Knowledge grows

17 September 2025

Our Reference: 200-200-LET-DWER-0024

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 and 27 August 2025 (MW2 to MW5 and MW1 respectively), with results received on 10 and 11 September 2025 (MW2 to MW5 and MW1 respectively). As previously reported, since 2017, we have exceedances of nitrogen species. The manganese exceedance reported at MW4 is currently under review and will be closely monitored during the next sampling event. Results of the August 2025 groundwater monitoring are provided as Table 1, with exceedances of trigger levels highlighted.

With respect to the nitrogen species exceedances, 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;
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. Works Approval 6639/2022/1 was granted in August 2022 for construction and operation of the remedial infrastructure. Following completion of the infrastructure and demonstration of compliance with the requirements of the Works Approval, operation of the groundwater extraction system commenced on 6 December 2023 and is ongoing.
9. Groundwater contours shows that hydraulic containment has been achieved with a total mass extracted to 6 March 2025 of 19,687 Kg Ammonia-N and 37,941 Kg Nitrate-N and sent to the evaporation ponds. The bioremediation events #5 and #6 were completed in February and May 2025, and the next event (#7) is scheduled for September 2025.
   A license amendment was submitted to DWER in April 2025 to add the remedial infrastructure to the licence and is under assessment. Works Approval W6639/2022/1 has subsequently been amended in August 2025 to extend its duration to 9 February 2026 to allow time for DWER to complete assessment of the amendment.

Table 1: Six-Monthly Groundwater Monitoring Results

Analytes	Units	Trigger Limits	MW1	MW2	MW3	MW4	MW5
Aluminium (Filtered)	mg/L	0.021	0.006	<0.005	<0.005	<0.050	0.008
Alkalinity (total) as CaCO3	mg/L	561	265	206	512	220	312
Arsenic (Filtered)	mg/L	NA	<0.001	<0.001	0.001	<0.020	<0.005
Calcium (Filtered)	mg/L	1,210	132	77.9	32.8	535	363
Cadmium (Filtered)	mg/L	NA	<0.0001	<0.0001	<0.0001	<0.0020	<0.0005
Chloride	mg/L	95,700	567	900	1430	51,700	8860
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	<0.004
Copper (Filtered)	mg/L	NA	0.0009	0.0009	0.0005	0.0045	0.0009
Iron (Filtered)	mg/L	0.26	<0.005	<0.005	<0.005	<0.050	0.008
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Magnesium (Filtered)	mg/L	5,170	45.4	47.8	74.8	2370	718
Manganese (Filtered)	mg/L	0.242	0.057	0.0041	0.0014	0.75	0.046
Ammonium (NH4+)	mg/L	NA	<0.01	38	0.06	94	530
Ammonia as N (NH3-N)	mg/L	0.04	<0.01	30	0.05	73	410
Nitrate (as NO3)	mg/L	9.57	41	89	390	1500	3700
Nitrogen (Total)	mg/L	5.6	11	53	100	450	1400
Nickel (Filtered)	mg/L	NA	0.001	<0.001	<0.001	0.032	<0.005

Analytes	Units	Trigger Limits	MW1	MW2	MW3	MW4	MW5
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	1200	1700	3500	80000	18000
TSS	mg/L	2,090	44	2	<1	4	36
Zinc (Filtered)	mg/L	0.052	0.008	0.005	0.001	0.1	0.023
pH (in-field)		6-8.4	7.12	7.24	7.71	6.9	6.88

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

Yours Sincerely

Susan Giles
Environment and Sustainability Manager
Yara Pilbara Nitrates