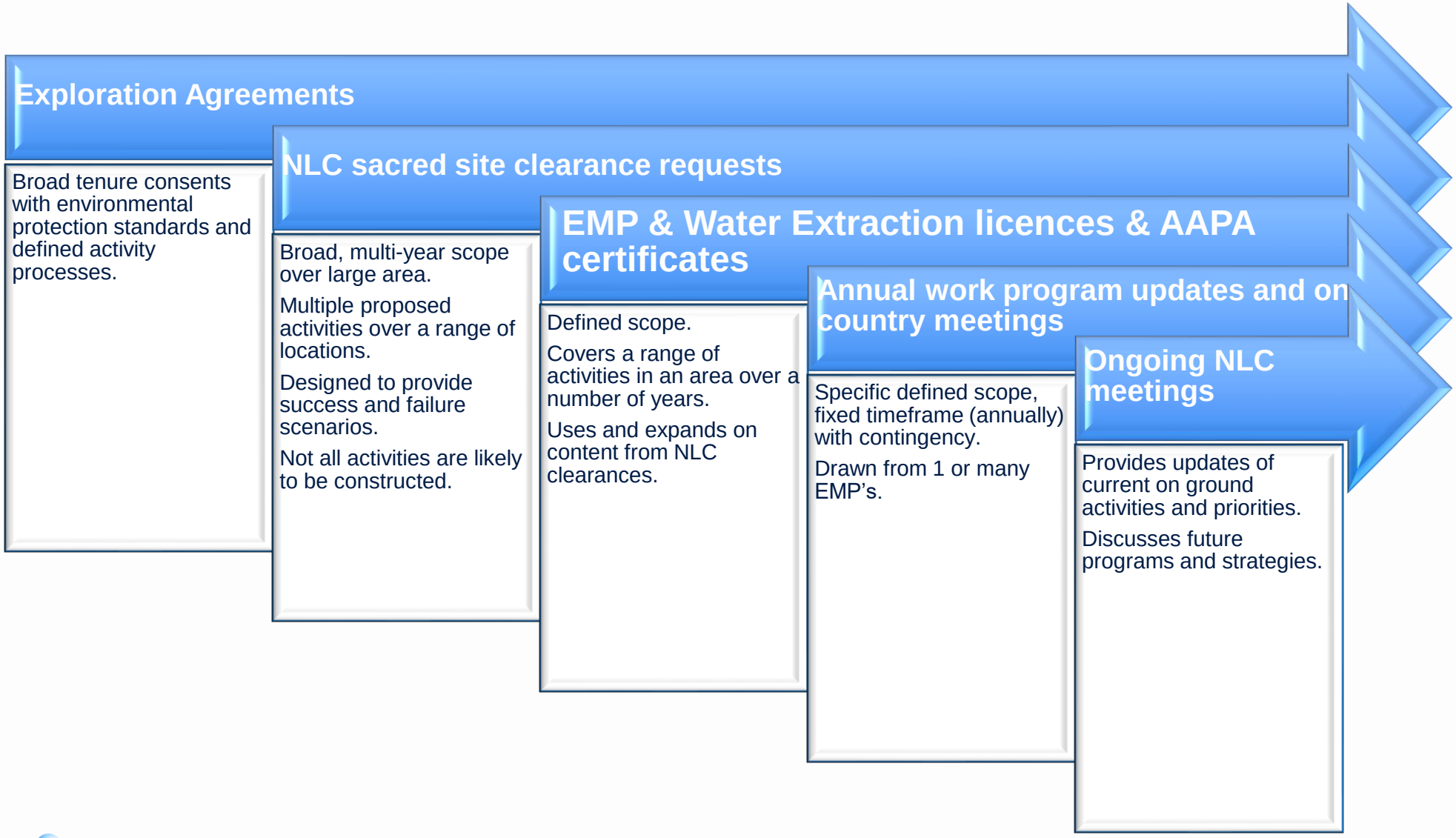
Approvals- Environmental Management Plans, Water Extraction Licences and Beneficial use of Gas Approvals

Other regulatory approvals

- Tamboran continues to consult with the NLC in obtaining the relevant approvals required for its Explorational and appraisal Activities.
- Key approvals for 2024 include:
  - Shenandoah South Exploration and Appraisal Emp
  - 3D seismic EMP within Shenandoah South EMP- (June 2024)
  - Sturt Plateau Compression Facility and Appraisal Gas Sale- (Late May/ June 2024)
  - Gum Ridge [redacted]Water Extraction Licence (May 2024)
  - Appraisal Gas Compression Facilities construction and operation

We will discuss these in the following section

Environmental approval engagement process



Shenandoah South Exploration and Appraisal EMP

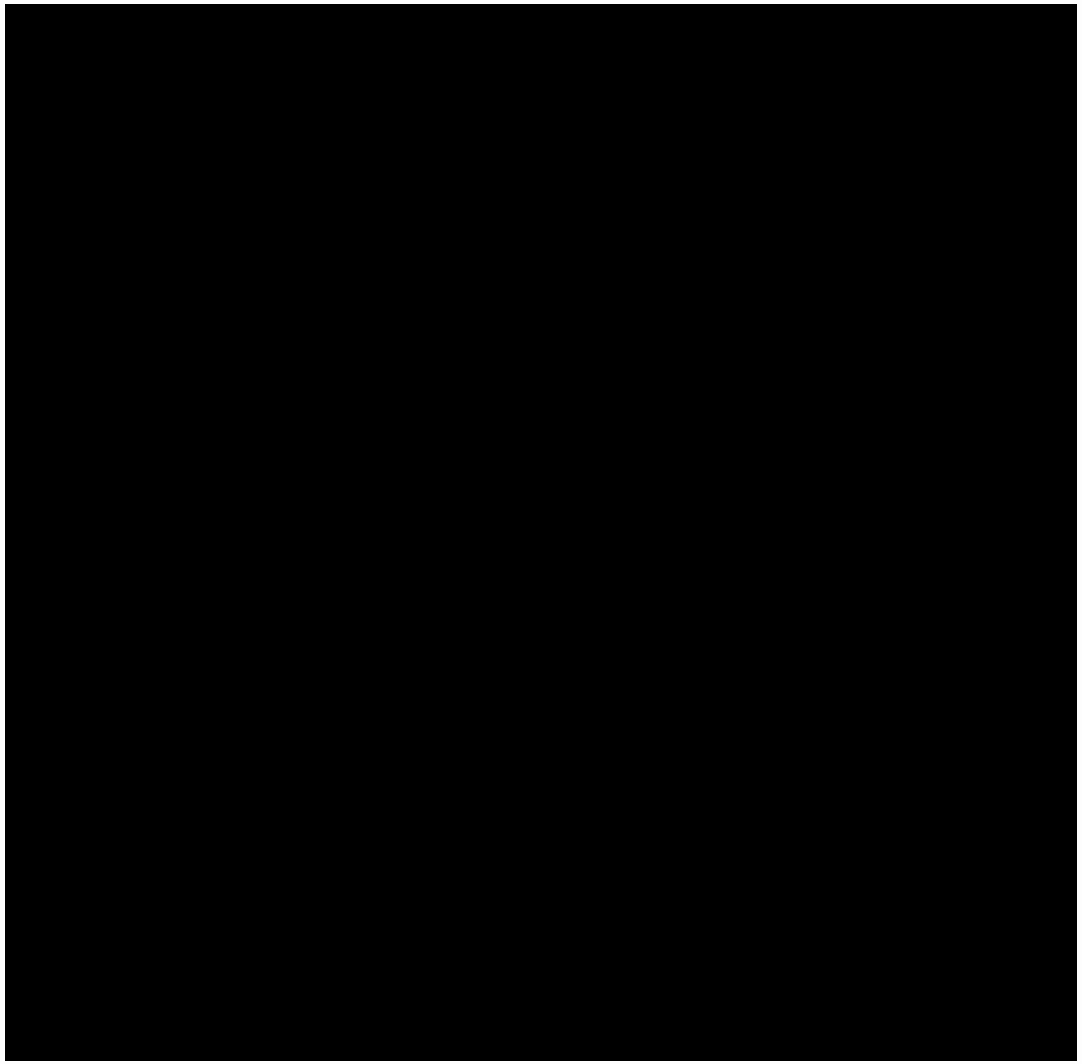
Shenandoah South E&A Program EMP

— New Environment Management Plan (EMP) covering activities in Subject land 2 (existing Kyalla 117 N2 area) and Subject Land 1.

— Similar activities as previously completed (drilling, stimulation and well testing) **spread over 5 years- Work program 2024 falls under this EMP, as will future works in 25/26.**

— Activities include:

- **Subject Land 2:**
  - 2D seismic program (76KM) (different form 3D seismic)
  - 3 new exploration locations; Shenandoah S2, Shenandoah S B and Shenandoah S C
  - Extension of Kyalla 117 N2 location
  - Drilling ,stimulation of 15 new E&A wells
  - Gathering lines connecting sites to allow for water and gas transfers
- **Subject Land 1:**
  - 1 new exploration location at Shenandoah North A



EMP Engagement with NLC and NTHs - a long and ongoing process

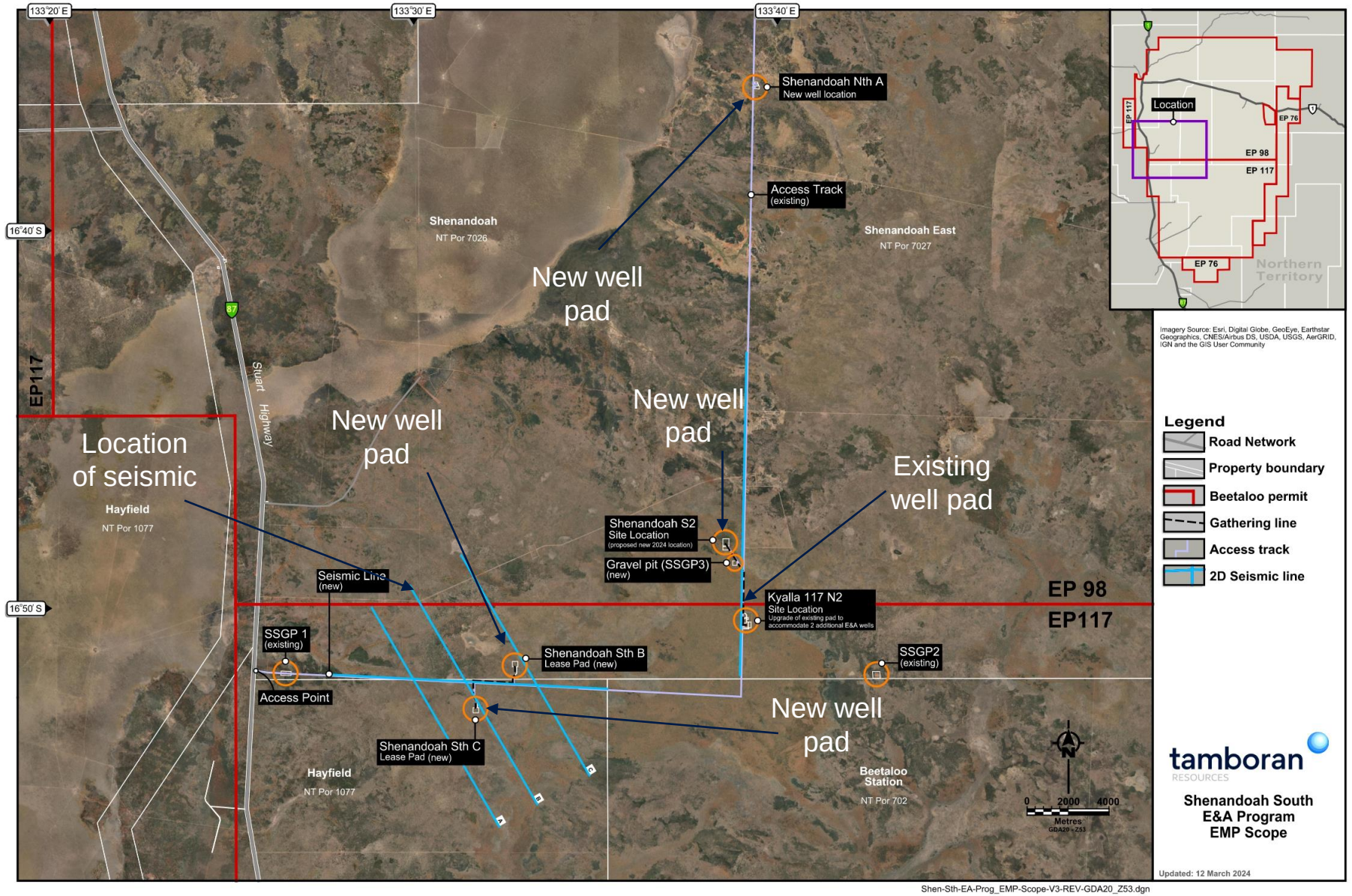
On country meeting with Native Title Holders to confirm 2024 Work Program scope and ongoing engagement on the EMP

Tamboran will continue to engage on exploration activities and scope

Why we are here today

Location of sites and well pad

- Sites located within Exploration Permit 98 and 117
- Site are about 30km from Dunmarra
- 80km from Elliott
- 25km from Jingaloo



Summary of what is new in the Shenandoah South EMP

New sites

- Construct up to 4 new exploration and appraisal sites and associated infrastructure (camps, access tracks and laydowns)
- New disturbance of ~75 hectares

Civil construction of Kyalla 117 N2 in 2019

Extension of Kyalla 117 N2

- Expansion of existing Kyalla 117 N2 well pad-
- New Disturbance of 4 hectares

Velkerri 76 S2 construction underway

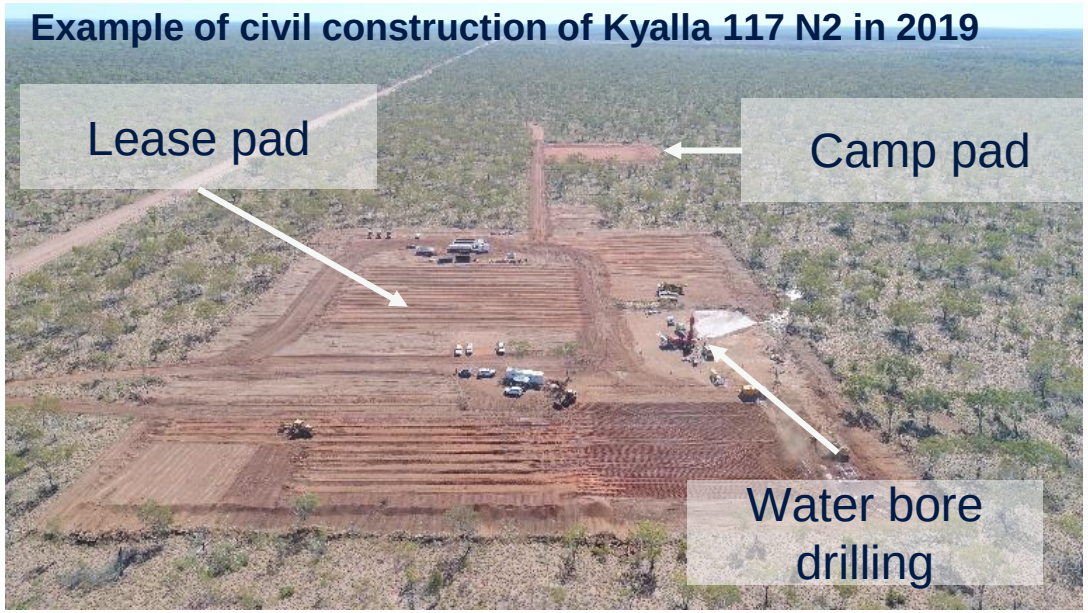
Drilling of water bores

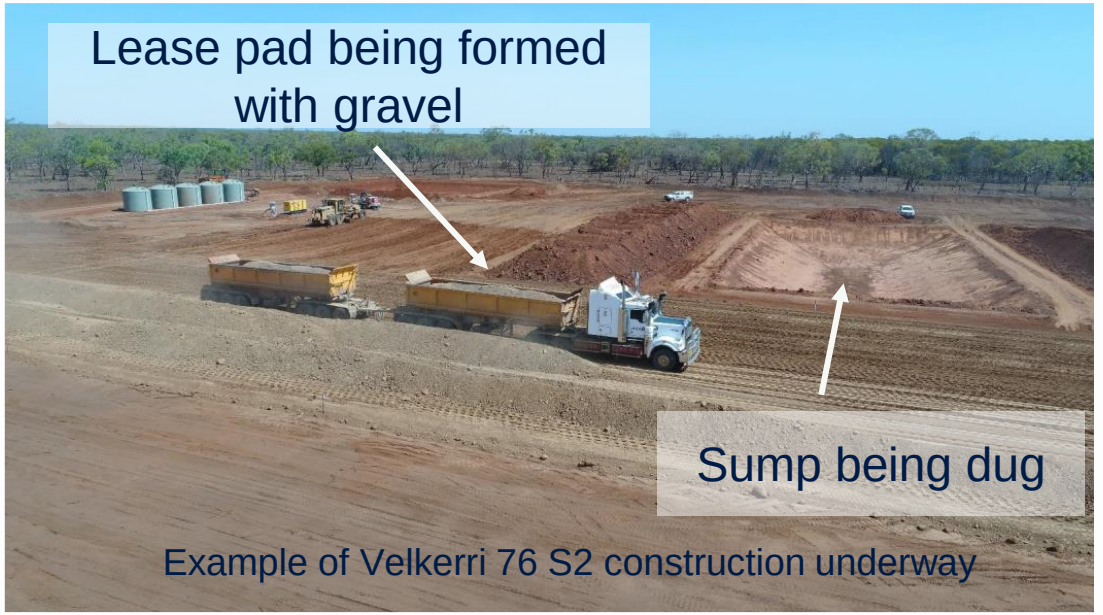
- Up to 10 water bores at each site to monitor and extract water groundwater

Clearance scope- civil construction

Each site will contain a lease pads, camp pad, helipad, laydown and firebreak

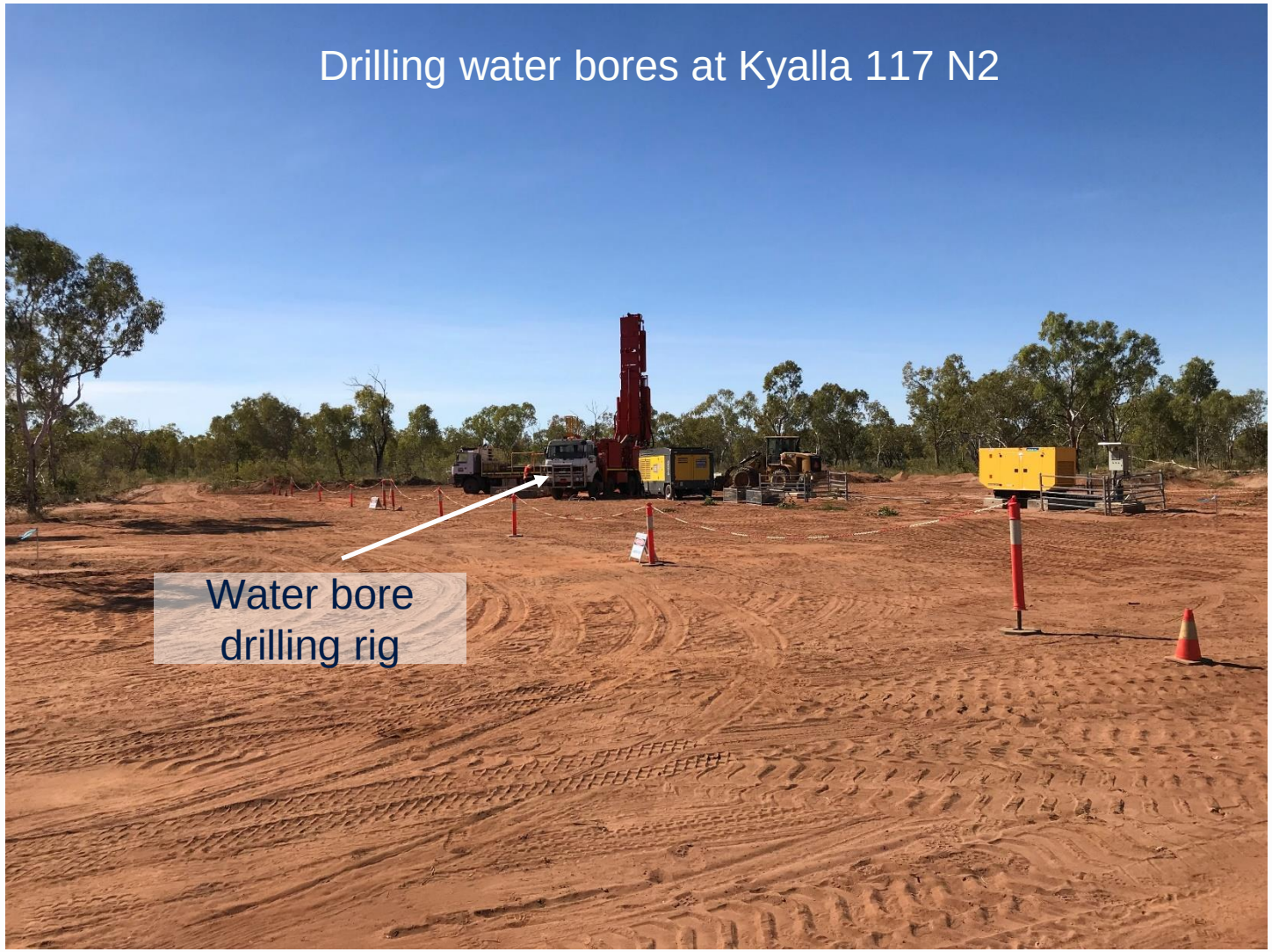
- Each site will have up to 25 ha of clearing
- Earthmoving equipment used to clear vegetation and complete earth works
- Topsoil is stripped and stored around edges of lease pad or in stockpiles for use in rehabilitation
- Sumps that will contain drilling fluids and cuttings excavated down and lined to hold all water
- Sediment basins constructed on lease pads to manage stormwater water collected
- Total new disturbance up to 150 hectares (total for all sites)





Water and monitoring bore drilling

- Up to 10 water bores at each site to monitor and extract water groundwater
- Bores are typically one of the first activities to occur on a site.
- Bores constructed in accordance with the Minimum construction requirements for water bores in Australia standard
- Monitoring of the water quality and level will be completed before and after stimulation to demonstrate contamination has not occurred



Access track construction

- Maximise use of existing tracks to reduce clearing
- Upgrade and maintenance of pastoral tracks
- Construction of new access tracks to each new location as required
- Designed in accordance with the NTG Road Construction Standards for Rural roads
- Typically 14m wide containing the formed track, shoulder and cut out drains
- Bed level crossings to be utilised in watercourses with culverts used to minimise impacts to water flow
- Total new disturbance estimated at ~50 hectares or 35 kms

Grading and forming of existing pastoral track to Kyalla 117 N2

Upgraded track with rock check drains

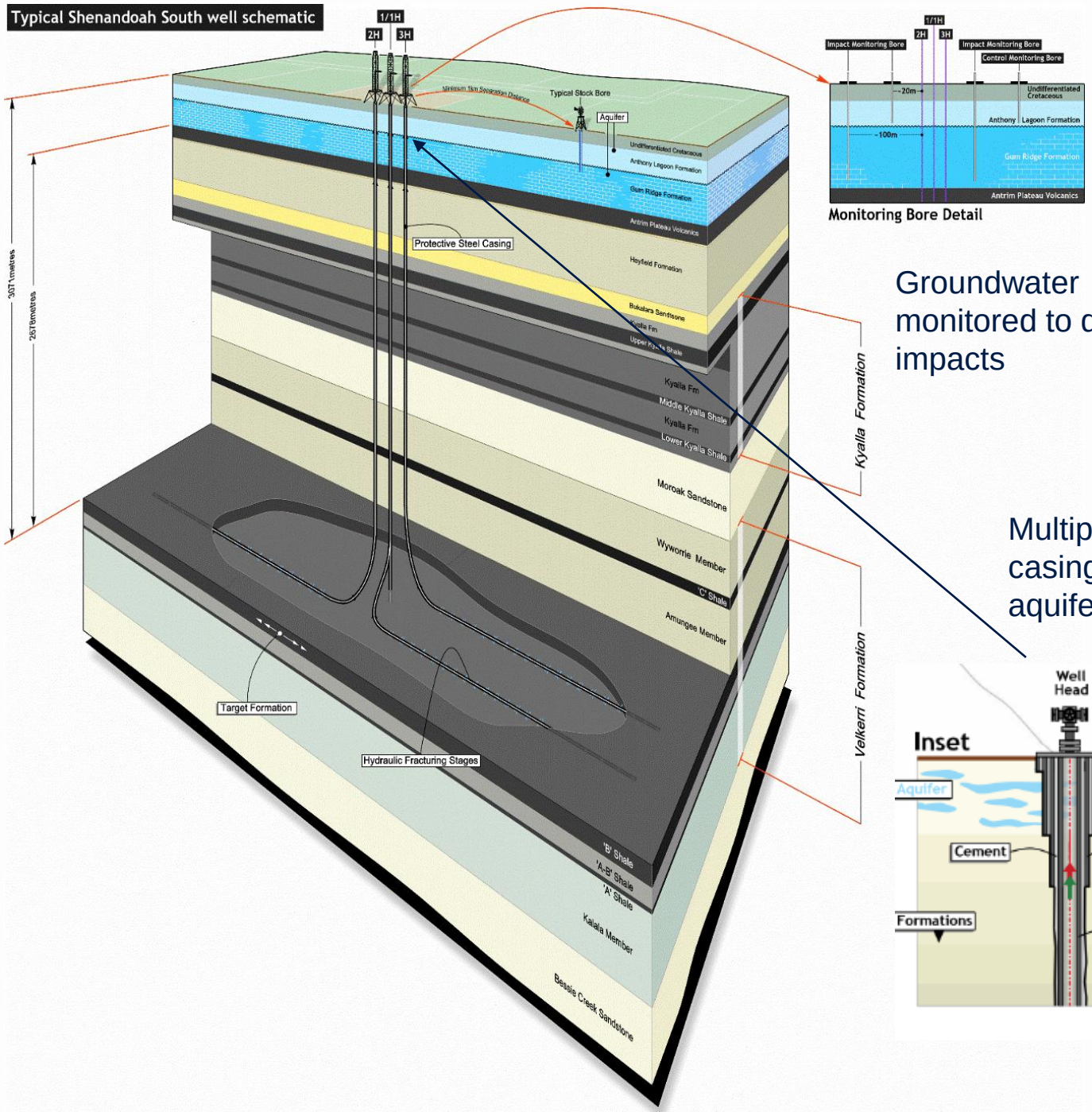
Typical Laydown Areas

Typical E&A wells on a pad

- Wells drilled to ~3,500m (deep) and up to 5000m horizontal (long).
- Shale formation is ~2.6km below the Gum Ridge aquifer

