30 June 2021

Mr Jason Gick
Director of Infrastructure and Development
Shire of Capel
PO Box 14
Capel WA 6285

Submission via: info@capel.wa.gov.au

RE: 2020 Tronox Dalyellup Annual Environmental Report (Closure Notice for License 6130/1989/12 – Appendix A)

Please find enclosed an electronic copy of the 2020 Annual Environmental Report for Tronox's Dalyellup Treated Solids Residue Disposal Facility.

Copies have been sent to the Department of Water and Environmental Regulation and the Radiological Council of WA.

Yours faithfully

……

Craig McManus
Safety, Health, Environment & Quality Manager
Bunbury Pigment Plants

Dalyellup Annual Environmental Report - 2020

(From Dalyellup TSF Revegetation Monitoring Report March 2021)

Tronox Pigment Bunbury Ltd
ABN 50 008 683 627
Locked Bag 245, Bunbury WA 6230

T +61 8 9780 8333 F +61 8 9780 8577
www.tronox.com

Table of Contents

List of Tables

List of Figures

List of Appendices

Summary

This report documents the environmental review of the Dalyellup Treated Solid Residue (TSR) disposal facility managed by Tronox Pigments Bunbury Ltd (Tronox). The report is submitted to satisfy the reporting requirements for the period January – December 2020 in accordance with:

- Closure Notice for Licence 6130/1989/12 (Appendix A) issued by the Department of Water and Environmental Regulation (DWER) under Part V of the *Environmental Protection Act 1986* (EP Act), which commenced 14 May 2013; and
- Ministerial Conditions (Appendix B) imposed under Part IV of the EP Act.

The key findings of this review are:

- Assessment of monitoring data indicates that the rehabilitation of the solid residue facility results in minimal environmental impacts.
- Radiation levels measured at the site boundaries and in groundwater are consistent with previous years and remain at background levels. The Radiological Council of Western Australia (RCWA) have reiterated that the radiological risk to the community is low and does not require a buffer zone to the east of the site.
- No significant levels of dioxins and furans were found in the ground water samples, however an anomalous sample in a background bore requires further review.
- Background bore MB4 which had been previously damaged, was recommissioned in 2019 to facilitate ongoing sampling. The bore was vandalised again during 2020 and samples were not able to be collected after the January 2020 monitoring event. The bore is located outside of the TSR disposal facility in a publically accessible area. This limits Tronox's ability to continuously maintain the security/integrity of this bore.
- The Yarragadee aquifer remains unaffected by the site.
- Stage 2 Rehabilitation Plans are progressing with ponds capped, area seeded and seedlings planted. Weed and pest control and infill planting was undertaken during 2020. Monitoring of the rehabilitation area continued throughout the year. General health of the plants has improved over 2020 and there was evidence of natural seed distribution from the initial plantings.

Since the operation ceased in 2013, monitoring bores down-gradient of the leachate plume are generally trending to lower concentrations of contaminants. The observed trends indicate that leachate generation is declining following closure of the facility. The facility continues to present minimal environmental impact and with natural attenuation contaminant concentrations are returning to background levels.

1.0 INTRODUCTION

1.1 Background of Operations and Purpose

Tronox Mineral Holdings Australia Pty Ltd (Tronox) acquired the global titanium dioxide business of The National Titanium Dioxide Company Ltd (known as Cristal) on 10 April 2019. On 25 July 2019 Cristal Pigment Australia Ltd changed its name to Tronox Pigment Bunbury Ltd (Tronox).

Tronox is one of the world's leading producers of high-quality titanium products, including titanium dioxide pigment, specialty-grade titanium dioxide products and high-purity titanium chemicals; and zircon. Tronox mines titanium-bearing mineral sands and operate upgrading facilities that produce high-grade titanium feedstock materials, pig iron and other minerals. Tronox has two manufacturing facilities in the south west region near Bunbury (see Figure 1). They are the Kemerton processing plant and the Australind finishing plant. Combined, the two plants produce nominally 110,000 tonnes of finished pigment each year. Tronox also operated a Treated Solid Residue (TSR) disposal facility at Dalyellup, 8 kilometres south of Bunbury until 1 March 2013. Since 2013, the TSR has been sent to Cleanaway's Banksia Road Facility at Dardanup.

A Closure Notice was issued in May 2013 by the Department of Water and Environmental Regulation (DWER) and amended in August 2013. This report documents the ongoing monitoring of the TSR disposal facility as required by the Closure Notice.

Figure 1 – Site Location

1.2 Source of Treated Solid Residue (TSR)

The vast majority of TSR sent to Dalyellup was from the Kemerton Processing plant (~ 95%). The plant utilises the chloride process to produce TiO_2. The chloride process is based on the production of titanium tetrachloride (TiCl4) from the chlorination of titanium bearing ore. The purified $TiCl_4$ is subsequently oxidised, yielding titanium dioxide and allowing recycling of chlorine (Cl_2).

Titanium-rich ore, together with a supply of carbon (petroleum coke), is fed into a chlorinating vessel, which operates at approximately 900 to 1100°C. Chlorine entering the vessel reacts with the TiO_2 and some of the ore impurities to form $TiCl_4$, metal chlorides as well as carbon monoxide (CO) and carbon dioxide (CO_2). The reaction is as follows:

$$3\ TiO_2 + MOx + 4\ C + 6\ Cl_2 \longrightarrow 3\ TiCl_4 + 2\ CO + 2\ CO_2 + MClx$$

In the purification process, solid and liquid impurities are separated from the hot gas. The gas is condensed and then distilled to produce pure titanium tetrachloride as an intermediate product.

The solid residue separated from the gas stream typically consists of metal chlorides, oxides, various silicates, unreacted ore and coke. Most of the ore and coke is recovered and separated prior to being reused in the production process. A neutralisation process is used to treat the remaining solid residue from the chlorinated gas stream. Lime is added to each of a series of tanks to raise the pH and precipitate the contaminants as hydroxides.

$$MCl_x + Ca(OH)_2 \longrightarrow CaCl_2 + M(OH)_x$$

Metal chlorides + lime ⟶ calcium chloride + metal hydroxides

The slurry is then sent to a clarifier where the solids settle and are separated. The solids are filtered by a vacuum filter and washed to remove a large proportion of the soluble salts. The waste was transferred as a ~ 20% solid slurry by tankers to the disposal site at Dalyellup.

The Australind residue contributed approximately 2 to 6% of the total residue sent to Dalyellup. The Australind finishing plant receives TiO_2 slurry from Kemerton via road tanker where it then undergoes surface treatment, washing, filtering, drying, final milling and packaging. Any process wastewater is captured in the drain system which is transferred to the neutralisation plant. The neutralisation process is the same as Kemerton and slurry was transported to Dalyellup in the same manner. The dried residue is an inert, insoluble, non-toxic, clay-like material.

2.0 SITE INFORMATION

2.1 Site History and Location

The disposal site is adjacent to and set within the buffer zone of the No.2 Bunbury Sewage Treatment Works and is approximately 200 metres from the ocean. The disposal site is situated in the swale between the vegetated linear primary dunes and the parabolic secondary dunes, which have a maximum elevation in the area of 45 metres Australian Height Datum (AHD).

Disposal at the site commenced in March 1989 under a five-year agreement with the Shire of Capel. DWER, however, agreed to the use of the site for three years, conditional upon satisfactory environmental performance. In June 1991, the company submitted a proposal to the DWER for a two-year extension of its disposal facilities. This was consistent with the original agreement made with the Shire of Capel. In response, DWER called for a Consultative Environmental Review.

The CER was released in September 1991 and, following the public review and assessment period, approval for the project to proceed was received from the Minister for the Environment on 23 January 1992. The extension, approved under Ministerial Statement No. 213, expired on 4 March 1994.

In August 1993 Tronox submitted a proposal to the DWER for continued use of the disposal site. Pursuant to section 46(1) of the EP Act, the Minister for the Environment requested DWER to inquire into and report on the proposed change to Environmental Condition M1.

The Section 46 amendment was approved in Ministerial Statement No. 332, published on 9 December 1993. Further Ministerial Conditions were set on the project (see Section 5). The extension, for the “Life of the Site”, is subject to the licensing requirements of the EP Act. Tronox was granted approval to operate this site until March 2010.

The site was registered in May 2007 as a Contaminated Site, as required under the *Contaminated Sites Act 2003* (CS Act). The registration was accompanied by copies of the licence, the Annual Environmental Reports (AERs) from previous years, and other studies and reports. The site has been classified by the DWER Contaminated Sites Branch as ‘Possibly Contaminated’ and suitable for its then current use.

In 2008 Tronox commenced community consultation for the issue of a new licence to operate the site from 2010 to 2013. The extension was requested as the facility would not be fully utilised until 2013. This was due to Tronox implementing waste reduction and recycling programs at the Kemerton facility.

During 2009, the Shire of Capel, WA Planning Commission, Radiological Council of Western Australia (RCWA) and Environmental Protection Authority (EPA) approved continued use of the site. An assessment by the DWER followed and a licence was issued on the 25th January 2010 to operate the site until March 2013, at which time the site ceased to operate.

In 2009-2010, studies on the impact of leachate to the near shore, concluded that there was no evidence of metal, chromium VI, dioxin or furan contamination found in the sediment, sediment elutriates or marine water adjacent to the Dalyellup waste disposal site, and on the basis of the results, ground water discharge adjacent to the site posed negligible risk to the marine environment and had a negligible impact on recreational uses on the beach and waters adjacent to the site.

Disposal ceased on 1 March 2013 and the Closure Notice, issued in May 2013 by DWER, details the ongoing monitoring requirements. The remaining TSR ponds were covered with 3-4 metres of clean fill in September 2013.

Two rehabilitation options were considered in detail: redevelopment to sporting fields; and rehabilitation back to native vegetation. In May 2017, the Shire of Capel formally communicated that they were not committing to the sporting field option in the near future, and works have commenced to extend previous successful revegetation efforts at the south of the site to the rest of the facility. In 2018, seeding and planting of seedlings in Stage 2 was undertaken. Weed and pest control and infill planting was undertaken during 2020. Monitoring of the rehabilitation area continued throughout the year. General health of the plants has improved over 2020 and there was evidence of natural seed distribution from the initial plantings.

In 2015, the OEPA was satisfied that ministerial conditions related to the closure had been met. The Mandatory Auditor's Report, prepared by a DWER accredited independent auditor, was sent to DWER's Contaminated Sites Branch in July 2015 and reviewed by DWER, Department of Health, Capel Shire and RCWA. The Site Management Plan (SMP) was updated and submitted to DWER in October 2019 for review.

In October 2017 a member of the general public reported to DWER that the proposed Greenpatch development (located to the east of the TSR) was suspected to be contaminated under the CS Act from chromium and zinc present in the groundwater and TSR beneath the site. Soil validation of the suspected areas found no evidence of TSR beneath the site. The site was reported again due to the suspected presence of TSR associated with operations historically undertaken at the former TSR disposal site.

Two hydrogeological studies have confirmed the groundwater flow is from east to west, i.e. towards the sea rather than from the TSR disposal site towards Greenpatch. Background bores located to the south west and within the Yarragadee Aquifer (which is a source of drinking water) show no contamination. It has been eight years since the operation closed and monitoring bores down hydraulic gradient (down-gradient) of any leachate plume are trending lower concentrations of contaminants.

There is however, limited groundwater data available to Tronox from monitoring bores to east and south-east of the Tronox site. The Department of Biodiversity, Conservation and Attractions (DBCA) advised[1] that there are no mapped geomorphic wetlands of any management category on the Greenpatch development site. The two water bodies present have been described as a man-made 'sump' or 'dam'. These water bodies are located up hydraulic gradient (up-gradient) of the Tronox site, therefore groundwater flows from these water bodies towards the Tronox site.

The Contaminated Sites Committee considered appeals against the classification of Lots 8019, 9076 and 9105. The Committee made its decision in respect of this Appeal against the classification on 20 October 2020 and decided the site be reclassified to *'possibly contaminated – investigation required'*. The Greenpatch developers, Satterley, have engaged RPS to prepare a PSI for the site for submission to an accredited CS auditor by August 2021.

[1] Hansard, Legislative Council, 29 Nov 2018

2.2 Site Hydrogeology

2.2.1 Superficial Formations

The sediments below the site area are calcareous, fine to medium grained sands. They range in depth from 10 to 20 metres. Limestone, sand and sandy clays occur in the area at depths between 10 to 30 metres. Below these sediments are dark grey, silty, micaceous clays. Some heavy minerals and silty organic matter occur throughout the profile. The secondary dunes are overlain by about 0.5 to 1.0 metres of topsoil.

The area is underlain by superficial formations, which range in depth from sea level to about 10 metres AHD above sea level. The superficial formations form an anisotropic unconfined aquifer, comprising sand and limestone, with a basal section of less permeable silty sand and sandy clay. The depth to the water table is about 10 metres beneath the base of the tailings storage lagoons and varies with topographic elevation and mounding effects. Seasonal fluctuation is estimated to be 1 to 1.5 metres.

The superficial aquifer has a saturated thickness at about 10 metres beneath the disposal site. Groundwater flow through the superficial formation is towards the ocean where discharge occurs across a seawater interface. The hydraulic gradient is about 1:100. Baseline studies, prior to commissioning the site, recorded electrical conductivities in the order of 1,350 µS/cm, equivalent to about 800 mg/L TDS. Figure 2 shows a hydrogeological conceptual model of the site.

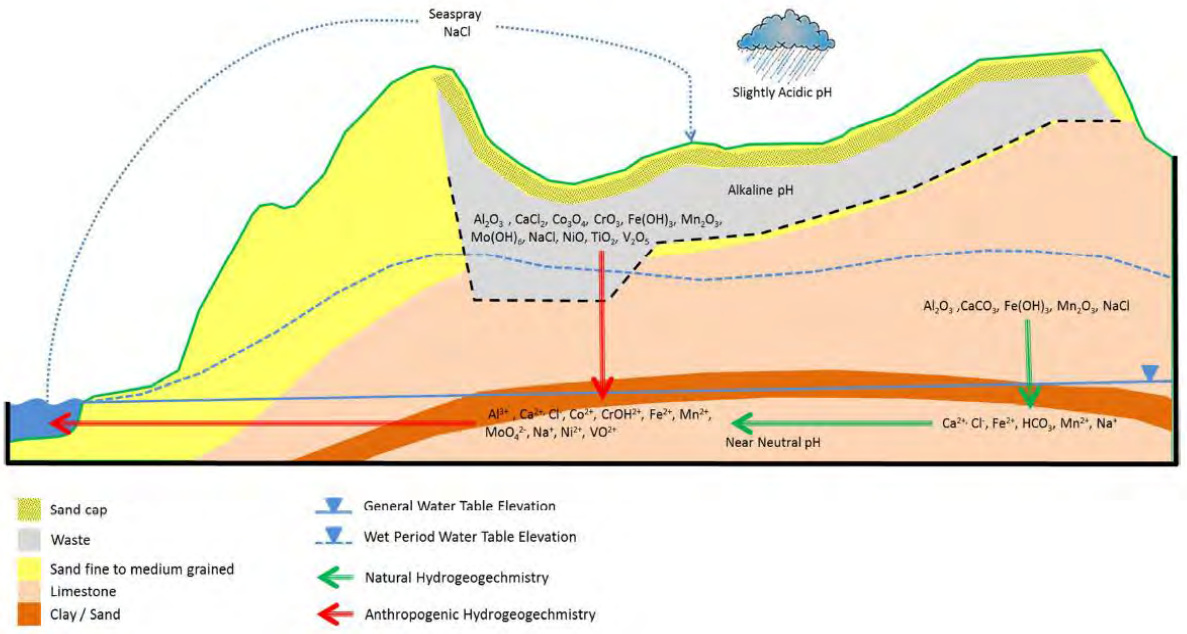


Figure 2 – Conceptual Model of the Site[2]

2.2.2 Yarragadee Formation

The Yarragadee formation directly underlies the superficial formation in this area and forms a confined multi layered aquifer, comprising interbedded sandstone, siltstone and shale. In 1996 it was determined that the potentiometric head in the confined aquifer was about 1m higher than in the superficial formations. Consequently, there is upward recharge into the superficial formations. This upward head prevents leachate entering the Yarragadee Aquifer. Regional groundwater flow in the Yarragadee formation is in a North West direction and discharge is via the superficial formation into the ocean. Beneath the disposal site, the groundwater salinity in the Yarragadee formation ranges between 600 and 1,000 mg/L TDS.

[2] Dalyellup Waste Residue Facility – Hydrogeological Assessment, GHD, April 2015

3.0 GROUNDWATER MONITORING

3.1 Monitoring Bore Network

Fifteen monitoring bores have been installed around the Dalyellup disposal facility (see Figure 3) including a bore to monitor the Yarragadee (YB).

The monitoring bores on the site are cased with Class 9 PVC, ranging in size from 50 to 100mm. Construction details of the monitoring bores are given in Appendix C. The bores can be divided into two main groups, background monitoring bores and site monitoring bores.

- The background monitoring bores are constructed of 100mm PVC and are slotted against the entire aquifer thickness. These are designated by the MB (monitoring bore) prefix.
- The site monitoring bores are located in pairs, one deep (A) and one shallow (C); these are designated by the DM (Dalyellup monitoring) prefix e.g. DM2A and DM2C. Monitoring at two depths in the aquifer is conducted to identify any stratification that may be occurring in the leachate plume.

Figure 3 - Monitoring Bore Locations

Bores range in depth from around 15 to 50 metres below ground level and monitor groundwater in the Superficial Formations (quaternary aged shallow aquifer system). Since the monitoring bore network was constructed in 1989, several bores have been replaced. Bores DM1(R) and DM4(R) were replaced in 1992 and 1996 respectively as part of earth works on the site. MB1, MB2 and MB3 were replaced in February 2001 due to earthworks associated with the Dalyellup residential sub-division, which borders the southern boundary of the disposal area. In May 2004, MB1 and MB2 were decommissioned due to further earthworks. This was discussed with DWER at the time and the licence was amended to reflect the changes in July 2005.

The southern ponds were rehabilitated in 2002. DM3A and DM3C were located in the southern ponds and have now been decommissioned. Some sand was also removed from the southwest part of the central pond to help build a separating wall in the pond. This unintentionally created some erosion around bores DM5A and DM5C and made sampling of these bores unsafe. These bores were subsequently decommissioned.

Background monitoring bore, MB4, has been damaged a number of times since 1989. The bore was vandalised in 2018 and recommissioned in 2019 to enable recommencement of the sampling program. The bore was vandalised again during 2020 and samples were not able to be collected after the January 2020 monitoring event. The bore is on the beach's high water mark outside of the TSR disposal site boundary and is subject to both storm damage and acts of vandalism which restricts Tronox's ability to maintain integrity of this bore.

3.2 Superficial Aquifer Monitoring Bores

As required by Section 1.3 of the Closure Notice, a report was prepared on the groundwater beneath the site for the period 4 March 2013 to 4 March 2015 [2]. The full report was provided in the 2015, 2016 and 2017 AER's.

Groundwater discharges directly into the nearby Indian Ocean. As such, ANZECC 2000 Marine Water 95% species protection criteria (Marine Criteria) was adopted for the assessment. In summary the report concluded:

a) Geology underlying the Site comprised calcareous, fine to medium grained sands, ranging in depth from 10 to 20 metres. Limestone, sand and sandy clays occur in the area at depths between 10 to 50 metres. Below these sediments are dark grey, silty, micaceous clays. The clays appear from 20 to 40 metres, and occasionally occur above or within the sandy limestone layers.

b) Groundwater standing water level (SWL) resides in the superficial formation between 0.8 to 2.5 m AHD. Yarragadee aquifer SWL level resides between 1.5 to 2.5 m AHD.

c) The monitoring network incorporating 15 bores was sufficient to complete the hydrogeological review;

d) Groundwater quality investigations reported exceedances of select trace metals. Of these, it was concluded that lead, cobalt, copper and zinc are likely to be due to natural background conditions.

e) Chromium and vanadium were the only two detected trace metals that appear to be linked to the TSR as their concentration shows an increase between the up and down-gradient bores.

f) Mobility of hexavalent chromium and vanadium is dependent on anionic sorption processes with the main anion attracting sites being ferric hydroxide minerals. Therefore, dissolution of these metals is dependent on pH. The pulsed nature of mobility would likely result in very slow transport velocities with these metals only migrating during periods when the pH is in a narrow window where sorption and precipitation are not occurring.

g) The TSR is generating saline leachate that is increasing the TDS of the superficial groundwater along the flow path.

h) The most likely mineral responsible for the majority of the observed effect on the major ion composition of the groundwater is calcium chloride. The source of this mineral is considered to be anthropogenic and probably associated with the TSR.

i) The hydro-geochemical character at the down-gradient bore (DM4(4R)) is influenced by mixing of fresh groundwater discharge, impacted by leachate from the TSR and seawater interface, which would be anticipated, given the position of the bore near the beach.

The report recommended that Tronox:

a) Maintain the monitoring program as currently described in the Closure Notice.

b) Periodically re-evaluate the hydro-geochemical data to establish that conditions remain stable and provide a series of actions and measures to be adopted should any future monitoring identify potential changes in hydro-geochemical conditions and / or risk profile of the TSR to the environment.

c) Store and manage data in a program which can be updated and analysed easily.

Data (refer to Appendices D and E) is transferred into an environmental database (ESDAT), which is Tronox's site tool for storing and managing the data.

As reported in the 2018 AER, Tronox undertook an evaluation of the dataset to identify statistically significant changes using the Mann-Kendall test. From this test Tronox was able to identify whether there had been an upward or downward trends in the analytical suite over the 10 year period from 2008-2018.

The 2018 AER identified a number of "trends of interest" relating to individual bores and the associated suite of analytes. The 2020 analytical data has been compared against the "trends of interest" and reported in Table 1.

Table 1 – Trends of Interest

BORE	ATTRIBUTE	COMMENT (Refer to graphs in Appendix D and bore locations in Figure 3.)
DM1A	Pb	Deep bore NE corner. This bore is up hydraulic gradient of the historical TSR ponds. Spike in Aug 2012. Stabilised levels similar to 2018. Trending up and level slightly exceeded ANZECC marine quality water guidelines (95% trigger) in April 2020 however decreased to below the adopted assessment criteria in October 2020. These values are considered to be reflective of ambient groundwater conditions.
DM1C	EC, TDS	Shallow bore NE corner. This bore is up hydraulic gradient of the historical TSR ponds. Levels have decreased from 2015. EC and TDS levels indicate that there has not been any impact resulting from saline TSR leachate on this bore confirming that this bore is up hydraulic gradient of the historical ponds.
	Fe	Peaked in 2015-2016. 2020 levels significantly less than the peak values recorded in 2015-2016. These values are considered to be reflective of ambient groundwater conditions.
	Pb	Peaked in 2012 -2016 with seasonal fluctuations. The concentrations over the last three years' were significantly below the peak values recorded and levels were below ANZECC marine water quality guideline (95% trigger) in 2020.
	Mn	Peaked in 2012 -2018 with seasonal fluctuations. The concentrations over the last two years' were significantly below the peak values recorded.
	Na/Cl	Results over the last three years were around 1 indicating no impact from the Cl leachate from the TSR.
	Mg, Na, SO_4	Major constituents (Mg, SO_4, Na) have stabilised and generally decreasing over the last few years.
DM2A	Cr(VI)	Deep bore on NW corner of the TSR. Levels peaked in 2014. 2019 levels increased to similar peak value before decreasing in 2020. Levels are above ANZECC marine quality water guidelines (95% trigger). Action: Refer to Section 3.2 (f). Action: Continue to monitor.
	Pb	Peaked in 2012 -2016 with seasonal fluctuations. Levels stabilised below the ANZECC marine water quality guidelines (95% trigger).
	Mn	Peaked in 2014. Levels have stabilised and generally decreasing over the last few years.
	Ni	Spike in April 2014. However, levels have remained below the ANZECC marine water quality guidelines (95% trigger) and have stabilised well below the maximum concentration recorded.
	V	Spike in April 2014. Levels stabilised below the ANZECC marine water quality guidelines (95% trigger).
DM2C	Cl	Shallow bore on NW corner down-gradient of tailings. Levels have varied over the monitoring period from 1988 in response to the when TSR was deposited in the historical ponds closest to this bore.
	Cr(VI)	Spike in April 2014 and again in October 2020. Levels are above ANZECC marine quality water guidelines (95% trigger). Action: Refer to Section 3.2 (f). Action: Continue to monitor.

BORE	ATTRIBUTE	COMMENT (Refer to graphs in Appendix D and bore locations in Figure 3.)
	Fe, Ni, Pb, Mn, V	Spike in May 2017. Levels returned to be within ANZECC marine quality water guidelines (95% trigger). Refer to Section 3.2 (f). All parameters are trending down and have stabilised at low levels. Action: Refer to Section 3.2 (f). Action: Continue to monitor.
	Na/Cl EC	2020 ratio remains low (0.2) with natural Na/Cl ratio (0.7 to1.0). EC relatively high, indicating leachate plume impacting this bore with chlorides still present, however is trending down. Action: Continue to monitor.
	Redox	Recorded values varied from reducing conditions to oxidising conditions over 2020.
	SO_4	Levels recorded during 2020 were lower than the peak value recorded in 2010. SO_4 is indicative of oxidation of sulphur in the TSR. Action: Continue to monitor.
DM4A	NO_3	Deep bore on the beach directly downstream of TSF. No source of nitrate or nitrogen from TSF. Levels are considered to be reflective of background conditions. No further action.
DM7A	Pb	Deep bore near the SW boundary. Spike in April 2018. Levels have continued to decrease in 2019-20. Level slightly exceeded ANZECC marine quality water guidelines (95% trigger) in April 2020 however decreased to below the adopted assessment criteria in October 2020. Action: Continue to monitor.
DM7C	Fe	Shallow bore near the SW boundary. Levels have remained low over the last 20 years. Action: No further action.
	Pb	A spike in October 2013. Over the last four years' levels have remained below the ANZECC marine quality water guidelines (95% trigger). Action: No further action.
	Mn	Maximum value (2.0 mg/L) recorded in 1996. Levels have fluctuated over 2020 from 0.91 mg/L recorded in April and 0.07 mg/L recorded in October. Action: Continue to monitor.
	Mo	Levels have decreased from values recorded in 2018 and remain similar to concentrations recorded in background bores. Action: No further action.
	Ra^{226}	A spike in 2015. Levels have fluctuated in 2020 within historic levels and below radiological trigger (500 mBq/L). Refer to Appendix F. Action: No further action.
	V	Levels have remained well below the ANZECC marine quality water guidelines (95% trigger) since 1999. Action: No further action.
DM8A	Fe, pH, Mn	Deep bore on the western site boundary directly down-gradient of the last filled tailings dams. The pH has stabilised to a more neutral level. Iron levels have dropped as the pH has risen again. Manganese levels mirrors the iron trend. Levels do not pose a significant ecological risk. Action: Continue to monitor.

BORE	ATTRIBUTE	COMMENT (Refer to graphs in Appendix D and bore locations in Figure 3.)
DM8C	Mo	Shallow bore on the western site boundary directly down-gradient of the last filled tailings dams. Levels remained low in 2020 after fluctuating levels from 2017-2019. Action: Continue to monitor.
	Redox	Trending up to oxidising conditions. The value recorded in October 2020 (639 mV) was the maximum recorded during the groundwater monitoring program at the site. Metals tend to be less mobile in oxidising conditions, e.g. Fe(III) is less mobile than Fe(II) in more oxidising conditions. Action: Continue to monitor.
DM9A	Cl, Na	Deep bore on eastern side of the historical TSR disposal ponds. This bore is up hydraulic gradient of the historical TSR ponds. Values recorded during 2020 were within historical ranges. Considered to be reflective of background conditions.
	Fe	Levels fluctuate over the past ten years. This bore is up hydraulic gradient of the historical TSR ponds and this increase is likely a result of off-site influences. Refer to Section 3.2 (f).
	Mn, SO_4, pH	Slight fluctuation in Mn, SO_4 and pH levels over the period but within historical ranges. This bore is up hydraulic gradient of the historical TSR ponds and these values are considered to be reflective of ambient groundwater conditions.
DM9C	Cr(VI)	Shallow bore on eastern side of the historical TSR disposal ponds. This bore is up hydraulic gradient of the historical TSR ponds. Levels peaked in 2012-14 and 2016. 2020 results were similar to previous peak values. Hydrological studies confirmed the ground water flow is towards the sea and therefore any elevated results are reflective of background influences.
	EC	Salinity was within historical range over the period. Considered to be reflective of background conditions.
	Fe	Spike in 2010. Levels increased again in 2013-2015. Levels have been low from 2017. This bore is up hydraulic gradient of the historical TSR ponds and this increase is likely a result of off-site influences.
	SO_4	Values recorded during 2020 are slightly elevated compared to the historical average. This bore is up hydraulic gradient of the historical TSR ponds and these values are considered to be reflective of ambient groundwater conditions. No further action.
MB3		Background bore SW of site. Action: Continue to monitor as a reference.
MB4	Fe	Background bore on the beach's high water mark. Vandalised in second half of 2018. Repaired bore in 2019 however was vandalised again in 2020. Natural variation. Action: Consider seeking approval to discontinue use of this location as the well has been consistently vandalised over the past few years. There is over 30 years of monitoring data available from this background monitoring location.
	Na/Cl	Natural variation in levels. No trends of interest.
	Mn, Pb, V	Peaked in 2014. Natural variation.
YB	Na/Cl, Cl, EC, Mg, V, SO_4	Deep aquifer supplying town water. Natural variation in levels over time. Action: Continue to monitor.

Data is provided in Appendices D and E. Points of note from the 2020 dataset for the superficial aquifer are:

- There were no notable short-term trends in SWL's.
- Longer term trends for SWL's indicate an overall decrease in level in response to a decrease in annual average rainfall (Figure 4) and cessation of operations.

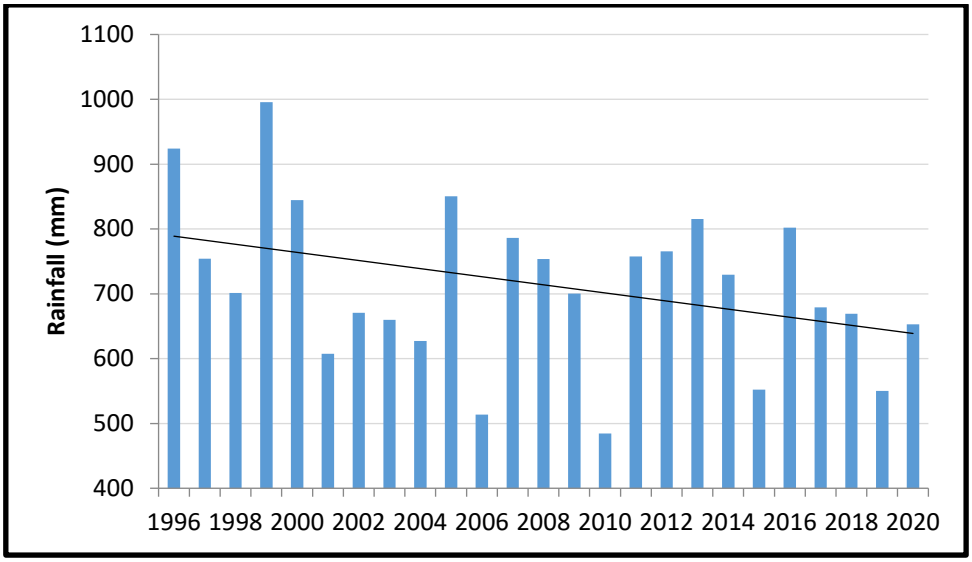


Figure 4 - Total Annual Rainfall at Bunbury (data from BOM (2020))

The monitoring of the molar Na/Cl ratio in groundwater over time assists in determining the position of the TSR salt plume. TSR is rich in soluble chlorides, in particular calcium chloride. As a guide, in nature the molar Na/Cl ratio of waters, be it strongly saline or dilute concentration, approaches 1. Therefore, the TSR salt plume, enriched with chlorides, which moves west to the ocean, will have a low molar Na/Cl ratio (0.2). As the plume is displaced and / or diffused by fresh groundwater flow the molar Na/Cl ratio will approach 1. Refer to graphs in Appendix D. Those monitoring bores up hydraulic gradient of the site, DM1A/C and DM9A/C, show no salt plume, whilst the plume persists in down hydraulic gradient bores of the last filled ponds, DM2A/C, DM4A/C, DM8A/C. DM7A/C, bores down hydraulic of southern ponds, have rising ratios showing the return to background conditions. The southern ponds were decommissioned in 2001 which indicates Na/Cl ratio levels will naturally attenuate after the site ceased operation.

EC and TDS concentrations are also an indicator of the saline leachate plume. These parameters have been declining in all site bores indicating that there the generation of saline leachate is reducing since the closure of the facility.

3.3 Yarragadee Bore

The Yarragadee Bore (YB) was sampled quarterly for SWL, pH, electrical conductivity, chloride, sodium, redox potential and radionuclides, and annually for dioxins and furans (see Section 3.4). This data is provided in Appendices D, E and I. Results from 2020 monitoring indicate:

- The Yarragadee aquifer SWL remains between 1.4 to 2.7 m.
- Salinity remains within the 'marginal' salinity threshold category of 500 to 1000 mg/L. The long term trend is the aquifer becoming more saline which corresponds with the lowering rainfall.
- Na/Cl ratio values in the Yarragadee monitoring bore (YB) continue to be aligned with historical values of around 0.7 indicating that connectivity with the shallow contaminated aquifer is minimal and there has been no impact associated with leachate generation from the TSR disposal ponds.

3.4 Dioxins and Furans

A requirement of the Closure Notice is to monitor dioxins and furans annually in bores YB, MB3 and DM8. Refer to Appendix I. Tables (2-4) report the lower, middle and upper boundaries of the data on toxicity equivalent (TEQ) basis. Variability can be expected at these very low levels and boundaries provide a potential range within each sample.

There were no measureable dioxins or furans (1, 2,3,7,8 PECDD) in the groundwater samples from the monitoring bores (YB, MB3 or DM8A). In 2020 reported values for all congeners were generally reported as less than the level of detection. OCDD in YB was higher than historically recorded with a value of 24 pg/kg. However, OCDD is the least toxic of the congeners and the overall sum of the congeners was still low. There has been no evidence of there being any impact from the TSR leachate on the Yarragadee aquifer and this elevated result may be from contamination during the sampling event. Notwithstanding, further monitoring will continue to be undertaken and results reviewed from future sampling events.

Table 2 - Yarragadee Bore

Sampled YB	Lower Bound pg TEQ/L	Middle Bound pg TEQ/L	Upper Bound pg TEQ/L	OCDD pg/L
Aug 2010	0.00	3.08	6.16	< 9.29
Feb 2011	0.00	3.94	7.89	< 9.29
Aug 2011	0.00	3.00	6.00	< 7.20
Feb 2012	0.00	2.72	5.44	< 4.37
Sept 2012	0.00	2.13	4.26	< 7.34
Feb 2013	0.00	1.95	3.90	< 1.69
Apr 2014	0.00	1.50	3.10	< 9
Apr 2015	0.00	2.70	5.30	< 2
Apr 2016	0.01	0.77	1.5	< 1
Apr 2017	0.00	0.39	0.78	< 0.3
Apr 2018	0.00	0.88	1.8	< 0.5
Apr 2019	0.00	1.1	2.1	< 1.0
Apr 2020	0.022	0.78	1.5	24

Table 3 - Superficial Groundwater Background Bore

Sampled MB3	Lower Bound pg TEQ/L	Middle Bound pg TEQ/L	Upper Bound pg TEQ/L	1,2,3,7,8 PeCDD pg/L
Aug 2010	0.00	2.54	5.08	< 1.63
Feb 2011	0.00	2.55	5.09	< 1.40
Aug 2011	0.00	2.95	5.90	< 1.82
Feb 2012	0.00	2.19	4.38	< 3.95
Sept 2012	0.00	1.99	3.98	< 1.90
Feb 2013	0.00	2.59	5.19	< 4.51
Apr 2014	0.00	1.2	1.4	< 0.9
Apr 2015	0.00	1.5	3.1	< 1
Apr 2016	0.00	0.72	1.4	< 0.4
Apr 2017	0.00	0.33	0.67	< 0.2
Apr 2018	0.00	0.52	1.0	< 1
Apr 2019	0.011	1.3	2.7	< 0.8
Apr 2020	0	1.3	2.7	< 1

Table 4 – Down-gradient Superficial Groundwater Bore (Deep) of the Ponds

Sampled DM8A	Lower Bound pg TEQ/L	Middle Bound pg TEQ/L	Upper Bound pg TEQ/L	1,2,3,7,8 PeCDD pg/L
Aug 2010	0.00	1.86	3.71	< 1.28
Feb 2011	0.00	3.15	6.29	< 1.59
Aug 2011	0.00	2.16	4.33	< 1.44
Feb 2012	0.00	2.52	5.03	< 1.88
Sept 2012	1.32	3.00	4.68	1.32
Feb 2013	0.00	2.57	5.13	< 1.46
Apr 2014	0.00	1.6	3.1	< 0.7
Apr 2015	0.00	2.5	5.0	< 1
Apr 2016	0.00	0.79	1.6	< 0.5
Apr 2017	0.00	0.35	0.88	< 0.3
Apr 2018	0.00	0.7	1.4	< 0.5
Apr 2019	0.00	1.1	2.1	< 0.8
April 2020	0	0.57	1.1	< 0.3

3.5 Radiological Monitoring

Independent consultants, Radiation Professionals, conduct an annual survey of the site. A Radiological Council Western Australia (RCWA) approved radiation monitoring program has been implemented by Tronox. The annual report (Appendix F) relates to monitoring undertaken during 2020.

The approved radiation monitoring program includes periodic radiation surveys to ensure that the site is returned to natural background radiation levels for the area.

Based on the most recent gamma dose rate-in-air, the results clearly show that the gamma radiation levels are consistent with the natural background gamma radiation levels expected in the area and pose no radiological health issues to the public or the environment.

The average gamma dose rate for the rehabilitated area was 0.13 µGy/h. The results are comparable to last years' results and are typical for the background gamma dose rate levels for the Perth Coastal Plain.

For the period from November 2019 to July 2020, all radon results are less than Minimum Analysis Level (MAL), i.e. <15 to <30 Bq/m^3. The thoron results are also less the MAL, with one exception for the April to July 2020 period at location 16 (RM2) of 93 ± 28 Bq/m3. There is no correlation between radon and thoron results to indicate a potential increase in emission in this area (Radiation Professionals 2020). Overall, concentrations indicate that radon and thoron activity levels are low and pose no radiological health issues to members of the public or the environment.

The groundwater sampling results from November 2109 to October 2020 show a stable trend and there is no significant increase in Radium 226 and Radium 228 concentrations from the previous years and they continue to remain below the National Drinking Water Guidelines recommended screening concentration for gross alpha activity or gross beta activity of 0.5 Bq/L (500mBq/L) (Radiation Professionals 2020). Data gathered during the groundwater monitoring program for 2020 suggests that there is no leaching of radionuclides into the surrounding areas.

The RCWA have reiterated that the radiological risk to the community is low and does not support a buffer zone to the east of the site.

4.0 LICENCE COMPLIANCE & INCIDENTS

4.1 Operating Licence

The site operated under Closure Notice for Licence 6130/1989/12. The degree of compliance is summarised in Table 5. All groundwater monitoring results for monitoring required by the Closure Notice were recorded in Tronox's environmental database ESDAT, and provided in Appendix D.

Background monitoring bore, MB4, was vandalised during late 2018. This bore had been refurbished and sampling recommenced in 2019. The bore was vandalised again during 2020 and samples were not able to be collected after the January 2020 monitoring event. The bore is located outside of the TSR disposal facility in a publically accessible area. This limits Tronox's ability to continuously maintain the security/integrity of this bore. The bore is on the beach's high water mark and subject to interference. There have been five instances of the bore being vandalised since 1989.

4.2 Incidents

There were no environmental incidents or community complaints recorded for the Dalyellup site during the 2020 reporting period.

Table 5 - Compliance with Closure Notice

	Licence Requirement	Comment	Compliance
1.1.1	The Person to Whom this Notice is Given shall undertake the monitoring in Table 1.1.1 according to the specifications of that Table.	Refer to Appendix G.	✓
1.1.2	The Person to Whom this Notice is Given shall ensure that: (a) All samples required by Table 1 are collected and preserved in accordance with AS/NZS 5667.1; (b) All sampling required by Table 1 is conducted in accordance with AS/NZS 5667.11; (c) All samples are submitted to a laboratory with current NATA accreditation for the parameters to be analysed; (d) The limit of detection of analysis for all samples is: (i) One order of magnitude below the relevant ANZECC guideline; or (ii) Where the laboratory cannot routinely achieve a limit of detection one order of magnitude below the relevant ANZECC guideline, the lowest limit of detection; (e) Quarterly monitoring is undertaken at least 45 days apart, with the first round of sampling to commence in Q3 2013 (i.e. 1 July to 30 September 2013); (f) Six monthly monitoring is undertaken at least 5 months apart, with the first round of sampling to commence between 1 July and 31 December 2013; and (g) Annual monitoring is undertaken at least 9 months apart, with the first round of sampling to commence prior to 1 July 2014.	As above. See Appendix G Standard operating procedures for groundwater consultant. See Appendix G Standard operating procedures for groundwater consultant. All samples sent to ChemCentre (WA) and Western Radiation Services. Analysis is to the lowest detection limits possible. See Appendix D. Quarterly sampling taken on 27 January, 15 April, 15 July and 14 October 2020. Bi-annual sampling taken on 15 April and 14 October 2020. Dioxins and Furans sampling completed April 2017, 2018, 2019 and 2020.	✓
1.2.1	The Person to Whom this Notice is Given shall prepare a biennial hydrogeological report on groundwater beneath the Premises, covering the period 4 March 2013 to 4 March 2015.	Refer to AER 2015, 2016 and 2017 Appendix G.	✓
1.2.2	The Person to Whom this Notice is Given shall ensure the hydrogeological report referred to in paragraph 1.2.1 of this Notice includes: (a) Assessment of groundwater quality below and down, gradient from the Premises and compared to background groundwater quality; (b) Assessment of any contaminant plume size, movement and distribution of contaminant concentrations from below	Refer to AER 2015, 2016 and 2017 Appendix G.	✓

	Licence Requirement	Comment	Compliance
	the disposal ponds to the near shore groundwater discharge zone; and (c) A characterisation of the interaction between the treated solid residue and the groundwater, more specifically being: (I) The geochemical interactions between leachate, underlying soils and groundwater; (ii) Contaminant transport rates; and (iii) Contaminant migration pathways.		
1.2.3	The Person to Whom this Notice is Given shall submit the hydrogeological report referred to in paragraph 1.2.1 of this Notice to DWER at the Contact Address by 5pm on 1 July 2015.	Accompanied the Annual Report that was delivered to the Greater Swan offices In Bunbury before the due date.	✓
2.1.1	The Person to Whom this Notice is Given shall undertake the monitoring in Table 2.1.1 according to the specifications of that Table whilst the ponds remain uncovered.	Dust monitoring not required during 2020 as the ponds were covered in September 2013.	✓
2.1.2	The Person to Whom this Notice is Given shall ensure dust sampling equipment is co-located and sited in compliance with AS/NZS 3580.1.1 :2007.	Dust monitoring not required during 2020 as the ponds were covered in September 2013.	✓
3.1.1	3.1.1 The Person to Whom this Notice is Given shall submit to DWER at the Contact Address an annual report on the implementation of the requirements of this Notice by 30 June 2014, and by 30 June in each subsequent year.	Compliant with this condition. Annual report submitted before 30 June.	✓
3.1.2	The report referred to in paragraph 3.1.1 of this Notice shall include: (a) Annual monitoring data and other collected data required by any clause in this Notice; and (b) Interpretation and appraisal of the annual monitoring results against: (i) background water quality below and down-gradient from the Premises and compared against background groundwater quality found up gradient of the Premises and against relevant ANZECC guidelines for water quality, historical data, the surrounding environment and other beneficial users; and (ii) NEPM standard of 50 µg/m^3 for PM_{10} (24-hour average) and WHO Guideline of 120 µg/m^3 for TSP	Contained in Appendices D, E and I. See AER 2017 Appendix G. Not required. See condition 2.1.1.	✓

	Licence Requirement	Comment	Compliance
	(24-hour average).The Licensee shall take representative samples of the TSR solid and TSR filtrate prior to the waste being brought to the Premises for disposal at quarterly intervals.		

5.0 MINISTERIAL CONDITIONS & COMPANY COMMITMENTS

TRONOX operates its Dalyellup solid waste disposal facility in accordance with Company Commitments and Ministerial Statements 213 and 332. Compliance with these conditions and commitments is discussed below (Table 6 and Table 7).

Table 6 - Compliance with Ministerial Conditions

Commitment		Action Taken	Outcome
332:M1 Commitments	Fulfil the commitments (which are not inconsistent with the conditions or procedures contained in the Minister's statement)	Tronox has undertaken the requirements that currently apply.	Full compliance.
332:M2:1 Implementation	Adhere to the proposal as amended (via Statement 332) in accordance with any designs, specifications, plans or other technical material submitted by the proponent to the DWER.	Tronox has implemented the proposal as submitted.	Site operated effectively.
332:M2:2 Minor amendments	Seek approval for modifications to the proposal by detailing changes to design, specifications, plans or technical material.	Tronox to notify DWER of any changes. Closure plans sent to OEPA and other key stakeholders. OEPA satisfied with Closure Plan in February 2015. Closure Plan was updated in July 2018 and sent to OEPA once the sport fields' option was not part of the Shire of Capel's short term plans.	Remaining ponds covered with clean fill. Final end use confirmed. Revised Closure Plan waiting for Radiological Council to respond to OEPA's request for comment.
213:M3 Compliance Audit Report	Prepare "Annual Compliance Report"	Contained in this report	Fully compliant. Refer to Table 6.
332:M4:1 Rehabilitation	Prepare a final rehabilitation programme.	Tronox submitted a staged rehabilitation management program in October 2001. The DWER, Radiological Council and Shire of Capel approved the plan. Preliminary plan was submitted in September 2012. A Final Closure Rehabilitation Plan was sent June 2013 and updated in July 2018.	Final Closure Rehabilitation Plan requires the completion of the Contaminated Sites risk assessment which was progressed further in 2015. OEPA approved Final Closure Rehabilitation Plan in February 2015.

Commitment		Action Taken	Outcome
332:M4:2 Rehabilitation	Implement the rehabilitation programme	Tronox has implemented the first stage of the program as specified in the Staged Rehabilitation Management Program. Final Closure Rehabilitation Plan is being implemented.	Vegetation surveys and dune subsidence surveys conducted in 2003 and 2004. 2009 visual inspections revealed continued success in rates of plant growth. The remaining ponds were covered with clean fill in September 2013. Native rehabilitation has been selected as a post-closure land use in consultation with Capel Shire and DWER. Revegetation of the remaining ponds commenced in 2018 with seeding occurring in 2018. Further infill planting and seeding has since been undertaken.
213:M5 Proponent	Seek approval for transfer of proponent	Although Tronox has acquired Cristal Pigment Australia Ltd the ABN remains unchanged.	Tronox will comply, when or if appropriate.
332:M6:1 Site management	Operate and maintain the waste disposal site to protect the environment from unacceptable environmental impacts	Tronox complies with this condition through regular groundwater and radiation monitoring, dust, geochemical and geotechnical research and by following operational control procedures documented in the SMP and Radiation Management Plan, DWER licence and Closure Notice	Refer to 2020 Annual Environmental Report and future AERs for ongoing monitoring and assessment.
332:M6:2 Site management	Extent of disposal. Ensure that disposal occurs within the existing lease boundary and does not encroach on the primary dunes and is limited to a fill height of no more than RL24.	Design for disposal ponds show only areas to the east of the primary dunes will be utilised. Tronox will comply with fill height of RL24.	Validation report on the rehabilitated site in January 2014 has confirmed, from core logs, that the fill coverage on top of the mud is 3-4 metres and mud level is below the RL24 mark across the site.
332:M6:3 Site management	Only dispose of waste from own operations	Only TSR produced at Tronox was disposed at the site.	Full compliance.

Table 7 - Compliance with Company Commitments

Commitment		Action Taken	Outcome
P1	The groundwater monitoring and reporting program will continue. This will be combined with ongoing investigations, including solute transport modelling to improve the understanding of the disposal technique.	Groundwater monitoring, radiation monitoring was conducted to schedule in 2020. Reporting as required. Biennial Hydrogeological Report submitted to DWER in June 2015.	Whilst the plume persists in down hydraulic gradient bores of the last filled ponds, DM2A/C, DM4A/C, DM8A/C. DM7A/C, bores down hydraulic of southern ponds, have rising Na/Cl ratios showing the return to background conditions. The southern ponds were decommissioned in 2001 which indicates Na/Cl ratio levels are naturally attenuating. EC and TDS concentrations are declining in all bores down hydraulic gradient of the ponds.
P2	Existing topsoil removal practices will be continued to ensure that windblown dust remains under control.	Stockpiled topsoil is appropriately located and germinating seed in the soil alleviates dust problems. "Hydromulch" paper mulch and grass seed was sprayed onto the stockpile at various times (last time in November 2013).	Full compliance. No dust issue at the site. No community complaints relating to dust since project inception.
P3	Radiation monitoring and reporting program will continue.	Radiation monitoring program carried out by Radiation Professionals.	Full compliance. Refer 2020 Annual Radiation Monitoring Report (Appendix F).

Commitment		Action Taken	Outcome
P4	At the end of the disposal period the proponent will cause the disposal site to be rehabilitated to the satisfaction of the Shire of Capel and the DWER.	Tronox submitted a staged rehabilitation management program in October 2001. The DWER, Radiological Council and Shire of Capel approved the plan. Preliminary plan was submitted in September 2012. A Closure Rehabilitation Plan was sent June 2013 and approved by Shire, RCWA, DWER, and OEPA. Shire of Capel in May 2017 formally endorsed the rehabilitation back to natural vegetation on the remaining part of the site. An updated Closure Rehabilitation Plan was then sent to OEPA in July 2018.	First stage of the programme completed in 2002 with the successful rehabilitation of the southern ponds. The remaining ponds were covered with clean fill in September 2013. Native rehabilitation has been selected as a post-closure land use in consultation with Capel Shire and DWER. Revegetation of the remaining ponds commenced in 2018 with seeding occurring in 2018. Further infill planting and seeding has since been undertaken.
P5	The proponent will continue Research and Development Studies into methods of waste minimisation and modification including further salinity reductions. This will include further studies of the materials properties and possible uses.	A waste minimisation plant was commissioned in December 1992. This has substantially reduced the quantity of residue solids. A system for washing the solids prior to disposal was also developed. Tronox has investigated the solid waste as a soil condition capping and road base material and bricks. Also HCl (nominally 15,000 tonnes/year) which is a by-product in the manufacturing process has been sold commercially rather than neutralised with lime. New Facility at Cleanaway's Banksia Road site at Dardanup has a leachate recovery circuit with leachate now returned to Tronox's Kemerton plant for further waste treatment.	Tronox has actively pursued co-product developments with external parties, however no economically viable options were found. Ceased operations at the site in 2013. Continue to run the waste minimisation plant at Kemerton. Feasibility study to extract minerals of value by third parties to be pursued.
P6	The proponent will continue actively pursuing alternative methods of waste disposal.	Tronox has found an alternative residue disposal site. The site is fully lined and has a leachate recovery circuit.	Full compliance.

Appendix A
Closure Notice

Government of **Western Australia**
Department of **Environment Regulation**

Your ref: L6130/1989/12
Our ref: 2013/000411
Enquiries: Daniel Hartnup
Phone: 9724 6124
Fax: 9725 4300
Email: daniel.hartnup@der.wa.gov.au

The Manager
Cristal Pigment Australia Ltd
Locked Bag 245
BUNBURY WA 6230

ATTN: Mr Peter Allen

Dear Mr Allen

***ENVIRONMENTAL PROTECTION ACT 1986* – CLOSURE NOTICE**

Dalyellup Waste Residue Disposal Facility
Lot 9077 on Plan 60716
DALYELLUP WA 6230
Lic No. 6130/1989/12

The Department of Environment Regulation (DER) hereby serves a Closure Notice on the Dalyellup Waste Residue Disposal Facility on Thursday, 1 August 2013, which supersedes the Notice served on facility on Thursday, 9 May 2013.

A copy of the Closure Notice is attached.

The premises in question is described as:

Whole of Lot 9077 on Deposited Plan 60716 – Certificate of Title Volume 2717 and Folio 207.

Pursuant to Section 68A(10) of the *Environmental Protection Act 1986*, I have delivered copies of this Notice to the Western Australian Planning Commission and the Western Australian Land Information Authority for registration.

Please be advised this Notice will be reviewed by DER after 1 October 2015.

Yours sincerely

Alan Sands
Director Environmental Regulation Division
Department of Environment Regulation

Thursday, 1 August 2013

Environmental Protection Act 1986

Section 68A

CLOSURE NOTICE

The Authorisation to which this Notice relates:

Licence number 6130/1989/12 issued on 21 January 2010 and which expired on 3 March 2013.

("the Authorisation")

The Person to Whom this Notice is Given:

(Being the person who held the Authorisation in relation to the Premises described below)

Cristal Pigment Australia Ltd
(ACN: 008 683 627)
4 Old Coast Road
AUSTRALIND in the state of Western Australia

("Person to Whom This Notice is Given")

Premises to which this Notice relates:

The Dalyellup waste residue disposal site located on Lot 9077 on Plan 60716, Maidment Parade, Dalyellup in Western Australia and being more particularly described as:

Lot 9077 on Plan 60716 – Certificate of Title Volume 2717 and Folio 207, being the area defined in the Premises Map in Schedule 1 of this notice."

("the Premises")

Reason for which this Notice is served:

This notice is issued as a result of something that has happened at the Premises before the expiry of the Authorisation, namely, the disposal of treated solid residue from the production of titanium dioxide pigment, before the expiry of the Authorisation. Ongoing monitoring is required at the Premises following the expiry of the Authorisation.

Requirements of this Notice:

1.1 Groundwater monitoring

1.1.1 The Person to Whom this Notice is Given shall undertake the monitoring in Table 1.1.1 according to the specifications of that Table.

Table 1.1.1: Monitoring of groundwater			
Monitoring point reference and location on Map of Monitoring Points in Schedule 1	**Parameter**	**Units**	**Frequency**
YB	standing water level	m (AHD)	Quarterly
	pH	pH unit	
	electrical conductivity	µS/cm	
	chloride	mg/L	
	sodium	mg/L	
	redox potential	mV	
	radionuclides	Bq/L	
MB3, MB4, DM1A(R), DM1C(R), DM2A DM2C, DM4A(R), DM4C(R), DM7A(R), DM7C, DM8A, DM8C(R), DM9A, DM9C	standing water level	m (AHD)	Six monthly
	pH	pH unit	
	electrical conductivity	µS/cm	
	total dissolved solids, bicarbonate, boron, calcium, cadmium, carbonate, chromium, chromium (III)[1], chromium (VI), cobalt, copper, chloride, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, nitrate-nitrogen, potassium, sodium, sulphate, vanadium	mg/L	
	radionuclides	Bq/L	
YB, MB3, DM8	dioxins and furans	pg/L	Annually

Note 1: Can be reported as the difference between Cr and Cr(VI)

1.1.2 The Person to Whom this Notice is Given shall ensure that:

(a) all samples required by Table 1 are collected and preserved in accordance with AS/NZS 5667.1;

(b) all sampling required by Table 1 is conducted in accordance with AS/NZS 5667.11;

(c) all samples are submitted to a laboratory with current NATA accreditation for the parameters to be analysed;

(d) the limit of detection of analysis for all samples is:

(i) one order of magnitude below the relevant ANZECC guideline; or

(ii) where the laboratory cannot routinely achieve a limit of detection one order of magnitude below the relevant ANZECC guideline, the lowest limit of detection;

(e) quarterly monitoring is undertaken at least 45 days apart, with the first round of sampling to commence in Q3 2013 (i.e. 1 July to 30 September 2013);

(f) six monthly monitoring is undertaken at least 5 months apart, with the first round of sampling to commence between 1 July and 31 December 2013; and

(g) annual monitoring is undertaken at least 9 months apart, with the first round of sampling to commence prior to 1 July 2014.

1.2 Hydrogeological report

1.2.1 The Person to Whom this Notice is Given shall prepare a biennial hydrogeological report on groundwater beneath the Premises, covering the period 4 March 2013 to 4 March 2015.

1.2.2 The Person to Whom this Notice is Given shall ensure the hydrogeological report referred to in paragraph 1.2.1 of this Notice includes:

(a) assessment of groundwater quality below and down gradient from the Premises and compared to background groundwater quality;

(b) assessment of any contaminant plume size, movement and distribution of contaminant concentrations from below the disposal ponds to the near shore groundwater discharge zone; and

(c) a characterisation of the interaction between the treated solid residue and the groundwater, more specifically being:

(i) the geochemical interactions between leachate, underlying soils and groundwater;

(ii) contaminant transport rates; and
(iii) contaminant migration pathways.

1.2.3 The Person to Whom this Notice is Given shall submit the hydrogeological report referred to in paragraph 1.2.1 of this Notice to DER at the Contact Address by 5pm on **1 July 2015**.

2.1 Dust monitoring

2.1.1 The Person to Whom this Notice is Given shall undertake the monitoring in Table 2.1.1 according to the specifications of that Table whilst the ponds remain uncovered.

Table 2.1.1: Monitoring of dust emissions

Monitoring point reference	Parameter	Standard	Frequency
D1, D2	TSP	AS/NZS 3580.9.3:2003	One 24-hour sample taken every 6 days starting October 2013 and subsequently 1 October to 31 March, inclusive
	PM_{10}	AS/NZS 3580.9.6:2003	

2.1.2 The Person to Whom this Notice is Given shall ensure dust sampling equipment is co-located and sited in compliance with AS/NZS 3580.1.1:2007.

3.1 Reporting

3.1.1 The Person to Whom this Notice is Given shall submit to DER at the Contact Address an annual report on the implementation of the requirements of this Notice by 30 June 2014, and by **30 June** in each subsequent year.

3.1.2 The report referred to in paragraph 3.1.1 of this Notice shall include:
(a) annual monitoring data and other collected data required by any clause in this Notice; and
(b) interpretation and appraisal of the annual monitoring results against:
(i) background water quality below and down gradient from the Premises and compared against background groundwater quality found up gradient of the Premises and against relevant ANZECC guidelines for water quality, historical data, the surrounding environment and other beneficial users; and
(ii) NEPM standard of 50 $\mu g/m^3$ for PM_{10} (24-hour average) and WHO guideline of 120 $\mu g/m^3$ for TSP (24-hour average).

4.1 Interpretation

4.1.1 In this Notice, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

4.1.2 For the purposes of this Notice, unless the contrary intention appears:

"AHD" means the Australian height datum;

"annual" means the inclusive period from 1 April until 31 March in the following year;

"AS 3580.9.3" means the Australian Standard AS 3580.9.3 *Methods for sampling and analysis of ambient air - Determination of suspended particulate matter – Total suspended particulate matter (TSP) – High volume sampler gravimetric method;*

"AS 3580.9.6" means the Australian Standard AS 3580.9.6 *Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - PM_{10} high volume sampler with size - selective inlet – Gravimetric method;*

"AS/NZS 5667.1" means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples;*

"AS/NZS 5667.11" means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters;*

"ANZECC" means the Australian and New Zealand Environment Conservation Council (ANZECC) which was a Ministerial Council operating between 1991 and 2001 and which provided a forum for member governments to develop coordinated policies about national and international environment and conservation issues; ANZECC issued a series of Guidelines such as the ANZECC Guidelines for Fresh and Marine Water Quality 2000;

"Bq/L" means becquerel per litre;

"Contact Address" for the purpose of correspondence and advice means:
Regional Leader, South West Region
Department of Environment Regulation
PO Box 1693
BUNBURY WA 6231
Telephone: (08) 9725 4300
Facsimile: (08) 9725 4351
Email: southwestregion.industryregulation@der.wa.gov.au;

"NATA" means the National Association of Testing Authorities, Australia;

"NATA accredited" means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis;

"pg/L" means picogram per litre;

"PM" means total particulate matter including both solid fragments of material and miniscule droplets of liquid;

"PM_{10}" means particles with an aerodynamic diameter of less or equal to 10 µm;

"quarterly" means the 4 inclusive periods from 1 January to 31 March, 1 April to 30 June, 1 July to 30 September and 1 October to 31 December in the same year;

"six monthly" means the 2 inclusive periods from 1 January to 30 June and 1 July to 31 December in the same year;

"spot sample" means a discrete sample representative at the time and place at which the sample is taken;

"TSP" means total suspended particles each having an equivalent aerodynamic diameter of less than 50 micrometres; and

"µS/cm" means microsiemens per centimetre.

.....
Alan Sands
Director Environmental Regulation Division
Department of Environment Regulation

1 August 2013

IMPORTANT NOTE: **A PERSON WHO IS BOUND BY THIS NOTICE AND WHO DOES NOT COMPLY WITH THIS NOTICE COMMITS AN OFFENCE.**

A person who is aggrieved by a requirement contained in this Notice may within 21 days of being given this Notice

lodge with the Minister for Environment an appeal in writing setting out the grounds of that appeal.

Any other person who disagrees with a requirement contained in this Notice may within 21 days of the making of that requirement lodge with the Minister for Environment an appeal in writing setting out the grounds of that appeal.

PENDING THE DETERMINATION OF AN APPEAL REFERRED TO ABOVE THE RELEVANT REQUIREMENTS CONTAINED IN THIS NOTICE CONTINUE TO HAVE EFFECT.

Schedule 1: Maps

Premises Map and Map of Monitoring Locations

The Premises and the locations of the monitoring points defined in Tables 1.1.1 and 2.1.1 is shown in the map below. The red line depicts the Premises Boundary. The green and blue dots depict the groundwater and dust monitoring locations, respectively.

DEPARTMENT OF ENVIRONMENT AND CONSERVATION

FILE No.

TO: REGISTRAR OF TITLES
REGISTRAR OF DEEDS AND TRANSFERS

NOTIFICATION

ENVIRONMENTAL PROTECTION ACT 1986 (EPA)

~~**ENVIRONMENTAL PROTECTION NOTICE (EPA Sec 65);**~~

CLOSURE NOTICE (EPA Sec 68A); or

~~**VEGETATION CONSERVATION NOTICE (EPA Sec 70)**~~

(Delete notices that are not applicable by putting a single line through them)

DESCRIPTION OF LAND	EXTENT	VOLUME	FOLIO
Lot 9077 on Deposited Plan 60716	Whole	2717	207

REGISTERED PROPRIETOR OF LAND

Cristal Pigment Australia Ltd (ACN: 008 683 627)

NOTICE GIVEN TO REGISTERED PROPRIETOR

I certify that the notice attached to this Notification is a true copy of:

~~An Environmental Protection Notice given to the Registered Proprietor pursuant to EPA Sec 65;~~

A Closure Notice given to the Registered Proprietor pursuant to EPA Sec 68A;

~~A vegetation Notice given to the Registered Proprietor pursuant to EPA Sec 70.~~

(Delete the sections which are not applicable by putting a single line through them)

DATED THIS FIRST DAY OF AUGUST 20 13

SIGNED BY:

Signature

ALAN DONALD SANDS

Print Full Name:

DELEGATE OF
THE CHIEF EXECUTIVE OFFICER
UNDER SECTION 20 OF THE *ENVIRONMENTAL PROTECTION ACT 1986*

OFFICE USE ONLY

NOTIFICATION

ENVIRONMENTAL PROTECTION ACT 1986

LODGED BY: Alan Sands

ADDRESS: The Atrium, Level 4
168 St Georges Tce
PERTH WA 6000

PHONE No. 6467 5300

FAX No. 6467 5562

PREPARED BY:
Daniel Hartnup, South West Region

INSTRUCT IF ANY DOCUMENTS ARE TO ISSUE TO OTHER THAN LODGING PARTY

Nil

TITLES, LEASES, DECLARATIONS ETC LODGED HEREWITH

1. _____ Received Items
2. _____
3. _____ Nos.
4. _____
5. _____ Receiving Clerk
6. _____

EXAMINED

Registered/Lodged pursuant to the provisions of the *TRANSFER OF LAND ACT 1893* as amended on the day and time shown above and particulars entered in the Register.

Landgate

THE GOVERNMENT OF WESTERN AUSTRALIA

Appendix B
Ministerial Statements

Ass # 625

Bull # 589

State # 213

WESTERN AUSTRALIA

MINISTER FOR THE ENVIRONMENT

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED (PURSUANT TO THE PROVISIONS OF THE ENVIRONMENTAL PROTECTION ACT 1986)

CONTINUED USE OF SCM SOLID RESIDUE DISPOSAL SITE AT DALYELLUP, FROM MARCH 1992 TO MARCH 1994 (625)

SCM CHEMICALS LTD

This proposal may be implemented subject to the following conditions:

1. In implementing the proposal, the proponent shall fulfil the commitments (which are not inconsistent with the conditions or procedures contained in this statement) made in the Consultative Environmental Review, September 1991 (A copy of the commitments is attached).

2. Subject to these conditions, the manner of detailed implementation of the proposal shall conform in substance with that set out in any designs, specifications, plans or other technical material submitted by the proponent to the Environmental Protection Authority with the proposal. Where, in the course of that detailed implementation, the proponent seeks to change those designs, specifications, plans or other technical material in any way that the Minister for the Environment determines on the advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

3. Prior to 30 June each year, the proponent shall prepare and submit an audit report which addresses the following:
   1. environmental performance of the existing site;
   2. progress towards finding an alternative; and
   3. compliance with the conditions of this statement,

   to the satisfaction of the Environmental Protection Authority.

4. The proponent shall be responsible for decommissioning and removal of the plant and installations and rehabilitating the site and its environs, to the satisfaction of the Environmental Protection Authority. At least six months prior to decommissioning, the proponent shall prepare and subsequently implement a decommissioning and rehabilitation plan, to the satisfaction of the Environmental Protection Authority.

5. No transfer of ownership, control or management of the project which would give rise to a need for the replacement of the proponent shall take place until the Minister for the Environment has advised the proponent that approval has been given for the nomination of a replacement proponent. Any request for the exercise of that power of the Minister shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the project in accordance with the conditions and procedures set out in the statement.

Published on

23 JAN 1992

18th FLOOR, ALLENDALE SQUARE, 77 ST GEORGE'S TERRACE, PERTH, W.A. 6000 TELEPHONE 325 9422 FAX. 325 5621

Procedure

The operation of this site is currently subject to conditions of a licence issued under the provisions of Part V of the Environmental Protection Act. The continued operation of this site will be subject to the licensing requirements of the Environmental Protection Act.

Bob Pearce, MLA
MINISTER FOR THE ENVIRONMENT

22 JAN 1992

COMMITMENTS:

The proponent has made the following commitments in relation to this proposal.

1. The existing groundwater monitoring and reporting programme will continue. This will be combined with ongoing investigations, including solute transport modelling to improve understanding of the disposal technique.

2. Existing topsoil removal practices will be continued to ensure that wind blown dust remains under control.

3. The existing radiation monitoring and reporting programme will continue.

4. At the end of the disposal period the proponent will cause the disposal site to be rehabilitated to the satisfaction of the Shire of Capel and the EPA.

5. The proponent will continue Research and Development studies into methods of waste minimisation and modification including further salinity reductions. This will include further studies of the materials properties and possible uses.

6. The proponent will continue actively pursuing alternative methods of waste disposal.

WESTERN AUSTRALIA

MINISTER FOR THE ENVIRONMENT

STATEMENT TO AMEND CONDITIONS APPLYING TO A PROPOSAL (PURSUANT TO THE PROVISIONS OF SECTION 46 OF THE ENVIRONMENTAL PROTECTION ACT 1986)

PROPOSAL: CONTINUED USE OF SCM SOLID RESIDUE DISPOSAL SITE AT DALYELLUP, FROM MARCH 1992 TO MARCH 1994 (625/824)

CURRENT PROPONENT: SCM CHEMICALS LTD

CONDITIONS SET ON: 22 JANUARY 1992

Conditions 1, 2 and 4 are amended to read as follows:

1 Proponent Commitments

In implementing the proposal, including the proposed amendment to continue using the site beyond March 1994 as reported on in Environmental Protection Authority Bulletin 706, the proponent shall fulfil the commitments (which are not inconsistent with the conditions or procedures contained in this statement) made in the Consultative Environmental Review, September 1991. (A copy of the commitments is attached.)

2 Implementation

Subject to the conditions in this amended statement, the manner of detailed implementation of the proposal shall conform in substance with that set out in any designs, specifications, plans or other technical material submitted by the proponent to the Environmental Protection Authority with the proposal. Where, in the course of that detailed implementation, the proponent seeks to change those designs, specifications, plans or other technical material in any way that the Minister for the Environment determines on the advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

4 Rehabilitation

The satisfactory rehabilitation of the site is the responsibility of the proponent.

4-1 At least six months prior to any planned decommissioning of the site, the proponent shall prepare a final rehabilitation programme to the requirements of the Radiological Council and the Environmental Protection Authority on advice of the Shire of Capel.

4-2 The proponent shall implement the programme required by condition 4-1.

Published on

-9 DEC 1993

12th FLOOR DUMAS HOUSE 2 HAVELOCK STREET WEST PERTH 6005 TELEPHONE (09) 321 2222 FAX (09) 322 1598

The following condition is inserted following condition 5:

6 Management of the Site

6-1 The proponent shall operate and maintain the waste disposal site to protect the environment from unacceptable environmental impacts.

6-2 The proponent shall ensure that disposal occurs within the existing lease boundary, does not encroach on the primary dune system, and is limited to a fill height of no more than RL 24.

6-3 The proponent shall only dispose of waste from its own operations.

The procedure is amended to read as follows:

Procedure

1 The Environmental Protection Authority is responsible for verifying compliance with the conditions contained in this statement, with the exception of conditions stating that the proponent shall meet the requirements of either the Minister for the Environment or any other government agency.

2 If the Environmental Protection Authority, other government agency or proponent is in dispute concerning compliance with the conditions contained in this statement, that dispute will be determined by the Minister for the Environment.

3 The operation of this site is currently subject to conditions of a licence issued under the provisions of Part V of the Environmental Protection Act. The continued operation of this site will be subject to the licensing requirements of the Environmental Protection Act.

Kevin Minson MLA
MINISTER FOR THE ENVIRONMENT

8 DEC 199

PROPONENT'S COMMITMENTS

CONTINUED USE OF SCM SOLID RESIDUE DISPOSAL SITE AT DALYELLUP (625/824)

SCM CHEMICALS LTD

COMMITMENTS

The proponent has made the following commitments in relation to this proposal.

1. The existing groundwater monitoring and reporting programme will continue. This will be combined with ongoing investigations, including solute transport modelling to improve understanding of the disposal technique.

2. Existing topsoil removal practices will be continued to ensure that wind blown dust remains under control.

3. The existing radiation monitoring and reporting programme will continue.

4. At the end of the disposal period the proponent will cause the disposal site to be rehabilitated to the satisfaction of the Shire of Capel and the EPA.

5. The proponent will continue Research and Development studies into methods of waste minimisation and modification including further salinity reductions. This will include further studies of the materials properties and possible uses.

6. The proponent will continue actively pursuing alternative methods of waste disposal.

Appendix C
Monitoring Bore Construction Data

Bore	Date Drilled	ELEVATION		COMPLETION DETAILS					CO-ORDINATES (MGA)	
		Ground Level (m AHD)	Top Casing (m AHD)	Depth Drilled (m bns)	Drilled Diameter (mm)	Casing ID (mm)	Slotted Intervals (m bns)	Decommiss	Eastings	Northings
MB1	03.11.88	28.74	29.57	31	127	50	24.8 – 30.8	Feb-01		
MB2	04.11.88	23.8	24.67	32.5	127	50	20.5 – 32.3	Feb-01		
MB3	06.11.88	14.19	14.99	26	127	50	16.7 – 25.7	Feb-01		
MB4	10.11.88	3.57	**5.13	16.2	127	50	2.2 – 16.2		370245.4	6303905.3
MB1(R)	23.11.00	26.11	24.12	33	155	100	27.0 – 33.0	May-04	370669.9	6303957.3
MB2(R)	23.11.00	25.85	24.06	32	155	100	25.5 – 31.5	May-04	370578.8	6303984.0
MB3(R)	22.11.00	27.23	25.9	34.5	155	100	28.0 – 34.0		370416.8	6304040.3
DM1A(R)	15.12.92	40.05	40.75	50	168	80	45.0 – 48.0		370835.2	6304509.4
DM1C(R)	15.12.92	40.06	40.71	43	168	80	39.0 – 42.0		370835.0	6304508.1
DM2A	27.02.89	24.489	25.217	35.3	168	100	27.0 – 30.0		370522.2	6304510.7
DM2C	27.02.89	24.614	25.305	26.5	168	100	23.5 – 25.5			
DM3A*	03.03.89	22.53	22.83	32.1	168	100	25.0 – 28.0	May-02		
DM3C*	03.03.89	22.685	22.915	25.5	168	100	21.5 – 24.5	May-02		
DM4A(R)	13.02.89	3.643	4.444	12.5	168	100	9.5 – 12.5		370365.0	6304364.7
DM4C®	13.02.89	3.698	4.497	7	168	100	3.0 – 6.0		370365.2	6304365.9
DM5A	14.05.91	20.473	21.123	30.68	168	100	25.0 – 28.0	May-03	370534.6	6304241.2
DM5C	14.05.91	20.321	21.021	21.8	168	100	18.8 – 20.8	May-03	370535.4	6304242.4
DM7A	26.05.92	20.497	21.347	30.8	168	100	26.0 – 29.0		370479.8	6304180.9
DM7C	27.05.92	20.473	21.323	23	168	100	19.0 – 22.0		370479.7	6304182.4
DM8A	23.7.96	25.7	26.19	36		100	32-36		370506.7	6304411.8
DM8C	23.7.96	25.7	26.19	28		100	24-28		370506.9	6304410.2
DM9A	23.7.96	33.8	34.35	46		100	42-46		370766.3	6304210.4
DM9C	23.7.96	33.8	34.28	28		100	24-28		370765.8	6304209.1
PB1+	14.03.89	23.935	24.188	72.1	254	155	63.14 – 72.10			
YB	24.3.05		27.2	72		100	66 - 72		370516	6304473

Note: m bns - metres below natural surface

* - 1m of casing cut off for access January 1994

** - top of casing level, prior to surface casing being re-set

\+ - bore decommissioned and cement grouted to surface

Appendix D
Monitoring Bore Data and Time Series Graphs

			External	HMETALS																iDISCRETE		iGENERAL			NITROGEN		PARTIAL	
			Chromium (hexavalent)	Boron (Filtered)	Cadmium (Filtered)	Calcium (Filtered)	Chromium Total (Filtered)	Cobalt (Filtered)	Copper Total (Filtered)	Iron (Filtered)	Lead Total (Filtered)	Magnesium (Filtered)	Manganese (Filtered)	Mercury	Molybdenum (Filtered)	Nickel (Filtered)	Potassium (Filtered)	Sodium (Filtered)	Vanadium Total (Filtered)	Chloride	Sulphate	Chromium (Trivalent)	Na:Cl molar ratio (Filtered)	TDS (evap)	Nitrate (as N)	Nitrogen, nitrate + nitrite fraction by FIA.	Alkalinity (Bicarbonate as CaCO3)	Carbonate as CaCO3
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ratio	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			0.001	0.005	0.0001	0.1	0.001	0.0001	0.0001	0.005	0.0001	0.1	0.0001	0.00005	0.001	0.001	0.1	0.1	0.0001	1	1	0.001	0.1	10	0.01	0.01	1	1
ANZECC 2000 MW 95%			0.0044		0.0055			0.001	0.0013		0.0044			0.0004		0.07			0.1			0.0274						
LocCode	**Sampled_Date-Time**	**WellCode**																										
DM1R	15/04/2020	d	<0.001	0.13	<0.0001	155	0.021	0.0008	0.0024	3.5	0.0064	58.1	0.2	<0.00005	<0.001	0.002	16.5	415	0.012	744	270	0.021	0.9	1900	-	1	390	<1
DM1R	15/04/2020	s	<0.001	0.06	<0.0001	106	<0.001	<0.0001	0.0012	1.7	0.0003	29	0.21	<0.00005	<0.001	<0.001	8.5	185	0.0003	276	85	<0.001	1	920	-	0.08	350	<1
DM1R	14/10/2020	d	<0.001	0.12	<0.0001	160	<0.001	0.0007	0.0008	1.2	0.0018	59.9	0.27	<0.00005	<0.001	0.001	17.7	400	0.0031	639	260	<0.001	-	1800	1.8	-	400	<1
DM1R	14/10/2020	s	<0.001	<0.05	<0.0001	114	<0.001	<0.0001	0.0018	9.4	0.0026	27.9	0.21	<0.00005	<0.001	<0.001	7.9	168	0.0007	250	80	<0.001	-	850	0.04	-	330	<1
DM2R	15/04/2020	d	0.21	0.24	<0.0001	363	0.27	0.0005	0.0028	0.065	0.0004	215	0.027	<0.00005	0.002	0.001	9.3	144	0.011	1330	250	0.063	0.2	3100	-	1	270	<1
DM2R	15/04/2020	s	<0.001	0.19	<0.0001	359	0.087	0.0003	0.0004	0.14	0.0009	163	0.037	<0.00005	0.002	0.001	9.9	167	0.0054	1270	250	0.087	0.2	3000	-	0.31	340	<1
DM2R	14/10/2020	d	0.3	0.22	<0.0001	417	0.33	0.0005	0.0016	0.15	0.0005	230	0.03	<0.00005	<0.001	0.001	10.6	163	0.016	1310	280	0.031	-	2600	5	-	260	<1
DM2R	14/10/2020	s	0.36	0.19	<0.0001	469	0.41	0.0003	0.0013	0.13	0.0011	194	0.0097	<0.00005	0.002	<0.001	11.1	150	0.0037	1350	250	0.054	-	2600	2.5	-	250	<1
DM4R	15/04/2020	s	<0.001	0.21	<0.0002	483	<0.001	<0.0002	0.0016	4.2	0.0003	581	0.35	<0.00005	0.004	<0.002	10.4	253	0.0003	2520	570	<0.001	0.2	5500	-	0.03	260	<1
DM7R	15/04/2020	d	<0.001	0.06	<0.0001	102	0.002	0.0022	0.0008	0.16	0.0035	38	0.39	<0.00005	0.006	<0.001	3.5	57.2	0.0092	98	58	0.002	0.9	610	-	0.14	380	<1
DM7R	15/04/2020	d	0.002	0.06	<0.0001	122	<0.001	0.0004	0.0014	12	0.0067	28.7	0.41	<0.00005	<0.001	0.002	15	69.1	0.001	227	8	<0.001	0.5	780	-	0.02	370	<1
DM7R	15/04/2020	s	<0.001	0.07	<0.0001	145	<0.001	0.0027	0.0006	1.9	0.0022	51.4	0.91	<0.00005	0.009	<0.001	4.4	64.1	0.0061	208	50	<0.001	0.5	810	-	0.07	400	<1
DM7R	14/10/2020	d	<0.001	<0.05	<0.0001	120	<0.001	0.0002	0.0011	4.1	0.0031	39.2	0.21	<0.00005	<0.001	<0.001	11.7	92.9	0.0006	204	<1	<0.001	-	770	<0.01	-	380	<1
DM7R	14/10/2020	s	<0.001	<0.05	<0.0001	153	<0.001	0.0003	0.0018	0.033	0.0012	53.1	0.07	<0.00005	0.008	<0.001	4.6	66.6	0.0049	219	80	<0.001	-	870	2.1	-	340	<1
DM8R	15/04/2020	d	<0.001	0.15	<0.0002	700	<0.001	<0.0002	0.002	7.3	0.0006	678	0.81	<0.00005	0.002	<0.002	12.6	282	0.0005	3100	520	<0.001	0.1	5300	-	0.34	200	<1
DM8R	15/04/2020	s	<0.001	0.26	<0.0002	580	0.008	<0.0002	0.0007	2.9	0.0007	670	0.12	<0.00005	0.035	<0.002	10.5	288	0.0011	2790	620	0.008	0.2	4900	-	<0.01	290	<1
DM8R	14/10/2020	d	<0.001	0.12	<0.0001	717	<0.001	0.0002	0.0017	9.8	0.0003	642	0.92	<0.00005	0.002	<0.001	13.6	312	0.0003	3000	590	<0.001	-	5600	0.03	-	150	<1
DM8R	14/10/2020	s	<0.001	0.12	<0.0001	695	<0.001	0.0002	0.0019	7.3	0.0007	636	0.79	<0.00005	0.001	<0.001	13.4	306	0.0004	3070	590	<0.001	-	5600	0.08	-	180	<1
DM8R	14/10/2020	s	<0.001	0.18	<0.0001	528	0.01	0.0002	0.0007	2.5	0.001	527	0.097	<0.00005	0.011	<0.001	10.9	277	0.0009	2290	550	0.01	-	4400	<0.01	-	290	<1
DM9R	14/10/2020	d	<0.001	0.032	<0.0001	61.1	<0.001	0.0002	0.0053	15	0.001	13.3	0.12	<0.00005	<0.001	<0.001	11.6	118	0.0004	244	45	<0.001	-	640	0.14	-	110	<1
DM9R	14/10/2020	s	0.23	<0.05	<0.0001	110	0.25	<0.0001	0.0045	0.18	0.0006	39.3	0.015	<0.00005	<0.001	<0.001	5.2	106	0.0018	192	83	0.023	-	780	2	-	290	<1
MB3R	15/04/2020	d	0.001	0.06	<0.0001	133	0.001	<0.0001	0.0051	0.022	0.0005	26.1	0.0095	<0.00005	0.001	0.001	7.5	67	0.002	120	58	<0.001	0.9	690	-	1.3	390	<1
MB3R	14/10/2020	d	<0.001	<0.05	<0.0001	140	<0.001	0.0003	0.0067	0.056	0.0004	26.6	0.019	<0.00005	<0.001	<0.001	7.2	70.6	0.0015	119	64	<0.001	-	700	11	-	350	<1
MB4	17/01/2020	d	<0.001	0.09	<0.0001	140	<0.001	0.0001	0.0007	2.9	0.0032	28.7	0.12	0.00013	<0.001	<0.001	9	142	0.0015	233	110	<0.001	0.9	890	4.2	-	330	<1

				Inorganic	NITROGEN	Field		Inorganics							Lead	Metals																		Radionuclides	
				Carbonate as CaCO3	Na:Cl molar ratio (Filtered)	Nitrogen, nitrate + nitrite fraction by FIA.	EC (field)	pH (field)	Alkalinity (Bicarbonate as CaCO3)	Chloride	Nitrate (as N)	Redox Potential	Sodium (Filtered)	Sulphate	TDS (evap)	Lead Total (Filtered)	Boron (Filtered)	Cadmium (Filtered)	Calcium (Filtered)	Chromium (hexavalent)	Chromium Total (Filtered)	Chromium (Trivalent)	Cobalt (Filtered)	Copper Total (Filtered)	Iron (Filtered)	Magnesium (Filtered)	Manganese (Filtered)	Mercury	Molybdenum (Filtered)	Nickel (Filtered)	Potassium (Filtered)	Vanadium Total (Filtered)	Radium-226	Radium-228
				mg/L	ratio	mg/L	µS/cm	pH	mg/L	mg/L	mg/L	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mBq/L	mBq/L
EQL				1	0.1	0.01			1	1	0.01		0.1	1	10	0.0001	0.005	0.0001	0.1	0.001	0.001	0.001	0.0001	0.0001	0.005	0.1	0.0001	0.00005	0.001	0.001	0.1	0.0001		
ADWG 2011 Aesthetic													180	250	600									1	0.3		0.1							
ADWG 2011 Health														500		0.01	4	0.002		0.05				2			0.5	0.001	0.05	0.02				
LocCode	**WellCode**	**Sampled_Date-Time**																																	
YB	d	17/01/2020		-	0.7	-	-	-	-	209	-	-	92.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	119	<82
YB	d	27/01/2020		-	-	-	790	6.02	-	-	-	-17	-	-	395	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	15/04/2020		<1	0.6	0.02	792	6.93	59	219	-	-140	87.1	18	396 - 510	0.0005	<0.02	<0.0001	35	<0.001	<0.001	<0.001	<0.0001	0.0027	24	10.5	0.11	<0.00005	<0.001	<0.001	7.8	0.0008	<69	<110
YB	d	15/07/2020		-	0.7	-	784	6.3	-	209	-	112	89.9	-	391	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	16/07/2020		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<64	83
YB	d	14/10/2020		<1	-	-	715	6.44	51	208	<0.01	34	91.2	19	358 - 500	0.0002	0.028	<0.0001	35.5	<0.001	<0.001	<0.001	<0.0001	0.0012	20	11.7	0.1	<0.00005	<0.001	<0.001	7.9	0.0002	64	<150

LocCode	Sampled_Date-Time	WellCode	Carbonate as CaCO3	Carbon	Na/Cl Ratio	Na/Cl Ratio (Filtered)	Na:Cl molar ratio	Na:Cl molar ratio (Filtered)	Nitrogen, nitrate + nitrite fraction by FIA.	Benzene	EC (field)	pH (field)	Temp (field)	Ammonia as N	Bicarbonate	Bicarbonate as CaCO3	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Chloride	Chloride (Filtered)	EC (laboratory)	pH (laboratory)	Nitrate (as N)	Nitrate as NO3-N	Exchangeable Magnesium	Redox Potential	Salinity	Sodium	Sodium (Filtered)	Sulphate	Sulphate (Filtered)	Sulphide
							Inorganic		NITROGEN	BTEX	Field			Inorganics																		
			mg/L	mg/L	ratio	ratio	ratio	ratio	mg/L	µg/L	µS/cm	pH	oC	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µS/cm	pH	mg/L	mg/L	mg/L	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			1		0.01	0.1	0.001	0.1	0.01							1	1	1	0.1	1			0.01	0.2				0.05	0.05	1	5	
ANZECC 2000 MW 95%										700																						
DM1R	1/03/1989	d	-	-	1.017	-	-	-	-	-	1680	7.8	-	-	401	-	-	-	294	-	-	-	1	-	-	-	-	194	-	77.8	-	-
DM1R	1/03/1989	s	-	-	1.021	-	-	-	-	-	1680	7.7	-	-	423	-	-	-	293	-	-	-	1	-	-	-	-	194	-	90	-	-
DM1R	1/11/1989	d	-	-	0.9305	-	-	-	-	-	1460	7.45	-	-	350	-	-	-	290	-	-	-	-	-	-	-	-	175	-	80	-	-
DM1R	1/11/1989	s	-	-	0.9509	-	-	-	-	-	1520	7.1	-	-	345	-	-	-	300	-	-	-	-	-	-	-	-	185	-	80	-	-
DM1R	1/06/1990	d	-	-	0.8773	-	-	-	-	-	1450	7.05	-	-	270	-	-	-	290	-	-	-	9	-	-	-	-	165	-	60	-	-
DM1R	1/06/1990	s	-	-	0.771	-	-	-	-	-	950	7.45	-	-	270	-	-	-	140	-	-	-	4	-	-	-	-	70	-	35	-	-
DM1R	1/10/1990	d	-	-	0.9959	-	-	-	-	-	1600	7	-	-	350	-	-	-	240	-	-	-	-	-	-	-	-	155	-	140	-	-
DM1R	1/10/1990	s	-	-	0.9786	-	-	-	-	-	1660	7	-	-	345	-	-	-	260	-	-	-	-	-	-	-	-	165	-	130	-	-
DM1R	1/06/1991	d	-	-	1.127	-	-	-	-	-	1660	7	-	-	360	-	-	-	260	-	-	-	1	-	-	-	-	190	-	70	-	-
DM1R	1/06/1991	s	-	-	1.071	-	-	-	-	-	1290	7.2	-	-	365	-	-	-	180	-	-	-	1	-	-	-	-	125	-	40	-	-
DM1R	1/09/1991	d	-	-	0.8915	-	-	-	-	-	1630	7.5	-	-	345	-	-	-	320	-	-	-	-	-	-	-	-	185	-	80	-	-
DM1R	1/09/1991	s	-	-	0.8738	-	-	-	-	-	1610	7.6	-	-	360	-	-	-	300	-	-	-	-	-	-	-	-	170	-	80	-	-
DM1R	1/12/1991	s	-	-	0.8481	-	-	-	-	-	1560	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM1R	1/07/1992	d	-	-	1.028	-	-	-	-	-	1550	6.85	-	-	355	-	-	-	270	-	-	-	-	-	-	-	-	180	-	20	-	-
DM1R	1/07/1992	s	-	-	1.079	-	-	-	-	-	1520	6.9	-	-	370	-	-	-	250	-	-	-	-	-	-	-	-	175	-	30	-	-
DM1R	1/10/1992	d	-	-	1.046	-	-	-	-	-	1550	7.1	-	-	320	-	-	-	280	-	-	-	2	-	-	-	-	190	-	65	-	-
DM1R	1/10/1992	s	-	-	0.9637	-	-	-	-	-	1510	7.3	-	-	330	-	-	-	280	-	-	-	-	-	-	-	-	175	-	50	-	-
DM1R	1/01/1993	d	-	-	0.8261	-	-	-	-	-	930	7.6	-	-	360	-	-	-	140	-	-	-	7	-	-	-	-	75	-	40	-	-
DM1R	1/01/1993	s	-	-	0.9579	-	-	-	-	-	1570	7.95	-	-	355	-	-	-	330	-	-	-	-	-	-	-	-	205	-	145	-	-
DM1R	1/07/1993	d	-	-	0.9039	-	-	-	-	-	1040	6.95	-	-	355	-	-	-	145	-	-	-	15	-	-	-	-	85	-	25	-	-
DM1R	1/07/1993	s	-	-	0.4785	-	-	-	-	-	1690	6.7	-	-	345	-	-	-	290	-	-	-	5	-	-	-	-	90	-	150	-	-
DM1R	1/10/1993	d	-	-	0.8303	-	-	-	-	-	1020	6.8	-	-	300	-	-	-	130	-	-	-	-	-	-	-	-	70	-	25	-	-
DM1R	1/10/1993	s	-	-	0.8285	-	-	-	-	-	1650	6.7	-	-	340	-	-	-	335	-	-	-	1	-	-	-	-	180	-	75	-	-
DM1R	1/01/1994	d	-	-	0.8545	-	-	-	-	-	920	7.4	-	-	330	-	-	-	120	-	-	-	9	-	-	-	-	66.5	-	20	-	-
DM1R	1/01/1994	s	-	-	0.9396	-	-	-	-	-	1590	7.1	-	-	315	-	-	-	320	-	-	-	-	-	-	-	-	195	-	95	-	-
DM1R	1/07/1994	d	-	-	0.7058	-	-	-	-	-	930	8.2	-	-	335	-	-	-	142	-	-	-	6	-	-	-	-	65	-	22	-	-
DM1R	1/07/1994	s	-	-	0.9813	-	-	-	-	-	1690	8.1	-	-	345	-	-	-	330	-	-	-	-	-	-	-	-	210	-	105	-	-
DM1R	1/10/1994	d	-	-	0.8352	-	-	-	-	-	885	7.9	-	-	330	-	-	-	120	-	-	-	8	-	-	-	-	65	-	10	-	-
DM1R	1/10/1994	s	-	-	0.9878	-	-	-	-	-	1650	7.65	-	-	330	-	-	-	320	-	-	-	-	-	-	-	-	205	-	100	-	-
DM1R	1/01/1995	d	-	-	0.8866	-	-	-	-	-	830	7.55	-	-	390	-	-	-	100	-	-	-	11	-	-	-	-	57.5	-	5	-	-
DM1R	1/01/1995	s	-	-	0.9345	-	-	-	-	-	1600	7.5	-	-	330	-	-	-	330	-	-	-	1	-	-	-	-	200	-	90	-	-
DM1R	1/07/1995	d	-	-	0.771	-	-	-	-	-	970	7.7	-	-	290	-	-	-	150	-	-	-	7	-	-	-	-	75	-	25	-	-
DM1R	1/07/1995	s	-	-	0.9766	-	-	-	-	-	1600	7.4	-	-	320	-	-	-	300	-	-	-	1	-	-	-	-	190	-	90	-	-
DM1R	1/10/1995	d	-	-	-	-	-	-	-	-	-	7.7	-	-	260	-	-	-	-	-	-	-	7	-	-	-	-	100	-	70	-	-
DM1R	1/10/1995	s	-	-	0.9948	-	-	-	-	-	1700	7.6	-	-	320	-	-	-	310	-	-	-	1	-	-	-	-	200	-	90	-	-
DM1R	1/01/1996	d	-	-	0.771	-	-	-	-	-	930	8.3	-	-	295	-	-	-	110	-	-	-	17	-	-	-	-	55	-	17	-	-
DM1R	1/01/1996	s	-	-	0.7918	-	-	-	-	-	1800	7.9	-	-	325	-	-	-	370	-	-	-	1	-	-	-	-	190	-	93	-	-
DM1R	1/07/1996	s	-	-	1.063	-	-	-	-	-	1600	7.6	-	-	340	-	-	-	290	-	-	-	1	-	-	-	-	200	-	61	-	-
DM1R	10/07/1996	d	-	-	1.156	-	-	-	-	-	1200	7.6	-	-	340	-	-	-	160	-	-	-	31	-	-	-	-	120	-	26	-	-
DM1R	22/10/1996	d	-	-	0.8995	-	-	-	-	-	1300	7.9	-	-	340	-	-	-	240	-	-	-	26	-	-	-	-	140	-	50	-	-
DM1R	22/10/1996	s	-	-	0.8953	-	-	-	-	-	1500	7.8	-	-	360	-	-	-	310	-	-	-	1	-	-	-	-	180	-	70	-	-
DM1R	15/01/1997	d	-	-	1.073	-	-	-	-	-	1400	7.5	-	-	320	-	-	-	230	-	-	-	38	-	-	-	-	160	-	67	-	-
DM1R	15/01/1997	s	-	-	0.9252	-	-	-	-	-	1500	8	-	-	340	-	-	-	300	-	-	-	-	-	-	-	-	180	-	52	-	-
DM1R	10/04/1997	d	-	-	1.439	-	-	-	-	-	1400	7.9	-	-	310	-	-	-	150	-	-	-	23	-	-	-	-	140	-	91	-	-
DM1R	10/04/1997	s	-	-	1.121	-	-	-	-	-	1500	7.7	-	-	350	-	-	-	220	-	-	-	-	-	-	-	-	160	-	48	-	-
DM1R	3/07/1997	d	-	-	1.446	-	-	-	-	-	1300	7.6	-	-	390	-	-	-	160	-	-	-	65	-	-	-	-	150	-	96	-	-
DM1R	3/07/1997	s	-	-	1.028	-	-	-	-	-	1400	7.3	-	-	400	-	-	-	240	-	-	-	-	-	-	-	-	160	-	51	-	-
DM1R	8/10/1997	d	-	-	1.199	-	-	-	-	-	1200	7.3	-	-	330	-	-	-	180	-	-	-	17	-	-	-	-	140	-	79	-	-
DM1R	8/10/1997	s	-	-	0.8261	-	-	-	-	-	1400	7	-	-	350	-	-	-	280	-	-	-	1	-	-	-	-	150	-	56	-	-
DM1R	7/01/1998	s	-	-	1.101	-	-	-	-	-	-	6.7	-	-	360	-	-	-	210	-	-	-	1	-	-	-	-	150	-	46	-	-
DM1R	1/07/1998	d	-	-	1.136	-	-	-	-	-	1100	7.5	-	-	300	-	-	-	190	-	-	-	3.4	-	-	-	-	140	-	82	-	-
DM1R	1/07/1998	s	-	-	0.8738	-	-	-	-	-	1180	7.2	-	-	290	-	-	-	240	-	-	-	0.03	-	-	-	-	136	-	67	-	-
DM1R	1/10/1998	d	-	-	1.136	-	-	-	-	-	1220	7.6	-	-	300	-	-	-	190	-	-	-	4	-	-	-	-	140	-	41	-	-
DM1R	1/10/1998	s	-	-	0.8995	-	-	-	-	-	1270	7.2	-	-	290	-	-	-	240	-	-	-	0.2	-	-	-	-	140	-	40	-	-
DM1R	1/02/1999	d	-	-	1.156	-	-	-	-	-	1100	7.5	-	-	280	-	-	-	200	-	-	-	4	-	-	-	-	150	-	92	-	-
DM1R	1/02/1999	s	-	-	1.006	-	-	-	-	-	1200	7.3	-	-	290	-	-	-	230	-	-	-	0.2	-	-	-	-	150	-	76	-	-
DM1R	1/05/1999	d	-	-	1.079	-	-	-	-	-	-	-	-	-	260	-	-	-	200	-	-	-	-	-	-	-	-	140	-	75	-	-
DM1R	1/05/1999	s	-	-	0.9386	-	-	-	-	-	-	-	-	-	280	-	-	-	230	-	-	-	-	-	-	-	-	140	-	54	-	-
DM1R	1/10/1999	d	-	-	0.8995	-	-	-	-	-	1200	7.1	-	-	300	-	-	-	240	-	-	-	0.01	-	-	-	-	140	-	42	-	-
DM1R	1/10/1999	s	-	-	0.9813	-	-	-	-	-	1200	7.5	-	-	290	-	-	-	220	-	-	-	2.2	-	-	-	-	140	-	85	-	-
DM1R	1/02/2000	d	-	-	0.9813	-	-	-	-	-	1200	7.1	-	-	300	-	-	-	220	-	-	-	0.01	-	-	-	-	140	-	59	-	-
DM1R	1/02/2000	s	-	-	1.179	-	-	-	-	-	1100	7.3	-	-	300	-	-	-	170	-	-	-	3	-	-	-	-	130	-	72	-	-
DM1R	1/06/2000	d	-	-	0.9813	-	-	-	-	-	1200	7.2	-	-	310	-	-	-	220	-	-	-	0.01	-	-	-	-	140	-	65	-	-
DM1R	1/06/2000	s	-	-	1.079	-	-	-	-	-	1200	7.5	-	-	300	-	-	-	200	-	-	-	1.2	-	-	-	-	140	-	92	-	-
DM1R	9/08/2000	d	-	-	1.27	-	-	-	-	-	1200	7	-	-	330	-	-	-	170	-	-	-	8.2	-	-	-	-	140	-	58	-	-
DM1R	9/08/2000	s	-	-	1.051	-	-	-	-	-	1200	7	-	-	320	-	-	-	220	-	-	-	0.33	-	-	-	-	150	-	50	-	-
DM1R	30/10/2000	d	-	-	1.136	-	-	-	-	-	1300	7	-	-	310	-	-	-	190	-	-	-	7.8	-	-	-	-	140	-	51	-	-
DM1R	30/10/2000	s	-	-	1.051	-	-	-	-	-	1300	7	-	-	320	-	-	-	220	-	-	-	0.24	-	-	-	-	150	-	61	-	-
DM1R	1/02/2001	d	-	-	1.079	-	-	-	-	-	1300	7.6	-	-	320	-	-	-	200	-	-	-	3.1	-	-	-	-	140	-	65	-	-
DM1R	1/02/2001	s	-	-	1.136	-	-	-	-	-	1200	7.2	-	-	360	-	-	-	190	-	-	-	0.05	-	-	-	-	140	-	59	-	-
DM1R	8/05/2001	d	-	-	0.9546	-	-	-	-	-	1300	8.2	-	-	290	-	-	-	210	-	-	-	5.5	-	-	-	-	130	-	62	-	-
DM1R	8/05/2001	s	-	-	0.8352	-	-	-	-	-	1300	7.6	-	-	290	-	-	-	240	-	-	-	0.01	-	-	-	-	130	-	45	-	-
DM1R	26/07/2001	d	-	-	1.156	-	-	-	-	-	1300	7.3	-	-	310	-	-	-	200	-	-	-	2.6	-	-	-	-	150	-	70	-	-
DM1R	26/07/2001	s	-	-	1.073	-	-	-	-	-	1300	7	-	-	300	-	-	-	230	-	-	-	0.01	-	-	-	-	160	-	55	-	-
DM1R	29/10/2001	d	-	-	1.253	-	-	-	-	-	1200	7.4	-	-	310	-	-	-	160	-	-	-	15	-	-	-	-	130	-	70	-	-
DM1R	29/10/2001	s	-	-	1.101	-	-	-	-	-	1300	7.2	-	-	300	-	-	-	210	-	-	-	1	-	-	-	-	150	-	54	-	-
DM1R	8/02/2002	s	-	-	1.073	-	-	-	-	-	1300	7.1	-	-	310	-	-	-	230	-	-	-	1	-	-	-	-	160	-	52	-	-
DM1R	18/02/2002	d	-	-	1.299	-	-	-	-	-	1300	7.3	-	-	320	-	-	-	190	-	-	-	22	-	-	-	-	160	-	70	-	-
DM1R	15/04/2002	d	-	-	1.285	-	-	-	-	-	1200	7.2	-	-	300	-	-	-	180	-	-	-	3.5	-	-	-	-	150	-	77	-	-
DM1R	15/04/2002	s	-	-	1.073	-	-	-	-	-	1300	7	-	-	290	-	-	-	230	-	-	-	0.2	-	-	-	-	160	-	59	-	-
DM1R	12/08/2002	d	-	-	1.439	-	-	-	-	-	1200	7.6	-	-	300	-	-	-	150	-	-	-	11	-	-	-	-	140	-	62	-	-
DM1R	6/11/2002	d	-	-	1.051	-	-	-	-	-	1300	7.2	-	-	340	-	-	-	220	-	-	-	3	-	-	-	-	150	-	70	-	-
DM1R	6/11/2002	s	-	-	1.073	-	-	-	-	-	1200	7.2	-	-	310	-	-	-	230	-	-	-	0.2	-	-	-	-	160	-	65	-	-
DM1R	13/02/2003	d	-	-	1.446	-	-	-	-	-	1300	7.4	-	-	310	-	-	-	160	-	-	-	14	-	-	-	-	150	-	60	-	-
DM1R	13/02/2003	s	-	-	1.156	-	-	-	-	-	1300	7.2	-	-	300	-	-	-	200	-	-	-	1	-	-	-	-	150	-	53	-	-
DM1R	30/04/2003	d	-	-	1.285	-	-	-	-	-	1300	7.4	-	-	300	-	-	-	180	-	-	-	12	-	-	-	-	150	-	80	-	-
DM1R	30/04/2003	s	-	-	1.121	-	-	-	-	-	1400	7.3	-	-	300	-	-	-	220	-	-	-	1	-	-	-	-	160	-	70	-	-
DM1R	9/08/2003	d	-	-	0.9813	-	-	-	-	-	1400	7.4	-	-	310	-	-	-	220	-	-	-	10	-	-	-	-	140	-	70	-	-
DM1R	9/08/2003	s	-	-	0.9489	-	-	-	-	-	1400	7.2	-	-	300	-	-	-	260	-	-	-	0.5	-	-	-	-	160	-	60	-	-
DM1R	24/11/2003	d	-	-	0.9813	-	-	-	-	-	1230	7.4	-	-	310	-	-	-	220	-	-	-	17	-	-	-	-	140	-	60	-	-
DM1R	24/11/2003	s	-	-	0.9138	-	-	-	-	-	1310	7.3	-	-	290	-	-	-	270	-	-	-	1	-	-	-	-	160	-	50	-	-
DM1R	10/02/2004	d	-	-	1.101	-	-	-	-	-	1200	7.6	-	-	310	-	-	-	210	-	-	-	18	-	-	-	-	150	-	60	-	-
DM1R	10/02/2004	s	-	-	1.11	-	-	-	-	-	1300	7.1	-	-	290	-	-	-	250	-	-	-	1	-	-	-	-	180	-	60	-	-
DM1R	13/05/2004	d	-	-	1.27	-	-	-	-	-	1193	7.3	-	-	330	-	-	-	170	-	-	-	19	-	-	-	-	140	-	67	-	-
DM1R	14/05/2004	s	-	-	1.121	-	-	-	-	-	1420	7.6	-	-	310	-	-	-	220	-	-	-	1	-	-	-	-	160	-	75	-	-
DM1R	6/08/2004	d	-	-	1.114	-	-	-	-	-	1177	7.5	-	-	310	-	-	-	180	-	-	-	26	-	-	-	-	130	-	60	-	-
DM1R	6/08/2004	s	-	-	1.051	-	-	-	-	-	1254	7.2	-	-	290	-	-	-	220	-	-	-	1	-	-	-	-	150	-	70	-	-
DM1R	10/11/2004	d	-	-	1.131	-	-	-	-	-	870	8.1	-	-	220	-	-	-	150	-	-	-	8	-	-	-	-	110	-	30	-	-
DM1R	10/11/2004	s	-	-	1.051	-	-	-	-	-	1183	7.2	-	-	-	-	-	-	220	-	-	-	1	-	-	-	-	150	-	75	-	-
DM1R	16/02/2005	d	-	-	1.131	-	-	-	-	-	900	7.8	-	-	210	-	-	-	150	-	-	-	1.4	-	-	-	-	110	-	20	-	-
DM1R	16/02/2005	s	-	-	1.073	-	-	-	-	-	1372	7.2	-	-	310	-	-	-	230	-	-	-	-	-	-	-	-	160	-	70	-	-
DM1R	15/04/2005	d	-	-	1.14	-	-	-	-	-	1376	7.1	-	-	300	-	-	-	230	-	-	-	-	-	-	-	-	170	-	77	-	-
DM1R	15/04/2005	s	-	-	1.088	-	-	-	-	-	917	7.5	-	-	220	-	-	-	170	-	-	-	1.4	-	-	-	-	120	-	26	-	-
DM1R	2/08/2005	d	-	-	1.248	-	-	-	-	-	1343	7.2	-	-	310	-	-	-	210	-	-	-	0.2	-	-	-	-	170	-	19	-	-
DM1R	2/08/2005	s	-	-	1.336	-	-	-	-	-	873	7.7	-	-	200	-	-	-	150	-	-	-	1.7	-	-	-	-	130	-	19	-	-
DM1R	14/11/2005	d	-	-	1.142	-	-	-	-	-	1590	7.4	-	-	-	-	-	-	270	-	-	-	0.2	-	-	-	-	200	-	85	-	-
DM1R	14/11/2005	s	-	-	1.234	-	-	-	-	-	976	8	-	-	-	-	-	-	150	-	-	-	1.1	-	-	-	-	120	-	19	-	-
DM1R	15/02/2006	d	-	-	0.9252	-	-	-	-	-	1530	7	-	-	-	-	-	-	300	-	-	-	-	-	-	-	-	180	-	85	-	-
DM1R	15/02/2006	s	-	-	1.06	-	-	-	-	-	879	7.8	-	-	-	-	-	-	160	-	-	-	-	-	-	-	-	110	-	20	-	-
DM1R	18/05/2006	d	-	-	0.8456	-	-	-	-	-	1592	7	-	-	-	-	-	-	310	-	-	-	-	-	-	-	-	170	-	82	-	-
DM1R	18/05/2006	s	-	-	1.06	-	-	-	-	-	876	7.8	-	-	-	-	-	-	160	-	-	-	-	-	-	-	-	110	-	19	-	-
DM1R	17/08/2006	d	-	-	0.907	-	-	-	-	-	1681	7.2	-	-	-	-	-	-	340	-	-	-	-	-	-	-	-	200	-	82	-	-
DM1R	17/08/2006	s	-	-	1.131	-	-	-	-	-	887	7.8	-	-	-	-	-	-	150	-	-	-	-	-	-	-	-	110	-	19	-	-
DM1R	31/10/2006	d	-	23	0.8995	-	-	-	-	-	1774	7.1	-	-	-	-	-	-	360	-	-	-	-	-	-	-	-	210	-	82	-	-
DM1R	31/10/2006	s	-	7	1.131	-	-	-	-	-	892	7.9	-	-	-	-	-	-	150	-	-	-	-	-	-	-	-	110	-	19	-	-
DM1R	8/03/2007	d	-	-	0.9637	-	-	-	-	-	1890	7.1	-	-	-	-	-	-	400	-	-	-	-	-	-	-	-	250	-	86	-	-
DM1R	8/03/2007	s	-	-	1.234	-	-	-	-	-	940	7.6	-	-	-	-	-	-	150	-	-	-	-	-	-	-	-	120	-	19	-	-
DM1R	19/06/2007	d	-	-	0.9026	-	-	-	-	-	1980	7.3	-	-	340	-	-	-	410	-	-	-	0.2	-	-	-	-	240	-	95	-	-
DM1R	19/06/2007	s	-	-	1.131	-	-	-	-	-	905	8.2	-	-	250	-	-	-	150	-	-	-	3	-	-	-	-	110	-	20	-	-
DM1R	30/08/2007	d	-	-	0.771	-	-	-	-	-	2040	6.9	-	-	330	-	-	-	460	-	-	-	0.2	-	-	-	-	230	-	98	-	-
DM1R	30/08/2007	s	-	-	0.9355	-	-	-	-	-	902	7.5	-	-	230	-	-	-	150	-	-	-	3	-	-	-	-	91	-	22	-	-
DM1R	2/11/2007	d	-	-	0.8761	-	-	-	-	-	2270	7	-	-	330	-	-	-	440	-	-	-	0.2	-	-	-	-	250	-	120	-	-
DM1R	2/11/2007	s	-	-	1.115	-	-	-	-	-	957	7.5	-	-	240	-	-	-	130	-	-	-	2.9	-	-	-	-	94	-	27	-	-
DM1R	2/04/2008	d	-	-	0.9489	-	-	-	-	-	2458	6.9	-	-	350	-	-	-	520	-	-	-	1	-	-	-	-	320	-	120	-	-
DM1R	2/04/2008	s	-	-	1.028	-	-	-	-	-	980	7.3	-	-	240	-	-	-	150	-	-	-	17	-	-	-	-	100	-	24	-	-
DM1R	8/07/2008	d	-	-	0.9709	-	-	-	-	-	2340	6.8	-	-	380	-	-	-	540	-	-	-	0.2	-	-	-	-	340	-	140	-	-
DM1R	8/07/2008	s	-	-	0.9423	-	-	-	-	-	910	7.3	-	-	260	-	-	-	180	-	-	-	3.8	-	-	-	-	110	-	29	-	-
DM1R	8/09/2008	d	-	-	0.8852	-	-	-	-	-	2430	6.9	-	-	380	-	-	-	540	-	-	-	0.2	-	-	-	-	310	-	150	-	-
DM1R	8/09/2008	s	-	-	1.028	-	-	-	-	-	910	7	-	-	260	-	-	-	150	-	-	-	2.9	-	-	-	-	100	-	25	-	-
DM1R	1/03/2009	d	-	-	0.9468	-	-	-	-	-	2420	7	-	-	380	-	-	-	570	-	-	-	0.2	-	-	-	-	350	-	150	-	-
DM1R	1/03/2009	s	-	-	1.028	-	-	-	-	-	930	7.1	-	-	260	-	-	-	150	-	-	-	3.6	-	-	-	-	100	-	23	-	-
DM1R	1/07/2009	d	-	-	0.9637	-	-	-	-	-	2350	6.8	-	-	310	-	-	-	560	-	-	-	0.2	-	-	-	-	350	-	140	-	-
DM1R	1/07/2009	s	-	-	-	-	-	-	-	-	1100	7	-	-	360	-	-	-	-	-	-	-	2.8	-	-	-	-	170	-	38	-	-
DM1R	30/09/2009	d	-	-	0.8691	-	-	-	-	-	2328	7	-	-	360	-	-	-	550	-	-	-	0.2	-	-	-	-	310	-	140	-	-
DM1R	30/09/2009	s	-	-	-	-	-	-	-	-	994	7.5	-	-	270	-	-	-	-	-	-	-	2.9	-	-	-	-	110	-	32	-	-
DM1R	18/12/2009	d	-	-	0.9637	-	-	-	-	-	2487	7.1	-	-	360	-	-	-	560	-	-	-	0.2	-	-	-	-	350	-	140	-	-
DM1R	23/12/2009	s	-	-	1.131	-	-	-	-	-	992	7.8	-	-	280	-	-	-	150	-	-	-	5.7	-	-	-	-	110	-	25	-	-
DM1R	16/02/2010	d	-	-	0.9198	-	-	-	-	-	2260	7.3	-	-	320	-	-	-	570	-	-	-	0.2	-	-	-	-	340	-	150	-	-
DM1R	16/02/2010	s	-	-	1.212	-	-	-	-	-	1000	7.8	-	-	220	-	-	-	140	-	-	-	3.5	-	-	-	-	110	-	24	-	-
DM1R	6/05/2010	d	-	-	0.8852	-	-	-	-	-	2580	6.7	-	-	340	-	-	-	540	-	-	-	0.2	-	-	-	-	310	-	140	-	-
DM1R	21/05/2010	s	-	-	1.131	-	-	-	-	-	957.2	7.73	-	-	220	-	-	-	150	-	-	-	3.6	-	-	-	-	110	-	25	-	-
DM1R	18/08/2010	d	-	-	0.9755	-	-	-	-	-	2530	7	-	-	360	-	-	-	490	-	-	-	0.2	-	-	-	-	310	-	130	-	-
DM1R	18/08/2010	s	-	-	1.156	-	-	-	-	-	1045	7.3	-	-	280	-	-	-	160	-	-	-	3.4	-	-	-	-	120	-	30	-	-
DM1R	25/11/2010	s	-	-	1.131	-	-	-	-	-	1140	7.35	-	-	280	-	-	-	150	-	-	-	3.3	-	-	-	-	110	-	28	-	-
DM1R	26/11/2010	d	-	-	0.8567	-	-	-	-	-	2570	7.1	-	-	360	-	-	-	540	-	-	-	0.2	-	-	-	-	300	-	120	-	-
DM1R	9/02/2011	d	-	-	2.12	-	-	-	-	-	-	7.2	-	-	370	-	-	-	240	-	-	-	6.3	-	-	-	-	330	-	150	-	-
DM1R	9/02/2011	s	-	-	1.06	-	-	-	-	-	1107	7.7	-	-	280	-	-	-	160	-	-	-	3.6	-	-	-	-	110	-	23	-	-
DM1R	11/05/2011	d	-	-	0.8635	-	-	-	-	-	-	7.1	-	-	370	-	-	-	500	-	-	-	0.2	-	-	-	-	280	-	120	-	-
DM1R	11/05/2011	s	-	-	0.907	-	-	-	-	-	-	7.4	-	-	280	-	-	-	170	-	-	-	4	-	-	-	-	100	-	30	-	-
DM1R	9/08/2011	d	-	-	0.9959	-	-	-	-	-	-	7	-	-	350	-	-	-	480	-	-	-	0.2	-	-	-	-	310	-	120	-	-
DM1R	9/08/2011	s	-	-	0.9546	-	-	-	-	-	-	7.3	-	-	280	-	-	-	210	-	-	-	3.4	-	-	-	-	130	-	40	-	-
DM1R	10/08/2011	d	-	-	-	-	-	-	-	-	2384	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM1R	10/08/2011	s	-	-	-	-	-	-	-	-	1235	7.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM1R	10/11/2011	d	-	-	0.8768	-	-	-	-	-	-	6.9	-	-	360	-	-	-	510	-	-	-	0.2	-	-	-	-	290	-	110	-	-
DM1R	10/11/2011	s	-	-	0.8481	-	-	-	-	-	-	7.3	-	-	290	-	-	-	200	-	-	-	3.6	-	-	-	-	110	-	33	-	-
DM1R	23/01/2012	d	-	-	0.9186	-	-	-	-	-	1430	7.02	-	-	360	-	-	-	470	-	-	-	0.2	-	-	-	-	280	-	104	-	-
DM1R	23/01/2012	s	-	-	0.8567	-	-	-	-	-	760	7.85	-	-	300	-	-	-	180	-	-	-	5.5	-	-	-	-	100	-	32	-	-
DM1R	24/05/2012	d	-	-	0.7889	-	-	-	-	-	2219	7.22	-	-	350	-	-	-	430	-	-	-	0.24	-	-	-	-	220	-	110	-	-
DM1R	24/05/2012	s	-	-	0.9977	-	-	-	-	-	760	7.85	-	-	290	-	-	-	170	-	-	-	6.6	-	-	-	-	110	-	27	-	-
DM1R	14/08/2012	d	-	-	0.8371	-	-	-	-	-	1818	6.8	-	-	280	-	-	-	350	-	-	-	0.2	-	-	-	-	190	-	62	-	-
DM1R	14/08/2012	s	-	-	0.9348	-	-	-	-	-	1215	7.41	-	-	300	-	-	-	160	-	-	-	7	-	-	-	-	97	-	26	-	-
DM1R	26/10/2012	d	-	-	0.8752	-	-	-	-	-	1853	6.87	-	-	300	-	-	-	370	-	-	-	0.2	-	-	-	-	210	-	75	-	-
DM1R	26/10/2012	s	-	-	0.9423	-	-	-	-	-	1246	7.2	-	-	290	-	-	-	180	-	-	-	5.4	-	-	-	-	110	-	27	-	-
DM1R	16/01/2013	d	-	-	1.071	-	-	-	-	-	1920	7.15	20.7	-	310	-	-	-	360	-	-	-	0.2	-	-	-77	-	250	-	82	-	-
DM1R	16/01/2013	s	-	-	0.9739	-	-	-	-	-	1312	7.22	20.4	-	300	-	-	-	190	-	-	-	3.8	-	-	-33	-	120	-	27	-	-
DM1R	9/04/2013	d	-	-	0.865	-	-	-	-	-	2040	6.97	19.8	-	300	-	-	-	410	-	-	-	0.2	-	-	-132	-	230	-	89	-	-
DM1R	9/04/2013	s	-	-	0.8411	-	-	-	-	-	1375	7.3	20.4	-	320	-	-	-	220	-	-	-	4.7	-	-	-72	-	120	-	48	-	-
DM1R	10/10/2013	d	-	-	0.9489	-	-	-	-	-	1940	7.09	23	<1000	-	350	-	-	390	-	-	-	<0.2	-	-	-44	-	240	-	120	-	-
DM1R	10/10/2013	s	-	-	0.03787	-	-	-	-	-	-	7.29	-	<1000	-	180	-	-	5700	-	-	-	<0.2	-	-	-	-	140	-	32	-	-
DM1R	9/04/2014	d	<1	-	1.136	-	-	-	-	-	1936	6.53	19	-	290	290	-	-	380	-	-	-	<0.2	-	36	-179	-	280	-	110	-	-
DM1R	9/04/2014	s	<1	-	0.9637	-	-	-	-	-	1581	6.84	19	-	320	320	-	-	320	-	-	-	3	-	43	-16.8	-	200	-	50	-	-
DM1R	16/10/2014	d	<1	-	1.057	-	-	-	-	-	2090	6.31	19	-	-	310	-	-	350	-	-	-	-	<0.2	-	-	-	240	-	75	-	-
DM1R	16/10/2014	s	<1	-	0.8995	-	-	-	-	-	1801	6.61	19.3	-	-	310	-	-	360	-	-	-	-	2.4	-	-	-	210	-	33	-	-
DM1R	16/04/2015	d	<1	-	1.075	-	-	-	-	-	1743	6.67	20.2	-	-	340	-	-	330	-	-	-	-	0.2	-	-	-	230	-	100	-	-
DM1R	16/04/2015	s	<1	-	0.8716	-	-	-	-	-	2210	6.65	19.6	-	-	340	-	-	460	-	-	-	-	2.4	-	-	-	260	-	100	-	-
DM1R	3/09/2015	d	<1	-	0.8386	-	-	-	-	-	1857	7.02	18.2	-	-	320	320	<1	570	-	-	-	2.5	2.5	-	263	-	310	-	90	-	-
DM1R	3/09/2015	s	<1	-	0.9692	-	-	-	-	-	2480	6.8	18.8	-	-	340	340	<1	350	-	-	-	0.2	0.2	-	271	-	220	-	110	-	-
DM1R	4/09/2015	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM1R	4/09/2015	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM1R	15/04/2016	d	-	-	-	-	-	-	-	-	1743	6.67	20.2	-	-	-	-	-	-	-	-	-	-	-	-	-91.7	-	-	-	-	-	-
DM1R	15/04/2016	s	-	-	-	-	-	-	-	-	2210	6.65	19.6	-	-	-	-	-	-	-	-	-	-	-	-	-65.3	-	-	-	-	-	-
DM1R	21/04/2016	d	-	-	1.108	-	-	-	-	-	-	-	-	-	-	-	340	<1	320	-	-	-	<0.2	-	-	-	-	230	-	120	-	-
DM1R	21/04/2016	s	-	-	0.9423	-	-	-	-	-	-	-	-	-	-	-	340	<1	540	-	-	-	3.8	-	-	-	-	330	-	110	-	-
DM1R	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM1R	22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM1R	15/09/2016	d	-	-	1 - 1.028	-	-	-	-	-	1705	8.06	18.1	-	-	-	340	<1	330	-	-	-	<0.2	-	-	162	-	-	220	110	-	-
DM1R	15/09/2016	s	-	-	0.8342 - 0.84	-	-	-	-	-	2510	8.43	17.8	-	-	-	340	<1	610	-	-	-	2.8	-	-	404	-	-	330	130	-	-
DM1R	18/04/2017	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM1R	18/04/2017	s	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	340	-	-	630	-	-	2.7	-	-	-	-	320	-	-	170	-
DM1R	18/04/2017	s	-	-	0.7832	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM1R	19/04/2017	s	-	-	0.9821	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM1R	18/05/2017	d	-	-	-	-	-	-	-	-	1976	7.67	16.7	-	-	-	-	-	-	-	-	-	-	-	-	-84	-	-	-	-	-	-
DM1R	26/05/2017	s	<1	-	0.9813	-	0.48	-	-	-	2710	7.4	19.5	-	-	-	350	-	-	330	-	-	<0.01	-	-	-52	-	210	-	-	140	-
DM1R	12/10/2017	d	<1	-	0.6916	0.7	-	-	-	-	1602	7.25	19.5	-	-	-	310	-	-	330	-	-	0.41	-	-	-68	-	-	148	-	130	-
DM1R	12/10/2017	s	<1	-	0.412	0.4	-	-	-	-	2420	7.84	19.8	-	-	-	340	-	-	670	-	-	3.4	-	-	-103	-	-	179	-	170	-
DM1R	6/04/2018	d	<1	-	-	-	-	1	-	-	-	-	-	-	-	-	260	-	-	280	-	-	0.99	-	-	-	-	-	177	-	110	-

Sampled_Date-Time	WellCode	TDS (evap)	TDS (evap) (Filtered)	Thorium	Lead Total	Lead Total (Filtered)	Aluminium	Arsenic	Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Calcium	Calcium (Filtered)	Chromium (hexavalent)	Chromium (hexavalent) (Filtered)	Chromium Total	Chromium Total (Filtered)	Chromium (Trivalent)	Chromium (Trivalent) (Filtered)	Cobalt	Cobalt (Filtered)	Copper Total	Copper Total (Filtered)	Iron	Iron (Filtered)	Magnesium	Magnesium (Filtered)
		Inorganics			Lead		Metals																					
		mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL		10			0.001	0.0001			0.005	0.005	0.0001	0.0001	0.005	0.005	0.001	0.001	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.0001	0.005	0.005	0.005	0.005
ANZECC 2000 MW 95%					0.0044	0.0044					0.0055	0.0055			0.0044	0.0044			0.0274	0.0274	0.001	0.001	0.0013	0.0013				
1/03/1989	d	898	-	-	-	-	-	-	-	-	-	-	98.9	-	-	-	-	-	-	-	-	-	-	-	-	-	26.1	-
1/03/1989	s	947	-	-	-	-	-	-	-	-	-	-	99.6	-	-	-	-	-	-	-	-	-	-	-	-	-	30.4	-
1/11/1989	d	1020	-	-	-	-	-	-	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	0.05	-	28.5	-
1/11/1989	s	1060	-	-	-	-	-	-	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	0.05	-	26	-
1/06/1990	d	940	-	-	-	-	-	-	-	-	-	-	110	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	23.5	-
1/06/1990	s	620	-	-	-	-	-	-	-	-	-	-	90	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	29	-
1/10/1990	d	1020	-	-	-	-	-	-	-	-	-	-	100	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	29	-
1/10/1990	s	1060	-	-	-	-	-	-	-	-	-	-	100	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	28	-
1/06/1991	d	1050	-	-	-	-	-	-	-	-	-	-	95	-	-	-	0.05	-	-	-	-	-	-	-	1.7	-	30	-
1/06/1991	s	825	-	-	-	-	-	-	-	-	-	-	73.5	-	-	-	0.05	-	-	-	-	-	-	-	0.15	-	32.5	-
1/09/1991	d	1040	-	-	-	-	-	-	-	-	-	-	95	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	25.5	-
1/09/1991	s	1030	-	-	-	-	-	-	-	-	-	-	100	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	25.5	-
1/12/1991	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/07/1992	d	990	-	-	-	-	-	-	-	-	-	-	105	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	25.5	-
1/07/1992	s	970	-	-	-	-	-	-	-	-	-	-	105	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	26.5	-
1/10/1992	d	990	-	-	-	-	-	-	-	-	-	-	110	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	25.5	-
1/10/1992	s	970	-	-	-	-	-	-	-	-	-	-	105	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	25	-
1/01/1993	d	600	-	-	-	-	-	-	-	-	-	-	85	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	30.5	-
1/01/1993	s	1000	-	-	-	-	-	-	-	-	-	-	110	-	-	-	0.05	-	-	-	-	-	-	-	0.9	-	28	-
1/07/1993	d	670	-	-	-	-	-	-	-	-	-	-	80	-	-	-	0.05	-	-	-	-	-	-	-	0.2	-	31	-
1/07/1993	s	1080	-	-	-	-	-	-	-	-	-	-	105	-	-	-	0.05	-	-	-	-	-	-	-	4.65	-	29	-
1/10/1993	d	690	-	-	-	-	-	-	-	-	-	-	70	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	28	-
1/10/1993	s	1010	-	-	-	-	-	-	-	-	-	-	100	-	-	-	0.05	-	-	-	-	-	-	-	6.5	-	26.5	-
1/01/1994	d	590	-	-	-	-	-	-	-	-	-	-	80	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	29.5	-
1/01/1994	s	1000	-	-	-	-	-	-	-	-	-	-	85	-	-	-	0.05	-	-	-	-	-	-	-	5.15	-	25	-
1/07/1994	d	500	-	-	-	-	-	-	-	-	-	-	80	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	30.5	-
1/07/1994	s	1050	-	-	-	-	-	-	-	-	-	-	93	-	-	-	0.05	-	-	-	-	-	-	-	4.9	-	28	-
1/10/1994	d	570	-	-	-	-	-	-	-	-	-	-	75	-	-	-	0.05	-	-	-	-	-	-	-	1.5	-	30	-
1/10/1994	s	1030	-	-	-	-	-	-	-	-	-	-	105	-	-	-	0.05	-	-	-	-	-	-	-	5.35	-	28	-
1/01/1995	d	530	-	-	-	-	-	-	-	-	-	-	75	-	-	-	0.05	-	-	-	-	-	-	-	0.6	-	28	-
1/01/1995	s	1000	-	-	-	-	-	-	-	-	-	-	90	-	-	-	0.05	-	-	-	-	-	-	-	10	-	24.5	-
1/07/1995	d	620	-	-	-	-	-	-	0.1	-	-	-	75	-	-	-	0.05	-	-	-	-	-	-	-	0.4	-	32.5	-
1/07/1995	s	1000	-	-	-	-	-	-	0.1	-	-	-	100	-	-	-	0.05	-	-	-	-	-	-	-	6.35	-	31	-
1/10/1995	d	2000	-	-	-	-	-	-	0.06	-	-	-	-	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	14	-
1/10/1995	s	1100	-	-	-	-	-	-	0.05	-	-	-	100	-	-	-	0.05	-	-	-	-	-	-	-	4.35	-	28.5	-
1/01/1996	d	600	-	-	-	-	-	-	0.05	-	-	-	72	-	-	-	0.05	-	-	-	-	-	-	-	0.1	-	31	-
1/01/1996	s	1200	-	-	-	-	-	-	0.05	-	-	-	110	-	-	-	0.05	-	-	-	-	-	-	-	6.1	-	36	-
1/07/1996	s	900	-	-	-	-	-	-	0.03	-	-	-	96	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	26	-
10/07/1996	d	670	-	-	-	-	-	-	0.03	-	-	-	78	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	29	-
22/10/1996	d	830	-	-	-	-	-	-	0.1	-	-	-	86	-	-	-	0.05	-	-	-	-	-	-	-	0.3	-	27	-
22/10/1996	s	960	-	-	-	-	-	-	0.1	-	-	-	110	-	-	-	0.05	-	-	-	-	-	-	-	5.8	-	27	-
15/01/1997	d	740	-	-	-	-	-	-	0.1	-	-	-	77	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	30	-
15/01/1997	s	800	-	-	-	-	-	-	0.1	-	-	-	97	-	-	-	0.05	-	-	-	-	-	-	-	0.25	-	28	-
10/04/1997	d	640	-	-	-	-	-	-	0.1	-	-	-	70	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	31	-
10/04/1997	s	750	-	-	-	-	-	-	0.1	-	-	-	91	-	-	-	0.05	-	-	-	-	-	-	-	3.4	-	26	-
3/07/1997	d	880	-	-	-	-	-	-	0.16	-	-	-	74	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	26	-
3/07/1997	s	950	-	-	-	-	-	-	0.08	-	-	-	100	-	-	-	0.05	-	-	-	-	-	-	-	4.7	-	17	-
8/10/1997	d	680	-	-	-	-	-	-	0.1	-	-	-	64	-	-	-	0.05	-	-	-	-	-	-	-	0.15	-	25	-
8/10/1997	s	710	-	-	-	-	-	-	0.1	-	-	-	93	-	-	-	0.05	-	-	-	-	-	-	-	6.8	-	28	-
7/01/1998	s	900	-	-	-	-	-	-	0.1	-	-	-	91	-	-	-	0.05	-	-	-	-	-	-	-	4.5	-	27	-
1/07/1998	d	790	-	-	-	-	-	-	0.12	-	-	-	74	-	-	-	0.01	-	-	-	-	-	-	-	0.4	-	24	-
1/07/1998	s	880	-	-	-	-	-	-	0.06	-	-	-	92	-	-	-	0.01	-	-	-	-	-	-	-	6.5	-	26	-
1/10/1998	d	650	-	-	-	-	-	-	0.07	-	-	-	82	-	-	-	0.01	-	-	-	-	-	-	-	0.03	-	21	-
1/10/1998	s	690	-	-	-	-	-	-	0.14	-	-	-	100	-	-	-	0.02	-	-	-	-	-	-	-	5.1	-	24	-
1/02/1999	d	790	-	-	-	-	-	-	0.15	-	-	-	76	-	-	-	0.01	-	-	-	-	-	-	-	0.03	-	22	-
1/02/1999	s	720	-	-	-	-	-	-	0.18	-	-	-	92	-	-	-	0.01	-	-	-	-	-	-	-	5.1	-	27	-
1/05/1999	d	-	-	-	-	-	-	-	0.1	-	-	-	78	-	-	-	0.01	-	-	-	-	-	-	-	0.01	-	20	-
1/05/1999	s	-	-	-	-	-	-	-	0.2	-	-	-	86	-	-	-	0.01	-	-	-	-	-	-	-	3.9	-	23	-
1/10/1999	d	720	-	-	-	-	-	-	0.2	-	-	-	83	-	-	-	0.01	-	-	-	-	-	-	-	0.01	-	24	-
1/10/1999	s	810	-	-	-	-	-	-	0.2	-	-	-	75	-	-	-	0.01	-	-	-	-	-	-	-	0.01	-	24	-
1/02/2000	d	770	-	-	-	-	-	-	0.2	-	-	-	90	-	-	-	0.01	-	-	-	-	-	-	-	3.4	-	26	-
1/02/2000	s	730	-	-	-	-	-	-	0.2	-	-	-	79	-	-	-	0.01	-	-	-	-	-	-	-	0.03	-	24	-
1/06/2000	d	780	-	-	-	-	-	-	0.04	-	-	-	94	-	-	-	0.01	-	-	-	-	-	-	-	0.31	-	24	-
1/06/2000	s	830	-	-	-	-	-	-	0.19	-	-	-	86	-	-	-	0.01	-	-	-	-	-	-	-	0.18	-	21	-
9/08/2000	d	810	-	-	-	-	-	-	0.3	-	-	-	97	-	-	-	0.01	-	-	-	-	-	-	-	-	-	27	-
9/08/2000	s	790	-	-	-	-	-	-	0.43	-	-	-	97	-	-	-	0.01	-	-	-	-	-	-	-	4	-	26	-
30/10/2000	d	770	-	-	-	-	-	-	0.2	-	-	-	83	-	-	-	0.01	-	-	-	-	-	-	-	-	-	23	-
30/10/2000	s	740	-	-	-	-	-	-	0.1	-	-	-	89	-	-	-	0.01	-	-	-	-	-	-	-	-	-	24	-
1/02/2001	d	830	-	-	-	-	-	-	0.2	-	-	-	83	-	-	-	0.01	-	-	-	-	-	-	-	0.41	-	20	-
1/02/2001	s	800	-	-	-	-	-	-	0.1	-	-	-	90	-	-	-	0.01	-	-	-	-	-	-	-	5.2	-	24	-
8/05/2001	d	730	-	-	-	-	-	-	0.1	-	-	-	88	-	-	-	0.01	-	-	-	-	-	-	-	0.21	-	20	-
8/05/2001	s	740	-	-	-	-	-	-	0.1	-	-	-	67	-	-	-	0.01	-	-	-	-	-	-	-	4.8	-	23	-
26/07/2001	d	800	-	-	-	-	-	-	0.1	-	-	-	84	-	-	-	0.01	-	-	-	-	-	-	-	0.07	-	23	-
26/07/2001	s	790	-	-	-	-	-	-	0.1	-	-	-	88	-	-	-	0.01	-	-	-	-	-	-	-	4.7	-	25	-
29/10/2001	d	800	-	-	-	-	-	-	0.15	-	-	-	80	-	-	-	0.005	-	-	-	-	-	-	-	0.1	-	22	-
29/10/2001	s	840	-	-	-	-	-	-	0.067	-	-	-	95	-	-	-	0.005	-	-	-	-	-	-	-	4.2	-	24	-
8/02/2002	s	820	-	-	-	-	-	-	0.07	-	-	-	110	-	-	-	0.01	-	-	-	-	-	-	-	4.7	-	26	-
18/02/2002	d	830	-	-	-	-	-	-	0.15	-	-	-	98	-	-	-	0.01	-	-	-	-	-	-	-	0.1	-	24	-
15/04/2002	d	780	-	-	-	-	-	-	0.12	-	-	-	110	-	-	-	0.01	-	-	-	-	-	-	-	0.1	-	22	-
15/04/2002	s	800	-	-	-	-	-	-	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	2.7	-	26	-
12/08/2002	d	730	-	-	-	-	-	-	0.15	-	-	-	77	-	-	-	0.01	-	-	-	-	-	-	-	0.1	-	21	-
6/11/2002	d	700	-	-	-	-	-	-	0.11	-	-	-	75	-	-	-	0.005	-	-	-	-	-	-	-	0.1	-	24	-
6/11/2002	s	660	-	-	-	-	-	-	0.057	-	-	-	78	-	-	-	0.005	-	-	-	-	-	-	-	0.1	-	25	-
13/02/2003	d	770	-	-	-	-	-	-	0.08	-	-	-	91	-	-	-	0.005	-	-	-	-	-	-	-	0.1	-	24	-
13/02/2003	s	730	-	-	-	-	-	-	0.05	-	-	-	85	-	-	-	0.005	-	-	-	-	-	-	-	4.7	-	25	-
30/04/2003	d	790	-	-	-	-	-	-	0.11	-	-	-	89	-	-	-	0.005	-	-	-	-	-	-	-	0.1	-	24	-
30/04/2003	s	800	-	-	-	-	-	-	0.06	-	-	-	100	-	-	-	0.005	-	-	-	-	-	-	-	0.1	-	26	-
9/08/2003	d	760	-	-	-	-	-	-	0.073	-	-	-	90	-	-	-	0.005	-	-	-	-	-	-	-	0.1	-	25	-
9/08/2003	s	790	-	-	-	-	-	-	0.029	-	-	-	95	-	-	-	0.005	-	-	-	-	-	-	-	0.1	-	26	-
24/11/2003	d	860	-	-	-	-	-	-	0.12	-	-	-	95	-	-	-	0.005	-	-	-	-	-	-	-	0.1	-	29	-
24/11/2003	s	900	-	-	-	-	-	-	0.068	-	-	-	100	-	-	-	0.005	-	-	-	-	-	-	-	5.2	-	24	-
10/02/2004	d	830	-	-	-	-	-	-	0.14	-	-	-	80	-	-	-	0.005	-	-	-	-	-	-	-	0.1	-	25	-
10/02/2004	s	880	-	-	-	-	-	-	0.068	-	-	-	87	-	-	-	0.005	-	-	-	-	-	-	-	5.4	-	25	-
13/05/2004	d	770	-	-	-	-	-	-	0.12	-	-	-	90	-	-	-	0.005	-	-	-	-	-	-	-	0.1	-	25	-
14/05/2004	s	830	-	-	-	-	-	-	0.055	-	-	-	93	-	-	-	0.005	-	-	-	-	-	-	-	0.1	-	25	-
6/08/2004	d	740	-	-	0.01	-	-	-	0.12	-	0.002	-	91	-	-	-	0.005	-	-	-	-	-	0.005	-	0.1	-	26	-
6/08/2004	s	780	-	-	0.01	-	-	-	0.065	-	0.002	-	89	-	-	-	0.005	-	-	-	-	-	0.005	-	4.8	-	25	-
10/11/2004	d	530	-	-	-	-	-	-	0.043	-	-	-	55	-	-	-	0.005	-	-	-	-	-	-	-	0.009	-	17	-
10/11/2004	s	770	-	-	-	-	-	-	0.069	-	-	-	54	-	-	-	0.005	-	-	-	-	-	-	-	0.007	-	26	-
16/02/2005	d	610	-	-	-	-	-	-	0.061	-	-	-	63	-	-	-	0.005	-	-	-	-	-	-	-	0.008	-	14	-
16/02/2005	s	960	-	-	-	-	-	-	0.066	-	-	-	100	-	-	-	0.005	-	-	-	-	-	-	-	0.27	-	26	-
15/04/2005	d	810	-	-	-	-	-	-	0.069	-	-	-	99	-	-	-	0.001	-	-	-	-	-	-	-	5.6	-	25	-
15/04/2005	s	520	-	-	-	-	-	-	0.054	-	-	-	74	-	-	-	0.0025	-	-	-	-	-	-	-	0.68	-	27	-
2/08/2005	d	740	-	-	-	-	-	-	0.059	-	-	-	100	-	-	-	0.001	-	-	-	-	-	-	-	0.66	-	33	-
2/08/2005	s	420	-	-	-	-	-	-	0.045	-	-	-	52	-	-	-	0.004	-	-	-	-	-	-	-	0.058	-	12	-
14/11/2005	d	860	-	-	-	-	-	-	0.043	-	-	-	110	-	-	-	0.001	-	-	-	-	-	-	-	5.3	-	29	-
14/11/2005	s	470	-	-	-	-	-	-	0.046	-	-	-	45	-	-	-	0.003	-	-	-	-	-	-	-	0.077	-	14	-
15/02/2006	d	-	-	-	0.001	-	0.018	-	-	-	0.0003	-	-	-	-	-	-	-	-	-	-	-	0.02	-	-	-	-	-
15/02/2006	s	-	-	-	0.001	-	0.013	-	-	-	0.0003	-	-	-	-	-	-	-	-	-	-	-	0.0089	-	-	-	-	-
18/05/2006	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18/05/2006	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17/08/2006	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17/08/2006	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31/10/2006	d	-	-	-	0.001	-	0.017	0.029	-	-	0.0001	-	130	-	0.024	-	0.001	-	-	-	0.001	-	0.001	-	6.7	-	32	-
31/10/2006	s	-	-	-	0.001	-	0.01	0.004	-	-	0.0001	-	52	-	0.005	-	0.005	-	-	-	0.001	-	0.001	-	0.18	-	14	-
8/03/2007	d	-	-	-	0.001	-	0.009	0.023	-	-	0.0001	-	110	-	0.005	-	0.001	-	-	-	0.001	-	0.001	-	7	-	35	-
8/03/2007	s	-	-	-	0.001	-	0.011	0.003	-	-	0.0001	-	38	-	0.005	-	0.004	-	-	-	0.001	-	0.001	-	0.13	-	15	-
19/06/2007	d	1290	-	-	0.001	-	-	-	0.08	-	0.0001	-	150	-	-	-	0.001	-	-	-	0.001	-	0.001	-	7.7	-	42	-
19/06/2007	s	520	-	-	0.001	-	-	-	0.056	-	0.0001	-	63	-	-	-	0.007	-	-	-	0.001	-	0.001	-	0.37	-	17	-
30/08/2007	d	1230	-	-	0.001	-	-	-	0.089	-	0.0001	-	140	-	-	-	0.001	-	-	-	0.001	-	0.001	-	9.3	-	45	-
30/08/2007	s	540	-	-	0.001	-	-	-	0.059	-	0.0001	-	64	-	-	-	0.006	-	-	-	0.001	-	0.001	-	0.2	-	21	-
2/11/2007	d	1320	-	-	0.001	-	-	-	0.072	-	0.0001	-	160	-	-	-	0.001	-	-	-	0.001	-	0.001	-	8.5	-	43	-
2/11/2007	s	530	-	-	0.001	-	-	-	0.056	-	0.0001	-	67	-	-	-	0.005	-	-	-	0.001	-	0.001	-	0.15	-	20	-
2/04/2008	d	1450	-	-	0.001	-	-	-	0.097	-	0.0001	-	160	-	-	-	0.001	-	-	-	0.001	-	0.001	-	10	-	43	-
2/04/2008	s	520	-	-	0.014	-	-	-	0.066	-	0.0001	-	63	-	-	-	0.019	-	-	-	0.001	-	0.01	-	1.2	-	20	-
8/07/2008	d	1480	-	-	0.001	-	-	-	0.12	-	0.0001	-	160	-	-	-	0.001	-	-	-	0.001	-	0.001	-	9.9	-	45	-
8/07/2008	s	530	-	-	0.001	-	-	-	0.071	-	0.0001	-	69	-	-	-	0.014	-	-	-	0.001	-	0.001	-	1.4	-	21	-
8/09/2008	d	1520	-	-	0.001	-	-	-	0.11	-	0.0001	-	150	-	-	-	0.001	-	-	-	0.001	-	0.001	-	9.8	-	45	-
8/09/2008	s	530	-	-	0.004	-	-	-	0.06	-	0.0001	-	60	-	-	-	0.013	-	-	-	0.001	-	0.001	-	1.3	-	19	-
1/03/2009	d	1550	-	-	0.001	-	-	-	0.11	-	0.0001	-	160	-	-	-	0.001	-	-	-	0.001	-	0.001	-	10	-	44	-
1/03/2009	s	540	-	-	0.001	-	-	-	0.059	-	0.0001	-	66	-	-	-	0.006	-	-	-	0.001	-	0.001	-	0.28	-	20	-
1/07/2009	d	1490	-	-	0.001	-	-	-	0.1	-	0.0001	-	160	-	0.005	-	0.001	-	-	-	0.001	-	0.001	-	11	-	47	-
1/07/2009	s	660	-	-	0.001	-	-	-	0.062	-	0.0001	-	78	-	0.005	-	0.005	-	-	-	0.001	-	0.001	-	0.42	-	25	-
30/09/2009	d	1560	-	-	0.001	-	-	-	0.18	-	0.0001	-	150	-	0.005	-	0.001	-	-	-	0.001	-	0.001	-	8.7	-	48	-
30/09/2009	s	590	-	-	0.001	-	-	-	0.15	-	0.0001	-	69	-	0.005	-	0.006	-	-	-	0.001	-	0.001	-	0.24	-	23	-
18/12/2009	d	1520	-	-	0.001	-	-	-	0.085	-	0.0001	-	160	-	-	-	0.001	-	-	-	0.001	-	0.001	-	9.6	-	48	-
23/12/2009	s	580	-	-	0.001	-	-	-	0.04	-	0.0001	-	70	-	-	-	0.005	-	-	-	0.001	-	0.001	-	0.39	-	22	-
16/02/2010	d	1400	-	-	0.001	-	-	-	0.089	-	0.0001	-	160	-	-	-	0.001	-	-	-	0.001	-	0.001	-	9.1	-	56	-
16/02/2010	s	620	-	-	0.001	-	-	-	0.05	-	0.0001	-	72	-	-	-	0.005	-	-	-	0.001	-	0.001	-	0.19	-	26	-
6/05/2010	d	1550	-	-	0.002	-	-	-	0.11	-	0.0001	-	140	-	-	-	0.008	-	-	-	0.001	-	0.001	-	9.5	-	42	-
21/05/2010	s	570	-	-	0.001	-	-	-	0.094	-	0.0001	-	74	-	-	-	0.004	-	-	-	0.001	-	0.001	-	0.11	-	22	-
18/08/2010	d	1440	-	-	0.005	-	-	-	0.093	-	0.0001	-	150	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	4.1	-	42	-
18/08/2010	s	620	-	-	0.001	-	-	-	0.069	-	0.0001	-	76	-	0.001	-	0.007	-	-	-	0.001	-	0.001	-	0.33	-	22	-
25/11/2010	s	620	-	-	0.001	-	-	-	0.075	-	0.0001	-	70	-	0.004	-	0.005	-	-	-	0.001	-	0.001	-	0.13	-	23	-
26/11/2010	d	1480	-	-	0.001	-	-	-	0.11	-	0.0001	-	150	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	8.8	-	45	-
9/02/2011	d	1400	-	-	0.001	-	-	-	0.094	-	0.0001	-	150	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	9.5	-	42	-
9/02/2011	s	590	-	-	0.001	-	-	-	0.07	-	0.0001	-	72	-	0.001	-	0.005	-	-	-	0.001	-	0.001	-	0.12	-	22	-
11/05/2011	d	1420	-	-	0.001	-	-	-	0.11	-	0.0001	-	160	-	-	-	0.001	-	-	-	0.001	-	0.001	-	9.5	-	45	-
11/05/2011	s	610	-	-	0.001	-	-	-	0.094	-	0.0001	-	85	-	-	-	0.0065	-	-	-	0.001	-	0.001	-	0.62	-	26	-
9/08/2011	d	1420	-	-	0.001	-	-	-	0.1	-	0.0001	-	140	-	-	-	0.001	-	-	-	0.001	-	0.001	-	8.8	-	44	-
9/08/2011	s	760	-	-	0.001	-	-	-	0.091	-	0.0001	-	89	-	-	-	0.005	-	-	-	0.001	-	0.001	-	0.32	-	30	-
10/08/2011	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/08/2011	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/11/2011	d	1390	-	-	0.001	-	-	-	0.093	-	0.0001	-	140	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	8.5	-	37	-
10/11/2011	s	710	-	-	0.001	-	-	-	0.07	-	0.0001	-	85	-	0.001	-	0.0039	-	-	-	0.001	-	0.001	-	0.27	-	25	-
23/01/2012	d	1340	-	-	0.0019	-	-	-	0.088	-	0.0001	-	150	-	0.001	-	0.005	-	-	-	0.001	-	0.0011	-	8.3	-	39	-
23/01/2012	s	700	-	-	0.0076	-	-	-	0.073	-	0.0001	-	97	-	0.001	-	0.039	-	-	-	0.0013	-	0.0018	-	8.7	-	29	-
24/05/2012	d	1290	-	-	0.0017	-	-	-	0.092	-	0.0001	-	140	-	0.001	-	0.001	-	-	-	0.001	-	0.008	-	2.1	-	39	-
24/05/2012	s	630	-	-	0.0012	-	-	-	0.077	-	0.0001	-	95	-	0.005	-	0.015	-	-	-	0.001	-	0.001	-	2.1	-	29	-
14/08/2012	d	1070	-	-	0.019	-	-	-	0.065	-	0.0012	-	100	-	0.001	-	0.0042	-	-	-	0.001	-	0.0092	-	8.9	-	26	-
14/08/2012	s	690	-	-	0.03	-	-	-	0.08	-	0.00014	-	90	-	0.001	-	0.046	-	-	-	0.0015	-	0.003	-	8.1	-	27	-
26/10/2012	d	1060	-	-	0.0024	-	-	-	0.079	-	0.0001	-	130	-	0.001	-	0.001	-	-	-	0.001	-	0.007	-	9.8	-	29	-
26/10/2012	s	690	-	-	0.0015	-	-	-	0.086	-	0.0001	-	97	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	1.3	-	29	-
16/01/2013	d	1160	-	-	0.001	-	-	-	0.076	-	0.0001	-	120	-	0.001	-	0.001	-	-	-	0.001	-	0.0025	-	8.2	-	34	-
16/01/2013	s	750	-	-	0.0023	-	-	-	0.081	-	0.0001	-	96	-	0.001	-	0.013	-	-	-	0.001	-	0.001	-	2	-	33	-
9/04/2013	d	1260	-	-	0.001	-	-	-	0.079	-	0.0001	-	120	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	7.7	-	34	-
9/04/2013	s	750	-	-	0.019	-	-	-	0.08	-	0.0001	-	100	-	0.001	-	0.086	-	-	-	0.002	-	0.003	-	13	-	31	-
10/10/2013	d	1150	-	-	0.004	-	-	0.015	0.097	-	<0.0001	-	120	-	<0.001	-	0.003	-	-	-	<0.001	-	0.019	-	4.2	-	33	-
10/10/2013	s	770	-	-	0.045	-	-	0.045	0.1	-	<0.0001	-	1100	-	<0.001	-	0.073	-	-	-	0.001	-	0.022	-	14	-	33	-
9/04/2014	d	1090	-	-	0.002	-	-	-	0.074	-	<0.0001	-	140	-	<0.001	-	0.001	-	0.001	-	<0.001	-	0.007	-	5.6	-	36	-
9/04/2014	s	930	-	-	0.004	-	-	-	0.082	-	<0.0001	-	140	-	<0.001	-	0.029	-	0.029	-	0.001	-	0.002	-	9.1	-	43	-
16/10/2014	d	1210	-	-	0.003	-	-	-	0.076	-	<0.0001	-	130	-	<0.001	<0.001	0.002	-	<0.001	<0.001	0.002	-	0.007	-	7.5	-	36	-
16/10/2014	s	1090	-	-	<0.001	-	-	-	0.091	-	<0.0001	-	130	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	-	0.27	-	42	-
16/04/2015	d	1080	-	-	<0.001	-	-	-	0.067	-	<0.0001	-	130	-	-	<0.001	0.003	-	-	0.003	<0.001	-	0.002	-	7	-	32	-
16/04/2015	s	1260	-	-	0.022	-	-	-	0.098	-	<0.0001	-	150	-	-	<0.001	0.15	-	-	0.15	0.003	-	0.007	-	31	-	45	-
3/09/2015	d	1450	-	-	0.001	-	-	-	0.091	-	<0.0001	-	140	-	-	<0.001	0.011	-	-	0.011	<0.001	-	0.003	-	2.3	-	49	-
3/09/2015	s	1110	-	-	<0.001	-	-	-	0.071	-	<0.0001	-	120	-	-	<0.001	0.002	-	-	0.002	<0.001	-	0.006	-	4	-	33	-
4/09/2015	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4/09/2015	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21/04/2016	d	1040	-	-	0.005	-	-	-	0.11	-	0.0002	-	130	-	-	<0.001	0.002	-	-	<0.001	<0.001	-	0.007	-	3	-	33	-
21/04/2016	s	1480	-	-	0.022	-	-	-	0.13	-	<0.0001	-	170	-	-	<0.001	0.12	-	-	<0.001	0.005	-	0.005	-	32	-	53	-
22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15/09/2016	d	852 - 1070	-	-	-	0.003	-	-	-	0.078	-	<0.0001	-	120	-	<0.001	-	<0.001	-	<0.001	-	<0.001	-	0.004	-	1.1	-	31
15/09/2016	s	1260 - 1590	-	-	-	0.006	-	-	-	0.14	-	<0.0001	-	160	-	0.002	-	0.015	-	0.013	-	0.001	-	0.003	-	4.4	-	52
18/04/2017	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18/04/2017	s	1600	-	-	0.002	-	-	-	0.1	-	<0.0001	-	160	-	0.002	-	0.011	-	0.009	-	<0.001	-	0.001	-	2.3	-	54	-
18/04/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
19/04/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18/05/2017	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26/05/2017	s	1100	-	-	0.004	-	-	-	0.086	-	<0.0001	-	140	-	<0.001	-	<0.001	-	<0.001	-	<0.001	-	<0.001	-	5.9	-	33	-
12/10/2017	d	801 - 1000	-	-	-	0.0006	-	-	-	0.06	-	<0.0001	-	139	<0.001	-	-	0.001	<0.001	-	-	0.0001	-	0.001	-	0.18	-	33.4
12/10/2017	s	1210 - 1700	-	-	-	0.0013	-	-	-	0.08	-	<0.0001	-	155	0.001	-	-	0.003	0.002	-	-	0.0002	-	0.0016	-	0.053	-	51.9
6/04/2018	d	816	-	-	-	<0.0001	-	-	-	0.061	-	<0.0001	-	118	<0.001	-	-	<0.001	<0.001	-	-	0.0001	-	0.0016	-	0.57	-	28.5

