

Report generated at 04:13:15AM, 13/06/2025

Receipt No:

ID No: 40336

This response relates to a search request received for:

39 Rendezvous Rd Vasse, WA, 6280

**Search Results** 

This parcel belongs to a site that contains 2 parcel(s).

According to Department of Water and Environmental Regulation records, this land has been reported as a known or suspected contaminated site.

| Address                | 39 Rendezvous Rd<br>Vasse, WA, 6280  |
|------------------------|--|
| Lot on Plan<br>Address | Lot 500 On Plan 55437  |
| Parcel Status          | Classification: 27/04/2023 - Contaminated - remediation required   |
|                        | Nature and Extent of Contamination:  |
|                        | The site has been used as a landfill site for the disposal of degradable wastes, including domestic and industrial wastes.   |
|                        | Metals, aromatic hydrocarbons (benzene), chlorinated hydrocarbons (such as from solvents and their breakdown products) and per-and poly-fluoroalkyl substances (PFAS) (such as from PFAS-containing waste) are present in groundwater beneath the site, and as a plume which extends off-site to the north north-west. |
|                        | Landfill gases including methane, carbon dioxide and hydrogen sulphide (such as from the decomposition of buried wastes) are present beneath the site.   |
|                        | Restrictions on Use:   |
|                        | Other than for analytical testing or remediation, groundwater abstraction is not permitted at this site because of the nature and extent of groundwater contamination.   |
|                        | Surface water within Lot 27 should not be used for any purpose unless tested and/or treated to ensure it is suitable for the proposed use.   |
|                        | The land use of the site is restricted to the existing use as a waste transfer station and there should be no change in layout and configuration or development of new buildings or enclosed structures without further contamination assessment and/or remediation.   |
|                        | The site should not be developed for a more sensitive use such as recreational open space, residential use or childcare centres without further contamination assessment and/or remediation.   |

### Disclaimer

This Summary of Records has been prepared by Department of Water and Environmental Regulation (DWER) as a requirement of the Contaminated Sites Act 2003. DWER makes every effort to ensure the accuracy, currency and reliability of this information at the time it was prepared, however advises that due to the ability of contamination to potentially change in nature and extent over time, circumstances may have changed since the information was originally provided. Users must exercise their own skill and care when interpreting the information contained within this Summary of Records and, where applicable, obtain independent professional advice appropriate to their circumstances. In no event will DWER, its agents or employees be held responsible for any loss or damage arising from any use of or reliance on this information. Additionally, the Summary of Records must not be reproduced or supplied to third parties except in full and unabridged form.



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Activities at the site should be managed in accordance with an auditor-endorsed site management plan.

Any proposed intrusive site activities should be managed through the development and implementation of a site-specific construction environmental management plan.

Further targeted landfill gas and soil vapour assessment is required prior to the construction of site infrastructure with enclosed spaces, or which has the potential to materially affect landfill gas migration (e.g. large areas of hardstand).

## **Reason for Classification:**

This site was reported to the Department of Water and Environmental Regulation (the department) as per reporting obligations under section 11 of the 'Contaminated Sites Act 2003' (the Act), which commenced on 1 December 2006.

The site was first classified under section 13 of the Act based on information submitted to the department by May 2007. The site was classified again in January 2017 and March 2018 to reflect additional technical information submitted to the department by December 2016, February 2018 and July 2020 respectively. The site has been classified again, with the same classification, to reflect additional technical information submitted to the department by June 2022.

This site is comprised of Lot 27 and Lot 500 which form part of the Busselton Waste Facility. This site operated as a Class II landfill from the late 1960s to around 2012 and is now used as a waste transfer station. A landfill is a land use that has the potential to cause contamination, as specified in Appendix B of the guideline 'Assessment and management of contaminated site' (Department of Water and Environmental Regulation [DWER] 2021).

The site was reported because groundwater monitoring carried out as a condition of the site's operating licence under Part V of the 'Environmental Protection Act 1986' found ammonia and chloride were present in groundwater within the superficial aquifer at concentrations exceeding aesthetic criteria for drinking water, indicating landfill leachate was impacting groundwater quality.

Several phases of groundwater investigations have been undertaken to characterise the nature and extent of groundwater contamination associated with the former landfill. These investigations, including the testing of private water supplies (such as bores, wells, soaks and dams) have identified a plume of groundwater contamination beneath the former landfill and extending off-site in the direction of groundwater flow, i.e. to the north-northwest. Related affected sites located to the north and west of the landfill have been classified separately under the Act, with different classifications.