- Groundwater protected through multiple strings of casing and cement

- Isolation of the aquifers is independently verified before stimulation



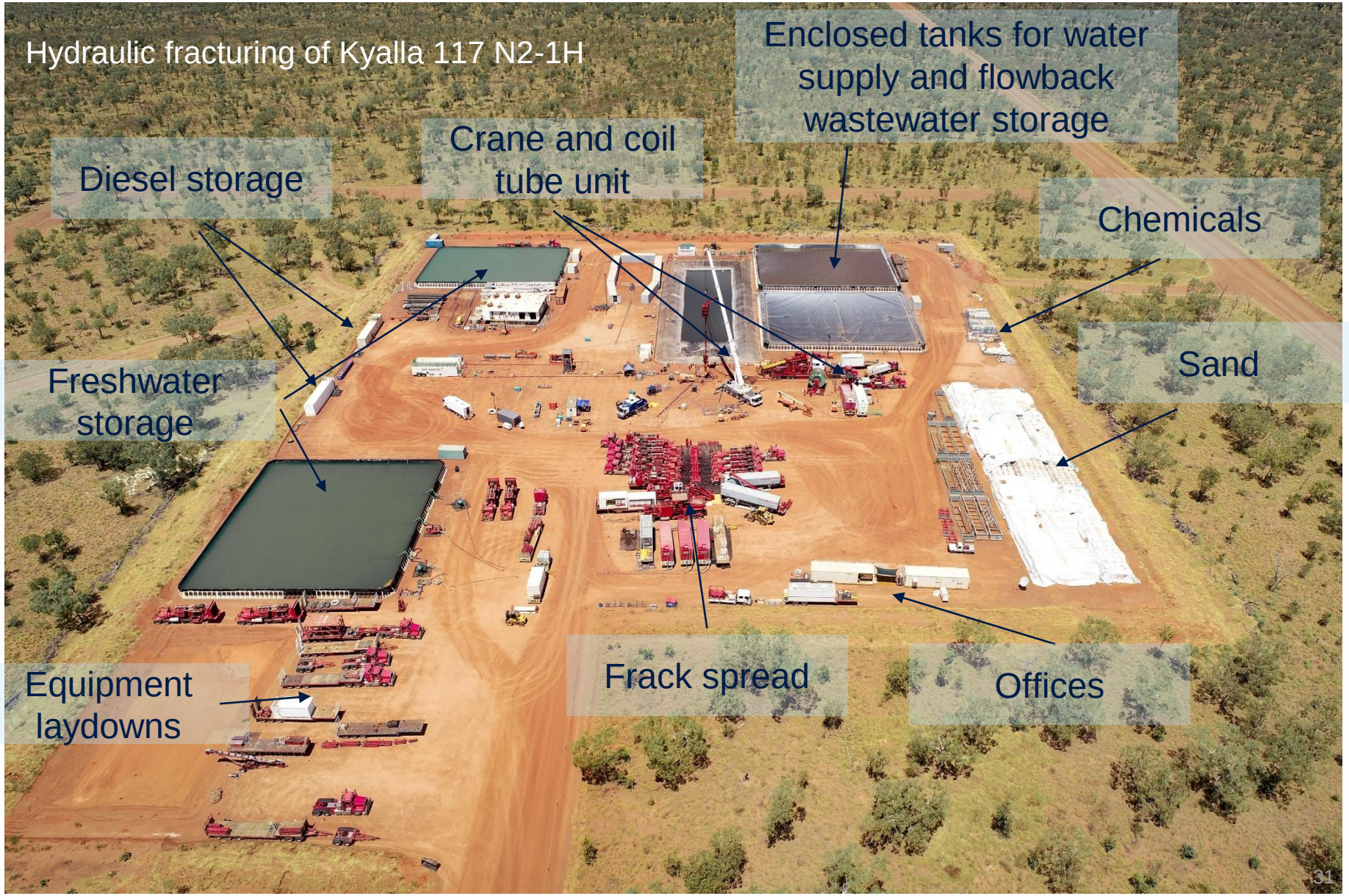
Exploration and appraisal well drilling

- Multiple wells (up to 6) could be drilled per site on each of the lease pads
- ~15 wells over 5 years
- Site contains
  - Drilling rig
  - Offices for operational staff
  - Sump for drilling fluids, cuttings and muds
  - Freshwater storage tanks
  - Chemical and fuel storage
  - Water bores
  - Casing and material storage
  - Camp

Drilling rig at of Kyalla 117 N2-1H about to start drilling

Hydraulic Fracturing

- Hydraulic fracture stimulation will be completed on each horizontal well
- Injection of water, sand and chemicals at high pressure to fracture shale rocks 3.2KM below ground
- Water main component being ~90- 95% of fluid volume
- All chemicals and chemical handling areas to be bunded to prevent spills
- Wells designed to protect aquifers through multiple barriers



Management of Impacts - Chemicals and Spills

- Every chemical has the risk of causing harm if used incorrectly- it's not what the chemical is, but how you manage it
- Chemicals used in fracking are not new or special- most can be found in supermarkets, pool shops or hardware stores e.g guar gum, bicarb soda, salt, vinegar and borax
- they are often used in other industries ranging from food preparation, cosmetics or water treatment.
- All chemicals are assessed and approved for use in Australia
- We typically use 20-30 different chemicals during stimulation- with approvals sought for a larger range of contingent chemicals should they be required.

- On each site, volumes of chemicals range from several litres (methanol) to hundreds of tonnes (Salt)
- Hydraulic fracturing chemicals are not injected into aquifers, they are injected into shales
- All chemicals are stored and handled in bunds to contain spills
- Any spill is cleaned up immediately and reported
- Chemicals are removed from site once the activity is finished and are not disposed of in the bush

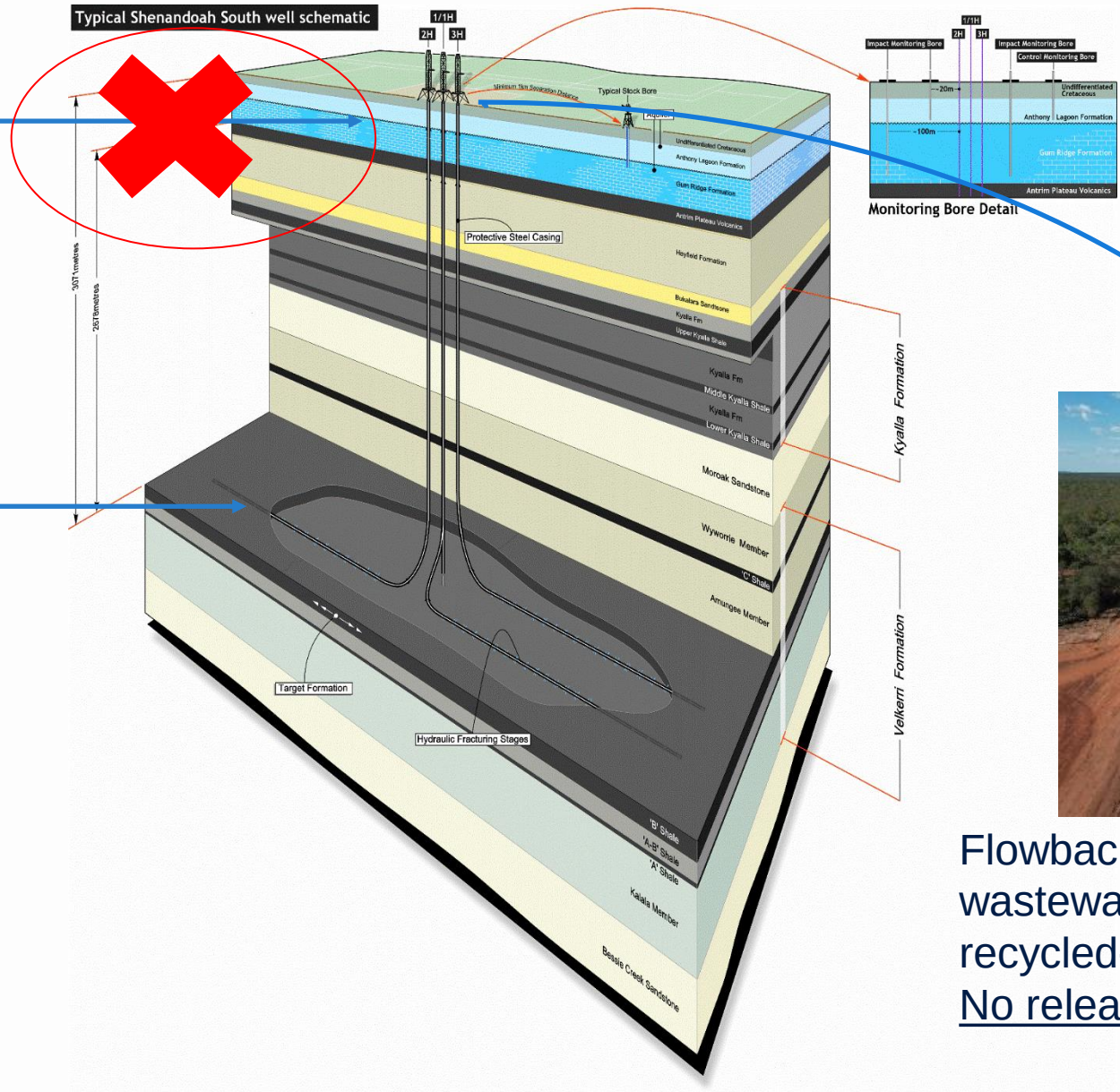
We use chemicals safely on a larger scale

Stimulation use

Management of impacts- chemicals

We do not inject fluid here-

Hydraulically fracturing injects fluid here ~3.2km deep

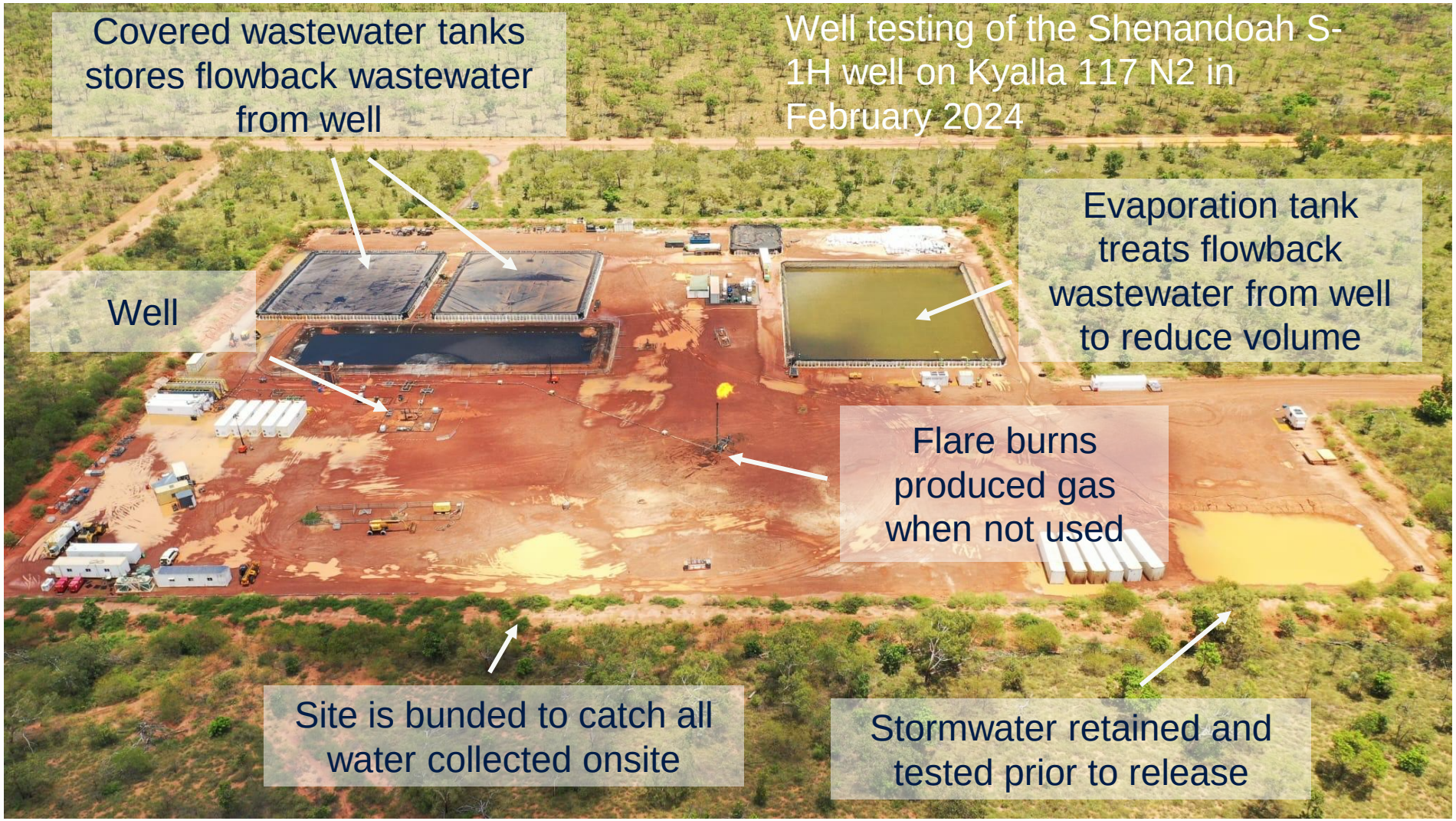


We monitor groundwater on each site to detect impacts

Flowback is returned to double lined wastewater tanks. Water is evaporated or recycled- with any waste removed from site.
<u>No release to creeks or bushland</u>

Well testing

- Each well will be tested for between 30-365 days
- Flares will be used to burn the gas if cannot beneficially re-use
- Wastewater will be stored in double lined wastewater tanks (circle or rectangle tanks)
- Where gas is to be sold, it will be sent to the compression facility via gathering lines and not flared



Gathering lines

- Gathering lines allowing water and gas to be transported between sites via pipelines
- Pipes mostly buried and located in cleared areas called “right of ways”
- Temporary surface pipelines transferring water may be used for short periods (3-6 months)
- Reduces number of wastewater tanks and clearing
- Leak detection used to identify leaks during wastewater transfer
- Pipelines to be inspected monthly to gas and liquid detect leaks
- Less than 50 hectares of new disturbance


Gathering line under construction in QLD

Reinstated gathering right of way in QLD

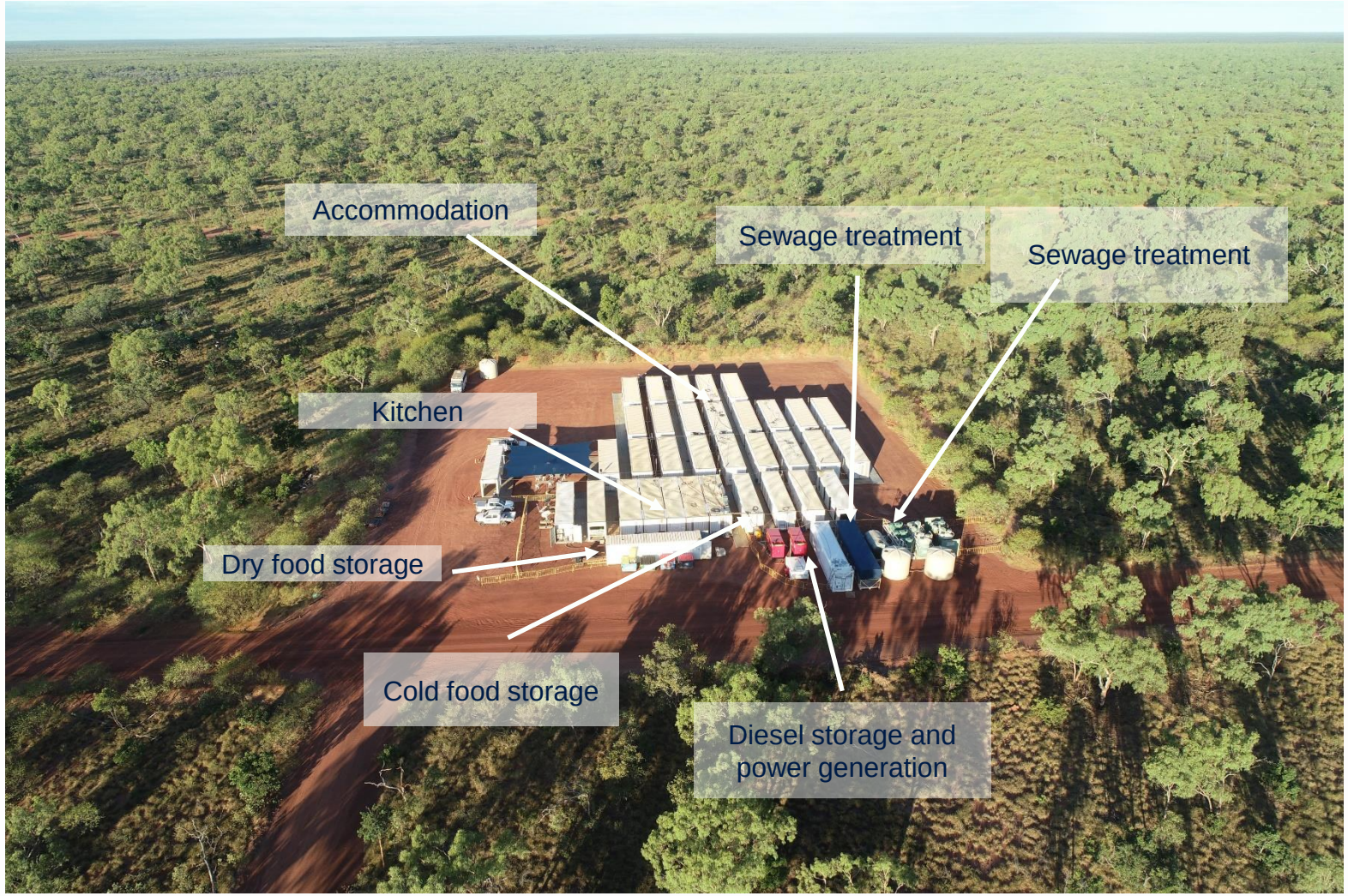

High point vent in QLD


Low point drain in QLD

Gathering lines

Camps

- Workers house in temporary camps during activities
- Typically used to house 80 people including staff
- Buses transport most workers from Daly Waters Airstrip to reduce impact on local communities and traffic
- Camps contain accommodation, kitchens, ablutions, gyms, eating areas, offices, food storage, water storage, power generation, rubbish bins and sewage treatment infrastructure.
- Camps are operated in accordance with the Department of Health guidelines- including sewage treatment and grey water irrigation



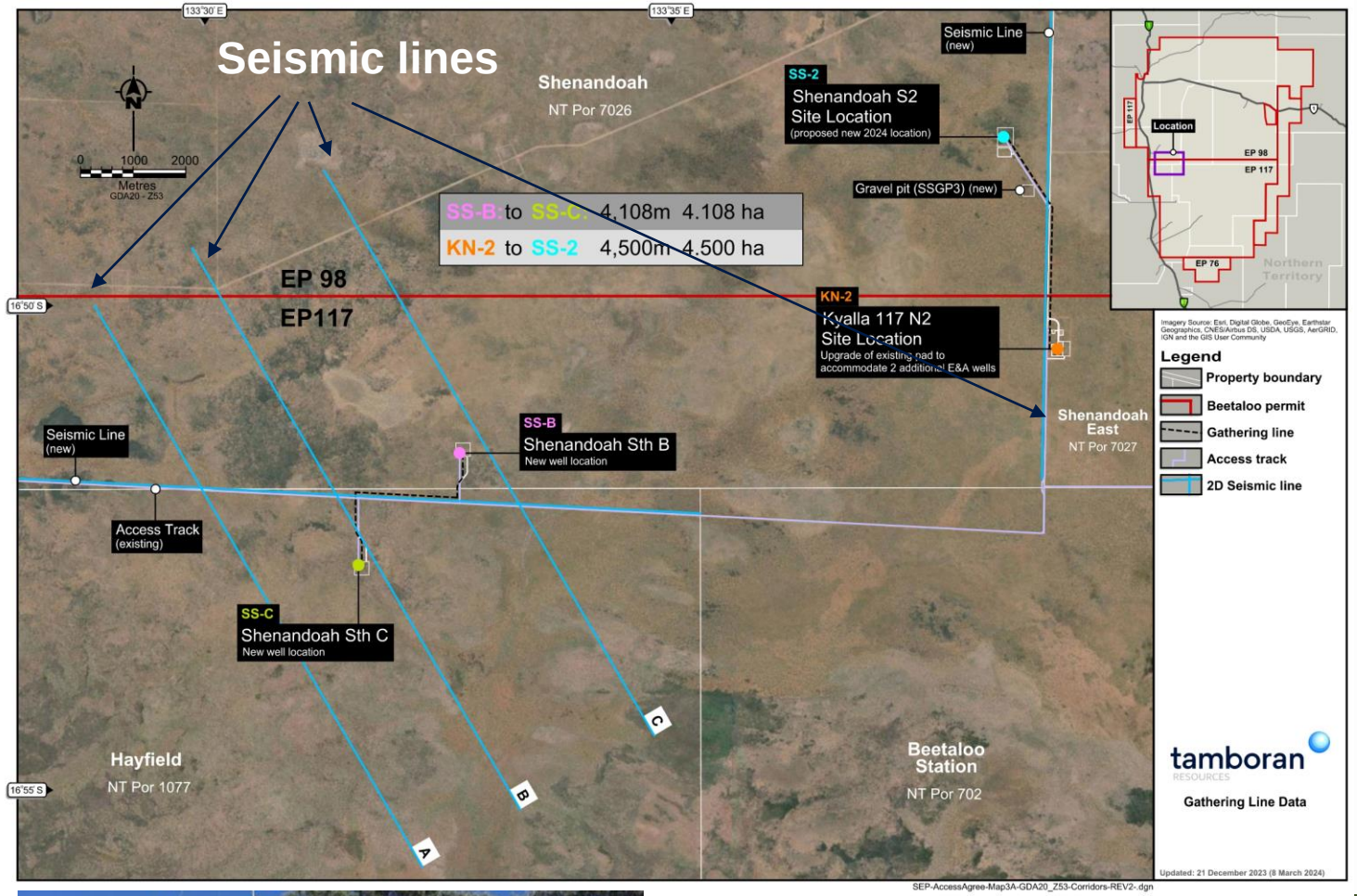
Gravel Pits

- Gravel is required during the construction of access track, lease pads and other infrastructure
- Up to 15 hectares of new gravel pits could be constructed- up to 5 new pits
- Volumes of gravel to be used are less than 300,000m^3
- Gravel pits are cleared and stripped of topsoil
- Felled vegetation and soil pushed to edge of pit for use in rehabilitation
- When no more gavel needed, pit will be recontoured, topsoil replaced and felled vegetation return

What is new in the EMP

Seismic testing

- Projecting sound wave into earth, reflecting off underground rock formation
- 3 New seismic lines and collection along existing pastoral track
- Use of dynamite charges or conventional vibroseis
- Emphasis on avoidance of clearing as much as possible
- Clearing up to 20 hectares
- Different to 3D seismic in the amount of information collected is less.