Sampled_Date-Time	WellCode	Manganese	Manganese (Filtered)	Mercury	Mercury (Filtered)	Molybdenum	Molybdenum (Filtered)	Nickel	Nickel (Filtered)	Potassium	Potassium (Filtered)	Selenium	Tin	Titanium	Uranium	Vanadium Total	Vanadium Total (Filtered)	Zinc	Acidity (as CaCO3)	Radium-226	Radium-228
		Metals																	Other	Radionuclides	
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mBq/L	mBq/L
EQL		0.001	0.0001	0.00005	0.00001	0.001	0.0001	0.001	0.0005	0.05	0.05					0.001	0.0001				
ANZECC 2000 MW 95%				0.0004	0.0004			0.07	0.07							0.1	0.1	0.015			
1/03/1989	d	-	-	-	-	-	-	-	-	6.2	-	-	-	-	-	-	-	-	-	-	-
1/03/1989	s	-	-	-	-	-	-	-	-	6.2	-	-	-	-	-	-	-	-	-	23	50
1/11/1989	d	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	37	-
1/11/1989	s	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	37	-
1/06/1990	d	0.05	-	-	-	-	-	-	-	6	-	-	-	-	-	0.02	-	-	-	15.2	-
1/06/1990	s	0.05	-	-	-	-	-	-	-	3	-	-	-	-	-	0.02	-	-	-	9.2	-
1/10/1990	d	0.05	-	-	-	-	-	-	-	6.5	-	-	-	-	-	0.02	-	-	-	94	-
1/10/1990	s	0.05	-	-	-	-	-	-	-	6	-	-	-	-	-	0.01	-	-	-	37	-
1/06/1991	d	0.15	-	-	-	-	-	-	-	7	-	-	-	-	-	0.02	-	-	-	15	-
1/06/1991	s	0.1	-	-	-	-	-	-	-	4.3	-	-	-	-	-	0.02	-	-	-	7	-
1/09/1991	d	0.2	-	-	-	-	-	-	-	5.8	-	-	-	-	-	0.02	-	-	-	12.7	-
1/09/1991	s	0.1	-	-	-	-	-	-	-	4.5	-	-	-	-	-	0.02	-	-	-	17	-
1/12/1991	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/07/1992	d	0.05	-	-	-	-	-	-	-	6	-	-	-	-	-	0.2	-	-	-	37	-
1/07/1992	s	0.05	-	-	-	-	-	-	-	4.8	-	-	-	-	-	0.2	-	-	-	37	-
1/10/1992	d	0.2	-	-	-	-	-	-	-	6.3	-	-	-	-	-	0.02	-	-	-	47	-
1/10/1992	s	0.1	-	-	-	-	-	-	-	5.3	-	-	-	-	-	0.02	-	-	-	37	-
1/01/1993	d	0.05	-	-	-	-	-	-	-	2.5	-	-	-	-	-	0.02	-	-	-	37	-
1/01/1993	s	0.05	-	-	-	-	-	-	-	6.9	-	-	-	-	-	0.02	-	-	-	37	-
1/07/1993	d	0.1	-	-	-	-	-	-	-	3.3	-	-	-	-	-	0.05	-	-	-	37	-
1/07/1993	s	0.1	-	-	-	-	-	-	-	7	-	-	-	-	-	0.05	-	-	-	37	-
1/10/1993	d	0.05	-	-	-	-	-	-	-	2.7	-	-	-	-	-	0.1	-	-	-	1	-
1/10/1993	s	0.25	-	-	-	-	-	-	-	6.9	-	-	-	-	-	0.1	-	-	-	22	-
1/01/1994	d	0.05	-	-	-	-	-	-	-	2	-	-	-	-	-	0.05	-	-	-	37	-
1/01/1994	s	0.15	-	-	-	-	-	-	-	6.5	-	-	-	-	-	0.05	-	-	-	37	-
1/07/1994	d	0.05	-	-	-	-	-	-	-	2	-	-	-	-	-	0.1	-	-	-	37	-
1/07/1994	s	0.1	-	-	-	-	-	-	-	7	-	-	-	-	-	0.1	-	-	-	37	-
1/10/1994	d	0.05	-	-	-	-	-	-	-	2.5	-	-	-	-	-	0.1	-	-	-	41	-
1/10/1994	s	0.2	-	-	-	-	-	-	-	7	-	-	-	-	-	0.1	-	-	-	45	-
1/01/1995	d	0.1	-	-	-	-	-	-	-	2.5	-	-	-	-	-	0.1	-	-	-	37	-
1/01/1995	s	0.15	-	-	-	-	-	-	-	9.5	-	-	-	-	-	0.1	-	-	-	37	-
1/07/1995	d	0.05	-	-	-	-	-	-	-	2.2	-	-	-	-	-	0.5	-	-	-	37	-
1/07/1995	s	0.1	-	-	-	-	-	-	-	8	-	-	-	-	-	0.5	-	-	-	44	-
1/10/1995	d	0.05	-	-	-	-	-	-	-	3.7	-	-	-	-	-	0.5	-	-	-	37	-
1/10/1995	s	0.1	-	-	-	-	-	-	-	8.5	-	-	-	-	-	0.5	-	-	-	38	-
1/01/1996	d	0.05	-	-	-	-	-	-	-	1.7	-	-	-	-	-	0.5	-	-	-	37	-
1/01/1996	s	0.15	-	-	-	-	-	-	-	7.1	-	-	-	-	-	0.5	-	-	-	83	-
1/07/1996	s	0.2	-	-	-	-	-	-	-	7	-	-	-	-	-	0.5	-	-	-	30	-
10/07/1996	d	0.05	-	-	-	-	-	-	-	15	-	-	-	-	-	0.5	-	-	-	7	-
22/10/1996	d	0.05	-	-	-	-	-	-	-	24	-	-	-	-	-	0.5	-	-	-	38	-
22/10/1996	s	0.1	-	-	-	-	-	-	-	7	-	-	-	-	-	0.5	-	-	-	50	-
15/01/1997	d	0.05	-	-	-	-	-	-	-	20	-	-	-	-	-	0.5	-	-	-	27	-
15/01/1997	s	0.15	-	-	-	-	-	-	-	5.8	-	-	-	-	-	0.5	-	-	-	49	-
10/04/1997	d	0.2	-	-	-	-	-	-	-	21	-	-	-	-	-	0.5	-	-	-	26	-
10/04/1997	s	0.15	-	-	-	-	-	-	-	5.9	-	-	-	-	-	0.5	-	-	-	35	-
3/07/1997	d	0.05	-	-	-	-	-	-	-	29	-	-	-	-	-	0.5	-	-	-	20	-
3/07/1997	s	0.2	-	-	-	-	-	-	-	7	-	-	-	-	-	0.5	-	-	-	40	-
8/10/1997	d	0.1	-	-	-	-	-	-	-	28	-	-	-	-	-	0.5	-	-	-	10	-
8/10/1997	s	0.15	-	-	-	-	-	-	-	4.7	-	-	-	-	-	0.1	-	-	-	30	-
7/01/1998	s	0.15	-	-	-	-	-	-	-	6.8	-	-	-	-	-	0.5	-	-	-	40	-
1/07/1998	d	0.05	-	-	-	-	-	-	-	23	-	-	-	-	-	0.5	-	-	10	-	-
1/07/1998	s	0.17	-	-	-	-	-	-	-	5	-	-	-	-	-	0.5	-	-	10	-	-
1/10/1998	d	0.05	-	-	-	-	-	-	-	28	-	-	-	-	-	0.2	-	-	10	66	-
1/10/1998	s	0.18	-	-	-	-	-	-	-	5.7	-	-	-	-	-	0.2	-	-	10	26	-
1/02/1999	d	0.05	-	-	-	-	-	-	-	31	-	-	-	-	-	0.2	-	-	10	-	-
1/02/1999	s	0.16	-	-	-	-	-	-	-	5.9	-	-	-	-	-	0.2	-	-	10	-	-
1/05/1999	d	0.01	-	-	-	-	-	-	-	23	-	-	-	-	-	0.2	-	-	10	-	-
1/05/1999	s	0.17	-	-	-	-	-	-	-	5.6	-	-	-	-	-	0.2	-	-	-	-	-
1/10/1999	d	0.18	-	-	-	-	-	-	-	5.7	-	-	-	-	-	0.1	-	-	10	-	-
1/10/1999	s	0.01	-	-	-	-	-	-	-	30	-	-	-	-	-	0.1	-	-	10	-	-
1/02/2000	d	0.16	-	-	-	-	-	-	-	5.7	-	-	-	-	-	0.1	-	-	10	35	308
1/02/2000	s	0.01	-	-	-	-	-	-	-	26	-	-	-	-	-	0.1	-	-	10	19	656
1/06/2000	d	0.16	-	-	-	-	-	-	-	5.7	-	-	-	-	-	0.01	-	-	10	36	703
1/06/2000	s	0.02	-	-	-	-	-	-	-	80	-	-	-	-	-	0.1	-	-	10	15	1045
9/08/2000	d	0.01	-	-	-	-	-	-	-	30	-	-	-	-	-	0.1	-	-	10	215	-
9/08/2000	s	0.11	-	-	-	-	-	-	-	6	-	-	-	-	-	0.1	-	-	10	29	551
30/10/2000	d	0.01	-	-	-	-	-	-	-	61	-	-	-	-	-	0.1	-	-	10	10	-
30/10/2000	s	0.09	-	-	-	-	-	-	-	6	-	-	-	-	-	0.1	-	-	10	27	-
1/02/2001	d	0.02	-	-	-	-	-	-	-	31	-	-	-	-	-	0.1	-	-	10	17	-
1/02/2001	s	0.14	-	-	-	-	-	-	-	5.9	-	-	-	-	-	0.1	-	-	10	16	-
8/05/2001	d	0.01	-	-	-	-	-	-	-	33	-	-	-	-	-	0.1	-	-	10	22	670
8/05/2001	s	0.13	-	-	-	-	-	-	-	8.4	-	-	-	-	-	0.1	-	-	10	29	-
26/07/2001	d	0.01	-	-	-	-	-	-	-	22	-	-	-	-	-	0.1	-	-	5	5	1130
26/07/2001	s	0.13	-	-	-	-	-	-	-	6.3	-	-	-	-	-	0.1	-	-	5	25	-
29/10/2001	d	0.0072	-	-	-	-	-	-	-	31	-	-	-	-	-	0.005	-	-	-	40	70
29/10/2001	s	0.17	-	-	-	-	-	-	-	7	-	-	-	-	-	0.005	-	-	-	70	120
8/02/2002	s	0.16	-	-	-	-	-	-	-	6	-	-	-	-	-	0.05	-	-	-	170	250
18/02/2002	d	0.0072	-	-	-	-	-	-	-	32	-	-	-	-	-	0.05	-	-	-	150	240
15/04/2002	d	0.006	-	-	-	-	-	-	-	28	-	-	-	-	-	0.05	-	-	-	120	110
15/04/2002	s	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	120	120
12/08/2002	d	0.011	-	-	-	-	-	-	-	26	-	-	-	-	-	0.05	-	-	-	140	130
6/11/2002	d	0.019	-	-	-	-	-	-	-	24	-	-	-	-	-	0.005	-	-	-	15	226
6/11/2002	s	0.17	-	-	-	-	-	-	-	6	-	-	-	-	-	0.005	-	-	-	43	-
13/02/2003	d	0.028	-	-	-	-	-	-	-	20	-	-	-	-	-	0.005	-	-	-	7	-
13/02/2003	s	0.16	-	-	-	-	-	-	-	6	-	-	-	-	-	0.005	-	-	-	42	-
30/04/2003	d	0.026	-	-	-	-	-	-	-	22	-	-	-	-	-	0.005	-	-	-	17	-
30/04/2003	s	0.14	-	-	-	-	-	-	-	6	-	-	-	-	-	0.16	-	-	-	25	-
9/08/2003	d	0.033	-	-	-	-	-	-	-	22	-	-	-	-	-	0.005	-	-	-	9	-
9/08/2003	s	0.14	-	-	-	-	-	-	-	5	-	-	-	-	-	0.005	-	-	-	79	-
24/11/2003	d	0.014	-	-	-	-	-	-	-	25	-	-	-	-	-	0.005	-	-	-	11	100
24/11/2003	s	0.14	-	-	-	-	-	-	-	6	-	-	-	-	-	0.005	-	-	-	75	100
10/02/2004	d	0.009	-	-	-	-	-	-	-	29	-	-	-	-	-	0.005	-	-	-	10	213
10/02/2004	s	0.15	-	-	-	-	-	-	-	6	-	-	-	-	-	0.005	-	-	-	24	-
13/05/2004	d	0.007	-	-	-	-	-	-	-	25	-	-	-	-	-	0.005	-	-	-	15	100
14/05/2004	s	0.12	-	-	-	-	-	-	-	5	-	-	-	-	-	0.005	-	-	-	66	100
6/08/2004	d	0.006	-	0.0001	-	-	-	0.005	-	25	-	-	-	-	-	0.005	-	-	-	3	100
6/08/2004	s	0.14	-	0.0001	-	-	-	0.005	-	6	-	-	-	-	-	0.005	-	-	-	-	-
10/11/2004	d	0.006	-	-	-	-	-	0.005	-	10.4	-	-	-	-	-	-	-	-	-	3	100
10/11/2004	s	0.17	-	-	-	-	-	0.005	-	7.9	-	-	-	-	-	-	-	-	-	9	373
16/02/2005	d	0.008	-	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	3	100
16/02/2005	s	0.15	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	16	100
15/04/2005	d	0.16	-	-	-	-	-	-	-	6	-	-	-	-	-	0.0019	-	-	-	37	296
15/04/2005	s	0.056	-	-	-	-	-	-	-	15	-	-	-	-	-	0.0015	-	-	-	4	610
2/08/2005	d	0.13	-	-	-	-	-	-	-	6	-	-	-	-	-	0.001	-	-	1	38	459
2/08/2005	s	0.007	-	-	-	-	-	-	-	17	-	-	-	-	-	0.002	-	-	1	17	503
14/11/2005	d	0.14	-	-	-	-	-	-	-	6	-	-	-	-	-	0.001	-	-	1	40	100
14/11/2005	s	0.009	-	-	-	-	-	-	-	15	-	-	-	-	-	0.001	-	-	1	19	614
15/02/2006	d	-	-	-	-	-	-	0.007	-	-	-	-	-	-	-	-	-	-	-	37	100
15/02/2006	s	-	-	-	-	-	-	0.001	-	-	-	-	-	-	-	-	-	-	-	14	776
18/05/2006	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	94	100
18/05/2006	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	352
17/08/2006	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	74	337
17/08/2006	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	100
31/10/2006	d	-	-	0.0001	-	-	-	0.003	-	6.5	-	-	-	-	-	0.001	-	-	-	47	306
31/10/2006	s	-	-	0.0001	-	-	-	0.001	-	15	-	-	-	-	-	0.002	-	-	-	11	100
8/03/2007	d	-	-	0.0001	-	-	-	0.002	-	8.3	-	-	-	-	-	0.001	-	-	-	3	639
8/03/2007	s	-	-	0.0001	-	-	-	0.001	-	16	-	-	-	-	-	0.001	-	-	-	23	422
19/06/2007	d	0.18	-	0.0001	-	-	-	0.003	-	7.8	-	-	-	-	-	0.001	-	-	1	41	477
19/06/2007	s	0.025	-	0.0001	-	-	-	0.001	-	15	-	-	-	-	-	0.002	-	-	1	14	324
30/08/2007	d	0.23	-	0.0001	-	-	-	0.002	-	6.6	-	-	-	-	-	0.001	-	-	1	-	-
30/08/2007	s	0.021	-	0.0001	-	-	-	0.001	-	11	-	-	-	-	-	0.002	-	-	1	-	-
2/11/2007	d	0.24	-	0.0001	-	-	-	0.002	-	6.4	-	-	-	-	-	0.001	-	-	1	48	611
2/11/2007	s	0.016	-	0.0001	-	-	-	0.001	-	13	-	-	-	-	-	0.002	-	-	1	88	100
2/04/2008	d	0.26	-	0.0001	-	-	-	0.002	-	6.4	-	-	-	-	-	0.001	-	-	1	25	654
2/04/2008	s	0.1	-	0.0001	-	-	-	0.003	-	10	-	-	-	-	-	0.004	-	-	1	16	258
8/07/2008	d	0.29	-	0.0001	-	-	-	0.001	-	7.5	-	-	-	-	-	0.001	-	-	1	100	278
8/07/2008	s	0.14	-	0.0001	-	-	-	0.001	-	12	-	-	-	-	-	0.004	-	-	1	440	420
8/09/2008	d	0.26	-	0.0001	-	-	-	0.001	-	6.9	-	-	-	-	-	0.001	-	-	1	100	100
8/09/2008	s	0.089	-	0.0001	-	-	-	0.001	-	8.9	-	-	-	-	-	0.004	-	-	1	100	240
1/03/2009	d	0.34	-	0.0001	-	-	-	0.003	-	8.1	-	-	-	-	-	0.002	-	-	1	47	173
1/03/2009	s	0.028	-	0.0001	-	-	-	0.001	-	12	-	-	-	-	-	0.002	-	-	1	7	199
1/07/2009	d	0.26	-	0.0001	-	-	-	0.001	-	7	-	-	-	-	-	0.001	-	-	1	216	294
1/07/2009	s	0.037	-	0.0001	-	-	-	0.001	-	10	-	-	-	-	-	0.002	-	-	1	48	100
30/09/2009	d	0.22	-	0.0001	-	-	-	0.002	-	7.7	-	-	-	-	-	0.001	-	-	1	133	572
30/09/2009	s	0.038	-	0.0001	-	-	-	0.001	-	11	-	-	-	-	-	0.002	-	-	1	74	100
18/12/2009	d	0.27	-	0.0001	-	-	-	0.001	-	11	-	-	-	-	-	0.001	-	-	1	53	535
23/12/2009	s	0.046	-	0.0001	-	-	-	0.001	-	14	-	-	-	-	-	0.001	-	-	1	1102	451
16/02/2010	d	0.21	-	0.0001	-	-	-	0.001	-	9.6	-	-	-	-	-	0.001	-	-	1	346	258
16/02/2010	s	0.032	-	0.0001	-	-	-	0.001	-	12	-	-	-	-	-	0.001	-	-	1	83	188
6/05/2010	d	0.27	-	0.0001	-	-	-	0.019	-	8.7	-	-	-	-	-	0.001	-	-	-	74	155
21/05/2010	s	0.028	-	0.0001	-	-	-	0.018	-	14	-	-	-	-	-	0.002	-	-	-	62	143
18/08/2010	d	0.26	-	0.0001	-	-	-	0.001	-	7.9	-	-	-	-	-	0.001	-	-	-	62	168
18/08/2010	s	0.048	-	0.0001	-	-	-	0.001	-	11	-	-	-	-	-	0.002	-	-	-	20	202
25/11/2010	s	0.023	-	0.0001	-	-	-	0.001	-	12	-	-	-	-	-	0.001	-	-	-	10	256
26/11/2010	d	0.3	-	0.0001	-	-	-	0.001	-	8.9	-	-	-	-	-	0.001	-	-	-	43	100
9/02/2011	d	0.28	-	0.0001	-	-	-	0.001	-	11	-	-	-	-	-	0.001	-	-	-	70	100
9/02/2011	s	0.01	-	0.0001	-	-	-	0.001	-	13	-	-	-	-	-	0.001	-	-	-	34	100
11/05/2011	d	0.27	-	0.0001	-	-	-	0.001	-	9.6	-	-	-	-	-	0.001	-	-	-	106	100
11/05/2011	s	0.043	-	0.0001	-	-	-	0.001	-	13	-	-	-	-	-	0.0014	-	-	-	12	162
9/08/2011	d	0.29	-	0.0001	-	-	-	0.001	-	9.5	-	-	-	-	-	0.001	-	-	-	381	160
9/08/2011	s	0.06	-	0.0001	-	-	-	0.001	-	12	-	-	-	-	-	0.001	-	-	-	196	250
10/08/2011	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/08/2011	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10/11/2011	d	0.26	-	0.0001	-	-	-	0.001	-	9.6	-	-	-	-	-	0.001	-	-	-	67	112
10/11/2011	s	0.031	-	0.0001	-	-	-	0.001	-	11	-	-	-	-	-	0.0012	-	-	-	6	206
23/01/2012	d	0.26	-	0.0001	-	<0.001	-	0.001	-	10	-	-	-	-	-	0.001	-	-	-	54	613
23/01/2012	s	0.79	-	0.0001	-	0.001	-	0.0023	-	11	-	-	-	-	-	0.014	-	-	-	31	10
24/05/2012	d	0.17	-	0.0001	-	0.0012	-	0.001	-	11	-	-	-	-	-	0.001	-	-	-	46	100
24/05/2012	s	0.21	-	0.0001	-	<0.001	-	0.0016	-	11	-	-	-	-	-	0.0028	-	-	-	20	100
14/08/2012	d	0.52	-	0.0001	-	-	-	0.0061	-	8.5	-	-	-	-	-	0.0017	-	-	-	33	100
14/08/2012	s	0.7	-	0.0001	-	-	-	0.0031	-	10	-	-	-	-	-	0.016	-	-	-	37	100
26/10/2012	d	0.41	-	0.0001	-	-	-	0.0015	-	10	-	-	-	-	-	0.001	-	-	-	79	100
26/10/2012	s	0.089	-	0.0001	-	-	-	0.0014	-	11	-	-	-	-	-	0.0028	-	-	-	20	100
16/01/2013	d	0.4	-	0.0001	-	-	-	0.001	-	10	-	-	-	-	-	0.001	-	-	-	29	100
16/01/2013	s	0.17	-	0.0001	-	-	-	0.0014	-	11	-	-	-	-	-	0.001	-	-	-	20	100
9/04/2013	d	0.23	-	0.0001	-	-	-	0.001	-	8	-	-	-	-	-	0.001	-	-	-	68	100
9/04/2013	s	0.68	-	0.0001	-	-	-	0.004	-	8.7	-	-	-	-	-	0.026	-	-	-	58	100
10/10/2013	d	0.21	-	<0.0001	-	0.001	-	0.001	-	10	-	<0.001	-	-	-	0.003	-	0.011	-	138	121
10/10/2013	s	0.88	-	0.0001	-	0.001	-	0.005	-	14	-	0.001	-	-	-	0.028	-	0.012	-	132	<100
9/04/2014	d	0.24	-	<0.0001	-	<0.001	-	0.001	-	9.7	-	-	-	-	-	0.001	-	-	-	217	334
9/04/2014	s	0.6	-	<0.0001	-	0.001	-	0.003	-	13	-	-	-	-	-	0.012	-	-	-	103	100
16/10/2014	d	0.33	-	<0.0001	-	<0.001	-	0.003	-	16	-	-	-	-	-	<0.001	-	-	-	182	100
16/10/2014	s	0.11	-	<0.0001	-	0.001	-	0.003	-	23	-	-	-	-	-	0.001	-	-	-	60	100
16/04/2015	d	0.25	-	<0.0001	-	<0.001	-	<0.001	-	11	-	-	-	-	-	0.001	-	-	-	135	100
16/04/2015	s	1.5	-	<0.0001	-	0.001	-	0.006	-	18	-	-	-	-	-	0.054	-	-	-	57	100
3/09/2015	d	0.19	-	<0.0001	-	0.002	-	0.004	-	16	-	-	-	-	-	0.004	-	-	-	-	-
3/09/2015	s	0.28	-	<0.0001	-	<0.001	-	<0.001	-	9.5	-	-	-	-	-	<0.001	-	-	-	-	-
4/09/2015	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	399	<100
4/09/2015	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	240	<100
15/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21/04/2016	d	0.24	-	<0.0001	-	<0.001	-	0.001	-	15	-	-	-	-	-	0.002	-	-	-	-	-
21/04/2016	s	2.4	-	<0.0001	-	0.002	-	0.006	-	28	-	-	-	-	-	0.05	-	-	-	-	-
22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100 - 210	<100
22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	274	<100
15/09/2016	d	-	0.23	-	<0.0001	-	<0.001	-	0.001	-	7.9	-	-	-	-	-	<0.001	-	-	<100	<100
15/09/2016	s	-	0.38	-	<0.0001	-	<0.001	-	0.004	-	14	-	-	-	-	-	0.005	-	-	<100 - 547	<100 - 757
18/04/2017	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<50	<84
18/04/2017	s	0.086	-	<0.0001	-	0.001	-	0.002	-	18	-	-	-	-	-	0.004	-	-	-	-	-
18/04/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	68	71
19/04/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18/05/2017	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
26/05/2017	s	0.3	-	<0.0001	-	<0.001	-	<0.001	-	9.1	-	-	-	-	-	<0.001	-	-	-	-	-
12/10/2017	d	-	0.045	<0.0001	-	-	<0.0001	-	0.0007	-	9	-	-	-	-	-	0.001	-	-	61	<220 - 22
12/10/2017	s	-	0.0093	<0.0001	-	-	0.0008	-	0.0021	-	14.7	-	-	-	-	-	0.0017	-	-	82	<210 - 21
6/04/2018	d	-	0.17	<0.0001	-	-	<0.0005	-	0.0007	-	8.4	-	-	-	-	-	0.0006	-	-	-	-

LocCode	Sampled_Date-Time	WellCode	Carbonate as CaCO3	Carbon	Na/Cl Ratio	Na/Cl Ratio (Filtered)	Na:Cl molar ratio	Na:Cl molar ratio (Filtered)	Nitrogen, nitrate + nitrite fraction by FIA.	Benzene	EC (field)	pH (Field)	Temp (field)
							Inorganic		NITROGEN	BTEX	Field		
			mg/L	mg/L	ratio	ratio	ratio	ratio	mg/L	µg/L	µS/cm	pH	oC
EQL			1		0.01	0.1	0.001	0.1	0.01				
ANZECC 2000 MW 95%										700			
DM1R	6/04/2018	d	-	-	0.9747	-	-	-	-	-	1646	8.32	19.4
DM1R	6/04/2018	s	<1	-	-	-	-	0.8	-	-	-	-	-
DM1R	6/04/2018	s	-	-	0.8261	-	-	-	-	-	2520	8.05	19
DM1R	29/10/2018	d	<1	-	0.7914	-	-	0.8	-	-	1680	7.56	19.5
DM1R	29/10/2018	s	<1	-	0.9185	-	-	0.9	-	-	2780	7.5	19.4
DM1R	16/04/2019	d	-	-	-	-	-	0.9	-	-	3430	7.52	-
DM1R	16/04/2019	s	-	-	-	-	-	1.1	-	-	1778	7.4	-
DM1R	10/10/2019	d	-	-	-	-	-	0.9	-	-	3240	7.26	20
DM1R	10/10/2019	s	-	-	-	-	-	0.9	-	-	1569	7.14	19.3
DM1R	15/04/2020	d	<1	-	-	-	-	0.9	1	-	3030	7.39	-
DM1R	15/04/2020	s	<1	-	-	-	-	1	0.08	-	1374	7.46	-
DM1R	14/10/2020	d	<1	-	-	-	-	-	-	-	2750	7.41	-
DM1R	14/10/2020	s	<1	-	-	-	-	-	-	-	1258	7.34	-

LocCode	Sampled_Date-Time	WellCode	Ammonia as N	Bicarbonate	Bicarbonate as CaCO3	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Chloride	Chloride (Filtered)	EC (laboratory)	pH (laboratory)	Nitrate (as N)	Nitrate as NO3-N	Exchangeable Magnesium	Redox Potential	Salinity	Sodium	Sodium (Filtered)	Sulphate	Sulphate (Filtered)	Sulphide	TDS (evap)	TDS (evap) (Filtered)	Thorium
			Inorganics																					
			µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µS/cm	pH	mg/L	mg/L	mg/L	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L
EQL					1	1	1	0.1	1			0.01	0.2				0.05	0.05	1	5		10		
ANZECC 2000 MW 95%																								
DM1R	6/04/2018	d	-	-	-	-	-	-	-	-	-	-	-	-	-39	821	-	-	-	-	-	-	-	-
DM1R	6/04/2018	s	-	-	-	300	-	-	560	-	-	1.1	-	-	-	-	-	300	-	150	-	1460	-	-
DM1R	6/04/2018	s	-	-	-	-	-	-	-	-	-	-	-	-	-94	1260	-	-	-	-	-	-	-	-
DM1R	29/10/2018	d	-	-	-	320	-	643	-	-	-	0.87	-	-	24	841	-	330	180	-	-	1500	-	-
DM1R	29/10/2018	s	-	-	-	290	-	324	-	-	-	0.63	-	-	-10	1380	-	193	110	-	-	910	-	-
DM1R	16/04/2019	d	-	-	-	-	-	865	-	-	-	2	-	-	16	-	-	487	290	-	-	1720 - 2000	-	-
DM1R	16/04/2019	s	-	-	-	-	-	296	-	-	-	0.07	-	-	-7	-	-	203	140	-	-	888 - 980	-	-
DM1R	10/10/2019	d	-	-	-	-	-	771	-	-	-	1.8	-	-	55	-	-	448	290	-	-	1620 - 1900	-	-
DM1R	10/10/2019	s	-	-	-	-	-	298	-	-	-	0.26	-	-	-94	-	-	182	120	-	-	785 - 940	-	-
DM1R	15/04/2020	d	-	-	-	390	-	744	-	-	-	-	-	-	-65	-	-	415	270	-	-	1510 - 1900	-	-
DM1R	15/04/2020	s	-	-	-	350	-	276	-	-	-	-	-	-	-115	-	-	185	85	-	-	685 - 920	-	-
DM1R	14/10/2020	d	-	-	-	400	-	639	-	-	-	1.8	-	-	72	-	-	400	260	-	-	1370 - 1800	-	-
DM1R	14/10/2020	s	-	-	-	330	-	250	-	-	-	0.04	-	-	72	-	-	168	80	-	-	629 - 850	-	-

LocCode	Sampled_Date-Time	WellCode	Lead Total	Lead Total (Filtered)	Aluminium	Arsenic	Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Calcium	Calcium (Filtered)	Chromium (hexavalent)	Chromium (hexavalent) (Filtered)	Chromium Total	Chromium Total (Filtered)	Chromium (Trivalent)	Chromium (Trivalent) (Filtered)	Cobalt	Cobalt (Filtered)	Copper Total	Copper Total (Filtered)
			Lead		Metals																	
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			0.001	0.0001			0.005	0.005	0.0001	0.0001	0.005	0.005	0.001	0.001	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.0001
ANZECC 2000 MW 95%			0.0044	0.0044					0.0055	0.0055			0.0044	0.0044			0.0274	0.0274	0.001	0.001	0.0013	0.0013
DM1R	6/04/2018	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM1R	6/04/2018	s	-	0.0002	-	-	-	0.097	-	<0.0001	-	148	0.001	-	-	<0.001	<0.001	-	-	0.0016	-	0.0002
DM1R	6/04/2018	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM1R	29/10/2018	d	-	0.0049	-	-	-	0.08	-	<0.0001	-	150	<0.001	-	-	0.0009	<0.001	-	-	0.0008	-	0.0008
DM1R	29/10/2018	s	-	0.0057	-	-	-	0.07	-	<0.0001	-	125	<0.001	-	-	0.0008	<0.001	-	-	0.0001	-	0.0034
DM1R	16/04/2019	d	-	0.0048	-	-	-	0.12	-	<0.0001	-	192	0.001	-	-	0.039	0.024	-	-	0.0017	-	0.0026
DM1R	16/04/2019	s	-	0.0013	-	-	-	0.07	-	<0.0001	-	133	<0.001	-	-	0.0009	<0.001	-	-	0.0002	-	0.0024
DM1R	10/10/2019	d	-	0.0053	-	-	-	0.16	-	<0.0001	-	176	<0.001	-	-	0.036	0.036	-	-	0.0016	-	0.0023
DM1R	10/10/2019	s	-	0.0017	-	-	-	0.088	-	<0.0001	-	122	<0.001	-	-	0.003	0.002	-	-	0.0002	-	0.0015
DM1R	15/04/2020	d	-	0.0064	-	-	-	0.13	-	<0.0001	-	155	<0.001	-	-	0.021	0.021	-	-	0.0008	-	0.0024
DM1R	15/04/2020	s	-	0.0003	-	-	-	0.06	-	<0.0001	-	106	<0.001	-	-	<0.001	<0.001	-	-	<0.0001	-	0.0012
DM1R	14/10/2020	d	-	0.0018	-	-	-	0.12	-	<0.0001	-	160	<0.001	-	-	<0.001	<0.001	-	-	0.0007	-	0.0008
DM1R	14/10/2020	s	-	0.0026	-	-	-	<0.05	-	<0.0001	-	114	<0.001	-	-	<0.001	<0.001	-	-	<0.0001	-	0.0018

LocCode	Sampled_Date-Time	WellCode	Iron	Iron (Filtered)	Magnesium	Magnesium (Filtered)	Manganese	Manganese (Filtered)	Mercury	Mercury (Filtered)	Molybdenum	Molybdenum (Filtered)	Nickel	Nickel (Filtered)	Potassium	Potassium (Filtered)	Selenium	Tin	Titanium	Uranium	Vanadium Total	Vanadium Total (Filtered)	Zinc	Acidity (as CaCO3)	Radium-226	Radium-228
			Metals																					Other	Radionuclides	
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mBq/L	mBq/L
EQL			0.005	0.005	0.005	0.005	0.001	0.0001	0.00005	0.00001	0.001	0.0001	0.001	0.0005	0.05	0.05					0.001	0.0001				
ANZECC 2000 MW 95%									0.0004	0.0004			0.07	0.07							0.1	0.1	0.015			
DM1R	6/04/2018	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	190
DM1R	6/04/2018	s	-	0.016	-	51.7	-	0.72	<0.0001	-	-	0.0013	-	0.0022	-	14.5	-	-	-	-	-	0.0017	-	-	-	-
DM1R	6/04/2018	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	220
DM1R	29/10/2018	d	-	0.46	-	54.5	-	0.21	<0.00005	-	-	0.0009	-	0.0019	-	17	-	-	-	-	-	0.0019	-	-	16	<150
DM1R	29/10/2018	s	-	0.67	-	30	-	0.089	<0.00005	-	-	0.0004	-	0.0011	-	9.2	-	-	-	-	-	0.0012	-	-	42	<200
DM1R	16/04/2019	d	-	6.4	-	70.6	-	0.34	<0.00005	-	-	0.001	-	0.005	-	19.1	-	-	-	-	-	0.019	-	-	<65	36
DM1R	16/04/2019	s	-	2.4	-	31.5	-	0.18	<0.00005	-	-	<0.001	-	0.002	-	9.6	-	-	-	-	-	0.0008	-	-	<36	<250
DM1R	10/10/2019	d	-	6.2	-	62.8	-	0.36	<0.00005	-	-	<0.001	-	0.002	-	16.4	-	-	-	-	-	0.016	-	-	-	-
DM1R	10/10/2019	s	-	7.9	-	30	-	0.28	<0.00005	-	-	<0.001	-	<0.001	-	8.2	-	-	-	-	-	0.0022	-	-	-	-
DM1R	15/04/2020	d	-	3.5	-	58.1	-	0.2	<0.00005	-	-	<0.001	-	0.002	-	16.5	-	-	-	-	-	0.012	-	-	-	-
DM1R	15/04/2020	s	-	1.7	-	29	-	0.21	<0.00005	-	-	<0.001	-	<0.001	-	8.5	-	-	-	-	-	0.0003	-	-	-	-
DM1R	14/10/2020	d	-	1.2	-	59.9	-	0.27	<0.00005	-	-	<0.001	-	0.001	-	17.7	-	-	-	-	-	0.0031	-	-	-	-
DM1R	14/10/2020	s	-	9.4	-	27.9	-	0.21	<0.00005	-	-	<0.001	-	<0.001	-	7.9	-	-	-	-	-	0.0007	-	-	-	-

LocCode	Sampled_Date-Time	WellCode	Carbonate as CaCO3	Carbon	Na/Cl Ratio	Na/Cl Ratio (Filtered)	Na:Cl molar ratio	Na:Cl molar ratio (Filtered)	Nitrogen, nitrate + nitrite fraction by FIA.	Benzene	EC (field)	pH (Field)	Temp (field)	Ammonia as N	Bicarbonate	Bicarbonate as CaCO3	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Chloride	Chloride (Filtered)	EC (laboratory)	pH (laboratory)	Nitrate (as N)	Nitrate as NO3-N	Exchangeable Magnesium	Redox Potential	Salinity	Sodium	Sodium (Filtered)	Sulphate	Sulphate (Filtered)	Sulphide	TDS (evap)	TDS (evap) (Filtered)	Thorium
							Inorganic		NITROGEN	BTEX	Field			Inorganics																					
			mg/L	mg/L	ratio	ratio	ratio	ratio	mg/L	µg/L	µS/cm	pH	oC	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µS/cm	pH	mg/L	mg/L	mg/L	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L
EQL			1		0.01	0.1	0.001	0.1	0.01							1	1	1	0.1	1			0.01	0.2				0.05	0.05	1	5		10		
ANZECC 2000 MW 95%										700																									
DM2R	1/03/1989	s	-	-	0.9817	-	-	-	-	-	1700	8.1	-	-	479	-	-	-	344	-	-	-	-	-	-	-	-	219	-	55	-	-	959	-	-
DM2R	1/08/1989	d	-	-	1.17	-	-	-	-	-	1650	7	-	-	380	-	-	-	290	-	-	-	-	-	-	-	-	220	-	90	-	-	1050	-	-
DM2R	1/08/1989	s	-	-	0.9362	-	-	-	-	-	1000	7.4	-	-	335	-	-	-	140	-	-	-	5	-	-	-	-	85	-	30	-	-	640	-	-
DM2R	1/11/1989	d	-	-	0.7282	-	-	-	-	-	1050	7.6	-	-	320	-	-	-	180	-	-	-	5	-	-	-	-	85	-	30	-	-	740	-	-
DM2R	1/11/1989	s	-	-	0.6439	-	-	-	-	-	3570	6.9	-	-	295	-	-	-	910	-	-	-	2	-	-	-	-	380	-	300	-	-	2280	-	-
DM2R	1/06/1990	d	-	-	0.3771	-	-	-	-	-	3470	7.25	-	-	220	-	-	-	920	-	-	-	5	-	-	-	-	225	-	100	-	-	2220	-	-
DM2R	1/06/1990	s	-	-	0.7019	-	-	-	-	-	2870	6.85	-	-	265	-	-	-	670	-	-	-	4	-	-	-	-	305	-	130	-	-	1840	-	-
DM2R	1/10/1990	d	-	-	0.3129	-	-	-	-	-	11,160	7	-	-	165	-	-	-	3450	-	-	-	6	-	-	-	-	700	-	370	-	-	7030	-	-
DM2R	1/10/1990	s	-	-	0.5275	-	-	-	-	-	3380	7.2	-	-	290	-	-	-	760	-	-	-	3	-	-	-	-	260	-	160	-	-	2160	-	-
DM2R	1/12/1990	d	-	-	0.2945	-	-	-	-	-	11,710	7	-	-	95	-	-	-	4450	-	-	-	-	-	-	-	-	850	-	200	-	-	7400	-	-
DM2R	1/12/1990	s	-	-	0.4859	-	-	-	-	-	4160	7.3	-	-	100	-	-	-	1190	-	-	-	3	-	-	-	-	375	-	100	-	-	2660	-	-
DM2R	1/01/1991	d	-	-	0.3555	-	-	-	-	-	10,400	7.5	-	-	95	-	-	-	3860	-	-	-	3	-	-	-	-	890	-	220	-	-	8900	-	-
DM2R	1/01/1991	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	1/04/1991	d	-	-	0.3684	-	-	-	-	-	6240	7.4	-	-	220	-	-	-	1800	-	-	-	9	-	-	-	-	430	-	160	-	-	3930	-	-
DM2R	1/04/1991	s	-	-	0.703	-	-	-	-	-	1690	7.7	-	-	300	-	-	-	340	-	-	-	7	-	-	-	-	155	-	100	-	-	1080	-	-
DM2R	1/06/1991	d	-	-	0.3194	-	-	-	-	-	14,750	6.7	-	-	200	-	-	-	4200	-	-	-	1	-	-	-	-	870	-	305	-	-	8650	-	-
DM2R	1/06/1991	s	-	-	0.514	-	-	-	-	-	5350	7	-	-	300	-	-	-	1500	-	-	-	2	-	-	-	-	500	-	90	-	-	3300	-	-
DM2R	1/09/1991	d	-	-	0.2853	-	-	-	-	-	11,550	7.4	-	-	255	-	-	-	4000	-	-	-	5	-	-	-	-	740	-	270	-	-	7280	-	-
DM2R	1/09/1991	s	-	-	0.4677	-	-	-	-	-	5210	7.6	-	-	305	-	-	-	1500	-	-	-	4	-	-	-	-	455	-	170	-	-	3280	-	-
DM2R	1/12/1991	d	-	-	0.2757	-	-	-	-	-	9500	7.15	-	-	225	-	-	-	3300	-	-	-	8	-	-	-	-	590	-	150	-	-	5980	-	-
DM2R	1/12/1991	s	-	-	0.293	-	-	-	-	-	6270	7.4	-	-	270	-	-	-	2000	-	-	-	15	-	-	-	-	380	-	130	-	-	3950	-	-
DM2R	1/04/1992	d	-	-	0.1511	-	-	-	-	-	7245	7.2	-	-	175	-	-	-	2500	-	-	-	12	-	-	-	-	245	-	190	-	-	4560	-	-
DM2R	1/04/1992	s	-	-	0.2853	-	-	-	-	-	3440	7.3	-	-	195	-	-	-	1000	-	-	-	16	-	-	-	-	185	-	75	-	-	2200	-	-
DM2R	1/07/1992	d	-	-	0.2765 - 0.2766	-	-	-	-	-	8990	7	-	-	330	-	-	-	2760	-	-	-	4	-	-	-	-	495	-	200	-	-	5660	-	-
DM2R	1/07/1992	s	-	-	0.1227	-	-	-	-	-	6500	7.1	-	-	180	-	-	-	2200	-	-	-	7	-	-	-	-	175	-	15	-	-	4095	-	-
DM2R	1/10/1992	d	-	-	0.3028	-	-	-	-	-	8500	7.1	-	-	255	-	-	-	2750	-	-	-	1	-	-	-	-	540	-	200	-	-	5350	-	-
DM2R	1/10/1992	s	-	-	0.1577	-	-	-	-	-	6000	7.2	-	-	120	-	-	-	2200	-	-	-	7	-	-	-	-	225	-	55	-	-	3780	-	-
DM2R	1/01/1993	d	-	-	0.254	-	-	-	-	-	10,290	7.25	-	-	185	-	-	-	3400	-	-	-	3	-	-	-	-	560	-	470	-	-	6380	-	-
DM2R	1/01/1993	s	-	-	0.1822	-	-	-	-	-	8910	7.25	-	-	130	-	-	-	3300	-	-	-	10	-	-	-	-	390	-	10	-	-	5600	-	-
DM2R	1/04/1993	d	-	-	0.2401	-	-	-	-	-	10,500	7.1	-	-	255	-	-	-	3500	-	-	-	4	-	-	-	-	545	-	300	-	-	6600	-	-
DM2R	1/04/1993	s	-	-	0.23	-	-	-	-	-	11,500	7.2	-	-	230	-	-	-	3050	-	-	-	20	-	-	-	-	455	-	160	-	-	7130	-	-
DM2R	1/07/1993	d	-	-	0.2342	-	-	-	-	-	8640	6.3	-	-	220	-	-	-	2700	-	-	-	5	-	-	-	-	410	-	370	-	-	5440	-	-
DM2R	1/07/1993	s	-	-	0.2432	-	-	-	-	-	8840	6.45	-	-	500	-	-	-	2600	-	-	-	5	-	-	-	-	410	-	350	-	-	5570	-	-
DM2R	1/10/1993	d	-	-	0.2035	-	-	-	-	-	10,500	6.4	-	-	240	-	-	-	2880	-	-	-	1	-	-	-	-	380	-	260	-	-	5500	-	-
DM2R	1/10/1993	s	-	-	0.1866	-	-	-	-	-	9330	6.5	-	-	275	-	-	-	2685	-	-	-	1	-	-	-	-	325	-	210	-	-	5080	-	-
DM2R	1/01/1994	d	-	-	0.2129	-	-	-	-	-	7280	6.6	-	-	235	-	-	-	2390	-	-	-	2	-	-	-	-	330	-	230	-	-	4580	-	-
DM2R	1/01/1994	s	-	-	0.2433	-	-	-	-	-	6780	6.8	-	-	255	-	-	-	2060	-	-	-	4	-	-	-	-	325	-	230	-	-	4270	-	-
DM2R	1/04/1994	s	-	-	0.2521	-	-	-	-	-	5040	7.1	-	-	300	-	-	-	1590	-	-	-	4	-	-	-	-	260	-	130	-	-	3180	-	-
DM2R	1/07/1994	d	-	-	0.2665	-	-	-	-	-	5380	7.7	-	-	270	-	-	-	1620	-	-	-	-	-	-	-	-	280	-	160	-	-	3300	-	-
DM2R	1/07/1994	s	-	-	0.2739	-	-	-	-	-	5150	7.6	-	-	270	-	-	-	1520	-	-	-	1	-	-	-	-	270	-	155	-	-	3200	-	-
DM2R	1/10/1994	d	-	-	0.3284	-	-	-	-	-	3800	7.55	-	-	305	-	-	-	1080	-	-	-	-	-	-	-	-	230	-	130	-	-	2320	-	-
DM2R	1/10/1994	s	-	-	0.2669	-	-	-	-	-	4590	7.55	-	-	280	-	-	-	1300	-	-	-	7	-	-	-	-	225	-	125	-	-	2650	-	-
DM2R	1/01/1995	d	-	-	0.2728	-	-	-	-	-	4200	7.4	-	-	300	-	-	-	1300	-	-	-	8	-	-	-	-	230	-	80	-	-	2600	-	-
DM2R	1/01/1995	s	-	-	0.381	-	-	-	-	-	3100	7.45	-	-	320	-	-	-	850	-	-	-	-	-	-	-	-	210	-	80	-	-	2000	-	-
DM2R	1/04/1995	d	-	-	0.3084	-	-	-	-	-	3700	7.9	-	-	290	-	-	-	1100	-	-	-	-	-	-	-	-	220	-	95	-	-	2300	-	-
DM2R	1/04/1995	s	-	-	0.257	-	-	-	-	-	3900	7.95	-	-	280	-	-	-	1200	-	-	-	1	-	-	-	-	200	-	85	-	-	2400	-	-
DM2R	1/07/1995	d	-	-	0.3504	-	-	-	-	-	3900	7.1	-	-	275	-	-	-	1100	-	-	-	-	-	-	-	-	250	-	110	-	-	2500	-	-
DM2R	1/07/1995	s	-	-	0.2313	-	-	-	-	-	4900	7.1	-	-	235	-	-	-	1400	-	-	-	4	-	-	-	-	210	-	150	-	-	3100	-	-
DM2R	1/10/1995	d	-	-	0.2409	-	-	-	-	-	5400	7.1	-	-	255	-	-	-	1600	-	-	-	-	-	-	-	-	250	-	130	-	-	3400	-	-
DM2R	1/10/1995	s	-	-	0.2024	-	-	-	-	-	5400	7.2	-	-	235	-	-	-	1600	-	-	-	10	-	-	-	-	210	-	110	-	-	3400	-	-
DM2R	1/01/1996	d	-	-	0.1836	-	-	-	-	-	8300	7.8	-	-	220	-	-	-	2100	-	-	-	1	-	-	-	-	250	-	180	-	-	5200	-	-
DM2R	1/01/1996	s	-	-	0.1867	-	-	-	-	-	7300	7.75	-	-	235	-	-	-	1900	-	-	-	13	-	-	-	-	230	-	100	-	-	4600	-	-
DM2R	1/07/1996	d	-	-	0.1619	-	-	-	-	-	6400	7.5	-	-	220	-	-	-	2000	-	-	-	4	-	-	-	-	210	-	160	-	-	3800	-	-
DM2R	1/07/1996	s	-	-	0.09739	-	-	-	-	-	4500	7.4	-	-	260	-	-	-	1900	-	-	-	9	-	-	-	-	120	-	92	-	-	2900	-	-
DM2R	1/10/1996	d	-	-	0.1469	-	-	-	-	-	6800	7.7	-	-	220	-	-	-	2100	-	-	-	-	-	-	-	-	200	-	210	-	-	4300	-	-
DM2R	1/10/1996	s	-	-	0.2621	-	-	-	-	-	3400	7.8	-	-	340	-	-	-	1000	-	-	-	59	-	-	-	-	170	-	73	-	-	2200	-	-
DM2R	1/01/1997	d	-	-	0.2321	-	-	-	-	-	3200	7.4	-	-	240	-	-	-	930	-	-	-	2	-	-	-	-	140	-	180	-	-	1900	-	-
DM2R	1/01/1997	s	-	-	0.8635	-	-	-	-	-	1500	7.5	-	-	300	-	-	-	250	-	-	-	25	-	-	-	-	140	-	83	-	-	770	-	-
DM2R	1/04/1997	d	-	-	1.136	-	-	-	-	-	1500	7.6	-	-	340	-	-	-	190	-	-	-	-	-	-	-	-	140	-	110	-	-	730	-	-
DM2R	1/04/1997	s	-	-	0.7444	-	-	-	-	-	1800	7.5	-	-	310	-	-	-	290	-	-	-	14	-	-	-	-	140	-	100	-	-	830	-	-
DM2R	1/07/1997	d	-	-	1.285	-	-	-	-	-	1200	7.6	-	-	340	-	-	-	180	-	-	-	-	-	-	-	-	150	-	110	-	-	820	-	-
DM2R	1/07/1997	s	-	-	1.051	-	-	-	-	-	1400	7.5	-	-	330	-	-	-	220	-	-	-	11	-	-	-	-	150	-	88	-	-	950	-	-
DM2R	1/10/1997	d	-	-	0.9813	-	-	-	-	-	1400	7.2	-	-	330	-	-	-	220	-	-	-	2	-	-	-	-	140	-	95	-	-	760	-	-
DM2R	1/10/1997	s	-	-	0.4283	-	-	-	-	-	2100	7.1	-	-	360	-	-	-	540	-	-	-	15	-	-	-	-	150	-	62	-	-	1300	-	-
DM2R	1/01/1998	d	-	-	1.371	-	-	-	-	-	1200	6.8	-	-	330	-	-	-	180	-	-	-	-	-	-	-	-	160	-	67	-	-	770	-	-
DM2R	1/01/1998	s	-	-	0.7976	-	-	-	-	-	1700	6.9	-	-	340	-	-	-	290	-	-	-	16	-	-	-	-	150	-	65	-	-	1100	-	-
DM2R	1/07/1998	d	-	-	0.8536	-	-	-	-	-	1330	7.5	-	-	270	-	-	-	280	-	-	-	0.02	-	-	-	-	155	-	110	-	-	1000	-	-
DM2R	1/07/1998	s	-	-	0.629	-	-	-	-	-	1590	7.5	-	-	300	-	-	-	380	-	-	-	1.7	-	-	-	-	155	-	78	-	-	1300	-	-
DM2R	1/10/1998	d	-	-	0.514	-	-	-	-	-	2040	7.3	-	-	270	-	-	-	480	-	-	-	0.2	-	-	-	-	160	-	74	-	-	1400	-	-
DM2R	1/10/1998	s	-	-	0.7959	-	-	-	-	-	1510	7.4	-	-	290	-	-	-	310	-	-	-	0.75	-	-	-	-	160	-	33	-	-	790	-	-
DM2R	1/02/1999	d	-	-	0.6326	-	-	-	-	-	1600	7.5	-	-	280	-	-	-	390	-	-	-	0.2	-	-	-	-	160	-	87	-	-	960	-	-
DM2R	1/02/1999	s	-	-	0.8507	-	-	-	-	-	1300	7.4	-	-	290	-	-	-	290	-	-	-	2	-	-	-	-	160	-	77	-	-	790	-	-
DM2R	1/05/1999	d	-	-	0.4486	-	-	-	-	-	-	-	-	-	270	-	-	-	550	-	-	-	-	-	-	-	-	160	-	190	-	-	-	-	-
DM2R	1/05/1999	s	-	-	0.4819	-	-	-	-	-	-	-	-	-	280	-	-	-	480	-	-	-	-	-	-	-	-	150	-	77	-	-	-	-	-
DM2R	1/08/1999	d	-	-	0.4934	-	-	-	-	-	2100	7	-	-	260	-	-	-	500	-	-	-	0.24	-	-	-	-	160	-	180	-	-	1400	-	-
DM2R	1/08/1999	s	-	-	0.4161	-	-	-	-	-	2500	7.1	-	-	270	-	-	-	630	-	-	-	3.4	-	-	-	-	170	-	110	-	-	1900	-	-
DM2R	1/10/1999	d	-	-	0.392	-	-	-	-	-	2300	7.3	-	-	280	-	-	-	590	-	-	-	0.42	-	-	-	-	150	-	170	-	-	1500	-	-
DM2R	1/10/1999	s	-	-	0.2184	-	-	-	-	-	3500	7.2	-	-	280	-	-	-	1200	-	-	-	0.69	-	-	-	-	170	-	76	-	-	2700	-	-
DM2R	1/02/2000	d	-	-	0.5257	-	-	-	-	-	1900	7.2	-	-	300	-	-	-	440	-	-	-	0.22	-	-	-	-	150	-	160	-	-	1400	-	-
DM2R	1/02/2000	s	-	-	0.4797	-	-	-	-	-	1900	7.2	-	-	310	-	-	-	450	-	-	-	2.3	-	-	-	-	140	-	120	-	-	1400	-	-
DM2R	1/06/2000	d	-	-	0.7196	-	-	-	-	-	1600	7.4	-	-	320	-	-	-	300	-	-	-	0.13	-	-	-	-	140	-	200	-	-	1100	-	-
DM2R	1/06/2000	s	-	-	0.7117	-	-	-	-	-	1400	7.3	-	-	300	-	-	-	260	-	-	-	5	-	-	-	-	120	-	100	-	-	950	-	-
DM2R	9/08/2000	d	-	-	0.4921	-	-	-	-	-	2100	7	-	-	330	-	-	-	470	-	-	-	0.3	-	-	-	-	150	-	240	-	-	1500	-	-
DM2R	9/08/2000	s	-	-	0.771	-	-	-	-	-	1500	7	-	-	320	-	-	-	280	-	-	-	3	-	-	-	-	140	-	77	-	-	990	-	-
DM2R	30/10/2000	d	-	-	0.5782	-	-	-	-	-	1900	7	-	-	340	-	-	-	320	-	-	-	0.35	-	-	-	-	120	-	250	-	-	1300	-	-
DM2R	30/10/2000	s	-	-	0.3525	-	-	-	-	-	2700	7	-	-	270	-	-	-	700	-	-	-	8.5	-	-	-	-	160	-	71	-	-	1800	-	-
DM2R	1/02/2001	d	-	-	0.5681	-	-	-	-	-	1900	7.4	-	-	350	-	-	-	380	-	-	-	0.2	-	-	-	-	140	-	240	-	-	1400	-	-
DM2R	1/02/2001	s	-	-	0.4906	-	-	-	-	-	2000	7.2	-	-	330	-	-	-	440	-	-	-	7	-	-	-	-	140	-	120	-	-	1400	-	-
DM2R	8/05/2001	d	-	-	0.514	-	-	-	-	-	1700	7.9	-	-	320	-	-	-	330	-	-	-	0.01	-	-	-	-	110	-	130	-	-	1200	-	-
DM2R	8/05/2001	s	-	-	0.8045	-	-	-	-	-	1300	8.2	-	-	270	-	-	-	230	-	-	-	1.2	-	-	-	-	120	-	62	-	-	720	-	-
DM2R	26/07/2001	d	-	-	0.6425	-	-	-	-	-	1800	7.1	-	-	320	-	-	-	360	-	-	-	0.01	-	-	-	-	150	-	170	-	-	1300	-	-
DM2R	26/07/2001	s	-	-	0.8303	-	-	-	-	-	1500	7.3	-	-	310	-	-	-	260	-	-	-	0.51	-	-	-	-	140	-	76	-	-	990	-	-
DM2R	29/10/2001	d	-	-	0.514	-	-	-	-	-	2100	7.2	-	-	260	-	-	-	510	-	-	-	8	-	-	-	-	170	-	65	-	-	1900	-	-
DM2R	29/10/2001	s	-	-	0.6964	-	-	-	-	-	1700	7.2	-	-	300	-	-	-	310	-	-	-	1	-	-	-	-	140	-	160	-	-	1300	-	-
DM2R	8/02/2002	d	-	-	0.771	-	-	-	-	-	1700	7.1	-	-	390	-	-	-	300	-	-	-	1	-	-	-	-	150	-	140	-	-	1300	-	-
DM2R	8/02/2002	s	-	-	1.101	-	-	-	-	-	1300	7.3	-	-	320	-	-	-	210	-	-	-	2	-	-	-	-	150	-	61	-	-	840	-	-
DM2R	15/04/2002	d	-	-	0.9386	-	-	-	-	-	1400	7.1	-	-	330	-	-	-	230	-	-	-	0.2	-	-	-	-	140	-	110	-	-	1100	-	-
DM2R	15/04/2002	s	-	-	1.101	-	-	-	-	-	1300	7.2	-	-	290	-	-	-	210	-	-	-	0.6	-	-	-	-	150	-	76	-	-	880	-	-
DM2R	12/08/2002	d	-	-	1.349	-	-	-	-	-	1200	7.9	-	-	310	-	-	-	160	-	-	-	1	-	-	-	-	140	-	87	-	-	760	-	-
DM2R	12/08/2002	s	-	-	0.9362	-	-	-	-	-	1500	8	-	-	300	-	-	-	280	-	-	-	12	-	-	-	-	170	-	58	-	-	890	-	-
DM2R	6/11/2002	d	-	-	1.121	-	-	-	-	-	1300	7.2	-	-	300	-	-	-	220	-	-	-	0.3	-	-	-	-	160	-	92	-	-	670	-	-
DM2R	6/11/2002	s	-	-	0.5825	-	-	-	-	-	1800	7.2	-	-	310	-	-	-	450	-	-	-	1.5	-	-	-	-	170	-	55	-	-	1200	-	-
DM2R	13/02/2003	d	-	-	0.6425	-	-	-	-	-	2200	7.2	-	-	300	-	-	-	360	-	-	-	4	-	-	-	-	150	-	110	-	-	1800	-	-
DM2R	13/02/2003	s	-	-	0.9869	-	-	-	-	-	1700	7.4	-	-	300	-	-	-	250	-	-	-	3	-	-	-	-	160	-	45	-	-	980	-	-
DM2R	30/04/2003	d	-	-	0.3598	-	-	-	-	-	2400	7.2	-	-	300	-	-	-	600	-	-	-	2	-	-	-	-	140	-	140	-	-	1900	-	-
DM2R	30/04/2003	s	-	-	0.3605	-	-	-	-	-	2700	7.3	-	-	260	-	-	-	770	-	-	-	14	-	-	-	-	180	-	60	-	-	2260	-	-
DM2R	9/08/2003	d	-	-	0.3525	-	-	-	-	-	2800	7.1	-	-	320	-	-	-	700	-	-	-	1	-	-	-	-	160	-	180	-	-	1950	-	-
DM2R	9/08/2003	s	-	-	0.2861	-	-	-	-	-	3400	7.2	-	-	300	-	-	-	970	-	-	-	15	-	-	-	-	180	-	130	-	-	2610	-	-
DM2R	24/11/2003	d	-	-	0.2164	-	-	-	-	-	3400	7.2	-	-	290	-	-	-	1140	-	-	-	8	-	-	-	-	160	-	150	-	-	2940	-	-
DM2R	24/11/2003	s	-	-	0.2372	-	-	-	-	-	3200	7.3	-	-	300	-	-	-	1040	-	-	-	19	-	-	-	-	160	-	110	-	-	2880	-	-
DM2R	10/02/2004	d	-	-	0.3576	-	-	-	-	-	2570	7.2	-	-	290	-	-	-	690	-	-	-	1	-	-	-	-	160	-	150	-	-	2320	-	-
DM2R	10/02/2004	s	-	-	0.2325	-	-	-	-	-	3753	7.2	-	-	280	-	-	-	1260	-	-	-	19	-	-	-	-	190	-	80	-	-	3380	-	-
DM2R	14/05/2004	d	-	-	0.2159	-	-	-	-	-	4180	6.8	-	-	260	-	-	-	1500	-	-	-	-	-	-	-	-	210	-	-	-	-	4240	-	-
DM2R	14/05/2004	s	-	-	0.3731	-	-	-	-	-	2580	7.1	-	-	340	-	-	-	620	-	-	-	6	-	-	-	-	150	-	120	-	-	2210	-	-
DM2R	6/08/2004	d	-	-	0.217	-	-	-	-	-	4568	7	-	-	260	-	-	-	1350	-	-	-	8	-	-	-	-	190	-	100	-	-	3600	-	-
DM2R	6/08/2004	s	-	-	0.3855	-	-	-	-	-	2520	7.2	-	-	300	-	-	-	600	-	-	-	1	-	-	-	-	150	-	140	-	-	2100	-	-
DM2R	10/11/2004	d	-	-	0.2024	-	-	-	-	-	4800	7.1	-	-	280	-	-	-	1600	-	-	-	1	-	-	-	-	210	-	210	-	-	4450	-	-
DM2R	10/11/2004	s	-	-	0.2945	-	-	-	-	-	2750	7.3	-	-	320	-	-	-	890	-	-	-	4	-	-	-	-	170	-	130	-	-	2560	-	-
DM2R	16/02/2005	d	-	-	0.1758	-	-	-	-	-	5920	7	-	-	250	-	-	-	1930	-	-	-	1.8	-	-	-	-	220	-	260	-	-	5330	-	-
DM2R	16/02/2005	s	-	-	0.2159	-	-	-	-	-	4673	7.1	-	-	270	-	-	-	1500	-	-	-	1.8	-	-	-	-	210	-	90	-	-	3610	-	-
DM2R	15/04/2005	d	-	-	0.1705	-	-	-	-	-	6860	6.9	-	-	220	-	-	-	2170	-	-	-	1.7	-	-	-	-	240	-	390	-	-	4590	-	-
DM2R	15/04/2005	s	-	-	0.2056	-	-	-	-	-	4710	7.1	-	-	260	-	-	-	1500	-	-	-	2.4	-	-	-	-	200	-	140	-	-	3590	-	-
DM2R	2/08/2005	d	-	-	0.1609	-	-	-	-	-	6820	7	-	-	210	-	-	-	2300	-	-	-	0.9	-	-	-	-	240	-	520	-	-	5700	-	-
DM2R	2/08/2005	s	-	-	0.2056	-	-	-	-	-	5620	7.2	-	-	240	-	-	-	1500	-	-	-	18.5	-	-	-	-	200	-	190	-	-	5200	-	-
DM2R	14/11/2005	d	-	-	0.1609	-	-	-	-	-	7670	7.2	-	-	-	-	-	-	2300	-	-	-	11.5	-	-	-	-	240	-	440	-	-	5840	-	-
DM2R	14/11/2005	s	-	-	0.1628	-	-	-	-	-	6220	7.4	-	-	-	-	-	-	1800	-	-	-	14.8	-	-	-	-	190	-	250	-	-	5130	-	-
DM2R	15/02/2006	d	-	-	0.138	-	-	-	-	-	7553	6.9	-	-	270	-	-	-	2570	-	-	-	4.8	-	-	-	-	230	-	320	-	-	5780	-	-
DM2R	15/02/2006	s	-	-	0.1475	-	-	-	-	-	6622	7	-	-	270	-	-	-	2300	-	-	-	2	-	-	-	-	220	-	300	-	-	4290	-	-
DM2R	18/05/2006	d	-	-	0.1281	-	-	-	-	-	8017	6.9	-	-	-	-	-	-	2890	-	-	-	-	-	-	-	-	240	-	280	-	-	-	-	-
DM2R	18/05/2006	s	-	-	0.1428	-	-	-	-	-	6363	7	-	-	-	-	-	-	2160	-	-	-	-	-	-	-	-	200	-	330	-	-	-	-	-
DM2R	17/08/2006	d	-	-	0.1528	-	-	-	-	-	6585	7	-	-	-	-	-	-	2220	-	-	-	-	-	-	-	-	220	-	280	-	-	-	-	-
DM2R	17/08/2006	s	-	-	0.1647	-	-	-	-	-	6074	7.2	-	-	-	-	-	-	2060	-	-	-	-	-	-	-	-	220	-	250	-	-	-	-	-
DM2R	31/10/2006	d	-	12	0.1627	-	-	-	-	-	6712	7	-	-	-	-	-	-	2180	-	-	-	-	-	-	-	-	230	-	380	-	-	-	-	-
DM2R	31/10/2006	s	-	11	0.1687	-	-	-	-	-	5883	7.1	-	-	-	-	-	-	1920	-	-	-	-	-	-	-	-	210	-	230	-	-	-	-	-
DM2R	8/03/2007	d	-	-	0.1947	-	-	-	-	-	6450	7	-	-	-	-	-	-	1980	-	-	-	-	-	-	-	-	250	-	470	-	-	-	-	-
DM2R	8/03/2007	s	-	-	0.1927	-	-	-	-	-	5090	7.1	-	-	-	-	-	-	1520	-	-	-	-	-	-	-	-	190	-	-	-	-	-	-	-
DM2R	19/06/2007	d	-	-	0.1713	-	-	-	-	-	5870	7.1	-	-	200	-	-	-	1800	-	-	-	2	-	-	-	-	200	-	430	-	-	6410	-	-
DM2R	19/06/2007	s	-	-	0.1898	-	-	-	-	-	4560	7	-	-	250	-	-	-	1300	-	-	-	27.9	-	-	-	-	160	-	230	-	-	4790	-	-
DM2R	30/08/2007	d	-	-	0.1542	-	-	-	-	-	6500	6.9	-	-	190	-	-	-	2100	-	-	-	1.4	-	-	-	-	210	-	430	-	-	4810	-	-
DM2R	30/08/2007	s	-	-	0.1432	-	-	-	-	-	4700	7.1	-	-	210	-	-	-	1400	-	-	-	34	-	-	-	-	130	-	200	-	-	4280	-	-
DM2R	2/11/2007	d	-	-	0.1743	-	-	-	-	-	7525	6.9	-	-	180	-	-	-	2300	-	-	-	2.5	-	-	-	-	260	-	410	-	-	4870	-	-
DM2R	2/11/2007	s	-	-	0.2103	-	-	-	-	-	4380	7.2	-	-	250	-	-	-	1100	-	-	-	14.1	-	-	-	-	150	-	230	-	-	2910	-	-
DM2R	2/04/2008	d	-	-	0.1927	-	-	-	-	-	6786	6.7	-	-	210	-	-	-	2000	-	-	-	11	-	-	-	-	250	-	470	-	-	5290	-	-
DM2R	2/04/2008	s	-	-	0.2467	-	-	-	-	-	4550	7	-	-	230	-	-	-	1250	-	-	-	24	-	-	-	-	200	-	270	-	-	3950	-	-
DM2R	8/07/2008	d	-	-	0.1983	-	-	-	-	-	6410	6.8	-	-	220	-	-	-	2100	-	-	-	1.6	-	-	-	-	270	-	500	-	-	6720	-	-
DM2R	8/07/2008	s	-	-	0.2965	-	-	-	-	-	4360	7.1	-	-	270	-	-	-	1300	-	-	-	13	-	-	-	-	250	-	260	-	-	4270	-	-
DM2R	8/09/2008	d	-	-	0.1935	-	-	-	-	-	6770	6.8	-	-	240	-	-	-	2470	-	-	-	2.6	-	-	-	-	310	-	520	-	-	7060	-	-
DM2R	8/09/2008	s	-	-	0.2441	-	-	-	-	-	4390	6.9	-	-	280	-	-	-	1390	-	-	-	8.9	-	-	-	-	220	-	250	-	-	4320	-	-
DM2R	1/12/2008	d	-	-	0.1863	-	-	-	-	-	7377	6.8	-	-	230	-	-	-	2400	-	-	-	2.1	-	-	-	-	290	-	530	-	-	6170	-	-
DM2R	8/12/2008	s	-	-	0.2364	-	-	-	-	-	4998	6.8	-	-	270	-	-	-	1500	-	-	-	9.8	-	-	-	-	230	-	280	-	-	4260	-	-
DM2R	1/03/2009	d	-	-	0.1927	-	-	-	-	-	7130	7	-	-	220	-	-	-	2400	-	-	-	2.4	-	-	-	-	300	-	420	-	-	7150	-	-
DM2R	1/03/2009	s	-	-	0.2227	-	-	-	-	-	5240	7	-	-	240	-	-	-	1800	-	-	-	20.5	-	-	-	-	260	-	300	-	-	630	-	-
DM2R	1/07/2009	d	-	-	-	-	-	-	-	-	6900	6.8	-	-	240	-	-	-	-	-	-	-	1.4	-	-	-	-	330	-	480	-	-	5700	-	-
DM2R	1/07/2009	s	-	-	0.2424	-	-	-	-	-	5230	6.6	-	-	240	-	-	-	1590	-	-	-	13.9	-	-	-	-	250	-	310	-	-	4420	-	-
DM2R	30/09/2009	d	-	-	-	-	-	-	-	-	7692	6.6	-	-	250	-	-	-	-	-	-	-	2.5	-	-	-	-	290	-	530	-	-	6770	-	-
DM2R	30/09/2009	s	-	-	0.185	-	-	-	-	-	4493	6.9	-	-	260	-	-	-	1500	-	-	-	22	-	-	-	-	180	-	320	-	-	3680	-	-
DM2R	23/12/2009	d	-	-	0.1696	-	-	-	-	-	8580	6.5	-	-	220	-	-	-	3000	-	-	-	4.8	-	-	-	-	330	-	620	-	-	6560	-	-
DM2R	23/12/2009	s	-	-	0.2609 - 0.261	-	-	-	-	-	4230	7.3	-	-	290	-	-	-	1300	-	-	-	5.4	-	-	-	-	220	-	300	-	-	3150	-	-
DM2R	16/02/2010	d	-	-	0.2955	-	-	-	-	-	4060	7.3	-	-	250	-	-	-	1200	-	-	-	0.2	-	-	-	-	230	-	420	-	-	2520	-	-
DM2R	16/02/2010	s	-	-	0.1542	-	-	-	-	-	9460	7.1	-	-	170	-	-	-	3200	-	-	-	0.6	-	-	-	-	320	-	710	-	-	5870	-	-
DM2R	20/05/2010	d	-	-	0.1995 - 0.1996	-	-	-	-	-	5182	7.4	-	-	170	-	-	-	1700	-	-	-	3.7	-	-	-	-	220	-	420	-	-	4790	-	-
DM2R	20/05/2010	s	-	-	0.2313	-	-	-	-	-	6218	7.3	-	-	220	-	-	-	1800	-	-	-	0.6	-	-	-	-	270	-	490	-	-	5380	-	-
DM2R	18/08/2010	d	-	-	0.1967	-	-	-	-	-	9270	7	-	-	240	-	-	-	2900	-	-	-	0.2	-	-	-	-	370	-	600	-	-	7370	-	-
DM2R	18/08/2010	s	-	-	0.2827	-	-	-	-	-	4622	7.2	-	-	290	-	-	-	1200	-	-	-	5.8	-	-	-	-	220	-	300	-	-	3210	-	-
DM2R	25/11/2010	d	-	-	0.2038	-	-	-	-	-	8410	6.93	-	-	240	-	-	-	2800	-	-	-	0.2	-	-	-	-	370	-	580	-	-	7300	-	-
DM2R	25/11/2010	s	-	-	0.257	-	-	-	-	-	4460	7.09	-	-	260	-	-	-	1200	-	-	-	2.4	-	-	-	-	200	-	330	-	-	3530	-	-
DM2R	9/02/2011	d	-	-	0.1942	-	-	-	-	-	8532	6.9	-	-	240	-	-	-	2700	-	-	-	0.8	-	-	-	-	340	-	570	-	-	7160	-	-
DM2R	9/02/2011	s	-	-	0.2313	-	-	-	-	-	4550	7	-	-	240	-	-	-	1400	-	-	-	6.3	-	-	-	-	210	-	290	-	-	3800	-	-
DM2R	11/05/2011	d	-	-	0.1707	-	-	-	-	-	-	7.1	-	-	230	-	-	-	2800	-	-	-	2	-	-	-	-	310	-	510	-	-	6820	-	-
DM2R	11/05/2011	s	-	-	0.1995 - 0.1996	-	-	-	-	-	-	7.2	-	-	230	-	-	-	1700	-	-	-	9.8	-	-	-	-	220	-	280	-	-	4540	-	-
DM2R	9/08/2011	d	-	-	0.1872	-	-	-	-	-	-	6.9	-	-	230	-	-	-	2800	-	-	-	1.5	-	-	-	-	340	-	600	-	-	9710	-	-
DM2R	9/08/2011	s	-	-	0.1995 - 0.1996	-	-	-	-	-	-	7	-	-	220	-	-	-	1700	-	-	-	11	-	-	-	-	220	-	270	-	-	4930	-	-
DM2R	10/08/2011	d	-	-	-	-	-	-	-	-	8750	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	10/08/2011	s	-	-	-	-	-	-	-	-	5899	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	10/11/2011	d	-	-	0.1748	-	-	-	-	-	-	6.9	-	-	250	-	-	-	3000	-	-	-	1.5	-	-	-	-	340	-	640	-	-	6450	-	-
DM2R	10/11/2011	s	-	-	0.1927	-	-	-	-	-	-	7.2	-	-	250	-	-	-	1600	-	-	-	7.5	-	-	-	-	200	-	330	-	-	3820	-	-
DM2R	23/01/2012	d	-	-	0.1752	-	-	-	-	-	7570	6.96	-	-	250	-	-	-	2640	-	-	-	11	-	-	-	-	300	-	588	-	-	7210	-	-
DM2R	23/01/2012	s	-	-	0.2127	-	-	-	-	-	6370	6.83	-	-	270	-	-	-	1450	-	-	-	10	-	-	-	-	200	-	334	-	-	4110	-	-
DM2R	24/05/2012	d	-	-	0.1628	-	-	-	-	-	7501	7.17	-	-	210	-	-	-	1800	-	-	-	0.7	-	-	-	-	190	-	390	-	-	4860	-	-
DM2R	24/05/2012	s	-	-	0.1983	-	-	-	-	-	4690	7.1	-	-	270	-	-	-	1400	-	-	-	0.9	-	-	-	-	180	-	320	-	-	3430	-	-
DM2R	14/08/2012	d	-	-	0.1879	-	-	-	-	-	6520	7.08	-	-	220	-	-	-	1970	-	-	-	6	-	-	-	-	240	-	430	-	-	4590	-	-
DM2R	14/08/2012	s	-	-	0.2491	-	-	-	-	-	4850	7.19	-	-	260	-	-	-	1300	-	-	-	7	-	-	-	-	210	-	275	-	-	3700	-	-
DM2R	26/10/2012	d	-	-	0.1584	-	-	-	-	-	10,260	6.75	-	-	210	-	-	-	3700	-	-	-	0.2	-	-	-	-	380	-	710	-	-	8860	-	-
DM2R	26/10/2012	s	-	-	0.1898	-	-	-	-	-	4520	7.04	-	-	240	-	-	-	1300	-	-	-	1.8	-	-	-	-	160	-	230	-	-	3560	-	-
DM2R	16/01/2013	d	-	-	0.185	-	-	-	-	-	10,280	6.73	21.4	-	210	-	-	-	3500	-	-	-	0.2	-	-	-254	-	420	-	610	-	-	8380	-	-
DM2R	16/01/2013	s	-	-	0.2393	-	-	-	-	-	4780	7.09	20.8	-	250	-	-	-	1160	-	-	-	0.2	-	-	-309	-	180	-	210	-	-	3230	-	-
DM2R	9/04/2013	d	-	-	0.177	-	-	-	-	-	8290	7.04	21.3	-	240	-	-	-	2700	-	-	-	1.9	-	-	-173	-	310	-	470	-	-	7190	-	-
DM2R	9/04/2013	s	-	-	0.1623	-	-	-	-	-	6680	6.96	21.3	-	260	-	-	-	1900	-	-	-	0.3	-	-	-319	-	200	-	360	-	-	5140	-	-
DM2R	10/10/2013	d	-	-	0.1542	-	-	-	-	-	7630	7.07	21.4	9000	-	280	-	-	2400	-	-	-	1	-	-	35	-	240	-	530	-	-	5440	-	-
DM2R	10/10/2013	s	-	-	0.1652	-	-	-	-	-	5230	7.13	21.6	<1000	-	240	-	-	1400	-	-	-	13	-	-	-118	-	150	-	250	-	-	3550	-	-
DM2R	9/04/2014	d	<1	-	0.221	-	-	-	-	-	9340	6.55	20.7	-	300	300	-	-	3000	-	-	-	3	-	750	59.1	-	430	-	740	-	-	8030	-	-
DM2R	9/04/2014	s	<1	-	0.1713	-	-	-	-	-	5800	6.83	21	-	250	250	-	-	1800	-	-	-	34	-	310	46.4	-	200	-	250	-	-	4590	-	-
DM2R	16/10/2014	d	<1	-	0.2227	-	-	-	-	-	8860	6.8	20.8	-	-	250	-	-	2700	-	-	-	-	<0.2	-	-	-	390	-	580	-	-	7400	-	-
DM2R	16/10/2014	s	<1	-	0.2056	-	-	-	-	-	8030	6.78	20.7	-	-	240	-	-	2400	-	-	-	-	2.7	-	-	-	320	-	440	-	-	6990	-	-
DM2R	16/04/2015	d	<1	-	0.2423	-	-	-	-	-	7340	6.77	21.9	-	-	250	-	-	2100	-	-	-	-	2.5	-	-	-	330	-	730	-	-	7170	-	-
DM2R	16/04/2015	s	<1	-	0.1743	-	-	-	-	-	7290	6.75	21.8	-	-	240	-	-	2300	-	-	-	-	3.6	-	-	-	260	-	540	-	-	9080	-	-

LocCode	Sampled_Date-Time	WellCode	Lead Total	Lead Total (Filtered)	Aluminium	Arsenic	Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Calcium	Calcium (Filtered)	Chromium (hexavalent)	Chromium (hexavalent) (Filtered)	Chromium Total	Chromium Total (Filtered)	Chromium (Trivalent)	Chromium (Trivalent) (Filtered)	Cobalt	Cobalt (Filtered)	Copper Total	Copper Total (Filtered)
			Lead		Metals																	
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			0.001	0.0001			0.005	0.005	0.0001	0.0001	0.005	0.005	0.001	0.001	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.0001
ANZECC 2000 MW 95%			0.0044	0.0044					0.0055	0.0055			0.0044	0.0044			0.0274	0.0274	0.001	0.001	0.0013	0.0013
DM2R	1/03/1989	s	-	-	-	-	-	-	-	-	79	-	-	-	-	-	-	-	-	-	-	-
DM2R	1/08/1989	d	-	-	-	-	-	-	-	-	110	-	-	-	-	-	-	-	-	-	-	-
DM2R	1/08/1989	s	-	-	-	-	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-
DM2R	1/11/1989	d	-	-	-	-	-	-	-	-	110	-	-	-	-	-	-	-	-	-	-	-
DM2R	1/11/1989	s	-	-	-	-	-	-	-	-	275	-	-	-	-	-	-	-	-	-	-	-
DM2R	1/06/1990	d	-	-	-	-	-	-	-	-	435	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/06/1990	s	-	-	-	-	-	-	-	-	195	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/10/1990	d	-	-	-	-	-	-	-	-	1400	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/10/1990	s	-	-	-	-	-	-	-	-	270	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/12/1990	d	-	-	-	-	-	-	-	-	1700	-	-	-	-	-	-	-	-	-	-	-
DM2R	1/12/1990	s	-	-	-	-	-	-	-	-	350	-	-	-	-	-	-	-	-	-	-	-
DM2R	1/01/1991	d	-	-	-	-	-	-	-	-	1540	-	-	-	-	-	-	-	-	-	-	-
DM2R	1/01/1991	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	1/04/1991	d	-	-	-	-	-	-	-	-	690	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/04/1991	s	-	-	-	-	-	-	-	-	150	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/06/1991	d	-	-	-	-	-	-	-	-	1650	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/06/1991	s	-	-	-	-	-	-	-	-	465	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/09/1991	d	-	-	-	-	-	-	-	-	1550	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/09/1991	s	-	-	-	-	-	-	-	-	485	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/12/1991	d	-	-	-	-	-	-	-	-	1200	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/12/1991	s	-	-	-	-	-	-	-	-	780	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/04/1992	d	-	-	-	-	-	-	-	-	1170	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/04/1992	s	-	-	-	-	-	-	-	-	385	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/07/1992	d	-	-	-	-	-	-	-	-	1340	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/07/1992	s	-	-	-	-	-	-	-	-	920	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/10/1992	d	-	-	-	-	-	-	-	-	1210	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/10/1992	s	-	-	-	-	-	-	-	-	900	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/01/1993	d	-	-	-	-	-	-	-	-	1490	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/01/1993	s	-	-	-	-	-	-	-	-	1290	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/04/1993	d	-	-	-	-	-	-	-	-	1440	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/04/1993	s	-	-	-	-	-	-	-	-	1815	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/07/1993	d	-	-	-	-	-	-	-	-	1210	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/07/1993	s	-	-	-	-	-	-	-	-	1260	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/10/1993	d	-	-	-	-	-	-	-	-	1205	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/10/1993	s	-	-	-	-	-	-	-	-	1255	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/01/1994	d	-	-	-	-	-	-	-	-	940	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/01/1994	s	-	-	-	-	-	-	-	-	900	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/04/1994	s	-	-	-	-	-	-	-	-	660	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/07/1994	d	-	-	-	-	-	-	-	-	575	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/07/1994	s	-	-	-	-	-	-	-	-	625	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/10/1994	d	-	-	-	-	-	-	-	-	435	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/10/1994	s	-	-	-	-	-	-	-	-	555	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/01/1995	d	-	-	-	-	-	-	-	-	500	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/01/1995	s	-	-	-	-	-	-	-	-	330	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/04/1995	d	-	-	-	-	0.1	-	-	-	400	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/04/1995	s	-	-	-	-	0.1	-	-	-	440	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/07/1995	d	-	-	-	-	0.1	-	-	-	470	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/07/1995	s	-	-	-	-	0.1	-	-	-	600	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/10/1995	d	-	-	-	-	0.05	-	-	-	640	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/10/1995	s	-	-	-	-	0.09	-	-	-	700	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/01/1996	d	-	-	-	-	0.07	-	-	-	820	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/01/1996	s	-	-	-	-	0.11	-	-	-	820	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/07/1996	d	-	-	-	-	0.03	-	-	-	740	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/07/1996	s	-	-	-	-	0.03	-	-	-	600	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/10/1996	d	-	-	-	-	0.1	-	-	-	700	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/10/1996	s	-	-	-	-	0.2	-	-	-	360	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/01/1997	d	-	-	-	-	0.2	-	-	-	280	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/01/1997	s	-	-	-	-	0.1	-	-	-	110	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/04/1997	d	-	-	-	-	0.2	-	-	-	91	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/04/1997	s	-	-	-	-	0.1	-	-	-	140	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/07/1997	d	-	-	-	-	0.18	-	-	-	62	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/07/1997	s	-	-	-	-	0.14	-	-	-	100	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/10/1997	d	-	-	-	-	0.1	-	-	-	78	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/10/1997	s	-	-	-	-	0.1	-	-	-	200	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/01/1998	d	-	-	-	-	0.1	-	-	-	66	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/01/1998	s	-	-	-	-	0.1	-	-	-	140	-	-	-	0.05	-	-	-	-	-	-	-
DM2R	1/07/1998	d	-	-	-	-	0.12	-	-	-	88	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	1/07/1998	s	-	-	-	-	0.12	-	-	-	149	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	1/10/1998	d	-	-	-	-	0.08	-	-	-	190	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	1/10/1998	s	-	-	-	-	0.13	-	-	-	120	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	1/02/1999	d	-	-	-	-	0.05	-	-	-	140	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	1/02/1999	s	-	-	-	-	0.15	-	-	-	96	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	1/05/1999	d	-	-	-	-	0.1	-	-	-	240	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	1/05/1999	s	-	-	-	-	0.1	-	-	-	140	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	1/08/1999	d	-	-	-	-	0.3	-	-	-	170	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	1/08/1999	s	-	-	-	-	0.2	-	-	-	240	-	-	-	0.02	-	-	-	-	-	-	-
DM2R	1/10/1999	d	-	-	-	-	0.2	-	-	-	190	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	1/10/1999	s	-	-	-	-	0.2	-	-	-	330	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	1/02/2000	d	-	-	-	-	0.3	-	-	-	160	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	1/02/2000	s	-	-	-	-	0.2	-	-	-	210	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	1/06/2000	d	-	-	-	-	0.18	-	-	-	120	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	1/06/2000	s	-	-	-	-	0.12	-	-	-	130	-	-	-	0.03	-	-	-	-	-	-	-
DM2R	9/08/2000	d	-	-	-	-	0.41	-	-	-	180	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	9/08/2000	s	-	-	-	-	0.19	-	-	-	140	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	30/10/2000	d	-	-	-	-	0.2	-	-	-	150	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	30/10/2000	s	-	-	-	-	0.1	-	-	-	300	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	1/02/2001	d	-	-	-	-	0.4	-	-	-	150	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	1/02/2001	s	-	-	-	-	0.1	-	-	-	220	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	8/05/2001	d	-	-	-	-	0.2	-	-	-	120	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	8/05/2001	s	-	-	-	-	0.1	-	-	-	92	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	26/07/2001	d	-	-	-	-	0.3	-	-	-	120	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	26/07/2001	s	-	-	-	-	0.1	-	-	-	120	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	29/10/2001	d	-	-	-	-	0.14	-	-	-	190	-	-	-	0.005	-	-	-	-	-	-	-
DM2R	29/10/2001	s	-	-	-	-	0.2	-	-	-	120	-	-	-	0.005	-	-	-	-	-	-	-
DM2R	8/02/2002	d	-	-	-	-	0.14	-	-	-	130	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	8/02/2002	s	-	-	-	-	0.14	-	-	-	110	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	15/04/2002	d	-	-	-	-	0.21	-	-	-	110	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	15/04/2002	s	-	-	-	-	0.13	-	-	-	110	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	12/08/2002	d	-	-	-	-	0.23	-	-	-	71	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	12/08/2002	s	-	-	-	-	0.16	-	-	-	114	-	-	-	0.01	-	-	-	-	-	-	-
DM2R	6/11/2002	d	-	-	-	-	0.18	-	-	-	64	-	-	-	0.005	-	-	-	-	-	-	-
DM2R	6/11/2002	s	-	-	-	-	0.14	-	-	-	127	-	-	-	0.005	-	-	-	-	-	-	-
DM2R	13/02/2003	d	-	-	-	-	0.135	-	-	-	158	-	-	-	0.005	-	-	-	-	-	-	-
DM2R	13/02/2003	s	-	-	-	-	0.114	-	-	-	107	-	-	-	0.005	-	-	-	-	-	-	-
DM2R	30/04/2003	d	-	-	-	-	0.2	-	-	-	190	-	-	-	0.005	-	-	-	-	-	-	-
DM2R	30/04/2003	s	-	-	-	-	0.15	-	-	-	230	-	-	-	0.005	-	-	-	-	-	-	-
DM2R	9/08/2003	d	-	-	-	-	0.19	-	-	-	240	-	-	-	0.005	-	-	-	-	-	-	-
DM2R	9/08/2003	s	-	-	-	-	0.15	-	-	-	370	-	-	-	0.005	-	-	-	-	-	-	-
DM2R	24/11/2003	d	-	-	-	-	0.23	-	-	-	410	-	-	-	0.005	-	-	-	-	-	-	-
DM2R	24/11/2003	s	-	-	-	-	0.24	-	-	-	360	-	-	-	0.005	-	-	-	-	-	-	-
DM2R	10/02/2004	d	-	-	-	-	0.27	-	-	-	180	-	-	-	0.005	-	-	-	-	-	-	-
DM2R	10/02/2004	s	-	-	-	-	0.24	-	-	-	380	-	-	-	0.005	-	-	-	-	-	-	-
DM2R	14/05/2004	d	-	-	-	-	-	-	-	-	470	-	-	-	-	-	-	-	-	-	-	-
DM2R	14/05/2004	s	-	-	-	-	0.23	-	-	-	270	-	-	-	0.005	-	-	-	-	-	-	-
DM2R	6/08/2004	d	0.01	-	-	-	0.24	-	0.002	-	260	-	-	-	0.005	-	-	-	-	-	0.005	-
DM2R	6/08/2004	s	0.01	-	-	-	0.21	-	0.002	-	250	-	-	-	0.005	-	-	-	-	-	0.005	-
DM2R	10/11/2004	d	-	-	-	-	0.23	-	-	-	520	-	-	-	0.005	-	-	-	-	-	-	-
DM2R	10/11/2004	s	-	-	-	-	0.19	-	-	-	230	-	-	-	0.005	-	-	-	-	-	-	-
DM2R	16/02/2005	d	-	-	-	-	0.25	-	-	-	600	-	-	-	0.005	-	-	-	-	-	-	-
DM2R	16/02/2005	s	-	-	-	-	0.24	-	-	-	530	-	-	-	0.005	-	-	-	-	-	-	-
DM2R	15/04/2005	d	-	-	-	-	0.17	-	-	-	780	-	-	-	0.001	-	-	-	-	-	-	-
DM2R	15/04/2005	s	-	-	-	-	0.18	-	-	-	630	-	-	-	0.0049	-	-	-	-	-	-	-
DM2R	2/08/2005	d	-	-	-	-	0.19	-	-	-	660	-	-	-	0.001	-	-	-	-	-	-	-
DM2R	2/08/2005	s	-	-	-	-	0.21	-	-	-	790	-	-	-	0.002	-	-	-	-	-	-	-
DM2R	14/11/2005	d	-	-	-	-	0.23	-	-	-	580	-	-	-	0.001	-	-	-	-	-	-	-
DM2R	14/11/2005	s	-	-	-	-	0.19	-	-	-	700	-	-	-	0.002	-	-	-	-	-	-	-
DM2R	15/02/2006	d	0.0016	-	0.026	-	0.25	-	0.0011	-	1300	-	-	-	0.0026	-	-	-	-	-	0.14	-
DM2R	15/02/2006	s	0.001	-	0.014	-	0.2	-	0.0002	-	750	-	-	-	0.011	-	-	-	-	-	0.043	-
DM2R	18/05/2006	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	18/05/2006	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	17/08/2006	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	17/08/2006	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	31/10/2006	d	0.001	-	0.006	0.011	-	-	0.0001	-	660	-	0.005	-	0.001	-	-	-	0.001	-	0.001	-
DM2R	31/10/2006	s	0.001	-	0.006	0.001	-	-	0.0003	-	660	-	0.005	-	0.003	-	-	-	0.001	-	0.001	-
DM2R	8/03/2007	d	0.001	-	0.013	0.01	-	-	0.0001	-	550	-	0.005	-	0.001	-	-	-	0.002	-	0.001	-
DM2R	8/03/2007	s	0.001	-	0.008	0.001	-	-	0.0001	-	550	-	0.005	-	0.009	-	-	-	0.001	-	0.001	-
DM2R	19/06/2007	d	0.001	-	-	-	0.25	-	0.0001	-	560	-	0	-	0.001	-	-	-	0.002	-	0.001	-
DM2R	19/06/2007	s	0.001	-	-	-	0.23	-	0.0001	-	610	-	-	-	0.015	-	-	-	0.001	-	0.001	-
DM2R	30/08/2007	d	0.001	-	-	-	0.32	-	0.0001	-	590	-	-	-	0.001	-	-	-	0.002	-	0.001	-
DM2R	30/08/2007	s	0.001	-	-	-	0.29	-	0.0001	-	590	-	-	-	0.021	-	-	-	0.001	-	0.001	-
DM2R	2/11/2007	d	0.001	-	-	-	0.24	-	0.0001	-	740	-	-	-	0.001	-	-	-	0.001	-	0.001	-
DM2R	2/11/2007	s	0.001	-	-	-	0.25	-	0.0001	-	510	-	-	-	0.031	-	-	-	0.001	-	0.001	-
DM2R	2/04/2008	d	0.001	-	-	-	0.24	-	0.0001	-	620	-	-	-	0.003	-	-	-	0.001	-	0.002	-
DM2R	2/04/2008	s	0.001	-	-	-	0.25	-	0.0001	-	490	-	-	-	0.1	-	-	-	0.001	-	0.001	-
DM2R	8/07/2008	d	0.001	-	-	-	0.32	-	0.0001	-	650	-	-	-	0.005	-	-	-	0.001	-	0.001	-
DM2R	8/07/2008	s	0.001	-	-	-	0.26	-	0.0001	-	410	-	-	-	0.11	-	-	-	0.001	-	0.001	-
DM2R	8/09/2008	d	0.001	-	-	-	0.34	-	0.0001	-	660	-	-	-	0.014	-	-	-	0.001	-	0.001	-
DM2R	8/09/2008	s	0.001	-	-	-	0.24	-	0.0001	-	460	-	-	-	0.074	-	-	-	0.001	-	0.001	-
DM2R	1/12/2008	d	0.001	-	-	-	0.25	-	0.0001	-	740	-	-	-	0.044	-	-	-	0.001	-	0.001	-
DM2R	8/12/2008	s	0.001	-	-	-	0.23	-	0.0001	-	500	-	-	-	0.025	-	-	-	0.001	-	0.001	-
DM2R	1/03/2009	d	0.001	-	-	-	0.44	-	0.0001	-	840	-	-	-	0.088	-	-	-	0.003	-	0.001	-
DM2R	1/03/2009	s	0.001	-	-	-	0.38	-	0.0001	-	550	-	-	-	0.012	-	-	-	0.002	-	0.001	-
DM2R	1/07/2009	d	0.001	-	-	-	0.28	-	0.0001	-	730	-	0.005	-	0.05	-	-	-	0.002	-	0.001	-
DM2R	1/07/2009	s	0.001	-	-	-	0.23	-	0.0001	-	610	-	0.011	-	0.015	-	-	-	0.001	-	0.001	-
DM2R	30/09/2009	d	0.001	-	-	-	0.35	-	0.0001	-	660	-	0.005	-	0.037	-	-	-	0.002	-	0.001	-
DM2R	30/09/2009	s	0.001	-	-	-	0.3	-	0.0001	-	460	-	0.005	-	0.006	-	-	-	0.001	-	0.001	-
DM2R	23/12/2009	d	0.001	-	-	-	0.2	-	0.0001	-	770	-	-	-	0.023	-	-	-	0.002	-	0.002	-
DM2R	23/12/2009	s	0.001	-	-	-	0.21	-	0.0001	-	400	-	-	-	0.007	-	-	-	0.001	-	0.001	-
DM2R	16/02/2010	d	0.001	-	-	-	0.16	-	0.0001	-	310	-	-	-	0.007	-	-	-	0.001	-	0.001	-
DM2R	16/02/2010	s	0.001	-	-	-	0.25	-	0.0001	-	690	-	-	-	0.007	-	-	-	0.001	-	0.001	-
DM2R	20/05/2010	d	0.001	-	-	-	0.21	-	0.0001	-	460	-	-	-	0.12	-	-	-	0.001	-	0.002	-
DM2R	20/05/2010	s	0.001	-	-	-	0.22	-	0.0001	-	460	-	-	-	0.03	-	-	-	0.001	-	0.002	-
DM2R	18/08/2010	d	0.001	-	-	-	0.23	-	0.0001	-	780	-	0.001	-	0.041	-	-	-	0.001	-	0.001	-
DM2R	18/08/2010	s	0.001	-	-	-	0.15	-	0.0001	-	350	-	0.001	-	0.007	-	-	-	0.001	-	0.001	-
DM2R	25/11/2010	d	0.001	-	-	-	0.25	-	0.0001	-	670	-	0.001	-	0.051	-	-	-	0.001	-	0.001	-
DM2R	25/11/2010	s	0.001	-	-	-	0.17	-	0.0001	-	340	-	0.011	-	0.01	-	-	-	0.001	-	0.001	-
DM2R	9/02/2011	d	0.001	-	-	-	0.22	-	0.0001	-	720	-	0.001	-	0.054	-	-	-	0.001	-	0.001	-
DM2R	9/02/2011	s	0.001	-	-	-	0.16	-	0.0001	-	450	-	0.001	-	0.011	-	-	-	0.001	-	0.001	-
DM2R	11/05/2011	d	0.001	-	-	-	0.25	-	0.0001	-	840	-	-	-	0.0043	-	-	-	0.001	-	0.001	-
DM2R	11/05/2011	s	0.001	-	-	-	0.22	-	0.0001	-	600	-	-	-	0.0064	-	-	-	0.001	-	0.001	-
DM2R	9/08/2011	d	0.001	-	-	-	0.23	-	0.0001	-	820	-	-	-	0.036	-	-	-	0.001	-	0.001	-
DM2R	9/08/2011	s	0.001	-	-	-	0.21	-	0.0001	-	580	-	-	-	0.003	-	-	-	0.001	-	0.001	-
DM2R	10/08/2011	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	10/08/2011	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	10/11/2011	d	0.001	-	-	-	0.21	-	0.0001	-	770	-	0.001	-	0.041	-	-	-	0.001	-	0.001	-
DM2R	10/11/2011	s	0.001	-	-	-	0.17	-	0.0001	-	510	-	0.001	-	0.0019	-	-	-	0.001	-	0.001	-
DM2R	23/01/2012	d	0.001	-	-	-	0.24	-	0.0001	-	760	-	0.1	-	0.1	-	-	-	0.0014	-	0.001	-
DM2R	23/01/2012	s	0.0015	-	-	-	0.19	-	0.0001	-	480	-	0.001	-	0.008	-	-	-	0.001	-	0.001	-
DM2R	24/05/2012	d	0.001	-	-	-	0.24	-	0.0001	-	530	-	0.001	-	0.007	-	-	-	0.001	-	0.0083	-
DM2R	24/05/2012	s	0.001	-	-	-	0.18	-	0.0001	-	410	-	0.033	-	0.038	-	-	-	0.001	-	0.0036	-
DM2R	14/08/2012	d	0.0075	-	-	-	0.31	-	0.00028	-	480	-	0.32	-	0.32	-	-	-	0.001	-	0.0034	-
DM2R	14/08/2012	s	0.014	-	-	-	0.2	-	0.00018	-	480	-	0.001	-	0.051	-	-	-	0.001	-	0.0028	-
DM2R	26/10/2012	d	0.0019	-	-	-	0.2	-	0.0001	-	970	-	0.001	-	0.001	-	-	-	0.001	-	0.0024	-
DM2R	26/10/2012	s	0.0098	-	-	-	0.15	-	0.0001	-	400	-	0.001	-	0.007	-	-	-	0.001	-	0.001	-
DM2R	16/01/2013	d	0.001	-	-	-	0.24	-	0.0001	-	860	-	0.001	-	0.008	-	-	-	0.001	-	0.0026	-
DM2R	16/01/2013	s	0.0024	-	-	-	0.16	-	0.0001	-	400	-	0.001	-	0.01	-	-	-	0.001	-	0.001	-
DM2R	9/04/2013	d	0.001	-	-	-	0.21	-	0.0001	-	640	-	0.01	-	0.087	-	-	-	0.002	-	0.001	-
DM2R	9/04/2013	s	0.001	-	-	-	0.2	-	0.0001	-	450	-	0.001	-	0.002	-	-	-	0.001	-	0.001	-
DM2R	10/10/2013	d	0.007	-	-	0.002	0.33	-	<0.0001	-	640	-	0.1	-	0.13	-	-	-	0.001	-	0.002	-
DM2R	10/10/2013	s	0.007	-	-	0.002	0.21	-	<0.0001	-	470	-	<0.001	-	0.042	-	-	-	0.001	-	0.003	-
DM2R	9/04/2014	d	0.03	-	-	-	0.28	-	0.0001	-	1070	-	0.78	-	1.2	-	0.4	-	0.014	-	0.014	-
DM2R	9/04/2014	s	0.003	-	-	-	0.19	-	<0.0001	-	620	-	0.068	-	0.082	-	0.014	-	<0.001	-	0.002	-
DM2R	16/10/2014	d	0.001	-	-	-	0.29	-	<0.0001	-	730	-	0.39	0.39	0.67	-	0.28	0.28	0.001	-	0.002	-
DM2R	16/10/2014	s	<0.001	-	-	-	0.3	-	<0.0001	-	750	-	0.32	0.32	0.32	-	<0.001	<0.001	0.002	-	0.002	-
DM2R	16/04/2015	d	<0.001	-	-	-	0.25	-	<0.0001	-	630	-	-	0.11	0.13	-	-	0.02	<0.001	-	0.001	-
DM2R	16/04/2015	s	<0.001	-	-	-	0.25	-	<0.0001	-	930	-	-	0.055	0.073	-	-	0.018	<0.001	-	<0.001	-

LocCode	Sampled_Date-Time	WellCode	Iron	Iron (Filtered)	Magnesium	Magnesium (Filtered)	Manganese	Manganese (Filtered)	Mercury	Mercury (Filtered)	Molybdenum	Molybdenum (Filtered)	Nickel	Nickel (Filtered)	Potassium	Potassium (Filtered)	Selenium	Tin	Titanium	Uranium	Vanadium Total	Vanadium Total (Filtered)	Zinc	Acidity (as CaCO3)	Radium-226	Radium-228
			Metals																					Other	Radionuclides	
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mBq/L	mBq/L
EQL			0.005	0.005	0.005	0.005	0.001	0.0001	0.00005	0.00001	0.001	0.0001	0.001	0.0005	0.05	0.05					0.001	0.0001				
ANZECC 2000 MW 95%									0.0004	0.0004			0.07	0.07							0.1	0.1	0.015			
DM2R	1/03/1989	s	-	-	28.6	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	20	-
DM2R	1/08/1989	d	0.05	-	28	-	-	-	-	-	-	-	-	-	6.5	-	-	-	-	-	-	-	-	-	-	-
DM2R	1/08/1989	s	0.05	-	20	-	-	-	-	-	-	-	-	-	2.2	-	-	-	-	-	-	-	-	-	37	-
DM2R	1/11/1989	d	0.05	-	25	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	-	-	-	-	46	-
DM2R	1/11/1989	s	0.05	-	80	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	-	-	-	-	66	-
DM2R	1/06/1990	d	0.05	-	38	-	0.05	-	-	-	-	-	-	-	8	-	-	-	-	-	0.02	-	-	-	25.2	-
DM2R	1/06/1990	s	0.05	-	36.5	-	0.05	-	-	-	-	-	-	-	6	-	-	-	-	-	0.02	-	-	-	8.8	-
DM2R	1/10/1990	d	0.05	-	120	-	0.05	-	-	-	-	-	-	-	15	-	-	-	-	-	0.02	-	-	-	89	150
DM2R	1/10/1990	s	0.05	-	52	-	0.05	-	-	-	-	-	-	-	6	-	-	-	-	-	0.02	-	-	-	37	65
DM2R	1/12/1990	d	0.05	-	130	-	-	-	-	-	-	-	-	-	20	-	-	-	-	-	-	-	-	-	129.1	239.3
DM2R	1/12/1990	s	0.05	-	70	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	18.2	117.2
DM2R	1/01/1991	d	1	-	120	-	-	-	-	-	-	-	-	-	15	-	-	-	-	-	-	-	-	-	-	-
DM2R	1/01/1991	s	-	-	-	-	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	1/04/1991	d	0.05	-	75	-	0.05	-	-	-	-	-	-	-	11.5	-	-	-	-	-	0.05	-	-	-	56	-
DM2R	1/04/1991	s	0.05	-	29.5	-	0.05	-	-	-	-	-	-	-	5.1	-	-	-	-	-	0.04	-	-	-	7.8	-
DM2R	1/06/1991	d	0.05	-	135	-	0.05	-	-	-	-	-	-	-	16	-	-	-	-	-	0.02	-	-	-	93	-
DM2R	1/06/1991	s	0.05	-	87	-	0.05	-	-	-	-	-	-	-	9	-	-	-	-	-	0.02	-	-	-	18	-
DM2R	1/09/1991	d	0.05	-	105	-	0.05	-	-	-	-	-	-	-	13.5	-	-	-	-	-	0.02	-	-	-	98.8	-
DM2R	1/09/1991	s	0.05	-	60	-	0.05	-	-	-	-	-	-	-	7.3	-	-	-	-	-	0.02	-	-	-	19.8	-
DM2R	1/12/1991	d	0.05	-	95	-	0.05	-	-	-	-	-	-	-	20	-	-	-	-	-	0.05	-	-	-	-	-
DM2R	1/12/1991	s	0.05	-	80	-	0.05	-	-	-	-	-	-	-	8	-	-	-	-	-	0.05	-	-	-	-	-
DM2R	1/04/1992	d	0.05	-	125	-	0.05	-	-	-	-	-	-	-	10	-	-	-	-	-	0.02	-	-	-	50	-
DM2R	1/04/1992	s	0.05	-	60	-	0.05	-	-	-	-	-	-	-	7.5	-	-	-	-	-	0.02	-	-	-	19.6	-
DM2R	1/07/1992	d	0.05	-	65	-	0.05	-	-	-	-	-	-	-	14	-	-	-	-	-	0.2	-	-	-	85	-
DM2R	1/07/1992	s	0.05	-	170	-	0.05	-	-	-	-	-	-	-	7.1	-	-	-	-	-	0.2	-	-	-	47	-
DM2R	1/10/1992	d	0.05	-	100	-	0.05	-	-	-	-	-	-	-	12	-	-	-	-	-	0.02	-	-	-	83	-
DM2R	1/10/1992	s	0.05	-	130	-	0.05	-	-	-	-	-	-	-	7.6	-	-	-	-	-	0.02	-	-	-	37	-
DM2R	1/01/1993	d	0.85	-	140	-	0.25	-	-	-	-	-	-	-	12.5	-	-	-	-	-	0.05	-	-	-	100	-
DM2R	1/01/1993	s	0.05	-	225	-	0.05	-	-	-	-	-	-	-	12.5	-	-	-	-	-	0.02	-	-	-	37	-
DM2R	1/04/1993	d	0.75	-	150	-	0.05	-	-	-	-	-	-	-	11.5	-	-	-	-	-	0.1	-	-	-	53	-
DM2R	1/04/1993	s	0.05	-	195	-	0.05	-	-	-	-	-	-	-	11.5	-	-	-	-	-	0.1	-	-	-	37	-
DM2R	1/07/1993	d	1.1	-	150	-	0.05	-	-	-	-	-	-	-	12.5	-	-	-	-	-	0.05	-	-	-	63	-
DM2R	1/07/1993	s	0.2	-	125	-	0.05	-	-	-	-	-	-	-	11.5	-	-	-	-	-	0.05	-	-	-	57	-
DM2R	1/10/1993	d	1.1	-	125	-	0.1	-	-	-	-	-	-	-	9	-	-	-	-	-	0.1	-	-	-	49	-
DM2R	1/10/1993	s	0.05	-	90	-	0.05	-	-	-	-	-	-	-	8.5	-	-	-	-	-	0.1	-	-	-	27	-
DM2R	1/01/1994	d	1.3	-	150	-	0.05	-	-	-	-	-	-	-	9	-	-	-	-	-	0.05	-	-	-	47	-
DM2R	1/01/1994	s	0.05	-	110	-	0.05	-	-	-	-	-	-	-	7.5	-	-	-	-	-	0.05	-	-	-	43	-
DM2R	1/04/1994	s	0.05	-	70	-	0.05	-	-	-	-	-	-	-	7	-	-	-	-	-	0.1	-	-	-	10.6	-
DM2R	1/07/1994	d	0.6	-	140	-	0.05	-	-	-	-	-	-	-	9	-	-	-	-	-	0.1	-	-	-	55	-
DM2R	1/07/1994	s	0.05	-	97	-	0.05	-	-	-	-	-	-	-	7	-	-	-	-	-	0.1	-	-	-	46	-
DM2R	1/10/1994	d	1.75	-	80	-	0.05	-	-	-	-	-	-	-	8.5	-	-	-	-	-	0.1	-	-	-	37	-
DM2R	1/10/1994	s	0.1	-	85	-	0.05	-	-	-	-	-	-	-	7	-	-	-	-	-	0.1	-	-	-	51	-
DM2R	1/01/1995	d	0.35	-	80	-	0.05	-	-	-	-	-	-	-	6.5	-	-	-	-	-	0.1	-	-	-	59	-
DM2R	1/01/1995	s	0.4	-	60	-	0.05	-	-	-	-	-	-	-	7.5	-	-	-	-	-	0.1	-	-	-	37	-
DM2R	1/04/1995	d	1.4	-	65	-	0.05	-	-	-	-	-	-	-	8.5	-	-	-	-	-	0.05	-	-	-	37	-
DM2R	1/04/1995	s	0.15	-	75	-	0.05	-	-	-	-	-	-	-	6.5	-	-	-	-	-	0.05	-	-	-	37	-
DM2R	1/07/1995	d	2	-	75	-	0.1	-	-	-	-	-	-	-	8	-	-	-	-	-	0.5	-	-	-	53	-
DM2R	1/07/1995	s	0.1	-	110	-	0.05	-	-	-	-	-	-	-	6.5	-	-	-	-	-	0.5	-	-	-	37	-
DM2R	1/10/1995	d	5.55	-	120	-	0.15	-	-	-	-	-	-	-	9	-	-	-	-	-	0.5	-	-	-	37	-
DM2R	1/10/1995	s	0.1	-	95	-	0.05	-	-	-	-	-	-	-	8.5	-	-	-	-	-	0.5	-	-	-	44	-
DM2R	1/01/1996	d	4	-	190	-	0.3	-	-	-	-	-	-	-	10	-	-	-	-	-	0.5	-	-	-	67	-
DM2R	1/01/1996	s	0.25	-	130	-	0.05	-	-	-	-	-	-	-	11	-	-	-	-	-	0.5	-	-	-	37	-
DM2R	1/07/1996	d	5.7	-	250	-	0.3	-	-	-	-	-	-	-	13	-	-	-	-	-	0.5	-	-	-	40	-
DM2R	1/07/1996	s		-	150	-	0.05	-	-	-	-	-	-	-	14	-	-	-	-	-	0.5	-	-	-	15	-
DM2R	1/10/1996	d	3.6	-	280	-	0.1	-	-	-	-	-	-	-	8	-	-	-	-	-	0.5	-	-	-	48	-
DM2R	1/10/1996	s	0.2	-	100	-	0.05	-	-	-	-	-	-	-	14	-	-	-	-	-	0.5	-	-	-	34	-
DM2R	1/01/1997	d	0.4	-	130	-	0.05	-	-	-	-	-	-	-	5.2	-	-	-	-	-	0.5	-	-	-	28	-
DM2R	1/01/1997	s	0.05	-	22	-	0.05	-	-	-	-	-	-	-	10	-	-	-	-	-	0.5	-	-	-	4	-
DM2R	1/04/1997	d	0.2	-	41	-	0.05	-	-	-	-	-	-	-	3.8	-	-	-	-	-	0.2	-	-	-	19	-
DM2R	1/04/1997	s	0.05	-	31	-	0.05	-	-	-	-	-	-	-	20	-	-	-	-	-	0.2	-	-	-	17	-
DM2R	1/07/1997	d	0.3	-	33	-	0.05	-	-	-	-	-	-	-	4	-	-	-	-	-	0.5	-	-	-	10	-
DM2R	1/07/1997	s	0.05	-	27	-	0.05	-	-	-	-	-	-	-	20	-	-	-	-	-	0.5	-	-	-	30	-
DM2R	1/10/1997	d	0.7	-	40	-	0.05	-	-	-	-	-	-	-	3.1	-	-	-	-	-	0.1	-	-	-	10	-
DM2R	1/10/1997	s	0.6	-	42	-	0.05	-	-	-	-	-	-	-	30	-	-	-	-	-	0.1	-	-	-	20	-
DM2R	1/01/1998	d	0.2	-	29	-	0.05	-	-	-	-	-	-	-	5	-	-	-	-	-	0.5	-	-	-	10	-
DM2R	1/01/1998	s	0.05	-	25	-	0.05	-	-	-	-	-	-	-	34	-	-	-	-	-	0.5	-	-	-	20	-
DM2R	1/07/1998	d	0.3	-	35	-	0.05	-	-	-	-	-	-	-	10	-	-	-	-	-	0.5	-	-	10	-	-
DM2R	1/07/1998	s	0.1	-	28	-	0.05	-	-	-	-	-	-	-	26	-	-	-	-	-	0.5	-	-	10	-	-
DM2R	1/10/1998	d	1.1	-	48	-	0.05	-	-	-	-	-	-	-	20	-	-	-	-	-	0.2	-	-	10	29	-
DM2R	1/10/1998	s	0.12	-	27	-	0.05	-	-	-	-	-	-	-	28	-	-	-	-	-	0.2	-	-	10	98	-
DM2R	1/02/1999	d	0.8	-	42	-	0.05	-	-	-	-	-	-	-	30	-	-	-	-	-	0.2	-	-	10	-	-
DM2R	1/02/1999	s	0.05	-	30	-	0.02	-	-	-	-	-	-	-	27	-	-	-	-	-	0.2	-	-	10	-	-
DM2R	1/05/1999	d	1.8	-	72	-	0.08	-	-	-	-	-	-	-	34	-	-	-	-	-	0.2	-	-	10	-	-
DM2R	1/05/1999	s	0.01	-	35	-	0.05	-	-	-	-	-	-	-	22	-	-	-	-	-	0.2	-	-	10	-	-
DM2R	1/08/1999	d	1.6	-	81	-	0.05	-	-	-	-	-	-	-	30	-	-	-	-	-	0.5	-	-	10	56	-
DM2R	1/08/1999	s	0.18	-	39	-	0.05	-	-	-	-	-	-	-	28	-	-	-	-	-	0.5	-	-	10	32	-
DM2R	1/10/1999	d	0.06	-	78	-	0.06	-	-	-	-	-	-	-	31	-	-	-	-	-	0.1	-	-	10	-	-
DM2R	1/10/1999	s	0.01	-	98	-	0.01	-	-	-	-	-	-	-	28	-	-	-	-	-	0.1	-	-	10	-	-
DM2R	1/02/2000	d	0.64	-	70	-	0.04	-	-	-	-	-	-	-	30	-	-	-	-	-	0.1	-	-	10	65	300
DM2R	1/02/2000	s	0.12	-	42	-	0.01	-	-	-	-	-	-	-	31	-	-	-	-	-	0.1	-	-	10	22	-
DM2R	1/06/2000	d	0.21	-	62	-	0.05	-	-	-	-	-	-	-	29	-	-	-	-	-	0.1	-	-	10	32	594
DM2R	1/06/2000	s	0.3	-	26	-	0.01	-	-	-	-	-	-	-	33	-	-	-	-	-	0.1	-	-	10	25	-
DM2R	9/08/2000	d	2	-	100	-	0.05	-	-	-	-	-	-	-	27	-	-	-	-	-	0.1	-	-	10	39	772
DM2R	9/08/2000	s	-	-	28	-	0.01	-	-	-	-	-	-	-	27	-	-	-	-	-	0.1	-	-	10	20	-
DM2R	30/10/2000	d	-	-	68	-	0.03	-	-	-	-	-	-	-	21	-	-	-	-	-	0.1	-	-	10	19	-
DM2R	30/10/2000	s	-	-	55	-	0.01	-	-	-	-	-	-	-	21	-	-	-	-	-	0.1	-	-	10	34	55
DM2R	1/02/2001	d	1.4	-	94	-	0.05	-	-	-	-	-	-	-	28	-	-	-	-	-	0.1	-	-	10	27	-
DM2R	1/02/2001	s	0.1	-	37	-	0.01	-	-	-	-	-	-	-	27	-	-	-	-	-	0.1	-	-	10	12	-
DM2R	8/05/2001	d	1.2	-	62	-	0.03	-	-	-	-	-	-	-	36	-	-	-	-	-	0.1	-	-	10	26	-
DM2R	8/05/2001	s	0.12	-	17	-	0.01	-	-	-	-	-	-	-	30	-	-	-	-	-	0.1	-	-	10	14	-
DM2R	26/07/2001	d	1.4	-	71	-	0.03	-	-	-	-	-	-	-	24	-	-	-	-	-	0.1	-	-	5	26	-
DM2R	26/07/2001	s	0.14	-	23	-	0.01	-	-	-	-	-	-	-	27	-	-	-	-	-	0.1	-	-	5	21	-
DM2R	29/10/2001	d	0.4	-	43	-	0.005	-	-	-	-	-	-	-	34	-	-	-	-	-	0.005	-	-	-	40	70
DM2R	29/10/2001	s	0.8	-	71	-	0.03	-	-	-	-	-	-	-	26	-	-	-	-	-	0.005	-	-	-	70	80
DM2R	8/02/2002	d	0.9	-	80	-	0.038	-	-	-	-	-	-	-	24	-	-	-	-	-	0.05	-	-	-	170	250
DM2R	8/02/2002	s	0.2	-	25	-	0.012	-	-	-	-	-	-	-	37	-	-	-	-	-	0.05	-	-	-	120	110
DM2R	15/04/2002	d	0.4	-	50	-	0.031	-	-	-	-	-	-	-	25	-	-	-	-	-	0.05	-	-	-	120	110
DM2R	15/04/2002	s	0.1	-	23	-	0.005	-	-	-	-	-	-	-	25	-	-	-	-	-	0.05	-	-	-	130	110
DM2R	12/08/2002	d	0.5	-	39	-	0.022	-	-	-	-	-	-	-	23	-	-	-	-	-	0.05	-	-	-	140	130
DM2R	12/08/2002	s	0.1	-	26	-	0.005	-	-	-	-	-	-	-	36	-	-	-	-	-	0.05	-	-	-	140	130
DM2R	6/11/2002	d	0.1	-	35	-	0.0017	-	-	-	-	-	-	-	23	-	-	-	-	-	0.005	-	-	-	22	180
DM2R	6/11/2002	s	0.1	-	36	-	0.007	-	-	-	-	-	-	-	35	-	-	-	-	-	0.005	-	-	-	20	273
DM2R	13/02/2003	d	1.6	-	86	-	0.026	-	-	-	-	-	-	-	24	-	-	-	-	-	0.005	-	-	-	55	-
DM2R	13/02/2003	s	0.1	-	29	-	0.0035	-	-	-	-	-	-	-	31	-	-	-	-	-	0.005	-	-	-	35	-
DM2R	30/04/2003	d	0.1	-	80	-	0.031	-	-	-	-	-	-	-	38	-	-	-	-	-	0.005	-	-	-	37	-
DM2R	30/04/2003	s	0.1	-	42	-	0.003	-	-	-	-	-	-	-	45	-	-	-	-	-	0.005	-	-	-	33	-
DM2R	9/08/2003	d	0.1	-	110	-	0.034	-	-	-	-	-	-	-	41	-	-	-	-	-	0.005	-	-	-	27	-
DM2R	9/08/2003	s	0.05	-	63	-	0.004	-	-	-	-	-	-	-	38	-	-	-	-	-	0.005	-	-	-	23	-
DM2R	24/11/2003	d	1.5	-	96	-	0.065	-	-	-	-	-	-	-	43	-	-	-	-	-	0.005	-	-	-	32	170
DM2R	24/11/2003	s	0.17	-	76	-	0.008	-	-	-	-	-	-	-	42	-	-	-	-	-	0.005	-	-	-	-	-
DM2R	10/02/2004	d	1.8	-	98	-	0.044	-	-	-	-	-	-	-	31	-	-	-	-	-	0.005	-	-	-	39	-
DM2R	10/02/2004	s	0.1	-	100	-	0.009	-	-	-	-	-	-	-	37	-	-	-	-	-	0.005	-	-	-	16	522
DM2R	14/05/2004	d	-	-	150	-	-	-	-	-	-	-	-	-	30	-	-	-	-	-	-	-	-	-	48	130
DM2R	14/05/2004	s	0.1	-	82	-	0.005	-	-	-	-	-	-	-	24	-	-	-	-	-	0.005	-	-	-	17	530
DM2R	6/08/2004	d	1.6	-	170	-	0.087	-	0.0001	-	-	-	0.005	-	24	-	-	-	-	-	0.005	-	-	-	59	915
DM2R	6/08/2004	s	0.1	-	93	-	0.004	-	0.0001	-	-	-	0.005	-	25	-	-	-	-	-	0.005	-	-	-	8	333
DM2R	10/11/2004	d	1.3	-	170	-	0.11	-	-	-	-	-	0.005	-	34	-	-	-	-	-	-	-	-	-	43	627
DM2R	10/11/2004	s	0.032	-	66	-	0.005	-	-	-	-	-	0.005	-	22	-	-	-	-	-	-	-	-	-	25	237
DM2R	16/02/2005	d	1.6	-	260	-	0.16	-	-	-	-	-	-	-	32	-	-	-	-	-	-	-	-	-	32	425
DM2R	16/02/2005	s	0.011	-	110	-	0.001	-	-	-	-	-	-	-	27	-	-	-	-	-	-	-	-	-	15	100
DM2R	15/04/2005	d	4	-	340	-	0.21	-	-	-	-	-	-	-	38	-	-	-	-	-	0.0083	-	-	-	55	508
DM2R	15/04/2005	s	0.088	-	110	-	0.0047	-	-	-	-	-	-	-	28	-	-	-	-	-	0.0066	-	-	-	40	213
DM2R	2/08/2005	d	2.2	-	530	-	0.34	-	-	-	-	-	-	-	37	-	-	-	-	-	0.067	-	-	1	42	100
DM2R	2/08/2005	s	0.029	-	190	-	0.001	-	-	-	-	-	-	-	26	-	-	-	-	-	0.001	-	-	1	54	100
DM2R	14/11/2005	d	3.5	-	500	-	0.33	-	-	-	-	-	-	-	35	-	-	-	-	-	0.001	-	-	1	69	548
DM2R	14/11/2005	s	0.035	-	210	-	0.001	-	-	-	-	-	-	-	24	-	-	-	-	-	0.001	-	-	1	24	387
DM2R	15/02/2006	d	1.1	-	385	-	0.14	-	-	-	-	-	0.011	-	-	-	-	-	-	-	0.001	-	-	1	61	490
DM2R	15/02/2006	s	0.1	-	162	-	0.0039	-	-	-	-	-	0.004	-	-	-	-	-	-	-	0.0012	-	-	1	48	100
DM2R	18/05/2006	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	56	100
DM2R	18/05/2006	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	73	305
DM2R	17/08/2006	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39	100
DM2R	17/08/2006	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	100
DM2R	31/10/2006	d	2.1	-	380	-	-	-	0.0001	-	-	-	0.003	-	27	-	-	-	-	-	0.002	-	-	-	54	408
DM2R	31/10/2006	s	0.031	-	270	-	-	-	0.0001	-	-	-	0.003	-	23	-	-	-	-	-	0.002	-	-	-	34	100
DM2R	8/03/2007	d	1.8	-	390	-	-	-	0.0001	-	-	-	0.002	-	25	-	-	-	-	-	0.001	-	-	-	3	100
DM2R	8/03/2007	s	0.03	-	170	-	-	-	0.0001	-	-	-	0.001	-	23	-	-	-	-	-	0.001	-	-	-	17	208
DM2R	19/06/2007	d	1.8	-	400	-	0.14	-	0.0001	-	-	-	0.003	-	23	-	-	-	-	-	0.001	-	-	1	42	471
DM2R	19/06/2007	s	0.089	-	190	-	0.004	-	0.0001	-	-	-	0.001	-	20	-	-	-	-	-	0.001	-	-	1	21	582
DM2R	30/08/2007	d	2.5	-	520	-	0.2	-	0.0001	-	-	-	0.001	-	19	-	-	-	-	-	0.001	-	-	1	-	-
DM2R	30/08/2007	s	0.025	-	240	-	0.001	-	0.0001	-	-	-	0.001	-	14	-	-	-	-	-	0.001	-	-	1	-	-
DM2R	2/11/2007	d	1.5	-	490	-	0.15	-	0.0001	-	-	-	0.002	-	21	-	-	-	-	-	0.001	-	-	1	51	100
DM2R	2/11/2007	s	0.012	-	190	-	0.001	-	0.0001	-	-	-	0.002	-	15	-	-	-	-	-	0.002	-	-	1	14	242
DM2R	2/04/2008	d	1.9	-	410	-	0.14	-	0.0001	-	-	-	0.002	-	16	-	-	-	-	-	0.001	-	-	1	35	100
DM2R	2/04/2008	s	0.11	-	210	-	0.005	-	0.0001	-	-	-	0.001	-	14	-	-	-	-	-	0.002	-	-	1	36	446
DM2R	8/07/2008	d	1.8	-	460	-	0.15	-	0.0001	-	-	-	0.001	-	17	-	-	-	-	-	0.001	-	-	1	345	463
DM2R	8/07/2008	s	0.054	-	250	-	0.006	-	0.0001	-	-	-	0.002	-	16	-	-	-	-	-	0.001	-	-	1	-	-
DM2R	8/09/2008	d	1.8	-	560	-	0.11	-	0.0001	-	-	-	0.002	-	19	-	-	-	-	-	0.001	-	-	1	100	100
DM2R	8/09/2008	s	0.051	-	260	-	0.005	-	0.0001	-	-	-	0.002	-	15	-	-	-	-	-	0.001	-	-	1	100	283
DM2R	1/12/2008	d	1.4	-	450	-	0.093	-	0.0001	-	-	-	0.001	-	14	-	-	-	-	-	0.001	-	-	1	3	100
DM2R	8/12/2008	s	0.061	-	250	-	0.006	-	0.0001	-	-	-	0.001	-	14	-	-	-	-	-	0.001	-	-	1	3	487
DM2R	1/03/2009	d	0.87	-	370	-	0.046	-	0.0001	-	-	-	0.001	-	17	-	-	-	-	-	0.002	-	-	1	19	324
DM2R	1/03/2009	s	0.081	-	280	-	0.007	-	0.0001	-	-	-	0.001	-	15	-	-	-	-	-	0.002	-	-	1	11	100
DM2R	1/07/2009	d	1.4	-	430	-	0.055	-	0.0001	-	-	-	0.001	-	14	-	-	-	-	-	0.001	-	-	1	90	270
DM2R	1/07/2009	s	0.11	-	240	-	0.006	-	0.0001	-	-	-	0.001	-	12	-	-	-	-	-	0.002	-	-	1	19	285
DM2R	30/09/2009	d	1.2	-	520	-	0.059	-	0.0001	-	-	-	0.002	-	15	-	-	-	-	-	0.002	-	-	1	41	187
DM2R	30/09/2009	s	0.19	-	220	-	0.004	-	0.0001	-	-	-	0.002	-	14	-	-	-	-	-	0.002	-	-	1	28	239
DM2R	23/12/2009	d	1.6	-	620	-	0.041	-	0.0001	-	-	-	0.001	-	23	-	-	-	-	-	0.001	-	-	1	74	271
DM2R	23/12/2009	s	0.095	-	200	-	0.004	-	0.0001	-	-	-	0.001	-	18	-	-	-	-	-	0.001	-	-	1	21	747
DM2R	16/02/2010	d	0.13	-	210	-	0.007	-	0.0001	-	-	-	0.001	-	15	-	-	-	-	-	0.002	-	-	1	88	416
DM2R	16/02/2010	s	1.8	-	610	-	0.056	-	0.0001	-	-	-	0.002	-	19	-	-	-	-	-	0.002	-	-	1	54	464
DM2R	20/05/2010	d	0.02	-	310	-	0.002	-	0.0001	-	-	-	0.003	-	19	-	-	-	-	-	0.003	-	-	-	3	120
DM2R	20/05/2010	s	0.14	-	400	-	0.008	-	0.0001	-	-	-	0.028	-	15	-	-	-	-	-	0.001	-	-	-	470	361
DM2R	18/08/2010	d	1.1	-	590	-	0.033	-	0.0001	-	-	-	0.002	-	18	-	-	-	-	-	0.001	-	-	-	76	100
DM2R	18/08/2010	s	0.038	-	230	-	0.007	-	0.0001	-	-	-	0.001	-	15	-	-	-	-	-	0.002	-	-	-	65	100
DM2R	25/11/2010	d	1.1	-	560	-	0.033	-	0.0001	-	-	-	0.001	-	20	-	-	-	-	-	0.001	-	-	-	80	100
DM2R	25/11/2010	s	0.026	-	230	-	0.007	-	0.0001	-	-	-	0.002	-	15	-	-	-	-	-	0.002	-	-	-	137	190
DM2R	9/02/2011	d	0.91	-	520	-	0.031	-	0.0001	-	-	-	0.002	-	20	-	-	-	-	-	0.001	-	-	-	36	100
DM2R	9/02/2011	s	0.061	-	240	-	0.008	-	0.0001	-	-	-	0.005	-	16	-	-	-	-	-	0.001	-	-	-	454	100
DM2R	11/05/2011	d	1.2	-	530	-	0.003	-	0.0001	-	-	-	0.001	-	19	-	-	-	-	-	0.001	-	-	-	82	100
DM2R	11/05/2011	s	0.1	-	280	-	0.0083	-	0.0001	-	-	-	0.0017	-	16	-	-	-	-	-	0.001	-	-	-	53	100
DM2R	9/08/2011	d	1.2	-	570	-	0.026	-	0.0001	-	-	-	0.001	-	19	-	-	-	-	-	0.001	-	-	-	34	211
DM2R	9/08/2011	s	0.15	-	280	-	0.008	-	0.0001	-	-	-	0.001	-	15	-	-	-	-	-	0.001	-	-	-	20	100
DM2R	10/08/2011	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	10/08/2011	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	10/11/2011	d	1	-	570	-	0.029	-	0.0001	-	-	-	0.0011	-	20	-	-	-	-	-	0.001	-	-	-	136	380
DM2R	10/11/2011	s	0.22	-	220	-	0.0084	-	0.0001	-	-	-	0.001	-	15	-	-	-	-	-	0.001	-	-	-	7	113
DM2R	23/01/2012	d	0.42	-	570	-	0.044	-	0.0001	-	0.0017	-	0.0014	-	20	-	-	-	-	-	0.002	-	-	-	79	100
DM2R	23/01/2012	s	0.32	-	260	-	0.014	-	0.0001	-	0.0036	-	0.0017	-	15	-	-	-	-	-	0.002	-	-	-	11	139
DM2R	24/05/2012	d	0.14	-	360	-	0.016	-	0.0001	-	0.0011	-	0.0032	-	21	-	-	-	-	-	0.0011	-	-	-	94	249
DM2R	24/05/2012	s	0.086	-	260	-	0.011	-	0.0001	-	0.0043	-	0.0015	-	16	-	-	-	-	-	0.0011	-	-	-	31	100
DM2R	14/08/2012	d	0.16	-	410	-	0.0097	-	0.0001	-	-	-	0.0015	-	18	-	-	-	-	-	0.0031	-	-	-	55	100
DM2R	14/08/2012	s	0.96	-	210	-	0.025	-	0.0001	-	-	-	0.0021	-	17	-	-	-	-	-	0.0062	-	-	-	81	635
DM2R	26/10/2012	d	2.1	-	740	-	0.045	-	0.0001	-	-	-	0.001	-	28	-	-	-	-	-	0.0017	-	-	-	101	278
DM2R	26/10/2012	s	2.4	-	240	-	0.058	-	0.0001	-	-	-	0.0027	-	15	-	-	-	-	-	0.02	-	-	-	30	209
DM2R	16/01/2013	d	1.8	-	740	-	0.036	-	0.0001	-	-	-	0.005	-	26	-	-	-	-	-	0.001	-	-	-	40	100
DM2R	16/01/2013	s	0.6	-	280	-	0.034	-	0.0001	-	-	-	0.001	-	17	-	-	-	-	-	0.001	-	-	-	13	100
DM2R	9/04/2013	d	0.33	-	520	-	0.041	-	0.0001	-	-	-	0.001	-	16	-	-	-	-	-	0.001	-	-	-	42	100
DM2R	9/04/2013	s	0.12	-	360	-	0.08	-	0.0001	-	-	-	0.001	-	13	-	-	-	-	-	0.002	-	-	-	32	100
DM2R	10/10/2013	d	0.61	-	360	-	0.19	-	<0.0001	-	0.001	-	0.004	-	18	-	0.003	-	-	-	0.026	-	0.034	-	52	<100
DM2R	10/10/2013	s	2.6	-	200	-	0.33	-	<0.0001	-	0.004	-	0.005	-	15	-	0.003	-	-	-	0.056	-	0.13	-	47	<100
DM2R	9/04/2014	d	24	-	750	-	4.9	-	<0.0001	-	0.008	-	0.067	-	17	-	-	-	-	-	1.1	-	-	-	51	100
DM2R	9/04/2014	s	1	-	310	-	0.16	-	<0.0001	-	0.004	-	0.003	-	18	-	-	-	-	-	0.035	-	-	-	50	100
DM2R	16/10/2014	d	0.67	-	670	-	0.08	-	<0.0001	-	0.002	-	0.002	-	36	-	-	-	-	-	0.018	-	-	-	142	112
DM2R	16/10/2014	s	0.1	-	480	-	0.028	-	<0.0001	-	0.003	-	<0.001	-	40	-	-	-	-	-	0.002	-	-	-	83	100
DM2R	16/04/2015	d	0.57	-	470	-	0.071	-	<0.0001	-	0.002	-	0.002	-	20	-	-	-	-	-	0.02	-	-	-	61	100
DM2R	16/04/2015	s	0.25	-	290	-	0.055	-	<0.0001	-	0.003	-	<0.001	-	22	-	-	-	-	-	0.002	-	-	-	122	100

LocCode	Sampled_Date-Time	WellCode	Carbonate as CaCO3	Carbon	Na/Cl Ratio	Na/Cl Ratio (Filtered)	Na:Cl molar ratio	Na:Cl molar ratio (Filtered)	Nitrogen, nitrate + nitrite fraction by FIA.	Benzene	EC (field)	pH (Field)	Temp (field)
							Inorganic		NITROGEN	BTEX	Field		
			mg/L	mg/L	ratio	ratio	ratio	ratio	mg/L	µg/L	µS/cm	pH	oC
EQL			1		0.01	0.1	0.001	0.1	0.01				
ANZECC 2000 MW 95%										700			
DM2R	3/09/2015	d	<1	-	0.1974	-	-	-	-	-	7640	6.95	20.2
DM2R	3/09/2015	s	<1	-	0.1542	-	-	-	-	-	8070	6.86	20.3
DM2R	4/09/2015	d	-	-	-	-	-	-	-	-	-	-	-
DM2R	4/09/2015	s	-	-	-	-	-	-	-	-	-	6.86	-
DM2R	15/04/2016	d	-	-	-	-	-	-	-	-	7340	6.77	21.9
DM2R	15/04/2016	s	-	-	-	-	-	-	-	-	7290	6.75	21.8
DM2R	21/04/2016	d	-	-	0.239	-	-	-	-	-	-	-	-
DM2R	21/04/2016	s	-	-	0.2029	-	-	-	-	-	-	-	-
DM2R	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-
DM2R	22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-
DM2R	15/09/2016	d	-	-	0.21 - 0.2129	-	-	-	-	-	6160	7.58	19.6
DM2R	15/09/2016	s	-	-	0.16 - 0.1612	-	-	-	-	-	6290	7.61	19.1
DM2R	18/04/2017	d	-	-	-	-	-	-	-	-	5270	6.84	20.4
DM2R	18/04/2017	s	<1	-	-	-	-	-	-	-	-	-	-
DM2R	18/04/2017	s	-	-	0.1995 - 0.2508	-	-	-	-	-	-	-	-
DM2R	1/05/2017	s	-	-	-	-	-	-	-	-	4850	7.35	17.5
DM2R	26/05/2017	s	<1	-	0.2506	-	0.2	-	-	-	-	-	-
DM2R	12/10/2017	d	<1	-	0.1521	0.2	-	-	-	-	4970	6.77	20.8
DM2R	12/10/2017	s	<1	-	0.132	0.1	-	-	-	-	4550	7	20.8
DM2R	6/04/2018	d	<1	-	-	-	-	0.2	-	-	-	-	-
DM2R	6/04/2018	d	-	-	0.2077	-	-	-	-	-	4960	7.22	21.9
DM2R	6/04/2018	s	<1	-	-	-	-	0.2	-	-	-	-	-
DM2R	6/04/2018	s	-	-	0.2269	-	-	-	-	-	4430	7.26	20.8
DM2R	29/10/2018	d	<1	-	0.2206	-	-	0.2	-	-	5020	7.52	20.3
DM2R	29/10/2018	s	<1	-	0.2352	-	-	0.2	-	-	4290	7.6	20.5
DM2R	16/04/2019	d	-	-	-	-	-	0.2	-	-	4520	7.9	-
DM2R	16/04/2019	s	-	-	-	-	-	0.3	-	-	4070	7.36	-
DM2R	10/10/2019	d	-	-	-	-	-	0.3	-	-	4440	7	20.5
DM2R	10/10/2019	s	-	-	-	-	-	0.2	-	-	4200	6.91	20.6
DM2R	15/04/2020	d	<1	-	-	-	-	0.2	1	-	4120	7.37	-
DM2R	15/04/2020	s	<1	-	-	-	-	0.2	0.31	-	4030	7.35	-
DM2R	14/10/2020	d	<1	-	-	-	-	-	-	-	3970	7.24	-
DM2R	14/10/2020	s	<1	-	-	-	-	-	-	-	3960	7.23	-

LocCode	Sampled_Date-Time	WellCode	Ammonia as N	Bicarbonate	Bicarbonate as CaCO3	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Chloride	Chloride (Filtered)	EC (laboratory)	pH (laboratory)	Nitrate (as N)	Nitrate as NO3-N	Exchangeable Magnesium	Redox Potential	Salinity	Sodium	Sodium (Filtered)	Sulphate	Sulphate (Filtered)	Sulphide	TDS (evap)	TDS (evap) (Filtered)	Thorium
			Inorganics																					
			µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µS/cm	pH	mg/L	mg/L	mg/L	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L
EQL					1	1	1	0.1	1			0.01	0.2				0.05	0.05	1	5		10		
ANZECC 2000 MW 95%																								
DM2R	3/09/2015	d	-	-	270	270	<1	2500	-	-	-	0.5	0.5	-	67.4	-	320	-	550	-	-	6670	-	-
DM2R	3/09/2015	s	-	-	240	240	<1	2800	-	-	-	0.4	0.4	-	84.9	-	280	-	380	-	-	8190	-	-
DM2R	4/09/2015	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	4/09/2015	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	15/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	60	-	-	-	-	-	-	-	-	-
DM2R	15/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	31.8	-	-	-	-	-	-	-	-	-
DM2R	21/04/2016	d	-	-	-	800	<1	2000	-	-	-	<0.2	-	-	-	-	310	-	250	-	-	5170	-	-
DM2R	21/04/2016	s	-	-	-	270	<1	1900	-	-	-	4.8	-	-	-	-	250	-	380	-	-	5020	-	-
DM2R	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	15/09/2016	d	-	-	-	290	<1	2100	-	-	-	0.3	-	-	123	-	-	290	480	-	-	3080 - 7240	-	-
DM2R	15/09/2016	s	-	-	-	250	<1	2200	-	-	-	3.1	-	-	89	-	-	230	280	-	-	3140 - 7450	-	-
DM2R	18/04/2017	d	-	-	-	-	-	-	-	-	-	-	-	-	-24	-	-	-	-	-	-	-	-	-
DM2R	18/04/2017	s	-	-	-	290	-	-	1700	-	-	0.96	-	-	-	-	220	-	-	370	-	3990	-	-
DM2R	18/04/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	1/05/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-74	-	-	-	-	-	-	-	-	-
DM2R	26/05/2017	s	-	-	-	310	-	-	1600	-	-	1.8	-	-	-	-	260	-	-	400	-	4100	-	-
DM2R	12/10/2017	d	-	-	-	410	-	-	1500	-	-	0.24	-	-	-37	-	-	148	-	310	-	2485 - 4200	-	-
DM2R	12/10/2017	s	-	-	-	270	-	-	1600	-	-	2.9	-	-	-53	-	-	137	-	310	-	2275 - 4500	-	-
DM2R	6/04/2018	d	-	-	-	280	-	-	1500	-	-	4.5	-	-	-	-	-	202	-	340	-	3790	-	-
DM2R	6/04/2018	d	-	-	-	-	-	-	-	-	-	-	-	-	12	2470	-	-	-	-	-	-	-	-
DM2R	6/04/2018	s	-	-	-	280	-	-	1400	-	-	1.6	-	-	-	-	-	206	-	270	-	3650	-	-
DM2R	6/04/2018	s	-	-	-	-	-	-	-	-	-	-	-	-	12	2210	-	-	-	-	-	-	-	-
DM2R	29/10/2018	d	-	-	-	270	-	1370	-	-	-	4.1	-	-	69	2510	-	196	360	-	-	3200	-	-
DM2R	29/10/2018	s	-	-	-	270	-	1180	-	-	-	1.6	-	-	52	2150	-	180	260	-	-	2800	-	-
DM2R	16/04/2019	d	-	-	-	-	-	1340	-	-	-	3.7	-	-	43	-	-	190	400	-	-	2250 - 3100	-	-
DM2R	16/04/2019	s	-	-	-	-	-	1170	-	-	-	1.7	-	-	72	-	-	216	320	-	-	2030 - 2500	-	-
DM2R	10/10/2019	d	-	-	-	-	-	1280	-	-	-	3.8	-	-	65	-	-	216	450	-	-	2220 - 3200	-	-
DM2R	10/10/2019	s	-	-	-	-	-	1230	-	-	-	3.2	-	-	66	-	-	181	280	-	-	2100 - 3100	-	-
DM2R	15/04/2020	d	-	-	-	270	-	1330	-	-	-	-	-	-	88	-	-	144	250	-	-	2060 - 3100	-	-
DM2R	15/04/2020	s	-	-	-	340	-	1270	-	-	-	-	-	-	-232	-	-	167	250	-	-	2015 - 3000	-	-
DM2R	14/10/2020	d	-	-	-	260	-	1310	-	-	-	5	-	-	70	-	-	163	280	-	-	1980 - 2600	-	-
DM2R	14/10/2020	s	-	-	-	250	-	1350	-	-	-	2.5	-	-	77	-	-	150	250	-	-	1980 - 2600	-	-

LocCode	Sampled_Date-Time	WellCode	Lead Total	Lead Total (Filtered)	Aluminium	Arsenic	Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Calcium	Calcium (Filtered)	Chromium (hexavalent)	Chromium (hexavalent) (Filtered)	Chromium Total	Chromium Total (Filtered)	Chromium (Trivalent)	Chromium (Trivalent) (Filtered)	Cobalt
			Lead		Metals														
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			0.001	0.0001			0.005	0.005	0.0001	0.0001	0.005	0.005	0.001	0.001	0.001	0.0001	0.001	0.001	0.001
ANZECC 2000 MW 95%			0.0044	0.0044					0.0055	0.0055			0.0044	0.0044			0.0274	0.0274	0.001
DM2R	3/09/2015	d	0.003	-	-	-	0.26	-	<0.0001	-	680	-	-	0.047	0.073	-	-	0.026	0.002
DM2R	3/09/2015	s	<0.001	-	-	-	0.28	-	<0.0001	-	1040	-	-	0.031	0.04	-	-	0.008	<0.001
DM2R	4/09/2015	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	4/09/2015	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	15/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	15/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	21/04/2016	d	0.012	-	-	-	0.37	-	0.0002	-	610	-	-	0.039	0.26	-	-	<0.001	0.005
DM2R	21/04/2016	s	0.006	-	-	-	0.29	-	<0.0001	-	760	-	-	0.05	0.097	-	-	<0.001	<0.001
DM2R	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	15/09/2016	d	-	0.005	-	-	-	0.35	-	<0.0001	-	610	-	<0.001	-	0.4	-	0.4	-
DM2R	15/09/2016	s	-	0.004	-	-	-	0.27	-	<0.0001	-	850	-	0.09	-	0.087	-	<0.001	-
DM2R	18/04/2017	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	18/04/2017	s	<0.001	-	-	-	0.31	-	<0.0001	-	540	-	0.007	-	0.31	-	0.24	-	0.001
DM2R	18/04/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	1/05/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	26/05/2017	s	0.073	-	-	-	0.25	-	0.0002	-	440	-	0.016	-	0.41	-	0.39	-	0.008
DM2R	12/10/2017	d	-	0.0009	-	-	-	0.3	-	<0.0001	-	585	<0.001	-	-	0.057	0.056	-	-
DM2R	12/10/2017	s	-	0.0011	-	-	-	0.25	-	<0.0001	-	555	0.02	-	-	0.054	0.034	-	-
DM2R	6/04/2018	d	-	0.0022	-	-	-	0.24	-	<0.0001	-	500	0.087	-	-	0.27	0.18	-	-
DM2R	6/04/2018	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	6/04/2018	s	-	0.0053	-	-	-	0.24	-	<0.0001	-	468	0.023	-	-	0.088	0.065	-	-
DM2R	6/04/2018	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	29/10/2018	d	-	0.0011	-	-	-	0.27	-	<0.0002	-	515	0.1	-	-	0.13	<0.001	-	-
DM2R	29/10/2018	s	-	0.0042	-	-	-	0.23	-	<0.0001	-	437	0.026	-	-	0.035	<0.001	-	-
DM2R	16/04/2019	d	-	0.0019	-	-	-	0.33	-	<0.0001	-	486	0.78	-	-	0.75	<0.001	-	-
DM2R	16/04/2019	s	-	0.0019	-	-	-	0.21	-	<0.0001	-	328	0.037	-	-	0.064	0.027	-	-
DM2R	10/10/2019	d	-	0.0024	-	-	-	0.46	-	<0.0001	-	487	0.71	-	-	1.3	0.63	-	-
DM2R	10/10/2019	s	-	0.0014	-	-	-	0.2	-	<0.0001	-	450	0.044	-	-	0.044	<0.001	-	-
DM2R	15/04/2020	d	-	0.0004	-	-	-	0.24	-	<0.0001	-	363	0.21	-	-	0.27	0.063	-	-
DM2R	15/04/2020	s	-	0.0009	-	-	-	0.19	-	<0.0001	-	359	<0.001	-	-	0.087	0.087	-	-
DM2R	14/10/2020	d	-	0.0005	-	-	-	0.22	-	<0.0001	-	417	0.3	-	-	0.33	0.031	-	-
DM2R	14/10/2020	s	-	0.0011	-	-	-	0.19	-	<0.0001	-	469	0.36	-	-	0.41	0.054	-	-

LocCode	Sampled_Date-Time	WellCode	Cobalt (Filtered)	Copper Total	Copper Total (Filtered)	Iron	Iron (Filtered)	Magnesium	Magnesium (Filtered)	Manganese	Manganese (Filtered)	Mercury	Mercury (Filtered)	Molybdenum	Molybdenum (Filtered)	Nickel	Nickel (Filtered)	Potassium	Potassium (Filtered)	Selenium	Tin	Titanium	Uranium	Vanadium Total	Vanadium Total (Filtered)	Zinc	Acidity (as CaCO3)	Radium-226	Radium-228
			Metals																								Other	Radionuclides	
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mBq/L	mBq/L
EQL			0.0001	0.001	0.0001	0.005	0.005	0.005	0.005	0.001	0.0001	0.00005	0.00001	0.001	0.0001	0.001	0.0005	0.05	0.05					0.001	0.0001				
ANZECC 2000 MW 95%			0.001	0.0013	0.0013							0.0004	0.0004			0.07	0.07							0.1	0.1	0.015			
DM2R	3/09/2015	d	-	0.003	-	1.5	-	420	-	0.31	-	<0.0001	-	0.003	-	0.004	-	16	-	-	-	-	-	0.055	-	-	-	-	-
DM2R	3/09/2015	s	-	0.002	-	0.16	-	260	-	0.027	-	<0.0001	-	0.003	-	<0.001	-	17	-	-	-	-	-	0.006	-	-	-	-	-
DM2R	4/09/2015	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81	<100
DM2R	4/09/2015	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	98	<100
DM2R	15/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	15/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	21/04/2016	d	-	0.015	-	8	-	460	-	1.7	-	<0.0001	-	0.004	-	0.023	-	35	-	-	-	-	-	0.29	-	-	-	-	-
DM2R	21/04/2016	s	-	0.001	-	1.4	-	270	-	0.15	-	<0.0001	-	0.004	-	0.002	-	31	-	-	-	-	-	0.018	-	-	-	-	-
DM2R	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	<100
DM2R	22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	102
DM2R	15/09/2016	d	0.002	-	0.004	-	1.7	-	350	-	0.63	-	<0.0001	-	<0.001	-	0.01	-	12	-	-	-	-	-	0.11	-	-	<100	<100
DM2R	15/09/2016	s	<0.001	-	0.001	-	0.16	-	210	-	0.037	-	<0.0001	-	0.002	-	0.001	-	15	-	-	-	-	-	0.004	-	-	<100	<100
DM2R	18/04/2017	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	78
DM2R	18/04/2017	s	-	0.004	-	0.37	-	260	-	0.16	-	<0.0001	-	0.001	-	0.003	-	12	-	-	-	-	-	0.019	-	-	-	-	-
DM2R	18/04/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	1/05/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM2R	26/05/2017	s	-	0.004	-	12	-	330	-	2	-	<0.0001	-	<0.001	-	0.04	-	13	-	-	-	-	-	0.41	-	-	-	31	52
DM2R	12/10/2017	d	0.0009	-	0.001	-	1.9	-	253	-	0.37	<0.0001	-	-	0.0007	-	0.0029	-	10.8	-	-	-	-	-	0.026	-	-	<49 - 49	<150 - 150
DM2R	12/10/2017	s	0.0004	-	0.0004	-	0.45	-	242	-	0.12	<0.0001	-	-	0.0026	-	0.0019	-	14.9	-	-	-	-	-	0.027	-	-	42	<140 - 140
DM2R	6/04/2018	d	0.0012	-	0.0015	-	1.7	-	246	-	0.37	<0.0001	-	-	0.0007	-	0.0047	-	11	-	-	-	-	-	0.072	-	-	-	-
DM2R	6/04/2018	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	115	263
DM2R	6/04/2018	s	0.0008	-	0.0007	-	0.8	-	245	-	0.28	<0.0001	-	-	0.0003	-	0.003	-	12.7	-	-	-	-	-	0.019	-	-	-	-
DM2R	6/04/2018	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	90
DM2R	29/10/2018	d	0.0005	-	0.0013	-	0.23	-	242	-	0.14	<0.00005	-	-	0.0007	-	0.0025	-	11.3	-	-	-	-	-	0.031	-	-	<70	<170
DM2R	29/10/2018	s	0.0004	-	0.0016	-	0.18	-	203	-	0.025	<0.00005	-	-	0.0028	-	0.0012	-	13.3	-	-	-	-	-	0.0075	-	-	<60	<270
DM2R	16/04/2019	d	0.0008	-	0.0046	-	0.54	-	237	-	0.088	<0.00005	-	-	0.002	-	0.003	-	12.9	-	-	-	-	-	0.043	-	-	116	<160
DM2R	16/04/2019	s	0.0006	-	0.0084	-	0.23	-	238	-	0.034	<0.00005	-	-	0.004	-	0.002	-	11.7	-	-	-	-	-	0.013	-	-	39	<140
DM2R	10/10/2019	d	0.001	-	0.0045	-	3.7	-	288	-	0.23	<0.00005	-	-	0.001	-	0.003	-	12.2	-	-	-	-	-	0.075	-	-	-	-
DM2R	10/10/2019	s	0.0002	-	0.0046	-	0.1	-	182	-	0.017	<0.00005	-	-	0.003	-	0.001	-	10.7	-	-	-	-	-	0.0048	-	-	-	-
DM2R	15/04/2020	d	0.0005	-	0.0028	-	0.065	-	215	-	0.027	<0.00005	-	-	0.002	-	0.001	-	9.3	-	-	-	-	-	0.011	-	-	-	-
DM2R	15/04/2020	s	0.0003	-	0.0004	-	0.14	-	163	-	0.037	<0.00005	-	-	0.002	-	0.001	-	9.9	-	-	-	-	-	0.0054	-	-	-	-
DM2R	14/10/2020	d	0.0005	-	0.0016	-	0.15	-	230	-	0.03	<0.00005	-	-	<0.001	-	0.001	-	10.6	-	-	-	-	-	0.016	-	-	-	-
DM2R	14/10/2020	s	0.0003	-	0.0013	-	0.13	-	194	-	0.0097	<0.00005	-	-	0.002	-	<0.001	-	11.1	-	-	-	-	-	0.0037	-	-	-	-

							Inorganic		NITROGEN	BTEX	Field			Inorganics																					
			Carbonate as CaCO3	Carbon	Na/Cl Ratio	Na/Cl Ratio (Filtered)	Na:Cl molar ratio	Na:Cl molar ratio (Filtered)	Nitrogen, nitrate + nitrite fraction by FIA.	Benzene	EC (field)	pH (Field)	Temp (field)	Ammonia as N	Bicarbonate	Bicarbonate as CaCO3	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Chloride	Chloride (Filtered)	EC (laboratory)	pH (laboratory)	Nitrate (as N)	Nitrate as NO3-N	Exchangeable Magnesium	Redox Potential	Salinity	Sodium	Sodium (Filtered)	Sulphate	Sulphate (Filtered)	Sulphide	TDS (evap)	TDS (evap) (Filtered)	Thorium
			mg/L	mg/L	ratio	ratio	ratio	ratio	mg/L	µg/L	µS/cm	pH	oC	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µS/cm	pH	mg/L	mg/L	mg/L	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L
EQL			1		0.01	0.1	0.001	0.1	0.01							1	1	1	0.1	1			0.01	0.2				0.05	0.05	1	5		10		
ANZECC 2000 MW 95%										700																									
LocCode	Sampled_Date-Time	WellCode																																	
DM4	1/03/1989	d	-	-	0.8696	-	-	-	-	-	1610	7.9	-	-	343.7	-	-	-	305	-	-	-	-	-	-	-	-	172	-	33	-	-	813	-	-
DM4	1/03/1989	s	-	-	0.9335	-	-	-	-	-	1730	7.8	-	-	406	-	-	-	332	-	-	-	1	-	-	-	-	201	-	52	-	-	914	-	-
DM4	1/08/1989	d	-	-	0.8411	-	-	-	-	-	1530	7.4	-	-	315	-	-	-	330	-	-	-	-	-	-	-	-	180	-	40	-	-	980	-	-
DM4	1/08/1989	s	-	-	0.8303	-	-	-	-	-	1360	7.6	-	-	360	-	-	-	260	-	-	-	2	-	-	-	-	140	-	50	-	-	870	-	-
DM4	1/11/1989	d	-	-	0.8507	-	-	-	-	-	1410	7.25	-	-	35	-	-	-	290	-	-	-	2	-	-	-	-	160	-	50	-	-	990	-	-
DM4	1/11/1989	s	-	-	0.8644	-	-	-	-	-	1490	7.1	-	-	300	-	-	-	330	-	-	-	-	-	-	-	-	185	-	40	-	-	1040	-	-
DM4	1/04/1990	d	-	-	0.793	-	-	-	-	-	1500	8.1	-	-	150	-	-	-	350	-	-	-	-	-	-	-	-	180	-	35	-	-	960	-	-
DM4	1/04/1990	s	-	-	0.8773	-	-	-	-	-	1420	8.15	-	-	150	-	-	-	290	-	-	-	2	-	-	-	-	165	-	60	-	-	910	-	-
DM4	1/06/1990	d	-	-	0.7951	-	-	-	-	-	1500	6.9	-	-	270	-	-	-	320	-	-	-	-	-	-	-	-	165	-	35	-	-	960	-	-
DM4	1/06/1990	s	-	-	0.9362	-	-	-	-	-	1540	7.1	-	-	340	-	-	-	280	-	-	-	-	-	-	-	-	170	-	55	-	-	980	-	-
DM4	1/10/1990	d	-	-	0.9994	-	-	-	-	-	1680	7.3	-	-	365	-	-	-	270	-	-	-	1	-	-	-	-	175	-	100	-	-	1080	-	-
DM4	1/10/1990	s	-	-	0.8674	-	-	-	-	-	1720	7.65	-	-	315	-	-	-	320	-	-	-	1	-	-	-	-	180	-	100	-	-	1100	-	-
DM4	1/12/1990	d	-	-	0.8674	-	-	-	-	-	1520	7.85	-	-	235	-	-	-	320	-	-	-	1	-	-	-	-	180	-	50	-	-	970	-	-
DM4	1/12/1990	s	-	-	0.9878	-	-	-	-	-	1660	8.1	-	-	285	-	-	-	320	-	-	-	-	-	-	-	-	205	-	100	-	-	1060	-	-
DM4	1/04/1991	d	-	-	0.8433	-	-	-	-	-	1340	7.1	-	-	320	-	-	-	320	-	-	-	-	-	-	-	-	175	-	40	-	-	930	-	-
DM4	1/04/1991	s	-	-	1.008	-	-	-	-	-	2230	7.1	-	-	350	-	-	-	390	-	-	-	-	-	-	-	-	255	-	260	-	-	1430	-	-
DM4	1/08/1991	d	-	-	0.8375	-	-	-	-	-	3200	6.9	-	-	290	-	-	-	580	-	-	-	-	-	-	-	-	315	-	360	-	-	2050	-	-
DM4	1/08/1991	s	-	-	0.711	-	-	-	-	-	4550	7.1	-	-	305	-	-	-	900	-	-	-	2	-	-	-	-	415	-	400	-	-	2910	-	-
DM4	1/09/1991	d	-	-	0.771	-	-	-	-	-	3460	7.4	-	-	290	-	-	-	680	-	-	-	-	-	-	-	-	340	-	350	-	-	2210	-	-
DM4	1/09/1991	s	-	-	0.7233	-	-	-	-	-	4330	7.4	-	-	290	-	-	-	970	-	-	-	-	-	-	-	-	455	-	520	-	-	2770	-	-
DM4	1/12/1991	d	-	-	0.7132	-	-	-	-	-	1780	7.4	-	-	285	-	-	-	400	-	-	-	1	-	-	-	-	185	-	60	-	-	1140	-	-
DM4	1/12/1991	s	-	-	0.4791	-	-	-	-	-	5050	7.5	-	-	250	-	-	-	1400	-	-	-	1	-	-	-	-	435	-	400	-	-	3180	-	-
DM4	1/04/1992	d	-	-	0.771	-	-	-	-	-	1600	7.5	-	-	265	-	-	-	360	-	-	-	4	-	-	-	-	180	-	65	-	-	1020	-	-
DM4	1/04/1992	s	-	-	0.3999	-	-	-	-	-	5520	7.3	-	-	230	-	-	-	1600	-	-	-	4	-	-	-	-	415	-	320	-	-	3480	-	-
DM4	1/07/1992	d	-	-	0.5287	-	-	-	-	-	5380	6.8	-	-	220	-	-	-	1400	-	-	-	-	-	-	-	-	480	-	320	-	-	3390	-	-
DM4	1/07/1992	s	-	-	0.3598	-	-	-	-	-	6000	7.3	-	-	235	-	-	-	1800	-	-	-	2	-	-	-	-	420	-	230	-	-	3780	-	-
DM4	1/10/1992	d	-	-	0.4951	-	-	-	-	-	3660	7	-	-	225	-	-	-	950	-	-	-	-	-	-	-	-	305	-	280	-	-	2340	-	-
DM4	1/10/1992	s	-	-	0.3695	-	-	-	-	-	5995	7.15	-	-	235	-	-	-	1690	-	-	-	2	-	-	-	-	405	-	350	-	-	3780	-	-
DM4	1/01/1993	d	-	-	0.5568	-	-	-	-	-	3300	7.75	-	-	230	-	-	-	900	-	-	-	-	-	-	-	-	325	-	200	-	-	2110	-	-
DM4	1/01/1993	s	-	-	0.2621	-	-	-	-	-	6290	7.4	-	-	190	-	-	-	2000	-	-	-	1	-	-	-	-	340	-	390	-	-	3960	-	-
DM4	1/04/1993	d	-	-	0.4342	-	-	-	-	-	6500	7.85	-	-	195	-	-	-	1900	-	-	-	-	-	-	-	-	535	-	390	-	-	4090	-	-
DM4	1/04/1993	s	-	-	0.2846	-	-	-	-	-	7340	7.2	-	-	245	-	-	-	2330	-	-	-	8	-	-	-	-	430	-	300	-	-	4620	-	-
DM4	1/07/1993	d	-	-	0.3221	-	-	-	-	-	6840	6.25	-	-	215	-	-	-	2250	-	-	-	5	-	-	-	-	470	-	190	-	-	4310	-	-
DM4	1/07/1993	s	-	-	0.2544	-	-	-	-	-	6420	6.7	-	-	225	-	-	-	2000	-	-	-	5	-	-	-	-	330	-	190	-	-	4040	-	-
DM4	1/10/1993	d	-	-	0.2665	-	-	-	-	-	9500	6.1	-	-	185	-	-	-	2835	-	-	-	1	-	-	-	-	490	-	330	-	-	4760	-	-
DM4	1/10/1993	s	-	-	0.234	-	-	-	-	-	6460	6.7	-	-	260	-	-	-	1845	-	-	-	4	-	-	-	-	280	-	190	-	-	4150	-	-
DM4	1/01/1994	d	-	-	0.3108	-	-	-	-	-	7410	6.4	-	-	175	-	-	-	2580	-	-	-	-	-	-	-	-	520	-	253	-	-	4670	-	-
DM4	1/01/1994	s	-	-	0.259	-	-	-	-	-	4430	6.9	-	-	260	-	-	-	1310	-	-	-	2	-	-	-	-	220	-	140	-	-	2830	-	-
DM4	1/04/1994	d	-	-	0.3084	-	-	-	-	-	6700	6.7	-	-	180	-	-	-	2100	-	-	-	1	-	-	-	-	420	-	330	-	-	4220	-	-
DM4	1/04/1994	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4	1/07/1994	d	-	-	0.263	-	-	-	-	-	8340	6.6	-	-	185	-	-	-	2550	-	-	-	1	-	-	-	-	435	-	350	-	-	5100	-	-
DM4	1/07/1994	s	-	-	0.3126	-	-	-	-	-	3990	7.2	-	-	290	-	-	-	1110	-	-	-	2	-	-	-	-	225	-	135	-	-	2450	-	-
DM4	1/10/1994	d	-	-	0.3051	-	-	-	-	-	8600	7.45	-	-	165	-	-	-	2375	-	-	-	1	-	-	-	-	470	-	340	-	-	4620	-	-
DM4	1/10/1994	s	-	-	0.2861	-	-	-	-	-	3540	7.7	-	-	300	-	-	-	970	-	-	-	4	-	-	-	-	180	-	130	-	-	2000	-	-
DM4	1/01/1995	d	-	-	0.7312	-	-	-	-	-	3500	7.2	-	-	170	-	-	-	970	-	-	-	1	-	-	-	-	460	-	340	-	-	2200	-	-
DM4	1/01/1995	s	-	-	0.2849	-	-	-	-	-	3300	7.25	-	-	300	-	-	-	920	-	-	-	4	-	-	-	-	170	-	110	-	-	2100	-	-
DM4	1/04/1995	d	-	-	0.2827	-	-	-	-	-	8100	7.6	-	-	170	-	-	-	2400	-	-	-	-	-	-	-	-	440	-	300	-	-	4800	-	-
DM4	1/04/1995	s	-	-	0.2836	-	-	-	-	-	3100	7.8	-	-	300	-	-	-	870	-	-	-	9	-	-	-	-	160	-	100	-	-	2000	-	-
DM4	1/07/1995	d	-	-	0.3084	-	-	-	-	-	6900	7.2	-	-	160	-	-	-	2200	-	-	-	1	-	-	-	-	440	-	300	-	-	4300	-	-
DM4	1/07/1995	s	-	-	0.3246	-	-	-	-	-	2900	7.5	-	-	300	-	-	-	760	-	-	-	8	-	-	-	-	160	-	110	-	-	1900	-	-
DM4	1/10/1995	d	-	-	0.284	-	-	-	-	-	7200	6.7	-	-	225	-	-	-	1900	-	-	-	1	-	-	-	-	350	-	260	-	-	4500	-	-
DM4	1/10/1995	s	-	-	0.3013	-	-	-	-	-	3300	7.4	-	-	310	-	-	-	870	-	-	-	6	-	-	-	-	170	-	100	-	-	2100	-	-
DM4	1/01/1996	d	-	-	0.3392	-	-	-	-	-	7700	7.35	-	-	200	-	-	-	2000	-	-	-	3	-	-	-	-	440	-	250	-	-	4900	-	-
DM4	1/01/1996	s	-	-	0.3246	-	-	-	-	-	3100	7.95	-	-	310	-	-	-	760	-	-	-	6	-	-	-	-	160	-	84	-	-	2000	-	-

			Lead		Metals																			
			Lead Total	Lead Total (Filtered)	Aluminium	Arsenic	Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Calcium	Calcium (Filtered)	Chromium (hexavalent)	Chromium (hexavalent) (Filtered)	Chromium Total	Chromium Total (Filtered)	Chromium (Trivalent)	Chromium (Trivalent) (Filtered)	Cobalt	Cobalt (Filtered)	Copper Total	Copper Total (Filtered)	Iron	Iron (Filtered)
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			0.001	0.0001			0.005	0.005	0.0001	0.0001	0.005	0.005	0.001	0.001	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.0001	0.005	0.005
ANZECC 2000 MW 95%			0.0044	0.0044					0.0055	0.0055			0.0044	0.0044			0.0274	0.0274	0.001	0.001	0.0013	0.0013		
LocCode	Sampled_Date-Time	WellCode																						
DM4	1/03/1989	d	-	-	-	-	-	-	-	-	103	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4	1/03/1989	s	-	-	-	-	-	-	-	-	90	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4	1/08/1989	d	-	-	-	-	-	-	-	-	110	-	-	-	-	-	-	-	-	-	-	-	0.05	-
DM4	1/08/1989	s	-	-	-	-	-	-	-	-	110	-	-	-	-	-	-	-	-	-	-	-	0.05	-
DM4	1/11/1989	d	-	-	-	-	-	-	-	-	110	-	-	-	-	-	-	-	-	-	-	-	0.05	-
DM4	1/11/1989	s	-	-	-	-	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	0.05	-
DM4	1/04/1990	d	-	-	-	-	-	-	-	-	70	-	-	-	-	-	-	-	-	-	-	-	0.05	-
DM4	1/04/1990	s	-	-	-	-	-	-	-	-	65	-	-	-	-	-	-	-	-	-	-	-	0.05	-
DM4	1/06/1990	d	-	-	-	-	-	-	-	-	100	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-
DM4	1/06/1990	s	-	-	-	-	-	-	-	-	95	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-
DM4	1/10/1990	d	-	-	-	-	-	-	-	-	95	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-
DM4	1/10/1990	s	-	-	-	-	-	-	-	-	100	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-
DM4	1/12/1990	d	-	-	-	-	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	0.05	-
DM4	1/12/1990	s	-	-	-	-	-	-	-	-	110	-	-	-	-	-	-	-	-	-	-	-	0.05	-
DM4	1/04/1991	d	-	-	-	-	-	-	-	-	105	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-
DM4	1/04/1991	s	-	-	-	-	-	-	-	-	160	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-
DM4	1/08/1991	d	-	-	-	-	-	-	-	-	195	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-
DM4	1/08/1991	s	-	-	-	-	-	-	-	-	270	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-
DM4	1/09/1991	d	-	-	-	-	-	-	-	-	215	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-
DM4	1/09/1991	s	-	-	-	-	-	-	-	-	280	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-
DM4	1/12/1991	d	-	-	-	-	-	-	-	-	105	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-
DM4	1/12/1991	s	-	-	-	-	-	-	-	-	420	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-
DM4	1/04/1992	d	-	-	-	-	-	-	-	-	125	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-
DM4	1/04/1992	s	-	-	-	-	-	-	-	-	640	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-
DM4	1/07/1992	d	-	-	-	-	-	-	-	-	470	-	-	-	0.05	-	-	-	-	-	-	-	0.15	-
DM4	1/07/1992	s	-	-	-	-	-	-	-	-	710	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-
DM4	1/10/1992	d	-	-	-	-	-	-	-	-	325	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-
DM4	1/10/1992	s	-	-	-	-	-	-	-	-	755	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-
DM4	1/01/1993	d	-	-	-	-	-	-	-	-	305	-	-	-	0.05	-	-	-	-	-	-	-	10	-
DM4	1/01/1993	s	-	-	-	-	-	-	-	-	850	-	-	-	0.05	-	-	-	-	-	-	-	2.85	-
DM4	1/04/1993	d	-	-	-	-	-	-	-	-	690	-	-	-	-	-	-	-	-	-	-	-	23.7	-
DM4	1/04/1993	s	-	-	-	-	-	-	-	-	965	-	-	-	0.05	-	-	-	-	-	-	-	0.6	-
DM4	1/07/1993	d	-	-	-	-	-	-	-	-	775	-	-	-	-	-	-	-	-	-	-	-	21	-
DM4	1/07/1993	s	-	-	-	-	-	-	-	-	900	-	-	-	0.05	-	-	-	-	-	-	-	0.55	-
DM4	1/10/1993	d	-	-	-	-	-	-	-	-	1125	-	-	-	0.05	-	-	-	-	-	-	-	26.5	-
DM4	1/10/1993	s	-	-	-	-	-	-	-	-	810	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-
DM4	1/01/1994	d	-	-	-	-	-	-	-	-	990	-	-	-	0.05	-	-	-	-	-	-	-	28.3	-
DM4	1/01/1994	s	-	-	-	-	-	-	-	-	630	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-
DM4	1/04/1994	d	-	-	-	-	-	-	-	-	775	-	-	-	-	-	-	-	-	-	-	-	21.5	-
DM4	1/04/1994	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4	1/07/1994	d	-	-	-	-	-	-	-	-	1020	-	-	-	0.05	-	-	-	-	-	-	-	19	-
DM4	1/07/1994	s	-	-	-	-	-	-	-	-	480	-	-	-	0.05	-	-	-	-	-	-	-	0.1	-
DM4	1/10/1994	d	-	-	-	-	-	-	-	-	980	-	-	-	0.05	-	-	-	-	-	-	-	18.5	-
DM4	1/10/1994	s	-	-	-	-	-	-	-	-	465	-	-	-	0.05	-	-	-	-	-	-	-	0.5	-
DM4	1/01/1995	d	-	-	-	-	-	-	-	-	100	-	-	-	0.05	-	-	-	-	-	-	-	10.4	-
DM4	1/01/1995	s	-	-	-	-	-	-	-	-	390	-	-	-	0.05	-	-	-	-	-	-	-	16	-
DM4	1/04/1995	d	-	-	-	-	0.1	-	-	-	840	-	-	-	0.05	-	-	-	-	-	-	-	15	-
DM4	1/04/1995	s	-	-	-	-	0.1	-	-	-	400	-	-	-	0.05	-	-	-	-	-	-	-	0.2	-
DM4	1/07/1995	d	-	-	-	-	0.1	-	-	-	880	-	-	-	0.05	-	-	-	-	-	-	-	1.3	-
DM4	1/07/1995	s	-	-	-	-	0.1	-	-	-	380	-	-	-	0.05	-	-	-	-	-	-	-	0.6	-
DM4	1/10/1995	d	-	-	-	-	0.04	-	-	-	760	-	-	-	0.05	-	-	-	-	-	-	-	72	-
DM4	1/10/1995	s	-	-	-	-	0.06	-	-	-	400	-	-	-	0.05	-	-	-	-	-	-	-	0.4	-
DM4	1/01/1996	d	-	-	-	-	0.06	-	-	-	780	-	-	-	0.05	-	-	-	-	-	-	-	65	-
DM4	1/01/1996	s	-	-	-	-	0.09	-	-	-	350	-	-	-	0.05	-	-	-	-	-	-	-	0.1	-

			Metals																			Other	Radionuclides	
			Magnesium	Magnesium (Filtered)	Manganese	Manganese (Filtered)	Mercury	Mercury (Filtered)	Molybdenum	Molybdenum (Filtered)	Nickel	Nickel (Filtered)	Potassium	Potassium (Filtered)	Selenium	Tin	Titanium	Uranium	Vanadium Total	Vanadium Total (Filtered)	Zinc	Acidity (as CaCO3)	Radium-226	Radium-228
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mBq/L	mBq/L
EQL			0.005	0.005	0.001	0.0001	0.00005	0.00001	0.001	0.0001	0.001	0.0005	0.05	0.05					0.001	0.0001				
ANZECC 2000 MW 95%							0.0004	0.0004			0.07	0.07							0.1	0.1	0.015			
LocCode	Sampled_Date-Time	WellCode																						
DM4	1/03/1989	d	22.1	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-
DM4	1/03/1989	s	28.5	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	-	-
DM4	1/08/1989	d	23	-	-	-	-	-	-	-	-	-	7.4	-	-	-	-	-	-	-	-	-	55	-
DM4	1/08/1989	s	27	-	-	-	-	-	-	-	-	-	6	-	-	-	-	-	-	-	-	-	43	-
DM4	1/11/1989	d	29	-	-	-	-	-	-	-	-	-	5.5	-	-	-	-	-	-	-	-	-	37	-
DM4	1/11/1989	s	24	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	37	-
DM4	1/04/1990	d	22	-	-	-	-	-	-	-	-	-	5.5	-	-	-	-	-	-	-	-	-	36.1	-
DM4	1/04/1990	s	27	-	-	-	-	-	-	-	-	-	3.5	-	-	-	-	-	-	-	-	-	10.8	-
DM4	1/06/1990	d	19	-	0.1	-	-	-	-	-	-	-	7	-	-	-	-	-	0.02	-	-	-	30.5	-
DM4	1/06/1990	s	23.5	-	0.05	-	-	-	-	-	-	-	5.5	-	-	-	-	-	0.02	-	-	-	15.6	-
DM4	1/10/1990	d	27	-	0.05	-	-	-	-	-	-	-	6.5	-	-	-	-	-	0.02	-	-	-	37	-
DM4	1/10/1990	s	25	-	0.05	-	-	-	-	-	-	-	7	-	-	-	-	-	0.02	-	-	-	37	-
DM4	1/12/1990	d	19	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	31.1	-
DM4	1/12/1990	s	26	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	13.4	-
DM4	1/04/1991	d	20.5	-	0.2	-	-	-	-	-	-	-	7.2	-	-	-	-	-	0.02	-	-	-	34	-
DM4	1/04/1991	s	38	-	0.1	-	-	-	-	-	-	-	7.5	-	-	-	-	-	0.02	-	-	-	23	-
DM4	1/08/1991	d	45	-	0.25	-	-	-	-	-	-	-	2.2	-	-	-	-	-	0.02	-	-	-	29.8	-
DM4	1/08/1991	s	25.5	-	0.1	-	-	-	-	-	-	-	3.8	-	-	-	-	-	0.02	-	-	-	25.8	-
DM4	1/09/1991	d	51.5	-	0.3	-	-	-	-	-	-	-	9.5	-	-	-	-	-	0.02	-	-	-	25.7	-
DM4	1/09/1991	s	80	-	0.35	-	-	-	-	-	-	-	11	-	-	-	-	-	0.02	-	-	-	28.6	-
DM4	1/12/1991	d	25.5	-	0.05	-	-	-	-	-	-	-	8	-	-	-	-	-	0.05	-	-	-	-	-
DM4	1/12/1991	s	80	-	0.35	-	-	-	-	-	-	-	11	-	-	-	-	-	0.05	-	-	-	-	-
DM4	1/04/1992	d	23.5	-	0.45	-	-	-	-	-	-	-	7.2	-	-	-	-	-	0.02	-	-	-	55.4	-
DM4	1/04/1992	s	75	-	0.25	-	-	-	-	-	-	-	11	-	-	-	-	-	0.02	-	-	-	61.4	-
DM4	1/07/1992	d	95	-	0.4	-	-	-	-	-	-	-	12.5	-	-	-	-	-	0.2	-	-	-	38	-
DM4	1/07/1992	s	80	-	0.1	-	-	-	-	-	-	-	10	-	-	-	-	-	0.2	-	-	-	50	-
DM4	1/10/1992	d	65	-	0.45	-	-	-	-	-	-	-	10.2	-	-	-	-	-	0.02	-	-	-	39	-
DM4	1/10/1992	s	65	-	0.15	-	-	-	-	-	-	-	10.5	-	-	-	-	-	0.02	-	-	-	77	-
DM4	1/01/1993	d	60	-	0.4	-	-	-	-	-	-	-	11	-	-	-	-	-	0.02	-	-	-	37	-
DM4	1/01/1993	s	70	-	0.1	-	-	-	-	-	-	-	10.5	-	-	-	-	-	0.02	-	-	-	37	-
DM4	1/04/1993	d	115	-	0.6	-	-	-	-	-	-	-	14	-	-	-	-	-	0.1	-	-	-	37	-
DM4	1/04/1993	s	120	-	0.05	-	-	-	-	-	-	-	11.5	-	-	-	-	-	0.1	-	-	-	37	-
DM4	1/07/1993	d	115	-	0.75	-	-	-	-	-	-	-	16	-	-	-	-	-	0.05	-	-	-	37	-
DM4	1/07/1993	s	85	-	0.05	-	-	-	-	-	-	-	11.5	-	-	-	-	-	0.05	-	-	-	37	-
DM4	1/10/1993	d	140	-	0.7	-	-	-	-	-	-	-	16	-	-	-	-	-	0.1	-	-	-	49	-
DM4	1/10/1993	s	100	-	0.05	-	-	-	-	-	-	-	10	-	-	-	-	-	0.1	-	-	-	20	-
DM4	1/01/1994	d	130	-	0.65	-	-	-	-	-	-	-	13.5	-	-	-	-	-	0.05	-	-	-	37	-
DM4	1/01/1994	s	61	-	0.05	-	-	-	-	-	-	-	6.5	-	-	-	-	-	0.05	-	-	-	37	-
DM4	1/04/1994	d	120	-	-	-	-	-	-	-	-	-	14.5	-	-	-	-	-	-	-	-	-	13	-
DM4	1/04/1994	s	-	-	0.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4	1/07/1994	d	115	-	0.6	-	-	-	-	-	-	-	14.5	-	-	-	-	-	0.1	-	-	-	81	-
DM4	1/07/1994	s	60	-	0.05	-	-	-	-	-	-	-	7	-	-	-	-	-	0.1	-	-	-	37	-
DM4	1/10/1994	d	120	-	0.65	-	-	-	-	-	-	-	14.5	-	-	-	-	-	0.1	-	-	-	41	-
DM4	1/10/1994	s	52.5	-	0.05	-	-	-	-	-	-	-	7.5	-	-	-	-	-	0.1	-	-	-	37	-
DM4	1/01/1995	d	120	-	0.65	-	-	-	-	-	-	-	20	-	-	-	-	-	0.1	-	-	-	37	-
DM4	1/01/1995	s	60	-	0.05	-	-	-	-	-	-	-	7	-	-	-	-	-	0.1	-	-	-	81	-
DM4	1/04/1995	d	110	-	0.55	-	-	-	-	-	-	-	15	-	-	-	-	-	0.05	-	-	-	37	-
DM4	1/04/1995	s	43.5	-	0.05	-	-	-	-	-	-	-	7	-	-	-	-	-	0.05	-	-	-	37	-
DM4	1/07/1995	d	120	-	0.45	-	-	-	-	-	-	-	15	-	-	-	-	-	0.5	-	-	-	37	-
DM4	1/07/1995	s	44	-	0.05	-	-	-	-	-	-	-	6.4	-	-	-	-	-	0.5	-	-	-	37	-
DM4	1/10/1995	d	110	-	0.35	-	-	-	-	-	-	-	13	-	-	-	-	-	0.5	-	-	-	37	-
DM4	1/10/1995	s	60	-	0.05	-	-	-	-	-	-	-	7	-	-	-	-	-	0.5	-	-	-	37	-
DM4	1/01/1996	d	110	-	0.55	-	-	-	-	-	-	-	15	-	-	-	-	-	0.5	-	-	-	37	-
DM4	1/01/1996	s	56	-	0.05	-	-	-	-	-	-	-	6.4	-	-	-	-	-	0.5	-	-	-	37	-

