

March 2018 Water Monitoring Report

Revision B (Addendum)
Gloucester Gas Project Tiedman
Irrigation Program EPL 20358

Reporting Period: February 2018



Forward

| | |
|-------------------------------|---|
| PREMISES | Gloucester Coal Seam Gas Project Bucketts Way Gloucester NSW 2422 |
| LICENCE DETAILS | Environment Protection Licence 20358 |
| LICENCEE | AGL Upstream Investments Pty Limited (AGL) |
| LICENCEE'S ADDRESS | Locked Bag 1837, St Leonards, NSW 2065 |
| MONITORING DATE | 12 and 13 February 2018 |
| MONITORING BY | EMM Consulting Pty Ltd (EMM), on behalf of AGL |
| ANALYSIS BY | ALS Laboratory, Smithfield (Work order: ES1804862) |
| DATE AGL OBTAINED DATA | 21 March 2018 |
| REPORT DATE | 21 March 2018 Revision B (Addendum): 23 March 2018 |
| REPORT PREPARED BY | James Duggleby, Principal Hydrogeologist, EMM, on behalf of AGL |

Introduction

On 4 February 2016 AGL Upstream Investments Pty Ltd (AGL) announced that the GGP will not proceed to final investment stage. AGL will relinquish Petroleum Exploration Licence (PEL) 285 to the NSW Government and are completing a comprehensive decommissioning and rehabilitation program for well sites and other infrastructure in the Gloucester region.

This Monitoring Report relates to the water monitoring activities specified in Part 5, Monitoring and Recording Conditions, of the Environment Protection Licence 20358. This report relates specifically to the monitoring surrounding the Tiedman Irrigation Program, and details monitoring results from a quarterly water sampling event at the Tiedman Irrigation Program (12 and 13 February 2018).

As per the Licence, the monitoring encompasses the monitoring points at the locations as shown in Table 1 and Figure 1. The specific analytes and frequency tested are shown in Table 2. The monitoring results for this reporting period are shown in Table 3, Table 4, and Table 5.

The monitoring points that are the subject of this report were part of the GGP groundwater monitoring network, as described in AGL's Water Management Plan for the Tiedman Irrigation Program (AGL, 2012a) and Soil Quality Monitoring and Management Program (AGL, 2012b)). Water monitoring results for the irrigation program are presented in a baseline water monitoring report (PB, 2013a) and six-monthly compliance reports (PB, 2013a, 2013b, 2014a, 2014b, 2015a, and 2015b).

The following sampling methods were used to obtain surface water and groundwater samples:

- Submersible 12V pump at the groundwater monitoring bores screened within relatively permeable geological materials: TMB01, TMB02 and TMB03. A minimum of three well volumes was purged prior to sampling.
- Submersible 12V pump at the seepage monitoring bores TMB04 and TMB05 which are screened within material of very low permeability. The physical parameters of the purged groundwater were initially tested, then the bores were purged dry and if any inflow was observed within 12 hours then physical parameters were tested again and a sample taken for analysis.
- Disposable bailer at the shallow perched soil water piezometers (with piezometers purged dry and if any inflow was observed within 12 hours then physical parameters were tested again and a sample taken for analysis). Note, all soil water piezometers were dry during the February 2018 sampling event.
- Micro-purge low-flow sample pump for groundwater monitoring bores S4MB01, TTMB02 and TCMB01 screened within material of relatively low permeability.

EC and pH were monitored during purging to ensure that they had stabilised prior to sample collection. The water quality samples are analysed by an external NATA certified laboratory (ALS Environmental, Smithfield), in accordance with the EPA Approved Methods Publication "Approved Methods for the Sampling and Analysis of Water Pollutants in New South Wales" (EPA, 2004), with the exception of calcium, which underwent filtration rather than acid extraction as a preliminary treatment prior to analysis.

This report is prepared in accordance with the Requirements for Publishing Pollution Monitoring Data (EPA, 2012) (Publication Requirements).

