



04 January 2012

Mr Glenn Druery
Senior Environmental Officer
Department of Environment & Resource Management
25 Yeppoon Road
Rockhampton, QLD 4701

Dear Mr Druery

RTI DL RELEASE - EHP

s.73 irrelevant information

create. generate. innovate.

GPO Box 800 Brisbane Qld 4001
Stanwell Corporation Limited ABN 37 078 848 674 AFSL No. 238463 stanwell.com

s.73 irrelevant information

1.1 Tests and associated results from drinking water tests

At a community meeting held at SPS on 14 September 2011, one neighbour raised a concern about mercury emissions and suggested that the level of mercury in his rain water tank exceeded the Australian Drinking Water Guidelines (0.001mg/L) value. This person indicated that they had arranged for their drinking water to be tested; however, was not prepared to provide a copy of the results to Stanwell Corporation Limited (Stanwell). In response to this concern, SPS initiated a number of actions:

- Arranging for an independent laboratory to collect rainwater tank samples at three locations in close proximity to the power station for comparative analysis (Warren Road, Brickworks Road and Grape Farm).
- Commissioning a full heavy metal analysis from ALS Laboratory Group (a National Association of Testing Authorities (NATA) accredited laboratory).
- Arranging for a report to be prepared on the analysis results by an independent third party (integrated water specialists, Simmonds and Bristow).

The report from Simmonds and Bristow (**Annexure 1**) showed that the levels of all metals tested were within the limits set by the Australian Drinking Water Guidelines and all mercury results were 10 times below the acceptable level set in the Australian Drinking Water Guidelines. A copy of the Simmonds and Bristow report was provided to the neighbour who raised the concern on 15 November 2011, and to the tenants of the other properties from which drinking water samples were taken. A summary of the above process and results were included in a neighbour's newsletter, which was sent to 180 addresses in November.

Given the close proximity of the three locations to SPS and to the person who raised the mercury concern, the results of these tests strongly suggest that there is no factual foundation

to this assertion and concern, therefore there is no need to conduct further water testing of this nature at this time.

s.73 irrelevant information

RTI DL RELEASE - EHP

RTI DL RELEASE - EHP

s.73 irrelevant information

RTI DL RELEASE - EHP

s.73 irrelevant information

RTI DL RELEASE - EHP

s.73 irrelevant information

s.73 irrelevant information

RTI DL RELEASE - EHP

s.73 irrelevant information

RTI DL RELEASE - EHP

s.73 irrelevant information

RTI DL RELEASE - EHP

RTI DL RELEASE - EHP

s.73 irrelevant information

RTI DL RELEASE - EHP

s.73 irrelevant information

s.73 irrelevant information

RTI DL RELEASE - EHP

Stanwell trusts that this letter and the attached documents adequately address the questions and requests for information outlined in the Department's letter dated 25 November 2011.

If you have any further questions in relation to this matter, please do not hesitate to contact me on one of the numbers provided below.

Yours faithfully

sch4p3(3) Prejudice the protection of an individuals right to privacy

Kevin Swanepoel

Environmental Manager, (Stanwell Power Station and Mackay Gas Turbine)

07 4930 3587

Attachments

Please find the following reports attached:

Annexure 1. Simmonds and Bristow, Drinking Water Quality Analysis. 4 November 2011.

s.73 irrelevant information

Ref No: 1110-331F

JP



4 November 2011

Stanwell Corporation Limited
GPO Box 773
Brisbane, QLD, 4001

Attention: Mr. Kevin Swanepoel

Dear Sir,

DRINKING WATER QUALITY ANALYSIS

1. INTRODUCTION

On the 3rd October 2011, the Stanwell Corporation engaged ALS Laboratory Group to collect samples from two separate residential properties, and one farm. This sampling was conducted in response to concerns raised over heavy metal contamination of the local drinking water supply. The samples were received for analysis at ALS Laboratory Group's NATA accredited laboratory on the 4th October 2011

The results were compared with the heavy metal limits specified in the National Health and Medical Research Council's *Australian Drinking Water Guidelines (ADWG) 2011*.

The complete analytical results provided by ALS are attached in **Appendix A**.

Laboratory Services

- Water & Wastewater Analysis
- Microbiological Analysis
- Soil Analysis
- Corrosion Assessments
- Concrete & Aggregates
- Sludge Analysis

Scientific & Engineering Services

- Process Engineering
- Acid Sulphate Soils Investigations
- Blue-Green Algae Investigations
- Stormwater Management
- Contaminated Sites Investigations
- Environmental Plans & Programmes
- EASI Sampling
- Litigation Support

Training

- Sewage & Wastewater Treatment Plant Operator Training
- Drinking & Industrial Water Treatment Plant Operator Training
- Swimming Pool Operator Training
- Environmental Awareness
- Sampling &

...Helping You Make Good Clean Water

2. SAMPLE LOCATIONS

Samples were collected from two residential properties, Lot 9 Warren Road, and 72 Brickworks Road, in Stanwell, QLD, 4702 (Figure 1). One sample was also collected from a nearby grape farm.