Carbonate as CaCO3
Carbon
Nu.Cl Ratio
Nu.Cl Ratio (Filtered)
Nu.Cl molar ratio
Nu.Cl molar ratio (Filtered)
Nitrogen, nitrate + nitrite fraction by FIA
Benzene
EC (field)
pH (field)
Temp (field)
Ammonia as N
Bicarbonate
Bicarbonate as CaCO3
Alkalinity (Bicarbonate as CaCO3)
Alkalinity (Carbonate as CaCO3)
Chloride
Chloride (Filtered)
EC (laboratory)
pH (laboratory)
Nitrate (as N)
Nitrate as NO3-N
Exchangeable Magnesium
Redox Potential
Salinity
Sodium
Sodium (Filtered)
Sulphate
Sulphate (Filtered)
Sulphide
TDS (evap)
TDS (evap) (Filtered)
Thorium
Lead Total
Lead Total (Filtered)
Aluminium
Arsenic
Boron
Boron (Filtered)
Cadmium
Cadmium (Filtered)
Calcium
Calcium (Filtered)
Chromium (Hexavalent)
Chromium (Hexavalent) (Filtered)
Chromium Total
Chromium Total (Filtered)
Chromium (Trivalent)
Chromium (Trivalent) (Filtered)
Cobalt
Cobalt (Filtered)
Copper Total
Copper Total (Filtered)
Iron
Iron (Filtered)
Magnesium
Magnesium (Filtered)
Manganese
Manganese (Filtered)
Mercury
Mercury (Filtered)
Molybdenum
Molybdenum (Filtered)
Nickel
Nickel (Filtered)
Potassium
Potassium (Filtered)
Selenium
Tin
Titanium
Uranium
Vanadium Total
Vanadium Total (Filtered)
Zinc
Acidity (as CaCO3)
Radium-226
Radium-228
Carbon
Nu.Cl Ratio
Nu.Cl molar ratio
Nitrogen
Field
Bicarbonate
Alkalinity
Chloride
Laboratory
Nitrate
Exchangeable Magnesium
Redox
Salinity
Sodium
Sulphate
Sulphide
TDS
Thorium
Lead
Aluminium
Arsenic
Boron
Cadmium
Calcium
Chromium
Cobalt
Copper
Iron
Magnesium
Manganese
Mercury
Molybdenum
Nickel
Potassium
Selenium
Tin
Titanium
Uranium
Vanadium
Zinc
Other
Radionuclides

						Inorganic		NITROGEN	BTEX	Field		
			Carbonate as CaCO3	Carbon	Na/Cl Ratio	Na/Cl Ratio (Filtered)	Na:Cl molar ratio	Na:Cl molar ratio (Filtered)	Nitrogen, nitrate + nitrite fraction by FIA.	Benzene	EC (field)	pH (Field)	Temp (field)
			mg/L	mg/L	ratio	ratio	ratio	ratio	mg/L	µg/L	µS/cm	pH	oC
EQL			1		0.01	0.1	0.001	0.1	0.01				
ANZECC 2000 MW 95%										700			
LocCode	Sampled_Date-Time	WellCode											
DM4R	4/09/2015	d	-	-	-	-	-	-	-	-	-	5.95	-
DM4R	4/09/2015	s	-	-	-	-	-	-	-	-	-	-	-
DM4R	15/04/2016	d	-	-	-	-	-	-	-	-	7410	6.64	17.5
DM4R	15/04/2016	s	-	-	-	-	-	-	-	-	11,430	6.49	17.8
DM4R	21/04/2016	d	-	-	0.1877	-	-	-	-	-	-	-	-
DM4R	21/04/2016	s	-	-	0.2056	-	-	-	-	-	-	-	-
DM4R	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-
DM4R	22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-
DM4R	15/09/2016	d	-	-	0.16 - 0.1604	-	-	-	-	-	6870	7.96	16.1
DM4R	15/09/2016	s	-	-	0.1676 - 0.17	-	-	-	-	-	6630	8.04	15.8
DM4R	18/04/2017	d	<1	-	-	-	-	-	-	-	-	-	-
DM4R	18/04/2017	d	-	-	0.1419	-	-	-	-	-	6820	6.42	20.1
DM4R	18/04/2017	s	<1	-	-	-	-	-	-	-	-	-	-
DM4R	18/04/2017	s	-	-	0.1743	-	-	-	-	-	6660	7.03	20.1
DM4R	19/04/2017	d	-	-	0.142	-	-	-	-	-	-	-	-
DM4R	19/04/2017	s	-	-	0.1745	-	-	-	-	-	-	-	-
DM4R	12/10/2017	d	<1	-	0.0943	<0.1	-	-	-	-	6620	6.76	19.8
DM4R	12/10/2017	s	<1	-	0.1073	0.1	-	-	-	-	6530	7.26	20
DM4R	6/04/2018	d	<1	-	-	-	-	0.2	-	-	-	-	-
DM4R	6/04/2018	d	-	-	0.1468	-	-	-	-	-	7500	6.77	20.8
DM4R	6/04/2018	s	<1	-	-	-	-	0.2	-	-	-	-	-
DM4R	6/04/2018	s	-	-	0.1728	-	-	-	-	-	7740	7.01	20.4
DM4R	29/10/2018	d	<1	-	0.1356	-	-	0.1	-	-	7650	7.35	20.4
DM4R	29/10/2018	s	<1	-	0.1713	-	-	0.2	-	-	7840	7.29	20.5
DM4R	16/04/2019	d	-	-	-	-	-	0.2	-	-	6980	6.6	-
DM4R	16/04/2019	s	-	-	-	-	-	0.2	-	-	7730	7.02	-
DM4R	17/04/2019	d	-	-	-	-	-	-	-	-	-	-	-
DM4R	10/10/2019	s	-	-	-	-	-	0.2	-	-	6980	6.65	21.1
DM4R	15/04/2020	s	<1	-	-	-	-	0.2	0.03	-	6930	7.28	-
DM4R	26/01/2021	s	<1	-	-	-	-	0.2	-	-	-	-	-

			Inorganics																					
			Ammonia as N	Bicarbonate	Bicarbonate as CaCO3	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Chloride	Chloride (Filtered)	EC (laboratory)	pH (laboratory)	Nitrate (as N)	Nitrate as NO3-N	Exchangeable Magnesium	Redox Potential	Salinity	Sodium	Sodium (Filtered)	Sulphate	Sulphate (Filtered)	Sulphide	TDS (evap)	TDS (evap) (Filtered)	Thorium
			µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µS/cm	pH	mg/L	mg/L	mg/L	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L
EQL					1	1	1	0.1	1			0.01	0.2				0.05	0.05	1	5		10		
ANZECC 2000 MW 95%																								
LocCode	Sampled_Date-Time	WellCode																						
DM4R	4/09/2015	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	4/09/2015	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	15/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	76.8	-	-	-	-	-	-	-	-	-
DM4R	15/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	77	-	-	-	-	-	-	-	-	-
DM4R	21/04/2016	d	-	-	-	57	<1	2300	-	-	-	0.4	-	-	-	-	280	-	450	-	-	6170	-	-
DM4R	21/04/2016	s	-	-	-	240	<1	2400	-	-	-	<0.2	-	-	-	-	320	-	590	-	-	5980	-	-
DM4R	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	15/09/2016	d	-	-	-	53	<1	2500	-	-	-	0.8	-	-	112	-	-	260	450	-	-	3440 - 8210	-	-
DM4R	15/09/2016	s	-	-	-	240	<1	2300	-	-	-	<0.2	-	-	108	-	-	250	510	-	-	3310 - 6640	-	-
DM4R	18/04/2017	d	-	-	-	57	-	-	2500	-	-	0.81	-	-	-	-	230	-	-	450	-	5570	-	-
DM4R	18/04/2017	d	-	-	-	-	-	-	-	-	-	-	-	-	-6	-	-	-	-	-	-	-	-	-
DM4R	18/04/2017	s	-	-	-	250	-	-	2300	-	-	<0.2	-	-	-	-	260	-	-	520	-	5070	-	-
DM4R	18/04/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-34	-	-	-	-	-	-	-	-	-
DM4R	19/04/2017	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	19/04/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	12/10/2017	d	-	-	-	58	-	-	2600	-	-	1.1	-	-	-48	-	-	159	-	450	-	3310 - 6400	-	-
DM4R	12/10/2017	s	-	-	-	260	-	-	2400	-	-	0.03	-	-	-66	-	-	167	-	510	-	3265 - 6100	-	-
DM4R	6/04/2018	d	-	-	-	62	-	-	2500	-	-	0.81	-	-	-	-	-	238	-	460	-	5490	-	-
DM4R	6/04/2018	d	-	-	-	-	-	-	-	-	-	-	-	-	89	3750	-	-	-	-	-	-	-	-
DM4R	6/04/2018	s	-	-	-	250	-	-	2400	-	-	<0.01	-	-	-	-	-	269	-	560	-	5190	-	-
DM4R	6/04/2018	s	-	-	-	-	-	-	-	-	-	-	-	-	-75	3860	-	-	-	-	-	-	-	-
DM4R	29/10/2018	d	-	-	-	90	-	2650	-	-	-	0.24	-	-	30	3800	-	233	490	-	-	4700	-	-
DM4R	29/10/2018	s	-	-	-	250	-	2440	-	-	-	0.03	-	-	3	3930	-	271	620	-	-	4700	-	-
DM4R	16/04/2019	d	-	-	-	-	-	2330 - 2370	-	-	-	<0.01	-	-	34	-	-	228 - 230	450	-	-	3490 - 5100	-	-
DM4R	16/04/2019	s	-	-	-	-	-	2610	-	-	-	<0.01	-	-	51	-	-	282	610	-	-	3870 - 5100	-	-
DM4R	17/04/2019	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	10/10/2019	s	-	-	-	-	-	2300	-	-	-	0.02	-	-	139	-	-	287	530	-	-	3490 - 5200	-	-
DM4R	15/04/2020	s	-	-	-	260	-	2520	-	-	-	-	-	-	167	-	-	253	570	-	-	3460 - 5500	-	-
DM4R	26/01/2021	s	-	-	-	250	-	2540	-	-	-	<0.01	-	-	-	-	-	293	570	-	-	5500	-	-

			Lead		Metals																	
			Lead Total	Lead Total (Filtered)	Aluminium	Arsenic	Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Calcium	Calcium (Filtered)	Chromium (hexavalent)	Chromium (hexavalent) (Filtered)	Chromium Total	Chromium Total (Filtered)	Chromium (Trivalent)	Chromium (Trivalent) (Filtered)	Cobalt	Cobalt (Filtered)	Copper Total	Copper Total (Filtered)
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			0.001	0.0001			0.005	0.005	0.0001	0.0001	0.005	0.005	0.001	0.001	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.0001
ANZECC 2000 MW 95%			0.0044	0.0044					0.0055	0.0055			0.0044	0.0044			0.0274	0.0274	0.001	0.001	0.0013	0.0013
LocCode	Sampled_Date-Time	WellCode																				
DM4R	4/09/2015	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	4/09/2015	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	15/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	15/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	21/04/2016	d	<0.001	-	-	-	0.6	-	<0.0001	-	670	-	-	<0.001	0.004	-	-	<0.001	<0.001	-	<0.001	-
DM4R	21/04/2016	s	<0.001	-	-	-	0.31	-	<0.0001	-	560	-	-	<0.001	0.002	-	-	<0.001	<0.001	-	<0.001	-
DM4R	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	15/09/2016	d	-	<0.001	-	-	-	0.52	-	<0.0001	-	620	-	<0.001	-	<0.001	-	<0.001	-	<0.001	-	<0.001
DM4R	15/09/2016	s	-	<0.001	-	-	-	0.25	-	<0.0001	-	480	-	<0.001	-	<0.001	-	<0.001	-	<0.001	-	<0.001
DM4R	18/04/2017	d	<0.001	-	-	-	0.46	-	<0.0001	-	630	-	<0.001	-	<0.001	-	<0.001	-	<0.001	-	0.001	-
DM4R	18/04/2017	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	18/04/2017	s	<0.001	-	-	-	0.24	-	<0.0001	-	510	-	<0.001	-	<0.001	-	<0.001	-	<0.001	-	<0.001	-
DM4R	18/04/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	19/04/2017	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	19/04/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	12/10/2017	d	-	<0.0001	-	-	-	0.43	-	<0.0001	-	672	<0.001	-	-	<0.001	<0.001	-	-	<0.0001	-	0.0001
DM4R	12/10/2017	s	-	<0.0001	-	-	-	0.22	-	<0.0001	-	575	<0.001	-	-	<0.001	<0.001	-	-	<0.0001	-	<0.0001
DM4R	6/04/2018	d	-	<0.0001	-	-	-	0.36	-	<0.0001	-	657	<0.001	-	-	<0.001	<0.001	-	-	<0.0001	-	0.0001
DM4R	6/04/2018	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	6/04/2018	s	-	<0.0001	-	-	-	0.23	-	<0.0001	-	543	<0.001	-	-	<0.001	<0.001	-	-	<0.0001	-	0.0001
DM4R	6/04/2018	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	29/10/2018	d	-	<0.0002	-	-	-	0.19	-	<0.0002	-	653	<0.001	-	-	0.0016	<0.001	-	-	0.0004	-	<0.0002
DM4R	29/10/2018	s	-	<0.0002	-	-	-	0.26	-	<0.0002	-	573	<0.001	-	-	<0.0002	<0.001	-	-	<0.0002	-	<0.0002
DM4R	16/04/2019	d	-	0.0002 - 0.0003	-	-	-	0.13 - 0.14	-	<0.0001	-	655 - 656	<0.001	-	-	<0.0005 - 0.0007	<0.001 - 0.003	-	-	0.0061 - 0.0063	-	0.0039
DM4R	16/04/2019	s	-	0.0002	-	-	-	0.24	-	<0.0001	-	619	<0.001	-	-	0.0023	0.006	-	-	<0.0001	-	0.0005
DM4R	17/04/2019	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	10/10/2019	s	-	<0.001	-	-	-	0.23	-	<0.001	-	567	<0.001	-	-	<0.001	<0.001	-	-	<0.001	-	0.0047
DM4R	15/04/2020	s	-	0.0003	-	-	-	0.21	-	<0.0002	-	483	<0.001	-	-	<0.001	<0.001	-	-	<0.0002	-	0.0016
DM4R	26/01/2021	s	-	<0.0001	-	-	-	0.24	-	<0.0001	-	515	<0.001	-	-	0.002	0.002	-	-	<0.0001	-	<0.0001

			Metals																					Other	Radionuclides	
			Iron	Iron (Filtered)	Magnesium	Magnesium (Filtered)	Manganese	Manganese (Filtered)	Mercury	Mercury (Filtered)	Molybdenum	Molybdenum (Filtered)	Nickel	Nickel (Filtered)	Potassium	Potassium (Filtered)	Selenium	Tin	Titanium	Uranium	Vanadium Total	Vanadium Total (Filtered)	Zinc	Acidity (as CaCO3)	Radium-226	Radium-228
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mBq/L	mBq/L
EQL			0.005	0.005	0.005	0.005	0.001	0.0001	0.00005	0.00001	0.001	0.0001	0.001	0.0005	0.05	0.05					0.001	0.0001				
ANZECC 2000 MW 95%									0.0004	0.0004			0.07	0.07							0.1	0.1	0.015			
LocCode	Sampled_Date-Time	WellCode																								
DM4R	4/09/2015	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	179	<100
DM4R	4/09/2015	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	<100
DM4R	15/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	15/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	21/04/2016	d	0.74	-	480	-	0.017	-	<0.0001	-	<0.001	-	0.006	-	25	-	-	-	-	-	<0.001	-	-	-	-	-
DM4R	21/04/2016	s	8.8	-	590	-	0.18	-	<0.0001	-	0.003	-	0.002	-	22	-	-	-	-	-	<0.001	-	-	-	-	-
DM4R	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	192	<100
DM4R	22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	<100
DM4R	15/09/2016	d	-	0.11	-	450	-	0.014	-	<0.0001	-	<0.001	-	0.003	-	11	-	-	-	-	-	<0.001	-	-	<100	<100
DM4R	15/09/2016	s	-	5.1	-	490	-	0.046	-	<0.0001	-	0.002	-	0.002	-	9.3	-	-	-	-	-	<0.001	-	-	<100	<100
DM4R	18/04/2017	d	0.097	-	450	-	0.012	-	<0.0001	-	<0.001	-	0.003	-	13	-	-	-	-	-	<0.001	-	-	-	-	-
DM4R	18/04/2017	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<11	<210
DM4R	18/04/2017	s	12	-	510	-	0.13	-	<0.0001	-	0.003	-	<0.001	-	11	-	-	-	-	-	<0.001	-	-	-	-	-
DM4R	18/04/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<65	<91
DM4R	19/04/2017	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	19/04/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM4R	12/10/2017	d	-	0.079	-	473	-	0.0083	<0.0001	-	-	0.0002	-	0.001	-	12.1	-	-	-	-	-	0.0002	-	-	<77 - 77	<230 - 230
DM4R	12/10/2017	s	-	14	-	530	-	0.12	<0.0001	-	-	0.0022	-	<0.0005	-	9.9	-	-	-	-	-	0.0006	-	-	<96 - 96	<190 - 190
DM4R	6/04/2018	d	-	0.049	-	507	-	0.018	<0.0001	-	-	0.0002	-	0.0011	-	12.1	-	-	-	-	-	0.0001	-	-	-	-
DM4R	6/04/2018	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58	130
DM4R	6/04/2018	s	-	9.5	-	571	-	0.15	<0.0001	-	-	0.0048	-	<0.0005	-	10.8	-	-	-	-	-	0.0005	-	-	-	-
DM4R	6/04/2018	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	150
DM4R	29/10/2018	d	-	0.67	-	497	-	0.29	<0.00005	-	-	<0.0002	-	0.0019	-	12.4	-	-	-	-	-	<0.0002	-	-	<64	<240
DM4R	29/10/2018	s	-	21	-	586	-	0.11	<0.00005	-	-	0.0015	-	<0.001	-	11.7	-	-	-	-	-	<0.0002	-	-	34	<160
DM4R	16/04/2019	d	-	8.9 - 9.1	-	469 - 472	-	0.25 - 0.28	<0.00005	-	-	<0.001	-	0.01 - 0.011	-	12.6 - 12.9	-	-	-	-	-	0.0003	-	-	41	<140
DM4R	16/04/2019	s	-	10	-	621	-	0.16	<0.00005	-	-	0.003	-	<0.001	-	12.7	-	-	-	-	-	0.0012	-	-	41	79
DM4R	17/04/2019	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	<250
DM4R	10/10/2019	s	-	11	-	584	-	0.077	<0.00005	-	-	<0.01	-	<0.01	-	14	-	-	-	-	-	<0.001	-	-	-	-
DM4R	15/04/2020	s	-	4.2	-	581	-	0.35	<0.00005	-	-	0.004	-	<0.002	-	10.4	-	-	-	-	-	0.0003	-	-	-	-
DM4R	26/01/2021	s	-	3.2	-	619	-	0.15	<0.00005	-	-	0.003	-	<0.001	-	13.3	-	-	-	-	-	0.0001	-	-	-	-

							Inorganic		NITROGEN	BTEX	Field			Inorganics																						Lead		Metals																																								Other	Radionuclides	
			Carbonate as CaCO3	Carbon	Na/Cl Ratio	Na/Cl Ratio (Filtered)	Na:Cl molar ratio	Na:Cl molar ratio (Filtered)	Nitrogen, nitrate + nitrite fraction by FIA.	Benzene	EC (field)	pH (Field)	Temp (field)	Ammonia as N	Bicarbonate	Bicarbonate as CaCO3	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Chloride	Chloride (Filtered)	EC (laboratory)	pH (laboratory)	Nitrate (as N)	Nitrate as NO3-N	Exchangeable Magnesium	Redox Potential	Salinity	Sodium	Sodium (Filtered)	Sulphate	Sulphate (Filtered)	Sulphide	TDS (evap)	TDS (evap) (Filtered)	Thorium	Lead Total	Lead Total (Filtered)	Aluminium	Arsenic	Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Calcium	Calcium (Filtered)	Chromium (hexavalent)	Chromium (hexavalent) (Filtered)	Chromium Total	Chromium Total (Filtered)	Chromium (Trivalent)	Chromium (Trivalent) (Filtered)	Cobalt	Cobalt (Filtered)	Copper Total	Copper Total (Filtered)	Iron	Iron (Filtered)	Magnesium	Magnesium (Filtered)	Manganese	Manganese (Filtered)	Mercury	Mercury (Filtered)	Molybdenum	Molybdenum (Filtered)	Nickel	Nickel (Filtered)	Potassium	Potassium (Filtered)	Selenium	Tin	Titanium	Uranium	Vanadium Total	Vanadium Total (Filtered)	Zinc	Acidity (as CaCO3)	Radium-226	Radium-228
			mg/L	mg/L	ratio	ratio	ratio	ratio	mg/L	µg/L	µS/cm	pH	oC	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µS/cm	pH	mg/L	mg/L	mg/L	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mBq/L	mBq/L
EQL			1		0.01	0.1	0.001	0.1	0.01							1	1	1	0.1	1			0.01	0.2				0.05	0.05	1	5		10			0.001	0.0001			0.005	0.005	0.0001	0.0001	0.005	0.005	0.001	0.001	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.0001	0.005	0.005	0.005	0.005	0.001	0.0001	0.00005	0.00001	0.001	0.0001	0.001	0.0005	0.05	0.05					0.001	0.0001				
ANZECC 2000 MW 95%										700																										0.0044	0.0044					0.0055	0.0055			0.0044	0.0044			0.0274	0.0274	0.001	0.001	0.0013	0.0013							0.0004	0.0004			0.07	0.07							0.1	0.1	0.015			
LocCode	Sampled_Date-Time	WellCode																																																																													
DM7	1/07/1992	d	-	-	-	-	-	-	-	-	-	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/10/1992	d	-	-	-	-	-	-	-	-	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/01/1993	d	-	-	-	-	-	-	-	-	-	7.65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/04/1993	d	-	-	-	-	-	-	-	-	-	7.05	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/07/1993	d	-	-	-	-	-	-	-	-	-	6.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/10/1993	d	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/01/1994	d	-	-	-	-	-	-	-	-	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/07/1994	d	-	-	-	-	-	-	-	-	-	7.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/10/1994	d	-	-	-	-	-	-	-	-	-	7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/01/1995	d	-	-	-	-	-	-	-	-	-	7.95	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/07/1995	d	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/10/1995	d	-	-	-	-	-	-	-	-	-	6.75	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/01/1996	d	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/07/1996	d	-	-	-	-	-	-	-	-	-	6.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/10/1996	d	-	-	-	-	-	-	-	-	-	7.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/01/1997	d	-	-	-	-	-	-	-	-	-	7.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/04/1997	d	-	-	-	-	-	-	-	-	-	7.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/07/1997	d	-	-	-	-	-	-	-	-	-	7.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/10/1997	d	-	-	-	-	-	-	-	-	-	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/01/1998	d	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/07/1998	d	-	-	-	-	-	-	-	-	-	7.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/10/1998	d	-	-	-	-	-	-	-	-	-	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/02/1999	d	-	-	-	-	-	-	-	-	-	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/05/1999	d	-	-	-	-	-	-	-	-	-	7.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/10/1999	d	-	-	-	-	-	-	-	-	-	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/02/2000	d	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/06/2000	d	-	-	-	-	-	-	-	-	-	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	9/08/2000	d	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	30/10/2000	s	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	1/02/2001	d	-	-	-	-	-	-	-	-	-	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	8/05/2001	d	-	-	-	-	-	-	-	-	-	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	26/07/2001	s	-	-	-	-	-	-	-	-	-	6.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	29/10/2001	s	-	-	-	-	-	-	-	-	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	8/02/2002	d	-	-	-	-	-	-	-	-	-	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	15/04/2002	s	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	6/11/2002	d	-	-	-	-	-	-	-	-	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	13/02/2003	d	-	-	-	-	-	-	-	-	-	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	30/04/2003	s	-	-	-	-	-	-	-	-	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	9/08/2003	d	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	24/11/2003	s	-	-	-	-	-	-	-	-	-	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	10/02/2004	d	-	-	-	-	-	-	-	-	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	13/05/2004	s	-	-	-	-	-	-	-	-	-	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	6/08/2004	d	-	-	-	-	-	-	-	-	-	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	10/11/2004	d	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	16/02/2005	s	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	15/04/2005	s	-	-	-	-	-	-	-	-	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	2/08/2005	d	-	-	-	-	-	-	-	-	-	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	14/11/2005	s	-	-	-	-	-	-	-	-	-	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	15/02/2006	s	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	18/05/2006	s	-	-	-	-	-	-	-	-	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	17/08/2006	s	-	-	-	-	-	-	-	-	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	31/10/2006	s	-	-	-	-	-	-	-	-	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	8/03/2007	d	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	19/06/2007	s	-	-	-	-	-	-	-	-	-	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	30/08/2007	s	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	2/11/2007	d	-	-	-	-	-	-	-	-	-	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	2/04/2008	d	-	-	-	-	-	-	-	-	-	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	8/07/2008	d	-	-	-	-	-	-	-	-	-	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	8/09/2008	d	-	-	-	-	-	-	-	-	-	7.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7	19/06/2009	d	-	-	-	-	-	-	-	-	3840	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

							Inorganic		NITROGEN	BTEX	Field			Inorganics																		
LocCode	Sampled_Date-Time	WellCode	Carbonate as CaCO3	Carbon	Na/Cl Ratio	Na/Cl Ratio (Filtered)	Na:Cl molar ratio	Na:Cl molar ratio (Filtered)	Nitrogen, nitrate + nitrite fraction by FIA.	Benzene	EC (Field)	pH (Field)	Temp (field)	Ammonia as N	Bicarbonate	Bicarbonate as CaCO3	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Chloride	Chloride (Filtered)	EC (laboratory)	pH (laboratory)	Nitrate (as N)	Nitrate as NO3-N	Exchangeable Magnesium	Redox Potential	Salinity	Sodium	Sodium (Filtered)	Sulphate	Sulphate (Filtered)	Sulphide
			mg/L	mg/L	ratio	ratio	ratio	ratio	mg/L	µg/L	µS/cm	pH	oC	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µS/cm	pH	mg/L	mg/L	mg/L	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			1		0.01	0.1	0.001	0.1	0.01							1	1	1	0.1	1			0.01	0.2				0.05	0.05	1	5	
ANZECC 2000 MW 95%										700																						
DM7R	1/07/1992	s	-	-	0.5187	-	-	-	-	-	2580	7	-	-	355	-	-	-	550	-	-	-	2	-	-	-	-	185	-	200	-	-
DM7R	1/10/1992	s	-	-	0.3009	-	-	-	-	-	3190	7.4	-	-	320	-	-	-	820	-	-	-	3	-	-	-	-	160	-	210	-	-
DM7R	1/01/1993	s	-	-	0.4058	-	-	-	-	-	2820	7.8	-	-	335	-	-	-	760	-	-	-	2	-	-	-	-	200	-	115	-	-
DM7R	1/04/1993	s	-	-	0.4766	-	-	-	-	-	2390	7.35	-	-	325	-	-	-	550	-	-	-	4	-	-	-	-	170	-	140	-	-
DM7R	1/07/1993	s	-	-	0.4626	-	-	-	-	-	2470	7	-	-	315	-	-	-	550	-	-	-	10	-	-	-	-	165	-	150	-	-
DM7R	1/10/1993	s	-	-	0.2044	-	-	-	-	-	5080	6.8	-	-	275	-	-	-	1320	-	-	-	14	-	-	-	-	175	-	95	-	-
DM7R	1/01/1994	s	-	-	0.1846	-	-	-	-	-	4720	6.9	-	-	230	-	-	-	1420	-	-	-	14	-	-	-	-	170	-	225	-	-
DM7R	1/04/1994	s	-	-	0.5094	-	-	-	-	-	2290	7.5	-	-	315	-	-	-	560	-	-	-	2	-	-	-	-	185	-	80	-	-
DM7R	1/07/1994	s	-	-	0.4688	-	-	-	-	-	2420	7.75	-	-	300	-	-	-	625	-	-	-	1	-	-	-	-	190	-	110	-	-
DM7R	1/10/1994	s	-	-	0.19	-	-	-	-	-	4780	7.6	-	-	230	-	-	-	1420	-	-	-	13	-	-	-	-	175	-	180	-	-
DM7R	1/01/1995	s	-	-	0.2024	-	-	-	-	-	5600	7.8	-	-	290	-	-	-	1600	-	-	-	6	-	-	-	-	210	-	180	-	-
DM7R	1/04/1995	s	-	-	0.2728	-	-	-	-	-	4500	7.75	-	-	230	-	-	-	1300	-	-	-	2	-	-	-	-	230	-	120	-	-
DM7R	1/07/1995	s	-	-	0.2364	-	-	-	-	-	5000	7.3	-	-	230	-	-	-	1500	-	-	-	2	-	-	-	-	230	-	170	-	-
DM7R	1/10/1995	s	-	-	0.1483	-	-	-	-	-	9100	7.1	-	-	240	-	-	-	2600	-	-	-	6	-	-	-	-	250	-	300	-	-
DM7R	1/01/1996	s	-	-	0.1071	-	-	-	-	-	13,000	7.7	-	-	240	-	-	-	3600	-	-	-	6	-	-	-	-	250	-	360	-	-
DM7R	1/07/1996	s	-	-	0.1428	-	-	-	-	-	8400	7.5	-	-	260	-	-	-	2700	-	-	-	18	-	-	-	-	250	-	200	-	-
DM7R	1/10/1996	s	-	-	0.1041	-	-	-	-	-	12,000	7	-	-	100	-	-	-	4000	-	-	-	-	-	-	-	-	270	-	420	-	-
DM7R	1/01/1997	s	-	-	0.1134	-	-	-	-	-	12,000	6.7	-	-	150	-	-	-	3400	-	-	-	2	-	-	-	-	250	-	390	-	-
DM7R	1/04/1997	s	-	-	0.119	-	-	-	-	-	12,000	6.5	-	-	130	-	-	-	3500	-	-	-	2	-	-	-	-	270	-	380	-	-
DM7R	1/07/1997	s	-	-	0.148	-	-	-	-	-	9600	6.7	-	-	200	-	-	-	2500	-	-	-	-	-	-	-	-	240	-	380	-	-
DM7R	1/10/1997	s	-	-	0.2159	-	-	-	-	-	5000	6.8	-	-	250	-	-	-	1500	-	-	-	1	-	-	-	-	210	-	220	-	-
DM7R	1/01/1998	s	-	-	0.2029	-	-	-	-	-	6400	6.5	-	-	220	-	-	-	1900	-	-	-	3	-	-	-	-	250	-	210	-	-
DM7R	1/07/1998	s	-	-	0.2698	-	-	-	-	-	3560	7.1	-	-	220	-	-	-	1200	-	-	-	0.07	-	-	-	-	210	-	170	-	-
DM7R	1/10/1998	s	-	-	0.2698	-	-	-	-	-	3920	7	-	-	240	-	-	-	1200	-	-	-	0.2	-	-	-	-	210	-	80	-	-
DM7R	1/02/1999	s	-	-	0.3638	-	-	-	-	-	2800	7	-	-	240	-	-	-	890	-	-	-	0.2	-	-	-	-	210	-	150	-	-
DM7R	1/05/1999	s	-	-	0.2663	-	-	-	-	-	3600	7.3	-	-	230	-	-	-	1100	-	-	-	-	-	-	-	-	190	-	150	-	-
DM7R	1/08/1999	s	-	-	0.257	-	-	-	-	-	4000	6.7	-	-	240	-	-	-	1200	-	-	-	0.01	-	-	-	-	200	-	180	-	-
DM7R	1/10/1999	s	-	-	0.1542	-	-	-	-	-	4900	7.2	-	-	320	-	-	-	1700	-	-	-	2.3	-	-	-	-	170	-	300	-	-
DM7R	1/02/2000	s	-	-	0.1638	-	-	-	-	-	4800	7.1	-	-	320	-	-	-	1600	-	-	-	1	-	-	-	-	170	-	260	-	-
DM7R	1/06/2000	s	-	-	0.1799	-	-	-	-	-	3900	7.3	-	-	370	-	-	-	1200	-	-	-	2	-	-	-	-	140	-	200	-	-
DM7R	9/08/2000	s	-	-	0.2787	-	-	-	-	-	3100	7	-	-	370	-	-	-	830	-	-	-	2.7	-	-	-	-	150	-	190	-	-
DM7R	30/10/2000	s	-	-	0.2625	-	-	-	-	-	3400	7	-	-	130	-	-	-	940	-	-	-	5.4	-	-	-	-	160	-	180	-	-
DM7R	1/02/2001	s	-	-	0.1953	-	-	-	-	-	4600	6.9	-	-	310	-	-	-	1500	-	-	-	3.5	-	-	-	-	190	-	240	-	-
DM7R	8/05/2001	s	-	-	0.1652	-	-	-	-	-	4300	7.6	-	-	360	-	-	-	1400	-	-	-	3.9	-	-	-	-	150	-	270	-	-
DM7R	26/07/2001	s	-	-	0.2243	-	-	-	-	-	3700	6.9	-	-	300	-	-	-	1100	-	-	-	0.61	-	-	-	-	160	-	240	-	-
DM7R	29/10/2001	s	-	-	0.1927	-	-	-	-	-	4300	7.1	-	-	310	-	-	-	1200	-	-	-	15	-	-	-	-	150	-	220	-	-
DM7R	8/02/2002	s	-	-	0.2625	-	-	-	-	-	3400	7	-	-	350	-	-	-	940	-	-	-	9	-	-	-	-	160	-	190	-	-
DM7R	15/04/2002	s	-	-	0.2321	-	-	-	-	-	3400	7	-	-	300	-	-	-	930	-	-	-	2.5	-	-	-	-	140	-	200	-	-
DM7R	12/08/2002	s	-	-	0.2159	-	-	-	-	-	3900	7.3	-	-	310	-	-	-	1000	-	-	-	15	-	-	-	-	140	-	240	-	-
DM7R	6/11/2002	s	-	-	0.1305	-	-	-	-	-	3600	7	-	-	320	-	-	-	1300	-	-	-	4	-	-	-	-	110	-	230	-	-
DM7R	13/02/2003	s	-	-	0.2384 - 0.2385	-	-	-	-	-	4100	7	-	-	260	-	-	-	970	-	-	-	6	-	-	-	-	150	-	240	-	-
DM7R	30/04/2003	s	-	-	0.2399	-	-	-	-	-	3800	7.1	-	-	270	-	-	-	900	-	-	-	6	-	-	-	-	140	-	270	-	-
DM7R	9/08/2003	s	-	-	0.2109	-	-	-	-	-	4000	7	-	-	260	-	-	-	1170	-	-	-	3	-	-	-	-	160	-	240	-	-
DM7R	24/11/2003	s	-	-	-	-	-	-	-	-	3612	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	25/11/2003	s	-	-	0.1898	-	-	-	-	-	3590	7.2	-	-	300	-	-	-	1300	-	-	-	2	-	-	-	-	160	-	140	-	-
DM7R	10/02/2004	s	-	-	0.2238	-	-	-	-	-	3718	7.1	-	-	260	-	-	-	1240	-	-	-	1	-	-	-	-	180	-	100	-	-
DM7R	13/05/2004	s	-	-	0.2093	-	-	-	-	-	4214	6.9	-	-	250	-	-	-	1400	-	-	-	5	-	-	-	-	190	-	150	-	-
DM7R	6/08/2004	s	-	-	0.2103	-	-	-	-	-	5190	7.1	-	-	230	-	-	-	1320	-	-	-	8	-	-	-	-	180	-	130	-	-
DM7R	10/11/2004	s	-	-	0.1757	-	-	-	-	-	4371	7.2	-	-	270	-	-	-	1580	-	-	-	9	-	-	-	-	180	-	230	-	-
DM7R	16/02/2005	s	-	-	0.1878	-	-	-	-	-	4821	7.1	-	-	240	-	-	-	1560	-	-	-	1.4	-	-	-	-	190	-	170	-	-
DM7R	15/04/2005	s	-	-	0.198	-	-	-	-	-	4800	7.1	-	-	240	-	-	-	1480	-	-	-	1.6	-	-	-	-	190	-	200	-	-
DM7R	2/08/2005	s	-	-	0.2093	-	-	-	-	-	4570	7.4	-	-	240	-	-	-	1400	-	-	-	0.2	-	-	-	-	190	-	250	-	-
DM7R	14/11/2005	s	-	-	0.1831	-	-	-	-	-	5810	7.1	-	-	-	-	-	-	1600	-	-	-	0.2	-	-	-	-	190	-	230	-	-
DM7R	15/02/2006	s	-	-	0.1492	-	-	-	-	-	6230	7	-	-	250	-	-	-	2170	-	-	-	0.2	-	-	-	-	210	-	280	-	-
DM7R	18/05/2006	s	-	-	0.1592	-	-	-	-	-	5680	7.1	-	-	-	-	-	-	1840	-	-	-	-	-	-	-	-	190	-	270	-	-
DM7R	17/08/2006	s	-	-	0.1953	-	-	-	-	-	4722	7.1	-	-	-	-	-	-	1500	-	-	-	-	-	-	-	-	190	-	270	-	-
DM7R	31/10/2006	s	-	8	0.2254	-	-	-	-	-	4370	7.2	-	-	-	-	-	-	1300	-	-	-	-	-	-	-	-	190	-	250	-	-
DM7R	8/03/2007	s	-	-	0.264	-	-	-	-	-	5590	7	-	-	-	-	-	-	1460	-	-	-	-	-	-	-	-	250	-	280	-	-
DM7R	19/06/2007	s	-	-	0.1905	-	-	-	-	-	5190	7.4	-	-	290	-	-	-	1700	-	-	-	3.43	-	-	-	-	210	-	290	-	-
DM7R	30/08/2007	s	-	-	0.1748	-	-	-	-	-	4950	7	-	-	280	-	-	-	1500	-	-	-	4.9	-	-	-	-	170	-	300	-	-
DM7R	2/11/2007	s	-	-	0.2523	-	-	-	-	-	4464	7.1	-	-	270	-	-	-	1100	-	-	-	0.2	-	-	-	-	180	-	260	-	-
DM7R	2/04/2008	s	-	-	0.2523	-	-	-	-	-	4205	6.8	-	-	290	-	-	-	1100	-	-	-	17	-	-	-	-	180	-	220	-	-
DM7R	8/07/2008	s	-	-	0.257	-	-	-	-	-	4140	7.1	-	-	280	-	-	-	1200	-	-	-	3.1	-	-	-	-	200	-	210	-	-
DM7R	8/09/2008	s	-	-	0.2243	-	-	-	-	-	3700	6.6	-	-	340	-	-	-	1100	-	-	-	3.4	-	-	-	-	160	-	220	-	-
DM7R	1/12/2008	s	-	-	0.1983	-	-	-	-	-	4292	6.9	-	-	350	-	-	-	1400	-	-	-	6.2	-	-	-	-	180	-	220	-	-
DM7R	1/03/2009	s	-	-	0.2254	-	-	-	-	-	4310	6.8	-	-	350	-	-	-	1300	-	-	-	7.5	-	-	-	-	190	-	210	-	-
DM7R	1/07/2009	s	-	-	-	-	-	-	-	-	4397	6.5	-	-	340	-	-	-	-	-	-	-	5.1	-	-	-	-	220	-	190	-	-
DM7R	30/09/2009	d	-	-	-	-	-	-	-	-	4166	6.8	-	-	340	-	-	-	-	-	-	-	0.2	-	-	-	-	170	-	170	-	-
DM7R	30/09/2009	s	-	-	0.392	-	-	-	-	-	3880	6.8	-	-	340	-	-	-	-	-	-	-	3	-	-	-	-	150	-	190	-	-
DM7R	23/12/2009	d	-	-	0.293	-	-	-	-	-	3640	7.3	-	-	370	-	-	-	1000	-	-	-	0.2	-	-	-	-	190	-	170	-	-
DM7R	23/12/2009	s	-	-	0.1898	-	-	-	-	-	4300	7.3	-	-	350	-	-	-	1300	-	-	-	4	-	-	-	-	160	-	200	-	-
DM7R	17/02/2010	d	-	-	0.2243	-	-	-	-	-	3650	7.5	-	-	250	-	-	-	1100	-	-	-	0.2	-	-	-	-	160	-	170	-	-
DM7R	17/02/2010	s	-	-	0.1762	-	-	-	-	-	4420	7.7	-	-	220	-	-	-	1400	-	-	-	5.1	-	-	-	-	160	-	190	-	-
DM7R	21/05/2010	d	-	-	0.1872	-	-	-	-	-	4540	7.32	-	-	260	-	-	-	1400	-	-	-	0.2	-	-	-	-	170	-	140	-	-
DM7R	21/05/2010	s	-	-	0.1638	-	-	-	-	-	5017	7.15	-	-	230	-	-	-	1600	-	-	-	4.7	-	-	-	-	170	-	180	-	-
DM7R	18/08/2010	d	-	-	0.2313	-	-	-	-	-	4886	7.1	-	-	370	-	-	-	1200	-	-	-	0.2	-	-	-	-	180	-	160	-	-
DM7R	18/08/2010	s	-	-	0.1872	-	-	-	-	-	4790	7	-	-	350	-	-	-	1400	-	-	-	4.7	-	-	-	-	170	-	200	-	-
DM7R	24/11/2010	d	-	-	0.2243	-	-	-	-	-	4110	7.07	-	-	360	-	-	-	1100	-	-	-	0.43	-	-	-	-	160	-	150	-	-
DM7R	24/11/2010	s	-	-	0.1898	-	-	-	-	-	4580	6.75	-	-	330	-	-	-	1300	-	-	-	5.8	-	-	-	-	160	-	180	-	-
DM7R	9/02/2011	d	-	-	0.1779	-	-	-	-	-	3965	7.1	-	-	370	-	-	-	1300	-	-	-	1	-	-	-	-	150	-	180	-	-
DM7R	9/02/2011	s	-	-	0.1542	-	-	-	-	-	4602	6.9	-	-	330	-	-	-	1200	-	-	-	5	-	-	-	-	120	-	160	-	-
DM7R	11/05/2011	d	-	-	0.2243	-	-	-	-	-	-	7.2	-	-	370	-	-	-	1100	-	-	-	0.2	-	-	-	-	160	-	180	-	-
DM7R	11/05/2011	s	-	-	0.1927	-	-	-	-	-	-	7	-	-	330	-	-	-	1200	-	-	-	3.6	-	-	-	-	150	-	180	-	-
DM7R	9/08/2011	d	-	-	0.2313	-	-	-	-	-	-	7	-	-	360	-	-	-	1200	-	-	-	0.2	-	-	-	-	180	-	140	-	-
DM7R	9/08/2011	s	-	-	0.2016	-	-	-	-	-	-	6.8	-	-	340	-	-	-	1300	-	-	-	3.5	-	-	-	-	170	-	150	-	-
DM7R	10/08/2011	d	-	-	-	-	-	-	-	-	4330	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	10/08/2011	s	-	-	-	-	-	-	-	-	4530	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	10/11/2011	d	-	-	0.2016	-	-	-	-	-	-	7	-	-	360	-	-	-	1300	-	-	-	0.2	-	-	-	-	170	-	150	-	-
DM7R	10/11/2011	s	-	-	0.2056	-	-	-	-	-	-	6.9	-	-	330	-	-	-	1200	-	-	-	2	-	-	-	-	160	-	170	-	-
DM7R	23/01/2012	d	-	-	0.2056	-	-	-	-	-	2240	5.39 - 7	-	-	370	-	-	-	1050	-	-	-	0.2	-	-	-	-	140	-	121	-	-
DM7R	23/01/2012	s	-	-	0.2159	-	-	-	-	-	2220	5.35 - 7.1	-	-	360	-	-	-	1000	-	-	-	2.2	-	-	-	-	140	-	180	-	-
DM7R	24/05/2012	d	-	-	0.3017	-	-	-	-	-	3430	7.1	-	-	320	-	-	-	920	-	-	-	0.2	-	-	-	-	180	-	130	-	-
DM7R	24/05/2012	s	-	-	0.3017	-	-	-	-	-	3810	6.98	-	-	350	-	-	-	920	-	-	-	3.6	-	-	-	-	180	-	170	-	-
DM7R	14/08/2012	d	-	-	0.1741	-	-	-	-	-	3690	6.78	-	-	370	-	-	-	1240	-	-	-	0.2	-	-	-	-	140	-	110	-	-
DM7R	14/08/2012	s	-	-	0.2336	-	-	-	-	-	4120	6.66	-	-	350	-	-	-	990	-	-	-	4.6	-	-	-	-	150	-	140	-	-
DM7R	26/10/2012	d	-	-	0.3722	-	-	-	-	-	3580	6.94	-	-	370	-	-	-	870	-	-	-	0.2	-	-	-	-	210	-	120	-	-
DM7R	26/10/2012	s	-	-	0.254	-	-	-	-	-	3730	6.98	-	-	360	-	-	-	850	-	-	-	3.4	-	-	-	-	140	-	140	-	-
DM7R	16/01/2013	d	-	-	0.4151	-	-	-	-	-	2810	7.06	21.1	-	370	-	-	-	520	-	-	-	0.2	-	-	-229	-	140	-	110	-	-
DM7R	16/01/2013	s	-	-	0.4176	-	-	-	-	-	2650	7.16	21.4	-	370	-	-	-	480	-	-	-	0.7	-	-	-223	-	130	-	110	-	-
DM7R	9/04/2013	d	-	-	0.3304	-	-	-	-	-	2900	6.96	21.1	-	360	-	-	-	700	-	-	-	0.2	-	-	-206	-	150	-	88	-	-
DM7R	9/04/2013	s	-	-	0.1406	-	-	-	-	-	3450	6.84	21.8	-	340	-	-	-	910	-	-	-	7.2	-	-	-138	-	83	-	88	-	-
DM7R	10/10/2013	d	-	-	0.3233	-	-	-	-	-	2600	7.09	21.8	<1000	-	350	-	-	620	-	-	-	0.2	-	-	-80	-	130	-	100	-	-
DM7R	10/10/2013	s	-	-	0.3304	-	-	-	-	-	2640	6.93	22.1	<1000	-	390	-	-	560	-	-	-	2.3	-	-	22	-	120	-	100	-	-
DM7R	9/04/2014	d	<1	-	0.2243	-	-	-	-	-	2490	6.89	20.4	-	370	390	-	-	1100	-	-	-	<0.2	-	130	-148	-	160	-	90	-	-
DM7R	9/04/2014	s	-	-	0.2243	-	-	-	-	-	3140	6.9	20.7	-	390	-	-	-	1100	-	-	-	0.2	-	-	-89	-	160	-	90	-	-
DM7R	16/10/2014	d	<1	-	0.4091	-	-	-	-	-	2580	6.64	20.7	-	-	380	-	-	490	-	-	-	-	<0.2	-	-	-	130	-	97	-	-
DM7R	16/10/2014	s	-	-	-	-	-	-	-	-	2960	6.4	20.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	16/04/2015	d	<1	-	0.4205	-	-	-	-	-	2150	6.69	22	-	-	380	-	-	440	-	-	-	-	0.2	-	-	-	120	-	190	-	-
DM7R	16/04/2015	s	<1	-	0.2924	-	-	-	-	-	2310	6.7	21.9	-	-	380	-	-	580	-	-	-	-	2.6	-	-	-	110	-	100	-	-
DM7R	3/09/2015	d	<1	-	0.424	-	-	-	-	-	1980	6.64	20.7	-	-	370	370	<1	400	-	-	-	<0.2	<0.2	-	22.4	-	110	-	120	-	-
DM7R	3/09/2015	s	<1	-	0.2457	-	-	-	-	-	2460	6.6	20.4	-	-	360	360	<1	590	-	-	-	3.6	3.6	-	211	-	94	-	98	-	-
DM7R	4/09/2015	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	4/09/2015	s	-	-	-	-	-	-	-	-	2460	6.6	20.4	-	-	-	-	-	-	-	-	-	-	-	-	211	-	-	-	-	-	-
DM7R	5/09/2015	s	-	-	-	-	-	-	-	-	-	6.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	15/04/2016	d	-	-	-	-	-	-	-	-	2150	6.69	22	-	-	-	-	-	-	-	-	-	-	-	-	-83	-	-	-	-	-	-
DM7R	15/04/2016	s	-	-	-	-	-	-	-	-	2310	6.7	21.9	-	-	-	-	-	-	-	-	-	-	-	-	63.7	-	-	-	-	-	-
DM7R	21/04/2016	d	-	-	0.7067	-	-	-	-	-	-	-	-	-	-	-	400	<1	240	-	-	-	<0.2	-	-	-	-	110	-	80	-	-
DM7R	21/04/2016	s	-	-	0.2728	-	-	-	-	-	-	-	-	-	-	-	370	<1	520	-	-	-	0.8	-	-	-	-	92	-	84	-	-
DM7R	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	15/09/2016	d	-	-	0.6425 - 0.66	-	-	-	-	-	1396	7.7	19.9	-	-	-	360	<1	240	-	-	-	<0.2	-	-	-10	-	-	100	86	-	-
DM7R	15/09/2016	s	-	-	0.3 - 0.3046	-	-	-	-	-	1848	7.65	19.7	-	-	-	360	<1	410	-	-	-	3.4	-	-	175	-	-	81	80	-	-
DM7R	18/04/2017	d	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	350	-	-	170	-	-	2.4	-	-	-	-	150	-	-	120	-
DM7R	18/04/2017	d	-	-	1.361	-	-	-	-	-	634	7.4	20.9	-	-	-	-	-	-	-	-	-	-	-	-	-57	-	-	-	-	-	-
DM7R	18/04/2017	s	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	350	-	-	270	-	-	1.4	-	-	-	-	71	-	-	76	-
DM7R	18/04/2017	s	-	-	0.4055	-	-	-	-	-	1534	7.47	21.2	-	-	-	-	-	-	-	-	-	-	-	-	-57	-	-	-	-	-	-
DM7R	19/04/2017	d	-	-	1.362	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	19/04/2017	s	-	-	0.4058	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	12/10/2017	d	<1	-	0.5	0.5	-	-	-	-	669	6.98	21.2	-	-	-	250	-	-	70	-	-	<0.01	-	-	-49	-	-	22.7	-	<5	-
DM7R	12/10/2017	s	<1	-	0.3658	0.4	-	-	-	-	1428	7.19	21.5	-	-	-	350	-	-	290	-	-	1.5	-	-	-61	-	-	68.8	-	69	-
DM7R	6/04/2018	d	<1	-	-	-	-	0.4	-	-	-	-	-	-	-	-	280	-	-	89	-	-	<0.01	-	-	-	-	-	25.6	-	<5	-
DM7R	6/04/2018	d	-	-	0.4435	-	-	-	-	-	865	7.35	21.7	-	-	-	-	-	-	-	-	-	-	-	-	-130	431	-	-	-	-	-
DM7R	6/04/2018	s	<1	-	-	-	-	0.6	-	-	-	-	-	-	-	-	360	-	-	230	-	-	1.4	-	-	-	-	-	82.1	-	62	-
DM7R	6/04/2018	s	-	-	0.5504	-	-	-	-	-	1477	7.53	21.3	-	-	-	-	-	-	-	-	-	-	-	-	48	738	-	-	-	-	-
DM7R	29/10/2018	d	<1	-	0.3626	-	-	0.4	-	-	1060	7.09	21.5	-	-	-	320	-	145	-	-	-	<0.01	-	-	-124	530	-	34.1	<1	-	-
DM7R	29/10/2018	s	<1	-	0.4465	-	-	0.5	-	-	1398	7.32	21.5	-	-	-	380	-	211	-	-	-	0.9	-	-	-1	704	-	61.1	70	-	-
DM7R	16/04/2019	d	-	-	-	-	-	0.5	-	-	1159	7.36	-	-	-	-	-	-	159	-	-	-	<0.01	-	-	-127	-	-	50.6	<1	-	-
DM7R	16/04/2019	s	-	-	-	-	-	0.6	-	-	1366	7.37	-	-	-	-	-	-	195	-	-	-	0.64	-	-	8	-	-	74.7	63	-	-
DM7R	10/10/2019	d	-	-	-	-	-	0.4	-	-	1173	6.96	22.1	-	-	-	-	-	195	-	-	-	<0.01	-	-	-126	-	-	53.5	4	-	-
DM7R	10/10/2019	s	-	-	-	-	-	0.4	-	-	1563	7.16	21.4	-	-	-	-	-	304	-	-	-	1.9	-	-	-98	-	-	73	52	-	-
DM7R	15/04/2020	d	<1	-	-	-	-	0.9	0.14	-	-	-	-	-	-	-	380	-	98	-	-	-	-	-	-	-	-	-	57.2	58	-	-
DM7R	15/04/2020	d	<1	-	-	-	-	0.5	0.02	-	1202	7.33	-	-	-	-	370	-	227	-	-	-	-	-	-	-141	-	-	69.1	8	-	-
DM7R	15/04/2020	s	<1	-	-	-	-	0.5	0.07	-	945	7.51	-	-	-	-	400	-	208	-	-	-	-	-	-	-99	-	-	64.1	50	-	-
DM7R	14/10/2020	d	<1	-	-	-	-	-	-	-	1119	6.9	-	-	-	-	380	-	204	-	-	-	<0.01	-	-	19	-	-	92.9	<1	-	-
DM7R	14/10/2020	s	<1	-	-	-	-	-	-	-	1160	7.13	-	-	-	-	340	-	219	-	-	-	2.1	-	-	38	-	-	66.6	80	-	-

			Inorganics (cont.)			Lead		Metals																							
LocCode	Sampled_Date-Time	WellCode	TDS (evap)	TDS (evap) (Filtered)	Thorium	Lead Total	Lead Total (Filtered)	Aluminium	Arsenic	Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Calcium	Calcium (Filtered)	Chromium (hexavalent)	Chromium (hexavalent) (Filtered)	Chromium Total	Chromium Total (Filtered)	Chromium (Trivalent)	Chromium (Trivalent) (Filtered)	Cobalt	Cobalt (Filtered)	Copper Total	Copper Total (Filtered)	Iron	Iron (Filtered)	Magnesium	Magnesium (Filtered)	Manganese
			mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			10			0.001	0.0001			0.005	0.005	0.0001	0.0001	0.005	0.005	0.001	0.001	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.0001	0.005	0.005	0.005	0.005	0.001
ANZECC 2000 MW 95%						0.0044	0.0044					0.0055	0.0055			0.0044	0.0044			0.0274	0.0274	0.001	0.001	0.0013	0.0013					
DM7R	1/07/1992	s	1650	-	-	-	-	-	-	-	-	-	-	205	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	110	-	-
DM7R	1/10/1992	s	2040	-	-	-	-	-	-	-	-	-	-	265	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	125	-	-
DM7R	1/01/1993	s	1800	-	-	-	-	-	-	-	-	-	-	265	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	105	-	-
DM7R	1/04/1993	s	1530	-	-	-	-	-	-	-	-	-	-	185	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	75	-	-
DM7R	1/07/1993	s	1580	-	-	-	-	-	-	-	-	-	-	175	-	-	-	0.05	-	-	-	-	-	-	-	0.3	-	85	-	-
DM7R	1/10/1993	s	2980	-	-	-	-	-	-	-	-	-	-	365	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	200	-	-
DM7R	1/01/1994	s	3020	-	-	-	-	-	-	-	-	-	-	500	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	195	-	-
DM7R	1/04/1994	s	1460	-	-	-	-	-	-	-	-	-	-	165	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	60	-	-
DM7R	1/07/1994	s	1550	-	-	-	-	-	-	-	-	-	-	215	-	-	-	0.05	-	-	-	-	-	-	-	0.1	-	65	-	-
DM7R	1/10/1994	s	2540	-	-	-	-	-	-	-	-	-	-	470	-	-	-	0.05	-	-	-	-	-	-	-	0.6	-	210	-	-
DM7R	1/01/1995	s	3500	-	-	-	-	-	-	-	-	-	-	440	-	-	-	0.05	-	-	-	-	-	-	-	0.15	-	260	-	-
DM7R	1/04/1995	s	2500	-	-	-	-	-	-	-	-	-	-	340	-	-	-	0.05	-	-	-	-	-	-	-	0.3	-	200	-	-
DM7R	1/07/1995	s	3200	-	-	-	-	-	-	-	-	-	-	530	-	-	-	0.05	-	-	-	-	-	-	-	0.2	-	190	-	-
DM7R	1/10/1995	s	5700	-	-	-	-	-	-	-	-	-	-	650	-	-	-	0.05	-	-	-	-	-	-	-	0.35	-	420	-	-
DM7R	1/01/1996	s	8100	-	-	-	-	-	-	-	-	-	-	880	-	-	-	0.1	-	-	-	-	-	-	-	0.15	-	720	-	-
DM7R	1/07/1996	s	5000	-	-	-	-	-	-	0.03	-	-	-	800	-	-	-	0.05	-	-	-	-	-	-	-	0.05	-	360	-	2
DM7R	1/10/1996	s	7400	-	-	-	-	-	-	0.1	-	-	-	1100	-	-	-	0.05	-	-	-	-	-	-	-	41	-	710	-	1.2
DM7R	1/01/1997	s	7000	-	-	-	-	-	-	0.1	-	-	-	910	-	-	-	0.05	-	-	-	-	-	-	-	9.9	-	630	-	0.8
DM7R	1/04/1997	s	7000	-	-	-	-	-	-	0.1	-	-	-	910	-	-	-	0.05	-	-	-	-	-	-	-	29	-	640	-	0.8
DM7R	1/07/1997	s	5800	-	-	-	-	-	-	0.14	-	-	-	740	-	-	-	0.05	-	-	-	-	-	-	-	25	-	440	-	0.6
DM7R	1/10/1997	s	3100	-	-	-	-	-	-	0.1	-	-	-	380	-	-	-	0.05	-	-	-	-	-	-	-	20	-	260	-	0.45
DM7R	1/01/1998	s	4100	-	-	-	-	-	-	0.1	-	-	-	570	-	-	-	0.05	-	-	-	-	-	-	-	7.9	-	340	-	0.35
DM7R	1/07/1998	s	3200	-	-	-	-	-	-	0.08	-	-	-	333	-	-	-	0.01	-	-	-	-	-	-	-	14	-	158	-	0.24
DM7R	1/10/1998	s	2670	-	-	-	-	-	-	0.08	-	-	-	350	-	-	-	0.01	-	-	-	-	-	-	-	8.7	-	120	-	0.2
DM7R	1/02/1999	s	2500	-	-	-	-	-	-	0.22	-	-	-	370	-	-	-	0.01	-	-	-	-	-	-	-	8.2	-	110	-	0.19
DM7R	1/05/1999	s	2700	-	-	-	-	-	-	0.1	-	-	-	350	-	-	-	0.01	-	-	-	-	-	-	-	8.7	-	110	-	0.3
DM7R	1/08/1999	s	2500	-	-	-	-	-	-	0.3	-	-	-	360	-	-	-	0.01	-	-	-	-	-	-	-	8.8	-	170	-	0.2
DM7R	1/10/1999	s	3400	-	-	-	-	-	-	0.4	-	-	-	340	-	-	-	0.03	-	-	-	-	-	-	-	0.01	-	290	-	0.01
DM7R	1/02/2000	s	3900	-	-	-	-	-	-	0.2	-	-	-	440	-	-	-	0.01	-	-	-	-	-	-	-	0.04	-	310	-	0.01
DM7R	1/06/2000	s	3200	-	-	-	-	-	-	0.31	-	-	-	360	-	-	-	0.04	-	-	-	-	-	-	-	0.18	-	260	-	0.01
DM7R	9/08/2000	s	2600	-	-	-	-	-	-	0.81	-	-	-	300	-	-	-	0.01	-	-	-	-	-	-	-	-	-	180	-	0.01
DM7R	30/10/2000	s	2500	-	-	-	-	-	-	0.1	-	-	-	300	-	-	-	0.01	-	-	-	-	-	-	-	0.08	-	150	-	0.01
DM7R	1/02/2001	s	3500	-	-	-	-	-	-	0.1	-	-	-	440	-	-	-	0.04	-	-	-	-	-	-	-	0.23	-	210	-	0.01
DM7R	8/05/2001	s	3500	-	-	-	-	-	-	0.1	-	-	-	450	-	-	-	0.02	-	-	-	-	-	-	-	0.13	-	230	-	0.01
DM7R	26/07/2001	s	3000	-	-	-	-	-	-	0.2	-	-	-	320	-	-	-	0.02	-	-	-	-	-	-	-	0.09	-	210	-	0.01
DM7R	29/10/2001	s	3200	-	-	-	-	-	-	0.18	-	-	-	420	-	-	-	0.04	-	-	-	-	-	-	-	0.6	-	260	-	0.005
DM7R	8/02/2002	s	3100	-	-	-	-	-	-	0.11	-	-	-	360	-	-	-	0.023	-	-	-	-	-	-	-	0.1	-	210	-	0.0047
DM7R	15/04/2002	s	3500	-	-	-	-	-	-	0.1	-	-	-	370	-	-	-	0.02	-	-	-	-	-	-	-	0.1	-	160	-	0.005
DM7R	12/08/2002	s	3900	-	-	-	-	-	-	0.13	-	-	-	241	-	-	-	0.037	-	-	-	-	-	-	-	0.1	-	197	-	0.0065
DM7R	6/11/2002	s	3200	-	-	-	-	-	-	0.17	-	-	-	233	-	-	-	0.05	-	-	-	-	-	-	-	0.1	-	238	-	0.013
DM7R	13/02/2003	s	3500	-	-	-	-	-	-	0.156	-	-	-	355	-	-	-	0.054	-	-	-	-	-	-	-	0.1	-	231	-	0.03
DM7R	30/04/2003	s	3790	-	-	-	-	-	-	0.15	-	-	-	320	-	-	-	0.005	-	-	-	-	-	-	-	0.1	-	200	-	0.036
DM7R	9/08/2003	s	3190	-	-	-	-	-	-	0.13	-	-	-	380	-	-	-	0.006	-	-	-	-	-	-	-	0.05	-	160	-	0.03
DM7R	24/11/2003	s	2913	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	25/11/2003	s	3520	-	-	-	-	-	-	0.17	-	-	-	450	-	-	-	0.015	-	-	-	-	-	-	-	0.1	-	120	-	0.02
DM7R	10/02/2004	s	3540	-	-	-	-	-	-	0.16	-	-	-	420	-	-	-	0.012	-	-	-	-	-	-	-	0.1	-	130	-	0.028
DM7R	13/05/2004	s	4410	-	-	-	-	-	-	0.16	-	-	-	390	-	-	-	0.005	-	-	-	-	-	-	-	0.1	-	190	-	0.038
DM7R	6/08/2004	s	3700	-	-	0.01	-	-	-	0.17	-	0.002	-	440	-	-	-	0.007	-	-	-	-	-	0.005	-	0.1	-	180	-	0.036
DM7R	10/11/2004	s	3840	-	-	-	-	-	-	0.16	-	-	-	450	-	-	-	0.005	-	-	-	-	-	-	-	0.11	-	210	-	0.046
DM7R	16/02/2005	s	4380	-	-	-	-	-	-	0.17	-	-	-	490	-	-	-	0.005	-	-	-	-	-	-	-	0.024	-	190	-	0.069
DM7R	15/04/2005	s	3050	-	-	-	-	-	-	0.17	-	-	-	580	-	-	-	0.0064	-	-	-	-	-	-	-	0.3	-	170	-	0.11
DM7R	2/08/2005	s	4210	-	-	-	-	-	-	0.15	-	-	-	550	-	-	-	0.002	-	-	-	-	-	-	-	0.042	-	140	-	0.083
DM7R	14/11/2005	s	4540	-	-	-	-	-	-	0.11	-	-	-	640	-	-	-	0.002	-	-	-	-	-	-	-	0.045	-	200	-	0.057
DM7R	15/02/2006	s	5230	-	-	0.001	-	0.024	-	0.17	-	0.0024	-	1200	-	-	-	0.0072	-	-	-	-	-	0.014	-	0.05	-	370	-	0.14
DM7R	18/05/2006	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	17/08/2006	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	31/10/2006	s	-	-	-	0.001	-	0.008	0.001	-	-	0.0001	-	480	-	0.005	-	0.014	-	-	-	0.001	-	0.001	-	0.06	-	180	-	-
DM7R	8/03/2007	s	-	-	-	0.001	-	0.005	0.002	-	-	0.0001	-	400	-	0.005	-	0.037	-	-	-	0.001	-	0.001	-	0.04	-	280	-	-
DM7R	19/06/2007	s	6180	-	-	0.001	-	-	-	0.17	-	0.0001	-	670	-	-	-	0.043	-	-	-	0.001	-	0.001	-	0.19	-	250	-	0.093
DM7R	30/08/2007	s	3830	-	-	0.001	-	-	-	0.22	-	0.0001	-	610	-	-	-	0.053	-	-	-	0.001	-	0.001	-	0.074	-	260	-	0.12
DM7R	2/11/2007	s	3070	-	-	0.001	-	-	-	0.18	-	0.0001	-	560	-	-	-	0.052	-	-	-	0.001	-	0.001	-	0.032	-	170	-	0.1
DM7R	2/04/2008	s	3860	-	-	0.001	-	-	-	0.18	-	0.0001	-	430	-	-	-	0.031	-	-	-	0.001	-	0.001	-	0.11	-	160	-	0.069
DM7R	8/07/2008	s	3580	-	-	0.003	-	-	-	0.23	-	0.0001	-	500	-	-	-	0.032	-	-	-	0.001	-	0.001	-	0.57	-	160	-	0.086
DM7R	8/09/2008	s	3390	-	-	0.001	-	-	-	0.23	-	0.0001	-	390	-	-	-	0.028	-	-	-	0.001	-	0.001	-	0.049	-	150	-	0.064
DM7R	1/12/2008	s	6060	-	-	0.001	-	-	-	0.17	-	0.0001	-	500	-	-	-	0.021	-	-	-	0.001	-	0.001	-	0.26	-	180	-	0.067
DM7R	1/03/2009	s	4520	-	-	0.001	-	-	-	0.34	-	0.0001	-	530	-	-	-	0.022	-	-	-	0.002	-	0.001	-	0.036	-	180	-	0.07
DM7R	1/07/2009	s	3510	-	-	0.001	-	-	-	0.19	-	0.0001	-	560	-	0.019	-	0.018	-	-	-	0.001	-	0.001	-	0.081	-	180	-	0.05
DM7R	30/09/2009	d	3530	-	-	0.001	-	-	-	0.22	-	0.0001	-	480	-	0.005	-	0.001	-	-	-	0.001	-	0.001	-	5	-	140	-	0.37
DM7R	30/09/2009	s	3170	-	-	0.001	-	-	-	0.26	-	0.0001	-	420	-	0.005	-	0.009	-	-	-	0.001	-	0.001	-	0.033	-	160	-	0.047
DM7R	23/12/2009	d	2680	-	-	0.001	-	-	-	0.13	-	0.0001	-	470	-	-	-	0.001	-	-	-	0.001	-	0.001	-	3	-	120	-	0.2
DM7R	23/12/2009	s	2970	-	-	0.001	-	-	-	0.15	-	0.0001	-	480	-	-	-	0.009	-	-	-	0.001	-	0.001	-	0.21	-	170	-	0.043
DM7R	17/02/2010	d	2260	-	-	0.001	-	-	-	0.11	-	0.0001	-	410	-	-	-	0.001	-	-	-	0.001	-	0.001	-	2.6	-	100	-	0.16
DM7R	17/02/2010	s	2740	-	-	0.001	-	-	-	0.13	-	0.0001	-	490	-	-	-	0.014	-	-	-	0.001	-	0.001	-	0.072	-	160	-	0.047
DM7R	21/05/2010	d	4100	-	-	0.001	-	-	-	0.14	-	0.0001	-	570	-	-	-	0.001	-	-	-	0.001	-	0.002	-	1	-	140	-	0.15
DM7R	21/05/2010	s	4560	-	-	0.001	-	-	-	0.15	-	0.0001	-	610	-	-	-	0.018	-	-	-	0.001	-	0.002	-	0.24	-	210	-	0.084
DM7R	18/08/2010	d	3820	-	-	0.001	-	-	-	0.19	-	0.0001	-	560	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	1.1	-	150	-	0.17
DM7R	18/08/2010	s	3850	-	-	0.001	-	-	-	0.2	-	0.0001	-	520	-	0.008	-	0.017	-	-	-	0.001	-	0.001	-	0.064	-	190	-	0.048
DM7R	24/11/2010	d	3640	-	-	0.001	-	-	-	0.21	-	0.0001	-	460	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	1.9	-	140	-	0.15
DM7R	24/11/2010	s	3930	-	-	0.001	-	-	-	0.22	-	0.0001	-	480	-	0.016	-	0.016	-	-	-	0.001	-	0.001	-	0.008	-	190	-	0.015
DM7R	9/02/2011	d	3200	-	-	0.001	-	-	-	0.19	-	0.0001	-	460	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	1.6	-	130	-	0.12
DM7R	9/02/2011	s	3920	-	-	0.001	-	-	-	0.2	-	0.0001	-	410	-	0.01	-	0.014	-	-	-	0.001	-	0.001	-	0.023	-	140	-	0.005
DM7R	11/05/2011	d	1560	-	-	0.001	-	-	-	0.2	-	0.0001	-	540	-	-	-	0.001	-	-	-	0.001	-	0.001	-	2.4	-	130	-	0.12
DM7R	11/05/2011	s	3400	-	-	0.001	-	-	-	0.2	-	0.0001	-	510	-	-	-	0.014	-	-	-	0.001	-	0.001	-	0.18	-	180	-	0.0087
DM7R	9/08/2011	d	3450	-	-	0.001	-	-	-	0.21	-	0.0001	-	510	-	-	-	0.001	-	-	-	0.001	-	0.001	-	3.2	-	130	-	0.13
DM7R	9/08/2011	s	3700	-	-	0.001	-	-	-	0.2	-	0.0001	-	480	-	-	-	0.014	-	-	-	0.001	-	0.001	-	0.1	-	180	-	0.005
DM7R	10/08/2011	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	10/08/2011	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	10/11/2011	d	3600	-	-	0.001	-	-	-	0.18	-	0.0001	-	520	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	2.5	-	120	-	0.12
DM7R	10/11/2011	s	3300	-	-	0.001	-	-	-	0.17	-	0.0001	-	460	-	0.003	-	0.0066	-	-	-	0.001	-	0.001	-	0.04	-	130	-	0.0072
DM7R	23/01/2012	d	3010	-	-	0.001	-	-	-	0.17	-	0.0001	-	460	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	2.5	-	110	-	0.11
DM7R	23/01/2012	s	2790	-	-	0.0014	-	-	-	0.16	-	0.0001	-	450	-	0.002	-	0.0058	-	-	-	0.001	-	0.001	-	0.6	-	120	-	0.071
DM7R	24/05/2012	d	2440	-	-	0.0016	-	-	-	0.17	-	0.0001	-	410	-	0.001	-	0.002	-	-	-	0.001	-	0.002	-	1.3	-	110	-	0.11
DM7R	24/05/2012	s	2630	-	-	0.015	-	-	-	0.19	-	0.0001	-	450	-	0.015	-	0.029	-	-	-	0.0013	-	0.0016	-	1.1	-	140	-	0.17
DM7R	14/08/2012	d	2810	-	-	0.001	-	-	-	0.16	-	0.0001	-	400	-	0.001	-	0.001	-	-	-	0.001	-	0.0028	-	1.5	-	110	-	0.12
DM7R	14/08/2012	s	3110	-	-	0.0012	-	-	-	0.2	-	0.00016	-	460	-	0.012	-	0.02	-	-	-	0.001	-	0.036	-	0.14	-	140	-	0.027
DM7R	26/10/2012	d	2470	-	-	0.0013	-	-	-	0.18	-	0.0001	-	660	-	0.001	-	0.001	-	-	-	0.001	-	0.004	-	3	-	170	-	0.12
DM7R	26/10/2012	s	2780	-	-	0.0013	-	-	-	0.19	-	0.0001	-	480	-	0.001	-	0.0077	-	-	-	0.001	-	0.001	-	1.3	-	130	-	0.056
DM7R	16/01/2013	d	1950	-	-	0.001	-	-	-	0.17	-	0.0001	-	320	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	1.4	-	87	-	0.094
DM7R	16/01/2013	s	1760	-	-	0.001	-	-	-	0.17	-	0.0001	-	300	-	0.001	-	0.002	-	-	-	0.001	-	0.001	-	0.32	-	77	-	0.027
DM7R	9/04/2013	d	2290	-	-	0.001	-	-	-	0.17	-	0.0001	-	280	-	0.001	-	0.002	-	-	-	0.001	-	0.001	-	1.3	-	73	-	0.081
DM7R	9/04/2013	s	3010	-	-	0.001	-	-	-	0.065	-	0.0001	-	83	-	0.004	-	0.15	-	-	-	0.001	-	0.001	-	3	-	28	-	0.12
DM7R	10/10/2013	d	1560	-	-	0.002	-	-	0.002	0.19	-	<0.0001	-	240	-	<0.001	-	0.001	-	-	-	<0.001	-	0.002	-	0.82	-	62	-	0.094
DM7R	10/10/2013	s	1650	-	-	0.057	-	-	0.009	0.18	-	<0.0001	-	260	-	<0.001	-	0.028	-	-	-	0.002	-	0.003	-	1 - 2.2	-	81	-	0.52
DM7R	9/04/2014	d	2710	-	-	<0.001	-	-	-	0.15	-	<0.0001	-	460	-	<0.001	-	0.002	-	0.002	-	<0.001	-	0.001	-	2.2	-	91	-	0.66
DM7R	9/04/2014	s	2710	-	-	0.001	-	-	-	0.15	-	0.0001	-	460	-	0.001	-	0.002	-	-	-	0.001	-	0.001	-	2.2	-	130	-	0.66
DM7R	16/10/2014	d	1980	-	-	<0.001	-	-	-	0.17	-	<0.0001	-	270	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	-	1.5	-	86	-	0.11
DM7R	16/10/2014	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	16/04/2015	d	1770	-	-	<0.001	-	-	-	0.13	-	<0.0001	-	240	-	-	<0.001	<0.001	-	-	<0.001	<0.001	-	<0.001	-	0.97	-	73	-	0.098
DM7R	16/04/2015	s	2420	-	-	<0.001	-	-	-	0.13	-	<0.0001	-	320	-	-	0.003	0.005	-	-	0.002	<0.001	-	0.001	-	0.24	-	87	-	0.096
DM7R	3/09/2015	d	1260	-	-	<0.001	-	-	-	0.12	-	<0.0001	-	190	-	-	<0.001	<0.001	-	-	<0.001	<0.001	-	<0.001	-	0.83	-	66	-	0.078
DM7R	3/09/2015	s	1840	-	-	<0.001	-	-	-	0.12	-	<0.0001	-	260	-	-	<0.001	0.002	-	-	0.002	<0.001	-	0.001	-	0.26	-	80	-	0.049
DM7R	4/09/2015	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	4/09/2015	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	5/09/2015	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	15/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	15/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	21/04/2016	d	910	-	-	<0.001	-	-	-	0.14	-	<0.0001	-	170	-	-	<0.001	<0.001	-	-	<0.001	<0.001	-	<0.001	-	0.33	-	54	-	0.054
DM7R	21/04/2016	s	1610	-	-	0.006	-	-	-	0.14	-	<0.0001	-	290	-	-	0.002	0.01	-	-	<0.001	0.001	-	<0.001	-	0.86	-	84	-	0.27
DM7R	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	15/09/2016	d	698 - 910	-	-	-	<0.001	-	-	-	0.11	-	<0.0001	-	140	-	<0.001	-	<0.001	-	<0.001	-	<0.001	-	<0.001	-	0.29	-	46	-
DM7R	15/09/2016	s	923 - 1470	-	-	-	0.007	-	-	-	0.1	-	<0.0001	-	210	-	0.002	-	0.005	-	0.003	-	<0.001	-	<0.001	-	0.28	-	70	-
DM7R	18/04/2017	d	826	-	-	0.009	-	-	-	0.049	-	0.0002	-	68	-	<0.001	-	0.013	-	0.013	-	0.028	-	0.007	-	0.57	-	23	-	0.37
DM7R	18/04/2017	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	18/04/2017	s	878	-	-	0.002	-	-	-	0.098	-	<0.0001	-	160	-	<0.001	-	0.002	-	0.002	-	<0.001	-	<0.001	-	0.19	-	55	-	0.1
DM7R	18/04/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	19/04/2017	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	19/04/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	12/10/2017	d	334.5 - 360	-	-	-	0.0082	-	-	-	0.03	-	<0.0001	-	94.2	<0.001	-	-	0.002	0.002	-	-	0.0003	-	0.0035	-	8.1	-	10.3	-
DM7R	12/10/2017	s	714 - 1100	-	-	-	0.001	-	-	-	0.09	-	<0.0001	-	170	<0.001	-	-	0.005	0.004	-	-	0.0002	-	0.0026	-	0.064	-	57.9	-
DM7R	6/04/2018	d	380	-	-	-	0.023	-	-	-	0.05	-	<0.0001	-	103	<0.001	-	-	<0.001	<0.001	-	-	0.0003	-	0.0027	-	8.8	-	11.7	-
DM7R	6/04/2018	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	6/04/2018	s	772	-	-	-	0.0025	-	-	-	0.099	-	<0.0001	-	149	0.002	-	-	0.002	<0.001	-	-	0.0003	-	0.0009	-	0.065	-	56.6	-
DM7R	6/04/2018	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	29/10/2018	d	570	-	-	-	0.0083	-	-	-	0.046	-	<0.0001	-	105	<0.001	-	-	0.0002	<0.001	-	-	0.0004	-	0.0014	-	10	-	14.2	-
DM7R	29/10/2018	s	770	-	-	-	0.0013	-	-	-	0.077	-	<0.0001	-	123	<0.001	-	-	0.0007	<0.001	-	-	0.0002	-	0.0012	-	0.033	-	46.6	-
DM7R	16/04/2019	d	570 - 579	-	-	-	0.012	-	-	-	0.08	-	<0.0001	-	119	<0.001	-	-	0.0017	0.015	-	-	0.0006	-	0.0024	-	11	-	19.8	-
DM7R	16/04/2019	s	683 - 770	-	-	-	0.0024	-	-	-	0.09	-	<0.0001	-	146	0.001	-	-	0.0023	0.002	-	-	0.001	-	0.0016	-	0.46	-	54	-
DM7R	10/10/2019	d	586 - 700	-	-	-	0.0084	-	-	-	0.089	-	<0.0001	-	126	<0.001	-	-	<0.001	<0.001	-	-	0.0006	-	0.005	-	13	-	24.4	-
DM7R	10/10/2019	s	781 - 980	-	-	-	0.0041	-	-	-	0.1	-	<0.0001	-	181	<0.001	-	-	0.002	0.001	-	-	0.0008	-	0.0039	-	2.3	-	62.5	-
DM7R	15/04/2020	d	610	-	-	-	0.0035	-	-	-	0.06	-	<0.0001	-	102	<0.001	-	-	0.002	0.002	-	-	0.0022	-	0.0008	-	0.16	-	38	-
DM7R	15/04/2020	d	601 - 780	-	-	-	0.0067	-	-	-	0.06	-	<0.0001	-	122	0.002	-	-	<0.001	<0.001	-	-	0.0004	-	0.0014	-	12	-	28.7	-
DM7R	15/04/2020	s	473 - 810	-	-	-	0.0022	-	-	-	0.07	-	<0.0001	-	145	<0.001	-	-	<0.001	<0.001	-	-	0.0027	-	0.0006	-	1.9	-	51.4	-
DM7R	14/10/2020	d	559 - 770	-	-	-	0.0031	-	-	-	<0.05	-	<0.0001	-	120	<0.001	-	-	<0.001	<0.001	-	-	0.0002	-	0.0011	-	4.1	-	39.2	-
DM7R	14/10/2020	s	580 - 870	-	-	-	0.0012	-	-	-	<0.05	-	<0.0001	-	153	<0.001	-	-	<0.001	<0.001	-	-	0.0003	-	0.0018	-	0.033	-	53.1	-

			Metals (cont.)																Other	Radionuclides	
LocCode	Sampled_Date-Time	WellCode	Manganese (Filtered)	Mercury	Mercury (Filtered)	Molybdenum	Molybdenum (Filtered)	Nickel	Nickel (Filtered)	Potassium	Potassium (Filtered)	Selenium	Tin	Titanium	Uranium	Vanadium Total	Vanadium Total (Filtered)	Zinc	Acidity (as CaCO3)	Radium-226	Radium-228
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mBq/L	mBq/L
EQL			0.0001	0.00005	0.00001	0.001	0.0001	0.001	0.0005	0.05	0.05					0.001	0.0001				
ANZECC 2000 MW 95%				0.0004	0.0004			0.07	0.07							0.1	0.1	0.015			
DM7R	1/07/1992	s	-	-	-	-	-	-	-	6.1	-	-	-	-	-	-	-	-	-	37	-
DM7R	1/10/1992	s	-	-	-	-	-	-	-	7.2	-	-	-	-	-	-	-	-	-	37	-
DM7R	1/01/1993	s	-	-	-	-	-	-	-	5.8	-	-	-	-	-	-	-	-	-	37	-
DM7R	1/04/1993	s	-	-	-	-	-	-	-	4.4	-	-	-	-	-	-	-	-	-	37	-
DM7R	1/07/1993	s	-	-	-	-	-	-	-	5.1	-	-	-	-	-	-	-	-	-	37	-
DM7R	1/10/1993	s	-	-	-	-	-	-	-	5.4	-	-	-	-	-	-	-	-	-	3	-
DM7R	1/01/1994	s	-	-	-	-	-	-	-	5.5	-	-	-	-	-	-	-	-	-	37	-
DM7R	1/04/1994	s	-	-	-	-	-	-	-	5.5	-	-	-	-	-	-	-	-	-	5	-
DM7R	1/07/1994	s	-	-	-	-	-	-	-	5.5	-	-	-	-	-	-	-	-	-	37	-
DM7R	1/10/1994	s	-	-	-	-	-	-	-	6.5	-	-	-	-	-	-	-	-	-	59	-
DM7R	1/01/1995	s	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	38	-
DM7R	1/04/1995	s	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	44	-
DM7R	1/07/1995	s	-	-	-	-	-	-	-	8.5	-	-	-	-	-	-	-	-	-	37	-
DM7R	1/10/1995	s	-	-	-	-	-	-	-	11.5	-	-	-	-	-	-	-	-	-	37	-
DM7R	1/01/1996	s	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	69	-
DM7R	1/07/1996	s	-	-	-	-	-	-	-	11	-	-	-	-	-	0.5	-	-	-	42	-
DM7R	1/10/1996	s	-	-	-	-	-	-	-	12	-	-	-	-	-	0.5	-	-	-	72	-
DM7R	1/01/1997	s	-	-	-	-	-	-	-	13	-	-	-	-	-	0.5	-	-	-	73	-
DM7R	1/04/1997	s	-	-	-	-	-	-	-	12	-	-	-	-	-	0.2	-	-	-	84	-
DM7R	1/07/1997	s	-	-	-	-	-	-	-	11	-	-	-	-	-	0.5	-	-	-	80	-
DM7R	1/10/1997	s	-	-	-	-	-	-	-	8.8	-	-	-	-	-	0.1	-	-	-	90	-
DM7R	1/01/1998	s	-	-	-	-	-	-	-	10	-	-	-	-	-	0.5	-	-	-	90	-
DM7R	1/07/1998	s	-	-	-	-	-	-	-	7	-	-	-	-	-	0.5	-	-	10	-	-
DM7R	1/10/1998	s	-	-	-	-	-	-	-	8.1	-	-	-	-	-	0.2	-	-	10	146	-
DM7R	1/02/1999	s	-	-	-	-	-	-	-	7.8	-	-	-	-	-	0.2	-	-	10	-	-
DM7R	1/05/1999	s	-	-	-	-	-	-	-	7.6	-	-	-	-	-	0.2	-	-	10	-	-
DM7R	1/08/1999	s	-	-	-	-	-	-	-	8.5	-	-	-	-	-	0.5	-	-	10	77	-
DM7R	1/10/1999	s	-	-	-	-	-	-	-	8.9	-	-	-	-	-	0.1	-	-	10	-	-
DM7R	1/02/2000	s	-	-	-	-	-	-	-	8.3	-	-	-	-	-	0.1	-	-	10	29	-
DM7R	1/06/2000	s	-	-	-	-	-	-	-	8.9	-	-	-	-	-	0.1	-	-	10	22	128
DM7R	9/08/2000	s	-	-	-	-	-	-	-	7	-	-	-	-	-	0.1	-	-	10	18	596
DM7R	30/10/2000	s	-	-	-	-	-	-	-	8	-	-	-	-	-	0.1	-	-	10	30	214
DM7R	1/02/2001	s	-	-	-	-	-	-	-	9.8	-	-	-	-	-	0.1	-	-	10	21	-
DM7R	8/05/2001	s	-	-	-	-	-	-	-	14	-	-	-	-	-	0.1	-	-	10	-	640
DM7R	26/07/2001	s	-	-	-	-	-	-	-	9.6	-	-	-	-	-	0.1	-	-	5	11	-
DM7R	29/10/2001	s	-	-	-	-	-	-	-	12	-	-	-	-	-	0.05	-	-	-	70	90
DM7R	8/02/2002	s	-	-	-	-	-	-	-	8	-	-	-	-	-	0.005	-	-	-	170	240
DM7R	15/04/2002	s	-	-	-	-	-	-	-	8	-	-	-	-	-	0.05	-	-	-	120	110
DM7R	12/08/2002	s	-	-	-	-	-	-	-	8	-	-	-	-	-	0.05	-	-	-	140	310
DM7R	6/11/2002	s	-	-	-	-	-	-	-	7	-	-	-	-	-	0.005	-	-	-	14	218
DM7R	13/02/2003	s	-	-	-	-	-	-	-	7	-	-	-	-	-	0.005	-	-	-	37	135
DM7R	30/04/2003	s	-	-	-	-	-	-	-	8	-	-	-	-	-	0.005	-	-	-	11	-
DM7R	9/08/2003	s	-	-	-	-	-	-	-	6	-	-	-	-	-	0.005	-	-	-	28	113
DM7R	24/11/2003	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	25/11/2003	s	-	-	-	-	-	-	-	8	-	-	-	-	-	0.005	-	-	-	9	100
DM7R	10/02/2004	s	-	-	-	-	-	-	-	10	-	-	-	-	-	0.005	-	-	-	18	307
DM7R	13/05/2004	s	-	-	-	-	-	-	-	11	-	-	-	-	-	0.005	-	-	-	25	252
DM7R	6/08/2004	s	-	0.0001	-	-	-	0.005	-	10	-	-	-	-	-	0.005	-	-	-	12	189
DM7R	10/11/2004	s	-	-	-	-	-	0.005	-	9.4	-	-	-	-	-	-	-	-	-	14	381
DM7R	16/02/2005	s	-	-	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	9	117
DM7R	15/04/2005	s	-	-	-	-	-	-	-	10	-	-	-	-	-	0.0064	-	-	-	3	100
DM7R	2/08/2005	s	-	-	-	-	-	-	-	11	-	-	-	-	-	0.002	-	-	1	37	424
DM7R	14/11/2005	s	-	-	-	-	-	-	-	9	-	-	-	-	-	0.001	-	-	1	22	441
DM7R	15/02/2006	s	-	-	-	-	-	0.003	-	-	-	-	-	-	-	0.002	-	-	1	21	405
DM7R	18/05/2006	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	397
DM7R	17/08/2006	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	399
DM7R	31/10/2006	s	-	0.0001	-	-	-	0.001	-	12	-	-	-	-	-	0.002	-	-	-	31	100
DM7R	8/03/2007	s	-	0.0001	-	-	-	0.001	-	15	-	-	-	-	-	0.002	-	-	-	34	530
DM7R	19/06/2007	s	-	0.0001	-	-	-	0.001	-	13	-	-	-	-	-	0.002	-	-	1	49	446
DM7R	30/08/2007	s	-	0.0001	-	-	-	0.001	-	9.2	-	-	-	-	-	0.002	-	-	1	-	-
DM7R	2/11/2007	s	-	0.0001	-	-	-	0.001	-	10	-	-	-	-	-	0.002	-	-	1	25	100
DM7R	2/04/2008	s	-	0.0001	-	-	-	0.001	-	9.1	-	-	-	-	-	0.002	-	-	1	17	350
DM7R	8/07/2008	s	-	0.0001	-	-	-	0.001	-	11	-	-	-	-	-	0.002	-	-	1	100	100
DM7R	8/09/2008	s	-	0.0001	-	-	-	0.001	-	8.1	-	-	-	-	-	0.002	-	-	1	100	287
DM7R	1/12/2008	s	-	0.0001	-	-	-	0.001	-	8.2	-	-	-	-	-	0.002	-	-	1	35	216
DM7R	1/03/2009	s	-	0.0001	-	-	-	0.001	-	9.3	-	-	-	-	-	0.002	-	-	1	3	100
DM7R	1/07/2009	s	-	0.0001	-	-	-	0.001	-	8.4	-	-	-	-	-	0.002	-	-	1	33	449
DM7R	30/09/2009	d	-	0.0001	-	-	-	0.001	-	7.9	-	-	-	-	-	0.001	-	-	1	49	262
DM7R	30/09/2009	s	-	0.0001	-	-	-	0.001	-	8	-	-	-	-	-	0.002	-	-	1	42	100
DM7R	23/12/2009	d	-	0.0001	-	-	-	0.001	-	11	-	-	-	-	-	0.001	-	-	1	15	186
DM7R	23/12/2009	s	-	0.0001	-	-	-	0.001	-	11	-	-	-	-	-	0.001	-	-	1	24	322
DM7R	17/02/2010	d	-	0.0001	-	-	-	0.001	-	7.8	-	-	-	-	-	0.001	-	-	1	45	320
DM7R	17/02/2010	s	-	0.0001	-	-	-	0.001	-	10	-	-	-	-	-	0.002	-	-	1	64	522
DM7R	21/05/2010	d	-	0.0001	-	-	-	0.01	-	11	-	-	-	-	-	0.001	-	-	-	42	100
DM7R	21/05/2010	s	-	0.0001	-	-	-	0.006	-	12	-	-	-	-	-	0.003	-	-	-	9	100
DM7R	18/08/2010	d	-	0.0001	-	-	-	0.001	-	8.6	-	-	-	-	-	0.001	-	-	-	108	203
DM7R	18/08/2010	s	-	0.0001	-	-	-	0.001	-	9.8	-	-	-	-	-	0.002	-	-	-	21	207
DM7R	24/11/2010	d	-	0.0001	-	-	-	0.001	-	9.2	-	-	-	-	-	0.001	-	-	-	37	100
DM7R	24/11/2010	s	-	0.0001	-	-	-	0.001	-	11	-	-	-	-	-	0.002	-	-	-	49	195
DM7R	9/02/2011	d	-	0.0001	-	-	-	0.001	-	9.2	-	-	-	-	-	0.001	-	-	-	37	100
DM7R	9/02/2011	s	-	0.0001	-	-	-	0.001	-	8.5	-	-	-	-	-	0.001	-	-	-	27	216
DM7R	11/05/2011	d	-	0.0001	-	-	-	0.001	-	9.9	-	-	-	-	-	0.001	-	-	-	29	100
DM7R	11/05/2011	s	-	0.0001	-	-	-	0.001	-	11	-	-	-	-	-	0.001	-	-	-	46	100
DM7R	9/08/2011	d	-	0.0001	-	-	-	0.001	-	10	-	-	-	-	-	0.001	-	-	-	17	100
DM7R	9/08/2011	s	-	0.0001	-	-	-	0.001	-	11	-	-	-	-	-	0.001	-	-	-	45	100
DM7R	10/08/2011	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	10/08/2011	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	10/11/2011	d	-	0.0001	-	-	-	0.001	-	10	-	-	-	-	-	0.001	-	-	-	142	325
DM7R	10/11/2011	s	-	0.0001	-	-	-	0.001	-	11	-	-	-	-	-	0.0011	-	-	-	55	100
DM7R	23/01/2012	d	-	0.0001	-	0.0015	-	0.001	-	11	-	-	-	-	-	0.001	-	-	-	17	100
DM7R	23/01/2012	s	-	0.0001	-	0.0097	-	0.001	-	11	-	-	-	-	-	0.0027	-	-	-	14	156
DM7R	24/05/2012	d	-	0.0001	-	0.0011	-	0.0042	-	11	-	-	-	-	-	0.001	-	-	-	44	482
DM7R	24/05/2012	s	-	0.0001	-	0.012	-	0.0014	-	11	-	-	-	-	-	0.0044	-	-	-	61	116
DM7R	14/08/2012	d	-	0.00086	-	-	-	0.001	-	11	-	-	-	-	-	0.001	-	-	-	59	161
DM7R	14/08/2012	s	-	0.0001	-	-	-	0.001	-	12	-	-	-	-	-	0.0028	-	-	-	31	214
DM7R	26/10/2012	d	-	0.0001	-	-	-	0.001	-	19	-	-	-	-	-	0.003	-	-	-	57	100
DM7R	26/10/2012	s	-	0.0001	-	-	-	0.001	-	12	-	-	-	-	-	0.0045	-	-	-	22	100
DM7R	16/01/2013	d	-	0.0001	-	-	-	0.001	-	9.5	-	-	-	-	-	0.001	-	-	-	23	100
DM7R	16/01/2013	s	-	0.0001	-	-	-	0.001	-	9.7	-	-	-	-	-	0.001	-	-	-	15	100
DM7R	9/04/2013	d	-	0.0001	-	-	-	0.001	-	6.4	-	-	-	-	-	0.001	-	-	-	75	100
DM7R	9/04/2013	s	-	0.0001	-	-	-	0.001	-	3.7	-	-	-	-	-	0.002	-	-	-	26	100
DM7R	10/10/2013	d	-	<0.0001	-	0.002	-	0.001	-	8	-	<0.001	-	-	-	0.001	-	0.006	-	62	<100
DM7R	10/10/2013	s	-	<0.0001	-	0.01	-	0.003	-	9	-	0.001	-	-	-	0.02	-	0.029	-	80	<100
DM7R	9/04/2014	d	-	<0.0001	-	<0.004	-	<0.001	-	9.3	-	-	-	-	-	0.002	-	-	-	72	100
DM7R	9/04/2014	s	-	0.0001	-	0.004	-	0.001	-	9.3	-	-	-	-	-	0.002	-	-	-	101	100
DM7R	16/10/2014	d	-	<0.0001	-	0.001	-	<0.001	-	11	-	-	-	-	-	<0.001	-	-	-	86	181
DM7R	16/10/2014	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	150
DM7R	16/04/2015	d	-	<0.0001	-	0.002	-	<0.001	-	7.3	-	-	-	-	-	<0.001	-	-	-	98	100
DM7R	16/04/2015	s	-	<0.0001	-	0.008	-	<0.001	-	8	-	-	-	-	-	0.003	-	-	-	91	100
DM7R	3/09/2015	d	-	<0.0001	-	0.002	-	<0.001	-	8.7	-	-	-	-	-	<0.001	-	-	-	-	-
DM7R	3/09/2015	s	-	<0.0001	-	0.009	-	<0.001	-	6.4	-	-	-	-	-	0.001	-	-	-	-	-
DM7R	4/09/2015	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	<100
DM7R	4/09/2015	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	166	<100
DM7R	5/09/2015	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	227	<100
DM7R	15/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	15/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	21/04/2016	d	-	<0.0001	-	0.002	-	<0.001	-	7.5	-	-	-	-	-	<0.001	-	-	-	-	-
DM7R	21/04/2016	s	-	<0.0001	-	0.01	-	<0.001	-	11	-	-	-	-	-	0.006	-	-	-	-	-
DM7R	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	<100
DM7R	22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	126 - 136	<100
DM7R	15/09/2016	d	0.061	-	<0.0001	-	0.001	-	<0.001	-	3.9	-	-	-	-	-	<0.001	-	-	<100	<100
DM7R	15/09/2016	s	0.099	-	<0.0001	-	0.005	-	<0.001	-	4.8	-	-	-	-	-	0.004	-	-	<100	<100
DM7R	18/04/2017	d	-	<0.0001	-	<0.001	-	0.034	-	12	-	-	-	-	-	<0.001	-	-	-	-	-
DM7R	18/04/2017	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<63	<140
DM7R	18/04/2017	s	-	<0.0001	-	0.011	-	<0.001	-	4.5	-	-	-	-	-	0.005	-	-	-	-	-
DM7R	18/04/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<110	<210
DM7R	19/04/2017	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	19/04/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM7R	12/10/2017	d	0.17	<0.0001	-	-	<0.0001	-	0.0012	-	7.7	-	-	-	-	-	0.0006	-	-	<75 - 75	<21 - 210
DM7R	12/10/2017	s	0.063	<0.0001	-	-	0.012	-	0.0012	-	5.2	-	-	-	-	-	0.0042	-	-	49	140
DM7R	6/04/2018	d	0.18	<0.0001	-	-	<0.0001	-	0.0009	-	9.9	-	-	-	-	-	0.0015	-	-	-	-
DM7R	6/04/2018	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	85	240
DM7R	6/04/2018	s	0.085	<0.0001	-	-	0.016	-	0.0005	-	5.1	-	-	-	-	-	0.0055	-	-	-	-
DM7R	6/04/2018	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	72	210
DM7R	29/10/2018	d	0.23	<0.00005	-	-	<0.0001	-	0.0013	-	13.2	-	-	-	-	-	0.0003	-	-	31	<130
DM7R	29/10/2018	s	0.049	<0.00005	-	-	0.019	-	<0.0005	-	3.9	-	-	-	-	-	0.0043	-	-	<42	<230
DM7R	16/04/2019	d	0.28	<0.00005	-	-	<0.001	-	0.006	-	15.6	-	-	-	-	-	0.0012	-	-	51	<200
DM7R	16/04/2019	s	0.23	<0.00005	-	-	0.019	-	<0.001	-	4.8	-	-	-	-	-	0.0094	-	-	61	<210
DM7R	10/10/2019	d	0.36	<0.00005	-	-	<0.001	-	0.002	-	16.5	-	-	-	-	-	0.0012	-	-	-	-
DM7R	10/10/2019	s	0.71	<0.00005	-	-	0.014	-	0.001	-	5.2	-	-	-	-	-	0.0048	-	-	-	-
DM7R	15/04/2020	d	0.39	<0.00005	-	-	0.006	-	<0.001	-	3.5	-	-	-	-	-	0.0092	-	-	-	-
DM7R	15/04/2020	d	0.41	<0.00005	-	-	<0.001	-	0.002	-	15	-	-	-	-	-	0.001	-	-	-	-
DM7R	15/04/2020	s	0.91	<0.00005	-	-	0.009	-	<0.001	-	4.4	-	-	-	-	-	0.0061	-	-	-	-
DM7R	14/10/2020	d	0.21	<0.00005	-	-	<0.001	-	<0.001	-	11.7	-	-	-	-	-	0.0006	-	-	-	-
DM7R	14/10/2020	s	0.07	<0.00005	-	-	0.008	-	<0.001	-	4.6	-	-	-	-	-	0.0049	-	-	-	-

							Inorganic		NITROGEN	BTEX	Field			Inorganics																						Lead		Metals																																							Other	Radionuclides	
			Carbonate as CaCO3	Carbon	Na/Cl Ratio	Na/Cl Ratio (Filtered)	Na:Cl molar ratio	Na:Cl molar ratio (Filtered)	Nitrogen, nitrate + nitrite fraction by FIA.	Benzene	EC (field)	pH (Field)	Temp (field)	Ammonia as N	Bicarbonate	Bicarbonate as CaCO3	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Chloride	Chloride (Filtered)	EC (laboratory)	pH (laboratory)	Nitrate (as N)	Nitrate as NO3-N	Exchangeable Magnesium	Redox Potential	Salinity	Sodium	Sodium (Filtered)	Sulphate	Sulphate (Filtered)	Sulphide	TDS (evap)	TDS (evap) (Filtered)	Thorium	Lead Total	Lead Total (Filtered)	Aluminium	Arsenic	Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Calcium	Calcium (Filtered)	Chromium (hexavalent)	Chromium (hexavalent) (Filtered)	Chromium Total	Chromium Total (Filtered)	Chromium (Trivalent)	Chromium (Trivalent) (Filtered)	Cobalt	Cobalt (Filtered)	Copper Total	Copper Total (Filtered)	Iron	Iron (Filtered)	Magnesium	Magnesium (Filtered)	Manganese	Manganese (Filtered)	Mercury	Mercury (Filtered)	Molybdenum	Molybdenum (Filtered)	Nickel	Nickel (Filtered)	Potassium	Potassium (Filtered)	Selenium	Tin	Titanium	Uranium	Vanadium Total	Vanadium Total (Filtered)	Zinc	Acidity (as CaCO3)	Radium-226	Radium-228
			mg/L	mg/L	ratio	ratio	ratio	ratio	mg/L	µg/L	µS/cm	pH	oC	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µS/cm	pH	mg/L	mg/L	mg/L	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mBq/L	mBq/L
EQL			1		0.01	0.1	0.001	0.1	0.01							1	1	1	0.1	1			0.01	0.2				0.05	0.05	1	5		10			0.001	0.0001			0.005	0.005	0.0001	0.0001	0.005	0.005	0.001	0.001	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.0001	0.005	0.005	0.005	0.005	0.001	0.0001	0.00005	0.00001	0.001	0.0001	0.001	0.0005	0.05	0.05					0.001	0.0001				
ANZECC 2000 MW 95%										700																										0.0044	0.0044					0.0055	0.0055			0.0044	0.0044			0.0274	0.0274	0.001	0.001	0.0013	0.0013							0.0004	0.0004			0.07	0.07							0.1	0.1	0.015			
LocCode	Sampled_Date-Time	WellCode																																																																													
DM8	1/10/1996	d	-	-	-	-	-	-	-	-	4000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	1/10/1996	s	-	-	0.2728	-	-	-	-	-	-	7.7	-	-	210	-	-	-	1300	-	-	-	6	-	-	-	-	230	-	40	-	-	2600	-	-	-	-	-	-	0.1	-	-	-	430	-	-	-	0.05	-	-	-	-	-	-	-	17	-	78	-	0.75	-	-	-	-	-	-	-	12	-	-	-	-	-	0.5	-	-	-	49	-
DM8	1/04/1997	d	-	-	-	-	-	-	-	-	6700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	1/04/1997	s	-	-	0.2177	-	-	-	-	-	-	6.6	-	-	170	-	-	-	1700	-	-	-	1	-	-	-	-	240	-	130	-	-	3400	-	-	-	-	-	-	0.1	-	-	-	610	-	-	-	0.05	-	-	-	-	-	-	-	21	-	150	-	1.4	-	-	-	-	-	-	-	14	-	-	-	-	-	0.2	-	-	-	58	-
DM8	1/07/1997	d	-	-	-	-	-	-	-	-	7500	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	1/07/1997	s	-	-	0.185	-	-	-	-	-	4200	6.8	-	-	170	-	-	-	2000	-	-	-	-	-	-	-	-	240	-	230	-	-	4500	-	-	-	-	-	-	0.06	-	-	-	730	-	-	-	0.05	-	-	-	-	-	-	-	36	-	210	-	2.1	-	-	-	-	-	-	-	16	-	-	-	-	-	0.5	-	-	-	110	-
DM8	1/10/1997	d	-	-	-	-	-	-	-	-	6400	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	1/10/1997	s	-	-	0.1696	-	-	-	-	-	7300	6.4	-	-	180	-	-	-	2000	-	-	-	3	-	-	-	-	220	-	180	-	-	3500	-	-	-	-	-	-	0.1	-	-	-	740	-	-	-	0.05	-	-	-	-	-	-	-	31	-	200	-	1.7	-	-	-	-	-	-	-	15	-	-	-	-	-	0.1	-	-	-	80	-
DM8	1/01/1998	d	-	-	-	-	-	-	-	-	8300	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	1/01/1998	s	-	-	0.148	-	-	-	-	-	6500	6.1	-	-	130	-	-	-	2500	-	-	-	2	-	-	-	-	240	-	170	-	-	5300	-	-	-	-	-	-	0.1	-	-	-	920	-	-	-	0.05	-	-	-	-	-	-	-	35	-	270	-	1.9	-	-	-	-	-	-	-	15	-	-	-	-	-	0.5	-	-	-	100	-
DM8	1/07/1998	d	-	-	-	-	-	-	-	-	4890	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	1/07/1998	s	-	-	0.1619	-	-	-	-	-	3660	6.7	-	-	160	-	-	-	1800	-	-	-	0.08	-	-	-	-	189	-	190	-	-	4500	-	-	-	-	-	-	0.05	-	-	-	610	-	-	-	0.01	-	-	-	-	-	-	-	28.5	-	209	-	1.27	-	-	-	-	-	-	-	10	-	-	-	-	-	0.5	-	-	10	-	-
DM8	1/10/1998	d	-	-	-	-	-	-	-	-	4610	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	1/10/1998	s	-	-	0.1831	-	-	-	-	-	4700	6.7	-	-	150	-	-	-	1600	-	-	-	0.2	-	-	-	-	190	-	84	-	-	3300	-	-	-	-	-	-	0.07	-	-	-	510	-	-	-	0.01	-	-	-	-	-	-	-	23	-	170	-	1.2	-	-	-	-	-	-	-	12	-	-	-	-	-	0.2	-	-	10	88	-
DM8	1/02/1999	d	-	-	-	-	-	-	-	-	3900	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	1/02/1999	s	-	-	0.2056	-	-	-	-	-	4500	6.8	-	-	160	-	-	-	1500	-	-	-	0.2	-	-	-	-	200	-	160	-	-	3500	-	-	-	-	-	-	0.49	-	-	-	510	-	-	-	0.01	-	-	-	-	-	-	-	20	-	190	-	0.86	-	-	-	-	-	-	-	10.4	-	-	-	-	-	0.2	-	-	10	-	-
DM8	1/05/1999	d	-	-	-	-	-	-	-	-	6400	7.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	1/05/1999	s	-	-	0.1332	-	-	-	-	-	4200	6.8	-	-	100	-	-	-	2200	-	-	-	0.2	-	-	-	-	190	-	230	-	-	5000	-	-	-	-	-	-	0.1	-	-	-	710	-	-	-	0.01	-	-	-	-	-	-	-	21	-	240	-	1.4	-	-	-	-	-	-	-	10	-	-	-	-	-	0.2	-	-	10	-	-
DM8	1/08/1999	d	-	-	-	-	-	-	-	-	5600	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	1/08/1999	s	-	-	0.1542	-	-	-	-	-	-	6.5	-	-	140	-	-	-	2000	-	-	-	0.02	-	-	-	-	200	-	240	-	-	3600	-	-	-	-	-	-	0.1	-	-	-	630	-	-	-	0.01	-	-	-	-	-	-	-	24	-	230	-	0.98	-	-	-	-	-	-	-	12	-	-	-	-	-	0.5	-	-	10	96	140
DM8	1/10/1999	d	-	-	-	-	-	-	-	-	5100	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	1/10/1999	s	-	-	0.1623	-	-	-	-	-	6200	6.7	-	-	140	-	-	-	1900	-	-	-	0.07	-	-	-	-	200	-	170	-	-	4000	-	-	-	-	-	-	0.2	-	-	-	460	-	-	-	0.01	-	-	-	-	-	-	-	0.01	-	460	-	1.2	-	-	-	-	-	-	-	11	-	-	-	-	-	0.1	-	-	10	-	-
DM8	1/02/2000	d	-	-	-	-	-	-	-	-	6400	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	1/02/2000	s	-	-	0.1295	-	-	-	-	-	5800	6.6	-	-	130	-	-	-	2500	-	-	-	0.01	-	-	-	-	210	-	280	-	-	5200	-	-	-	-	-	-	0.6	-	-	-	740	-	-	-	0.01	-	-	-	-	-	-	-	22	-	360	-	1.2	-	-	-	-	-	-	-	12	-	-	-	-	-	0.1	-	-	10	196	-
DM8	1/06/2000	d	-	-	-	-	-	-	-	-	6100	7.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	1/06/2000	s	-	-	0.1349	-	-	-	-	-	3500	6.9	-	-	140	-	-	-	2400	-	-	-	0.01	-	-	-	-	210	-	180	-	-	5100	-	-	-	-	-	-	0.19	-	-	-	680	-	-	-	0.01	-	-	-	-	-	-	-	0.97	-	350	-	1.5	-	-	-	-	-	-	-	12	-	-	-	-	-	0.1	-	-	10	90	428
DM8	9/08/2000	d	-	-	-	-	-	-	-	-	6300	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	9/08/2000	s	-	-	0.1475	-	-	-	-	-	6000	7	-	-	130	-	-	-	2300	-	-	-	0.18	-	-	-	-	220	-	260	-	-	5500	-	-	-	-	-	-	0.63	-	-	-	750	-	-	-	0.01	-	-	-	-	-	-	-	26	-	340	-	1.6	-	-	-	-	-	-	-	12	-	-	-	-	-	0.1	-	-	10	119	-
DM8	30/10/2000	d	-	-	-	-	-	-	-	-	6400	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	30/10/2000	s	-	-	0.1413	-	-	-	-	-	5300	6	-	-	130	-	-	-	2400	-	-	-	0.01	-	-	-	-	220	-	310	-	-	5400	-	-	-	-	-	-	0.1	-	-	-	650	-	-	-	0.01	-	-	-	-	-	-	-	0.4	-	340	-	1.1	-	-	-	-	-	-	-	11	-	-	-	-	-	0.1	-	-	10	61	-
DM8	1/02/2001	d	-	-	-	-	-	-	-	-	6600	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	1/02/2001	s	-	-	0.1357	-	-	-	-	-	3800	6.3	-	-	140	-	-	-	2500	-	-	-	0.05	-	-	-	-	220	-	350	-	-	5400	-	-	-	-	-	-	0.1	-	-	-	620	-	-	-	0.01	-	-	-	-	-	-	-	16	-	410	-	1.3	-	-	-	-	-	-	-	11	-	-	-	-	-	0.1	-	-	10	63	281
DM8	8/05/2001	d	-	-	-	-	-	-	-	-	5900	7.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	8/05/2001	s	-	-	0.1341	-	-	-	-	-	3400	6.8	-	-	140	-	-	-	2300	-	-	-	0.28	-	-	-	-	200	-	290	-	-	5000	-	-	-	-	-	-	0.1	-	-	-	620	-	-	-	0.01	-	-	-	-	-	-	-	19	-	340	-	1.2	-	-	-	-	-	-	-	17	-	-	-	-	-	0.1	-	-	10	117	-
DM8	26/07/2001	d	-	-	-	-	-	-	-	-	5600	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	26/07/2001	s	-	-	0.1836	-	-	-	-	-	2600	6.5	-	-	160	-	-	-	2100	-	-	-	0.01	-	-	-	-	250	-	260	-	-	4700	-	-	-	-	-	-	0.1	-	-	-	580	-	-	-	0.01	-	-	-	-	-	-	-	19	-	350	-	1.2	-	-	-	-	-	-	-	12	-	-	-	-	-	0.1	-	-	5	109	-
DM8	29/10/2001	d	-	-	-	-	-	-	-	-	4400	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	29/10/2001	s	-	-	0.2135	-	-	-	-	-	2000	6.8	-	-	220	-	-	-	1300	-	-	-	1	-	-	-	-	180	-	220	-	-	3800	-	-	-	-	-	-	0.12	-	-	-	440	-	-	-	0.005	-	-	-	-	-	-	-	15	-	230	-	1	-	-	-	-	-	-	-	11	-	-	-	-	-	0.05	-	-	-	90	150
DM8	8/02/2002	d	-	-	-	-	-	-	-	-	-	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	8/02/2002	s	-	-	-	-	-	-	-	-	2200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	18/02/2002	d	-	-	-	-	-	-	-	-	3500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	18/02/2002	s	-	-	0.293	-	-	-	-	-	-	6.8	-	-	220	-	-	-	1000	-	-	-	1	-	-	-	-	190	-	120	-	-	3100	-	-	-	-	-	-	0.07	-	-	-	360	-	-	-	0.01	-	-	-	-	-	-	-	11	-	160	-	0.98	-	-	-	-	-	-	-	8	-	-	-	-	-	0.05	-	-	-	170	250
DM8	15/04/2002	d	-	-	-	-	-	-	-	-	3200	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	15/04/2002	s	-	-	0.2984	-	-	-	-	-	-	6.8	-	-	190	-	-	-	930	-	-	-	0.2	-	-	-	-	180	-	110	-	-	2900	-	-	-	-	-	-	0.061	-	-	-	290	-	-	-	0.01	-	-	-	-	-	-	-	6.6	-	120	-	0.56	-	-	-	-	-	-	-	9	-	-	-	-	-	0.05	-	-	-	120	110
DM8	12/08/2002	d	-	-	-	-	-	-	-	-	3600	7.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	12/08/2002	s	-	-	0.2663	-	-	-	-	-	-	7.3	-	-	190	-	-	-	1100	-	-	-	15	-	-	-	-	190	-	140	-	-	3500	-	-	-	-	-	-	0.083	-	-	-	240	-	-	-	0.01	-	-	-	-	-	-	-	11.2	-	131	-	0.88	-	-	-	-	-	-	-	11	-	-	-	-	-	0.05	-	-	-	150	310
DM8	6/11/2002	d	-	-	-	-	-	-	-	-	4100	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	6/11/2002	s	-	-	0.1983	-	-	-	-	-	4000	6.9	-	-	200	-	-	-	1400	-	-	-	0.2	-	-	-	-	180	-	230	-	-	3500	-	-	-	-	-	-	0.081	-	-	-	288	-	-	-	0.005	-	-	-	-	-	-	-	1.2	-	181	-	1.1	-	-	-	-	-	-	-	9	-	-	-	-	-	0.005	-	-	-	27	190
DM8	13/02/2003	d	-	-	-	-	-	-	-	-	4600	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	13/02/2003	s	-	-	0.2372	-	-	-	-	-	4100	6.8	-	-	180	-	-	-	1300	-	-	-	1	-	-	-	-	200	-	190	-	-	3700	-	-	-	-	-	-	0.165	-	-	-	408	-	-	-	0.005	-	-	-	-	-	-	-	15	-	219	-	1	-	-	-	-	-	-	-	12	-	-	-	-	-	0.005	-	-	-	131	374
DM8	30/04/2003	d	-	-	-	-	-	-	-	-	6400	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	30/04/2003	s	-	-	0.1631	-	-	-	-	-	7500	6.7	-	-	150	-	-	-	2080	-	-	-	1	-	-	-	-	220	-	350	-	-	6830	-	-	-	-	-	-	0.1	-	-	-	610	-	-	-	0.005	-	-	-	-	-	-	-	0.9	-	350	-	1.4	-	-	-	-	-	-	-	16	-	-	-	-	-	0.005	-	-	-	71	551
DM8	9/08/2003	d	-	-	-	-	-	-	-	-	7600	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	9/08/2003	s	-	-	0.1375	-	-	-	-	-	6400	6.6	-	-	140	-	-	-	2580	-	-	-	0.05	-	-	-	-	230	-	440	-	-	6140	-	-	-	-	-	-	0.097	-	-	-	720	-	-	-	0.005	-	-	-	-	-	-	-	4.4	-	430	-	1.9	-	-	-	-	-	-	-	16	-	-	-	-	-	0.005	-	-	-	55	289
DM8	24/11/2003	d	-	-	-	-	-	-	-	-	6650	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	24/11/2003	s	-	-	0.1375	-	-	-	-	-	5000	6.6	-	-	150	-	-	-	2580	-	-	-	1	-	-	-	-	230	-	360	-	-	6400	-	-	-	-	-	-	0.13	-	-	-	660	-	-	-	0.005	-	-	-	-	-	-	-	23	-	520	-	1.7	-	-	-	-	-	-	-	15	-	-	-	-	-	0.005	-	-	-	97	402
DM8	10/02/2004	d	-	-	-	-	-	-	-	-	6300	7.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	10/02/2004	s	-	-	0.1569	-	-	-	-	-	5200	6.9	-	-	160	-	-	-	2260	-	-	-	1	-	-	-	-	230	-	260	-	-	6120	-	-	-	-	-	-	0.12	-	-	-	530	-	-	-	0.005	-	-	-	-	-	-	-	21	-	400	-	1.6	-	-	-	-	-	-	-	14	-	-	-	-	-	0.005	-	-	-	32	-
DM8	13/05/2004	d	-	-	-	-	-	-	-	-	6486	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	13/05/2004	s	-	-	0.1478	-	-	-	-	-	8000	6.8	-	-	150	-	-	-	2400	-	-	-	1	-	-	-	-	230	-	390	-	-	6930	-	-	-	-	-	-	0.1	-	-	-	630	-	-	-	0.005	-	-	-	-	-	-	-	0.1	-	360	-	1.4	-	-	-	-	-	-	-	14	-	-	-	-	-	0.005	-	-	-	85	453
DM8	6/08/2004	d	-	-	-	-	-	-	-	-	8075	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	6/08/2004	s	-	-	0.15	-	-	-	-	-	-	6.9	-	-	130	-	-	-	2570	-	-	-	1	-	-	-	-	250	-	350	-	-	7350	-	-	0.01	-	-	-	0.12	-	0.002	-	710	-	-	-	0.005	-	-	-	-	-	0.005	-	31	-	640	-	1.9	-	0.0001	-	-	-	0.005	-	17	-	-	-	-	-	0.005	-	-	-	49	366
DM8	10/11/2004	d	-	-	-	-	-	-	-	-	9017	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	10/11/2004	s	-	-	0.122	-	-	-	-	-	-	6.9	-	-	140	-	-	-	3540	-	-	-	1	-	-	-	-	280	-	600	-	-	8160	-	-	-	-	-	-	0.15	-	-	-	880	-	-	-	0.005	-	-	-	-	-	-	-	23	-	700	-	1.9	-	-	-	-	-	0.005	-	18	-	-	-	-	-	-	-	-	-	21	243
DM8	16/02/2005	d	-	-	-	-	-	-	-	-	8822	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	16/02/2005	s	-	-	0.1402	-	-	-	-	-	6950	6.9	-	-	130	-	-	-	3080	-	-	-	-	-	-	-	-	280	-	500	-	-	8360	-	-	-	-	-	-	0.16	-	-	-	720	-	-	-	0.005	-	-	-	-	-	-	-	21	-	630	-	1.9	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	58	214
DM8	15/04/2005	d	-	-	-	-	-	-	-	-	8690	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	15/04/2005	s	-	-	0.1397	-	-	-	-	-	-	6.6	-	-	140	-	-	-	3200	-	-	-	-	-	-	-	-	290	-	490	-	-	5860	-	-	-	-	-	-	0.14	-	-	-	780	-	-	-	0.001	-	-	-	-	-	-	-	27	-	590	-	1.8	-	-	-	-	-	-	-	17	-	-	-	-	-	0.0057	-	-	-	39	273
DM8	2/08/2005	d	-	-	-	-	-	-	-	-	9240	7.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	2/08/2005	s	-	-	0.1355	-	-	-	-	-	11,430	6.7	-	-	120	-	-	-	3300	-	-	-	0.2	-	-	-	-	290	-	700	-	-	8210	-	-	-	-	-	-	0.14	-	-	-	880	-	-	-	0.001	-	-	-	-	-	-	-	22	-	730	-	1.9	-	-	-	-	-	-	-	15	-	-	-	-	-	0.001	-	-	1	41	100
DM8	14/11/2005	d	-	-	-	-	-	-	-	-	3600	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	14/11/2005	s	-	-	0.1358	-	-	-	-	-	-	6.4	-	-	-	-	-	-	4200	-	-	-	0.2	-	-	-	-	370	-	970	-	-	10,200	-	-	-	-	-	-	0.19	-	-	-	1200	-	-	-	0.001	-	-	-	-	-	-	-	25	-	920	-	2.3	-	-	-	-	-	-	-	15	-	-	-	-	-	0.001	-	-	1	49	167
DM8	15/02/2006	d	-	-	-	-	-	-	-	-	11,250	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	15/02/2006	s	-	-	0.118	-	-	-	-	-	-	6.7	-	-	120	-	-	-	4050	-	-	-	0.2	-	-	-	-	310	-	710	-	-	9000	-	-	0.001	-	0.03	-	0.21	-	0.0006	-	2000	-	-	-	0.001	-	-	-	-	-	0.01	-	22	-	1150	-	2.1	-	-	-	-	-	0.002	-	-	-	-	-	-	-	0.001	-	-	1	71	739
DM8	18/05/2006	d	-	-	-	-	-	-	-	-	11,860	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	18/05/2006	s	-	-	0.1084	-	-	-	-	-	-	6.7	-	-	-	-	-	-	4550	-	-	-	-	-	-	-	-	320	-	770	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	83	439
DM8	17/08/2006	d	-	-	-	-	-	-	-	-	11,900	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	17/08/2006	s	-	-	0.1101	-	-	-	-	-	10,380	6.8	-	-	-	-	-	-	4480	-	-	-	-	-	-	-	-	320	-	810	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53	463
DM8	31/10/2006	d	-	-	-	-	-	-	-	-	11,860	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	31/10/2006	s	-	10	0.127	-	-	-	-	-	-	6.8	-	-	-	-	-	-	4250	-	-	-	-	-	-	-	-	350	-	790	-	-	-	-	-	0.001	-	0.042	0.016	-	-	0.0001	-	1000	-	0.066	-	0.001	-	-	-	0.001	-	0.001	-	30	-	890	-	-	-	0.0001	-	-	-	0.001	-	17	-	-	-	-	-	0.001	-	-	-	35	100
DM8	8/03/2007	d	-	-	-	-	-	-	-	-	10,100	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	8/03/2007	s	-	-	0.1736	-	-	-	-	-	11,900	6.7	-	-	-	-	-	-	3730	-	-	-	-	-	-	-	-	420	-	700	-	-	-	-	-	0.001	-	0.005	0.013	-	-	0.0001	-	720	-	0.005	-	0.001	-	-	-	0.003	-	0.001	-	24	-	790	-	-	-	0.0001	-	-	-	0.001	-	19	-	-	-	-	-	0.001	-	-	-	71	574
DM8	19/06/2007	d	-	-	-	-	-	-	-	-	11,270	7.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	19/06/2007	s	-	-	0.1542	-	-	-	-	-	-	6.5	-	-	130	-	-	-	4000	-	-	-	0.2	-	-	-	-	400	-	780	-	-	12,800	-	-	0.001	-	-	-	0.19	-	0.0001	-	1110	-	-	-	0.001	-	-	-	0.002	-	0.001	-	25	-	910	-	2	-	0.0001	-	-	-	0.001	-	19	-	-	-	-	-	0.001	-	-	1	43	711
DM8	30/08/2007	d	-	-	-	-	-	-	-	-	11,870	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	30/08/2007	s	-	-	0.1349	-	-	-	-	-	-	6.8	-	-	130	-	-	-	4000	-	-	-	0.2	-	-	-	-	350	-	870	-	-	11,200	-	-	0.001	-	-	-	0.24	-	0.0001	-	1150	-	-	-	0.001	-	-	-	0.003	-	0.004	-	30	-	1060	-	2.6	-	0.0001	-	-	-	0.001	-	14	-	-	-	-	-	0.001	-	-	1	-	-
DM8	2/11/2007	d	-	-	-	-	-	-	-	-	13,000	7.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	2/11/2007	s	-	-	0.1363	-	-	-	-	-	-	6.7	-	-	130	-	-	-	4300	-	-	-	0.2	-	-	-	-	380	-	880	-	-	7780	-	-	0.001	-	-	-	0.21	-	0.0001	-	1180	-	-	-	0.001	-	-	-	0.001	-	0.001	-	25	-	980	-	2.2	-	0.0001	-	-	-	0.002	-	15	-	-	-	-	-	0.001	-	-	1	59	100
DM8	2/04/2008	d	-	-	-	-	-	-	-	-	11,350	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	2/04/2008	s	-	-	0.1429	-	-	-	-	-	-	6.7	-	-	120	-	-	-	4100	-	-	-	3	-	-	-	-	380	-	900	-	-	9840	-	-	0.001	-	-	-	0.22	-	0.0001	-	1020	-	-	-	0.001	-	-	-	0.001	-	0.001	-	22	-	900	-	2	-	0.0001	-	-	-	0.001	-	13	-	-	-	-	-	0.001	-	-	1	66	595
DM8	8/07/2008	d	-	-	-	-	-	-	-	-	11,750	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	8/07/2008	s	-	-	0.1506	-	-	-	-	-	-	6.7	-	-	140	-	-	-	4300	-	-	-	0.2	-	-	-	-	420	-	920	-	-	13,000	-	-	0.001	-	-	-	0.27	-	0.0001	-	1070	-	-	-	0.001	-	-	-	0.001	-	0.001	-	27	-	980	-	2.6	-	0.0001	-	-	-	0.001	-	15	-	-	-	-	-	0.001	-	-	1	289	100
DM8	8/09/2008	d	-	-	-	-	-	-	-	-	11,430	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	8/09/2008	s	-	-	0.1189	-	-	-	-	-	-	7.1	-	-	120	-	-	-	4540	-	-	-	0.2	-	-	-	-	350	-	980	-	-	12,200	-	-	0.001	-	-	-	0.21	-	0.0001	-	1000	-	-	-	0.001	-	-	-	0.001	-	0.001	-	23	-	840	-	2.1	-	0.0001	-	-	-	0.001	-	15	-	-	-	-	-	0.001	-	-	1	100	425
DM8	1/12/2008	d	-	-	-	-	-	-	-	-	11,960	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	1/12/2008	s	-	-	0.1469	-	-	-	-	-	-	6.5	-	-	130	-	-	-	4200	-	-	-	0.2	-	-	-	-	400	-	1100	-	-	9900	-	-	0.001	-	-	-	0.16	-	0.0001	-	1100	-	-	-	0.001	-	-	-	0.001	-	0.001	-	23	-	900	-	2.8	-	0.0001	-	-	-	0.001	-	13	-	-	-	-	-	0.001	-	-	1	47	417
DM8	1/03/2009	d	-	-	-	-	-	-	-	-	11,580	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	1/03/2009	s	-	-	0.1534	-	-	-	-	-	-	7.1	-	-	200	-	-	-	4020	-	-	-	0.2	-	-	-	-	400	-	960	-	-	11,400	-	-	0.001	-	-	-	0.71	-	0.0001	-	1050	-	-	-	0.014	-	-	-	0.004	-	0.001	-	0.43	-	920	-	0.053	-	0.0001	-	-	-	0.001	-	15	-	-	-	-	-	0.001	-	-	1	29	159
DM8	1/07/2009	d	-	-	-	-	-	-	-	-	10,790	6.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8	1/07/2009	s	-	-	-	-	-	-	-	-	-	6.7	-	-	130	-	-	-	-	-	-	-	0.2	-	-	-	-	290	-	870	-	-	9740	-	-	0.001	-	-	-	0.18	-	0.0001	-	930	-	0.005	-	0.001	-	-	-	0.003	-	0.001	-	20	-	750	-	2	-	0.0001	-	-	-	0.001	-	7.4	-	-	-	-	-	0.001	-	-	1	71	375

LocCode	Sampled_Date-Time	WellCode	Carbonate as CaCO3	Carbon	Na/Cl Ratio	Na/Cl Ratio (Filtered)	Na:Cl molar ratio	Na:Cl molar ratio (Filtered)	Nitrogen, nitrate + nitrite fraction by FIA.	Benzene	EC (field)	pH (Field)	Temp (field)	Ammonia as N	Bicarbonate	Bicarbonate as CaCO3	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Chloride
							Inorganic		NITROGEN	BTEX	Field			Inorganics					
			mg/L	mg/L	ratio	ratio	ratio	ratio	mg/L	µg/L	µS/cm	pH	oC	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			1		0.01	0.1	0.001	0.1	0.01							1	1	1	0.1
ANZECC 2000 MW 95%										700									
DM8R	30/09/2009	d	-	-	-	-	-	-	-	-	11,580	-	-	-	-	-	-	-	-
DM8R	30/09/2009	s	-	-	-	-	-	-	-	-	-	6.4	-	-	120	-	-	-	-
DM8R	9/11/2009	d	-	-	0.2628	-	-	-	-	-	2802	7	-	-	120	-	-	-	880
DM8R	23/12/2009	d	-	-	0.1465	-	-	-	-	-	11,980	7.1	-	-	270	-	-	-	4000
DM8R	23/12/2009	s	-	-	0.1647	-	-	-	-	-	13,480	7	-	-	110	-	-	-	4400
DM8R	16/02/2010	d	-	-	0.1131	-	-	-	-	-	12,400	7.3	-	-	180	-	-	-	4500
DM8R	16/02/2010	s	-	-	0.1049	-	-	-	-	-	12,340	6.7	-	-	150	-	-	-	5000
DM8R	13/05/2010	s	-	-	0.1384	-	-	-	-	-	13,090	6.98	-	-	140	-	-	-	3900
DM8R	20/05/2010	d	-	-	0.1219	-	-	-	-	-	11,970	7.35	-	-	210	-	-	-	4300
DM8R	18/08/2010	d	-	-	0.128	-	-	-	-	-	13,510	7.3	-	-	190	-	-	-	4700
DM8R	18/08/2010	s	-	-	0.1405	-	-	-	-	-	13,000	6.9	-	-	130	-	-	-	4500
DM8R	24/11/2010	d	-	-	0.1181	-	-	-	-	-	13,370	6.97	-	-	170	-	-	-	4700
DM8R	24/11/2010	s	-	-	0.1181	-	-	-	-	-	13,150	6.67	-	-	140	-	-	-	4700
DM8R	8/02/2011	d	-	-	0.1156	-	-	-	-	-	13,560	6.9	-	-	180	-	-	-	4400
DM8R	8/02/2011	s	-	-	0.02804	-	-	-	-	-	14,300	7	-	-	130	-	-	-	7700
DM8R	11/05/2011	d	-	-	0.124	-	-	-	-	-	-	7.1	-	-	210	-	-	-	4600
DM8R	11/05/2011	s	-	-	0.1164	-	-	-	-	-	-	6.8	-	-	140	-	-	-	4900
DM8R	9/08/2011	d	-	-	0.1432	-	-	-	-	-	-	7	-	-	190	-	-	-	4200
DM8R	9/08/2011	s	-	-	0.1341	-	-	-	-	-	-	6.8	-	-	140	-	-	-	4600
DM8R	10/08/2011	d	-	-	-	-	-	-	-	-	13,530	6.8 - 7	-	-	-	-	-	-	-
DM8R	10/08/2011	s	-	-	-	-	-	-	-	-	12,060	6.8 - 7	-	-	-	-	-	-	-
DM8R	1/11/2011	d	-	-	-	-	-	-	-	-	-	6.9	-	-	-	-	-	-	-
DM8R	1/11/2011	s	-	-	-	-	-	-	-	-	-	6.7	-	-	-	-	-	-	-
DM8R	10/11/2011	d	-	-	0.124	-	-	-	-	-	-	-	-	-	180	-	-	-	4600
DM8R	10/11/2011	s	-	-	0.1317	-	-	-	-	-	-	-	-	-	140	-	-	-	4800
DM8R	23/01/2012	d	-	-	0.1234	-	-	-	-	-	10,540	6.8 - 6.96	-	-	210	-	-	-	4000
DM8R	23/01/2012	s	-	-	0.1428	-	-	-	-	-	11,440	6.61 - 6.8	-	-	100	-	-	-	2700
DM8R	24/05/2012	d	-	-	0.1203	-	-	-	-	-	11,640	7.03	-	-	220	-	-	-	4100
DM8R	24/05/2012	s	-	-	0.1234	-	-	-	-	-	9210	6.71	-	-	110	-	-	-	3000
DM8R	14/08/2012	d	-	-	0.1234	-	-	-	-	-	11,760	6.83	-	-	180	-	-	-	4500
DM8R	14/08/2012	s	-	-	0.1312	-	-	-	-	-	11,210	6.78	-	-	150	-	-	-	4230
DM8R	26/10/2012	d	-	-	0.1209	-	-	-	-	-	13,280	6.83	-	-	180	-	-	-	5100
DM8R	26/10/2012	s	-	-	0.1149	-	-	-	-	-	12,400	6.77	-	-	140	-	-	-	5100
DM8R	16/01/2013	d	-	-	0.1633	-	-	-	-	-	12,170	6.77 - 6.97	20.8	-	190	-	-	-	3400
DM8R	16/01/2013	s	-	-	0.163	-	-	-	-	-	11,570	6.77 - 6.97	21.4	-	150	-	-	-	3500
DM8R	9/04/2013	d	-	-	0.114	-	-	-	-	-	11,990	6.85 - 6.86	21.1	-	180	-	-	-	4600
DM8R	9/04/2013	s	-	-	0.1582	-	-	-	-	-	11,990 - 12,710	6.85 - 6.86	21.1 - 21.8	-	130	-	-	-	3900
DM8R	10/10/2013	d	-	-	0.1091	-	-	-	-	-	-	6.95	-	<1000	-	130	-	-	4100
DM8R	10/10/2013	s	-	-	0.8635	-	-	-	-	-	12,060	7.06	20	1000	-	330	-	-	250
DM8R	9/04/2014	d	<1	-	0.1445 - 0.1446	-	-	-	-	-	-	6.81	-	-	180	170	-	-	4500 - 4800
DM8R	9/04/2014	s	<1	-	0.1439 - 0.1445	-	-	-	-	-	12,460 - 12,660	6.74 - 6.81	20.2	-	170	180	-	-	4500 - 4800
DM8R	16/10/2014	d	-	-	0.194	-	-	-	-	-	10,370 - 11,990	6.74 - 6.78	20.2 - 20.3	-	-	-	-	-	-
DM8R	16/10/2014	s	<1	-	0.1791	-	-	-	-	-	11,990	6.74	20.3	-	-	150 - 240	-	-	3100 - 3800
DM8R	16/04/2015	d	<1	-	0.1869	-	-	-	-	-	12,610	6.62	21.5	-	-	240	-	-	3300
DM8R	16/04/2015	s	<1	-	0.1475	-	-	-	-	-	9610	6.75	21.3	-	-	160	-	-	4600
DM8R	3/09/2015	d	<1	-	-	-	-	-	-	-	-	-	-	-	-	150	150	<1	-
DM8R	3/09/2015	s	-	-	0.1791 - 0.2089	-	-	-	-	-	8870 - 12,580	6.42 - 6.55	19.1 - 19.8	-	-	-	270	<1	3100
DM8R	4/09/2015	d	-	-	-	-	-	-	-	-	12,580	6.55	19.8	-	-	-	-	-	-
DM8R	4/09/2015	s	-	-	-	-	-	-	-	-	8870	6.42	19.1	-	-	-	-	-	-
DM8R	5/09/2015	d	-	-	-	-	-	-	-	-	-	6.55	-	-	-	-	-	-	-
DM8R	15/04/2016	d	-	-	-	-	-	-	-	-	12,610	6.62	21.5	-	-	-	-	-	-
DM8R	15/04/2016	s	-	-	-	-	-	-	-	-	9610	6.75	21.3	-	-	-	-	-	-
DM8R	21/04/2016	d	-	-	0.1709	-	-	-	-	-	-	-	-	-	-	-	180	<1	3700
DM8R	21/04/2016	s	-	-	0.2056	-	-	-	-	-	-	-	-	-	-	-	280	<1	2700
DM8R	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	15/09/2016	d	-	-	0.17 - 0.1723	-	-	-	-	-	9000	7.53	19.2	-	-	-	200	<1	3400
DM8R	15/09/2016	s	-	-	0.1957 - 0.2	-	-	-	-	-	7280	7.62	19	-	-	-	290	<1	2600
DM8R	18/04/2017	d	-	-	-	-	-	-	-	-	8850	6.73	20.3	-	-	-	-	-	-
DM8R	18/04/2017	s	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	210	-	-
DM8R	18/04/2017	s	-	-	0.1495 - 0.1715	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	25/05/2017	s	-	-	-	-	-	-	-	-	9340	6.9	18.5	-	-	-	-	-	-
DM8R	26/05/2017	s	<1	-	0.1713	-	0.2	-	-	-	-	-	-	-	-	-	190	-	-
DM8R	26/05/2017	s	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	12/10/2017	d	<1	-	0.08915	<0.1	-	-	-	-	8130	6.91	20.1	-	-	-	200	-	-
DM8R	12/10/2017	s	<1	-	0.1022	0.1	-	-	-	-	7110	7.01	20.4	-	-	-	290	-	-
DM8R	6/04/2018	d	-	-	0.1641	-	-	-	-	-	9150	7.05	20.8	-	-	-	-	-	-
DM8R	6/04/2018	d	<1	-	-	-	-	0.2	-	-	-	-	-	-	-	-	180	-	-
DM8R	6/04/2018	s	<1	-	-	-	-	0.2	-	-	-	-	-	-	-	-	280	-	-
DM8R	6/04/2018	s	-	-	0.181	-	-	-	-	-	8240	7.19	20.6	-	-	-	-	-	-
DM8R	29/10/2018	d	<1	-	0.1705	-	-	0.2	-	-	8200	7.2	20.3	-	-	-	280	-	2740
DM8R	29/10/2018	s	<1	-	0.1493	-	-	0.2	-	-	9180	7.24	20.2	-	-	-	170	-	3170
DM8R	16/04/2019	d	-	-	-	-	-	0.2	-	-	8630	6.77	-	-	-	-	-	-	2980
DM8R	16/04/2019	s	-	-	-	-	-	0.2	-	-	7960	7.14	-	-	-	-	-	-	2550
DM8R	10/10/2019	d	-	-	-	-	-	0.2	-	-	7300	6.9	21.7	-	-	-	-	-	2410
DM8R	10/10/2019	s	-	-	-	-	-	0.2	-	-	7290	6.78	20.7	-	-	-	-	-	2400
DM8R	15/04/2020	d	<1	-	-	-	-	0.1	0.34	-	8160	6.99	-	-	-	-	200	-	3100
DM8R	15/04/2020	s	<1	-	-	-	-	0.2	<0.01	-	7770	7.2	-	-	-	-	290	-	2790
DM8R	14/10/2020	d	<1	-	-	-	-	-	-	-	7590	6.82	-	-	-	-	150	-	3000
DM8R	14/10/2020	s	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	180	-	3070
DM8R	14/10/2020	s	<1	-	-	-	-	-	-	-	6230	7.12	-	-	-	-	290	-	2290

LocCode	Sampled_Date-Time	WellCode	Chloride (Filtered)	EC (laboratory)	pH (laboratory)	Nitrate (as N)	Nitrate as NO3-N	Exchangeable Magnesium	Redox Potential	Salinity	Sodium	Sodium (Filtered)	Sulphate	Sulphate (Filtered)	Sulphide	TDS (evap)	TDS (evap) (Filtered)	Thorium	Lead Total	Lead Total (Filtered)
			Inorganics																Lead	
			mg/L	µS/cm	pH	mg/L	mg/L	mg/L	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L
EQL			1			0.01	0.2				0.05	0.05	1	5		10			0.001	0.0001
ANZECC 2000 MW 95%																			0.0044	0.0044
DM8R	30/09/2009	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	30/09/2009	s	-	-	-	0.2	-	-	-	-	320	-	930	-	-	10,500	-	-	0.001	-
DM8R	9/11/2009	d	-	-	-	0.2	-	-	-	-	150	-	180	-	-	2060	-	-	0.004	-
DM8R	23/12/2009	d	-	-	-	0.2	-	-	-	-	380	-	790	-	-	7740	-	-	0.001	-
DM8R	23/12/2009	s	-	-	-	0.2	-	-	-	-	470	-	940	-	-	11,500	-	-	0.001	-
DM8R	16/02/2010	d	-	-	-	0.2	-	-	-	-	330	-	910	-	-	7690	-	-	0.001	-
DM8R	16/02/2010	s	-	-	-	0.2	-	-	-	-	340	-	1000	-	-	7650	-	-	0.001	-
DM8R	13/05/2010	s	-	-	-	0.2	-	-	-	-	350	-	820	-	-	11,800	-	-	0.001	-
DM8R	20/05/2010	d	-	-	-	0.2	-	-	-	-	340	-	900	-	-	11,700	-	-	0.001	-
DM8R	18/08/2010	d	-	-	-	0.2	-	-	-	-	390	-	850	-	-	11,400	-	-	0.001	-
DM8R	18/08/2010	s	-	-	-	0.2	-	-	-	-	410	-	830	-	-	11,000	-	-	0.001	-
DM8R	24/11/2010	d	-	-	-	0.2	-	-	-	-	360	-	900	-	-	12,000	-	-	0.002	-
DM8R	24/11/2010	s	-	-	-	0.2	-	-	-	-	360	-	970	-	-	11,900	-	-	0.001	-
DM8R	8/02/2011	d	-	-	-	0.2	-	-	-	-	330	-	850	-	-	12,100	-	-	0.001	-
DM8R	8/02/2011	s	-	-	-	0.2	-	-	-	-	140	-	1500	-	-	14,600	-	-	0.001	-
DM8R	11/05/2011	d	-	-	-	0.2	-	-	-	-	370	-	890	-	-	9360	-	-	0.001	-
DM8R	11/05/2011	s	-	-	-	0.2	-	-	-	-	370	-	1000	-	-	11,200	-	-	0.001	-
DM8R	9/08/2011	d	-	-	-	0.2	-	-	-	-	390	-	920	-	-	10,400	-	-	0.001	-
DM8R	9/08/2011	s	-	-	-	0.2	-	-	-	-	400	-	920	-	-	12,300	-	-	0.001	-
DM8R	10/08/2011	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	10/08/2011	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	1/11/2011	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	1/11/2011	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	10/11/2011	d	-	-	-	0.2	-	-	-	-	370	-	910	-	-	10,600	-	-	0.001	-
DM8R	10/11/2011	s	-	-	-	0.2	-	-	-	-	410	-	930	-	-	11,000	-	-	0.001	-
DM8R	23/01/2012	d	-	-	-	0.2	-	-	-	-	320	-	907	-	-	10,400	-	-	0.0012	-
DM8R	23/01/2012	s	-	-	-	2.5	-	-	-	-	250	-	525	-	-	7030	-	-	0.0018	-
DM8R	24/05/2012	d	-	-	-	0.2	-	-	-	-	320	-	860	-	-	10,100	-	-	0.0026	-
DM8R	24/05/2012	s	-	-	-	3.7	-	-	-	-	240	-	610	-	-	7940	-	-	0.0018	-
DM8R	14/08/2012	d	-	-	-	0.2	-	-	-	-	360	-	840	-	-	9800	-	-	0.0027	-
DM8R	14/08/2012	s	-	-	-	0.2	-	-	-	-	360	-	780	-	-	9600	-	-	0.001	-
DM8R	26/10/2012	d	-	-	-	0.2	-	-	-	-	400	-	1020	-	-	10,700	-	-	0.0021	-
DM8R	26/10/2012	s	-	-	-	0.2	-	-	-	-	380	-	870	-	-	1160	-	-	0.0019	-
DM8R	16/01/2013	d	-	-	-	0.2	-	-	-208	-	360	-	730	-	-	9540	-	-	0.0025	-
DM8R	16/01/2013	s	-	-	-	0.2	-	-	-208 - -203	-	370	-	730	-	-	10,500	-	-	0.001	-
DM8R	9/04/2013	d	-	-	-	0.2	-	-	-210	-	340	-	610	-	-	12,400	-	-	0.001	-
DM8R	9/04/2013	s	-	-	-	0.3	-	-	-210 - -196	-	400	-	480	-	-	11,200	-	-	0.001	-
DM8R	10/10/2013	d	-	-	-	0.7	-	-	-	-	290	-	630	-	-	9500	-	-	0.002	-
DM8R	10/10/2013	s	-	-	-	4.6	-	-	-48	-	140	-	32	-	-	770	-	-	<0.001	-
DM8R	9/04/2014	d	-	-	-	<0.2 - 0.2	-	900	-	-	420 - 450	-	740 - 860	-	-	10,600 - 10,900	-	-	<0.001 - 0.001	-
DM8R	9/04/2014	s	-	-	-	<0.2 - 0.2	-	1060	-96 - -92.6	-	420 - 450	-	740 - 860	-	-	10,600 - 10,900	-	-	<0.001 - 0.001	-
DM8R	16/10/2014	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	16/10/2014	s	-	-	-	-	<0.2	-	-	-	390 - 410	-	690 - 700	-	-	8640 - 10,700	8640	-	<0.001	-
DM8R	16/04/2015	d	-	-	-	-	<0.2	-	-	-	400	-	1100	-	-	11,500	-	-	<0.001	-
DM8R	16/04/2015	s	-	-	-	-	<0.2	-	-	-	440	-	1100	-	-	16,600	-	-	<0.001	-
DM8R	3/09/2015	d	-	-	-	<0.2	<0.2	-	-	-	420	-	830	-	-	11,600	-	-	<0.001	-
DM8R	3/09/2015	s	-	-	-	<0.2	-	-	239 - 252	-	360	-	670	-	-	8560	-	-	<0.001	-
DM8R	4/09/2015	d	-	-	-	-	-	-	252	-	-	-	-	-	-	-	-	-	-	-
DM8R	4/09/2015	s	-	-	-	-	-	-	239	-	-	-	-	-	-	-	-	-	-	-
DM8R	5/09/2015	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	15/04/2016	d	-	-	-	-	-	-	-79.4	-	-	-	-	-	-	-	-	-	-	-
DM8R	15/04/2016	s	-	-	-	-	-	-	-81.1	-	-	-	-	-	-	-	-	-	-	-
DM8R	21/04/2016	d	-	-	-	<0.2	-	-	-	-	410	-	720	-	-	9000	-	-	0.001	-
DM8R	21/04/2016	s	-	-	-	<0.2	-	-	-	-	360	-	670	-	-	6860	-	-	0.004	-
DM8R	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	15/09/2016	d	-	-	-	<0.2	-	-	-2	-	-	380	640	-	-	4500 - 10,700	-	-	-	<0.001
DM8R	15/09/2016	s	-	-	-	<0.2	-	-	44	-	-	330	570	-	-	3640 - 7520	-	-	-	0.003
DM8R	18/04/2017	d	-	-	-	-	-	-	-18	-	-	-	-	-	-	-	-	-	-	-
DM8R	18/04/2017	s	3300	-	-	<0.2	-	-	-	-	320	-	-	650	-	7090	-	-	<0.001	-
DM8R	18/04/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	25/05/2017	s	-	-	-	-	-	-	-46	-	-	-	-	-	-	-	-	-	-	-
DM8R	26/05/2017	s	3600	-	-	0.05	-	-	-	-	400	-	-	720	-	9100	-	-	0.002	-
DM8R	26/05/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	12/10/2017	d	3200	-	-	0.38	-	-	-47	-	-	185	-	200	-	4065 - 6900	-	-	-	0.0005
DM8R	12/10/2017	s	2700	-	-	0.02	-	-	-50	-	-	179	-	560	-	3555 - 6700	-	-	-	0.0003
DM8R	6/04/2018	d	-	-	-	-	-	-	-84	4570	-	-	-	-	-	-	-	-	-	-
DM8R	6/04/2018	d	3100	-	-	0.11	-	-	-	-	-	330	-	600	-	6650	-	-	-	0.0004
DM8R	6/04/2018	s	2700	-	-	0.03	-	-	-	-	-	317	-	650	-	5550	-	-	-	0.0042
DM8R	6/04/2018	s	-	-	-	-	-	-	-63	4120	-	-	-	-	-	-	-	-	-	-
DM8R	29/10/2018	d	-	-	-	<0.01	-	-	-78	4110	-	303	550	-	-	5000	-	-	-	<0.0002
DM8R	29/10/2018	s	-	-	-	0.02	-	-	-45	4590	-	307	610	-	-	5700	-	-	-	0.0009
DM8R	16/04/2019	d	-	-	-	0.02	-	-	-54	-	-	310	590	-	-	4320 - 6000	-	-	-	0.0013
DM8R	16/04/2019	s	-	-	-	0.01	-	-	-80	-	-	305	600	-	-	3980 - 6200	-	-	-	0.0025
DM8R	10/10/2019	d	-	-	-	<0.01	-	-	-107	-	-	343	520	-	-	3650 - 4900	-	-	-	<0.001
DM8R	10/10/2019	s	-	-	-	<0.01	-	-	-86	-	-	275	530	-	-	3640 - 5100	-	-	-	0.0008
DM8R	15/04/2020	d	-	-	-	-	-	-	-8	-	-	282	520	-	-	4080 - 5300	-	-	-	0.0006
DM8R	15/04/2020	s	-	-	-	-	-	-	-63	-	-	288	620	-	-	3880 - 4900	-	-	-	0.0007
DM8R	14/10/2020	d	-	-	-	0.03	-	-	61	-	-	312	590	-	-	3800 - 5600	-	-	-	0.0003
DM8R	14/10/2020	s	-	-	-	0.08	-	-	-	-	-	306	590	-	-	5600	-	-	-	0.0007
DM8R	14/10/2020	s	-	-	-	<0.01	-	-	639	-	-	277	550	-	-	3120 - 4400	-	-	-	0.001

LocCode	Sampled_Date-Time	WellCode	Aluminium	Arsenic	Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Calcium	Calcium (Filtered)	Chromium (hexavalent)	Chromium (hexavalent) (Filtered)	Chromium Total	Chromium Total (Filtered)	Chromium (Trivalent)	Chromium (Trivalent) (Filtered)	Cobalt	Cobalt (Filtered)	Copper Total	Copper Total (Filtered)	Iron	Iron (Filtered)
			Metals																			
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL					0.005	0.005	0.0001	0.0001	0.005	0.005	0.001	0.001	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.0001	0.005	0.005
ANZECC 2000 MW 95%							0.0055	0.0055			0.0044	0.0044			0.0274	0.0274	0.001	0.001	0.0013	0.0013		
DM8R	30/09/2009	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	30/09/2009	s	-	-	0.29	-	0.0001	-	950	-	0.005	-	0.002	-	-	-	0.004	-	0.001	-	20	-
DM8R	9/11/2009	d	-	-	-	-	0.0001	-	180	-	-	-	0.005	-	-	-	0.002	-	0.004	-	0.49	-
DM8R	23/12/2009	d	-	-	0.32	-	0.0001	-	990	-	-	-	0.001	-	-	-	0.002	-	0.001	-	6.5	-
DM8R	23/12/2009	s	-	-	0.2	-	0.0001	-	1310	-	-	-	0.001	-	-	-	0.003	-	0.001	-	24	-
DM8R	16/02/2010	d	-	-	0.25	-	0.0001	-	890	-	-	-	0.001	-	-	-	0.001	-	0.001	-	5.8	-
DM8R	16/02/2010	s	-	-	0.21	-	0.0001	-	1020	-	-	-	0.001	-	-	-	0.001	-	0.001	-	20	-
DM8R	13/05/2010	s	-	-	0.19	-	0.0001	-	870	-	-	-	0.004	-	-	-	0.003	-	0.004	-	18	-
DM8R	20/05/2010	d	-	-	0.3	-	0.0001	-	1000	-	-	-	0.001	-	-	-	0.001	-	0.001	-	2.6	-
DM8R	18/08/2010	d	-	-	0.41	-	0.0001	-	1020	-	0.001	-	0.016	-	-	-	0.001	-	0.001	-	4.4	-
DM8R	18/08/2010	s	-	-	0.23	-	0.0001	-	1140	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	22	-
DM8R	24/11/2010	d	-	-	0.43	-	0.0001	-	1010	-	0.001	-	0.003	-	-	-	0.001	-	0.001	-	3.9	-
DM8R	24/11/2010	s	-	-	0.3	-	0.0001	-	1060	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	21	-
DM8R	8/02/2011	d	-	-	0.36	-	0.0001	-	960	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	2.9	-
DM8R	8/02/2011	s	-	-	0.12	-	0.0001	-	630	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	8.6	-
DM8R	11/05/2011	d	-	-	0.39	-	0.0001	-	1200	-	-	-	0.005	-	-	-	0.001	-	0.001	-	3.1	-
DM8R	11/05/2011	s	-	-	0.32	-	0.0001	-	1310	-	-	-	0.001	-	-	-	0.001	-	0.001	-	23	-
DM8R	9/08/2011	d	-	-	0.45	-	0.0001	-	950	-	-	-	0.001	-	-	-	0.001	-	0.001	-	3.1	-
DM8R	9/08/2011	s	-	-	0.3	-	0.0001	-	1130	-	-	-	0.002	-	-	-	0.002	-	0.001	-	21	-
DM8R	10/08/2011	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	10/08/2011	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	1/11/2011	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	1/11/2011	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	10/11/2011	d	-	-	0.4	-	0.0001	-	970	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	3	-
DM8R	10/11/2011	s	-	-	0.3	-	0.0001	-	1120	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	18	-
DM8R	23/01/2012	d	-	-	0.38	-	0.0001	-	960	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	4	-
DM8R	23/01/2012	s	-	-	0.22	-	0.0001	-	720	-	0.001	-	0.001	-	-	-	0.001	-	0.0038	-	0.97	-
DM8R	24/05/2012	d	-	-	0.42	-	0.0001	-	1070	-	0.001	-	0.0034	-	-	-	0.0012	-	0.001	-	2.7	-
DM8R	24/05/2012	s	-	-	0.26	-	0.0001	-	860	-	0.001	-	0.001	-	-	-	0.001	-	0.0039	-	0.36	-
DM8R	14/08/2012	d	-	-	0.44	-	0.0001	-	930	-	0.001	-	0.001	-	-	-	0.001	-	0.0029	-	3.4	-
DM8R	14/08/2012	s	-	-	0.24	-	0.0001	-	1000	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	18	-
DM8R	26/10/2012	d	-	-	0.45	-	0.0001	-	1130	-	0.001	-	0.0011	-	-	-	0.001	-	0.001	-	4.1	-
DM8R	26/10/2012	s	-	-	0.25	-	0.0001	-	1230	-	0.001	-	0.0022	-	-	-	0.001	-	0.0031	-	21	-
DM8R	16/01/2013	d	-	-	0.37	-	0.0001	-	960	-	0.001	-	0.002	-	-	-	0.001	-	0.004	-	5.3	-
DM8R	16/01/2013	s	-	-	0.23	-	0.0001	-	1060	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	18	-
DM8R	9/04/2013	d	-	-	0.26	-	0.0001	-	1000	-	0.001	-	0.003	-	-	-	0.001	-	0.003	-	4.1	-
DM8R	9/04/2013	s	-	-	0.2	-	0.0001	-	900	-	0.001	-	0.002	-	-	-	0.001	-	0.001	-	5.3	-
DM8R	10/10/2013	d	-	0.003	0.27	-	0.0001	-	1100	-	<0.001	-	0.001	-	-	-	<0.001	-	0.005	-	2.9	-
DM8R	10/10/2013	s	-	0.004	0.52	-	0.0001	-	86	-	<0.001	-	0.001	-	-	-	<0.001	-	0.001	-	6.6	-
DM8R	9/04/2014	d	-	-	0.16 - 0.26	-	<0.0001 - 0.0001	-	1090 - 1110	-	<0.001 - 0.001	-	0.001	-	0.001	-	<0.001 - 0.001	-	0.001	-	7.3 - 17	-
DM8R	9/04/2014	s	-	-	0.16 - 0.26	-	<0.0001 - 0.0001	-	1090 - 1110	-	<0.001 - 0.001	-	0.001	-	0.001	-	<0.001 - 0.001	-	0.001	-	7.3 - 17	-
DM8R	16/10/2014	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	16/10/2014	s	-	-	0.24 - 0.4	-	<0.0001	-	800 - 1060	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	0.001 - 0.002	-	2.7 - 15	-
DM8R	16/04/2015	d	-	-	0.34	-	<0.0001	-	750	-	-	<0.001	0.002	-	-	0.002	<0.001	-	0.001	-	3.5	-
DM8R	16/04/2015	s	-	-	0.21	-	<0.0001	-	1140	-	-	<0.001	0.001	-	-	0.001	<0.001	-	0.002	-	15	-
DM8R	3/09/2015	d	-	-	0.2	-	<0.0001	-	1120	-	-	<0.001	0.002	-	-	0.002	0.002	-	0.005	-	15	-
DM8R	3/09/2015	s	-	-	0.29	-	<0.0001	-	620	-	-	<0.001	0.002	-	-	0.002	<0.001	-	0.002	-	2.4	-
DM8R	4/09/2015	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	4/09/2015	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	5/09/2015	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	15/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	15/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	21/04/2016	d	-	-	0.25	-	<0.0001	-	820	-	-	<0.001	0.001	-	-	<0.001	<0.001	-	<0.001	-	16	-
DM8R	21/04/2016	s	-	-	0.31	-	<0.0001	-	680	-	-	<0.001	0.005	-	-	<0.001	<0.001	-	0.001	-	4.4	-
DM8R	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	15/09/2016	d	-	-	-	0.21	-	<0.0001	-	700	-	<0.001	-	<0.001	-	<0.001	-	<0.001	-	0.002	-	13
DM8R	15/09/2016	s	-	-	-	0.24	-	<0.0001	-	590	-	<0.001	-	0.008	-	0.008	-	<0.001	-	<0.001	-	2.1
DM8R	18/04/2017	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	18/04/2017	s	-	-	0.22	-	<0.0001	-	690	-	<0.001	-	<0.001	-	<0.001	-	<0.001	-	<0.001	-	11	-
DM8R	18/04/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	25/05/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	26/05/2017	s	-	-	0.21	-	0.0005	-	870	-	<0.001	-	<0.001	-	<0.001	-	0.016	-	0.003	-	15	-
DM8R	26/05/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	12/10/2017	d	-	-	-	0.2	-	<0.0001	-	784	<0.001	-	-	0.002	0.001	-	-	<0.0001	-	0.0011	-	15
DM8R	12/10/2017	s	-	-	-	0.27	-	<0.0001	-	622	<0.001	-	-	0.008	0.008	-	-	<0.0001	-	0.0014	-	1.8
DM8R	6/04/2018	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	6/04/2018	d	-	-	-	0.21	-	<0.0001	-	710	0.001	-	-	<0.001	<0.001	-	-	0.0001	-	0.0008	-	6.8
DM8R	6/04/2018	s	-	-	-	0.33	-	<0.0001	-	584	<0.001	-	-	0.018	0.018	-	-	0.0006	-	0.001	-	1.7
DM8R	6/04/2018	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	29/10/2018	d	-	-	-	0.25	-	<0.0002	-	624	<0.001	-	-	0.0037	<0.001	-	-	<0.0002	-	<0.0002	-	2.6
DM8R	29/10/2018	s	-	-	-	0.22	-	<0.0002	-	734	<0.001	-	-	<0.0002	<0.001	-	-	<0.0002	-	0.0016	-	4.6
DM8R	16/04/2019	d	-	-	-	0.2	-	<0.0001	-	721	<0.001	-	-	0.0011	<0.001	-	-	0.0002	-	0.0019	-	11
DM8R	16/04/2019	s	-	-	-	0.29	-	<0.0001	-	624	<0.001	-	-	0.029	0.016	-	-	0.0002	-	0.0018	-	2.5
DM8R	10/10/2019	d	-	-	-	0.28	-	<0.001	-	653	<0.001	-	-	0.007	0.006	-	-	<0.001	-	0.0013	-	3.7
DM8R	10/10/2019	s	-	-	-	0.28	-	<0.0001	-	520	<0.001	-	-	0.055	0.054	-	-	<0.0001	-	0.0005	-	1.1
DM8R	15/04/2020	d	-	-	-	0.15	-	<0.0002	-	700	<0.001	-	-	<0.001	<0.001	-	-	<0.0002	-	0.002	-	7.3
DM8R	15/04/2020	s	-	-	-	0.26	-	<0.0002	-	580	<0.001	-	-	0.008	0.008	-	-	<0.0002	-	0.0007	-	2.9
DM8R	14/10/2020	d	-	-	-	0.12	-	<0.0001	-	717	<0.001	-	-	<0.001	<0.001	-	-	0.0002	-	0.0017	-	9.8
DM8R	14/10/2020	s	-	-	-	0.12	-	<0.0001	-	695	<0.001	-	-	<0.001	<0.001	-	-	0.0002	-	0.0019	-	7.3
DM8R	14/10/2020	s	-	-	-	0.18	-	<0.0001	-	528	<0.001	-	-	0.01	0.01	-	-	0.0002	-	0.0007	-	2.5