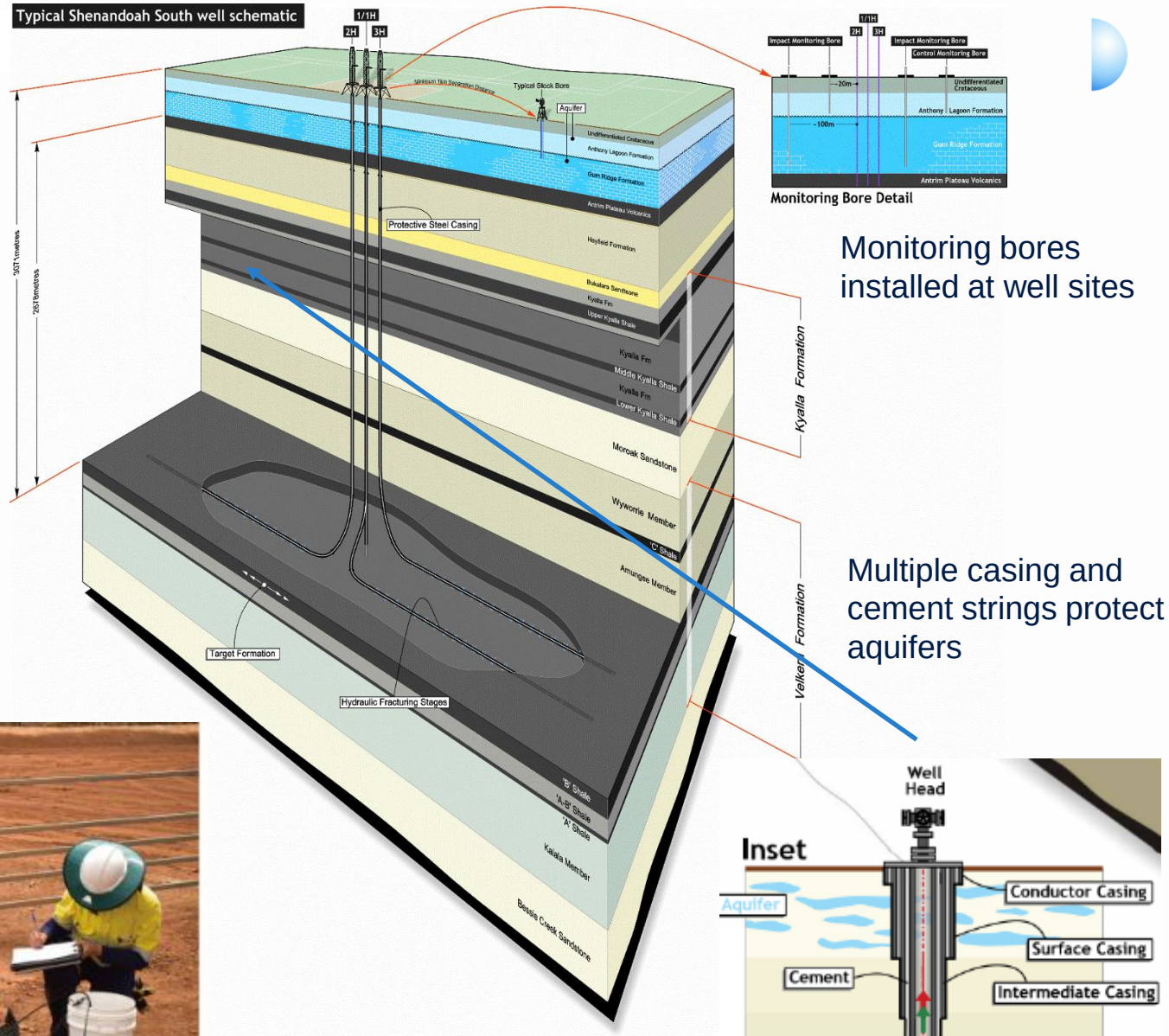


Vibroseis


Installation of dynamite charges

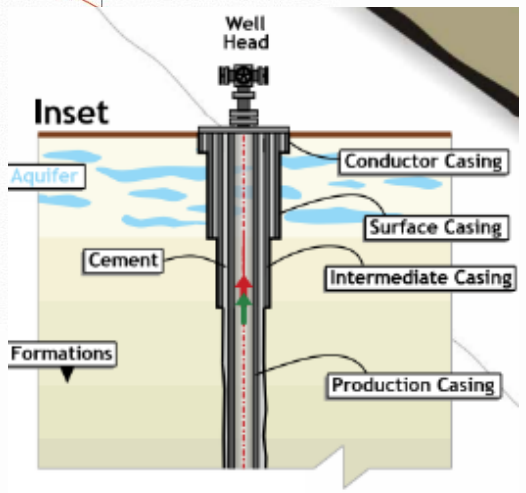
Groundwater protection

- The target shales are ~2.6km below the closest regional aquifer (Gum Ridge)
- Wells are designed and constructed with multiple layers of steel and cement to protect aquifers
- We test and monitor the integrity of wells
- We monitor groundwater at each well site
- Wells are plugged with cement at the end of life



Monitoring bores installed at well sites

Multiple casing and cement strings protect aquifers



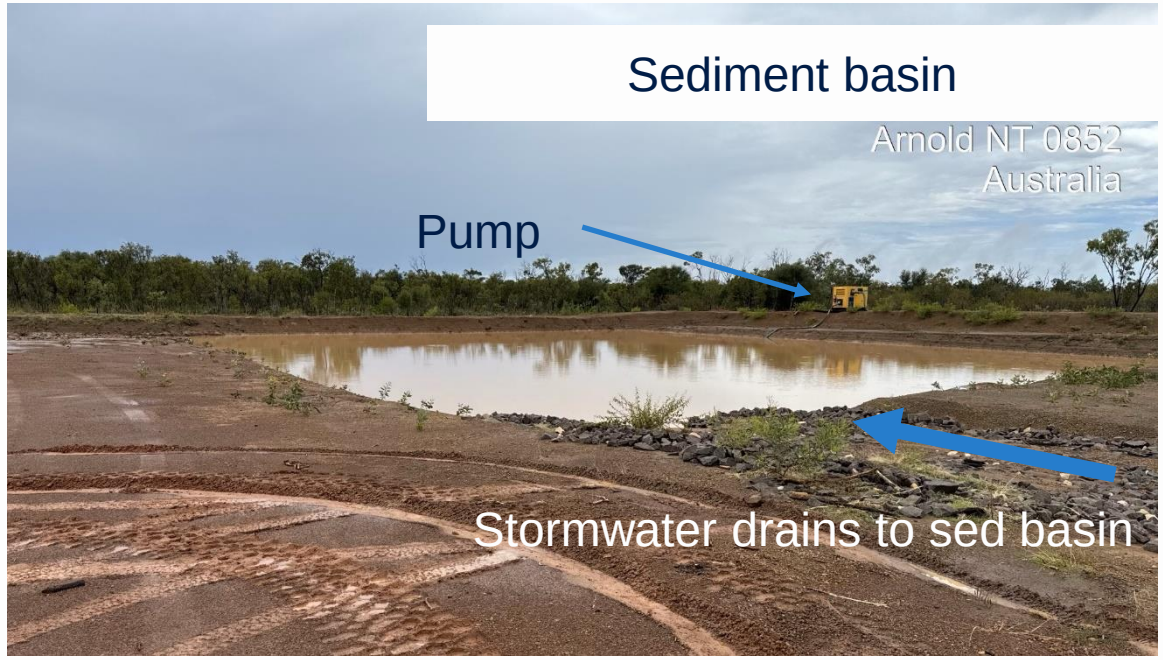
Stormwater Management

Stormwater is collected during flowback wastewater storage

This ensures any spills or wastewater are captured before leaving site.

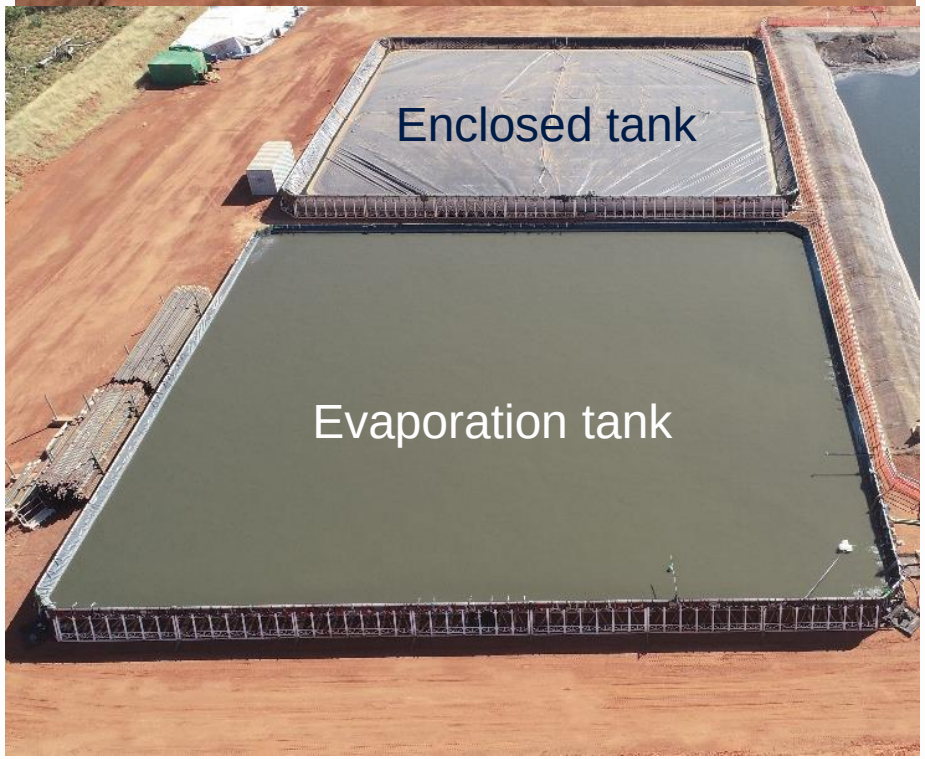
The water is tested to make sure it's clean

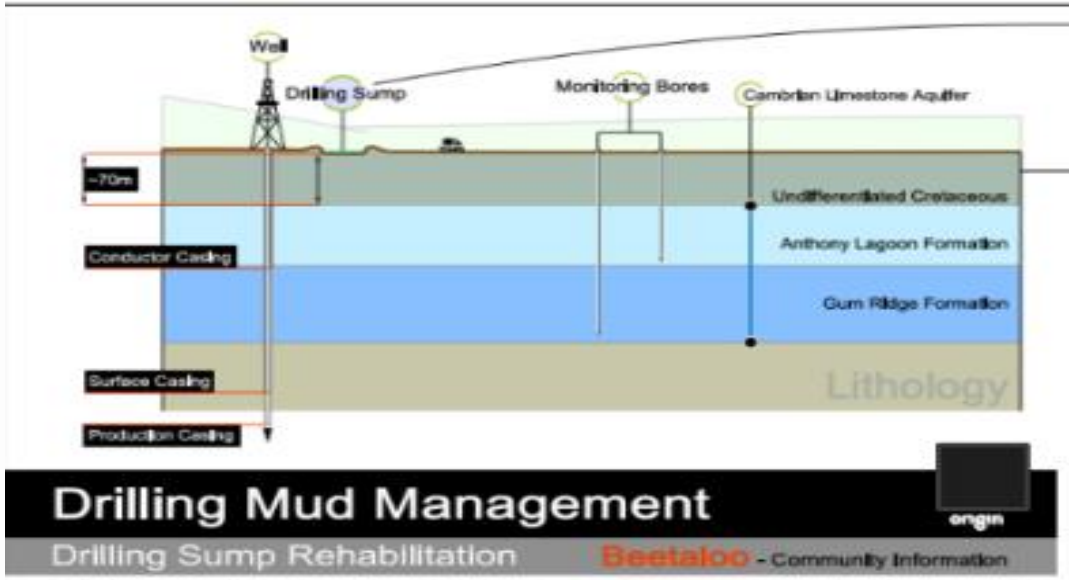
Clean (uncontaminated) stormwater is then released to the surrounding bush

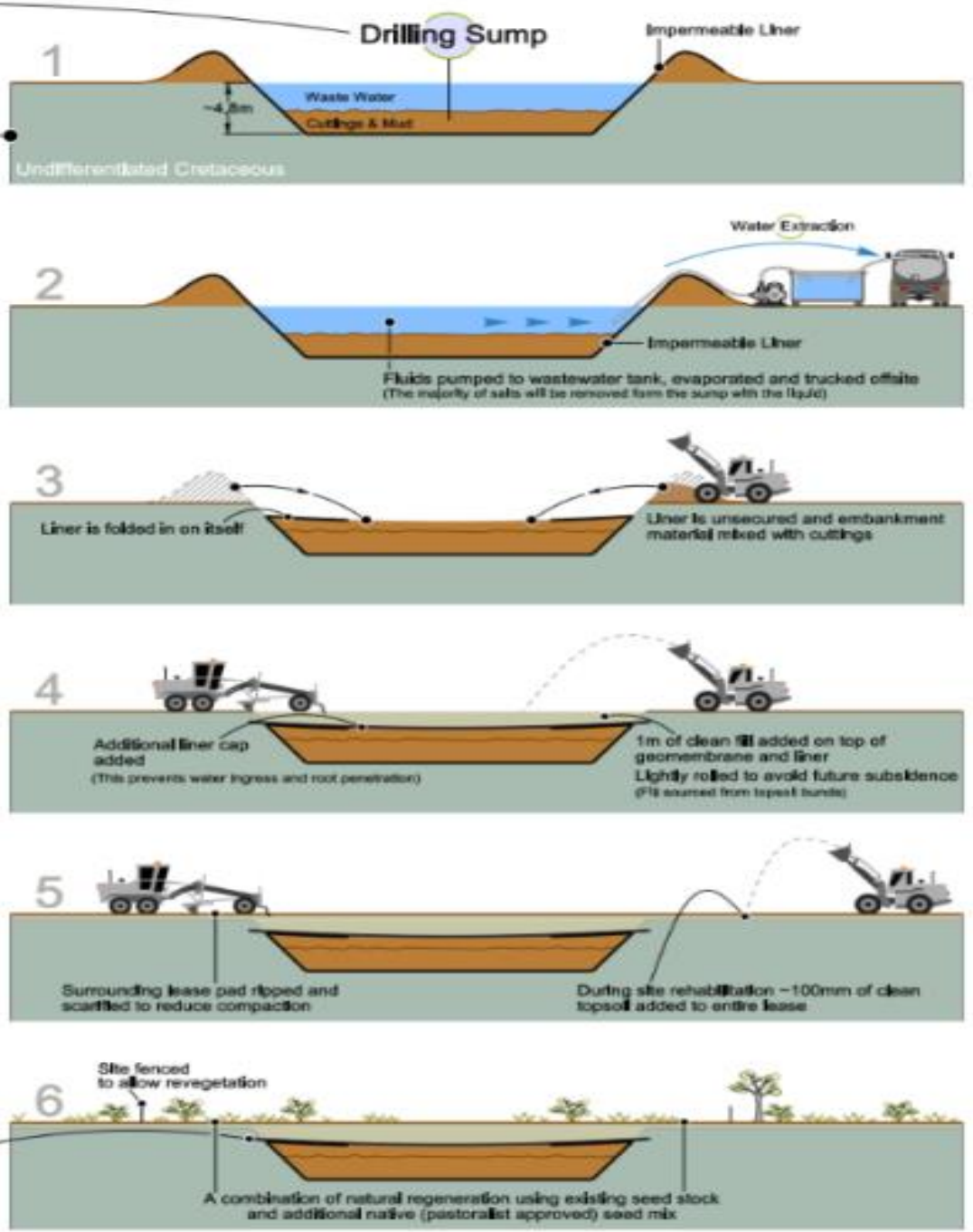


Management of Wastewater

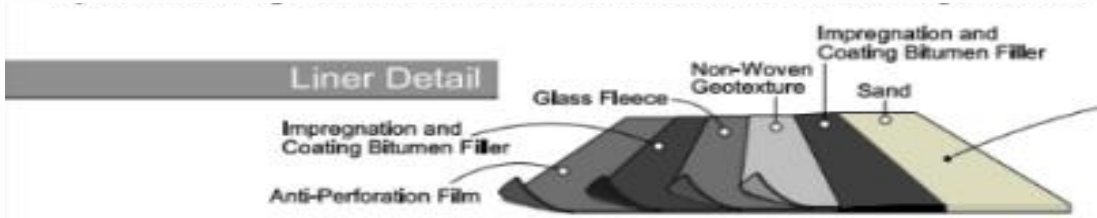
- Tamboran cannot release wastewater to the environment
- All flowback wastewater must be stored in enclosed tanks and removed from site at the end
- Open tanks can be used for evaporation to reduce volumes and trucking
- Open tanks/sumps must have 1300mm of freeboard (enough to manage an entire 1:1000 ARI wet season)
- All tanks are double lined with leak detection
- Tamboran is intending to trial wastewater recycling in 2025/2026 to reduce waste generated and raw water usage







- Drilling waste
- Management of drilling waste
- Additional Environmental protection



Drilling cutting and mud mix bury cover

- Where safe to the environment, drilling muds and cuttings will be buried onsite via mix-bury cover.
- Cuttings from rocks returned to surface is the largest source of waste.
- Water will be drained/evaporated and material dried out
- Testing of waste will determine if waste can be buried or trucked offsite
- Salt (Chlorides) is the main compound which can be managed through mixing and capping.
- Vegetation will regrow on the capped sump similar to landfills.


Sump at end of drilling with cuttings, mud and fluid


Water from sump removed and trucked offsite- material blended, lined and then buried

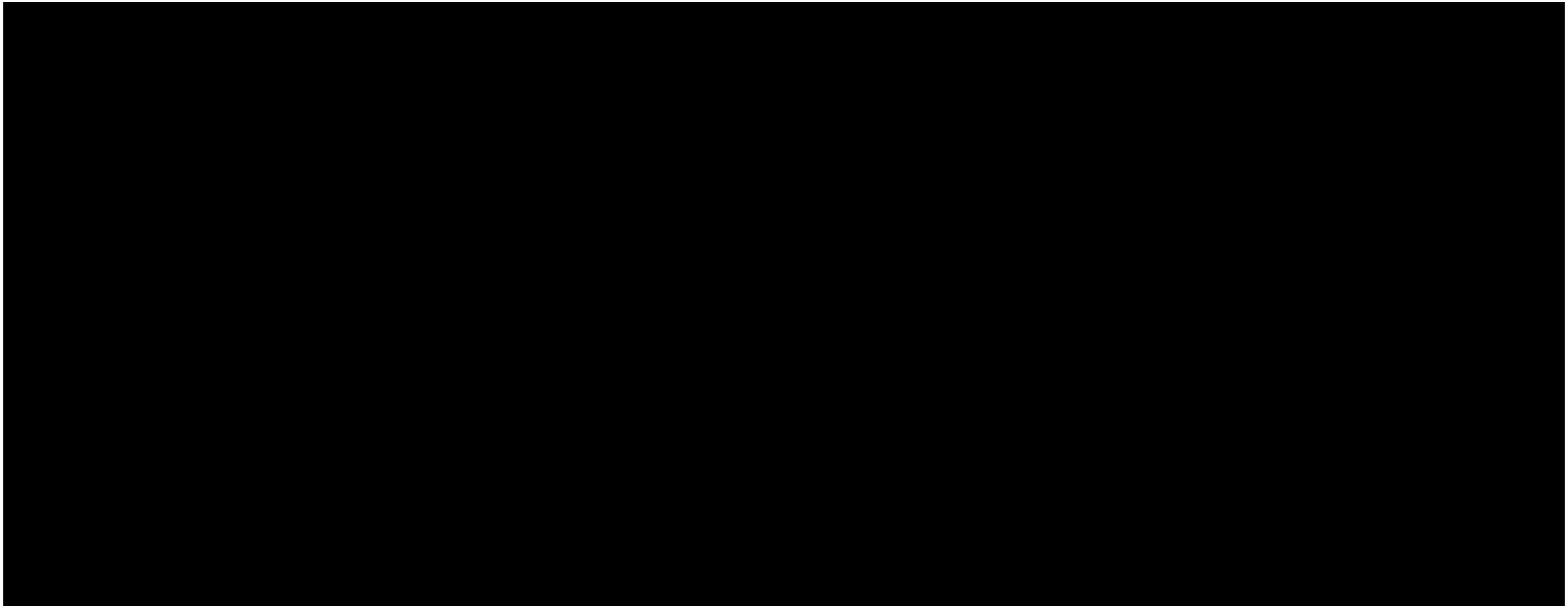

Grass and vegetation allowed to regrow (picture of rehabilitation of a site in QLD)

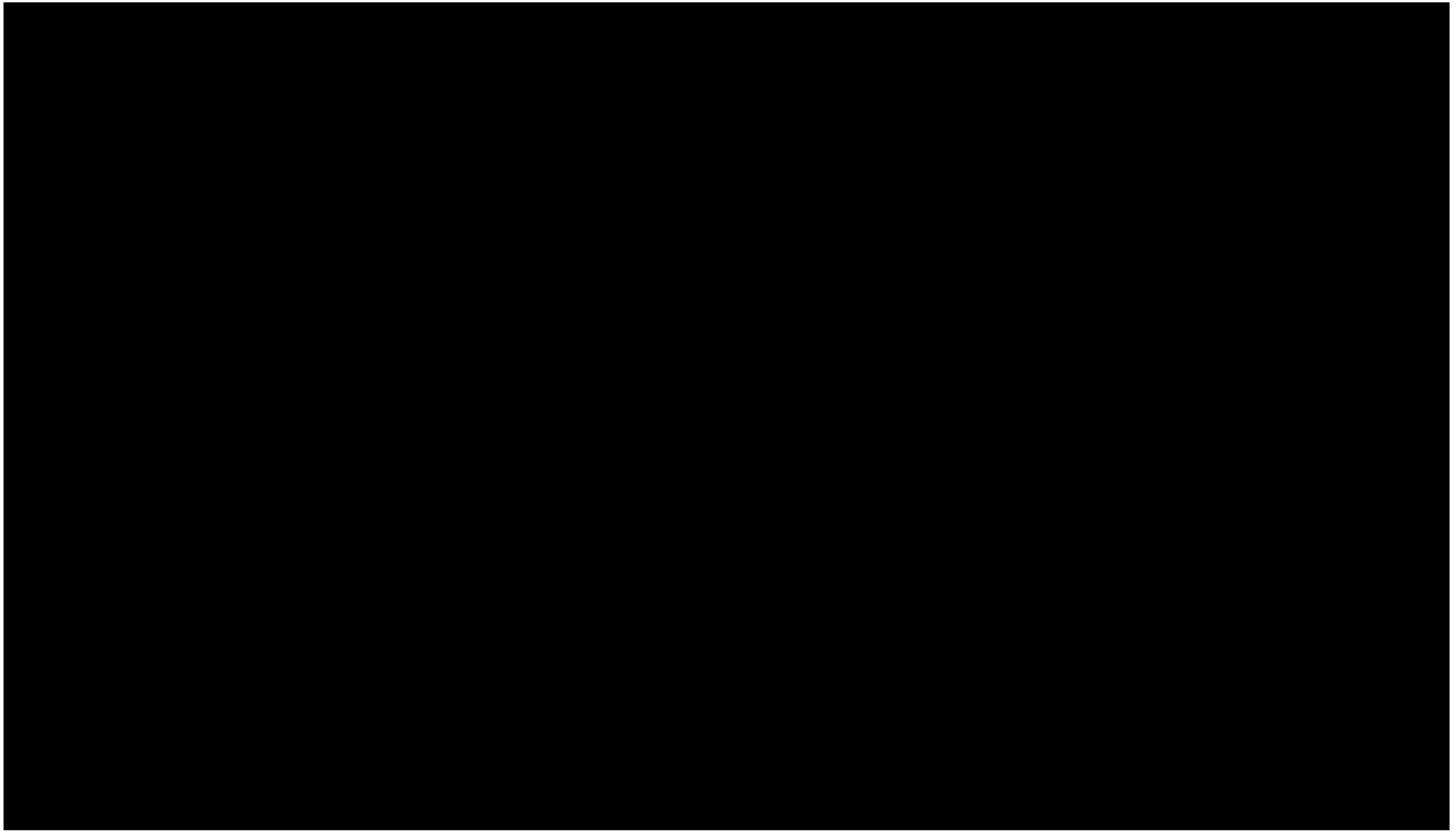
tamboran RESOURCES

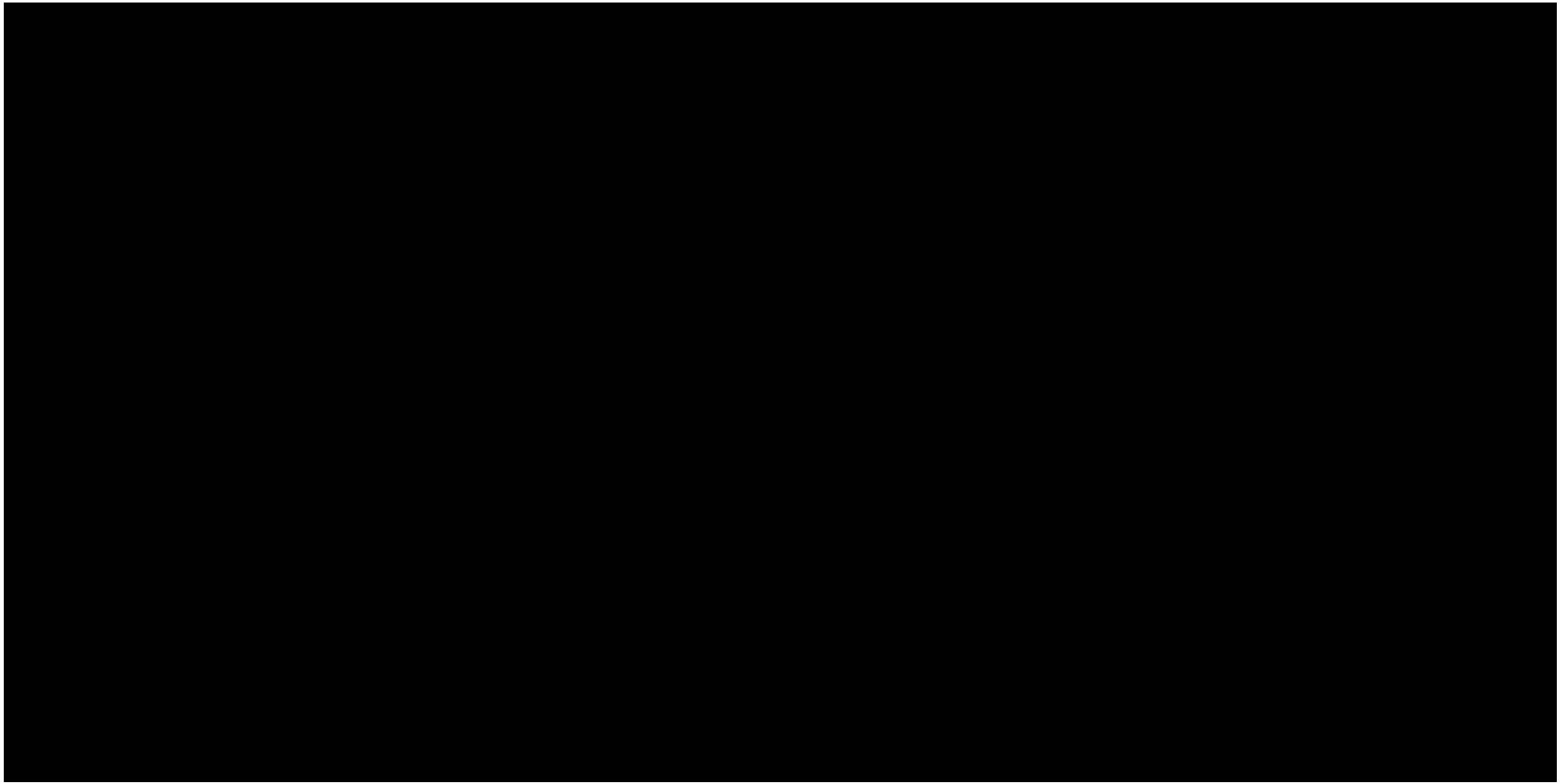
Decommissioning and rehabilitation works