Figure 1. Residential Sample Locations in relation to Stanwell Power Station

Sample Location 1: Lot 9 Warren Road

This property contains two polyethylene rainwater tanks, as well as a white tank that is used as a reserve source (Figure 2), but is not connected to the house. The polyethylene tanks supply water to all the taps on the property. The water sample from this property was collected from an outside tap (Figure 3).



Figure 2. Polyethylene Tank, with White Tank behind.



Figure 3. Outside Tap, where sample was collected.

Sample Location 2: 72 Brickworks Road

This property contains two white concrete tanks, both of which provide water to the household's internal taps (Figure 4.). There is also a polyethylene tank that provides bore water to the exterior of the property. There are another two polyethylene tanks located next to a two bay shed, however these are not currently supplying water to the house and therefore sampling of these tanks was not required. The sample from this property was collected from the tap at the kitchen sink (Figure 5.).



Figure 4. Concrete Tanks that supply water to the internal taps.



Figure 5. Kitchen Sink Tap, where sample was collected.

Sample Location 3: Grape Farm

This property has two rainwater tanks that collect water from the roof of the house. One tank is polyethylene and one tank is concrete (Figure 6.). The sample from this property was collected from a tap at the bottom of the concrete water tank. (Figure 7.)



Figure 6. Polyethylene (left hand side) and Concrete tanks, where



Figure 7. Concrete water tank tap, sample was collected.

3. RESULTS

A summary of the analytical results in comparison with the *Australian Drinking Water Guidelines 2011 Health based guidelines* (except where indicated) is presented in table 1 below. Any exceedences of the guidelines have been shaded and emboldened.

Table 1: Total Metals In Compliance With Australian Drinking Water Guidelines 2011

Total Metals	Units	ADWG (2011)	Stanwell 1	Stanwell 2	Stanwell 3
Aluminium	mg/L	0.2*	0.03	0.12	0.17
Antimony	mg/L	0.003	<0.001	<0.001	<0.001
Arsenic	mg/L	0.01	<0.001	<0.001	<0.001
Barium	mg/L	2	0.081	0.004	0.003
Boron	mg/L	4	<0.05	<0.05	<0.05
Cadmium	mg/L	0.002	<0.0001	<0.0001	<0.0001
Chromium	mg/L	0.05	<0.001	0.005	<0.001
Copper	mg/L	1*	0.511	0.129	0.003
Iron	mg/L	0.3*	<0.06	<0.05	<0.05
Lead	mg/L	0.01	0.004	0.002	<0.001
Manganese	mg/L	0.1*	0.014	0.012	<0.001
Mercury	mg/L	0.001	<0.0001	<0.0001	<0.0001
Molybdenum	mg/L	0.05	<0.001	<0.001	<0.001
Nickel	mg/L	0.02	<0.001	<0.001	<0.001
Selenium	mg/L	0.01	<0.01	<0.01	<0.01
Sliver	mg/L	0.1	<0.001	<0.001	<0.001
Tin	mg/L	-	<0.001	<0.001	<0.001
Uranium	mg/L	0.017	<0.001	<0.001	<0.001
Zinc	mg/L	3*	1.22	0.528	0.019

* Indicates use of an Aesthetic based guideline, which is often more conservative than the health based guideline

As indicated in table 1. the results from the three Stanwell properties are compliant with the *Australian Drinking Water Guidelines 2011*.

4. COMMENTS

The concentrations of aluminium, copper and zinc have noticeable differences between sites. The highest concentrations of copper and zinc are recorded at the Warren Street address. Inversely this property has the lowest recorded concentration of aluminium of all three sites. The Grape Farm has the lowest concentrations of copper and zinc, but the highest concentration of aluminium. This variation may be due to differences in the materials the tanks and pipes are constructed of.

The ADWG 2011 guideline encourages water authorities to keep acid soluble aluminium below 0.1 mg/L. The concentration of dissolved aluminium at the Grape Farm was above this encouraged limit. While the concentration of the two residential properties were below this limit.

5. CONCLUSION

The analytical results of the three Stanwell properties indicate that the heavy metal concentrations in the water samples **comply** with the *Australian Drinking Water Guidelines 2011*. The water samples from these properties are **safe for human consumption**.