The remaining water and land monitoring points in EPL 20358 will be reported in subsequent reports when the requirement for monitoring is triggered.

More information on the groundwater monitoring of the GGP is available on the project website: agl.com.au/Gloucester

Table 1 Water quality monitoring points: Irrigation Program (as per EPL 20358)

| EPA ID no. | Monitoring Point | Type of monitoring point | Easting (m) | Northing (m) |
|------------|---|----------------------------------|-------------------|--------------|
| 30 | TMB04 | Groundwater quality monitoring | 402558.1 | 6448921.7 |
| 31 | TMB05 | Groundwater quality monitoring | 402650.1 | 6448725.3 |
| 39 | TMB01 | Groundwater quality monitoring | 401996.98 | 6449419.7 |
| 40 | TMB02 | Groundwater quality monitoring | 401905.11 | 6449100.6 |
| 41 | TMB03 | Groundwater quality monitoring | 401969.53 | 6448755 |
| 42 | S4MB01 | Groundwater quality monitoring | 402581.88 | 6449409.7 |
| 43 | TCMB01 | Groundwater quality monitoring | 402501.7 | 6448899 |
| 44 | TTMB02 | Groundwater quality monitoring | 402699 | 6449358 |
| 45 | SP1B | Soil water quality monitoring | 402570.3 | 6449381.3 |
| 46 | SP2B | Soil water quality monitoring | 402444.2 | 6449100.1 |
| 47 | SP4B | Soil water quality monitoring | 402252 | 6449131.3 |
| 48 | SP6B | Soil water quality monitoring | 402103.5 | 6449178.6 |
| 49 | SP7B | Soil water quality monitoring | 402144.8 | 6449292.1 |
| 50 | SP8B | Soil water quality monitoring | 402159.1 | 6449454.8 |
| 51 | SP9B | Soil water quality monitoring | 402387.5 | 6449016.9 |
| 52 | SP10B | Soil water quality monitoring | 402344.2 | 6448840.6 |
| 91 | Tiedman Dams Irrigation Discharge | Discharge point of blended water | Tiedman South Dam | |