On-site groundwater investigations carried out up to November 2021 have found arsenic, nickel, manganese, sulfate, benzene, chlorinated hydrocarbons (such as from solvents and related breakdown products) and per-and poly-fluoroalkyl substances (PFAS) (such as from PFAS-containing waste) were present in groundwater beneath the site. The concentrations of these substances in groundwater exceeded adopted health-based guidelines for drinking water, non-potable use of groundwater, recreation waters and/or livestock water, including those specified in DWER (2021), 'Risk assessment advice - Busselton Waste Facility, Vasse' (EnRisks 2017) and 'PFAS National Environmental Management Plan' (Heads of EPAs Australia and New Zealand, January 2020) [the PFAS NEMP].

Groundwater investigations have been carried out across an extended network of monitoring bores, along with testing of private water supplies on residential properties to the north of this site (such as

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bores, wells, soaks and dams) between 2017 and 2022. The investigations found that arsenic and per- and polyfluoroalkyl substances (PFAS) were present in groundwater in the off-site plume at concentrations exceeding health-based guidance values for drinking water, as published in DWER (2021) and the PFAS NEMP. Ammonia and vinyl chloride were found to be present at concentrations exceeding health-based guidance values for non-potable uses of groundwater, as published in DWER 2021. PFAS identified in groundwater is believed to be associated with the historical burial of waste consumer products containing PFAS (such as non-stick cookware; fabrics, furniture and carpets treated with stain protection; and food packaging) at the site. It is noted that off-site sources may have contributed to the presence of PFAS in groundwater both on-site and off-site to the north and west of the site. However, the significance of these contributions may be seasonably variable and have not been definitively quantified to date. Groundwater monitoring wells installed to date have targeted the upper superficial aquifer. No monitoring wells have been drilled and screened in the underlying Leederville Aquifer, partly due to the risk of creating a 'preferential pathway' for the movement of contaminants into the underlying aquifer. Investigations of groundwater quality in the underlying Leederville Aquifer were undertaken by sampling existing off-site private bores screened within the Leederville Aguifer. Prior to sampling, well headworks and pumping equipment were removed and the construction details of the bores determined using down-hole cameras to ensure that representative samples could be collected from the screened interval of the bore. These investigations found that it was unlikely that the landfill had affected groundwater quality within the underlying Leederville Aquifer. Landfill gas assessments were carried out at the site in 2015 and 2016. Landfill gases such as methane, carbon dioxide and hydrogen sulphide were present beneath the site. The investigation found bulk gases were not detected in the existing building at the site and off-site migration of landfill gases was considered unlikely whilst the landfill site use remains unchanged and undisturbed. The 'Gas Screening Levels' calculated using the method published in 'Assessing Risks Posed by Hazardous Ground Gases to Buildings' (CIRIA, 2007), indicated that a 'characteristic gas situation 2' or 'low risk' classification was applicable to the site. Further landfill gas assessments were undertaken between June 2018 and August 2019 to assess changes in gas generation and distribution following upgrades to waste transfer infrastructure, and during worst-case atmospheric conditions (e.g. declining barometric pressure). These assessments reported concentrations and flow rates comparable to those reported in 2015 and 2016, confirming the low risk classification. Based on available information, the department, in consultation with the Department of Health, considers that a 'characteristic gas situation 2' and associated gas mitigation measures, are sufficiently protective under the current site use. Potential landfill gas risks require management through the development of a site management plan (SMP) and construction environment management plan (CEMP). While investigations to date suggest that lateral migration of landfill gas is unlikely to occur, further landfill gas assessment is required in the vicinity of on-site buildings (such as the Lions shed and animal care facility). Further assessment is also required at the site boundary, to confirm that there is no unacceptable risk to off-site receptors. Further assessment may also be necessary to assess

# potential risks associated with the presence of hydrogen sulphide and carbon monoxide in soil gas.

Due to the identification of volatile organic compounds (VOCs) in groundwater (such as chlorinated hydrocarbons), soil vapour investigations were undertaken in 2018 and 2019 to assess the potential presence of VOCs in shallow soil on-site and off-site to the north within the groundwater plume.