We trust this summary is suitable for your requirements. Please do not hesitate to contact the undersigned should you have any enquires, or if we can be of further assistance to you.

Yours faithfully
SIMMONDS & BRISTOW PTY LTD

ch4p3(3) Prejudice the protection of an individuals right to privacy

Jenna Parsons *B Env Mgmt*
Environmental Scientist

enc: *Analytical Tables*

RTI DL RELEASE - EHP

APPENDIX A
Analytical Tables



ALS Laboratory Group

Environmental (Water Resources)

Stanwell Corporation (Rockhampton) - Water Sample Analysis 03/10/2011 - Report V3_FINAL

ALS	22/10/2011	Sample	ID 1			Stanwell 1	Stanwell 2	Stanwell 3
EB1120411	Results		Date Sampled			3/10/2011	3/10/2011	3/10/2011
			Order #			EB1120411001	EB1120411002	EB1120411003
Analyte	CAS #	Units	LOR	Lower Limit	Guideline Limit	WATER	WATER	WATER
EG020F: Dissolved Metals by ICP-MS								
Aluminium	7429-90-5	mg/L	0.01	-	0.2	0.02	0.09	0.16
Antimony	7440-36-0	mg/L	0.001	-	0.003	<0.001	<0.001	<0.001
Arsenic	7440-38-2	mg/L	0.001	-	0.007	<0.001	<0.001	<0.001
Barium	7440-39-3	mg/L	0.001	-	0.7	0.072	0.005	0.003
Boron	7440-42-8	mg/L	0.05	-	4	<0.05	<0.05	<0.05
Cadmium	7440-43-9	mg/L	0.0001	-	0.002	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	mg/L	0.001	-	0.05	<0.001	0.004	<0.001
Copper	7440-50-8	mg/L	0.001	-	1	0.192	0.11	0.001
Iodine	7553-56-2	mg/L	0.1	-	-	<0.1	<0.1	<0.1
Iron	7439-89-6	mg/L	0.05	-	0.3	<0.05	<0.05	<0.05
Lead	7439-92-1	mg/L	0.001	-	0.01	0.002	0.002	<0.001
Manganese	7439-96-5	mg/L	0.001	-	0.1	0.009	0.011	<0.001
Molybdenum	7439-98-7	mg/L	0.001	-	0.05	<0.001	<0.001	<0.001
Nickel	7440-02-0	mg/L	0.001	-	0.02	<0.001	<0.001	<0.001
Selenium	7782-49-2	mg/L	0.01	-	0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	mg/L	0.001	-	0.1	<0.001	<0.001	<0.001
Tin	7440-31-5	mg/L	0.001	-	-	<0.001	<0.001	<0.001



Now part of the ALS Laboratory Group

ECOWISE AUSTRALIA PTY LTD ABN 94 105 060 320 Part of the ALS Laboratory Group A Campbell Brothers Limited Company
 140 East Street (PO Box 1622), Rockhampton Qld 4700 Australia Phone +61 7 4921 2599 Fax +61 7 4921 4297
 email: rockhampton@ecowise.com.au www.ecowise.com.au www.alsglobal.com

Right solutions... Right partner



ALS Laboratory Group

Environmental (Water Resources)

Uranium	7440-61-1	mg/L	0.001	-	0.02	<0.001	<0.001	<0.001
Zinc	7440-66-6	mg/L	0.005	-	3	1.19	0.508	0.011
EG020T: Total Metals by ICP-MS								
Aluminium	7429-90-5	mg/L	0.01	-	0.2	0.03	0.12	0.17
Antimony	7440-36-0	mg/L	0.001	-	0.003	<0.001	<0.001	<0.001
Arsenic	7440-38-2	mg/L	0.001	-	0.007	<0.001	<0.001	<0.001
Barium	7440-39-3	mg/L	0.001	-	0.7	0.081	0.004	0.003
Boron	7440-42-8	mg/L	0.05	-	4	<0.05	<0.05	<0.05
Cadmium	7440-43-9	mg/L	0.0001	-	0.002	<0.0001	<0.0001	<0.0001
Chromium	7440-47-3	mg/L	0.001	-	0.05	<0.001	0.005	<0.001
Copper	7440-50-8	mg/L	0.001	-	1	0.511	0.129	0.003
Iodine	7553-56-2	mg/L	0.1	-	-	<0.1	<0.1	<0.1
Iron	7439-89-6	mg/L	0.05	-	0.3	0.06	<0.05	<0.05
Lead	7439-92-1	mg/L	0.001	-	0.01	0.004	0.004	<0.001
Manganese	7439-96-5	mg/L	0.001	-	0.1	0.014	0.012	0.002
Molybdenum	7439-98-7	mg/L	0.001	-	0.05	<0.001	<0.001	<0.001
Nickel	7440-02-0	mg/L	0.001	-	0.02	<0.001	<0.001	0.002
Selenium	7782-49-2	mg/L	0.01	-	0.01	<0.01	<0.01	<0.01
Silver	7440-22-4	mg/L	0.001	-	0.1	<0.001	<0.001	<0.001
Tin	7440-31-5	mg/L	0.001	-	-	<0.001	<0.001	<0.001
Uranium	7440-61-1	mg/L	0.001	-	0.02	<0.001	<0.001	<0.001
Zinc	7440-66-6	mg/L	0.005	-	3	1.22	0.528	0.019