- Decommissioning wells and rehabilitating disturbed areas back to pre-existing levels
- Plugging wells with concrete to protect aquifers
- Removing all infrastructure, re-spreading topsoil and reseeding vegetation

Example of a site being progressively rehabilitated in QLD



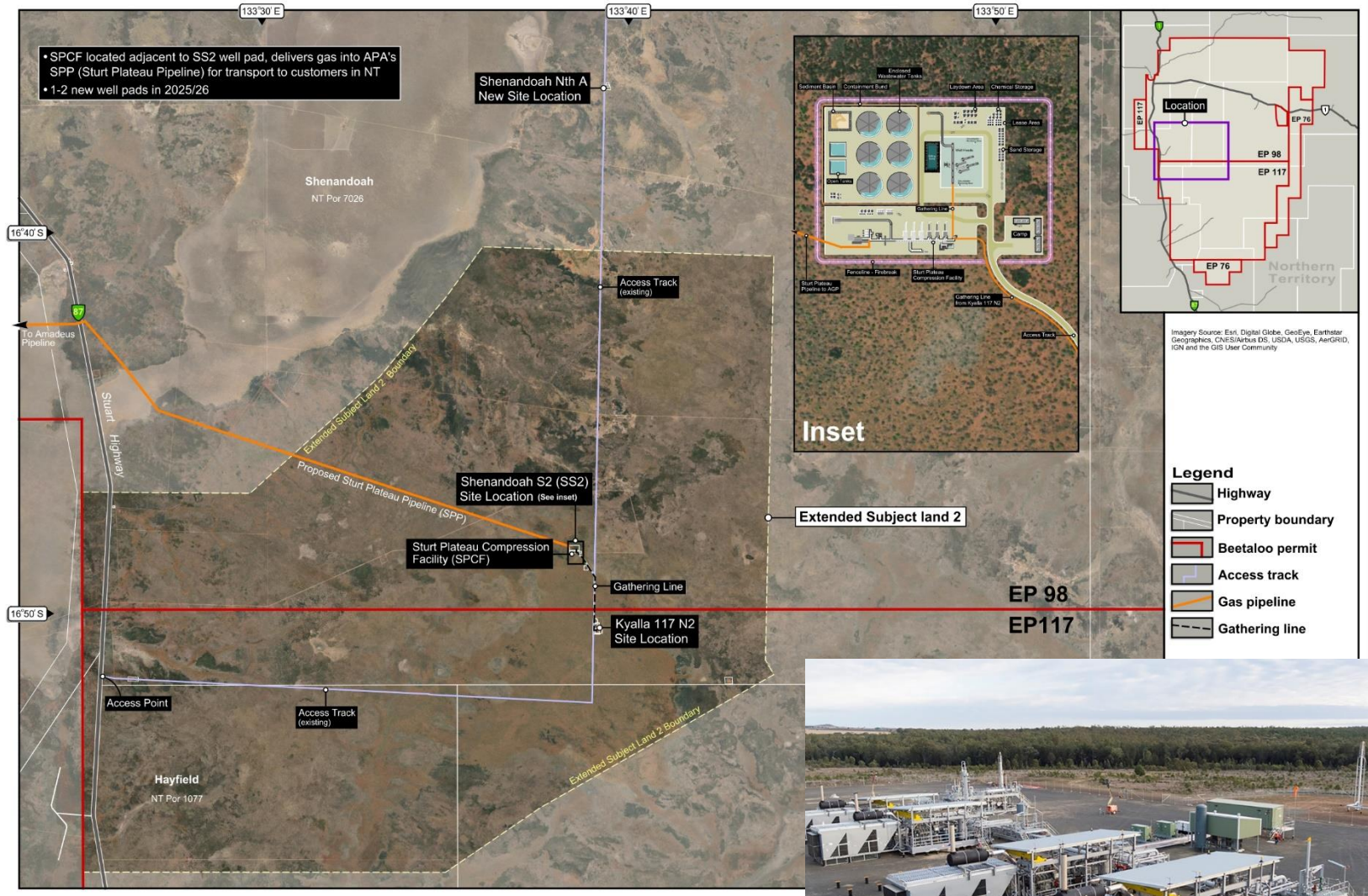




New Sturt Platea compression facility and appraisal gas sale EMP

Appraisal Gas Project Overview

- Tamboran would like to sell appraisal gas from a new compression facility constructed in EP98
- Sale of appraisal gas for up to 3 years.
- Tamboran proposes to build a temporary 40-60 TJ/day compression facility at the Shenandoah S2 location
- The Sturt Plateau Compression Facility (**SPCF**) will be constructed to pressurise the gas so that it can enter the Amadeus Gas Pipeline (AGP) via a new 35km pipeline called the Sturt Plateau Pipeline (**SPP).**
- APA are working with NLC/NTH to determine the new pipeline route, but it should be approximately 35 km.
- The gas will likely be sold into the domestic Northern Territory market for NT power supply.




Example of small compression facility

Flaring Gas Vs. Appraisal Gas

Existing - Appraisal gas is flared

- Gas burnt and not used or sold
- Higher greenhouse gas emissions
- No additional financial benefits to NTHs or NT
- Fewer job opportunities

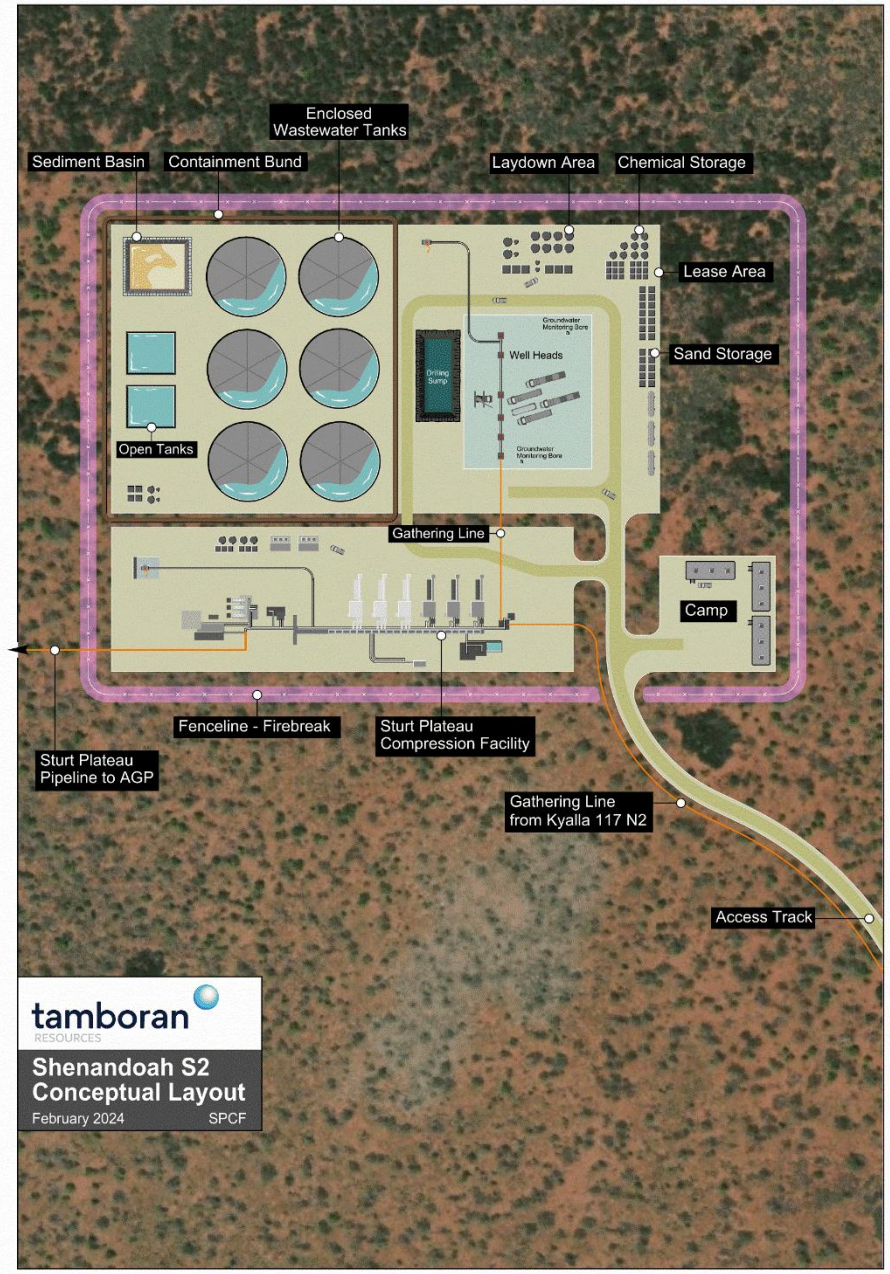
New Plan - Appraisal gas is sold

- Gas is likely sold into the NT for electricity
- Less greenhouse gas emissions than flaring
- More financial benefits for NTHs
- More job opportunities in construction and operation
- Requires a slightly larger clearing area of ~5 ha to support the compression facilities

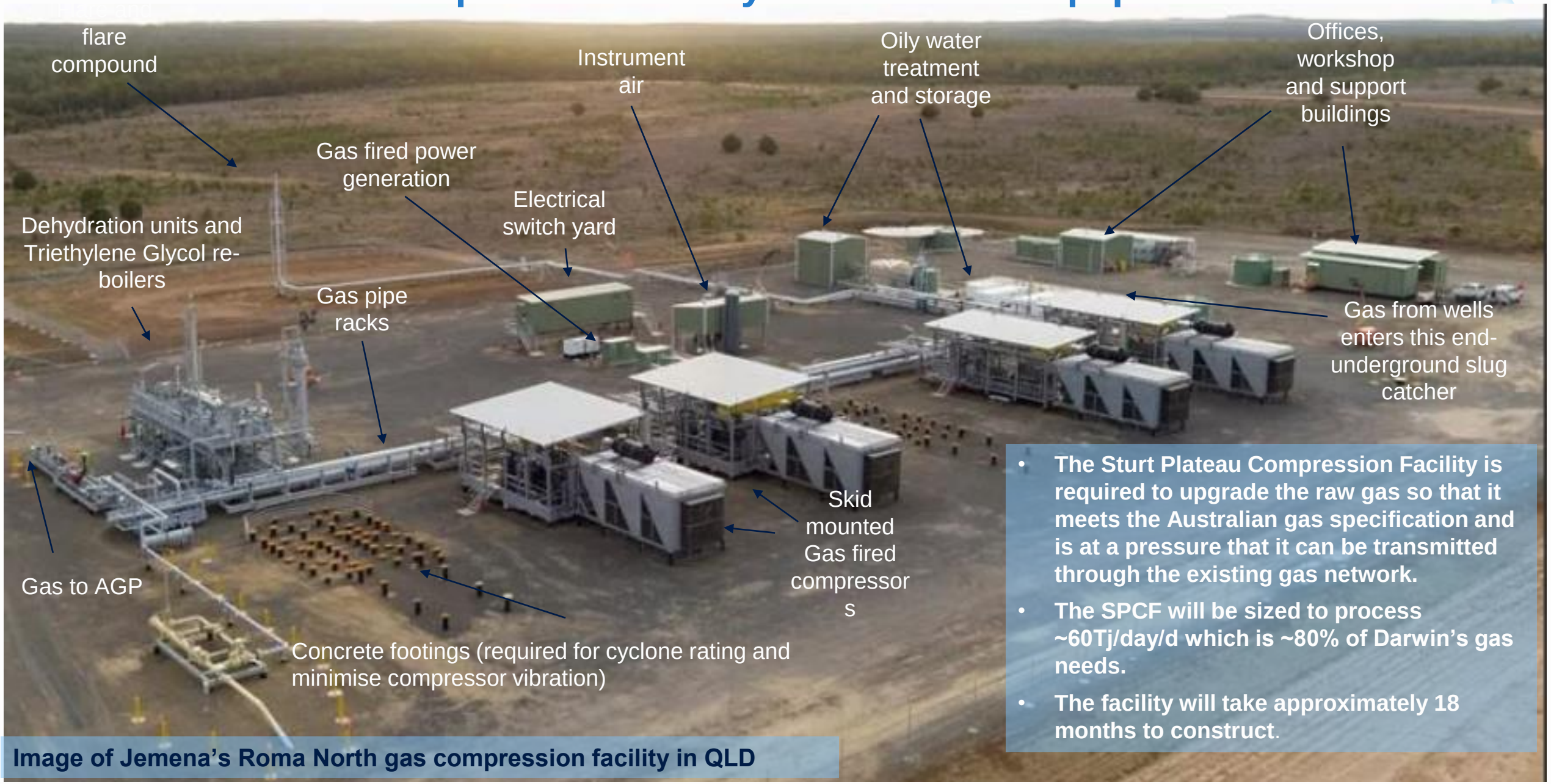
Shenandoah S2 - Appraisal Gas Project

- Sturt Plateau Compressor Facility (SPCF) located at Shenandoah S2 on EP 117, ~3.5Km NW of Kyalla 117 N2
- Facility will have a capacity of up to 60TJ/day
- Earthworks and footings proposed to be started in late 2024 - with compressor construction planned for 2025 dry season
- First gas proposed in Q1 2026 - with appraisal gas sold for 24-36 months
- 2-4 wells to be drilled and connected to facility each year to test new wells and locations (2024 and beyond)

Example of compressor station



Sturt Plateau Compression Facility – overview of equipment



- **The Sturt Plateau Compression Facility is required to upgrade the raw gas so that it meets the Australian gas specification and is at a pressure that it can be transmitted through the existing gas network.**
- **The SPCF will be sized to process ~60Tj/day/d which is ~80% of Darwin's gas needs.**
- **The facility will take approximately 18 months to construct.**

Image of Jemena's Roma North gas compression facility in QLD

Stuart Plateau Compression Facility: New EMP and BUG Approval

- Tamboran will submit a new EMP to the Government in mid 2024 covering the construction and operation of the of the SPCF and Appraisal Gas Sale at the Shenandoah S2 location.
- A separate Beneficial Use of Gas (BUG) application will be submitted to the NTG to authorize the sale
- Beneficial use of gas requires Native Title Holder consent prior to be approved

New SPCF EMP – Air and noise emissions

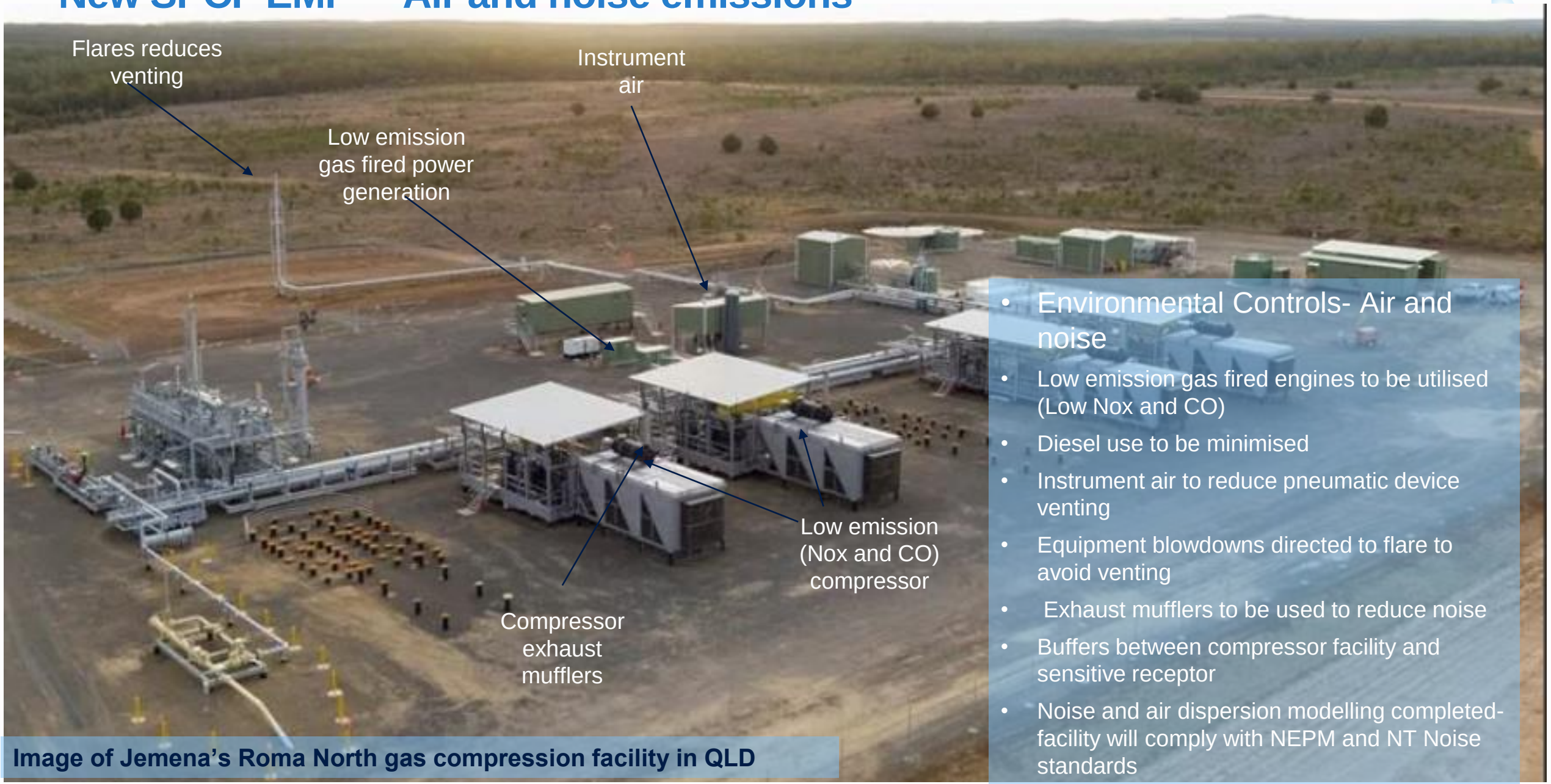


Image of Jemena's Roma North gas compression facility in QLD

- Environmental Controls- Air and noise
- Low emission gas fired engines to be utilised (Low Nox and CO)
- Diesel use to be minimised
- Instrument air to reduce pneumatic device venting
- Equipment blowdowns directed to flare to avoid venting
- Exhaust mufflers to be used to reduce noise
- Buffers between compressor facility and sensitive receptor
- Noise and air dispersion modelling completed- facility will comply with NEPM and NT Noise standards

New SPCF EMP– Land management

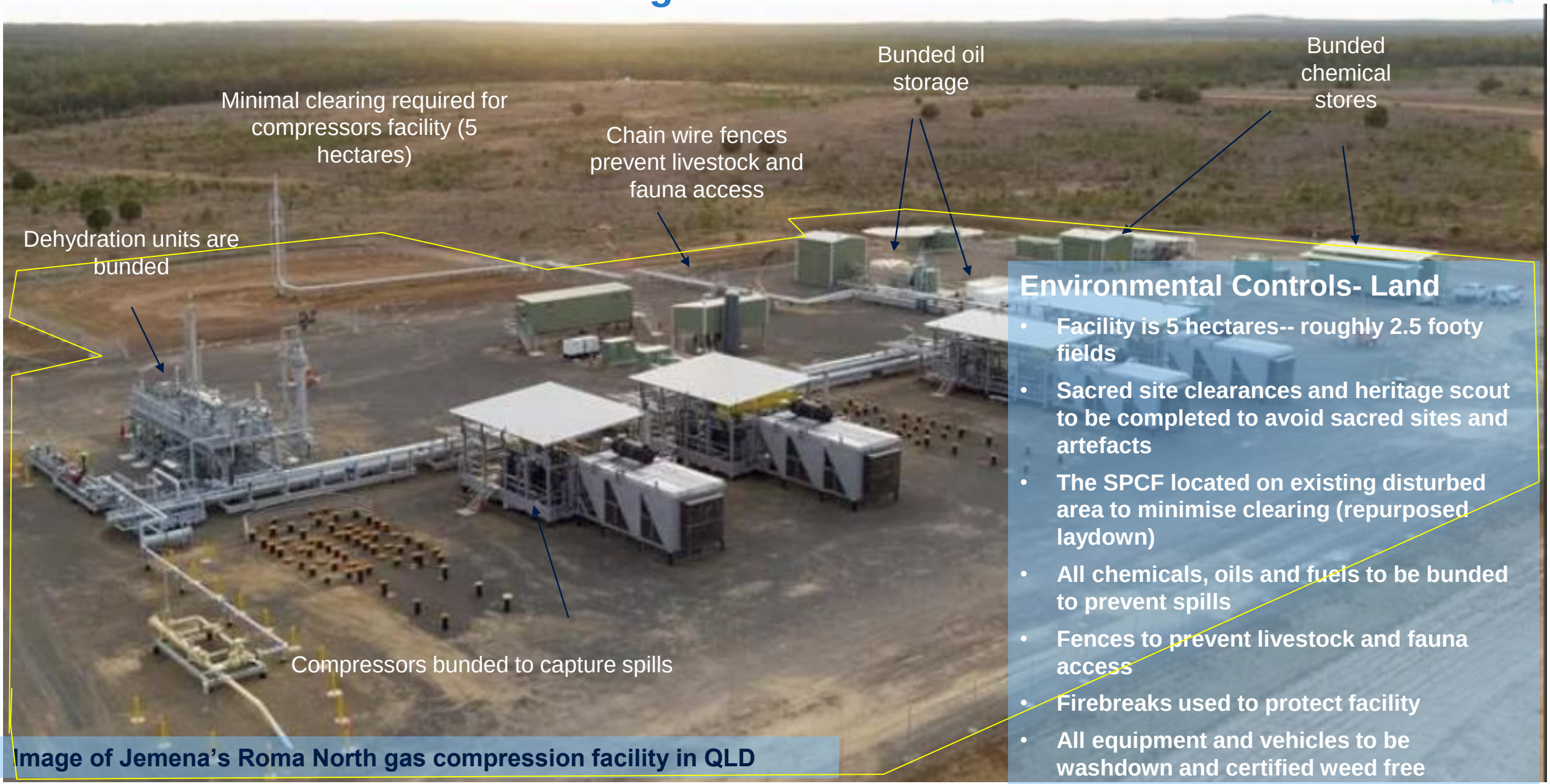


Image of Jemena's Roma North gas compression facility in QLD

Environmental Controls- Land

- Facility is 5 hectares-- roughly 2.5 footy fields
- Sacred site clearances and heritage scout to be completed to avoid sacred sites and artefacts
- The SPCF located on existing disturbed area to minimise clearing (repurposed laydown)
- All chemicals, oils and fuels to be bunded to prevent spills
- Fences to prevent livestock and fauna access
- Firebreaks used to protect facility
- All equipment and vehicles to be washdown and certified weed free

