



## Contaminated Sites Act 2003 Basic Summary of Records Search Response

Report generated at 09:14:40PM, 28/10/2019

Receipt No:

ID No: 14216

### Search Results

This response relates to a search request received for:

Lot 12453 On Plan 221090  
Arrowsmith, WA, 6525

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.

<b>Address</b>	Lot 12453 On Plan 221090 Arrowsmith, WA, 6525
<b>Lot on Plan Address</b>	Lot 12453 On Plan 221090
<b>Parcel Status</b>	<p><b>Classification:</b> 03/05/2017 - <i>Contaminated - restricted use</i></p> <p><b>Nature and Extent of Contamination:</b></p> <p>Hydrocarbons, such as from petroleum gas condensate, are present in groundwater adjacent to the evaporation ponds and in soils near the oil-water separator.</p> <p><b>Restrictions on Use:</b></p> <p>The land use of the site is restricted to commercial/industrial use which excludes sensitive uses with accessible soil such as childcare centres, kindergartens, pre-schools and primary schools. 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.</p> <p>Groundwater abstraction within the portion of the site occupied by the gas processing facility is not recommended. Ongoing abstraction from existing production bores to the north-east and south-east of the facility is permitted. Periodic analytical testing is recommended to be carried out to determine whether the groundwater is suitable for its intended use.</p> <p><b>Reason for Classification:</b></p> <p>This site was reported to the Department of Environment Regulation (DER) 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 DER by June 2007. The site has been classified again under section 13 of the Act to reflect additional technical information submitted to DER by April 2017.</p> <p>This site has been used as a petroleum gas processing facility since 1992. This is a land use that has the potential to cause contamination, as specified in the guideline 'Assessment and management of contaminated sites' (DER, 2014).</p> <p>The site consists of Lot 12453 on Plan 221090 and Lot 11945 on Plan 218173. However,</p>

#### Disclaimer

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contamination investigations have been limited to the area of the gas processing facility which is located primarily within Lot 11945, with only an evaporation pond located within Lot 12453.

The site was reported in 2007 because routine groundwater monitoring had identified petroleum hydrocarbons in groundwater in the vicinity of the process-water evaporation ponds.

Several rounds of groundwater investigations have been undertaken at the site between 2006 and 2017, including regular groundwater monitoring events in accordance with the Part V 'Environmental Protection Act 1986' licence conditions for the premises. Petroleum hydrocarbons, such as from petroleum gas condensate, have been detected in groundwater adjacent to the evaporation ponds since approximately 2005. The concentrations of hydrocarbons in groundwater exhibited an increasing trend between 2011 and 2014.

Extensive soil and groundwater investigations were undertaken within the portion of the site occupied by the gas processing facility in late 2016 and early 2017. These investigations identified petroleum hydrocarbons in soil adjacent to the oil/water separator. The depth of soil impacts identified suggests that discharges from the separator may have contributed to groundwater contamination at the site. Hydrocarbons were also identified at depth beneath the northern portion of the processing plant adjacent to a 'tundish flash trap'. Minor hydrocarbon impacts were also identified in shallow soils near the above ground diesel storage tank and 'oil shed' to the south of the processing plant.

The concentrations of hydrocarbons detected in soils exceeded Ecological Screening Levels for commercial and industrial land, as specified in the 'National Environment Protection (Assessment of Site Contamination) Measure 1999' (the NEPM). However, given the localised area of impact and the ongoing industrial use of the site, the soil impacts are not considered to pose an unacceptable ecological risk. The concentrations of hydrocarbons did not exceed relevant health-based assessment criteria.

Soil investigations were also undertaken beneath the liner of the eastern evaporation pond. No petroleum hydrocarbons were detected above the laboratory level of reporting, suggesting that the eastern pond was not a significant source of groundwater contamination. At the time of classification, no soil investigations have been undertaken beneath the western evaporation pond.

Groundwater investigations in 2017 included the installation of a number of additional monitoring wells across the site. Subsequent groundwater sampling indicated that two small areas of hydrocarbon-impacted groundwater were present at the site. These were located adjacent to the oil/water separator and down-hydraulic gradient (i.e. west) of the western evaporation pond. The groundwater impact has been laterally delineated and does not appear to be migrating. Detailed sample analysis indicates that a significant proportion of the hydrocarbon compounds detected in groundwater are metabolites produced from the biodegradation of petroleum hydrocarbon compounds, indicating that natural attenuation processes are occurring and that the impacts are associated with an aged source.

The concentrations of hydrocarbons in groundwater adjacent to the oil/water separator were equal to the corresponding assessment level for non-potable use of groundwater specified in the 'Assessment and management of contaminated sites' (DER 2014). Chloride concentrations in groundwater also exceeded non-potable groundwater use levels. However, the concentrations reported and the lateral distribution of chloride in groundwater across the site indicates that the concentrations reflect background groundwater quality.

Arsenic was identified in groundwater at one location at a concentration exceeding assessment levels

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for drinking water specified in the 'Assessment and management of contaminated sites' (DER 2014). These criteria are relevant because groundwater at the site is used to supply drinking water to the processing facility. The elevated arsenic concentration coincided with the highest hydrocarbon concentrations. The source of the arsenic is unknown, but maybe associated with the release of naturally occurring arsenic in soils due to changes in groundwater conditions caused by the bacterial degradation of hydrocarbons (i.e. change in oxidation/reduction potential).

Based on available information, groundwater in the vicinity of the evaporation ponds and gas processing facility may not be suitable for potable or non-potable uses. Continued abstraction from the existing production bores located to the north-east and south-east of the facility is permitted. In accordance with Department of Health advice, DER recommends that periodic analytical testing should be carried out to determine whether the groundwater is suitable for its intended use.

A risk assessment has indicated that the contamination present on the site does not currently pose an unacceptable risk to human health, the environment or environmental values under the current industrial landuse, providing that groundwater in the area of impact is not abstracted.

The site is contaminated and is suitable for ongoing industrial landuse, but may not be suitable for a more sensitive land use. Therefore, the site is classified as 'contaminated - restricted use'.

A memorial stating the site's classification has been placed on the certificate of title, and will trigger the need for further investigations and risk assessment should the site be proposed for a more sensitive land use.

DER, in consultation with the Department of Health, has classified this site based on the information available to DER 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 DER, and as such, the usefulness of this information may be limited.

**Other Relevant Information:**

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 DER.

**Action Required:**

Management of groundwater contamination will be addressed through ongoing periodic groundwater monitoring required in accordance Part V 'Environmental Protection Act 1986' licence conditions for the premises. If groundwater monitoring indicates that contaminant concentrations are increasing or significantly migrating, the results should be provided to DER for review.

**Certificate of Title Memorial**

Under the Contaminated Sites Act 2003, this site has been classified as "contaminated - restricted use". For further information on the contamination status of this site, please contact Contaminated Sites at the Department of Environment Regulation.

**Current Regulatory Notice Issued**

**Type of Regulatory Notice:** Nil

**Date Issued:** Nil

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### **General**

No other information relating to this parcel.

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