LocCode	Sampled_Date-Time	WellCode	Magnesium	Magnesium (Filtered)	Manganese	Manganese (Filtered)	Mercury	Mercury (Filtered)	Molybdenum	Molybdenum (Filtered)	Nickel	Nickel (Filtered)	Potassium	Potassium (Filtered)	Selenium	Tin	Titanium	Uranium	Vanadium Total	Vanadium Total (Filtered)	Zinc	Acidity (as CaCO3)	Radium-226	Radium-228
			Metals																			Other	Radionuclides	
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mBq/L	mBq/L
EQL			0.005	0.005	0.001	0.0001	0.00005	0.00001	0.001	0.0001	0.001	0.0005	0.05	0.05					0.001	0.0001				
ANZECC 2000 MW 95%							0.0004	0.0004			0.07	0.07							0.1	0.1	0.015			
DM8R	30/09/2009	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	30/09/2009	s	840	-	2	-	0.0001	-	-	-	0.003	-	13	-	-	-	-	-	0.001	-	-	1	27	465
DM8R	9/11/2009	d	160	-	0.055	-	0.0001	-	-	-	0.004	-	17	-	-	-	-	-	0.021	-	-	1	-	-
DM8R	23/12/2009	d	910	-	1.1	-	0.0001	-	-	-	0.001	-	20	-	-	-	-	-	0.002	-	-	1	49	297
DM8R	23/12/2009	s	1110	-	2.1	-	0.0001	-	-	-	0.001	-	21	-	-	-	-	-	0.001	-	-	1	15	204
DM8R	16/02/2010	d	890	-	0.31	-	0.0001	-	-	-	0.001	-	14	-	-	-	-	-	0.001	-	-	1	375	123
DM8R	16/02/2010	s	850	-	1.3	-	0.0001	-	-	-	0.002	-	13	-	-	-	-	-	0.001	-	-	1	138	283
DM8R	13/05/2010	s	790	-	2.3	-	0.0001	-	-	-	0.003	-	14	-	-	-	-	-	0.001	-	-	-	21	254
DM8R	20/05/2010	d	930	-	0.22	-	0.0001	-	-	-	0.003	-	15	-	-	-	-	-	0.001	-	-	-	39	282
DM8R	18/08/2010	d	1010	-	0.15	-	0.0001	-	-	-	0.011	-	14	-	-	-	-	-	0.001	-	-	-	104	421
DM8R	18/08/2010	s	950	-	2.2	-	0.0001	-	-	-	0.001	-	15	-	-	-	-	-	0.001	-	-	-	44	259
DM8R	24/11/2010	d	1050	-	0.13	-	0.0001	-	-	-	0.002	-	15	-	-	-	-	-	0.002	-	-	-	60	524
DM8R	24/11/2010	s	980	-	2	-	0.0001	-	-	-	0.001	-	15	-	-	-	-	-	0.001	-	-	-	49	110
DM8R	8/02/2011	d	950	-	0.17	-	0.0001	-	-	-	0.002	-	14	-	-	-	-	-	0.001	-	-	-	84	100
DM8R	8/02/2011	s	410	-	0.65	-	0.0001	-	-	-	0.001	-	6.3	-	-	-	-	-	0.001	-	-	-	26	100
DM8R	11/05/2011	d	1110	-	0.095	-	0.0001	-	-	-	0.008	-	17	-	-	-	-	-	0.001	-	-	-	2451	304
DM8R	11/05/2011	s	1090	-	2	-	0.0001	-	-	-	0.001	-	17	-	-	-	-	-	0.001	-	-	-	41	100
DM8R	9/08/2011	d	1000	-	0.11	-	0.0001	-	-	-	0.017	-	15	-	-	-	-	-	0.001	-	-	-	37	457
DM8R	9/08/2011	s	1100	-	2	-	0.0001	-	-	-	0.002	-	16	-	-	-	-	-	0.001	-	-	-	74	100
DM8R	10/08/2011	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	10/08/2011	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	1/11/2011	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	1/11/2011	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	10/11/2011	d	940	-	0.066	-	0.0001	-	-	-	0.0012	-	16	-	-	-	-	-	0.001	-	-	-	28	100
DM8R	10/11/2011	s	990	-	1.5	-	0.0001	-	-	-	0.001	-	17	-	-	-	-	-	0.001	-	-	-	17	100
DM8R	23/01/2012	d	900	-	0.023	-	0.0001	-	0.0015	-	0.0016	-	15	-	-	-	-	-	0.001	-	-	-	42	100
DM8R	23/01/2012	s	610	-	0.13	-	0.0001	-	0.0079	-	0.002	-	20	-	-	-	-	-	0.001	-	-	-	12	100
DM8R	24/05/2012	d	1020	-	0.053	-	0.0001	-	0.0013	-	0.0035	-	20	-	-	-	-	-	0.001	-	-	-	39	321
DM8R	24/05/2012	s	740	-	0.15	-	0.0001	-	0.0097	-	0.0037	-	20	-	-	-	-	-	0.001	-	-	-	67	100
DM8R	14/08/2012	d	910	-	0.047	-	0.0001	-	-	-	0.0011	-	19	-	-	-	-	-	0.001	-	-	-	47	223
DM8R	14/08/2012	s	880	-	1.9	-	0.0001	-	-	-	0.001	-	18	-	-	-	-	-	0.001	-	-	-	46	181
DM8R	26/10/2012	d	1090	-	0.083	-	0.0001	-	-	-	0.001	-	22	-	-	-	-	-	0.001	-	-	-	124	100
DM8R	26/10/2012	s	1020	-	1.9	-	0.0001	-	-	-	0.001	-	21	-	-	-	-	-	0.0011	-	-	-	54	154
DM8R	16/01/2013	d	930	-	0.24	-	0.0001	-	-	-	0.003	-	19	-	-	-	-	-	0.001	-	-	-	29	100
DM8R	16/01/2013	s	980	-	2.3	-	0.0001	-	-	-	0.001	-	19	-	-	-	-	-	0.001	-	-	-	47	100
DM8R	9/04/2013	d	930	-	0.11	-	0.0001	-	-	-	0.004	-	14	-	-	-	-	-	0.001	-	-	-	79	197
DM8R	9/04/2013	s	820	-	1.7	-	0.0001	-	-	-	0.003	-	15	-	-	-	-	-	0.001	-	-	-	38	100
DM8R	10/10/2013	d	960	-	1.3	-	<0.0001	-	0.001	-	0.002	-	15	-	0.008	-	-	-	0.001	-	0.02	-	123	<100
DM8R	10/10/2013	s	34	-	0.077	-	<0.0001	-	0.055	-	0.001	-	13	-	0.009	-	-	-	0.001	-	0.004	-	77	<100
DM8R	9/04/2014	d	1060	-	0.5 - 3.1	-	<0.0001 - 0.0001	-	0.001	-	0.001	-	13 - 14	-	-	-	-	-	0.001	-	-	-	79	100
DM8R	9/04/2014	s	900	-	0.5 - 3.1	-	<0.0001 - 0.0001	-	0.009	-	0.001	-	13 - 14	-	-	-	-	-	0.001	-	-	-	64	100
DM8R	16/10/2014	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70	100
DM8R	16/10/2014	s	740 - 860	-	0.046 - 3.6	-	<0.0001	-	<0.001 - 0.019	-	<0.001	-	30 - 35	-	-	-	-	-	<0.001	-	-	-	110	104
DM8R	16/04/2015	d	740	-	0.064	-	<0.0001	-	0.021	-	<0.001	-	17	-	-	-	-	-	<0.001	-	-	-	-	-
DM8R	16/04/2015	s	910	-	3.3	-	<0.0001	-	<0.001	-	0.001	-	21	-	-	-	-	-	<0.001	-	-	-	93 - 117	141 - 272
DM8R	3/09/2015	d	890	-	3.9	-	<0.0001	-	0.001	-	<0.001	-	17	-	-	-	-	-	<0.001	-	-	-	-	-
DM8R	3/09/2015	s	650	-	0.21	-	<0.0001	-	0.03	-	<0.001	-	13	-	-	-	-	-	<0.001	-	-	-	-	-
DM8R	4/09/2015	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	102	176
DM8R	4/09/2015	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	93	<100
DM8R	5/09/2015	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	15/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	15/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	21/04/2016	d	800	-	1.5	-	<0.0001	-	0.003	-	<0.001	-	29	-	-	-	-	-	<0.001	-	-	-	-	-
DM8R	21/04/2016	s	660	-	0.039	-	<0.0001	-	0.023	-	0.001	-	25	-	-	-	-	-	0.001	-	-	-	-	-
DM8R	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	<100
DM8R	22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	122	<100
DM8R	15/09/2016	d	-	700	-	1.3	-	<0.0001	-	0.002	-	<0.001	-	12	-	-	-	-	-	<0.001	-	-	<100	<100
DM8R	15/09/2016	s	-	550	-	0.048	-	<0.0001	-	0.037	-	<0.001	-	9.6	-	-	-	-	-	0.002	-	-	<100	<100
DM8R	18/04/2017	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<81	<180
DM8R	18/04/2017	s	660	-	1.1	-	<0.0001	-	0.002	-	0.001	-	15	-	-	-	-	-	<0.001	-	-	-	-	-
DM8R	18/04/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	25/05/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	26/05/2017	s	770	-	2.2	-	<0.0001	-	<0.001	-	0.009	-	15	-	-	-	-	-	0.002	-	-	-	89	206
DM8R	26/05/2017	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM8R	12/10/2017	d	-	695	-	1.1	<0.0001	-	-	0.0026	-	0.0011	-	13.3	-	-	-	-	-	0.0004	-	-	50	62
DM8R	12/10/2017	s	-	604	-	0.036	<0.0001	-	-	0.026	-	0.001	-	10.9	-	-	-	-	-	0.0004	-	-	92	<180 - 180
DM8R	6/04/2018	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	140
DM8R	6/04/2018	d	-	713	-	0.85	<0.0001	-	-	0.0014	-	0.0007	-	13.4	-	-	-	-	-	0.0006	-	-	-	-
DM8R	6/04/2018	s	-	629	-	0.033	<0.0001	-	-	0.2	-	0.0011	-	10.4	-	-	-	-	-	0.0022	-	-	-	-
DM8R	6/04/2018	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	140
DM8R	29/10/2018	d	-	622	-	0.071	<0.00005	-	-	0.018	-	<0.001	-	11.9	-	-	-	-	-	<0.0002	-	-	<62	<190
DM8R	29/10/2018	s	-	674	-	0.37	<0.00005	-	-	0.0013	-	<0.001	-	13.4	-	-	-	-	-	<0.0002	-	-	55	<150
DM8R	16/04/2019	d	-	649	-	1.1	<0.00005	-	-	0.002	-	0.001	-	14	-	-	-	-	-	0.0008	-	-	65	<130
DM8R	16/04/2019	s	-	627	-	0.073	<0.00005	-	-	0.12	-	0.001	-	11.8	-	-	-	-	-	0.0022	-	-	53	<130
DM8R	10/10/2019	d	-	671	-	0.13	<0.00005	-	-	0.039	-	<0.01	-	12.6	-	-	-	-	-	<0.001	-	-	-	-
DM8R	10/10/2019	s	-	514	-	0.046	<0.00005	-	-	0.17	-	<0.001	-	10.1	-	-	-	-	-	0.0025	-	-	-	-
DM8R	15/04/2020	d	-	678	-	0.81	<0.00005	-	-	0.002	-	<0.002	-	12.6	-	-	-	-	-	0.0005	-	-	-	-
DM8R	15/04/2020	s	-	670	-	0.12	<0.00005	-	-	0.035	-	<0.002	-	10.5	-	-	-	-	-	0.0011	-	-	-	-
DM8R	14/10/2020	d	-	642	-	0.92	<0.00005	-	-	0.002	-	<0.001	-	13.6	-	-	-	-	-	0.0003	-	-	-	-
DM8R	14/10/2020	s	-	636	-	0.79	<0.00005	-	-	0.001	-	<0.001	-	13.4	-	-	-	-	-	0.0004	-	-	-	-
DM8R	14/10/2020	s	-	527	-	0.097	<0.00005	-	-	0.011	-	<0.001	-	10.9	-	-	-	-	-	0.0009	-	-	-	-

LocCode	Sampled_Date-Time	WellCode					Inorganic		NITROGEN	BTEX	Field			Inorganics								
			Carbonate as CaCO3	Carbon	Na/Cl Ratio	Na/Cl Ratio (Filtered)	Na:Cl molar ratio	Na:Cl molar ratio (Filtered)	Nitrogen, nitrate + nitrite fraction by FIA.	Benzene	EC (field)	pH (Field)	Temp (field)	Ammonia as N	Bicarbonate	Bicarbonate as CaCO3	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Chloride	Chloride (Filtered)	EC (laboratory)	pH (laboratory)
			mg/L	mg/L	ratio	ratio	ratio	ratio	mg/L	µg/L	µS/cm	pH	oC	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µS/cm	pH
EQL			1		0.01	0.1	0.001	0.1	0.01							1	1	1	0.1	1		
ANZECC 2000 MW 95%										700												
DM9R	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM9R	22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM9R	15/09/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM9R	15/09/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM9R	6/04/2018	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM9R	6/04/2018	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM9R	16/04/2019	d	-	-	-	-	-	1.2	-	-	936	7.45	-	-	-	-	-	-	168	-	-	-
DM9R	16/04/2019	s	-	-	-	-	-	1	-	-	1189	7.54	-	-	-	-	-	-	161	-	-	-
DM9R	10/10/2019	d	-	-	-	-	-	0.9	-	-	778	7.25	20.3	-	-	-	-	-	154	-	-	-
DM9R	10/10/2019	s	-	-	-	-	-	1	-	-	1134	7.22	20.9	-	-	-	-	-	163	-	-	-
DM9R	14/10/2020	d	<1	-	-	-	-	-	-	-	932	6.68	-	-	-	-	110	-	244	-	-	-
DM9R	14/10/2020	s	<1	-	-	-	-	-	-	-	1086	6.7	-	-	-	-	290	-	192	-	-	-

LocCode	Sampled_Date-Time	WellCode	Inorganics													Lead	
			Nitrate (as N)	Nitrate as NO3-N	Exchangeable Magnesium	Redox Potential	Salinity	Sodium	Sodium (Filtered)	Sulphate	Sulphate (Filtered)	Sulphide	TDS (evap)	TDS (evap) (Filtered)	Thorium	Lead Total	Lead Total (Filtered)
			mg/L	mg/L	mg/L	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L
EQL			0.01	0.2				0.05	0.05	1	5		10			0.001	0.0001
ANZECC 2000 MW 95%																0.0044	0.0044
DM9R	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM9R	22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM9R	15/09/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM9R	15/09/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM9R	6/04/2018	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM9R	6/04/2018	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM9R	16/04/2019	d	0.07	-	-	-17	-	-	130	30	-	-	450 - 469	-	-	-	0.0012
DM9R	16/04/2019	s	1.2	-	-	19	-	-	100	82	-	-	594 - 640	-	-	-	0.001
DM9R	10/10/2019	d	1.2	-	-	-22	-	-	92.3	23	-	-	389 - 430	-	-	-	0.0018
DM9R	10/10/2019	s	1.6	-	-	-51	-	-	102	79	-	-	566 - 640	-	-	-	0.0011
DM9R	14/10/2020	d	0.14	-	-	42	-	-	118	45	-	-	466 - 640	-	-	-	0.001
DM9R	14/10/2020	s	2	-	-	122	-	-	106	83	-	-	542 - 780	-	-	-	0.0006

LocCode	Sampled_Date-Time	WellCode	Metals																					
			Aluminium	Arsenic	Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Calcium	Calcium (Filtered)	Chromium (hexavalent)	Chromium (hexavalent) (Filtered)	Chromium Total	Chromium Total (Filtered)	Chromium (Trivalent)	Chromium (Trivalent) (Filtered)	Cobalt	Cobalt (Filtered)	Copper Total	Copper Total (Filtered)	Iron	Iron (Filtered)	Magnesium	Magnesium (Filtered)
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL					0.005	0.005	0.0001	0.0001	0.005	0.005	0.001	0.001	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.0001	0.005	0.005	0.005	0.005
ANZECC 2000 MW 95%							0.0055	0.0055			0.0044	0.0044			0.0274	0.0274	0.001	0.001	0.0013	0.0013				
DM9R	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM9R	22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM9R	15/09/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM9R	15/09/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM9R	6/04/2018	d	-	-	-	-	-	-	-	-	<0.001	-	-	-	-	-	-	-	-	-	-	-	-	-
DM9R	6/04/2018	s	-	-	-	-	-	-	-	-	0.098	-	-	-	-	-	-	-	-	-	-	-	-	-
DM9R	16/04/2019	d	-	-	-	0.03	-	<0.0001	-	67.7	<0.001	-	-	0.0007	<0.001	-	-	<0.0001	-	0.0008	-	19	-	14.8
DM9R	16/04/2019	s	-	-	-	0.07	-	<0.0001	-	104	0.071	-	-	0.092	0.021	-	-	<0.0001	-	0.001	-	0.51	-	35.9
DM9R	10/10/2019	d	-	-	-	0.04	-	<0.0001	-	44.8	<0.001	-	-	<0.001	<0.001	-	-	0.0001	-	0.0026	-	1.1	-	9.6
DM9R	10/10/2019	s	-	-	-	0.11	-	<0.0001	-	114	0.11	-	-	0.15	0.039	-	-	<0.0001	-	0.0008	-	0.55	-	40.3
DM9R	14/10/2020	d	-	-	-	0.032	-	<0.0001	-	61.1	<0.001	-	-	<0.001	<0.001	-	-	0.0002	-	0.0053	-	15	-	13.3
DM9R	14/10/2020	s	-	-	-	<0.05	-	<0.0001	-	110	0.23	-	-	0.25	0.023	-	-	<0.0001	-	0.0045	-	0.18	-	39.3

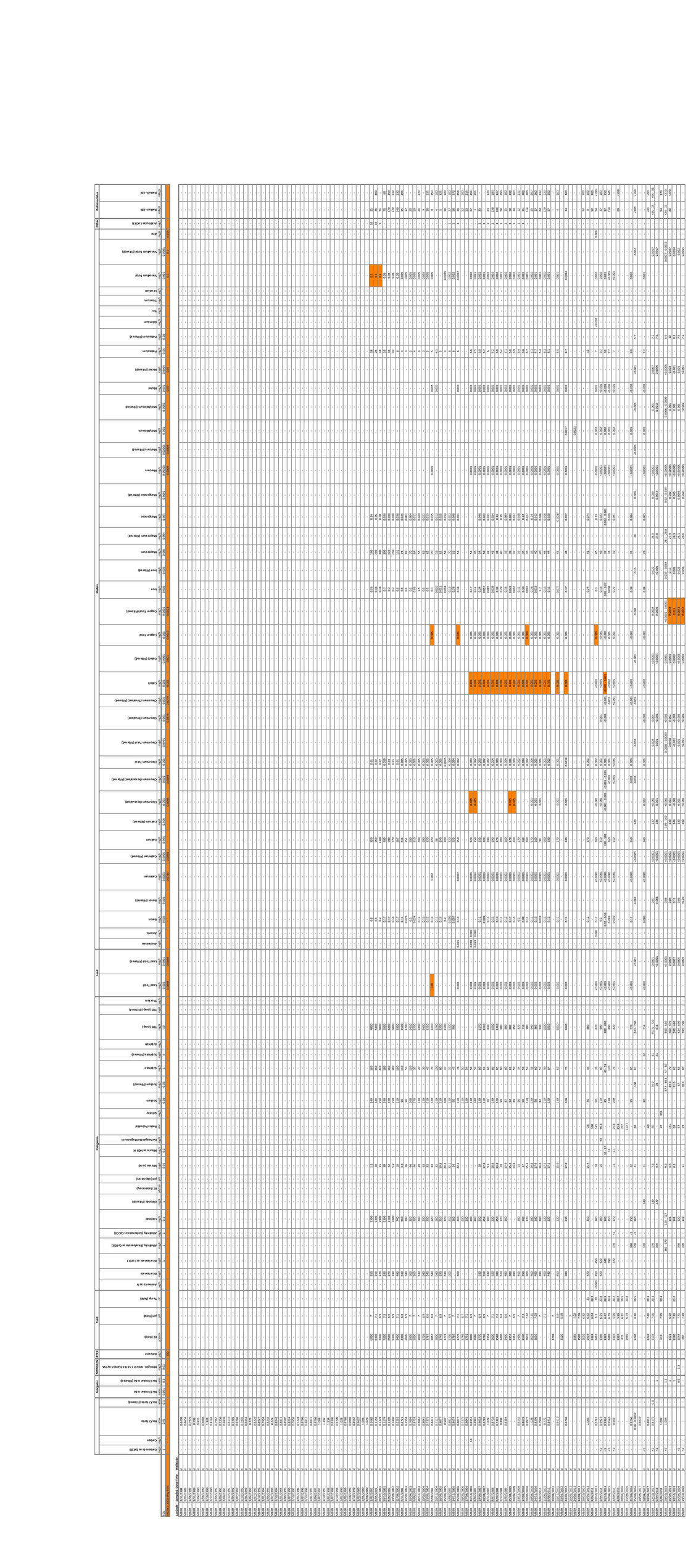
LocCode	Sampled_Date-Time	WellCode	Metals																	Other	Radionuclides	
			Manganese	Manganese (Filtered)	Mercury	Mercury (Filtered)	Molybdenum	Molybdenum (Filtered)	Nickel	Nickel (Filtered)	Potassium	Potassium (Filtered)	Selenium	Tin	Titanium	Uranium	Vanadium Total	Vanadium Total (Filtered)	Zinc	Acidity (as CaCO3)	Radium-226	Radium-228
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mBq/L	mBq/L
EQL			0.001	0.0001	0.00005	0.00001	0.001	0.0001	0.001	0.0005	0.05	0.05					0.001	0.0001				
ANZECC 2000 MW 95%					0.0004	0.0004			0.07	0.07							0.1	0.1	0.015			
DM9R	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	<100
DM9R	22/04/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	<100
DM9R	15/09/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	<100
DM9R	15/09/2016	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	909	574
DM9R	6/04/2018	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM9R	6/04/2018	s	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DM9R	16/04/2019	d	-	0.12	<0.00005	-	-	<0.001	-	<0.001	-	9.6	-	-	-	-	-	0.0009	-	-	86	97
DM9R	16/04/2019	s	-	0.031	<0.00005	-	-	<0.001	-	<0.001	-	5.8	-	-	-	-	-	0.0032	-	-	<46	<180
DM9R	10/10/2019	d	-	0.044	<0.00005	-	-	0.003	-	0.003	-	32.9	-	-	-	-	-	0.0005	-	-	-	-
DM9R	10/10/2019	s	-	0.043	<0.00005	-	-	<0.001	-	<0.001	-	5.5	-	-	-	-	-	0.0024	-	-	-	-
DM9R	14/10/2020	d	-	0.12	<0.00005	-	-	<0.001	-	<0.001	-	11.6	-	-	-	-	-	0.0004	-	-	-	-
DM9R	14/10/2020	s	-	0.015	<0.00005	-	-	<0.001	-	<0.001	-	5.2	-	-	-	-	-	0.0018	-	-	-	-

LocCode	Sampled_Date-Time	WellCode	Carbonate as CaCO3	Carbon	Na/Cl Ratio	Na/Cl Ratio (Filtered)	Na:Cl molar ratio	Na:Cl molar ratio (Filtered)	Nitrogen, nitrate + nitrite fraction by FIA.	Benzene	EC (field)	pH (Field)	Temp (field)	Ammonia as N	Bicarbonate	Bicarbonate as CaCO3	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Chloride
							Inorganic	Inorganic	NITROGEN	BTEX	Field	Field	Field	Inorganics	Inorganics	Inorganics	Inorganics	Inorganics	Inorganics
			mg/L	mg/L	ratio	ratio	ratio	ratio	mg/L	µg/L	µS/cm	pH	oC	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			1		0.01	0.1	0.001	0.1	0.01							1	1	1	0.1
ANZECC 2000 MW 95%										700									
MB3	1/11/1988	d	-	-	0.6296	-	-	-	-	-	1100	7.3	-	-	144	-	-	-	240
MB3	1/03/1989	d	-	-	0.8654	-	-	-	-	-	1740	7.3	-	-	272	-	-	-	351
MB3	1/08/1989	d	-	-	0.7976	-	-	-	-	-	1290	6.8	-	-	180	-	-	-	290
MB3	1/11/1989	d	-	-	0.793	-	-	-	-	-	1500	7.05	-	-	260	-	-	-	350
MB3	1/04/1990	d	-	-	0.815	-	-	-	-	-	1560	8.1	-	-	195	-	-	-	350
MB3	1/06/1990	d	-	-	0.6884	-	-	-	-	-	1100	6.6	-	-	120	-	-	-	280
MB3	1/10/1990	d	-	-	1.121	-	-	-	-	-	1640	6.9	-	-	245	-	-	-	220
MB3	1/12/1990	d	-	-	0.8163	-	-	-	-	-	1560	8	-	-	240	-	-	-	340
MB3	1/04/1991	d	-	-	0.7967	-	-	-	-	-	1220	6.8	-	-	190	-	-	-	300
MB3	1/06/1991	d	-	-	0.7256	-	-	-	-	-	1270	6.5	-	-	160	-	-	-	255
MB3	1/09/1991	d	-	-	0.6939	-	-	-	-	-	1310	7.3	-	-	175	-	-	-	300
MB3	1/12/1991	d	-	-	0.6115	-	-	-	-	-	1160	6.8	-	-	130	-	-	-	290
MB3	1/04/1992	d	-	-	0.7401	-	-	-	-	-	1090	6.8	-	-	105	-	-	-	250
MB3	1/07/1992	d	-	-	0.9786	-	-	-	-	-	1400	7	-	-	245	-	-	-	260
MB3	1/10/1992	d	-	-	0.7401	-	-	-	-	-	1100	7	-	-	135	-	-	-	250
MB3	1/01/1993	d	-	-	0.9252	-	-	-	-	-	1390	7.5	-	-	280	-	-	-	300
MB3	1/04/1993	d	-	-	0.771	-	-	-	-	-	1480	7.5	-	-	250	-	-	-	320
MB3	1/07/1993	d	-	-	0.8224	-	-	-	-	-	1430	6.85	-	-	270	-	-	-	300
MB3	1/10/1993	d	-	-	0.8927	-	-	-	-	-	1440	6.6	-	-	255	-	-	-	285
MB3	1/01/1994	d	-	-	0.7959	-	-	-	-	-	1480	7	-	-	245	-	-	-	310
MB3	1/04/1994	d	-	-	0.8242	-	-	-	-	-	1460	7	-	-	235	-	-	-	290
MB3	1/07/1994	d	-	-	0.771	-	-	-	-	-	1380	7.6	-	-	205	-	-	-	300
MB3	1/10/1994	d	-	-	0.8242	-	-	-	-	-	1375	7.4	-	-	220	-	-	-	290
MB3	1/01/1995	d	-	-	0.8811	-	-	-	-	-	1500	7	-	-	220	-	-	-	280
MB3	1/04/1995	d	-	-	0.8507	-	-	-	-	-	1400	8	-	-	220	-	-	-	290
MB3	1/07/1995	d	-	-	0.8224	-	-	-	-	-	1400	6.9	-	-	205	-	-	-	300
MB3	1/10/1995	d	-	-	0.7959	-	-	-	-	-	1500	7.3	-	-	220	-	-	-	310
MB3	1/01/1996	d	-	-	0.7228	-	-	-	-	-	1400	7.5	-	-	200	-	-	-	320
MB3	1/07/1996	d	-	-	0.9766	-	-	-	-	-	1600	7.5	-	-	260	-	-	-	300
MB3	1/10/1996	d	-	-	0.8811	-	-	-	-	-	1700	8	-	-	290	-	-	-	350
MB3	1/01/1997	d	-	-	0.8811	-	-	-	-	-	1700	7.9	-	-	290	-	-	-	350
MB3	1/04/1997	d	-	-	0.9766	-	-	-	-	-	1700	7.3	-	-	280	-	-	-	300
MB3	1/07/1997	d	-	-	1.068	-	-	-	-	-	1500	7.6	-	-	290	-	-	-	260
MB3	1/10/1997	d	-	-	1.192	-	-	-	-	-	1600	6.9	-	-	280	-	-	-	220
MB3	1/01/1998	d	-	-	1.234	-	-	-	-	-	1400	7	-	-	400	-	-	-	200
MB3	1/07/1998	d	-	-	0.9305	-	-	-	-	-	1410	7.2	-	-	220	-	-	-	290
MB3	1/10/1998	d	-	-	0.9709	-	-	-	-	-	1520	7	-	-	220	-	-	-	270
MB3	1/02/1999	d	-	-	1.028	-	-	-	-	-	1400	7.2	-	-	230	-	-	-	270
MB3	1/05/1999	d	-	-	0.9766	-	-	-	-	-	-	-	-	-	220	-	-	-	300
MB3	1/08/1999	d	-	-	0.9869	-	-	-	-	-	1500	6.8	-	-	220	-	-	-	250
MB3	1/10/1999	d	-	-	0.8567	-	-	-	-	-	1500	7	-	-	230	-	-	-	270
MB3	1/02/2000	d	-	-	0.9637	-	-	-	-	-	1400	6.9	-	-	230	-	-	-	240
MB3	1/06/2000	d	-	-	1.006	-	-	-	-	-	1500	7.1	-	-	230	-	-	-	230
MB3	9/08/2000	d	-	-	1.073	-	-	-	-	-	1400	7	-	-	230	-	-	-	230
MB3	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

LocCode	Sampled_Date-Time	WellCode	Chloride (Filtered)	EC (laboratory)	pH (laboratory)	Nitrate (as N)	Nitrate as NO3-N	Exchangeable Magnesium	Redox Potential	Salinity	Sodium	Sodium (Filtered)	Sulphate	Sulphate (Filtered)	Sulphide	TDS (evap)	TDS (evap) (Filtered)	Thorium	Lead Total	Lead Total (Filtered)
			Inorganics	Inorganics	Inorganics	Inorganics	Inorganics	Inorganics	Inorganics	Inorganics	Inorganics	Inorganics	Inorganics	Inorganics	Inorganics	Inorganics	Inorganics	Inorganics	Lead	Lead
			mg/L	µS/cm	pH	mg/L	mg/L	mg/L	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L
EQL			1			0.01	0.2				0.05	0.05	1	5		10			0.001	0.0001
ANZECC 2000 MW 95%																			0.0044	0.0044
MB3	1/11/1988	d	-	-	-	-	-	-	-	-	98	-	21.7	-	-	522	-	-	-	-
MB3	1/03/1989	d	-	-	-	-	-	-	-	-	197	-	86	-	-	911	-	-	-	-
MB3	1/08/1989	d	-	-	-	-	-	-	-	-	150	-	40	-	-	830	-	-	-	-
MB3	1/11/1989	d	-	-	-	-	-	-	-	-	180	-	50	-	-	990	-	-	-	-
MB3	1/04/1990	d	-	-	-	2	-	-	-	-	185	-	60	-	-	1000	-	-	-	-
MB3	1/06/1990	d	-	-	-	-	-	-	-	-	125	-	20	-	-	700	-	-	-	-
MB3	1/10/1990	d	-	-	-	1	-	-	-	-	160	-	140	-	-	1050	-	-	-	-
MB3	1/12/1990	d	-	-	-	-	-	-	-	-	180	-	50	-	-	1000	-	-	-	-
MB3	1/04/1991	d	-	-	-	-	-	-	-	-	155	-	60	-	-	780	-	-	-	-
MB3	1/06/1991	d	-	-	-	1	-	-	-	-	120	-	15	-	-	810	-	-	-	-
MB3	1/09/1991	d	-	-	-	11	-	-	-	-	135	-	50	-	-	840	-	-	-	-
MB3	1/12/1991	d	-	-	-	-	-	-	-	-	115	-	15	-	-	740	-	-	-	-
MB3	1/04/1992	d	-	-	-	-	-	-	-	-	120	-	25	-	-	700	-	-	-	-
MB3	1/07/1992	d	-	-	-	-	-	-	-	-	165	-	80	-	-	900	-	-	-	-
MB3	1/10/1992	d	-	-	-	-	-	-	-	-	120	-	30	-	-	700	-	-	-	-
MB3	1/01/1993	d	-	-	-	-	-	-	-	-	180	-	130	-	-	900	-	-	-	-
MB3	1/04/1993	d	-	-	-	-	-	-	-	-	160	-	55	-	-	950	-	-	-	-
MB3	1/07/1993	d	-	-	-	4	-	-	-	-	160	-	40	-	-	910	-	-	-	-
MB3	1/10/1993	d	-	-	-	1	-	-	-	-	165	-	80	-	-	750	-	-	-	-
MB3	1/01/1994	d	-	-	-	-	-	-	-	-	160	-	90	-	-	950	-	-	-	-
MB3	1/04/1994	d	-	-	-	-	-	-	-	-	155	-	40	-	-	930	-	-	-	-
MB3	1/07/1994	d	-	-	-	2	-	-	-	-	150	-	75	-	-	880	-	-	-	-
MB3	1/10/1994	d	-	-	-	-	-	-	-	-	155	-	80	-	-	820	-	-	-	-
MB3	1/01/1995	d	-	-	-	4	-	-	-	-	160	-	70	-	-	960	-	-	-	-
MB3	1/04/1995	d	-	-	-	3	-	-	-	-	160	-	95	-	-	900	-	-	-	-
MB3	1/07/1995	d	-	-	-	-	-	-	-	-	160	-	85	-	-	900	-	-	-	-
MB3	1/10/1995	d	-	-	-	-	-	-	-	-	160	-	100	-	-	960	-	-	-	-
MB3	1/01/1996	d	-	-	-	-	-	-	-	-	150	-	79	-	-	900	-	-	-	-
MB3	1/07/1996	d	-	-	-	5	-	-	-	-	190	-	110	-	-	940	-	-	-	-
MB3	1/10/1996	d	-	-	-	1	-	-	-	-	200	-	120	-	-	1100	-	-	-	-
MB3	1/01/1997	d	-	-	-	-	-	-	-	-	200	-	120	-	-	910	-	-	-	-
MB3	1/04/1997	d	-	-	-	-	-	-	-	-	190	-	120	-	-	990	-	-	-	-
MB3	1/07/1997	d	-	-	-	-	-	-	-	-	180	-	140	-	-	1000	-	-	-	-
MB3	1/10/1997	d	-	-	-	1	-	-	-	-	170	-	150	-	-	830	-	-	-	-
MB3	1/01/1998	d	-	-	-	10	-	-	-	-	160	-	98	-	-	900	-	-	-	-
MB3	1/07/1998	d	-	-	-	0.4	-	-	-	-	175	-	200	-	-	1100	-	-	-	-
MB3	1/10/1998	d	-	-	-	0.2	-	-	-	-	170	-	100	-	-	1080	-	-	-	-
MB3	1/02/1999	d	-	-	-	0.2	-	-	-	-	180	-	260	-	-	990	-	-	-	-
MB3	1/05/1999	d	-	-	-	-	-	-	-	-	190	-	250	-	-	-	-	-	-	-
MB3	1/08/1999	d	-	-	-	0.25	-	-	-	-	160	-	240	-	-	840	-	-	-	-
MB3	1/10/1999	d	-	-	-	0.59	-	-	-	-	150	-	200	-	-	930	-	-	-	-
MB3	1/02/2000	d	-	-	-	0.01	-	-	-	-	150	-	250	-	-	980	-	-	-	-
MB3	1/06/2000	d	-	-	-	0.03	-	-	-	-	150	-	270	-	-	1100	-	-	-	-
MB3	9/08/2000	d	-	-	-	0.29	-	-	-	-	160	-	250	-	-	1100	-	-	-	-
MB3	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

LocCode	Sampled_Date-Time	WellCode	Aluminium	Arsenic	Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Calcium	Calcium (Filtered)	Chromium (hexavalent)	Chromium (hexavalent) (Filtered)	Chromium Total	Chromium Total (Filtered)	Chromium (Trivalent)	Chromium (Trivalent) (Filtered)	Cobalt	Cobalt (Filtered)	Copper Total	Copper Total (Filtered)
			Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL					0.005	0.005	0.0001	0.0001	0.005	0.005	0.001	0.001	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.0001
ANZECC 2000 MW 95%							0.0055	0.0055			0.0044	0.0044			0.0274	0.0274	0.001	0.001	0.0013	0.0013
MB3	1/11/1988	d	-	-	-	-	-	-	64	-	-	-	-	-	-	-	-	-	-	-
MB3	1/03/1989	d	-	-	-	-	-	-	109	-	-	-	-	-	-	-	-	-	-	-
MB3	1/08/1989	d	-	-	-	-	-	-	80	-	-	-	-	-	-	-	-	-	-	-
MB3	1/11/1989	d	-	-	-	-	-	-	95	-	-	-	-	-	-	-	-	-	-	-
MB3	1/04/1990	d	-	-	-	-	-	-	95	-	-	-	-	-	-	-	-	-	-	-
MB3	1/06/1990	d	-	-	-	-	-	-	70	-	-	-	-	-	-	-	-	-	-	-
MB3	1/10/1990	d	-	-	-	-	-	-	95	-	-	-	-	-	-	-	-	-	-	-
MB3	1/12/1990	d	-	-	-	-	-	-	95	-	-	-	-	-	-	-	-	-	-	-
MB3	1/04/1991	d	-	-	-	-	-	-	85	-	-	-	-	-	-	-	-	-	-	-
MB3	1/06/1991	d	-	-	-	-	-	-	65	-	-	-	-	-	-	-	-	-	-	-
MB3	1/09/1991	d	-	-	-	-	-	-	75	-	-	-	-	-	-	-	-	-	-	-
MB3	1/12/1991	d	-	-	-	-	-	-	60	-	-	-	-	-	-	-	-	-	-	-
MB3	1/04/1992	d	-	-	-	-	-	-	70	-	-	-	-	-	-	-	-	-	-	-
MB3	1/07/1992	d	-	-	-	-	-	-	85	-	-	-	-	-	-	-	-	-	-	-
MB3	1/10/1992	d	-	-	-	-	-	-	65	-	-	-	-	-	-	-	-	-	-	-
MB3	1/01/1993	d	-	-	-	-	-	-	90	-	-	-	-	-	-	-	-	-	-	-
MB3	1/04/1993	d	-	-	-	-	-	-	90	-	-	-	-	-	-	-	-	-	-	-
MB3	1/07/1993	d	-	-	-	-	-	-	90	-	-	-	-	-	-	-	-	-	-	-
MB3	1/10/1993	d	-	-	-	-	-	-	85	-	-	-	-	-	-	-	-	-	-	-
MB3	1/01/1994	d	-	-	-	-	-	-	90	-	-	-	-	-	-	-	-	-	-	-
MB3	1/04/1994	d	-	-	-	-	-	-	85	-	-	-	-	-	-	-	-	-	-	-
MB3	1/07/1994	d	-	-	-	-	-	-	86	-	-	-	-	-	-	-	-	-	-	-
MB3	1/10/1994	d	-	-	-	-	-	-	95	-	-	-	-	-	-	-	-	-	-	-
MB3	1/01/1995	d	-	-	-	-	-	-	95	-	-	-	-	-	-	-	-	-	-	-
MB3	1/04/1995	d	-	-	-	-	-	-	95	-	-	-	-	-	-	-	-	-	-	-
MB3	1/07/1995	d	-	-	-	-	-	-	90	-	-	-	-	-	-	-	-	-	-	-
MB3	1/10/1995	d	-	-	-	-	-	-	95	-	-	-	-	-	-	-	-	-	-	-
MB3	1/01/1996	d	-	-	-	-	-	-	87	-	-	-	-	-	-	-	-	-	-	-
MB3	1/07/1996	d	-	-	0.03	-	-	-	120	-	-	-	0.05	-	-	-	-	-	-	-
MB3	1/10/1996	d	-	-	0.1	-	-	-	110	-	-	-	0.05	-	-	-	-	-	-	-
MB3	1/01/1997	d	-	-	0.1	-	-	-	110	-	-	-	0.05	-	-	-	-	-	-	-
MB3	1/04/1997	d	-	-	0.1	-	-	-	110	-	-	-	0.05	-	-	-	-	-	-	-
MB3	1/07/1997	d	-	-	0.08	-	-	-	110	-	-	-	0.05	-	-	-	-	-	-	-
MB3	1/10/1997	d	-	-	0.1	-	-	-	98	-	-	-	0.05	-	-	-	-	-	-	-
MB3	1/01/1998	d	-	-	0.1	-	-	-	120	-	-	-	0.05	-	-	-	-	-	-	-
MB3	1/07/1998	d	-	-	0.05	-	-	-	105	-	-	-	0.01	-	-	-	-	-	-	-
MB3	1/10/1998	d	-	-	0.05	-	-	-	130	-	-	-	0.01	-	-	-	-	-	-	-
MB3	1/02/1999	d	-	-	0.09	-	-	-	120	-	-	-	0.01	-	-	-	-	-	-	-
MB3	1/05/1999	d	-	-	0.5	-	-	-	121	-	-	-	0.01	-	-	-	-	-	-	-
MB3	1/08/1999	d	-	-	0.1	-	-	-	120	-	-	-	0.01	-	-	-	-	-	-	-
MB3	1/10/1999	d	-	-	0.1	-	-	-	130	-	-	-	0.01	-	-	-	-	-	-	-
MB3	1/02/2000	d	-	-	0.2	-	-	-	130	-	-	-	0.01	-	-	-	-	-	-	-
MB3	1/06/2000	d	-	-	0.77	-	-	-	140	-	-	-	0.01	-	-	-	-	-	-	-
MB3	9/08/2000	d	-	-	-	-	-	-	140	-	-	-	0.01	-	-	-	-	-	-	-
MB3	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

LocCode	Sampled_Date-Time	WellCode	Iron	Iron (Filtered)	Magnesium	Magnesium (Filtered)	Manganese	Manganese (Filtered)	Mercury	Mercury (Filtered)	Molybdenum	Molybdenum (Filtered)	Nickel	Nickel (Filtered)	Potassium	Potassium (Filtered)	Selenium	Tin	Titanium	Uranium	Vanadium Total	Vanadium Total (Filtered)	Zinc	Acidity (as CaCO3)	Radium-226	Radium-228
			Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Metals	Other	Radionuclides	Radionuclides
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mBq/L	mBq/L
EQL			0.005	0.005	0.005	0.005	0.001	0.0001	0.00005	0.00001	0.001	0.0001	0.001	0.0005	0.05	0.05					0.001	0.0001				
ANZECC 2000 MW 95%									0.0004	0.0004			0.07	0.07							0.1	0.1	0.015			
MB3	1/11/1988	d	-	-	15	-	-	-	-	-	-	-	-	-	10.8	-	-	-	-	-	-	-	-	-	45	70
MB3	1/03/1989	d	-	-	22	-	-	-	-	-	-	-	-	-	9.8	-	-	-	-	-	-	-	-	-	-	-
MB3	1/08/1989	d	-	-	21	-	-	-	-	-	-	-	-	-	6.5	-	-	-	-	-	-	-	-	-	67	-
MB3	1/11/1989	d	-	-	25	-	-	-	-	-	-	-	-	-	7.5	-	-	-	-	-	-	-	-	-	59	-
MB3	1/04/1990	d	-	-	24	-	-	-	-	-	-	-	-	-	6.5	-	-	-	-	-	-	-	-	-	64.3	-
MB3	1/06/1990	d	-	-	16	-	-	-	-	-	-	-	-	-	6.5	-	-	-	-	-	-	-	-	-	47.3	-
MB3	1/10/1990	d	-	-	26	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	37	-
MB3	1/12/1990	d	-	-	23	-	-	-	-	-	-	-	-	-	9.5	-	-	-	-	-	-	-	-	-	78.1	-
MB3	1/04/1991	d	-	-	20	-	-	-	-	-	-	-	-	-	7.4	-	-	-	-	-	-	-	-	-	74	-
MB3	1/06/1991	d	-	-	21	-	-	-	-	-	-	-	-	-	7.5	-	-	-	-	-	-	-	-	-	55	-
MB3	1/09/1991	d	-	-	19	-	-	-	-	-	-	-	-	-	6.6	-	-	-	-	-	-	-	-	-	54.9	-
MB3	1/12/1991	d	-	-	17.5	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-
MB3	1/04/1992	d	-	-	18	-	-	-	-	-	-	-	-	-	6.6	-	-	-	-	-	-	-	-	-	83.9	-
MB3	1/07/1992	d	-	-	21.5	-	-	-	-	-	-	-	-	-	8.5	-	-	-	-	-	-	-	-	-	62	-
MB3	1/10/1992	d	-	-	17.5	-	-	-	-	-	-	-	-	-	9.5	-	-	-	-	-	-	-	-	-	59	-
MB3	1/01/1993	d	22.5	-	22.5	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	72	-
MB3	1/04/1993	d	24	-	24	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	74	-
MB3	1/07/1993	d	22	-	22	-	-	-	-	-	-	-	-	-	7.7	-	-	-	-	-	-	-	-	-	41	-
MB3	1/10/1993	d	24	-	24	-	-	-	-	-	-	-	-	-	7.2	-	-	-	-	-	-	-	-	-	61	-
MB3	1/01/1994	d	20.5	-	20.5	-	-	-	-	-	-	-	-	-	6.5	-	-	-	-	-	-	-	-	-	76	-
MB3	1/04/1994	d	21.5	-	21.5	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	104	-
MB3	1/07/1994	d	21	-	21	-	-	-	-	-	-	-	-	-	6.5	-	-	-	-	-	-	-	-	-	66	-
MB3	1/10/1994	d	21	-	21	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	91	-
MB3	1/01/1995	d	22.5	-	22.5	-	-	-	-	-	-	-	-	-	7	-	-	-	-	-	-	-	-	-	135	-
MB3	1/04/1995	d	23	-	23	-	-	-	-	-	-	-	-	-	7.6	-	-	-	-	-	-	-	-	-	42	-
MB3	1/07/1995	d	23	-	23	-	-	-	-	-	-	-	-	-	7.7	-	-	-	-	-	-	-	-	-	90	-
MB3	1/10/1995	d	23.5	-	23.5	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	93	-
MB3	1/01/1996	d	22	-	22	-	-	-	-	-	-	-	-	-	7.8	-	-	-	-	-	-	-	-	-	65	-
MB3	1/07/1996	d	10	-	25	-	0.1	-	-	-	-	-	-	-	8	-	-	-	-	-	0.5	-	-	-	70	-
MB3	1/10/1996	d	7.9	-	25	-	0.05	-	-	-	-	-	-	-	7	-	-	-	-	-	0.5	-	-	-	91	-
MB3	1/01/1997	d	0.4	-	26	-	0.1	-	-	-	-	-	-	-	7.1	-	-	-	-	-	0.5	-	-	-	105	-
MB3	1/04/1997	d	4.6	-	24	-	0.1	-	-	-	-	-	-	-	7.4	-	-	-	-	-	0.2	-	-	-	52	-
MB3	1/07/1997	d	12	-	22	-	0.1	-	-	-	-	-	-	-	8	-	-	-	-	-	0.5	-	-	-	70	-
MB3	1/10/1997	d	9.6	-	25	-	0.15	-	-	-	-	-	-	-	7	-	-	-	-	-	0.1	-	-	-	70	-
MB3	1/01/1998	d	0.9	-	36	-	0.05	-	-	-	-	-	-	-	5.2	-	-	-	-	-	0.5	-	-	-	40	-
MB3	1/07/1998	d	21.9	-	27	-	0.15	-	-	-	-	-	-	-	6	-	-	-	-	-	0.5	-	-	10	-	-
MB3	1/10/1998	d	8.5	-	24	-	0.15	-	-	-	-	-	-	-	7.5	-	-	-	-	-	0.2	-	-	10	69	-
MB3	1/02/1999	d	9.1	-	28	-	0.05	-	-	-	-	-	-	-	7.6	-	-	-	-	-	0.02	-	-	10	-	-
MB3	1/05/1999	d	7.2	-	28	-	0.14	-	-	-	-	-	-	-	7.2	-	-	-	-	-	0.2	-	-	10	-	-
MB3	1/08/1999	d	7	-	27	-	0.09	-	-	-	-	-	-	-	8.3	-	-	-	-	-	0.5	-	-	10	-	-
MB3	1/10/1999	d	0.02	-	28	-	0.14	-	-	-	-	-	-	-	7.4	-	-	-	-	-	0.1	-	-	10	-	-
MB3	1/02/2000	d	9.2	-	30	-	0.13	-	-	-	-	-	-	-	7.3	-	-	-	-	-	0.1	-	-	10	97	168
MB3	1/06/2000	d	0.32	-	29	-	0.14	-	-	-	-	-	-	-	7.6	-	-	-	-	-	0.1	-	-	10	59	1106
MB3	9/08/2000	d	10	-	29	-	0.14	-	-	-	-	-	-	-	7	-	-	-	-	-	0.1	-	-	10	56	-
MB3	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	151	<100



LocCode	Sampled_Date-Time	WellCode	Carbonate as CaCO3	Carbon	Na/Cl Ratio	Na/Cl Ratio (Filtered)	Na:Cl molar ratio	Na:Cl molar ratio (Filtered)	Nitrogen, nitrate + nitrite fraction by FIA.	Benzene	EC (field)	pH (Field)	Temp (field)	Ammonia as N	Bicarbonate	Bicarbonate as CaCO3	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Chloride	Chloride (Filtered)	EC (laboratory)	pH (laboratory)	Nitrate (as N)	Nitrate as NO3-N	Exchangeable Magnesium	Redox Potential	Salinity	Sodium	Sodium (Filtered)	Sulphate	Sulphate (Filtered)	Sulphide
							Inorganic		NITROGEN	BTEX	Field			Inorganics																		
			mg/L	mg/L	ratio	ratio	ratio	ratio	mg/L	µg/L	µS/cm	pH	oC	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µS/cm	pH	mg/L	mg/L	mg/L	mV	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL			1		0.01	0.1	0.001	0.1	0.01							1	1	1	0.1	1			0.01	0.2				0.05	0.05	1	5	
ANZECC 2000 MW 95%										700																						
MB4	1/11/1988	d	-	-	0.7592	-	-	-	-	-	1520	7.9	-	-	270	-	-	-	327	-	-	-	2	-	-	-	-	161	-	33	-	-
MB4	1/03/1989	d	-	-	0.8044	-	-	-	-	-	2010	7.6	-	-	286	-	-	-	439	-	-	-	-	-	-	-	-	229	-	45	-	-
MB4	1/08/1989	d	-	-	1.016	-	-	-	-	-	1980	7.2	-	-	380	-	-	-	425	-	-	-	-	-	-	-	-	280	-	45	-	-
MB4	1/11/1989	d	-	-	0.8274	-	-	-	-	-	1760	7.35	-	-	355	-	-	-	410	-	-	-	-	-	-	-	-	220	-	30	-	-
MB4	1/04/1990	d	-	-	0.9252	-	-	-	-	-	1700	8	-	-	220	-	-	-	350	-	-	-	-	-	-	-	-	210	-	35	-	-
MB4	1/06/1990	d	-	-	0.9377	-	-	-	-	-	1710	6.9	-	-	315	-	-	-	370	-	-	-	-	-	-	-	-	225	-	40	-	-
MB4	1/10/1990	d	-	-	0.8591	-	-	-	-	-	1930	7.1	-	-	360	-	-	-	350	-	-	-	3	-	-	-	-	195	-	70	-	-
MB4	1/12/1990	d	-	-	0.7937	-	-	-	-	-	1500	7.65	-	-	200	-	-	-	340	-	-	-	-	-	-	-	-	175	-	40	-	-
MB4	1/04/1991	d	-	-	0.8213	-	-	-	-	-	1870	6.9	-	-	250	-	-	-	460	-	-	-	-	-	-	-	-	245	-	90	-	-
MB4	1/08/1991	d	-	-	0.9794	-	-	-	-	-	1870	7.2	-	-	340	-	-	-	370	-	-	-	-	-	-	-	-	235	-	45	-	-
MB4	1/09/1991	d	-	-	0.8965	-	-	-	-	-	1880	7.6	-	-	345	-	-	-	430	-	-	-	-	-	-	-	-	250	-	60	-	-
MB4	1/12/1991	d	-	-	0.7913	-	-	-	-	-	1710	7.1	-	-	305	-	-	-	380	-	-	-	-	-	-	-	-	195	-	35	-	-
MB4	1/04/1992	d	-	-	0.8657	-	-	-	-	-	1300	6.7	-	-	165	-	-	-	285	-	-	-	-	-	-	-	-	160	-	30	-	-
MB4	1/07/1992	d	-	-	1.037	-	-	-	-	-	1610	7.3	-	-	330	-	-	-	290	-	-	-	1	-	-	-	-	195	-	40	-	-
MB4	1/10/1992	d	-	-	0.9571	-	-	-	-	-	1480	7.4	-	-	300	-	-	-	290	-	-	-	-	-	-	-	-	180	-	40	-	-
MB4	1/01/1993	d	-	-	0.8674	-	-	-	-	-	1380	7.6	-	-	280	-	-	-	320	-	-	-	-	-	-	-	-	180	-	65	-	-
MB4	1/04/1993	d	-	-	0.7951	-	-	-	-	-	1540	7.5	-	-	285	-	-	-	320	-	-	-	-	-	-	-	-	165	-	45	-	-
MB4	1/07/1993	d	-	-	0.8953	-	-	-	-	-	1600	6.9	-	-	320	-	-	-	310	-	-	-	4	-	-	-	-	180	-	50	-	-
MB4	1/10/1993	d	-	-	0.8163	-	-	-	-	-	1630	6.8	-	-	310	-	-	-	340	-	-	-	-	-	-	-	-	180	-	55	-	-
MB4	1/01/1994	d	-	-	0.7967	-	-	-	-	-	1480	6.8	-	-	235	-	-	-	300	-	-	-	-	-	-	-	-	155	-	80	-	-
MB4	1/07/1995	d	-	-	0.749	-	-	-	-	-	1400	6.3	-	-	95	-	-	-	350	-	-	-	-	-	-	-	-	170	-	50	-	-
MB4	1/10/1995	d	-	-	0.771	-	-	-	-	-	1100	6.6	-	-	90	-	-	-	260	-	-	-	2	-	-	-	-	130	-	30	-	-
MB4	1/01/1996	d	-	-	0.6704	-	-	-	-	-	900	6.9	-	-	80	-	-	-	230	-	-	-	-	-	-	-	-	100	-	18	-	-
MB4	1/07/1996	d	-	-	0.8045	-	-	-	-	-	920	6.4	-	-	80	-	-	-	230	-	-	-	2	-	-	-	-	120	-	31	-	-
MB4	1/01/1998	d	-	-	0.813	-	-	-	-	-	2200	6.6	-	-	240	-	-	-	550	-	-	-	-	-	-	-	-	290	-	88	-	-
MB4	1/07/1998	d	-	-	0.9345	-	-	-	-	-	1510	7.3	-	-	260	-	-	-	330	-	-	-	0.17	-	-	-	-	200	-	140	-	-
MB4	1/10/1998	d	-	-	0.8674	-	-	-	-	-	1590	7.2	-	-	240	-	-	-	320	-	-	-	0.2	-	-	-	-	180	-	71	-	-
MB4	1/02/1999	d	-	-	0.8335	-	-	-	-	-	1400	6.9	-	-	180	-	-	-	370	-	-	-	0.2	-	-	-	-	200	-	86	-	-
MB4	1/05/1999	d	-	-	0.8507	-	-	-	-	-	-	-	-	-	200	-	-	-	290	-	-	-	-	-	-	-	-	160	-	110	-	-
MB4	1/08/1999	d	-	-	0.9571	-	-	-	-	-	1700	7	-	-	260	-	-	-	290	-	-	-	0.08	-	-	-	-	180	-	220	-	-
MB4	1/10/1999	d	-	-	0.771	-	-	-	-	-	1600	7.1	-	-	260	-	-	-	340	-	-	-	0.06	-	-	-	-	170	-	150	-	-
MB4	1/02/2000	d	-	-	0.8738	-	-	-	-	-	1300	6.7	-	-	190	-	-	-	300	-	-	-	0.04	-	-	-	-	170	-	80	-	-
MB4	1/06/2000	d	-	-	0.9869	-	-	-	-	-	1500	7.4	-	-	270	-	-	-	250	-	-	-	0.03	-	-	-	-	160	-	280	-	-
MB4	9/08/2000	d	-	-	1.063	-	-	-	-	-	1700	7	-	-	280	-	-	-	290	-	-	-	1	-	-	-	-	200	-	270	-	-
MB4	30/10/2000	d	-	-	1.049	-	-	-	-	-	1700	7	-	-	270	-	-	-	250	-	-	-	0.33	-	-	-	-	170	-	230	-	-
MB4	1/02/2001	d	-	-	0.9869	-	-	-	-	-	1400	6.9	-	-	240	-	-	-	250	-	-	-	0.13	-	-	-	-	160	-	190	-	-
MB4	8/05/2001	d	-	-	1.068	-	-	-	-	-	1500	7.6	-	-	240	-	-	-	260	-	-	-	0.19	-	-	-	-	180	-	190	-	-
MB4	26/07/2001	d	-	-	0.9637	-	-	-	-	-	1500	7	-	-	250	-	-	-	240	-	-	-	0.01	-	-	-	-	150	-	290	-	-
MB4	29/10/2001	d	-	-	0.9813	-	-	-	-	-	1500	7.3	-	-	240	-	-	-	220	-	-	-	1	-	-	-	-	140	-	230	-	-
MB4	8/02/2002	d	-	-	1.006	-	-	-	-	-	1400	6.8	-	-	230	-	-	-	230	-	-	-	1	-	-	-	-	150	-	160	-	-
MB4	19/04/2002	d	-	-	1.073	-	-	-	-	-	1460	7	-	-	240	-	-	-	230	-	-	-	0.2	-	-	-	-	160	-	200	-	-
MB4	12/08/2002	d	-	-	1.285	-	-	-	-	-	1500	7.4	-	-	270	-	-	-	180	-	-	-	1	-	-	-	-	150	-	270	-	-
MB4	6/11/2002	d	-	-	0.9252	-	-	-	-	-	1500	7	-	-	270	-	-	-	250	-	-	-	0.2	-	-	-	-	150	-	300	-	-
MB4	13/02/2003	d	-	-	1.451	-	-	-	-	-	1600	7	-	-	230	-	-	-	170	-	-	-	2	-	-	-	-	160	-	230	-	-
MB4	30/04/2003	d	-	-	1.175	-	-	-	-	-	1600	7.1	-	-	270	-	-	-	210	-	-	-	44	-	-	-	-	160	-	270	-	-
MB4	9/08/2003	d	-	-	0.7444	-	-	-	-	-	1800	7.2	-	-	300	-	-	-	290	-	-	-	4	-	-	-	-	140	-	270	-	-
MB4	24/11/2003	d	-	-	0.9252	-	-	-	-	-	1540	7.2	-	-	260	-	-	-	250	-	-	-	1	-	-	-	-	150	-	260	-	-
MB4	10/02/2004	d	-	-	1.068	-	-	-	-	-	1450	6.9	-	-	260	-	-	-	260	-	-	-	1	-	-	-	-	180	-	190	-	-
MB4	13/05/2004	d	-	-	1.131	-	-	-	-	-	1850	6.9	-	-	360	-	-	-	300	-	-	-	4	-	-	-	-	220	-	300	-	-
MB4	6/08/2004	d	-	-	1.156	-	-	-	-	-	1657	7.1	-	-	350	-	-	-	200	-	-	-	10	-	-	-	-	150	-	250	-	-
MB4	10/11/2004	d	-	-	1.008	-	-	-	-	-	1630	7.3	-	-	280	-	-	-	260	-	-	-	2	-	-	-	-	170	-	370	-	-
MB4	16/02/2005	d	-	-	1.049	-	-	-	-	-	1765	6.9	-	-	340	-	-	-	250	-	-	-	1	-	-	-	-	170	-	280	-	-
MB4	15/04/2005	d	-	-	1.192	-	-	-	-	-	1739	7	-	-	320	-	-	-	220	-	-	-	2.2	-	-	-	-	170	-	330	-	-
MB4	2/08/2005	d	-	-	1.299	-	-	-	-	-	1678	7.1	-	-	460	-	-	-	190	-	-	-	4.5	-	-	-	-	160	-	250	-	-
MB4	14/11/2005	d	-	-	1.341	-	-	-	-	-	1935	7.2	-	-	-	-	-	-	230	-	-	-	2.4	-	-	-	-	200	-	310	-	-
MB4	15/02/2006	d	-	-	1.028	-	-	-	-	-	1811	7.3	-	-	310	-	-	-	240	-	-	-	0.3	-	-	-	-	160	-	380	-	-
MB4	18/05/2006	d	-	-	0.9386	-	-	-	-	-	1743	7.3	-	-	-	-	-	-	230	-	-	-	-	-	-	-	-	140	-	380	-	-
MB4	17/08/2006	d	-	-	0.9869	-	-	-	-	-	1820	7.4	-	-	-	-	-	-	250	-	-	-	-	-	-	-	-	160	-	310	-	-
MB4	31/10/2006	d	-	6	1.049	-	-	-	-	-	1838	7.2	-	-	-	-	-	-	250	-	-	-	-	-	-	-	-	170	-	350	-	-
MB4	8/03/2007	d	-	-	1.465	-	-	-	-	-	1640	7.1	-	-	-	-	-	-	200	-	-	-	-	-	-	-	-	190	-	380	-	-
MB4	19/06/2007	d	-	-	0.9252	-	-	-	-	-	1980	7	-	-	410	-	-	-	300	-	-	-	5.5	-	-	-	-	180	-	270	-	-
MB4	30/08/2007	d	-	-	0.7959	-	-	-	-	-	1870	7.3	-	-	420	-	-	-	310	-	-	-	3.3	-	-	-	-	160	-	230	-	-
MB4	2/11/2007	d	-	-	1.114	-	-	-	-	-	1710	7.4	-	-	370	-	-	-	180	-	-	-	3.7	-	-	-	-	130	-	270	-	-
MB4	2/04/2008	d	-	-	1.055	-	-	-	-	-	1734	7	-	-	420	-	-	-	190	-	-	-	19	-	-	-	-	130	-	260	-	-
MB4	8/07/2008	d	-	-	1.028	-	-	-	-	-	1570	7.1	-	-	470	-	-	-	210	-	-	-	3.5	-	-	-	-	140	-	180	-	-
MB4	8/09/2008	d	-	-	1.136	-	-	-	-	-	1540	7.1	-	-	470	-	-	-	190	-	-	-	1.74	-	-	-	-	140	-	210	-	-
MB4	1/12/2008	d	-	-	1.028	-	-	-	-	-	1480	7.1	-	-	390	-	-	-	210	-	-	-	1.4	-	-	-	-	140	-	180	-	-
MB4	1/03/2009	d	-	-	1.006	-	-	-	-	-	1540	7.1	-	-	360	-	-	-	230	-	-	-	0.4	-	-	-	-	150	-	200	-	-
MB4	1/07/2009	d	-	-	-	-	-	-	-	-	1570	7.1	-	-	440	-	-	-	-	-	-	-	3.5	-	-	-	-	190	-	120	-	-
MB4	30/09/2009	d	-	-	-	-	-	-	-	-	1627	7.1	-	-	450	-	-	-	-	-	-	-	4.9	-	-	-	-	140	-	160	-	-
MB4	23/12/2009	d	-	-	0.9637	-	-	-	-	-	1700	7.1	-	-	390	-	-	-	240	-	-	-	3	-	-	-	-	150	-	200	-	-
MB4	17/02/2010	d	-	-	0.9252	-	-	-	-	-	1560	7.5	-	-	340	-	-	-	250	-	-	-	3	-	-	-	-	150	-	170	-	-
MB4	13/05/2010	d	-	-	0.9252	-	-	-	-	-	1588	7.29	-	-	310	-	-	-	250	-	-	-	0.3	-	-	-	-	150	-	160	-	-
MB4	18/08/2010	d	-	-	1.006	-	-	-	-	-	1760	7.2	-	-	420	-	-	-	230	-	-	-	2.4	-	-	-	-	150	-	150	-	-
MB4	24/11/2010	d	-	-	0.9546	-	-	-	-	-	1620	6.96	-	-	370	-	-	-	210	-	-	-	0.3	-	-	-	-	130	-	140	-	-
MB4	9/02/2011	d	-	-	0.6785	-	-	-	-	-	1727	7.1	-	-	400	-	-	-	250	-	-	-	7.9	-	-	-	-	110	-	42	-	-
MB4	11/05/2011	d	-	-	0.9489	-	-	-	-	-	-	7.1	-	-	370	-	-	-	260	-	-	-	0.2	-	-	-	-	160	-	150	-	-
MB4	10/11/2011	d	-	-	0.8456	-	-	-	-	-	-	7	-	-	350	-	-	-	310	-	-	-	0.2	-	-	-	-	170	-	150	-	-
MB4	23/01/2012	d	-	-	-	-	-	-	-	-	940	7.37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MB4	24/01/2012	d	-	-	0.8927	-	-	-	-	-	-	-	-	-	420	-	-	-	190	-	-	-	1.5	-	-	-	-	110	-	116	-	-
MB4	24/05/2012	d	-	-	1.079	-	-	-	-	-	1599	7.62	-	-	380	-	-	-	200	-	-	-	2.5	-	-	-	-	140	-	130	-	-
MB4	14/08/2012	d	-	-	0.9423	-	-	-	-	-	1509	7.94	-	-	380	-	-	-	180	-	-	-	5	-	-	-	-	110	-	92	-	-
MB4	26/10/2012	d	-	-	0.9423	-	-	-	-	-	-	-	-	-	390	-	-	-	180	-	-	-	8.1	-	-	-	-	110	-	94	-	-
MB4	29/10/2012	d	-	-	-	-	-	-	-	-	1483	7.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MB4	16/01/2013	d	-	-	0.9977	-	-	-	-	-	1431	7.02	21.5	-	360	-	-	-	170	-	-	-	5.9	-	-	392	-	110	-	110	-	-
MB4	10/10/2013	d	-	-	0.8567	-	-	-	-	-	903	6.69	19.2	<1000	430	430	-	-	2700	-	-	-	8	-	-	48	-	1500	-	450	-	-
MB4	9/04/2014	d	<1	-	0.9739	-	-	-	-	-	1531	7.56	22.6	-	520	520	-	-	190	-	-	-	6.3	-	48	33.8	-	120	-	110	-	-
MB4	22/05/2014	d	-	-	0.7219	-	-	-	-	-	-	-	-	-	280	-	-	-	2200	-	-	-	0.2	-	-	-	-	1030	-	370	-	-
MB4	16/10/2014	d	<1	-	0.9637	-	-	-	-	-	1890	7.22	21.3	-	-	290	-	-	320	-	-	-	-	0.2	-	-	-	200	-	210	-	-
MB4	16/04/2015	d	<1	-	0.8335	-	-	-	-	-	1927	6.78	18.5	-	-	290	-	-	370	-	-	-	-	<0.2	-	-	-	200	-	220	-	-
MB4	3/09/2015	d	<1	-	0.771	-	-	-	-	-	2200	5.89	20.9	-	-	280	280	<1	380	-	-	-	0.4	0.4	-	-51	-	190	-	260	-	-
MB4	4/09/2015	d	-	-	-	-	-	-	-	-	2200	5.89	20.9	-	-	-	-	-	-	-	-	-	-	-	-	-51	-	-	-	-	-	-
MB4	15/04/2016	d	-	-	-	-	-	-	-	-	1927	6.78	18.5	-	-	-	-	-	-	-	-	-	-	-	-	-38.6	-	-	-	-	-	-
MB4	21/04/2016	d	-	-	0.9546	-	-	-	-	-	-	-	-	-	-	-	390	<1	210	-	-	-	3.6	-	-	-	-	130	-	120	-	-
MB4	22/04/2016	d	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MB4	15/09/2016	d	-	-	1 - 1.028	-	-	-	-	-	540	7.86	13.6	-	-	-	370	<1	210	-	-	-	3.6	-	-	101	-	-	140	110	-	-
MB4	18/04/2017	d	-	-	0.479	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MB4	1/05/2017	d	<1	-	-	-	-	-	-	-	-	-	-	-	-	-	190	-	-	58	-	-	5.6	-	-	-	-	18	-	-	<5	-
MB4	1/05/2017	d	-	-	0.4785	-	-	-	-	-	1446	6.9	20.7	-	-	-	-	-	-	-	-	-	-	-	-	-34	-	-	-	-	-	-
MB4	12/10/2017	d	<1	-	0.7854	0.8	-	-	-	-	1238	7.29	20.1	-	-	-	390	-	-	160	-	-	2.3	-	-	-67	-	-	81.5	-	110	-
MB4	6/04/2018	d	<1	-	-	-	-	1	-	-	-	-	-	-	-	-	350	-	-	180	-	-	3.3	-	-	-	-	-	117	-	110	-
MB4	6/04/2018	d	-	-	1.002	-	-	-	-	-	1421	7.46	21.3	-	-	-	-	-	-	-	-	-	-	-	-	-29	709	-	-	-	-	-
MB4	17/01/2020	d	<1	-	-	-	-	0.9	-	-	-	-	-	-	-	-	330	-	233	-	-	-	4.2	-	-	-	-	-	142	110	-	-
MB4	27/01/2020	d	-	-	-	-	-	-	-	-	1383	6.88	-	-	-	-	-	-	-	-	-	-	-	-	-	103	-	-	-	-	-	-

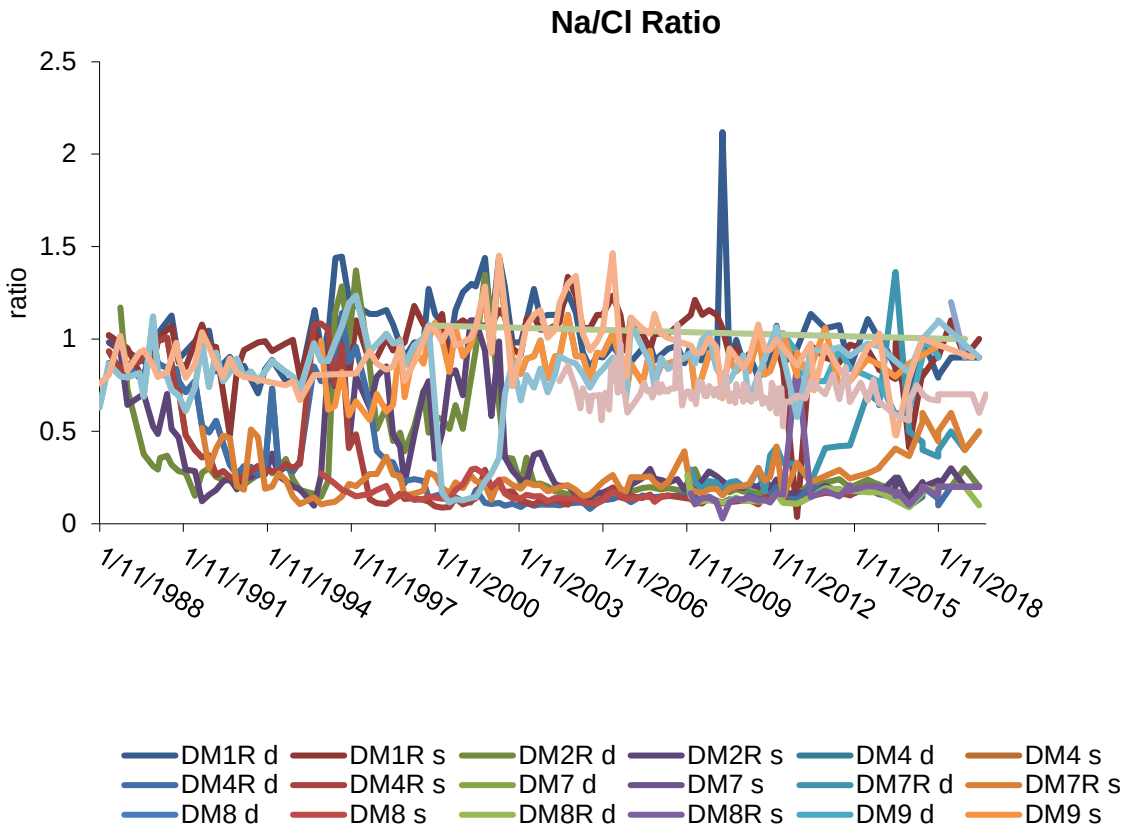
Sampled_Date-Time	TDS (evap)	TDS (evap) (Filtered)	Thorium	Lead Total	Lead Total (Filtered)	Aluminium	Arsenic	Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Calcium	Calcium (Filtered)	Chromium (hexavalent)	Chromium (hexavalent) (Filtered)	Chromium Total	Chromium Total (Filtered)	Chromium (Trivalent)	Chromium (Trivalent) (Filtered)	Cobalt	Cobalt (Filtered)	Copper Total	Copper Total (Filtered)	Iron	Iron (Filtered)
				Lead		Metals																			
	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EQL	10			0.001	0.0001			0.005	0.005	0.0001	0.0001	0.005	0.005	0.001	0.001	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.0001	0.005	0.005
ANZECC 2000 MW 95%				0.0044	0.0044					0.0055	0.0055			0.0044	0.0044			0.0274	0.0274	0.001	0.001	0.0013	0.0013		
1/11/1988	759	-	-	-	-	-	-	-	-	-	-	76	-	-	-	-	-	-	-	-	-	-	-	-	-
1/03/1989	1015	-	-	-	-	-	-	-	-	-	-	126	-	-	-	-	-	-	-	-	-	-	-	-	-
1/08/1989	1250	-	-	-	-	-	-	-	-	-	-	120	-	-	-	-	-	-	-	-	-	-	-	-	-
1/11/1989	1160	-	-	-	-	-	-	-	-	-	-	110	-	-	-	-	-	-	-	-	-	-	-	-	-
1/04/1990	1090	-	-	-	-	-	-	-	-	-	-	95	-	-	-	-	-	-	-	-	-	-	-	-	-
1/06/1990	1090	-	-	-	-	-	-	-	-	-	-	105	-	-	-	-	-	-	-	-	-	-	-	-	-
1/10/1990	1230	-	-	-	-	-	-	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-
1/12/1990	960	-	-	-	-	-	-	-	-	-	-	95	-	-	-	-	-	-	-	-	-	-	-	-	-
1/04/1991	1200	-	-	-	-	-	-	-	-	-	-	125	-	-	-	-	-	-	-	-	-	-	-	-	-
1/08/1991	1200	-	-	-	-	-	-	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-
1/09/1991	1200	-	-	-	-	-	-	-	-	-	-	105	-	-	-	-	-	-	-	-	-	-	-	-	-
1/12/1991	1090	-	-	-	-	-	-	-	-	-	-	95	-	-	-	-	-	-	-	-	-	-	-	-	-
1/04/1992	830	-	-	-	-	-	-	-	-	-	-	85	-	-	-	-	-	-	-	-	-	-	-	-	-
1/07/1992	1030	-	-	-	-	-	-	-	-	-	-	95	-	-	-	-	-	-	-	-	-	-	-	-	-
1/10/1992	950	-	-	-	-	-	-	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-
1/01/1993	880	-	-	-	-	-	-	-	-	-	-	95	-	-	-	-	-	-	-	-	-	-	-	5.6	-
1/04/1993	980	-	-	-	-	-	-	-	-	-	-	105	-	-	-	-	-	-	-	-	-	-	-	8.95	-
1/07/1993	1020	-	-	-	-	-	-	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	5.1	-
1/10/1993	980	-	-	-	-	-	-	-	-	-	-	100	-	-	-	-	-	-	-	-	-	-	-	5.8	-
1/01/1994	920	-	-	-	-	-	-	-	-	-	-	85.5	-	-	-	-	-	-	-	-	-	-	-	12.5	-
1/07/1995	900	-	-	-	-	-	-	-	-	-	-	60	-	-	-	-	-	-	-	-	-	-	-	36	-
1/10/1995	700	-	-	-	-	-	-	-	-	-	-	48.5	-	-	-	-	-	-	-	-	-	-	-	33.1	-
1/01/1996	580	-	-	-	-	-	-	-	-	-	-	42	-	-	-	-	-	-	-	-	-	-	-	24	-
1/07/1996	520	-	-	-	-	-	-	0.03	-	-	-	48	-	-	-	0.05	-	-	-	-	-	-	-	36	-
1/01/1998	1400	-	-	-	-	-	-	0.1	-	-	-	120	-	-	-	0.05	-	-	-	-	-	-	-	12	-
1/07/1998	1100	-	-	-	-	-	-	0.06	-	-	-	97	-	-	-	0.01	-	-	-	-	-	-	-	10.5	-
1/10/1998	1220	-	-	-	-	-	-	0.06	-	-	-	140	-	-	-	0.01	-	-	-	-	-	-	-	8.2	-
1/02/1999	960	-	-	-	-	-	-	0.45	-	-	-	90	-	-	-	0.01	-	-	-	-	-	-	-	19	-
1/05/1999	-	-	-	-	-	-	-	0.1	-	-	-	121	-	-	-	0.01	-	-	-	-	-	-	-	18	-
1/08/1999	930	-	-	-	-	-	-	0.2	-	-	-	130	-	-	-	0.01	-	-	-	-	-	-	-	0.25	-
1/10/1999	1000	-	-	-	-	-	-	0.2	-	-	-	140	-	-	-	0.01	-	-	-	-	-	-	-	0.1	-
1/02/2000	860	-	-	-	-	-	-	0.2	-	-	-	91	-	-	-	0.01	-	-	-	-	-	-	-	18	-
1/06/2000	1100	-	-	-	-	-	-	1	-	-	-	140	-	-	-	0.01	-	-	-	-	-	-	-	0.83	-
9/08/2000	1200	-	-	-	-	-	-	0.26	-	-	-	150	-	-	-	0.01	-	-	-	-	-	-	-	13	-
30/10/2000	1100	-	-	-	-	-	-	0.2	-	-	-	140	-	-	-	0.01	-	-	-	-	-	-	-	1	-
1/02/2001	1000	-	-	-	-	-	-	0.2	-	-	-	120	-	-	-	0.01	-	-	-	-	-	-	-	25	-
8/05/2001	910	-	-	-	-	-	-	0.1	-	-	-	150	-	-	-	0.01	-	-	-	-	-	-	-	22	-
26/07/2001	930	-	-	-	-	-	-	0.1	-	-	-	140	-	-	-	0.01	-	-	-	-	-	-	-	8.7	-
29/10/2001	1200	-	-	-	-	-	-	0.049	-	-	-	140	-	-	-	0.005	-	-	-	-	-	-	-	24.8	-
8/02/2002	940	-	-	-	-	-	-	0.053	-	-	-	130	-	-	-	0.01	-	-	-	-	-	-	-	77	-
19/04/2002	1200	-	-	-	-	-	-	0.063	-	-	-	150	-	-	-	0.01	-	-	-	-	-	-	-	28	-
12/08/2002	1200	-	-	-	-	-	-	0.096	-	-	-	150	-	-	-	0.01	-	-	-	-	-	-	-	8.2	-
6/11/2002	940	-	-	-	-	-	-	0.061	-	-	-	134	-	-	-	0.005	-	-	-	-	-	-	-	0.1	-
13/02/2003	1100	-	-	-	-	-	-	0.048	-	-	-	141	-	-	-	0.005	-	-	-	-	-	-	-	21.9	-
30/04/2003	1150	-	-	-	-	-	-	0.08	-	-	-	150	-	-	-	0.005	-	-	-	-	-	-	-	0.1	-
9/08/2003	1180	-	-	-	-	-	-	0.059	-	-	-	160	-	-	-	0.005	-	-	-	-	-	-	-	0.1	-
24/11/2003	1240	-	-	-	-	-	-	0.079	-	-	-	160	-	-	-	0.005	-	-	-	-	-	-	-	4.9	-
10/02/2004	1200	-	-	-	-	-	-	0.073	-	-	-	150	-	-	-	0.005	-	-	-	-	-	-	-	11	-
13/05/2004	1480	-	-	-	-	-	-	0.12	-	-	-	170	-	-	-	0.005	-	-	-	-	-	-	-	0.1	-
6/08/2004	1340	-	-	0.01	-	-	-	0.095	-	0.002	-	160	-	-	-	0.005	-	-	-	-	-	0.005	-	1	-
10/11/2004	1260	-	-	-	-	-	-	0.072	-	-	-	160	-	-	-	0.005	-	-	-	-	-	-	-	0.73	-
16/02/2005	1240	-	-	-	-	-	-	0.093	-	-	-	200	-	-	-	0.005	-	-	-	-	-	-	-	0.51	-
15/04/2005	1200	-	-	-	-	-	-	0.11	-	-	-	200	-	-	-	0.001	-	-	-	-	-	-	-	3.2	-
2/08/2005	1160	-	-	-	-	-	-	0.081	-	-	-	190	-	-	-	0.001	-	-	-	-	-	-	-	0.27	-
14/11/2005	1200	-	-	-	-	-	-	0.086	-	-	-	200	-	-	-	0.001	-	-	-	-	-	-	-	1.5	-
15/02/2006	1330	-	-	0.001	-	0.026	-	0.098	-	0.0008	-	250	-	-	-	0.0019	-	-	-	-	-	0.024	-	0.94	-
18/05/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17/08/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31/10/2006	-	-	-	0.001	-	0.007	0.001	-	-	0.0001	-	210	-	0.005	-	0.001	-	-	-	0.001	-	0.001	-	1.6	-
8/03/2007	-	-	-	0.001	-	0.008	0.001	-	-	0.0001	-	150	-	0.005	-	0.001	-	-	-	0.001	-	0.001	-	5	-
19/06/2007	1390	-	-	0.002	-	-	-	0.11	-	0.0001	-	220	-	-	-	0.001	-	-	-	0.001	-	0.001	-	3.2	-
30/08/2007	1290	-	-	0.002	-	-	-	0.18	-	0.0001	-	180	-	-	-	0.001	-	-	-	0.001	-	0.001	-	3.9	-
2/11/2007	1160	-	-	0.001	-	-	-	0.11	-	0.0001	-	210	-	-	-	0.001	-	-	-	0.001	-	0.001	-	0.39	-
2/04/2008	1150	-	-	0.001	-	-	-	0.13	-	0.0001	-	200	-	-	-	0.001	-	-	-	0.001	-	0.003	-	2.4	-
8/07/2008	1130	-	-	0.002	-	-	-	0.15	-	0.0001	-	190	-	-	-	0.001	-	-	-	0.001	-	0.001	-	0.85	-
8/09/2008	1090	-	-	0.001	-	-	-	0.15	-	0.0001	-	200	-	-	-	0.001	-	-	-	0.001	-	0.001	-	2.1	-
1/12/2008	940	-	-	0.003	-	-	-	0.095	-	0.0001	-	170	-	-	-	0.003	-	-	-	0.001	-	0.001	-	13	-
1/03/2009	1100	-	-	0.002	-	-	-	0.1	-	0.0001	-	170	-	-	-	0.002	-	-	-	0.001	-	0.001	-	11	-
1/07/2009	1030	-	-	0.001	-	-	-	0.12	-	0.0001	-	170	-	0.005	-	0.001	-	-	-	0.001	-	0.001	-	0.59	-
30/09/2009	1120	-	-	0.001	-	-	-	0.2	-	0.0001	-	170	-	0.005	-	0.002	-	-	-	0.001	-	0.001	-	5.3	-
23/12/2009	1140	-	-	0.002	-	-	-	0.11	-	0.0001	-	180	-	-	-	0.001	-	-	-	0.001	-	0.001	-	9	-
17/02/2010	970	-	-	0.005	-	-	-	0.085	-	0.0001	-	160	-	-	-	0.002	-	-	-	0.001	-	0.001	-	14	-
13/05/2010	1090	-	-	0.007	-	-	-	0.1	-	0.0001	-	160	-	-	-	0.003	-	-	-	0.001	-	0.002	-	36	-
18/08/2010	1060	-	-	0.002	-	-	-	0.12	-	0.0001	-	160	-	0.001	-	0.001	-	-	-	0.001	-	0.002	-	1.8	-
24/11/2010	1010	-	-	0.001	-	-	-	0.12	-	0.0001	-	140	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	2.7	-
9/02/2011	1020	-	-	0.001	-	-	-	0.12	-	0.0001	-	170	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	0.027	-
11/05/2011	1050	-	-	0.001	-	-	-	0.13	-	0.0001	-	170	-	-	-	0.001	-	-	-	0.001	-	0.001	-	3.9	-
10/11/2011	1130	-	-	0.001	-	-	-	0.13	-	0.0001	-	140	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	2.3	-
23/01/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24/01/2012	1160	-	-	0.4	-	-	-	0.11	-	0.0013	-	220	-	0.001	-	0.019	-	-	-	0.0018	-	0.014	-	61	-
24/05/2012	910	-	-	0.071	-	-	-	0.13	-	0.00019	-	160	-	0.001	-	0.0044	-	-	-	0.001	-	0.005	-	7.4	-
14/08/2012	920	-	-	0.036	-	-	-	0.11	-	0.0001	-	150	-	0.001	-	0.0023	-	-	-	0.001	-	0.0037	-	5.8	-
26/10/2012	850	-	-	0.077	-	-	-	0.12	-	0.00039	-	180	-	0.001	-	0.001	-	-	-	0.001	-	0.012	-	30	-
29/10/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16/01/2013	910	-	-	0.0031	-	-	-	0.11	-	-	-	160	-	-	-	0.001	-	-	-	-	-	-	-	1.2	-
10/10/2013	5220	-	-	0.41	-	-	0.029	0.84	-	0.001	-	150	-	<0.001	-	0.013	-	-	-	0.002	-	0.028	-	33	-
9/04/2014	930	-	-	0.72	-	-	-	0.14	-	0.002	-	300	-	<0.001	-	0.026	-	0.026	-	0.004	-	0.028	-	77	-
22/05/2014	4680	-	-	0.001	-	-	-	0.34	-	0.0001	-	260	-	0.001	-	0.006	-	-	-	0.001	-	0.001	-	31	-
16/10/2014	1300	1300	-	<0.001	-	-	-	0.15	-	<0.0001	-	180	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	<0.001	-	<0.001	-	17	-
16/04/2015	1310	-	-	<0.001	-	-	-	0.12	-	<0.0001	-	190	-	-	<0.001	0.002	-	-	0.002	<0.001	-	<0.001	-	32	-
3/09/2015	1480	-	-	<0.001	-	-	-	0.11	-	<0.0001	-	160	-	-	<0.001	<0.001	-	-	<0.001	<0.001	-	0.006	-	19	-
4/09/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15/04/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21/04/2016	910	-	-	0.18	-	-	-	0.12	-	0.001	-	170	-	-	<0.001	0.011	-	-	<0.001	<0.001	-	0.005	-	43	-
22/04/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15/09/2016	920 - 2690	-	-	-	0.11	-	-	-	0.13	-	<0.0001	-	150	-	<0.001	-	0.001	-	0.001	-	<0.001	-	0.005	-	6
18/04/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1/05/2017	360	-	-	0.033	-	-	-	0.035	-	0.0001	-	78	-	<0.001	-	0.002	-	0.002	-	<0.001	-	0.02	-	6.5	-
1/05/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/10/2017	619 - 840	-	-	-	0.0054	-	-	-	0.09	-	0.0002	-	167	<0.001	-	-	<0.001	<0.001	-	-	<0.0001	-	0.0001	-	0.95
6/04/2018	785	-	-	-	0.0018	-	-	-	0.084	-	<0.0001	-	178	<0.001	-	-	0.001	<0.001	-	-	<0.0001	-	0.0001	-	1.3
6/04/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17/01/2020	890	-	-	-	0.0032	-	-	-	0.09	-	<0.0001	-	140	<0.001	-	-	<0.001	<0.001	-	-	0.0001	-	0.0007	-	2.9
27/01/2020	692	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

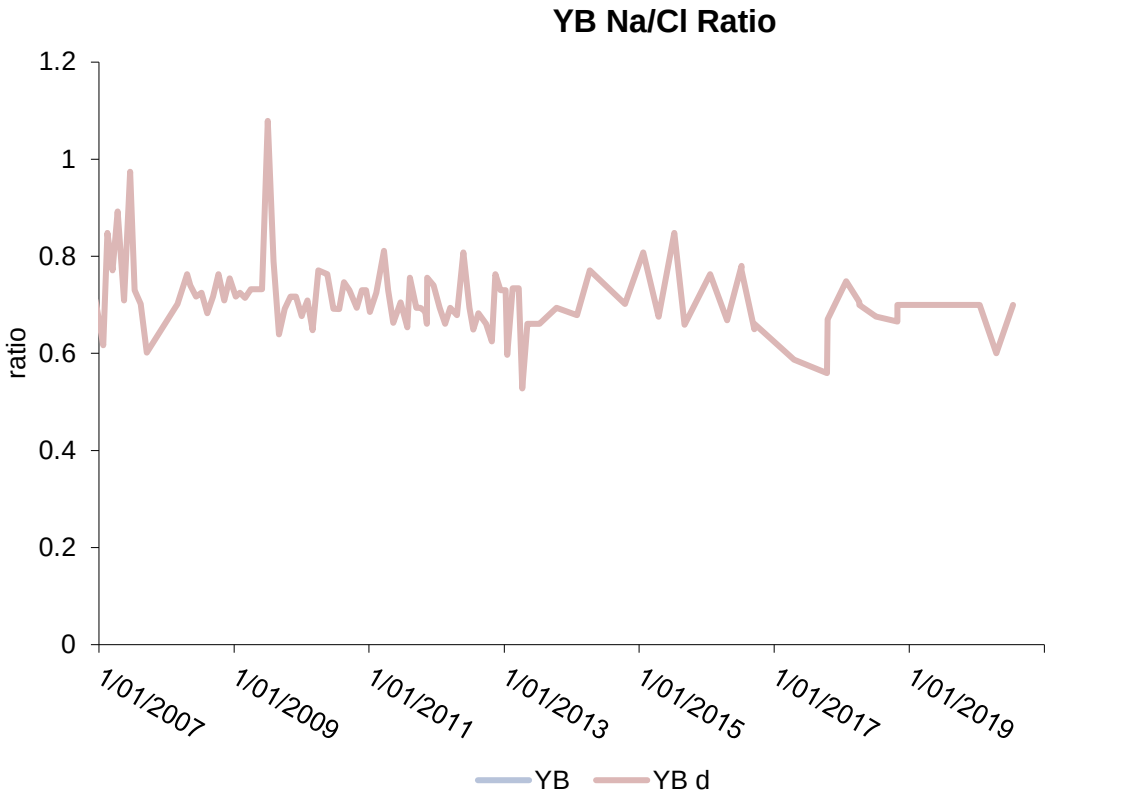
Sampled_Date-Time	Magnesium	Magnesium (Filtered)	Manganese	Manganese (Filtered)	Mercury	Mercury (Filtered)	Molybdenum	Molybdenum (Filtered)	Nickel	Nickel (Filtered)	Potassium	Potassium (Filtered)	Selenium	Tin	Titanium	Uranium	Vanadium Total	Vanadium Total (Filtered)	Zinc	Acidity (as CaCO3)	Radium-226	Radium-228
																				Other	Radionuclides	
	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	µg/L	mg/L	mg/L	mg/L	mg/L	mBq/L	mBq/L
EQL	0.005	0.005	0.001	0.0001	0.00005	0.00001	0.001	0.0001	0.001	0.0005	0.05	0.05					0.001	0.0001				
ANZECC 2000 MW 95%					0.0004	0.0004			0.07	0.07							0.1	0.1	0.015			
1/11/1988	13	-	-	-	-	-	-	-	-	-	12.6	-	-	-	-	-	-	-	-	-	57	70
1/03/1989	20.8	-	-	-	-	-	-	-	-	-	11.5	-	-	-	-	-	-	-	-	-	-	-
1/08/1989	24	-	-	-	-	-	-	-	-	-	8.5	-	-	-	-	-	-	-	-	-	72	-
1/11/1989	23	-	-	-	-	-	-	-	-	-	8.5	-	-	-	-	-	-	-	-	-	179	-
1/04/1990	20	-	-	-	-	-	-	-	-	-	8.5	-	-	-	-	-	-	-	-	-	62	-
1/06/1990	19	-	-	-	-	-	-	-	-	-	8.5	-	-	-	-	-	-	-	-	-	40.9	-
1/10/1990	27	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	37	-
1/12/1990	14	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	-	-	-	-	72.4	-
1/04/1991	19.5	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	98	-
1/08/1991	27.5	-	-	-	-	-	-	-	-	-	8.5	-	-	-	-	-	-	-	-	-	48.2	-
1/09/1991	27.5	-	-	-	-	-	-	-	-	-	7.9	-	-	-	-	-	-	-	-	-	32.3	-
1/12/1991	17	-	-	-	-	-	-	-	-	-	10.5	-	-	-	-	-	-	-	-	-	-	-
1/04/1992	12	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-	-	-	113	-
1/07/1992	22.5	-	-	-	-	-	-	-	-	-	8.5	-	-	-	-	-	-	-	-	-	37	-
1/10/1992	19.5	-	-	-	-	-	-	-	-	-	7.6	-	-	-	-	-	-	-	-	-	69	-
1/01/1993	17.5	-	-	-	-	-	-	-	-	-	9.5	-	-	-	-	-	-	-	-	-	75	-
1/04/1993	18.5	-	-	-	-	-	-	-	-	-	9.5	-	-	-	-	-	-	-	-	-	71	-
1/07/1993	22	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	37	-
1/10/1993	22.5	-	-	-	-	-	-	-	-	-	6.8	-	-	-	-	-	-	-	-	-	22	-
1/01/1994	17	-	-	-	-	-	-	-	-	-	8	-	-	-	-	-	-	-	-	-	79	-
1/07/1995	14	-	-	-	-	-	-	-	-	-	17	-	-	-	-	-	-	-	-	-	169	-
1/10/1995	8.5	-	-	-	-	-	-	-	-	-	15.5	-	-	-	-	-	-	-	-	-	102	-
1/01/1996	6.3	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	-	-	-	-	72	-
1/07/1996	7.5	-	0.65	-	-	-	-	-	-	-	16	-	-	-	-	-	0.5	-	-	-	102	-
1/01/1998	44	-	0.4	-	-	-	-	-	-	-	13	-	-	-	-	-	0.5	-	-	-	80	-
1/07/1998	25	-	0.21	-	-	-	-	-	-	-	8	-	-	-	-	-	0.5	-	-	10	-	-
1/10/1998	25	-	0.18	-	-	-	-	-	-	-	7.7	-	-	-	-	-	0.2	-	-	10	29	-
1/02/1999	19	-	0.15	-	-	-	-	-	-	-	11.9	-	-	-	-	-	0.2	-	-	10	-	-
1/05/1999	20	-	0.2	-	-	-	-	-	-	-	8.9	-	-	-	-	-	0.2	-	-	10	-	-
1/08/1999	28	-	0.07	-	-	-	-	-	-	-	7.9	-	-	-	-	-	0.5	-	-	10	-	-
1/10/1999	30	-	0.12	-	-	-	-	-	-	-	7.2	-	-	-	-	-	0.1	-	-	10	-	-
1/02/2000	19	-	0.36	-	-	-	-	-	-	-	9.7	-	-	-	-	-	0.1	-	-	10	170	-
1/06/2000	27	-	0.13	-	-	-	-	-	-	-	7.3	-	-	-	-	-	0.1	-	-	10	68	282
9/08/2000	37	-	0.09	-	-	-	-	-	0.65	-	8	-	-	-	-	-	0.1	-	-	10	132	468
30/10/2000	26	-	0.09	-	-	-	-	-	-	-	6.8	-	-	-	-	-	0.1	-	-	10	52	-
1/02/2001	21	-	0.27	-	-	-	-	-	-	-	7.8	-	-	-	-	-	0.1	-	-	10	78	-
8/05/2001	27	-	0.16	-	-	-	-	-	-	-	8.7	-	-	-	-	-	0.1	-	-	10	80	-
26/07/2001	30	-	0.13	-	-	-	-	-	-	-	6.5	-	-	-	-	-	0.1	-	-	5	77	-
29/10/2001	30	-	0.21	-	-	-	-	-	-	-	7	-	-	-	-	-	0.005	-	-	-	70	60
8/02/2002	25	-	0.47	-	-	-	-	-	-	-	8	-	-	-	-	-	0.05	-	-	-	250	250
19/04/2002	30	-	0.26	-	-	-	-	-	-	-	6	-	-	-	-	-	0.05	-	-	-	120	110
12/08/2002	34	-	0.17	-	-	-	-	-	-	-	6	-	-	-	-	-	0.05	-	-	-	140	130
6/11/2002	33	-	0.18	-	-	-	-	-	-	-	7	-	-	-	-	-	0.005	-	-	-	43	210
13/02/2003	33	-	0.27	-	-	-	-	-	-	-	7	-	-	-	-	-	0.005	-	-	-	78	142
30/04/2003	36	-	0.15	-	-	-	-	-	-	-	7	-	-	-	-	-	0.005	-	-	-	47	-
9/08/2003	42	-	0.11	-	-	-	-	-	-	-	8	-	-	-	-	-	0.005	-	-	-	59	-
24/11/2003	38	-	0.17	-	-	-	-	-	-	-	8	-	-	-	-	-	0.005	-	-	-	59	463
10/02/2004	31	-	0.37	-	-	-	-	-	-	-	8	-	-	-	-	-	0.005	-	-	-	39	561
13/05/2004	55	-	0.11	-	-	-	-	-	-	-	9	-	-	-	-	-	0.005	-	-	-	51	277
6/08/2004	45	-	0.13	-	0.0001	-	-	-	0.005	-	8	-	-	-	-	-	0.005	-	-	-	17	416
10/11/2004	37	-	0.15	-	-	-	-	-	0.005	-	8.7	-	-	-	-	-	-	-	-	-	19	507
16/02/2005	42	-	0.22	-	-	-	-	-	-	-	9	-	-	-	-	-	-	-	-	-	20	552
15/04/2005	42	-	0.22	-	-	-	-	-	-	-	8	-	-	-	-	-	0.002	-	-	-	67	-
2/08/2005	48	-	0.1	-	-	-	-	-	-	-	9	-	-	-	-	-	0.001	-	-	1	82	-
14/11/2005	46	-	0.14	-	-	-	-	-	-	-	9	-	-	-	-	-	0.001	-	-	1	24	242
15/02/2006	43	-	0.17	-	-	-	-	-	0.003	-	8	-	-	-	-	-	0.001	-	-	1	75	328
18/05/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	448
17/08/2006	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	-
31/10/2006	48	-	-	-	0.0001	-	-	-	0.001	-	9.4	-	-	-	-	-	0.001	-	-	-	8	365
8/03/2007	46	-	-	-	0.0001	-	-	-	0.001	-	8.8	-	-	-	-	-	0.001	-	-	-	42	473
19/06/2007	54	-	0.11	-	0.0001	-	-	-	0.001	-	6.9	-	-	-	-	-	0.001	-	-	1	41	373
30/08/2007	61	-	0.055	-	0.0001	-	-	-	0.001	-	9	-	-	-	-	-	0.001	-	-	1	-	-
2/11/2007	47	-	0.079	-	0.0001	-	-	-	0.001	-	6.7	-	-	-	-	-	0.001	-	-	1	21	639
2/04/2008	45	-	0.15	-	0.0001	-	-	-	0.002	-	6.9	-	-	-	-	-	0.001	-	-	1	34	163
8/07/2008	47	-	0.12	-	0.0001	-	-	-	0.001	-	6.8	-	-	-	-	-	0.001	-	-	1	286	472
8/09/2008	46	-	0.15	-	0.0001	-	-	-	0.001	-	7.1	-	-	-	-	-	0.001	-	-	1	100	100
1/12/2008	39	-	0.14	-	0.0001	-	-	-	0.001	-	6	-	-	-	-	-	0.002	-	-	1	7	180
1/03/2009	38	-	0.17	-	0.0001	-	-	-	0.001	-	7.5	-	-	-	-	-	0.003	-	-	1	39	165
1/07/2009	41	-	0.066	-	0.0001	-	-	-	0.001	-	6.7	-	-	-	-	-	0.001	-	-	1	34	583
30/09/2009	41	-	0.049	-	0.0001	-	-	-	0.001	-	7.9	-	-	-	-	-	0.003	-	-	1	7	100
23/12/2009	44	-	0.12	-	0.0001	-	-	-	0.001	-	8.9	-	-	-	-	-	0.003	-	-	1	3	100
17/02/2010	42	-	0.15	-	0.0001	-	-	-	0.001	-	7.6	-	-	-	-	-	0.004	-	-	1	44	571
13/05/2010	37	-	0.21	-	0.0001	-	-	-	0.019	-	7.7	-	-	-	-	-	0.009	-	-	-	4	276
18/08/2010	37	-	0.1	-	0.0001	-	-	-	0.001	-	7	-	-	-	-	-	0.001	-	-	-	65	100
24/11/2010	36	-	0.13	-	0.0001	-	-	-	0.001	-	7.3	-	-	-	-	-	0.001	-	-	-	35	145
9/02/2011	37	-	0.007	-	0.0001	-	-	-	0.001	-	7.9	-	-	-	-	-	0.001	-	-	-	18	100
11/05/2011	38	-	0.17	-	0.0001	-	-	-	0.001	-	8.4	-	-	-	-	-	0.001	-	-	-	89	100
10/11/2011	40	-	0.027	-	0.0001	-	-	-	0.001	-	9.2	-	-	-	-	-	0.001	-	-	-	11	100
23/01/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24/01/2012	38	-	0.67	-	0.0001	-	0.0027	-	0.005	-	8.7	-	-	-	-	-	0.038	-	-	-	9	146
24/05/2012	43	-	0.097	-	0.0001	-	0.0011	-	0.005	-	8.2	-	-	-	-	-	0.0034	-	-	-	48	100
14/08/2012	35	-	0.049	-	0.0001	-	-	-	0.0018	-	7.4	-	-	-	-	-	0.0059	-	-	-	44	100
26/10/2012	33	-	0.27	-	0.0001	-	-	-	0.006	-	8.3	-	-	-	-	-	0.023	-	-	-	90	134
29/10/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16/01/2013	37	-	0.037	-	-	-	-	-	-	-	7.8	-	-	-	-	-	-	-	-	-	3	100
10/10/2013	180	-	0.42	-	<0.0001	-	0.005	-	0.004	-	54	-	0.003	-	-	-	0.034	-	4.5	-	67	<100
9/04/2014	48	-	0.76	-	<0.0001	-	0.003	-	0.008	-	10	-	-	-	-	-	0.074	-	-	-	66	100
22/05/2014	140	-	0.53	-	0.0001	-	-	-	0.001	-	25	-	-	-	-	-	-	-	-	-	-	-
16/10/2014	46	-	0.27	-	<0.0001	-	<0.001	-	<0.001	-	13	-	-	-	-	-	0.001	-	-	-	3	100
16/04/2015	49	-	0.26	-	<0.0001	-	<0.001	-	<0.001	-	9.5	-	-	-	-	-	0.003	-	-	-	40	100
3/09/2015	46	-	0.33	-	<0.0001	-	<0.001	-	<0.001	-	6.8	-	-	-	-	-	0.003	-	-	-	-	-
4/09/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	180	<100
15/04/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21/04/2016	35	-	0.12	-	<0.0001	-	0.003	-	0.001	-	14	-	-	-	-	-	0.02	-	-	-	-	-
22/04/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	158	<100
15/09/2016	-	32	-	0.11	-	<0.0001	-	0.001	-	<0.001	-	6.7	-	-	-	-	-	0.002	-	-	<100	<100
18/04/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<89	<240
1/05/2017	7.7	-	0.14	-	<0.0001	-	<0.001	-	0.002	-	6.4	-	-	-	-	-	0.002	-	-	-	-	-
1/05/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12/10/2017	-	30.9	-	0.07	<0.0001	-	-	<0.0001	-	<0.0005	-	8.8	-	-	-	-	-	0.0009	-	-	<58 - 58	<180 - 180
6/04/2018	-	32.3	-	0.084	<0.0001	-	-	0.0005	-	<0.0005	-	8.3	-	-	-	-	-	0.0011	-	-	-	-
6/04/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	110
17/01/2020	-	28.7	-	0.12	0.00013	-	-	<0.001	-	<0.001	-	9	-	-	-	-	-	0.0015	-	-	-	-
27/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

							Inorganic		NITROGEN	Field			Inorganics											
LocCode	WellCode	Sampled Date-Time	Carbonate as CaCO3	Carbon	Na/Cl Ratio	Na/Cl Ratio (Filtered)	Na:Cl molar ratio	Na:Cl molar ratio (Filtered)	Nitrogen, nitrate + nitrite fraction by FIA.	EC (field)	pH (Field)	Temp (field)	Ammonia as N	Bicarbonate	Bicarbonate as CaCO3	Alkalinity (Bicarbonate as CaCO3)	Alkalinity (Carbonate as CaCO3)	Chloride	Chloride (Filtered)	Nitrate (as N)	Nitrate as NO3-N	Exchangeable Magnesium	Redox Potential	Salinity
			mg/L	mg/L	ratio	ratio	ratio	ratio	mg/L	µS/cm	pH	oC	µg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mV	mg/L
EOL			1		0.01	0.1	0.001	0.1	0.01						1	1	1	0.1	1	0.01	0.2			
ADWG 2011 Aesthetic																								
ADWG 2011 Health																								
YB		20/01/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	200	-	-	-	-	-	-
YB		24/01/2018	-	-	-	-	-	0.7	-	-	-	-	-	-	-	-	-	-	200	-	-	-	-	-
YB		6/07/2018	-	-	-	-	0.44	-	-	-	-	-	-	-	-	-	-	215	-	-	-	-	-	-
YB		23/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	208	-	-	-	-	-	-
YB	d	15/04/2005	-	-	0.771	-	-	-	-	-	-	-	-	91	-	-	-	200	-	0.2	-	-	-	-
YB	d	1/08/2005	-	-	-	-	-	-	-	875	6.6	-	-	0	-	-	-	0	-	-	-	-	-	-
YB	d	2/08/2005	-	-	0.8567	-	-	-	-	797	6.6	-	-	100	-	-	-	180	-	0.2	-	-	-	-
YB	d	14/11/2005	-	-	0.7304	-	-	-	-	862	6.4	-	-	-	-	-	-	190	-	0.02	-	-	-	-
YB	d	11/01/2006	-	-	0.6241	-	-	-	-	762	6.3	-	-	0	-	-	-	210	-	-	-	-	-	-
YB	d	15/02/2006	-	-	0.7343	-	-	-	-	819	6.3	-	-	73	-	-	-	210	-	0.2	-	-	-	-
YB	d	11/03/2006	-	-	0.6939	-	-	-	-	818	6.3	-	-	0	-	-	-	200	-	-	-	-	-	-
YB	d	13/04/2006	-	-	0.6939	-	-	-	-	814	6.2	-	-	0	-	-	-	200	-	-	-	-	-	-
YB	d	10/05/2006	-	-	0.6094	-	-	-	-	819	6.2	-	-	0	-	-	-	210	-	-	-	-	-	-
YB	d	16/06/2006	-	-	0.6939	-	-	-	-	826	6.3	-	-	0	-	-	-	200	-	0	-	-	-	-
YB	d	13/07/2006	-	-	0.6939	-	-	-	-	824	6.6	-	-	0	-	-	-	200	-	0	-	-	-	-
YB	d	9/08/2006	-	-	0.6939	-	-	-	-	826	6.5	-	-	0	-	-	-	200	-	0	-	-	-	-
YB	d	13/09/2006	-	-	0.6976	-	-	-	-	792	6.6	-	-	0	-	-	-	210	-	0	-	-	-	-
YB	d	13/10/2006	-	-	0.5613	-	-	-	-	802	6.2	-	-	0	-	-	-	250	-	0	-	-	-	-
YB	d	13/11/2006	-	-	0.7016	-	-	-	-	792	6.3	-	-	0	-	-	-	200	-	0	-	-	-	-
YB	d	13/12/2006	-	2	0.7093	-	-	-	-	831	6.3	-	-	0	-	-	-	200	-	0	-	-	-	-
YB	d	23/01/2007	-	0	0.6168	-	-	-	-	814	6.4	-	-	0	-	-	-	200	-	0	-	-	-	-
YB	d	16/02/2007	-	0	0.8481	-	-	-	-	827	6.5	-	-	0	-	-	-	200	-	0	-	-	-	-
YB	d	15/03/2007	-	-	0.771	-	-	-	-	-	-	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	11/04/2007	-	0	0.8927	-	-	-	-	817	6.4	-	-	0	-	-	-	190	-	0	-	-	-	-
YB	d	16/05/2007	-	-	0.7093	-	-	-	-	823	6.3	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	19/06/2007	-	-	0.9739	-	-	-	-	820	6.6	-	-	61	-	-	-	190	-	0.2	-	-	-	-
YB	d	13/07/2007	-	0	0.7304	-	-	-	-	818	6.5	-	-	0	-	-	-	190	-	0	-	-	-	-
YB	d	15/08/2007	-	0	0.7016	-	-	-	-	810	6.2	-	-	0	-	-	-	200	-	0	-	-	-	-
YB	d	17/09/2007	-	0	0.6014	-	-	-	-	877	6.4	-	-	0	-	-	-	200	-	0	-	-	-	-
YB	d	16/10/2007	-	0	-	-	-	-	-	785	6.4	-	-	0	-	-	-	200	-	0	-	-	-	-
YB	d	19/11/2007	-	-	-	-	-	-	-	868	6.1	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	13/12/2007	-	-	-	-	-	-	-	870	6.1	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/03/2008	-	-	0.7016	-	-	-	-	846	6.6	-	-	58	-	-	-	200	-	1	-	-	-	-
YB	d	21/04/2008	-	-	0.7633	-	-	-	-	855	6.1	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	8/05/2008	-	-	0.7401	-	-	-	-	822	6.2	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	8/06/2008	-	-	0.717	-	-	-	-	793	6.3	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	8/07/2008	-	-	0.7247	-	-	-	-	800	6.3	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	8/08/2008	-	-	0.6829	-	-	-	-	785	6.4	-	-	72	-	-	-	210	-	0.2	-	-	-	-
YB	d	8/09/2008	-	-	0.717	-	-	-	-	795	6.5	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	8/10/2008	-	-	0.7633	-	-	-	-	770	6.4	-	-	58	-	-	-	200	-	0.2	-	-	-	-
YB	d	8/11/2008	-	-	0.7093	-	-	-	-	791	6.5	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	8/12/2008	-	-	0.7548	-	-	-	-	817	6.3	-	-	56	-	-	-	190	-	0.2	-	-	-	-
YB	d	9/01/2009	-	-	0.717	-	-	-	-	793	6.3	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	1/02/2009	-	-	0.7247	-	-	-	-	799	6.4	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	1/03/2009	-	-	0.7142	-	-	-	-	792	6.6	-	-	55	-	-	-	190	-	0.2	-	-	-	-
YB	d	1/04/2009	-	-	0.7324	-	-	-	-	791	6.5	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	1/05/2009	-	-	0.7324	-	-	-	-	780	6.5	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	1/06/2009	-	-	0.7324	-	-	-	-	740	6.4	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	1/07/2009	-	-	1.079	-	-	-	-	785	6.3	-	-	59	-	-	-	200	-	0.2	-	-	-	-
YB	d	1/08/2009	-	-	0.7898	-	-	-	-	782	6	-	-	-	-	-	-	205	-	-	-	-	-	-
YB	d	1/09/2009	-	-	0.6394	-	-	-	-	782	6.5	-	-	61	-	-	-	205	-	0.2	-	-	-	-
YB	d	1/10/2009	-	-	0.692	-	-	-	-	783	6.1	-	-	-	-	-	-	205	-	-	-	-	-	-
YB	d	1/11/2009	-	-	0.717	-	-	-	-	790	6.2	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	1/12/2009	-	-	0.717	-	-	-	-	816	6.5	-	-	53	-	-	-	200	-	0.2	-	-	-	-
YB	d	1/01/2010	-	-	0.677	-	-	-	-	827	6	-	-	-	-	-	-	205	-	-	-	-	-	-
YB	d	8/01/2010	-	-	0.6853	-	-	-	-	-	-	-	-	-	-	-	-	180	-	-	-	-	-	-
YB	d	1/02/2010	-	-	0.7093	-	-	-	-	640	6.3	-	-	74	-	-	-	200	-	0.2	-	-	-	-
YB	d	1/03/2010	-	-	0.6476	-	-	-	-	867	6.4	-	-	70	-	-	-	200	-	0.2	-	-	-	-
YB	d	1/04/2010	-	-	0.771	-	-	-	-	870	6.3	-	-	93	-	-	-	190	-	0.2	-	-	-	-
YB	d	20/05/2010	-	-	0.7629	-	-	-	-	798.9	6.9	-	-	54	-	-	-	190	-	0.2	-	-	-	-
YB	d	21/06/2010	-	-	0.692	-	-	-	-	-	6.2	-	-	-	-	-	-	205	-	-	-	-	-	-
YB	d	22/07/2010	-	-	0.6912	-	-	-	-	-	6.3	-	-	-	-	-	-	203	-	-	-	-	-	-
YB	d	17/08/2010	-	-	0.7466	-	-	-	-	875	6.4	-	-	-	-	-	-	190	-	-	-	-	-	-
YB	d	20/08/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	17/09/2010	-	-	0.7304	-	-	-	-	850	6.3	-	-	-	-	-	-	190	-	-	-	-	-	-
YB	d	26/10/2010	-	-	0.6939	-	-	-	-	830	6.2	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	22/11/2010	-	-	0.7304	-	-	-	-	-	6.3	-	-	-	-	-	-	190	-	-	-	-	-	-
YB	d	15/12/2010	-	-	0.7304	-	-	-	-	870	6.3	-	-	-	-	-	-	190	-	-	-	-	-	-
YB	d	5/01/2011	-	-	0.6853	-	-	-	-	882	-	-	-	-	-	-	-	180	-	-	-	-	-	-
YB	d	9/02/2011	-	-	0.7247	-	-	-	-	880	6.5	-	-	57	-	-	-	200	-	0.2	-	-	-	-
YB	d	22/03/2011	-	-	0.8116	-	-	-	-	910	-	-	-	-	-	-	-	190	-	-	-	-	-	-
YB	d	14/04/2011	-	-	0.7304	-	-	-	-	875	6.7	-	-	-	-	-	-	190	-	-	-	-	-	-
YB	d	11/05/2011	-	-	0.663	-	-	-	-	-	6.9	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	21/06/2011	-	-	0.7049	-	-	-	-	-	-	-	-	-	-	-	-	210	-	-	-	-	-	-
YB	d	26/07/2011	-	-	0.6535	-	-	-	-	-	-	-	-	-	-	-	-	210	-	-	-	-	-	-
YB	d	9/08/2011	-	-	0.7556	-	-	-	-	-	6.5	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	10/08/2011	-	-	-	-	-	-	-	883	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	13/09/2011	-	-	0.6939	-	-	-	-	-	-	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	14/09/2011	-	-	-	-	-	-	-	-	6.4	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	6/10/2011	-	-	0.6939	-	-	-	-	-	-	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	31/10/2011	-	-	0.6862	-	-	-	-	-	6.2	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	1/11/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	10/11/2011	-	-	0.6608	-	-	-	-	-	-	-	-	-	-	-	-	210	-	-	-	-	-	-
YB	d	11/11/2011	-	-	0.7556	-	-	-	-	-	-	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	15/12/2011	-	-	0.7401	-	-	-	-	-	6.3	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	17/01/2012	-	-	0.6939	-	-	-	-	-	6.3	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	23/01/2012	-	-	-	-	-	-	-	840	6.5	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	16/02/2012	-	-	0.6608	-	-	-	-	-	6.2	-	-	-	-	-	-	210	-	-	-	-	-	-
YB	d	15/03/2012	-	-	0.6939	-	-	-	-	-	-	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	20/04/2012	-	-	0.6785	-	-	-	-	-	-	-	-	-	-	-	-	250	-	-	-	-	-	-
YB	d	24/05/2012	-	-	0.8077	-	-	-	-	990	6.8	-	-	59	-	-	-	210	-	-	-	-	-	-
YB	d	26/06/2012	-	-	0.6939	-	-	-	-	-	-	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	17/07/2012	-	-	0.6493	-	-	-	-	-	-	-	-	-	-	-	-	190	-	-	-	-	-	-
YB	d	14/08/2012	-	-	0.6829	-	-	-	-	909	6.76	-	-	60	-	-	-	210	-	-	-	-	-	-
YB	d	24/09/2012	-	-	0.6608	-	-	-	-	-	-	-	-	-	-	-	-	210	-	-	-	-	-	-
YB	d	26/10/2012	-	-	0.6245	-	-	-	-	872	6.41	-	-	50	-	-	-	200	-	-	-	-	-	-
YB	d	13/11/2012	-	-	0.7633	-	-	-	-	-	-	-	-	-	-	-	-	200	-	-	-	-	-	-
YB	d	11/12/2012	-	-	0.7304	-	-	-	-	-	-	-	-	-	-	-	-	190	-	-	-	-	-	-
YB	d	8/01/2013	-	-	0.7304	-	-	-	-	-	-	-	-	-	-	-	-	190	-	-	-	-	-	-
YB	d	16/01/2013	-	-	0.5967	-	-	-	-	880	6.62	20.5	-	52	-	-	-	230	-	0.2	-	-	-97	-
YB	d	16/02/2013	-	-	0.7343	-	-	-	-	880	6.3	22.2	-	-	-	-	-	210	-	-	-	-	-	-
YB	d	20/03/2013	-	-	0.7343	-	-	-	-	-	-	-	-	-	-	-	-	210	-	-	-	-	-	-
YB	d	9/04/2013	-	-	0.5278	-	-	-	-	876	6.67	20.6	-	52	-	-	-	260	-	0.2	-	-	-112	-
YB	d	6/05/2013	-	-	0.6608	-	-	-	-	-	-	-	-	-	-	-	-	210	-	-	-	-	-	-
YB	d	11/07/2013	-	-	0.6608	-	-	-	-	884	5.92	19.2	-	88	-	-	-	210	-	0.2	-	-	-41	-
YB	d	10/10/2013	-	-	0.6939	-	-	-	-	900	7.4	21.2	<1000	69	69	-	-	200	-	<0.2	-	-	-54	-
YB	d	29/01/2014	-	-	0.6785	-	-	-	-	883	6.55	20.3	-	-	-	-	-	250	-	-	-	-	253	-
YB	d	9/04/2014	<1	-	0.771	-	-	-	-	970	7.47	19.4	-	79	79	-	-	220	-	<0.2	-	13	-43.3	-
YB	d	16/07/2014	-	-	-	-	-	-	-	908	6.4	19	-	-	-	-	-	-	-	-	-	-	164	-
YB	d	16/10/2014	<1	-	0.7016	-	-	-	-	870	6.77	20.4	-	-	77	-	-	200	-	-	<0.2	-	-	-
YB	d	22/01/2015	-	-	-	-	-	-	-	843	5.78	21.8	-	-	-	-	-	-	-	-	-	-	-12.4	-
YB	d	23/01/2015	-	-	0.8077	-	-	-	-	-	-	-	-	-	-	-	-	210	-	-	-	-	-	-
YB	d	16/04/2015	<1	-	0.6755	-	-	-	-	584 - 854	6.68	21.8	-	-	84	-	-	210	-	-	<0.2	-	-64.2	-
YB	d	9/07/2015	-	-	0.8481	-	-	-	-	873	6.55	19	-	-	-	-	-	200	-	-	-	-	-2.1	-
YB	d	3/09/2015	<1	-	0.6588	-	-	-	-	897	6.72	19.9	-	-	75	75	<1	220	-	<0.2	<0.2	-	-15	-
YB	d	4/09/2015	-	-	-	-	-	-	-	897	6.72	19.9	-	-	-	-	-	-	-	-	-	-	-15	-
YB	d	20/01/2016	-	-	0.7633	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	21/01/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	15/04/2016	-	-	-	-	-	-	-	854	6.68	21.8	-	-	-	-	-	-	-	-	-	-	-64.2	-
YB	d	21/04/2016	-	-	0.6682	-	-	-	-	-	-	-	-	-	-	57	<1	210	-	<0.2	-	-	-	-
YB	d	22/04/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	7/07/2016	-	-	0.771 - 0.78	-	-	-	-	854	5.89	18.9	-	-	-	-	-	200	-	-	-	-	261	-
YB	d	8/07/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	15/09/2016	-	-	0.65 - 0.6608	-	-	-	-	867	8.12	19.1	-	-	-	73	<1	210	-	<0.2	-	-	-4	-
YB	d	23/01/2017	-	-	-	-	-	-	-	876	5.86	20.4	-	-	-	-	-	-	-	-	-	-	17	-
YB	d	18/04/2017	<1	-	-	-	-	-	-	-	-	-	-	-	-	53	-	-	210	<0.2	-	-	-	-
YB	d	18/04/2017	-	-	0.5874	-	-	-	-	905	7.03	20.2	-	-	-	-	-	-	-	-	-	-	-27	-
YB	d	27/07/2017	-	-	-	-	-	-	-	828	6.7	19.8	-	-	-	-	-	-	-	-	-	-	-31	-
YB	d	28/07/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	12/10/2017	-	-	0.5593	0.6	-	-	-	844	6.89	20	-	-	-	-	-	-	220	-	-	-	-45	-
YB	d	16/10/2017	-	-	0.6704	-	-	-	-	-	-	-	-	-	-	-	-	230	-	-	-	-	-	-
YB	d	11/01/2018	-	-	-	-	-	-	-	889	6.72	20.4	-	-	-	-	-	-	-	-	-	-	-35	444
YB	d	24/01/2018	-	-	0.7486	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	6/04/2018	<1	-	-	-	-	0.7	-	-	-	-	-	-	-	55	-	-	210	<0.01 - 0.03	-	-	-	-
YB	d	6/04/2018	-	-	0.7061	-	-	-	-	1214	7.46	20.9	-	-	-	-	-	-	-	-	-	-	-119	587
YB	d	7/04/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	3/07/2018	-	-	-	-	-	-	-	904	6.4	18.9	-	-	-	-	-	-	-	-	-	-	33	452
YB	d	6/07/2018	-	-	0.6756	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	9/07/2018	-	-	0.6756	-	-	-	-	-	-	-	-	-	-	-	-	215	-	-	-	-	-	-
YB	d	29/10/2018	<1	-	0.6656	-	-	0.7	-	900	6.82	20.1	-	-	-	57	-	221	-	0.03	-	-	-109	450
YB	d	17/01/2019	-	-	-	-	-	-	-	892	6.65	20.5	-	-	-	-	-	-	-	-	-	-	-52	-
YB	d	5/02/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	16/04/2019	-	-	-	-	-	0.7	-	900	6.74	-	-	-	-	-	-	210	-	0.02	-	-	-96	-
YB	d	5/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	11/09/2019	-	-	-	-	-	-	-	881	6.45	19.9	-	-	-	-	-	-	-	-	-	-	0	-
YB	d	10/10/2019	-	-	-	-	-	0.7	-	841	6.66	20.2	-	-	-	-	-	206	-	<0.01	-	-	-128	-
YB	d	17/01/2020	-	-	-	-	-	0.7	-	-	-	-	-	-	-	-	-	209	-	-	-	-	-	-
YB	d	27/01/2020	-	-	-	-	-	-	-	790	6.02	-	-	-	-	-	-	-	-	-	-	-	-17	-
YB	d	15/04/2020	<1	-	-	-	-	0.6	0.02	792	6.93	-	-	-	-	59	-	219	-	-	-	-	-140	-
YB	d	15/07/2020	-	-	-	-	-	0.7	-	784	6.3	-	-	-	-	-	-	209	-	-	-	-	112	-
YB	d	16/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	14/10/2020	<1	-	-	-	-	-	-	715	6.44	-	-	-	-	51	-	208	-	<0.01	-	-	34	-
YB	d	26/01/2021	-	-	-	-	-	0.7	-	-	-	-	-	-	-	-	-	205	-	-	-	-	-	-

			Inorganics (cont.)					Lead		Metals																				
LocCode	WellCode	Sampled Date-Time	Sodium	Sodium (Filtered)	Sulphate	Sulphate (Filtered)	TDS (evap)	Lead Total	Lead Total (Filtered)	Aluminium	Arsenic	Boron	Boron (Filtered)	Cadmium	Cadmium (Filtered)	Calcium	Calcium (Filtered)	Chromium (hexavalent)	Chromium (hexavalent) (Filtered)	Chromium Total	Chromium Total (Filtered)	Chromium (Trivalent)	Chromium (Trivalent) (Filtered)	Cobalt	Cobalt (Filtered)	Copper Total	Copper Total (Filtered)	Iron	Iron (Filtered)	Magnesium
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
EOL			0.05	0.05	1	5	10	0.001	0.0001			0.005	0.005	0.0001	0.0001	0.005	0.005	0.001	0.001	0.001	0.0001	0.001	0.001	0.001	0.0001	0.001	0.0001	0.005	0.005	0.005
ADWG 2011 Aesthetic			180	180	250	250	600			0.2																1	1	0.3	0.3	
ADWG 2011 Health					500	500		0.01	0.01		0.01	4	4	0.002	0.002			0.05	0.05							2	2			
YB		20/01/2016	-	99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB		24/01/2018	-	97.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB		6/07/2018	-	94.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB		23/07/2019	-	94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	15/04/2005	100	-	18	-	450	-	-	-	-	0.019	-	-	-	45	-	-	-	0.001	-	-	-	-	-	-	-	25	-	11
YB	d	1/08/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	-	-	-	0	-	0
YB	d	2/08/2005	100	-	7	-	500	-	-	-	-	0.028	-	-	-	50	-	-	-	0.001	-	-	-	-	-	-	-	19	-	13
YB	d	14/11/2005	90	-	12	-	470	-	-	-	-	0.033	-	-	-	40	-	-	-	0.001	-	-	-	-	-	-	-	18	-	11
YB	d	11/01/2006	85	-	0	-	0	-	-	-	-	0	-	-	-	0	-	-	-	0	-	-	-	-	-	-	-	0	-	0
YB	d	15/02/2006	100	-	14	-	540	0.001	-	0.03	-	0.031	-	0.0001	-	40	-	-	-	0.001	-	-	-	-	-	0.001	-	24	-	11
YB	d	11/03/2006	90	-	15	-	0	-	-	-	-	0	-	-	-	0	-	-	-	0	-	-	-	-	-	-	-	0	-	0
YB	d	13/04/2006	90	-	14	-	0	-	-	-	-	0	-	-	-	0	-	-	-	0	-	-	-	-	-	-	-	0	-	0
YB	d	10/05/2006	83	-	15	-	0	-	-	-	-	0	-	-	-	0	-	-	-	0	-	-	-	-	-	-	-	0	-	0
YB	d	16/06/2006	90	-	12	-	0	0	-	-	-	0	-	0	-	0	-	-	-	0	-	-	-	-	-	0	-	0	-	0
YB	d	13/07/2006	90	-	12	-	0	0	-	-	-	0	-	0	-	0	-	-	-	0	-	-	-	-	-	0	-	0	-	0
YB	d	9/08/2006	90	-	12	-	0	0	-	0	-	0	-	0	-	0	-	-	-	0	-	-	-	-	-	0	-	0	-	0
YB	d	13/09/2006	95	-	14	-	0	0	-	0	-	0	-	0	-	0	-	-	-	0	-	-	-	-	-	0	-	0	-	0
YB	d	13/10/2006	91	-	19	-	0	0	-	0	-	0	-	0	-	0	-	-	-	0	-	-	-	-	-	0	-	0	-	0
YB	d	13/11/2006	91	-	16	-	0	0.001	-	0.026	0.001	0	-	0.0001	-	34	-	0.02	-	0.001	-	-	-	0.001	-	0.001	-	25	-	0
YB	d	13/12/2006	92	-	14	-	0	0.001	-	0.019	0.001	0	-	0.0001	-	33	-	0.005	-	0.001	-	-	-	0.001	-	0.001	-	24	-	9.9
YB	d	23/01/2007	80	-	16	-	0	0	-	0	0	0	-	0	-	0	-	0	-	0	-	-	-	0	-	0	-	0	-	0
YB	d	16/02/2007	110	-	16	-	0	0	-	0	0	0	-	0	-	0	-	0	-	0	-	-	-	0	-	0	-	0	-	0
YB	d	15/03/2007	100	-	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	11/04/2007	110	-	15	-	0	0	-	0	0	0	-	0	-	0	-	0	-	0	-	-	-	0	-	0	-	0	-	0
YB	d	16/05/2007	92	-	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	19/06/2007	120	-	21	-	480	0.001	-	0	0	0.041	-	0.0017	-	37	-	0	-	0.001	-	-	-	0.001	-	0.001	-	0	-	12
YB	d	13/07/2007	90	-	14	-	0	0	-	0	0	0	-	0	-	0	-	0	-	0	-	-	-	0	-	0	-	0	-	0
YB	d	15/08/2007	91	-	15	-	0	0	-	0	0	0	-	0	-	0	-	0	-	0	-	-	-	0	-	0	-	0	-	0
YB	d	17/09/2007	78	-	18	-	0	0	-	0	0	0	-	0	-	0	-	0	-	0	-	-	-	0	-	0	-	0	-	0
YB	d	16/10/2007	-	-	18	-	0	0	-	0	0	0	-	0	-	0	-	0	-	0	-	-	-	0	-	0	-	0	-	0
YB	d	19/11/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	13/12/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/03/2008	91	-	15	-	450	0.001	-	-	-	0.022	-	0.0001	-	35	-	-	-	0.001	-	-	-	0.001	-	0.001	-	27	-	11
YB	d	21/04/2008	99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	8/05/2008	96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	8/06/2008	93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	8/07/2008	94	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	8/08/2008	93	-	15	-	480	0.001	-	-	-	0.032	-	0.0001	-	35	-	-	-	0.001	-	-	-	0.001	-	0.001	-	28	-	11
YB	d	8/09/2008	93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	8/10/2008	99	-	17	-	420	0.001	-	-	-	0.022	-	0.0001	-	36	-	-	-	0.001	-	-	-	0.001	-	0.001	-	24	-	12
YB	d	8/11/2008	92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	8/12/2008	93	-	20	-	430	0.001	-	-	-	0.023	-	0.0001	-	35	-	-	-	0.001	-	-	-	0.001	-	0.001	-	24	-	11
YB	d	9/01/2009	93	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/02/2009	94	-	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/03/2009	88	-	15	-	470	0.001	-	-	-	0.025	-	0.0001	-	34	-	-	-	0.001	-	-	-	0.001	-	0.001	-	26	-	11
YB	d	1/04/2009	95	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/05/2009	95	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/06/2009	95	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/07/2009	140	-	17	-	780	0.001	-	-	-	0.016	-	0.0001	-	37	-	0.005	-	0.001	-	-	-	0.001	-	0.001	-	24	-	9.9
YB	d	1/08/2009	105	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/09/2009	85	-	16	-	460	0.001	-	-	-	0.12	-	0.0001	-	34	-	0.005	-	0.001	-	-	-	0.001	-	0.001	-	21	-	11
YB	d	1/10/2009	92	-	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/11/2009	93	-	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/12/2009	93	-	13	-	460	0.001	-	-	-	0.011	-	0.0001	-	34	-	-	-	0.001	-	-	-	0.001	-	0.001	-	26	-	11
YB	d	1/01/2010	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	8/01/2010	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/02/2010	92	-	16	-	400	0.001	-	-	-	0.02	-	0.0001	-	38	-	-	-	0.001	-	-	-	0.001	-	0.001	-	22	-	15
YB	d	1/03/2010	84	-	17	-	460	0.001	-	-	-	0.005	-	0.0001	-	-	-	-	-	0.001	-	-	-	0.001	-	0.001	-	22	-	9.8
YB	d	1/04/2010	95	-	17	-	510	-	-	-	-	0.011	-	-	-	35	-	-	-	0.001	-	-	-	0.001	-	0.001	-	26	-	11
YB	d	20/05/2010	94	-	18	-	490	0.001	-	-	-	0.02	-	0.0001	-	35	-	-	-	0.001	-	-	-	0.001	-	0.001	-	24	-	11
YB	d	21/06/2010	92	-	22	-	-	0.001	-	0.15	0.001	0.026	-	0.0001	-	35	-	-	-	0.001	-	-	-	-	-	0.001	-	25	-	11
YB	d	22/07/2010	91	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	17/08/2010	92	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	20/08/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	17/09/2010	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	26/10/2010	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	22/11/2010	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	15/12/2010	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-
YB	d	5/01/2011	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	9/02/2011	94	-	17	-	570	0.001	-	-	-	0.026	-	0.0001	-	34	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	25	-	11
YB	d	22/03/2011	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	14/04/2011	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	11/05/2011	86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	21/06/2011	96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	26/07/2011	89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	9/08/2011	98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	10/08/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	13/09/2011	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	14/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	6/10/2011	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	31/10/2011	89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/11/2011	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	10/11/2011	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	11/11/2011	98	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	15/12/2011	96	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	17/01/2012	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	23/01/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	16/02/2012	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	15/03/2012	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	20/04/2012	110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	24/05/2012	110	-	19	-	520	-	-	-	-	0.032	-	-	-	50	-	-	-	0.001	-	-	-	-	-	0.024	-	26	-	17
YB	d	26/06/2012	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	17/07/2012	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	14/08/2012	93	-	19	-	500	-	-	-	-	0.032	-	-	-	35	-	-	-	-	-	-	-	-	-	-	-	25	-	11
YB	d	24/09/2012	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	26/10/2012	81	-	16	-	510	-	-	-	-	0.037	-	-	-	35	-	-	-	0.0017	-	-	-	-	-	-	-	24	-	11
YB	d	13/11/2012	99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	11/12/2012	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	8/01/2013	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	16/01/2013	89	-	23	-	570	0.001	-	-	-	0.039	-	0.0001	-	41	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	24	-	19
YB	d	16/02/2013	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	20/03/2013	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	9/04/2013	89	-	12	-	610	0.001	-	-	-	0.029	-	0.0001	-	42	-	0.001	-	0.001	-	-	-	0.001	-	0.001	-	12	-	18
YB	d	6/05/2013	90	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	11/07/2013	90	-	15	-	480	0.001	-	-	-	0.019	-	0.0001	-	33	-	0.001	-	0.001	-	-	-	0.001	-	0.002	-	24	-	-
YB	d	10/10/2013	90	-	22	-	450	<0.001	-	-	0.001	0.026	-	<0.0001	-	33	-	<0.001	-	0.003	-	-	-	<0.001	-	0.001	-	24	-	12
YB	d	29/01/2014	110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	9/04/2014	110	-	17	-	500	0.005	-	-	-	0.025	-	<0.0001	-	53	-	0.002	-	0.005	-	0.003	-	0.001	-	0.003	-	29	-	13
YB	d	16/07/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	16/10/2014	91	-	16	-	820	<0.001	-	-	-	0.026	-	<0.0001	-	38	-	<0.001	<0.001	<0.001	-	<0.001	<0.001	0.001	-	<0.001	-	24	-	12
YB	d	22/01/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	23/01/2015	-	110	-	-	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	16/04/2015	92	-	22	-	600	<0.001	-	-	-	0.01	-	<0.0001	-	40	-	-	<0.001	<0.001	-	-	<0.001	<0.001	-	<0.001	-	23	-	13
YB	d	9/07/2015	-	110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	3/09/2015	94	-	19	-	480	<0.001	-	-	-	0.02	-	<0.0001	-	37	-	-	<0.001	<0.001	-	-	<0.001	<0.001	-	<0.001	-	15	-	12
YB	d	4/09/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	20/01/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	21/01/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	15/04/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	21/04/2016	91	-	16	-	480	0.002	-	-	-	0.065	-	<0.0001	-	41	-	-	<0.001	0.007	-	-	<0.001	<0.001	-	0.005	-	26	-	12
YB	d	22/04/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	7/07/2016	-	100	-	-	427	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	8/07/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	15/09/2016	-	90	19	-	433 - 510	-	0.001	-	-	-	0.035	-	<0.0001	-	38	-	<0.001	-	0.002	-	0.002	-	<0.001	-	<0.001	-	23	-
YB	d	23/01/2017	-	-	-	-	437	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	18/04/2017	80	-	-	18	440	<0.001	-	-	-	0.036	-	<0.0001	-	38	-	<0.001	-	0.004	-	0.004	-	<0.001	-	0.002	-	23	-	12
YB	d	18/04/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	27/07/2017	-	-	-	-	414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	28/07/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	12/10/2017	-	79.8	-	-	422	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	16/10/2017	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	11/01/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	24/01/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	6/04/2018	-	95.8 - 96.5	-	19	459 - 474	-	0.0009 - 0.0016	-	-	-	0.025 - 0.026	-	<0.0001	-	38.4 - 40.4	<0.001 - 0.001	-	-	<0.001 - 0.001	<0.001	-	-	0.0003 - 0.0012	-	0.0016 - 0.0035	-	20 - 22	-
YB	d	6/04/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	7/04/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	3/07/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	6/07/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	9/07/2018	94.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	29/10/2018	-	95.4	20	-	460	-	0.0006	-	-	-	0.022	-	<0.0001	-	37	<0.001	-	-	0.0013	<0.001	-	-	0.0003	-	0.0015	-	21	-
YB	d	17/01/2019	-	-	-	-	447	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	5/02/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	16/04/2019	-	95.7	19	-	450 - 480	-	0.001	-	-	-	0.02	-	<0.0001	-	37.5	<0.001	-	-	0.0064	0.004	-	-	0.0001	-	0.0026	-	25	-
YB	d	5/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	11/09/2019	-	-	-	-	440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	10/10/2019	-	93	18	-	421 - 450	-	0.0007	-	-	-	0.034	-	<0.0001	-	37.3	<0.001	-	-	0.003	0.002	-	-	0.0001	-	0.0027	-	24	-
YB	d	17/01/2020	-	92.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	27/01/2020	-	-	-	-	395	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	15/04/2020	-	87.1	18	-	396 - 510	-	0.0005	-	-	-	<0.02	-	<0.0001	-	35	<0.001	-	-	<0.001	<0.001	-	-	<0.0001	-	0.0027	-	24	-
YB	d	15/07/2020	-	89.9	-	-	391	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	16/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	14/10/2020	-	91.2	19	-	358 - 500	-	0.0002	-	-	-	0.028	-	<0.0001	-	35.5	<0.001	-	-	<0.001	<0.001	-	-	<0.0001	-	0.0012	-	20	-
YB	d	26/01/2021	-	94.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

			Metals (cont.)															Other	Radionuclides	
LocCode	WellCode	Sampled Date-Time	Magnesium (Filtered)	Manganese	Manganese (Filtered)	Mercury	Mercury (Filtered)	Molybdenum	Molybdenum (Filtered)	Nickel	Nickel (Filtered)	Potassium	Potassium (Filtered)	Selenium	Vanadium Total	Vanadium Total (Filtered)	Zinc	Acidity (as CaCO3)	Radium-226	Radium-228
			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mBq/L	mBq/L
EOL			0.005	0.001	0.0001	0.00005	0.00001	0.001	0.0001	0.001	0.0005	0.05	0.05		0.001	0.0001				
ADWG 2011 Aesthetic				0.1	0.1												3			
ADWG 2011 Health				0.5	0.5	0.001	0.001	0.05	0.05	0.02	0.02			0.01						
YB		20/01/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB		24/01/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB		6/07/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB		23/07/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	15/04/2005	-	0.1	-	-	-	-	-	-	-	9	-	-	0.0015	-	-	-	32	100
YB	d	1/08/2005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	2/08/2005	-	0.23	-	-	-	-	-	-	-	9	-	-	0.001	-	-	1	41	315
YB	d	14/11/2005	-	0.17	-	-	-	-	-	-	-	7	-	-	0.001	-	-	1	30	567
YB	d	11/01/2006	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-
YB	d	15/02/2006	-	0.15	-	-	-	-	-	0.001	-	0	-	-	0.001	-	-	1	35	432
YB	d	11/03/2006	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-
YB	d	13/04/2006	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-
YB	d	10/05/2006	-	-	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-
YB	d	16/06/2006	-	0	-	0	-	-	-	0	-	0	-	-	0	-	-	0	-	-
YB	d	13/07/2006	-	0	-	0	-	-	-	0	-	0	-	-	0	-	-	0	-	-
YB	d	9/08/2006	-	0	-	0	-	-	-	0	-	0	-	-	0	-	-	0	-	-
YB	d	13/09/2006	-	0	-	0	-	-	-	0	-	0	-	-	0	-	-	0	-	-
YB	d	13/10/2006	-	0	-	0	-	-	-	0	-	0	-	-	0	-	-	0	-	-
YB	d	13/11/2006	-	0	-	0.0001	-	-	-	0.001	-	9.1	-	-	0.001	-	-	0	-	-
YB	d	13/12/2006	-	0	-	0.0001	-	-	-	0.001	-	7.7	-	-	0.001	-	-	0	-	-
YB	d	23/01/2007	-	0	-	0	-	-	-	0	-	0	-	-	0	-	-	0	-	-
YB	d	16/02/2007	-	0	-	0	-	-	-	0	-	0	-	-	0	-	-	0	-	-
YB	d	15/03/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	11/04/2007	-	0	-	0	-	-	-	0	-	0	-	-	0	-	-	0	-	-
YB	d	16/05/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	19/06/2007	-	0	-	0.0001	-	-	-	0.001	-	9.3	-	-	0.001	-	-	1	-	-
YB	d	13/07/2007	-	0	-	0	-	-	-	0	-	0	-	-	0	-	-	0	-	-
YB	d	15/08/2007	-	0	-	0	-	-	-	0	-	0	-	-	0	-	-	0	-	-
YB	d	17/09/2007	-	0	-	0	-	-	-	0	-	0	-	-	0	-	-	0	-	-
YB	d	16/10/2007	-	0	-	0	-	-	-	0	-	0	-	-	0	-	-	0	-	-
YB	d	19/11/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	13/12/2007	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/03/2008	-	0.1	-	0.0001	-	-	-	0.001	-	5.8	-	-	0.001	-	-	1	33	100
YB	d	21/04/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	8/05/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	8/06/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	8/07/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	480	100
YB	d	8/08/2008	-	0.12	-	0.0001	-	-	-	0.001	-	7.4	-	-	0.001	-	-	1	-	-
YB	d	8/09/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	8/10/2008	-	0.098	-	0.0001	-	-	-	0.001	-	6.4	-	-	0.001	-	-	1	100	100
YB	d	8/11/2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	8/12/2008	-	0.11	-	0.0001	-	-	-	0.001	-	6.3	-	-	0.001	-	-	1	-	-
YB	d	9/01/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75	100
YB	d	1/02/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/03/2009	-	0.11	-	0.0001	-	-	-	0.001	-	7.5	-	-	0.001	-	-	1	40	100
YB	d	1/04/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/05/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/06/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/07/2009	-	0.088	-	0.0001	-	-	-	0.001	-	-	-	-	0.001	-	-	1	71	327
YB	d	1/08/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/09/2009	-	0.085	-	0.0001	-	-	-	0.001	-	6.6	-	-	0.001	-	-	1	-	-
YB	d	1/10/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/11/2009	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/12/2009	-	0.096	-	0.0001	-	-	-	0.001	-	8.4	-	-	0.001	-	-	1	79	102
YB	d	1/01/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	8/01/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/02/2010	-	0.086	-	0.0001	-	-	-	0.001	-	7.4	-	-	0.001	-	-	1	32	200
YB	d	1/03/2010	-	0.083	-	0.0001	-	-	-	0.001	-	7	-	-	0.001	-	-	-	-	-
YB	d	1/04/2010	-	0.097	-	0.0001	-	-	-	0.001	-	7.2	-	-	0.001	-	-	1	-	-
YB	d	20/05/2010	-	0.08	-	0.0001	-	-	-	0.009	-	7.9	-	-	0.002	-	-	-	642	523
YB	d	21/06/2010	-	0.097	-	-	-	-	-	0.001	-	8.2	-	-	0.001	-	-	-	-	-
YB	d	22/07/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	17/08/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	20/08/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	304
YB	d	17/09/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	26/10/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	22/11/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	15/12/2010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	5/01/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	9/02/2011	-	0.094	-	0.0001	-	-	-	0.001	-	8.3	-	-	0.001	-	-	-	76	100
YB	d	22/03/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	14/04/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	11/05/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	463	100
YB	d	21/06/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	26/07/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	9/08/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104	158
YB	d	10/08/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	13/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	14/09/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	6/10/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	100
YB	d	31/10/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	1/11/2011	-	-	-	-	-	-	-	-	-	22	-	-	-	-	-	-	-	-
YB	d	10/11/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	11/11/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	63	100
YB	d	15/12/2011	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	17/01/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43	121
YB	d	23/01/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	16/02/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	15/03/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	20/04/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	24/05/2012	-	0.096	-	-	-	0.0013	-	-	-	7.9	-	-	0.0012	-	-	-	38	100
YB	d	26/06/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	17/07/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	14/08/2012	-	0.09	-	-	-	-	-	-	-	8.1	-	-	-	-	-	-	39	114
YB	d	24/09/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	26/10/2012	-	0.089	-	-	-	-	-	-	-	8.2	-	-	-	-	-	-	40	100
YB	d	13/11/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	11/12/2012	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	8/01/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	16/01/2013	-	0.09	-	0.0001	-	-	-	0.001	-	8.1	-	-	0.001	-	-	-	36	100
YB	d	16/02/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	20/03/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	9/04/2013	-	0.11	-	0.0001	-	-	-	0.001	-	5.8	-	-	0.001	-	-	-	56	100
YB	d	6/05/2013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	11/07/2013	-	0.099	-	0.0001	-	-	-	0.001	-	8	-	-	0.001	-	-	-	56	100
YB	d	10/10/2013	-	0.1	-	<0.0001	-	<0.001	-	<0.001	-	8	-	<0.001	0.002	-	0.003	-	64	<100
YB	d	29/01/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	100
YB	d	9/04/2014	-	0.17	-	<0.0001	-	<0.001	-	0.001	-	8.3	-	-	0.008	-	-	-	74	100
YB	d	16/07/2014	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	16/10/2014	-	0.1	-	<0.0001	-	<0.001	-	<0.001	-	10	-	-	<0.001	-	-	-	66	100
YB	d	22/01/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	177	<100
YB	d	23/01/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	16/04/2015	-	0.1	-	<0.0001	-	<0.001	-	<0.001	-	8.7	-	-	<0.001	-	-	-	61	100
YB	d	9/07/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	<100
YB	d	3/09/2015	-	0.12	-	<0.0001	-	<0.001	-	<0.001	-	10	-	-	<0.001	-	-	-	-	-
YB	d	4/09/2015	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	<100
YB	d	20/01/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	21/01/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<100	<100
YB	d	15/04/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	21/04/2016	-	0.2	-	<0.0001	-	<0.001	-	0.002	-	10	-	-	0.017	-	-	-	-	-
YB	d	22/04/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	533	192
YB	d	7/07/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	8/07/2016	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	232	<100
YB	d	15/09/2016	12	-	0.13	-	<0.0001	-	<0.001	-	<0.001	-	8.4	-	-	0.007	-	-	<100	<100
YB	d	23/01/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31	114
YB	d	18/04/2017	-	0.1	-	<0.0001	-	<0.001	-	<0.001	-	7.4	-	-	0.003	-	-	-	-	-
YB	d	18/04/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44	76
YB	d	27/07/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	28/07/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	68
YB	d	12/10/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	71
YB	d	16/10/2017	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	11/01/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	24/01/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	8/02/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	141
YB	d	6/04/2018	12 - 13.9	-	0.094 - 0.12	<0.0001	-	-	0.0002 - 0.0008	-	0.0008 - 0.0017	-	8.2 - 8.5	-	-	0.0014 - 0.005	-	-	-	-
YB	d	6/04/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45 - 47	130
YB	d	7/04/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	130
YB	d	3/07/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	6/07/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	100
YB	d	9/07/2018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	45	100
YB	d	29/10/2018	12.2	-	0.11	<0.00005	-	-	<0.0001	-	0.0006	-	8.9	-	-	0.0034	-	-	<100	38
YB	d	17/01/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	5/02/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40	80
YB	d	16/04/2019	12.5	-	0.099	<0.00005	-	-	<0.001	-	<0.001	-	8.3	-	-	0.0028	-	-	44	<150
YB	d	5/08/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	71
YB	d	11/09/2019	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	10/10/2019	12.4	-	0.13	<0.00005	-	-	<0.001	-	<0.001	-	8.4	-	-	0.0023	-	-	-	-
YB	d	17/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	119	<82
YB	d	27/01/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	15/04/2020	10.5	-	0.11	<0.00005	-	-	<0.001	-	<0.001	-	7.8	-	-	0.0008	-	-	<69	<110
YB	d	15/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
YB	d	16/07/2020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<64	83
YB	d	14/10/2020	11.7	-	0.1	<0.00005	-	-	<0.001	-	<0.001	-	7.9	-	-	0.0002	-	-	64	<150
YB	d	26/01/2021	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



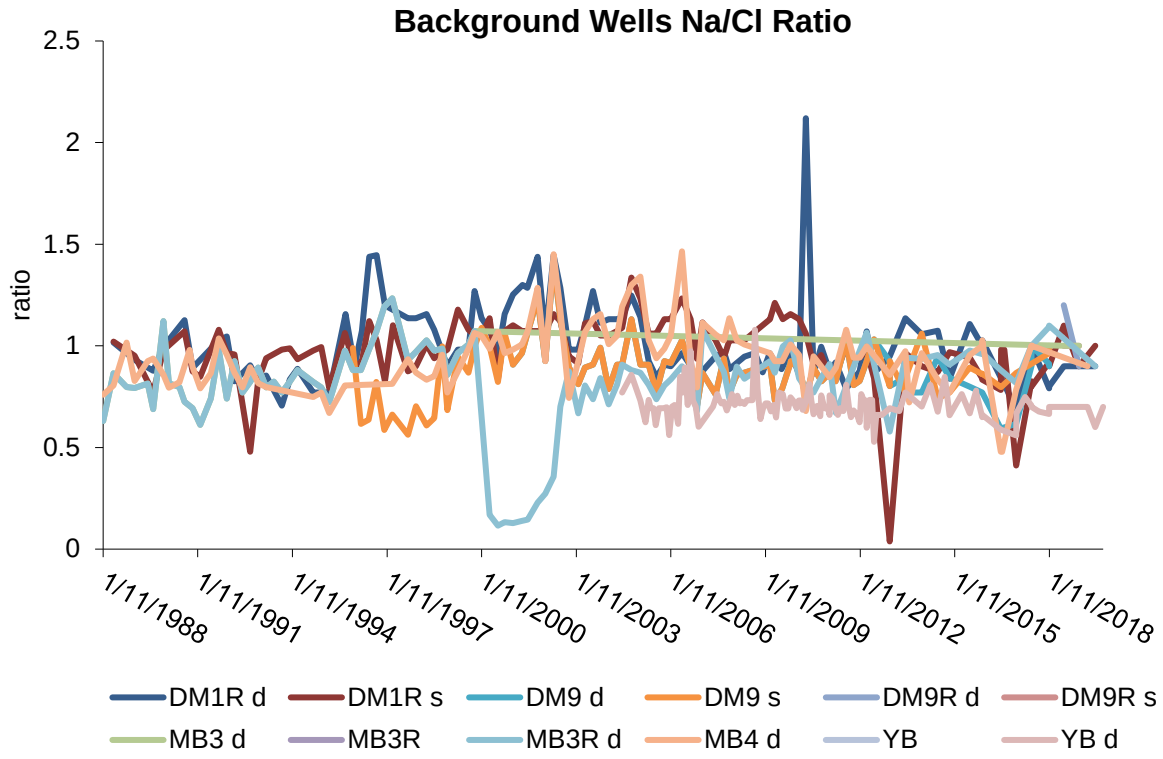


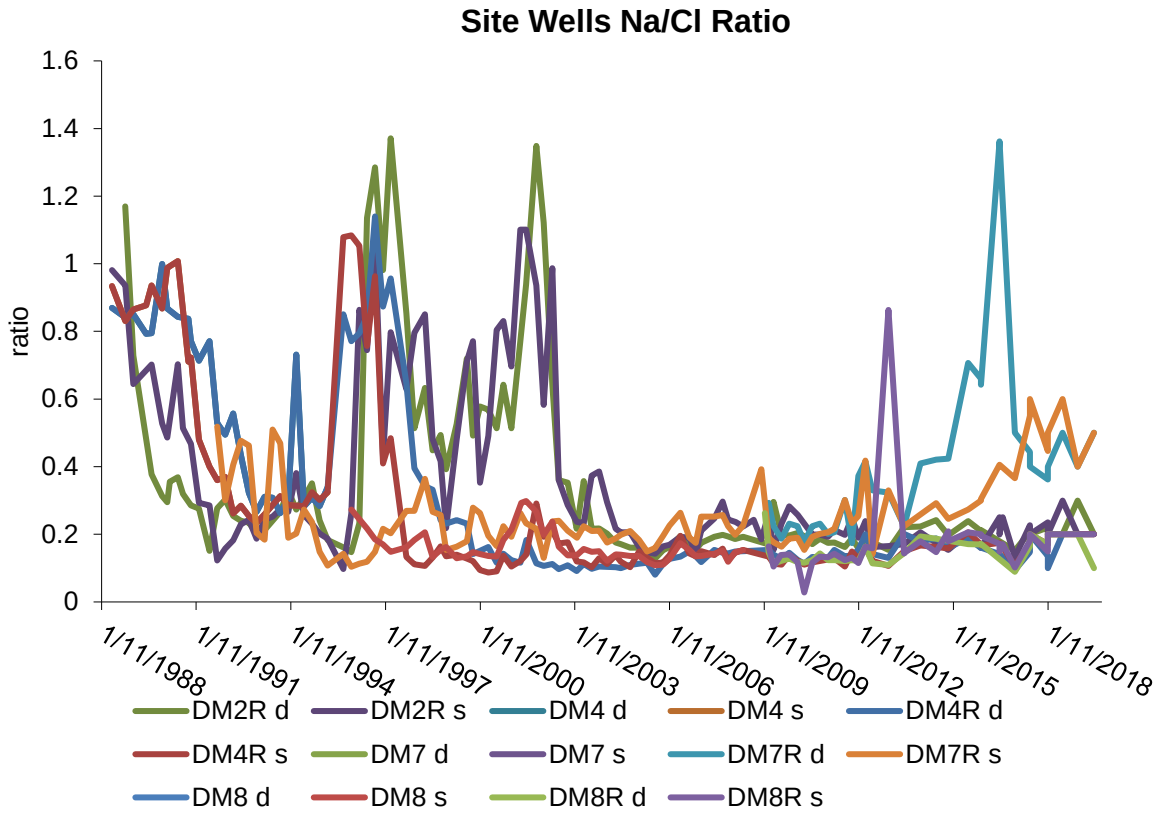
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



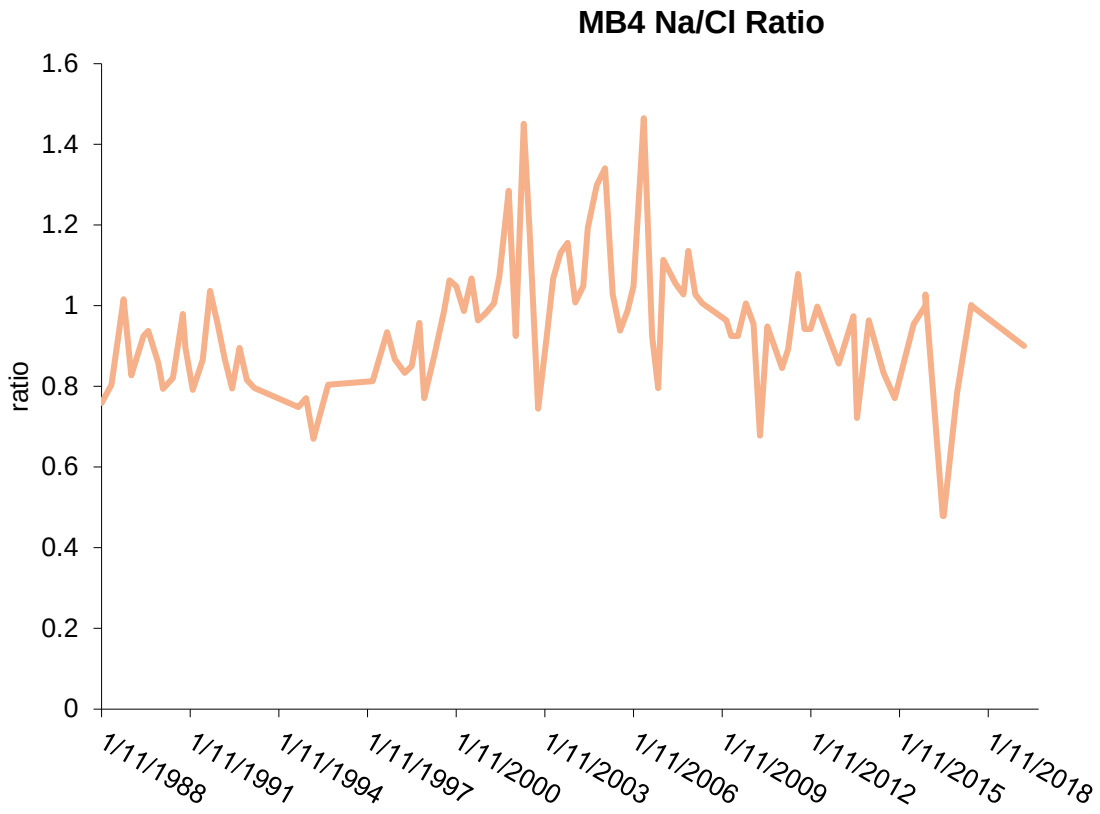


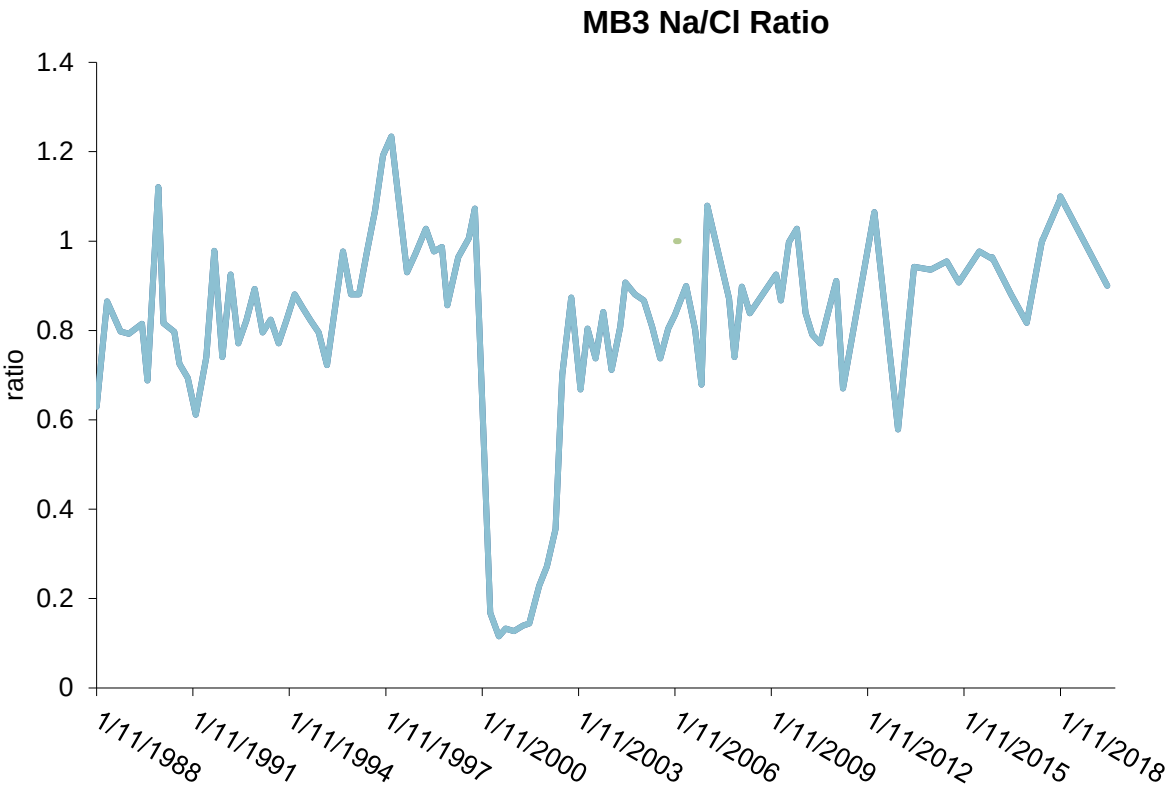
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



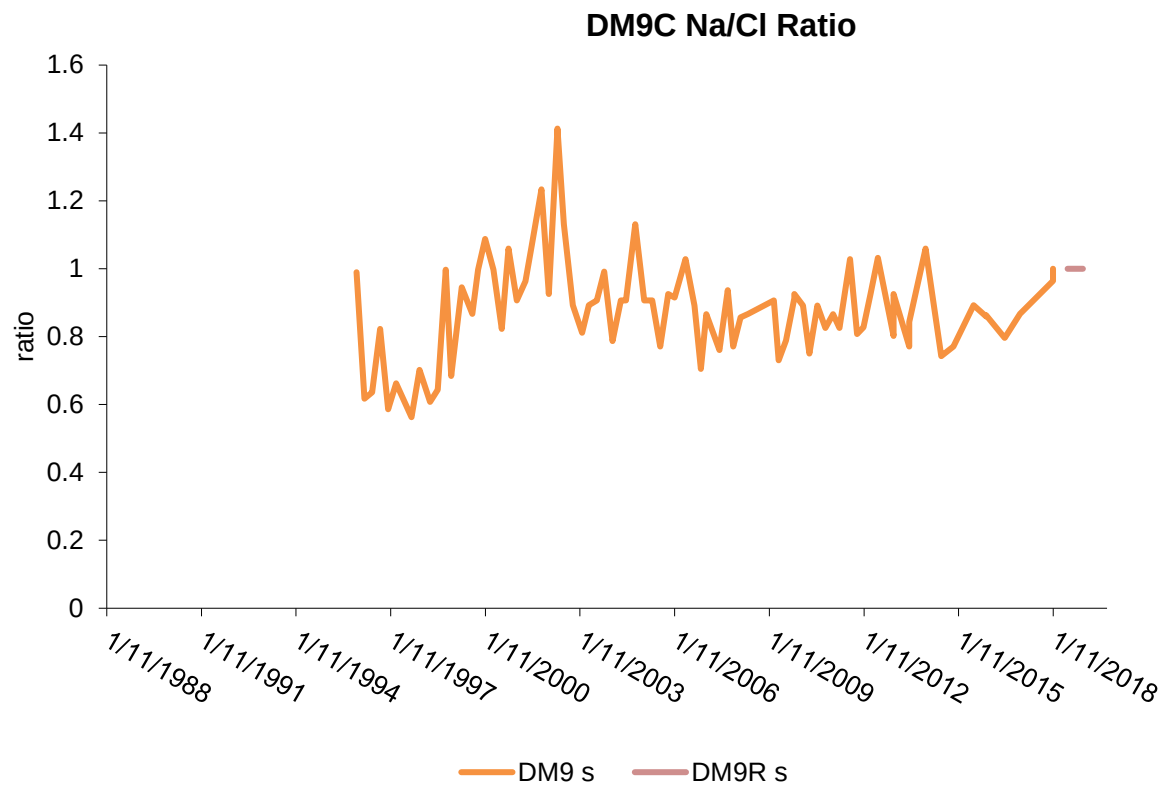


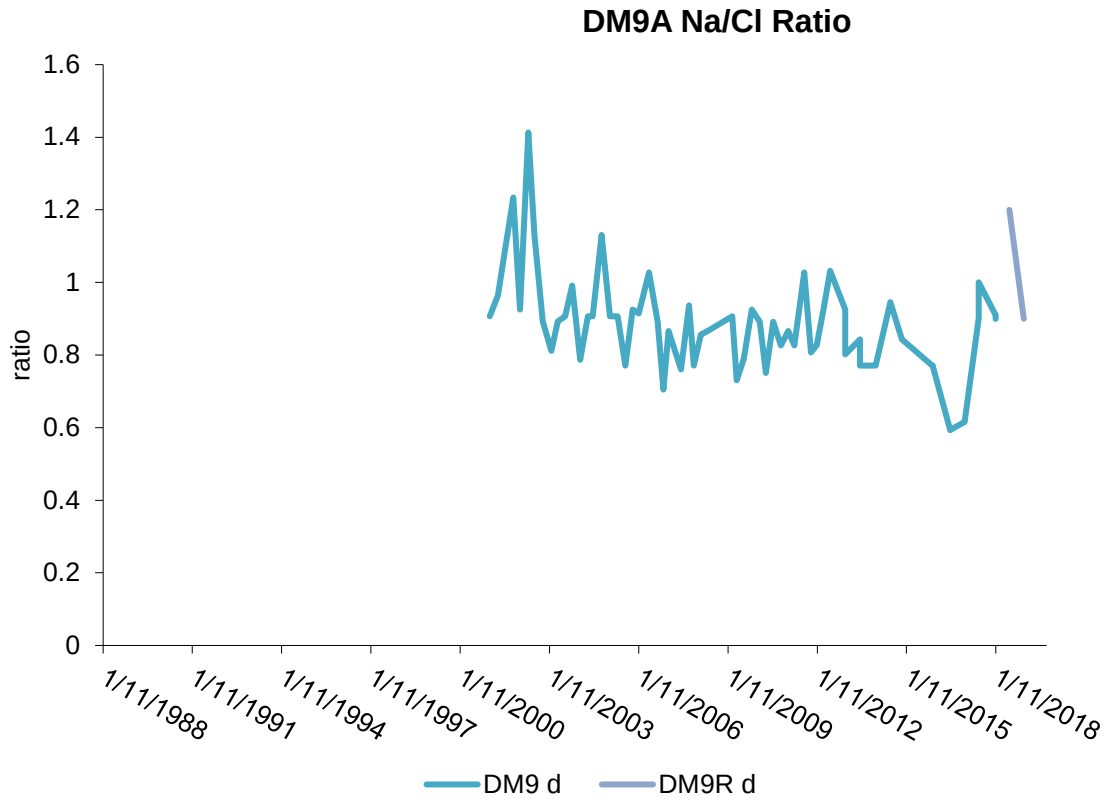
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



