



## Knowledge grows

12<sup>th</sup> April 2024

Our Reference: 200-200-LET-DWER-0021

Your Reference: MS870

Mr Ian Munro  
Manager, Compliance (Ministerial Statements)  
Department of Water and Environmental Regulation  
Prime House, 8 Davidson Terrace  
JOONDALUP WA 6027  
Email : [compliance@dwer.wa.gov.au](mailto:compliance@dwer.wa.gov.au)

Dear Ian,

### **Ministerial Statement No. 870, Condition 8 - Yara Pilbara Nitrates Groundwater Monitoring Results**

In accordance with Condition 8-4 of Ministerial Statement 870, Yara Pilbara Nitrates (YPN) undertakes monitoring of all groundwater bores every six months. Where monitoring indicates an exceedance of trigger levels, Condition 8-5 requires that the results be reported to the CEO. The most recent round of groundwater monitoring was conducted on the 14<sup>th</sup> (MW1) and 21<sup>st</sup> of March (MW2-5), with results received on the 2<sup>nd</sup> (MW1) and 8<sup>th</sup> (MW2-5) of April 2024. As previously reported since 2017, an elevation in levels of nitrogen species continues. Results of the March 2024 groundwater monitoring are provided as Table 1, with exceedances of trigger levels highlighted.

Known unplanned releases have been previously reported to the Department of Water and Environmental Regulation (DWER) under Section 72 of the *Environmental Protection Act 1986* (31<sup>st</sup> March 2017, 21<sup>st</sup> July 2017, 22<sup>nd</sup> September 2018, and 6<sup>th</sup> August 2021). The site was reported by Yara to DWER as a Known or Suspected Contaminated Site via submission of Form 1, on the 16<sup>th</sup> October 2018. On 7<sup>th</sup> December 2018 DWER classified the site as 'potentially contaminated – investigation required', and in this listing requested that a Contaminated Sites Auditor be engaged, and Detailed Site Investigation (DSI) be completed. On the 6<sup>th</sup> of February 2023 DWER reclassified the site as 'Contaminated- remediation required'.

To date, YPN have taken the following actions in response to this issue:

1. Completed Tier 1 and Tier 2 Risk Assessments, and a Hydrogeological Conceptual Site Model (in accordance with DWER guidelines) to assess environmental impact (submitted to DWER 19 June and 7 December 2017);
2. Undertaken an expanded groundwater monitoring program including the installation of an additional thirty-eight onsite and six downstream bores;
3. Completed an extensive repair project at the TAN Plant, with a focus on potential source mitigation in areas where groundwater contamination is known or likely;

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#### **Yara Pilbara Nitrates Pty Ltd**

**Postal Address**  
Locked Bag 5009  
Karratha WA 6714  
Australia

**Visiting Address**  
Lot 564 and 3017 Village Road  
Burrup WA 6714  
Australia

**Telephone**  
+61 8 9183 4100  
**Facsimile**  
+61 8 9185 6776  
**ABN**  
33127391422

**Registered Office:**  
Level 10, 233 Adelaide Terrace  
Perth, WA 6000 Australia  
Telephone: +61 8 9327 8100  
Facsimile: +61 8 9327 8199



4. Engaged Contaminated Sites Auditor from JBS&G;
5. Engaged Golders to undertake further investigations, modelling and assessment (in accordance with DWER guidelines), including completion of:
  - Preliminary Site Investigation (PSI) and Detailed Site Investigation (DSI);
  - Preliminary Ecological Risk Assessment (PERA) and Detailed Ecological Risk Assessment (DERA); and
  - Site Management Plan (SMP), Sampling Analyses Quality Plan (SAQP) and the Remedial Action Plan (RAP).
6. Selected the preferred remedial options, completed detailed engineering design, and obtained licence approvals for the onsite remedial infrastructure (Works Approval W6639/2022/1, 26D and 5C).
7. Implementation of the RAP commenced in 2021 and all ponds approved for use under Works Approval W6639/2022/1. The remediation project started operations on the 6<sup>th</sup> of December 2023 with groundwater extraction and is ongoing. The first Bioremediation treatment occurred in February 2024.

Table 1: Six-Monthly Groundwater Monitoring Results

Date	Units	Trigger Limits	MW1	MW2	MW3	MW4	MW5
Aluminium	mg/L	0.021	0.025	0.01	0.005	<0.050	<0.005
Alkalinity (total) as	mg/L	561	268	224	462	131	414
Arsenic (Filtered)	mg/L	NA	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium (Filtered)	mg/L	1,210	83.1	75.4	64.6	699	110
Cadmium (Filtered)	mg/L	NA	<0.0001	<0.0001	<0.0001	<0.0020	<0.0002
Chloride	mg/L	95,700	649	818	2190	67,800	2510
Chromium (III)	mg/L	NA	<0.005	<0.005	<0.005	<0.050	<0.005
Chromium (VI)	mg/L	NA	<0.004	<0.004	<0.004	<0.004	<0.004
Copper (Filtered)	mg/L	NA	0.0013	0.0015	0.0014	0.004	0.0037
Iron (Filtered)	mg/L	0.26	0.049	<0.005	<0.005	<0.050	<0.005
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Magnesium	mg/L	5,170	29.7	43.9	158	3,210	207
Manganese	mg/L	0.242	0.046	0.007	0.001	0.089	0.013
Ammonium (NH4+)	mg/L	NA	<0.01	47	<0.01	20	240
Ammonia as N	mg/L	0.04	<0.01	37	<0.01	16	180
Nitrate (as NO3)	mg/L	9.57	33	150	660	1300	3900
Nitrogen (Total)	mg/L	5.6	7.90	69	170	320	1200
Nickel (Filtered)	mg/L	NA	0.019	<0.001	<0.001	0.035	<0.002
Oil and Grease	mg/L	NA	<10	<10	<10	<10	<10
Lead (Filtered)	mg/L	NA	<0.0001	<0.0001	<0.0001	<0.0020	<0.0002
TDS	mg/L	143,000	1,300	1,700	5,200	120,000	9,300
TSS	mg/L	2,090	43	26	1	28	4
Zinc (Filtered)	mg/L	0.052	0.006	0.012	<0.005	0.029	0.012
pH (in-field)		6-8.4	7.1	7.19	7.38	6.91	7.15

If you have any questions, please don't hesitate to contact the undersigned on [susan.giles@yara.com](mailto:susan.giles@yara.com).

Yours Sincerely

**Susan Giles**

Environment and Sustainability Manager

**Yara Pilbara Nitrates**