New SPCF EMP – Water management

Aerial view of Jemena's Roma North gas compression facility in QLD

Water Use

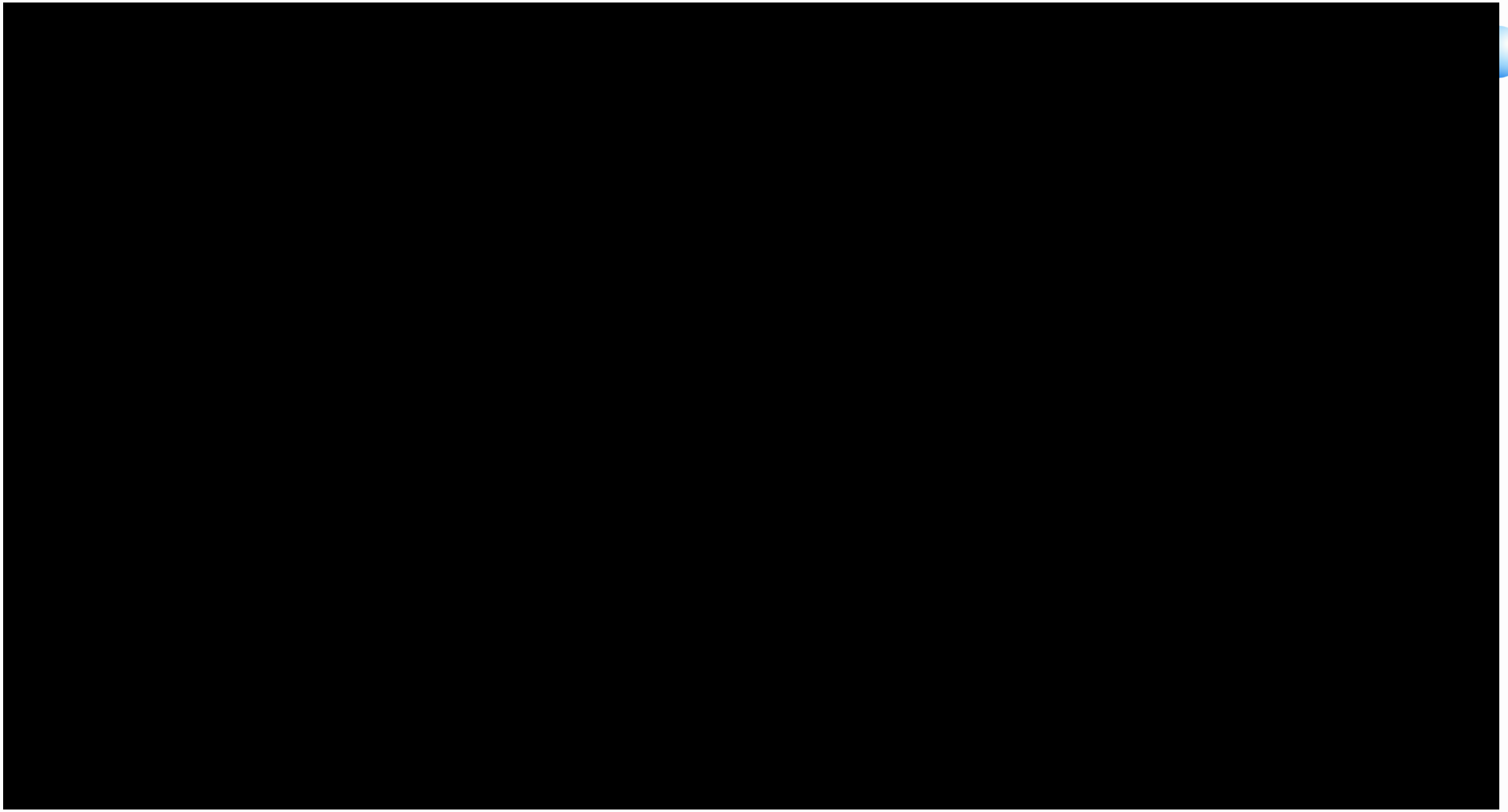
- Facility will not utilise much water- potentially 20-30ML during construction and 1-2ML per year during operations
- All water taken from Gum Ridge Aquifer under existing water extraction licence

Wastewater

- Any entrained wastewater in the gas stream will be separated and sent to wastewater tanks
- Oily water separators used to separate oil from compressor stormwater/ washdown water- waste oil captured and recycled offsite.
- All clean stormwater water sent to infiltration ponds where it is allowed to soak into the ground in a controlled fashion

Erosion and sediment controls

- Clean water to be diverted around site
- Clean water collected onsite to be directed to sediment basins for controlled release



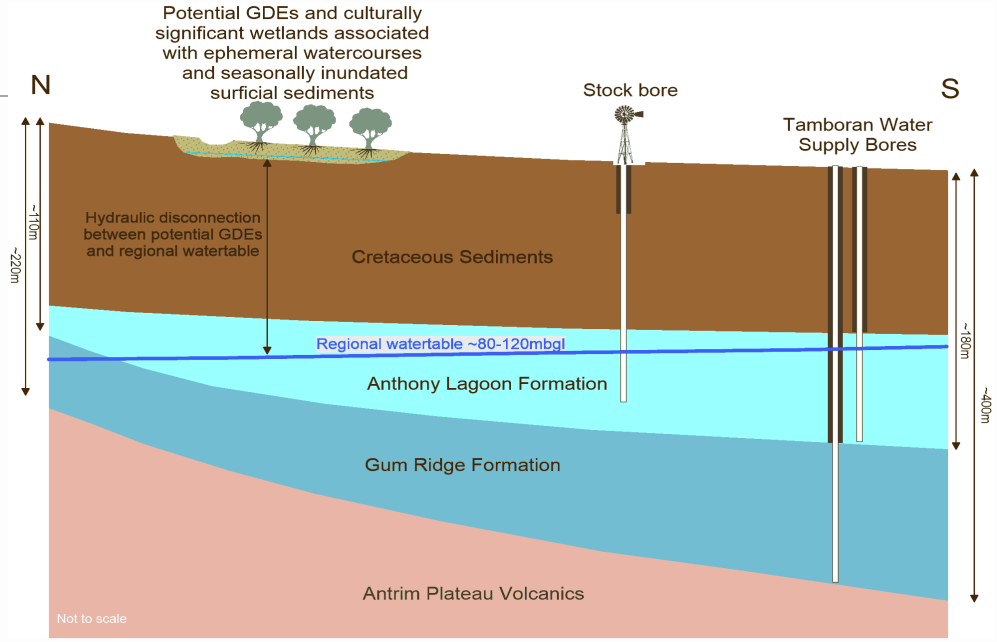
Water Extraction Licences

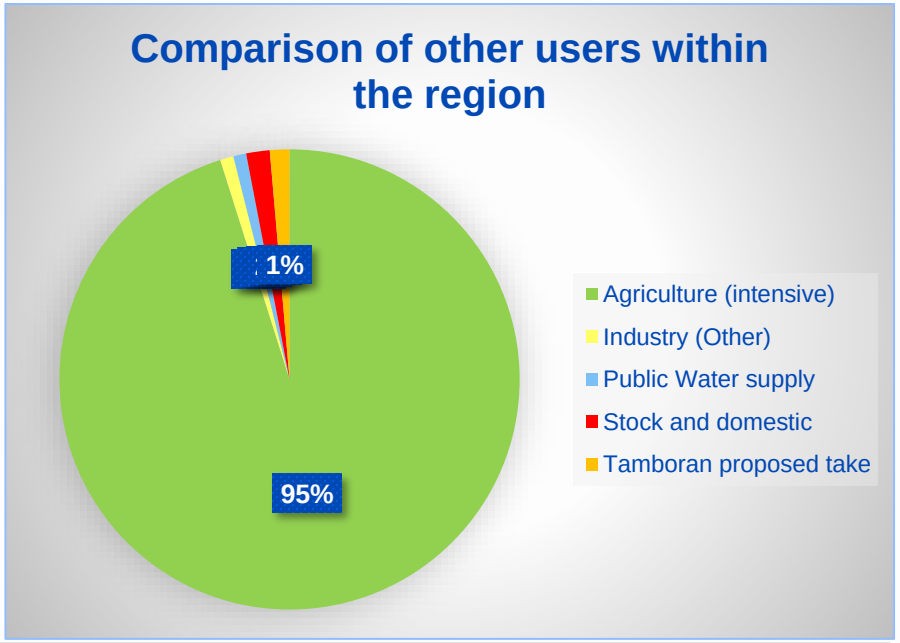
Water Extraction Licences

- Water for activities will be sourced from the Gum Ridge [redacted]
- Water monitoring and modelling confirms water extraction will not impact features such as water holes, creeks or Springs
- Future activities will require up to 450ML/year of water to support the drilling, stimulation and appraisal of multiple wells- this may increase depending on well sizes
- An amendment Water Extraction Licence from 175ML/year to 450 ML/year from the Gum Ridge Formation (GRF)

[redacted]

- Tamboran will continue to monitor groundwater and surface water level and quality to demonstrate no harm





tamboran RESOURCES

2024 Sacred site clearances:

Covering activities to be completed 2024- 2028

2024 NLC Sacred site clearance request summary

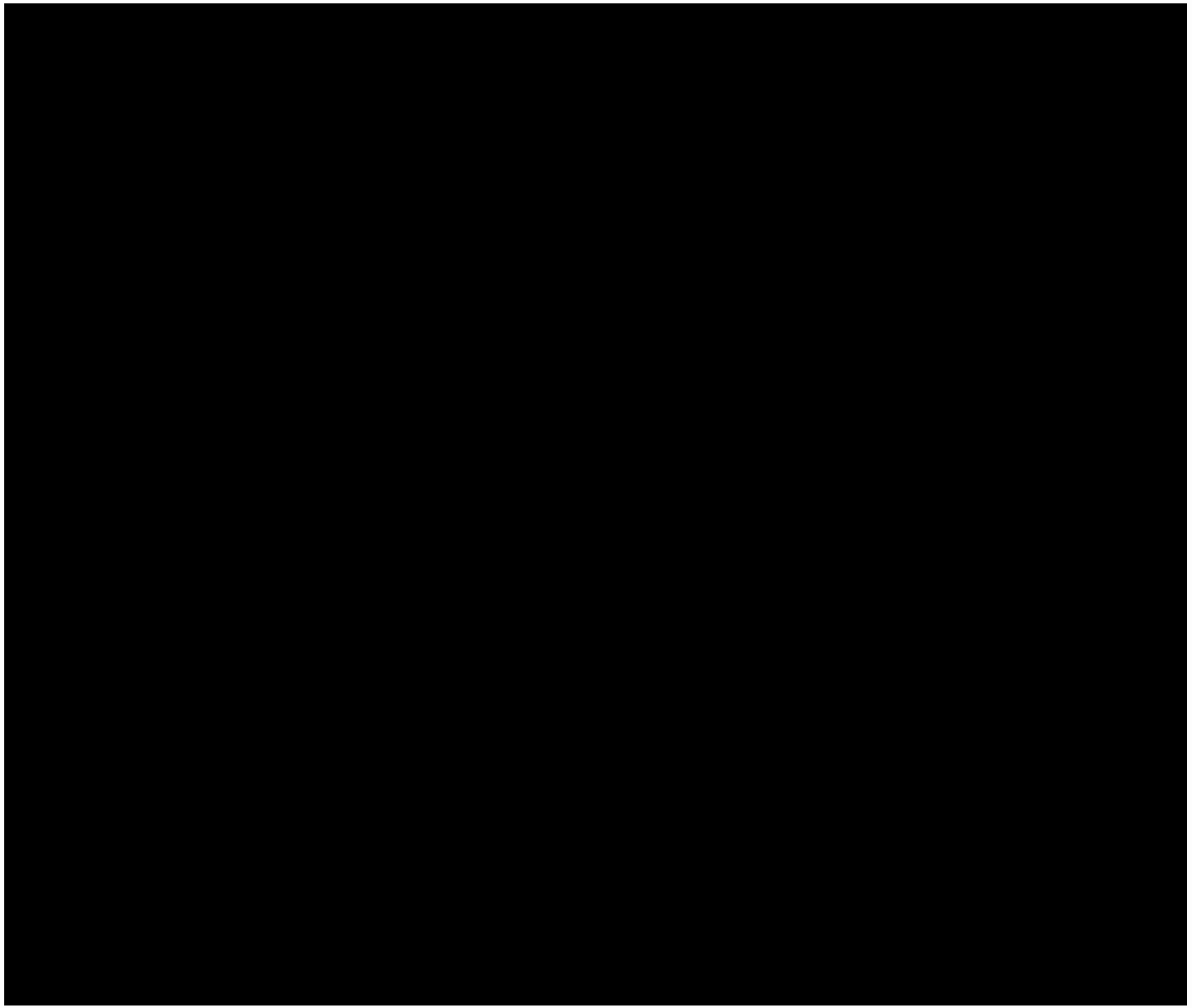
- Tamboran has submitted a Sacred Sites Clearance request to the NLC covering future activities around Subject land 2 and the implementation of a proposed surface water monitoring program
- These clearances are designed to cover activities that may be completed over the next 3-5 years (i.e. not all at once)
- EMP's will be submitted progressively over the next few years covering different activities as they are required.

Clearance Request	Scope
• **Subject land 2 extension**	• Extension of existing Subject land 2 (Shenandoah Sth E&A Area) to capture future exploration and appraisal activities • Increase the number of 6 E&A Well locations within the area from 4 to 6 • Extensions of laterals to 5000m • [redacted] • Gathering lines and appraisal gas sale infrastructure
• **Regional surface water program**	• Expansion of the existing groundwater monitoring program to include surface water sampling • ~14 sites across the basin. Including Newcastle Creek, Lake Woods and various other semi-permanent waterbodies across the basin. • Provides information to demonstrate surface water bodies are not being impacted by activities • Program will be executed with support from Cultural Managers

[redacted]

Location of Subject land 2 clearance area

- Cleared area located within Exploration Permit 98 and 117
- Total number of cleared of sites within the cleared area from 4 to 6 (total) sites
- Includes construction of lease pads, camp pads, helipads, access tracks, gravel pits and laydowns
- 6-8 horizontals per well pad
- Increase lateral length to 5000m
- [redacted]
- Appraisal gas sale and SPCF (Compression facility)
- Sites to be located anywhere within cleared area, but predominantly around Kyalla 117 N2- these sites will be cleared by cultural managers prior to selection.



Regional Water Monitoring Program

- ~ 14 surface water sites across the basin are proposed to be monitored before and after the wet season to monitor water quality
- Program implemented by an indigenous business with support by an external hydrogeologist and cultural managers.
- Tamboran recognises that these are sensitive sites and request advice as to how to approach this program
- Data collected will be made available to Native Title Holders

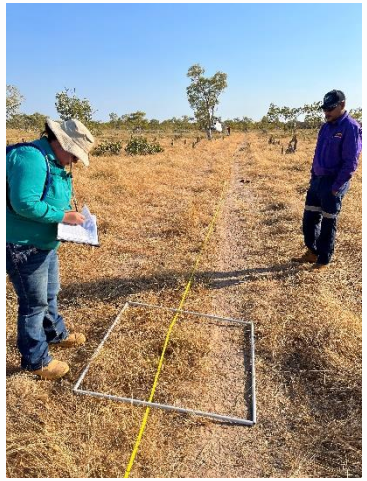
Local employment opportunities

Local employment opportunities

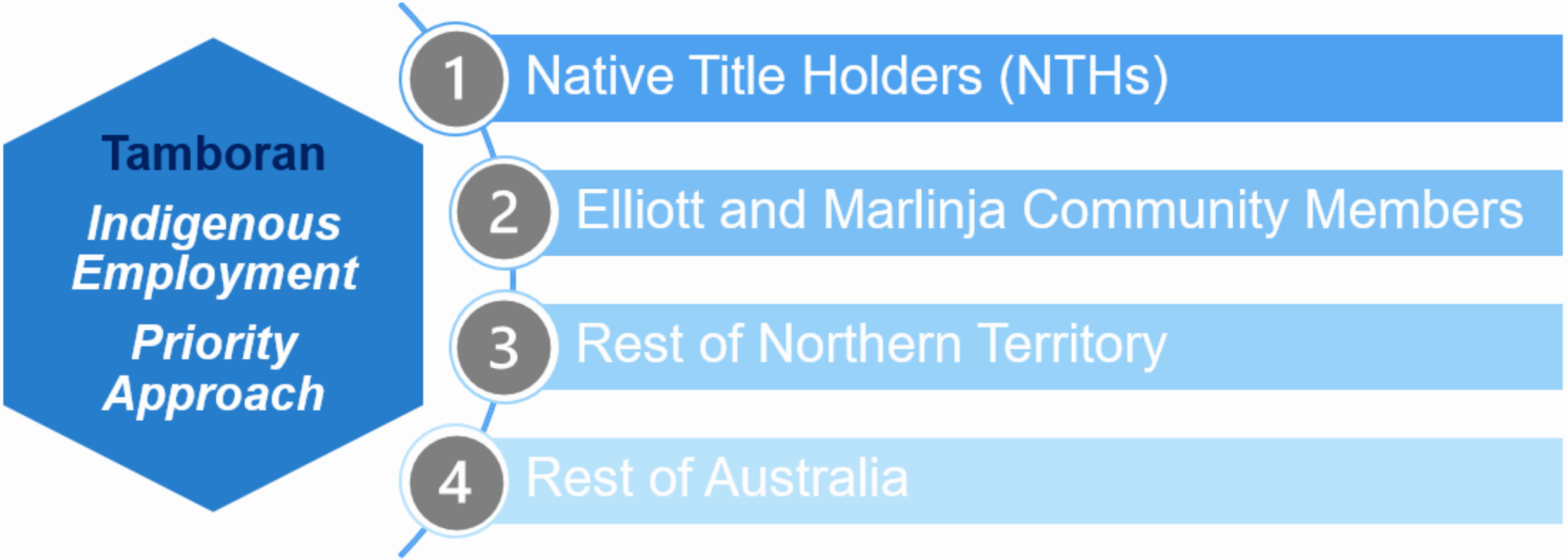
What has happened:

Since late 2022 Tamboran took over the Beetaloo Project and has been focused on continuing the implementation of a range of Indigenous business opportunities covering:

- Ongoing waste management support
- Site inspection and maintenance
- Security services
- Weed monitoring and management
- Groundwater monitoring
- Equipment gas leak detection
- Field scouting and rehabilitation monitoring (Cultural managers/ tradition knowledge holders)
- Hire vehicles

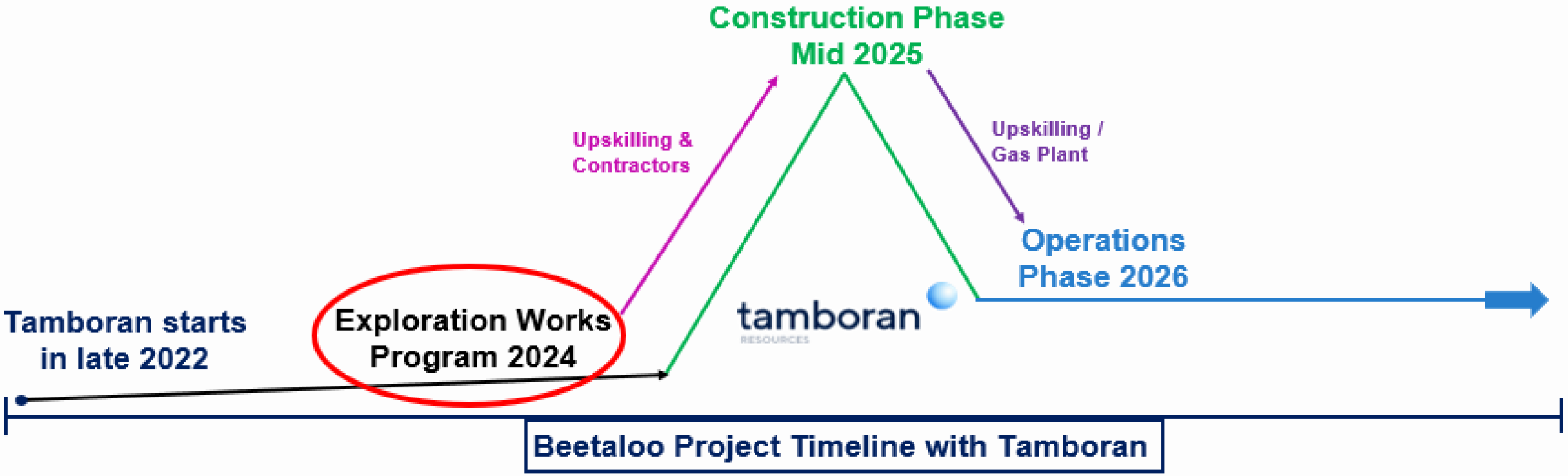


Local employment opportunities -TIEPA



- TIEPA to prioritize candidates when equally capable

Local employment opportunities - appraisal to production



Local employment opportunities – 2024 Work Program

Tamboran up coming entry level positions opportunities over the next couple of months for the 2024 Work Program

Position	Description	Vacancies	Duration	Tentative start date
Site Security	Security day/night, visitors check, weed and seed, etc.	3 contractor positions on a roster (TBC)	2024 Program	June/July
Site Camp Ops (Camp Contractor)	Cleaning and maintaining camp	4 contractor positions on a 2x2 week roster	2024 Program	June/July
Logistics support	Daly Waters Yard work	1 position with Tamboran on a 2x2 week roster	2024 Program	June/July
Seismic campaign	Trade assistant role seismic nodes deployment	2 to 4 positions with contractor – campaign based	2024 Program	October/November

Questions?

Appendix J.1.2 16 240516 Subject land 2 extensions-AAPA authority certificate application

From: Matt Kernke
Sent: Thursday, 16 May 2024 10:22 PM
To: [redacted]
Cc: [redacted] Robert Wear; Armando de la Flor Olavide; Emily Beresford-Cane; Russell Jeffrey; Faron Thibodeaux; Tamboran Contact
Subject: Subject land 2 extensions- AAPA authority certificate application
Attachments: Tamboran 2024 AAPA certificate application Subject land 2.pdf; Subject land 2 extension area clearance request.shp.kmz

Hi [redacted]

As foreshadowed, I can confirm we have submitted the AAPA certificate application covering the subject land 2 extension area. We have applied for a variation to the existing certificateC2024/031 covering the expansion of subject land 2 and inclusion of additional activities (such as appraisal gas sale, Sturt Plateau Compression Facility and new exploration well sites). These activities are within the attached which was taken from the 2024 NLC work program update and clearance request submission and within what was presented at the May On Country meeting. [redacted]

I have included the attachment for which was used to support the AAPA certificate application for your reference. We have also included the KMZ file provided to AAPA (they request a KMZ). This was taken from the previous spatial file provided to the NLC- so there is to be no discrepancies.

Below is an excerpt from the application submission.

Please let me know if you require any further information.

Kind Regards
Matt

AAPA Clearance Certificate Request

Subject Land 2 Extension

EP 98, 117, 76 – Beetaloo Joint Venture (Tamboran /Daly Waters Energy/ Falcon)

Version:	**1**
Submitted:	Matt Kernke
Presented by:	Tamboran
Review Date:	16/05/2024

CONTENTS

1 Introduction

In November 2022, Tamboran (B1) Pty Ltd (ABN 39 662 327 237) ("Tamboran (B1)") executed a transaction to purchase Origin B2 Pty Ltd (ABN 42 105 431 525) ("Origin B2"; A subsidiary of Origin Energy;) in its entirety. The transaction resulted in Tamboran (B1) acquiring Origin B2's 77.5% interest in Exploration Permits (EP) 76, 98 and 117 ("the Permits") under the Beetaloo Joint Venture ("the Beetaloo JV") with Falcon Oil & Gas Australia Pty Ltd ("Falcon"). Tamboran (B1) is a jointly owned subsidiary (in equal proportions) of Tamboran (West) Pty Limited (ACN 661 967 077) ("Tamboran West") and Daly Waters Energy, LP ("Daly Waters"). Tamboran West is ultimately owned by Tamboran Resources Limited and Daly Waters is ultimately owned by Sheffield Holdings, LP.