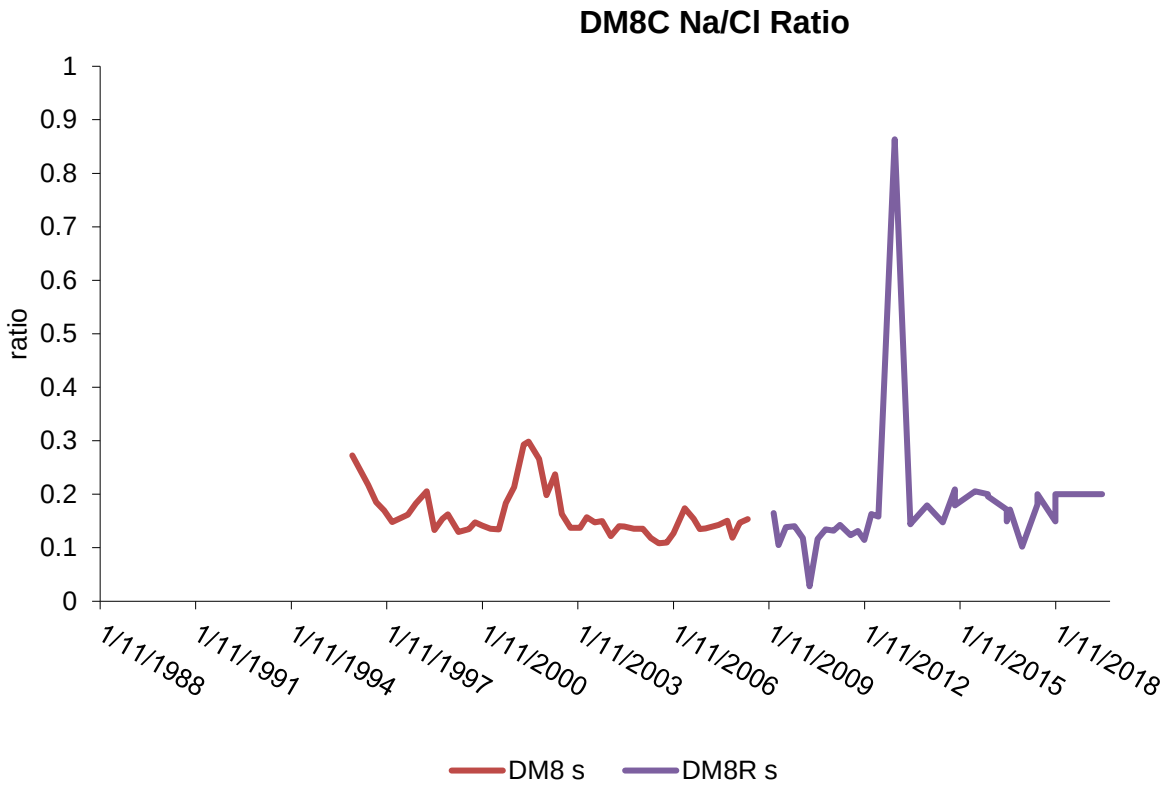


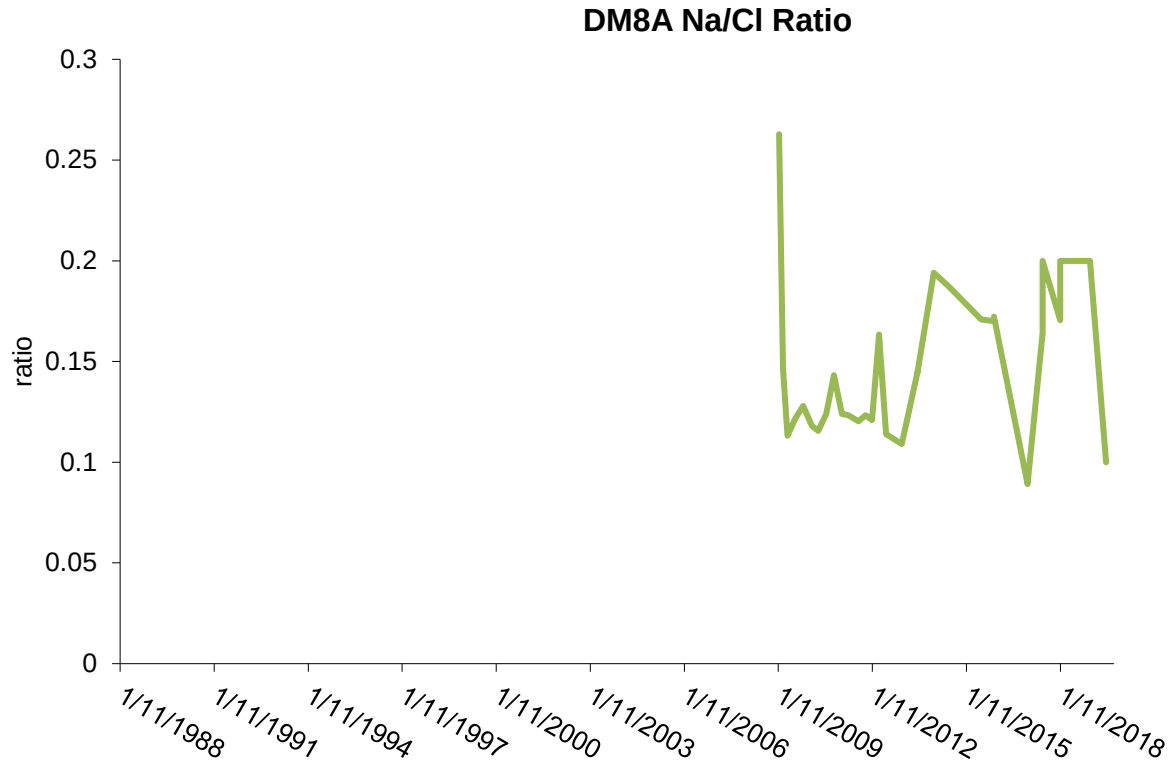
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



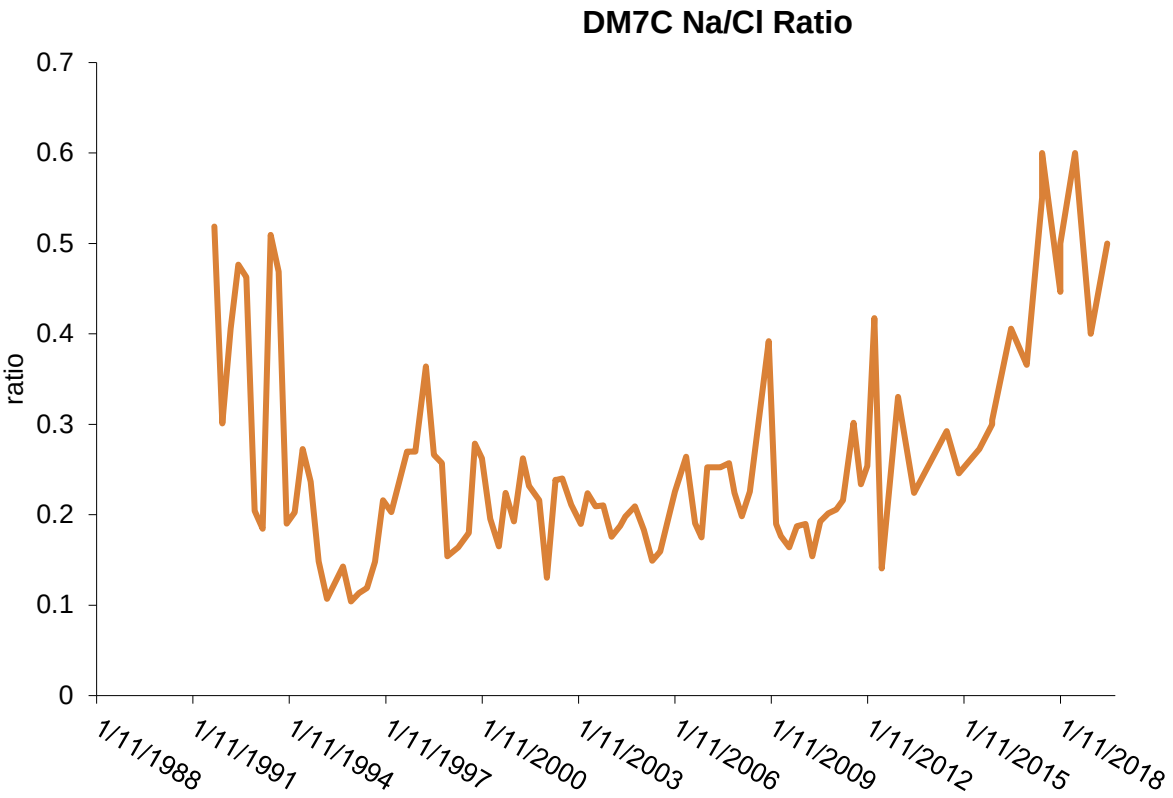


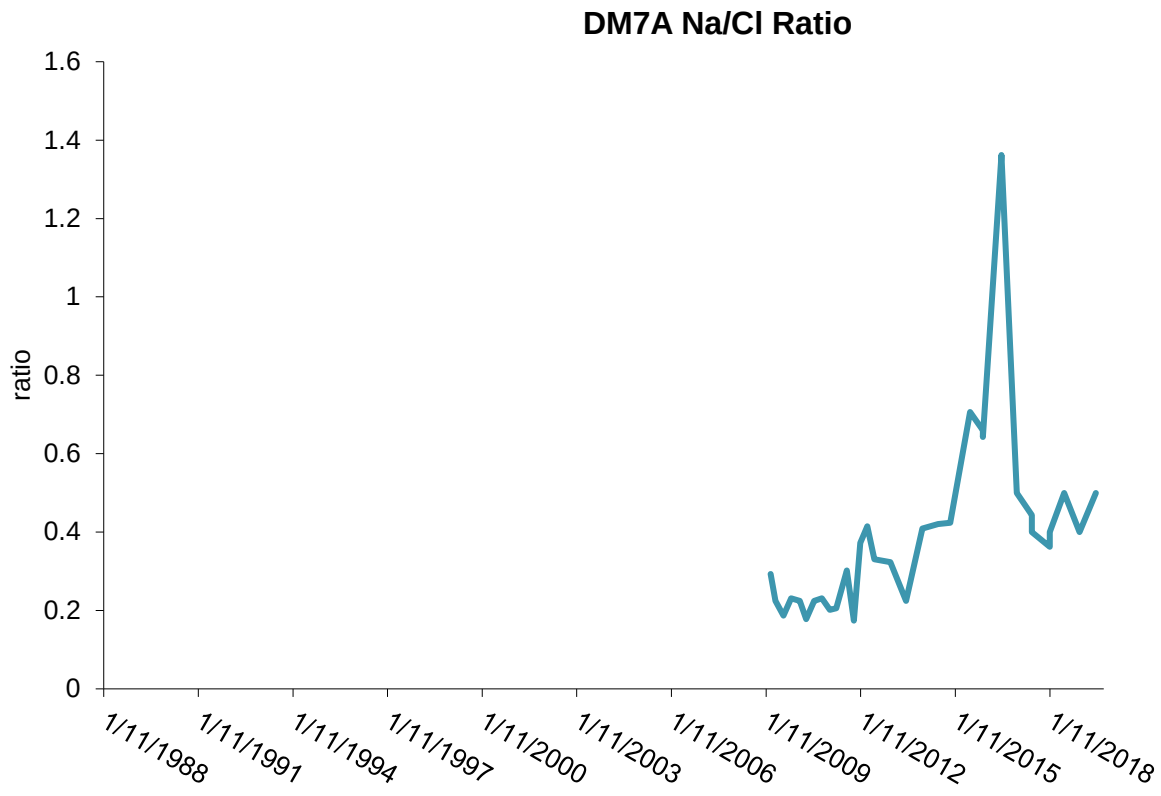
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



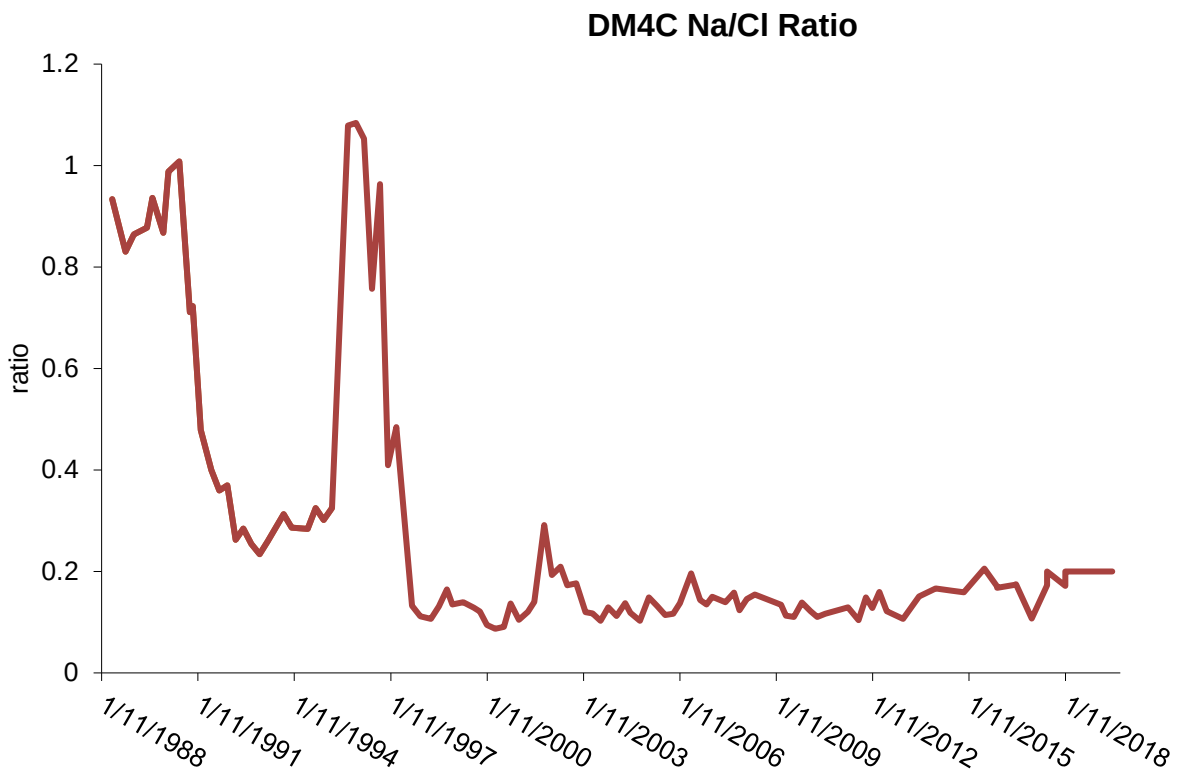


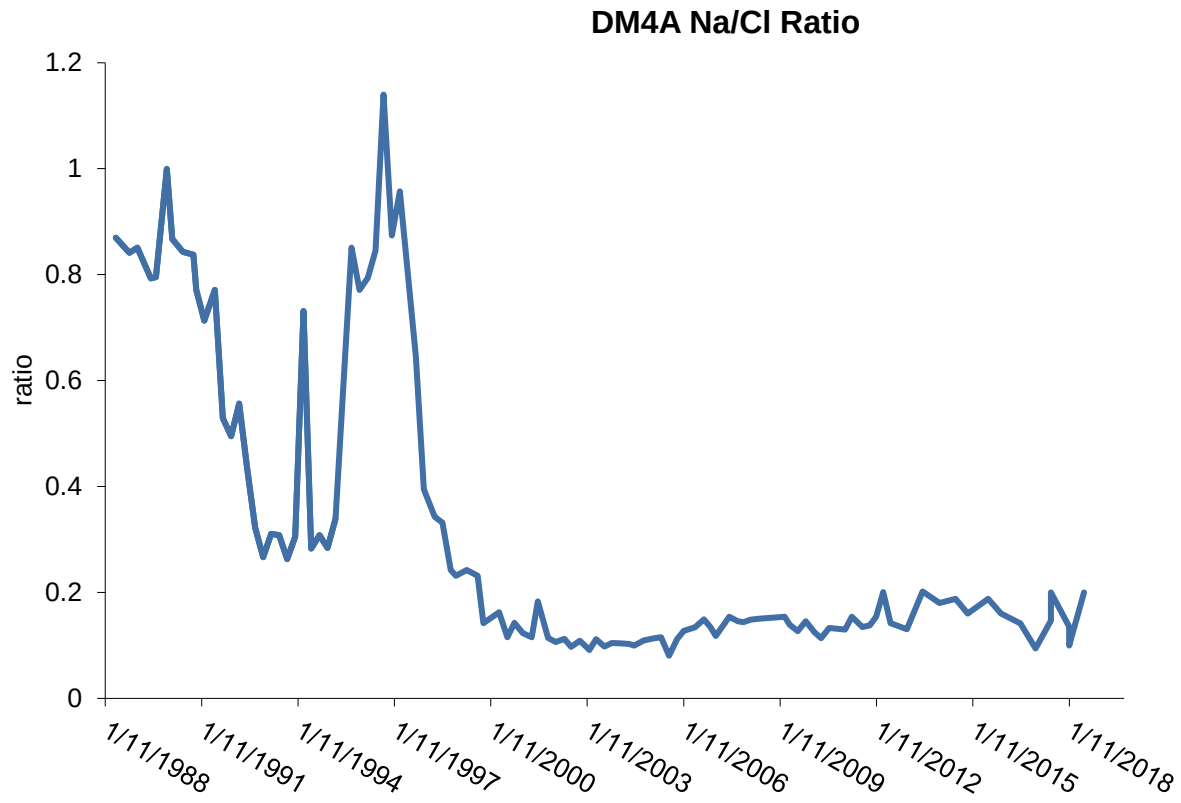
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



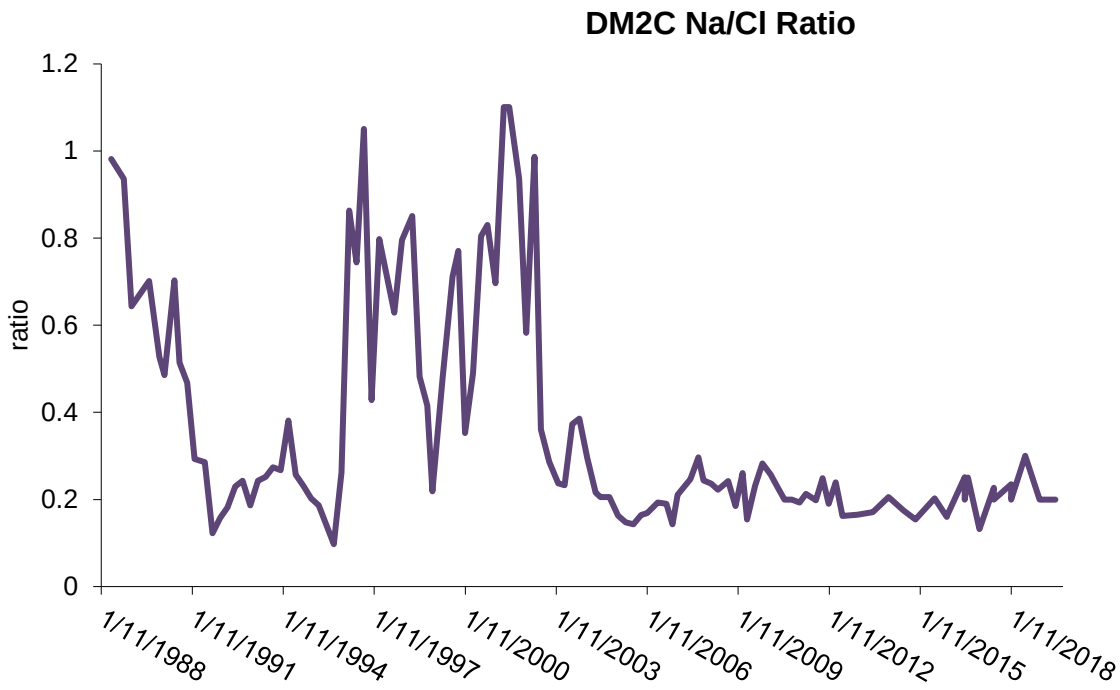


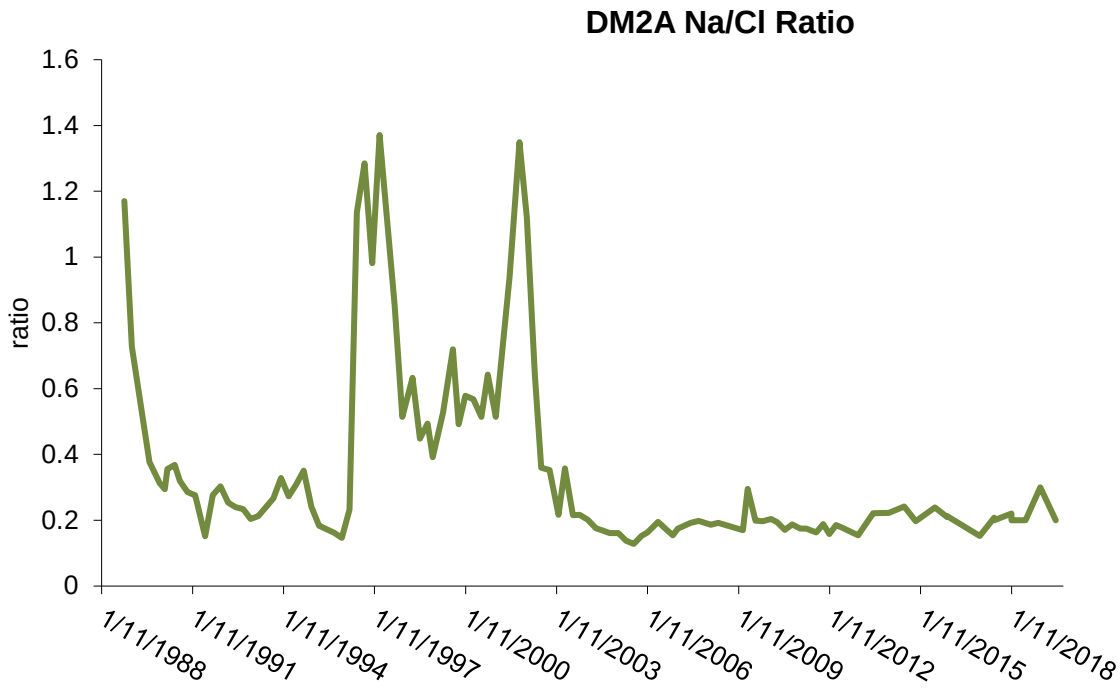
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



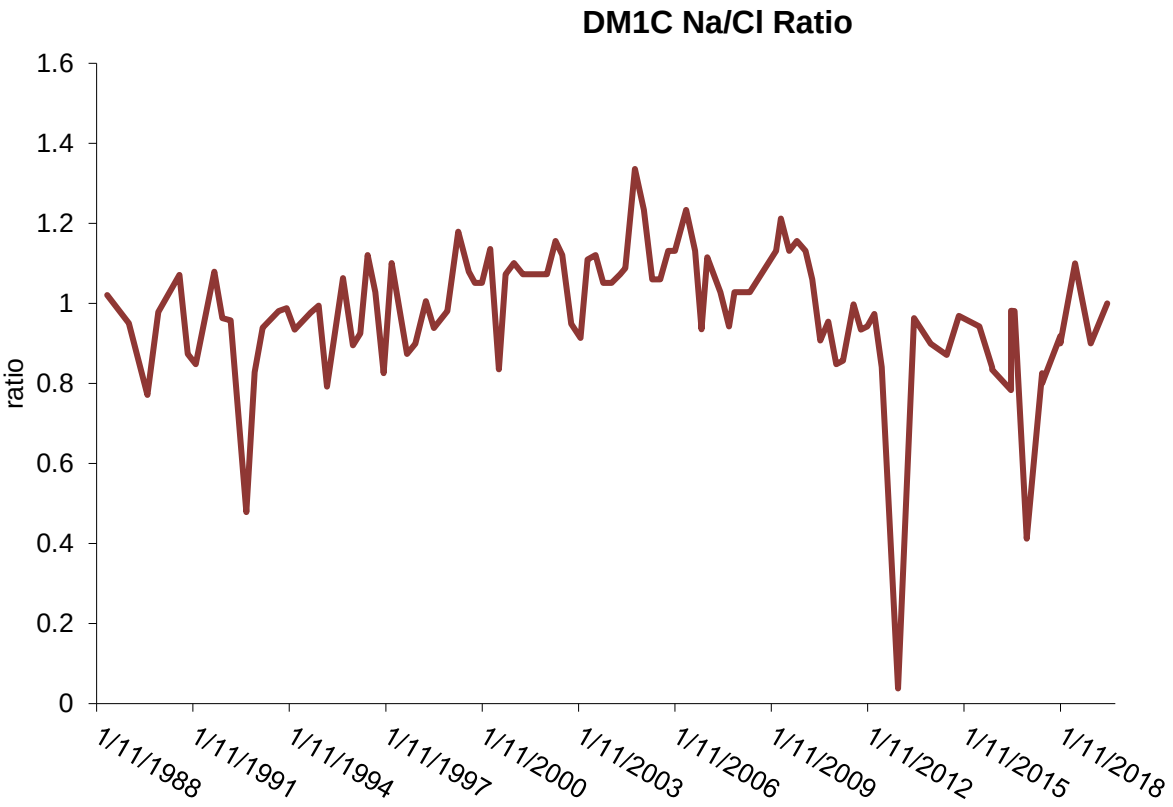


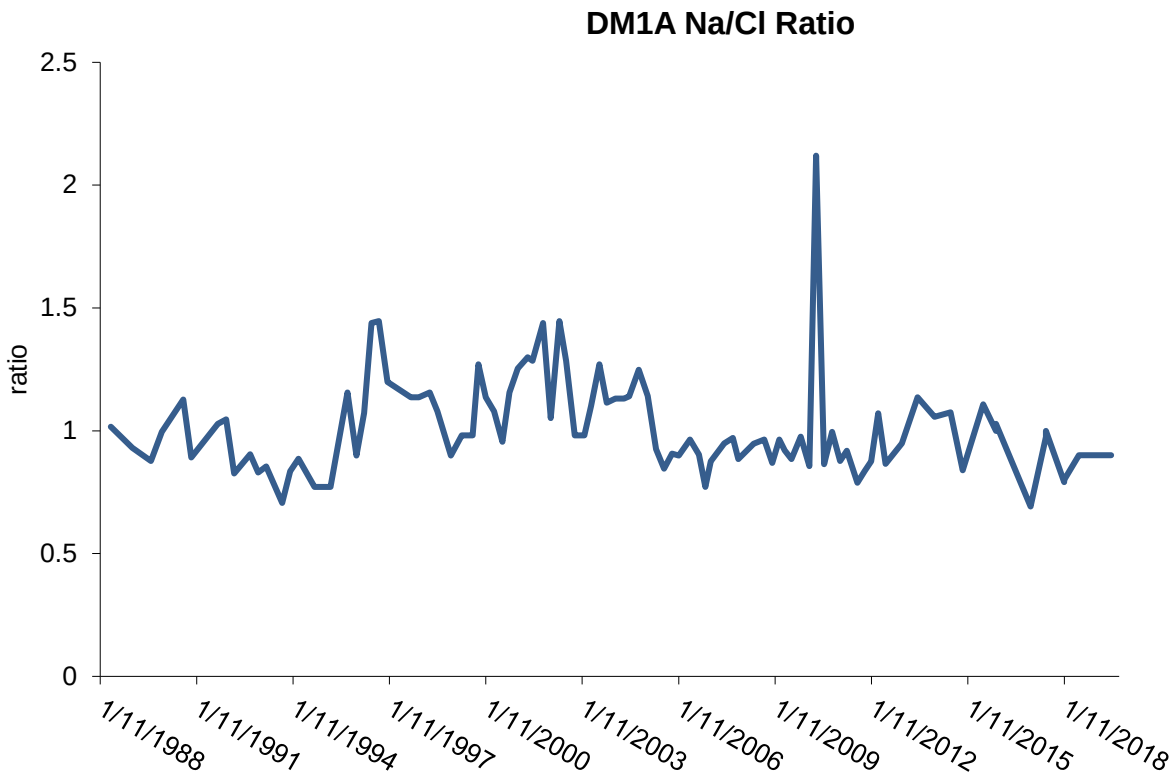
Figure

Dalyellup Monitoring

Date:	**Drawn:**
Scale:	**Chk'd:**
Original:	**Rev:**
File Reference:	

TRONOX



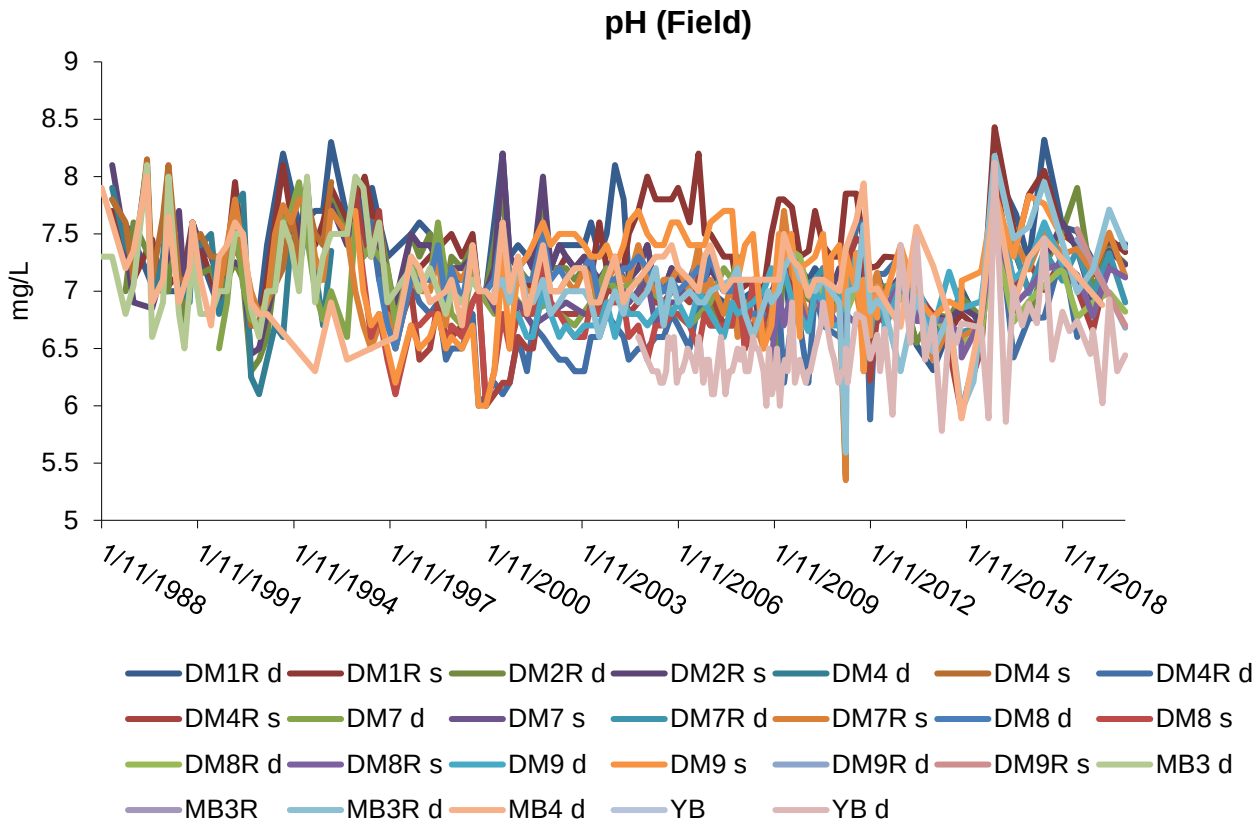


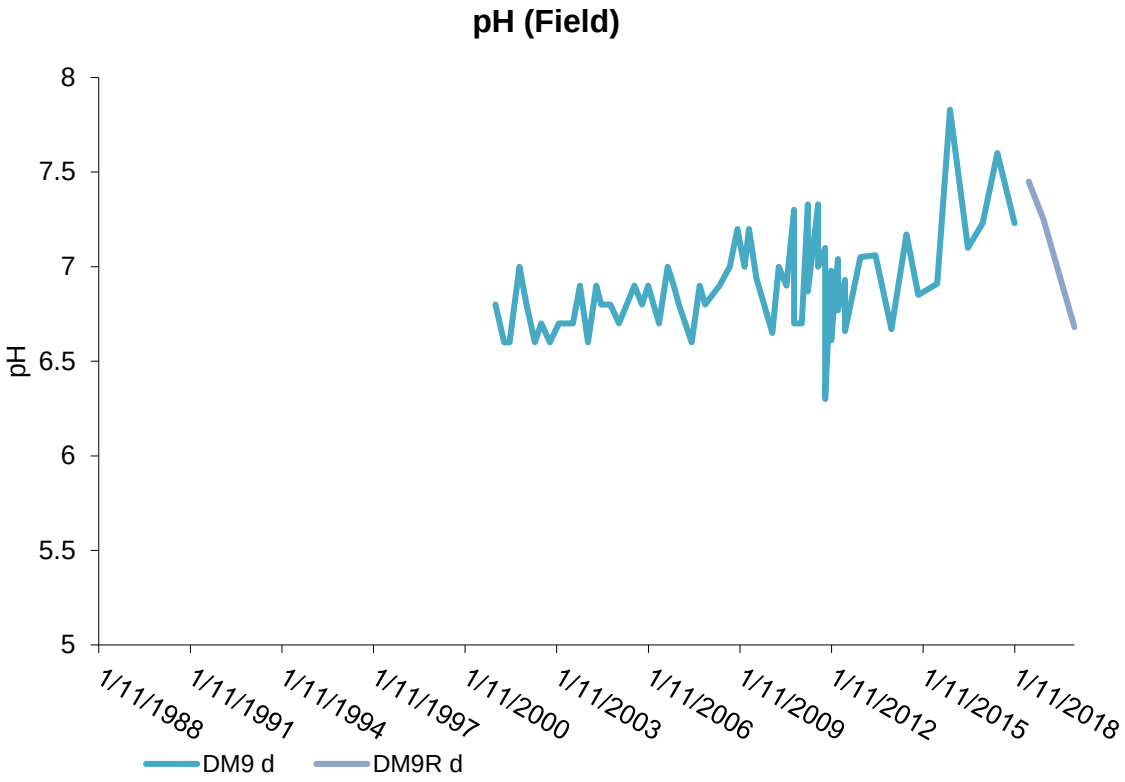
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



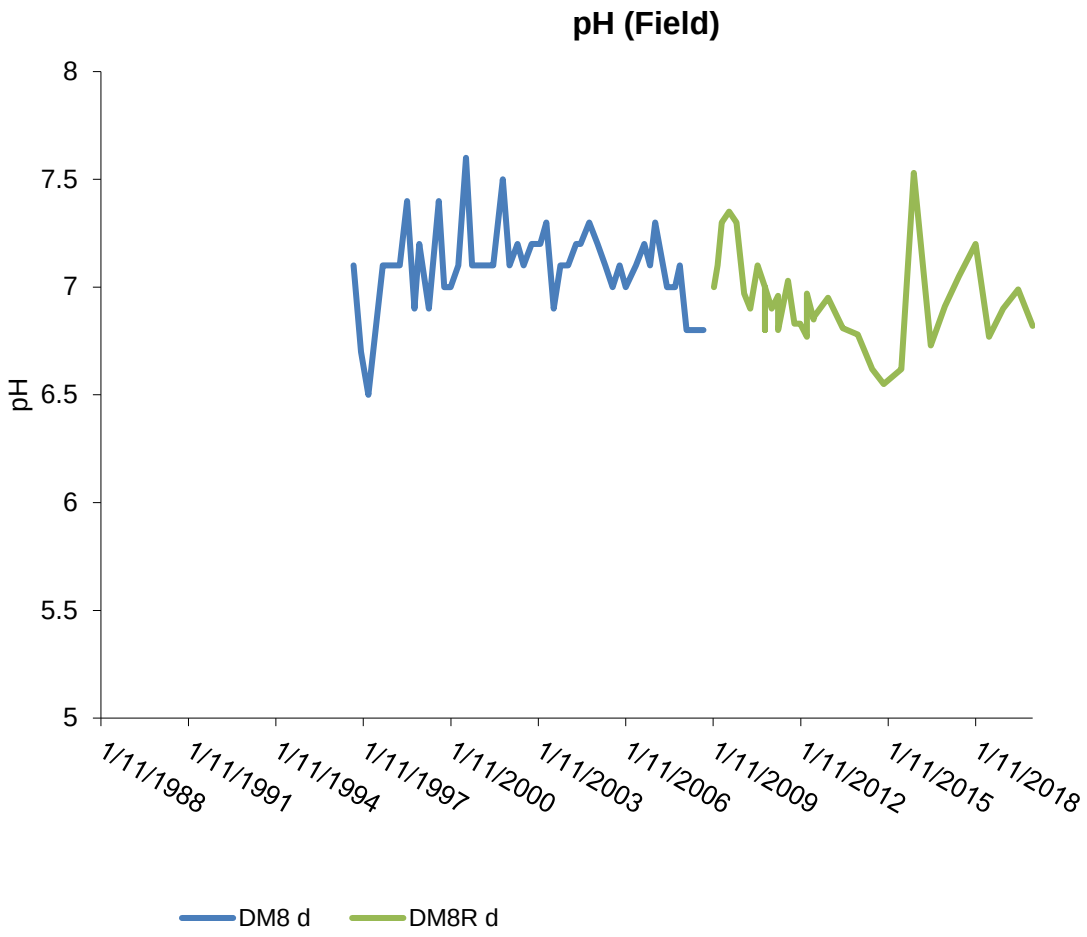


Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX

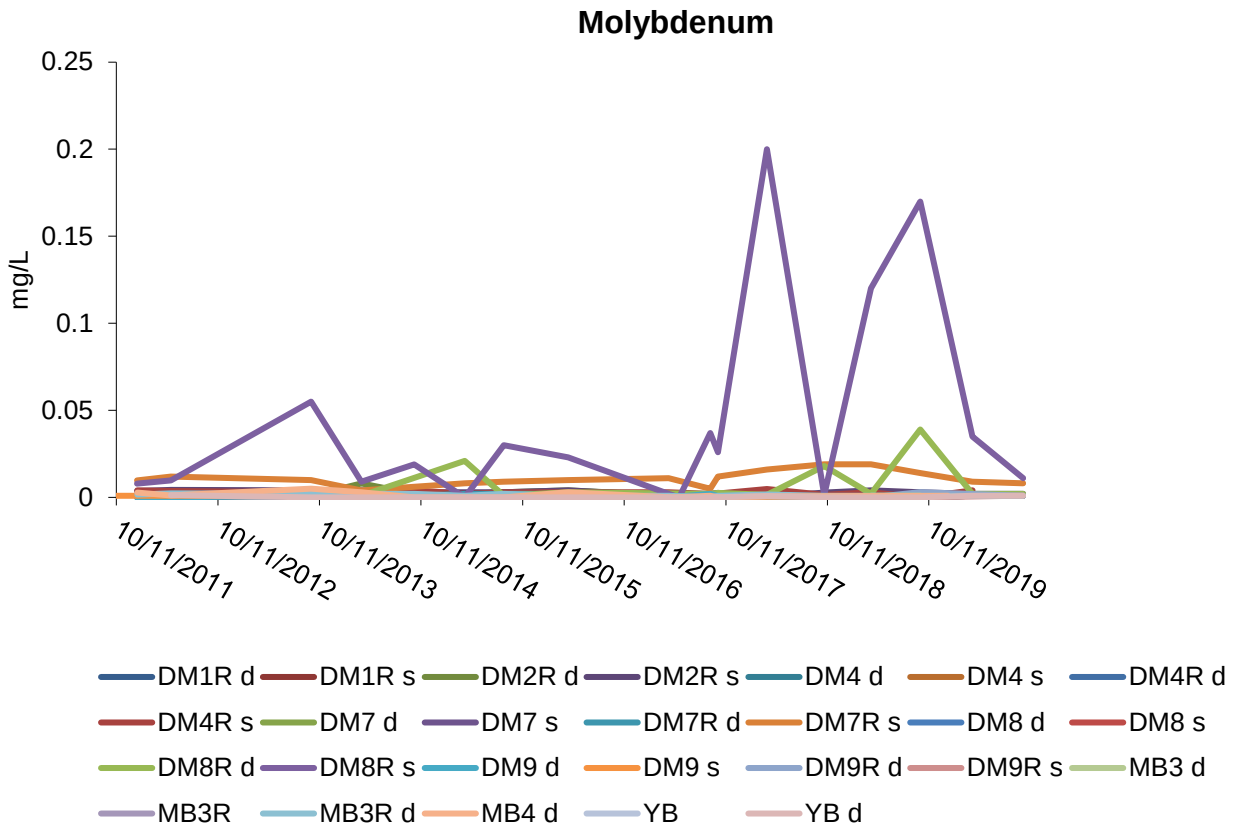


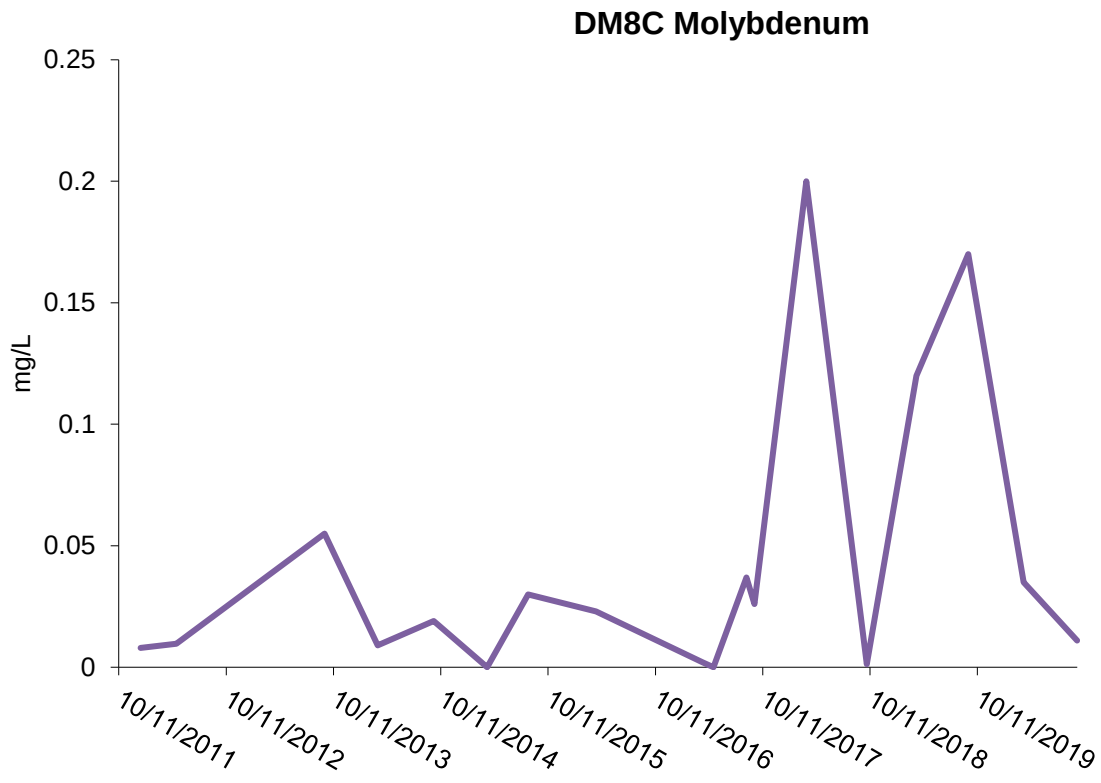
Figure

Dalyellup Monitoring

Date:	**Drawn:**
Scale:	**Chk'd:**
Original:	**Rev:**
File Reference:	

TRONOX



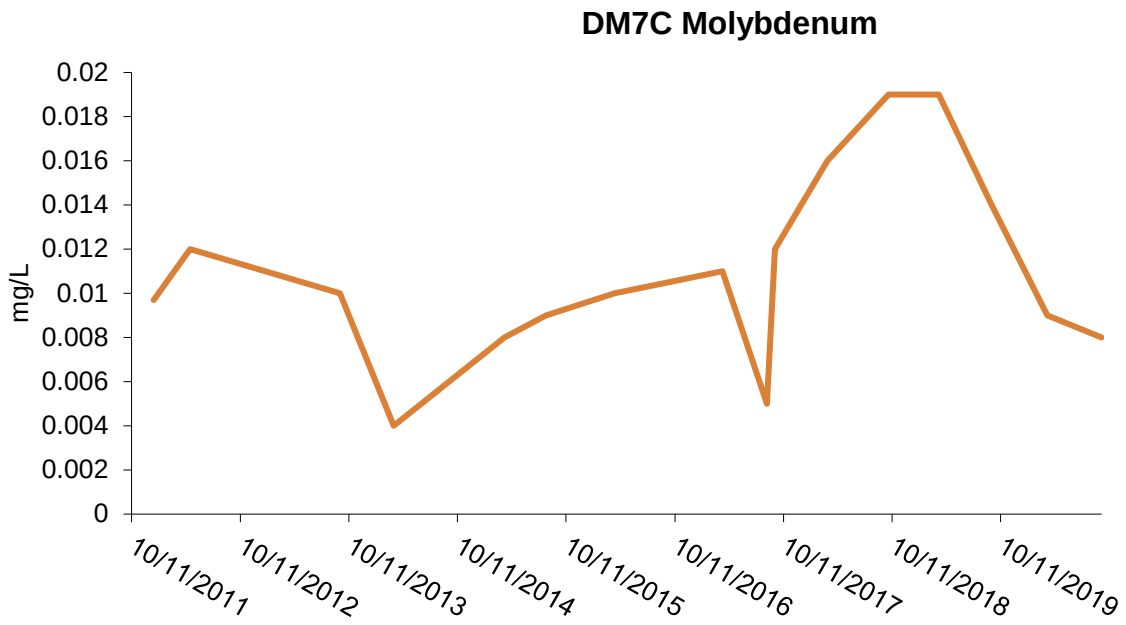


Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX

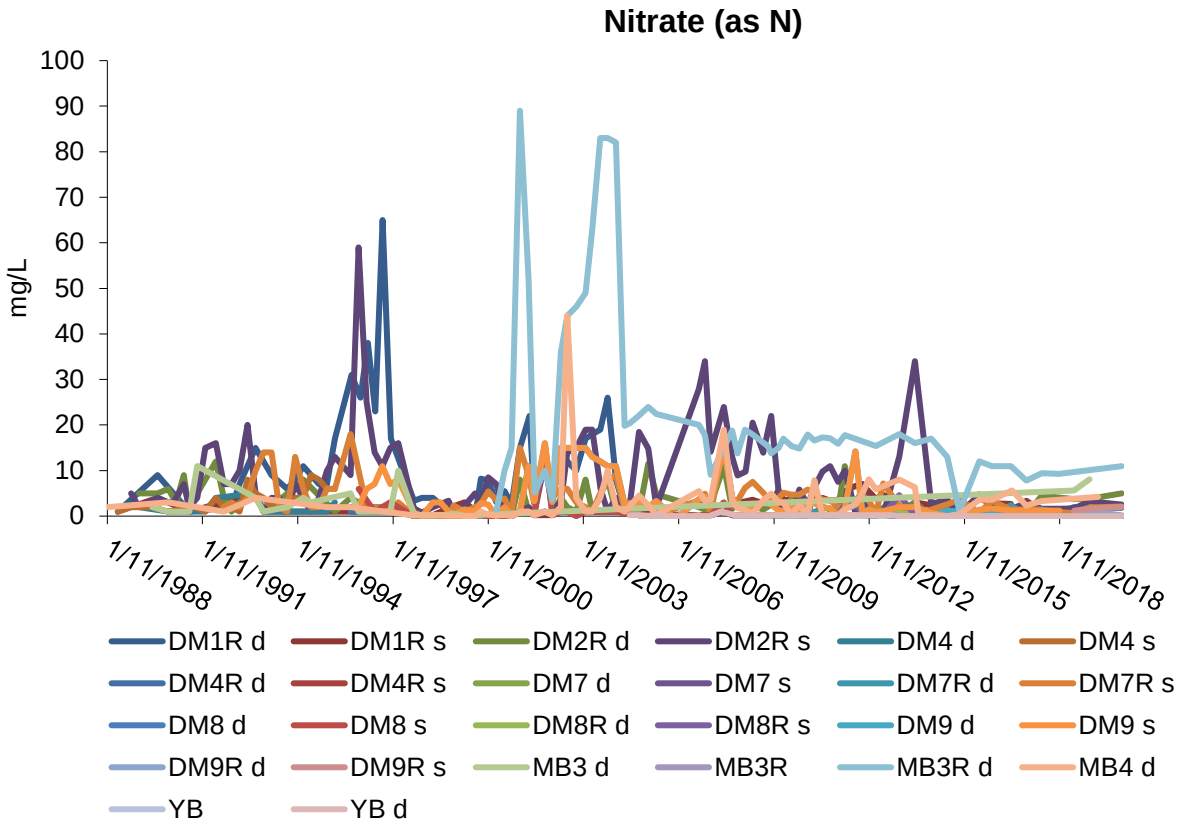


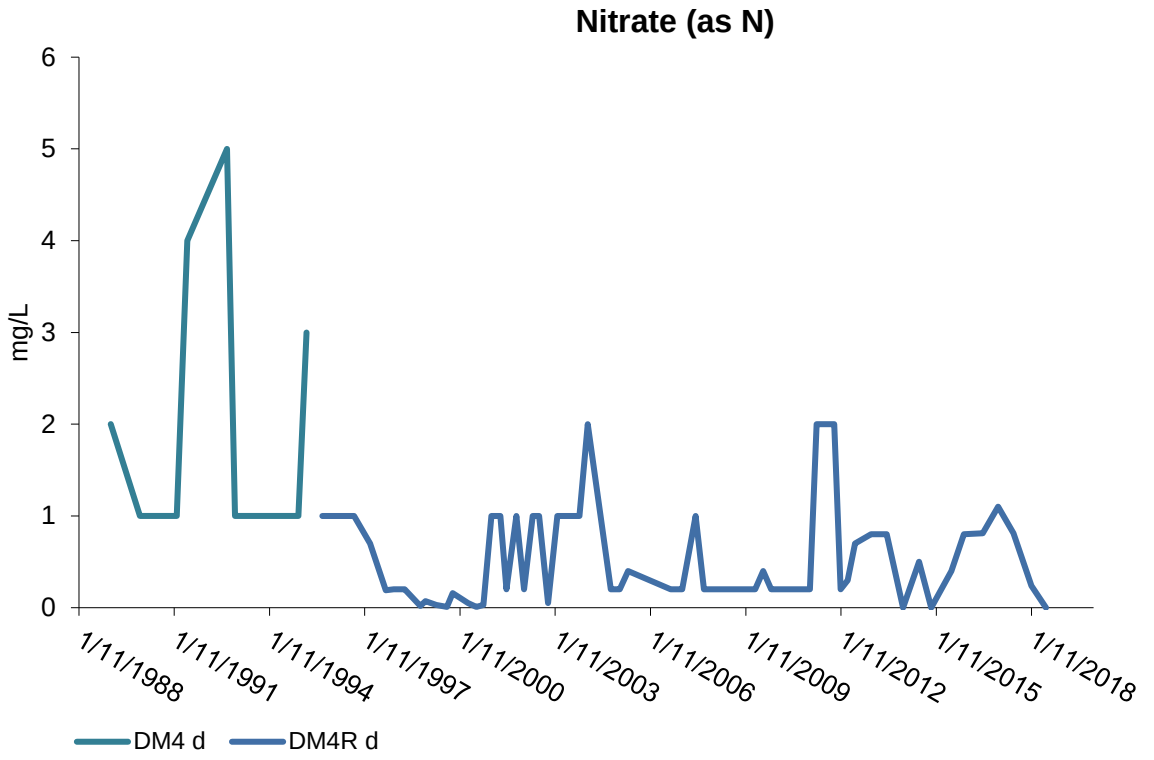
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



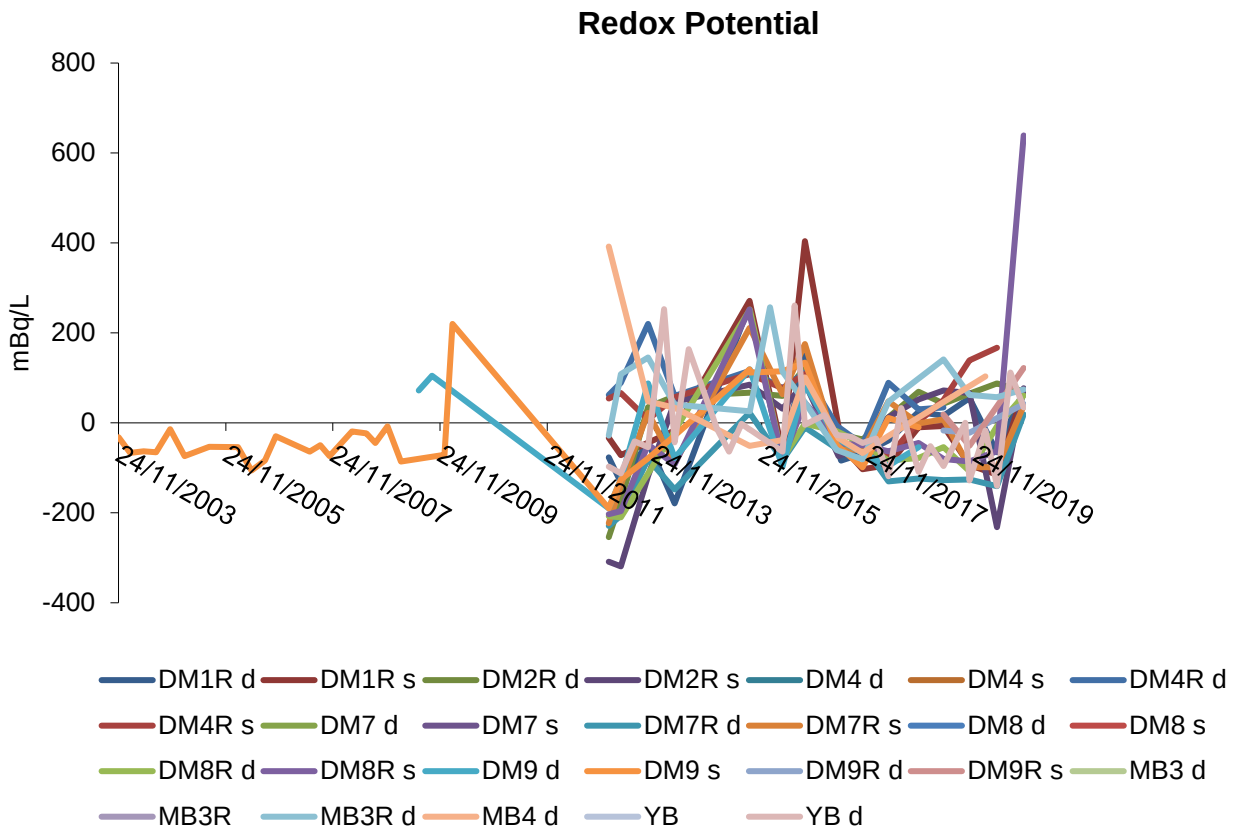


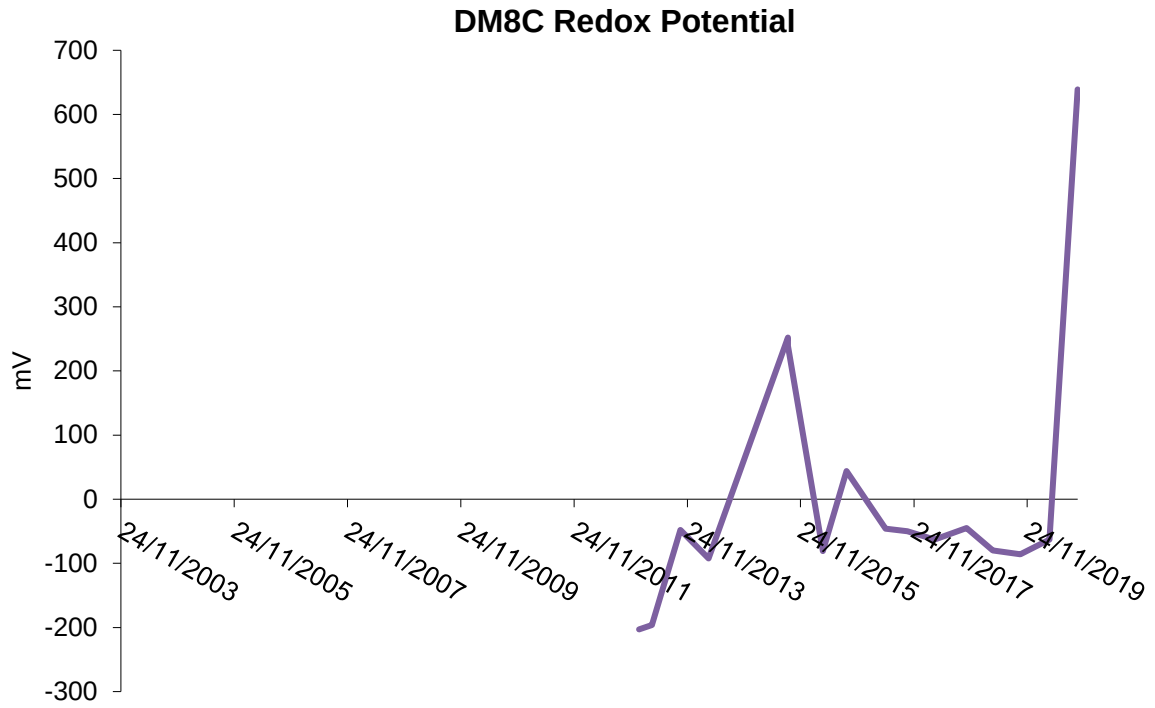
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



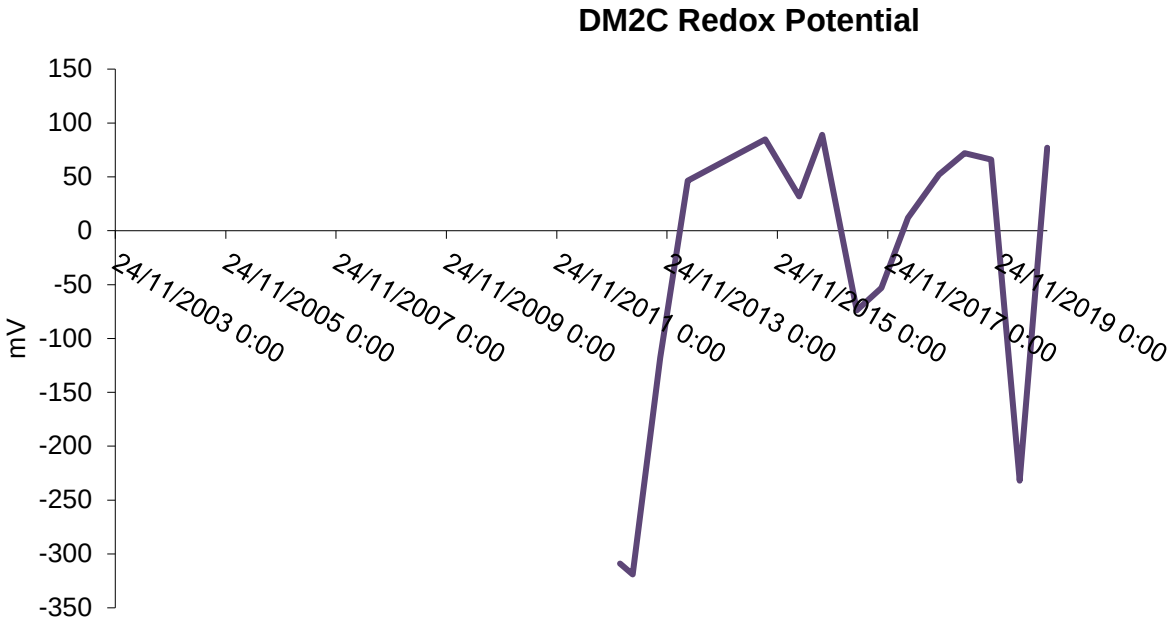


Figure

Dalyellup Monitoring

Date:	**Drawn:**
Scale:	**Chk'd:**
Original:	**Rev:**
File Reference:	

TRONOX

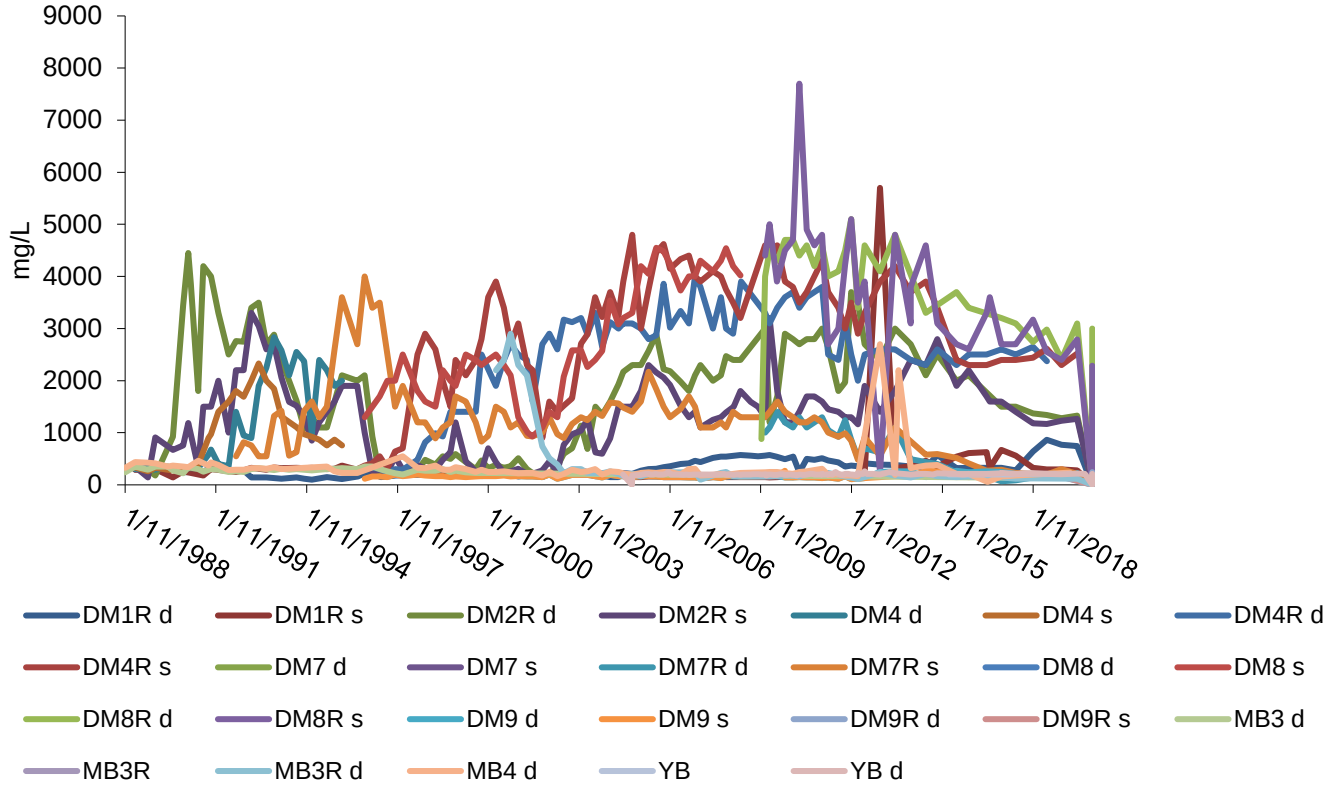


Figure

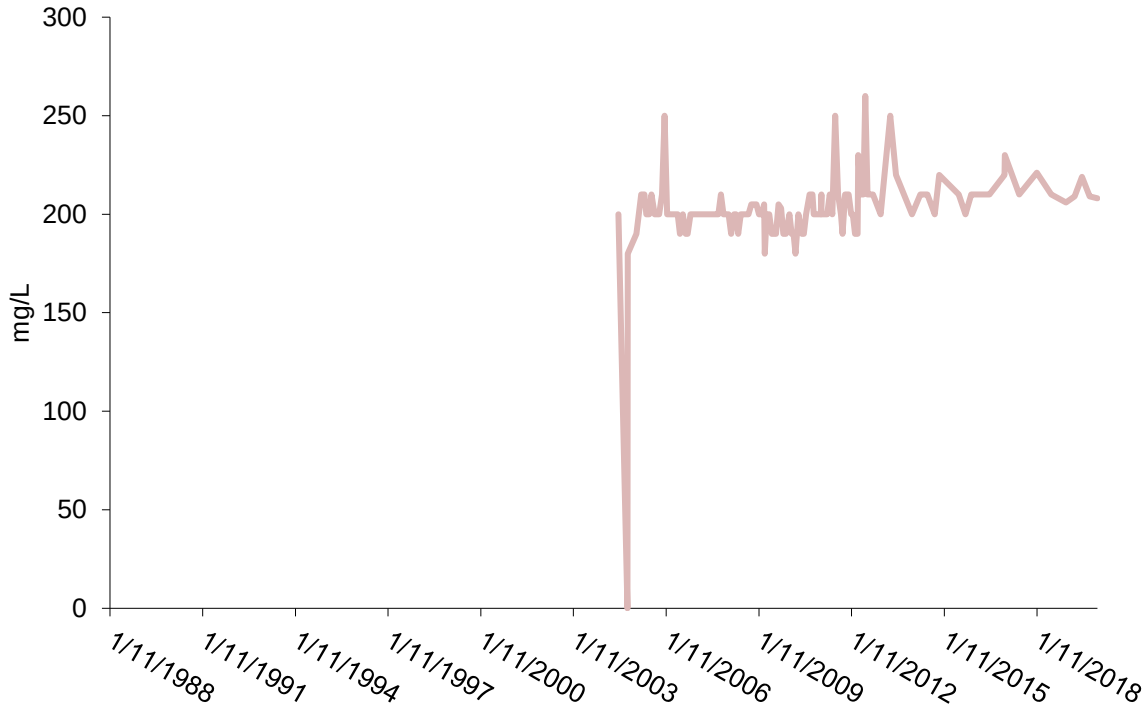
Dalyellup Monitoring

Date:	Drawn:	TRONOX	
Scale:	Chk'd:		
Original:	Rev:		
File Reference:			

Chloride



YB Chloride

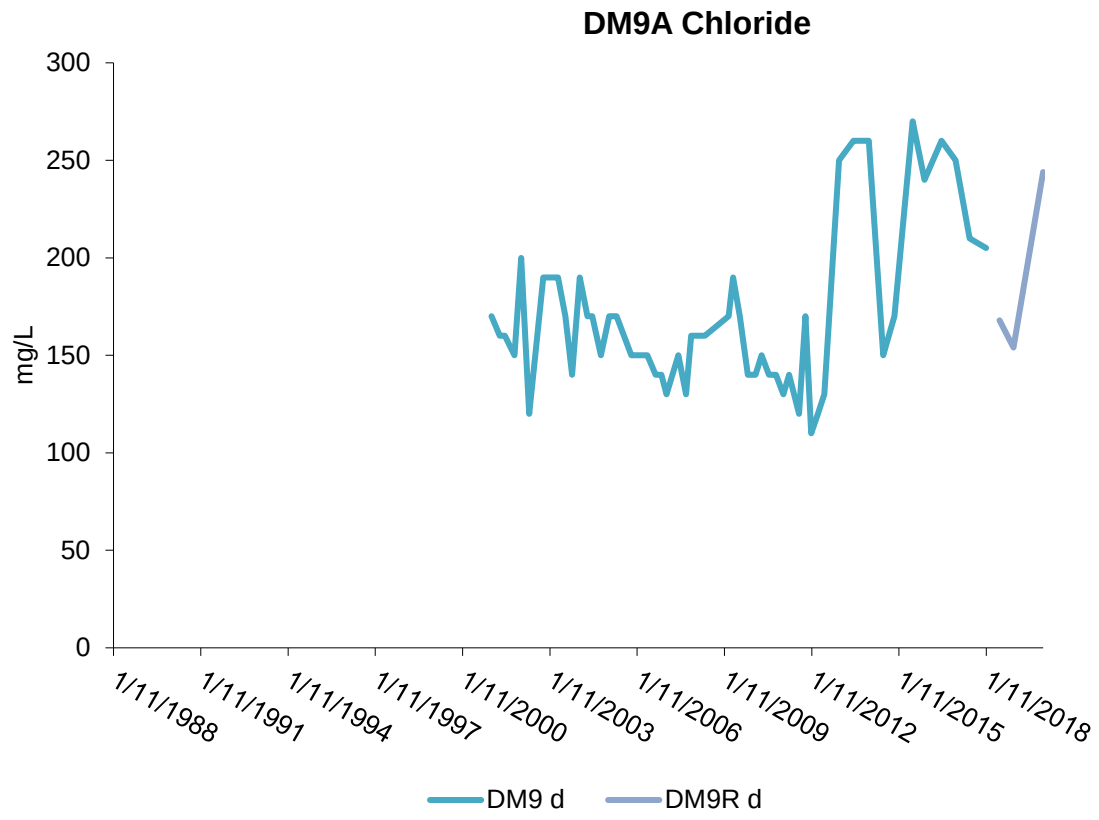


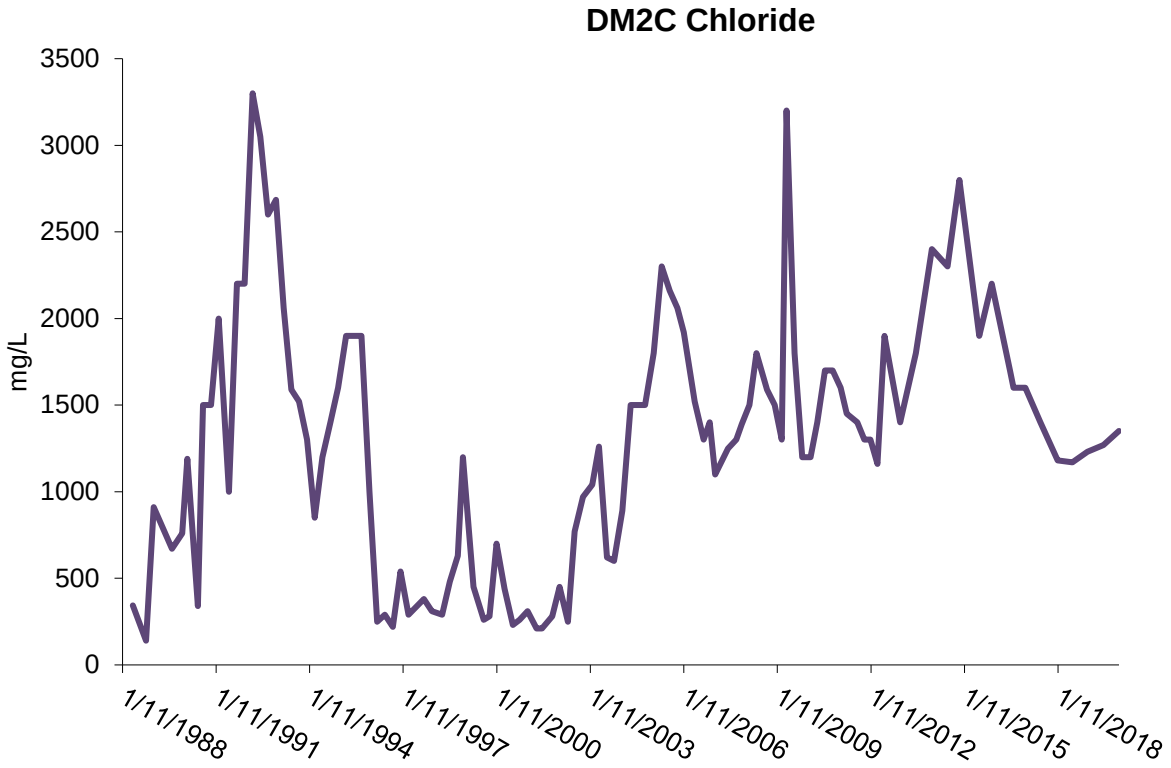
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



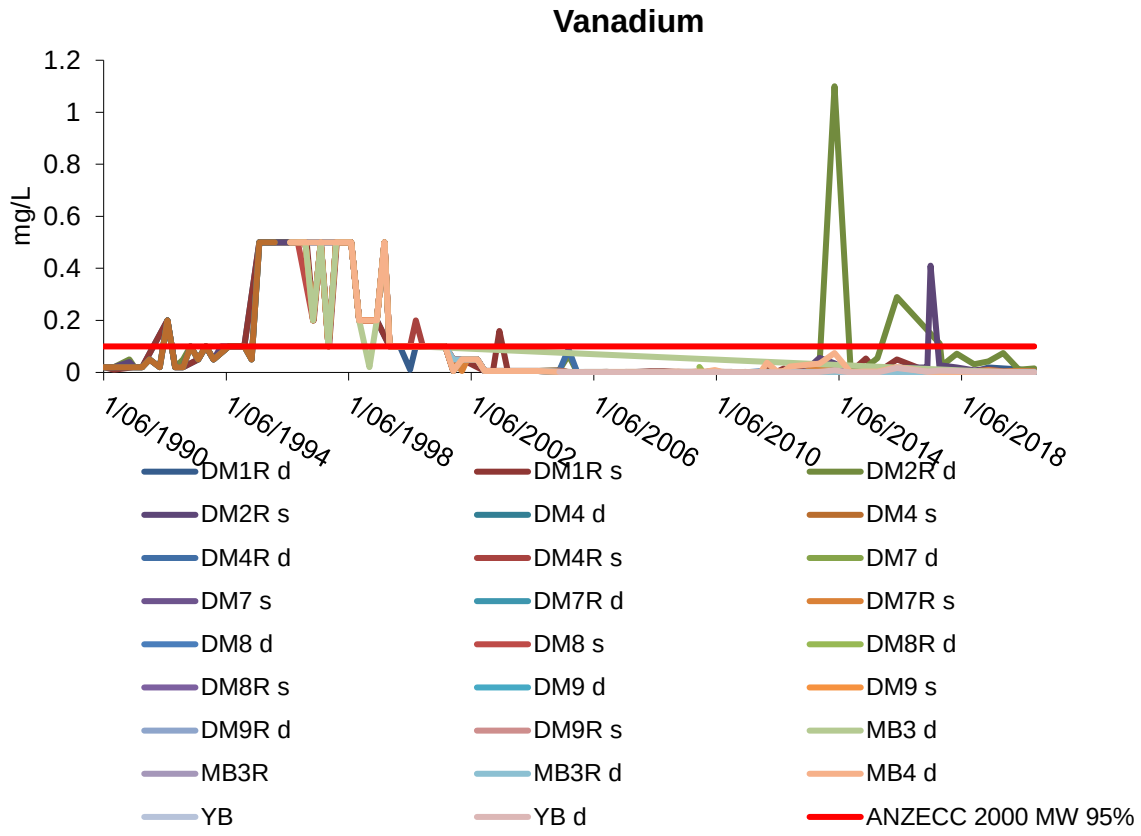


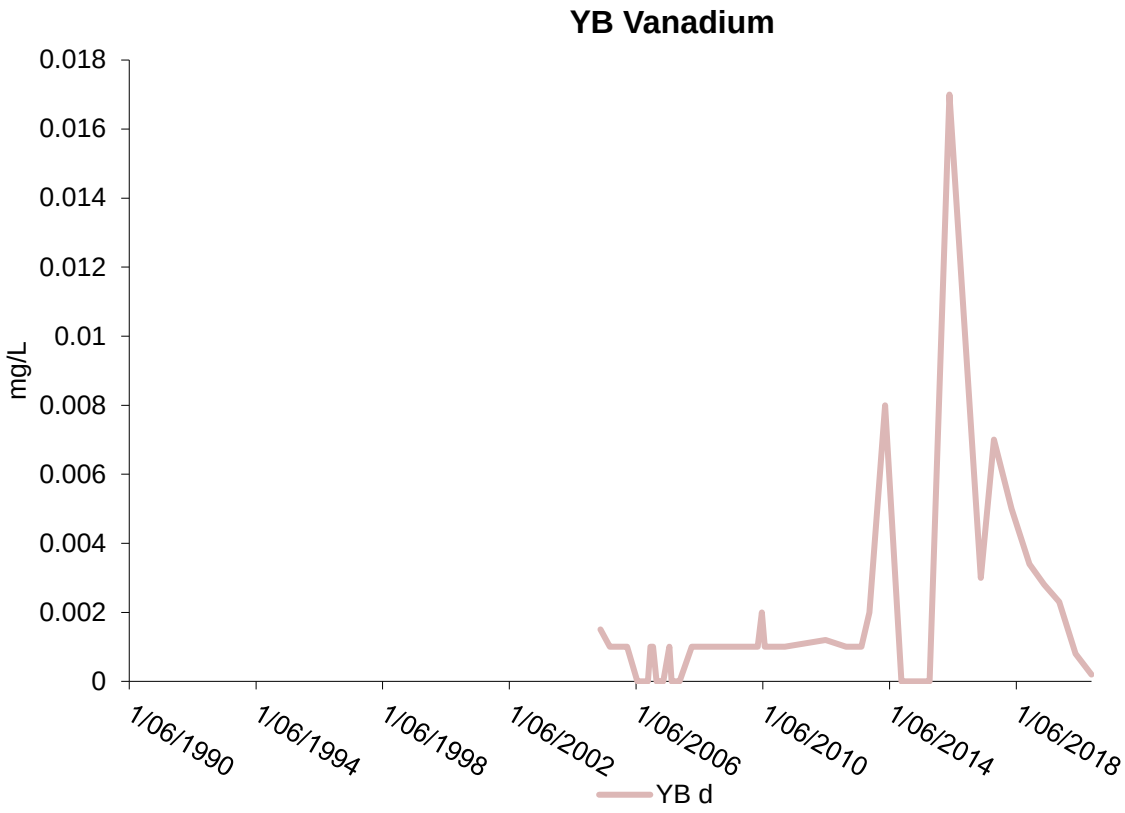
Figure

Dalyellup Monitoring

Date:	**Drawn:**
Scale:	**Chk'd:**
Original:	**Rev:**
File Reference:	

TRONOX



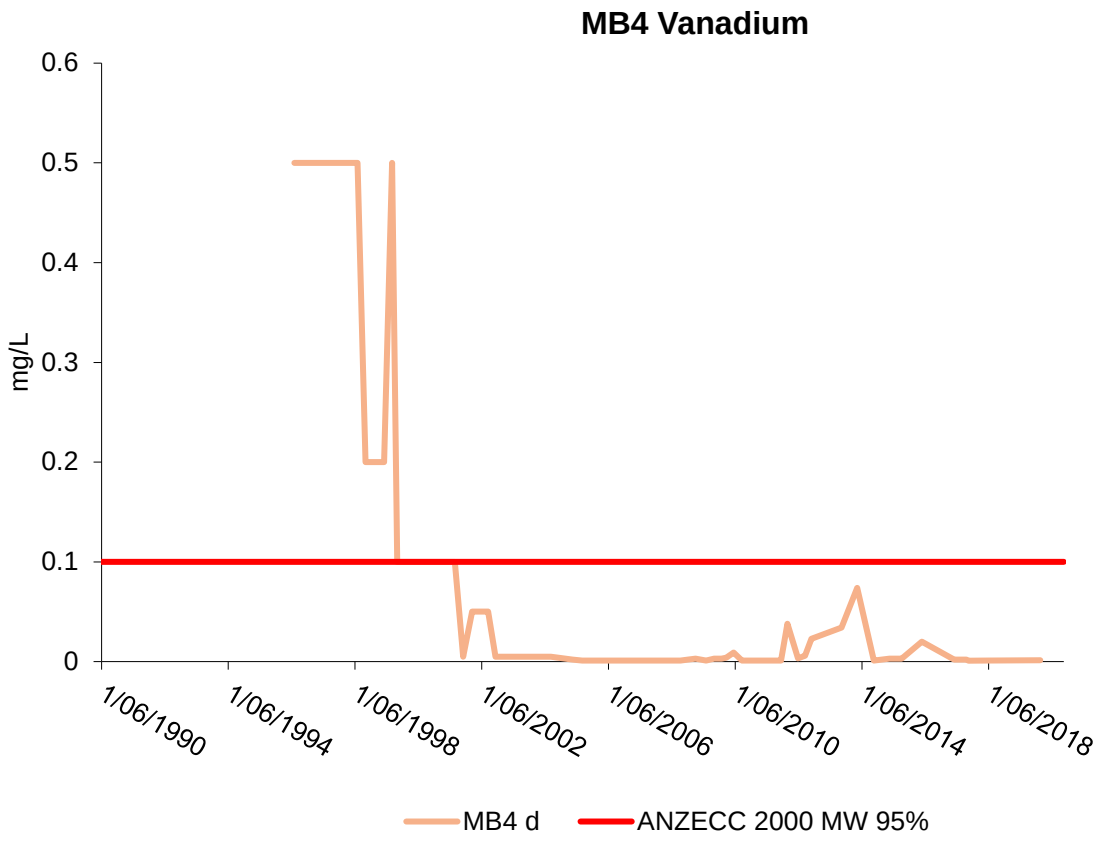


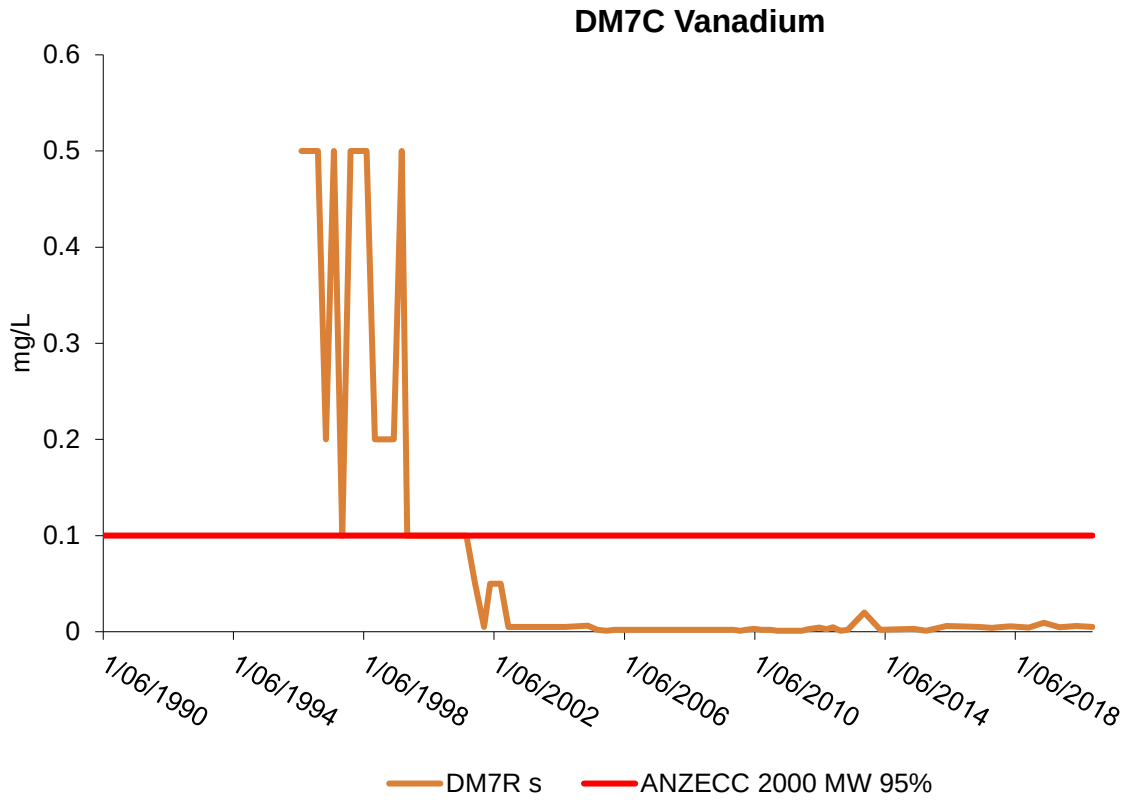
Figure

Dalyellup Monitoring

Date:	**Drawn:**
Scale:	**Chk'd:**
Original:	**Rev:**
File Reference:	

TRONOX



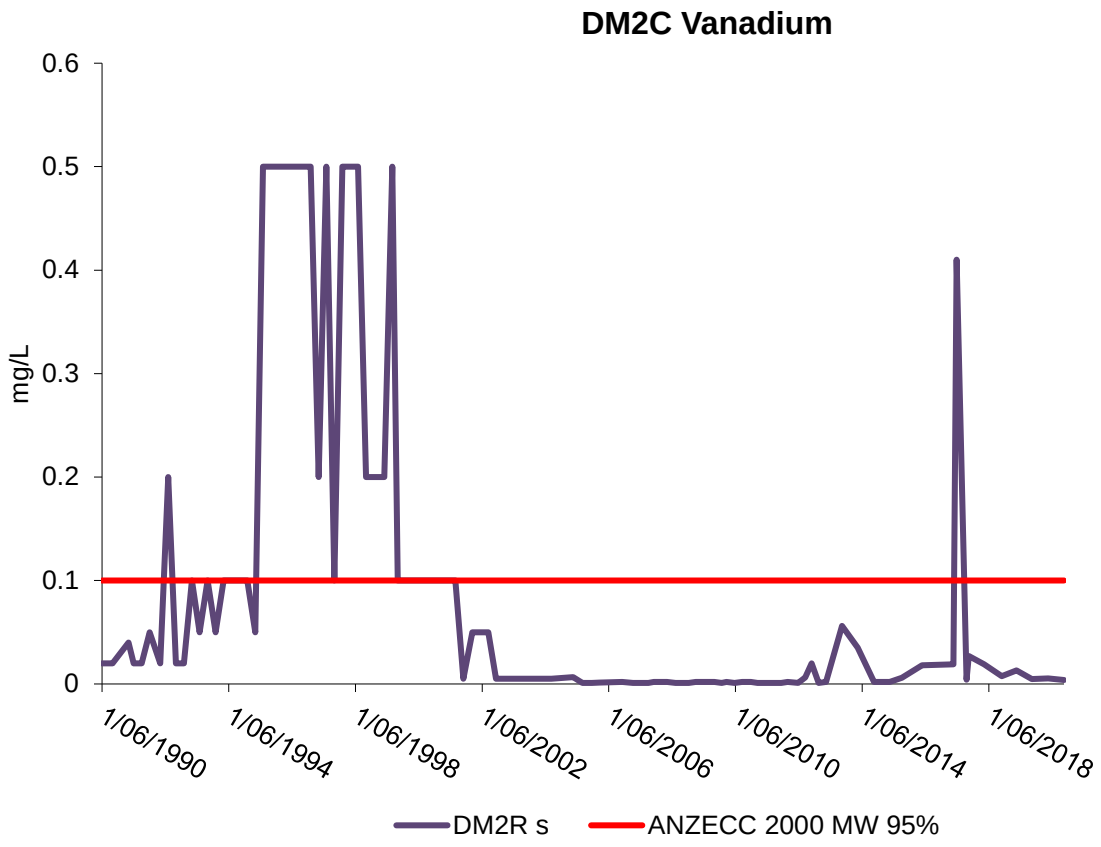


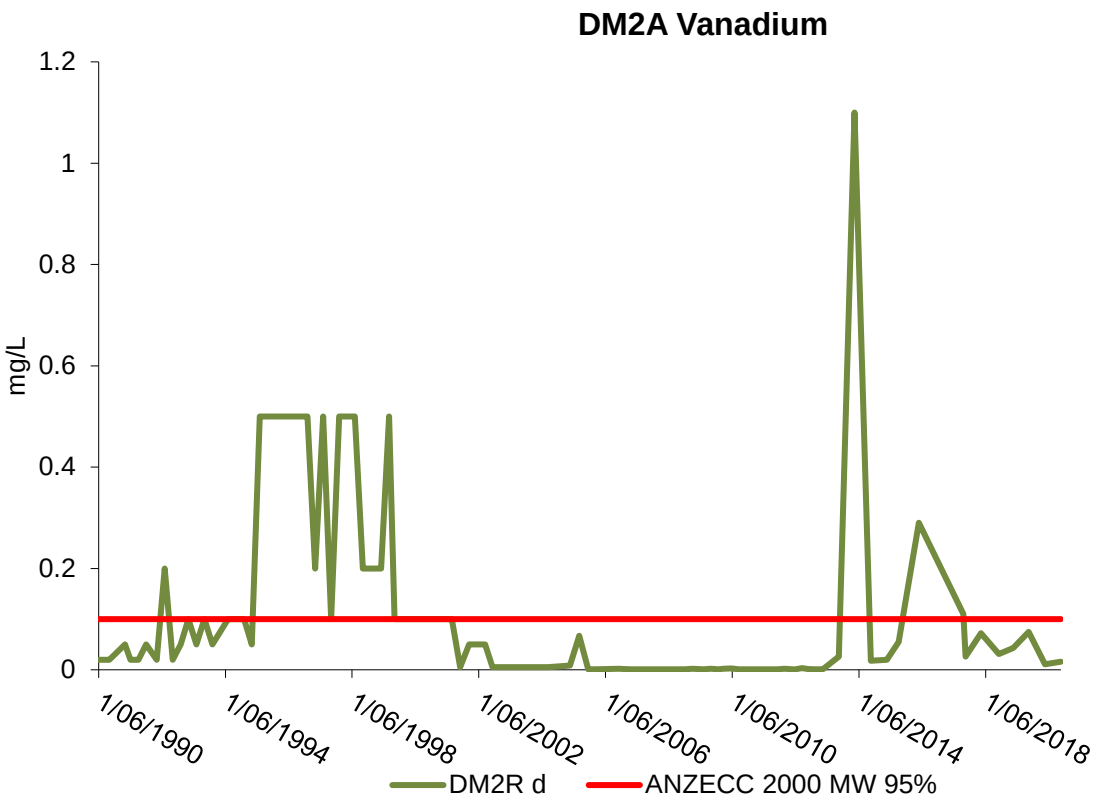
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



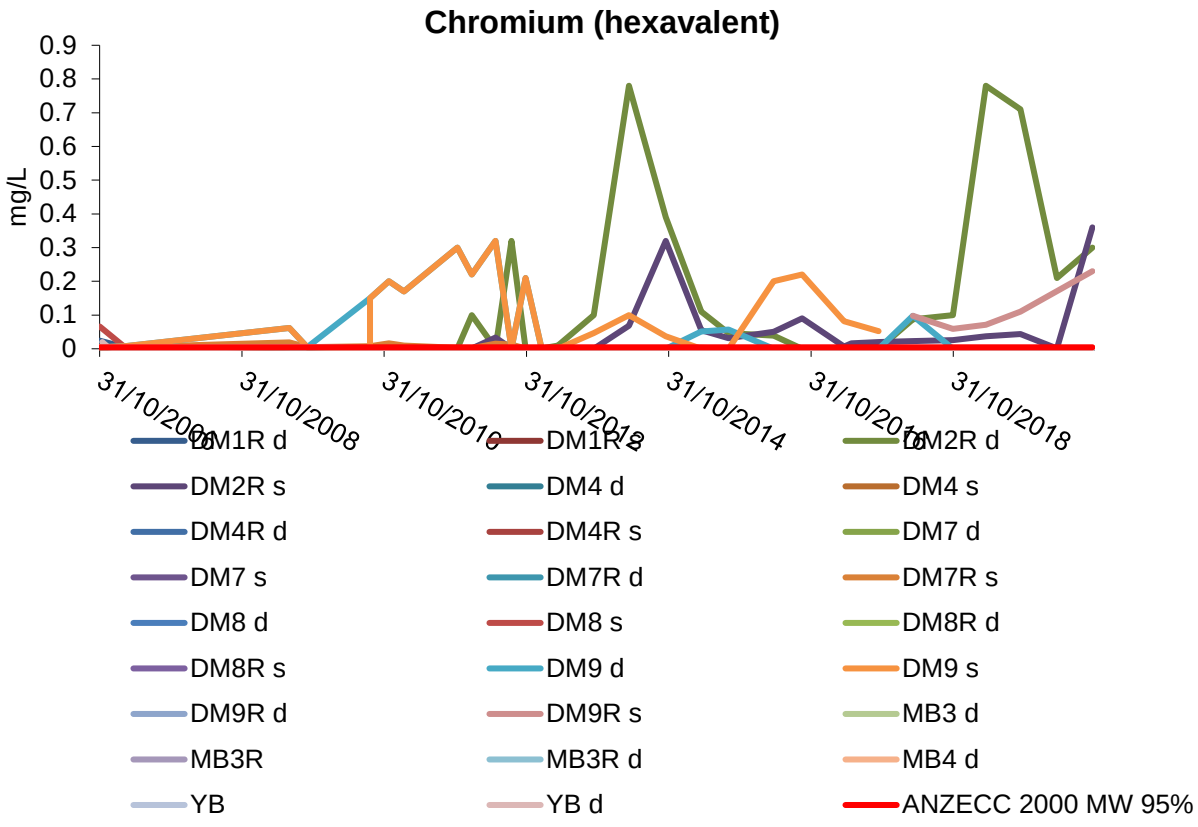


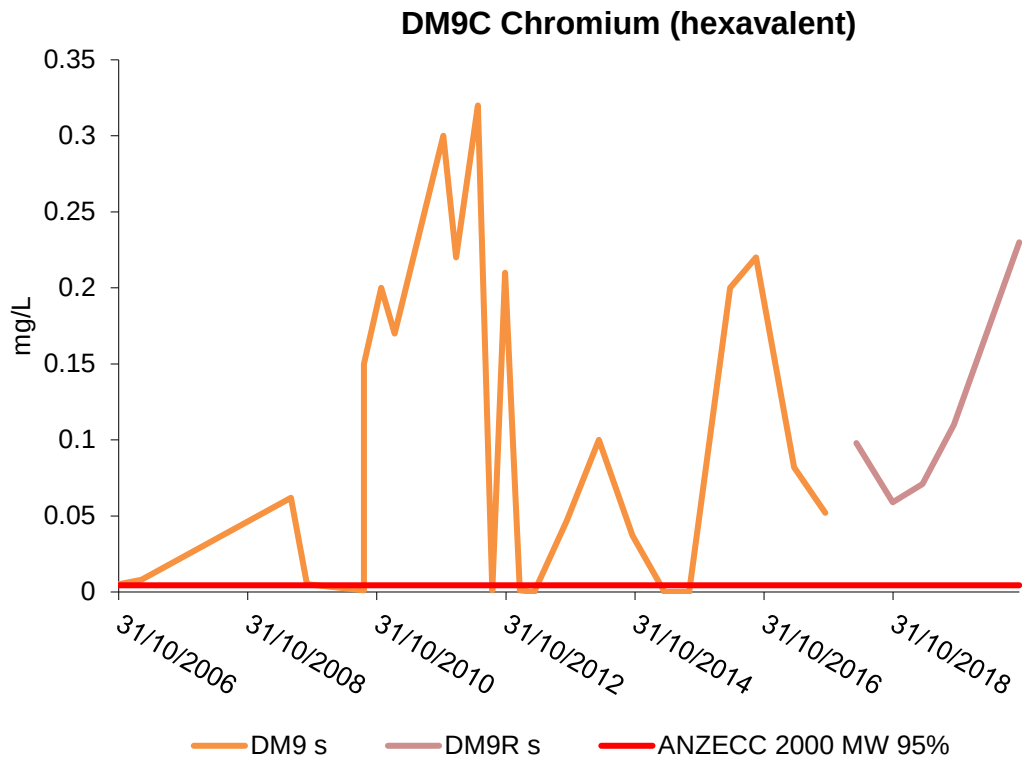
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



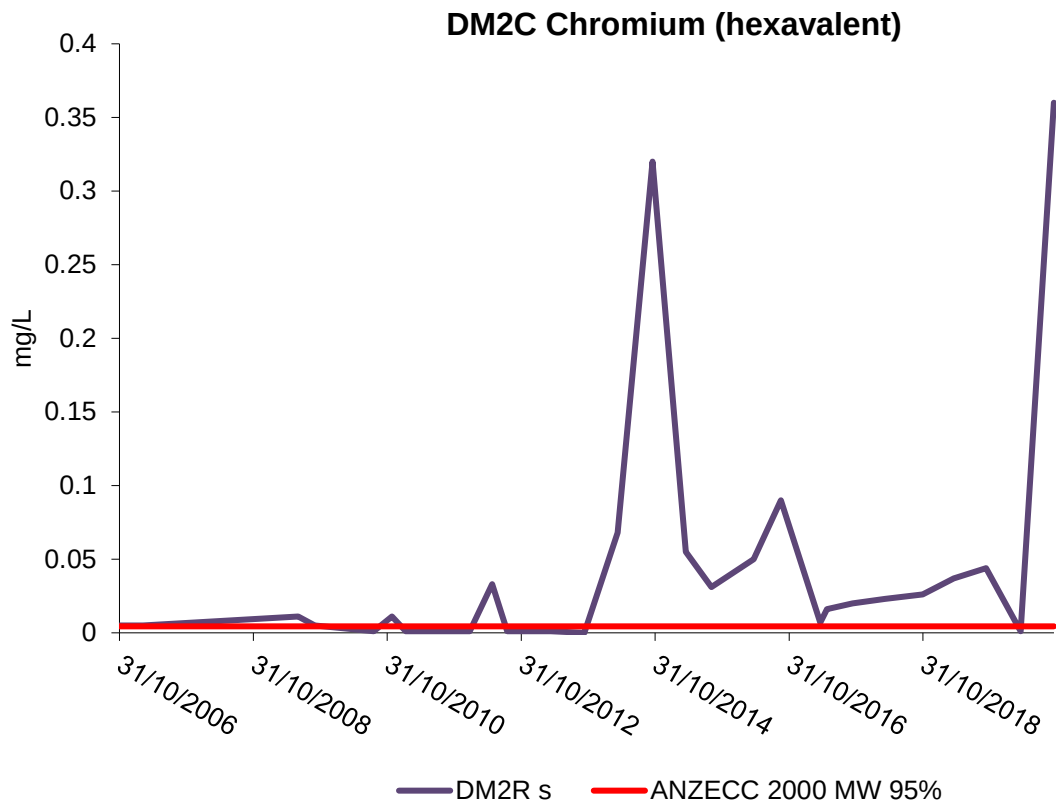


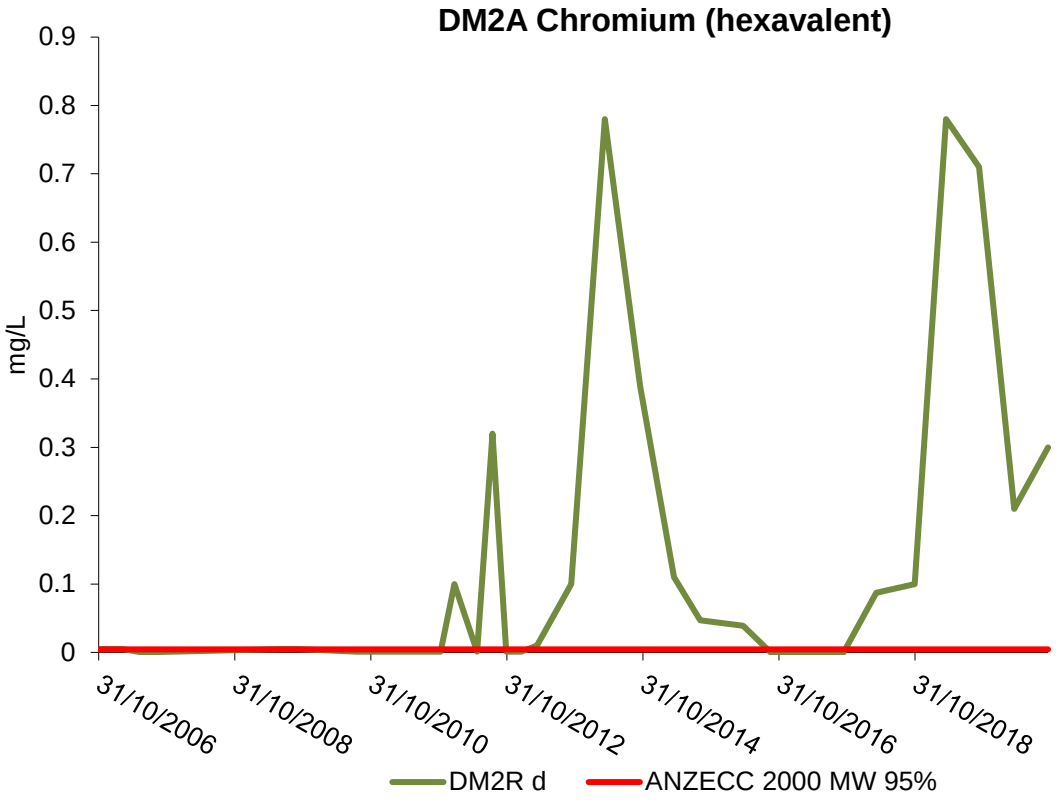
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



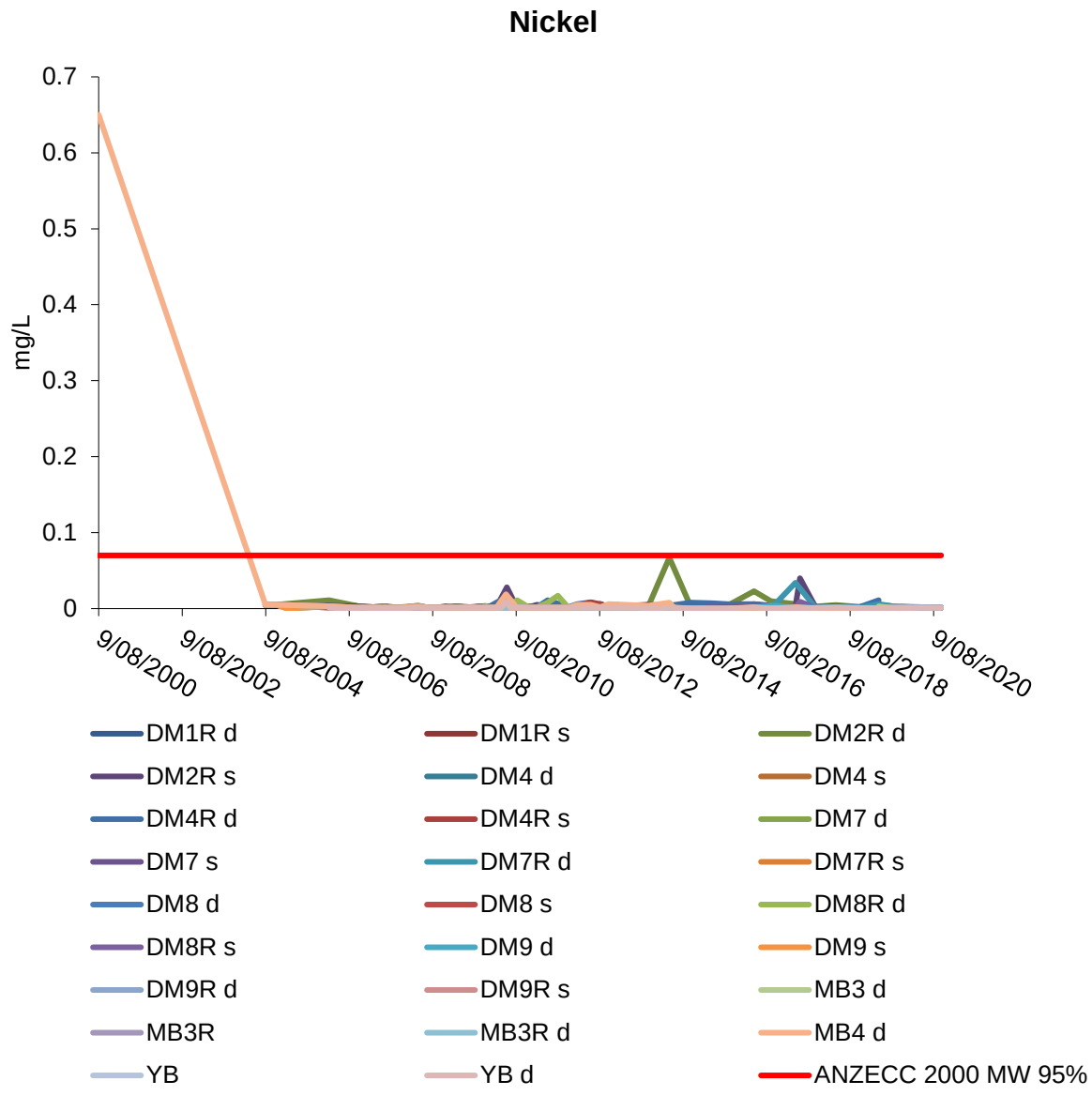


Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX

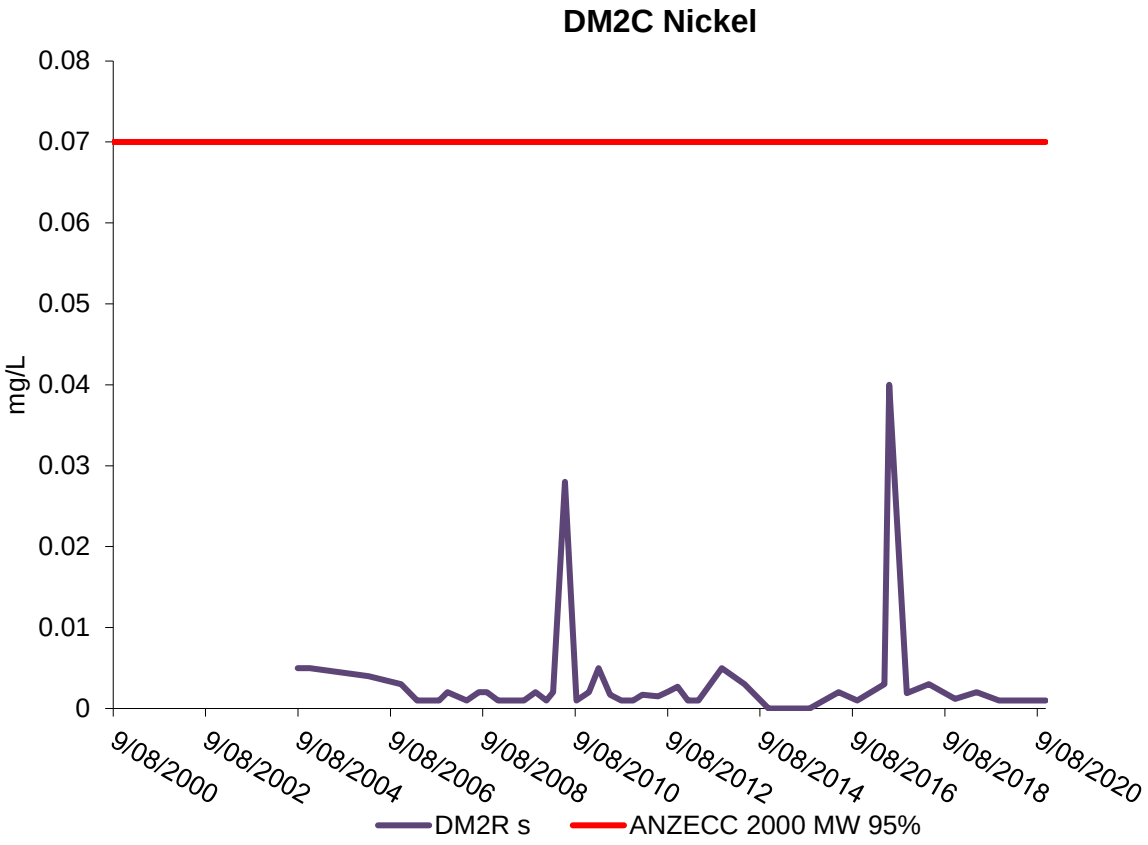


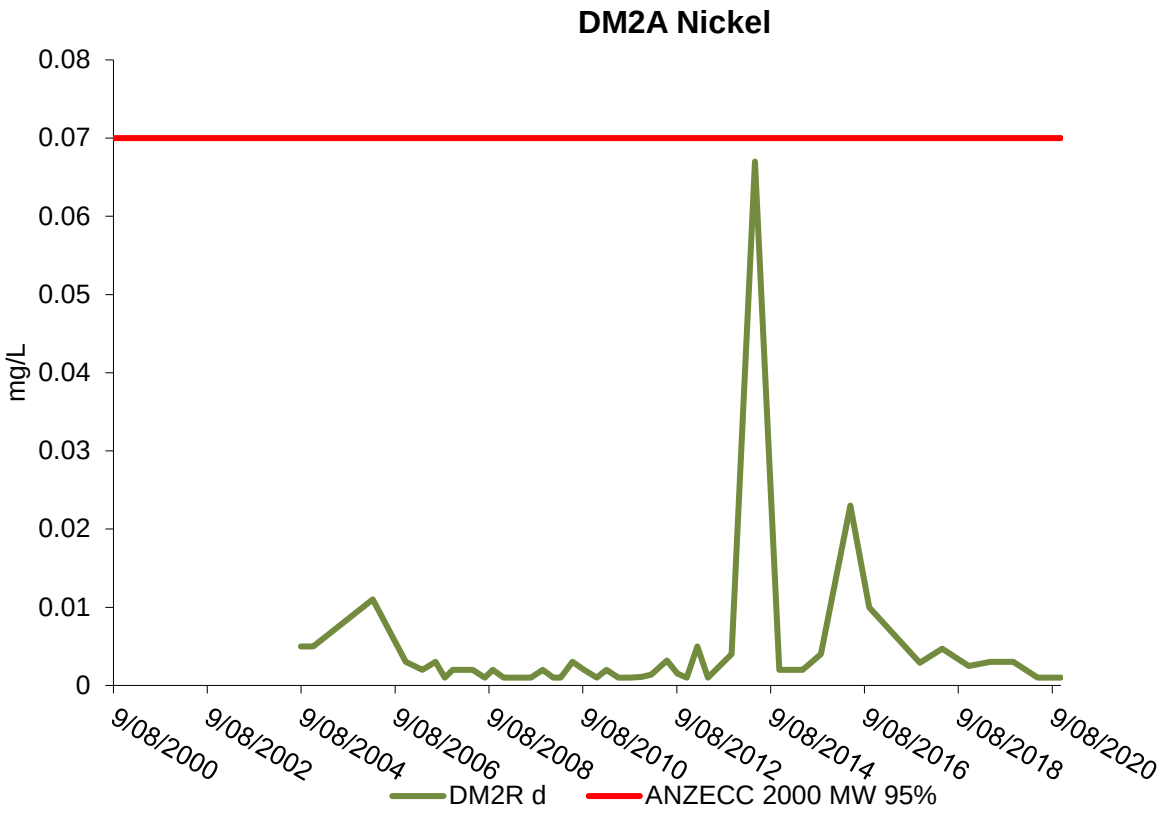
Figure

Dalyellup Monitoring

Date:	**Drawn:**
Scale:	**Chk'd:**
Original:	**Rev:**
File Reference:	

TRONOX



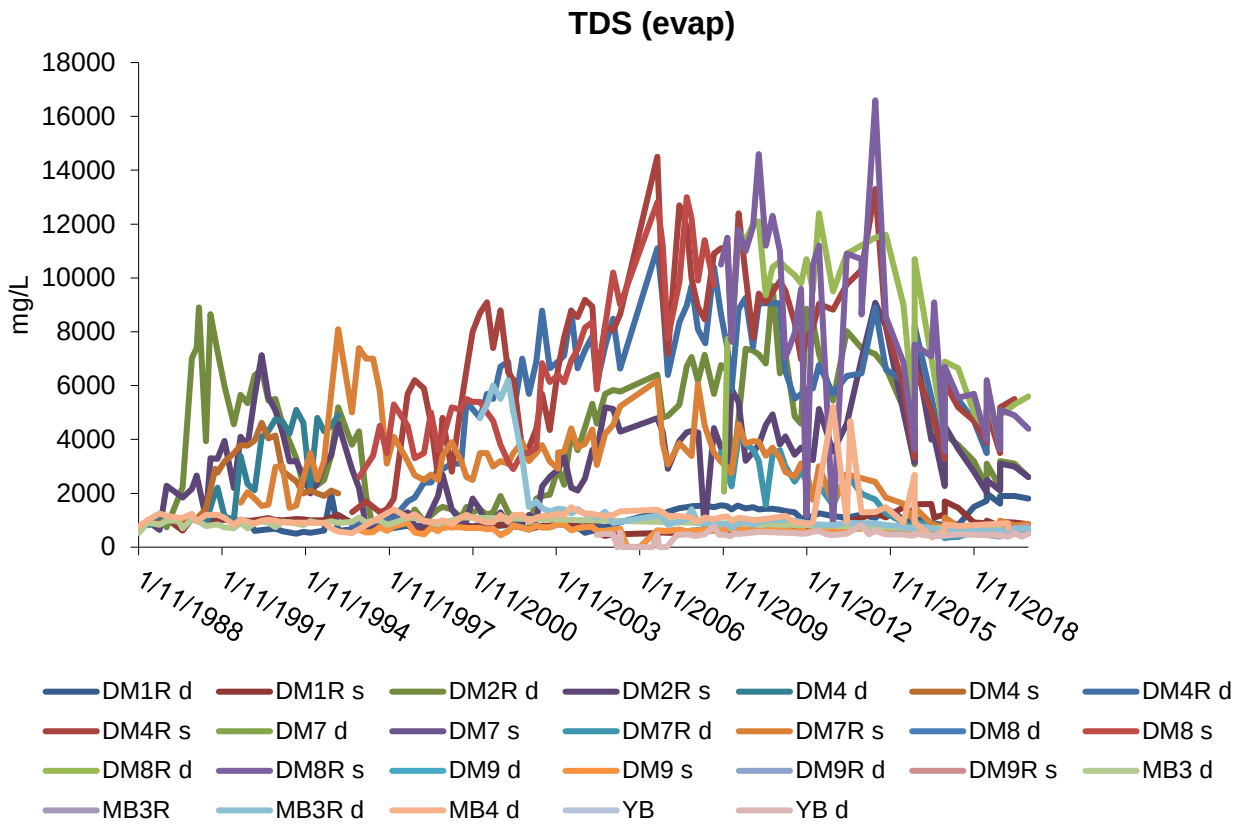


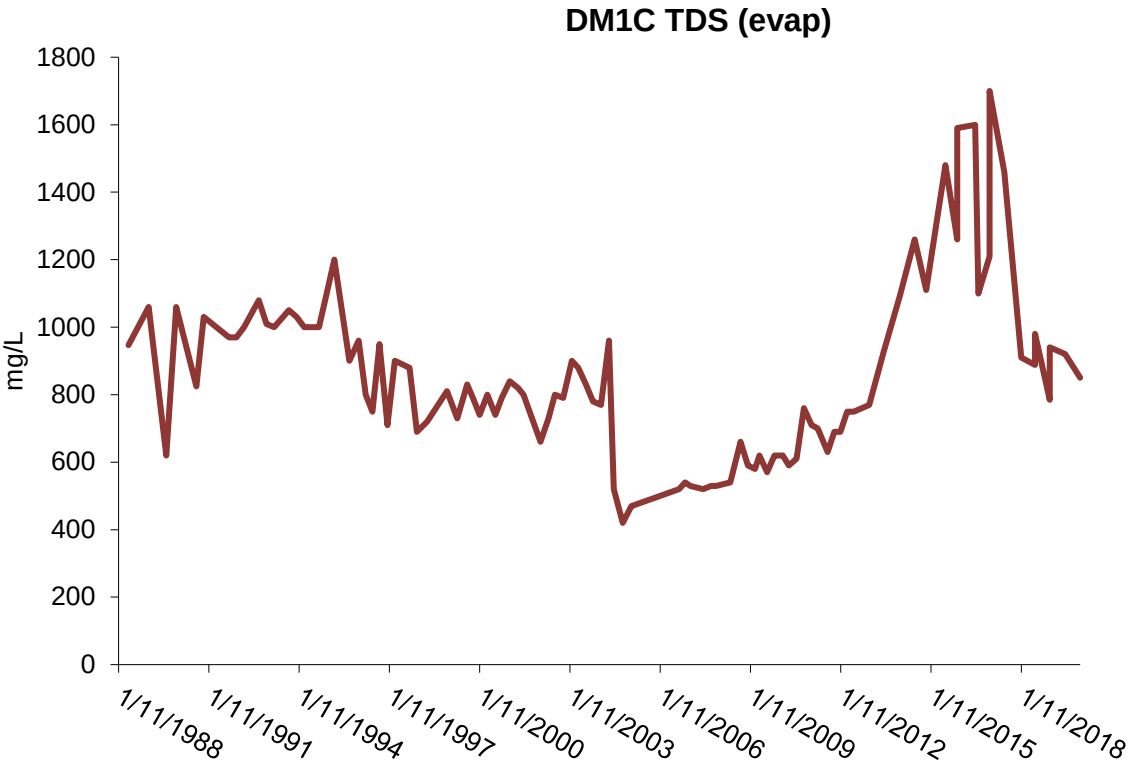
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



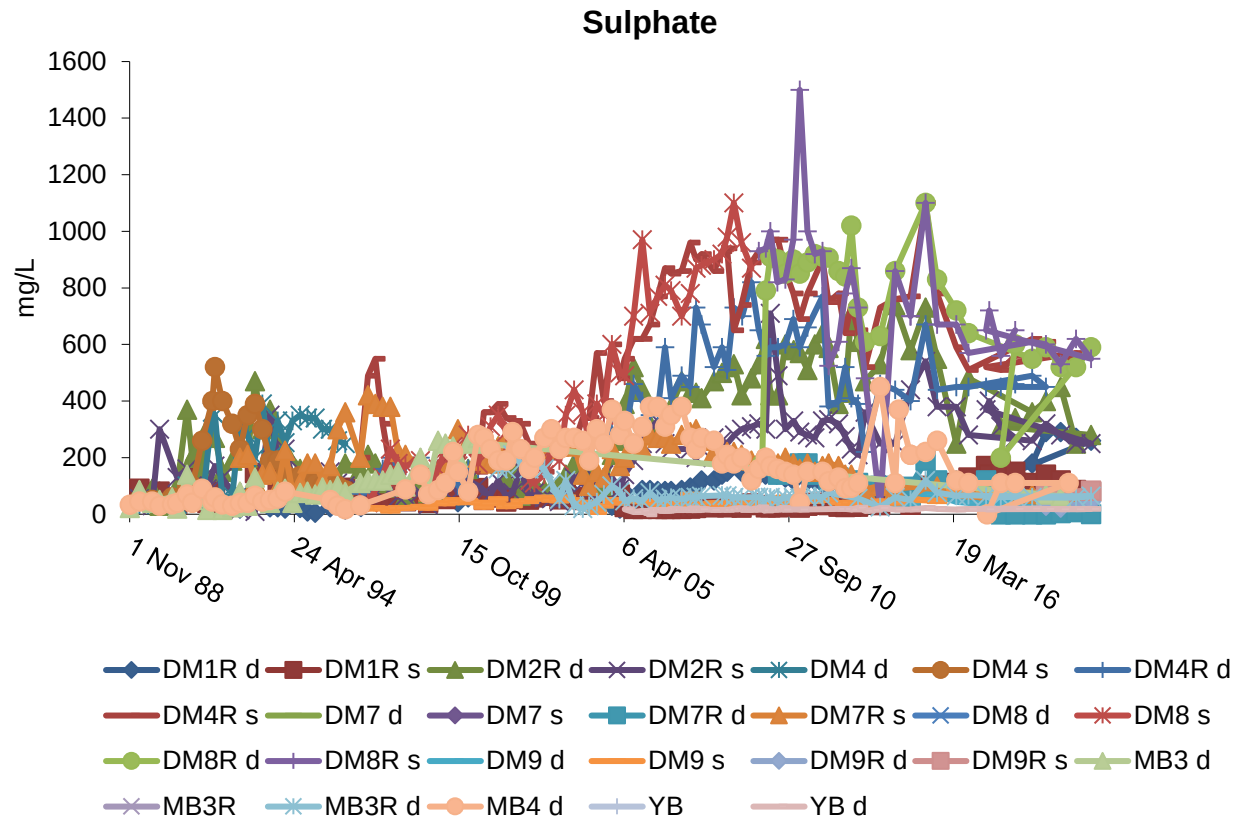


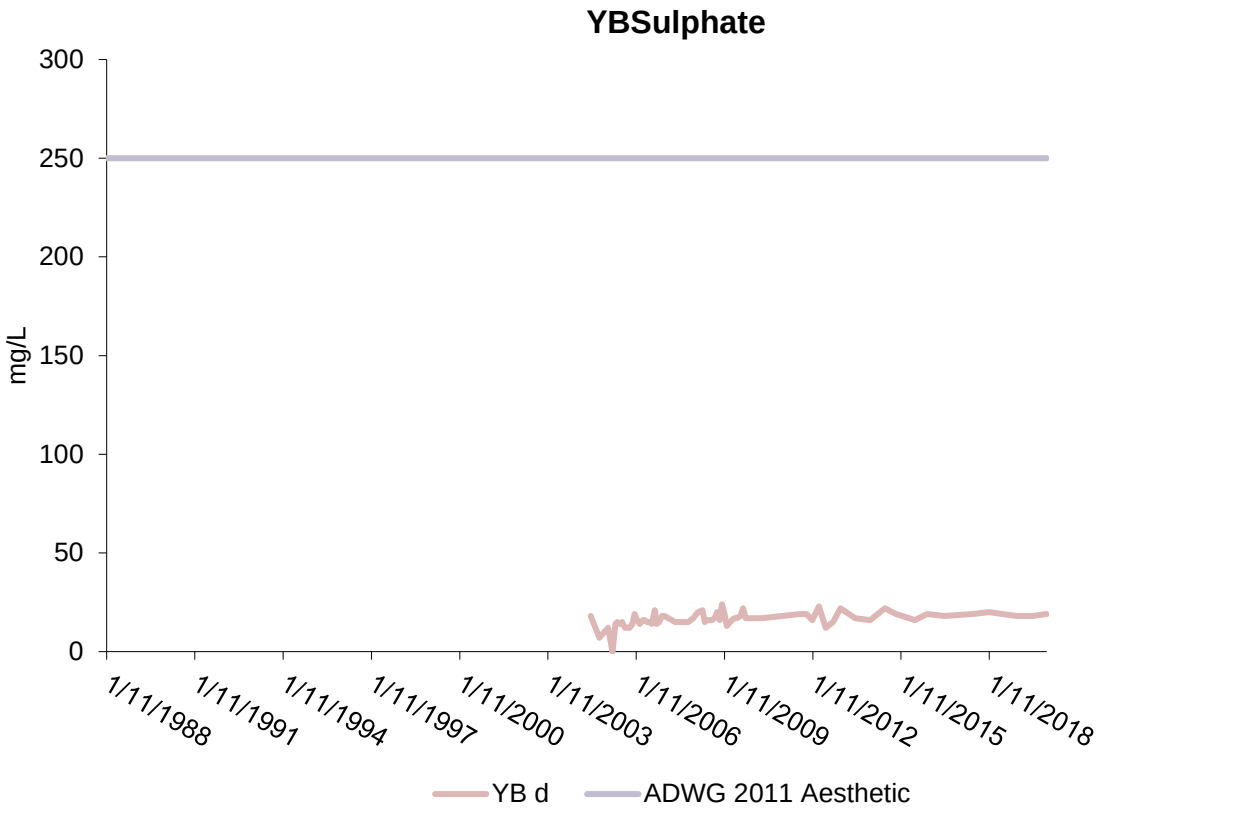
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



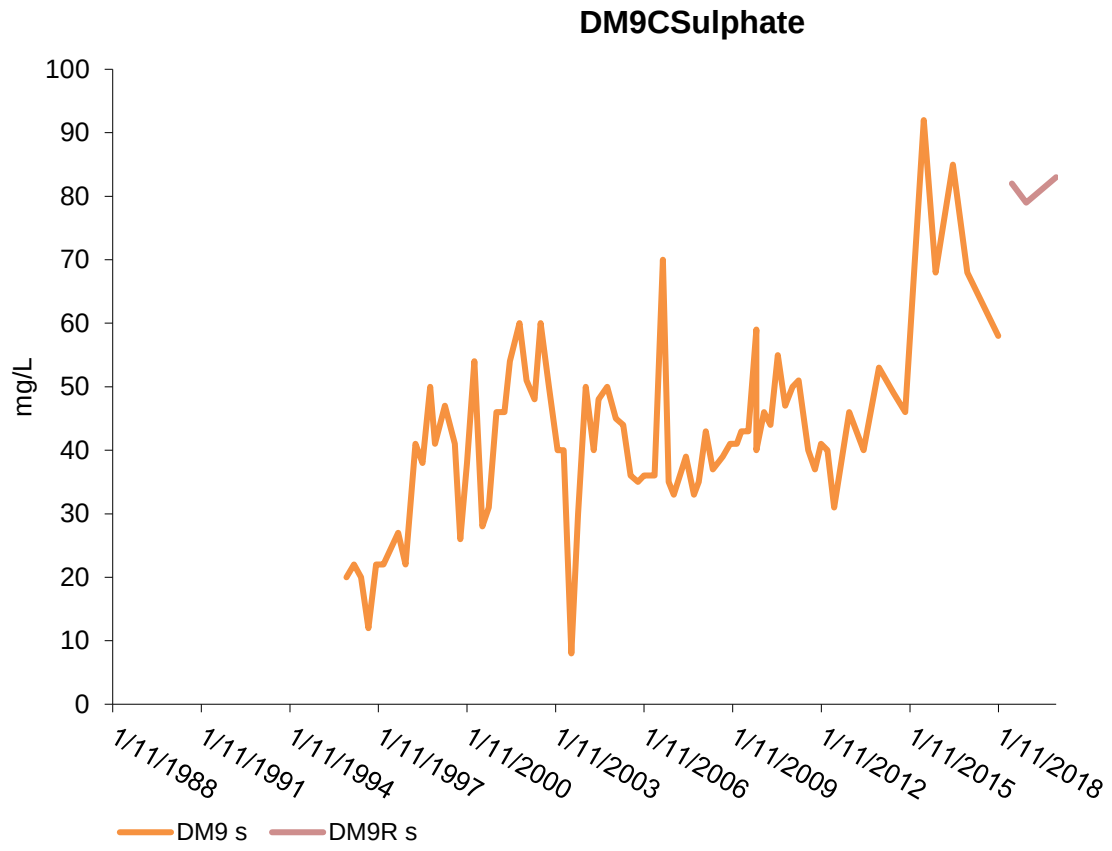


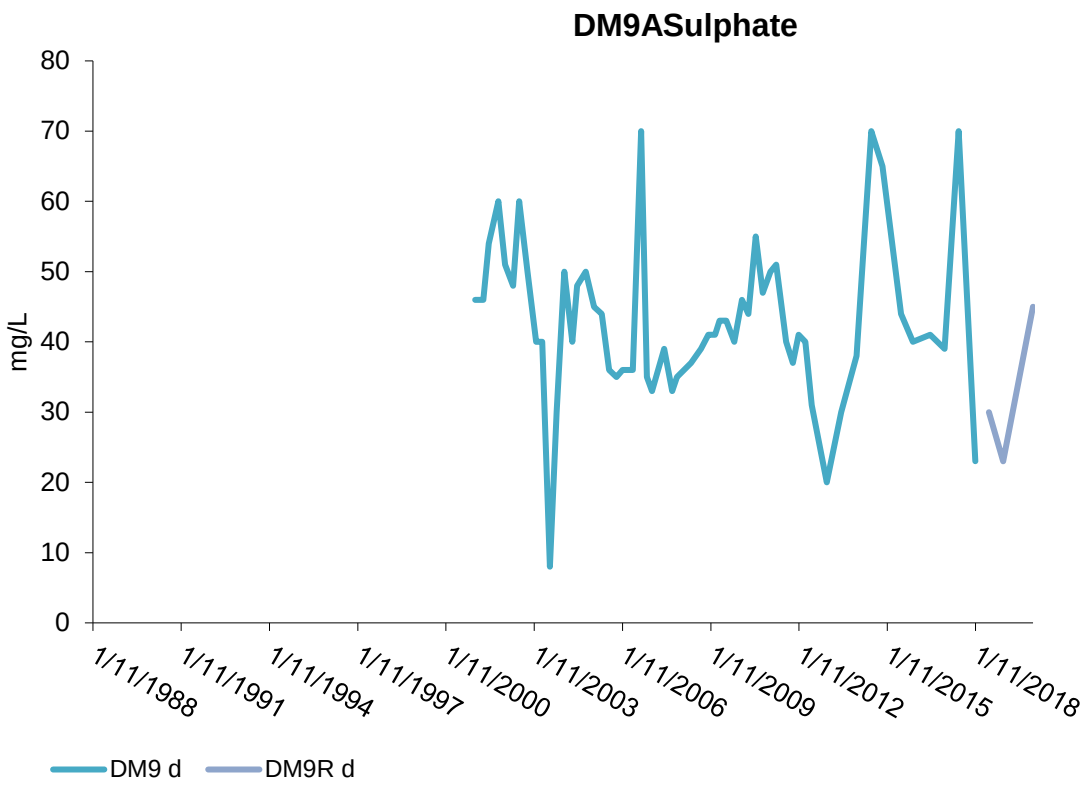
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



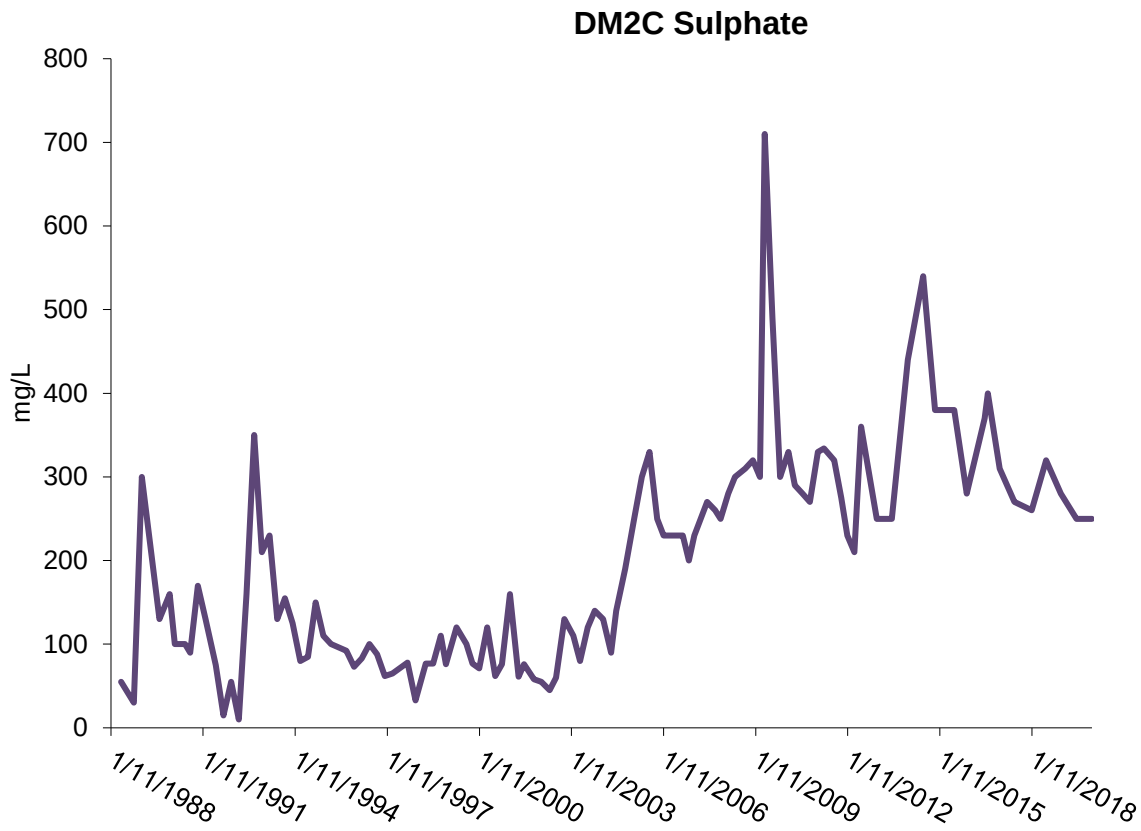


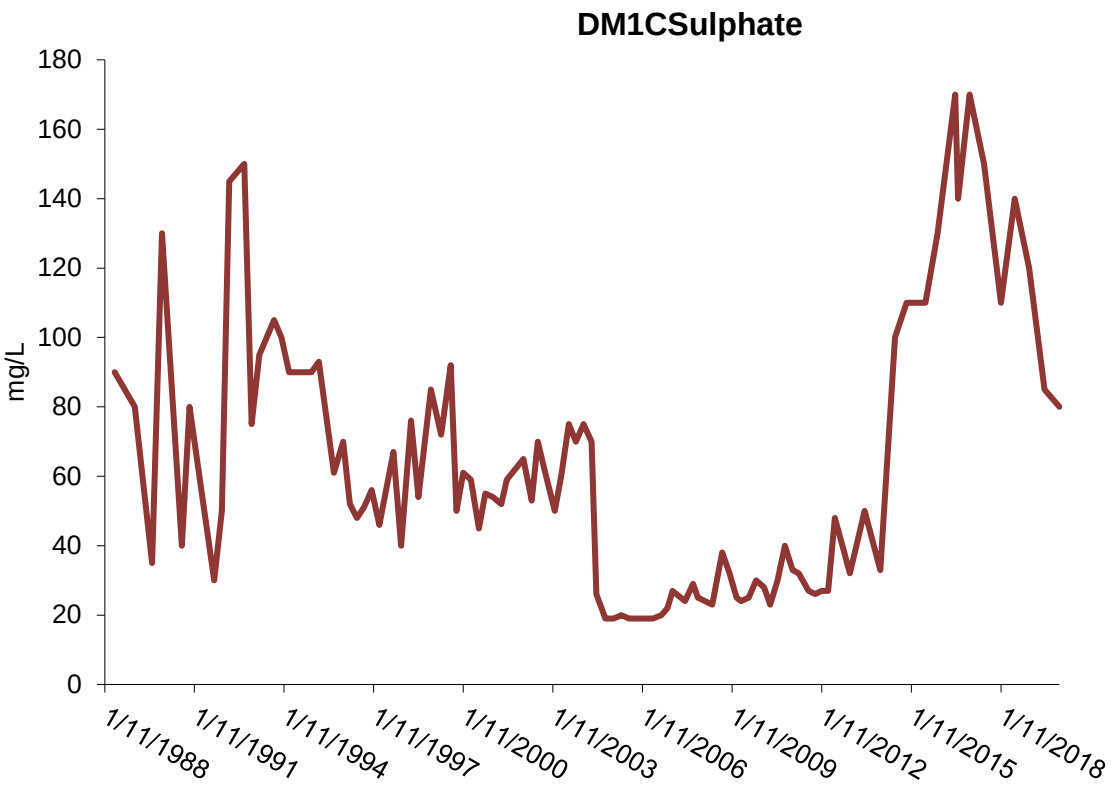
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



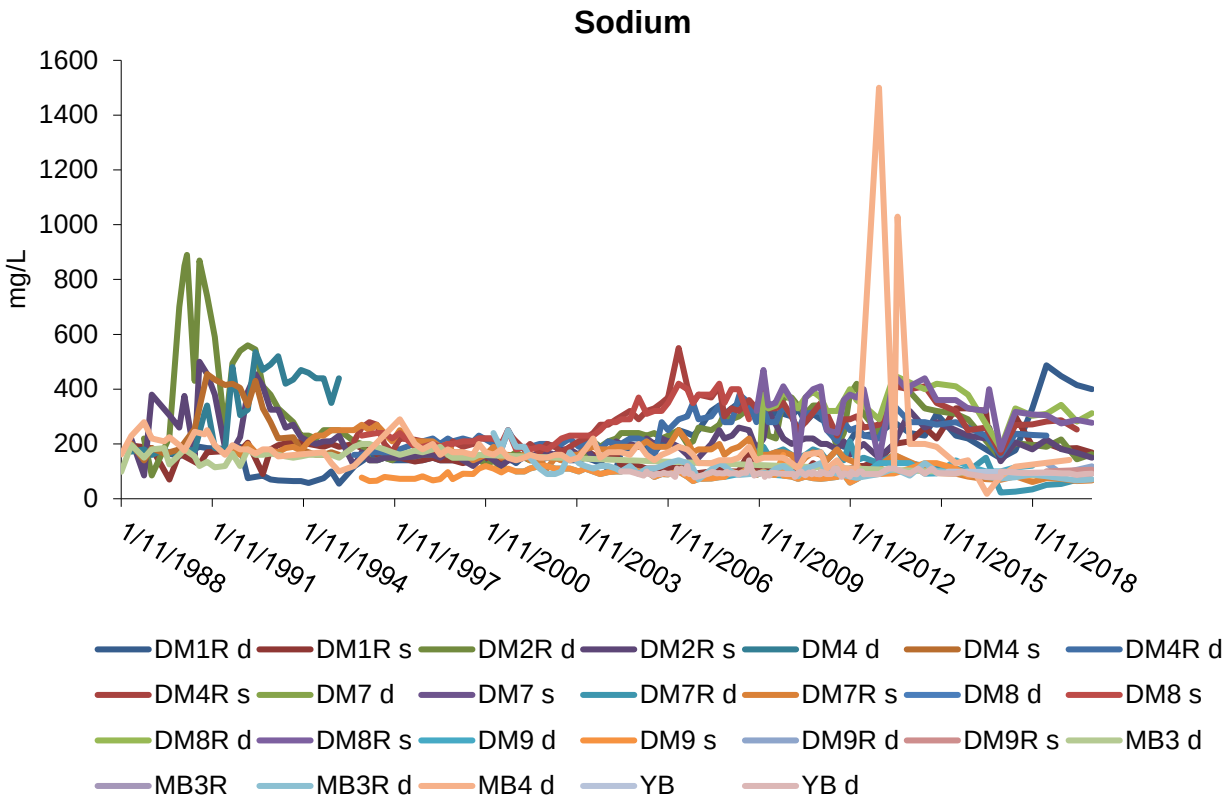


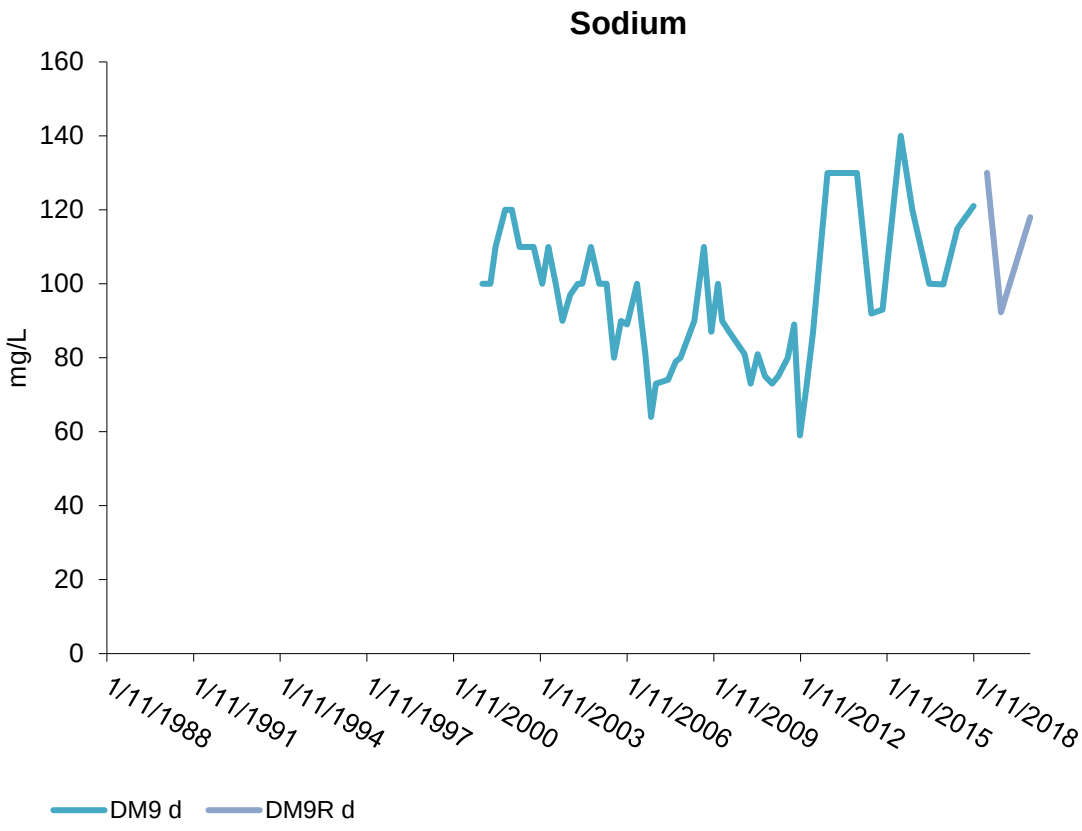
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



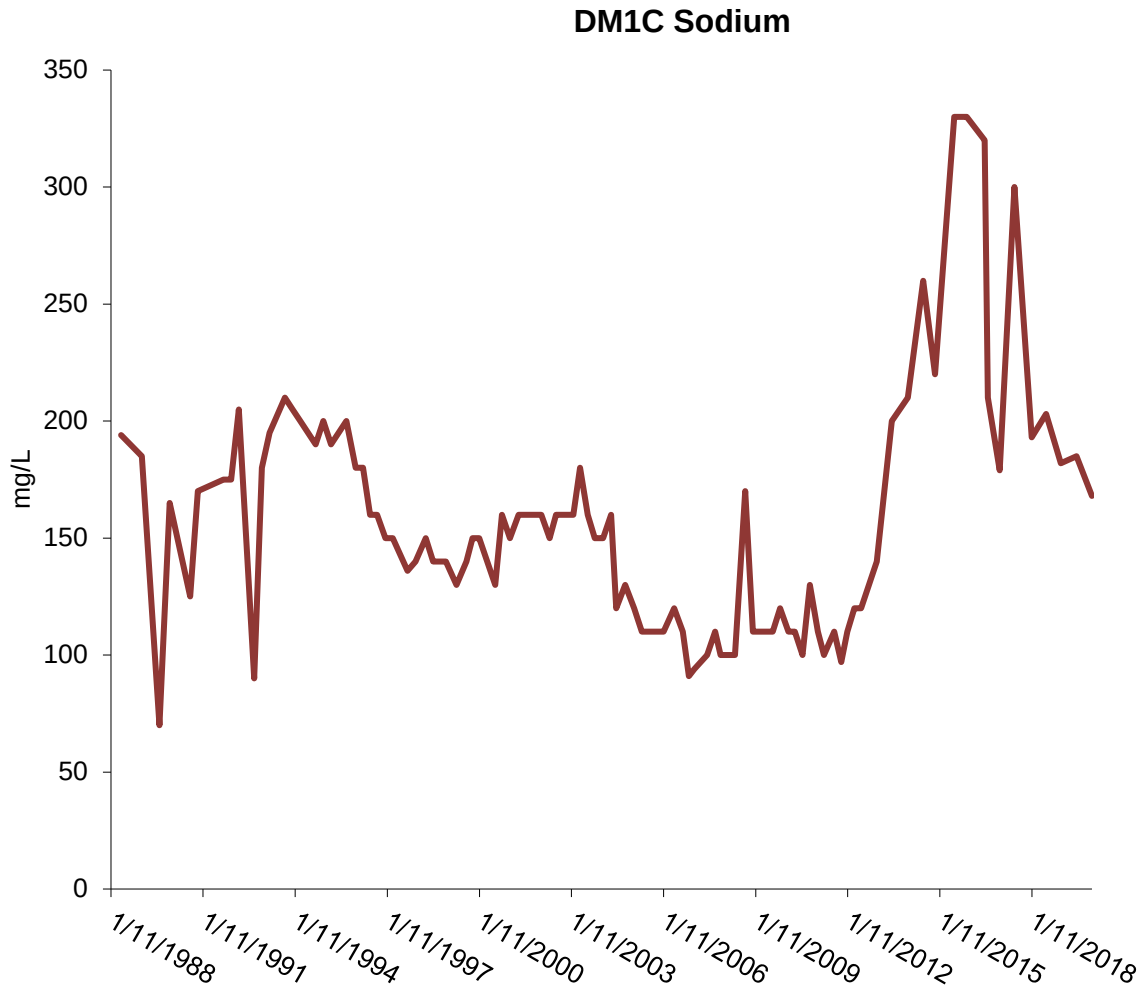


Figure

Dalyellup Monitoring

Date:	**Drawn:**
Scale:	**Chk'd:**
Original:	**Rev:**
File Reference:	

TRONOX



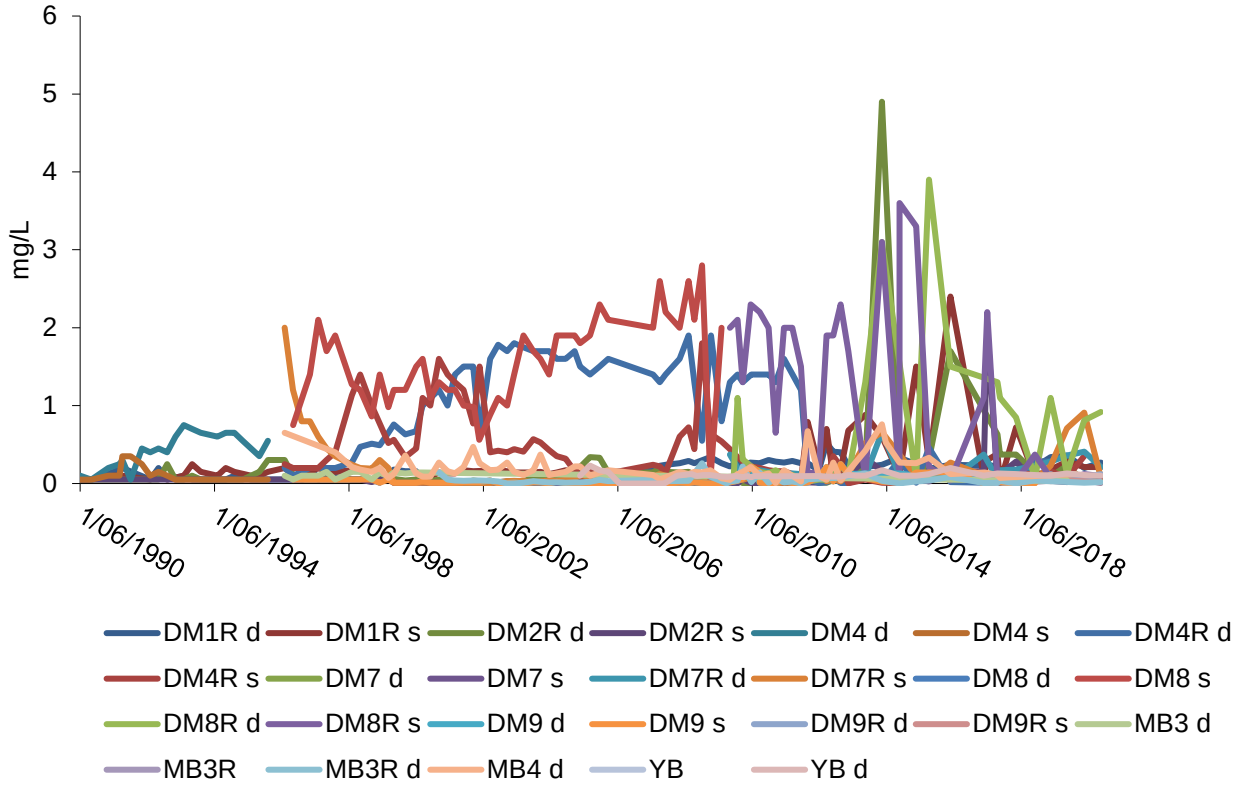
Figure

Dalyellup Monitoring

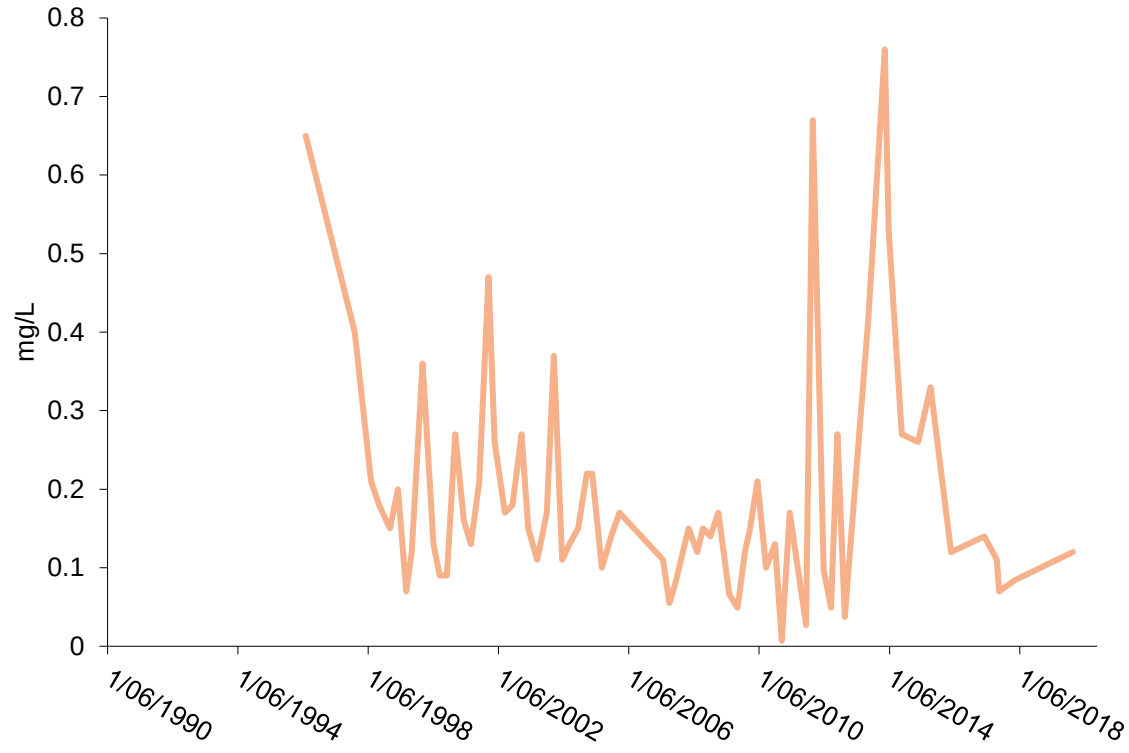
Date:	**Drawn:**
Scale:	**Chk'd:**
Original:	**Rev:**
File Reference:	

TRONOX

Manganese



MB4 Manganese

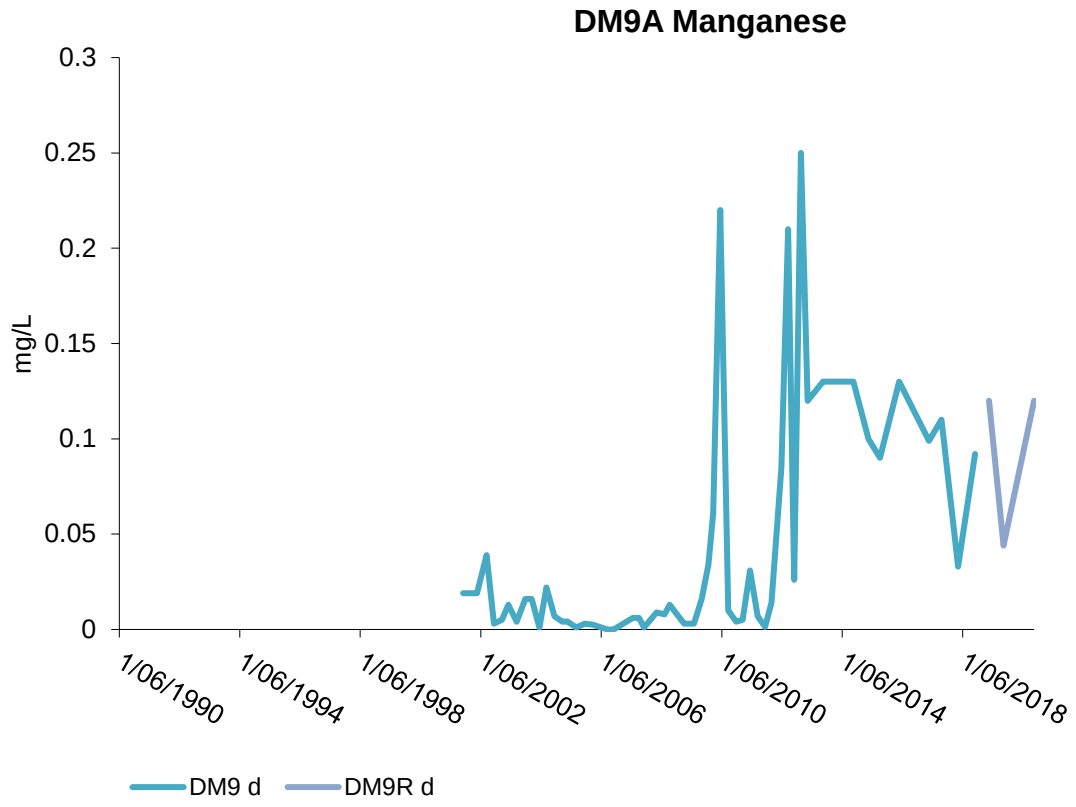


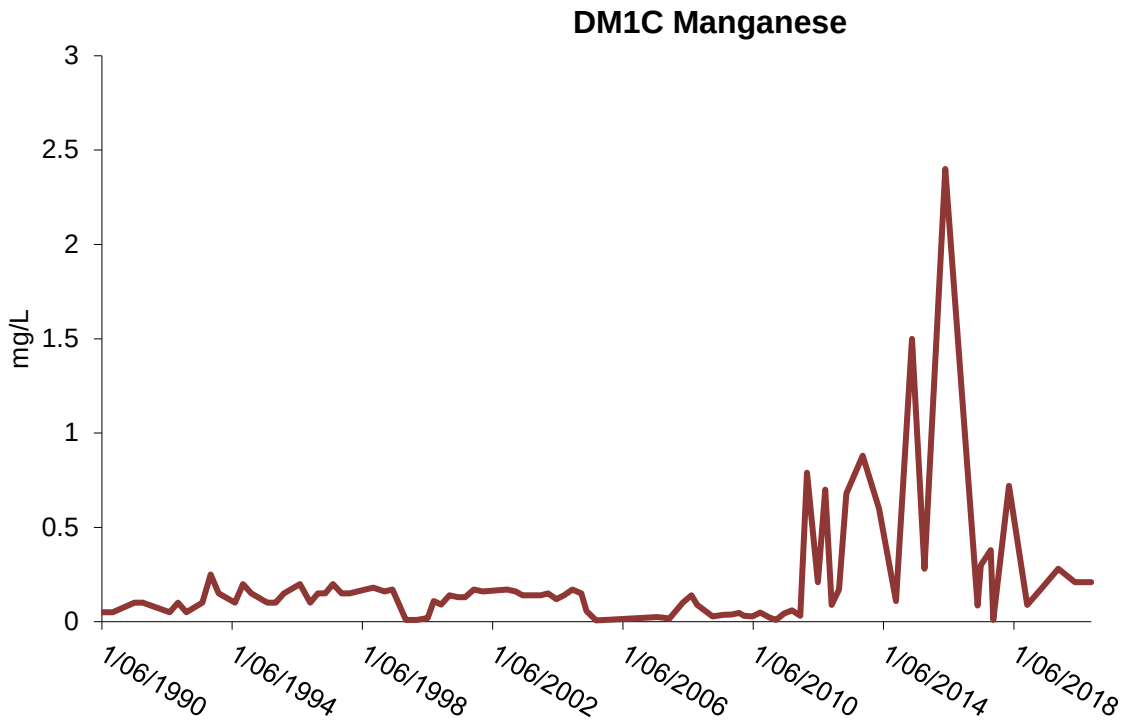
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



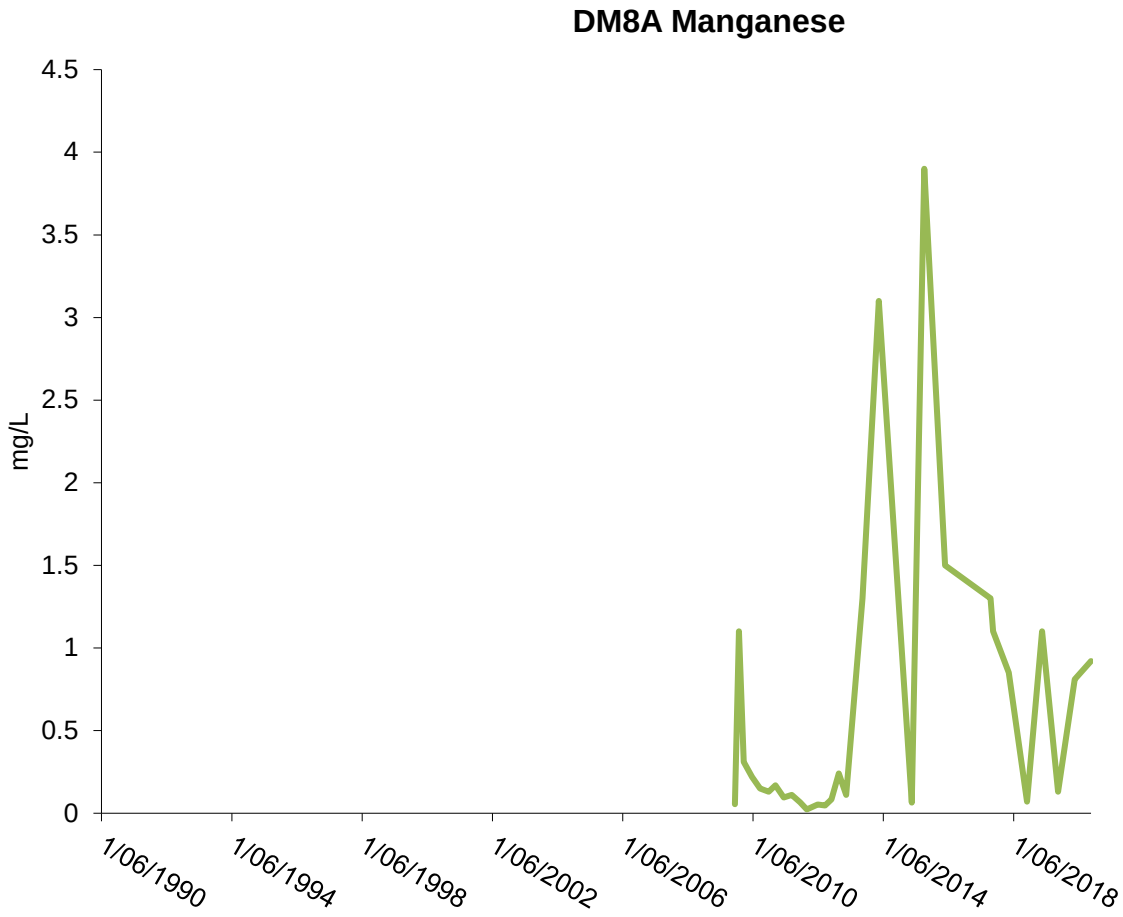


Figure

Dalyellup Monitoring

Date:	**Drawn:**
Scale:	**Chk'd:**
Original:	**Rev:**
File Reference:	

TRONOX

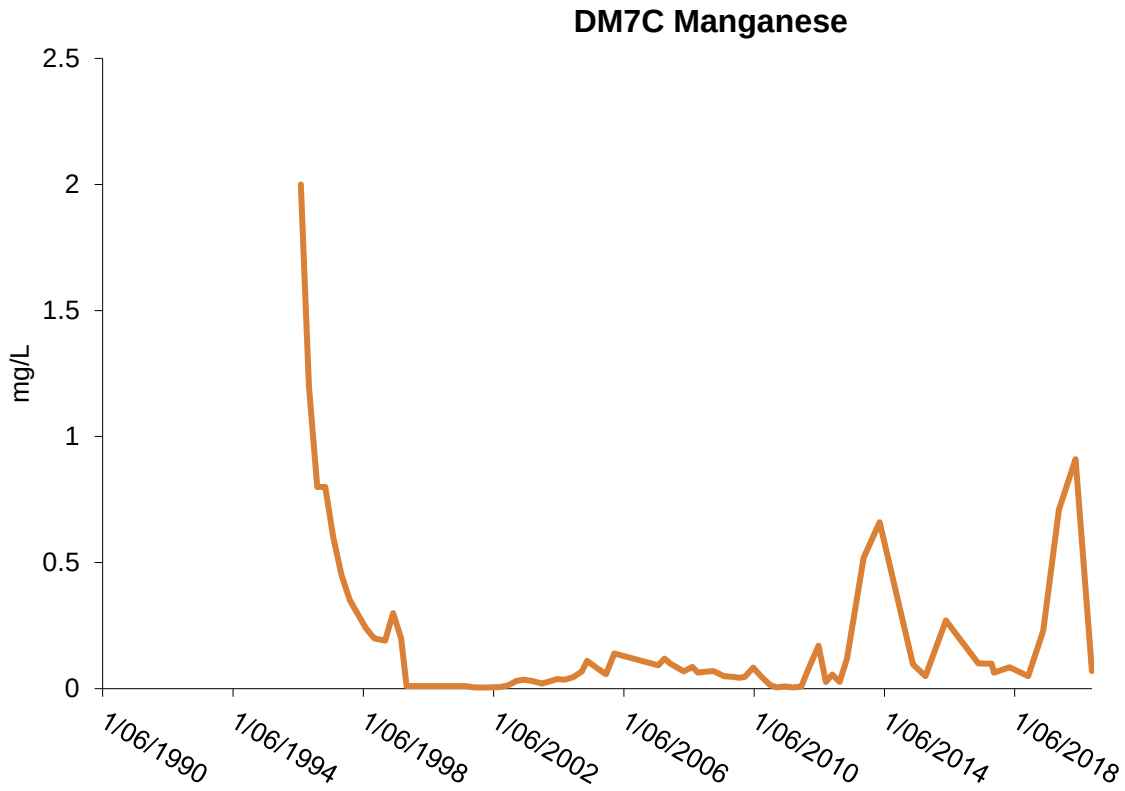


Figure

Dalyellup Monitoring

Date:	**Drawn:**
Scale:	**Chk'd:**
Original:	**Rev:**
File Reference:	

TRONOX

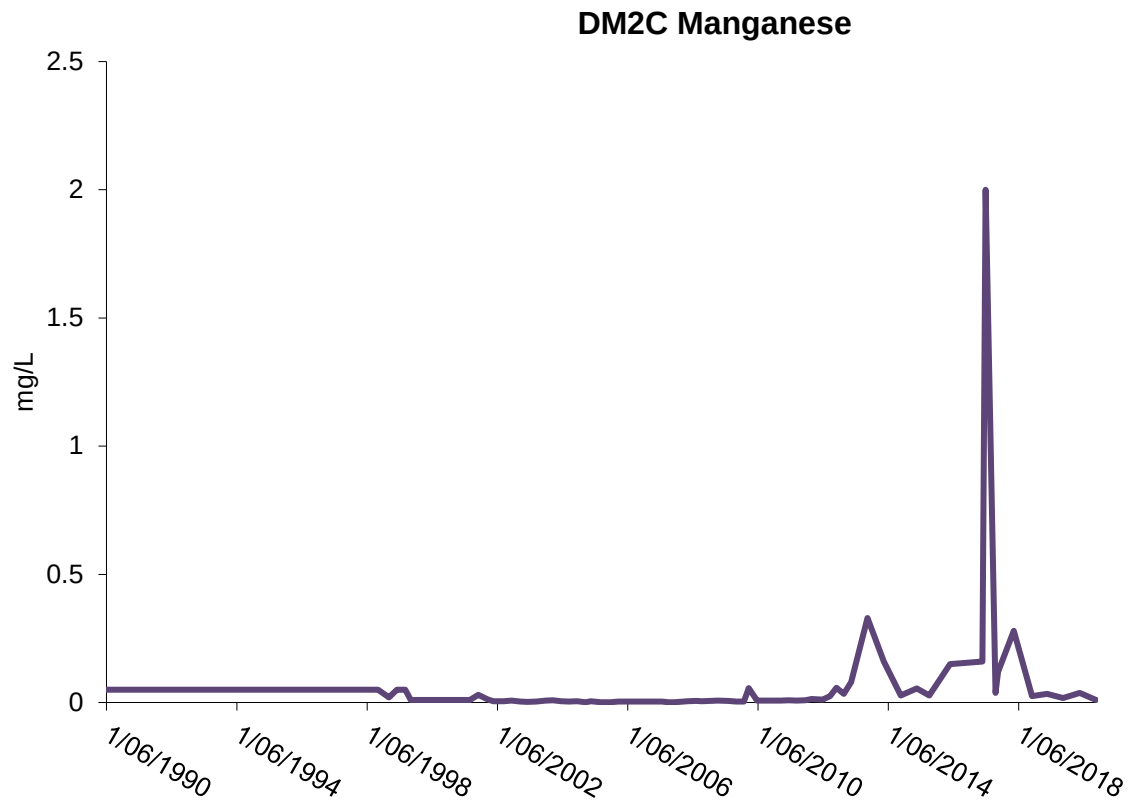


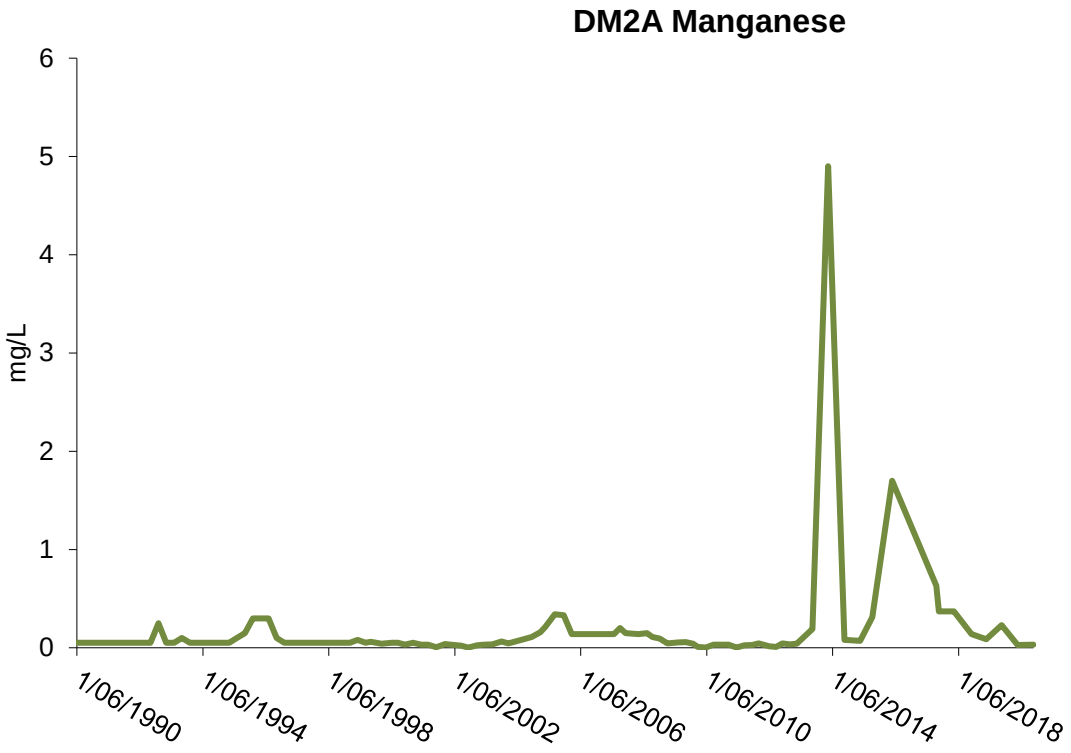
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



