



## Knowledge grows

6<sup>th</sup> October 2021

Our Reference: 200-200-LET-DWER-0015

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](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) is required to conduct monitoring of all groundwater bores every six months. In the event that 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 9<sup>th</sup> (MW1) and 14<sup>th</sup> of September, with results received on the 28<sup>th</sup> and 29<sup>th</sup> September 2021. As previously reported in 2017, 2018, 2019 and 2020 an elevation in levels of nitrogen species continues. Results of the September 2021 groundwater monitoring are provided below in 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 and 22 September 2018) and 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.

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

1. Completed a Tier 1 Risk Assessment, Tier 2 Risk Assessment and a Preliminary Hydrogeological Conceptual Site Model (in accordance with DWER guidelines) to assess environmental impact (submitted to DWER 19 June 2017 and 7 December 2017);
2. Undertaken an expanded groundwater monitoring program including the installation of an additional twenty-seven site bores and three downstream bores;
3. Commenced execution of 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 Golders to undertake further investigations (in accordance with DWER guidelines), including a Preliminary Ecological Risk Assessment (PERA), Preliminary Site Investigation (PSI) and DSI;
5. Engaged contaminated sites auditor, JBS&G; and
6. Remediation assessment options are currently underway.

**Table 1: Six-Monthly Groundwater Monitoring Results**

Date	Units	Trigger Limits	MW1	MW2	MW3	MW4	MW5
Aluminium (Filtered)	mg/L	0.021	0.022	<0.005	<0.005	<0.050	<0.005
Alkalinity (total) as CaCO <sub>3</sub>	mg/L	561	233	204	349	94	354
Arsenic (Filtered)	mg/L	NA	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium (Filtered)	mg/L	1,210	84	27	80	798	209
Cadmium (Filtered)	mg/L	NA	<0.0001	<0.0001	<0.0002	<0.0020	<0.0005
Chloride	mg/L	95,700	318	342	2,290	78,500	3,860
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	0.001	0.0006	0.0011	<0.0020	0.0015
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	26	16	190	3,500	397
Manganese (Filtered)	mg/L	0.242	0.12	0.002	<0.001	0.037	0.032
Ammonium (NH <sub>4</sub> <sup>+</sup> )	mg/L	NA	<0.01	30	<0.01	1.4	250
Ammonia as N (NH <sub>3</sub> -N)	mg/L	0.04	<0.01	23	<0.01	1.1	190
Nitrate (as NO <sub>3</sub> ) calculated	mg/L	9.57	14	75	1,600	290	7,100
Nitrogen (Total)	mg/L	5.6	6.1	44	380	73	2,100
Nickel (Filtered)	mg/L	NA	0.008	<0.001	<0.002	<0.020	<0.005
Oil and Grease	mg/L	NA	<10	<10	<10	<10	<10
Lead (Filtered)	mg/L	NA	0.0002	<0.0001	<0.0002	<0.0020	<0.0005
TDS	mg/L	143,000	880	850	5,300	140,000	17,000
TSS	mg/L	2,090	110	1	2	19	4
Zinc (Filtered)	mg/L	0.052	0.008	0.004	0.006	0.032	0.013
pH (in-field)		6-8.4	7.33	7.43	7.22	6.77	6.86



Please do not hesitate to contact the undersigned on 08 9183 4043 should you have any queries.

Yours Sincerely

A handwritten signature in black ink, appearing to read "Ty Hibberd", with a long horizontal line extending from the end of the signature.

**Dr Ty Hibberd**

Health, Environment, Safety & Quality Manager

**Yara Pilbara Nitrates**