Northern Territory Government permit commitments across the Permits require Tamboran B2 to complete ongoing exploration and appraisal ("E&A") activities. Since 2015, the Beetaloo JV has drilled nine (9) wells in the Beetaloo Sub-basin ("Beetaloo"). These include wells on Kalala S (Kalala S-1), Beetaloo W (Beetaloo W-1), Amungee NW (Amungee NW-1, Amungee NW-1H, Amungee NW 2H and Amungee NW 3H), Kyalla 117 N2 (Kyalla 117 N2-1H and Shenandoah S-1H) and Velkerri 76 S2 (Velkerri 76 S2-1). The Shenandoah S-1H and Amungee NW 3H wells were drilled over the 2023 period.

Results collected from the Beetaloo E&A program highlighted the presence of various shales targets which are potentially suitable for a future onshore gas development. Recent well testing results from the Shenandoah S 1H well on Kyalla 117 N2, have highlight the potential prospectivity of the Velkerri B shale within the Shenandoah South Pilot Area. This area is anticipated to be the focus of future exploration and appraisal activities, including the sale of appraisal gas.

To facilitate the sale of appraisal gas (and other proposed activities) within the Shenandoah South Pilot Area, Tamboran B2 has requested the Northern Land Council's ("NLC") assistance to facilitate a Sacred Site Clearance Survey of an extended area around "Subject Land 2" to comply with the obligations of the Exploration Agreement(s). This request underpins this application to the Aboriginal Areas Protection Authority ("AAPA") for an authority certificate for all activities described within this document.

Tamboran requests that an Authority Certificate is obtained via agreement in accordance with s22(1)(b) of the Northern Territory Sacred Sites Act. The agreement forming the basis of this Authority Certificate application are:

- Exploration Agreement: Exploration Permit Application 117 - Borroloola Barkly Region, Northern Territory between Sweetpea Corporation Pty. Ltd. and the Local Aboriginal Groups and the Northern Land Council, as executed by tripartite deed on 23 November 2005;
- Exploration Agreement: Exploration Permit Applications 98 & 99 and Exploration Permit 76 - Borroloola Barkly Region, Northern Territory between Sweetpea Corporation Pty. Ltd. and the Local Aboriginal Groups and the Northern Land Council; as executed by tripartite deed on 24 November 2003.

2 Subject land 2 extension

Tamboran is seeking to expand the existing "Subject Land 2" clearance area which had previously been cleared for sacred sites as a part of the 2019/2020/2021 sacred site clearance request. The expansion of this area will allow for greater flexibility to locate future E&A activities, which will form part of subsequent annual work program updates. It is anticipated that various elements of the scope will be completed in this area over the next 1-5 years (and potentially beyond). The clearance area will also encompass the existing Subject Land 2 clearance area, with additional scope (such as additional well pad, appraisal gas sale, [redacted] etc.) proposed. An overview of the previously cleared areas and requested new clearance areas is provided in Figure 1 with digital GIS data included in this submission.

The list of activities that could be undertaken **anywhere within the clearance area** nominated in this request include:

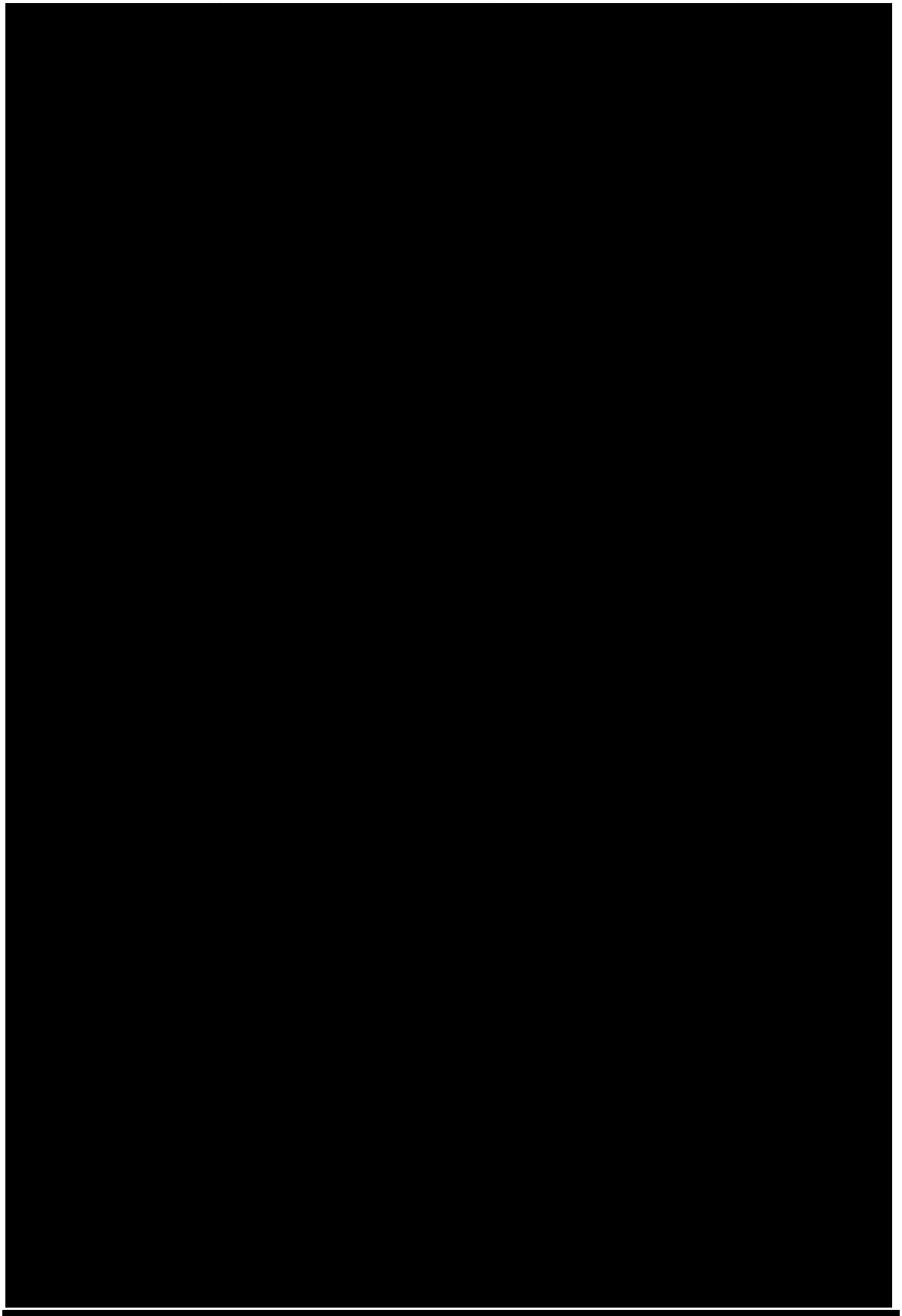
1. Scouting, surveying, and small-scale surface and shallow subsurface sampling of soils to support geotechnical studies and environmental evaluation.
2. Environmental baseline and compliance sampling of groundwater, surface water, soil, air quality, noise, fauna and flora.

[redacted]

4. Civil construction activities, including:
    - Construction, operation, maintenance and decommissioning of six new exploration sites each containing:
        i. A lease pad to accommodate exploration well drilling, hydraulic fracture stimulation and testing activities of up to approximately 5-12 hectares (ha).
        ii. An approximately 1-2ha camp pad adjacent to each lease pad to accommodate personnel during exploration activities.
        iii. An approximately 1ha helipad adjacent to each lease pad.
        iv. Construction of firebreaks and fence lines around infrastructure (~4 hectares or as required to maintain an appropriate asset protection zone around infrastructure).
    - Construction of access tracks to connect all lease pads and infrastructure to the Stuart Highway.
    - Construction of gathering lines (pipelines connecting well pads to transport gas, flowback water and/or fresh groundwater) ~3 – 5km per site @ ~15m wide each (noting gathering line disturbance may be wider to accommodate multiple pipelines and access tracks). Includes high point vents and low point drains located approximately every 1 km.
    - Up to an additional 25ha of disturbance to accommodate laydown/storage/ work areas/centralised waste management areas within the clearance area.
    - Construction and operation of up to five gravel pits, with a total disturbance of approximately 15ha.
    - Construction of temporary appraisal gas facilities, including compressed natural gas facility/ liquefied natural gas facility and/or the Sturt Plateau Gas Compression Facility SPGCF) (Figure 6)
5. Temporary worker camp construction and operation.
6. Drilling of up to eight groundwater monitoring / extraction bores and ongoing groundwater extraction and usage of groundwater at each lease pads/ site (potentially 250 to 650ML per site/year)- noting water extraction licences will be required to authorise all take
7. Drilling of up to six petroleum wells per lease pad, including the vertical and horizontal components to a typical vertical depth of <4000m and lateral length of 5000m.
8. Hydraulic Fracture Stimulation (HFS) of all horizontal petroleum wells
9. Well testing of petroleum exploration wells, including flaring, onsite usage of gas (for electricity and/or potential support of data centres) and/or sale of gas
10. Electricity generation onsite, including from diesel and appraisal gas fired generators
11. Long term (12- 36 month+) storage and treatment of wastewater on sites, including the construction of wastewater infrastructure to manage wastewater from multiple sites
12. Subsurface diagnostic tests and data collection (including, but not limited to, wireline logging, diagnostic fracture injection tests (DFIT), Cement bond logging (CBL), production logging tools (PLT), gas and water bound tracers open hole logging (OHL), coring etc,)
13. Microseismic and induced seismicity monitoring during HFS activities
14. Onsite offices, workshops, amenities, and storage areas required to support activities
15. Storage and treatment of drilling fluids and wastewater onsite
16. Onsite disposal of drilling cuttings and muds through onsite encapsulation or mix-bury-cover techniques

17. Routine site (surface) monitoring and maintenance
18. Routine well inspection, monitoring and maintenance; including data collection, reservoir evaluation and diagnostic testing
19. Suspension and/or abandonment of the wells
20. Rehabilitation of disturbed areas (lease pad, camp pad and access tracks)
21. All activities required to support the above (such as bulk chemical storage and use, bulk fuel storage and use, waste management, equipment and materials transport, helicopter movements, monitoring, maintenance etc).
22. All activities to allow good oilfield practice in support of the above activities.

An overview of the previously cleared areas and requested clearance areas are provided in Figure 1, with digital GIS data included in this submission. Examples of drilling, stimulation, well testing and compression facilities is provided in Figure 2 to Figure 6.



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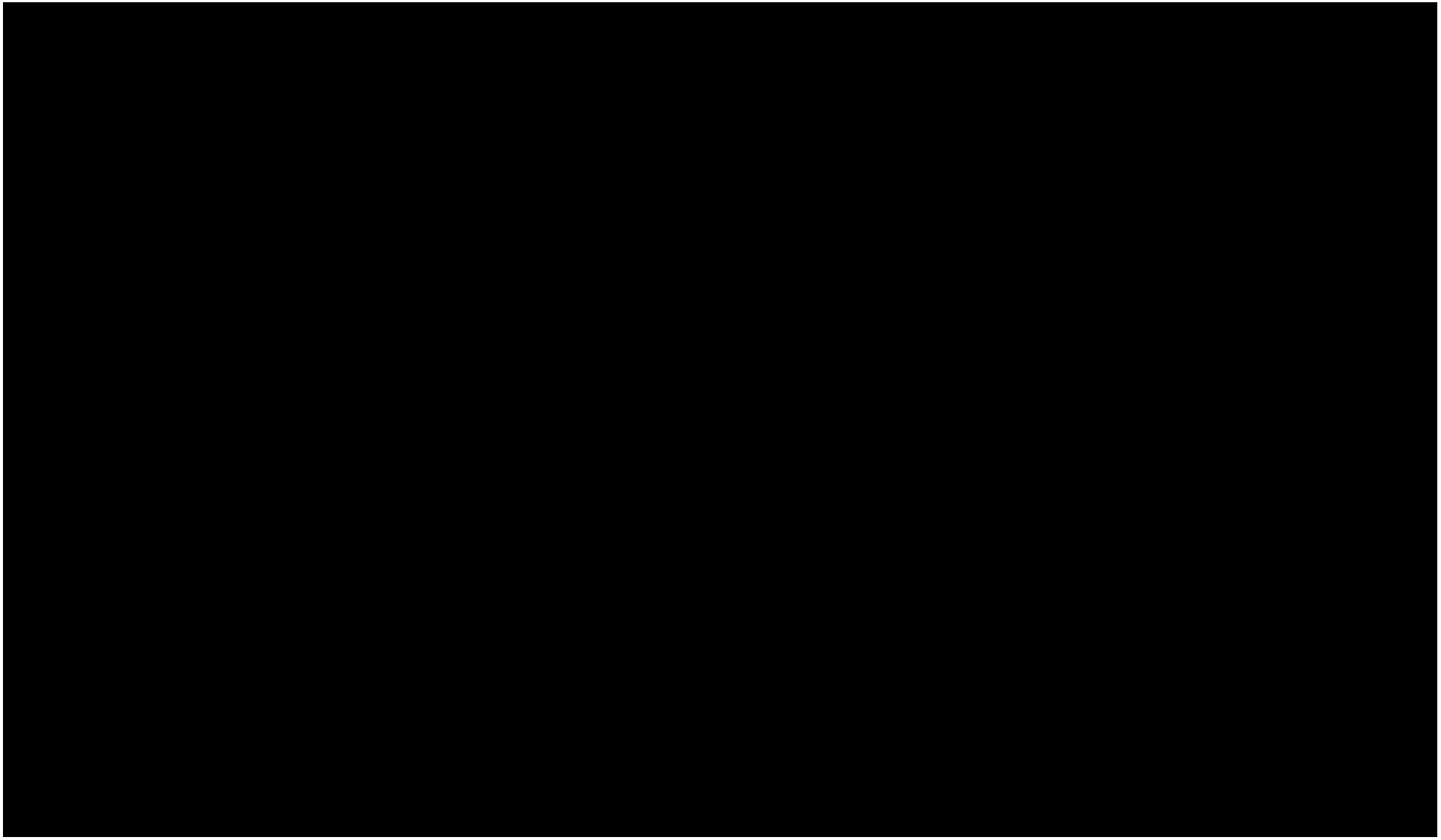


Figure 6 Analogue site for the Sturt Plateau Compression Facility (similar Senex Roma North Facility)

APPENDIX A Detailed description of regulated activity

The following table provides details of the proposed exploration activities proposed **within the requested clearance areas**. These descriptions are indicative and general in nature, minor departures from such descriptions are likely to occur and such departures are covered as much as practicably possible by the content of this activity description.

Table 1 Description of proposed regulated activity details within the clearance areas

Activity description	Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
Site selection and scouting The first step of the process when undertaking exploration activities is site selection. Proposed E&A sites are chosen based upon their assessed chances of exploration success and are ranked as either a priority site (highly prospective) or a contingent site (if a priority site is unavailable due to a constraint). The selection of a site from a subsurface point of view, is often based upon existing exploration information (or lack of), such as seismic data, inferred resource depth (within the oil generating window for example) and previous drilling results. It also includes an assessment of geohazards, such as known major faults or structural features. Once a location has been proposed (including for other infrastructure such as pipelines, access tracks, gravel pits etc.), each site is assessed for suitability using a multi-criteria analysis. This analysis covers several disciplines, including cultural, environmental, pastoralist, regulatory and constructability requirements. Once proposed sites have been identified, each site is assessed using a desktop screening process covering the following: • Cultural constraints: sites are chosen to avoid known sacred sites and other restricted areas identified through previous NLC field clearance reports, AAPA certificates or heritage mapping. • Environmental constraints: proximity to sensitive ecological features such as water courses, flood heights, high conservation areas, threatened species and habitats and sensitive soil units • Leaseholder constraints: proximity to existing pastoral infrastructure and activities, such as cattle yards, fence lines, access tracks, water supply networks, water bores, homesteads and laneways. At this stage, leaseholders are engaged to ensure early input into the location of potential exploration sites. Activities also considers timing constraints such as mustering. • Regulatory constraints: proximity to water bores, well pad spacing, landscape amenity and proximity to roads and communities. The number of sites are re-ranked and potentially eliminated based upon their constraints assessment. A revised list of sites will then undergo field “scouting”, to further assess their suitability. Scouting involves assessment by several different specialists with a “scouting party”. Scouting activities include: • NLC field clearance: Tamboran B2 submits its proposed work program to NLC annually and then initiates field clearance surveys. Traditional owners are then engaged by the NLC and inspect all sites/areas to determine the potential for sacred sites or other areas of cultural significance in the vicinity of the activity. A final report is submitted to AAPA by NLC to generate AAPA certificates which outline the activity constraints and no -go areas. • Environmental: areas are inspected by ecologists to ground truth for areas of potential high conservation, evidence of threatened flora and fauna, overland flow paths, drainage lines, soil erosion susceptibility, areas of high habitat value (such as large hollow bearing trees) buffer zones (from high conservation value areas) and future rehabilitation constraints. The infrastructure (including access tracks, lease pads and associated infrastructure) is orientated to minimise clearing (such as picking open woodland rather than dense Bullwaddy or Lancewood	N/A	2-6	During activity planning.	<4 weeks	

Activity description	Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
communities) and impacts on overland flow. A land condition assessment is completed for the proposed sites. • Archaeological scouting: detailed scouting is completed by a qualified archaeologist to identify any artefacts (such as spear tips, axes, stone workings etc.), scar trees or potential heritage features at the proposed sites. This is undertaken in addition to the NLC Traditional Owner clearances. • Constructability assessment: Constructability constraints are identified including geotechnical assessments, cut/fill requirements, soil types, rig operational requirements (orientation) and access construction constraints (such as access track design, water course crossings etc.). This often includes preliminary pegging of the proposed location Once the location of infrastructure has been proposed and finalised, the final location is pegged and surveyed. The engineering designs are updated and issued for construction.					
Access track construction Access tracks will be constructed to connect the proposed infrastructure to existing roads. Tracks will generally be constructed to at least NT Standard Drawings (CS3003) for Typical Cross Section for Rural Environment – Pastoral Access Road 2. Where possible access tracks will align with the existing seismic lines or other clearances/disturbances to minimise vegetation clearing. Access tracks will typically be less than 14m wide, with sections up to 20m wide where truck turn outs, erosion and sediment control and cut out drains are required. Access tracks will have various levels depending on landform and soil types. Each road will be constructed with an appropriate fall to prevent water pooling on the road surface. Drainage channels and cut outs are constructed to manage stormwater and discharge away from the road surface. Culverts, drains and bed level watercourse crossing are used to ensure overland flow is not impeded. Construction of erosion and sediment controls will be constructed in accordance with a Certified Practitioner in Erosion and Sediment Control (CPESC) accredited erosion and sediment control plan. Gravel will be used to form up access tracks in places to enable all weather access. Where access tracks intersect with main roads (such as the Stuart Highway), intersections will be upgraded to accommodate turning truck traffic in accordance with the Department of Infrastructure, Planning and Logistic (DIPL) design requirements. Access tracks are anticipated to be the first piece of infrastructure constructed to enable preliminary activities, such as the construction of groundwater monitoring bores.	<50ha (dependent on access track length)	<12 people	First activity required to enable civil construction and drilling.	Access tracks are likely to be continually maintained and surfaced throughout the life of the activity	 
Seismic consists of the following: Up to 500km^2 of low impact 3D seismic acquisition will be undertaken in the Subject Land 2 area. Tamboran will prioritise the avoidance of land clearing where possible, through locating source lines in a way that avoids large trees and dense vegetation. 3D seismic consists of the following consisting of the following activities.	< 100ha (noting minimal disturbance	6 to 35	Before or after exploration well drilling with the final	3 – 12 weeks per campaign	

Activity description	Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
[redacted]					

Activity description	Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
[redacted]					
Groundwater (monitoring and extraction) bore installation Installation of control and impact groundwater monitoring bores may be constructed on each of the lease pad within the underlying aquifers. These bores are required under the Code of Practice to establish baseline groundwater level and quality data prior to completing hydraulic fracture stimulation activities. Monitoring bores are required to be drilled and tested at least 6 months prior to drilling (except for exceptional circumstances) and stimulation activities and are often the first activity undertaken on a site (other than access tracks). Monitoring will continue throughout the life of the activity. The bores will also be used for groundwater extraction to support exploration activities. The construction of the groundwater monitoring bores will typically utilise a water bore drilling rig to construct the bores, similar to the rigs used to drill pastoral water bores. All groundwater monitoring bores will be constructed in accordance with the Minimum Construction Requirements for Water Bores in Australia. Bores may drill into the Anthony Lagoon formation (if present and saturated), Gum Ridge formation and other viable water bearing formations if encountered. Waste cuttings, drilling fluids, muds and formation fluids will be collected in a small earthen sump and managed in alignment with the practices outlined in the. Minimum Construction Requirements for Water Bores in Australia. The fluid (which is anticipated to be fresh) will be discharged to grade and the area surrounding the lease. The formation cuttings and drill muds will be mixed with soil onsite and incorporated into the lease pad surface.	N/A located on proposed lease pad	<12 people	The drilling of water bores is generally one of the first activities undertaken to provide water for construction and drilling activities. Additional monitoring bores are also likely to be drilled prior to stimulation	<4 weeks	
Lease pad construction Each proposed lease pad will be constructed to accommodate exploration well drilling, stimulation, testing and ongoing wastewater storage and treatment; on average, lease pads are less than 12 hectares (ha). Each lease pad will be located within the proposed clearance area, with the final location based upon seismic information combined with cultural, environmental, pastoralist and regulatory constraints. Once a suitable site has been selected the lease pad will be cleared of vegetation, grubbed and stripped of topsoil down to approximately 100mm (depending on the depth of topsoil onsite). Topsoil will be stored around the edge of the lease pad to form a bund, which will be used as both an erosion and sediment control measure and wastewater containment bund (around the wastewater storage areas). The lease pad will then be levelled, compacted and surface with gravel to accommodate exploration activities. Erosion and sediment controls will be constructed around the disturbed areas (such as rock check drains, woah boys and diversion drains). A sediment retention pond will be installed to manage surface water within the lease. Water captured onsite will be tested and released	Up to 12 ha (excluding firebreaks)	<24 people	Prior to exploration drilling	2-8 weeks	

<table>
<tr><th>Activity description</th><th>Disturbance area</th><th>Typical personnel numbers</th><th>Timing</th><th>Duration</th><th>Activity example pictures</th></tr>
<tr><td>into the adjacent area. The criteria for release is based on field parameters: EC 1300 µs/cm and pH 6 – 9.

A drilling sump, flare pit, well cellars, sediment ponds, bunds and other necessary earthworks will be constructed onsite. The drilling sump will be lined with an impermeable liner to contain all drilling fluid, drilling muds, cuttings, cement returns and waste sand. The drilling sump will generally be able to contain up to approximately 5000m^3 of material and required freeboard volumes (approximately 100m long x 25m wide x 4.5m deep). The drilling sump/broader site will be fenced to prevent livestock access.

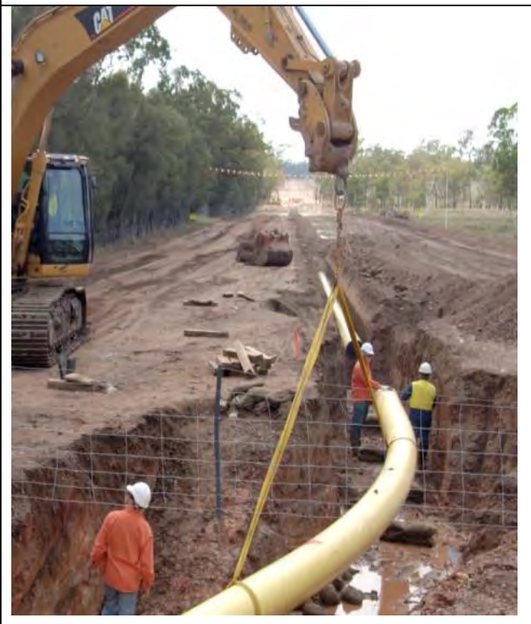
The well cellars will be constructed on the proposed lease to accommodate the wellhead equipment and blow-out preventer (BOP). The cellars are typically concrete- or steel-lined and prefabricated off-site. The cellars are typically transported to the site in one (1) piece and lowered into an excavated pit. A shallow conductor casing is installed within the cellar to approximately 20m using an auger. The shallow conductor casing is designed to prevent the upper sections of the exploration well from caving in when drilling through the unconsolidated sediments. The cellar itself will be fenced at all times to exclude fauna ingress. Cellars will be typically separated from each other by 10m-20m.</td><td></td><td></td><td></td><td></td><td>  </td></tr>
<tr><td>Gathering pipeline construction

Each lease pad may be connected via ether a surface or buried gathering pipeline. The gathering pipeline will be constructed to transport both gas and water to/and from pads. Gathering pipelines will be constructed in a cleared right of way of approximately 15-25m wide.