Coordinate reference system: Map Grid of Australia 1994

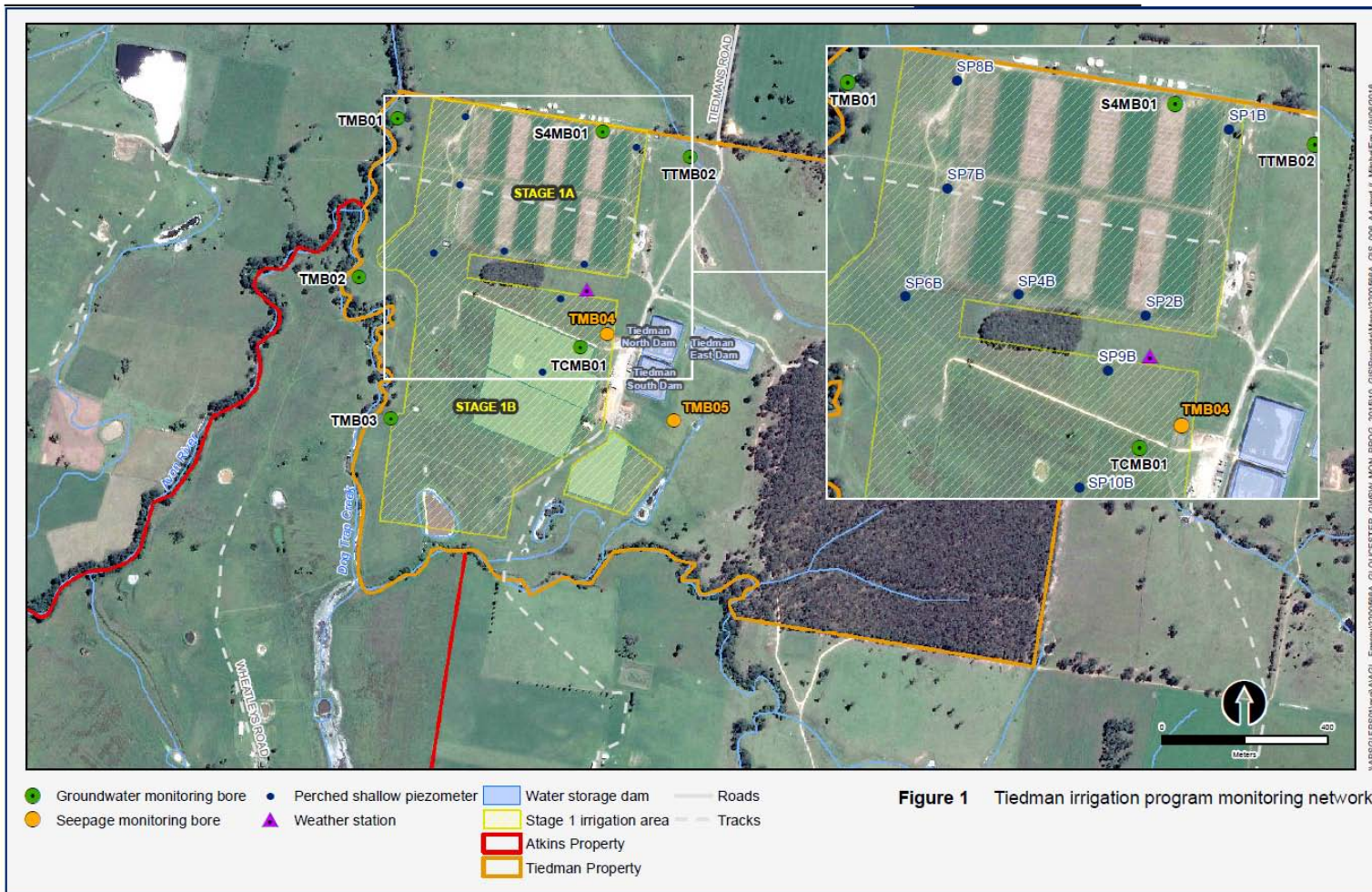


Figure 1 Location of groundwater and surface water quality monitoring points (as per EPL 20358)

Table 2: Analytes monitored and frequency - monitoring points 30 – 52, as per the EPL 20358 version valid at the time of sampling (version 24 November 2017)

| Analyte | Units of measure | Monitoring points | | | | | | | |
|-------------------------|-----------------------------------|---------------------|------------------|---------------------|------------------|--------------------------|------------------|-----------------|--------------------------|
| | | 30,31 | | 39,40,41,42,43,44 | | 45,46,47,48,49,50,51, 52 | | 91 ^b | |
| | | Frequency | sampling method | Frequency | sampling method | Frequency | sampling method | Frequency | sampling method |
| Aluminium | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Ammonia | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Arsenic | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Barium | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Benzene | micrograms per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Beryllium | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Bicarbonate | milligrams per litre | Special Frequency 1 | Grab sample | | | | | Monthly | Grab sample |
| Boron | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Cadmium | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Calcium | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Chloride | milligrams per litre | Special Frequency 1 | Grab sample | | | | | Monthly | Grab sample |
| Chromium | milligrams per litre | | | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Cobalt | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Copper | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Dissolved oxygen | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | | |
| Electrical conductivity | microsiemens per centimetre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Fortnightly | Probe |
| Ethyl benzene | micrograms per litre ^a | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Fluoride | milligrams per litre | | | | | | | Monthly | Grab sample |
| Iron | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Lead | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Magnesium | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Manganese | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Mercury | milligrams per litre | | | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Molybdenum | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Nickel | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Nitrate | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Nitrite | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Nitrogen (total) | milligrams per litre | | | | | | | Monthly | Grab sample |
| pH | pH | | | Quarterly | Grab sample | Quarterly | Grab sample | Fortnightly | Probe |
| Phosphorus (total) | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Potassium | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Reactive Phosphorus | milligrams per litre | Special Frequency 1 | Grab sample | | | | | | |
| Redox potential | millivolts | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Fortnightly | Probe |
| Selenium | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Silica | milligrams per litre | | | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Sodium | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Sodium Adsorption Ratio | milligrams per litre ^c | | | | | | | Monthly | Grab sample ^c |
| Standing water level | meters (Australian Height Datum) | Special frequency 8 | Special method 5 | Special frequency 8 | Special method 5 | Quarterly | Special method 1 | | |
| Strontium (dissolved) | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Sulfate | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Temperature | degrees Celcius | | | | | | | Fortnightly | Probe |
| Toluene | micrograms per litre ^a | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Total alkalinity | milligrams per litre | | | Quarterly | Grab sample | | | Monthly | Grab sample |
| Total dissolved solids | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Fortnightly | Probe |
| Total organic carbon | milligrams per litre | Special Frequency 1 | Grab sample | | | | | Monthly | Grab sample |
| Total suspended solids | milligrams per litre | | | | | | | Monthly | Grab sample |
| Uranium | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Vanadium | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Xylene | micrograms per litre ^a | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |
| Zinc | milligrams per litre | Special Frequency 1 | Grab sample | Quarterly | Grab sample | Quarterly | Grab sample | Monthly | Grab sample |