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|                                     | These investigations did not detect VOCs at concentrations that are considered to pose a potential unacceptable risk to human health through vapour intrusion and inhalation in enclosed structures or shallow trenches. However, further soil vapour investigations are required to assess the effects of seasonal variation, and to further investigate the detection of trichloroethene (a chlorinated hydrocarbon) in soil vapour in the south-eastern portion of Lot 500.   |
|-------------------------------------|--|
|                                     | Surface water investigations were undertaken in 2018 and 2019 which included the sampling of former 'borrow pits' within Lot 27, and various surface water 'diversion drains' in the vicinity of the site. Surface water within the former borrow pits were found to represent a seasonal expression of groundwater and water quality reflected that identified in groundwater. Potential risks to human health through exposure to surface water in the borrow pits require management through a SMP. No unacceptable ecological risks were identified based on the low ecological value of the ephemeral, man-made water bodies. It was also considered unlikely that surface water in the borrow pits would overflow and impact nearby surface water drains.  |
|                                     | The investigations found that there is some degree of interaction between shallow groundwater and the surface water drains, which is likely to vary seasonally. However, it is unlikely that the contamination status of surface water and groundwater is being significantly affected by this interaction. Surface water quality in the drains was found to be impacted by nutrients and PFAS. The concentrations of PFAS were well below relevant health-based assessment levels, but exceeded assessment levels for freshwater ecosystems, as published in the PFAS NEMP. The distribution of PFAS in surface water indicates that surface water quality is not being significantly impacted by the landfill, but may be being affected by off-site up-gradient sources. Potential risks to downstream surface water receptors (such as Broadwater Nature Reserve) posed by the levels of substances present in surface water drains has not been assessed. |
|                                     | A remediation options assessment (ROA) was carried out for the site to assess potential remediation<br>and/or management strategies to restore beneficial uses of the groundwater at downgradient affected<br>properties. The ROA recommended a strategy of combined pathway and receptor management to<br>address risks to off-site groundwater users. However, remediation/management options for the<br>source site have not been assessed at the time of classification.   |
|                                     | The investigations, risk assessments and management plans undertaken to date have been reviewed by an accredited contaminated sites auditor. The auditor's findings are documented in mandatory auditor's reports dated 16 February 2018, 9 August 2019, 9 July 2020, 14 January 2021 and 24 June 2022. The department has considered the recommendations of the auditor in conjunction with advice from the Department of Health (DoH) in reaching its conclusions. The department concurs that further investigation and remediation of contamination is required, and that appropriate management plans should be developed and implemented for the site.   |
|                                     | Groundwater beneath the site is contaminated and is migrating off-site and landfill gas is being generated at the site, therefore remediation and/or management is required to reduce the risks to human health, the environment and environmental values to acceptable levels. Therefore, the site is classified as 'contaminated - remediation required'.  |
|                                     | The department, in consultation with the DoH, has classified this site based on the information available to the department at the time of classification. It is acknowledged that the contamination status of the site may have changed since the information was collated and/or submitted to the department, and as such, the usefulness of this information may be limited.  |
|                                     | Other Relevant Information:  |
| sclaimer<br>is Summarv of Records h | as been prepared by Department of Water and Environmental Regulation (DWER) as a requirement of the Contaminated Sites   |

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|                                     | Additional information included herein is relevant to the contamination status of the site and includes the department's expectations for action that should be taken to address potential or actual contamination described in the Reasons for Classification.  |
|-------------------------------------|--|
|                                     | Based on the available information, contamination present at the Busselton Waste Facility has also been identified beyond the site boundary on adjacent land, consistent with the definition of a "source site" specified in Part 1, Section 3 of the Act. In accordance with Regulation 31(1)(b) of the 'Contaminated Sites Regulations 2006', any reports or information submitted to the department that are relevant to the investigation, assessment, monitoring or remediation of a source site are required to be accompanied by a mandatory auditor's report prepared by an accredited contaminated sites auditor. |
|                                     | Where the land is part of a transaction - sale, mortgagee or lease agreement, the land owners MUST PROVIDE WRITTEN DISCLOSURE (on the prescribed Form 6) of the site's status to any potential owner, mortgagee (e.g financial institutions) or lessee at least 14 days before the completion of the transaction. A copy of the disclosure must also be forwarded to the department.   |
|                                     | Action Required:   |
|                                     | This site is considered to be high priority for action to be taken to address contamination at the site and related affected sites.  |
|                                     | Recommendations for further action provided by the auditor, and supported by the department include, but are not limited to:   |
|                                     | * Preparation of a SMP and CEMP for the Busselton Waste Facility site;   |
|                                     | * Preparation of a SMP and CEMP for adjacent affected land (Lot 26 and road reserves);   |
|                                     | * Design and instigation of an additional LFG investigation program to inform more detailed gas mitigation measures.   |
|                                     | * Completion of a remedial options assessment to consider potential remediation and/or management options to address the identified contamination;   |
|                                     | * Ongoing community engagement.  |
| Certificate of Title<br>Memorial    | Under the Contaminated Sites Act 2003, this site has been classified as "contaminated - remediation required". For further information on the contamination status of this site, please contact Contaminated Sites at the Department of Environment Regulation.  |
| Current Regulatory<br>Notice Issued | Type of Regulatory Notice: Nil   |
|                                     | Date Issued: Nil   |
| General                             | No other information relating to this parcel.  |

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