



## Knowledge grows

26<sup>th</sup> September 2019

Our Reference: 200-200-LET-DWER-0010

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) 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 between the 10<sup>th</sup> and 11<sup>th</sup> of September, with results received on the 24<sup>th</sup> and 26<sup>th</sup> September 2019. As previously reported in 2017 and 2018, an elevation in levels of nitrogen species continues. Results of the September 2019 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.

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

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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 5, 182 St George Terrace  
Perth WA 6000  
Australia  
Telephone: +61 8 9327 8100  
Facsimile: +61 8 9327 8199



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, which is currently being finalised;
5. Engaged contaminated sites auditor, JBS&G; and
6. Remediation assessment options are currently underway.

*Table 1: Six-Monthly Groundwater Monitoring Results*

			MW1	MW2	MW3	MW4	MW5
Date	Units	Trigger Limits	10/09/2019	10/09/2019	10/09/2019	11/09/2019	11/09/2019
Aluminium (Filtered)	mg/L	0.021	0.005	<0.005	<0.005	<0.050	<0.005
Alkalinity (total) as CaCO <sub>3</sub>	mg/L	561	215	182	522	143	197
Arsenic (Filtered)	mg/L	NA	<0.001	<0.001	0.001	<0.001	<0.001
Calcium (Filtered)	mg/L	1,210	67.4	757	101	735	576
Cadmium (Filtered)	mg/L	NA	<0.0001	<0.0005	<0.0005	<0.0050	<0.0010
Chloride	mg/L	95,700	230	6,130	4,460	607	6,360
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	0.005
Copper (Filtered)	mg/L	NA	<0.0001	<0.0005	<0.0005	<0.0050	<0.0010
Iron (Filtered)	mg/L	0.26	0.006	<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	22.3	451	282	3,070	1,090
Manganese (Filtered)	mg/L	0.242	0.13	0.036	0.012	0.18	0.004
Ammonium (NH <sub>4</sub> <sup>+</sup> )	mg/L	NA	0.02	250	<0.01	12	27
Ammonia as N (NH <sub>3</sub> -N)	mg/L	0.04	0.02	200	<0.01	9.6	21
Nitrate (as NO <sub>3</sub> ) calculated	mg/L	9.57	5.3	530	310	1,400	20,000
Nitrogen (Total)	mg/L	5.6	6.2	330	75	950	4,700
Nickel (Filtered)	mg/L	NA	0.025	<0.005	0.006	<0.050	<0.010
Oil and Grease	mg/L	NA	<10	<10	<10	<10	<10
Lead (Filtered)	mg/L	NA	<0.0001	<0.0005	<0.0005	<0.0050	<0.0010
TDS	mg/L	143,000	760	13,000	8,900	110,000	38,000
TSS	mg/L	2,090	180	2	<1	8	3
Zinc (Filtered)	mg/L	0.052	0.003	0.017	0.015	0.058	0.022
pH (in-field)		6-8.4	7.19	6.51	6.99	7.11	6.82



Please do not hesitate to contact the undersigned on 08 9183 4166 should you have any queries.

Yours Sincerely

A handwritten signature in black ink, appearing to read "Ty Hibberd", written over a horizontal line.

**Dr Ty Hibberd**

A/Health, Environment, Safety & Quality Manager

**Yara Pilbara Nitrates**