

bp Kwinana Energy Hub



Procedure for the Management of Soil and Groundwater

ENV-PR-075

Rev	Date	Description	Prepared By	Approved By	Date Approved
1	29/06/23	New Procedure	██████████	██████	28/06/23
2	20/9/2023	Admin change - update Notification List	██████	██████████	20/9/2023

Notification List	
G KWI All Site	Remediation Engineer SME
Onsite Company Supervisors	ATOM Terminal Manager



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1 PURPOSE

The purpose of this procedure is to specify activities required to manage disturbance of soil and groundwater associated with Civil, Demolition and other Intrusive works at bp Kwinana.

This Procedure ensures works that encounter potentially contaminated soil and groundwater are undertaken in a manner that is consistent with the Department of Water and Environmental Regulation (DWER) Licence for bp Kwinana.

2 SCOPE

The scope of this procedure applies to activities required to manage soil and groundwater at bp Kwinana, including areas under ATOM CoW and any sub-areas targeted for intrusive work, such as decommissioning and development.

3 REFERENCES

3.1 LEGISLATIVE COMPLIANCE

WA Contaminated Sites Act (2003)

3.2 CORPORATE COMPLIANCE

None

3.3 ADDITIONAL REFERENCE

DWER, 2021 Assessment and Management of Contaminated Sites.

DWER, 2019 Landfill Waste Classification and Waste Definitions.

DWER, 2011 Amended Licence L5938/1967/12, dated 17/05/2011.

DWER, 2022 Application for an Amendment to Licence L5938/1967/12 Under the Environmental Protection Act 1986 – Notice of Decision To Grant (letter dated 17/06/2022).

DWER, 2019 Notice of Classification of a Known or Suspected Contaminated Site, under Section 15 of the Contaminated Sites Act 2003 (letter dated 19/12/2019).

4 DEFINITIONS

ATOM	Australian Terminals Operations Management.
bp Kwinana	Former Refinery site, Mason Road, Kwinana, as defined by Lot 18 on Plan 17311 as shown on certificate of title 2058/310 (see Figure 1, Appendix 1), which includes areas under ATOM CoW.
CoW	Control of Work.
Contaminated	Containing polluting substances at above background concentrations that presents or has the potential to present a risk to harm to human health, the environment, or any environmental value.
DSI	Detailed Site Investigation. An investigation that assesses potential or actual contamination through an appropriate sampling and analysis program.
DWER	Government of Western Australia Department of Water and Environmental Regulation.
Investigation criteria	Numerical risk-based levels for assessing potential contamination of soil and groundwater.
MP	Management Plan written to define how environmental outcomes can be achieved through implementation of site-specific mitigation measures designed to ensure the risks from contamination remain at an acceptable level.



5 BACKGROUND

5.1 CONTAMINATION MANAGEMENT RESPONSIBILITY

bp Kwinana's environmental licence (L5938/1967/12) applies to the whole of the Site and is held by BP Refinery (Kwinana) Pty Ltd.

Under the licence, BP Refinery (Kwinana) Pty Ltd is responsible for the management, monitoring and reporting of contaminated material (including soil and groundwater) located on bp Kwinana.

5.2 NATURE AND EXTENT OF CONTAMINATION

DWER has identified the nature and extent of contamination at bp Kwinana:

- Hydrocarbons and metals in soils and groundwater across bp Kwinana.
- Per- and polyfluoroalkyl (PFAS) substances in soils and groundwater associated with fire training and facilities.
- Pesticide and phenol compounds present in groundwater on the eastern portion of bp Kwinana.

5.3 RESTRICTION ON LAND USE

DWER has identified the following restrictions on use of soil and groundwater bp Kwinana:

- Excavation or disturbance of soils is restricted subject to the implementation of a suitable occupational health and safety management plan for all identified and potential contaminants of concern.
- Site is restricted to industrial use, and should not be developed for a more sensitive use (e.g. recreational open space) without further assessment and/or remediation.
- Other than for analytical testing, remediation and/or management of saline intrusion, the abstraction of groundwater from the underlying Safety Bay Sands aquifer is not permitted.

