



# Eni Australia

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## BLACKTIP PROJECT

# OFFSHORE PIPELINE HYDROTEST ENVIRONMENTAL MANAGEMENT PLAN SUMMARY

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## ACRONYMS

CEFAS	Centre for Environment, Fisheries & Aquaculture Science
CEP	Condensate Export Pipeline
Eni	Eni Australia BV
FRS	Fisheries Research Services
GEP	Gas Export Pipeline
MSDS	Materials Safety Data Sheet
NT	Northern Territory
OCNS	Offshore Chemical Notification Scheme
OGP	Onshore Gas Plant
PLONOR	Pose Little Or No Risk
PNEC	Predicted No Effect Concentration
PPM	Parts Per Million (by Volume)
SPM	Single Point Mooring
WA	Western Australia
WHP	Wellhead Platform
°C	Degree Celsius



## REFERENCE DOCUMENTS

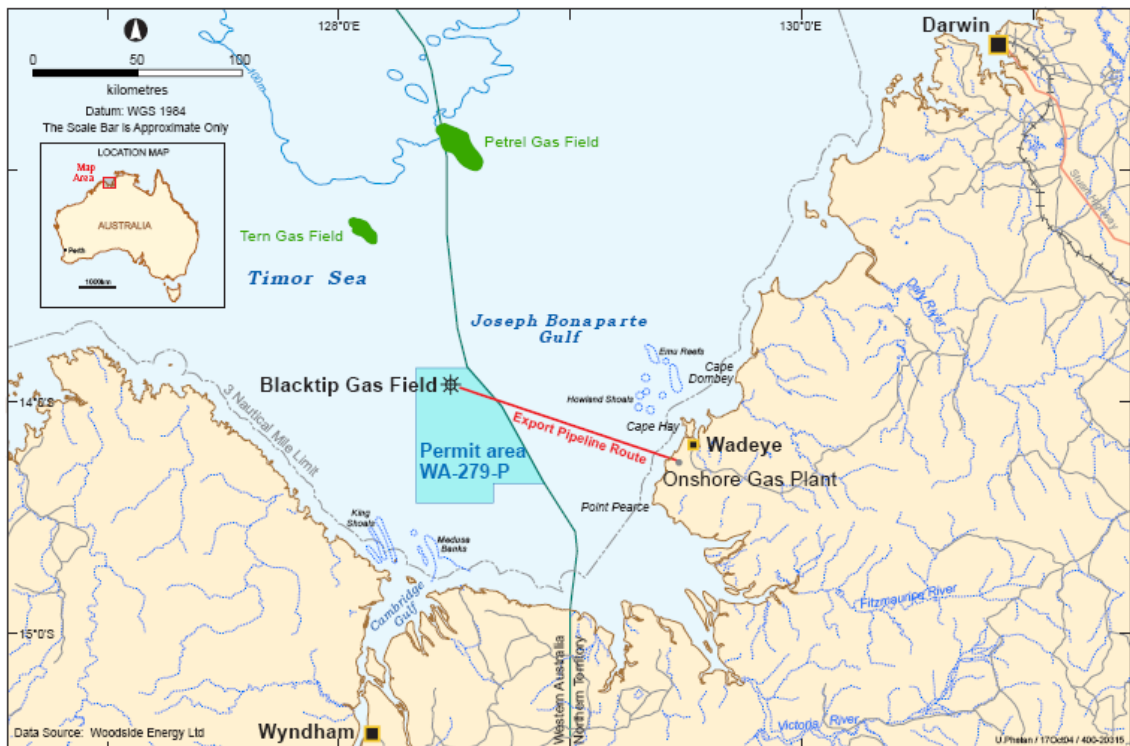
- [1] Eni Australia (2008). Offshore Installation and Onshore Pipeline Construction Environmental Management Plan. Document Number 007103 00 D W PG 00475.