Notes:

Special Frequency 1 - Quarterly if inflow within 12 hours of purging dry.

Special Frequency 8 - Every 6 hours. Note these monitoring points may form part of AGL's rehabilitation work, and should a monitoring point be rehabilitated, then monitoring will no longer be required from that point.

Special Method 1 - Manual dip

Special Method 4 - By calculation

Special Method 5 - Automated datalogger

Shaded grey - not required to be analysed

^aEPL20358 (issued 5 January 2017) contains inconsistencies in the required Units of Measure for Toluene, Ethyl Benzene and Xylene. For consistency with laboratory data BTEX concentrations are reported here in micrograms per litre.

^bMonitoring Point 91 is only required during periods when the Licensee is utilising the water irrigation or stock use.

^c Unit of measure is incorrectly referenced as 'milligrams per litre' - should be 'ratio'. And sampling method is incorrectly assigned as 'grab sample' in EPL - should be 'Special Method 4 - By calculation'

Groundwater and surface water monitoring results

Table 3: February 2018 water monitoring results for monitoring points 30-44

| | | Monitoring points | 30 | 31 | 39 | 40 | 41 | 42 | 43 | 44 |
|-------------------------------|------------------|------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| | | Location | TMB04 | TMB05 | TMB01 | TMB02 | TMB03 | S4MB01 | TCMB01 | TTMB02 |
| | | Sampled date | 13/02/2018 | 13/02/2018 | 12/02/2018 | 12/02/2018 | 12/02/2018 | 12/02/2018 | 13/02/2018 | 12/02/2018 |
| | | Date AGL obtained data | 21/03/2018 | 21/03/2018 | 21/03/2018 | 21/03/2018 | 21/03/2018 | 21/03/2018 | 21/03/2018 | 21/03/2018 |
| Analyte | Units of measure | Limit of reporting | | | | | | | | |
| Aluminium | mg/L | 0.01 | 0.04 | 0.17 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Ammonia | mg/L | 0.01 | 0.08 | 0.38 | 0.19 | 0.23 | 0.18 | 1.87 | 1.28 | 0.63 |
| Arsenic | mg/L | 0.001 | <0.001 | 0.002 | 0.001 | 0.002 | 0.002 | <0.001 | <0.001 | <0.001 |
| Barium | mg/L | 0.001 | 0.073 | 0.115 | 0.196 | 0.600 | 0.157 | 4.50 | 9.03 | 0.199 |
| Benzene | µg/L | 1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Beryllium | mg/L | 0.001 | <0.001 | 0.002 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Bicarbonate | mg/L | 1 | 125 | 62 | | | | | | |
| Boron | mg/L | 0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 0.12 | <0.05 | <0.05 |
| Cadmium | mg/L | 0.0001 | 0.0009 | 0.0006 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| Calcium | mg/L | 1 | 77 | 63 | 212 | 122 | 208 | 254 | 257 | 188 |
| Chloride | mg/L | 0.1 | 1910 | 2100 | | | | | | |
| Chromium | mg/L | 0.001 | | | <0.001 | 0.002 | <0.001 | <0.001 | <0.001 | <0.001 |
| Cobalt | mg/L | 0.001 | 0.089 | 0.143 | <0.001 | 0.002 | <0.001 | <0.001 | <0.001 | <0.001 |
| Copper | mg/L | 0.001 | 0.002 | 0.004 | 0.003 | 0.004 | 0.002 | <0.001 | <0.001 | <0.001 |
