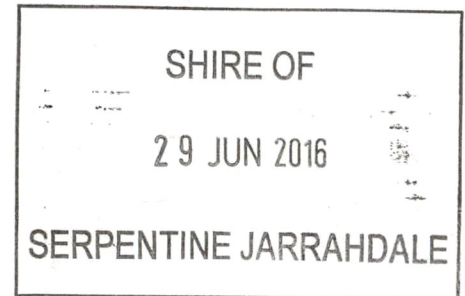




Your ref:
Our ref: 2013/655 & DMO713
Enquiries: Andrew Miller
Phone: 9333 7582
Fax: 9333 7575
Email: andrew.miller@der.wa.gov.au

Mr Gary Clark
Acting Chief Executive Officer
Shire of Serpentine Jarrahdale
6 Paterson Street
MUNDIJONG WA 6123



Dear Mr Clark

BIO-ORGANICS: INITIAL GROUNDWATER INVESTIGATIONS

I refer to the letter dated 19 May 2016 from the then Acting Chief Executive Officer, Mr Alan Hart, regarding Bio-Organics Pty Ltd's former composting facility in Oakford.

The Department of Environment Regulation (DER) issued an Investigation Notice to Bio-Organics in October 2014. The first of four groundwater monitoring events required under the Notice occurred in November 2015.

DER has considered the Shire of Serpentine Jarrahdale's queries about the groundwater investigations. Please be advised that the report reviewed by Stass Environmental on your behalf was a draft version that had not yet been reviewed by the Auditor. Some technical details have changed in the final version, which is dated April 2016.

Consistent with advice provided on 2 May 2016, DER has reviewed the April 2016 report and the auditor's comments in detail, and has provided a summary of the review on the Department's website, at www.der.wa.gov.au/bio-organics.

DER also wrote to 26 residents, and the Serpentine-Jarrahdale Residents and Ratepayers Association, on 1 June 2016 to provide a Community Update. A copy of the letter and Community Update is attached for your information.

Groundwater bores that were drilled near the site by Stass Environmental were included in the second round of groundwater monitoring by Bio-Organics' consultant, which was carried out in May 2016.

It is important to note that the groundwater sampling undertaken in November was only the first of four sampling events that are planned for the site. Firm conclusions about groundwater in the vicinity of the site should not be drawn until all of these monitoring events have been completed. As per the requirements of the Investigation Notice, DER expects to receive a Detailed Site Investigation report, which will document the year of groundwater monitoring, in November 2016.

It would not be appropriate for me to comment on potential breaches of the Closure Notice issued in June 2014, because investigations into the matter are still being finalised.

I understand that on 23 May, Tony Turner, Manager Health at the Shire of Serpentine-Jarrahdale emailed to request a meeting with DER to discuss the issues raised in your letter and in the

minutes of the Ordinary Council Meeting of 9 May 2016. I advise that representatives from DER are available to meet with the Shire of Serpentine-Jarrahdale.

If you have any further queries or to arrange a meeting, please contact DER Senior Manager Contaminated Sites, Andrew Miller, on 9333 7582.

Yours sincerely



Shaun Hodges
**ACTING EXECUTIVE DIRECTOR
COMPLIANCE AND ENFORCEMENT**

24 June 2016

Attached: Letter and community update



Government of Western Australia
Department of Environment Regulation

Your ref
Our ref DMO2967
Enquiries Andrew Miller
Phone 9333 7573
Fax 9333 7575
Email andrew.miller@der.wa.gov.au

The Serpentine-Jarrahdale Ratepayers and Residents Association Inc.
PO Box 250
MUNDIJONG WA 6123

Dear Sir / Madam

BIO-ORGANICS GROUNDWATER INVESTIGATION

I am writing to update you on the groundwater investigation being carried out at the former Bio-Organics composting facility at Lot 36 Abernethy Road in Oakford (the site).

Under the Investigation Notice issued by the Department of Environment Regulation (DER) in October 2014, Bio-Organics must engage an environmental consultant to carry out four quarterly groundwater monitoring events at the site over a year, and an independent contaminated sites auditor to oversee and report on compliance with the Investigation Notice. The first of these groundwater monitoring events occurred in November 2015.

A final version of the report on the November 2015 monitoring event was provided to DER on 7 April 2016. DER has completed its review of the report, and the results from the first monitoring event have not changed DER's advice that there should be no risk to people, providing the Department of Health's (DoH) pre-existing advice for bore water is followed.

DoH's advice states bore water should never be used for drinking, bathing, filling swimming and paddling pools, food preparation or cooking unless it has been professionally tested and, if necessary, treated. Home grown fruit and vegetables irrigated with bore water should be washed with drinking water before eating.

DER recommends you test your bore water annually at the beginning of summer, if you are about to start using the bore. For more information on the safe use of bore water see DER's fact sheet on contaminated groundwater at www.der.wa.gov.au/fs-groundwater or visit the Department of Health's website at http://healthywa.wa.gov.au/Articles/A_E/Bore-water

Please see attached a copy of the Community Update for further information about DER's review of the report and the results. The information is also publicly available from DER's website at www.der.wa.gov.au/bio-organics.