If the beneficial use of gas is approved, to allow the avoidance of the majority of flaring, appraisal gas would likely be sold into the domestic gas market via a high-pressure main pipeline constructed to connect processing facilities to the existing Amadeus Gas Pipeline. The construction f this pipeline is outside the scope of this engagement.

Construction for the gathering pipelines generally include the following activities:

Pipeline Construction

<table>
<tr><th>Stage</th><th>Description</th></tr>
<tr><td>Location</td><td>An initial route selection study will be conducted for the pipeline in order to optimise the pipeline route to connect each well pad. Typically these will be located along existing access tracks.</td></tr>
<tr><td>Pipe</td><td>The gas gathering lines will be designed and constructed in accordance with the requirements of AS 2885 Pipelines – Gas and Liquid Petroleum and Code of Practice for upstream PE gathering lines in the CSG industry.. Where pipelines are to be buried, the pipeline will be deep enough so current land use activities can continue after the pipe has been installed. The minimum depth of cover over the buried pipeline will be 750mm. For road crossings the depth of cover will be increased to ensure protection of the pipeline and the asset or feature being crossed by the pipeline. For surface pipeline, pipelines will be designed to withstand grass fires and secured to the surface as per the code of practice for upstream PE Gathering line sin The CSG industry.</td></tr>
<tr><td>Survey</td><td>The limits of the right of way (ROW) working width shall be marked with stakes at visible intervals.
A survey crew will work ahead of the initial clearance of vegetation from the ROW. This survey crew will utilise the project benchmarks to check and re-establish all agreed intersection points (IPs), mark the right of way boundaries and place offset/recovery pegs.</td></tr>
<tr><td>Clear and Grade</td><td>To allow construction activities to commence, the pipeline alignment needs to be cleared of vegetation, rocks, trees, etc to provide mainline construction vehicles access. Clearing and grading shall be minimised</td></tr>
</table></td><td>15-25m wide</td><td>~15-50</td><td>Main Pipeline construction expected to start dry season 2024</td><td>3-6 months</td><td>  </td></tr>
</table>

Activity description		Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
	to the extent necessary for the safe construction of the pipeline and shall in any event not exceed the maximum permissible width of the ROW except where additional working areas are defined and agreed. Light vegetation removed during clearing shall be stockpiled outside of the stripped ROW working area and will be respread during restoration unless the property owner requests that the vegetation be left as stockpiles.					
Pipe Transport and Stringing	Stockpiled pipe will be delivered to the ROW along the identified access tracks using prime movers and trailers. The specific logistics of the pipe haulage will be developed during the planning phase. The pipe trucks will only utilise specific access tracks which will be constructed (or upgraded) to allow them to pass. Pipe will be strung (placed on the ROW) directly from trailers onto saw dust filled bags or equivalent using a Vacuum lift pipe handler mounted on a hydraulic excavator, end hooks or slings depending on the pipe length and size, terrain. Strung pipe shall be supported clear of the ground and in a manner that will not damage the pipe or coating.					
Trenching (where applicable)	Where a buried gathering line is proposed, a trench is formed to accommodate the welded pipe strings and achieve the required depth of cover in accordance with the pipeline design. The trench shall be excavated along the surveyed and pegged centreline, in accordance with the minimum cover specified. Trenching operations are carried out utilising a combination of bucket wheel trenchers, rocksaws & 30T excavators. Accordingly, excavation plant, equipment and techniques will be selected to accommodate the anticipated conditions and required production rates. In areas of hard rock, controlled blasting using explosives may be required to break the rock to permit removal by excavator.					
Welding	Line pipe ends will be welded together (butt welded) to form pipe strings up to a typical length of 1km. The mainline welding crew is the engine room for the project's welding and sets the pace for mainline construction. The very agile and mobile poor boy crew carries out all difficult mainline welding sections and provides start joints for the mainline crew. Additional welding resources carry out all tie-ins and special crossings.					
Pipe laying	The coated pipe shall be placed/ lowered-in using a series of side booms so the pipeline has adequate and properly distributed slack, the pipe is not unduly stressed, and the pipe coating is not damaged. The prepared surface/ trench will be free of material that could damage the pipe, the pipe shall be laid directly on the trench bottom/ on top of the prepared surface (for above ground pipes). For buried, pipelines, the excavated material shall be used directly for bedding and padding. Where excavated material does not meet the specification, padding machines (screening machines) or similar will be used to produce bedding and padding. The trench will be back filled using the remaining trench spoil (excavated material) following the padding operation. The trench is compacted by wheel and/or track rolling with the backfilling equipment. Areas requiring higher compaction, such as road crossings, will be undertaken with an excavator mounted vibrating plate or other suitable manually operated or driven compaction equipment.					
High Point vents/ low point drains and valve pits	High point vents, valve pits and low points drains will be constructed along the length of the pipeline to manage gas/ water build up and provide isolation points. High point vents may be installed on the pipeline to manage the accumulation of gas collected in gathering lines. High point vents typically consists of a cement pipe ring, with a vent that is placed over the pipeline to allow gas to be released intermittently. It is anticipated that these will be placed every 1-2kms, depending on the local topography. High point drains will be designed to automatically release small volumes of built-up gas (1-2 litres at a time), in order to prevent a					 High point vent  Low point drain and high point vent

Activity description		Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
	gas lock in the water pipeline. High point vents will not be designed to be operated continuously and short duration of water transfers means most vents will be inactive (in comparison to CSG fields). Low point drains are designed to capture water that condenses within the gas line to prevent water locks. They are typically location 1-2 kms-depending on the topography. Low point drains typically consist of a cement pipe ring and a riser valve. A separate small water tank may also be utilised to assist in collecting and testing the water. Water vapour in the gas pipeline condenses as it begins to cool and reduce in pressure. This results in a low Electrical conductivity water that is tested prior to release. Releases are typically 10's of litres and rarely 100's of litres that occur typically monthly (if at all). The water will be tested for Electrical Conductivity (EC) and pH prior to release to the surface adjacent the pipeline. This ensures any separator "carryover" (i.e flowback that enters the gathering line due to a malfunction) is detected and prevented from being released to the ground. EC is the indicator of carryover, with a limit of 1300 µs/cm applied based on the long-term irrigation levels for moderately sensitive crops. Any water that exceeds this level will be trucked to a wastewater tank.					 Picture of a gathering line post construction.
Reinstatement	The pipeline ROW will be reinstated which includes replacement of previously stripped topsoil and rootstock, installation of contour banks, reinstatement of fencing & install new gates and revegetation as necessary. Restoration of the ROW shall be completed in accordance with any easement agreements, Environmental Impact Statement, Construction Environmental Management Plan and regulatory requirements.					
Pipeline testing	The pipeline will be hydrostatic pressure tested to prove the strength and leak tightness of the installed pipeline. The hydrostatic testing will be conducted by a certified mechanical testing laboratory and all test reports are to be certified. Approximately 0.5ML of water will be used for hydrotesting will be sourced under Tamboran's water extraction licence. Water will be released safely to the adjacent area where it meets the required release limit: EC 1300 µs/cm (based on the long-term irrigation levels for moderately sensitive crops) and pH of 6-9.5. Any water that exceeds this level will be either treated so it complies with the required limit or trucked to a wastewater tank.					
Commissioning	The commissioning phase of the works can be broken into two components, pre-commissioning and commissioning. Pre-commissioning is the exercise of manually proving each component of the pipeline/facility system prior to the introduction of gas. Example testing includes: • Verification that all parts are installed as detailed on engineering drawings, including position, orientation, part numbers, etc • Hydrostatic testing (confirming the system is leak tight), cleaning (blow through with air and cleanliness checks), drying and blow-through of piping • Bolt torquing of flanged connections • Functional testing of all manual valves through full extent of travel • Functional testing of all actuators and control valves through full extent of travel • Earthing compliance checks • Instrument calibration and installation checks • Insulation, continuity and point to point testing of all circuits installed by the Contractor					

Activity description	Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
Following the pre-commissioning phase, the asset becomes ready for the introduction of gas.					
Camp pad construction and camp operation A camp pad will be constructed adjacent to each proposed lease pad to accommodate a temporary 70-100 man camp (typically 80 man) to support civil construction and exploration (drilling, stimulation, testing and decommissioning) activities. Smaller, mobile camps may also be utilised across the clearance area during operations where required (for example to support seismic activities). The camp pad will be cleared of vegetation, grubbed and stripped of topsoil down to approximately 100mm (depending on the depth of topsoil onsite). Topsoil will be stored around the edge of the camp pad. The camp pad will then be levelled, compacted and surface with gravel. Erosion and sediment controls will be constructed around the disturbed areas (such as rock check drains, woah boys and diversion drains). Camps will be constructed with kitchens, offices, ablution blocks, accommodation blocks, storage containers, gymnasium, refrigeration, water treatment plan, sewage treatment plant, waste management areas, water storages, power generation, diesel storage tanks and car parking. All waste will be covered/stored in a manner that prevents feral animal access. An approved wastewater (sewage) treatment plant will be utilised to treat all sewage, with treated effluence irrigated in a fenced area adjacent to the camp (no clearing required). Treated effluence handling and irrigation will occur in accordance with the NT Department of Health requirements.	1.2-2.5ha	Typically <100 people (including housed staff)	For duration of activity	For duration of activity	
Helipad pad construction and operation A 1ha helipad may be constructed to accommodate wet season operations adjacent to each lease pad. Where prolonged access to the site is restricted, personnel and material will be helicoptered to and from site. The helicopter pad will be cleared of vegetation, grubbed and stripped of topsoil down to approximately 100mm (depending on the depth of topsoil onsite). Topsoil will be stored around the edge of helipad. The helipad will then be levelled, compacted, surface with gravel and then fenced. Erosion and sediment controls will be constructed around the disturbed areas (such as rock check drains, woah boys and diversion drains).	1ha	N/A	For duration of activity	For duration of activity	

Activity description	Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
Laydown/storage yard construction and operation Laydown/ storage yard may be constructed along access tracks to store materials, wastes, wastewater, equipment and other material as required. The laydown yard will be fenced to prevent access. These are typically 2.5- 5ha in size, with allowance up to 25 hectares for multiple laydowns. Laydowns may also be utilised for temporary offices/workshops/field camps or warehouse infrastructure support E&A and construction activities. The laydown/ storage yard will be cleared of vegetation, grubbed and stripped of topsoil down to approximately 100mm (depending on the depth of topsoil onsite). Topsoil will be stored around the edge of helipad. The yard will then be levelled, compacted, surface with gravel and then fenced. Erosion and sediment controls will be constructed around the disturbed areas (such as rock check drains, woah boys and diversion drains).	25ha	N/A	During exploration activities (as required)	For duration of activity	
Gravel pit construction and operation. Up to 15 hectares of gravel pits (multiple pits, anticipated to be ~5) may be constructed to support the construction of infrastructure onsite. The exact location of pits within the clearance area will be determined based on operational requirements (i.e. pits are constructed as close as needed to infrastructure) and through further testing. Up to a total of 50,000m^3 of gravel may be nominally taken from pits specified in the clearance request. The quantity of gravel extracted from a pit varies, depending on quality and quantity of material found in each pit. Pits generally don't exceed a depth of ~3 m. Estimated volume of gravel for the regulated activities in the EMP is approximately 10,000 m^3 to 20,000 m^3 per site – i.e. materially less than the nominal 50,000m^3 allowance. Each gravel pit area will be progressively cleared of vegetation in 1-2 hectare stages (to minimise the required disturbance). Each pit stage will be stripped of topsoil down to approximately 100mm (depending on the depth of topsoil onsite). Topsoil will be stored around the edge of the lease pad to form a bund, which will be used as both an erosion and sediment control measure and to prevent overland flow access to the site. Subsoils will also be stripped, segregated from topsoil and stockpile around the edges of the gravel pit. Gravel will be periodically extracted from the pit, with the pit designed to drain internally. The Erosion and sediment controls will be constructed around the disturbed areas (such as rock check drains, diversion drains and bank stabilisation using fallen debris). Once gravel activities are finished, the pit will be reshaped, with subsoils re-instated. Topsoils will be spread and fallen vegetation returned to aid site stability. The area will be temporarily fenced (where required) to allow vegetation regrowth. Seed maybe added to the site to support natural regeneration if required. The pits may be converted to pastoral watering points where appropriate and approved by pastoralists. An access track will be constructed to each pit, with the length of access track to be determined based on location of the pit The access track will typically be less than 14m wide, with sections up to 20m wide where truck turn outs, erosion and sediment control and cut out drains are required.	Gravel pit <15ha	<6 people	For duration of activity	For duration of activity	
Exploration well drilling Multiple petroleum exploration wells are proposed to be drilled at each site (typically 6-8 but potentially more where multiple formations are targeted). Wells may be drilled progressively (i.e. 1 or 2 at a time) or over a single campaign. Each well will be drilled into an underlying prospective petroleum reservoir (such as the Velkerri shale, Kyalla shale or other formation) to a typical depth of 1500m-4000m. Each well will be deviated into the horizontal position, with a lateral drilled up to 5000m. Longer lateral lengths result in greater	N/A located on proposed lease pad	<60 people	Post civil construction	Typically 45 - 90 days per well	

Activity description	Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
levels of production per unit of impact. The required land, water and energy required to construct longer wells is less per unit of energy produced- and is therefore more efficient better for the environment. Each petroleum well is designed and constructed in accordance with the Code of Practice for Onshore Petroleum Activities within the Northern Territory (Code of Practice) to maintain well integrity and protect aquifers and the environment. A Well operations management plan (WOMP) is required to be submitted to the regulator and approved prior to the drilling of any wells. The WOMP outlines the well design and drilling practices that will be deployed to ensure compliance with the Code of Practice and protect underlying aquifers and the environment. Each well is anticipated to be constructed with multiple casing and cement strings as per NT drilling regulations. Once the well design is approved by the Northern Territory government (NTG), a rig package will be mobilised to site, which consists of a drilling rig (comprising rig matting, a rig floor, mast or derrick, rig engine, blow out preventor, catwalk, safety flare etc.), pipe racks, casing strings, drilling rods, rig fluid system (mud tanks, shakers, mud treatment system and pipework) storage trailers, bunded chemical storage areas, workshop portable onsite offices, crib huts, mini-rig camp and sewage treatment system and irrigation area), freshwater storage tanks, diesel power generation, cement trucks, bulk fuel storage, water transfer pumps, fork lifts, lighting towers, crane etc. The rig will be constructed over the pre-installed conductor casing and cellar. Once functional, drilling will proceed down below the first encountered aquifer, where the first casing section of the well will be installed (either in the Anthony Lagoon Formation if present and saturated or the Gum Ridge formation (anticipated to be present). A BOP will then be installed, to ensure any influxes of gas, water or pressure are able to be safely managed during drilling of the remaining sections of the well. The drilling rig will continue to drill the various other casing and cement sections. The integrity of each of these casing strings is tested through a combination of leak off tests, formation integrity tests. casing pressure tests, cement return tracking and cement bond logs. Upon completion of drilling, a barrier integrity verification report is submitted to the regulator summarising the integrity of the well. This report is publicly available. Once each well is finished drilling, the well head is installed and the rig is either “walked” to the next adjacent location with the process repeated or mobilised to a new location. A low toxicity water-based drilling mud is to be used as the base fluid for drilling, which primarily contain salts and polymers. Drilling mud is required to maintain well control, provide formation stability, lubricate and control the temperature of the drill bit and lift cuttings to the surface. The fluid system consists of water with a sodium or potassium-based salt (to prevent formation swelling) and a viscosifying agent such as bentonite. Other low toxicity chemicals such as barite, citric acid, sodium bicarbonate and loss circulation material (fibres such as coconut coir or nut hulls etc.) may also be used. The chemicals used for drilling are consistent with those used for water bore drilling. Waste drilling muds, fluids, cuttings and mineral waste (such as cement returns, sand etc.) brought to surface will be stored in the lined drilling sump. Drilling fluids will be evaporated and then removed from the sump and disposed of offsite. Solid waste within the drilling sump will be allowed to dry out and then either removed from site or disposed of onsite in accordance with the Code of Practice. Where onsite disposal is proposed, a risk assessment will be completed demonstrating that the activity can occur with no residual environmental harm. Onsite disposal can include encapsulation or mix bury cover, depending on the site specific details and final composition of the drilling waste material. Subsurface diagnostic tools will be run on the well during and after drilling to understand the nature of the target reservoir. Some sections of the formation may be cored or have sidewall samples collected, which will add further analysis of the reservoir properties. To					 

Activity description	Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
assist with determining the suitability and capacity of these formations for potential gas extraction activities, diagnostic fracture injection test (DFIT) may be conducted across a number of shale intervals to evaluate the geo-mechanical and reservoir properties of the targeted formation. Prior to a DFIT, a cement bond log and casing pressure test is completed to ensure the integrity of the cement and steel casing. A DFIT involves the injecting of small volumes of a water (approximately 30 barrels (5,000L) per DFIT) at low pumping rates to create a small fracture in the target interval. The well is shut-in, and the pressure allowed to fall-off naturally. Monitoring the fall-off pressure over time allows information to be derived about the reservoir. The fluid does not contain proppant so that the fracture closes naturally when the fluid leaks off into formation. The analysis of pressure, during injection and after shut-in, provide powerful tools for understanding and subsequently informing the design for a future hydraulic fracturing process (not in this scope). Any returned fluid will be stored within double lined tanks and disposed of offsite at a licenced facility. All waste drilling fluids, muds, cuttings, DFIT return fluid and cement returns will be managed in the existing lined drilling sump on-site (or equivalent tanks or fit-for-purpose containers). Once drilling has been completed, this material will be sampled and tested as per the code of practice and a risk assessment completed to determine whether onsite encapsulation or mix-bury-cover can occur in an environmentally acceptable manner. In most cases, drilling wastes will be dewatered, blended with native soil and encapsulated within an impermeable liner. A cap of clean material will be placed over the liner to enable vegetation growth.					
Hydraulic Fracture Stimulation Upon completion of drilling activities, hydraulic fracturing stimulation (HFS) plant and equipment (commonly referred to as a "frac spread") will be mobilised to site to commence HFS (or stimulation) activities on each of the drilled wells. A frac spread typically consists of: • Data Van – on-site office to execute stimulation activities • Water Storage – tanks will be constructed on-site, capable of managing both make-up water (for frac fluids) and flowback water. Tanks will be double lined with leak detection capable of monitoring any leaks between the primary and secondary liner • Proppant Trailer – a large sand storage and delivery trailer that holds the proppant • Hydration Unit – used to add stimulation additives and viscosifying fluids • Blender Unit – used to mix proppant and fluid additives, prior to its injection into the well • High Pressure Pumps – pumps to inject the hydraulic fracturing fluid mixtures from the Blender Unit down the well, via the surface lines and hydraulic fracturing wellhead or coiled tubing unit • Coiled Tubing Unit – a large length of coiled steel pipe that can be temporarily installed in the well to perform various downhole operations • Wireline unit – plug and perforation deployment • Ancillary support equipment and buildings – offices, workshop, cranes, chemical storage area, equipment storage, power generation and all other activities required to support stimulation activities. Stimulation involves the injection of a slurry, primarily consisting of water (raw water or a mixture of raw water and recycled flowback wastewater) and sand (proppant), plus a small percentage of chemicals at high pressure into the target section of the horizontal wellbore. Typically, >90% of the total volume of stimulation fluids is a combination of water (fresh and recycled wastewater) and sand (~6-8%), with the remainder as fluid-conditioning additives (~2-4-%). Prior to the commencement of stimulation activities, the integrity of the well is tested with a cement bond log and pressure casing tests and an integrity report generated, which is	N/A located on proposed lease pad	<50 people	Post E&A well drilling	2- 8 weeks per well depending on stimulation size	 

Activity description	Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
submitted to and assessed by the regulator prior to the commencement of stimulation activities. The stimulation fluid is generated through mixing freshwater, recycled flowback, chemicals and sand in blenders. Stimulation fluid is then pressurised by the high-pressure pumping units and directed downhole via a manifold to the discrete target intervals along the horizontal wellbore (referred to as 'stages'). Each stage will be isolated and perforated using a plug and perforation gun assembly deployed via a wireline unit. As the pressure is sustained, the fractures propagate radially from the well, through the target rock. Once optimal fracture propagation has been achieved, the proppant (sand) is pumped down the well and into the open fractures. This process is repeated for each stage. The final number of stages pumped in each well is dependent on the useable length of the horizontal wellbore and in-situ geological conditions. Once all stages are complete, the well is suspended awaiting completion and well testing activities. Wellbore pressures are monitored during each stimulation, to ensure the operations have not compromised the integrity of the production casing or the cement barriers. A Maximum Allowable Operating Pressure (MAOP) is an important engineering parameter used to define the operating envelope (i.e. the safe maximum pressure that should not be exceeded). The maximum allowable pumping pressure (MAPP) is set below the MAOP to allow for uncertainty and provide an additional safety margin so the MAOP is not exceeded.					
Exploration well completion Once each well has been stimulated, a completion rig will be mobilised to site to "complete" the well. This involves installing downhole equipment such as packers, plugs, production tubing, artificial lift etc. required to enable the production testing.	N/A located on proposed lease pad	<12 people	Post stimulation	1-2 weeks	
Well testing Once the well has been completed, the well will be brought online and tested. To enable the testing, a well test package will be installed at the site consisting of: • Separators (to separate gas, condensate and water) • Flares (either a vertical or horizontal), • Flare pit (if a horizontal flare is utilised • surface pipework, manifolds, and tanks • communication and generator shacks • workshops/ storerooms • bulk diesel tanks • wastewater storage tanks (converted freshwater storage tanks used for stimulation makeup water) • Water transfer equipment • Wastewater evaporation and treatment units	N/A located on proposed lease pad	<12 people during production testing	During exploration activities	Typically 30 days to 24 months.	