| Dissolved oxygen ^a | mg/L | 0.01 | 0.81 | 2.51 | 0.58 | 0.44 | 5.15 | 0.63 | 1.10 | 1.35 |
| Electrical conductivity | µS/cm | 1 | 7520 | 7360 | 9010 | 4270 | 5960 | 4580 | 3050 | 2460 |
| Ethyl benzene | µg/L | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Fluoride | mg/L | 0.1 | | | | | | | | |
| Iron | mg/L | 0.05 | 4.86 | 22.9 | 1.99 | 4.05 | 3.05 | 0.28 | 2.45 | 0.65 |
| Lead | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| Magnesium | mg/L | 1 | 206 | 220 | 224 | 82 | 122 | 45 | 72 | 55 |
| Manganese | mg/L | 0.001 | 10.2 | 17.9 | 0.694 | 1.26 | 1.29 | 0.135 | 0.036 | 0.029 |
| Mercury | mg/L | 0.0001 | | | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| Molybdenum | mg/L | 0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | 0.001 | <0.001 |
| Nickel | mg/L | 0.001 | 0.037 | 0.076 | <0.001 | <0.001 | <0.001 | <0.001 | 0.002 | <0.001 |
| Nitrate | mg/L | 0.01 | 0.02 | 0.07 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Nitrite | mg/L | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Nitrogen (total) | mg/L | 0.1 | | | | | | | | |
| pH ^a | pH | 0.01 | | | 6.71 | 6.96 | 6.78 | 7.01 | 6.68 | 6.70 |
| Phosphorus (total) | mg/L | 0.01 | 0.07 | 0.06 | 0.05 | 0.06 | 0.02 | 0.05 | <0.01 | 0.34 |
| Potassium | mg/L | 1 | 20 | 12 | 2 | 2 | 2 | 5 | 4 | 4 |
| Reactive Phosphorus | mg/L | 0.01 | <0.01 | <0.01 | | | | | | |
| Redox potential ^a | mV | 0.1 | 52.7 | 39.3 | -82.5 | -40.7 | -28.6 | -176.0 | -76.1 | -74.3 |
| Selenium | mg/L | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Silica | mg/L | 0.05 | | | 32.8 | 31.8 | 29.1 | 25.8 | 19.8 | 32.4 |
| Sodium | mg/L | 1 | 1030 | 938 | 1150 | 546 | 691 | 575 | 286 | 269 |
| Sodium Adsorption Ratio | ratio | 0.01 | | | | | | | | |
| Standing water level | m AHD | - | Refer to Table 5 | Refer to Table 5 | Refer to Table 5 | Refer to Table 5 | Refer to Table 5 | Refer to Table 5 | Refer to Table 5 | Refer to Table 5 |
| Strontium (dissolved) | mg/L | 0.001 | 0.786 | 1.05 | 5.34 | 2.59 | 4.73 | 20.0 | 14.2 | 0.87 |
| Sulfate | mg/L | 1 | 531 | 191 | 77 | 58 | 192 | 12 | <1 | 61 |
| Temperature ^a | °C | 0.1 | | | | | | | | |
| Toluene | µg/L | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Total alkalinity | mg/L | 1 | | | 619 | 211 | 508 | 420 | 313 | 382 |
| Total dissolved solids | mg/L | 10 | 4770 | 4570 | 5830 | 2830 | 3700 | 2960 | 2220 | 1680 |
| Total organic carbon | mg/L | 1 | 5 | 7 | | | | | | |
| Total suspended solids | mg/L | 5 | | | | | | | | |
| Uranium | mg/L | 0.001 | <0.001 | <0.001 | 0.005 | <0.001 | 0.004 | <0.001 | <0.001 | <0.001 |
| Vanadium | mg/L | 0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| Xylene | µg/L | 2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 | <2 |
| Zinc | mg/L | 0.005 | 0.227 | 0.477 | 0.012 | 0.011 | 0.008 | <0.005 | 0.006 | <0.005 |

