



Knowledge grows

21 September 2026

Our Reference: 200-200-LET-DWER-0026

Your Reference: MS870

Mr Ian Munro
Manager, Compliance (Ministerial Statements)
Department of Water and Environmental Regulation
Prime House, 8 Davidson Terrace
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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 1 September 2026 (MW1-5), with results received on 16 September 2026. As previously reported, since 2017, we have exceedances of nitrogen species. Results of the September 2026 groundwater monitoring are provided as Table 1, with exceedances of trigger levels bolded. Consistent with Condition 8-5, further assessment was undertaken to determine the cause of the exceedances.

Nutrient concentrations (Total Nitrogen, Nitrate and Ammonia) continue to variably exceed trigger values and are consistent with residual influences from the historical unplanned ammonium nitrate releases at the site. Since the previous monitoring round, nutrient levels at MW1, MW3 and MW4 remain comparable, MW2 shows a slight increase, and MW5 shows a decrease, and all levels remain within the established historical ranges. Ongoing performance monitoring of groundwater will continue as the remedial scopes are implemented.

The 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'.

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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 YPN, with a focus on potential source mitigation in areas where groundwater contamination is known or likely;
4. Engaged a 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 DSI;
 - Preliminary Ecological Risk Assessment and Detailed Ecological Risk Assessment; and
 - Site Management Plan, Sampling Analyses Quality Plan and 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 the construction and operation of the remedial infrastructure. Following completion of the infrastructure and demonstration of compliance with the Works Approval requirements, operation of the groundwater extraction system commenced on 6 December 2023. The Works Approval has since expired, and YPN Licence L9223/2019/1 was amended on 3 February 2026 to incorporate the remedial infrastructure. Remedial performance monitoring is ongoing.
9. Groundwater contours shows that hydraulic containment has been achieved with a total mass extracted to 6 March 2026 of 30,223 Kg Ammonia-N and 65,866 Kg Nitrate-N and sent to the evaporation ponds.
10. Following endorsement by the auditor, bioremediation treatment changed from lactate to Emulsified Vegetable Oil (EVO). Groundwater was treated with EVO in Q1 and Q2 2026, and groundwater performance monitoring is ongoing.
11. Phase 3 of the remedial efforts in September 2026 will focus on the evapoconcentration area at the bottom of the rock armour to remove nutrient loads from intercepted groundwater for disposal in the evaporation ponds.



Table 1: Six-Monthly Groundwater Monitoring Results

Analytes	Units	Trigger Limits	MW1	MW2	MW3	MW4	MW5
Aluminium (Filtered)	mg/L	0.021	<0.005	<0.005	<0.005	<0.050	<0.005
Alkalinity (total) as CaCO ₃	mg/L	561	182	162	482	132	302
Arsenic (Filtered)	mg/L	NA	<0.001	<0.002	<0.001	<0.020	<0.005
Calcium (Filtered)	mg/L	1,210	874	350	27.5	580	439
Cadmium (Filtered)	mg/L	NA	0.0001	<0.0002	<0.0001	<0.0020	<0.0005
Chloride	mg/L	95,700	2990	3000	1490	69,400	10,500
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	0.005	<0.004	<0.004
Copper (Filtered)	mg/L	NA	0.002	0.0004	0.0002	<0.0020	0.004
Iron (Filtered)	mg/L	0.26	<0.005	<0.005	<0.005	<0.050	<0.005
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Magnesium (Filtered)	mg/L	5,170	280	216	64.4	2920	905
Manganese (Filtered)	mg/L	0.242	0.013	0.12	0.002	0.031	0.064
Ammonium (NH ₄ ⁺)	mg/L	NA	0.03	81	0.01	3.8	500
Ammonia as N (NH ₃ -N)	mg/L	0.04	0.02	63	0.01	3	390
Nitrate (as NO ₃)	mg/L	9.57	71	398	363	1372	4161
Nitrogen (Total)	mg/L	5.6	18	150	96	440	1400
Nickel (Filtered)	mg/L	NA	0.002	<0.002	<0.001	0.031	<0.005
Oil and Grease	mg/L	NA	<10	<10	<10	<10	<10
Lead (Filtered)	mg/L	NA	0.0001	<0.0002	<0.0001	<0.0020	<0.0005
TDS	mg/L	143,000	7100	5900	3200	110000	20000
TSS	mg/L	2,090	32	11	<1	24	5
Zinc (Filtered)	mg/L	0.052	0.031	0.022	0.001	0.025	0.008
pH (in-field)		6-8.4	7.39	7.50	8.21	7.50	8.00

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

Yours Sincerely

Scott Varvell
Acting Environmental Superintendent
Yara Pilbara Nitrates