## 1. INTRODUCTION

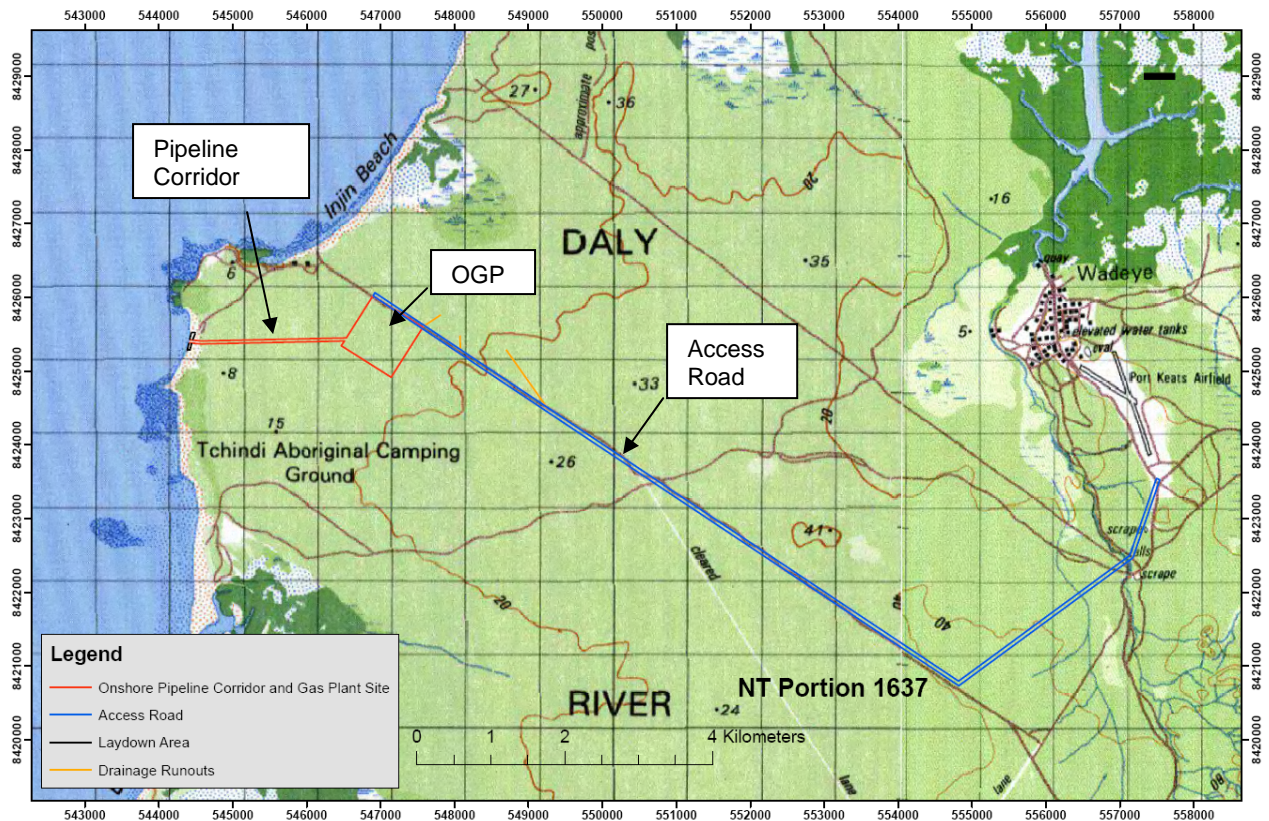
As part of the precommissioning activities for the Blacktip Project, Eni will be undertaking hydrotesting of the gas export pipeline (GEP) and condensate export pipelines (CEP). The Hydrotest Water Discharge Management Plan was prepared to describe the hydrotest discharge method and to provide an assessment of the risk to the environment. The plan bridges to the Offshore Installation and Onshore Pipeline Construction Environmental Management Plan (Reference [1]).

## 2. PROJECT DESCRIPTION

The Blacktip gas field is located in permit WA-279-P in the Joseph Bonaparte Gulf, approximately 110km offshore from Wadeye, Northern Territory (NT) (Figure 2.1), in about 52m of water. The field has been developed with a small unmanned offshore wellhead platform (WHP), a subsea pipeline bringing whole well stream fluid, (i.e. gas, condensate and produced water (PW)) to an onshore gas plant (OGP) near Wadeye (Figure 2.2). The processed gas will be exported through an onshore export pipeline to the customer in Darwin and the condensate will be exported through a subsea pipeline to a Single Point Mooring (SPM) for shipping by tanker vessel. PW will be treated and discharged to sea through a long sea outfall.



