



Knowledge grows

24 March 2025

Our Reference: 200-200-LET-DWER-0023

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

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 26 February and 5 March (MW1 and MW2-5 respectively), with results received on 13 and 17 March 2025 (MW1 and MW2-5 respectively). As previously reported, since 2017, an elevation in levels of nitrogen species continues. Results of the March 2025 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 March 2017, 21 July 2017, 22 September 2018, and 6 August 2021). The site was reported by Yara to DWER as a Known or Suspected Contaminated Site via submission of Form 1, on 16 October 2018. On 7 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 6 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 38 onsite and six (6) 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;
4. Engaged Contaminated Sites Auditor from JBS&G;

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5. Engaged WSP 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. Implemented and commenced the RAP in 2021 and groundwater remedial infrastructure works in 2022, with completion and commissioning of the remedial infrastructure in November 2023.
8. Commenced operation of the groundwater extraction system on 6 December 2023 and is ongoing.

Groundwater contours shows that hydraulic containment has been achieved with a total mass extracted to 30 June 2024 of 6,309 Kg Ammonia-N and 14,151 Kg Nitrate-N. The bioremediation events #3 and #4 were completed in August and November 2024 and the next event (#5) has commenced in March 2025.

Works Approval W6639/2022/1 has been amended to extend the operational period to until such time as the licence is amended, or the Works approval expires on 9 August 2025.

Table 1: Six-Monthly Groundwater Monitoring Results

Date	Units	Trigger Limits	MW1	MW2	MW3	MW4	MW5
Aluminium (Filtered)	mg/L	0.021	<0.005	0.008	<0.005	<0.050	0.008
Alkalinity (total) as CaCO ₃	mg/L	561	185	225	479	167	344
Arsenic (Filtered)	mg/L	NA	<0.001	<0.001	<0.001	<0.020	<0.005
Calcium (Filtered)	mg/L	1,210	198	65.2	39.9	594	279
Cadmium (Filtered)	mg/L	NA	<0.0001	<0.0001	<0.0001	<0.0020	<0.0005
Chloride	mg/L	95,700	1600	642	1650	46,400	5540
Chromium (III) (Filtered)	mg/L	NA	<0.005	<0.005	<0.005	<0.010	<0.005
Chromium (VI) (Filtered)	mg/L	NA	<0.004	<0.004	<0.004	<0.004	0.006
Copper (Filtered)	mg/L	NA	0.0016	0.0006	0.0011	0.0024	0.0058
Iron (Filtered)	mg/L	0.26	<0.005	0.01	<0.005	<0.050	0.011
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Magnesium (Filtered)	mg/L	5,170	68.4	37.6	87.3	2890	542
Manganese (Filtered)	mg/L	0.242	0.064	0.019	0.0033	0.089	0.035
Ammonium (NH ₄ ⁺)	mg/L	NA	<0.01	31	<0.01	20	460
Ammonia as N (NH ₃ -N)	mg/L	0.04	<0.01	24	<0.01	15	360
Nitrate (as NO ₃)	mg/L	9.57	9.5	33	86	390	810
Nitrogen (Total)	mg/L	5.6	10	60	100	420	1300
Nickel (Filtered)	mg/L	NA	0.002	<0.001	<0.001	0.034	<0.005
Oil and Grease	mg/L	NA	<10	<10	<10	<10	<10
Lead (Filtered)	mg/L	NA	0.0001	<0.0001	<0.0001	<0.0020	<0.0005
TDS	mg/L	143,000	4,300	1,600	4,000	100,000	15,000



Date	Units	Trigger Limits	MW1	MW2	MW3	MW4	MW5
TSS	mg/L	2,090	20	6	1	44	2
Zinc (Filtered)	mg/L	0.052	0.052	0.027	0.007	<0.020	0.007
pH (in-field)		6-8.4	7.31	7.09	7.27	7.01	7.12

If you have any questions, please don't hesitate to contact the undersigned on susan.giles@yara.com or 9327 8136.

Yours Sincerely

A handwritten signature in blue ink that reads "Susan Giles".

Susan Giles
Environment and Sustainability Manager
Yara Pilbara Nitrates