Bio-Organics' consultant has advised DER that a second groundwater monitoring event was completed on 6 May 2016. The samples are currently being analysed by the laboratory, and Bio-Organics is required to provide the results of each groundwater monitoring event to DER within four weeks of sampling.

Under the Investigation Notice, Bio-Organics is required to continue to monitor groundwater quality, with the fourth and final quarterly groundwater monitoring event due between July and September 2016. Following that, a Detailed Site Investigation report—which documents the year of groundwater monitoring—is required to be prepared and reviewed by the auditor. In accordance with the Investigation Notice, DER expects to receive the Detailed Site Investigation report in November 2016.

DER will keep its website updated with information on the progress of its investigations.

I also understand that Bio-Organics' consultant intends to contact local residents directly, in accordance with the Community Consultation Plan, approved by DER, that is required under the Investigation Notice.

If you have any questions, please contact DER Senior Manager Contaminated Sites, Andrew Miller, on 9333 7582.

Yours sincerely

A handwritten signature in black ink, appearing to read 'SHH' or similar, written in a cursive style.

Shaun Hodges
ACTING EXECUTIVE DIRECTOR
COMPLIANCE AND ENFORCEMENT

1 June 2016

Attached: Community Update – Bio-Organics Pty Ltd Oakford



Bio-Organics Pty Ltd Oakford

Background

Bio-Organics Pty Ltd operated a licenced compost manufacturing facility in Oakford between 2002 and 2014.

Following an assessment of groundwater monitoring results around the facility, the Department of Environment Regulation (DER) classified the site on 10 December 2013, in consultation with the Department of Health (DoH), as *possibly contaminated – investigation required under the Contaminated Sites Act 2003*.

The assessment by DER found that groundwater in the vicinity of the facility was possibly contaminated by leachate from putrescible waste. High concentrations of nutrients in the groundwater may pose a risk to the environment, such as by causing eutrophication (the overload of nutrients, which leads to algal blooms in water bodies).

In approving the classification, DoH said further investigation was necessary to assess the risk to human health. DER reiterates DoH advice that groundwater (bore water) is not used for domestic purposes (unless professionally tested and, if necessary, treated).

What is happening now?

DER continues to carry out weekly inspections at the Bio-Organics site.

The first groundwater monitoring event required by the Investigation Notice, which was carried out in November 2015, did not identify any new risks and has not changed DER's advice with regard to possible risks to public health or the environment.

Bio-Organics' consultant has advised DER that the second groundwater monitoring event was completed on 6 May 2016. The samples are currently being analysed by the laboratory, and Bio-Organics is required to provide the results of each groundwater monitoring event to DER, within four weeks of sampling.

Bio-Organics is required to continue to monitor groundwater quality until September, and DER expects to receive a Detailed Site Investigation report in November 2016.

Investigation Notice

As required under the Investigation Notice, Bio-Organics has engaged an environmental consultant to carry out groundwater investigations, and an accredited Contaminated Sites Auditor to oversee and report on that work.

Bio-Organics is required to carry out four quarterly groundwater monitoring events over a year. The first of these occurred in November 2015.

Bio-Organics' consultant has advised DER that the second groundwater monitoring event was completed on 6 May 2016. The samples are currently being analysed by the laboratory, and Bio-Organics is required to provide the results of each groundwater monitoring event to DER within four weeks of sampling.

A final report on the November results, prepared by the consultant and reviewed by the Auditor, was provided to DER on 7 April 2016.

DER has reviewed the report. The results of the first monitoring event and DER's review of the report are detailed below in Frequently Asked Questions. Further monitoring is required to assess seasonal variation and trends and to satisfy the requirements of the Investigation Notice. The final groundwater monitoring event required by the Investigation Notice is due to be carried out by the end of September 2016. The Detailed Site Investigation report, documenting all four monitoring events, is due to be submitted by Bio-Organics to DER in November 2016.

► Closure Notice

DER is finalising its investigations into the potential breaches of the Closure Notice that is in force at the site, before deciding what action will be taken.

Under the Closure Notice, all deliveries of compost feedstock material (primarily liquid waste and green waste) to the site were required to immediately cease, along with any new composting activity. Community complaints involving odour generated from the facility have stopped.

Frequently Asked Questions

► What is the extent of the groundwater contamination originating from Bio-Organics' Oakford facility?

Further investigations are still required to determine the nature and extent of any possible contamination.

As required under the Investigation Notice, Bio-Organics has engaged an environmental consultant to carry out groundwater investigations, and an accredited Contaminated Sites Auditor to oversee and report on that work.

Bio-Organics is required to carry out four quarterly groundwater monitoring events over a year. The first of these occurred in November 2015. A final report on the November results, prepared by the consultant and reviewed by the Auditor, was provided to DER on 7 April 2016.

DER's review found that the investigations were carried out in accordance with the Sampling and Analysis Quality Plan, and were appropriately supervised by the Auditor. The improved groundwater monitoring well network has allowed groundwater conditions to be characterised with a much higher level of confidence than with the historical monitoring. However, further investigation is required on a property to the south, consistent with advice from the Auditor.