Key:
 Shaded grey = not required to be analysed
^ameasured with calibrated field meter
 na - not analysed as no sample collected



Groundwater and surface water monitoring results

Table 4: February 2018 water monitoring results for monitoring points 45 – 52

| | | Monitoring points | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 |
|-------------------------------|------------------|------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
| | | Location | SP1B ^b | SP2B ^b | SP4B ^b | SP6B ^b | SP7B ^b | SP8B ^b | SP9B ^b | SP10B ^b |
| | | Sampled date | 12/02/2018 | 12/02/2018 | 12/02/2018 | 12/02/2018 | 12/02/2018 | 12/02/2018 | 12/02/2018 | 12/02/2018 |
| | | Date AGL obtained data | na | na | na | na | na | na | na | na |
| Analyte | Units of measure | Limit of reporting | | | | | | | | |
| Aluminium | mg/L | 0.01 | na | na | na | na | na | na | na | na |
| Ammonia | mg/L | 0.01 | na | na | na | na | na | na | na | na |
| Arsenic | mg/L | 0.001 | na | na | na | na | na | na | na | na |
| Barium | mg/L | 0.001 | na | na | na | na | na | na | na | na |
| Benzene | ug/L | 1 | na | na | na | na | na | na | na | na |
| Beryllium | mg/L | 0.001 | na | na | na | na | na | na | na | na |
| Bicarbonate | mg/L | 1 | | | | | | | | |
| Boron | mg/L | 0.05 | na | na | na | na | na | na | na | na |
| Cadmium | mg/L | 0.0001 | na | na | na | na | na | na | na | na |
| Calcium | mg/L | 1 | na | na | na | na | na | na | na | na |
| Chloride | mg/L | 0.1 | | | | | | | | |
| Chromium | mg/L | 0.001 | na | na | na | na | na | na | na | na |
| Cobalt | mg/L | 0.001 | na | na | na | na | na | na | na | na |
| Copper | mg/L | 0.001 | na | na | na | na | na | na | na | na |
| Dissolved oxygen ^a | mg/L | 0.01 | na | na | na | na | na | na | na | na |
| Electrical conductivity | µS/cm | 1 | na | na | na | na | na | na | na | na |
| Ethyl benzene | ug/L | 2 | na | na | na | na | na | na | na | na |
| Fluoride | mg/L | 0.1 | | | | | | | | |
| Iron | mg/L | 0.05 | na | na | na | na | na | na | na | na |
| Lead | mg/L | 0.001 | na | na | na | na | na | na | na | na |
| Magnesium | mg/L | 1 | na | na | na | na | na | na | na | na |
| Manganese | mg/L | 0.001 | na | na | na | na | na | na | na | na |
| Mercury | mg/L | 0.0001 | na | na | na | na | na | na | na | na |
| Molybdenum | mg/L | 0.001 | na | na | na | na | na | na | na | na |
| Nickel | mg/L | 0.001 | na | na | na | na | na | na | na | na |
| Nitrate | mg/L | 0.01 | na | na | na | na | na | na | na | na |
| Nitrite | mg/L | 0.01 | na | na | na | na | na | na | na | na |
| Nitrogen (total) | mg/L | 0.1 | | | | | | | | |
| pH ^a | pH | 0.01 | na | na | na | na | na | na | na | na |
| Phosphorus (total) | mg/L | 0.01 | na | na | na | na | na | na | na | na |
| Potassium | mg/L | 1 | na | na | na | na | na | na | na | na |
| Reactive Phosphorus | mg/L | 0.01 | | | | | | | | |
| Redox potential ^a | mV | 0.1 | na | na | na | na | na | na | na | na |
| Selenium | mg/L | 0.01 | na | na | na | na | na | na | na | na |
| Silica | mg/L | 0.05 | na | na | na | na | na | na | na | na |
| Sodium | mg/L | 1 | na | na | na | na | na | na | na | na |
| Sodium Adsorption Ratio | ratio | 0.01 | | | | | | | | |
| Standing water level | m AHD | - | na | na | na | na | na | na | na | na |
| Strontium (dissolved) | mg/L | 0.001 | na | na | na | na | na | na | na | na |
| Sulfate | mg/L | 1 | na | na | na | na | na | na | na | na |
| Temperature ^a | °C | 0.1 | | | | | | | | |
| Toluene | ug/L | 2 | na | na | na | na | na | na | na | na |
| Total alkalinity | mg/L | 1 | | | | | | | | |
| Total dissolved solids | mg/L | 10 | na | na | na | na | na | na | na | na |
| Total organic carbon | mg/L | 1 | | | | | | | | |
| Total suspended solids | mg/L | 5 | | | | | | | | |
| Uranium | mg/L | 0.001 | na | na | na | na | na | na | na | na |
| Vanadium | mg/L | 0.01 | na | na | na | na | na | na | na | na |
| Xylene | ug/L | 2 | na | na | na | na | na | na | na | na |
| Zinc | mg/L | 0.005 | na | na | na | na | na | na | na | na |