5.4 SITE CLASSIFICATION

DWER has classified bp Kwinana under the Contaminated Sites Act (2003) as 'Contaminated – Remediation Required'.

Under this classification, all surface/sub-surface soils and groundwater are considered to be contaminated until proven otherwise and must be remediated and/or managed to prevent an unacceptable risk to human health, the environment, or any environmental value.

6 MANAGEMENT ACTIVITIES

6.1 CONTAMINATION MANAGEMENT OVERVIEW

bp Kwinana's Detailed Site Investigation (DSI) documents the status of soil and groundwater contamination across the site. bp Kwinana's Site Management Plan (SMP) defines how activities that impact soil and groundwater shall be managed to ensure the extent of contamination is understood, and potential risks are managed when intrusive works are undertaken. Both the DSI and SMP have been submitted to a Contaminated Sites Auditor for review at the time of releasing this procedure and will become available once they have been reviewed and approved by DWER.

6.2 DECISION MAKING PROCESS

Because soil and groundwater at bp Kwinana is considered contaminated until proven otherwise, a step-by-step decision-making process has been developed to determine how soil and groundwater is to be managed if intrusive work is required.

The first step in the decision-making process is to determine if the scope of work for the proposed development site includes any intrusive work that would require the excavation of soil or abstraction of groundwater from the development site. If soil and/or groundwater is going to be impacted by development, a contamination assessment of the soil and groundwater at the proposed development site will be required to determine if any contaminants at the site could be potentially mobilised during the development works.



The assessment is undertaken to:

- ensure personnel during and after the intrusive works are suitably protected from any exposure to potential contaminants;
- prevent distribution of potential contaminants to environmental receptors;
- provide mandatory data if waste disposal is required; and
- provide a basis for cost-efficient decision making with respect to soil and groundwater management, such as in situ retention, onsite treatment and offsite disposal.

The methodology for assessing contamination is defined by DWER. If a current/valid contamination assessment of soil and groundwater is available, the Project team shall engage the Remediation Manager to review the data for conformance with DWER's regulatory standards. If the data is sufficient, a Management Plan (MP) shall be prepared in consultation with the Remediation Manager to define:

- how soil and/or groundwater shall be managed during intrusive works;
- controls for any contaminated soil and/or groundwater that is retained onsite;
- remediation requirements for contaminated soil and/or groundwater extracted during intrusive works;
- requirements for re-use of 'clean-fill' soils; and
- waste disposal requirements (e.g. DWER-licensed landfill).

The suitability of how soil and/or groundwater is managed will depend on the contaminant concentration in the relevant media, compared to the nominated investigation criteria that is used to demonstrate whether the soil and/or groundwater represents a potential risk to personnel or the environment.

If sufficient data for the affected area is not available, the Project team shall engage an environmental consultant to undertake a soil and/or groundwater contamination assessment in accordance with DWER's regulatory standards. Results of the assessment shall be used to develop a MP for the proposed development site in consultation with the Remediation Manager.



APPENDIX 1 – BP KWINANA SITE BOUNDARY

DMO638 - BP Kwinana Refinery



Figure 1: Boundary of the Prescribed Premises Known as bp Kwinana (DWER. 2019).

Appendix 1 Administration of this Document

DOCUMENT RECORD

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HARDCOPY DISTRIBUTION RECORD

Postholder / Location of Controlled Hard Copy	Manual Title
None	

Used by the Issuing Authority to track the distribution of hard copies of this document in Manuals.

NOTIFICATION LIST

Postholder	Postholder
G KWI All Site	Remediation Engineer SME
Onsite Company Supervisors	

Used as a prompt by the Issuing Authority to ensure relevant information is communicated to those who need to know.

AMENDMENT SHEET RECORD

Revision	Revision Date	Initiator	Reason	Section	Summary of Amendments
1	29/06/2023	██████████	New Procedure		
2	20/09/2023	██████████	Admin Change		Updated notification list