**Figure 2.1: Development location**



**Figure 2.2: Blacktip onshore infrastructure**

### 3. DESCRIPTION OF ACTIVITY

The hydrotest operation involves:

- flooding, cleaning and gauging;
- hydrostatic testing;
- dewatering, swabbing and drying.

Dewatering of the 18" GEP and 12" CEP will result in the discharge of approximately 16,000m<sup>3</sup> and 500m<sup>3</sup> of chemically treated seawater, respectively. Discharge locations for the GEP will be at the Wellhead Platform (110km offshore in 52m depth of water) and discharge for the CEP will be at the Condensate Export Mooring (7km offshore in 20m depth of water).

Proposed chemical additives and dose concentrations for the hydrotest fluid are summarised in Table 3.1.





**Table 3.1: Hydrotest chemical additives**

Chemical	Manufacturer	Concentration (ppm)
OS2 Oxygen scavenger	Champion Technologies	100
Bactron B1710 Biocide		500
fluorescein dye		40

The oxygen scavenger and biocide are added to the water as a preventative measure to control the risk of potential corrosion and micro-organism growth in the pipe. Fluorescein dye is added to facilitate the detection of leaks.

OS2 and Bactron B1710 are both ranked as *gold* by the Offshore Chemical Notification Scheme (OCNS)<sup>1</sup>. The OCNS is regulated by the UK Department of Trade and Industry (DTI), using scientific and environmental advice from Centre for Environment, Fisheries & Aquaculture Science (CEFAS) and the Fisheries Research Services (FRS). This gold ranking provides a high level of confidence that environmentally acceptable chemicals have been chosen for the hydrotest.

#### 4. ENVIRONMENTAL RISK ASSESSMENT

A complete summary of the environmental risk assessment is presented in Table 4.1

**Table 4.1: Environmental Risk Summary – Hydrotest Water**

RISK ASSESSMENT		
Risk Element	Details	Conclusion
Environmental Impact	Acute ecotoxicity to marine organisms, low dissolved oxygen levels in the immediate surrounds of the discharge.	
Likelihood Assessment	Hydrotest fluid discharge will occur over a period of two days. Acute toxicity to marine organisms in the immediate vicinity of the discharge is possible.	Possible (A)
Consequence Assessment	It is possible that there could be a localised impact to the biological communities in the immediate vicinity of the discharge. Contamination would be mitigated by the short duration of the discharge, continual flushing of the receiving waters and the spatial and temporal variability of the plume. Beyond the immediate vicinity of the discharge, dilution will be sufficiently high to reduce contaminant concentrations to levels below which they could possibly cause any environmental harm.	Minor effect (2)
Risk Ranking	<b>Low</b>	

<sup>1</sup> [http://www.cefas.co.uk/offshore-chemical-notification-scheme-\(ocns\).aspx](http://www.cefas.co.uk/offshore-chemical-notification-scheme-(ocns).aspx)



RISK MITIGATION MEASURES	
<b>Monitoring</b>	
M-1	Visual monitoring of discharge and surrounds.
M-2	Records of pipe flooding will be maintained, including the quantity of chemicals injected.
<b>Procedural/ Management</b>	
P-1	Hydrotest Method Statement
P-2	Construction vessel procedures for chemical handling and storage
P-3	Hazid, Job Hazard Analysis and toolbox meetings will be undertaken prior to the operation. These will include the importance of preventing spills of hydrocarbons and chemicals.
<b>Engineering Controls</b>	
S-1	The hydrotest discharge for the GEP will occur for only two days and is therefore short in duration. The CEP discharge will be 2 – 3 hours.
S-1	The hydrotest chemicals selected (biocide and oxygen scavenger) are gold rated according to the European OCNS. Both chemicals break down to benign substances and do not have the potential for bioaccumulation in marine organisms.
S-2	All chemicals will be handled and stored in accordance with the Construction Vessel procedures and the associated MSDS requirements.
S-3	Concentration of biocide and oxygen scavenger in the pipe will not exceed 500 and 100ppm, respectively.
S-4	Release of hydrotest fluid will be above the sea surface to enhance re-oxygenation of the effluent prior to entering the ocean.
S-5	The assimilative capacity of the receiving water is high (deep water, strong currents) and contaminant concentrations low.

## 5. CONTACT DETAILS

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