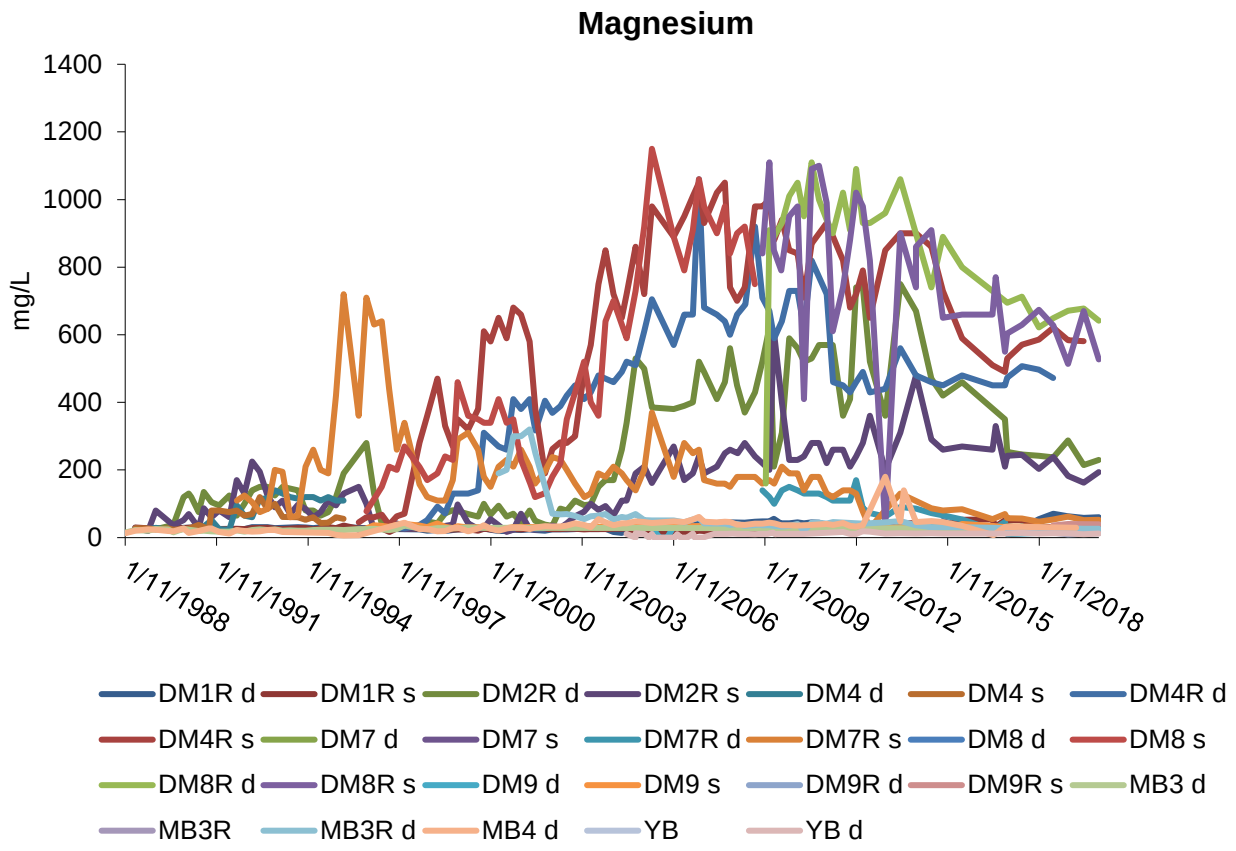


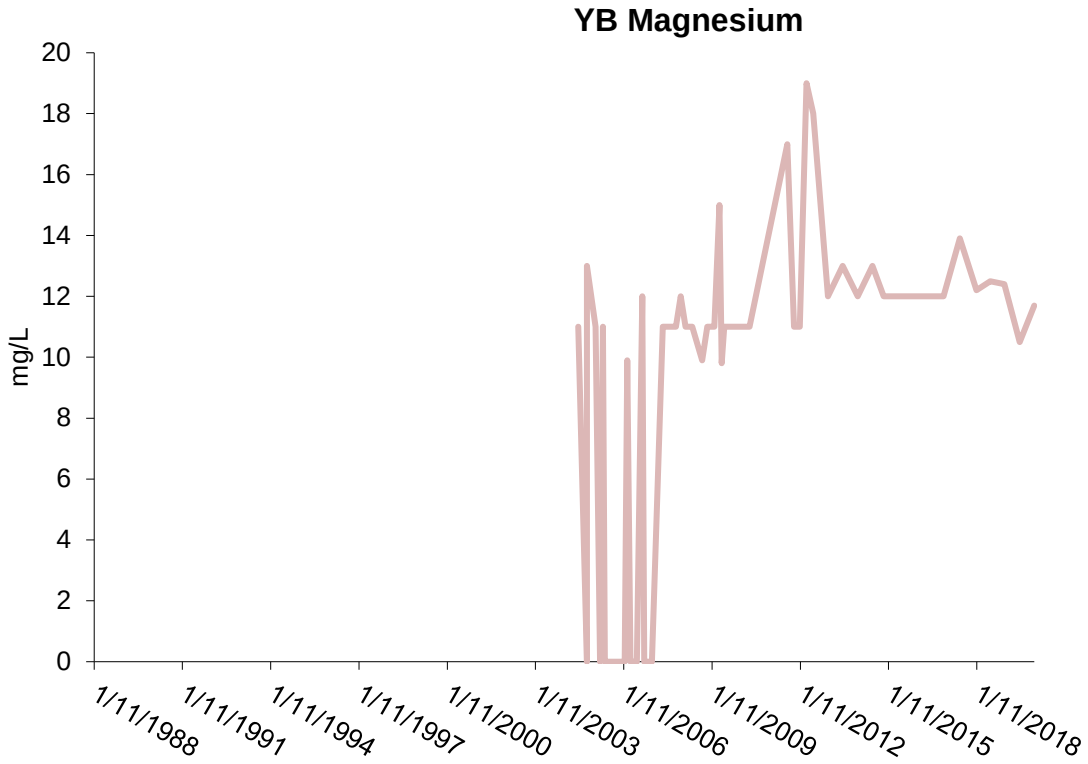
Figure

Dalyellup Monitoring

Date:	**Drawn:**
Scale:	**Chk'd:**
Original:	**Rev:**
File Reference:	

TRONOX



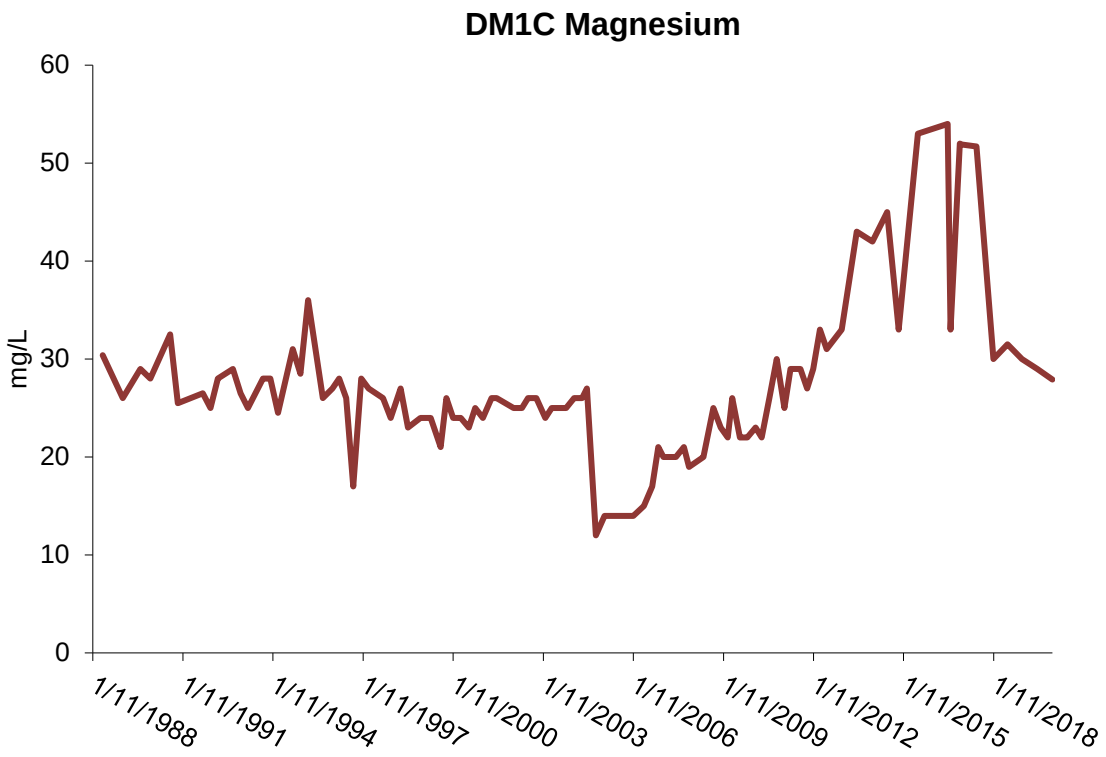


Figure

Dalyellup Monitoring

Date:	**Drawn:**
Scale:	**Chk'd:**
Original:	**Rev:**
File Reference:	

TRONOX

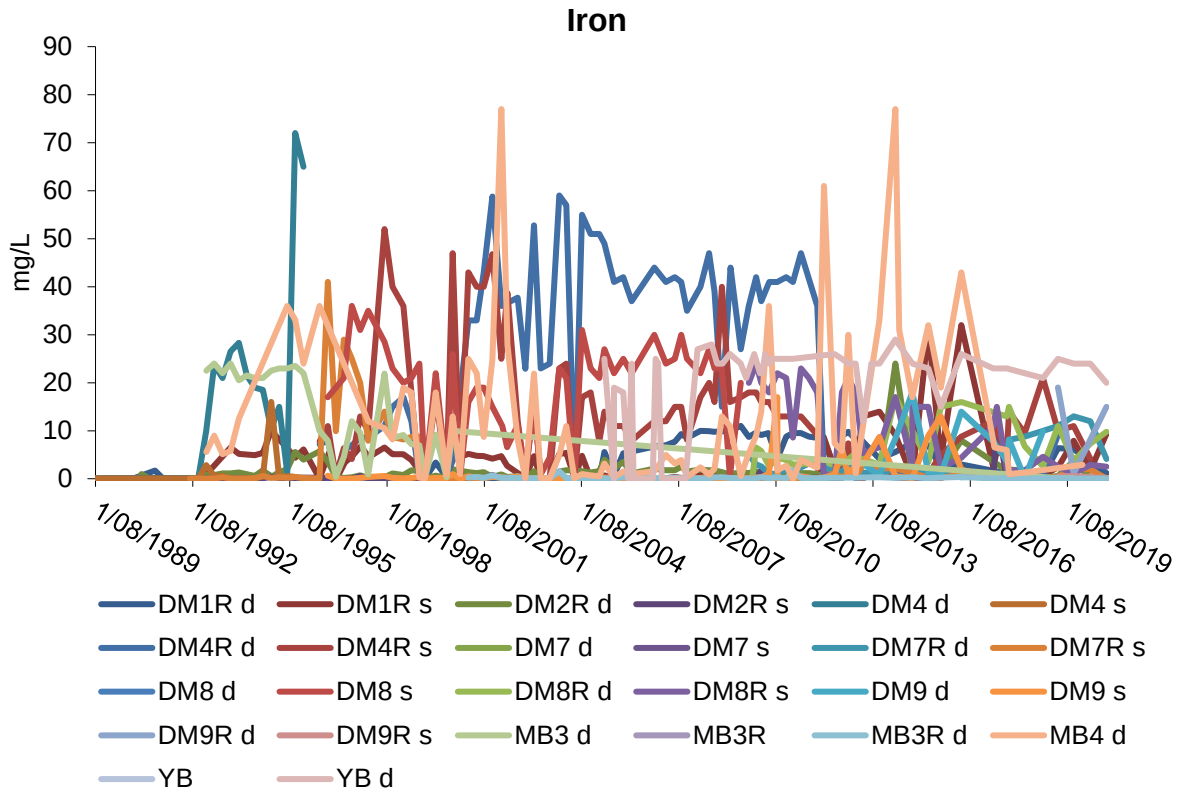


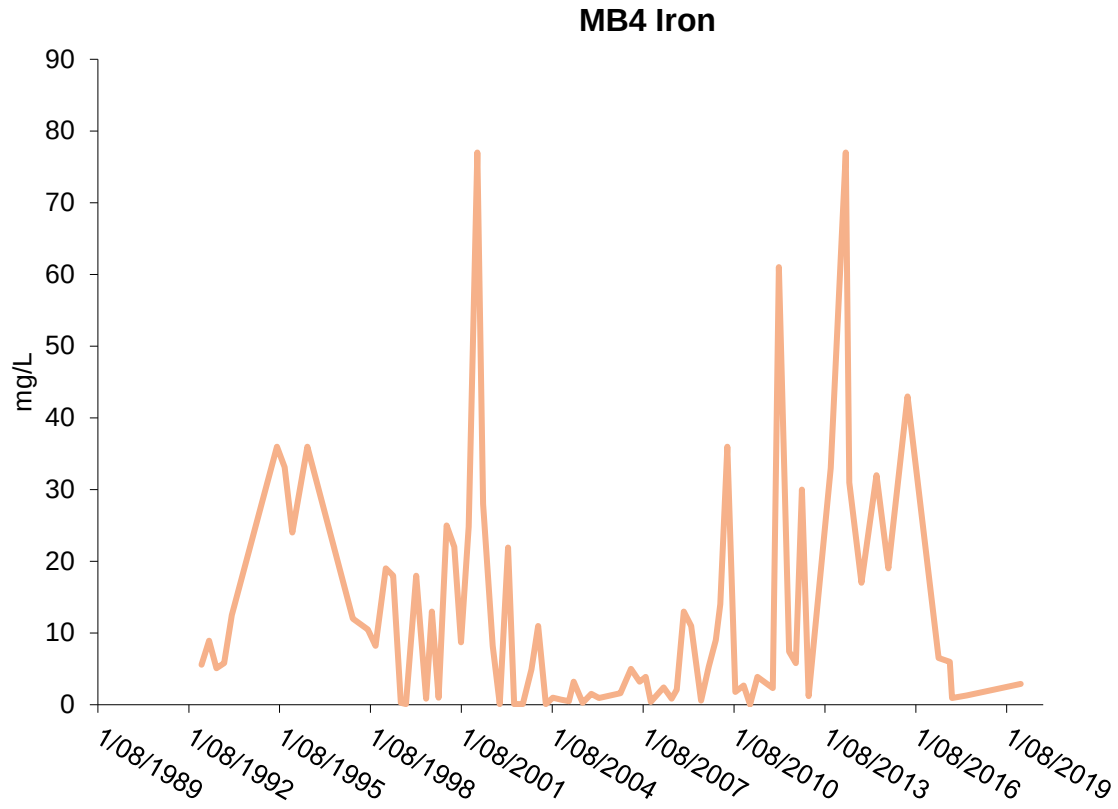
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



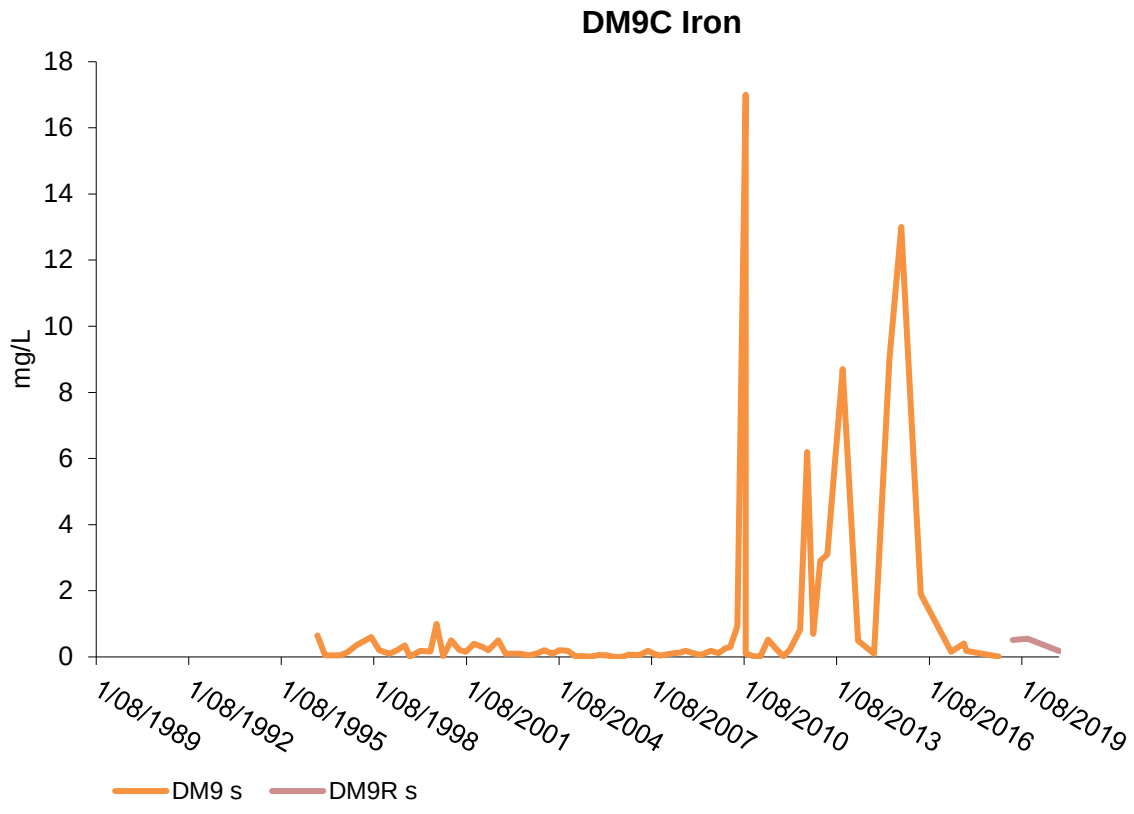


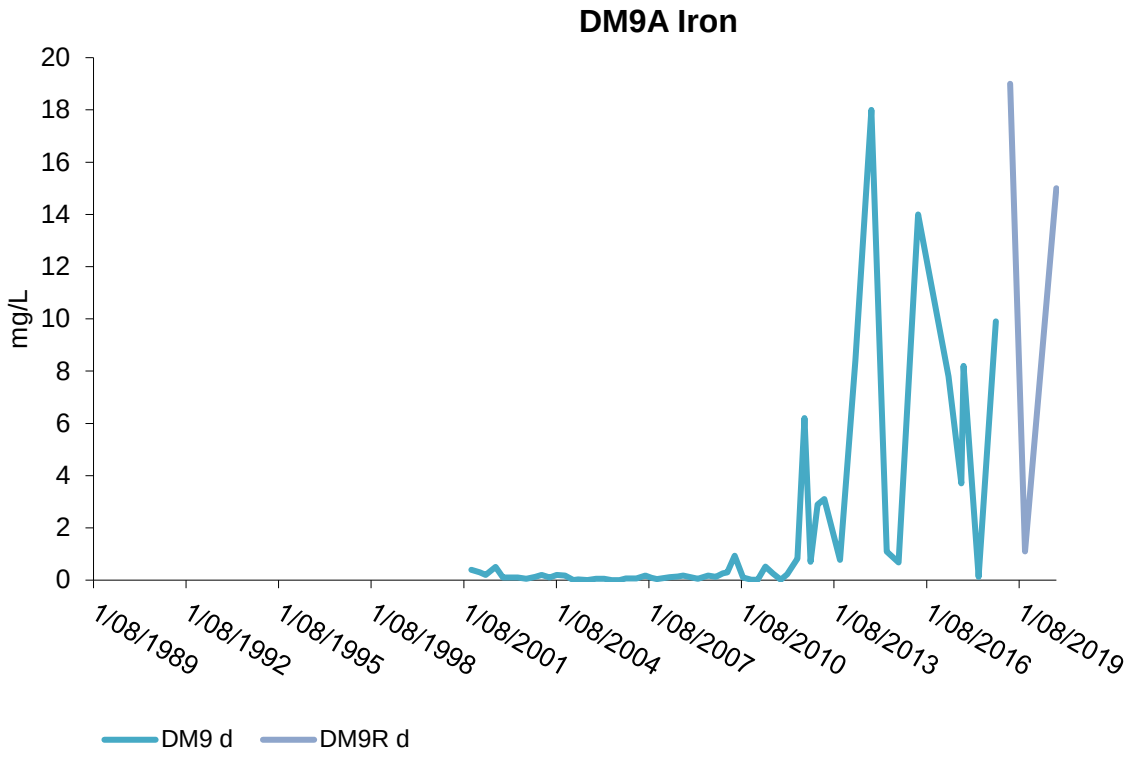
Figure

Dalyellup Monitoring

Date:		**Drawn:**	
Scale:		**Chk'd:**	
Original:		**Rev:**	
File Reference:			

TRONOX



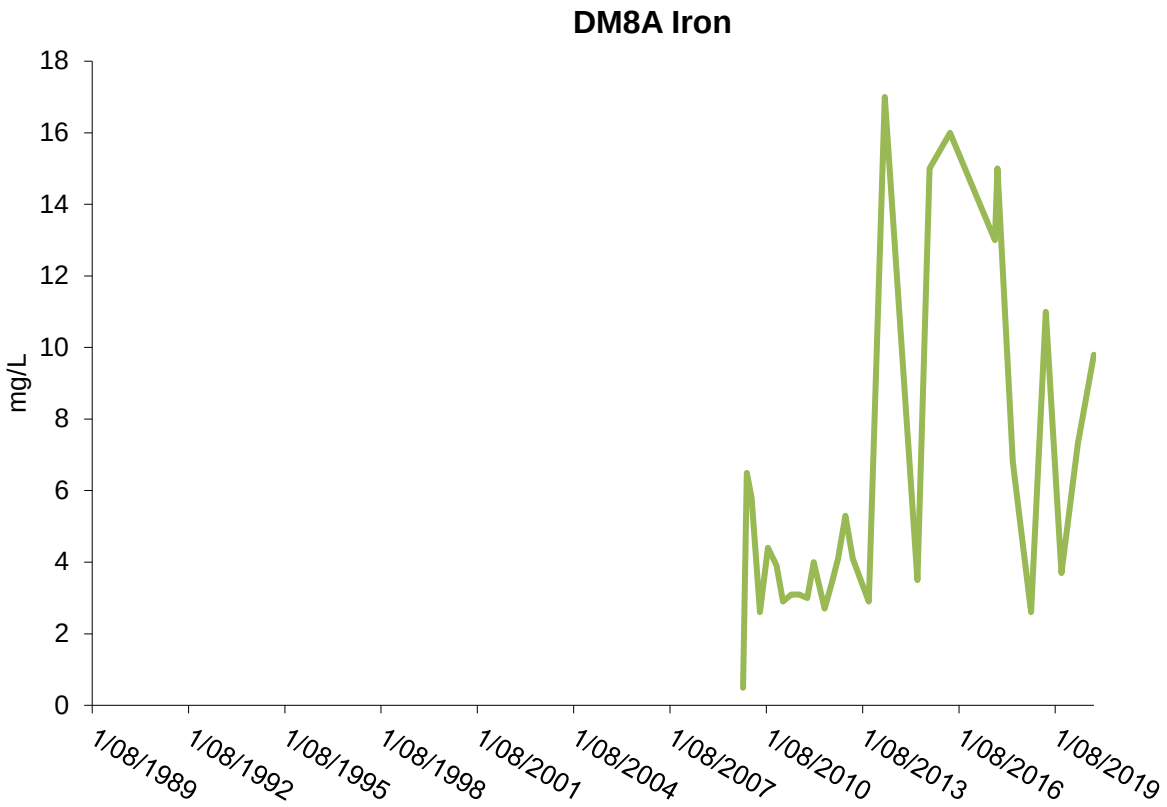


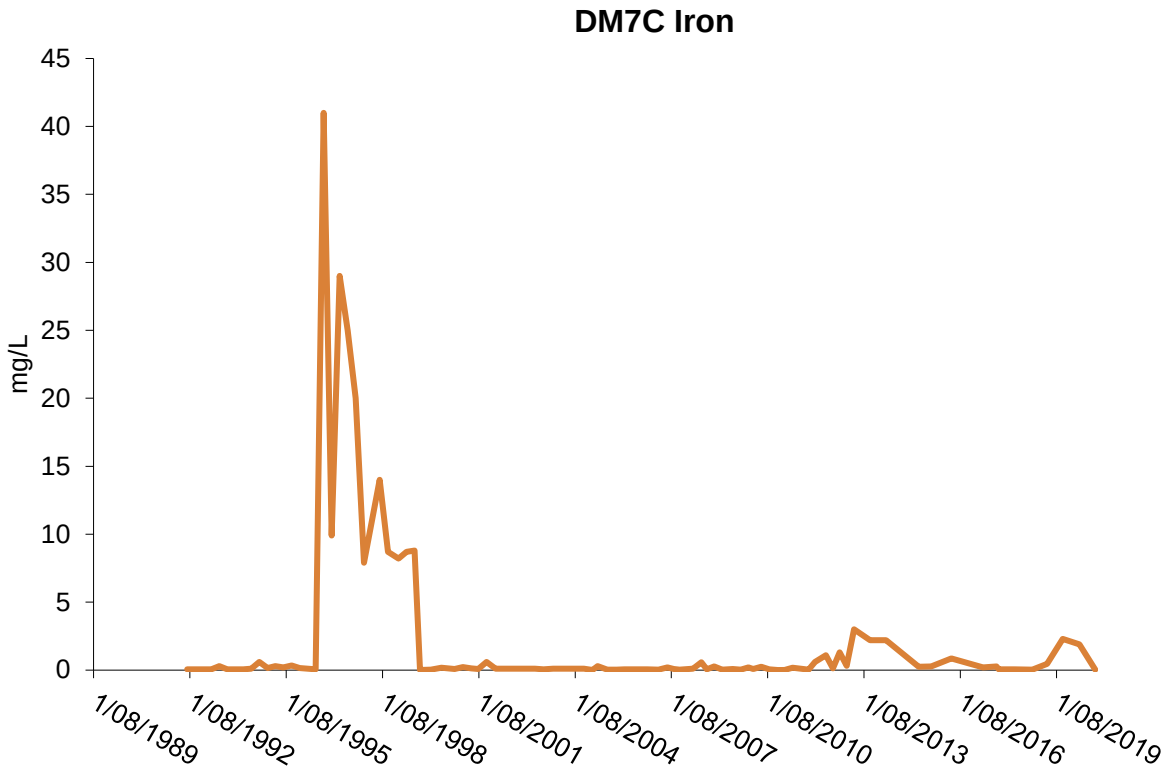
Figure

Dalyellup Monitoring

Date:	**Drawn:**
Scale:	**Chk'd:**
Original:	**Rev:**
File Reference:	

TRONOX



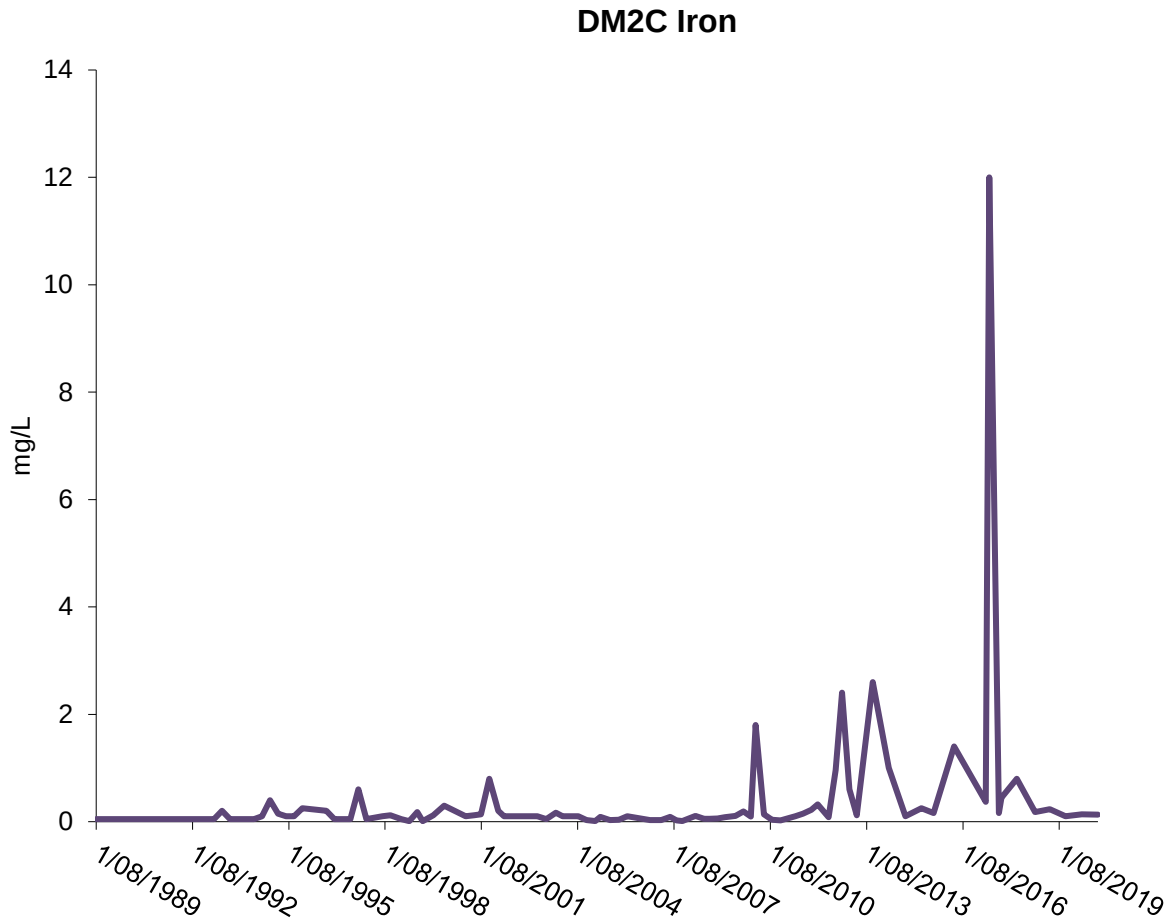


Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX

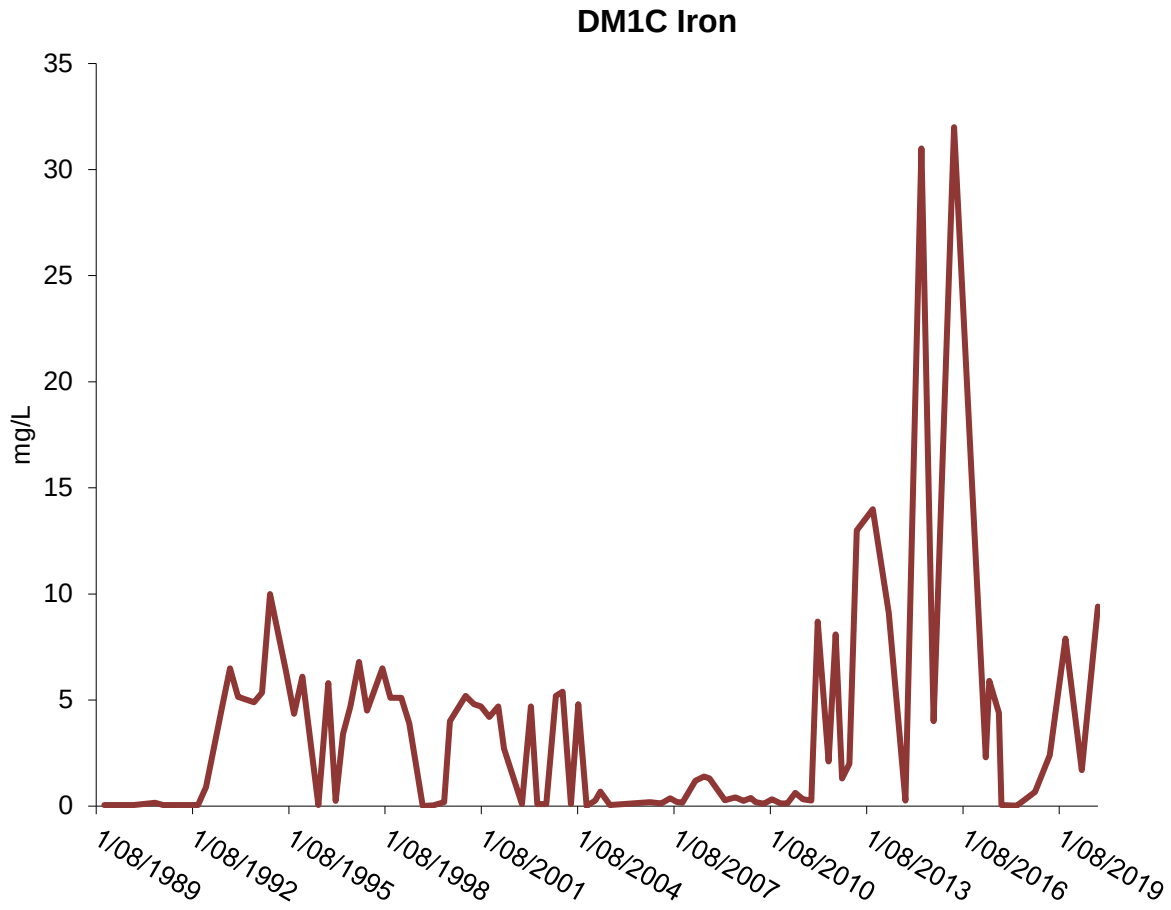


Figure

Dalyellup Monitoring

Date:	**Drawn:**
Scale:	**Chk'd:**
Original:	**Rev:**
File Reference:	

TRONOX

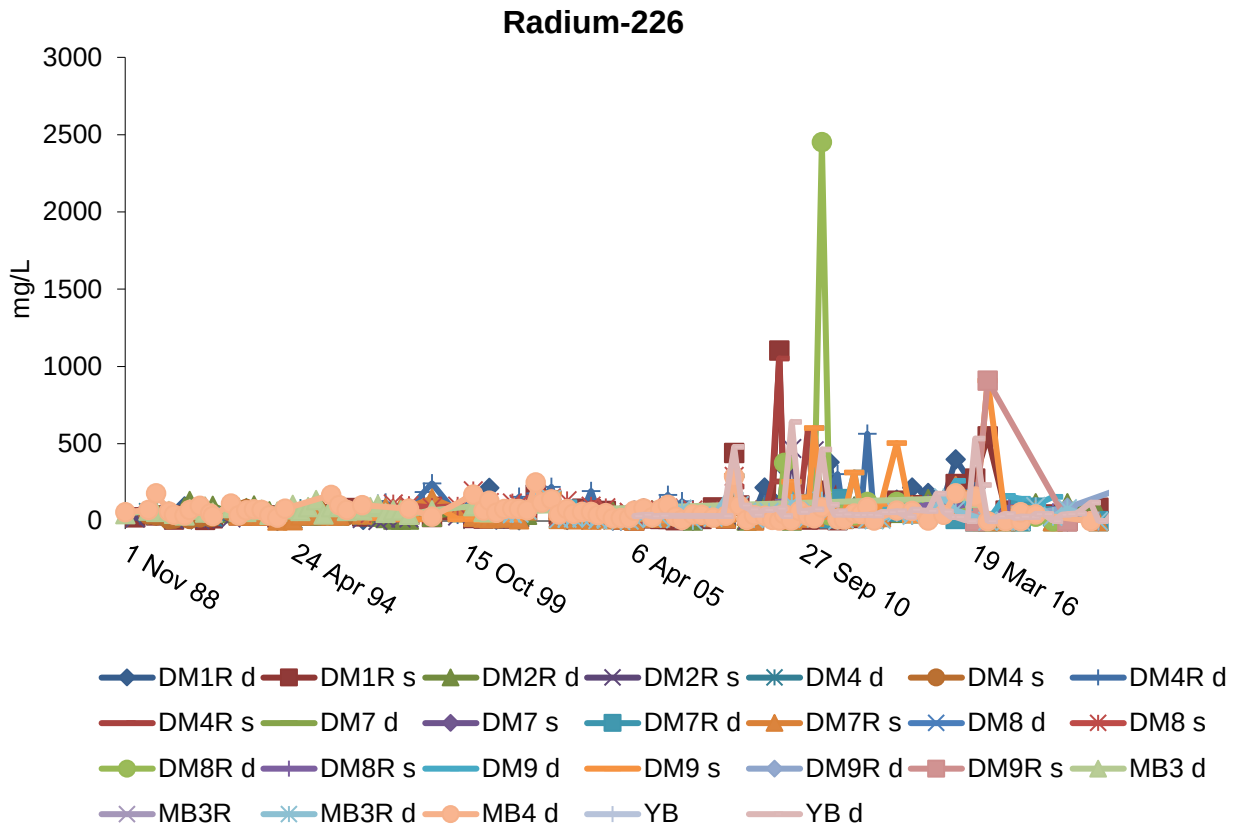


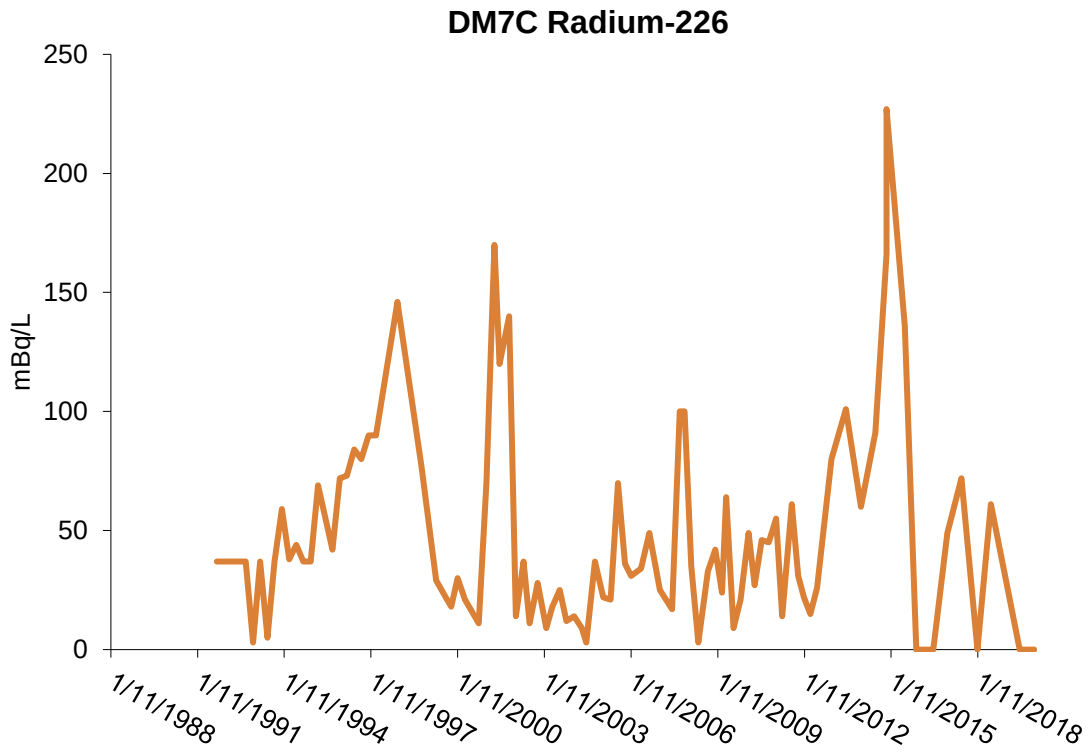
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



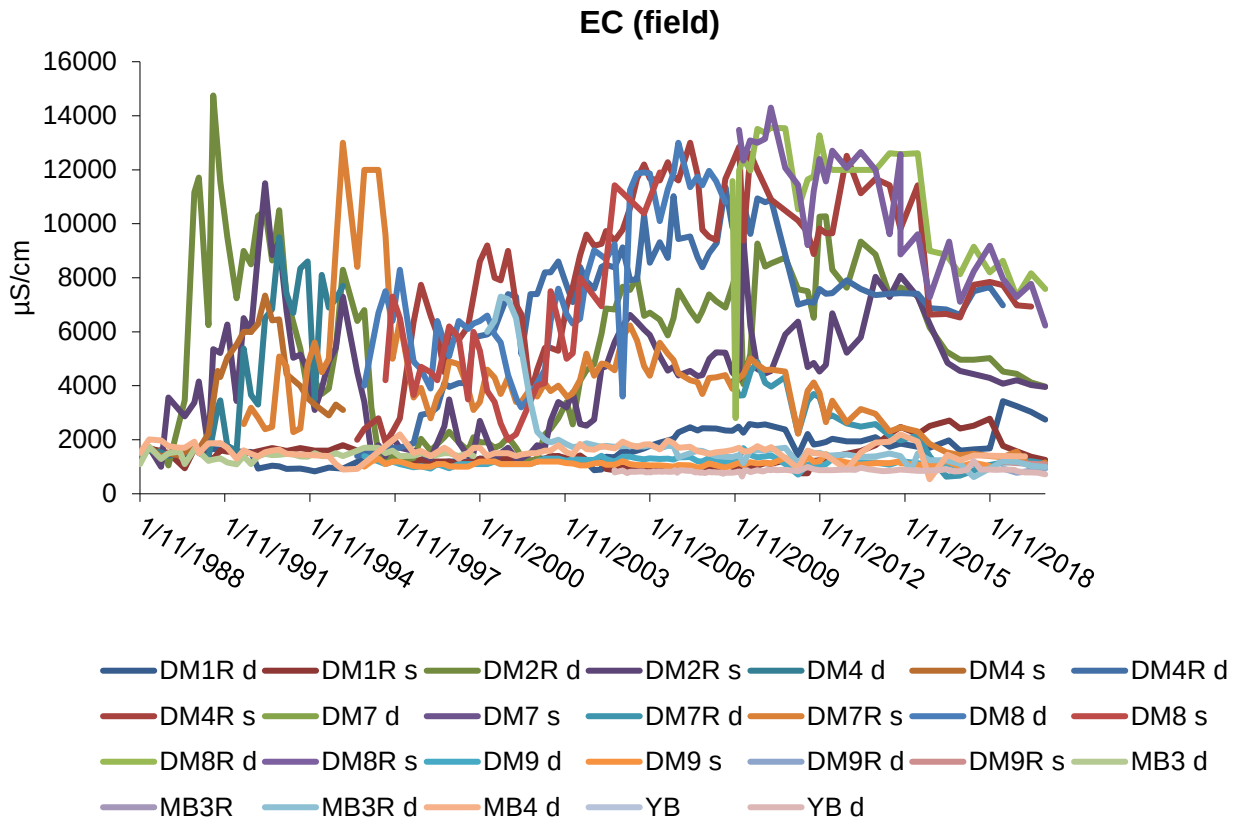


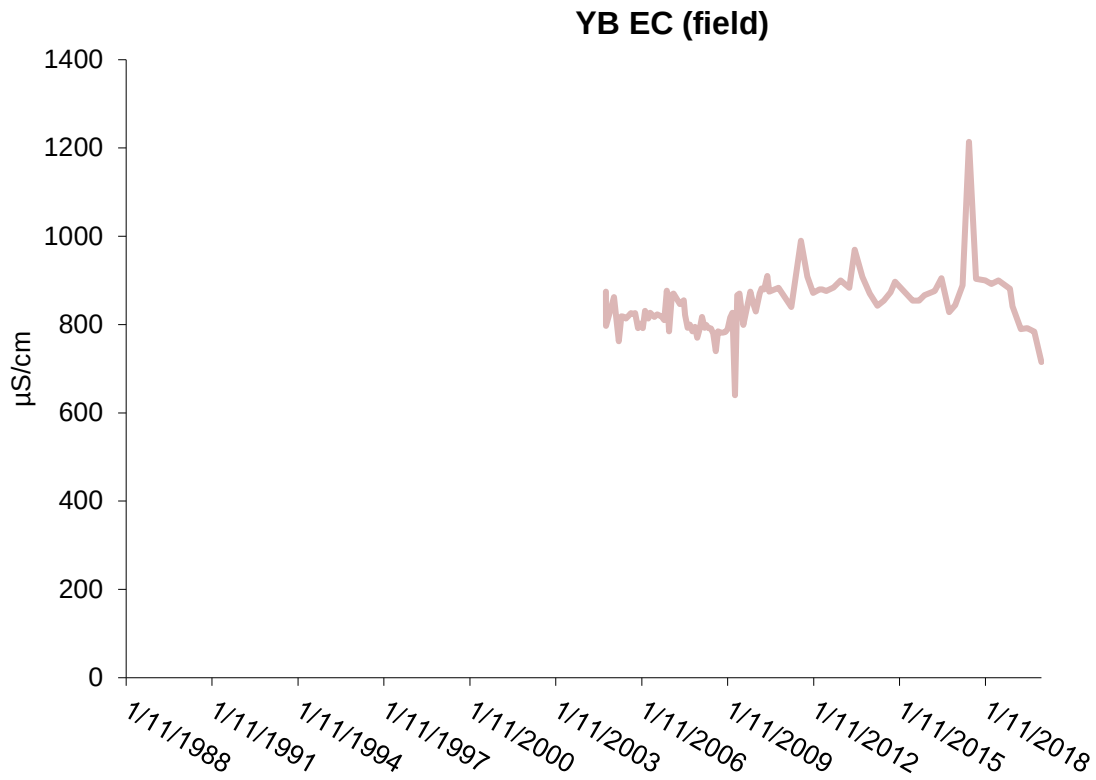
Figure

Dalyellup Monitoring

Date:	**Drawn:**
Scale:	**Chk'd:**
Original:	**Rev:**
File Reference:	

TRONOX



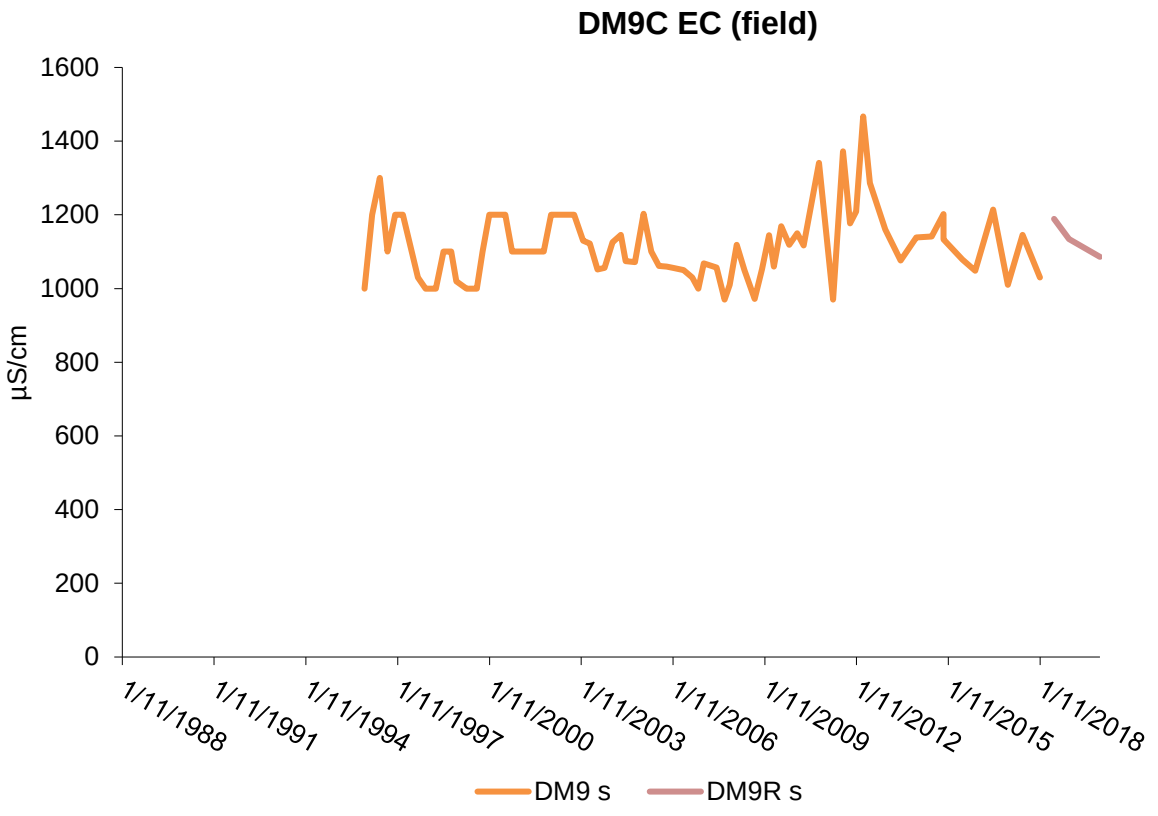


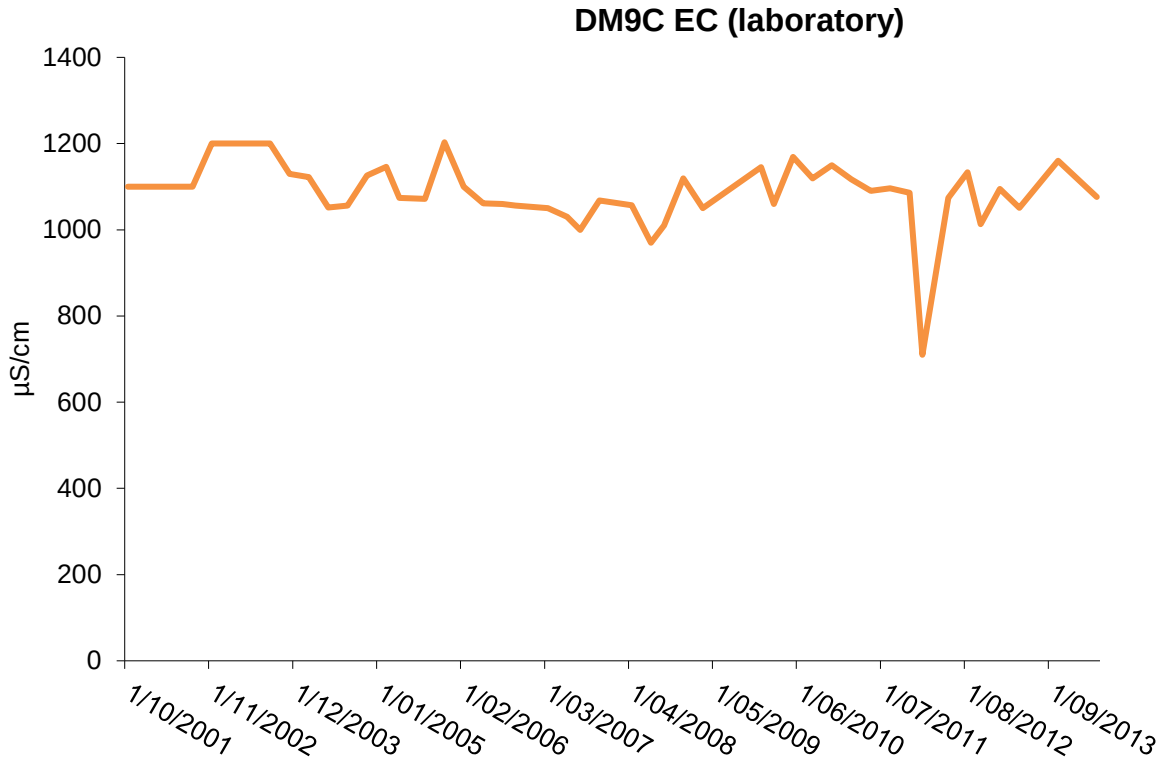
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



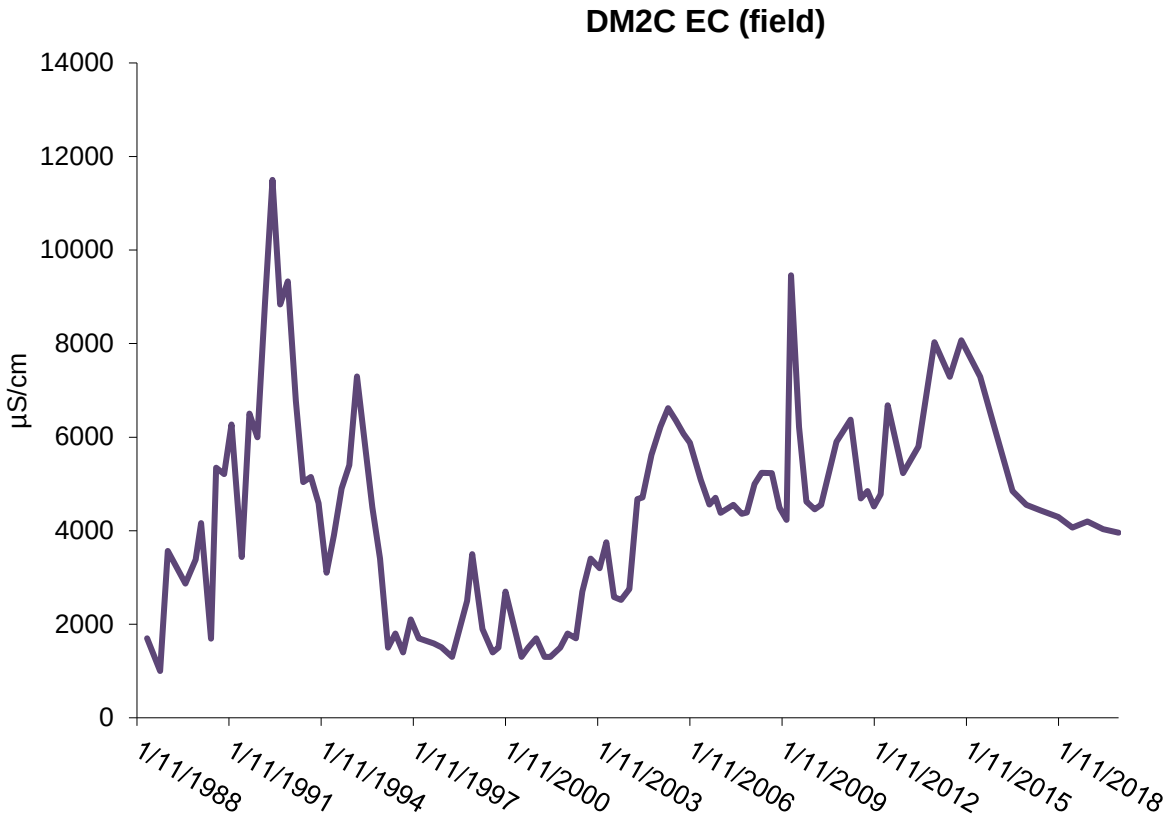


Figure

Dalyellup Monitoring

Date:	**Drawn:**
Scale:	**Chk'd:**
Original:	**Rev:**
File Reference:	

TRONOX

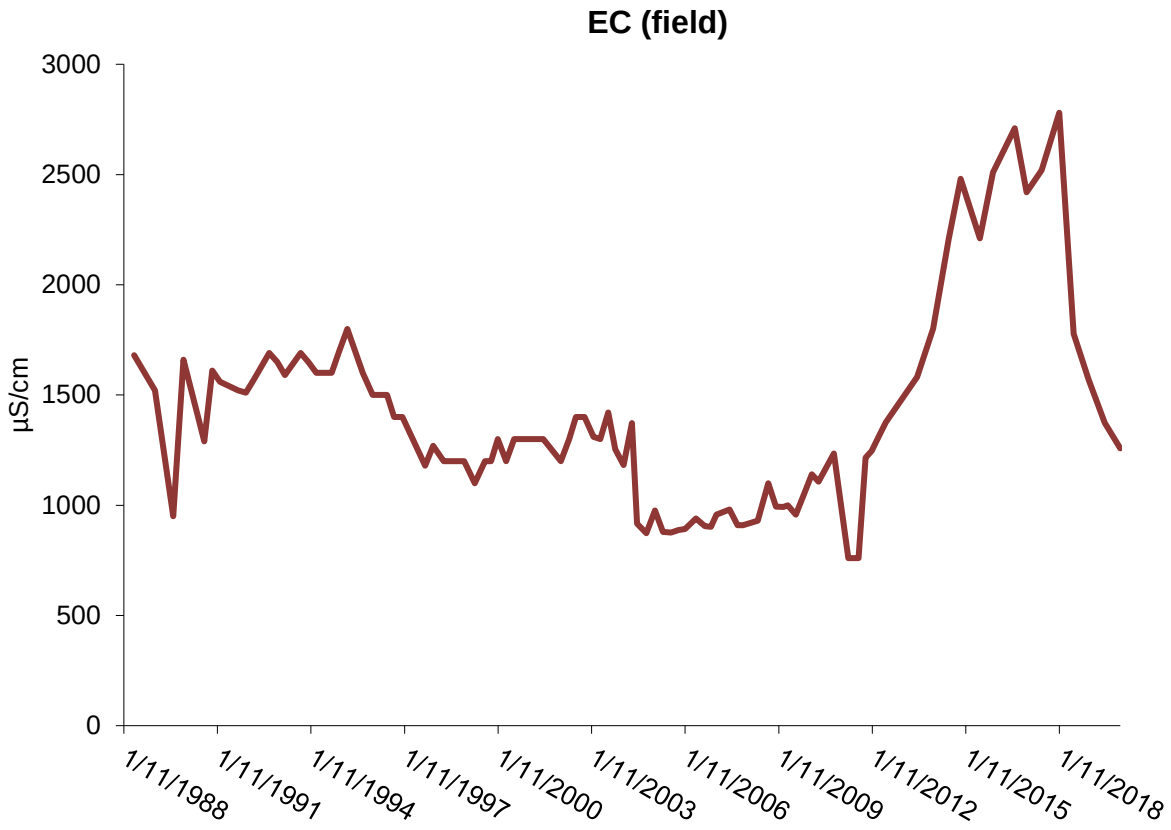


Figure

Dalyellup Monitoring

Date:	**Drawn:**
Scale:	**Chk'd:**
Original:	**Rev:**
File Reference:	

TRONOX

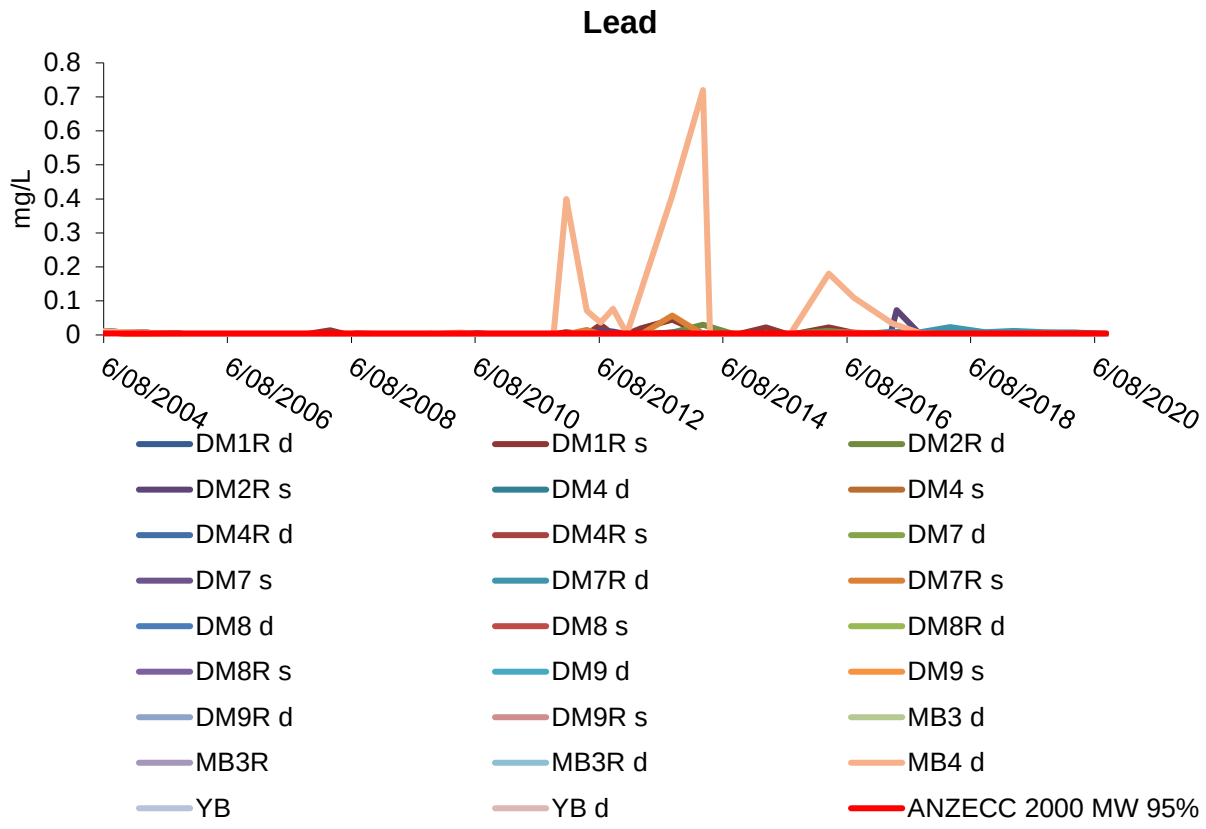


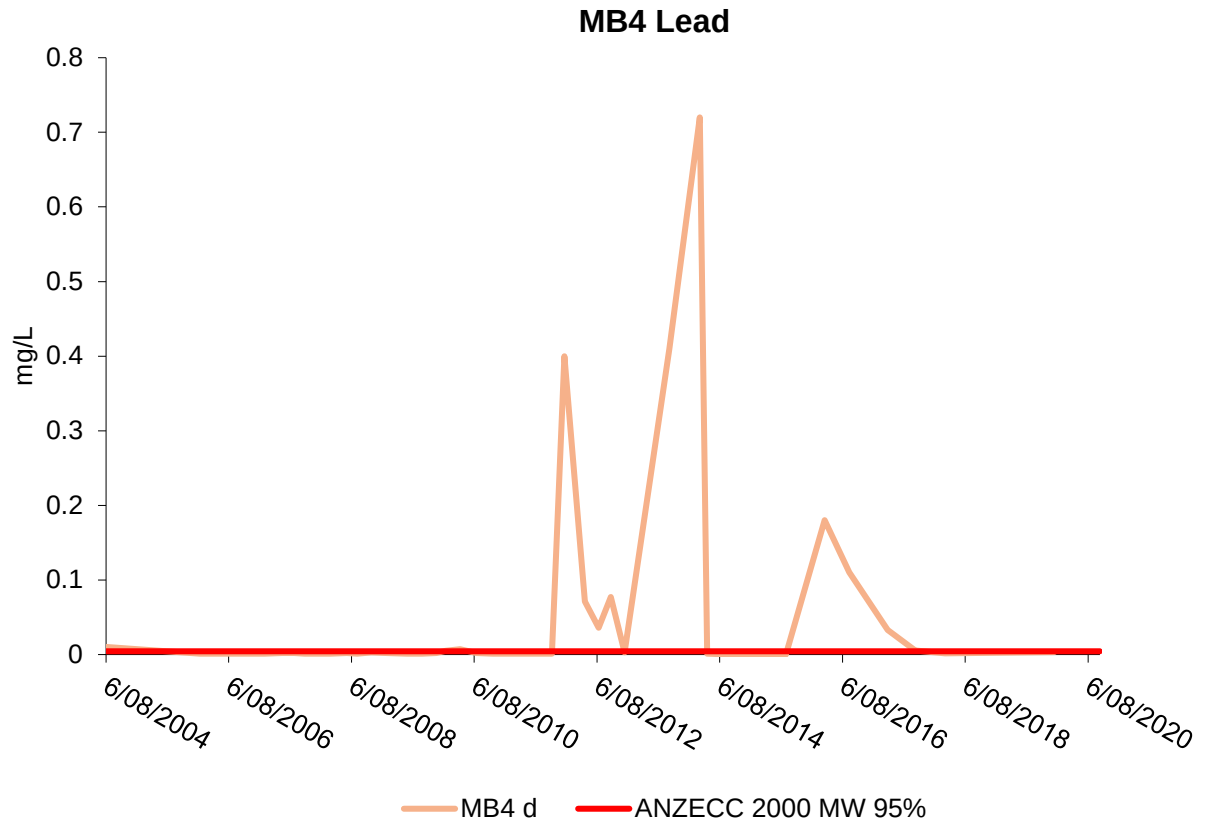
Figure

Dalyellup Monitoring

Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

TRONOX



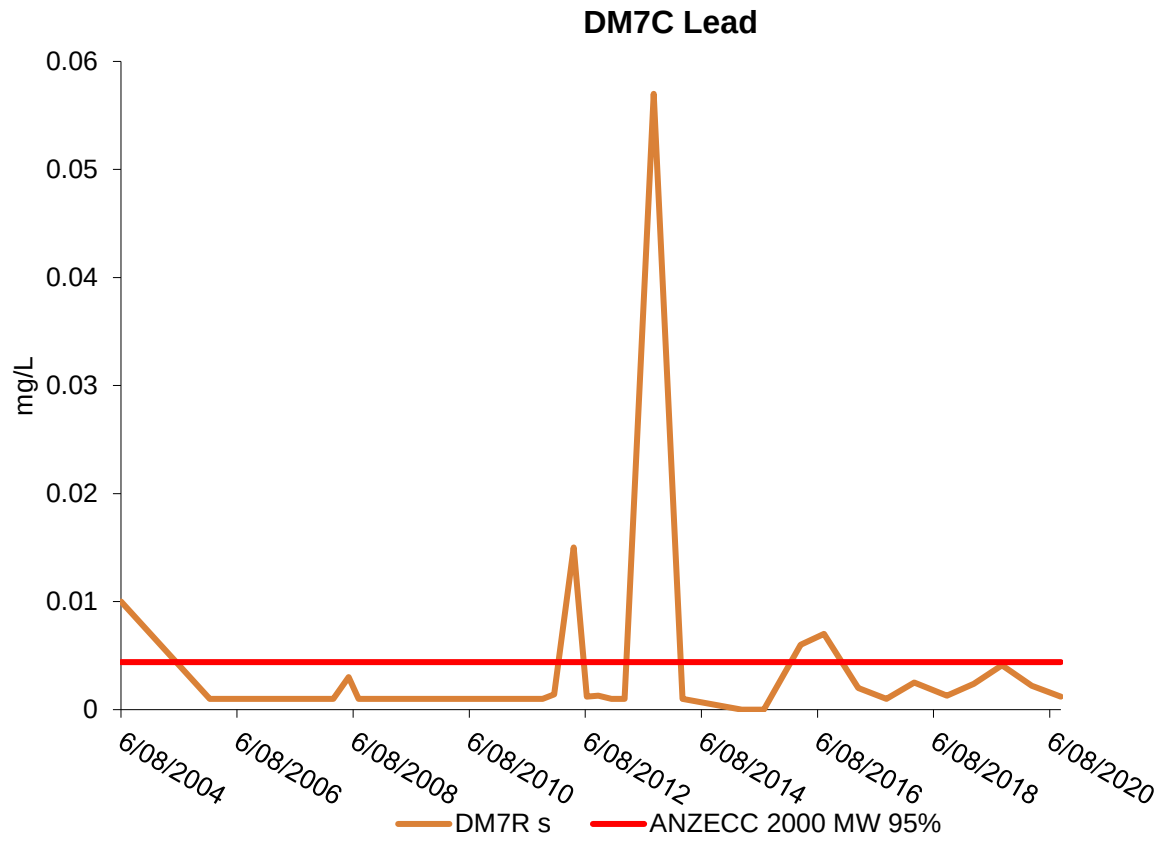


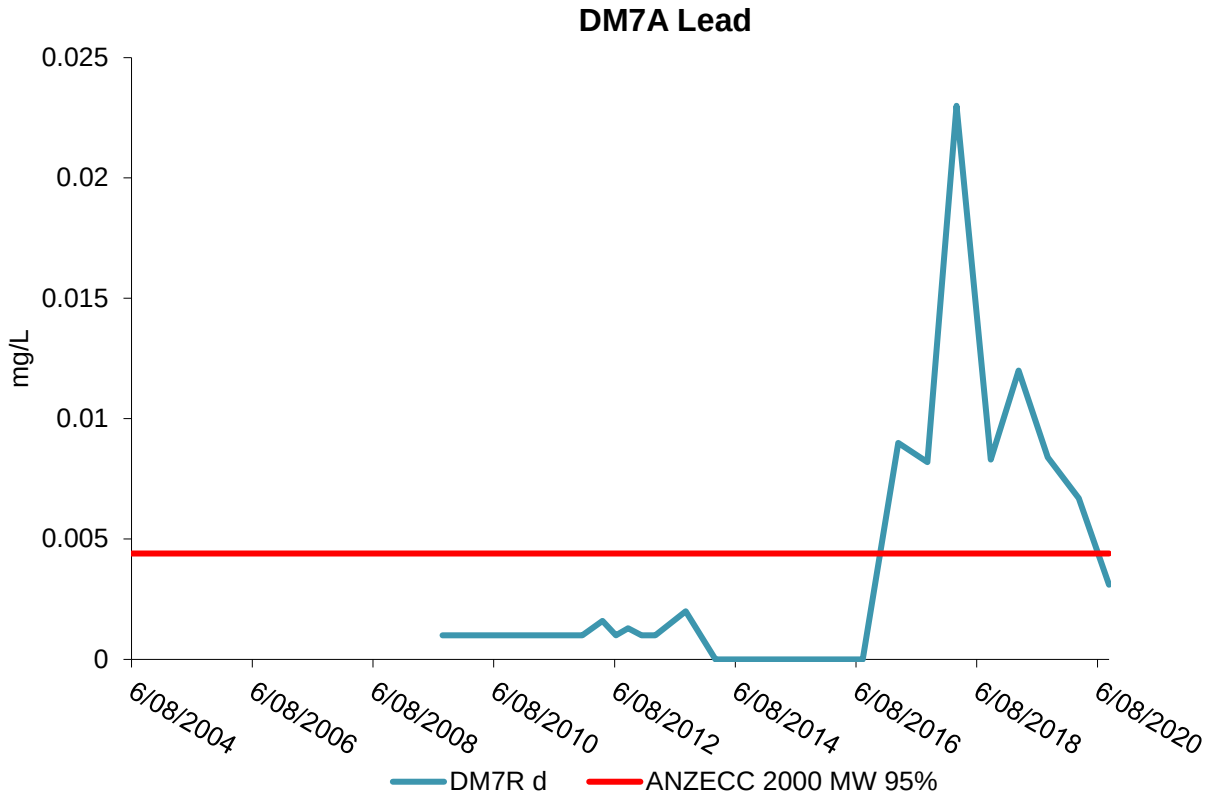
Figure

Dalyellup Monitoring

Date:		**Drawn:**	
Scale:		**Chk'd:**	
Original:		**Rev:**	
File Reference:			

TRONOX



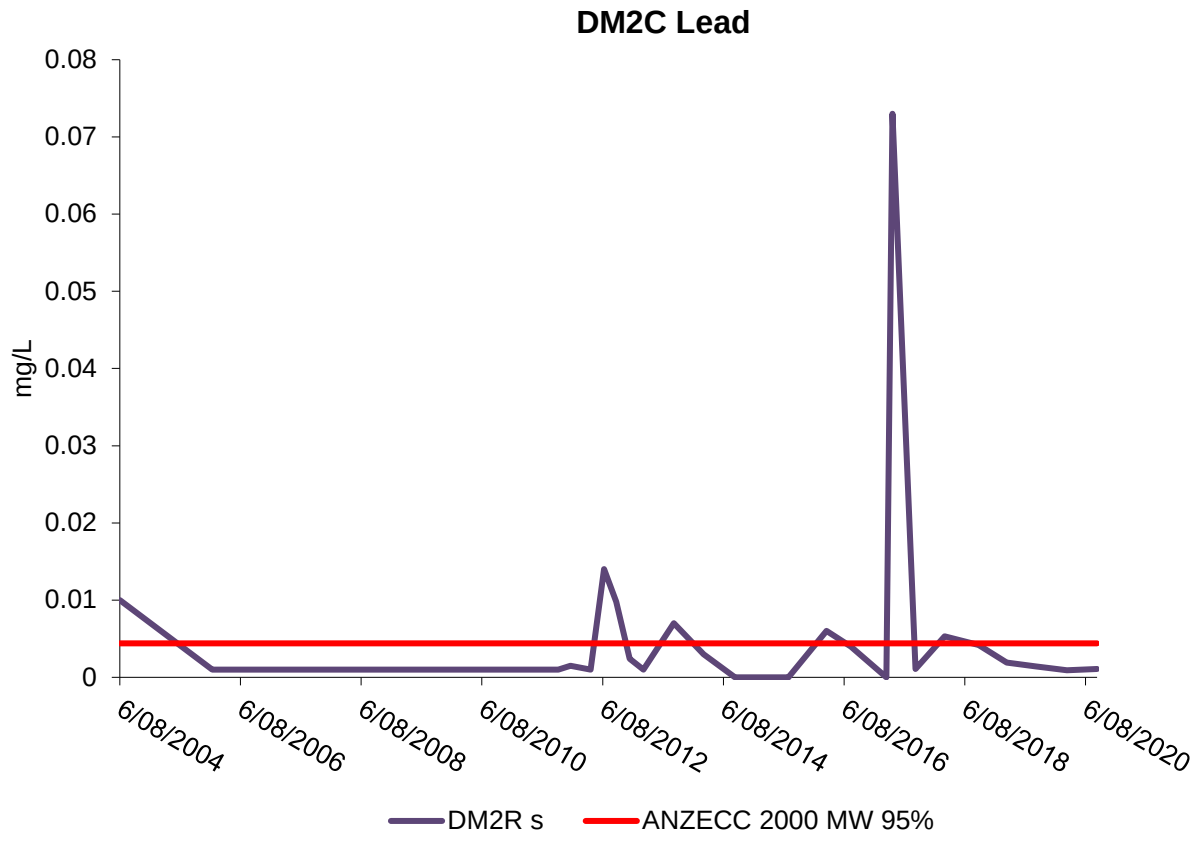


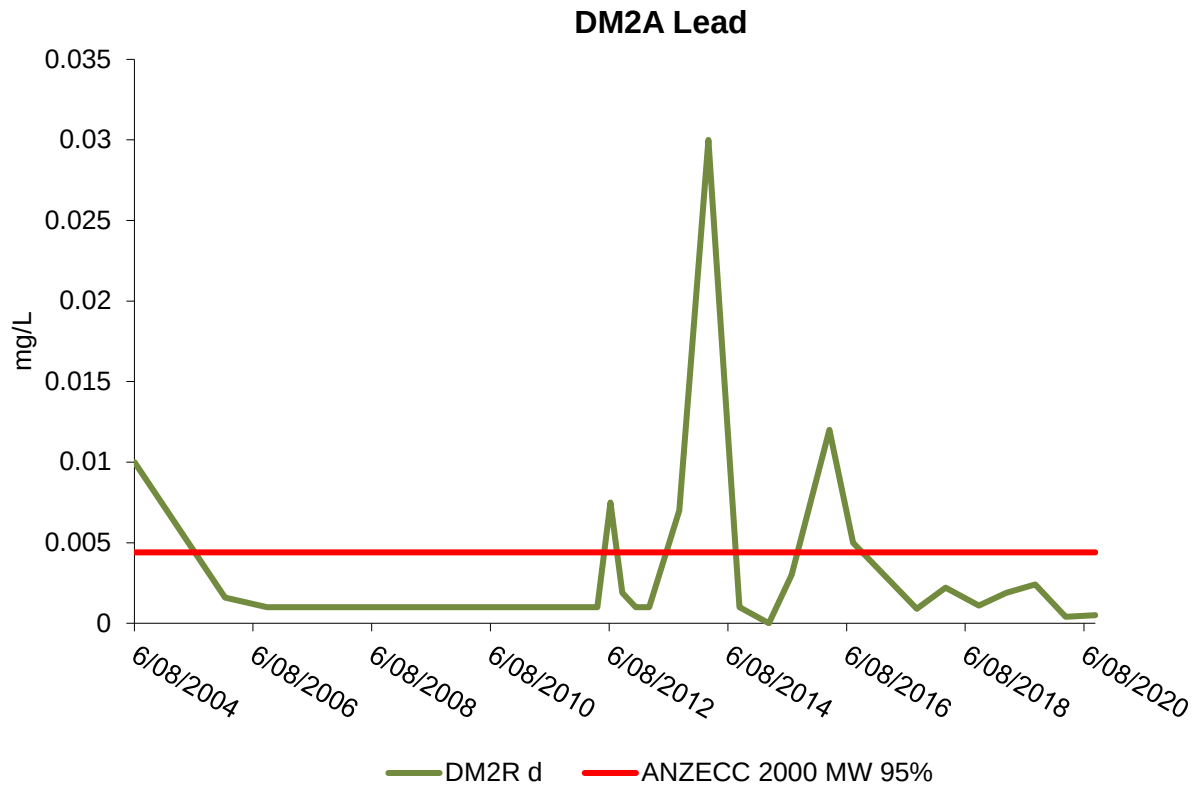
Figure

Dalyellup Monitoring

Date:	**Drawn:**
Scale:	**Chk'd:**
Original:	**Rev:**
File Reference:	

TRONOX



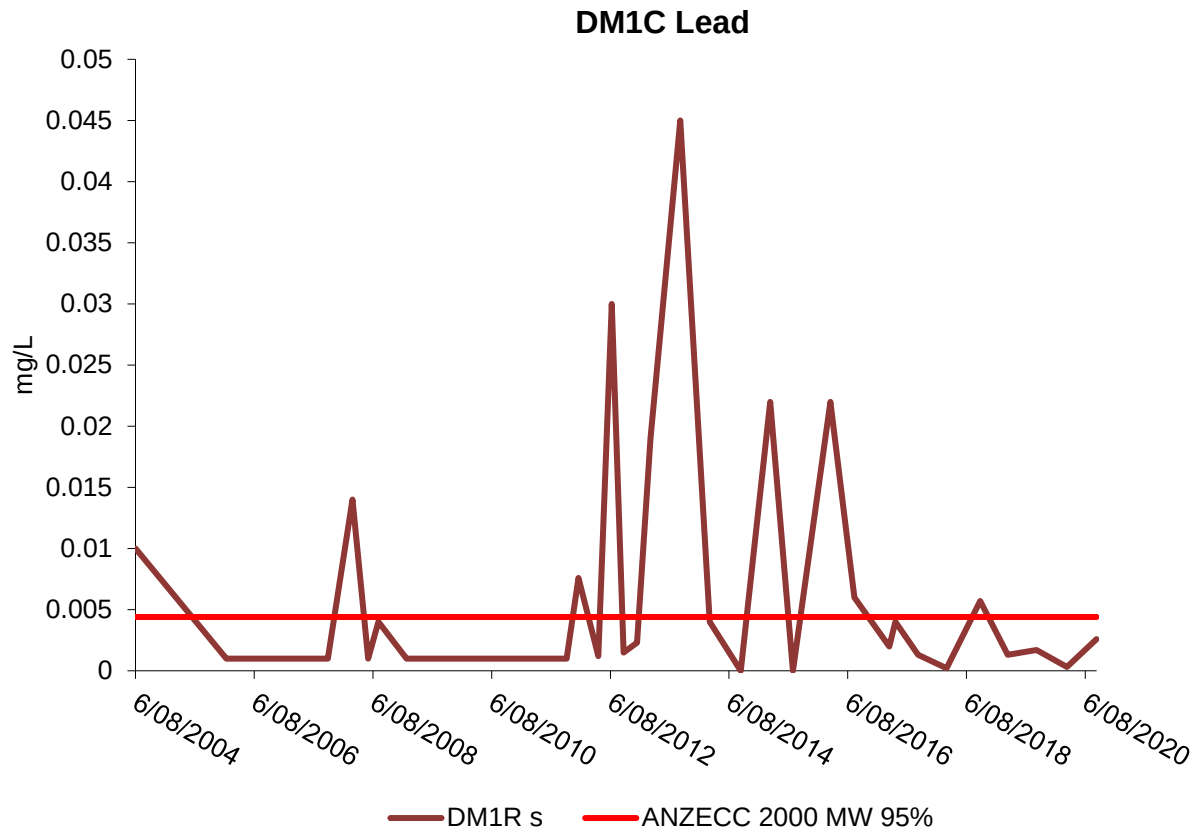


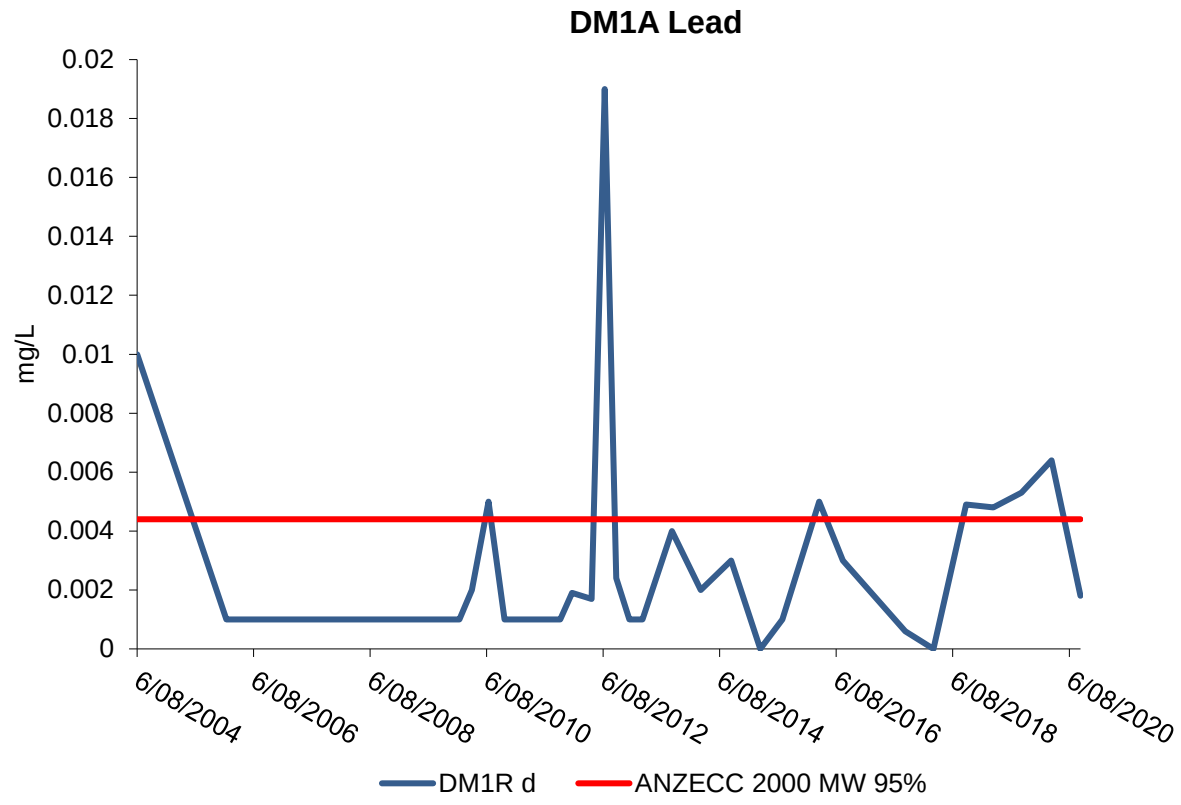
Figure

Dalyellup Monitoring

Date:	**Drawn:**
Scale:	**Chk'd:**
Original:	**Rev:**
File Reference:	

TRONOX





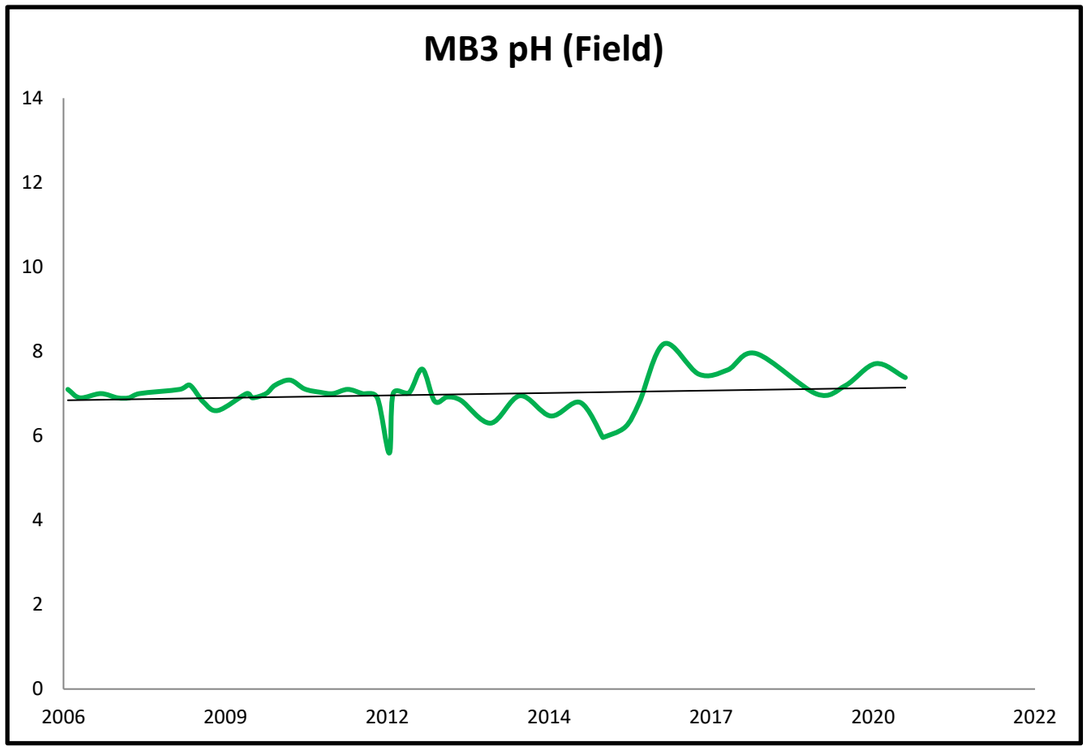
Figure

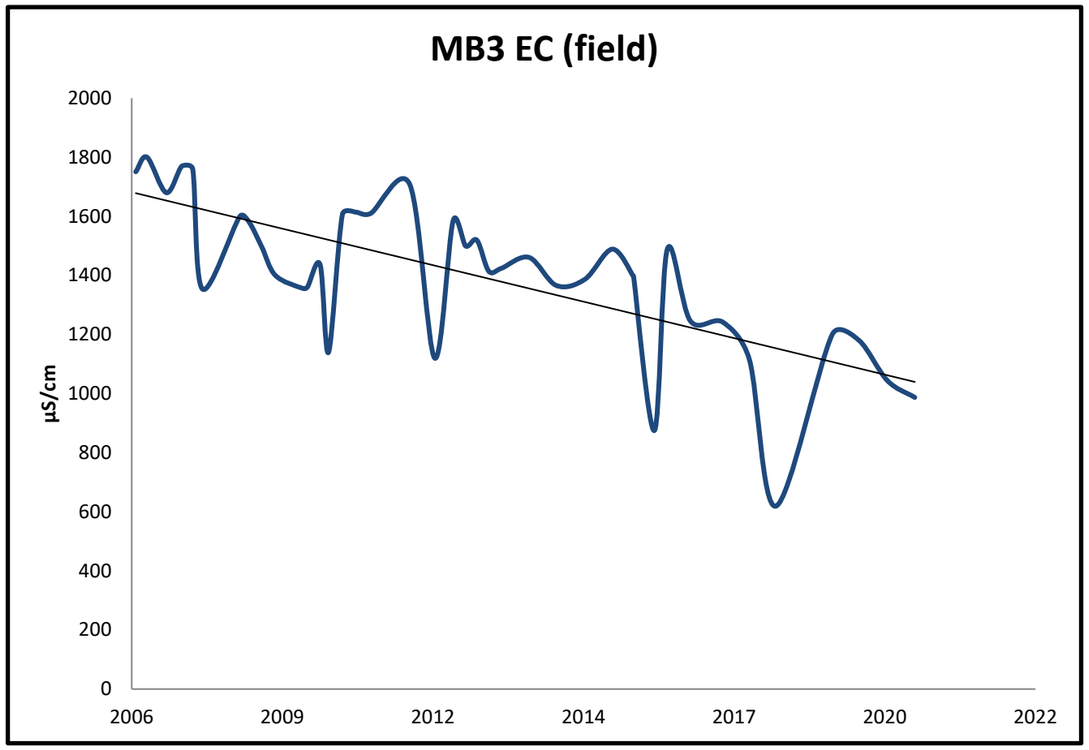
Dalyellup Monitoring

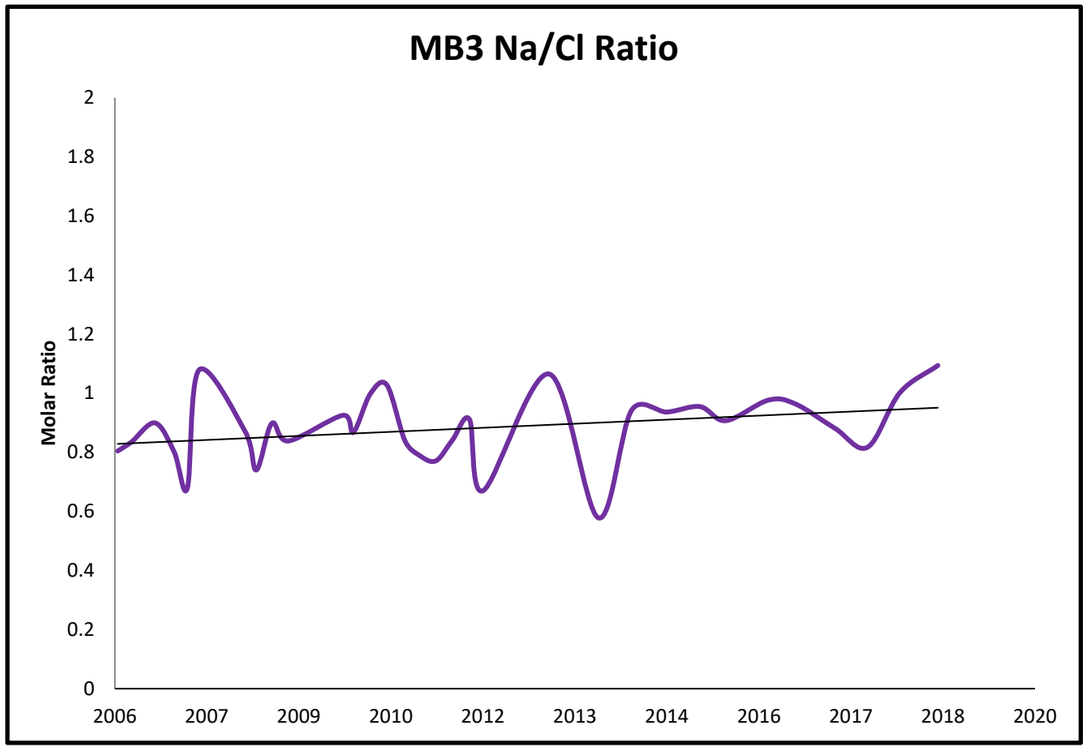
Date:	Drawn:
Scale:	Chk'd:
Original:	Rev:
File Reference:	

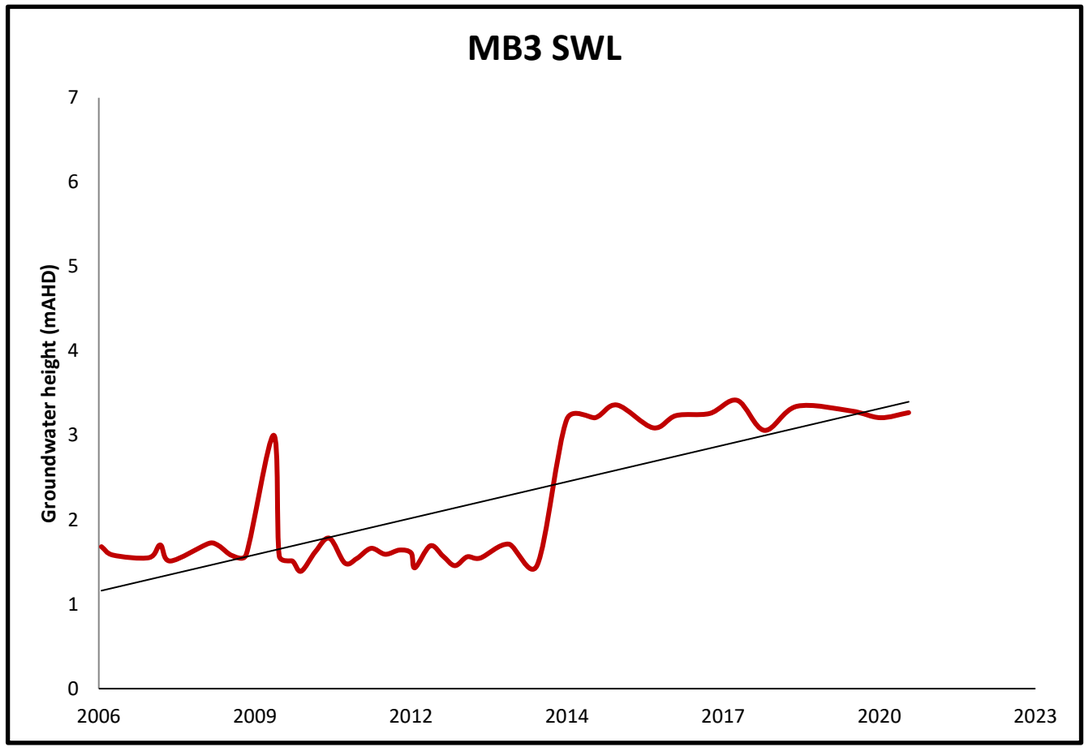
TRONOX

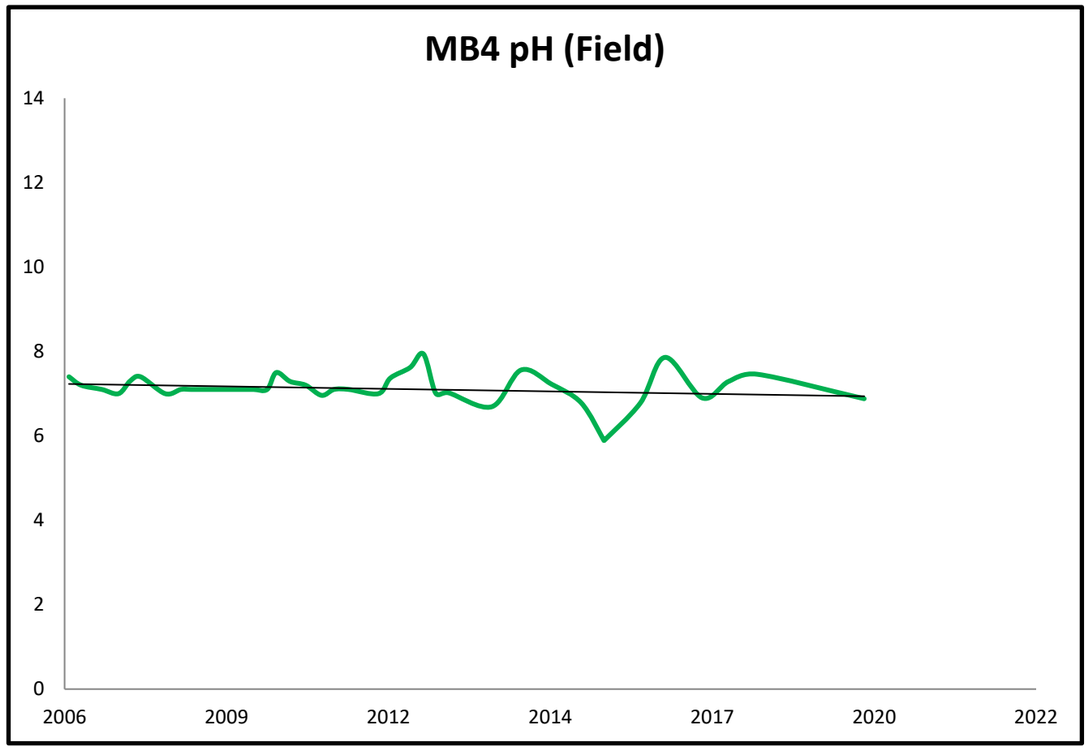
Appendix E
Monitoring Bore Water Chemistry and Standing Water Level

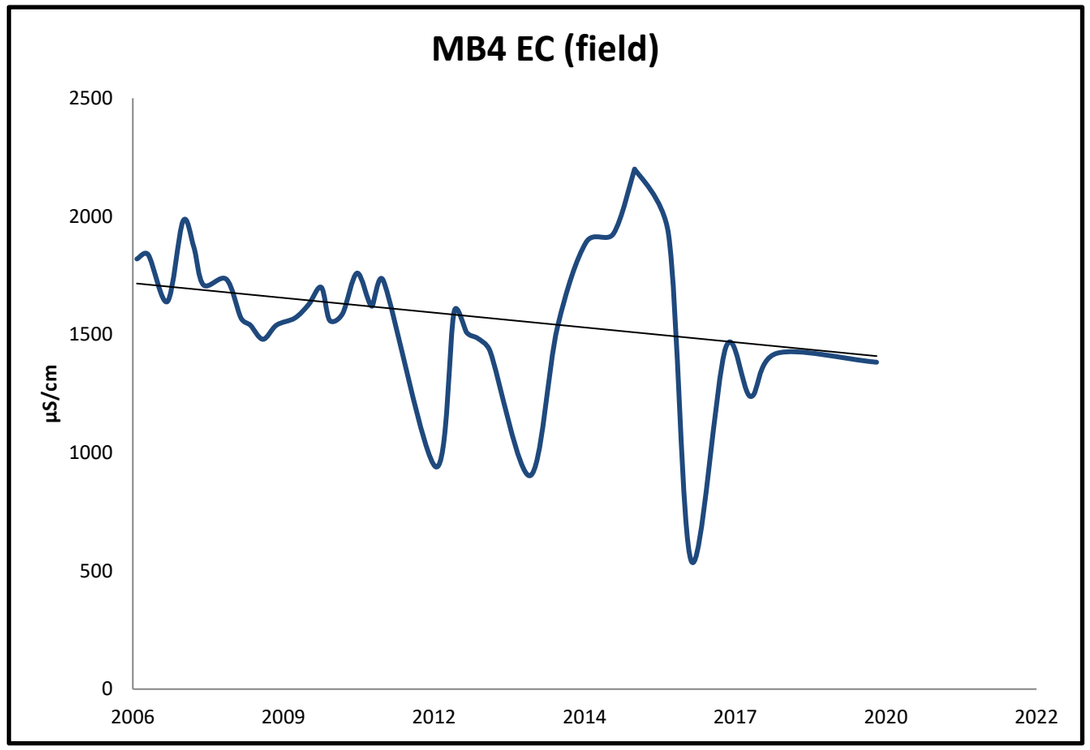

MB3 pH (Field)
14
12
10
8
6
4
2
0
2006
2009
2012
2014
2017
2020
2022

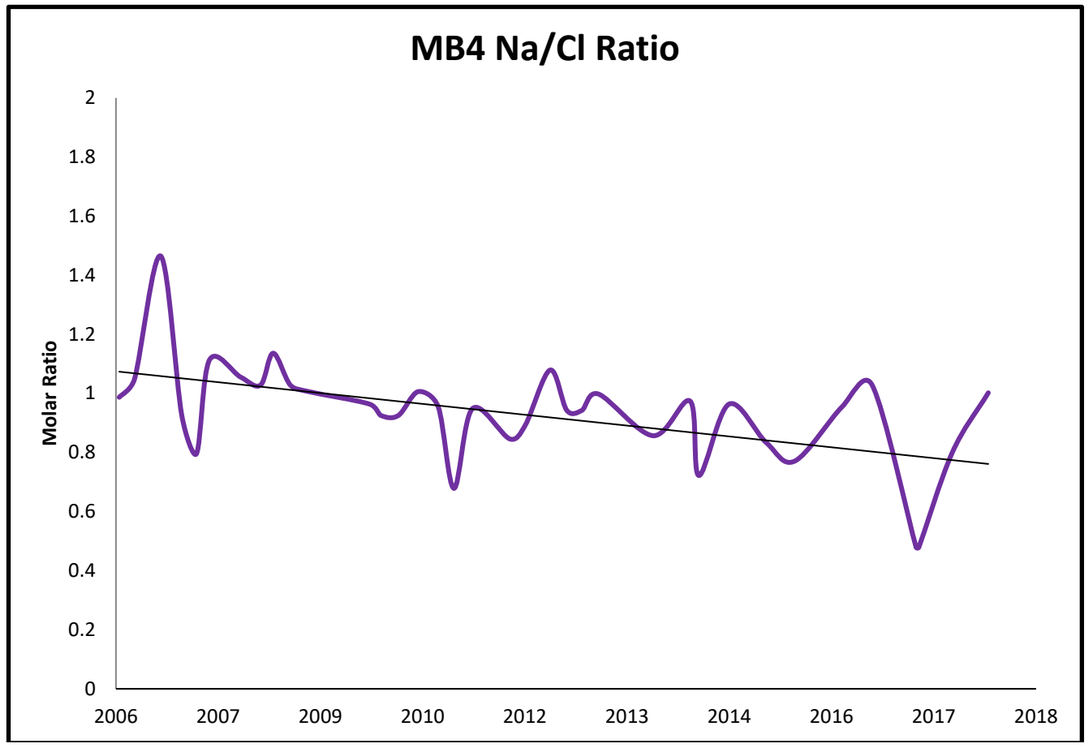

MB3 EC (field)
µS/cm
2000
1800
1600
1400
1200
1000
800
600
400
200
0
2006
2009
2012
2014
2017
2020
2022

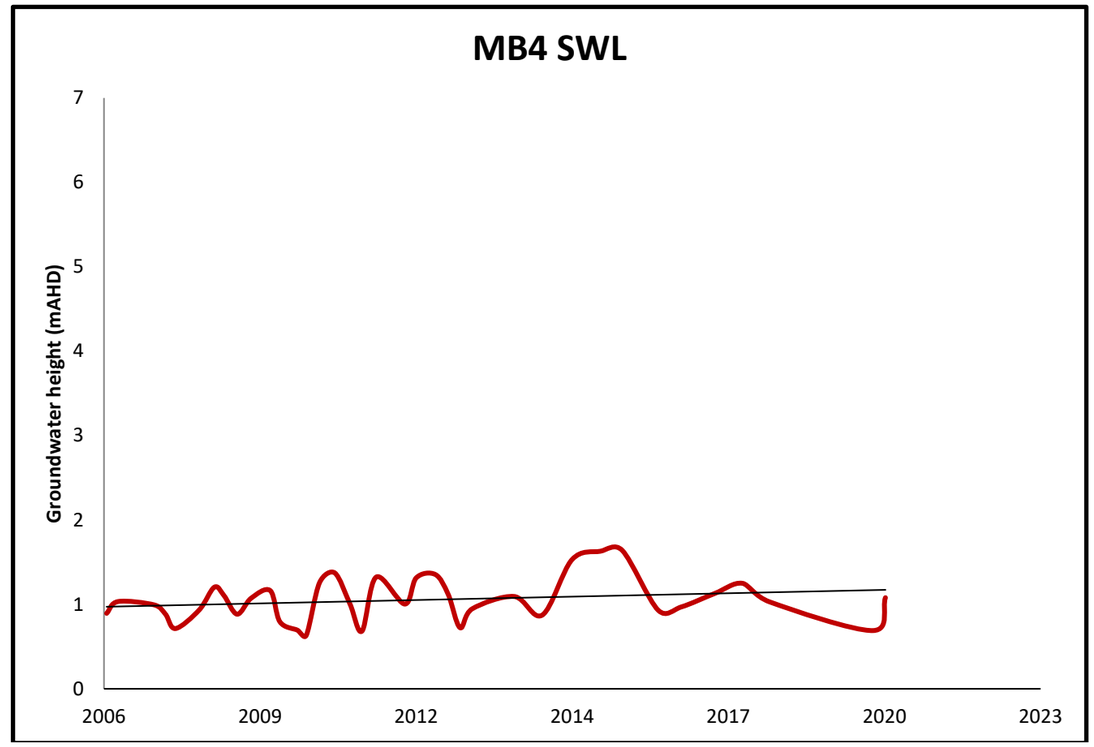

MB3 Na/Cl Ratio
Molar Ratio
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020

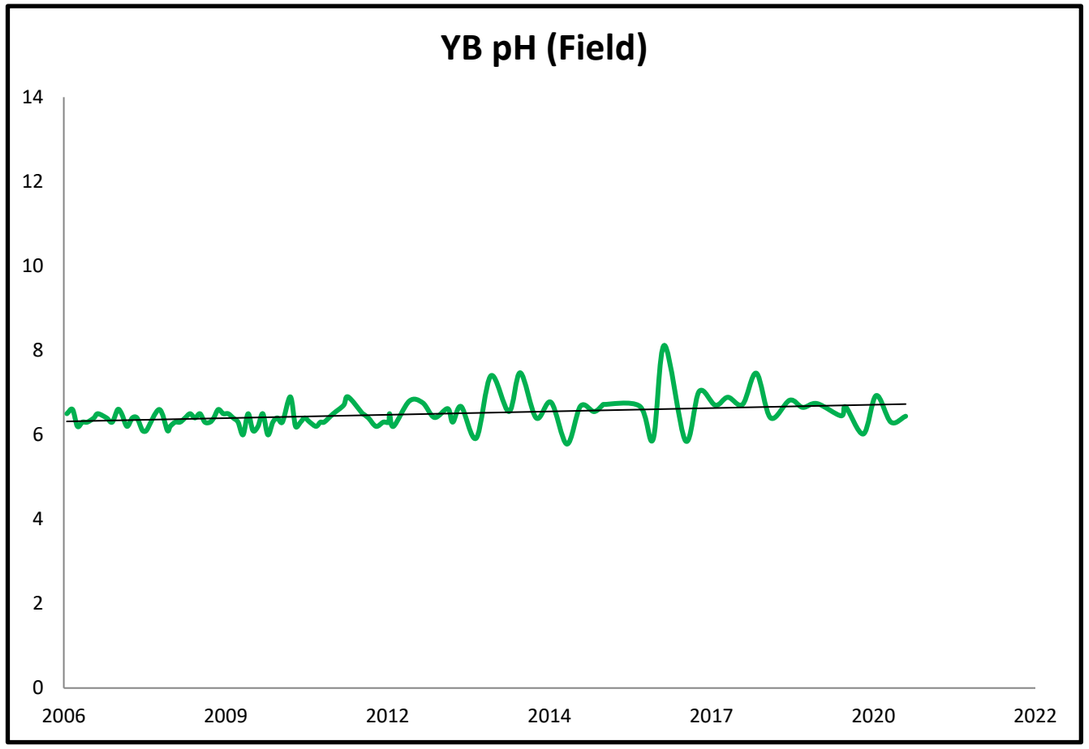

MB3 SWL
Groundwater height (mAHD)
7
6
5
4
3
2
1
0
2006
2009
2012
2014
2017
2020
2023

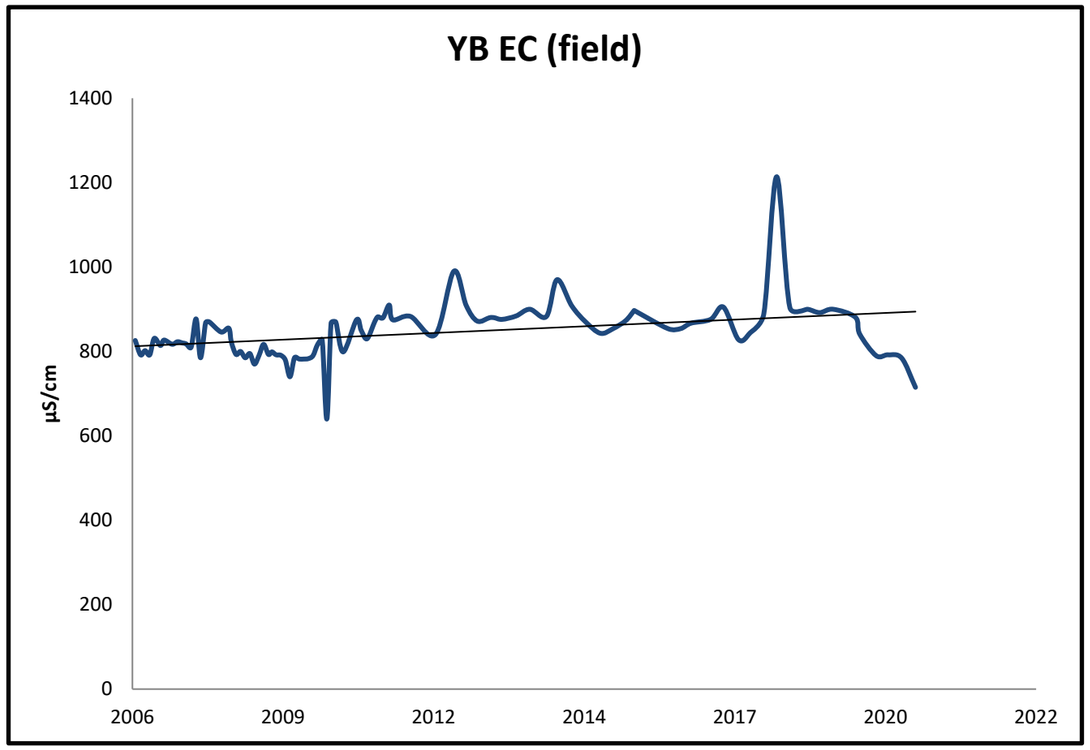

MB4 pH (Field)
14
12
10
8
6
4
2
0
2006
2009
2012
2014
2017
2020
2022

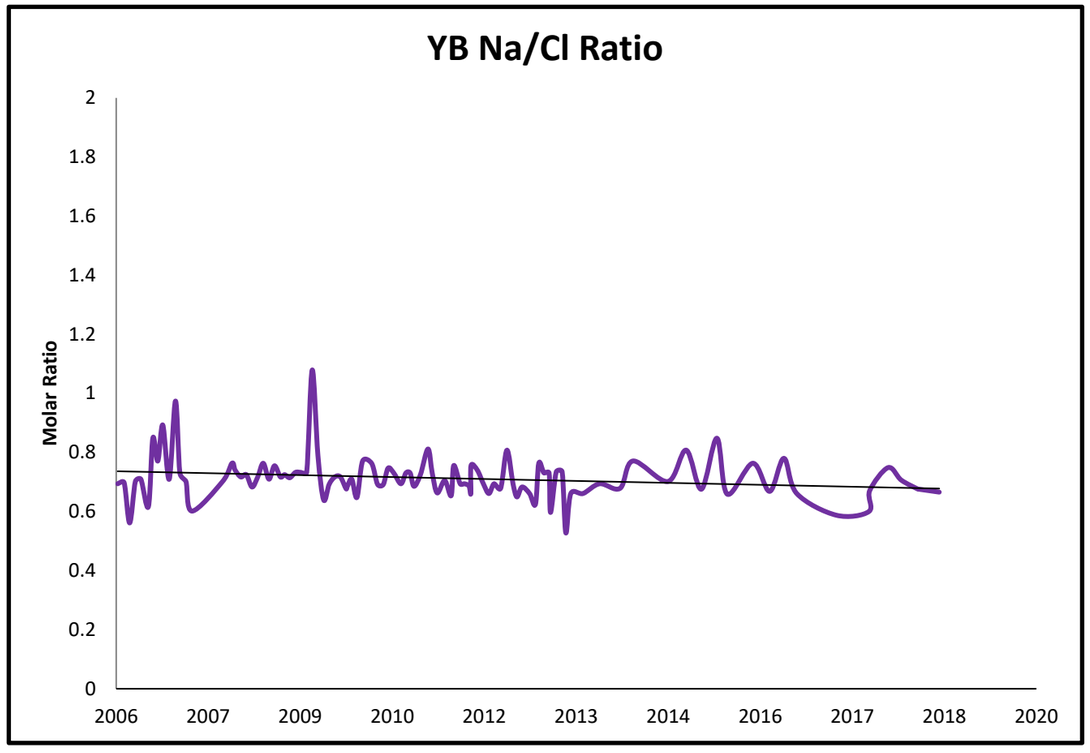

MB4 EC (field)
2500
2000
1500
1000
500
0
µS/cm
2006
2009
2012
2014
2017
2020
2022

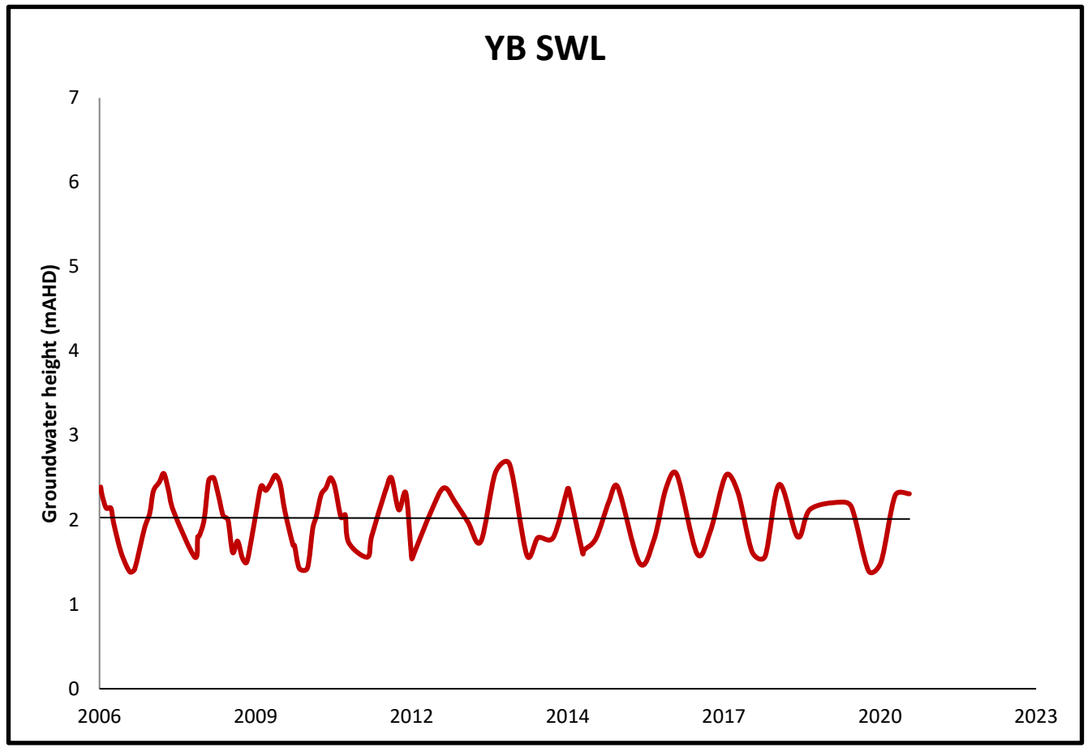

MB4 Na/Cl Ratio
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Molar Ratio
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018

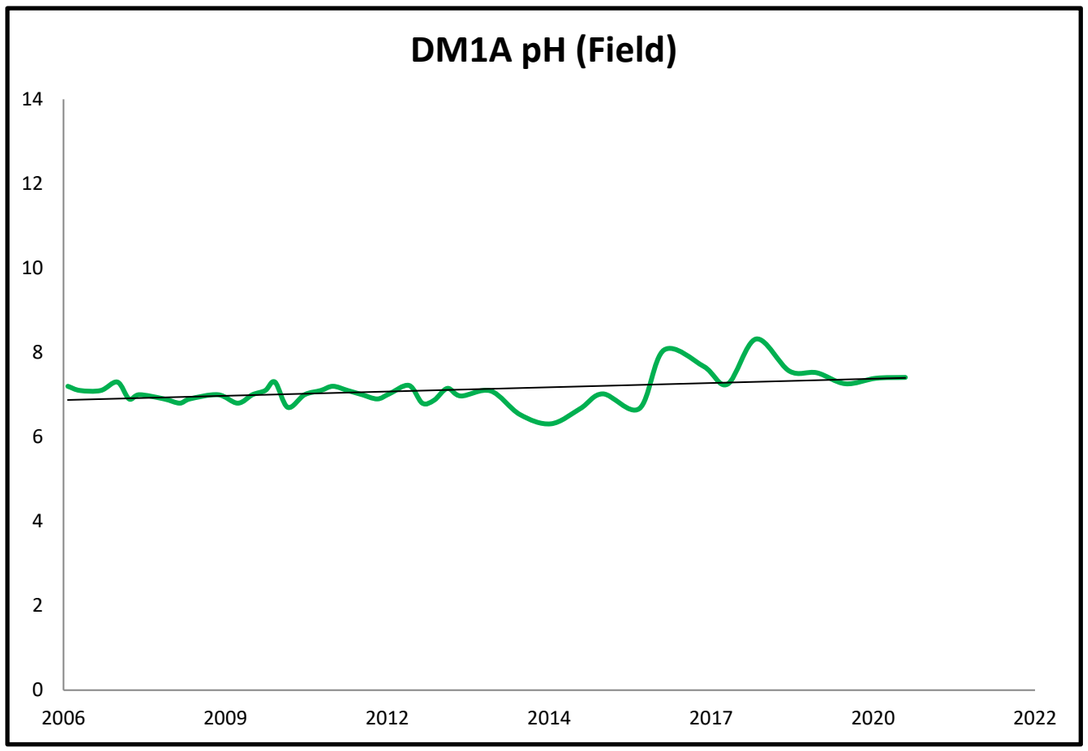

MB4 SWL
7
6
5
4
3
2
1
0
Groundwater height (mAHD)
2006
2009
2012
2014
2017
2020
2023

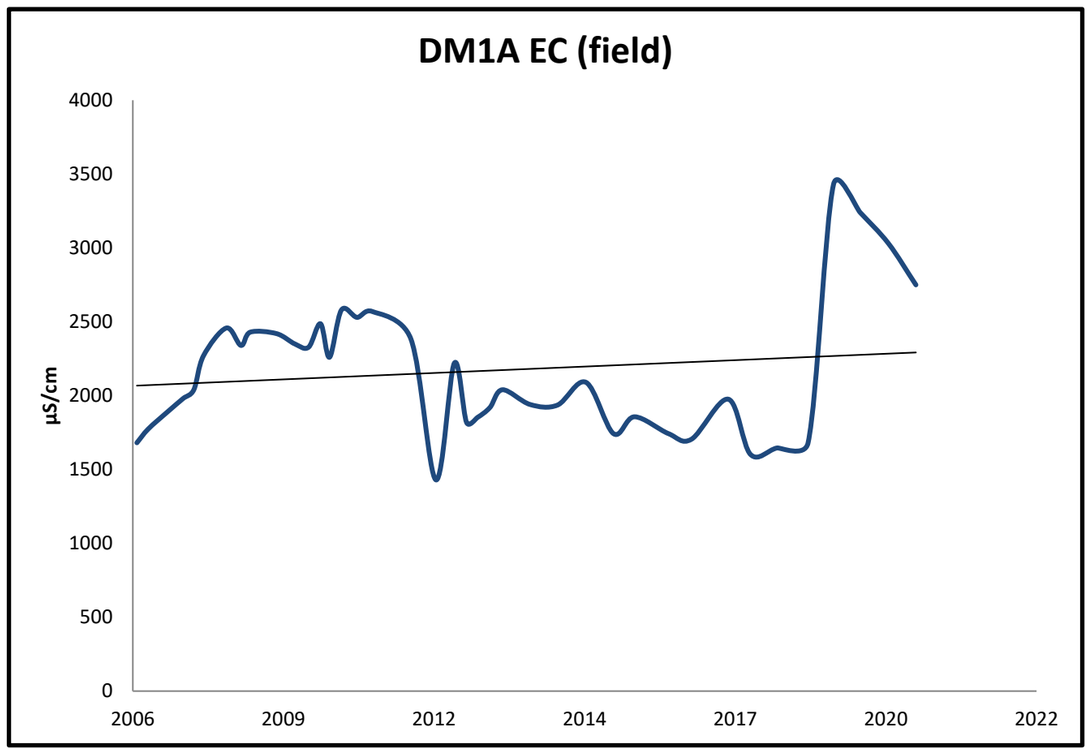

YB pH (Field)
14
12
10
8
6
4
2
0
2006
2009
2012
2014
2017
2020
2022

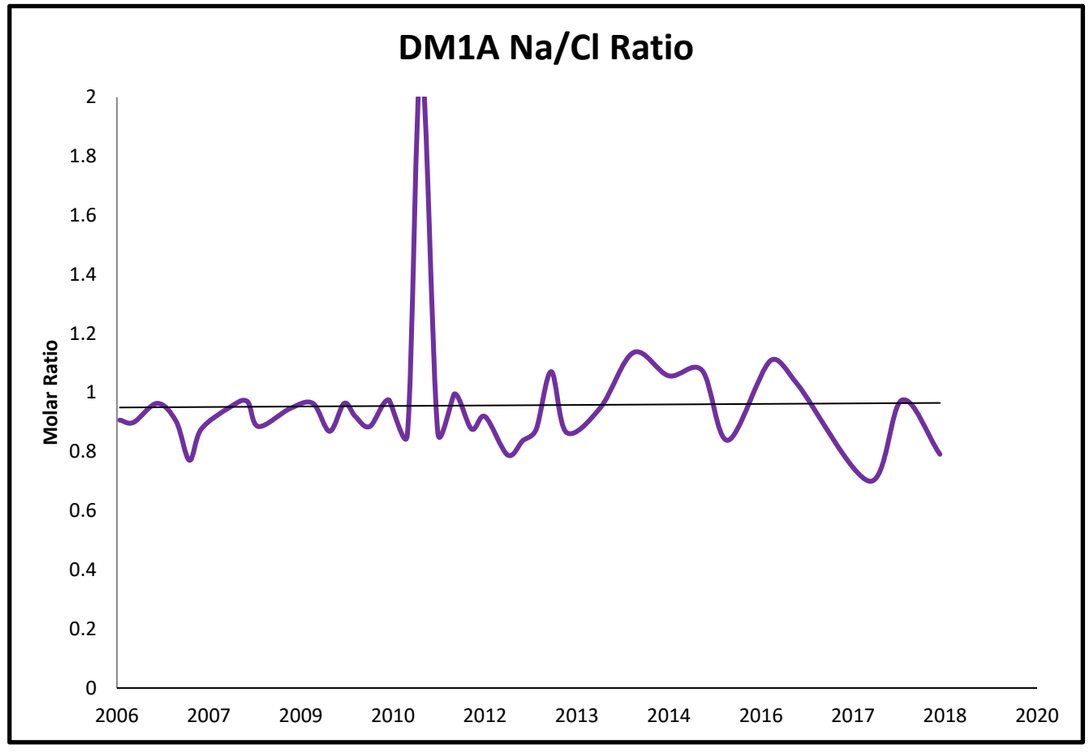

YB EC (field)
µS/cm
1400
1200
1000
800
600
400
200
0
2006
2009
2012
2014
2017
2020
2022

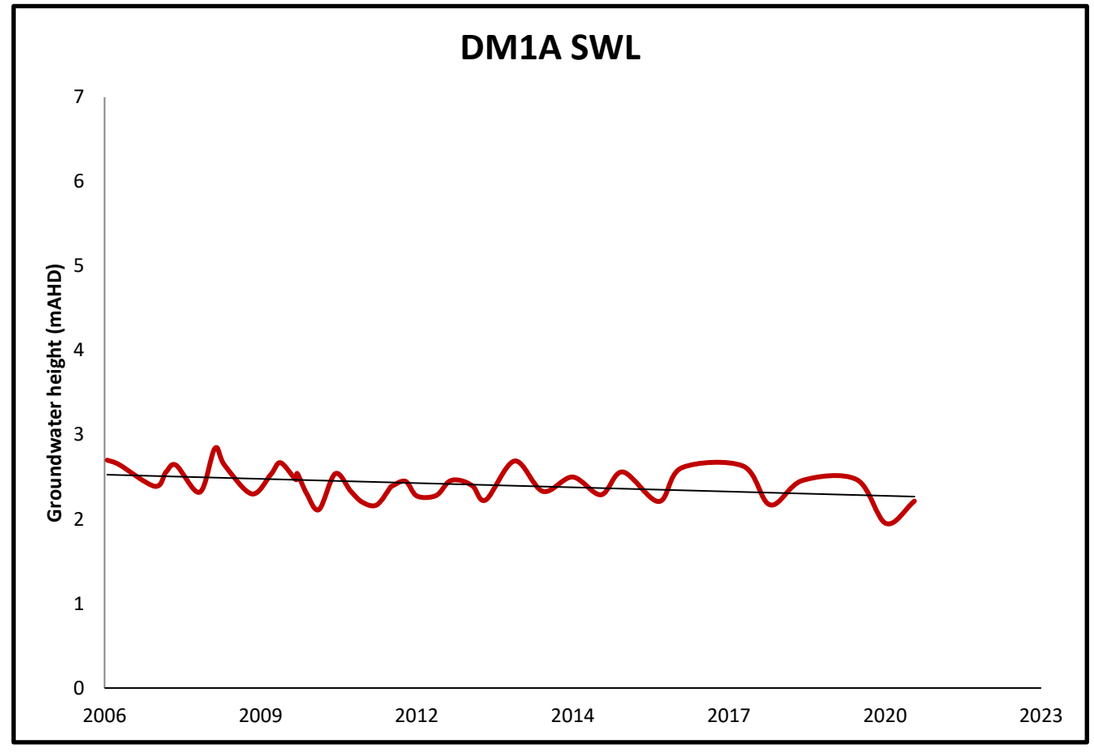

YB Na/Cl Ratio
Molar Ratio
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020

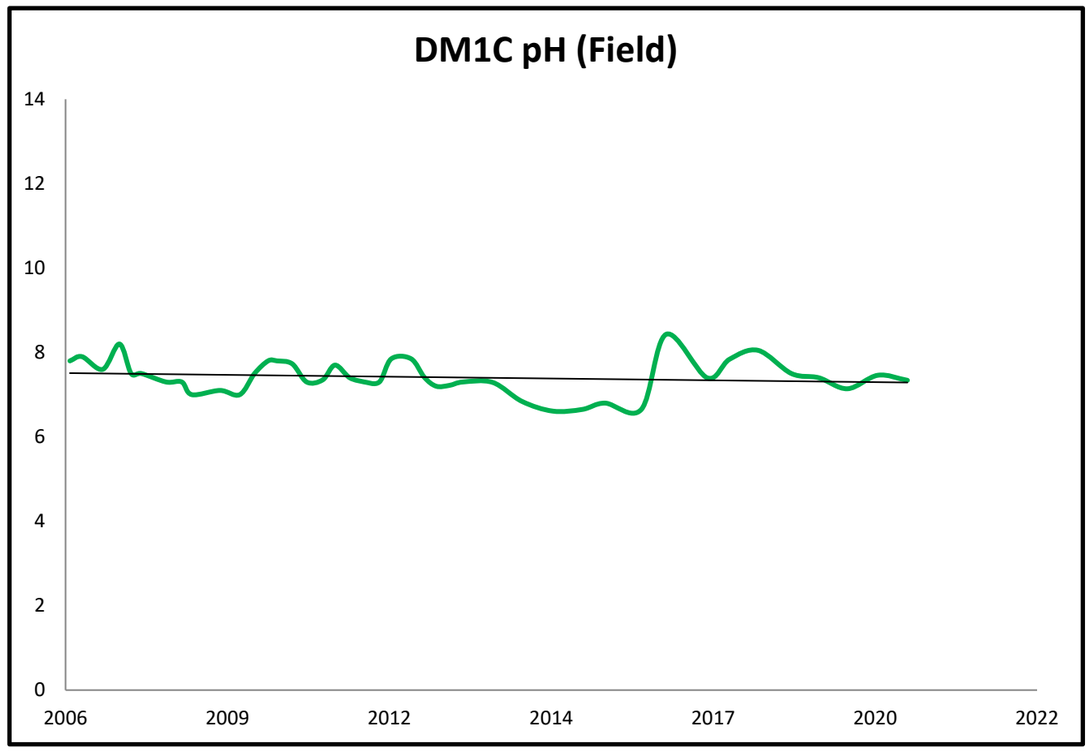

YB SWL
Groundwater height (mAHD)
7
6
5
4
3
2
1
0
2006
2009
2012
2014
2017
2020
2023

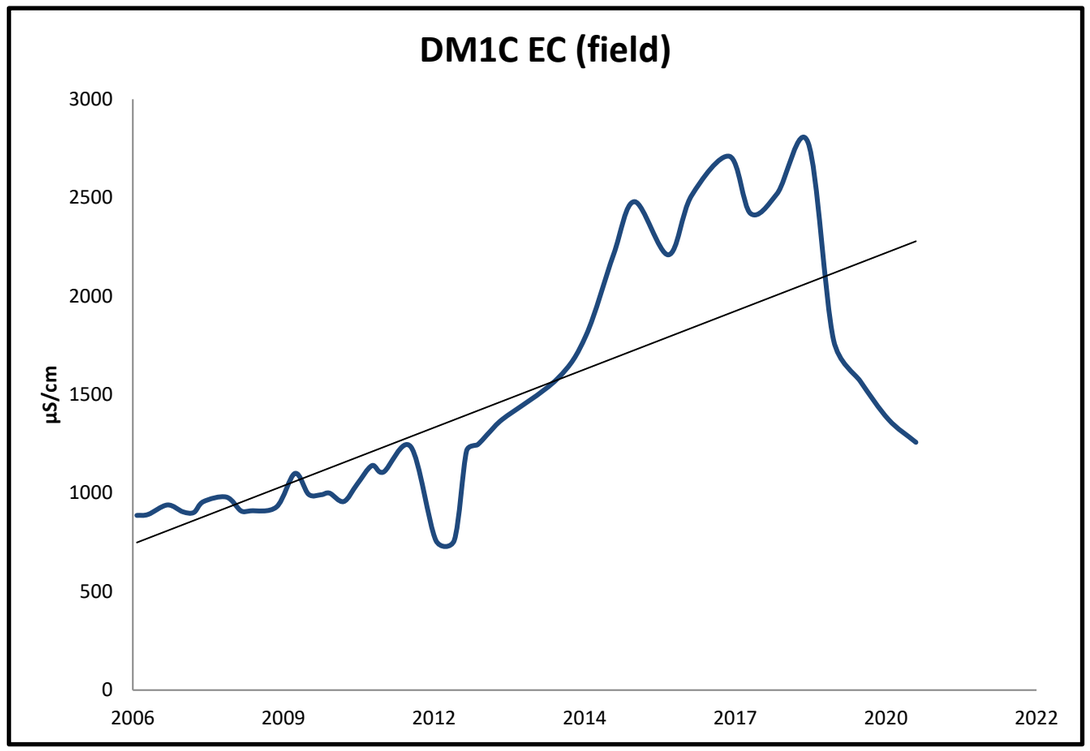

DM1A pH (Field)
14
12
10
8
6
4
2
0
2006
2009
2012
2014
2017
2020
2022

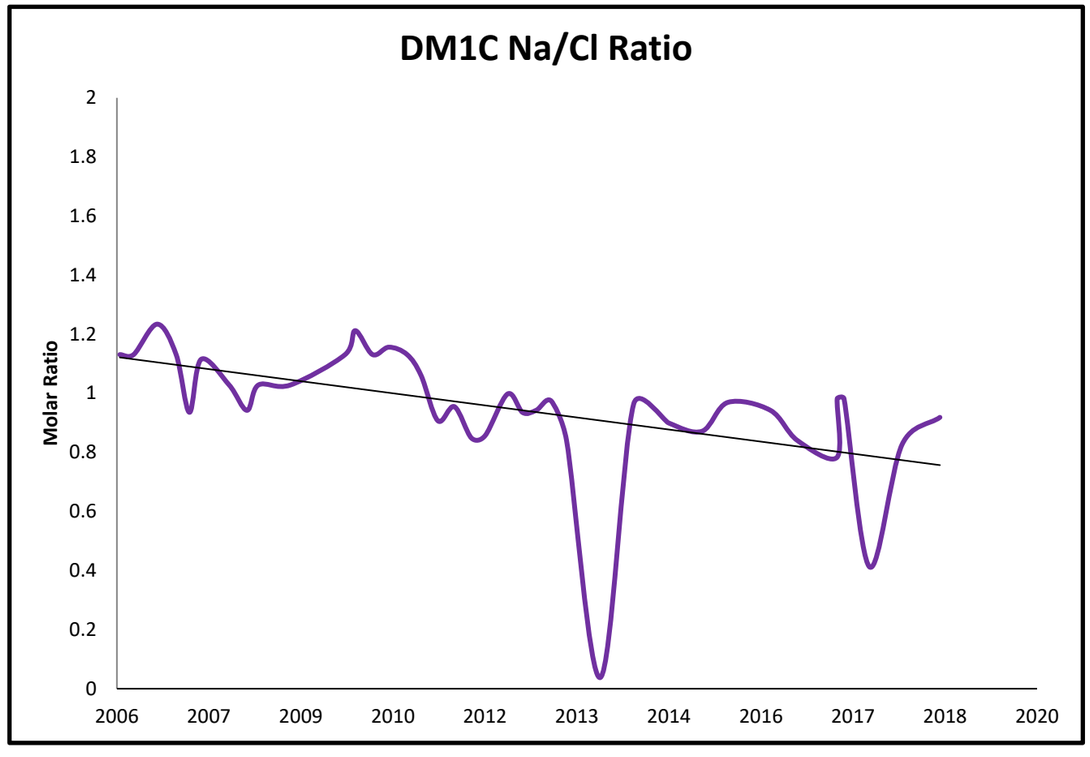

DM1A EC (field)
µS/cm
4000
3500
3000
2500
2000
1500
1000
500
0
2006
2009
2012
2014
2017
2020
2022

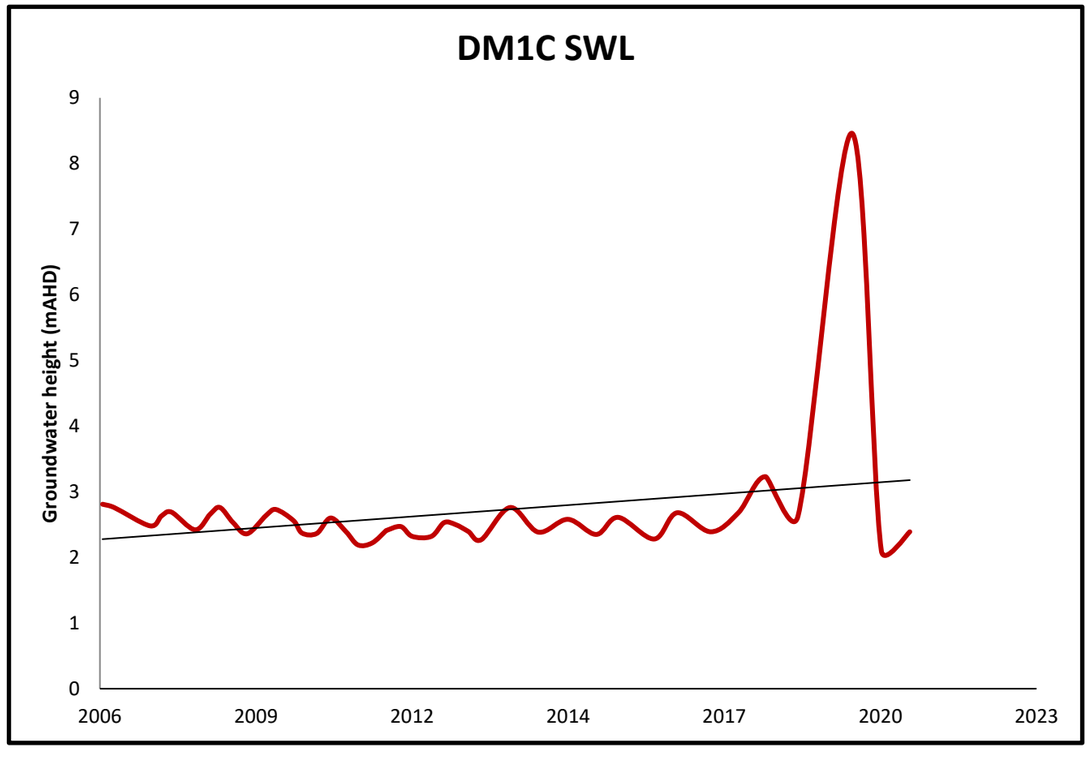

DM1A Na/Cl Ratio
Molar Ratio
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020

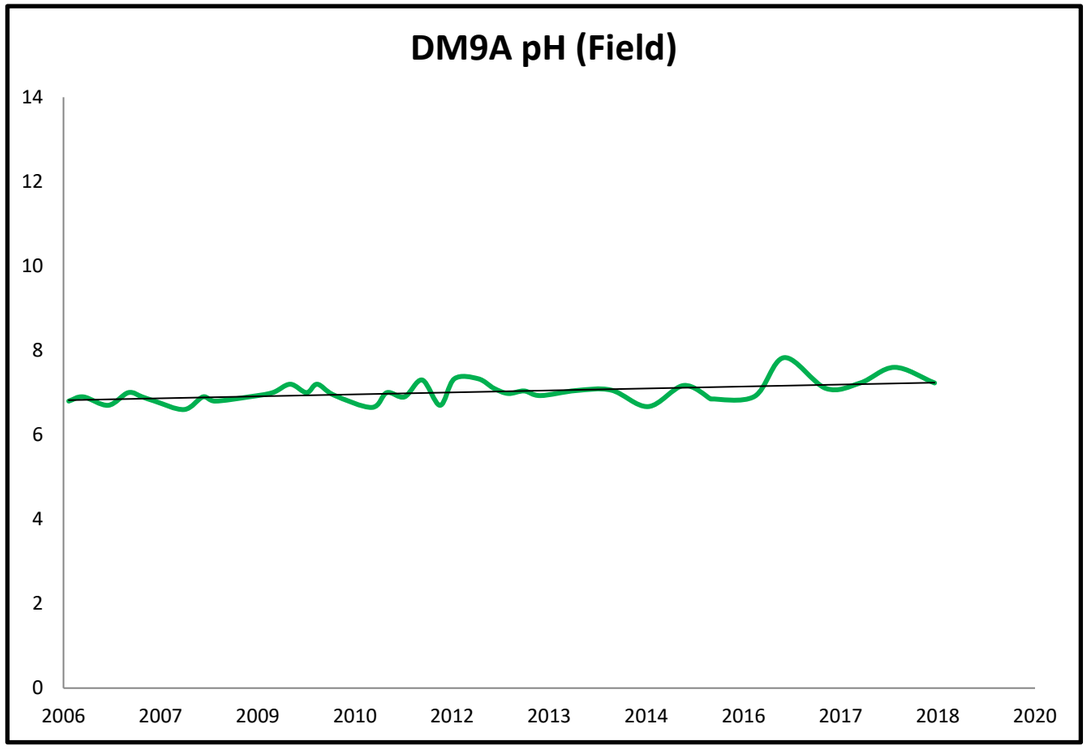

DM1A SWL
Groundwater height (mAHD)
7
6
5
4
3
2
1
0
2006
2009
2012
2014
2017
2020
2023

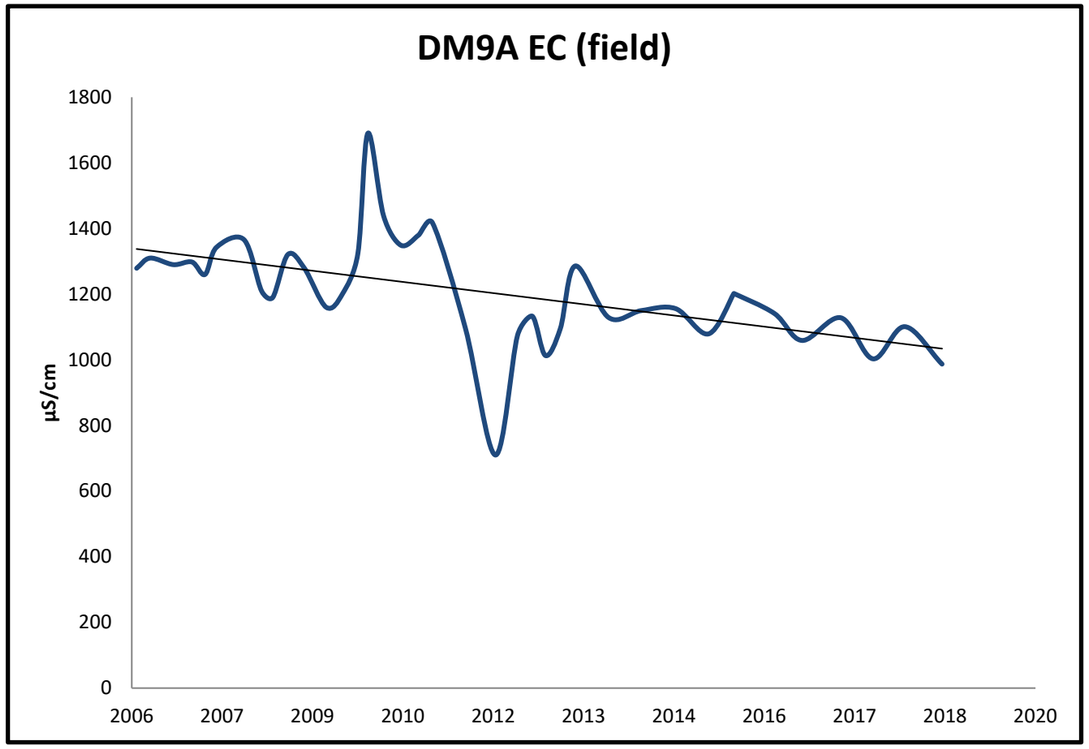

DM1C pH (Field)
14
12
10
8
6
4
2
0
2006
2009
2012
2014
2017
2020
2022

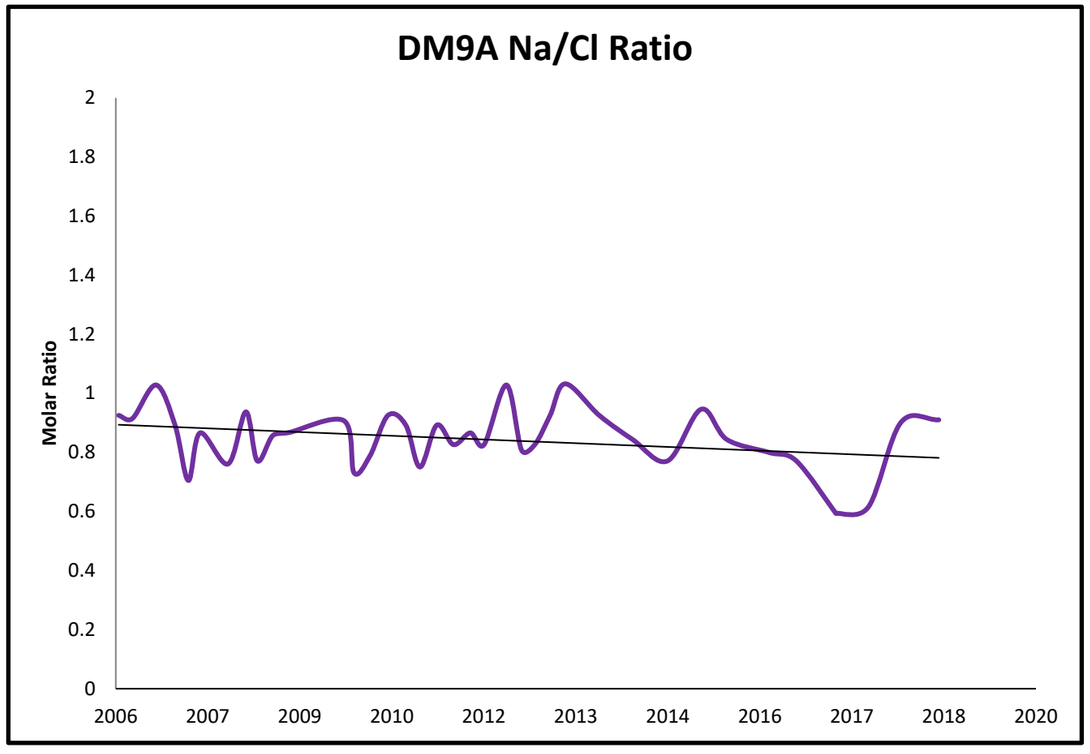

DM1C EC (field)
µS/cm
3000
2500
2000
1500
1000
500
0
2006
2009
2012
2014
2017
2020
2022

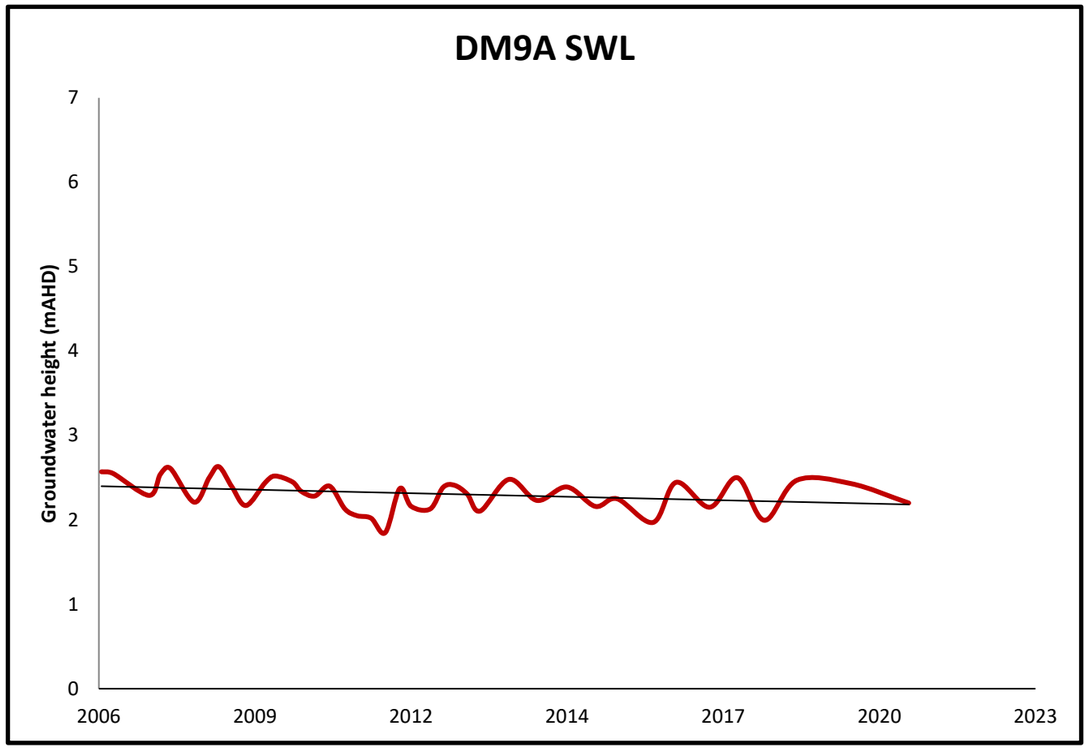

DM1C Na/Cl Ratio
Molar Ratio
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020

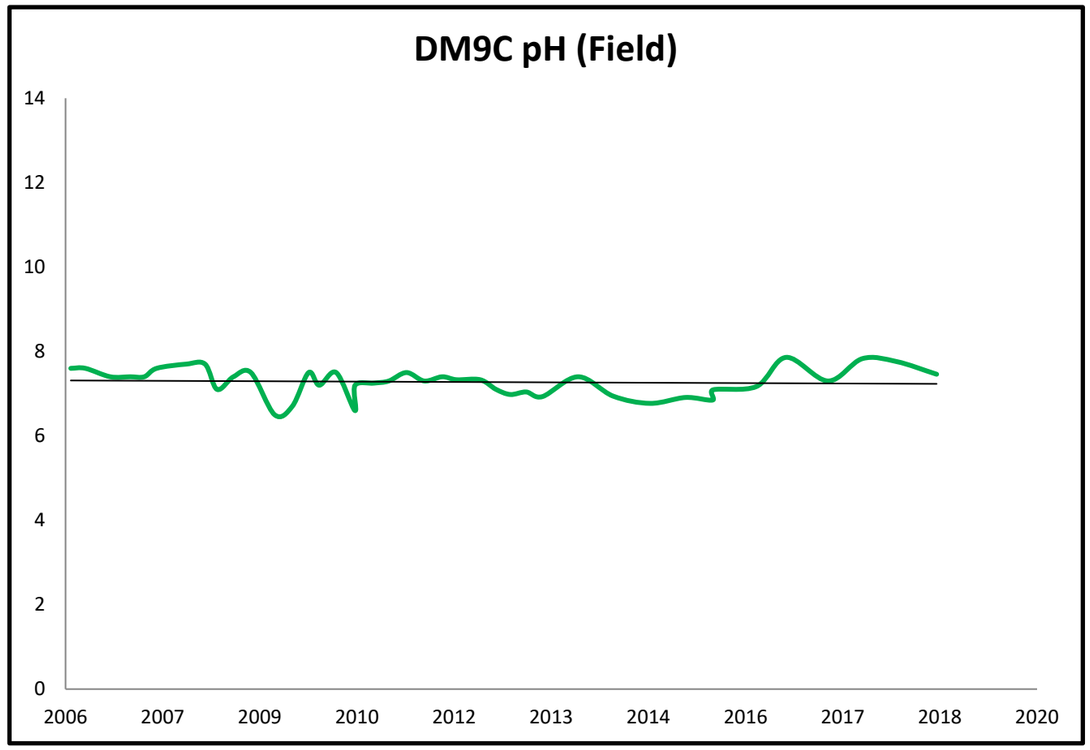

DM1C SWL
Groundwater height (mAHD)
9
8
7
6
5
4
3
2
1
0
2006
2009
2012
2014
2017
2020
2023

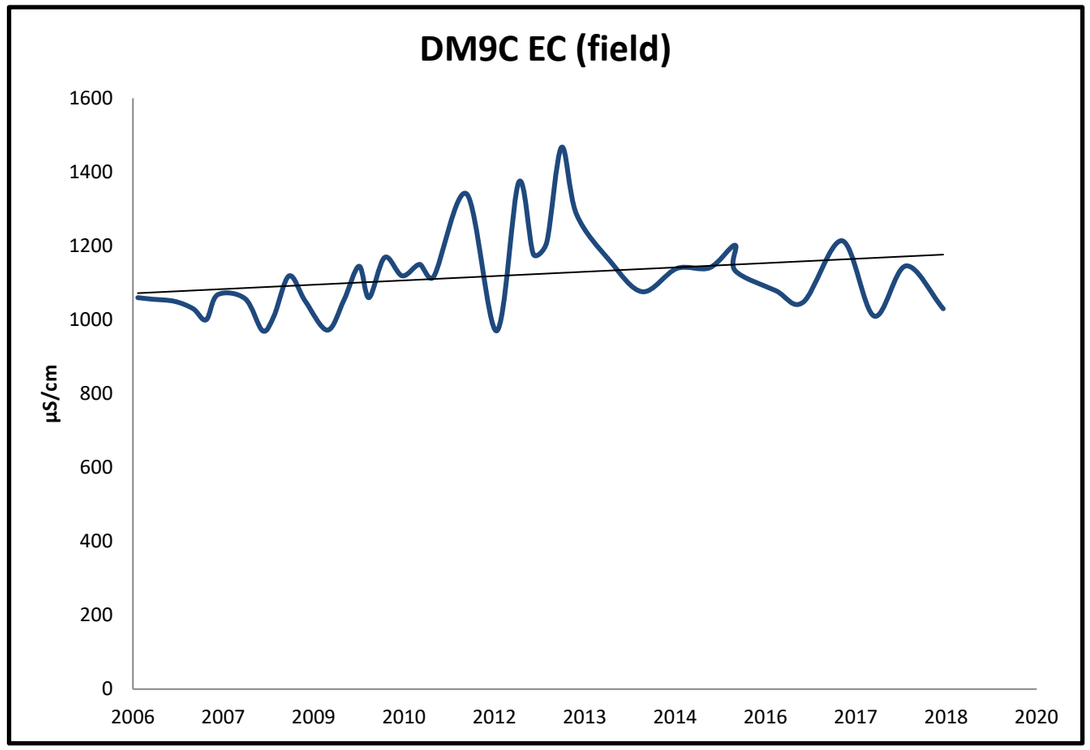

DM9A pH (Field)
14
12
10
8
6
4
2
0
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020

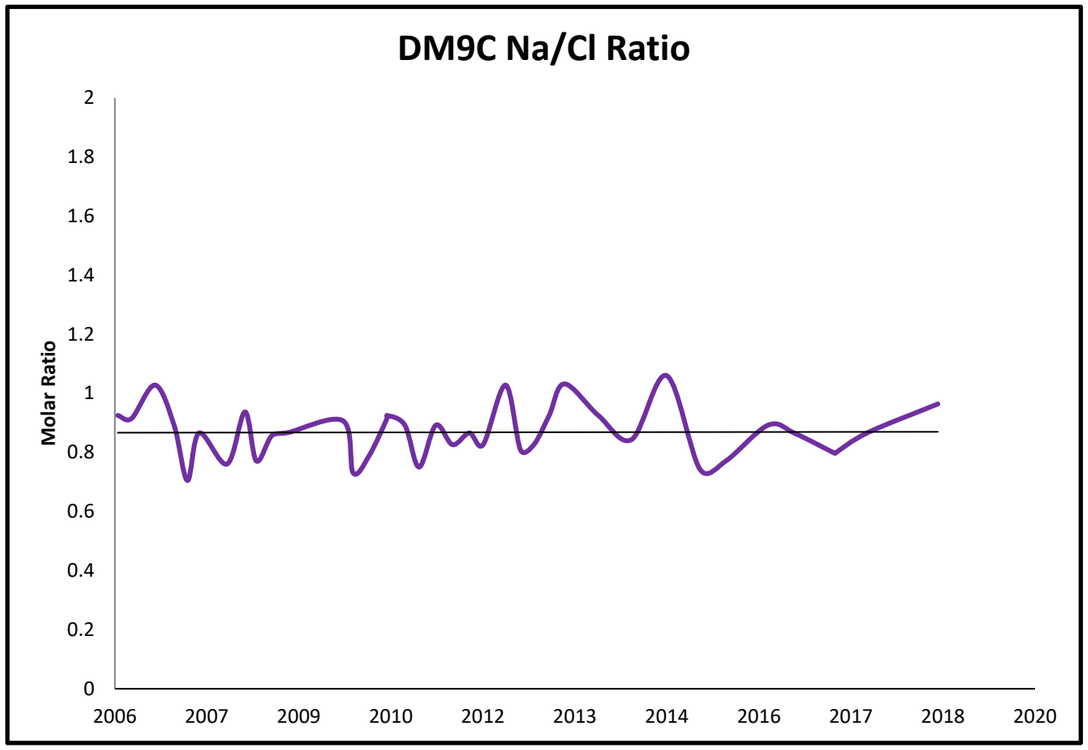

DM9A EC (field)
µS/cm
1800
1600
1400
1200
1000
800
600
400
200
0
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020

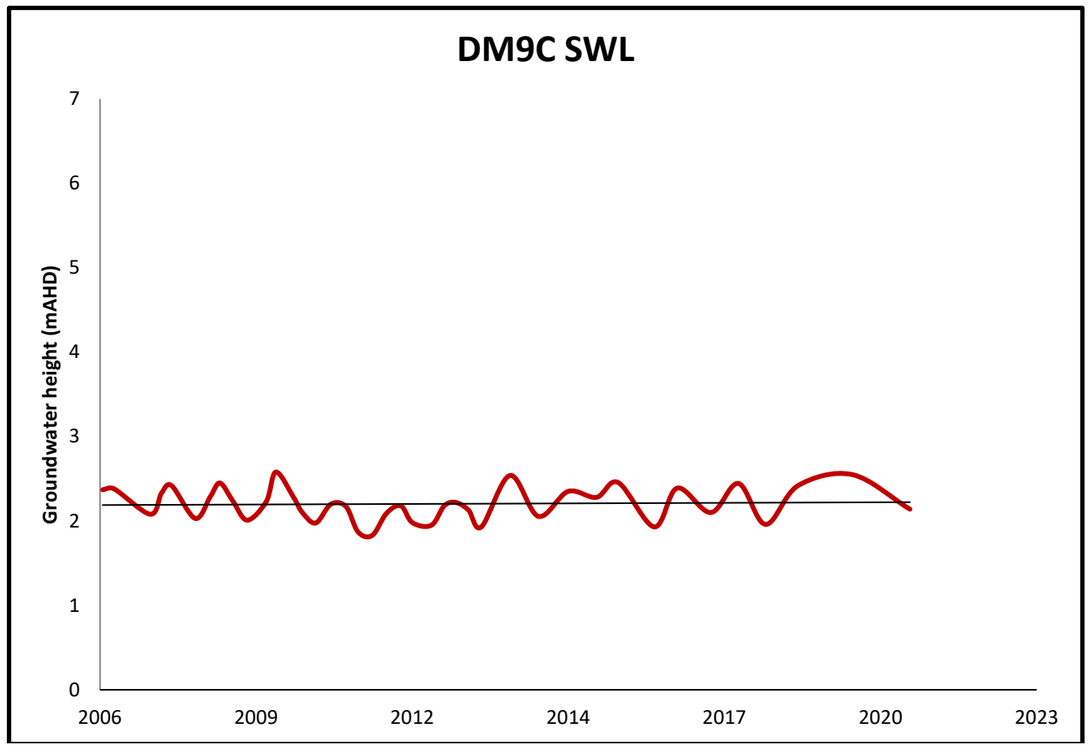

DM9A Na/Cl Ratio
Molar Ratio
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020

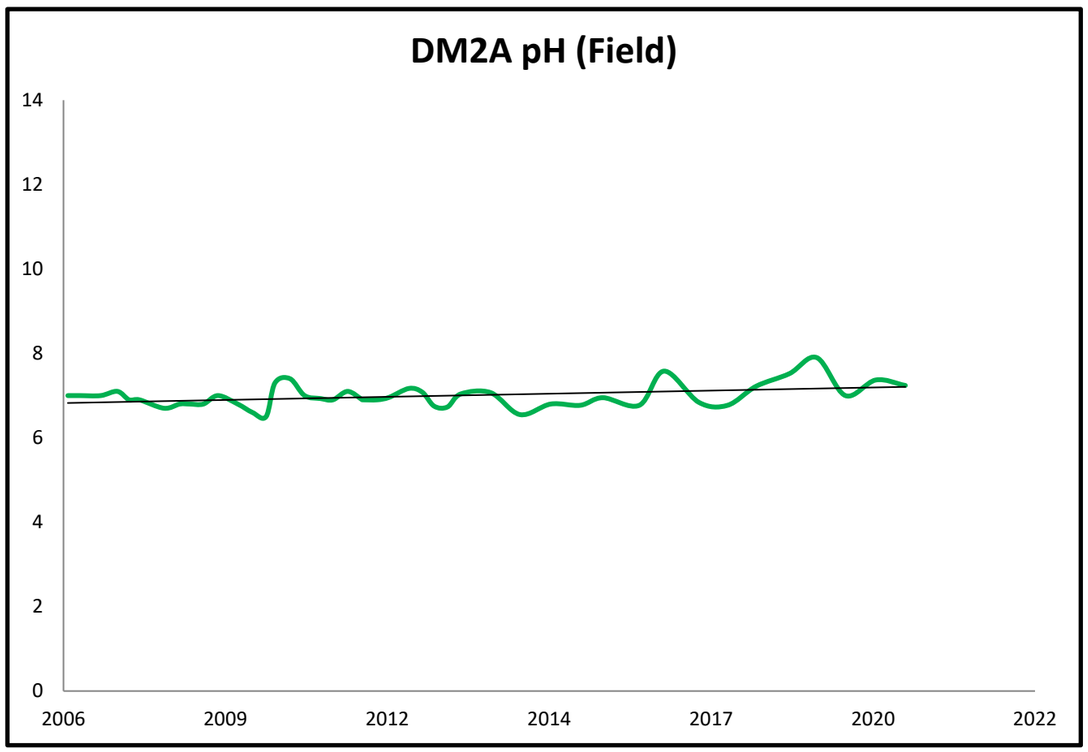

DM9A SWL
Groundwater height (mAHD)
7
6
5
4
3
2
1
0
2006
2009
2012
2014
2017
2020
2023

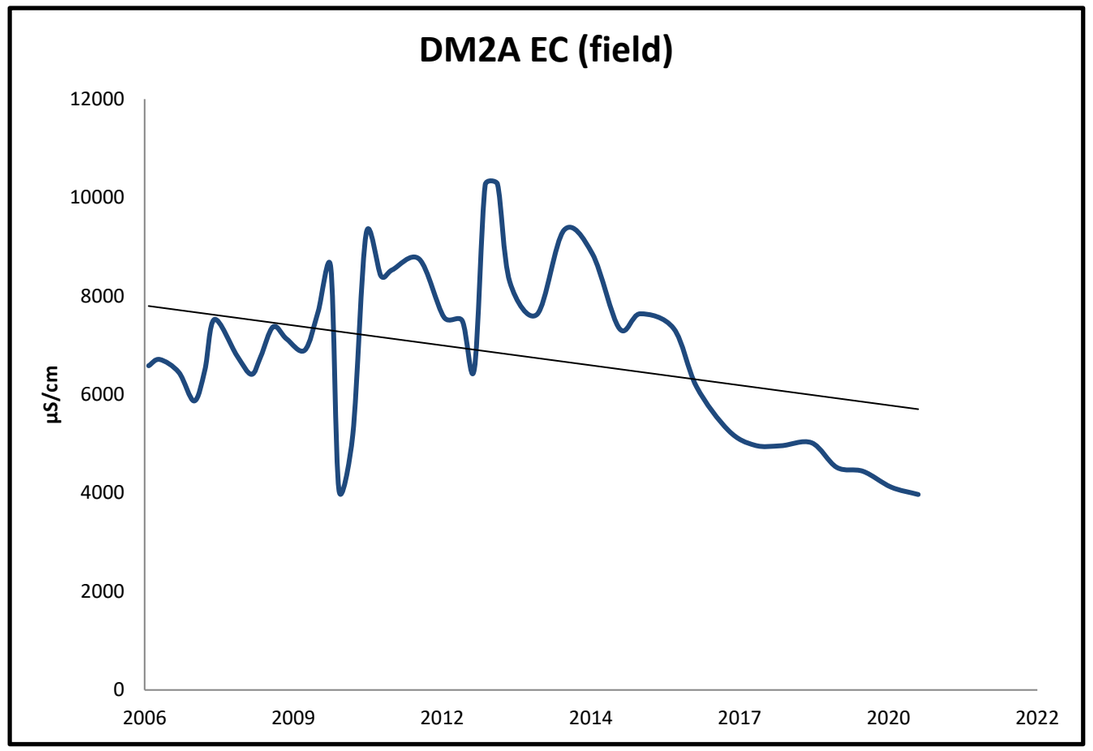

DM9C pH (Field)
14
12
10
8
6
4
2
0
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020

