



## Knowledge grows

4<sup>th</sup> April 2019

Our Reference: 200-200-LET-DWER-0004

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 between the 19<sup>th</sup> and 21<sup>st</sup> of March, with results received on the 28<sup>th</sup> and 29<sup>th</sup> March 2019. As previously reported in 2017 and 2018, an elevation in levels of nitrogen species continues. Results of the March 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**

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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; and
5. Engaged contaminated sites auditor, JBS&G.

Table 1: Six-Monthly Groundwater Monitoring Results

			MW1	MW2	MW3	MW4	MW5
Date	Units	Trigger Limits	21/03/2019	19/03/2019	19/03/2019	19/03/2019	19/03/2019
Aluminium (Filtered)	mg/L	0.021	0.012	<0.005	<0.005	<0.050	<0.005
Alkalinity (total) as CaCO3	mg/L	561	202	278	586	121	255
Arsenic (Filtered)	mg/L	NA	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium (Filtered)	mg/L	1,210	60.6	166	151	814	210
Cadmium (Filtered)	mg/L	NA	<0.0001	<0.0002	<0.0005	<0.0050	0.0013
Chloride	mg/L	95,700	269	1,910	8,380	78,500	5,060
Chromium (III) (Filtered)	mg/L	NA	<0.005	<0.005	<0.005	<0.010	0.009
Chromium (VI) (Filtered)	mg/L	NA	<0.004	<0.004	<0.004	<0.004	<0.004
Copper (Filtered)	mg/L	NA	0.0058	0.002	0.0007	0.04	0.0058
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	19.7	103	435	3,410	569
Manganese (Filtered)	mg/L	0.242	0.016	0.009	0.22	0.51	0.002
Ammonium (NH4+)	mg/L	NA	<0.01	200	<0.01	2.8	0.84
Ammonia as N (NH3-N)	mg/L	0.04	<0.01	160	<0.01	2.2	0.65
Nitrate (as NO3) calculated	mg/L	9.57	38.95	841.06	34.97	1,947.72	21,247.87
Nitrogen (Total)	mg/L	5.6	9.6	350	8.3	490	5,200
Nickel (Filtered)	mg/L	NA	0.003	<0.002	0.01	0.057	<0.010
Oil and Grease	mg/L	NA	<10	<10	<10	<10	<10
Lead (Filtered)	mg/L	NA	0.0003	<0.0002	<0.0005	<0.0050	<0.0010
TDS	mg/L	143,000	830	4,200	15,000	140,000	38,000
TSS	mg/L	2,090	59	<1	4	9	31
Zinc (Filtered)	mg/L	0.052	0.024	0.017	0.019	0.2	0.062
pH (in-field)		6-8.4	7.38	6.77	7.15	7.01	7.15



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 flourish extending to the right.

**Dr Ty Hibberd**

A/Health, Environment, Safety & Quality Manager

**Yara Pilbara Nitrates**