Activity description	Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
The E&A well will be underbalanced (or “unloaded”) to initiate production, either through its own energy or through artificial lift (such as through a Nitrogen lift or pump). The fluid and gas will be sent through a separator, with all hydrocarbon metered and flared. Flowback water will be discharged from the separator into designated wastewater storage tanks. Well testing will typically be undertaken from a period of depending on the objective of the well. Multiple well testing operations may be required to test the behaviour of the formation to determine whether extended shut ins can affect well productivity. Gas will be either flared, sold (piped or compressed/liquified and trucked) or beneficially used onsite to reduce greenhouse gas emissions where possible.					
Appraisal gas sale- Temporary Sturt Plateau Compression Facility (SPCF) The collection of extended well testing information is required to underpin future capital expenditure in the basin. To minimise greenhouse gas generation during this period, the sale of appraisal gas is proposed. Selling the gas, rather than flaring, will reduce scope 1 emissions and result in a net benefit from any produced hydrocarbons. To enable the sale of gas, the gas must be treated and dehydrated to meet the sales gas specification. To facilitate this, a 60 TJ/day temporary gas compression facility will be constructed to compress (pressurise) the gas to a level that can then be transported into the AGP. It is anticipated that gas to this facility will be sourced from surrounding appraisal wells which will be progressively drilled and tested to collected long term data on the viability of the shale resource. Operation of the facility is anticipated to occur for 24-36 months- with the extension of life beyond this time requiring approval under the ILUA, Petroleum Act, EP Act and EPBC Act. It is anticipated that Tamboran will construct 3-5 skid mounted compressor station with gas dehydration. Allowances for an additional 3-5 compressors to manage lower inlet pressures if they are encountered has also been included. Gas collected from each well will be piped into the SPCF. The gas enters an inlet separator, where any water is removed and sent to wastewater storage tanks via pipework. The gas then enters the compressor, which pressurises the gas to approximately 11MPa . Small volumes of gas are directed to the compressor as fuel and to onsite power generators used to power electrical systems. Solar and battery systems may also be constructed to assist in supplying electricity to the facility. Once compressed, the gas is then sent to a Triethylene glycol (TEG) reboiler unit where TEG is added to the gas stream to remove (dehydrate) any excess moisture. Moisture binds to the TEG and the impregnated TEG is then captured and entrained water “boiled off” to regenerate the TEG. It is then re-used in a closed system with periodic top ups. The gas is then sent through a gas chromatograph and meter to monitor quality and quantity, prior to being discharged to the sales gas line for sale. A flare will be located onsite to manage plant shutdowns/ trips/ maintenance. The flare will be a smokeless flare, with the tip package containing an automatic ignition system to ensure continuous operation. The gas compression facility will also contain ancillary support infrastructure, such as instrument air packages, demountable offices, toilets, small kitchen/ tea room and night shift accommodation, potable water storage tanks, fire water tanks, small material laydowns, waste management, bunded chemical management, storage sheds, work shop and other minor buildings will also be constructed to support the GCF.	~5 ha .	50 during construction, ~4 during operations.	Early works August/ September 2024. Major works 2025.	18 months	   Examples of small gas compression facilities that are indicative of what it likely to be constructed at Shenandoah S2 (same facility looking from different

Activity description	Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
Stormwater collected in the facility will be diverted away from the compressor stations. Water collected in the compressor units will be directed into an oily water separator with clean water released to soaking trenches or irrigated. Key controls include: • Noise abatement on the compression facility- including exhaust silencers, and low noise fans • Low NOx compressors utilised • Gas venting will be minimised through TEG stripping gas optimisation, selection of low emission compressor seals and ongoing maintenance programs • Leak and flame detection sensors within gas plant to detect leaks/ fires. • Lightning protection to be utilised. **Construction:** The construction of the SPCF is anticipated to commence in late 2024 with the completion of bulk civil works and the installation of footings and pilings for the temporary GPF. Undertaking this work in 2024 will ensure the GCF can be constructed in the 2025 dry season for first gas in late 2025/ early 2026. The construction of the SPCF will involve the clearing of vegetation from the site, grubbing to remove tree roots, topsoil stripping, removal of large rocks and then levelling, compacting and sheeting the proposed CPF area with gravel. Felled vegetation will be pushed to the outer batters to increase soil stability. Site offices and amenities, laydown areas, erosion and sediment controls will be installed to support this program, with crews staying at the existing camps either on Shenandoah S2 or Kyalla 117 N2. The construction work force is anticipated to be approximately 50 personnel. Pipework and underground services will be installed in trenches, backfilled and compacted. Additional crossing reinforcement for protection of buried services in trafficable areas will be installed as appropriate. Steel pile foundations will be driven into the prepared facility pad and welding of pile caps onto piles in preparation for equipment skids (compressors, TEG units, instrument air etc.) skids to be landed. It is likely that the installation of foundations will occur in late 2024 to enable construction of the main plant during the 2025 dry season. The pre-assembled skidded pipe rack modules will be installed onto the foundations requiring lifting onto pile caps with cranes and welding in place, bolting flanges to connect interfacing skids and equipment packages, installation of site run utilities piping, lifting and welding in place of skidded equipment packages. Cables and cable supports, ladders and trays, termination of cables into relevant panels (control and low voltage), installation of tubing and glanding of instruments, mounting instruments onto piping or instrument stands will then occur. Once all piping, instrumentation, compressors, power generation, flares, etc. are installed, the site will be commissioned ready to commence production. It is anticipated that the majority of construction work will be undertaken in the 2025 dry season. **Operation:** The SPCF will typically be manned 24 hours a day by 2-4 personnel; 2 operators and 2 maintenance personnel. These personnel will be based at the facility, with basic accommodation and kitchen facilities provided at the site. Additional contractors and staff will be brought on as required for ongoing maintenance. The facility may be shutdown partially or fully for major maintenance. **Decommissioning**					angles). This gas compression facility is Senex's Roma North facility.

Activity description	Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
During the decommissioning, all lines will be fully purged of hydrocarbons and fluids. The skid mounted equipment will be dissembled and removed from the site. These facilities may be re-used within the basin, sold or scrapped. All footings and underground piping will be removed, with any contaminated soils removed to a licence facility. Testing will be completed in alignment with the National Environment Protection Measures to verify the site is safe and is brought back to levels consistent with pre-disturbance. This includes supporting pastoral and NTH use. The site will then be ripped to reduce compaction, topsoil applied, recontoured and seeded with a native seed mix if required (i.e. seed stocks in topsoil are insufficient or vegetation re-establishment). Fencing on the site is likely to remain until the site has sufficiently re-established. Once the site has become re-established and the rehabilitation criteria achieved (typically after 2-3 years), then any fencing will be removed and an application to relinquish the site and associated bank guarantee to the NTG will be made. If accepted, the site will then by fully handed over.					
Wastewater tank storage Flowback and drilling wastewater will be stored one each location or piped to a centralised location for storage via gathering lines. Wastewater will be recycled within the drilling or stimulation process to reduce raw groundwater volumes. Wastewater not earmarked for recycling will be treated on site via evaporation within open tanks (or other treatment technologies such as enhanced evaporation units, brine crystallisation etc.) and removed from site upon completion of activities. Double lined wastewater tanks will be utilised to store wastewater, with the volume and number of tanks installed dependent on the anticipated flowback return volume. A combination of round (Riptide) and square (Flexiponds) will be constructed and used to manage wastewater on site. Wastewater storage tanks have continuous level monitoring, with leak detection sensors located within the interstitial space between the primary and secondary liners. It is anticipated that between 10ML to 30ML of tanks storage may be installed onsite, with a combination of enclosed tanks and open treatment tanks. In accordance with the Code of Practice, sufficient enclosed tank capacity must be onsite to store all wastewater. Flowback can only be stored within open tanks where undergoing treatment (such as evaporation). Open evaporation tanks must have a 1:1000 annual re-occurrence Interval (ARI) wet or dry season freeboard (i.e. available tank space to accommodate rainfall), which is typically 1.3M or 0.3M respectively. The lease pad or a specifically constructed wastewater storage areas will be bunded to contain 110% of the volume of the largest tank stored onsite. Wastewater storage tanks may be deployed for extended periods of time (potentially several years) to allow ongoing evaporation or treatment. Wastewater from other sites across the basin may also be used to stored onsite, to assist in wastewater treatment/ management. The treatment of wastewater may also be undertaken within Tamboran infrastructure footprint (such as lease pads or laydown yard) to reduce the amount of offsite wastewater trucking.	N/A located on proposed lease pad	<4 persons	During wastewater storage activities.	3-36 months	 Flexipond  Circular tank

Activity description	Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
Flaring During well testing and where gas cannot be beneficially used or sold (such as during facility downtime etc.) , produced hydrocarbons (gas and liquids) will be flared onsite, with a vertical flare used to manage gas and a horizontal flare used to manage condensate where it is anticipated to be encountered. The vertical flare will be an American Petroleum Industry (API) 537 and a US EPA AP 42 compliant unit, with a 98% combustion efficiency. The vertical flare will have a constant pilot flame, with an autoignition system that provides electrical impulses to a spark plug continuously. If the flare was to go out, the spark would ignite the flare within 1.3 seconds. A horizontal flare may be utilised to combust condensate if produced during well testing. A horizontal flare will be equipped with 3 independent nozzles, located in a 20mx 10m clay lined pit. Flares will be located at least 45m from the surrounding vegetation, with flaring not undertaken during total fire ban periods.	N/A located on proposed lease pad	<12 people during production testing	During exploration activities	During production testing.	
Condensate management (storage and trucking) Where condensate (liquids rich gas that "condenses" when brought to the surface) is generated, it is separated and stored within double lined condensate tanks. Condensate may either then be trucked offsite for beneficial use or combusted in the horizontal flare. Condensate is not anticipated to be produced form the Velkerri shales, but may be generated form the Kyalla shales (not currently a focus of exploration).	N/A	1-2 trucks per day	During exploration activities	During production testing.	
Drilling waste management All waste drilling fluids, muds, cuttings, DFIT return fluid and cement returns will be managed in a lined drilling sump on-site. Once drilling has been completed, this material will be sampled as per the Code of Practice and a detailed risk assessment completed to determine whether onsite encapsulation or mix bury cover can occur in an environmentally acceptable manner. In most cases, drilling wastes will be dewatered, blended with clean fill and encapsulated onsite within an impermeable liner. It will then be buried with capping material to enable vegetation re-establishment. To reduce the number of sites where material is mix-buried covered, multiple wells from other locations may be disposed of at a selected location. Where the quality or site is unsuitable for in situ disposal, material will be trucked off to a third party licenced waste disposal site. A schematic of the mix bury cover process is provided in appendix C.	N/A- within proposed lease pad	< 6 people	Upon completion of drilling activities	7 days	

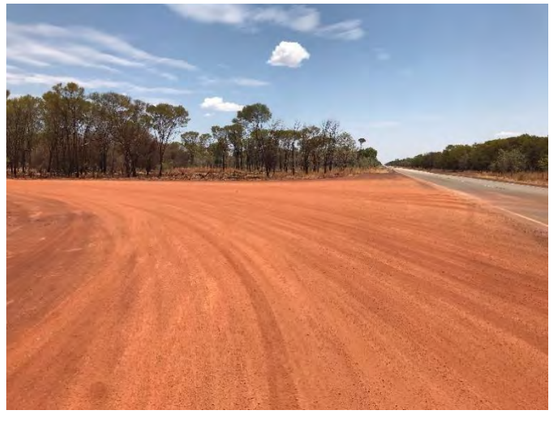
Activity description	Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
Wet season operations Exploration activities (including drilling, stimulation and well testing operations) may occur over the wet season. Where wet season operations are undertaken the following risk controls will be implemented: • All chemicals, fuels, equipment, tanks and materials required for ongoing operations will be stored on-site prior to the onset of wet season significant rains (notionally December or as predicted). • All equipment required to respond to emergency situations will be on-site or regionally available to respond to emergency situations. Where specialised equipment is required, then additional information will be brought into basin. • All chemicals storage areas will be bunded, with covers used (where safe and appropriate) to prevent rain ingress and bund overflows. • Enclosed tanks will be utilised as the primary measure to store flowback wastewater with enough enclosed tank capacity to store all flowback wastewater on-site. • Enclosed flowback wastewater storage volume will be sufficient to manage all flowback wastewater stored onsite. • Open working evaporation tanks and mud sumps will have enough freeboard to manage an entire 1:1000 ARI wet season event (not just one (1) rainfall event but an entire season's rainfall total). • Helicopters will be used to transport people and supplies into and out of the site when access is restricted. • No transportation of flowback wastewater or chemicals will be undertaken during the wet season, unless a risk assessment is undertaken that demonstrates the risk is ALARP and acceptable, and the access to the site is safe. Transportation will not occur on track where the surface is not safe to allow transportation. Wastewater and chemical transportation will not be undertaken through flooded waterways. The transportation of wastewater/ chemicals during rainfall events will be avoided. Driving on unsealed roads and access tracks will be avoided 24 hours following a >20mm rainfall event. • Flowback wastewater storage area is bunded, which will prevent all off-site release of chemicals and stormwater. • During flowback wastewater storage, stormwater will be retained on-site via the sediment retention pond prior to release. • Overland flow will be diverted around lease pads as far as reasonably practicable.	N/A	N/A	October – May	7 months of the year	
Microseismic survey and Induced Seismic Monitoring Microseismic Surveys are undertaken to monitor 'listen to' the Hydraulic Fracture Stimulation Operations on each of the sites. Seismic Receivers called geophones are individual weatherproof units that contain a sensitive seismic recording device, memory storage, a long-life battery and GPS locator. The Geophones are deployed 5-25 metres apart along lines or in a grid over an area of 30-40km2 around each of the well during stimulation activities. Geophone deployment locations are located on foot by GPS locator. A handheld battery drill is used to create a 4cm diameter hole with an auger bit, a small quantity of water may be used to stabilise the soil. The Geophone is inserted into the hole so that the top of the receiver is flush with the surface of the ground (see picture) The Geophones deployed prior to the commencement of stimulation and retrieved after the stimulation has concluded. Deployment and retrieval of the Geophones is undertaken in small teams of 2 or 3 people, with the number of deployment teams depending on survey size. The teams are supported	Minimal	3-9 personnel.	Deployment of Geophones before stimulation. Retrieval of Geophones after stimulation.	1 month (one week deployment, two weeks Stimulation, one week collection)	

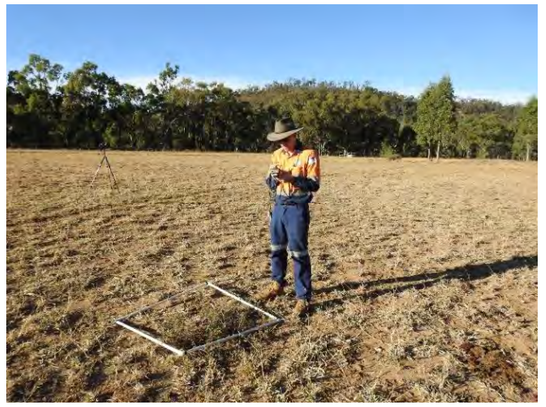
Activity description	Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
by a light 4WD vehicle or an All-Terrain Vehicle to carry equipment, gear, water, communication (radio/satellite phone), first aid kits and safety gear. Induced Seismic Monitoring will be undertaken at the same time as the Microseismic monitoring. A temporary seismic receiver is installed ~1km from the well site, with a small amount of other equipment such as solar panels and data transfer equipment. The equipment can be fenced off with temporary fencing if there are cattle in the area. The data from the seismic receiver is sent wirelessly back to the well site to enable live monitoring of seismic events during Hydraulic Fracture Stimulation. The Induced Seismic Monitoring equipment is installed prior to Hydraulic Fracture Stimulation, and remains installed, collecting data for up to 2 months after the conclusion of Hydraulic Fracture Stimulation. Minimal clearing or heavy machinery is required for either activity, and the activities are considered to have a minimal impact, like that of scouting activities.					
Site monitoring and inspections consisting of the following: • **Groundwater monitoring:** Groundwater monitoring bores are required to be installed on the lease pad before the commencement of hydraulic fracture stimulation activities. Groundwater monitoring is undertaken at the site commencing 6 months before stimulation and then quarterly for 3 years after. Groundwater monitoring involves purging a monitoring bore of water, measuring field parameters (level, electrical conductivity) and collecting laboratory samples and • **Site and exploration well monitoring-** an operator or contractor will access the site to perform checks on the exploration well and stability of the site. Checks include pressure readings and visual checks of valve integrity. In some cases, a helicopter may be utilised to complete the inspections. Surveys are completed fortnightly. • **Weed inspections-** Access to the site by several contractors/ Tamboran personnel in light vehicles to identify weeds. In some cases, a helicopter may be utilised. Contractors may perform spot sprays with a NTG recommended weed treatment. Surveys are completed pre and post wet season. • **Erosion and sediment control inspections-** Access to the site by several contractors/ Tamboran personnel in light vehicles to identify erosion or stability issues. Inspection will be used to schedule maintenance to repair any defects identified. In some cases, a helicopter may be utilised to complete the inspections. Surveys are completed pre and post wet season. • **Gas leak detection surveys-** Access to the site by 2- 3 contractors or Tamboran personnel in light vehicles to perform mandatory gas testing using handheld gas meters. Surveys are completed every 6 months. • **Build up pressure monitoring-** Post stimulation and well testing, the exploration well may be shut in with pressure monitoring equipment installed to monitor build up pressure. This requires the installation of a solar panel and telemetry equipment, with monthly equipment inspections (typically)	N/A	<2-6 people	Fortnightly/ 6 monthly (depending on activity)	1 day per inspection	 

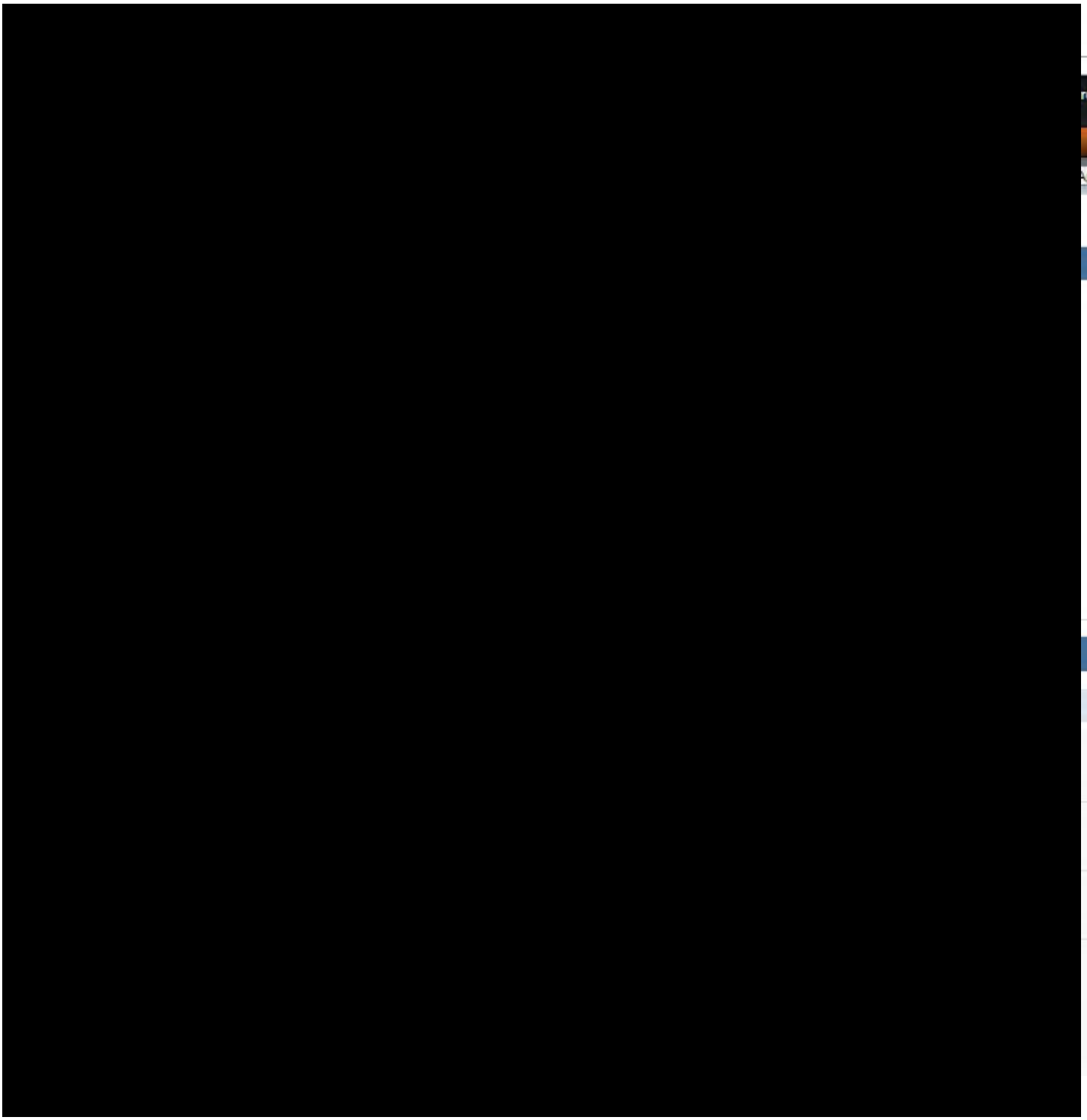
Activity description	Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
					
Site maintenance (lease pad, camp pad, access tracks and gravel pit) Each site will be periodically maintained, which includes grading, erosion and sediment control repair, vegetation management, firebreak management, weed management, fence repair and all other ancillary activities required to maintain a site and associated with infrastructure. This includes maintenance of the access tracks. The work will be undertaken by civil maintenance contractors and Tamboran personnel.	N/A	<10 people	6 monthly- pre and post wet season maintenance	<7 days per activity depending on the nature of the activity.	 

Activity description	Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
Well head maintenance Maintenance is completed annually on each well. Maintenance primarily includes valve checking, testing, greasing and (in some cases) replacement, as well as any other activities required to maintain the integrity of the well.	N/A located on proposed lease pad	<20 people depending on activity	Annually	< 7 days per activity- depending on nature of maintenance.	
Well intervention- data acquisition and testing Subsurface activities may be undertaken periodically on each of the well to perform maintenance or collect additional information on the properties of the well or the reservoir. These type of well interventions typically include performing cement bond logs, casing pressure tests, running reservoir evaluation or production logging tools, cement and casing remediation activity (if required during the life of the well), setting downhole mechanical plugs and gauges, casing perforation, subsurface barrier maintenance/ installation and production tubing installation/repair or replacement. This generally involves the use of a variety of equipment dependent on the activity being completed. This typically may involve any of the following equipment: completion rig, coil tubing, wireline unit, data van, cement or pump truck, crane, trucks, power generation, support trucks and other support vehicles.	N/A located on proposed lease pad	<20 people depending on activity	Ad hoc requests- typically 2 interventions within the next 5 years	<10 days per activity	 

Activity description	Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
Petroleum well plugging and decommissioning Once a petroleum well is no longer required, each well will be decommissioned. Decommissioning involves the permanent removal of the well through the placement of cement plugs to isolate the target reservoir from overlying aquifers in accordance with the Code of Practice. Once plugs are installed, they are pressure tested to confirm the underlying formations have been adequately sealed off. The well head is then removed. A permanent marker is added to indicate the location of the plugged and abandoned well.	N/A located on proposed lease pad	<12	End of well life	<10 days	
Chemical and fuel storage- All chemicals and fuels (diesel) required to support exploration activities will be stored in accordance with the relevant regulatory requirements, including the use of secondary containment (bunding) onsite. The Code of Practice has implemented a range of additional controls, including requirements for routine inspections, emergency response procedures and spill management. Anticipated chemical and fuel volumes vary dependent on activity, but may involve the storage of the following types of chemicals and volumes: • Stimulation and drilling chemicals (friction reducers, surfactants, crosslinkers, breakers, buffers, acids, bases, biocides, scale inhibitors, corrosion inhibitors, clay stabilisers, loss of circulation material, drilling muds, salts etc.) Volumes are typically less than 20KL per chemical, with some chemicals stored at higher (such as pH control) or lower (such as biocides and corrosion inhibitors) volumes depending on their purpose and planned use. • Diesel – typically 100KL stored but may be 500KL if wet season activities are proposed. • Other chemicals and hydrocarbons- such as oils and greases, lubricants, hydraulic fluid, cleaning chemicals, domestic chemicals etc. used to support operations.	0.5ha (on existing lease pad or laydown yard)	N/A	During exploration activities	During exploration activities.	 

Activity description	Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
Waste management: Any waste generated during exploration activities will be stored onsite in accordance with the NT *Waste Management and Pollution Control Act 1998* and Code of Practice and transported offsite to a licenced waste management facility. All wastes (other than drilling mineral waste) will be stored within skips or equivalent and removed from site at the end of each activity.	N/A	1 -2 trucks per day during operations	During explorations activities	During explorations activities	
Groundwater extraction: Groundwater extractions from the purpose built groundwater monitoring onsite or another approved extraction bore (which may include trucking water from adjacent properties) will be completed periodically to support exploration activities. All groundwater take will likely be from the Gum Ridge Formation and will be licenced under Tamboran's existing Water Extraction Licence (WEL) GRF 10285. A new WEL may be submitted to increase the water take and/or covering take an alternative formation where present. It is anticipated that groundwater extraction volumes to support this program will be in the order of 250-600ML per year (conservatively) , primarily used for civil construction, drilling and to stimulate the E&A wells. Once drilling and stimulation has ceased, minimal ongoing water extraction from the site will be required. Where possible, recycled flowback will be utilised within stimulation to reduce raw water usage.	N/A	N/A	Ongoing to support exploration activities.	During exploration activities	
Traffic management Access to the site will be via a combination of existing and new access tracks, located approximately 15-20km South of Dunmarra on the Stuart Highway. Minor traffic disruptions may occur during the construction of the access track intersection with the Stuart highway. During this period, a traffic management plan will be implemented, with traffic control utilised in accordance with DIPL requirements. Peak traffic volumes are anticipated to be associated with the drilling rig mobilisation and demobilisation. Traffic volumes may reach up to 44 vehicles per day spread over a 4 week period. During operations (drilling, stimulation or well testing), vehicle movements to the site are anticipated to be less than 10 movements per day. This period is likely to extend typically 60 days per exploration well, 45 days per stimulation and during the duration of a well test/appraisal gas sale (30-365+ days). The bulk of transport movements for the construction of the SPCF and FAS will be during the movement of the skid mounted compression units and supporting equipment. This will typically peak over a 2-3 week period and involve up to 12 movements of heavy vehicles.	N/A	N/A	During operations	During operations	

Activity description	Disturbance area	Typical personnel numbers	Timing	Duration	Activity example pictures
During the sale of trucked CNG, up to 4 B-triples movements per day between the Shenandoah south site to a reinjection point on the AGP. Transportation will be undertaken 24 hours a day, with the injection point likely to be into the AGP near the Buchanan Highway. All movements will be via the site access tracks onto the Stuart Highway. Once the well is suspended or decommissioned, vehicle movements will reduce to 1 vehicle per fortnight or 1 vehicle per 6 months respectively.					
Site rehabilitation Within 6 months of the E&A wells being plugged and decommissioned, a site will be rehabilitated. This involves: a) the removal of all surface facilities (well heads, fencing, water bores, tanks etc.) b) deep ripping of compacted surfaces c) recontouring landforms d) respreading of topsoil from the topsoil stockpiles, e) re-seeding (if required;) and f) ongoing monitoring and maintenance of the rehabilitation.	N/A		Within 6 months of the plugging and abandonment of all E&A wells	<14 days, with ongoing monitoring and maintenance	 



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