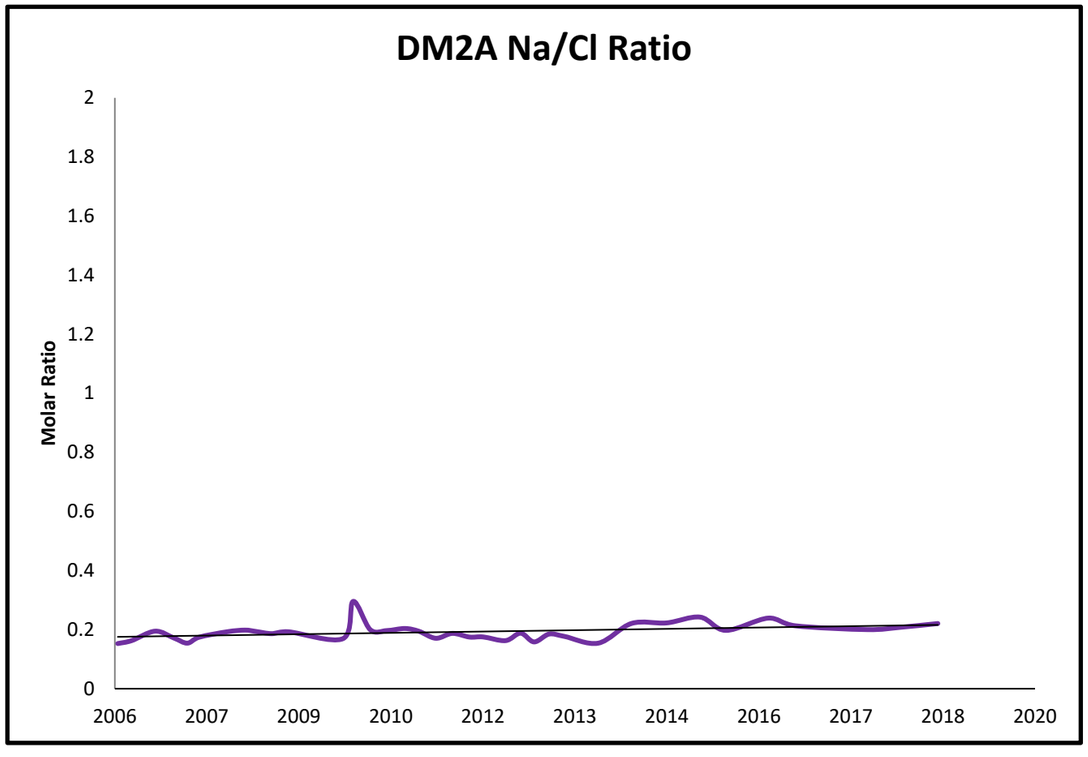

DM9C EC (field)
µS/cm
1600
1400
1200
1000
800
600
400
200
0
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020

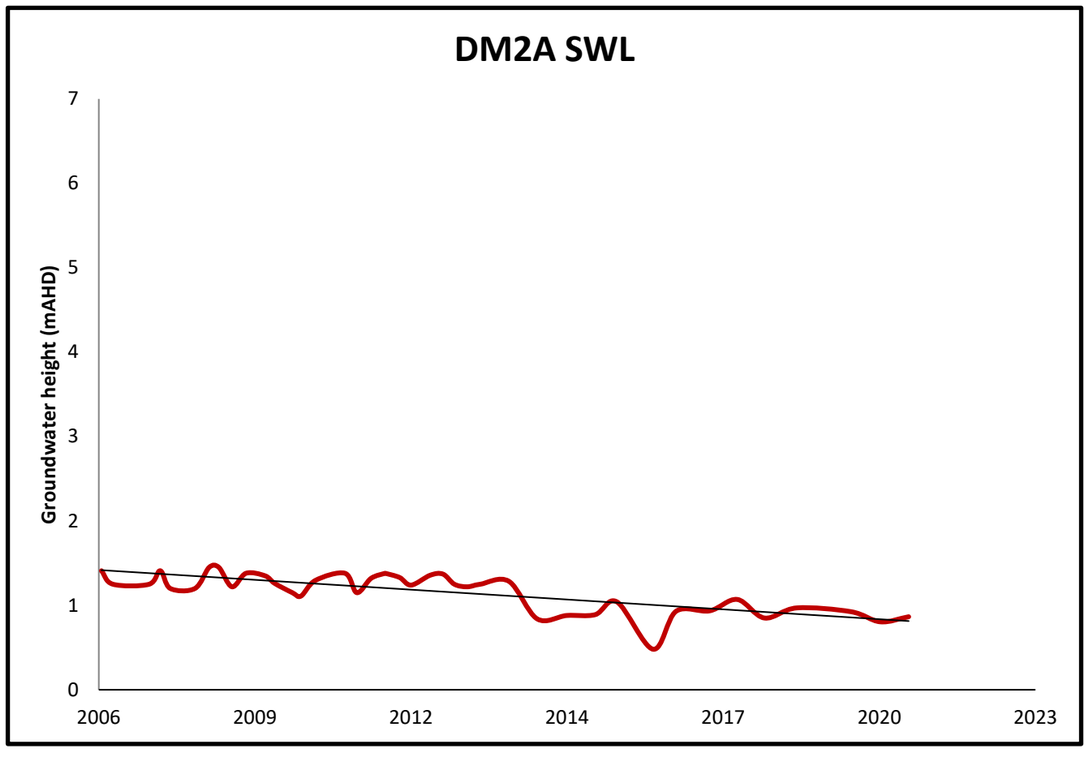

DM9C Na/Cl Ratio
Molar Ratio
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020

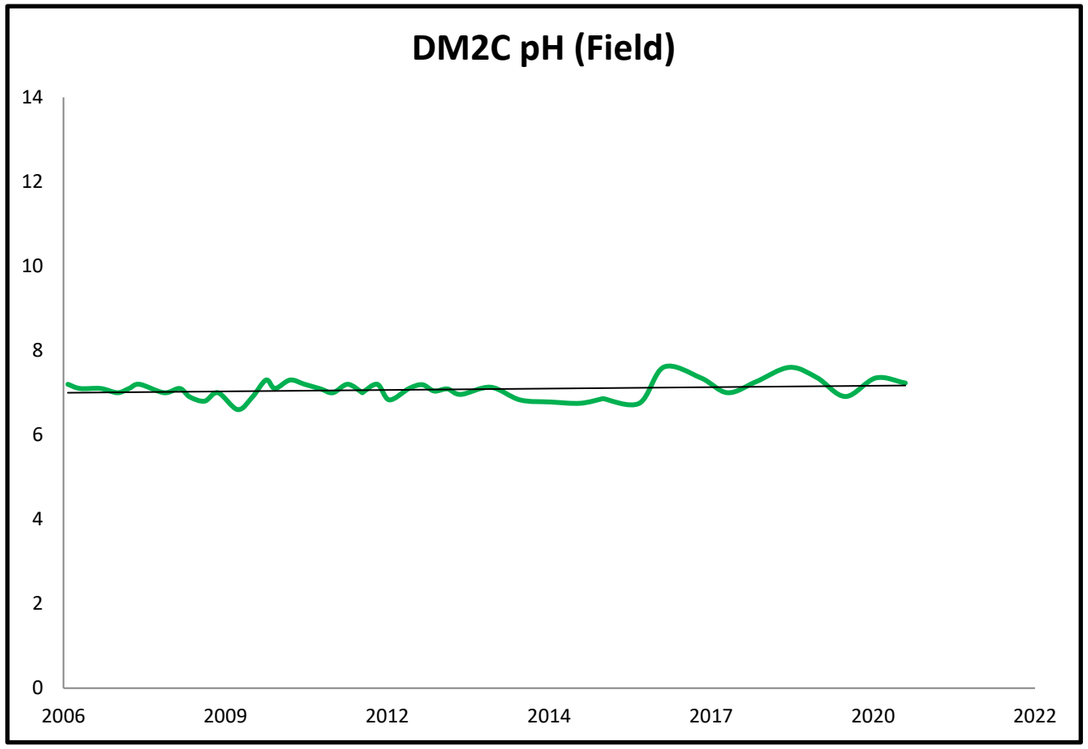

DM9C SWL
Groundwater height (mAHD)
7
6
5
4
3
2
1
0
2006
2009
2012
2014
2017
2020
2023

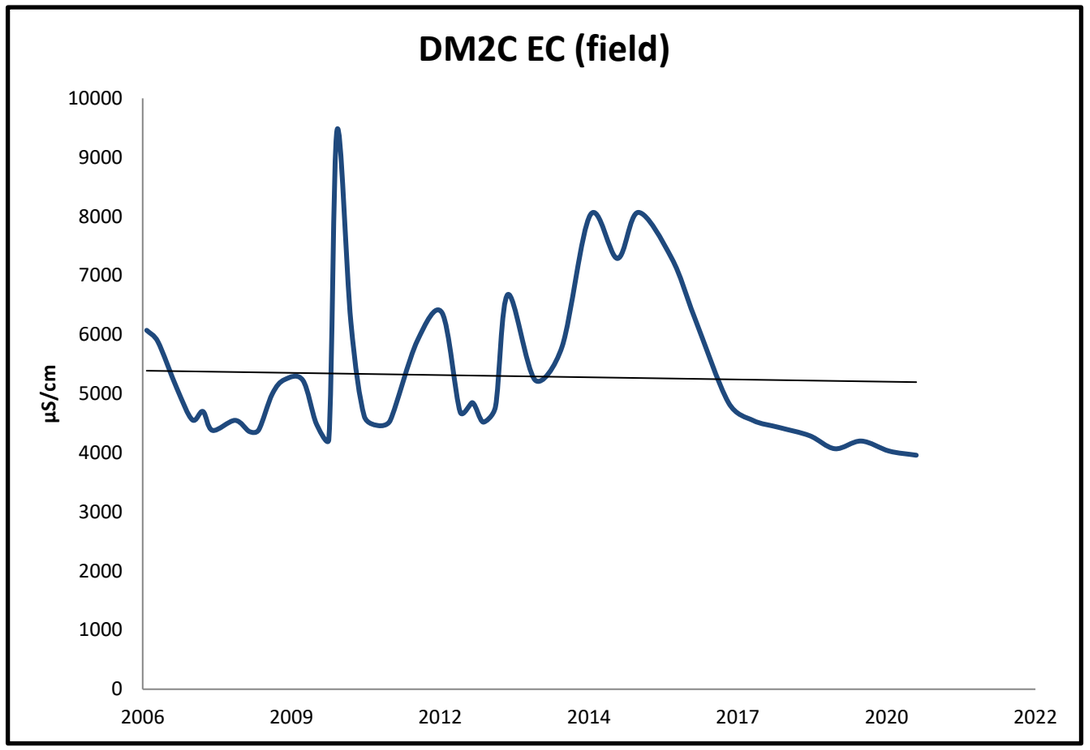

DM2A pH (Field)
14
12
10
8
6
4
2
0
2006
2009
2012
2014
2017
2020
2022

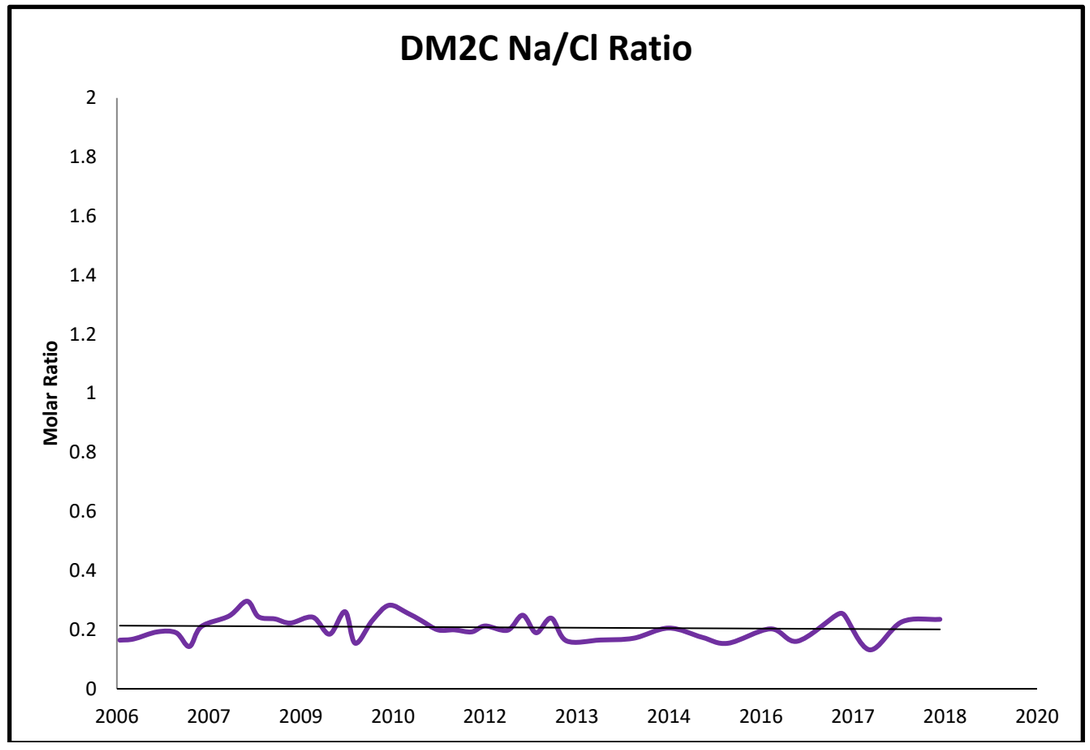

DM2A EC (field)
µS/cm
12000
10000
8000
6000
4000
2000
0
2006
2009
2012
2014
2017
2020
2022

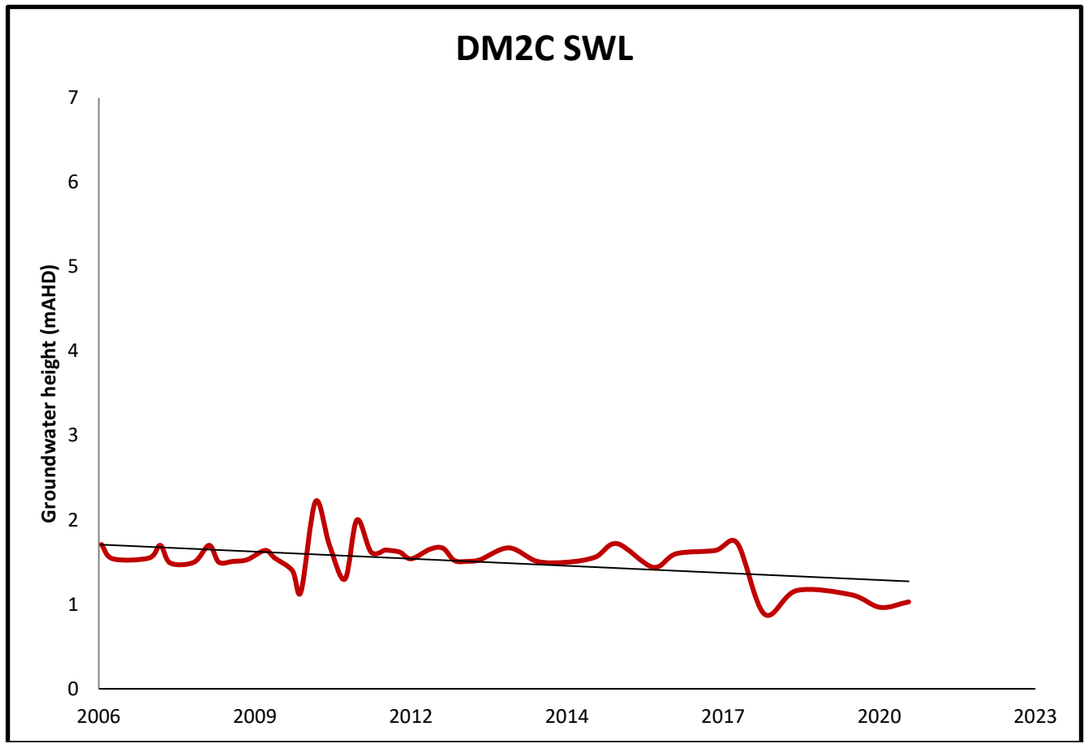

DM2A Na/Cl Ratio
Molar Ratio
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020

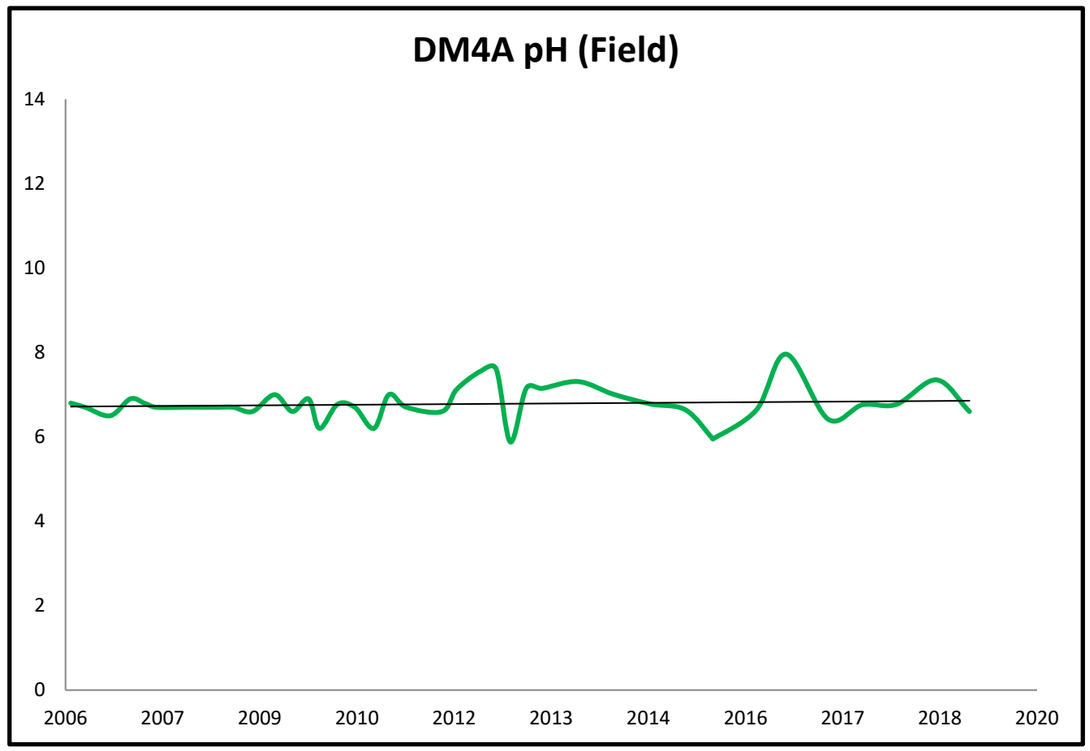

DM2A SWL
Groundwater height (mAHD)
7
6
5
4
3
2
1
0
2006
2009
2012
2014
2017
2020
2023

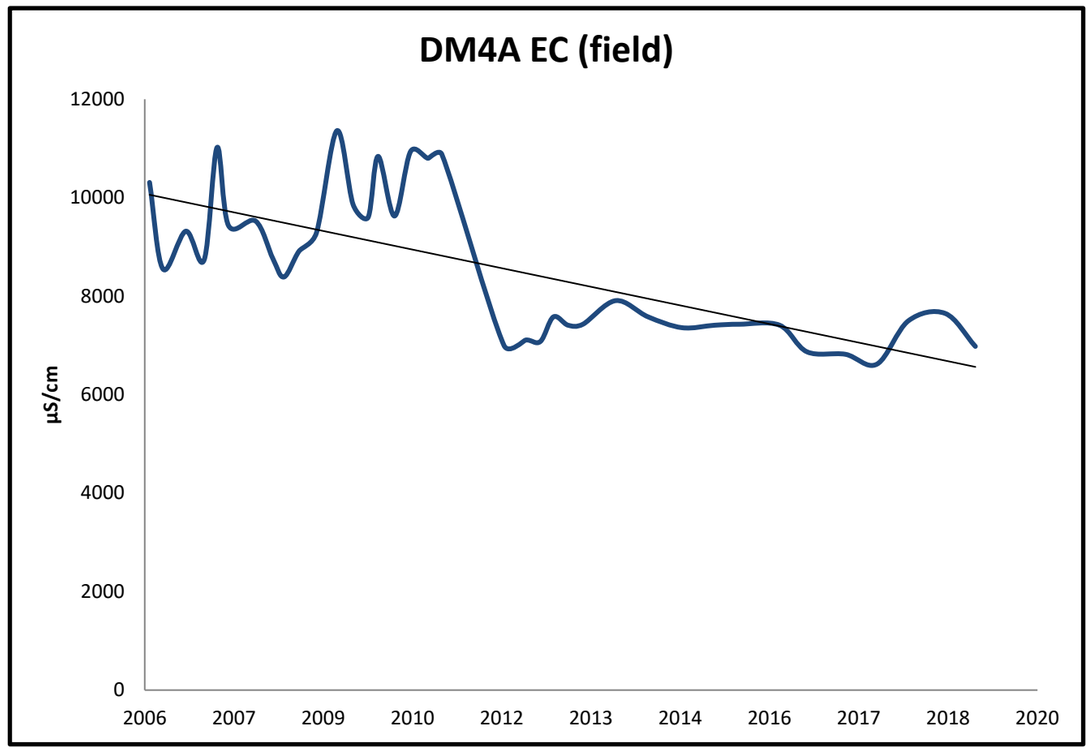

DM2C pH (Field)
14
12
10
8
6
4
2
0
2006
2009
2012
2014
2017
2020
2022

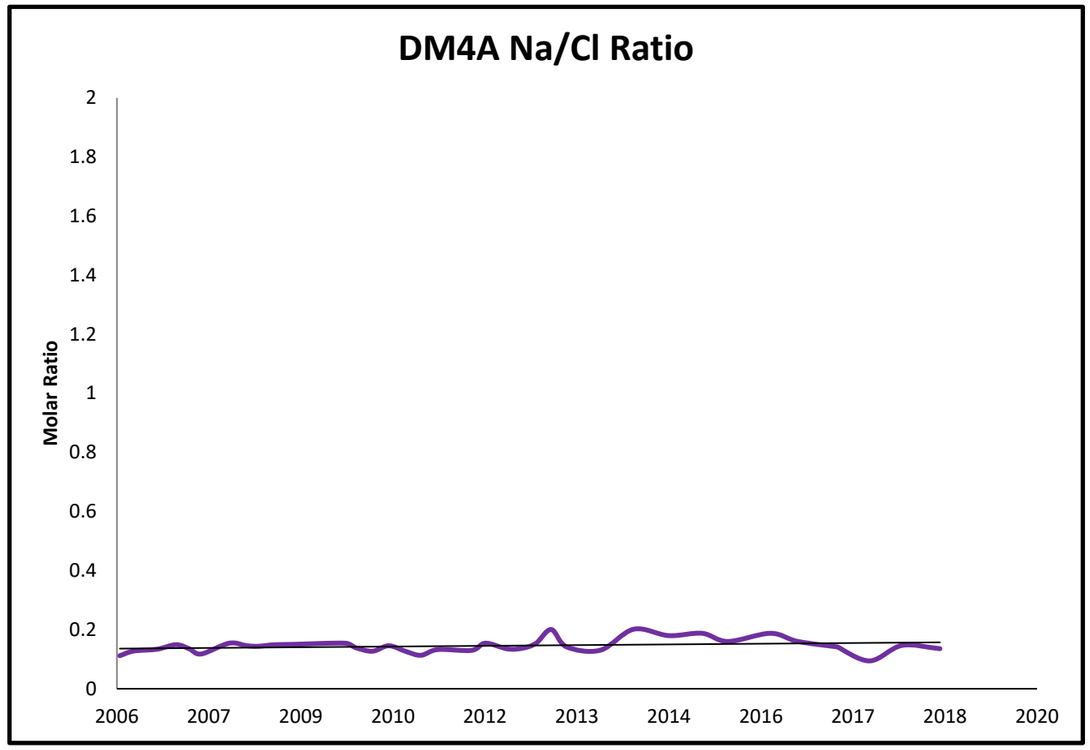

DM2C EC (field)
µS/cm
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
2006
2009
2012
2014
2017
2020
2022

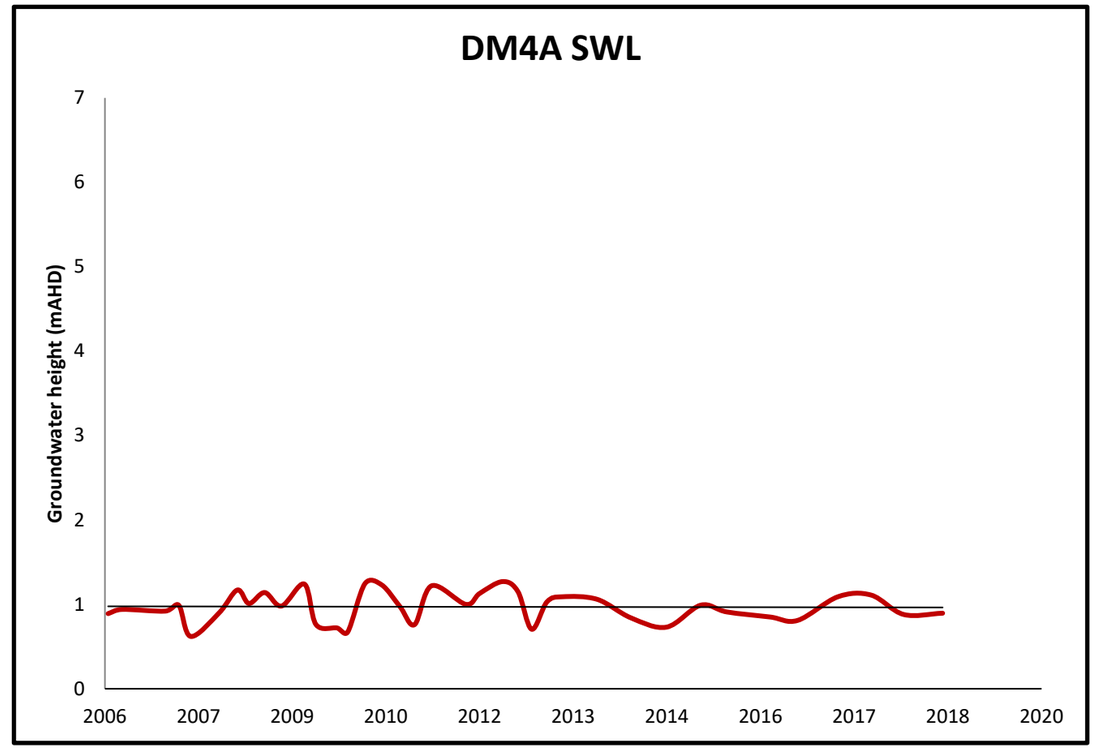

DM2C Na/Cl Ratio
Molar Ratio
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020

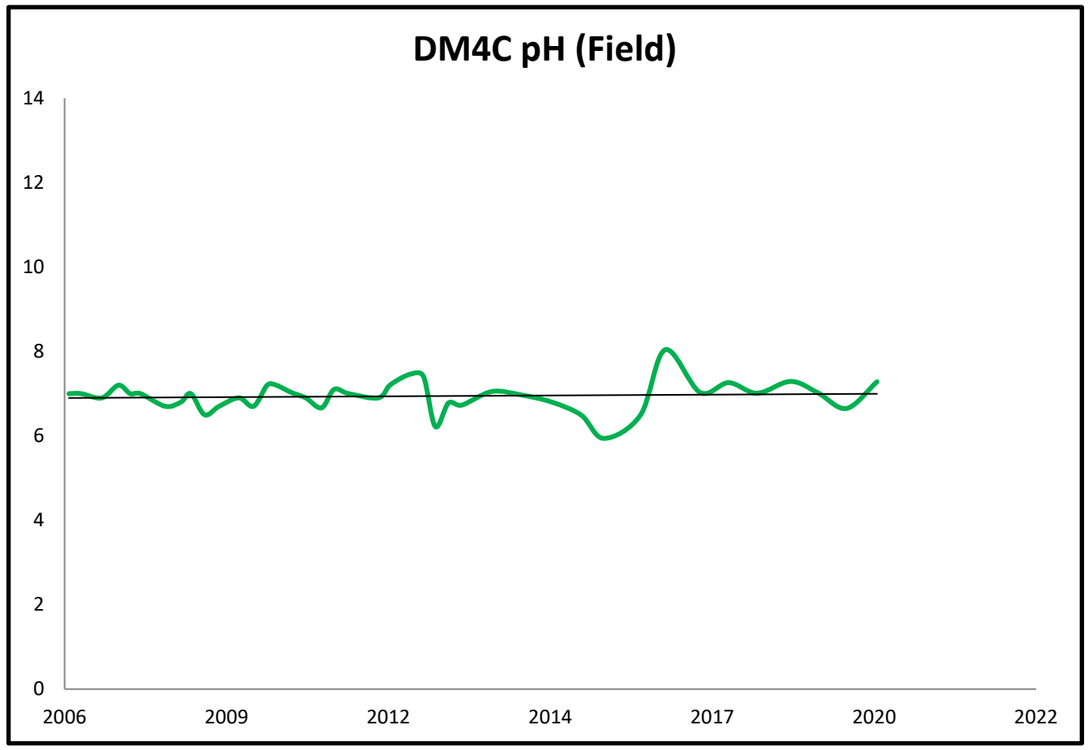

DM2C SWL
Groundwater height (mAHD)
7
6
5
4
3
2
1
0
2006
2009
2012
2014
2017
2020
2023

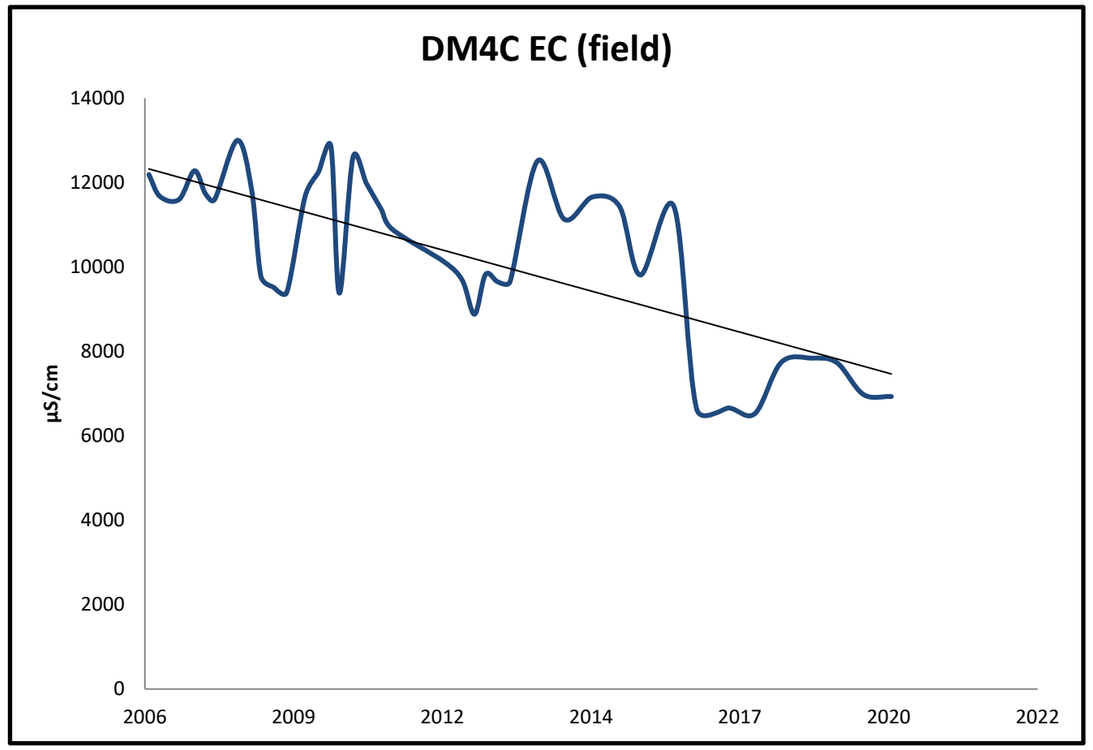

DM4A pH (Field)
14
12
10
8
6
4
2
0
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020

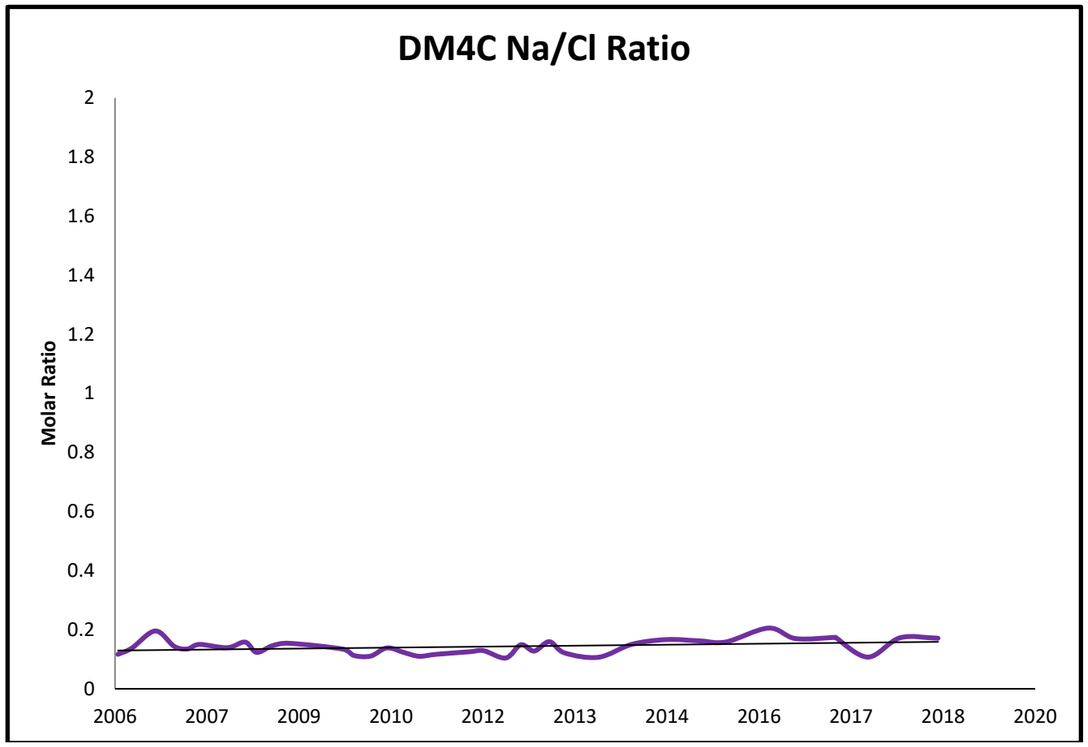

DM4A EC (field)
µS/cm
12000
10000
8000
6000
4000
2000
0
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020

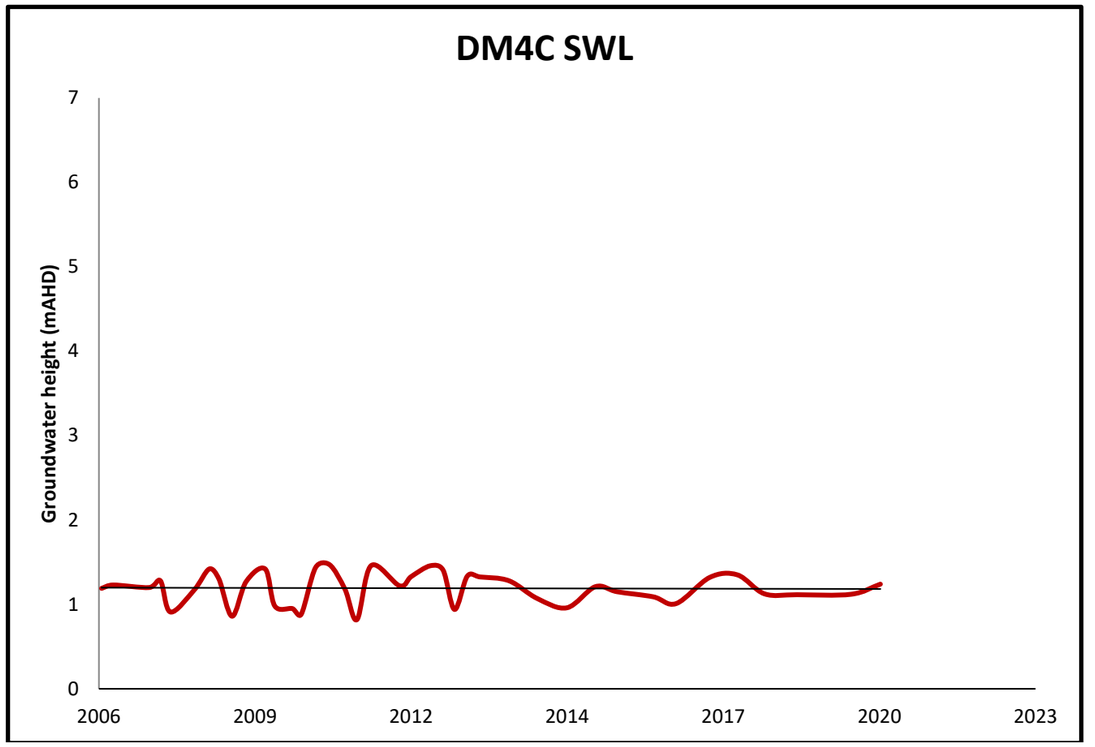

DM4A Na/Cl Ratio
Molar Ratio
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020

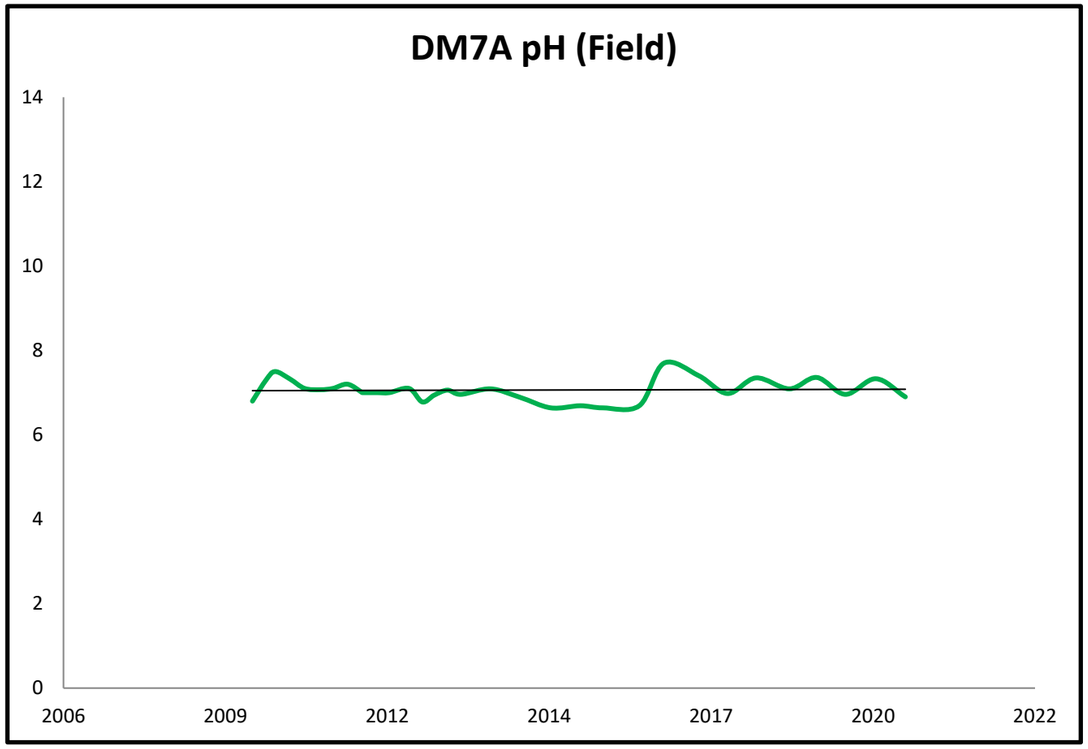

DM4A SWL
Groundwater height (mAHD)
7
6
5
4
3
2
1
0
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020

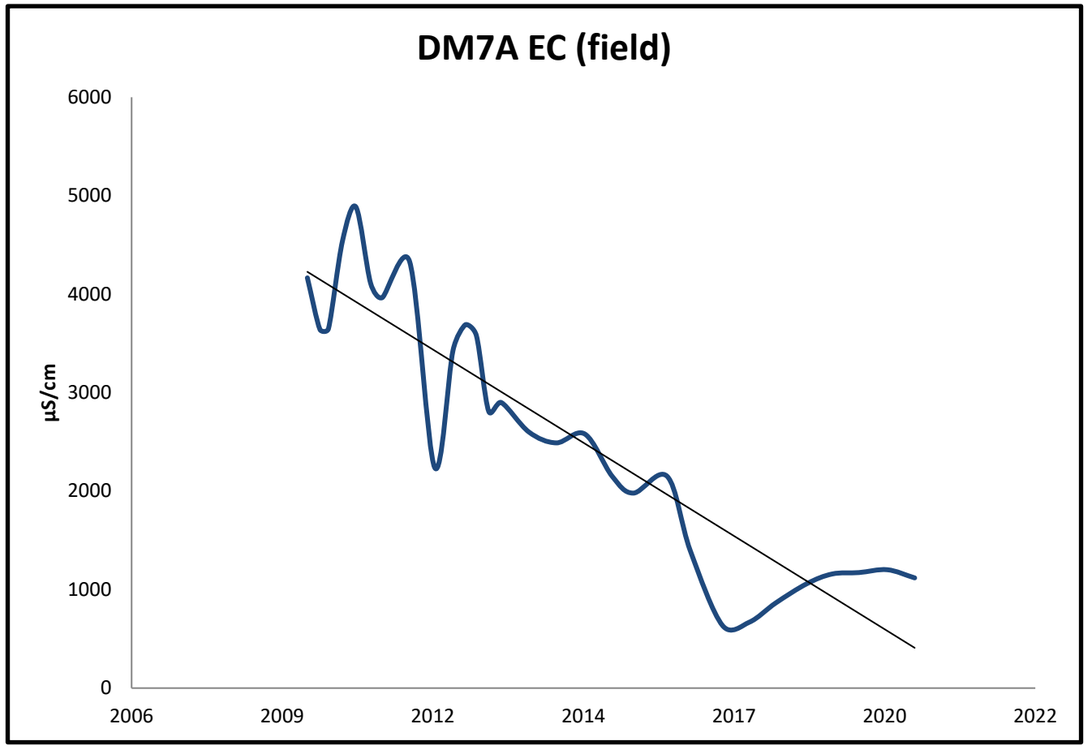

DM4C pH (Field)
14
12
10
8
6
4
2
0
2006
2009
2012
2014
2017
2020
2022

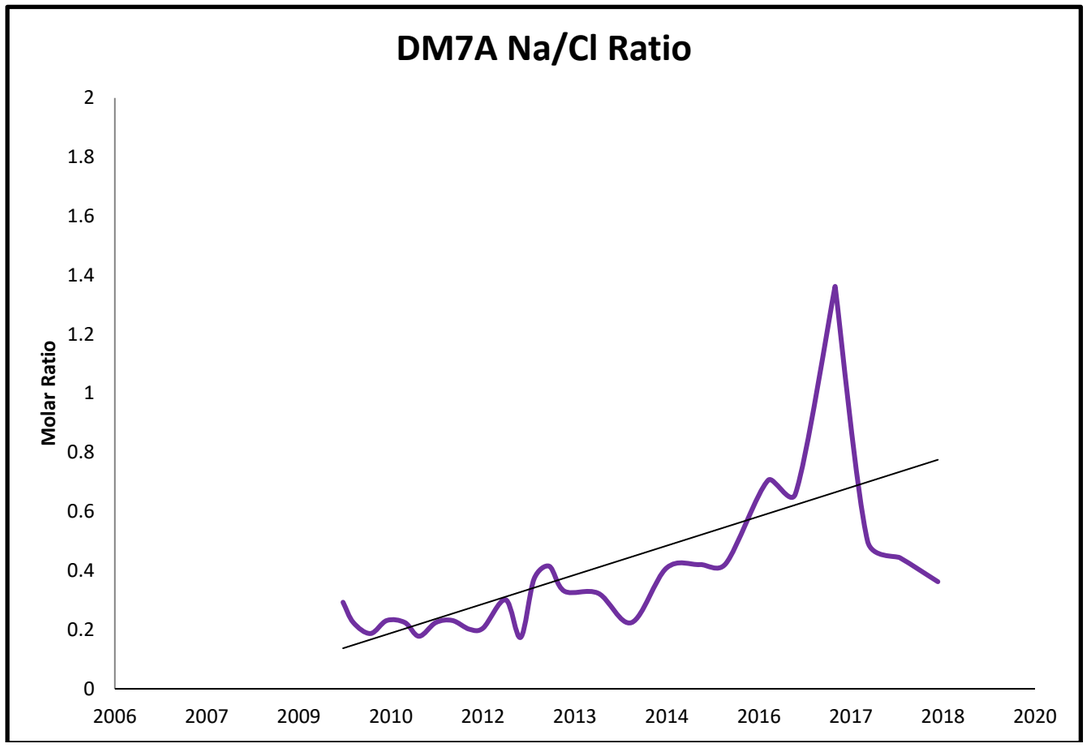

DM4C EC (field)
µS/cm
14000
12000
10000
8000
6000
4000
2000
0
2006
2009
2012
2014
2017
2020
2022

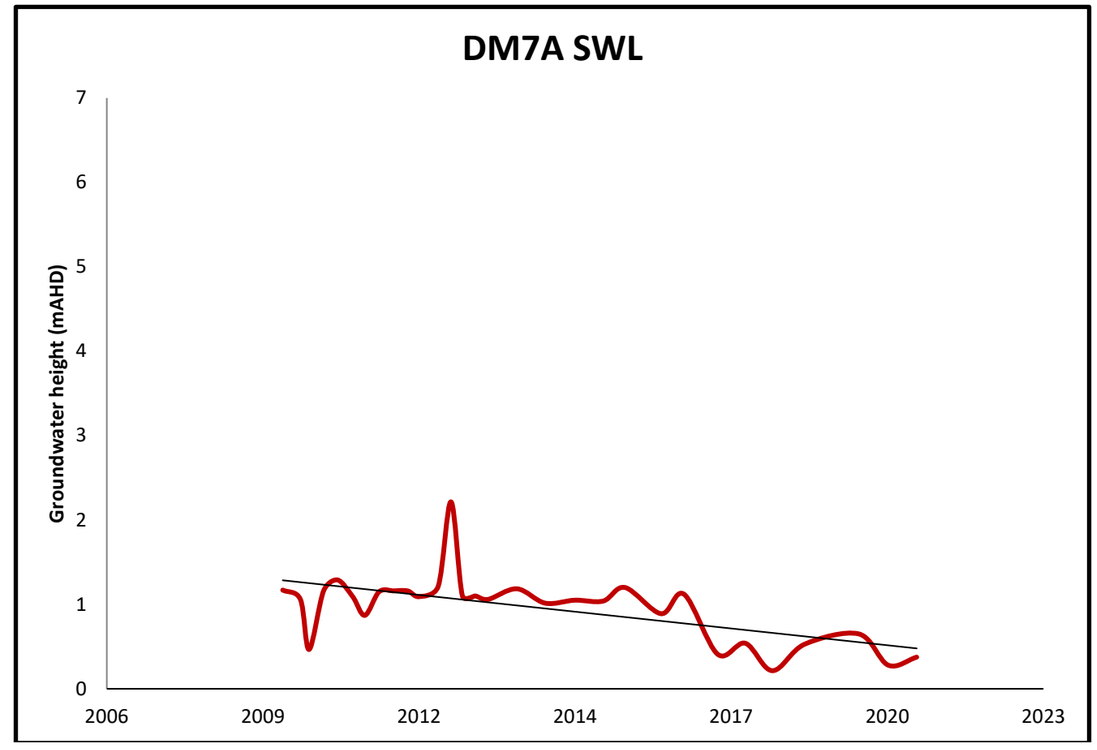

DM4C Na/Cl Ratio
Molar Ratio
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020

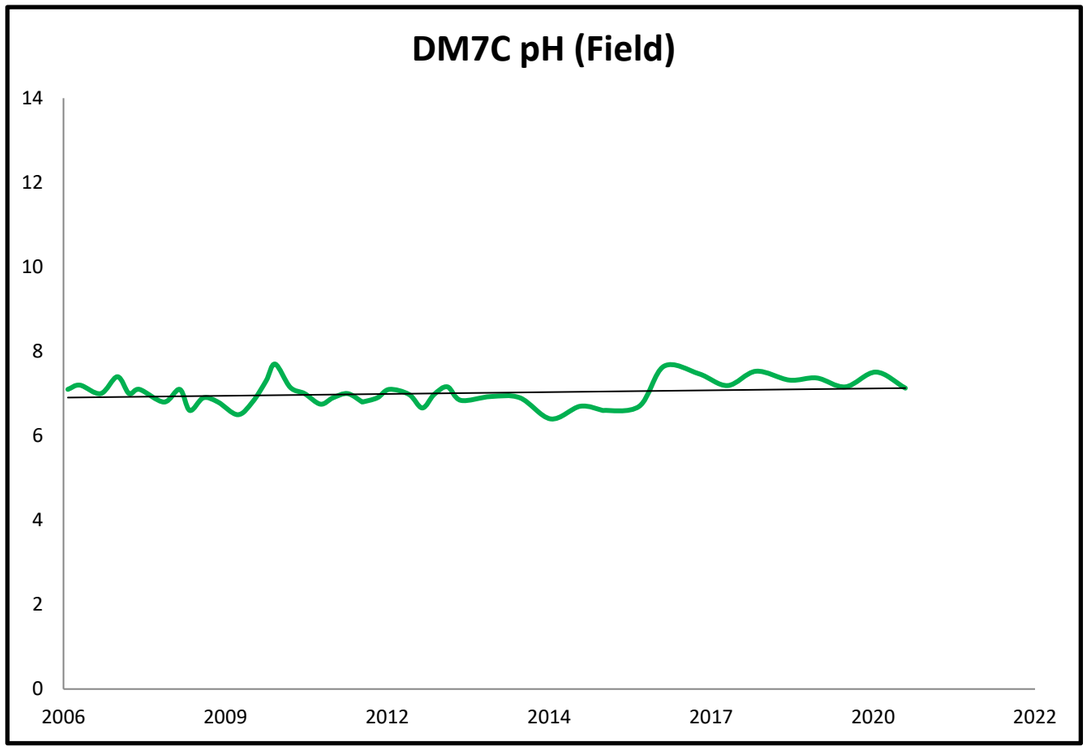

DM4C SWL
Groundwater height (mAHD)
7
6
5
4
3
2
1
0
2006
2009
2012
2014
2017
2020
2023

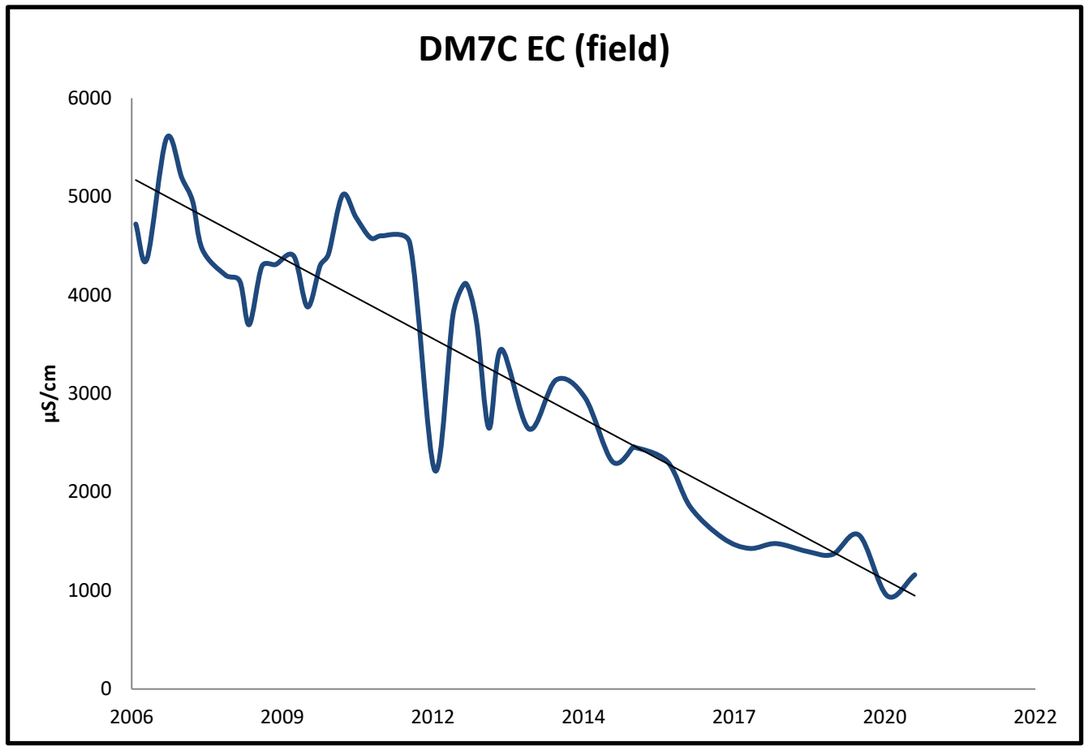

DM7A pH (Field)
14
12
10
8
6
4
2
0
2006
2009
2012
2014
2017
2020
2022

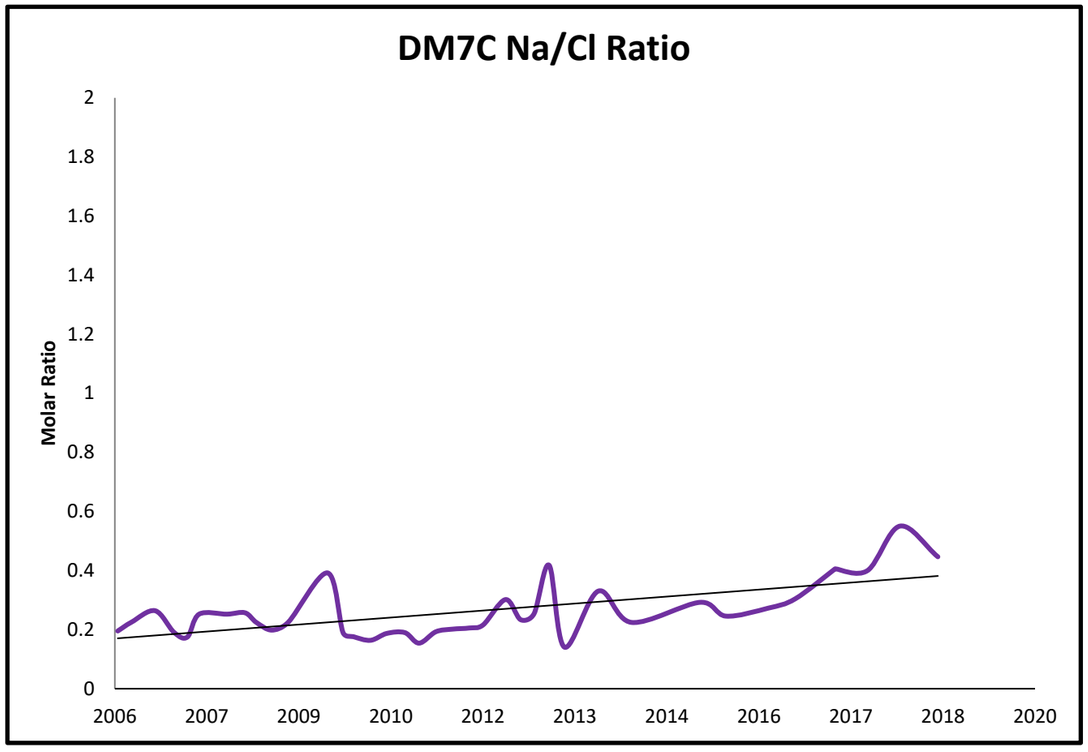

DM7A EC (field)
µS/cm
6000
5000
4000
3000
2000
1000
0
2006
2009
2012
2014
2017
2020
2022

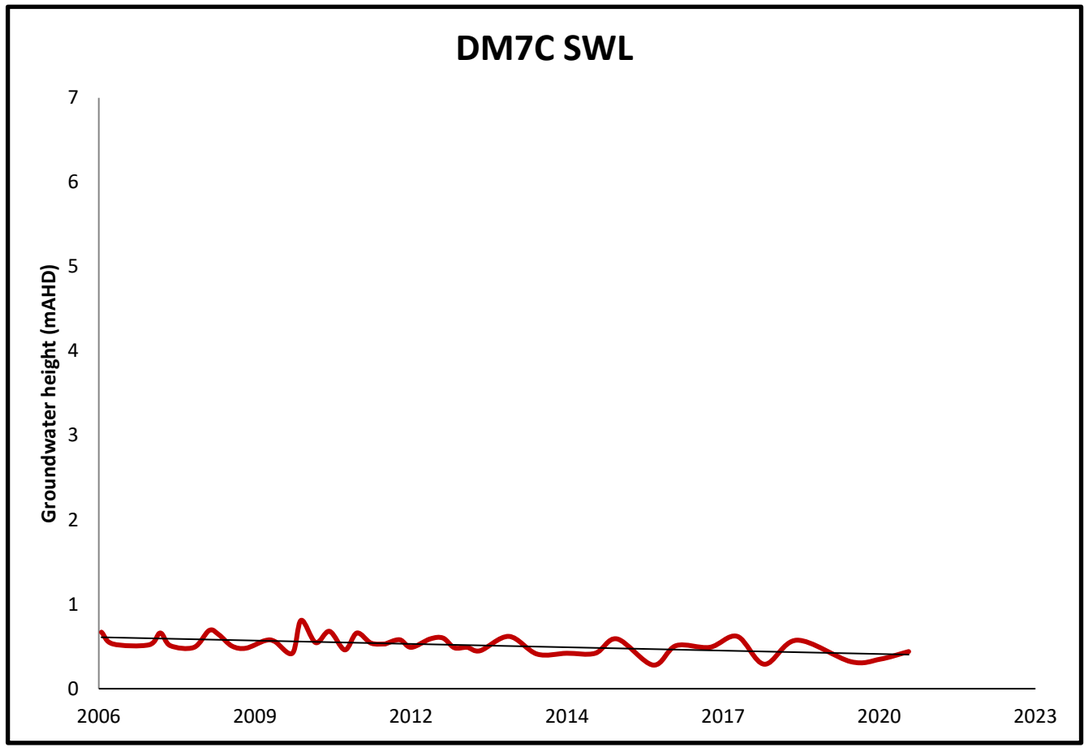

DM7A Na/Cl Ratio
Molar Ratio
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020

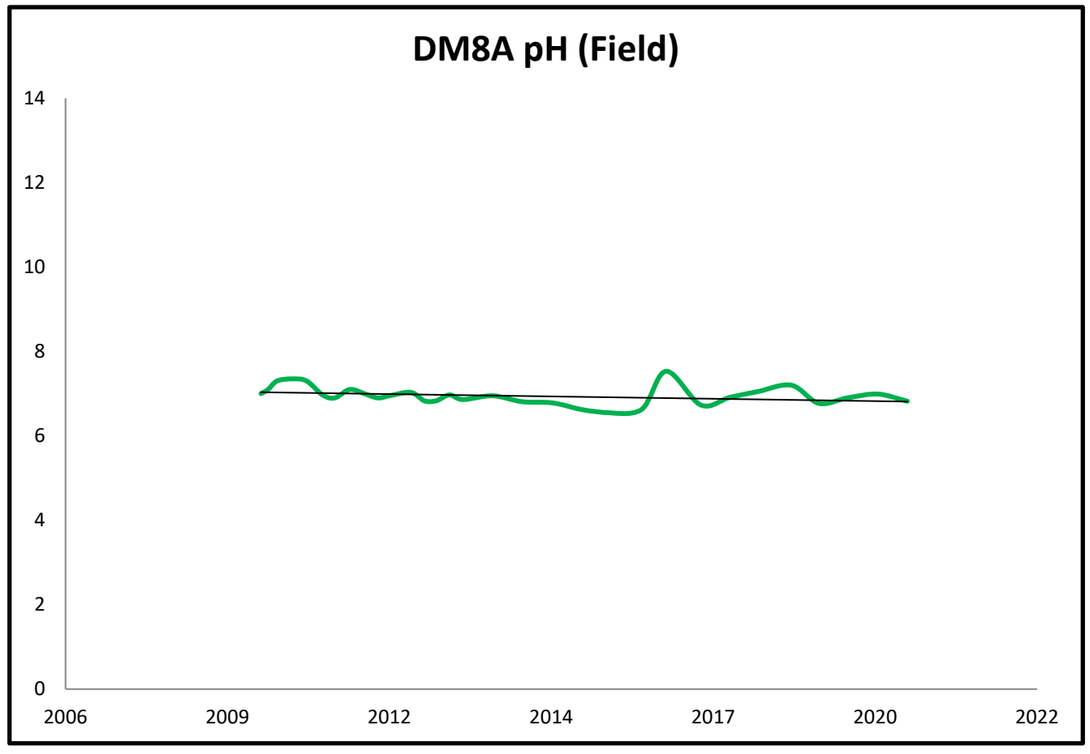

DM7A SWL
Groundwater height (mAHD)
7
6
5
4
3
2
1
0
2006
2009
2012
2014
2017
2020
2023

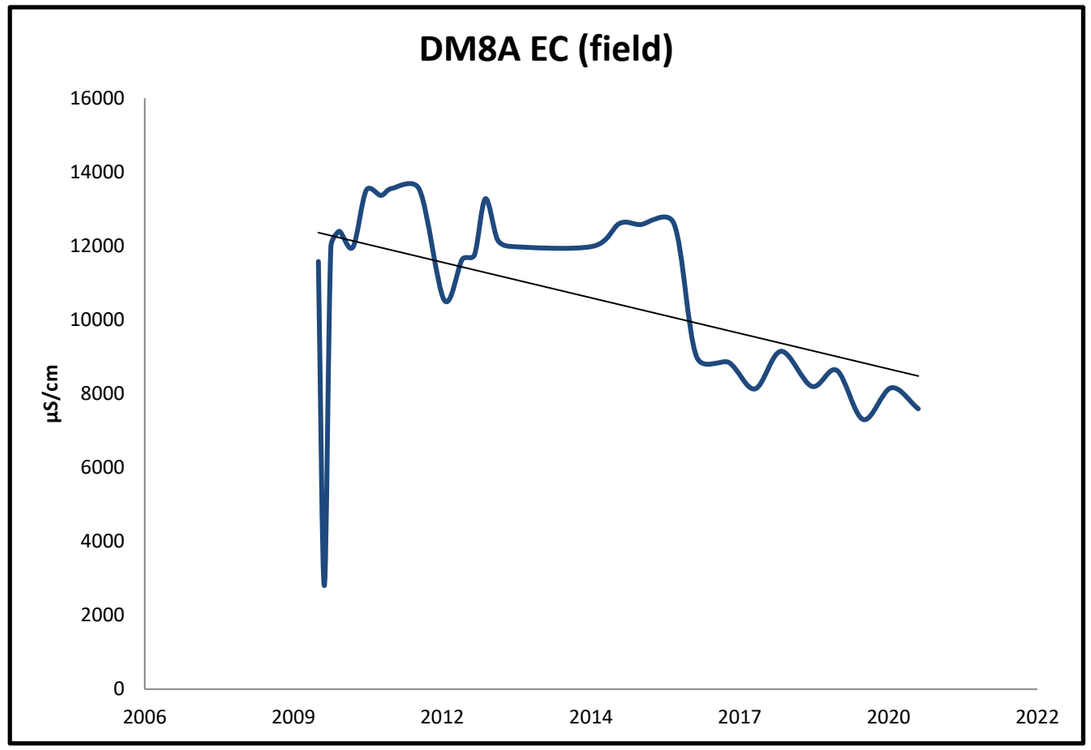

DM7C pH (Field)
14
12
10
8
6
4
2
0
2006
2009
2012
2014
2017
2020
2022

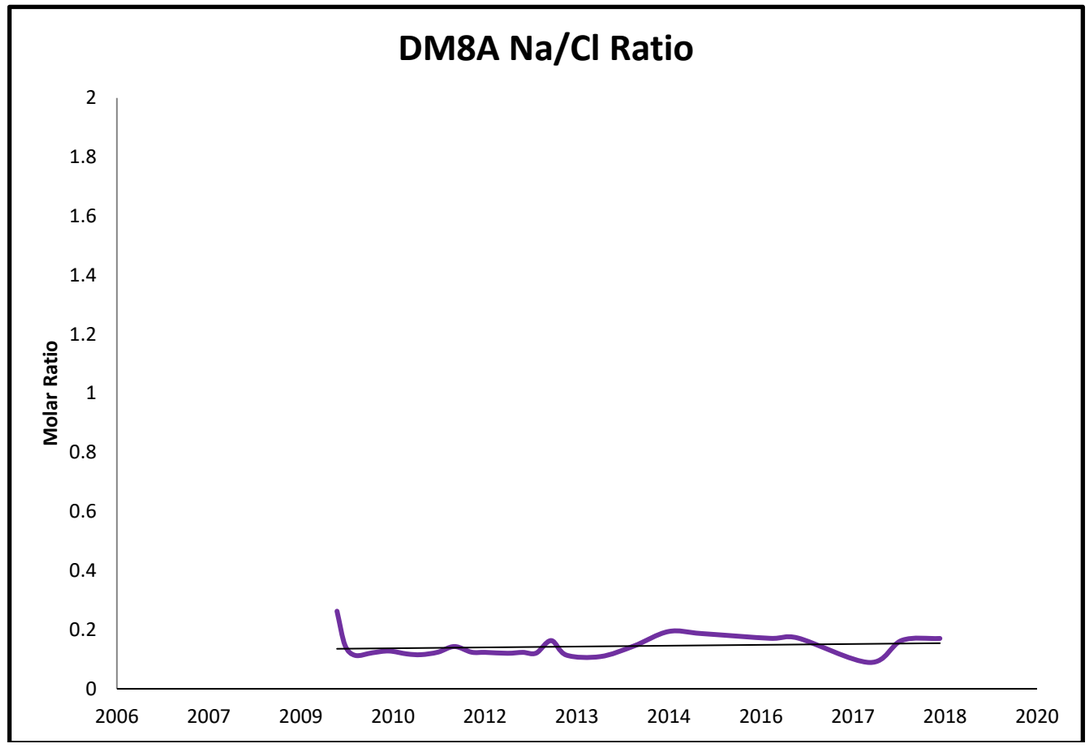

DM7C EC (field)
µS/cm
6000
5000
4000
3000
2000
1000
0
2006
2009
2012
2014
2017
2020
2022

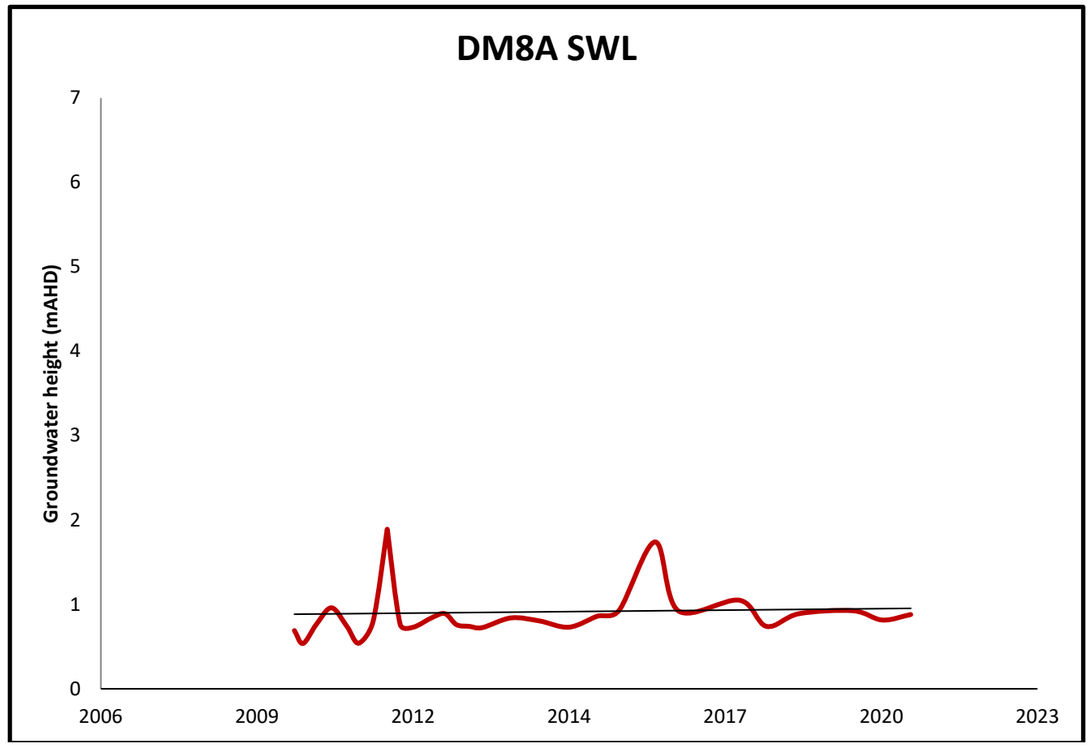

DM7C Na/Cl Ratio
Molar Ratio
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020

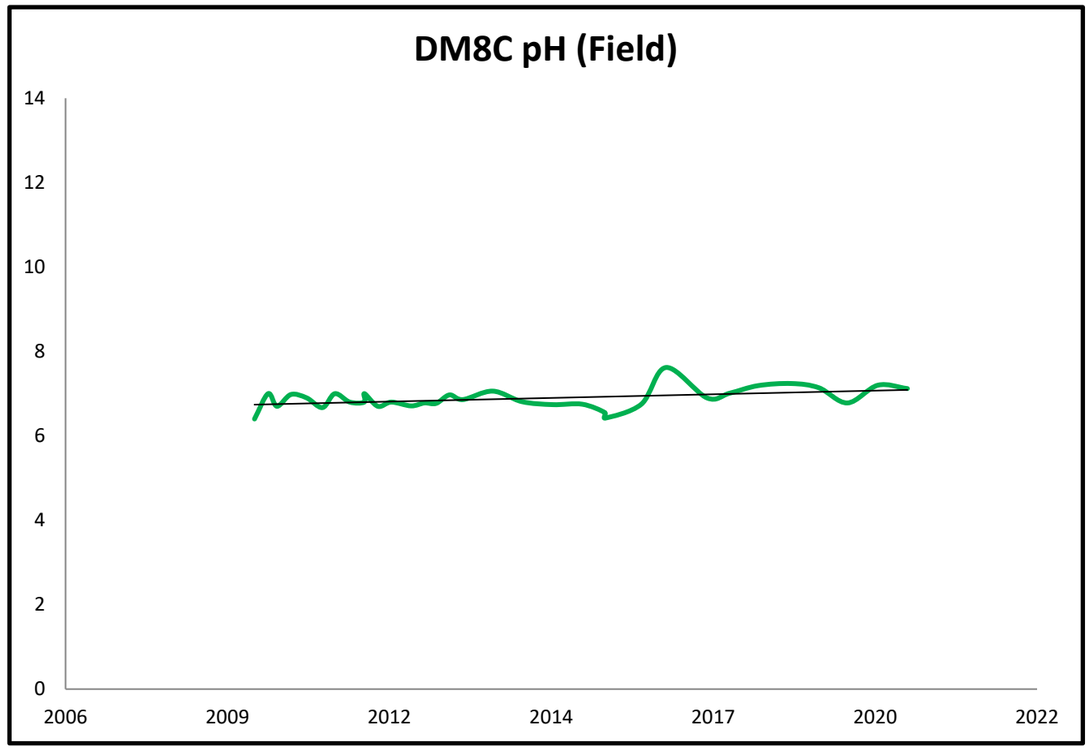

DM7C SWL
Groundwater height (mAHD)
7
6
5
4
3
2
1
0
2006
2009
2012
2014
2017
2020
2023

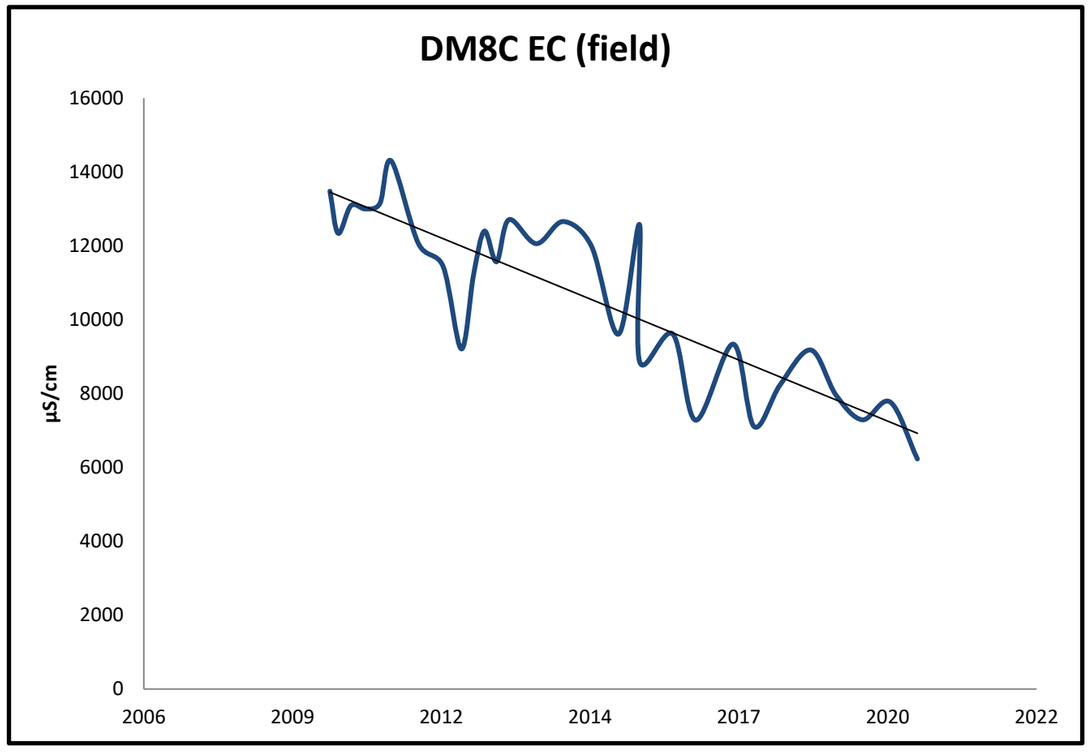

DM8A pH (Field)
14
12
10
8
6
4
2
0
2006
2009
2012
2014
2017
2020
2022

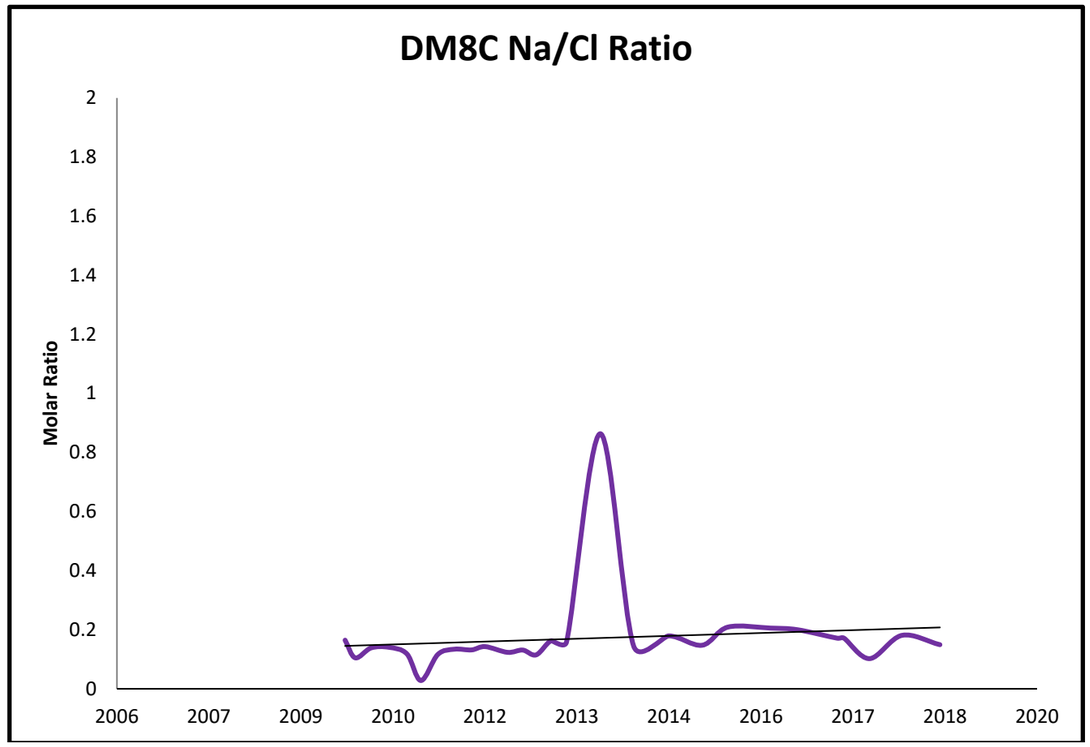

DM8A EC (field)
µS/cm
16000
14000
12000
10000
8000
6000
4000
2000
0
2006
2009
2012
2014
2017
2020
2022

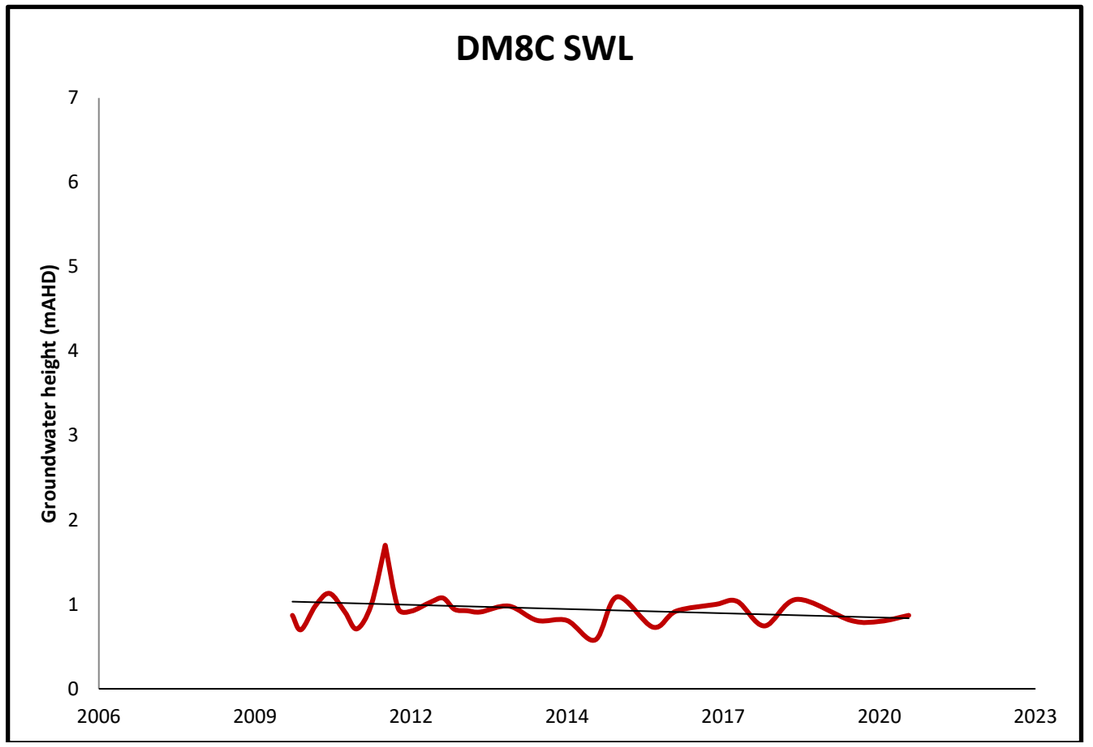

DM8A Na/Cl Ratio
Molar Ratio
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020


DM8A SWL
Groundwater height (mAHD)
7
6
5
4
3
2
1
0
2006
2009
2012
2014
2017
2020
2023


DM8C pH (Field)
14
12
10
8
6
4
2
0
2006
2009
2012
2014
2017
2020
2022


DM8C EC (field)
16000
14000
12000
10000
8000
6000
4000
2000
0
µS/cm
2006
2009
2012
2014
2017
2020
2022


DM8C Na/Cl Ratio
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Molar Ratio
2006
2007
2009
2010
2012
2013
2014
2016
2017
2018
2020


DM8C SWL
7
6
5
4
3
2
1
0
Groundwater height (mAHD)
2006
2009
2012
2014
2017
2020
2023

Appendix F
Annual Radiological Report

Radiation Professionals Australia

Telephone: +61 8 9325 9948
operations@radproaustralia.com

ABN: 50 631 060 449

2020 Annual Radiation Monitoring Report For - Tronox Pigment Bunbury Ltd Dalyellup Site

PROJECT: TROX201030 Dalyellup Annual Report

DATE: 13th October 2020

PREPARED BY: Barry Lewington

Radiation Professionals Australia

DOCUMENT INFORMATION

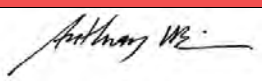
Document Number: TROX201030_ Dalyellup Annual Report 2020

Revision: Rev 0

REVISION HISTORY

REVISION NUMBER	ISSUE DATE	PREPARED BY	REVIEWED BY	REVISION DESCRIPTION
Draft	16/10/20	Barry Lewington Bernard Richter	Rex Breheny Anthony O'Brien	For internal review
Rev 0	23/10/20	Barry Lewington	Anthony O'Brien Trevor Boal	Issued for Use

RECORD OF APPROVAL

ROLE	NAME	SIGNATURE	DATE
Manager	Anthony O'Brien		30/10/2020

Contents

Tables

Figures

1. Executive Summary

Tronox Pigment Bunbury Ltd (Tronox), previously Cristal Pigment, operated a facility for the disposal of solid waste residues from their Kemerton and Australind pigment plants. The disposed waste residues contain Naturally Occurring Radioactive Material (NORM), in the form of traces of radionuclides in the decay chains of uranium and thorium. The residues were shipped as a slurry and then gravity fed into disposal cells at the Dalyellup site (the Site) and the Site has since been rehabilitated. (Figure 1).

As part of the required regulatory commitments for the rehabilitation of the Site a Radiation Management Plan (RMP) was implemented outlining the required monitoring program that Tronox is to carry out.

This RMP was issued to the regulatory authority, namely Radiological Council of Western Australia (RCWA) in October 2013 and was endorsed on the 2nd August 2016 [5] for these requirements for the environmental radiation monitoring.

The commitments were for a 5-year ongoing radiation monitoring program from years 2013 to 2018 after the rehabilitation of the area. *Note: the monitoring program has now exceeded this 5-year commitment made by Tronox (formerly Cristal). The RCWA has informed that the Site is under review by the Department of Water and Environment Regulation (DWER).*

The RMP was used as the basis for this 2020 monitoring program, however it must be noted that a revised RMP requesting a change to the commitments of the current monitoring requirements was submitted by Tronox in January 2019 and is still awaiting approval by the RCWA. As the revised RMP has not been endorsed, the approved 2016 RMP [4] was used for the 2020 annual survey and report.

Figure 1: Aerial view of the Dalyellup Rehabilitated Site

A licenced Radiation Protection Advisor from Radiation Professionals Australia (RPA) carried out this required annual gamma monitoring on the 13th October 2020.

Thirty-six (36) historical test points with specific GPS co-ordinates were used for the repeat measurement locations for the gamma radiation survey. At each location point 3 x 1minute integrated counts were recorded for reporting and comparison of previous measurements.

Approximately three (3) monthly Radon (Rn-222) and Thoron (Rn-220) airborne monitoring has carried out at specific locations with the passive detectors collected for laboratory analysis. This monitoring is being carried out by Tronox and the laboratory analysis results are issued to Tronox by RPA for reporting purposes.

The required radio-analysis of bore water is carried out from 7 bore locations. This sampling is carried out by Tronox. The results of the water analysis are forwarded to RPA for reporting and is also included in this report.

Summary of Results-

The gamma radiation dose rates are consistent with the natural background gamma radiation levels expected in the local area and general Perth coastal plain.

The average gamma dose rate within the boundaries of the Dalyellup rehabilitated area was 0.13 ± 0.01microGray per hour (µGy/h) with a range of 0.12 to 0.15 µG/h. This is comparable to the November 2019 results, and also within the statistical variation and are typical for the background gamma dose rate levels for the Perth Coastal Plain which has a range of 0.07 to 0.27 µGy/h, depending on local geological characteristics (Toussaint, 1985) [1].

The measured radon and thoron activity concentrations in air are very low and are not of concern for public health.

For the period from November 2019 to July 2020, all radon results are less than Minimum Analysis Level (MAL), i.e. <15 to <30 Bq/m^3 (see Table 6). The thoron results are also less the MAL, with one exception for the April to July 2020 period at location 16 (RM2) of 93 ± 28 Bq/m^3. There is no correlation between radon and thoron results to indicate a potential increase in emission in this area. (see Table 6).

Radon and Thoron filters are position 1 metre above ground at designated locations around the perimeter of the site fence. (see figure 2).

The groundwater sampling results from November 2109 to October 2020 (Table 6, 7 and Table 9) show a stable trend and there is no significant increase in Radium 226 and Radium 228 concentrations from the previous years and they continue to remain below the National Drinking Water Guidelines recommended screening concentration for gross alpha activity or gross beta activity of 0.5 Bq/L (500mBq/L) [7].

2. Introduction

Tronox Pigment Bunbury Ltd (Tronox), previously Cristal Pigment, operated a facility for the disposal of solid waste residue from their Kemerton and Australind pigment plants. The land waste disposal facility is located at Dalyellup, 8 km south of Bunbury town centre. The disposed residues contain Naturally Occurring Radioactive Material (NORM), in the form of traces radionuclides in the decay chains of uranium and thorium. The residue was shipped to the disposal facility by tanker trucks as a slurry and then gravity fed into disposal cells at the Dalyellup site.

The Dalyellup rehabilitation site has residue ponds that have been capped with a minimum of 2 metres of local sand (shown in Figure 1). Post-capping, a rehabilitation program was initiated which includes periodic radiation surveys to ensure that the site has returned to pre disturbance natural background radiation dose rates for this area.

As a commitment to the rehabilitation program Tronox implemented a Radiation Management Plan (RMP) for a radiation monitoring period of 5 year from 2013 to 2018. Rehabilitation of the Dalyellup site was completed in 2013.

The RMP was endorsed by RCWA [5], for the monitoring period from 2013 to 2018.

It is noted that the monitoring program has exceeded the 5-year commitment made by Tronox (formerly Cristal) and is under review with the RCWA and DWER. The endorsed/approved RMP [4] was used as the basis for the 2020 monitoring program. It is noted a revised RMP for change to the monitoring requirements was submitted by Tronox to the RCWA in January 2019 and is still awaiting endorsement.

Radiation Professionals Australia (RPA), formally Radiation Professionals Pty Ltd (RadPro) have been contracted for the past 7 years to undertake the required environmental radiation surveys and provide an annual report of the results of the Dalyellup site. The first monitoring of the site took place in October 2013.

The gamma monitoring took place on 13th October 2020 of 20 locations around the rehabilitated perimeter and 16 locations within this area over the capped waste pond the Dalyellup. The gamma survey was conducted using a nominal grid size of 100m by 100m (see Figure 2).

The measurement of radon and thoron in air are still being carried out by Tronox and the RPA are assaying the results and then issued to Tronox which are included in the report.

Monitoring bore water sampling is also being carried out by a contractor with the radiometric results issued to RPA for inclusion into the annual reports.

The purpose of the periodic site visits is to undertake environmental radiation monitoring on behalf of Tronox, in support of the required site regulatory and legal compliance monitoring requirements for:

- Reporting requirements to the Radiological Council Western Australia (RCWA), [2] and [3];

- Radiation Management Plan (RMP), [4] and [5] approved commitments; and
- The ongoing rehabilitation program for the site.

3. Further work

Continual radiation monitoring is required as outlined in the approved RCWA 2016 RMP until the regulators approve that the required time frame for this monitoring period has been completed and no further restrictions or requirements are to be carried out by Tronox at the Dalyellup rehabilitated area for the area to be opened for public use.

4. Scope and Work Method

Gamma radiation monitoring was carried out on 36 historical locations using a suitable environmental radiation monitor with the detector positioned at 1mtr above the ground surface.

Results were recorded for reference to rehabilitation variations and previous measurements and compared to the expected normal background levels.

Radon-in-air and thoron-in-air monitors were deployed for periods of about 3 months at the 8 locations 1meter above ground as per used in previous years to record radon and thoron airborne concentrations of the immediate area and to track any variations over time and compare these with the previous years' measurements. See Figure 2 for monitoring locations. Results were forwarded to RPA for reporting purposes.

Tronox have been conducting 3 monthly ground water sampling from November 2019 to October 2020 and sample splits were taken of Radium 226 (Ra-226) and Radium 228 (Ra-228) for laboratory radiometric analysis. Refer to Figure 2 for the monitoring bore locations. These results were forwarded to RPA for reporting purposes.

Table 1: Ongoing Monitoring Program for the Dalyellup Site

Parameter	Site/Locations	Frequency	Technique
Gamma	A 100 x 100m grid over the site Refer to Figure 2	Annually after rehabilitation for a period of 5 years (2013-2018). *Note 1: 2020 represents year 7 of the annual survey*	On foot, using rate-meter (Mini-instrument 6-80) with energy compensated environmental GM, (MC-71 probe), WGPS for locations 3 x Integrated 60sec measurements @ 1m above ground
Radon-in-air and Thoron-in-air	Sampling locations 1,3,5,7,9,13,16, and 20. Refer to Figure 2	Approx. 3 monthly (quarterly) change outs for a period of 5 years (2013 - 2018)	Track etch (RadTrak). *Note 2: Quarterly replacements are undertaken by Tronox* *Report issued to RPA*

		see Note 1	
Water Quality	Water bores around site: DM1, DM2, DM4, DM7, DM8, DM9. MB3, MB4 and YB. Refer to Figure 2	Annually for a period of 2013 to 2018. *see Note 1*	Water sampling as per AS/NZ 5667.11:1998. Samples collected by contractor Report issued to RPA Analysis for Ra226/Ra228 *Note 3: Periodic sampling is undertaken by Tronox*

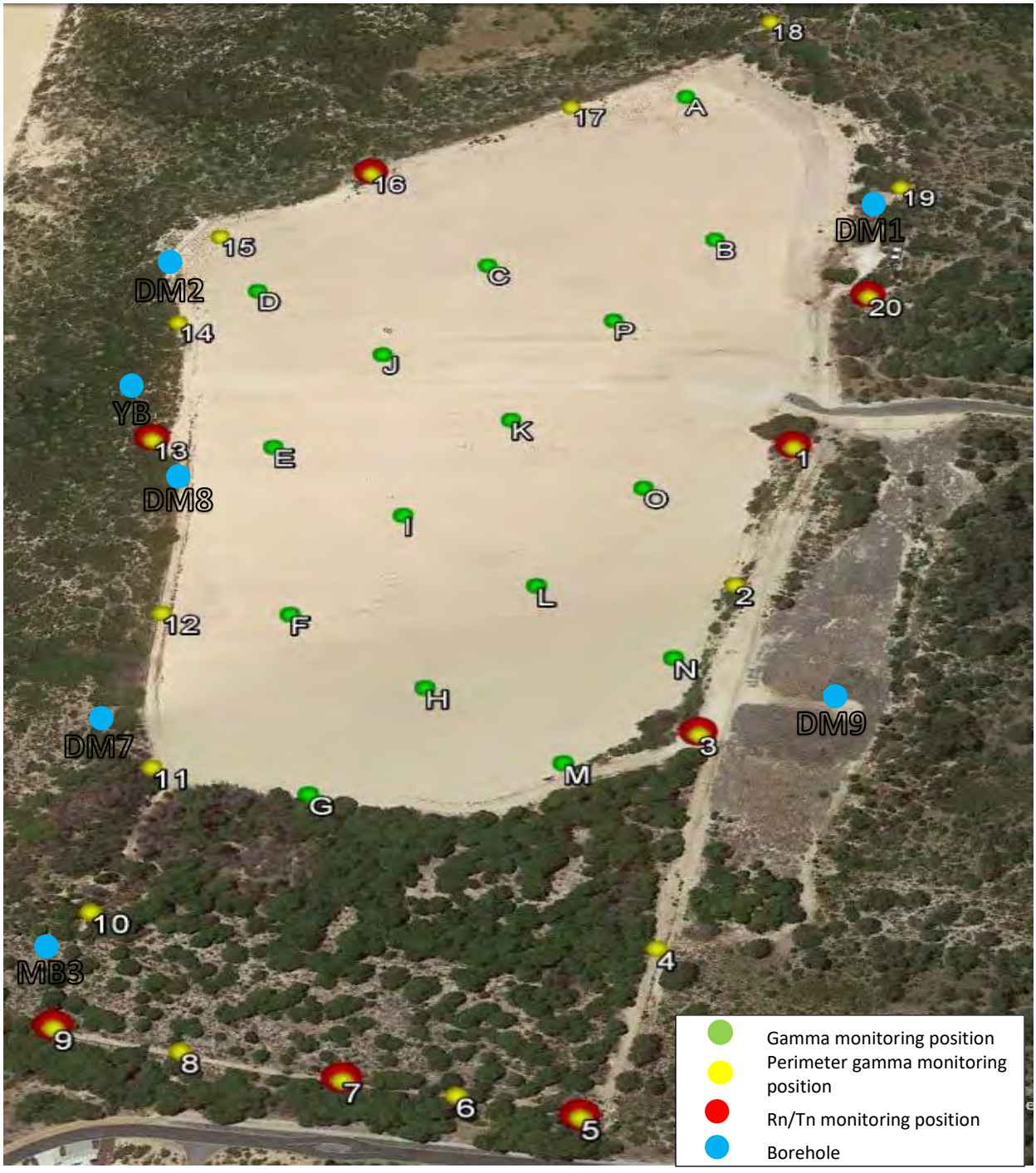


Figure 2: Monitoring locations at Dalyellup Site.

4.1. Methodology Environmental Gamma Monitoring

The gamma survey was conducted using a Mini-Instrument 6-80 ratemeter coupled to an energy compensated GM gamma detector (type MC-71).

The instrument is calibrated annually. The calibration certificate is attached in Appendix 10.1.

Measurements were taken with the detector placed at one metre above the ground. At each survey location, three (3) one (1) minute integrated measurements were taken and recorded on a field tablet along with the GPS co-ordinates of that location. A total of 20 perimeter and 16 points over the previously rehabilitated areas of the capped pond area was taken at the same locations as per previous years.

Uncertainty Budget

Overall uncertainty in dose rate readings is a product of the standard deviation of the readings and the uncertainty of the measurement. Factors that contribute to the uncertainty of the measurement at such low intensities are the calibration of the instrument, energy and angular dependence, environmental factors, scale resolution and reading parallax (for digital instruments parallax and scale resolution is assumed to be zero).

The overall uncertainty budget is outlined below.

Calibration Uncertainty: For the Mini-instrument used for this work the calibration uncertainty is ±10% with a normal distribution ref to Appendix 10.1 calibration certificate.

Energy and Angular Dependence: Using the IEC standard IEC 60846-1 Ed. 1.0 [6], the energy and angular dependence for this work and with this instrument is estimated to be 25% with a rectangular distribution.

Environmental Factors: For the instrument used, under normal working conditions, the uncertainty from environmental factors should not be more than 10% with a rectangular distribution.

Standard Deviation: For a 95% confidence level the following formula can be used to calculate the standard deviation of the time averaged readings.

$$u(H^*[10]) = \frac{\Delta H^*[10]}{H^*[10]}$$

$$\Delta H^*[10] = \frac{2 \times \sqrt{CPM}}{CPM} \times H^*[10]$$

Where u is the standard uncertainty, H*[10] is the ambient dose equivalent and CPM is the time averaged reading in counts over a one-minute period and Δ is the uncertainty. This uncertainty has a normal distribution.

The overall combined standard uncertainty u total (with a normal distribution) can then be calculated with the following equation:

$$u_{total} = \sqrt{\sum \left(\frac{u(i)}{z}\right)^2}$$

Where u (i) are the uncertainty sources detailed above and z is the probability divisor (1 for normal distributions and 1.73 for rectangular distributions). This gives a total uncertainty for a confidence level of 95%.

All gamma survey points were located with a Garmin Map GPS 12 "*e*trex" using the WGS 84 (GDA94) datum projected in the UTM format, referenced to map zone 50H.

Table 2: Summary of Gamma Measurements

Area	Type of measurement/sampling	No of Samples
Perimeter of site (locations RP01-RP20)	Gamma-in-air monitoring	20
Rehabilitated Area & Capped Pond (Locations A-P)	Gamma-in-air monitoring	16

4.2. Radon and Thoron

The radon measurement was performed using closed alpha-track detectors as supplied by Landauer following the United States (US) quality guidance in EPA 402-R-95-012 [add reference: United States Environment Protection Agency, National Radon Proficiency Program: Guidance on Quality Assurance: EPA-R-95-012, October 1997] Detectors are deployed in pairs, with a radon only monitor and a radon and thoron monitor placed together at each monitoring location for an exposure period of approximately 90 days.

The detector container is manufactured from electrically conducting plastic. Air containing radon and thoron enters the detector container through a small slit (filter) in the radon only detector. Only the radon gas enters the detector chamber, as the diffusion time for the air to enter the container is long enough to prevent thoron gas from entering.

The thoron detector is constructed differently with holes covered by paper filters in through which both thoron and radon gas enter the chamber. The thoron concentration is calculated by subtracting the radon only measurement from the total value of the combined radon and thoron detector. Analysis of monitors is

conducted by the supplier Landauer in an accredited laboratory to determine the radon and thoron levels.

The radon detector is marked with (R) after the detector number in the results table (see Appendix 10.3) and the combined radon and thoron detector with (T). For each result an uncertainty associated with the measurement to a 95% confidence level is also given. Radon and thoron measurements were conducted at locations along the perimeter fence of the site over a period from November 2019 to April 2020 and from April 2020 to July 2020. At the end of each exposure period, the detectors were collected and sent to Landauer for analysis. A total of 8 locations were monitored (Figure 2) and results are shown in Table 6.

4.3. Monitoring Equipment

Table 3: Equipment Details for measurement of gamma radiation

Equipment	Model	Serial Number	Calibration Due Date
Mini Instrument	6-80	002250	7/11/2020
GPS Garmin	etrex	User 1	-

4.4. Licenced Personnel

Table 4: Radiation Licence Information

Radiation Protection Advisor	Radiation Licence Details
Barry Lewington	Western Australia: Licence for Radioactive Substances: LS 91/2000 12169

5. Monitoring Results

The statistical analysis of the gamma dose rate data for the Dalyellup Rehabilitated Area are summarised in Table 5 and full gamma dose rate data are presented in appendix 10.2. The gamma dose rates are given in micro-Grays per hour (µGy/h), which is the absorbed dose rate in air.

Within the uncertainty of the measurements, the average dose rate was determined to be 0.13 µGy/h, ranging between 0.12 µGy/h and 0.15 µGy/h.

These results are within the statistical variation of the background gamma dose rates and are typical of the background gamma measurements of the Perth Coastal Plain which has a range between 0.07 to 0.27 µGy/h depending on the local geological characteristics (Toussaint, 1985) [1].

Based on the most recent gamma radiation survey, the results show that gamma radiation levels are consistent with the general natural background gamma radiation levels and therefore pose no radiological health issues to the public or the environment.

Table 5: Summary of Gamma Dose Rate measurement results for 2020

Location	Mean and Std Dev (µGy/h)	Minimum (µGy/h)	Maximum (µGy/h)
Dalyellup Site	0.13	0.12	0.15

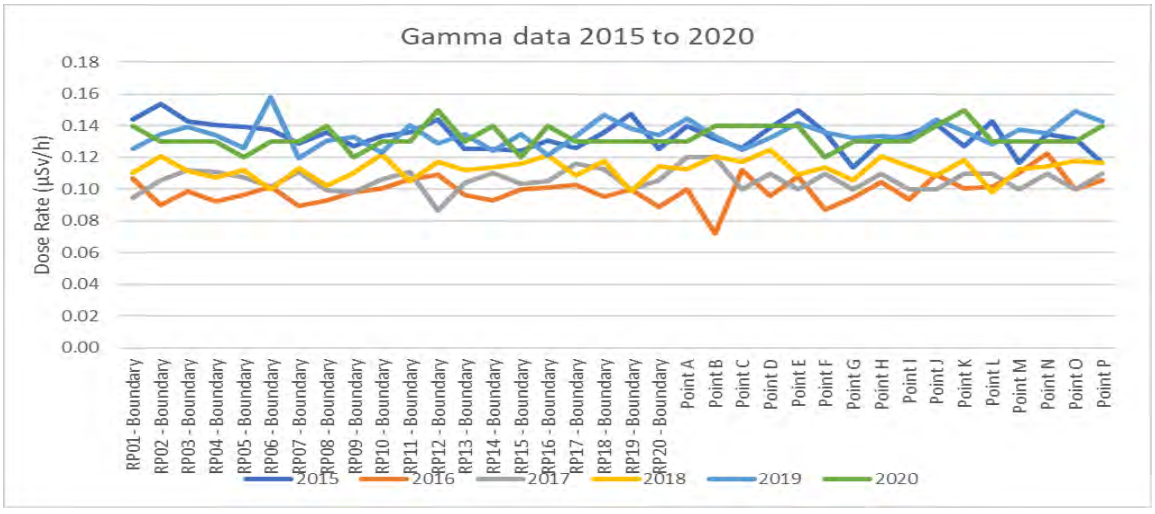


Figure 3: Comparison of environmental gamma dose rates for 2015 – 2020

5.1. Radon and Thoron

All measured radon activity concentration levels for November 2019 to July 2020 were less than the MAL (see Table 6). Most of the measured thoron activity concentration levels were also less than the MAL, (see Table 6).

There is a slight elevation above the minimum detectable level for location RP016 (RM02) to 93 ± 28 Bq/m³ for thoron. This is not accompanied by a similar elevation in the radon activity concentration level that could indicate the source of the thoron may be from the residue. Therefore, this is not an indication of long-term elevation in radon or thorn levels for the Dalyellup Rehabilitated Area.

Overall, current results are at concentrations that indicate that radon and thoron activity concentration levels are low and would pose no radiological health issues to the public.

The laboratory analysis results for radon and thoron activity concentration levels are presented in Appendix 10.3

Table 6: Rn/Th monitoring results for 2019-2020

		Nov19 – April 20		April 20 - July 20	
Point #	Location	Radon (Bq/m³)	Thoron (Bq/m³)	Radon (Bq/m³)	Thoron (Bq/m³)
RM01	RP20 - Boundary	<20	<20	<15	25
RM02	RP16 - Boundary	<15	<36	<20	93
RM03	RP13 - Boundary	<15	<20	20	<30
RM04	RP09 - Boundary	<20	<20	18	38
RM05	RP07 - Boundary	<15	<20	<15	<20
RM06	RP05 - Boundary	<15	<20	MISSING	MISSING
RM07	RP03 - Boundary	<15	<20	<15	<22
RM08	RP01 - Boundary	<15	<20	<15	<20

5.2. Bore Water Concentrations

Locations identified as "A" are for 'deep' bore hole samples and those indicated as "C" are for 'shallow' bore hole samples.

The activity concentration levels for Ra-226 and for Ra-228 in water are presented in Table 7, and a summary of the average activity concentrations for Ra-226 and Ra-228 in water for the past 7 years are presented in Table 8 and Table 9, respectively. The laboratory analysis results are provided in Section 10.4.

From the summary tables, it is evident that the results for October 2019 and April 2020 are similar to the results from 2019. The highest Ra-226 activity concentration was recorded at monitoring bore DM9-A (0.101 Bq/L) in October 2019 and the highest Ra-228 activity concentration was recorded at DM1-C (0.240 Bq/L) on the 15th April 2020. The measured activity concentrations for RA-226 and Ra-228 for October 2019 and April 2020 are comparable to those measured in earlier years (2013-2019).

The screening levels for drinking water as set by Reference [7], state that compliance with the guideline for radiological quality of drinking water should be assessed, initially, by screening for gross alpha and gross beta activity concentrations. The

recommended screening level for gross alpha activity is 0.5 Bq/L. The concentrations of both radium-226 and radium-228 have been determined, as these are the most significant naturally occurring radionuclides in Australian water supplies.

The data presented indicates that there is no leaching of radionuclides from the rehabilitated area into the surrounding groundwater. None of the sample locations have activity concentrations exceeding the recommended 0.5 Bq/L gross alpha screening concentration limits.

5.1. Summary Monitoring Bore Water Radionuclide Concentration

Table 6 below summarises the received laboratory analysis of the monitoring bores. Note these are the only results that were forwarded to RPA to include in the report.

Tables 7 and 8 below show the summary of the historical bore water monitoring data.

Table 7: Results of Water Monitoring period for Oct/Nov 2019 - Oct 2020

Analysis Report Date	Location	Ra-226 Bq/L	Ra-228 Bq/L
10/10/2019	DM1A	0.044 ± 0.018	<0.200
15/04/2020	DM1A	<0.081	<0.170
10/10/2019	DM1C	0.036 ± 0.023	<0.240
15/04/2020	DM1C	0.085 ± 0.035	<0.220
10/10/2019	DM2A	<0.077	<0.130
15/04/2020	DM2A	0.054 ± 0.019	<0.170
10/10/2019	DM2C	<0.053	<0.150
15/04/2020	DM2C	<0.071	<0.130
-	DM4A	N/a	N/a
10/10/2019	DM4C	<0.057	<0.130
15/04/2020	DM4C	0.047± 0.025	<0.190
10/10/2019	DM7A	0.030 ± 0.018	<0.150
15/04/2020	DM7A	<0.078	<0.190
10/10/2019	DM7C	<0.072	<0.120
15/04/2020	DM7C	<0.051	<0.110
10/10/2019	DM8A	0.034 ± 0.018	<0.140
15/04/2020	DM8A	<0.048	<0.160
10/10/2019	DM8C	<0.072	<0.220
15/04/2020	DM8C	<0.067	<0.180
10/10/2019	DM9A	0.101 ± 0.027	<0.180
10/10/2019	DM9C	<0.083	<0.210
10/10/2019	MB3	<0.082	<0.190

Analysis Report Date	Location	Ra-226 Bq/L	Ra-228 Bq/L
15/04/2020	MB3	<0.043	<0.130
17/01/2020	MB4	<0.043	<0.170
10/10/2019	YB	0.068 ± 0.016	0.091± 0.030
17/01/2020	YB	<0.082	0.119 ± 0.039
15/04/2020	YB	<0.069	<0.110

Radiation Professionals Australia

Telephone: +61 8 9325 9948
operations@radproaustralia.com

ABN: 50 631 060 449

Table 8: Ra-226 Average Activity Concentrations (mBq/L) for the period 2013 – Oct 2020

REPORT YEAR	DM1A	DM1C	DM2A	DM2C	DM4A	DM4C	DM7A	DM7C	DM8A	DM8C	DM9A	DM9C	MB3	MB4	YB
2013	78	70	45	31	33	17	53	40	62	69	62	52	25	35	53
2014	199.5	81.5	96.5	66.5	45	45.5	79	80.5	94.5	67	3	254	37	34.5	56.3
2015	267	148.5	71	110	107.5	59.5	56	161.3	109.5	93	148.5	61.3	109.5	110	72.5
2016	155	410.5	<100	<100	192	<100	<100	<100	<100	122	<100	909	151	158	382.5
2017	61	75	62	36.5	<49	42	<75	49	50	90.5	121.7	84	<35	<57	31.3
2018	46	55	115	<50	<58	40	<85	<72	29	50	102	<66	<94	<43	38.7
2019	<65	<42	<116	<60	<64	<41	<51	<61	<65	<55	<157	<46	<80	N/A	44.0
2020	62.5	60.5	65.5	62	-	52	54	61.5	41	69.5	101	83	62.5	43	73

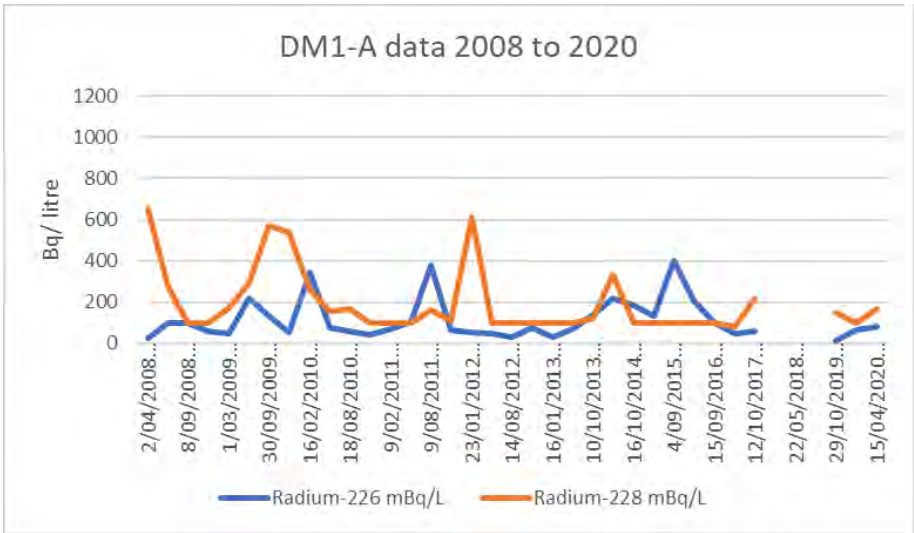
Table 9: Ra-228 Average activity concentrations (mBq/L) for the period 2013 – Oct 2020

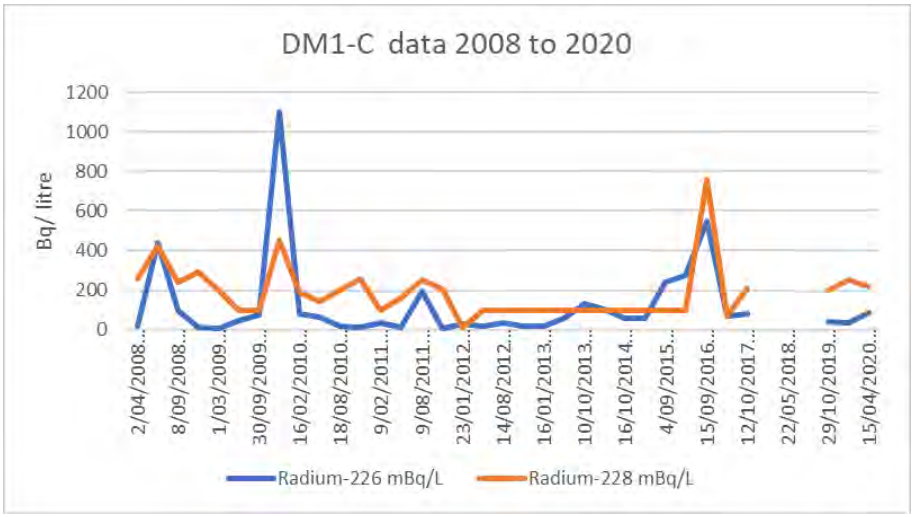
YEAR	DM1A	DM1C	DM2A	DM2C	DM4A	DM4C	DM7A	DM7C	DM8A	DM8C	DM9A	DM9C	MB3	MB4	YB
2013	107	<100	<100	<100	<100	<100	<100	<100	132	<100	133	133	<100	<100	<100
2014	217	<100	106	<100	<100	<100	140.5	125	102	<100	<100	148.5	125	<100	<100
2015	<100	<100	<100	<100	<100	<100	<100	<100	224	120.5	<100	158.3	123	<100	<100
2016	<100	757	<100	102	<100	<100	<100	<100	<100	<100	<100	574	<100	<100	192
2017	<220	71	78	52	<150	<14	<210	140	62	206	155	160	<96	<180	82.3
2018	<190	<220	263	<90	<130	<150	<240	<210	<140	<140	<150	<160	<170	<110	120.5
2019	<150	<250	<170	<270	<240	<160	<200	<230	<190	<150	<97	<180	<210	N/A	63.0
2020	185	240	150	140	-	160	170	115	190	200	<180	<210	160	170	106.7

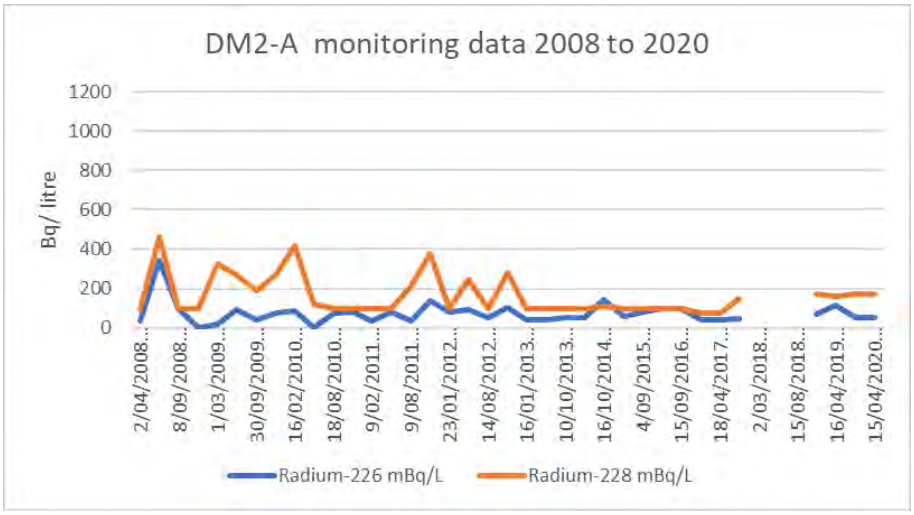
Radiation Professionals Australia

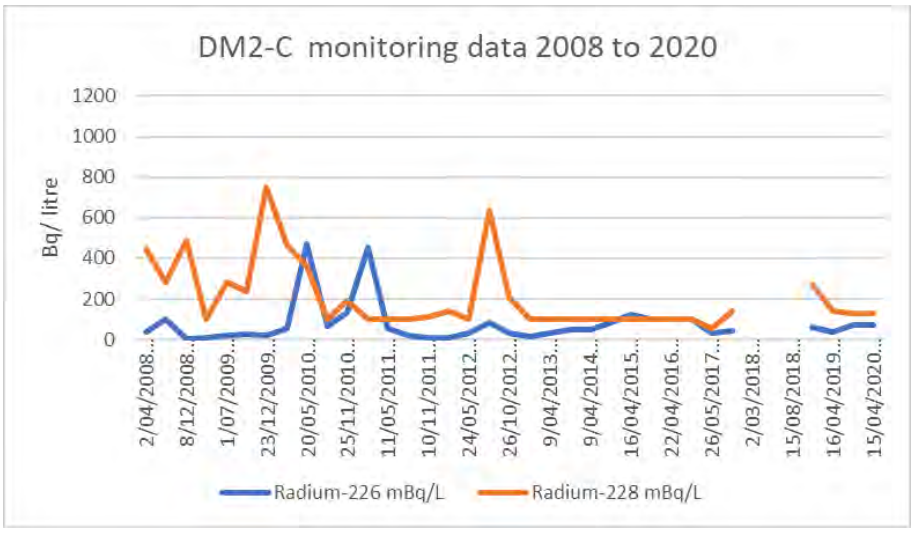
Telephone: +61 8 9325 9948
operations@radproaustralia.com

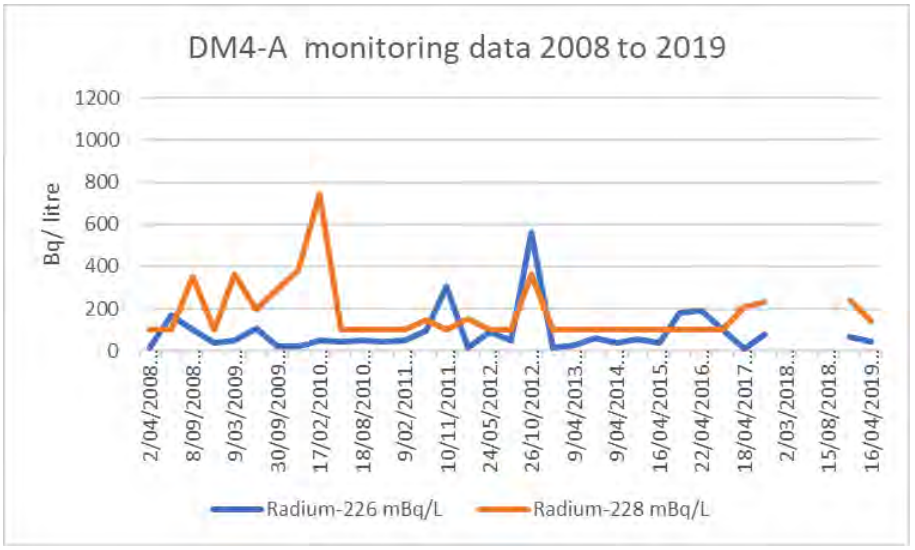
ABN: 50 631 060 449

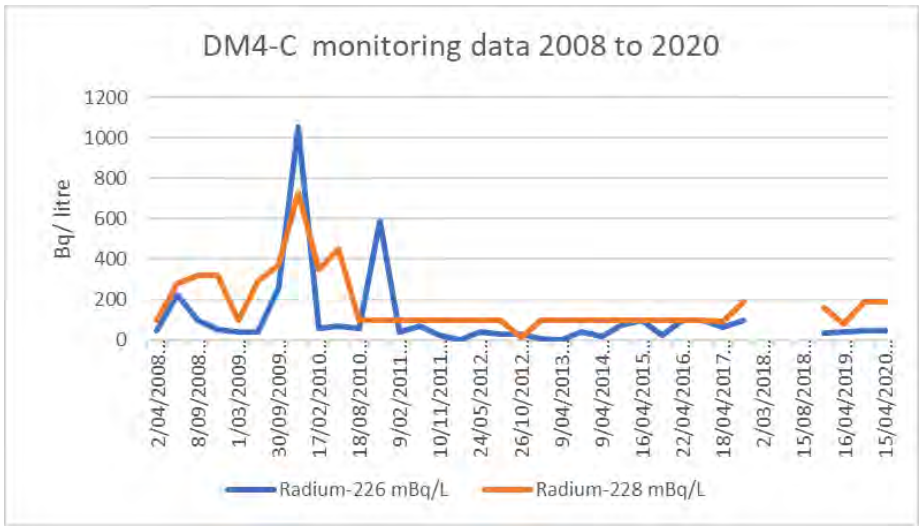


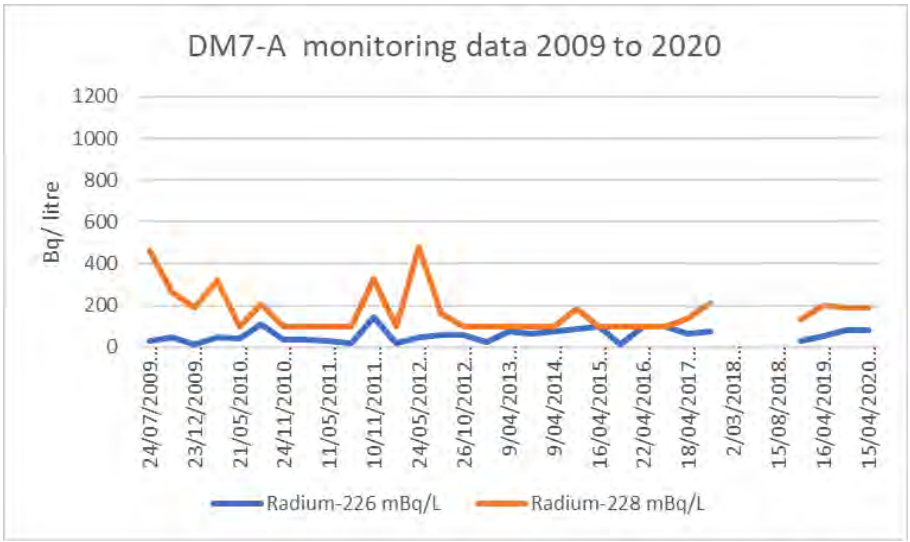


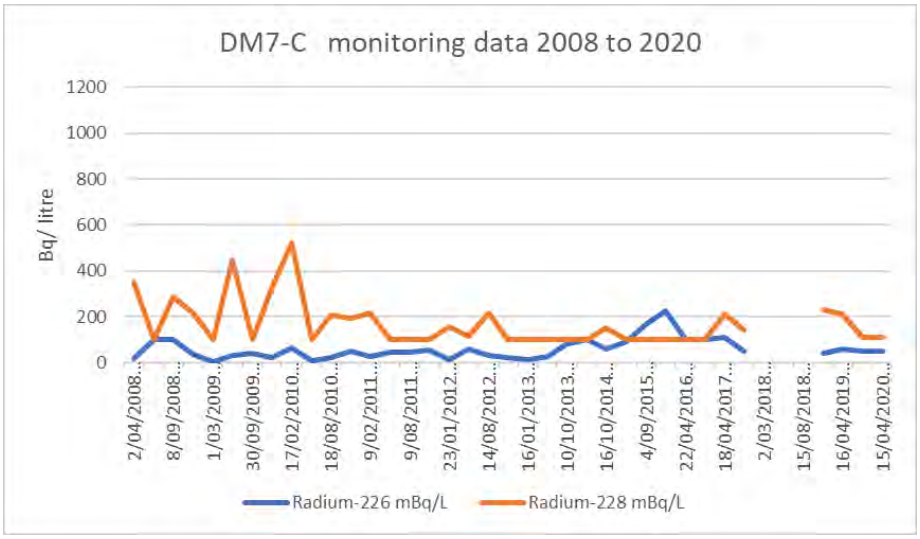


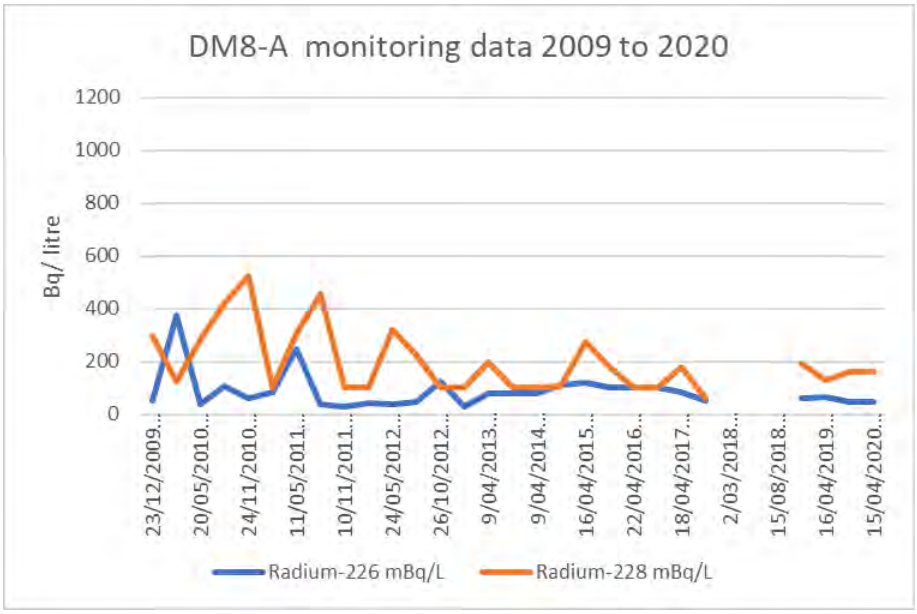

DM2-C monitoring data 2008 to 2020
Bq/ litre
1200
1000
800
600
400
200
0
2/04/2008...
8/12/2008...
1/07/2009...
23/12/2009...
20/05/2010...
25/11/2010...
11/05/2011...
10/11/2011...
24/05/2012...
26/10/2012...
9/04/2013...
9/04/2014...
16/04/2015...
22/04/2016...
26/05/2017...
2/03/2018...
15/08/2018...
16/04/2019...
15/04/2020...
Radium-226 mBq/L
Radium-228 mBq/L

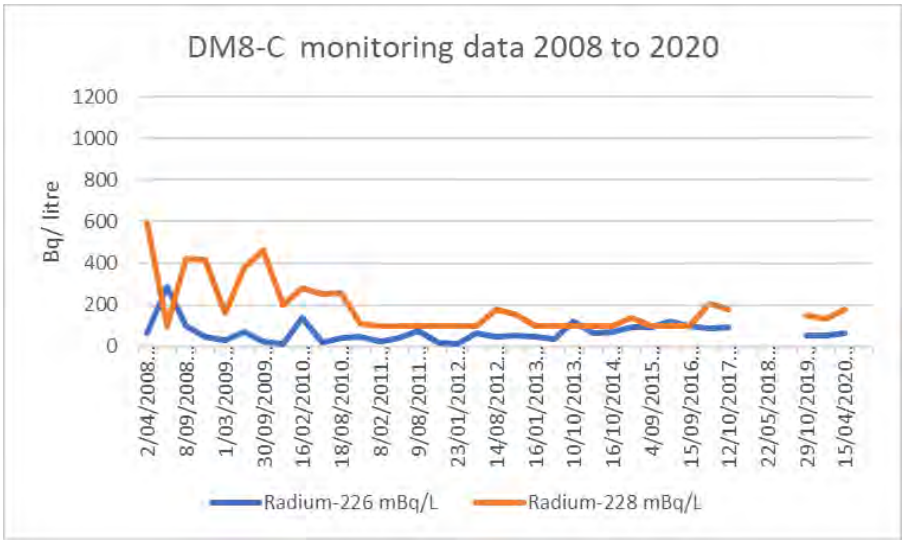

DM4-A monitoring data 2008 to 2019
Bq/ litre
1200
1000
800
600
400
200
0
2/04/2008...
8/09/2008...
9/03/2009...
30/09/2009...
17/02/2010...
18/08/2010...
9/02/2011...
10/11/2011...
24/05/2012...
26/10/2012...
9/04/2013...
9/04/2014...
16/04/2015...
22/04/2016...
18/04/2017...
2/03/2018...
15/08/2018...
16/04/2019...
Radium-226 mBq/L
Radium-228 mBq/L

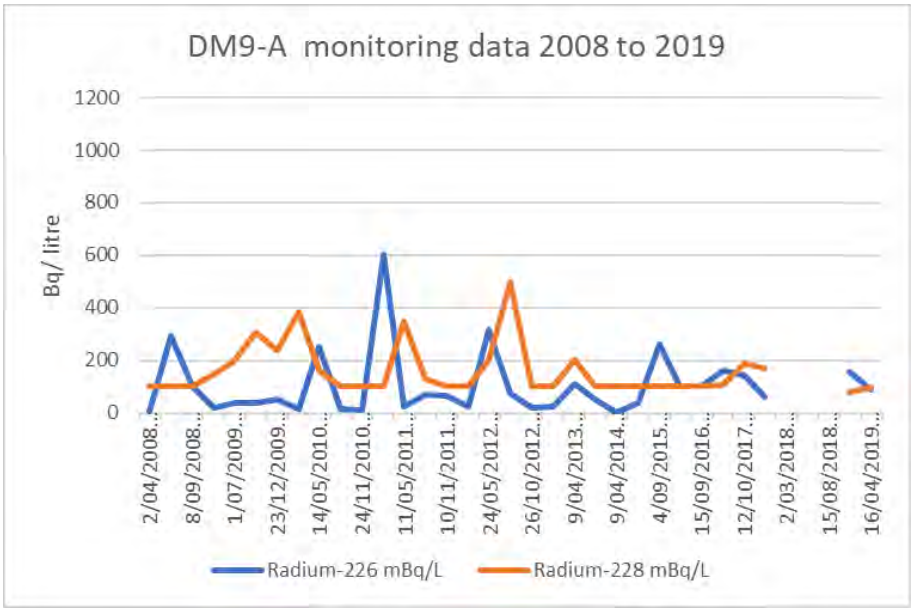

DM4-C monitoring data 2008 to 2020
Bq/ litre
1200
1000
800
600
400
200
0
2/04/2008...
8/09/2008...
1/03/2009...
30/09/2009...
17/02/2010...
18/08/2010...
9/02/2011...
10/11/2011...
24/05/2012...
26/10/2012...
9/04/2013...
9/04/2014...
16/04/2015...
22/04/2016...
18/04/2017...
2/03/2018...
15/08/2018...
16/04/2019...
15/04/2020...
Radium-226 mBq/L
Radium-228 mBq/L

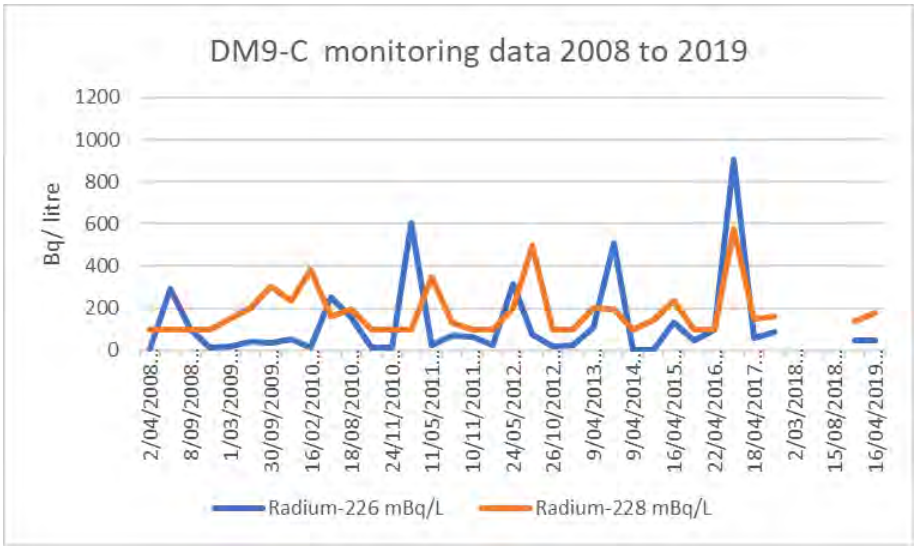

DM7-A monitoring data 2009 to 2020
Bq/ litre
1200
1000
800
600
400
200
0
24/07/2009...
23/12/2009...
21/05/2010...
24/11/2010...
11/05/2011...
10/11/2011...
24/05/2012...
26/10/2012...
9/04/2013...
9/04/2014...
16/04/2015...
22/04/2016...
18/04/2017...
2/03/2018...
15/08/2018...
16/04/2019...
15/04/2020...
Radium-226 mBq/L
Radium-228 mBq/L

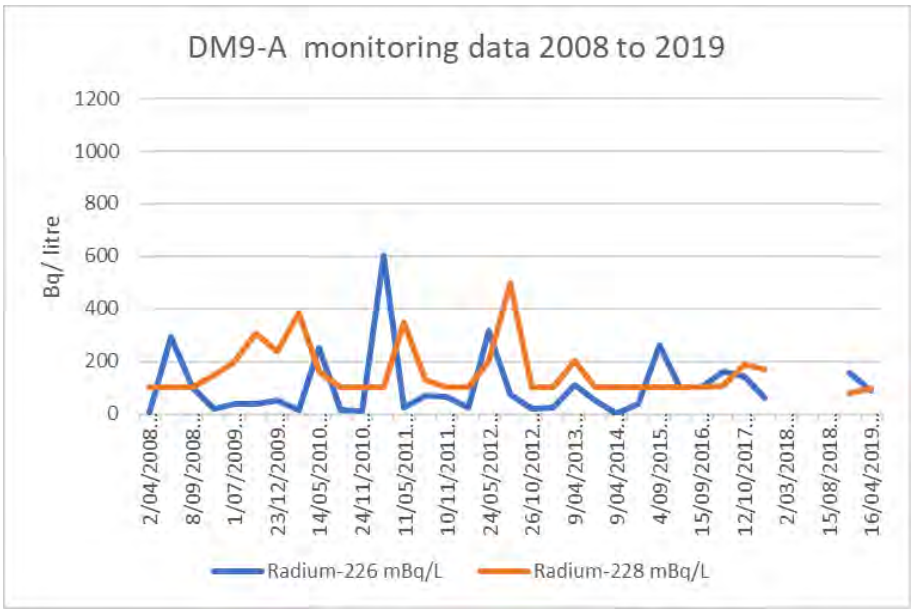

DM7-C monitoring data 2008 to 2020
Bq/ litre
1200
1000
800
600
400
200
0
2/04/2008...
8/09/2008...
1/03/2009...
30/09/2009...
17/02/2010...
18/08/2010...
9/02/2011...
9/08/2011...
23/01/2012...
14/08/2012...
16/01/2013...
10/10/2013...
16/10/2014...
4/09/2015...
22/04/2016...
18/04/2017...
2/03/2018...
15/08/2018...
16/04/2019...
15/04/2020...
Radium-226 mBq/L
Radium-228 mBq/L

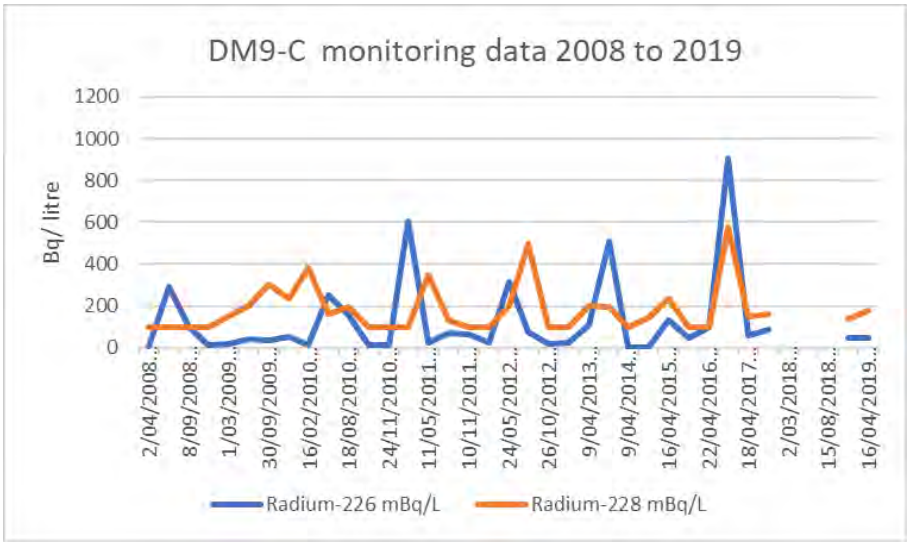

DM8-A monitoring data 2009 to 2020
Bq/ litre
1200
1000
800
600
400
200
0
23/12/2009...
20/05/2010...
24/11/2010...
11/05/2011...
10/11/2011...
24/05/2012...
26/10/2012...
9/04/2013...
9/04/2014...
16/04/2015...
22/04/2016...
18/04/2017...
2/03/2018...
15/08/2018...
16/04/2019...
15/04/2020...
Radium-226 mBq/L
Radium-228 mBq/L

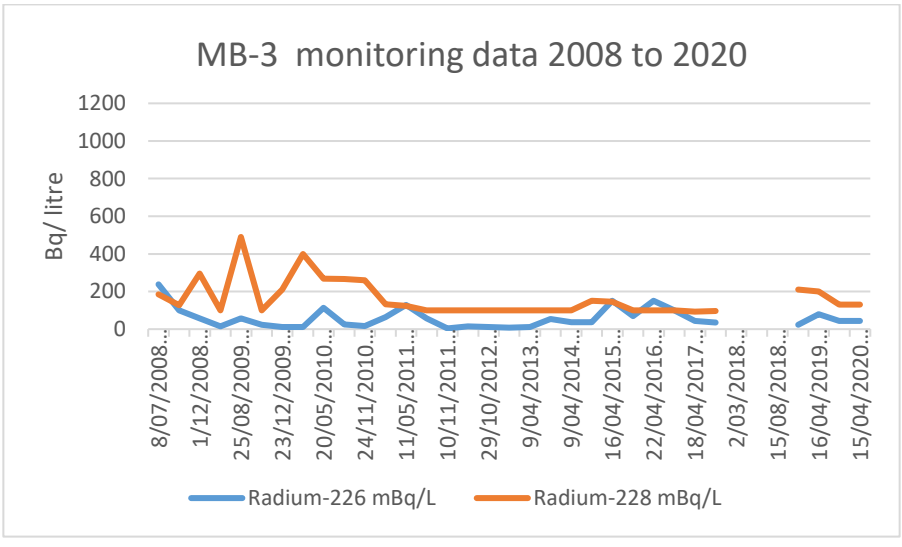

DM8-C monitoring data 2008 to 2020
Bq/ litre
1200
1000
800
600
400
200
0
2/04/2008...
8/09/2008...
1/03/2009...
30/09/2009...
16/02/2010...
18/08/2010...
8/02/2011...
9/08/2011...
23/01/2012...
14/08/2012...
16/01/2013...
10/10/2013...
16/10/2014...
4/09/2015...
15/09/2016...
12/10/2017...
22/05/2018...
29/10/2019...
15/04/2020...
Radium-226 mBq/L
Radium-228 mBq/L

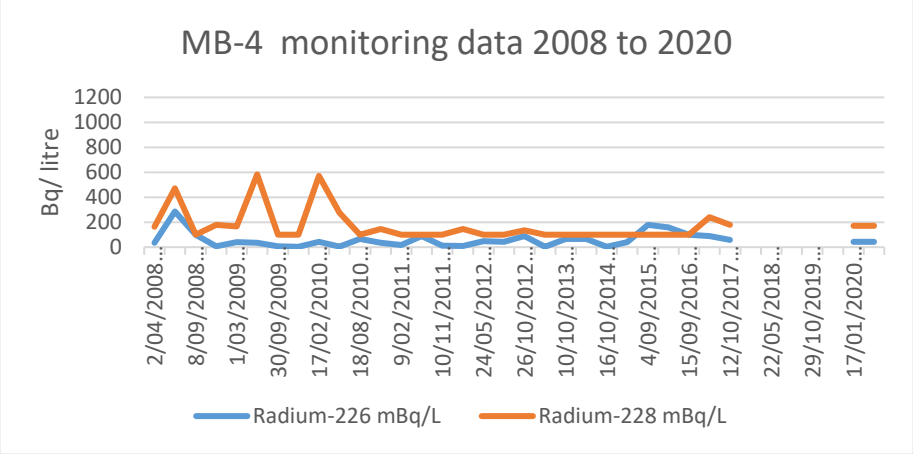

DM9-A monitoring data 2008 to 2019
Bq/ litre
1200
1000
800
600
400
200
0
2/04/2008...
8/09/2008...
1/07/2009...
23/12/2009...
14/05/2010...
24/11/2010...
11/05/2011...
10/11/2011...
24/05/2012...
26/10/2012...
9/04/2013...
9/04/2014...
4/09/2015...
15/09/2016...
12/10/2017...
2/03/2018...
15/08/2018...
16/04/2019...
Radium-226 mBq/L
Radium-228 mBq/L

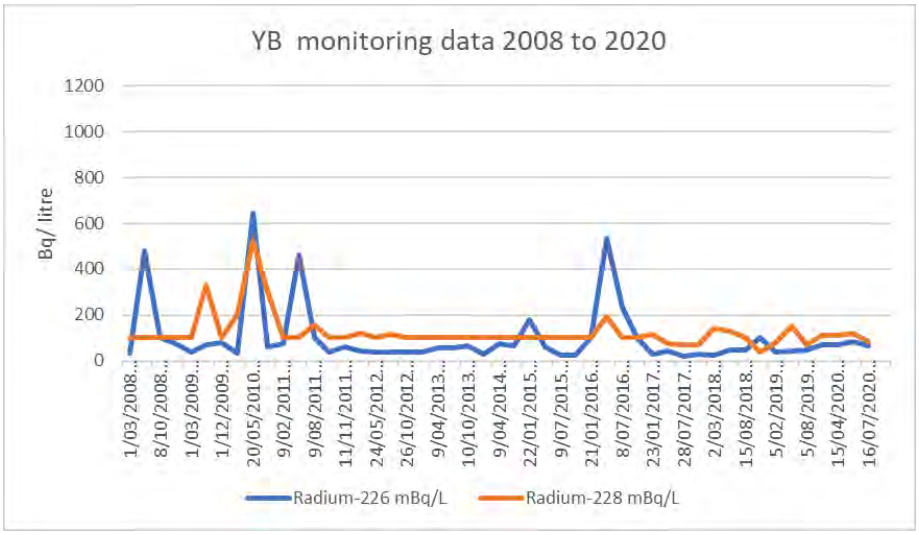

DM9-C monitoring data 2008 to 2019
Bq/ litre
1200
1000
800
600
400
200
0
2/04/2008...
8/09/2008...
1/03/2009...
30/09/2009...
16/02/2010...
18/08/2010...
24/11/2010...
11/05/2011...
10/11/2011...
24/05/2012...
26/10/2012...
9/04/2013...
9/04/2014...
16/04/2015...
22/04/2016...
18/04/2017...
2/03/2018...
15/08/2018...
16/04/2019...
Radium-226 mBq/L
Radium-228 mBq/L


DM9-A monitoring data 2008 to 2019
Bq/ litre
1200
1000
800
600
400
200
0
2/04/2008...
8/09/2008...
1/07/2009...
23/12/2009...
14/05/2010...
24/11/2010...
11/05/2011...
10/11/2011...
24/05/2012...
26/10/2012...
9/04/2013...
9/04/2014...
4/09/2015...
15/09/2016...
12/10/2017...
2/03/2018...
15/08/2018...
16/04/2019...
Radium-226 mBq/L
Radium-228 mBq/L


DM9-C monitoring data 2008 to 2019
Bq/ litre
1200
1000
800
600
400
200
0
2/04/2008...
8/09/2008...
1/03/2009...
30/09/2009...
16/02/2010...
18/08/2010...
24/11/2010...
11/05/2011...
10/11/2011...
24/05/2012...
26/10/2012...
9/04/2013...
9/04/2014...
16/04/2015...
22/04/2016...
18/04/2017...
2/03/2018...
15/08/2018...
16/04/2019...
Radium-226 mBq/L
Radium-228 mBq/L


MB-3 monitoring data 2008 to 2020
Bq/ litre
1200
1000
800
600
400
200
0
8/07/2008...
1/12/2008...
25/08/2009...
23/12/2009...
20/05/2010...
24/11/2010...
11/05/2011...
10/11/2011...
29/10/2012...
9/04/2013...
9/04/2014...
16/04/2015...
22/04/2016...
18/04/2017...
2/03/2018...
15/08/2018...
16/04/2019...
15/04/2020...
Radium-226 mBq/L
Radium-228 mBq/L


MB-4 monitoring data 2008 to 2020
Bq/ litre
1200
1000
800
600
400
200
0
2/04/2008...
8/09/2008...
1/03/2009...
30/09/2009...
17/02/2010...
18/08/2010...
9/02/2011...
10/11/2011...
24/05/2012...
26/10/2012...
10/10/2013...
16/10/2014...
4/09/2015...
15/09/2016...
12/10/2017...
22/05/2018...
29/10/2019...
17/01/2020...
Radium-226 mBq/L
Radium-228 mBq/L


YB monitoring data 2008 to 2020
Bq/ litre
1200
1000
800
600
400
200
0
1/03/2008...
8/10/2008...
1/03/2009...
1/12/2009...
20/05/2010...
9/02/2011...
9/08/2011...
11/11/2011...
24/05/2012...
26/10/2012...
9/04/2013...
10/10/2013...
9/04/2014...
22/01/2015...
9/07/2015...
21/01/2016...
8/07/2016...
23/01/2017...
28/07/2017...
2/03/2018...
15/08/2018...
5/02/2019...
5/08/2019...
15/04/2020...
16/07/2020...
Radium-226 mBq/L
Radium-228 mBq/L

6. Conclusion and Further Work

All the gamma monitoring results (Average = 0.13 µGy/h) for the rehabilitated Dalyellup site are within the statistical variation. The 2020 results are typical for the background gamma dose rates expected in the area and for the Perth Coastal Plain which has a range of 0.07 to 0.27 µGy/h depending on local geological characteristics (Toussaint, 1985) [1].

Most of the measured radon and thoron activity concentrations in air were less than the minimum analysis level (MAL) of <20 Bq/m^3 for radon and <30 Bq/m^3 for thoron, with maximum measured activity concentration levels in air of 20 Bq/m^3 for radon and 93 ± 28 Bq/m^3 for thoron . The results do not indicate a potential increase of airborne radioactivity in the Dalyellup rehabilitation area. Overall, the activity concentrations of radon and thoron remain low and pose no radiological health issues to members of the public or the environment.

The highest recorded monitoring bore concentration for Ra-226 for the October 2019 to April 2020 results is from bore DM9-A was 0.101 Bq/L. The highest recorded concentration of Ra-228 from monitoring bore DM1-C was 0.240 Bq/L. These results do not exceed the National Water Quality Guideline trigger value of 0.5 Bq/L [5]. Data gathered during the routine monitoring for 2019-2020 suggests that there is no leaching of radionuclides from the Dalyellup rehabilitation site into the surrounding areas.

7. References

[1] Toussaint LF (1985) Radiation Protection in Australia 3(4) 151-55 Background Radiation in Western Australia.

[2] Radiological Council, "Radiation Safety Act," 1975.

[3] Radiological Council, "Radiation Safety (General) Regulations," 1983.

[4] Cristal Pigment, "Radiation Management Plan For Cristal Pigment Australia Limited, Dalyellup Waste Residue Disposal Facility, Post-Decommissioning and Rehabilitation, CRIS150130-RMP-V1.0," January 2016.

[5] "Letter from Radiological Council to Peter Allen, Radiation Safety Act, Radiation Management Plan, 05390_160714ds1," 2nd August 2016.

[6] International Electrotechnical Committee, "IEC 60846-1 Ed. 1.0, Radiation protection instrumentation - Ambient and/or directional dose equivalent (rate) meters and/or monitors for beta, X and gamma radiation Part 1: Portable workplace and environmental meters and monitors," 2009.

[7] National Health and Medical Research Council, "National Water Quality Management Strategy, Australian Drinking Water Guidelines 6 2011, Version 3.4," Updated November 2017.

8. Quality Assurance Programme

8.1. Quality Assurance

The results of this gamma survey were managed in accordance with the requirements of Radiation Professionals Australia's Quality Assurance program. The aim of this program is to provide continual improvement of the radiation monitoring and assessment procedures. The quality of results obtained were evaluated using standardised documented procedures, calibrated equipment that is well maintained and qualified individuals.

8.2. Monitoring Equipment, Procedures and Methods

All sampling equipment and procedures used are as described in the DMIRS NORM guidelines or Radiation Professionals Australia Field procedures.

8.3. Calibration Records

All equipment is calibrated at least on an annual basis, or more often as required. Calibration certificates are retained by Radiation Professionals Australia and the relevant calibrations certificates accompany equipment to site.

8.4. Training and Experience of Personnel

Appropriately trained and experienced personnel are employed to undertake any measurements and surveys required.

The Radiation Safety Officer responsible for and overseeing the implementation of this gamma survey is certified as competent and holds a current license from the Radiological Council of WA.

9. Glossary

ALARA	As low as reasonably achievable, considering social and economic factors
Becquerel (Bq)	One atom decaying (disintegrating) per second
Contamination Level	An amount of radioactivity present in air, water or on surfaces, the presence of which is undesirable to the extent it could be harmful if uncontrolled or not guarded against
Controlled area	means an area to which access is subject to control and in which workers are required to follow specific procedures aimed at controlling exposure to radiation
Gamma ray or radiation	Gamma rays are electromagnetic energy, like x-rays, are very penetrating, and pass with some reduction in intensity through many centimetres of solids. Gamma exposure reduces with the inverse square of distance to the point source
Hazard	Anything with the potential to cause harm
mSv	Unit used to describe effective dose is the Sievert (Sv). Frequently used SI multiples are the milliSievert (1 mSv = 10^{-3} Sv = 0.001 Sv) and microSievert (1 µSv = 10^{-6} Sv = 0.000001 Sv)
Personal radiation dosimeters	Thermo-Luminescent Dosimeters, electronic dosimeters, Optical Stimulation Dosimeters, film badges, or quartz fibre electroscopes
PPE/RPE	Personal / Respiratory Protective Equipment
Radiation	means ionizing radiation, that is electromagnetic or corpuscular radiation capable of producing ions directly or indirectly in its passage through matter
Reasonably practicable	Whether risk management measures are reasonably practicable (as defined by Section 5 of the Workplace Health and Safety Act 2007) is to be decided regarding: • the likelihood that the risk could result in injury, • the seriousness of any injury that could result from realisation of the risk, • the availability, suitability, effectiveness and cost of the measures; and • any other relevant factors.
RMP	Radiation Management Plan

Telephone: +61 8 9325 9948
operations@radproaustralia.com

ABN: 50 631 060 449

10. Appendices

10.1. Instrument Calibration Certificate

Australian Government | ANSTO

CALIBRATION REPORT

INSTRUMENT CALIBRATION FACILITY

Report No : CC191304	**PO : 0052**	**Serial. No. 002250**		**Date: 7/11/2019**
Instrument : Environmental Meter	**Make : Mini-Instruments**	**Model : 6-80**	**MTE : 7992**	**Client : Radiation professionals**

Isotope	Exposure rate (T)	As found	After adjust (I)	Counts / Minute	cpm/µGy/h
Cs -137	5 µGy/h	3 µGy/h	4.5 µGy/h	3584	717
	11 µGy/h	6.5 µGy/h	10 µGy/h	7845	713
	20 µGy/h	12.3 µGy/h	20 µGy/h	14277	714
	40 µGy/h	28 µGy/h	43 µGy/h	26435	661
	50 µGy/h	44 µGy/h	55 µGy/h	33411	668

RECORDED BY : H Singh SIGNATURE : DATE : 7/11/2019

Exposure rates are traceable to the Australian standards of air kerma and exposure at a confidence level of 95%.

STATEMENT OF COMPLIANCE. CHECKED BY : M Gustafson SIGNATURE :

INSTRUMENT IS WITHIN MANUFACTURERS SPECIFICATIONS (+/-10%)
Calibration Equipment used : Calibration Facility, ANSTO Equipment No 172266

NOTE: Instrument was reading low, calibrated using manufacturer's instruction.

Australian Nuclear Science and Technology Organisation, New Illawarra Road, Lucas Heights, NSW 2234
Postal Address: Locked Bag 2001, Kirrawee DC NSW 2232 Telephone: (02) 9717 3208 Fax: (02) 9717 3507
E-Mail: gill@ansto.gov.au or mgu@ansto.gov.au

CC191304

Radiation Professionals Australia

Telephone: +61 8 9325 9948
operations@radproaustralia.com

ABN: 50 631 060 449

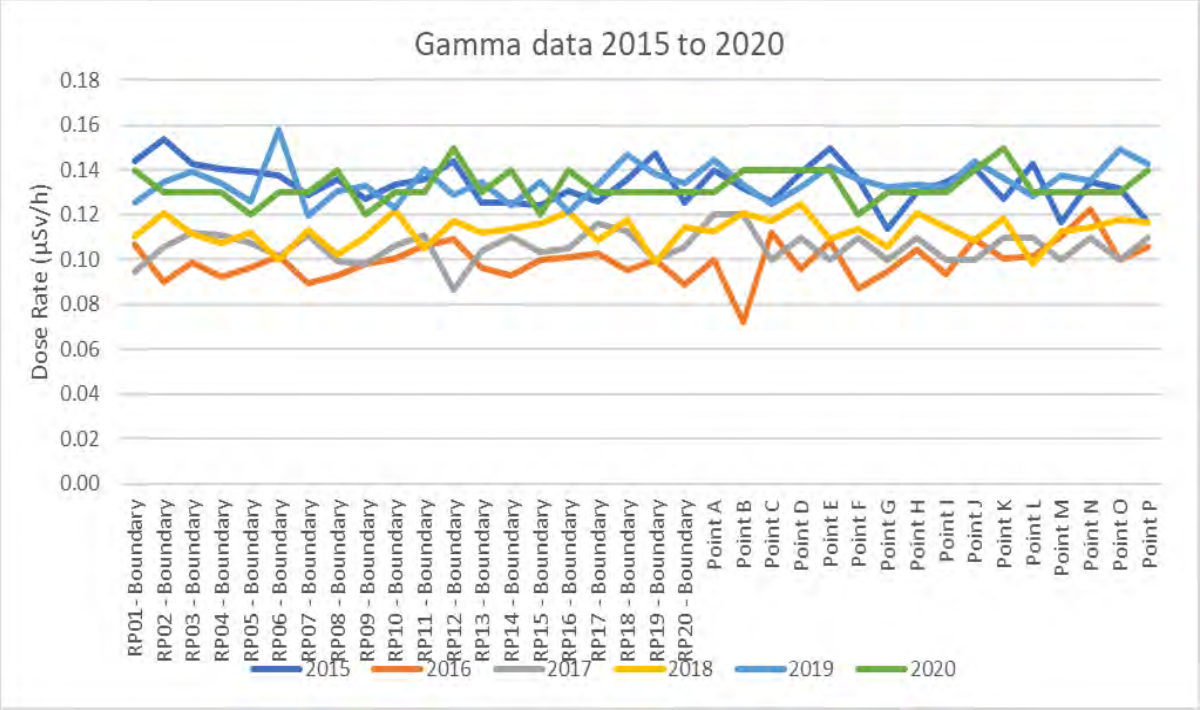
10.2. Site Data

Environmental Gamma Dose Rates Recorded for year October 2020

Point #	Location / Comment	Mean Count (min)	Absorbed Dose Rate (µGy/h)
1	RP20 - Boundary	98	0.14 ± 0.04
2	RP19 - Boundary	96	0.13 ± 0.04
3	RP18 - Boundary	95	0.13 ± 0.04
4	Point A	90	0.13 ± 0.03
5	RP17 - Boundary	88	0.12 ± 0.03
6	RP16 - Boundary	92	0.13 ± 0.04
7	RP15 - Boundary	91	0.13 ± 0.04
8	RP14 - Boundary	99	0.14 ± 0.04
9	RP13 - Boundary	83	0.12 ± 0.03
10	RP12 - Boundary	96	0.13 ± 0.04
11	RP11 - Boundary	94	0.13 ± 0.04
12	RP10 - Boundary	108	0.15 ± 0.04
13	RP09 - Boundary	95	0.13 ± 0.04
14	RP08 - Boundary	99	0.14 ± 0.04
15	RP07 - Boundary	86	0.12 ± 0.03
16	RP06 - Boundary	99	0.14 ± 0.04
17	RP05 - Boundary	90	0.13 ± 0.04
18	RP04 - Boundary	96	0.13 ± 0.04
19	RP03 - Boundary	93	0.13 ± 0.04
20	RP02 - Boundary	95	0.13 ± 0.04
21	RP01 - Boundary	91	0.13 ± 0.04
22	Point B	98	0.14 ± 0.04
23	Point C	103	0.14 ± 0.04
24	Point D	98	0.14 ± 0.04
25	Point E	100	0.14 ± 0.04
26	Point F	85	0.12 ± 0.03
27	Point G	96	0.13 ± 0.04

28	Point H	94	0.13 ± 0.04
29	Point I	94	0.13 ± 0.04
30	Point J	98	0.14 ± 0.04
31	Point K	106	0.15± 0.04
32	Point L	95	0.13 ± 0.04
33	Point M	92	0.13 ± 0.04
34	Point N	95	0.13 ± 0.04
35	Point O	95	0.13 ± 0.04
36	Point P	97	0.14 ± 0.04

Average	0.13 µGy/h
Minimum	0.12 µGy/h
Maximum	0.15 µGy/h
Median	0.13 µGy/h
Standard Dev	0.01 µGy/h



10.3. Radon and Thoron reports

radonova
The global leader in radon measurement

RADON/THORON MONITORING REPORT
Issued by an Accredited Laboratory

REPORT NUMBER 5497641:1
REPORT PAGE 2(2)
REPORT DATE 2020-05-28
PRINT DATE 2020-05-28

Test results

Detector	Start date	Stop date	Location	Detector comment	Avg Radon/Thoron conc. (Bq/m³)	Total Radon exp. (kBqh/m³)
747064-4 (R)	2019-11-01	2020-04-17	Rm 1		16 ± 4	65 ± 24
229964-2 (T)	2019-11-01	2020-04-17	Rm 1		< 20	< 80
217042-1 (R)	2019-11-01	2020-04-14	Rm 2		< 15	< 59
455474-7 (T)	2019-11-01	2020-04-14	Rm 2		26 ± 10	101 ± 46
392826-4 (R)	2019-11-01	2020-04-14	Rm 3		< 15	< 59
463635-3 (T)	2019-11-01	2020-04-14	Rm 3		< 20	< 79
547822-7 (R)	2019-11-01	2020-04-20	Rm 4		16 ± 4	64 ± 24
463985-2 (T)	2019-11-01	2020-04-20	Rm 4		< 20	< 82
750782-5 (R)	2019-11-01	2020-04-17	Rm 5		< 15	< 60
466095-7 (T)	2019-11-01	2020-04-17	Rm 5		< 20	< 80
283698-9 (R)	2019-11-01	2020-04-17	Rm 6		< 15	< 60
229860-2 (T)	2019-11-01	2020-04-17	Rm 6		< 20	< 80
413919-2 (R)	2019-11-01	2020-04-17	Rm 7		< 15	< 60
229761-2 (T)	2019-11-01	2020-04-17	Rm 7		< 20	< 80
234502-3 (R)	2019-11-01	2020-04-17	Rm 8		< 15	< 60
465107-1 (T)	2019-11-01	2020-04-17	Rm8		< 20	< 80

AU_RT_TH_001 - V1.00 / 2017-06-07 - J.O / L.B

Comment to the results

Tryggve Rönnqvist (Electronically signed)
Signature Radonova Laboratories AB, Measurement Specialist

Radonova Inc.
900 Oakmont Lane Suite 207, Westmont IL 60559
Telephone: 331.814.2200 E-mail: help@radonova.com

radonova

RADON/THORON MONITORING REPORT
Issued by an Accredited Laboratory

REPORT NUMBER 5651107:1
REPORT PAGE 2 (2)
REPORT DATE 2020-08-24
PRINT DATE 2020-08-24

Test results

Detector	Start date	Stop date	Location	Detector comment	Avg Radon/Thoron conc. (Bq/m³)	Total Radon exp. (kBqh/m³)
748549-3 (R)	2020-04-14	2020-07-20	RM1		< 15	< 34
229970-9 (T)	2020-04-14	2020-07-20	RM1		25 ± 18	59 ± 46
565679-8 (R)	2020-04-14	2020-07-20	RM2		< 20	< 46
465487-7 (T)	2020-04-14	2020-07-20	RM2		93 ± 28	216 ± 68
404174-5 (R)	2020-04-14	2020-07-20	RM3		20 ± 12	46 ± 30
465985-0 (T)	2020-04-14	2020-07-20	RM3		< 30	< 69
515228-5 (R)	2020-04-14	2020-07-20	RM4		18 ± 12	42 ± 30
455813-6 (T)	2020-04-14	2020-07-20	RM4		38 ± 26	88 ± 62
385094-8 (R)	2020-04-14	2020-07-20	RM5		< 15	< 34
464612-1 (T)	2020-04-14	2020-07-20	RM5		< 20	< 46
749819-9 (R)	2020-04-14	2020-07-20	RM7		< 15	< 34
464650-1 (T)	2020-04-14	2020-07-20	RM7		22 ± 16	52 ± 38
930788-5 (R)	2020-04-14	2020-07-20	RM8		< 15	< 34
464147-8 (T)	2020-04-14	2020-07-20	RM8		< 20	< 46
751200-7 (R)	2020-04-14	2020-07-20	MISSING		DNR	
481995-9 (T)	2020-04-14	2020-07-20	MISSING		DNR	

AU_RT_TH_001 - V1.00 / 2017-06-07 / JO / LB

Comment to the results

Tryggve Rönnqvist (Electronically signed)

Signature Radonova Laboratories AB, Measurement Specialist

Radonova Inc
900 Oakmont Lane Suite 207, Westmont IL 60559
Telephone: 331.814.2200 E-mail: help@radonova.com

10.4. Water reports

SGS

ANALYTICAL REPORT

ilac-MRA NATA

Accreditation No. 2562

CLIENT DETAILS		LABORATORY DETAILS	
Contact	SGS Environmental Perth	Manager	Adam Atkinson
Client	SGS EHS PERTH	Laboratory	SGS Melbourne EH&S
Address	28 Reid Road Perth Airport WA 6105	Address	10/585 Blackburn Road Notting Hill Victoria 3168
Telephone	+61 (0)8 9373 3500	Telephone	+61395743200
Facsimile	+61 (0)8 9373 3556	Facsimile	+61395743399
Email	au.environmental.subcon@sgs.com	Email	Au.SampleReceipt.Melbourne@sgs.com
Project	**Radium Analysis**	SGS Reference	**ME315745 R0**
Order Number	**PE144623**	Date Received	17/7/2020
Samples	1	Date Reported	22/9/2020

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(22793).

SIGNATORIES

S. Rutkowski

Stephen RUTKOWSKI
Senior Health Physicist

SGS

ANALYTICAL RESULTS ME315745 R0

Radionuclides by Gamma Ray Spectrometry in liquids [ARS-SOP-AS301/AS406] Tested: 18/9/2020

PARAMETER	UOM	LOR	PE144623.001 YB WATER 16/7/2020 ME316745.001
Radium-226	Bq/L	-	<0.064
Radium-228	Bq/L	-	**0.083 ±0.035**

SGS

METHOD SUMMARY

ME315745 R0

METHOD	METHODOLOGY SUMMARY
ARS-SOP-A5301/A5406	Analysis of radionuclides in liquids by high resolution gamma ray spectrometry after radiochemical preparation. Radiochemical preparation involves total sample evaporation, sample co-precipitation using stable elemental carriers, or a combination thereof. In some cases, preparation may involve merely transferring liquid to a standard geometry container such as a Marinelli beaker.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the "Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

This report must not be reproduced, except in full.

22/09/2020 Page 3 of 3

SGS

ANALYTICAL REPORT

ilac-MRA

NATA

Accreditation No. 2562

CLIENT DETAILS

Contact	Andre Stass
Client	CRISTAL PIGMENT AUSTRALIA LTD
Address	PO Box 11 Kalamunda WA 6926
Telephone	61 8 63635276
Facsimile	61 8 94547615
Email	andre@stass.com.au
Project	**Dallyellup October 2019**
Order Number	**4501039202**
Samples	13

LABORATORY DETAILS

Manager	Adam Atkinson
Laboratory	SGS Melbourne EH&S
Address	10/585 Blackburn Road Notting Hill Victoria 3168
Telephone	+61395743200
Facsimile	+61395743399
Email	Au.SampleReceipt.Melbourne@sgs.com
SGS Reference	**ME312272 R0**
Date Received	15/10/2019
Date Reported	27/2/2020

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(22793).

SIGNATORIES

SShoyookh.

Sara SHOYOOKHI
Physicist

SGS

ANALYTICAL RESULTS ME312272 R0

Radionuclides by Gamma Ray Spectrometry in liquids [ARS-SOP-AS301/AS406] Tested: 2/1/2020

PARAMETER	UOM	LOR	DM 1A WATER - 10/10/2019 ME312272.001	DM 1C WATER - 10/10/2019 ME312272.002	MB 3 WATER - 10/10/2019 ME312272.003	DM 2A WATER - 10/10/2019 ME312272.004	DM 2C WATER - 10/10/2019 ME312272.005
Radium-226	Bq/L	-	**0.044 ±0.018**	**0.036 ±0.023**	<0.082	<0.077	<0.053
Radium-228	Bq/L	-	<0.200	<0.240	<0.190	<0.130	<0.150

PARAMETER	UOM	LOR	DM 4C WATER - 10/10/2019 ME312272.006	DM 7A WATER - 10/10/2019 ME312272.007	DM 7C WATER - 10/10/2019 ME312272.008	DM 8A WATER - 10/10/2019 ME312272.009	DM 8C WATER - 10/10/2019 ME312272.010
Radium-226	Bq/L	-	<0.057	**0.030 ±0.018**	<0.072	**0.034 ±0.018**	<0.072
Radium-228	Bq/L	-	<0.130	<0.150	<0.120	<0.140	<0.220

PARAMETER	UOM	LOR	DM 9A WATER - 10/10/2019 ME312272.011	DM 9C WATER - 10/10/2019 ME312272.012	YB WATER - ME312272.013
Radium-226	Bq/L	-	**0.101 ±0.027**	<0.083	**0.068 ±0.016**
Radium-228	Bq/L	-	<0.180	<0.210	**0.091 ±0.030**

27/02/2020 Page 2 of 8

SGS

METHOD SUMMARY

ME312272 R0

METHOD	METHODOLOGY SUMMARY
ARS-SOP-AS301/AS406	Analysis of radionuclides in liquids by high resolution gamma ray spectrometry after radiochemical preparation. Radiochemical preparation involves total sample evaporation, sample co-precipitation using stable elemental carriers, or a combination thereof. In some cases, preparation may involve merely transferring liquid to a standard geometry container such as a Marinelli beaker.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

27/02/2020 Page 3 of 4

SGS

ANALYTICAL REPORT

ilac-MRA

NATA

Accreditation No. 2562

CLIENT DETAILS

Contact	Andre Stass
Client	TRONOX PIGMENT BUNBURY LTD.
Address	PO Box 11 Kalamunda WA 6926
Telephone	61 8 63635276
Facsimile	61 8 94547615
Email	andre@stass.com.au
Project	**Dalyellup January 2020**
Order Number	**4501108742**
Samples	2

LABORATORY DETAILS

Manager	Adam Atkinson
Laboratory	SGS Melbourne EH&S
Address	10/585 Blackburn Road Notting Hill Victoria 3168
Telephone	+61395743200
Facsimile	+61395743399
Email	Au.SampleReceipt.Melbourne@sgs.com
SGS Reference	**ME313470 R0**
Date Received	21/1/2020
Date Reported	1/4/2020

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(22793).