Groundwater monitoring did not identify pesticides, herbicides, polychlorinated biphenyls (PCBs), solvents, surfactants or hydrocarbons (such as from petrol or diesel) in the groundwater. The results for salts, hardness, nutrients and metals are discussed in the sections below. Further monitoring is required to assess seasonal variation and trends and to satisfy the requirements of the Investigation Notice.

The fourth, final groundwater monitoring event is due to be carried out in the third quarter of 2016 (between July and September).

► What is the direction of groundwater flow?

Groundwater flow direction in November 2015 was to the east-north-east. Groundwater flow direction and groundwater quality can vary seasonally, which is why the Investigation Notice issued by DER requires four rounds of groundwater sampling over a year.

► What is the risk to people nearby?

There is no change to advice for people in the area, based on the results of groundwater monitoring in November 2015.

In considering risk to people nearby, the results of the investigation were compared to guidelines for drinking water. However, the investigation found that the groundwater flow direction in November 2015 was to the east-north-east, away from public drinking water source areas. In addition, community consultation carried out by Bio-Organics' consultant found that nearby residents do not tend to use groundwater for drinking. Instead, they generally use scheme water or rainwater as their major drinking water sources. Residents reported that bore water was mostly used for irrigation and livestock watering.

In groundwater in November 2015, total dissolved solids (salts), hardness, nutrients (nitrate and ammonia) and metals (aluminium, iron and nickel) were present at concentrations that exceeded the relevant guidelines for drinking water. Ammonia, aluminium, iron and nickel also exceeded the guidelines for non-potable use, such as watering gardens.

Most of the guidelines exceeded are based on aesthetic (taste and odour) considerations. Nickel exceeded health-based guidelines, but this was also the case up-gradient (upstream) of the facility. Further monitoring is required to assess seasonal variation and trends and to satisfy the requirements of the Investigation Notice.

Please also read '[Advice for bore users](#)' below.

► Is there a risk to stock grazing in the area?

No. Concentrations of substances in groundwater at nearby properties do not exceed the national guidelines for stock watering.

The concentration of aluminium in one groundwater monitoring well within the Bio-Organics site slightly exceeded the criterion for stock watering, but this may be representative of the regional groundwater quality. According to the national guideline, stock can tolerate much higher concentrations of aluminium as long as they have enough phosphorus in their diet. Please also read '[Advice for bore users](#)' below.

► Is there a risk related to agricultural (crop) irrigation?

In November 2015, nutrients (total nitrogen and total phosphorus) exceeded criteria for the short-term (up to 20 years) and long-term (up to 100 years) irrigation of agricultural crops. Metals (iron and nickel) also exceeded criteria for the long-term irrigation of crops. Further monitoring is required to assess seasonal variation and trends.

Please also read '[Advice for bore users](#)' below.

► Advice for bore users

The Department of Health advises that there should be no risk to people providing its pre-existing advice for bore water is followed. This advice states bore water should never be used for drinking, bathing, filling swimming and paddling pools, food preparation or cooking

unless it has been professionally tested and, if necessary, treated. Home grown fruit and vegetables irrigated with bore water should be washed with drinking water before eating.

DER recommends you test your bore water annually at the beginning of summer, if you are about to start using the bore.

For more information on the safe use of bore water see DER's fact sheet on contaminated groundwater, www.der.wa.gov.au/contaminatedsites. The Department of Health's advice on bore water use is available on its website at www.healthywa.wa.gov.au.

► What is the risk to the environment?

High nutrient levels can pose an environmental risk to surface water bodies such as drainage channels, creeks, rivers and wetlands – where it can cause eutrophication (the overload of nutrients which leads to algal bloom).

Nutrients (nitrogen and phosphorus) and metals (aluminium, chromium, copper, iron and nickel) were present in groundwater in November 2015 at concentrations that exceeded the relevant guidelines for the protection of fresh water aquatic ecosystems. Further monitoring is required to assess seasonal variation and trends. Further investigation is also required on a property to the south, consistent with advice from the Auditor.

► What will be done about the contamination?

This will be determined through the contaminated sites investigation process.

► What is a Closure Notice and how does it work?

A Closure Notice is a statutory instrument that can be issued by DER's Chief Executive Officer (CEO) after an environmental licence expires or is revoked. The Closure Notice imposes requirements on Bio-Organics to manage existing material and activities on site during the close down of operations. This includes ongoing groundwater monitoring.

It is an offence to breach a Closure Notice. When the actions required under the Closure Notice have been completed to the CEO's specifications, it can be amended or revoked.

► What is an Investigation Notice?

An Investigation Notice can be issued by DER's CEO where there are grounds to indicate possible contamination at a site and where appropriate action is not being taken to investigate, monitor or assess the site. It sets out what investigations and monitoring is required and how and when the results are to be reported to DER.

It is an offence to breach an Investigation Notice.

► Has Bio-Organics applied to DER to renew its licence to operate the composting facility at Oakford?

No.

● More information

DER will update its website with new information as it comes to hand—see Community Updates at www.der.wa.gov.au.

If you would like more information, call the Contaminated Sites hotline on **1300 762 982**.