Shaded grey = not required to be analysed

^a measured with calibrated field meter

^b No water present at this location at the time of sampling

na - not analysed as no sample collected



Table 5 Continuous water level monitoring results for monitoring points 30, 31, 39 - 44 for the period 15 November 2017 – 12 February 2018

| Monitoring point | 30 | 31 | 39 | 40 | 41 | 42 | 43 | 44 |
|--|-------------------------|---------------|--------|--------|--------|--------|------------------------|------------------------|
| Location | TMB04 ¹ | TMB05 | TMB01 | TMB02 | TMB03 | S4MB01 | TCMB01 | TTMB02 |
| Data type | Standing water level | | | | | | | |
| Units | mAHD | | | | | | | |
| Data date range | 15/11/2017 – 12/02/2018 | | | | | | 15/11/17 – 13/02/18 | 15/11/17 – 12/02/18 |
| Date data downloaded | - ¹ | 12/02/2018 | | | | | 13/02/18 | 12/02/18 |
| Date data supplied to AGL | - ¹ | 21 March 2018 | | | | | | |
| Monitoring frequency required by EPL 20358 | Every 6 hours | | | | | | | |
| Actual monitoring frequency | Every 6 hours | | | | | | | |
| No. of times measured during monitoring period | - ¹ | 359 | 357 | 357 | 357 | 357 | 360 | 357 |
| Min. value | - ¹ | 110.59 | 102.03 | 102.41 | 103.41 | 113.20 | 113.77 | 113.84 |
| Mean value | - ¹ | 113.17 | 102.40 | 102.58 | 103.59 | 113.34 | 113.82 | 113.94 |
| Median value | - ¹ | 113.24 | 102.40 | 102.57 | 103.61 | 113.34 | 113.82 | 113.94 |
| Max. value | - ¹ | 113.31 | 102.68 | 102.70 | 103.71 | 113.40 | 113.86 | 114.01 |

¹The datalogger at TMB04 failed to download on 12/02/2018. The logger was sent back to the manufacturer for review, however the data could not be retrieved due to a malfunction caused by water ingress and corrosion to the battery. The datalogger was replaced on 12/02/18 with a new unit.

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