SIGNATORIES

S. Rutkowski

Stephen RUTKOWSKI
Senior Health Physicist

SGS

ANALYTICAL RESULTS ME313470 R0

Radionuclides by Gamma Ray Spectrometry in liquids [ARS-SOP-AS301/AS406] Tested: 1/4/2020

PARAMETER	UOM	LOR	MB4 WATER - 17/1/2020 ME313470.001	YB WATER - 17/1/2020 ME313470.002
Radium-226	Bq/L	-	<0.043	<0.082
Radium-228	Bq/L	-	<0.170	**0.119 ±0.039**

SGS

METHOD SUMMARY

ME313470 R0

METHOD	METHODOLOGY SUMMARY
ARS-SOP-AS301/AS406	Analysis of radionuclides in liquids by high resolution gamma ray spectrometry after radiochemical preparation. Radiochemical preparation involves total sample evaporation, sample co-precipitation using stable elemental carriers, or a combination thereof. In some cases, preparation may involve merely transferring liquid to a standard geometry container such as a Marinelli beaker.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

This report must not be reproduced, except in full.

SGS

ANALYTICAL REPORT

ilac-MRA

NATA

Accreditation No. 2562

CLIENT DETAILS

Contact	Andre Stass
Client	TRONOX PIGMENT BUNBURY
Address	LOCKED BAG 245 BUNBURY WA 6230
Telephone	0428 945 476
Facsimile	61 8 94111275
Email	andre@stass.com.au
Project	**Dalyellup April 2020**
Order Number	**4501108742**
Samples	11

LABORATORY DETAILS

Manager	Adam Atkinson
Laboratory	SGS Melbourne EH&S
Address	10/585 Blackburn Road Notting Hill Victoria 3168
Telephone	+61395743200
Facsimile	+61395743399
Email	Au.SampleReceipt.Melbourne@sgs.com
SGS Reference	**ME314625 R0**
Date Received	17/4/2020
Date Reported	15/7/2020

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(22793).

SIGNATORIES

S. Rutkowski

Stephen RUTKOWSKI
Senior Health Physicist

SGS

ANALYTICAL RESULTS ME314625 R0

Radionuclides by Gamma Ray Spectrometry in liquids [ARS-SOP-AS301/AS406] Tested: 13/7/2020

PARAMETER	UOM	LOR	DM 1A WATER - 15/4/2020 ME314625.001	DM 1C WATER - 15/4/2020 ME314625.002	MB 3 WATER - 15/4/2020 ME314625.003	DM 2A WATER - 15/4/2020 ME314625.004	DM 2C WATER - 15/4/2020 ME314625.005
Radium-226	Bq/L	-	<0.081	**0.085 ±0.035**	<0.043	**0.054 ±0.019**	<0.071
Radium-228	Bq/L	-	<0.17	<0.22	<0.13	<0.17	<0.13

PARAMETER	UOM	LOR	DM 4C WATER - 15/4/2020 ME314625.006	DM 7A WATER - 15/4/2020 ME314625.007	DM 7C WATER - 15/4/2020 ME314625.008	DM 8A WATER - 15/4/2020 ME314625.009	DM 8C WATER - 15/4/2020 ME314625.010
Radium-226	Bq/L	-	**0.047 ±0.025**	<0.078	<0.051	<0.048	<0.067
Radium-228	Bq/L	-	<0.19	<0.19	<0.11	<0.16	<0.18

PARAMETER	UOM	LOR	YB WATER - 15/4/2020 ME314625.011
Radium-226	Bq/L	-	<0.069
Radium-228	Bq/L	-	<0.11

15/07/2020 Page 2 of 4

SGS

METHOD SUMMARY

ME314625 R0

METHOD	METHODOLOGY SUMMARY
ARS-SOP-AS301/AS406	Analysis of radionuclides in liquids by high resolution gamma ray spectrometry after radiochemical preparation. Radiochemical preparation involves total sample evaporation, sample co-precipitation using stable elemental carriers, or a combination thereof. In some cases, preparation may involve merely transferring liquid to a standard geometry container such as a Marinelli beaker.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
		IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

This document is issued by the Company under its General Conditions of Service accessible at www.sgs.com/en/Terms-and-Conditions.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client only. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

This report must not be reproduced, except in full.

Radiation Professionals Australia

Telephone: +61 8 9325 9948
operations@radproaustralia.com

ABN: 50 631 060 449

Photos

Photo1: Dalyellup rehabilitation site October 2020

Photo 2: Dalyellup rehabilitation site October 2020

Appendix G
Stass Environmental Standard Operating Procedures

STANDARD TECHNICAL OPERATING PROCEDURE 29
FIELD SAMPLE QUALITY CONTROL

1. PURPOSE

To describe the quality control measures undertaken to ensure the integrity of our field samples.

2. EQUIPMENT/MATERIALS

See various field sampling procedures.

3. PROCEDURE

When out sampling in the field, there is a risk that our samples can become inadvertently contaminated due to site conditions or sample handling. This field contamination can cause erroneous analytical results. Therefore, there are a number of different quality control samples that can be taken to act as indicators for contamination problems. **The following methods are standard practice at Stass Environmental and are required to be performed for every job.**

3.1. SOILS

3.1.1. Duplicates

Duplicates can be used to determine the overall precision of the sampling methods we use and also the analytical methods used by the laboratory.

- During sampling two or more representative samples are collected from the same sampling point.
- Duplicates are collected for every ten samples taken or for every project if less than ten samples are collected.
- It is not necessary to collect a duplicate for every field trip. One per ten samples is sufficient.
- In the case of soils, a sample with a high PID reading should be taken so that analytical results obtained can be compared. (two sets of non-detection data are of limited use!).

3.1.2. Equipment / Rinsate Blanks

Equipment or rinsate blanks are designed to measure any sample contamination caused by the sampling device and also to document the adequate decontamination of sampling equipment between sampling events.

- Only to be collected when equipment is being decontaminated between samplings. eg: augers and split spoons (it is usually easier to take a rinsate blank of the split spoon). Do not take rinsate blanks from excavator buckets and spades where the samples taken do not connect with the equipment.
- One rinsate blank to be taken per project, or as directed by the Operations Manager, State Manager or Client.
- A rinsate blank is performed by rinsing the equipment in question with distilled water after it has been decontaminated in the usual way and collecting the rinsate in a standard sample bottle. The sample is then treated as per other samples collected on the day.
- If possible, sample a rinsate blank directly after sampling a soil with a high PID reading and decontamination.

3.2. WATERS

This SOP incorporates the requirements of AS/NZS 5667.1 and 5667.11. Details are provided below. In some respects, this SOP exceeds the requirements of Australian Standards for sampling of waters.

3.2.1. Duplicates

- One duplicate to be taken for every ten samples, or one duplicate per project if less than ten samples are taken.
- As for soils, it is not necessary to take a duplicate for every day in the field. One per ten samples is sufficient.

3.2.2. Field / Rinsate Blanks

These blanks are designed to measure sample contamination during the whole sampling process, including any contamination present in our disposable bailers.

- One field blank to be taken per day in the field.
- To be sampled at the beginning of field activities.
- Prepared by taking distilled water into the field and rinsing through a new bailer into a standard sampling bottle.
- To be stored and treated as per the other samples taken on the day.

3.3. NON-ROUTINE QC SAMPLES

The following types of quality control samples are taken only when specified by our clients. They are not routine procedures. The Operations Manager will inform staff if non-standard QC is required.

3.3.1. Laboratory Sample Splits

These samples provide a check on the analytical proficiency of our laboratories.

- One sample per project.
- The splitting of the sample should be performed at the laboratory and not in the field.
- The sample should be sent to our primary laboratory along with two sets of paperwork. One addressed to our primary lab and one addressed to our secondary lab.(ie. chain of custody and purchase order).
- Instruct the primary laboratory to split the sample and to courier the split ASAP to the secondary laboratory along with the relevant documentation.

- Request analysis for the same parameters on both samples.

3.3.2. Trip Blanks

Trip blanks are designed to measure the sample contamination from the storage container, field handling and transportation.

- These blanks apply to water sampling.
- A trip blank consists of collecting a sample container already filled with distilled water from the laboratory, storing this bottle with your other containers at the office, taking the bottle with you to the site and returning it to the laboratory unopened.

3.3.3. Background Samples

These samples are designed to measure the presence in the background of any of the contaminants in question.

- A sample of the same media being examined is collected near to the time and place of the sampling.
- These samples are taken from nearby areas where contamination is not expected.

3.3.4. Field Spikes

Field spikes are utilised to measure the magnitude of interference caused to the analysis by matrix characteristics and also the loss of contaminants from the sample due to sampling procedures.

- The laboratory supplies us with a sample that has been previously spiked with a known concentration of the analyte in question.
- The sample is taken to the site unopened. It should be kept chilled at all times and kept out of direct sunlight.
- At the site and point of sampling, the spike sample is opened and placed into another sampling container similar to the other samples taken.

- The spike sample should be treated exactly as per the other samples taken on the day.

4. TIPS

- It is important to remember that all QC samples are to be treated exactly the same as other samples collected on the day. Otherwise they are not a reflection of true conditions.
- Soil QC samples are labelled NGS-# and water QC samples are labelled NGW-# (where # corresponds to a consecutive number identifying the sample).
- An outline of how to interpret the results of QC sample analysis can be found in STOP40.

5. FORMS

No specific forms are required for QC samples alone. They are documented along with all other samples collected on site.(See STOP 15 and STOP 20.

STANDARD OPERATING PROCEDURE 30
INTERPRETATION OF ANALYTICAL RESULTS

1. PURPOSE

To outline the steps taken to interpret the quality of analytical results received from sub-contractor laboratories, including the interpretation of quality control data.

This SOP incorporates the requirements of AS/NZS 5667.1 and 5667.11. Details are provided below. In some respects, this SOP exceeds the requirements of Australian Standards for sampling of waters.

2. EQUIPMENT/MATERIALS

- No equipment or materials are required for the implementation of this procedure.

3. PROCEDURE

3.1. COMPARISON OF RESULTS WITH FIELD OBSERVATIONS

- The first step to take when inspecting results received from the laboratory is to compare the general trend of results with observations made in the field. eg: PID readings, visual observations of contamination etc.
- Contamination that is observed by sight or smell in the field will generally show up as high analytical results. If contamination has been visually observed and analytical results are low, the results should be queried. Usually, a high PID reading will correspond with a high analytical result for volatile hydrocarbons (BTEX), although there are exceptions.
- **Care must be exercised when comparing PID readings to analytical results for BTEX.** This is because PIDs are non-specific indicators for volatile organic compounds and are able to pick up many more compounds than just benzene, toluene, ethylbenzene and xylenes. For example, a high PID reading could mean lots of trichloroethylene and no petroleum products.

3.2. ANALYTE RECOVERIES

3.2.1. Laboratory Spike Recoveries

- Analyte recoveries are obtained by spiking a sample with a known concentration of the analyte in question and recording the percentage of that concentration recovered after extraction and analysis.
- Recoveries measure the effect of the sample matrix on the analysis and also loss of the analyte during the analytical procedure.
- The acceptable range for recoveries is between 70-130%.
- If a recovery result falls outside the above limits the laboratory should be consulted regarding possible causes.
- Sometimes more than one spike and recovery is performed and the difference between the two is statistically expressed as a "relative precision difference". See section 3.4.2 (laboratory duplicates) for a discussion of what RPDs are acceptable.

3.2.2. Field Spike Recoveries

- Field spike recoveries are essentially similar to laboratory spike recoveries, except the sample is spiked with a known concentration of the analyte in question before the sample is taken into the field.
- Therefore, in addition to measuring the effect of the matrix and lab procedures on the recovery of the analyte, a field spike recovery also measures the effect of our field sample handling.
- The same acceptance criteria apply to field spike recoveries as to laboratory spike recoveries. (see the last section of this procedure : 3.2.1).

3.3. BLANK RESULTS

3.3.1. Field Blanks / Rinsate Blanks

- These blanks are utilised as an indicator of any contamination that we may be introducing into our samples both during sampling and transportation.
- Henceforth, a high analytical result for a field blank is an indication of contamination problems that should be investigated. These can include contamination of sampling equipment, insufficient cleaning of equipment between samplings, contamination of the sample containers or contamination of the blank during transportation.
- The results of field blank analysis must be observed in the context of the results obtained from accompanying samples. eg: if all benzene results are in the region of 10mg/l and the field blank is showing 0.005mg/l, this level of contamination will have no effect whatsoever on the analytical results of the samples collected. If unsure, consult with the Principal Chemist.

3.3.2. Trip Blanks

- These blanks are designed to measure contamination of a closed water sample from the sample container, field handling and transportation.
- A high analytical result for a trip blank points to contamination problems that should be investigated. These could include contamination of the sampling container, contamination from being stored on site, contamination diffusing from other samples stored with it and contamination resulting from transport procedures.
- As for field blanks (see section 3.3.1 of this procedure), results of trip blank analysis must be interpreted in the context of the analytical results obtained for the accompanying samples.

3.3.3. Laboratory Blanks

- Laboratory blanks are designed to indicate any contamination resulting from the lab's treatment of the samples prior to and during analysis.
- These blanks should be run at a frequency of 5%. That is, there should be one blank per twenty samples.
- Contamination can come from laboratory glassware, reagents added to the samples or contamination of the instrument utilised for the analysis.
- Laboratory blank analysis should give results below the practical quantitation limit (PQL) of the analytical method in question. If not, the laboratory should be consulted regarding possible causes.

3.4. DUPLICATE RESULTS

3.4.1. Field Duplicates

- Field duplicates are utilised to measure the overall precision of our sampling procedures and also the laboratory's analytical methods.
- The results of field duplicate analysis should be within 30% of each other. An investigation is warranted if the difference between the two sets of results is greater than 30%.
- The main reason encountered for large differences in duplicate results is that the samples are not homogeneous. This can be due to the nature of the soil itself, bad sampling technique, the method of sub-sample collection by the laboratory, and the treatment of the duplicate samples during extraction and analysis. All can result in the non-uniform distribution of analytes within the samples in question.

3.4.2. Laboratory Duplicates

- Laboratory duplicates are designed to measure the precision of the lab's internal sub-sampling procedure and of the lab's analytical procedures.

- These duplicates should be performed at the frequency of 5%. That is, one in every 20 samples analysed.
- As for field duplicates, the results for laboratory duplicates should be within 30% of each other. Larger differences in laboratory duplicates can be due to the nature of the sample itself, the method of sub-sample collection and the treatment of the sample during extraction and analysis.
- Some laboratories utilise a calculation called a "relative precision difference" or RPD for short. These figures are used as indicators of the precision of the analysis by comparing the results of duplicate analyses statistically. The following outlines acceptance criteria for lab duplicates when these figures are supplied.

i) For low level waters (results < 10 x Practical Quantitation Limit) .....**%RPD<40%**

ii) For high level waters (results > 10 x Practical Quantitation Limit).....**%RPD<20%**

iii) For low level soils (results < 10 x Practical Quantitation Limit).....**%RPD<50 %**

iv) For high level soils (results > 10 x Practical Quantitation Limit).....**%RPD<30 %**

4. TIPS

- Check that the project number and sample references indicated on the analytical report correspond to our own records.
- The C_6-C_9 fraction of TPH results includes all the BTEX components. Therefore the sum of the BTEX components should be less than or equal to the C_6-C_9 result for TPH. If not, consult with the laboratory.
- Be aware that laboratories utilise volatile chlorinated hydrocarbons as solvents for sample extraction. (eg:

dichloromethane, chloroform, trichloroethylene, and freon). Hence low levels of these compounds found in samples analysed may in fact be laboratory contaminants.

- Some results stick out like a sore thumb and should be investigated. For example, a high result for ethylbenzene and non-detection results for all other BTEX components. Another example of this is a high result where no contamination was expected.

- Weird looking results are often caused by laboratory error. For example: weighing an incorrect amount of sample for extraction, swapping samples by mistake, and calculation errors. Do not be scared to ring the lab and ask to have your results checked. If checking comes back OK, consider asking the lab to re-analyse your sample (most commercial laboratories will do this for you at no cost).

- Beware of results for those samples immediately following samples with very high levels of contaminants. Contamination of the analytical instrument and carry over of contamination to the next samples can occur if steps aren't taken by the laboratory to rinse out the instrument after a particularly high sample.

5. FORMS

No forms are utilised in this procedure.

Appendix H
Laboratory Reports

Asia/Pacific - Bunbury Operations Pigment

TRONOX

AP_DPS1404 ChemCentre Chain of Custody Record

Peter Allen: 9780 87790439 340 360
E-mail signed COC to: ~~peter.allen@tronox.com~~ and craig.mcmanus@tronox.com
anita.logiudice

Tronox Pigment Bunbury Ltd.
ABN 50 008 683 627

Locked Bag 245
Bunbury WA 6230

Tel (08) 9780 8333
Fax (08) 9780 8444

Site: DALYELLUP

Attention: Kevin Robins, ChemCentre, Cnr Manning Road and Conlon Street, Bentley WA 6102. Tel.: 08-9422-9900 Fax.: 08-9422-9998

Lab. No.	Sample ID	Date Sampled	Number of Containers					Analysis Required														Changes to Normal Scheduled Analyses / Comments
			1L	1L acid	125mL	125mL acid	125mL acid filtered	Schedule 1	Schedule 2	Schedule 3	Schedule 4	Schedule 5	Schedule 6	Schedule 7	Schedule 8	Schedule 9	Schedule 10	Schedule 11	Schedule 12	Schedule 13	Schedule 14	
1953025/001	MB4	17 /01/20	1		1	1	1		X													
002	YB	17 /01/20	1		↓	↓	↓		↓							X						

Department:	Environmental	Method of Shipment:	Courier	Results Required By:		Laboratory Signature:	AM
Sent By:	Stass Environmental	Date:	17/01/20	Date:		Received Date & Time:	17/1/2020 12L
						Sample Condition:	COLD

Schedules for Analysis of Samples at ChemCentre

SCHEDULE 1	Collie River & Ocean Outfall	1x1L plastic 1x125mL plastic (Metals) - acidified 1x125mL plastic (Nutrients) FILTER	Total Metals (Al, Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Hg, Ni, Se, Na, Ti, V, Zn) pH, EC, TDS, TSS, Turbidity, NH_4, HCO_3, Cl, CO_3, NO_3, Total P, SO_4
SCHEDULE 2	Dalyellup	1x500mL plastic 1x60mL plastic (preserved) 1x125mL plastic (Nutrients) FILTER 1x125mL plastic (Metals) – acidified FILTER	Dissolved (filterable) Metals (B, Cd, Ca, Cr, Cr(III), Cr(VI), Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, K, Na, V) TDS, HCO_3, CO_3, Cl, NO_3-N, SO_4, Molar Na:Cl Ratio
SCHEDULE 3	Kemerton Recovery Bores	1x500mL plastic 1x125mL plastic (Nutrients) FILTER 1x125mL plastic (Metals) - acidified - FILTER	Dissolved (filterable) Metals (Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Ni, Se, Na, V, Zn)pH, EC, TDS, HCO_3, Cl, NO_3, SO_4, Total alkalinity, Total acidity
SCHEDULE 4	Australind Monitor Bores	1x500mL plastic 1x125mL plastic (Nutrients) FILTER 1x125mL plastic (Metals) - acidified - FILTER	Dissolved (filterable) Metals (Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Ni, Se, Na, V, Zn)pH, EC, TDS, HCO_3, Cl, NO_3, SO_4, Total Alkalinity, Total Acidity
SCHEDULE 5	Kemerton Monitor Bores	1x500mL plastic 1x125mL plastic (Nutrients) FILTER 1x125mL plastic (Metals) - acidified - FILTER	Dissolved (filterable) Metals (Al, As, Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Na, V, Zn)TDS, Total Acidity, HCO_3, Cl, NO_3, SO_4, pH, EC
SCHEDULE 6	Kemerton and Australind TSR - Mud Solid	Approx. 2L in plastic jar/s	*Centrifuge supplied mud/water sample. Test the solid fraction as follows. (Total metals since a solid)* LOI (650°C), Al, As, Ba, Be, B, Cd, Ca, C, Cr, Cr (VI), Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, K, Se, Ag, Na, S, Th, Sn, Ti, U, V, Zn, Cl

SCHEDULE 7	Kemerton TSR and Australind TSR - Pore Water (Supernatant)	From above	*Centrifuge supplied mud/water sample. Test the liquid fraction as follows.* Total Metals (Al, As, Ba, Be, B, Cd, Ca, Cr, Cr (VI), Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, K, Se, Ag, Na, Th, Sn, Ti, U, V, Zn) CO_3, Cl, NO_3-N, SO_4
SCHEDULE 8	Kemerton and Australind TSR – Mud Solid (ASLP Leachate)	From above	*Perform ASLP on Mud solid as specified by AS4439.3:1997 using Reagent Water. Analyse leachate for;* Total Metals (Al, As, Ba, Be, B, Cd, Ca, Cr, Cr (VI), Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, K, Se, Ag, Na, Th, Sn, Ti, U, V, Zn) CO_3, Cl, NO_3-N, SO_4
SCHEDULE 9	Dalyellup YB – Quarterly	1x250mL plastic	Cl, Na, Molar Na:Cl Ratio.
SCHEDULE 10	Dalyellup	2x1L glass	YB, MB3 and DM8 – dioxins and furans
SCHEDULE 11	Kemerton and Australind Production Bores	1x500mL plastic 1x125mL plastic (Nutrients) FILTER 1x125mL plastic Metals acidified - FILTER	Dissolved (filterable) Metals (Na, Fe) pH, EC, TDS, Total Alkalinity, HCO_3, Cl, SO_4, NO_3
SCHEDULE 12	Australind Recovery Bores	1x500mL plastic 1x125mL plastic (Metals) acidified -FILTER	Dissolved (filterable) Metals (Na, Fe) pH, EC, TDS, Total Alkalinity, Total Acidity, Cl, SO_4
SCHEDULE 13	Golder and Australind Bores	1x500mL plastic 2x125mL plastic (Metals) - acidified FILTER ONE 2x125mL plastic (Nutrients) FILTER ONE	Total Metals (Fe) Dissolved (filterable) Metals (Al, As, Cd, Cr, Cu, Pb, Mg, Mn, Hg, Ni, Se, Na, K, Zn) pH, EC, TDS, Turbidity, Cl, SO_4, CO_3 Total P, Total N as N, Total Kjeldahl as N (TKN), nitrate and nitrite as N (TON)
SCHEDULE 14	Kemerton, KM6	1 x1L glass 2x40mL glass vials	Total hydrocarbons

Notes: TDS by evaporation, not calculation.
Dissolved metals are field filtered unless specified.
Low detection levels required for metals. Most samples are saline.
If filter apparatus is unavailable, any sample that was to be filtered into an acidified 125mL bottle MUST be filtered into a NON-ACIDIFIED 125mL bottle (thoroughly wash acid out of bottle if necessary). The sample must be filtered before being acidified.

ChemCentre

Inorganic Chemistry Section

Report of Examination

PO Box 1250, Bentley Delivery Centre
Bentley WA 6983
T +61 8 9422 9800
F +61 8 9422 9801
www.chemcentre.wa.gov.au
ABN 40 991 885 705

Accredited for compliance with ISO/IEC 17025 testing, Accreditation No. 8

Purchase Order: None
ChemCentre Reference: 19S3025 R0

Tronox Pigment Bunbury Limited
Locked Bag 245
Bunbury WA 6230

Attention: Craig McManus

Report on: 2 samples received on 17/01/2020

LAB ID	Material	Client ID and Description
19S3025 / 001	water	MB4 Dalyellup
19S3025 / 002	water	YB Dalyellup YB -Quarterly

LAB ID			001	002
Client ID			MB4	YB
Sampled			17/01/2020	17/01/2020
Analyte	**Method**	**Unit**		
Bicarbonate as CaCO3	iALK2WATI	mg/L	330	
Carbonate as CaCO3	iALK2WATI	mg/L	<1	
Chloride	iCO1WCDA	mg/L	233	209
Na:Cl ratio*	Na:Cl MRatio		0.9	0.7
Nitrogen, nitrate	iNTAN1WCALC	mg/L	4.2	
Sulphate	iCO1WCDA	mg/L	110	
Total dissolved solids(grav)	iSOL1WDGR	mg/L	890	
Boron	iMET1WCICP	mg/L	0.09	
Cadmium	iMET1WCMS	mg/L	<0.0001	
Calcium	iMET1WCICP	mg/L	140	
Chromium	iMET1WCICP	mg/L	<0.001	
Chromium(III)	iCR3+2WCCA	mg/L	<0.001	
Chromium(VI)*	eNW_D2	mg/L	<0.001	
Cobalt	iMET1WCMS	mg/L	0.0001	
Copper	iMET1WCMS	mg/L	0.0007	
Iron	iMET1WCICP	mg/L	2.9	
Lead	iMET1WCMS	mg/L	0.0032	
Magnesium	iMET1WCICP	mg/L	28.7	
Manganese	iMET1WCICP	mg/L	0.12	
Mercury	iHGL1WCVG	mg/L	0.00013	
Molybdenum	iMET1WCMS	mg/L	<0.001	
Nickel	iMET1WCMS	mg/L	<0.001	
Potassium	iMET1WCICP	mg/L	9.0	
Sodium	iMET1WCICP	mg/L	142	92.4
Vanadium	iMET1WCMS	mg/L	0.0015	
Date Analysed	eNW_D2		5/2/2020	
	iALK2WATI		21/1/2020	
	iCO1WCDA		29/1/2020	29/1/2020
	iCR3+2WCCA		5/2/2020	
	iHGL1WCVG		23/1/2020	

LAB ID		001	002
Client ID			
Sampled			
Analyte	**Method**	**Unit**	
Date Analysed	iMET1WCICP	28/1/2020	28/1/2020
	iMET1WCMS	23/1/2020	
	iNTAN1WCALC	21/1/2020	
	iSOL1WDGR	30/1/2020	
	Na:Cl MRatio	29/1/2020	29/1/2020
Sample Condition		Cold	Cold

Method	**Method Description**
eNW_D2	Hexavalent chromium, outsourced to NMI
iALK2WATI	Alkalinity, Bicarbonate, Carbonate, Hydroxide and Total Carbon Dioxide by acid titration. pH and Conductivity in water (compensated to 25C) by meter.
iCO1WCDA	Colourimetric analysis by DA (Discrete Autoanalyser).
iCR3+2WCCA	Dissolved Chromium (III) species by calculation (Dissolved Cr minus Cr(VI)- NMI NSW).
iHGL1WCVG	Dissolved mercury in water by digestion, CV-AAS.
iMET1WCICP	Total dissolved metals by ICPAES.
iMET1WCMS	Total dissolved metals by ICPMS.
iNTAN1WCALC	Nitrate expressed as nitrogen by FIA.
iSOL1WDGR	Total dissolved solids (TDS) by gravimetry, dried at 178 - 182 C.
Na:Cl MRatio	Calculated sodium:chloride molar ratio.

A quality assurance report is attached.

The CrVI analysis was subcontracted to NMI, 105 Delhi Road, North Ryde, NSW, 2133. NATA accreditation 198. A copy of their report is attached.

These results apply only to the sample(s) as received. Unless arrangements are made to the contrary, these samples will be disposed of after 30 days of the issue of this report.
This report may only be reproduced in full.

*Analysis not covered by scope of ChemCentre's NATA accreditation.

Alex Martin
Chemist
SSD Inorganic Chemistry
5-Feb-2020

Quality Assurance Report

Client : Tronox Pigment Bunbury Limited
Client Ref No :
CoC No :
QA Report No : 19S3025-QA R 0

Analyte	Method	Unit	LoR	Blank	Sample Duplicates			Acceptable RPD	Recoveries		Acceptable Recovery
					Sample	Duplicate	RPD		LCS	Matrix Spike	
							%	%	%	%	%
Scientific Services Division											
Sample Matrix : water											
				19S3025/000							
Boron - Filterable	iMET1WCICP	mg/L	0.02	<0.02	-	-	-	10%	98%	-	75% - 125%
Calcium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	-	-	-	10%	95%	-	75% - 125%
Cadmium - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	-	-	-	10%	102%	-	75% - 125%
Chloride	iCO1WCDA	mg/L	1	<1	-	-	-	10%	107%	-	75% - 125%
Cobalt - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	-	-	-	10%	106%	-	75% - 125%
Chromium - Filterable	iMET1WCICP	mg/L	0.001	<0.001	-	-	-	10%	98%	-	75% - 125%
Copper - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	-	-	-	10%	109%	-	75% - 125%
Iron - Filterable	iMET1WCICP	mg/L	0.005	<0.005	-	-	-	10%	101%	-	75% - 125%
Mercury - Filterable	iHGL1WCVG	mg/L	0.00005	<0.00005	-	-	-	10%	102%	-	75% - 125%
Potassium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	-	-	-	10%	107%	-	75% - 125%
Magnesium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	-	-	-	10%	100%	-	75% - 125%
Manganese - Filterable	iMET1WCICP	mg/L	0.001	<0.001	-	-	-	10%	98%	-	75% - 125%
Molybdenum - Filterable	iMET1WCMS	mg/L	0.001	<0.001	-	-	-	10%	100%	-	75% - 125%
Sodium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	-	-	-	10%	99%	-	75% - 125%
Nickel - Filterable	iMET1WCMS	mg/L	0.001	<0.001	-	-	-	10%	106%	-	75% - 125%
Lead - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	-	-	-	10%	102%	-	75% - 125%
Sulfate	iCO1WCDA	mg/L	1	<1	-	-	-	10%	118%	-	75% - 125%

PO Box 1250, Bentley Delivery Centre,Bentley,WA,6983, TEL: +61 8 9422 9800, FAX: +61 8 9422 9801,www.chemcentre.wa.gov.au

Quality Assurance Report

Analyte	Method	Unit	LoR	Blank	Sample	Duplicate	RPD	Acceptable RPD	LCS	Matrix Spike	Acceptable Recovery
Total Dissolved Solids (Evap)	iSOL1WDGR	mg/L	10	<10	-	-	-	10%	102%	-	75% - 125%
Vanadium - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	-	-	-	10%	109%	-	75% - 125%

Definitions:

RPD = Relative Percentage Difference
LCS = Laboratory Control Sample
LoR = Limit of Reporting

Quality Control Acceptance Criteria

Waters:

Lab Dups RPD <10% for results greater than 5 X LOR.
For results less than 5 x LOR no acceptance criteria for RPD.
Matrix spikes, LCS and Surrogate recoveries: Generally 75% - 125% for inorganics/metals, 60% - 140% for organics (+/- 50% surrogates) and 10% - 140% for labile SVOCs (including labile surrogates) unless other values are stated above.

Soils:

Soils: Lab Dups RPD<20% for results greater than 5 X LOR.
For results less than 5 x LOR no acceptance criteria for RPD.
Matrix spikes, LCS and Surrogate recoveries: Generally 75% - 125% for inorganics/metals, 60% - 140% for organics (+/- 50% surrogates) and 10% - 140% for labile SVOCs (including labile surrogates) unless other values are stated above.

Alex Martin
Chemist
SSD Inorganic Chemistry

05-Feb-2020

Asia/Pacific - Bunbury Operations Pigment

TRONOX

AP_DPS1404 ChemCentre Chain of Custody Record

Peter Allen: 9780 87790439 340 360
E-mail signed COC to: ~~peter.allen~~@tronox.com and craig.mcmanus@tronox.com

Tronox Pigment Bunbury Ltd.
ABN 50 008 683 627

Locked Bag 245
Bunbury WA 6230

Tel (08) 9780 8333
Fax (08) 9780 8444

Site: DALYELLUP Phil. Manning 2

Attention: Kevin Robins, ChemCentre, Cnr Manning Road and Conlon Street, Bentley WA 6102. Tel.: 08-9422-9900 Fax.: 08-9422-9998

Lab. No.	Sample ID	Date Sampled	Number of Containers					Analysis Required														Changes to Normal Scheduled Analyses / Comments
			1L	1L acid	125mL	125mL acid	125mL acid filtered	Schedule 1	Schedule 2	Schedule 3	Schedule 4	Schedule 5	Schedule 6	Schedule 7	Schedule 8	Schedule 9	Schedule 10	Schedule 11	Schedule 12	Schedule 13	Schedule 14	
19SH461/001.	DM1A	15/04/20	1		1	1	1		X													
002.	DM1C	15/04/20	1		1	1	1		X													
003.	DM2A	15/04/20	1		1	1	1		X													
004.	DM2C	15/04/20	1		1	1	1		X													
005	DM4C	15/04/20	1		1	1	1		X													
006.	DM7A	15/04/20	1		1	1	1		X													
007.	DM7C	15/04/20	1		1	1	1		X													
008.	DM8A	15/04/20	3		1	1	1		X								X					
009.	DM8C	15/04/20	1		1	1	1		X													
010.	DM7CC	15/04/20	1		1	1	1		X													

Department: Environmental Sent By: Stass Environmental	Method of Shipment: Courier Date: 16 April 2020	Results Required By: Date:	Laboratory Signature: Received Date & Time: 16/4/20 11:20am Sample Condition: cold

Asia/Pacific - Bunbury Operations Pigment

TRONOX

AP_DPS1404 ChemCentre Chain of Custody Record

Peter Allen: 9780 87790439 340 360
E-mail signed COC to: ~~peter.allen@tronox.com~~ and craig.mcmanus@tronox.com

Tronox Pigment Bunbury Ltd.
ABN 50 008 683 627

Locked Bag 245
Bunbury WA 6230

Tel (08) 9780 8333
Fax (08) 9780 8444

Site: DALYELLUP plus manning2

Attention: Kevin Robins, ChemCentre, Cnr Manning Road and Conlon Street, Bentley WA 6102. Tel.: 08-9422-9900 Fax.: 08-9422-9998

Lab. No.	Sample ID	Date Sampled	Number of Containers					Analysis Required														Changes to Normal Scheduled Analyses / Comments
			1L	1L acid	125mL	125mL acid	125mL acid filtered	Schedule 1	Schedule 2	Schedule 3	Schedule 4	Schedule 5	Schedule 6	Schedule 7	Schedule 8	Schedule 9	Schedule 10	Schedule 11	Schedule 12	Schedule 13	Schedule 14	
19S4461/011.	MB3	15/04/20	3		1	1	1		X								X					
012.	YB	15/04/20	3		1	1	1		X								X					
013.	R1	—u—	1						A													
014.	FB	—u—	1						A													

Department:	Environmental	Method of Shipment:	Courier	Results Required By:	Laboratory Signature:
Sent By:	Stass Environmental	Date:	16/04/20	Date:	Received Date & Time: 16/4/20 11:20
					Sample Condition: cold

Schedules for Analysis of Samples at ChemCentre

SCHEDULE 1	Collie River & Ocean Outfall	1x1L plastic 1x125mL plastic (Metals) - acidified 1x125mL plastic (Nutrients) FILTER	Total Metals (Al, Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Hg, Ni, Se, Na, Ti, V, Zn) pH, EC, TDS, TSS, Turbidity, NH_4, HCO_3, Cl, CO_3, NO_3, Total P, SO_4
SCHEDULE 2	Dalyellup	1x500mL plastic 1x60mL plastic (preserved) 1x125mL plastic (Nutrients) FILTER 1x125mL plastic (Metals) – acidified FILTER	Dissolved (filterable) Metals (B, Cd, Ca, Cr, Cr(III), Cr(VI), Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, K, Na, V) TDS, HCO_3, CO_3, Cl, NO_3-N, SO_4, Molar Na:Cl Ratio
SCHEDULE 3	Kemerton Recovery Bores	1x500mL plastic 1x125mL plastic (Nutrients) FILTER 1x125mL plastic (Metals) - acidified - FILTER	Dissolved (filterable) Metals (Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Ni, Se, Na, V, Zn)pH, EC, TDS, HCO_3, Cl, NO_3, SO_4, Total alkalinity, Total acidity
SCHEDULE 4	Australind Monitor Bores	1x500mL plastic 1x125mL plastic (Nutrients) FILTER 1x125mL plastic (Metals) - acidified - FILTER	Dissolved (filterable) Metals (Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Ni, Se, Na, V, Zn)pH, EC, TDS, HCO_3, Cl, NO_3, SO_4, Total Alkalinity, Total Acidity
SCHEDULE 5	Kemerton Monitor Bores	1x500mL plastic 1x125mL plastic (Nutrients) FILTER 1x125mL plastic (Metals) - acidified - FILTER	Dissolved (filterable) Metals (Al, As, Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Na, V, Zn)TDS, Total Acidity, HCO_3, Cl, NO_3, SO_4, pH, EC
SCHEDULE 6	Kemerton and Australind TSR - Mud Solid	Approx. 2L in plastic jar/s	*Centrifuge supplied mud/water sample. Test the solid fraction as follows. (Total metals since a solid)* LOI (650°C), Al, As, Ba, Be, B, Cd, Ca, C, Cr, Cr (VI), Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, K, Se, Ag, Na, S, Th, Sn, Ti, U, V, Zn, Cl

AP_DPS1404 ChemCentre Chain of Custody Record

SCHEDULE 7	Kemerton TSR and Australind TSR - Pore Water (Supernatant)	From above	*Centrifuge supplied mud/water sample. Test the liquid fraction as follows.* Total Metals (Al, As, Ba, Be, B, Cd, Ca, Cr, Cr (VI), Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, K, Se, Ag, Na, Th, Sn, Ti, U, V, Zn) CO_3, Cl, NO_3-N, SO_4
SCHEDULE 8	Kemerton and Australind TSR – Mud Solid (ASLP Leachate)	From above	*Perform ASLP on Mud solid as specified by AS4439.3:1997 using Reagent Water. Analyse leachate for;* Total Metals (Al, As, Ba, Be, B, Cd, Ca, Cr, Cr (VI), Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, K, Se, Ag, Na, Th, Sn, Ti, U, V, Zn) CO_3, Cl, NO_3-N, SO_4
SCHEDULE 9	Dalyellup YB – Quarterly	1x250mL plastic	Cl, Na, Molar Na:Cl Ratio.
SCHEDULE 10	Dalyellup	2x1L glass	YB, MB3 and DM8 – dioxins and furans
SCHEDULE 11	Kemerton and Australind Production Bores	1x500mL plastic 1x125mL plastic (Nutrients) FILTER 1x125mL plastic Metals acidified - FILTER	Dissolved (filterable) Metals (Na, Fe) pH, EC, TDS, Total Alkalinity, HCO_3, Cl, SO_4, NO_3
SCHEDULE 12	Australind Recovery Bores	1x500mL plastic 1x125mL plastic (Metals) acidified -FILTER	Dissolved (filterable) Metals (Na, Fe) pH, EC, TDS, Total Alkalinity, Total Acidity, Cl, SO_4
SCHEDULE 13	Golder and Australind Bores	1x500mL plastic 2x125mL plastic (Metals) - acidified FILTER ONE 2x125mL plastic (Nutrients) FILTER ONE	Total Metals (Fe) Dissolved (filterable) Metals (Al, As, Cd, Cr, Cu, Pb, Mg, Mn, Hg, Ni, Se, Na, K, Zn) pH, EC, TDS, Turbidity, Cl, SO_4, CO_3 Total P, Total N as N, Total Kjeldahl as N (TKN), nitrate and nitrite as N (TON)
SCHEDULE 14	Kemerton, KM6	1 x1L glass 2x40mL glass vials	Total hydrocarbons

Notes: TDS by evaporation, not calculation.
Dissolved metals are field filtered unless specified.
Low detection levels required for metals. Most samples are saline.
If filter apparatus is unavailable, any sample that was to be filtered into an acidified 125mL bottle MUST be filtered into a NON-ACIDIFIED 125mL bottle (thoroughly wash acid out of bottle if necessary). The sample must be filtered before being acidified.

Sample Acknowledgement Receipt

PO Box 1250, Bentley Delivery Centre
Bentley WA 6983
T +61 8 9422 9800
F +61 8 9422 9801
www.chemcentre.wa.gov.au
ABN 40 991 885 705

CLIENT DETAILS

Contact	Phil Manning
Client	Tronox Pigment Bunbury Limited
Address	Locked Bag 245
	Bunbury WA 6230
Telephone	08 9780 8628
Facsimile	
Email	Phil.Manning2@tronox.com; craig.mcmanus@tronox.com
Project	
Client Job Ref.	Dalyellup Water Analysis
CoC No	AP_DPS1404
PO Number	None
Samples	14

LABORATORY DETAILS

Registration # 19S4461

Manager	David Lynch
Laboratory	Inorganic Chemistry Section
Telephone	9422 9953
Facsimile	9422 9998
Email	eclabmanager@chemcentre.wa.gov.au
Registered By	Dale Carter
Samples Received	Thu 16/04/2020
Report Due	Fri 22/05/2020
Receipt Print By	Dale Carter

SUBMISSION DETAILS

This is to confirm that 14 samples received on 16/04/2020. Results are expected to be ready by Fri 22/05/2020.
Please quote Registration #19S4461 when making enquiries.

Sample counts by matrix	14 water	Sample Disposal Type	Dispose
Date documentation received	16/04/2020		

Samples are accepted on the basis that the ChemCentre terms and conditions of analysis are understood and accepted. Samples will be held for one month from date of reporting before disposal or return as marked above.

INVOICING DETAILS

The person submitting the sample is considered to be the client and is responsible for payment. It is not acceptable to ChemCentre for a third party to be made responsible for payment.

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission or before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

Sample Acknowledgement Receipt

PO Box 1250, Bentley Delivery Centre
Bentley WA 6983
T +61 8 9422 9800
F +61 8 9422 9801
www.chemcentre.wa.gov.au
ABN 40 991 885 705

SUMMARY OF ANALYSIS

Lab No	Client ID	Alkalinity in water	ChromiumIII by calculation in waters	Colourimetric using discrete analyser	Elements dissolved in water by ICPMS	Hexavalent chromium, outsourced to NMI	Mercurylow levels total in water by cold VGAAS	Metals direct in Water by ICPAES	Nitrate nitrogen in water by FIA	Outsourced work to NMI	Sodium to chloride ratio DA
001	DM1A	5	1	2	10	1	1	15	1		1
002	DM1C	5	1	2	10	1	1	15	1		1
003	DM2A	5	1	2	10	1	1	15	1		1
004	DM2C	5	1	2	10	1	1	15	1		1
005	DM4C	5	1	2	10	1	1	15	1		1
006	DM7A	5	1	2	10	1	1	15	1		1
007	DM7C	5	1	2	10	1	1	15	1		1
008	DM8A	5	1	2	10	1	1	15	1	1	1
009	DM8C	5	1	2	10	1	1	15	1		1
010	DM7CC	5	1	2	10	1	1	15	1		1
011	MB3	5	1	2	10	1	1	15	1	1	1
012	YB	5	1	2	10	1	1	15	1	1	1
013	R1	5	1	2	10	1	1	15	1		1
014	FB	5	1	2	10	1	1	15	1		1

Lab No	Client ID	Solids total dissolved in water by gravimetric
001	DM1A	1
002	DM1C	1
003	DM2A	1
004	DM2C	1
005	DM4C	1

Sample Acknowledgement Receipt

PO Box 1250, Bentley Delivery Centre
Bentley WA 6983
T +61 8 9422 9800
F +61 8 9422 9801
www.chemcentre.wa.gov.au
ABN 40 991 885 705

Lab No	Client ID	Solids total dissolved in water by gravimetric									
006	DM7A	1									
007	DM7C	1									
008	DM8A	1									
009	DM8C	1									
010	DM7CC	1									
011	MB3	1									
012	YB	1									
013	R1	1									
014	FB	1									

This table indicates the testing requested. This is not a report of the results

ChemCentre
Scientific Services Division
Report of Examination

Resources and Chemistry Precinct
Cnr Manning Road and Townsing Drive
Bentley
WA 6102
Bentley WA 6983
T +61 8 9422 9800
F +61 8 9422 9801
www.chemcentre.wa.gov.au
ABN 40 991 885 705

Accredited for compliance with ISO/IEC 17025 - Testing, Accreditation No. 8

Purchase Order: None
ChemCentre Reference: 19S4461 R0

Tronox Pigment Bunbury Limited
Locked Bag 245
Bunbury WA 6230

Attention: Phil Manning

Report on: 14 samples received on 16/04/2020

LAB ID	Material	Client ID and Description
19S4461 / 001	water	DM1A Dalyellup
19S4461 / 002	water	DM1C Dalyellup
19S4461 / 003	water	DM2A Dalyellup
19S4461 / 004	water	DM2C Dalyellup
19S4461 / 005	water	DM4C Dalyellup
19S4461 / 006	water	DM7A Dalyellup
19S4461 / 007	water	DM7C Dalyellup
19S4461 / 008	water	DM8A Dalyellup
19S4461 / 009	water	DM8C Dalyellup
19S4461 / 010	water	DM7CC Dalyellup
19S4461 / 011	water	MB3 Dalyellup
19S4461 / 012	water	YB Dalyellup
19S4461 / 013	water	R1 Dalyellup
19S4461 / 014	water	FB Dalyellup

LAB ID			001	002	003	004
Client ID			DM1A	DM1C	DM2A	DM2C
Sampled			15/04/2020	15/04/2020	15/04/2020	15/04/2020
Analyte	**Method**	**Unit**				
Bicarbonate as CaCO3	iALK2WATI	mg/L	390	350	270	340
Carbonate as CaCO3	iALK2WATI	mg/L	<1	<1	<1	<1
Chloride	iCO1WCDA	mg/L	744	276	1330	1270
Na:Cl ratio*	Na:Cl MRatio		0.9	1.0	0.2	0.2
Nitrogen, nitrate + nitrite	iNTAN1WFIA	mg/L	1.0	0.08	1.0	0.31
Sulphate	iCO1WCDA	mg/L	270	85	250	250
Total dissolved solids(grav)	iSOL1WDGR	mg/L	1900	920	3100	3000
Boron	iMET1WCICP	mg/L	0.13	0.06	0.24	0.19
Cadmium	iMET1WCMS	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	iMET1WCICP	mg/L	155	106	363	359
Chromium	iMET1WCICP	mg/L	0.021	<0.001	0.27	0.087
Chromium(III)	iCR3+2WCCA	mg/L	0.021	<0.001	0.063	0.087
Chromium(VI)*	eNW_D2	mg/L	<0.001	<0.001	0.21	<0.001
Cobalt	iMET1WCMS	mg/L	0.0008	<0.0001	0.0005	0.0003
Copper	iMET1WCMS	mg/L	0.0024	0.0012	0.0028	0.0004
Iron	iMET1WCICP	mg/L	3.5	1.7	0.065	0.14
Lead	iMET1WCMS	mg/L	0.0064	0.0003	0.0004	0.0009
Magnesium	iMET1WCICP	mg/L	58.1	29.0	215	163
Manganese	iMET1WCMS	mg/L	0.20	0.21	0.027	0.037
Mercury	iHGL1WCVG	mg/L	<0.00005	<0.00005	<0.00005	<0.00005

LAB ID			001	002	003	004
Client ID			DM1A	DM1C	DM2A	DM2C
Sampled			15/04/2020	15/04/2020	15/04/2020	15/04/2020
Analyte	**Method**	**Unit**				
Molybdenum	iMET1WCMS	mg/L	<0.001	<0.001	0.002	0.002
Nickel	iMET1WCMS	mg/L	0.002	<0.001	0.001	0.001
Potassium	iMET1WCICP	mg/L	16.5	8.5	9.3	9.9
Sodium	iMET1WCICP	mg/L	415	185	144	167
Vanadium	iMET1WCMS	mg/L	0.012	0.0003	0.011	0.0054
Date Analysed	eNW_D2		24/4/2020	24/4/2020	24/4/2020	24/4/2020
	iALK2WATI		17/4/2020	17/4/2020	17/4/2020	17/4/2020
	iCO1WCDA		20/4/2020	17/4/2020	20/4/2020	20/4/2020
	iCR3+2WCCA		24/4/2020	24/4/2020	24/4/2020	24/4/2020
	iHGL1WCVG		29/4/2020	29/4/2020	29/4/2020	29/4/2020
	iMET1WCICP		22/4/2020	22/4/2020	22/4/2020	22/4/2020
	iMET1WCMS		23/4/2020	23/4/2020	23/4/2020	23/4/2020
	iNTAN1WFIA		20/4/2020	20/4/2020	20/4/2020	20/4/2020
	iSOL1WDGR		24/4/2020	24/4/2020	24/4/2020	24/4/2020
	Na:Cl MRatio		22/4/2020	22/4/2020	22/4/2020	22/4/2020
Sample Condition			Cold	Cold	Cold	Cold

LAB ID			005	006	007	008
Client ID			DM4C	DM7A	DM7C	DM8A
Sampled			15/04/2020	15/04/2020	15/04/2020	15/04/2020
Analyte	**Method**	**Unit**				
Bicarbonate as CaCO3	iALK2WATI	mg/L	260	370	400	200
Carbonate as CaCO3	iALK2WATI	mg/L	<1	<1	<1	<1
Chloride	iCO1WCDA	mg/L	2520	227	208	3100
Na:Cl ratio*	Na:Cl MRatio		0.2	0.5	0.5	0.1
Nitrogen, nitrate + nitrite	iNTAN1WFIA	mg/L	0.03	0.02	0.07	0.34
Sulphate	iCO1WCDA	mg/L	570	8	50	520
Total dissolved solids(grav)	iSOL1WDGR	mg/L	5500	780	810	5300
Boron	iMET1WCICP	mg/L	0.21	0.06	0.07	0.15
Cadmium	iMET1WCMS	mg/L	<0.0002	<0.0001	<0.0001	<0.0002
Calcium	iMET1WCICP	mg/L	483	122	145	700
Chromium	iMET1WCICP	mg/L	<0.001	<0.001	<0.001	<0.001
Chromium(III)	iCR3+2WCCA	mg/L	<0.001	<0.001	<0.001	<0.001
Chromium(VI)*	eNW_D2	mg/L	<0.001	0.002	<0.001	<0.001
Cobalt	iMET1WCMS	mg/L	<0.0002	0.0004	0.0027	<0.0002
Copper	iMET1WCMS	mg/L	0.0016	0.0014	0.0006	0.0020
Iron	iMET1WCICP	mg/L	4.2	12	1.9	7.3
Lead	iMET1WCMS	mg/L	0.0003	0.0067	0.0022	0.0006
Magnesium	iMET1WCICP	mg/L	581	28.7	51.4	678
Manganese	iMET1WCICP	mg/L			0.91	0.81
Manganese	iMET1WCMS	mg/L	0.35	0.41		
Mercury	iHGL1WCVG	mg/L	<0.00005	<0.00005	<0.00005	<0.00005
Molybdenum	iMET1WCMS	mg/L	0.004	<0.001	0.009	0.002
Nickel	iMET1WCMS	mg/L	<0.002	0.002	<0.001	<0.002
Potassium	iMET1WCICP	mg/L	10.4	15.0	4.4	12.6
Sodium	iMET1WCICP	mg/L	253	69.1	64.1	282
Vanadium	iMET1WCMS	mg/L	0.0003	0.0010	0.0061	0.0005
Date Analysed	eNW_D2		24/4/2020	24/4/2020	24/4/2020	24/4/2020
	iALK2WATI		17/4/2020	17/4/2020	17/4/2020	17/4/2020
	iCO1WCDA		20/4/2020	17/4/2020	17/4/2020	20/4/2020

LAB ID			005	006	007	008
Client ID						
Sampled						
Analyte	**Method**	**Unit**				
Date Analysed	iCR3+2WCCA		24/4/2020	24/4/2020	24/4/2020	24/4/2020
	iHGL1WCVG		29/4/2020	29/4/2020	29/4/2020	29/4/2020
	iMET1WCICP		22/4/2020	22/4/2020	22/4/2020	22/4/2020
	iMET1WCMS		23/4/2020	23/4/2020	23/4/2020	23/4/2020
	iNTAN1WFIA		20/4/2020	20/4/2020	20/4/2020	20/4/2020
	iSOL1WDGR		24/4/2020	24/4/2020	24/4/2020	28/4/2020
	Na:Cl MRatio		22/4/2020	22/4/2020	22/4/2020	22/4/2020
Sample Condition			Cold	Cold	Cold	Cold

LAB ID			009	010	011	012
Client ID			DM8C	DM7CC	MB3	YB
Sampled			15/04/2020	15/04/2020	15/04/2020	15/04/2020
Analyte	**Method**	**Unit**				
Bicarbonate as CaCO3	iALK2WATI	mg/L	290	380	390	59
Carbonate as CaCO3	iALK2WATI	mg/L	<1	<1	<1	<1
Chloride	iCO1WCDA	mg/L	2790	98	120	219
Na:Cl ratio*	Na:Cl MRatio		0.2	0.9	0.9	0.6
Nitrogen, nitrate + nitrite	iNTAN1WFIA	mg/L	<0.01	0.14	1.3	0.02
Sulphate	iCO1WCDA	mg/L	620	58	58	18
Total dissolved solids(grav)	iSOL1WDGR	mg/L	4900	610	690	510
Boron	iMET1WCICP	mg/L	0.26	0.06	0.06	<0.02
Cadmium	iMET1WCMS	mg/L	<0.0002	<0.0001	<0.0001	<0.0001
Calcium	iMET1WCICP	mg/L	580	102	133	35.0
Chromium	iMET1WCICP	mg/L	0.008	0.002	0.001	<0.001
Chromium(III)	iCR3+2WCCA	mg/L	0.008	0.002	<0.001	<0.001
Chromium(VI)*	eNW_D2	mg/L	<0.001	<0.001	0.001	<0.001
Cobalt	iMET1WCMS	mg/L	<0.0002	0.0022	<0.0001	<0.0001
Copper	iMET1WCMS	mg/L	0.0007	0.0008	0.0051	0.0027
Iron	iMET1WCICP	mg/L	2.9	0.16	0.022	24
Lead	iMET1WCMS	mg/L	0.0007	0.0035	0.0005	0.0005
Magnesium	iMET1WCICP	mg/L	670	38.0	26.1	10.5
Manganese	iMET1WCMS	mg/L	0.12	0.39	0.0095	0.11
Mercury	iHGL1WCVG	mg/L	<0.00005	<0.00005	<0.00005	<0.00005
Molybdenum	iMET1WCMS	mg/L	0.035	0.006	0.001	<0.001
Nickel	iMET1WCMS	mg/L	<0.002	<0.001	0.001	<0.001
Potassium	iMET1WCICP	mg/L	10.5	3.5	7.5	7.8
Sodium	iMET1WCICP	mg/L	288	57.2	67.0	87.1
Vanadium	iMET1WCMS	mg/L	0.0011	0.0092	0.0020	0.0008
Date Analysed	eNW_D2		24/4/2020	24/4/2020	24/4/2020	24/4/2020
	iALK2WATI		17/4/2020	17/4/2020	17/4/2020	17/4/2020
	iCO1WCDA		20/4/2020	17/4/2020	17/4/2020	17/4/2020
	iCR3+2WCCA		24/4/2020	24/4/2020	24/4/2020	24/4/2020
	iHGL1WCVG		29/4/2020	29/4/2020	29/4/2020	29/4/2020
	iMET1WCICP		22/4/2020	22/4/2020	22/4/2020	22/4/2020
	iMET1WCMS		23/4/2020	23/4/2020	23/4/2020	23/4/2020
	iNTAN1WFIA		20/4/2020	20/4/2020	20/4/2020	20/4/2020
	iSOL1WDGR		28/4/2020	24/4/2020	24/4/2020	24/4/2020
	Na:Cl MRatio		22/4/2020	22/4/2020	22/4/2020	22/4/2020
Sample Condition			Cold	Cold	Cold	Cold

LAB ID			013	014
Client ID			R1	FB
Sampled			15/04/2020	15/04/2020
Analyte	**Method**	**Unit**		
Bicarbonate as CaCO3	iALK2WATI	mg/L	3	3
Carbonate as CaCO3	iALK2WATI	mg/L	<1	<1
Chloride	iCO1WCDA	mg/L	<1	<1
Nitrogen, nitrate + nitrite	iNTAN1WFIA	mg/L	<0.01	<0.01
Sulphate	iCO1WCDA	mg/L	<1	<1
Total dissolved solids(grav)	iSOL1WDGR	mg/L	<10	<10
Boron	iMET1WCICP	mg/L	0.23	0.23
Cadmium	iMET1WCMS	mg/L	<0.0001	<0.0001
Calcium	iMET1WCICP	mg/L	<0.1	<0.1
Chromium	iMET1WCICP	mg/L	<0.001	<0.001
Chromium(III)	iCR3+2WCCA	mg/L	<0.001	<0.001
Chromium(VI)*	eNW_D2	mg/L	<0.001	<0.001
Cobalt	iMET1WCMS	mg/L	<0.0001	<0.0001
Copper	iMET1WCMS	mg/L	0.0043	0.0042
Iron	iMET1WCICP	mg/L	<0.005	<0.005
Lead	iMET1WCMS	mg/L	0.0002	0.0002
Magnesium	iMET1WCICP	mg/L	<0.1	<0.1
Manganese	iMET1WCMS	mg/L	0.0003	0.0003
Mercury	iHGL1WCVG	mg/L	<0.00005	<0.00005
Molybdenum	iMET1WCMS	mg/L	<0.001	<0.001
Nickel	iMET1WCMS	mg/L	<0.001	<0.001
Potassium	iMET1WCICP	mg/L	<0.1	<0.1
Sodium	iMET1WCICP	mg/L	0.1	0.1
Vanadium	iMET1WCMS	mg/L	<0.0001	<0.0001
Date Analysed	eNW_D2		24/4/2020	24/4/2020
	iALK2WATI		17/4/2020	17/4/2020
	iCO1WCDA		20/4/2020	20/4/2020
	iCR3+2WCCA		24/4/2020	24/4/2020
	iHGL1WCVG		29/4/2020	29/4/2020
	iMET1WCICP		22/4/2020	22/4/2020
	iMET1WCMS		23/4/2020	23/4/2020
	iNTAN1WFIA		20/4/2020	20/4/2020
	iSOL1WDGR		24/4/2020	24/4/2020
	Na:Cl MRatio			
Sample Condition			Cold	Cold

Method	**Method Description**
eNW_D2	Hexavalent chromium, outsourced to NMI
iALK2WATI	Alkalinity, Bicarbonate, Carbonate, Hydroxide and Total Carbon Dioxide by acid titration. pH and Conductivity in water (compensated to 25C) by meter.
iCO1WCDA	Colourimetric analysis by DA (Discrete Autoanalyser).
iCR3+2WCCA	Dissolved Chromium (III) species by calculation (Dissolved Cr minus Cr(VI)- NMI NSW).
iHGL1WCVG	Dissolved mercury in water by digestion, CV-AAS.
iMET1WCICP	Total dissolved metals by ICPAES.
iMET1WCMS	Total dissolved metals by ICPMS.
iNTAN1WFIA	Nitrate+Nitrite expressed as Nitrogen by FIA.
iSOL1WDGR	Total dissolved solids (TDS) by gravimetry, dried at 178 - 182 C.
Na:Cl MRatio	Calculated sodium:chloride molar ratio.

The CrVI and dioxin analyses were outsourced to another NATA accredited laboratory , NMI (Accreditation No 198), their references RN1271128 and DAU20_123. Copies of their reports are attached .

A quality assurance report is attached.

Analysis of the pH was outside the holding time of six hours. The results should be used as reference only.

These results apply only to the sample(s) as received. Unless arrangements are made to the contrary, these samples will be disposed of after 30 days of the issue of this report.
This report may only be reproduced in full.

*Analysis not covered by scope of ChemCentre's NATA accreditation.

Hannah Burton
Team Leader
SSD-Inorganic Chemistry
29-May-2020

Quality Assurance Report

Client : Tronox Pigment Bunbury Limited
Client Ref No : Dalyellup Water Analysis
CoC No : AP_DPS1404
QA Report No : 19S4461-QA R 0

Analyte	Method	Unit	LoR	Blank	Sample Duplicates			Acceptable RPD	Recoveries		Acceptable Recovery
					Sample	Duplicate	RPD		LCS	Matrix Spike	
							%	%	%	%	%
Scientific Services Division											
Sample Matrix : water											
19S4461/000											
Manganese - Filterable	iMET1WCICP	mg/L	0.001	<0.001	-	-	-	10%	98%	-	75% - 125%
19S4461/001											
Boron - Filterable	iMET1WCICP	mg/L	0.02	<0.02	0.13	0.12	8%	10%	90%	-	75% - 125%
Calcium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	155	147	5%	10%	92%	-	75% - 125%
Cadmium - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<1%	10%	104%	-	75% - 125%
Chloride	iCO1WCDA	mg/L	1	<1	744	741	<1%	10%	105%	-	75% - 125%
Cobalt - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	0.0008	0.0008	<1%	10%	100%	-	75% - 125%
Carbonate as CaCO3	iALK2WATI	mg/L	1	<1	<1	<1	<1%	10%	-	-	90% - 110%
Chromium - Filterable	iMET1WCICP	mg/L	0.001	<0.001	0.021	0.020	4%	10%	92%	-	75% - 125%
Chromium(III)	iCR3+2WCCA	mg/L	0.001	<0.001	0.021	0.020	4%	10%	-	-	75% - 125%
Chromium - Hexavalent	eNW_D2	mg/L	0.001	<0.001	<0.001	<0.001	<1%	10%	-	-	75% - 125%
Copper - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	0.0024	0.0024	<1%	10%	102%	-	75% - 125%
Iron - Filterable	iMET1WCICP	mg/L	0.005	<0.005	3.5	3.4	2%	10%	92%	-	75% - 125%
Bicarbonate as CaCO3	iALK2WATI	mg/L	1	<1	390	390	<1%	10%	-	-	90% - 110%
Mercury - Filterable	iHGL1WCVG	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<1%	10%	80%	-	75% - 125%
Potassium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	16.5	15.8	4%	10%	95%	-	75% - 125%
Magnesium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	58.1	55.5	4%	10%	92%	-	75% - 125%

Quality Assurance Report

Analyte	Method	Unit	LoR	Blank	Sample	Duplicate	RPD	Acceptable RPD	LCS	Matrix Spike	Acceptable Recovery
Manganese - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	0.20	0.21	4%	10%	101%	-	75% - 125%
Molybdenum - Filterable	iMET1WCMS	mg/L	0.001	<0.001	<0.001	<0.001	<1%	10%	98%	-	75% - 125%
Nitrogen, nitrate + nitrite	iNTAN1WFIA	mg/L	0.01	<0.01	1.0	1.0	<1%	10%	105%	-	75% - 125%
Sodium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	415	395	4%	10%	92%	-	75% - 125%
Na:Cl ratio	Na:Cl MRatio		0.1	<0.1	0.9	0.8	11%	10%	-	-	75% - 125%
Nickel - Filterable	iMET1WCMS	mg/L	0.001	<0.001	0.002	0.002	<1%	10%	101%	-	75% - 125%
Lead - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	0.0064	0.0064	<1%	10%	90%	-	75% - 125%
Sulfate	iCO1WCDA	mg/L	1	<1	270	270	<1%	10%	-	-	75% - 125%
Total Dissolved Solids (Evap)	iSOL1WDGR	mg/L	10	<10	1900	1900	<1%	10%	102%	-	75% - 125%
Vanadium - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	0.012	0.013	8%	10%	100%	-	75% - 125%
19S4461/011											
Boron - Filterable	iMET1WCICP	mg/L	0.02	<0.02	0.06	0.06	<1%	10%	90%	-	75% - 125%
Calcium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	133	135	1%	10%	92%	-	75% - 125%
Cadmium - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<1%	10%	104%	-	75% - 125%
Chloride	iCO1WCDA	mg/L	1	<1	120	120	<1%	10%	105%	-	75% - 125%
Cobalt - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<1%	10%	100%	-	75% - 125%
Carbonate as CaCO3	iALK2WATI	mg/L	1	<1	<1	<1	<1%	10%	-	-	90% - 110%
Chromium - Filterable	iMET1WCICP	mg/L	0.001	<0.001	0.001	0.001	<1%	10%	92%	-	75% - 125%
Copper - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	0.0051	0.0052	1%	10%	102%	-	75% - 125%
Iron - Filterable	iMET1WCICP	mg/L	0.005	<0.005	0.022	0.020	9%	10%	92%	-	75% - 125%
Bicarbonate as CaCO3	iALK2WATI	mg/L	1	<1	390	390	<1%	10%	-	-	90% - 110%
Mercury - Filterable	iHGL1WCVG	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<1%	10%	80%	-	75% - 125%
Potassium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	7.5	7.6	1%	10%	95%	-	75% - 125%
Magnesium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	26.1	26.6	1%	10%	92%	-	75% - 125%
Manganese - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	0.0095	0.0081	15%	10%	101%	-	75% - 125%
Molybdenum - Filterable	iMET1WCMS	mg/L	0.001	<0.001	0.001	0.001	<1%	10%	98%	-	75% - 125%
Nitrogen, nitrate + nitrite	iNTAN1WFIA	mg/L	0.01	<0.01	1.3	1.3	<1%	10%	105%	-	75% - 125%
Sodium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	67.0	67.6	0%	10%	92%	-	75% - 125%
Na:Cl ratio	Na:Cl MRatio		0.1	<0.1	0.9	0.9	<1%	10%	-	-	75% - 125%
Nickel - Filterable	iMET1WCMS	mg/L	0.001	<0.001	0.001	0.001	<1%	10%	101%	-	75% - 125%
Lead - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	0.0005	0.0005	<1%	10%	90%	-	75% - 125%
Sulfate	iCO1WCDA	mg/L	1	<1	58	59	1%	10%	105%	-	75% - 125%

PO Box 1250, Bentley Delivery Centre,Bentley,WA,6983, TEL: +61 8 9422 9800, FAX: +61 8 9422 9801,www.chemcentre.wa.gov.au

Quality Assurance Report

Analyte	Method	Unit	LoR	Blank	Sample	Duplicate	RPD	Acceptable RPD	LCS	Matrix Spike	Acceptable Recovery
Total Dissolved Solids (Evap)	iSOL1WDGR	mg/L	10	<10	690	700	1%	10%	102%	-	75% - 125%
Vanadium - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	0.0020	0.0020	<1%	10%	-	-	75% - 125%

Definitions:

RPD = Relative Percentage Difference
LCS = Laboratory Control Sample
LoR = Limit of Reporting

Quality Control Acceptance Criteria

Waters:

Lab Dups RPD <10% for results greater than 5 X LOR.
For results less than 5 x LOR no acceptance criteria for RPD.
Matrix spikes, LCS and Surrogate recoveries: Generally 75% - 125% for inorganics/metals, 60% - 140% for organics (+/- 50% surrogates) and 10% - 140% for labile SVOCs (including labile surrogates) unless other values are stated above.

Soils:

Soils: Lab Dups RPD<20% for results greater than 5 X LOR.
For results less than 5 x LOR no acceptance criteria for RPD.
Matrix spikes, LCS and Surrogate recoveries: Generally 75% - 125% for inorganics/metals, 60% - 140% for organics (+/- 50% surrogates) and 10% - 140% for labile SVOCs (including labile surrogates) unless other values are stated above.

Hannah Burton
Team Leader
SSD-Inorganic Chemistry
29-May-2020

PO Box 1250, Bentley Delivery Centre,Bentley,WA,6983, TEL: +61 8 9422 9800, FAX: +61 8 9422 9801,www.chemcentre.wa.gov.au

TRONOX

AP_DPS1404 ChemCentre Chain of Custody Record

Environmental Scientist: 9780 8779
E-mail signed COC to: ap.shegbunbury@tronox.com and chris.roberts@tronox.com

Tronox Pigment Bunbury Ltd.
ABN 50 008 683 627

Locked Bag 245
Bunbury WA 6230

Tel (08) 9780 8333
Fax (08) 9780 8444

Site: Tronox Dalyellup

Attention: Kevin Robins, ChemCentre, Cnr Manning Road and Conlon Street, Bentley WA 6102. Tel.: 08-9422-9900 Fax.: 08-9422-9998

Lab. No.	Sample ID	Date Sampled	Number of Containers					Analysis Required													Changes to Normal Scheduled Analyses / Comments
			1L	1L acid	125mL	125mL acid	125mL acid filtered	Schedule 1	Schedule 2	Schedule 3	Schedule 4	Schedule 5	Schedule 6	Schedule 7	Schedule 8	Schedule 9	Schedule 10	Schedule 11	Schedule 12	Schedule 13	Schedule 14	
205 0250/1	YB	15/7/20	1													x						

Department: Environmental	Method of Shipment: Courier	Results Required By:	Laboratory Signature: NJ
Sent By:	Date:	Date:	Received Date & Time: 16/7/20 2:29pm
			Sample Condition: Cold

Schedules for Analysis of Samples at ChemCentre

SCHEDULE 1	Collie River & Ocean Outfall	1x1L plastic 1x125mL plastic (Metals) - acidified 1x125mL plastic (Nutrients) FILTER	Total Metals (Al, Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Hg, Ni, Se, Na, Ti, V, Zn) pH, EC, TDS, TSS, Turbidity, NH_4, HCO_3, Cl, CO_3, NO_3, Total P, SO_4
SCHEDULE 2	Dalyellup	1x500mL plastic 1x60mL plastic (preserved) 1x125mL plastic (Nutrients) FILTER 1x125mL plastic (Metals) – acidified FILTER	Dissolved (filterable) Metals (B, Cd, Ca, Cr, Cr(III), Cr(VI), Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, K, Na, V) TDS, HCO_3, CO_3, Cl, NO_3-N, SO_4, Molar Na:Cl Ratio
SCHEDULE 3	Kemerton Recovery Bores	1x500mL plastic 1x125mL plastic (Nutrients) FILTER 1x125mL plastic (Metals) - acidified - FILTER	Dissolved (filterable) Metals (Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Ni, Se, Na, V, Zn)pH, EC, TDS, HCO_3, Cl, NO_3, SO_4, Total alkalinity, Total acidity
SCHEDULE 4	Australind Monitor Bores	1x500mL plastic 1x125mL plastic (Nutrients) FILTER 1x125mL plastic (Metals) - acidified - FILTER	Dissolved (filterable) Metals (Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Ni, Se, Na, V, Zn)pH, EC, TDS, HCO_3, Cl, NO_3, SO_4, Total Alkalinity, Total Acidity
SCHEDULE 5	Kemerton Monitor Bores	1x500mL plastic 1x125mL plastic (Nutrients) FILTER 1x125mL plastic (Metals) - acidified - FILTER	Dissolved (filterable) Metals (Al, As, Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Na, V, Zn)TDS, Total Acidity, HCO_3, Cl, NO_3, SO_4, pH, EC, Total Alkalinity
SCHEDULE 6	Kemerton and Australind TSR - Mud Solid	Approx. 2L in plastic jar/s	*Centrifuge supplied mud/water sample. Test the solid fraction as follows. (Total metals since a solid)* LOI (650°C), Al, As, Ba, Be, B, Cd, Ca, C, Cr, Cr (VI), Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, K, Se, Ag, Na, S, Th, Sn, Ti, U, V, Zn, Cl

SCHEDULE 7	Kemerton TSR and Australind TSR - Pore Water (Supernatant)	From above	*Centrifuge supplied mud/water sample. Test the liquid fraction as follows.* Total Metals (Al, As, Ba, Be, B, Cd, Ca, Cr, Cr (VI), Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, K, Se, Ag, Na, Th, Sn, Ti, U, V, Zn) CO_3, Cl, NO_3-N, SO_4
SCHEDULE 8	Kemerton and Australind TSR – Mud Solid (ASLP Leachate)	From above	*Perform ASLP on Mud solid as specified by AS4439.3:1997 using Reagent Water. Analyse leachate for;* Total Metals (Al, As, Ba, Be, B, Cd, Ca, Cr, Cr (VI), Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, K, Se, Ag, Na, Th, Sn, Ti, U, V, Zn) CO_3, Cl, NO_3-N, SO_4
SCHEDULE 9	Dalyellup YB – Quarterly	1x250mL plastic	Cl, Na, Molar Na:Cl Ratio.
SCHEDULE 10	Dalyellup	2x1L glass	YB, MB3 and DM8 – dioxins and furans
SCHEDULE 11	Kemerton and Australind Production Bores	1x500mL plastic 1x125mL plastic (Nutrients) FILTER 1x125mL plastic Metals acidified - FILTER	Dissolved (filterable) Metals (Na, Fe) pH, EC, TDS, Total Alkalinity, HCO_3, Cl, SO_4, NO_3
SCHEDULE 12	Australind Recovery Bores	1x500mL plastic 1x125mL plastic (Metals) acidified -FILTER	Dissolved (filterable) Metals (Na, Fe) pH, EC, TDS, Total Alkalinity, Total Acidity, Cl, SO_4
SCHEDULE 13	Golder and Australind Bores	1x500mL plastic 2x125mL plastic (Metals) - acidified FILTER ONE 2x125mL plastic (Nutrients) FILTER ONE	Total Metals (Fe) Dissolved (filterable) Metals (Al, As, Cd, Cr, Cu, Pb, Mg, Mn, Hg, Ni, Se, Na, K, Zn) pH, EC, TDS, Turbidity, Cl, SO_4, CO_3 Total P, Total N as N, Total Kjeldahl as N (TKN), nitrate and nitrite as N (TON)
SCHEDULE 14	Kemerton, KM6	1 x1L glass 2x40mL glass vials	Total hydrocarbons

Notes: TDS by evaporation, not calculation.
Dissolved metals are field filtered unless specified.
Low detection levels required for metals. Most samples are saline.
If filter apparatus is unavailable, any sample that was to be filtered into an acidified 125mL bottle MUST be filtered into a NON-ACIDIFIED 125mL bottle (thoroughly wash acid out of bottle if necessary). The sample must be filtered before being acidified.

Sample Acknowledgement Receipt

PO Box 1250, Bentley Delivery Centre
Bentley WA 6983
T +61 8 9422 9800
F +61 8 9422 9801
www.chemcentre.wa.gov.au
ABN 40 991 885 705

CLIENT DETAILS

Contact	Chris Roberts
Client	Tronox Pigment Bunbury Limited
Address	Locked Bag 245
	Bunbury WA 6230
Telephone	08 9780 8779
Facsimile	
Email	chris.roberts@tronox.com;ap.sheqbunbury@tronox.com
Project	
Client Job Ref.	
CoC No	
PO Number	None
Samples	1

LABORATORY DETAILS

Registration # 20S0250

Manager	David Lynch
Laboratory	Inorganic Chemistry Section
Telephone	9422 9953
Facsimile	9422 9998
Email	eclabmanager@chemcentre.wa.gov.au
Registered By	Jeremy Brown
Samples Received	Thu 16/07/2020
Report Due	Thu 30/07/2020
Receipt Print By	Jeremy Brown

SUBMISSION DETAILS

This is to confirm that 1 sample received on 16/07/2020. Results are expected to be ready by Thu 30/07/2020.
Please quote Registration #20S0250 when making enquiries.

Sample counts by matrix	1 water	Sample Disposal Type	Dispose
Date documentation received	16/07/2020		

Samples are accepted on the basis that the ChemCentre terms and conditions of analysis are understood and accepted. Samples will be held for one month from date of reporting before disposal or return as marked above.

INVOICING DETAILS

The person submitting the sample is considered to be the client and is responsible for payment. It is not acceptable to ChemCentre for a third party to be made responsible for payment.

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission or before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

Sample Acknowledgement Receipt

PO Box 1250, Bentley Delivery Centre
Bentley WA 6983
T +61 8 9422 9800
F +61 8 9422 9801
www.chemcentre.wa.gov.au
ABN 40 991 885 705

SUMMARY OF ANALYSIS

Lab No	Client ID	Colourimetric using discrete analyser	Metals direct in Water by ICPAES	Sodium to chloride ratio DA							
001	YB	1	1	1							

This table indicates the testing requested. This is not a report of the results

ChemCentre
Scientific Services Division
Report of Examination

Accredited for compliance with ISO/IEC 17025 - Testing, Accreditation No. 8

Purchase Order: None
ChemCentre Reference: 20S0250 R0

Resources and Chemistry Precinct
Cnr Manning Road and Townsing Drive
Bentley
WA 6102
Bentley WA 6983
T +61 8 9422 9800
F +61 8 9422 9801
www.chemcentre.wa.gov.au
ABN 40 991 885 705

Tronox Pigment Bunbury Limited
Locked Bag 245
Bunbury WA 6230

Attention: Chris Roberts

Report on: 1 sample received on 16/07/2020

LAB ID	Material	Client ID and Description
20S0250 / 001	water	YB

LAB ID			001
Client ID			YB
Sampled			15/07/2020
Analyte	**Method**	**Unit**	
Chloride	iCO1WCDA	mg/L	209
Na:Cl ratio*	Na:Cl MRatio		0.7
Sodium	iMET1WCICP	mg/L	89.9
Date Analysed	iCO1WCDA		21/7/2020
	iMET1WCICP		20/7/2020
	Na:Cl MRatio		21/7/2020
Sample Condition			Cold

Method	Method Description
iCO1WCDA	Colourimetric analysis by DA (Discrete Autoanalyser).
iMET1WCICP	Total dissolved metals by ICPAES.
Na:Cl MRatio	Calculated sodium:chloride molar ratio.

A quality assurance report is attached.

These results apply only to the sample(s) as received. Unless arrangements are made to the contrary, these samples will be disposed of after 30 days of the issue of this report.
This report may only be reproduced in full.

*Analysis not covered by scope of ChemCentre's NATA accreditation.

Alex Martin
Chemist
SSD Inorganic Chemistry
23-Jul-2020

Quality Assurance Report

Client : Tronox Pigment Bunbury Limited
Client Ref No :
CoC No :
QA Report No : 20S0250-QA R 0

Analyte	Method	Unit	LoR	Blank	Sample Duplicates			Acceptable RPD	Recoveries		Acceptable Recovery
					Sample	Duplicate	RPD		LCS	Matrix Spike	
							%	%	%	%	%
Scientific Services Division											
Sample Matrix : water											
					20S0250/001						
Chloride	iCO1WCDA	mg/L	1	<1	209	208	<1%	10%	105%	-	75% - 125%
Sodium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	89.9	88.9	1%	10%	97%	-	75% - 125%
Na:Cl ratio	Na:Cl MRatio		0.1	<0.1	0.7	0.7	<1%	10%	-	-	75% - 125%

Definitions:
RPD = Relative Percentage Difference
LCS = Laboratory Control Sample
LoR = Limit of Reporting

Quality Control Acceptance Criteria
Waters:
Lab Dups RPD <10% for results greater than 5 X LOR.
For results less than 5 x LOR no acceptance criteria for RPD.
Matrix spikes, LCS and Surrogate recoveries: Generally 75% - 125% for inorganics/metals, 60% - 140% for organics (+/- 50% surrogates) and 10% - 140% for labile SVOCs (including labile surrogates) unless other values are stated above.

Soils:

Quality Assurance Report

Analyte	Method	Unit	LoR	Blank	Sample	Duplicate	RPD	Acceptable RPD	LCS	Matrix Spike	Acceptable Recovery

Soils: Lab Dups RPD<20% for results greater than 5 X LOR.
For results less than 5 x LOR no acceptance criteria for RPD.
Matrix spikes, LCS and Surrogate recoveries: Generally 75% - 125% for inorganics/metals, 60% - 140% for organics (+/- 50% surrogates) and 10% - 140% for labile SVOCs (including labile surrogates) unless other values are stated above.

Alex Martin
Chemist
SSD Inorganic Chemistry

23-Jul-2020

TRONOX

AP_DPS1404 ChemCentre Chain of Custody Record

Environmental Scientist: 9780 8779
E-mail signed COC to: ap.sheqbunbury@tronox.com and chris.roberts@tronox.com

Tronox Pigment Bunbury Ltd.
ABN 50 008 683 627

Locked Bag 245
Bunbury WA 6230

Tel (08) 9780 8333
Fax (08) 9780 8444

Site: DALYELLUP Sheet 1

Attention: Kevin Robins, ChemCentre, Cnr Manning Road and Conlon Street, Bentley WA 6102. Tel.: 08-9422-9900 Fax.: 08-9422-9998

Lab. No. 2051618/	Sample ID	Date Sampled	Number of Containers					Analysis Required														Changes to Normal Scheduled Analyses / Comments
			1L	1L acid	125mL	125mL acid	125mL acid filtered	Schedule 1	Schedule 2	Schedule 3	Schedule 4	Schedule 5	Schedule 6	Schedule 7	Schedule 8	Schedule 9	Schedule 10	Schedule 11	Schedule 12	Schedule 13	Schedule 14	
001.	DM1A	14/10/20	1		1	1	1		X													
002.	DM1C	14/10/20	1		1	1	1		X													
003.	DM2A	14/10/20	1		1	1	1		X													
004.	DM2C	14/10/20	1		1	1	1		X													
005.	DM7A	14/10/20	1		1	1	1		X						Received 15/10/20 →							500ml Gen Bottle missing.
006.	DM7C	14/10/20	1		1	1	1		X													
007.	DM8A	14/10/20	1		1	1	1		X													
008.	DM8C	14/10/20	1		1	1	1		X													
009.	DM8CD	14/10/20	1		1	1	1		X													
010.	YB	14/10/20	1		1	1	1		X													

Department:	Environmental	Method of Shipment:	Courier	Results Required By:	Laboratory Signature: NJ
Sent By:	STASS Environmental	Date:	14 OCTOBER 2020	Date:	Received Date & Time: 14/10/20 13:45
					Sample Condition: Cold

TRONOX

AP_DPS1404 ChemCentre Chain of Custody Record

Environmental Scientist: 9780 8779
E-mail signed COC to: ap.sheqbunbury@tronox.com and chris.roberts@tronox.com

Tronox Pigment Bunbury Ltd.
ABN 50 008 683 627

Locked Bag 245
Bunbury WA 6230

Tel (08) 9780 8333
Fax (08) 9780 8444

Site: DALYELLUP Sheet 2

Attention: Kevin Robins, ChemCentre, Cnr Manning Road and Conlon Street, Bentley WA 6102. Tel.: 08-9422-9900 Fax.: 08-9422-9998

Lab. No. 2051618/	Sample ID	Date Sampled	Number of Containers					Analysis Required														Changes to Normal Scheduled Analyses / Comments
			1L	1L acid	125mL	125mL acid	125mL acid filtered	Schedule 1	Schedule 2	Schedule 3	Schedule 4	Schedule 5	Schedule 6	Schedule 7	Schedule 8	Schedule 9	Schedule 10	Schedule 11	Schedule 12	Schedule 13	Schedule 14	
011.	DM9A	14/10/20	1		1	1	1		X													
012.	DM9C	14/10/20	1		1	1	1		X													
Extra Sample. 013.	MB3	14/10/20																				

Department: Environmental	Method of Shipment: Courier	Results Required By:	Laboratory Signature: NJ
Sent By: STASS Environmental	Date: 14 OCTOBER 2020	Date:	Received Date & Time: 14/10/20 13:05
			Sample Condition: cold

Schedules for Analysis of Samples at ChemCentre

SCHEDULE 1	Collie River & Ocean Outfall	1x1L plastic 1x125mL plastic (Metals) - acidified 1x125mL plastic (Nutrients) FILTER	Total Metals (Al, Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Mo, Hg, Ni, Se, Na, Ti, V, Zn) pH, EC, TDS, TSS, Turbidity, NH_4, HCO_3, Cl, CO_3, NO_3, Total P, SO_4
SCHEDULE 2	Dalyellup	1x500mL plastic 1x60mL plastic (preserved) 1x125mL plastic (Nutrients) FILTER 1x125mL plastic (Metals) – acidified FILTER	Dissolved (filterable) Metals (B, Cd, Ca, Cr, Cr(III), Cr(VI), Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, K, Na, V) TDS, HCO_3, CO_3, Cl, NO_3-N, SO_4, Molar Na:Cl Ratio
SCHEDULE 3	Kemerton Recovery Bores	1x500mL plastic 1x125mL plastic (Nutrients) FILTER 1x125mL plastic (Metals) - acidified - FILTER	Dissolved (filterable) Metals (Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Ni, Se, Na, V, Zn)pH, EC, TDS, HCO_3, Cl, NO_3, SO_4, Total alkalinity, Total acidity
SCHEDULE 4	Australind Monitor Bores	1x500mL plastic 1x125mL plastic (Nutrients) FILTER 1x125mL plastic (Metals) - acidified - FILTER	Dissolved (filterable) Metals (Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Ni, Se, Na, V, Zn)pH, EC, TDS, HCO_3, Cl, NO_3, SO_4, Total Alkalinity, Total Acidity
SCHEDULE 5	Kemerton Monitor Bores	1x500mL plastic 1x125mL plastic (Nutrients) FILTER 1x125mL plastic (Metals) - acidified - FILTER	Dissolved (filterable) Metals (Al, As, Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Hg, Ni, K, Se, Na, V, Zn)TDS, Total Acidity, HCO_3, Cl, NO_3, SO_4, pH, EC, Total Alkalinity
SCHEDULE 6	Kemerton and Australind TSR - Mud Solid	Approx. 2L in plastic jar/s	*Centrifuge supplied mud/water sample. Test the solid fraction as follows. (Total metals since a solid)* LOI (650°C), Al, As, Ba, Be, B, Cd, Ca, C, Cr, Cr (VI), Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, K, Se, Ag, Na, S, Th, Sn, Ti, U, V, Zn, Cl

SCHEDULE 7	Kemerton TSR and Australind TSR - Pore Water (Supernatant)	From above	*Centrifuge supplied mud/water sample. Test the liquid fraction as follows.* Total Metals (Al, As, Ba, Be, B, Cd, Ca, Cr, Cr (VI), Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, K, Se, Ag, Na, Th, Sn, Ti, U, V, Zn) CO_3, Cl, NO_3-N, SO_4
SCHEDULE 8	Kemerton and Australind TSR – Mud Solid (ASLP Leachate)	From above	*Perform ASLP on Mud solid as specified by AS4439.3:1997 using Reagent Water. Analyse leachate for;* Total Metals (Al, As, Ba, Be, B, Cd, Ca, Cr, Cr (VI), Co, Cu, Fe, Pb, Mg, Mn, Hg, Mo, Ni, K, Se, Ag, Na, Th, Sn, Ti, U, V, Zn) CO_3, Cl, NO_3-N, SO_4
SCHEDULE 9	Dalyellup YB – Quarterly	1x250mL plastic	Cl, Na, Molar Na:Cl Ratio.
SCHEDULE 10	Dalyellup	2x1L glass	YB, MB3 and DM8 – dioxins and furans
SCHEDULE 11	Kemerton and Australind Production Bores	1x500mL plastic 1x125mL plastic (Nutrients) FILTER 1x125mL plastic Metals acidified - FILTER	Dissolved (filterable) Metals (Na, Fe) pH, EC, TDS, Total Alkalinity, HCO_3, Cl, SO_4, NO_3
SCHEDULE 12	Australind Recovery Bores	1x500mL plastic 1x125mL plastic (Metals) acidified -FILTER	Dissolved (filterable) Metals (Na, Fe) pH, EC, TDS, Total Alkalinity, Total Acidity, Cl, SO_4
SCHEDULE 13	Golder and Australind Bores	1x500mL plastic 2x125mL plastic (Metals) - acidified FILTER ONE 2x125mL plastic (Nutrients) FILTER ONE	Total Metals (Fe) Dissolved (filterable) Metals (Al, As, Cd, Cr, Cu, Pb, Mg, Mn, Hg, Ni, Se, Na, K, Zn) pH, EC, TDS, Turbidity, Cl, SO_4, CO_3 Total P, Total N as N, Total Kjeldahl as N (TKN), nitrate and nitrite as N (TON)
SCHEDULE 14	Kemerton, KM6	1 x1L glass 2x40mL glass vials	Total hydrocarbons

Notes: TDS by evaporation, not calculation.
Dissolved metals are field filtered unless specified.
Low detection levels required for metals. Most samples are saline.
If filter apparatus is unavailable, any sample that was to be filtered into an acidified 125mL bottle MUST be filtered into a NON-ACIDIFIED 125mL bottle (thoroughly wash acid out of bottle if necessary). The sample must be filtered before being acidified.

Sample Acknowledgement Receipt

PO Box 1250, Bentley Delivery Centre
Bentley WA 6983
T +61 8 9422 9800
F +61 8 9422 9801
www.chemcentre.wa.gov.au
ABN 40 991 885 705

CLIENT DETAILS

Contact	Chris Roberts
Client	Tronox Pigment Bunbury Limited
Address	Locked Bag 245
	Bunbury WA 6230
Telephone	08 9780 8779
Facsimile	
Email	chris.roberts@tronox.com;ap.sheqbunbury@tronox.com
Project	
Client Job Ref.	Dalyellup
CoC No	AP_DPS1404
PO Number	None
Samples	13

LABORATORY DETAILS

Registration # 20S1618

Manager	David Lynch
Laboratory	Inorganic Chemistry Section
Telephone	9422 9953
Facsimile	9422 9998
Email	eclabmanager@chemcentre.wa.gov.au
Registered By	Dale Carter
Samples Received	Wed 14/10/2020
Report Due	Wed 28/10/2020
Receipt Print By	Dale Carter

SUBMISSION DETAILS

This is to confirm that 13 samples received on 14/10/2020. Results are expected to be ready by Wed 28/10/2020.
Please quote Registration #20S1618 when making enquiries.

Sample counts by matrix	13 water	Sample Disposal Type	Dispose
Date documentation received	14/10/2020		

Samples are accepted on the basis that the ChemCentre terms and conditions of analysis are understood and accepted. Samples will be held for one month from date of reporting before disposal or return as marked above.

INVOICING DETAILS

The person submitting the sample is considered to be the client and is responsible for payment. It is not acceptable to ChemCentre for a third party to be made responsible for payment.

If you require your Purchase Order (PO) number to be included on our invoice, please provide the number during sample submission or before the completion of work to avoid unnecessary delays and/or additional processing/handling fees.

Sample Acknowledgement Receipt

PO Box 1250, Bentley Delivery Centre
Bentley WA 6983
T +61 8 9422 9800
F +61 8 9422 9801
www.chemcentre.wa.gov.au
ABN 40 991 885 705

SUMMARY OF ANALYSIS

Lab No	Client ID	Alkalinity in water	ChromiumIII by calculation in waters	Colourimetric using discrete analyser	Elements dissolved in water by ICPMS	Hexavalent chromium, outsourced to NMI	Mercurylow levels total in water by cold VGAAS	Metals direct in Water by ICPAES	Nitrate nitrogen in water by FIA	Nitrate nitrogen in water corrected for nitrite	Nitrite nitrogen in water by FIA
001	DM1A	5	1	2	10	1	1	15	1	1	1
002	DM1C	5	1	2	10	1	1	15	1	1	1
003	DM2A	5	1	2	10	1	1	15	1	1	1
004	DM2C	5	1	2	10	1	1	15	1	1	1
005	DM7A	5	1	2	10	1	1	15	1	1	1
006	DM7C	5	1	2	10	1	1	15	1	1	1
007	DM8A	5	1	2	10	1	1	15	1	1	1
008	DM8C	5	1	2	10	1	1	15	1	1	1
009	DM8CD	5	1	2	10	1	1	15	1	1	1
010	YB	5	1	2	10	1	1	15	1	1	1
011	DM9A	5	1	2	10	1	1	15	1	1	1
012	DM9C	5	1	2	10	1	1	15	1	1	1
013	MB3	5	1	2	10	1	1	15	1	1	1

Lab No	Client ID	Sodium to chloride ratio DA	Solids total dissolved in water by gravimetric								
006	DM7C	1	1								
007	DM8A	1	1								
008	DM8C	1	1								
009	DM8CD	1	1								
010	YB	1	1								
011	DM9A	1	1								

Sample Acknowledgement Receipt

PO Box 1250, Bentley Delivery Centre
Bentley WA 6983
T +61 8 9422 9800
F +61 8 9422 9801
www.chemcentre.wa.gov.au
ABN 40 991 885 705

Lab No	Client ID	Sodium to chloride ratio DA	Solids total dissolved in water by gravimetric								
012	DM9C	1	1								
013	MB3	1	1								
001	DM1A	1	1								
002	DM1C	1	1								
003	DM2A	1	1								
004	DM2C	1	1								
005	DM7A	1	1								

This table indicates the testing requested. This is not a report of the results

ChemCentre
Scientific Services Division
Report of Examination

Accredited for compliance with ISO/IEC 17025 - Testing, Accreditation No. 8

Purchase Order: None
ChemCentre Reference: 20S1618 R0

Resources and Chemistry Precinct
Cnr Manning Road and Townsing Drive
Bentley
WA 6102
Bentley WA 6983
T +61 8 9422 9800
F +61 8 9422 9801
www.chemcentre.wa.gov.au
ABN 40 991 885 705

Tronox Pigment Bunbury Limited
Locked Bag 245
Bunbury WA 6230

Attention: Chris Roberts

Report on: 13 samples received on 14/10/2020

LAB ID	Material	Client ID and Description
20S1618 / 001	water	DM1A
20S1618 / 002	water	DM1C
20S1618 / 003	water	DM2A
20S1618 / 004	water	DM2C
20S1618 / 005	water	DM7A
20S1618 / 006	water	DM7C
20S1618 / 007	water	DM8A
20S1618 / 008	water	DM8C
20S1618 / 009	water	DM8CD
20S1618 / 010	water	YB
20S1618 / 011	water	DM9A
20S1618 / 012	water	DM9C
20S1618 / 013	water	MB3

LAB ID			001	002	003	004
Client ID			DM1A	DM1C	DM2A	DM2C
Sampled			14/10/2020	14/10/2020	14/10/2020	14/10/2020
Analyte	**Method**	**Unit**				
Bicarbonate as CaCO3	iALK2WATI	mg/L	400	330	260	250
Carbonate as CaCO3	iALK2WATI	mg/L	<1	<1	<1	<1
Chloride	iCO1WCDA	mg/L	639	250	1310	1350
Na:Cl ratio*	Na:Cl MRatio		1.0	1.0	0.2	0.2
Nitrogen, nitrate	iNTAN1WCALC	mg/L	1.8	0.04	5.0	2.5
Sulphate	iCO1WCDA	mg/L	260	80	280	250
Total dissolved solids(grav)	iSOL1WDGR	mg/L	1800	850	2600	2600
Boron	iMET1WCMS	mg/L	0.12	<0.050	0.22	0.19
Cadmium	iMET1WCMS	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	iMET1WCICP	mg/L	160	114	417	469
Chromium	iMET1WCICP	mg/L	<0.001	<0.001	0.33	0.41
Chromium(III)	iCR3+2WCCA	mg/L	<0.001	<0.001	0.031	0.054
Chromium(VI)*	eNW_D2	mg/L	<0.001	<0.001	0.30	0.36
Cobalt	iMET1WCMS	mg/L	0.0007	<0.0001	0.0005	0.0003
Copper	iMET1WCMS	mg/L	0.0008	0.0018	0.0016	0.0013
Iron	iMET1WCICP	mg/L	1.2	9.4	0.15	0.13
Lead	iMET1WCMS	mg/L	0.0018	0.0026	0.0005	0.0011
Magnesium	iMET1WCICP	mg/L	59.9	27.9	230	194
Manganese	iMET1WCMS	mg/L	0.27	0.21	0.030	0.0097
Mercury	iHGL1WCVG	mg/L	<0.00005	<0.00005	<0.00005	<0.00005
Molybdenum	iMET1WCMS	mg/L	<0.001	<0.001	<0.001	0.002

LAB ID			001	002	003	004
Client ID			DM1A	DM1C	DM2A	DM2C
Sampled			14/10/2020	14/10/2020	14/10/2020	14/10/2020
Analyte	**Method**	**Unit**				
Nickel	iMET1WCMS	mg/L	0.001	<0.001	0.001	<0.001
Potassium	iMET1WCICP	mg/L	17.7	7.9	10.6	11.1
Sodium	iMET1WCICP	mg/L	400	168	163	150
Vanadium	iMET1WCMS	mg/L	0.0031	0.0007	0.016	0.0037
Date Analysed	eNW_D2		29/10/2020	29/10/2020	29/10/2020	29/10/2020
	iALK2WATI		16/10/2020	15/10/2020	15/10/2020	15/10/2020
	iCO1WCDA		15/10/2020	15/10/2020	15/10/2020	15/10/2020
	iCR3+2WCCA		29/10/2020	29/10/2020	29/10/2020	29/10/2020
	iHGL1WCVG		21/10/2020	21/10/2020	21/10/2020	21/10/2020
	iMET1WCICP		20/10/2020	20/10/2020	20/10/2020	20/10/2020
	iMET1WCMS		27/10/2020	27/10/2020	27/10/2020	27/10/2020
	iNTAN1WCALC		19/10/2020	19/10/2020	19/10/2020	19/10/2020
	iSOL1WDGR		20/10/2020	19/10/2020	21/10/2020	21/10/2020
	Na:Cl MRatio		20/10/2020	20/10/2020	20/10/2020	20/10/2020
Sample Condition			Cold	Cold	Cold	Cold

LAB ID			005	006	007	008
Client ID			DM7A	DM7C	DM8A	DM8C
Sampled			14/10/2020	14/10/2020	14/10/2020	14/10/2020
Analyte	**Method**	**Unit**				
Bicarbonate as CaCO3	iALK2WATI	mg/L	380	340	150	290
Carbonate as CaCO3	iALK2WATI	mg/L	<1	<1	<1	<1
Chloride	iCO1WCDA	mg/L	204	219	3000	2290
Na:Cl ratio*	Na:Cl MRatio		0.7	0.5	0.2	0.2
Nitrogen, nitrate	iNTAN1WCALC	mg/L	<0.01	2.1	0.03	<0.01
Sulphate	iCO1WCDA	mg/L	<1	80	590	550
Total dissolved solids(grav)	iSOL1WDGR	mg/L	770	870	5600	4400
Boron	iMET1WCMS	mg/L	<0.050	<0.050	0.12	0.18
Cadmium	iMET1WCMS	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	iMET1WCICP	mg/L	120	153	717	528
Chromium	iMET1WCICP	mg/L	<0.001	<0.001	<0.001	0.010
Chromium(III)	iCR3+2WCCA	mg/L	<0.001	<0.001	<0.001	0.010
Chromium(VI)*	eNW_D2	mg/L	<0.001	<0.001	<0.001	<0.001
Cobalt	iMET1WCMS	mg/L	0.0002	0.0003	0.0002	0.0002
Copper	iMET1WCMS	mg/L	0.0011	0.0018	0.0017	0.0007
Iron	iMET1WCICP	mg/L	4.1	0.033	9.8	2.5
Lead	iMET1WCMS	mg/L	0.0031	0.0012	0.0003	0.0010
Magnesium	iMET1WCICP	mg/L	39.2	53.1	642	527
Manganese	iMET1WCICP	mg/L			0.92	
Manganese	iMET1WCMS	mg/L	0.21	0.070		0.097
Mercury	iHGL1WCVG	mg/L	<0.00005	<0.00005	<0.00005	<0.00005
Molybdenum	iMET1WCMS	mg/L	<0.001	0.008	0.002	0.011
Nickel	iMET1WCMS	mg/L	<0.001	<0.001	<0.001	<0.001
Potassium	iMET1WCICP	mg/L	11.7	4.6	13.6	10.9
Sodium	iMET1WCICP	mg/L	92.9	66.6	312	277
Vanadium	iMET1WCMS	mg/L	0.0006	0.0049	0.0003	0.0009
Date Analysed	eNW_D2		29/10/2020	29/10/2020	29/10/2020	29/10/2020
	iALK2WATI		15/10/2020	15/10/2020	15/10/2020	15/10/2020
	iCO1WCDA		15/10/2020	15/10/2020	15/10/2020	15/10/2020
	iCR3+2WCCA		29/10/2020	29/10/2020	29/10/2020	29/10/2020

LAB ID			005	006	007	008
Client ID						
Sampled						
Analyte	**Method**	**Unit**				
Date Analysed	iHGL1WCVG		21/10/2020	21/10/2020	21/10/2020	21/10/2020
	iMET1WCICP		20/10/2020	20/10/2020	20/10/2020	20/10/2020
	iMET1WCMS		27/10/2020	27/10/2020	27/10/2020	27/10/2020
	iNTAN1WCALC		19/10/2020	19/10/2020	19/10/2020	19/10/2020
	iSOL1WDGR		19/10/2020	19/10/2020	21/10/2020	21/10/2020
	Na:Cl MRatio		20/10/2020	20/10/2020	20/10/2020	20/10/2020
Sample Condition			Cold	Cold	Cold	Cold

LAB ID			009	010	011	012
Client ID			DM8CD	YB	DM9A	DM9C
Sampled			14/10/2020	14/10/2020	14/10/2020	14/10/2020
Analyte	**Method**	**Unit**				
Bicarbonate as CaCO3	iALK2WATI	mg/L	180	51	110	290
Carbonate as CaCO3	iALK2WATI	mg/L	<1	<1	<1	<1
Chloride	iCO1WCDA	mg/L	3070	208	244	192
Na:Cl ratio*	Na:Cl MRatio		0.2	0.7	0.8	0.9
Nitrogen, nitrate	iNTAN1WCALC	mg/L	0.08	<0.01	0.14	2.0
Sulphate	iCO1WCDA	mg/L	590	19	45	83
Total dissolved solids(grav)	iSOL1WDGR	mg/L	5600	500	640	780
Boron	iMET1WCMS	mg/L	0.12	0.028	0.032	<0.050
Cadmium	iMET1WCMS	mg/L	<0.0001	<0.0001	<0.0001	<0.0001
Calcium	iMET1WCICP	mg/L	695	35.5	61.1	110
Chromium	iMET1WCICP	mg/L	<0.001	<0.001	<0.001	0.25
Chromium(III)	iCR3+2WCCA	mg/L	<0.001	<0.001	<0.001	0.023
Chromium(VI)*	eNW_D2	mg/L	<0.001	<0.001	<0.001	0.23
Cobalt	iMET1WCMS	mg/L	0.0002	<0.0001	0.0002	<0.0001
Copper	iMET1WCMS	mg/L	0.0019	0.0012	0.0053	0.0045
Iron	iMET1WCICP	mg/L	7.3	20	15	0.18
Lead	iMET1WCMS	mg/L	0.0007	0.0002	0.0010	0.0006
Magnesium	iMET1WCICP	mg/L	636	11.7	13.3	39.3
Manganese	iMET1WCICP	mg/L	0.79			
Manganese	iMET1WCMS	mg/L		0.10	0.12	0.015
Mercury	iHGL1WCVG	mg/L	<0.00005	<0.00005	<0.00005	<0.00005
Molybdenum	iMET1WCMS	mg/L	0.001	<0.001	<0.001	<0.001
Nickel	iMET1WCMS	mg/L	<0.001	<0.001	<0.001	<0.001
Potassium	iMET1WCICP	mg/L	13.4	7.9	11.6	5.2
Sodium	iMET1WCICP	mg/L	306	91.2	118	106
Vanadium	iMET1WCMS	mg/L	0.0004	0.0002	0.0004	0.0018
Date Analysed	eNW_D2		29/10/2020	29/10/2020	29/10/2020	29/10/2020
	iALK2WATI		15/10/2020	15/10/2020	16/10/2020	15/10/2020
	iCO1WCDA		15/10/2020	15/10/2020	15/10/2020	15/10/2020
	iCR3+2WCCA		29/10/2020	29/10/2020	29/10/2020	29/10/2020
	iHGL1WCVG		21/10/2020	21/10/2020	21/10/2020	21/10/2020
	iMET1WCICP		20/10/2020	20/10/2020	20/10/2020	20/10/2020
	iMET1WCMS		27/10/2020	27/10/2020	27/10/2020	27/10/2020
	iNTAN1WCALC		19/10/2020	19/10/2020	19/10/2020	19/10/2020
	iSOL1WDGR		21/10/2020	19/10/2020	20/10/2020	19/10/2020
	Na:Cl MRatio		20/10/2020	20/10/2020	20/10/2020	20/10/2020
Sample Condition			Cold	Cold	Cold	Cold

LAB ID			013
Client ID			MB3
Sampled			14/10/2020
Analyte	**Method**	**Unit**	
Bicarbonate as CaCO3	iALK2WATI	mg/L	350
Carbonate as CaCO3	iALK2WATI	mg/L	<1
Chloride	iCO1WCDA	mg/L	119
Na:Cl ratio*	Na:Cl MRatio		0.9
Nitrogen, nitrate	iNTAN1WCALC	mg/L	11
Sulphate	iCO1WCDA	mg/L	64
Total dissolved solids(grav)	iSOL1WDGR	mg/L	700
Boron	iMET1WCMS	mg/L	<0.050
Cadmium	iMET1WCMS	mg/L	<0.0001
Calcium	iMET1WCICP	mg/L	140
Chromium	iMET1WCICP	mg/L	<0.001
Chromium(III)	iCR3+2WCCA	mg/L	<0.001
Chromium(VI)*	eNW_D2	mg/L	<0.001
Cobalt	iMET1WCMS	mg/L	0.0003
Copper	iMET1WCMS	mg/L	0.0067
Iron	iMET1WCICP	mg/L	0.056
Lead	iMET1WCMS	mg/L	0.0004
Magnesium	iMET1WCICP	mg/L	26.6
Manganese	iMET1WCMS	mg/L	0.019
Mercury	iHGL1WCVG	mg/L	<0.00005
Molybdenum	iMET1WCMS	mg/L	<0.001
Nickel	iMET1WCMS	mg/L	<0.001
Potassium	iMET1WCICP	mg/L	7.2
Sodium	iMET1WCICP	mg/L	70.6
Vanadium	iMET1WCMS	mg/L	0.0015
Date Analysed	eNW_D2		29/10/2020
	iALK2WATI		15/10/2020
	iCO1WCDA		15/10/2020
	iCR3+2WCCA		29/10/2020
	iHGL1WCVG		21/10/2020
	iMET1WCICP		20/10/2020
	iMET1WCMS		27/10/2020
	iNTAN1WCALC		19/10/2020
	iSOL1WDGR		19/10/2020
	Na:Cl MRatio		20/10/2020
Sample Condition			Cold

Method	**Method Description**
eNW_D2	Hexavalent chromium, outsourced to NMI
iALK2WATI	Alkalinity, Bicarbonate, Carbonate, Hydroxide and Total Carbon Dioxide by acid titration. pH and Conductivity in water (compensated to 25C) by meter.
iCO1WCDA	Colourimetric analysis by DA (Discrete Autoanalyser).
iCR3+2WCCA	Dissolved Chromium (III) species by calculation (Dissolved Cr minus Cr(VI)- NMI NSW).
iHGL1WCVG	Dissolved mercury in water by digestion, CV-AAS.
iMET1WCICP	Total dissolved metals by ICPAES.
iMET1WCMS	Total dissolved metals by ICPMS.
iNTAN1WCALC	Nitrate expressed as nitrogen by FIA.
iSOL1WDGR	Total dissolved solids (TDS) by gravimetry, dried at 178 - 182 C.
Na:Cl MRatio	Calculated sodium:chloride molar ratio.

CrVI anlayses were subcontracted to NMI, 105 Delhi Road, North Ryde, NSW, 2133. NATA accreditation 198. A copy of their report is attached.

Analysis of the pH was outside the holding time of six hours. The results should be used as reference only.

These results apply only to the sample(s) as received. Unless arrangements are made to the contrary, these samples will be disposed of after 30 days of the issue of this report.
This report may only be reproduced in full.

*Analysis not covered by scope of ChemCentre's NATA accreditation.

Alex Martin
Chemist
SSD Inorganic Chemistry
29-Oct-2020

Quality Assurance Report

Client : Tronox Pigment Bunbury Limited
Client Ref No : Dalyellup
CoC No : AP_DPS1404
QA Report No : 20S1618-QA R 0

Analyte	Method	Unit	LoR	Blank	Sample Duplicates			Acceptable RPD	Recoveries		Acceptable Recovery
					Sample	Duplicate	RPD		LCS	Matrix Spike	
							%	%	%	%	%
Scientific Services Division											
Sample Matrix : water											
				20S1618/000							
Manganese - Filterable	iMET1WCICP	mg/L	0.001	<0.001	-	-	-	10%	104%	-	75% - 125%
				20S1618/001							
Boron - Filterable	iMET1WCMS	mg/L	0.005	<0.005	0.12	0.11	8%	10%	108%	-	75% - 125%
Calcium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	160	161	<1%	10%	95%	-	75% - 125%
Cadmium - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<1%	10%	101%	-	75% - 125%
Chloride	iCO1WCDA	mg/L	1	<1	639	646	1%	10%	101%	-	75% - 125%
Cobalt - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	0.0007	0.0007	<1%	10%	99%	-	75% - 125%
Carbonate as CaCO3	iALK2WATI	mg/L	1	<1	<1	<1	<1%	10%	-	-	90% - 110%
Chromium - Filterable	iMET1WCICP	mg/L	0.001	<0.001	<0.001	<0.001	<1%	10%	100%	-	75% - 125%
Chromium(III)	iCR3+2WCCA	mg/L	0.001	<0.001	<0.001	<0.001	<1%	10%	-	-	75% - 125%
Chromium - Hexavalent	eNW_D2	mg/L	0.001	<0.001	<0.001	<0.001	<1%	10%	-	-	75% - 125%
Copper - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	0.0008	0.0007	13%	10%	-	-	75% - 125%
Iron - Filterable	iMET1WCICP	mg/L	0.005	<0.005	1.2	1.3	8%	10%	101%	-	75% - 125%
Bicarbonate as CaCO3	iALK2WATI	mg/L	1	<1	400	400	<1%	10%	-	-	90% - 110%
Mercury - Filterable	iHGL1WCVG	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<1%	10%	114%	-	75% - 125%
Potassium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	17.7	17.9	1%	10%	91%	-	75% - 125%
Magnesium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	59.9	60.7	1%	10%	99%	-	75% - 125%

PO Box 1250, Bentley Delivery Centre,Bentley,WA,6983, TEL: +61 8 9422 9800, FAX: +61 8 9422 9801,www.chemcentre.wa.gov.au

Quality Assurance Report

Analyte	Method	Unit	LoR	Blank	Sample	Duplicate	RPD	Acceptable RPD	LCS	Matrix Spike	Acceptable Recovery
Manganese - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	0.27	0.27	<1%	10%	102%	-	75% - 125%
Molybdenum - Filterable	iMET1WCMS	mg/L	0.001	<0.001	<0.001	<0.001	<1%	10%	104%	-	75% - 125%
Nitrate as NO3-N	iNTAN1WCALC	mg/L	0.01	<0.01	1.8	1.9	5%	10%	-	-	75% - 125%
Sodium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	400	403	0%	10%	98%	-	75% - 125%
Na:Cl ratio	Na:Cl MRatio		0.1	<0.1	1.0	1.0	<1%	10%	-	-	75% - 125%
Nickel - Filterable	iMET1WCMS	mg/L	0.001	<0.001	0.001	0.001	<1%	10%	99%	-	75% - 125%
Lead - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	0.0018	0.0018	<1%	10%	102%	-	75% - 125%
Sulfate	iCO1WCDA	mg/L	1	<1	260	260	<1%	10%	100%	-	75% - 125%
Total Dissolved Solids (Evap)	iSOL1WDGR	mg/L	10	<10	1800	1800	<1%	10%	104%	-	75% - 125%
Vanadium - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	0.0031	0.0031	<1%	10%	101%	-	75% - 125%
20S1618/011											
Boron - Filterable	iMET1WCMS	mg/L	0.005	<0.005	0.032	0.032	<1%	10%	108%	-	75% - 125%
Calcium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	61.1	61.0	<1%	10%	95%	-	75% - 125%
Cadmium - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<1%	10%	101%	-	75% - 125%
Chloride	iCO1WCDA	mg/L	1	<1	244	244	<1%	10%	101%	-	75% - 125%
Cobalt - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	0.0002	0.0002	<1%	10%	99%	-	75% - 125%
Carbonate as CaCO3	iALK2WATI	mg/L	1	<1	<1	<1	<1%	10%	-	-	90% - 110%
Chromium - Filterable	iMET1WCICP	mg/L	0.001	<0.001	<0.001	<0.001	<1%	10%	100%	-	75% - 125%
Copper - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	0.0053	0.0060	12%	10%	-	-	75% - 125%
Iron - Filterable	iMET1WCICP	mg/L	0.005	<0.005	15	14	6%	10%	105%	-	75% - 125%
Bicarbonate as CaCO3	iALK2WATI	mg/L	1	<1	110	110	<1%	10%	-	-	90% - 110%
Mercury - Filterable	iHGL1WCVG	mg/L	0.00005	<0.00005	<0.00005	<0.00005	<1%	10%	114%	-	75% - 125%
Potassium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	11.6	11.6	<1%	10%	98%	-	75% - 125%
Magnesium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	13.3	13.1	1%	10%	99%	-	75% - 125%
Manganese - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	0.12	0.12	<1%	10%	102%	-	75% - 125%
Molybdenum - Filterable	iMET1WCMS	mg/L	0.001	<0.001	<0.001	<0.001	<1%	10%	104%	-	75% - 125%
Nitrate as NO3-N	iNTAN1WCALC	mg/L	0.01	<0.01	0.14	0.14	<1%	10%	-	-	75% - 125%
Sodium - Filterable	iMET1WCICP	mg/L	0.1	<0.1	118	118	<1%	10%	98%	-	75% - 125%
Na:Cl ratio	Na:Cl MRatio		0.1	<0.1	0.8	0.7	13%	10%	-	-	75% - 125%
Nickel - Filterable	iMET1WCMS	mg/L	0.001	<0.001	<0.001	<0.001	<1%	10%	99%	-	75% - 125%
Lead - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	0.0010	0.0010	<1%	10%	102%	-	75% - 125%
Sulfate	iCO1WCDA	mg/L	1	<1	45	44	2%	10%	100%	-	75% - 125%

PO Box 1250, Bentley Delivery Centre,Bentley,WA,6983, TEL: +61 8 9422 9800, FAX: +61 8 9422 9801,www.chemcentre.wa.gov.au

Quality Assurance Report

Analyte	Method	Unit	LoR	Blank	Sample	Duplicate	RPD	Acceptable RPD	LCS	Matrix Spike	Acceptable Recovery
Total Dissolved Solids (Evap)	iSOL1WDGR	mg/L	10	<10	640	650	1%	10%	104%	-	75% - 125%
Vanadium - Filterable	iMET1WCMS	mg/L	0.0001	<0.0001	0.0004	0.0004	<1%	10%	101%	-	75% - 125%

Definitions:

RPD = Relative Percentage Difference
LCS = Laboratory Control Sample
LoR = Limit of Reporting

Quality Control Acceptance Criteria

Waters:

Lab Dups RPD <10% for results greater than 5 X LOR.
For results less than 5 x LOR no acceptance criteria for RPD.
Matrix spikes, LCS and Surrogate recoveries: Generally 75% - 125% for inorganics/metals, 60% - 140% for organics (+/- 50% surrogates) and 10% - 140% for labile SVOCs (including labile surrogates) unless other values are stated above.

Soils:

Soils: Lab Dups RPD<20% for results greater than 5 X LOR.
For results less than 5 x LOR no acceptance criteria for RPD.
Matrix spikes, LCS and Surrogate recoveries: Generally 75% - 125% for inorganics/metals, 60% - 140% for organics (+/- 50% surrogates) and 10% - 140% for labile SVOCs (including labile surrogates) unless other values are stated above.

Alex Martin
Chemist
SSD Inorganic Chemistry

29-Oct-2020

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Andre Stass
Client	TRONOX PIGMENT BUNBURY LTD.
Address	PO Box 11 Kalamunda WA 6926
Telephone	61 8 63635276
Facsimile	61 8 94547615
Email	andre@stass.com.au
Project	**Dalyellup January 2020**
Order Number	**4501108742**
Samples	2

LABORATORY DETAILS

Manager	Adam Atkinson
Laboratory	SGS Melbourne EH&S
Address	10/585 Blackburn Road Notting Hill Victoria 3168
Telephone	+61395743200
Facsimile	+61395743399
Email	Au.SampleReceipt.Melbourne@sgs.com
SGS Reference	**ME313470 R0**
Date Received	21/1/2020
Date Reported	1/4/2020

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(22793).

SIGNATORIES

S. Rutkowski

Stephen RUTKOWSKI
Senior Health Physicist

Radionuclides by Gamma Ray Spectrometry in liquids [ARS-SOP-AS301/AS406] Tested: 1/4/2020

PARAMETER	UOM	LOR	MB4 WATER - 17/1/2020 ME313470.001	YB WATER - 17/1/2020 ME313470.002
Radium-226	Bq/L	-	<0.043	<0.082
Radium-228	Bq/L	-	<0.170	**0.119 ±0.039**

METHOD	METHODOLOGY SUMMARY
ARS-SOP-AS301/AS406	Analysis of radionuclides in liquids by high resolution gamma ray spectrometry after radiochemical preparation. Radiochemical preparation involves total sample evaporation, sample co-precipitation using stable elemental carriers, or a combination thereof. In some cases, preparation may involve merely transferring liquid to a standard geometry container such as a Marinelli beaker.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Andre Stass
Client	TRONOX PIGMENT BUNBURY
Address	LOCKED BAG 245 BUNBURY WA 6230
Telephone	0428 945 476
Facsimile	61 8 94111275
Email	andre@stass.com.au
Project	**Dalyellup April 2020**
Order Number	**4501108742**
Samples	11

LABORATORY DETAILS

Manager	Adam Atkinson
Laboratory	SGS Melbourne EH&S
Address	10/585 Blackburn Road Notting Hill Victoria 3168
Telephone	+61395743200
Facsimile	+61395743399
Email	Au.SampleReceipt.Melbourne@sgs.com
SGS Reference	**ME314625 R0**
Date Received	17/4/2020
Date Reported	15/7/2020

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(22793).

SIGNATORIES

S. Rutkowski

Stephen RUTKOWSKI
Senior Health Physicist

Radionuclides by Gamma Ray Spectrometry in liquids [ARS-SOP-AS301/AS406] Tested: 13/7/2020

PARAMETER	UOM	LOR	DM 1A WATER - 15/4/2020 ME314625.001	DM 1C WATER - 15/4/2020 ME314625.002	MB 3 WATER - 15/4/2020 ME314625.003	DM 2A WATER - 15/4/2020 ME314625.004	DM 2C WATER - 15/4/2020 ME314625.005
Radium-226	Bq/L	-	<0.081	0.085 ±0.035	<0.043	0.054 ±0.019	<0.071
Radium-228	Bq/L	-	<0.17	<0.22	<0.13	<0.17	<0.13

PARAMETER	UOM	LOR	DM 4C WATER - 15/4/2020 ME314625.006	DM 7A WATER - 15/4/2020 ME314625.007	DM 7C WATER - 15/4/2020 ME314625.008	DM 8A WATER - 15/4/2020 ME314625.009	DM 8C WATER - 15/4/2020 ME314625.010
Radium-226	Bq/L	-	0.047 ±0.025	<0.078	<0.051	<0.048	<0.067
Radium-228	Bq/L	-	<0.19	<0.19	<0.11	<0.16	<0.18

PARAMETER	UOM	LOR	YB WATER - 15/4/2020 ME314625.011
Radium-226	Bq/L	-	<0.069
Radium-228	Bq/L	-	<0.11

METHOD	METHODOLOGY SUMMARY
ARS-SOP-AS301/AS406	Analysis of radionuclides in liquids by high resolution gamma ray spectrometry after radiochemical preparation. Radiochemical preparation involves total sample evaporation, sample co-precipitation using stable elemental carriers, or a combination thereof. In some cases, preparation may involve merely transferring liquid to a standard geometry container such as a Marinelli beaker.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

Stass Environmental
PO Box 11
Kalamunda, WA 6926
Ph (08) 63635276
Mob 0428 945476

CHAIN OF CUSTODY & ANALYSIS REQUEST

LAB ~~SGC~~ SGS
ADDRESS Perth Airport
LAB CONTACT Stephen Rutkowski
PHONE 0414 597 502

PROJECT # Tronox Dalyellup
PROJECT NAME Dallyellup July 2020
COLLECTORS NAME Andre Stass
LAB JOB #

PRELIM. RESULTS BY: ☐ VERBAL ☐ FAX ☑ EMAIL
andre@stass.com.au
FINAL REPORT BY:
LAB QUOTE REF:

SAMPLE ID	DEPTH (metres)	LAB #	MATRIX: WATER	SOIL	SWAB	SLUDGE	PRESERVATION METHOD: ICE	ACIDIFIED	OTHER	NONE	SAMPLING DATE	No. OF CONTAINERS	PHENOL SP.	ANALYSIS REQUIRED & METHOD CODE: TPH	BTEX (PURGE & TRAP)	HCO3	Ra 226 and Ra 228	NO 3 as N	Na, Ca, K, Mg	SO4, NO3, NH4, Cl scan	As, Cd, Cr, Cu, Mn, Ni, Pb, Zn, Hg	B, Cr(vi), Cr (total), Co, Se, V, Mo	pH	Conductivity (mS/m)	TDS (mg/l)	REMARKS
DISCRETE SAMPLE REQUEST:																										
YB			*				*				16-Jul-20						*									

email results to
andre@stass.com.au
Chris. Roberts @tronox.com
Purchase Order from Tronox

SGS Melbourne job, for :
Stephen Rutkowski
tel 0414 597 502

SGS Perth Environmental
PE144623 COC
Received: 16 – Jul – 2020

Relinquished by:	Date	Time	Received by:	Date	Time
Andre Stass			Lucy.K	16/7	1:50
Relinquished by:	Date	Time	Received by:	Date	Time

Custody Seals Intact? Yes / No
Samples Received Chilled? Yes / No

Additional Comments:
Queries to Andre at 08 6363 5276

SGS	REGISTRATION DETAILS Bottle Map	Doc. No.	PF-AU-ENVLTS-PAP-QU101	Page	1 of 1
		Rev. No.	6.0		
		Date	19/11/2019		

Sample Numbers:	1L Plastic Green	500mL Plastic Green	250mL Plastic Green	125mL Plastic Green	125mL UF/F Plastic Red	1L Amber Green	500mL Amber Green	100mL Amber Green	40mL Glass Vial VOC	40mL Glass Vial HAA	250mL Plastic Purple	500mL Plastic Blue	500mL Amber Orange	250mL Plastic Orange	125mL Plastic Brown	1L Plastic Yellow	250mL Glass Jar	125mL Glass Jar	Ziplock Bag/ Other
1		1																	

Job Number: PE 144623

# of Eskies:

IB / ICE / None

Temp (°C): ambient

Tray Numbers: NM

Registration comments:

Action Taken:

Is this a Boomerang Esky?	Y or N	Boomerang Due Date:			Pre-registered By:	Unpacked By:

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	SGS Environmental Perth
Client	SGS EHS PERTH
Address	28 Reid Road Perth Airport WA 6105
Telephone	+61 (0)8 9373 3500
Facsimile	+61 (0)8 9373 3556
Email	au.environmental.subcon@sgs.com
Project	**Radium Analysis**
Order Number	**PE144623**
Samples	1

LABORATORY DETAILS

Manager	Adam Atkinson
Laboratory	SGS Melbourne EH&S
Address	10/585 Blackburn Road Notting Hill Victoria 3168
Telephone	+61395743200
Facsimile	+61395743399
Email	Au.SampleReceipt.Melbourne@sgs.com
SGS Reference	**ME315745 R0**
Date Received	17/7/2020
Date Reported	22/9/2020

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(22793).

SIGNATORIES

Stephen RUTKOWSKI
Senior Health Physicist

Radionuclides by Gamma Ray Spectrometry in liquids [ARS-SOP-AS301/AS406] Tested: 18/9/2020

PARAMETER	UOM	LOR	PE144623.001 YB WATER - 16/7/2020 ME315745.001
Radium-226	Bq/L	-	<0.064
Radium-228	Bq/L	-	**0.083 ±0.035**

METHOD	METHODOLOGY SUMMARY
ARS-SOP-AS301/AS406	Analysis of radionuclides in liquids by high resolution gamma ray spectrometry after radiochemical preparation . Radiochemical preparation involves total sample evaporation, sample co-precipitation using stable elemental carriers, or a combination thereof. In some cases, preparation may involve merely transferring liquid to a standard geometry container such as a Marinelli beaker.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

Stass Environmental
PO Box 11
Kalamunda, WA 6926
Ph (08) 63635276
Fx (08) 94547615

CHAIN OF CUSTODY & ANALYSIS REQUEST

LAB: SCG WRS
ADDRESS: Welshpool
LAB CONTACT:
PHONE: 9475 0099

PROJECT #: TRONOX Dalyellup
PROJECT NAME: Dallyellup October 2020
COLLECTORS NAME: Andre Stass
LAB JOB #:

PRELIM. RESULTS BY: ☐ VERBAL ☐ FAX ☑ EMAIL
andre@stass.com.au
FINAL REPORT BY:
LAB QUOTE REF:

SAMPLE ID	DEPTH (metres)	LAB #	MATRIX: WATER	SOIL	SWAB	SLUDGE	PRESERVATION METHOD: ICE	ACIDIFIED	OTHER	NONE	SAMPLING DATE	No. OF CONTAINERS	PHENOL SP.	TPH	BTEX (PURGE & TRAP)	HCO3	Ra 226 and Ra 228	NO 3 as N	Na, Ca, K, Mg	SO4, NO3, NH4, Cl scan	As, Cd, Cr, Cu, Mn, Ni, Pb, Zn, Hg	B, Cr(vi), Cr (total), Co, Se, V, Mo	pH	Conductivity (mS/m)	TDS (mg/l)	REMARKS
DISCRETE SAMPLE REQUEST:																										
DM 1A		1	*				*				14-Oct-20						*									email results to
DM 1C		2	*				*				14-Oct-20						*									andre@stass.com.au
MB 3		3	*				*				14-Oct-20						*									Chris.Roberts@tronox.com
DM 2A		4	*				*				14-Oct-20						*									craig.mcmanus@tronox.com
DM 2C		5	*				*				14-Oct-20						*									Purchase Order from Tronox Pty Ltd
DM 8CD		6	*				*				14-Oct-20						*									
DM 7A		7	*				*				14-Oct-20						*									SGS Melbourne job, for :
DM 7C		8	*				*				14-Oct-20						*									Stephen Rutkowski
DM 8A		9	*				*				14-Oct-20						*									tel 0414 597 502
DM 8C		10	*				*				14-Oct-20						*									
YB		11	*				*				14-Oct-20						*									
DM 9A		12	*				*				14-Oct-20						*									
DM 9C		13	*				*				14-Oct-20						*									

SGS Melbourne EHS
ME316936 COC
Received: 15 – Oct – 2020

Relinquished by:	Date	Time	Received by:	Date	Time	
Andre Stass			A. KICKETT	14/10	1:25	Custody Seals Intact? Yes / No
Relinquished by:	Date	Time	Received by:	Date	Time	Samples Received Chilled? Yes / No

Additional Comments:

Queries to Andre at 08 6363 5276

SGS

REGISTRATION DETAILS
Bottle Map

Doc. No.	PF-AU-ENVLTS-PAP-QU101
Rev. No.	6.0
Date	19/11/2019

Sample Numbers:	1L Plastic Green	500mL Plastic Green	250mL Plastic Green	125mL Plastic Green	125mL UF/F Plastic Red	1L Amber Green	500mL Amber Green	100mL Amber Green	40mL Glass Vial VOC	40mL Glass Vial HAA	250mL Plastic Purple	500mL Plastic Blue	500mL Amber Orange	250mL Plastic Orange	125mL Plastic Brown	1L Plastic Yellow	250mL Glass Jar	125mL Glass Jar	Ziplock Bag/ Other
13		1																	

Job Number: PE 146922

# of Eskies:

IB / ICE / None

Temp (°C):

Tray Numbers:

Registration comments:

Action Taken:

Is this a Boomerang Esky?	Y or N	Boomerang Due Date:			Pre-registered By:	Unpacked By:

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Andre Stass
Client	TRONOX PIGMENT BUNBURY
Address	LOCKED BAG 245 BUNBURY WA 6230
Telephone	0428 945 476
Facsimile	61 8 94111275
Email	andre@stass.com.au
Project	**Dallyellup October 2020**
Order Number	**4501139137**
Samples	13

LABORATORY DETAILS

Manager	Adam Atkinson
Laboratory	SGS Melbourne EH&S
Address	10/585 Blackburn Road Notting Hill Victoria 3168
Telephone	+61395743200
Facsimile	+61395743399
Email	Au.SampleReceipt.Melbourne@sgs.com
SGS Reference	**ME316936 R0**
Date Received	15/10/2020
Date Reported	7/1/2021

COMMENTS

Accredited for compliance with ISO/IEC 17025 - Testing. NATA accredited laboratory 2562(22793).

SIGNATORIES

S. Rutkowski

Stephen RUTKOWSKI
Senior Health Physicist

Radionuclides by Gamma Ray Spectrometry in liquids [ARS-SOP-AS301/AS406] Tested: 23/12/2020

PARAMETER	UOM	LOR	DM 1A WATER - 14/10/2020 ME316936.001	DM 1C WATER - 14/10/2020 ME316936.002	MB 3 WATER - 14/10/2020 ME316936.003	DM 2A WATER - 14/10/2020 ME316936.004	DM 2C WATER - 14/10/2020 ME316936.005
Radium-226	Bq/L	-	<0.057	<0.062	<0.055	<0.079	<0.056
Radium-228	Bq/L	-	<0.160	<0.093	<0.200	<0.160	<0.160

PARAMETER	UOM	LOR	DM 8CD WATER - 14/10/2020 ME316936.006	DM 7A WATER - 14/10/2020 ME316936.007	DM 7C WATER - 14/10/2020 ME316936.008	DM 8A WATER - 14/10/2020 ME316936.009	DM 8C WATER - 14/10/2020 ME316936.010
Radium-226	Bq/L	-	<0.069	<0.041	<0.047	0.026 ±0.015	<0.067
Radium-228	Bq/L	-	<0.190	<0.140	<0.120	<0.150	0.097 ±0.037

PARAMETER	UOM	LOR	YB WATER - 14/10/2020 ME316936.011	DM 9A WATER - 14/10/2020 ME316936.012	DM 9C WATER - 14/10/2020 ME316936.013
Radium-226	Bq/L	-	0.064 ±0.017	0.193 ±0.026	<0.061
Radium-228	Bq/L	-	<0.150	0.174 ±0.044	0.068 ±0.034

METHOD	METHODOLOGY SUMMARY
ARS-SOP-AS301/AS406	Analysis of radionuclides in liquids by high resolution gamma ray spectrometry after radiochemical preparation. Radiochemical preparation involves total sample evaporation, sample co-precipitation using stable elemental carriers, or a combination thereof. In some cases, preparation may involve merely transferring liquid to a standard geometry container such as a Marinelli beaker.

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
**	Indicative data, theoretical holding time exceeded.	NVL	Not validated.	LOR	Limit of Reporting.
***	Indicates that both * and ** apply.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR	Sample listed, but not received.		

Unless it is reported that sampling has been performed by SGS, the samples have been analysed as received.
Solid samples expressed on a dry weight basis.

Where "Total" analyte groups are reported (for example, Total PAHs, Total OC Pesticides) the total will be calculated as the sum of the individual analytes, with those analytes that are reported as <LOR being assumed to be zero. The summed (Total) limit of reporting is calculated by summing the individual analyte LORs and dividing by two. For example, where 16 individual analytes are being summed and each has an LOR of 0.1 mg/kg, the "Totals" LOR will be 1.6 / 2 (0.8 mg/kg). Where only 2 analytes are being summed, the " Total" LOR will be the sum of those two LORs.

Some totals may not appear to add up because the total is rounded after adding up the raw values.

If reported, measurement uncertainty follow the ± sign after the analytical result and is expressed as the expanded uncertainty calculated using a coverage factor of 2, providing a level of confidence of approximately 95%, unless stated otherwise in the comments section of this report.

Results reported for samples tested under test methods with codes starting with ARS-SOP, radionuclide or gross radioactivity concentrations are expressed in becquerel (Bq) per unit of mass or volume or per wipe as stated on the report. Becquerel is the SI unit for activity and equals one nuclear transformation per second.
Note that in terms of units of radioactivity:

a. 1 Bq is equivalent to 27 pCi
b. 37 MBq is equivalent to 1 mCi

For results reported for samples tested under test methods with codes starting with ARS-SOP, less than (<) values indicate the detection limit for each radionuclide or parameter for the measurement system used. The respective detection limits have been calculated in accordance with ISO 11929.

The QC and MU criteria are subject to internal review according to the SGS QAQC plan and may be provided on request or alternatively can be found here: www.sgs.com.au/en-gb/environment-health-and-safety.

REPORT OF ANALYSIS

Report No. RN1271128

Client	: CHEMCENTRE CORNER MANNING ROAD AND SOUTH ENTRANCE OF CURTIN UNIVERSITY	**Job No.**	: CHEM06/200417
		Quote No.	: QT-02027
		Order No.	: 19S4461
		Date Received	: 17-APR-2020
Attention	:	**Sampled By**	: CLIENT
Project Name	:		
Your Client Services Manager	: Tim Reddan	**Phone**	: 03 9644 4854

Lab Reg No.	Sample Ref	Sample Description
N20/008729	19S4461/001	WATER 15/04/2020
N20/008730	19S4461/002	WATER 15/04/2020
N20/008731	19S4461/003	WATER 15/04/2020
N20/008732	19S4461/004	WATER 15/04/2020

Lab Reg No.	Units	N20/008729	N20/008730	N20/008731	N20/008732	Method
Date Sampled		15-APR-2020	15-APR-2020	15-APR-2020	15-APR-2020	
Sample Reference		19S4461/001	19S4461/002	19S4461/003	19S4461/004	
Miscellaneous						
Chromium - Hexavalent	mg/L	<0.001	0.002	0.209	<0.001	NW_D2
Dates						
Date extracted		21-APR-2020	21-APR-2020	21-APR-2020	21-APR-2020	
Date analysed		21-APR-2020	21-APR-2020	21-APR-2020	21-APR-2020	

Anupam Goswami, Analyst
Inorganics - NSW
Accreditation No. 198

24-APR-2020

REPORT OF ANALYSIS

Report No. RN1271128

Client	: CHEMCENTRE CORNER MANNING ROAD AND SOUTH ENTRANCE OF CURTIN UNIVERSITY	**Job No.**	: CHEM06/200417
		Quote No.	: QT-02027
		Order No.	: 19S4461
		Date Received	: 17-APR-2020
Attention	:	**Sampled By**	: CLIENT
Project Name	:		
Your Client Services Manager	: Tim Reddan	**Phone**	: 03 9644 4854

Lab Reg No.	Sample Ref	Sample Description
N20/008733	19S4461/005	WATER 15/04/2020
N20/008734	19S4461/006	WATER 15/04/2020
N20/008735	19S4461/007	WATER 15/04/2020
N20/008736	19S4461/008	WATER 15/04/2020

Lab Reg No.	Units	N20/008733	N20/008734	N20/008735	N20/008736	Method
Date Sampled		**15-APR-2020**	**15-APR-2020**	**15-APR-2020**	**15-APR-2020**	
Sample Reference		**19S4461/005**	**19S4461/006**	**19S4461/007**	**19S4461/008**	
Miscellaneous						
Chromium - Hexavalent	mg/L	<0.001	0.002	<0.001	<0.001	NW_D2
Dates						
Date extracted		21-APR-2020	21-APR-2020	21-APR-2020	21-APR-2020	
Date analysed		21-APR-2020	21-APR-2020	21-APR-2020	21-APR-2020	

Anupam Goswami, Analyst
Inorganics - NSW
Accreditation No. 198

24-APR-2020

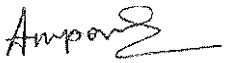
REPORT OF ANALYSIS

Report No. RN1271128

Client	: CHEMCENTRE CORNER MANNING ROAD AND SOUTH ENTRANCE OF CURTIN UNIVERSITY	**Job No.**	: CHEM06/200417
		Quote No.	: QT-02027
		Order No.	: 19S4461
		Date Received	: 17-APR-2020
Attention	:	**Sampled By**	: CLIENT
Project Name	:		
Your Client Services Manager	: Tim Reddan	**Phone**	: 03 9644 4854

Lab Reg No.	Sample Ref	Sample Description
N20/008737	19S4461/009	WATER 15/04/2020
N20/008738	19S4461/010	WATER 15/04/2020
N20/008739	19S4461/011	WATER 15/04/2020
N20/008740	19S4461/012	WATER 15/04/2020

Lab Reg No.	Units	N20/008737	N20/008738	N20/008739	N20/008740	Method
Date Sampled		15-APR-2020	15-APR-2020	15-APR-2020	15-APR-2020	
Sample Reference		19S4461/009	19S4461/010	19S4461/011	19S4461/012	
Miscellaneous						
Chromium - Hexavalent	mg/L	<0.001	<0.001	0.001	<0.001	NW_D2
Dates						
Date extracted		21-APR-2020	21-APR-2020	21-APR-2020	21-APR-2020	
Date analysed		21-APR-2020	21-APR-2020	21-APR-2020	21-APR-2020	



Anupam Goswami, Analyst
Inorganics - NSW
Accreditation No. 198

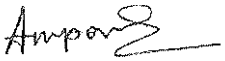
24-APR-2020

REPORT OF ANALYSIS

Client	: CHEMCENTRE CORNER MANNING ROAD AND SOUTH ENTRANCE OF CURTIN UNIVERSITY	**Job No.**	: CHEM06/200417
		Quote No.	: QT-02027
		Order No.	: 19S4461
		Date Received	: 17-APR-2020
Attention	:	**Sampled By**	: CLIENT
Project Name	:		
Your Client Services Manager	: Tim Reddan	**Phone**	: 03 9644 4854

Lab Reg No.	Sample Ref	Sample Description
N20/008741	19S4461/013	WATER 15/04/2020
N20/008742	19S4461/014	WATER 15/04/2020

Lab Reg No.	Units	N20/008741	N20/008742			Method
Date Sampled		15-APR-2020	15-APR-2020			
Sample Reference		19S4461/013	19S4461/014			
Miscellaneous						
Chromium - Hexavalent	mg/L	<0.001	<0.001			NW_D2
Dates						
Date extracted		21-APR-2020	21-APR-2020			
Date analysed		21-APR-2020	21-APR-2020			



Anupam Goswami, Analyst
Inorganics - NSW
Accreditation No. 198

24-APR-2020

NATA
ACCREDITED FOR TECHNICAL COMPETENCE

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1271126*

Measurement Uncertainty is available upon request.

REPORT OF ANALYSIS

Chemical Accreditation 198: 105 Delhi Road, North Ryde, NSW, 2113

REPORT OF ANALYSIS

Report No. RN1292448

Client	: CHEMCENTRE CORNER MANNING ROAD AND SOUTH ENTRANCE OF CURTIN UNIVERSITY	**Job No.**	: CHEM06/201016
		Quote No.	: QT-02027
		Order No.	: 20S1618
		Date Received	: 16-OCT-2020
Attention	:	**Sampled By**	: CLIENT
Project Name	:		
Your Client Services Manager	: Tim Reddan	**Phone**	: 03 9644 4854

Lab Reg No.	Sample Ref	Sample Description
N20/024391	20S1618/001	WATER 14/10/2020
N20/024392	20S1618/002	WATER 14/10/2020
N20/024393	20S1618/003	WATER 14/10/2020
N20/024394	20S1618/004	WATER 14/10/2020

Lab Reg No.	Units	N20/024391	N20/024392	N20/024393	N20/024394	Method
Date Sampled		14-OCT-2020	14-OCT-2020	14-OCT-2020	14-OCT-2020	
Sample Reference		20S1618/001	20S1618/002	20S1618/003	20S1618/004	
Miscellaneous						
Chromium - Hexavalent	mg/L	<0.001	<0.001	0.30	0.36	NW_D2
Dates						
Date extracted		21-OCT-2020	21-OCT-2020	21-OCT-2020	21-OCT-2020	
Date analysed		22-OCT-2020	22-OCT-2020	22-OCT-2020	22-OCT-2020	

Wei Huang, Analyst
Inorganics - NSW
Accreditation No. 198

29-OCT-2020

REPORT OF ANALYSIS

Report No. RN1292448

Client	: CHEMCENTRE CORNER MANNING ROAD AND SOUTH ENTRANCE OF CURTIN UNIVERSITY	**Job No.**	: CHEM06/201016
		Quote No.	: QT-02027
		Order No.	: 20S1618
		Date Received	: 16-OCT-2020
Attention	:	**Sampled By**	: CLIENT
Project Name	:		
Your Client Services Manager	: Tim Reddan	**Phone**	: 03 9644 4854

Lab Reg No.	Sample Ref	Sample Description
N20/024395	20S1618/005	WATER 14/10/2020
N20/024396	20S1618/006	WATER 14/10/2020
N20/024397	20S1618/007	WATER 14/10/2020
N20/024398	20S1618/008	WATER 14/10/2020

Lab Reg No.	Units	N20/024395	N20/024396	N20/024397	N20/024398	Method
Date Sampled		14-OCT-2020	14-OCT-2020	14-OCT-2020	14-OCT-2020	
Sample Reference		20S1618/005	20S1618/006	20S1618/007	20S1618/008	
Miscellaneous						
Chromium - Hexavalent	mg/L	<0.001	<0.001	<0.001	<0.001	NW_D2
Dates						
Date extracted		21-OCT-2020	21-OCT-2020	21-OCT-2020	21-OCT-2020	
Date analysed		22-OCT-2020	22-OCT-2020	22-OCT-2020	22-OCT-2020	

Wei Huang, Analyst
Inorganics - NSW
Accreditation No. 198

29-OCT-2020

REPORT OF ANALYSIS

Client	: CHEMCENTRE CORNER MANNING ROAD AND SOUTH ENTRANCE OF CURTIN UNIVERSITY	**Job No.**	: CHEM06/201016
		Quote No.	: QT-02027
		Order No.	: 20S1618
		Date Received	: 16-OCT-2020
Attention	:	**Sampled By**	: CLIENT
Project Name	:		
Your Client Services Manager	: Tim Reddan	**Phone**	: 03 9644 4854

Lab Reg No.	Sample Ref	Sample Description
N20/024399	20S1618/009	WATER 14/10/2020
N20/024400	20S1618/010	WATER 14/10/2020
N20/024401	20S1618/011	WATER 14/10/2020
N20/024402	20S1618/012	WATER 14/10/2020

Lab Reg No.	Units	N20/024399	N20/024400	N20/024401	N20/024402	Method
Date Sampled		14-OCT-2020	14-OCT-2020	14-OCT-2020	14-OCT-2020	
Sample Reference		20S1618/009	20S1618/010	20S1618/011	20S1618/012	
Miscellaneous						
Chromium - Hexavalent	mg/L	<0.001	<0.001	<0.001	0.23	NW_D2
Dates						
Date extracted		21-OCT-2020	21-OCT-2020	21-OCT-2020	21-OCT-2020	
Date analysed		22-OCT-2020	22-OCT-2020	22-OCT-2020	22-OCT-2020	

Wei Huang, Analyst
Inorganics - NSW
Accreditation No. 198

29-OCT-2020

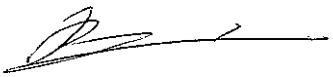
REPORT OF ANALYSIS

Report No. RN1292448

Client	: CHEMCENTRE CORNER MANNING ROAD AND SOUTH ENTRANCE OF CURTIN UNIVERSITY	**Job No.**	: CHEM06/201016
		Quote No.	: QT-02027
		Order No.	: 20S1618
		Date Received	: 16-OCT-2020
Attention	:	**Sampled By**	: CLIENT
Project Name	:		
Your Client Services Manager	: Tim Reddan	**Phone**	: 03 9644 4854

Lab Reg No.	Sample Ref	Sample Description
N20/024403	20S1618/013	WATER 14/10/2020

Lab Reg No.		N20/024403				
Date Sampled		14-OCT-2020				
Sample Reference		20S1618/013				
	Units					Method
Miscellaneous						
Chromium - Hexavalent	mg/L	<0.001				NW_D2
Dates						
Date extracted		21-OCT-2020				
Date analysed		22-OCT-2020				



Wei Huang, Analyst
Inorganics - NSW
Accreditation No. 198

29-OCT-2020

ACCREDITED FOR TECHNICAL COMPETENCE

Accredited for compliance with ISO/IEC 17025 - Testing.
This report shall not be reproduced except in full.
Results relate only to the sample(s) as received and tested.

This Report supersedes reports: *RN1292410*

Measurement Uncertainty is available upon request.

REPORT OF ANALYSIS

Chemical Accreditation 198: 105 Delhi Road, North Ryde, NSW, 2113

Appendix I
Dioxin and Furans Data for 2020

May 28, 2014

Scherger Associates
3017 Rumsey Drive
Ann Arbor. MI 48105
USA
1-734-213-8150

Mr. Peter Allen
Environmental Superintendent
Millennium Inorganic Chemicals, A Cristal Company
Locked Bag 245
Bunbury WA 6230
AUSTRALIA

Dear Mr. Allen:

As requested, I have performed a peer review of the sampling and analysis procedures used for the annual dioxins and furans sampling and analysis, performed in April 2014, This annual sampling and analysis is required by the Dalyellup Closure Notice of 1 August 2013. The sampling procedures used are described in the written document - Sampling of Treated Solid Residue and Groundwater for Dioxin and Furan Determination (Cristal Procedure AP/M054-16 version 3). This sampling plan was previously reviewed and found to follow standard industry practice and good laboratory practice for the sampling and analysis of dioxins and furans in solid and liquid (water) samples. I have also reviewed the laboratory reports and quality assurance data summary provided by the laboratory. These laboratory reports indicate that approved analytical procedures were followed and the quality assurance results indicate that the data meet standard industry practice, good laboratory practice and typical requirements of the regulatory agencies. The National Measurement Institute, the laboratory for this work, represents that they are a NATA accredited laboratory (NATA #198) as required by the Closure Notice. Further, I have reviewed the results for the groundwater for the April 2014 samples. The groundwater samples have no measureable concentration of either dioxins or furans, except for a low level of OCDD in well YB. A brief report of my review of these data is attached. As stated in that report, the low level of OCDD is most likely a data anomaly, but results from this well should be tracked carefully in future annual sampling events to look for any changes or trends in the well water quality.

Based upon my review, it is my opinion that the procedures outlined in the sampling plan and used for sample collection, and the data reported by the laboratory meet the requirements as described in the Closure Notice.

Dale A. Scherger

Dale A. Scherger, P.E.
Principal and Owner
Scherger Associates

Dale Scherger

Digitally signed by Dale Scherger
DN: cn=Dale Scherger gn=Dale Scherger c=United States l=US o=Scherger Associates e=daleres@aol.com
Reason: I am the author of this document
Location:
Date: 2014-05-28 10:14-04:00

Scherger Associates
Ann Arbor, MI, USA

May 27, 2014

Peer Review of Sampling Procedures and Analytical Data for the April 2014 Sampling of Groundwater per Dalyellup Facility Closure Notice Requirements for Millennium Inorganic Chemicals, A Cristal Company

by
Dale A. Scherger, P.E.

Background

The Dalyellup Facility is no longer receiving residues from Millennium Inorganic Chemical (MIC), a Cristal Company. The Closure Notice for the Dalyellup Facility, dated 1 August 2013 requires that MIC monitor dioxins and furans in the groundwater on a annual basis. The Closure Notice Item 1.1.2 requires that representative samples be collected and analyzed, and requires that the samples be collected and analyzed by an organization with NATA accreditation.

This report and the accompanying cover letter present the results of the peer review for the collection and analysis of samples in April 2014, as requested by MIC.

In 2010 prior to the start of the sampling and analysis program, MIC developed a written sampling procedure titled: Sampling of Treated Solid Residue and Groundwater for Dioxin and Furan Determination (Cristal Procedure AP/M054-16). The sampling plan was reviewed to ensure that the procedures met standard industry practice and procedures. The plan details the methods to be used for sample collection, sample compositing and handling, storage, and shipment to the laboratory. In July 2011, the sampling and analysis plan was updated to improve the field logs that are used during sampling events and to clarify the instructions to the laboratory to ensure best detection limits are achieved for the samples. This updated plan, Cristal Procedure AP/M054-16 version 3, was reviewed and approved by this reviewer at that time. The procedures were found to meet the industry standard and typical regulatory agency requirements as established throughout the world.

Sample Procedures

The groundwater samples (YB, MB3, DM8A and DM8C) were collected on 9 April 2014 in accordance with the established procedures (MIC AP/M054-16 version 3). The wells were purged prior to the collection of samples. Sixty (60) litres of groundwater were removed from each of the three wells DM8A, DM8C, and MB3 during the purging cycle. Sixty five (65) liters were purged from well YB. The groundwater samples were collected and placed into clean glass bottles provided by the analytical laboratory. Two 1-liter bottles of each groundwater sample were collected so that the laboratory would have sufficient volume available for extraction and concentration to achieve the desired low detection limits. Samples were stored under ice and/or in a refrigerator prior to shipment to the laboratory.

The written procedures that were followed for sample collection, handling, storage and shipment ensured that the samples were collected and handled in accordance with industry standards and good laboratory practice and produced representative samples for analysis.

Scherger Associates
Ann Arbor, MI, USA

May 27, 2014

Laboratory Analysis

All analyses were performed and reported by the National Measurement Institute. The laboratory is a NATA accredited laboratory (NATA Accreditation Number 198), as required by the Closure Notice. The laboratory report provided dioxin and furan results for the target individual congeners, total concentration for each chlorination level, and also provided TEQ results using the World Health Organization Toxicity Equivalent Factors (WHO_{95} TEF) and the calculated WHO_{95} TEQ concentrations.

The laboratory quality assurance data indicated the data were of sound quality with all of the labeled compound recoveries within the established lower and upper control limits (60 out of 60 labeled compound recoveries were within target limits). The method blank associated with the water samples was reported as less than values (< LOD) for all dioxin and furan congeners, except for trace levels of octachlorodibenzofuran (OCDF), octachlorodibenzodioxin (OCDD), and 1,2,3,4,6,7,8 heptachlorodibenzodioxin (HpCDD). There were no data qualifiers on any of these sample results.

Review of the data report indicates that these data are sound and useable data for purposes of representing the concentrations of dioxins and furans in the groundwater.

Groundwater Results

Four (4) groundwater samples were collected on April 9, 2014 and sent to the laboratory for analysis. Samples were collected at locations YB, MB3, DM8A and DM8C. Samples were received by the laboratory cold and in good condition on April 14, 2014, as indicated by the chain of custody sheet.

There were no measureable dioxins or furans in the groundwater samples from wells MB3, DM8A, and DM8C. All reported values for all congeners were reported as less than the level of detection or limit of reporting (LOD or LOR) for these samples. One (1) liter samples sizes were used in the analysis to achieve detection limits for the various congeners ranging from < 0.4 pg/L to < 9 pg/L. Well YB showed all reported dioxin and furan isomers as less than the LOD/LOR also, except there was a reported value of 9.6 pg/L of OCDD. OCDD was also found in the method blank (2.2 pg/L). The reported value in well YB for OCDD is just slightly above the LOR of 7 pg/L for OCDD, using the laboratory convention of setting the LOR at 3X the concentration measured in the blank.

Well YB has been sampled six times over the past five years and has not shown the presence of any dioxin or furan congeners. It is suspected that this trace level of OCDD is a anomaly due either to external contamination or laboratory analysis variability. OCDD is the least toxic of the dioxin and furan isomers (TEF = 0.0003). A similar "positive" result for another congener 1,2,3,7,8 PeCDD occurred in August 2012 in Well DM8A (see discussion below). This congener has not been detected in the past two sampling events suggesting the low level measurement was an anomaly.

Given that a trace level of OCDD was detected in well YB, it is important to carefully track the results for the next two annual sampling periods to see if any detectable levels are found at this location. If future results indicate the current result is not an anomaly, then in this reviewer's opinion additional investigation at this well location will be warranted.

Table 1 shows the historical WHO_{95} TEQ data for Well YB for the period 2010 through 2014. The laboratory reports the lower, middle, and upper bound of the dioxins and furans data on a TEQ basis. These boundaries are reported to present the statistically significant range for the data. Variability can be expected at these low levels and the TEQ boundaries help to show the potential range within a given sample. Table 1 also shows the actual concentration of OCDD (not TEQ based) reported in the 2010 to 2014 well YB samples.

As can be seen, the most recent 2014 data are well within the historical TEQ range for the past 5 years of data. These historical data should be compared to future dioxin and furan measurements in well YB in order to track any changes in the well.

Table 1. Well YB Historical TEQ Results for Dioxins and Furans and Concentration of OCDD

		WHO_{95} TEQ			Reported Concentration
Well YB	Month Sampled	Lower Bound pg TEQ/kg	Middle Bound pg TEQ/kg	Upper Bound pg TEQ/kg	OCDD pg/L
	Apr-14	0.00	1.50	3.10	9.60
	Feb-13	0.00	1.95	3.90	<1.69
	Sep-12	0.00	2.13	4.26	<7.34
	Feb-12	0.00	2.72	5.44	<4.37
	Aug-11	0.00	3.00	6.00	<7.20
	Feb-11	0.00	3.94	7.89	<9.29
	Aug-10	0.00	3.08	6.16	<9.29

Well DM8A Tracking Data

During the sampling event in August 2012, the groundwater sample from DM8A showed a trace level of one congener 1,2,3,7,8 pentachlorodibenzo-p-dioxin (PeCDD) at 1.32 pg/L. This was the first time that any detectable dioxins or furans had been reported in any groundwater sample. The February 2013 and April 2014 sampling events have shown all congeners in well DM8A are below the LOR (all "<" values). Therefore, it does appear that the result of the previous sampling in August 2012 was an anomaly. Results will continue to be carefully reviewed to ensure that the August 2012 result for well DM8A was an anomaly.

Table 2. Well DM8A Historical TEQ Results for Dioxins and Furans and Concentration of PeCDD

		WHO_{95} TEQ			Reported Concentration
Well DM8A	Month Sampled	Lower Bound pg TEQ/kg	Middle Bound pg TEQ/kg	Upper Bound pg TEQ/kg	1,2,3,7,8 PeCDD pg/L
	Apr-14	0.00	1.6	3.1	<0.7
	Feb-13	0.00	2.57	5.13	<1.46
	Sep-12	1.32	3.00	4.68	1.32
	Feb-12	0.00	2.52	5.03	<1.88
	Aug-11	0.00	2.16	4.33	<1.44
	Feb-11	0.00	3.15	6.29	<1.59
	Aug-10	0.00	1.86	3.71	<1.28

Australian Government
National Measurement Institute

CERTIFICATE OF ANALYSIS # DAU20_123

Client	ChemCentre (WA) PO Box 1250 Bentley WA 6983	**Job No.**	CHEM06/200417
		Sampled by	Client
		Date Sampled	15-Apr-20
		Date Received	17-Apr-20
Contact	Dale Carter		

The results relate only to the sample(s) as received and tested.

Method AUTL_01 **Date Reported** 28-May-20

Details

The method is for determination of tetra- through octa-chlorinated dibenzo-p-dioxins (PCDDs) & dibenzofurans (PCDFs) in aqueous samples by high resolution gas chromatography / high resolution mass spectrometry (HRGC/HRMS).
This method provides data on all toxic 2,3,7,8-PCDD (seven) and PCDF (ten) isomers. PCDD and PCDF totals for each homologue group (tetra to octa) are also reported.
The dioxin toxicity equivalent (WHO_{05}-TEQ_{DF}) in each sample is calculated using World Health Organization toxic equivalency factors (WHO_{05}-TEFs). All results are corrected for labelled surrogate recoveries.

After sampling, the liquid is spiked with a range of isotopically labelled surrogate standards and exhaustively extracted. Clean up is effected by partitioning with sulphuric acid then distilled water. Further purification is performed using column chromatography on acid and base modified silica gels, basic alumina and carbon dispersed on celite.

Immediately prior to injection, internal standards are added to each extract, and an aliquot of the extract is injected into the GC. The analytes are separated by the GC and detected by a high-resolution (>10,000) mass spectrometer.

Authorisation

Robert Crough
Chemist
Australian Ultra Trace Laboratory

Nino Piro
Senior Chemist
Australian Ultra Trace Laboratory

Accreditation

NATA Accreditation Number : 198

Accredited for compliance with ISO/IEC 17025 - Testing.

Measurement uncertainty is available upon request.

Sample Details : Job No. CHEM06/200417

Laboratory Reg. No.	Client Sample Ref.	Matrix	Description
N20/008736X	19S4461/008	Water	Water
N20/008739X	19S4461/011	Water	Water
N20/008740X	19S4461/012	Water	Water

Project Details

Project Name	*Not specified*
Project Number	*19S4461*

Key

Analytes

TCDD	Tetrachlorodibenzo-p-dioxin	TCDF	Tetrachlorodibenzofuran
PeCDD	Pentachlorodibenzo-p-dioxin	PeCDF	Pentachlorodibenzofuran
HxCDD	Hexachlorodibenzo-p-dioxin	HxCDF	Hexachlorodibenzofuran
HpCDD	Heptachlorodibenzo-p-dioxin	HpCDF	Heptachlorodibenzofuran
OCDD	Octachlorodibenzo-p-dioxin	OCDF	Octachlorodibenzofuran

Units & Abbreviations

pg/kg	picograms per kilogram
<	level less than limit of detection (LOD)
WHO_{05}-TEF†	World Health Organization toxic equivalency factor
WHO_{05}-TEQ_{DF}†	World Health Organization toxic equivalents (Dioxins & Furans)

† as defined by Van den Berg et al., *Toxicol. Sci.* ***93*** *(2), pp. 223–241* (2006)

TEQs are calculated by multiplying the quantified level for each individual dioxin and furan congener reported by the corresponding TEF value and summing the result:

$$WHO_{05}\text{-}TEQ_{DF} = \sum_{i=1}^{7}\left[PCDD_i \times TEF_i\right] + \sum_{j=1}^{10}\left[PCDF_j \times TEF_j\right]$$

i = PCDD congener index (1 - 7)
j = PCDF congener index (1 - 10)

Lower Bound TEQ	defines all congener values reported below the LOD as equal to zero.
Middle Bound TEQ	defines all congener values reported below the LOD as equal to half the LOD.
Upper Bound TEQ	defines all congener values reported below the LOD as equal to the LOD.

Surrogate Recovery	percentage recovery for $^{13}C_{12}$ labelled surrogate standard
⚐	Laboratory surrogate recovery outside normal acceptance criteria: Solid and liquid matrices **25 - 125%**

Results : Job No. CHEM06/200417

Laboratory Reg. No. N20/008736X **Date Extracted** 15-May-20

Client Sample Ref. 19S4461/008 **DB5 Analysis** 25-May-20
Matrix Water
Description Water

PCDD/F Congeners	Level pg/kg	WHO_{05}-TEF	WHO_{05}-TEQ contribution	Labelled Surrogate recovery	
2,3,7,8-TCDF	<0.3	0.1	0.015	38	
2,3,7,8-TCDD	<0.4	1	0.2	42	
1,2,3,7,8-PeCDF	<0.3	0.03	0.0045	44	
2,3,4,7,8-PeCDF	<0.3	0.3	0.045	47	
1,2,3,7,8-PeCDD	<0.3	1	0.15	52	
1,2,3,4,7,8-HxCDF	<0.5	0.1	0.025	54	
1,2,3,6,7,8-HxCDF	<0.5	0.1	0.025	50	
2,3,4,6,7,8-HxCDF	<0.5	0.1	0.025	53	
1,2,3,7,8,9-HxCDF	<0.5	0.1	0.025	62	
1,2,3,4,7,8-HxCDD	<0.3	0.1	0.015	55	
1,2,3,6,7,8-HxCDD	<0.3	0.1	0.015	55	
1,2,3,7,8,9-HxCDD	<0.3	0.1	0.015		
1,2,3,4,6,7,8-HpCDF	<0.2	0.01	0.001	47	
1,2,3,4,7,8,9-HpCDF	<0.2	0.01	0.001	46	
1,2,3,4,6,7,8-HpCDD	<1	0.01	0.005	54	
OCDF	<0.1	0.0003	0.000015		
OCDD	<1	0.0003	0.00015	48	

PCDD/F Homologue Groups	Level pg/kg
Total TCDF isomers	<2
Total TCDD isomers	<3
Total PeCDF isomers	<2
Total PeCDD isomers	<2
Total HxCDF isomers	<3
Total HxCDD isomers	<1
Total HpCDF isomers	<0.4
Total HpCDD isomers	<1

Summary Results		
Sum of PCDD and PCDF congeners		
Excluding LOD values	0	pg/kg
WHO_{05} -TEQ_{DF}		
Lower Bound [excluding LOD values]	**0**	pg/kg
Middle Bound [including half LOD values]	**0.57**	pg/kg
Upper Bound [including LOD values]	**1.1**	pg/kg

Results : Job No. CHEM06/200417

Laboratory Reg. No. N20/008739X **Date Extracted** 15-May-20

Client Sample Ref. 19S4461/011 **DB5 Analysis** 25-May-20
Matrix Water
Description Water

PCDD/F Congeners	Level pg/kg	WHO_{05}-TEF	WHO_{05}-TEQ contribution	Labelled Surrogate recovery	
2,3,7,8-TCDF	<0.4	0.1	0.02	71	
2,3,7,8-TCDD	<0.4	1	0.2	82	
1,2,3,7,8-PeCDF	<0.9	0.03	0.014	79	
2,3,4,7,8-PeCDF	<0.8	0.3	0.12	80	
1,2,3,7,8-PeCDD	<1	1	0.5	90	
1,2,3,4,7,8-HxCDF	<1	0.1	0.05	94	
1,2,3,6,7,8-HxCDF	<1	0.1	0.05	85	
2,3,4,6,7,8-HxCDF	<1	0.1	0.05	82	
1,2,3,7,8,9-HxCDF	<1	0.1	0.05	78	
1,2,3,4,7,8-HxCDD	<1	0.1	0.05	88	
1,2,3,6,7,8-HxCDD	<2	0.1	0.1	80	
1,2,3,7,8,9-HxCDD	<2	0.1	0.1		
1,2,3,4,6,7,8-HpCDF	<1	0.01	0.005	69	
1,2,3,4,7,8,9-HpCDF	<2	0.01	0.01	52	
1,2,3,4,6,7,8-HpCDD	<2	0.01	0.01	59	
OCDF	<6	0.0003	0.0009		
OCDD	<7	0.0003	0.0011	38	

PCDD/F Homologue Groups	Level pg/kg
Total TCDF isomers	<3
Total TCDD isomers	<3
Total PeCDF isomers	<6
Total PeCDD isomers	<6
Total HxCDF isomers	<6
Total HxCDD isomers	<6
Total HpCDF isomers	<3
Total HpCDD isomers	<2

Summary Results		
Sum of PCDD and PCDF congeners		
Excluding LOD values	0	pg/kg
WHO_{05} -TEQ_{DF}		
Lower Bound [excluding LOD values]	**0**	pg/kg
Middle Bound [including half LOD values]	**1.3**	pg/kg
Upper Bound [including LOD values]	**2.7**	pg/kg

Results : Job No. CHEM06/200417

Laboratory Reg. No. N20/008740X **Date Extracted** 15-May-20

Client Sample Ref. 19S4461/012 **DB5 Analysis** 25-May-20
Matrix Water
Description Water

PCDD/F Congeners	Level pg/kg	WHO_{05}-TEF	WHO_{05}-TEQ contribution	Labelled Surrogate recovery	
2,3,7,8-TCDF	<0.3	0.1	0.015	57	
2,3,7,8-TCDD	<0.4	1	0.2	66	
1,2,3,7,8-PeCDF	<0.3	0.03	0.0045	72	
2,3,4,7,8-PeCDF	<0.2	0.3	0.03	78	
1,2,3,7,8-PeCDD	<0.5	1	0.25	86	
1,2,3,4,7,8-HxCDF	<0.6	0.1	0.03	78	
1,2,3,6,7,8-HxCDF	<0.6	0.1	0.03	72	
2,3,4,6,7,8-HxCDF	<0.6	0.1	0.03	76	
1,2,3,7,8,9-HxCDF	<0.6	0.1	0.03	76	
1,2,3,4,7,8-HxCDD	<0.8	0.1	0.04	82	
1,2,3,6,7,8-HxCDD	<0.9	0.1	0.045	78	
1,2,3,7,8,9-HxCDD	<0.9	0.1	0.045		
1,2,3,4,6,7,8-HpCDF	<0.4	0.01	0.002	65	
1,2,3,4,7,8,9-HpCDF	<0.5	0.01	0.0025	66	
1,2,3,4,6,7,8-HpCDD	1.5	0.01	0.015	72	
OCDF	<1	0.0003	0.00015		
OCDD	24	0.0003	0.0071	59	

PCDD/F Homologue Groups	Level pg/kg
Total TCDF isomers	<2
Total TCDD isomers	<3
Total PeCDF isomers	<2
Total PeCDD isomers	<3
Total HxCDF isomers	<4
Total HxCDD isomers	<3
Total HpCDF isomers	<0.9
Total HpCDD isomers	4.6

Summary Results		
Sum of PCDD and PCDF congeners		
Excluding LOD values	29	pg/kg
WHO_{05} -TEQ_{DF}		
Lower Bound [excluding LOD values]	**0.022**	pg/kg
Middle Bound [including half LOD values]	**0.78**	pg/kg
Upper Bound [including LOD values]	**1.5**	pg/kg