ALS Laboratory Group
Environmental (Water Resources)

EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	mg/L	0.0001	-	0.001	<0.0001	<0.0001	<0.0001
EG035T: Total Recoverable Mercury by FIMS								
Mercury	7439-97-6	mg/L	0.0001	-	0.001	<0.0001	<0.0001	<0.0001
Applied Guideline:	ADWG (2004) (WATER) - Health plus Aesthetic							
Colour Key:	Within Guideline	Exceeds Guideline						

NOTE: The Limit Of Reporting (LOR) for Selenium equals the applicable guideline value; therefore an exceedance has been highlighted.

Enquiries
Telephone
Our Ref:
Your Ref

Glenn Druery
4936 0116
CWR/088371(Pt1)



8 August 2012

Mr Kevin Swanepoel
Environmental Manager
Stanwell Corporation Limited
GPO Box 773
Brisbane QLD 4001

Dear Mr Swanepoel,

RE: Complaints regarding ash storage dust and accelerated rusting of property near Stanwell Power Station

The purpose of this letter is to discuss a number of issues surrounding recent allegations of environmental impact resulting on properties neighbouring Stanwell Power Station (SPS). In correspondence dated 25 November 2011, the then Department of Environment and Resource Management (DERM) (now the Department of Environment & Heritage Protection (EHP)) posed a number of questions to SPS. Also being aware of these allegations, EHP is of the understanding they were the catalyst for SPS to commission its own investigation focusing on air quality and water quality in the locality of the complainants.

In correspondence on 4 January 2012 SPS sought to address questions raised by EHP.

SPS was asked to provide information relating to the following to assist EHP in assessing any potential impact the ash storage might have on the surrounding environment. For ease of discussion, SPS's responses to each of these points are discussed below:

s.73 irrelevant information

E-Wing, 25 Yeppoon Road, Parkhurst
Queensland 4702 Australia
PO Box 1762, Rockhampton
Queensland 4701 Australia
Telephone (07) 4936 0509
Facsimile (07) 4936 0508
ABN 46 640 294 485

s.73 irrelevant information

2. Date, source and results of analysis undertaken on drinking water samples collected from properties in and around Brickworks Road and to the west of the ash storage

EHP recognises that SPS engaged a NATA-accredited consultant to sample drinking water from three separate properties in the locality of the Brickworks Road complainant's property. Two of the tanks are used for drinking water on the properties on which the samples were collected. Water quality data were analysed and reported by an independent third party and confirms that water samples from all three properties contained heavy metal concentrations below the limits set in the *Australian Drinking Water Guidelines 2011*. As such, all of these water sources are fit for human consumption.

It is widely recognised that there are a number of influences over the metal content of drinking water in rainwater tanks, and that the metals used in roofing, plumbing and rainwater tanks can impact on water quality. However, it is apparent considering the report that only one sample was collected from each sampling location. In future SPS should consider collecting at least one replicate sample from each sampling location to provide additional scientific basis for its argument that drinking water quality is suitable for human consumption. Further, it would be responsible of SPS to continue sampling drinking water from these locations, perhaps on a six-monthly basis, and for another two years to account for potential seasonal variation in drinking water quality. This could begin the establishment of a long term dataset that SPS can refer to in the future should further allegations of impact on drinking water quality arise.

3. The exact location of and water samples undertaken

Details describing sample locations have been adequately provided in the reports and annexure documents.

s.73 irrelevant information

RTI DL RELEASE - EHP

EHP would appreciate a written response addressing issues raised in this letter by 5 September 2012. In the meantime, if you have any questions, please refer them to Acting Principal Environmental Officer Glenn Druery on 4936 0116.

Regards 

sch4p3(3) Prejudice the protection of an individuals right to privacy

Phil Steer
Acting Manager
Environmental Services