# Hydrogeological and environmental controls on stygofauna distribution in northern Australia

By

**Anna Edgar**

*Thesis*
*Submitted to Flinders University*
*for the degree of*

**Master of Science (Groundwater Hydrology)**

College of Science and Engineering
24/05/2024

# TABLE OF CONTENTS

# ABSTRACT

The presence of stygofauna in aquifers is an important consideration in the approval of groundwater-affecting activities, including mining. Understanding hydrogeological and environmental factors that are conducive to supporting stygofauna communities is thus important to inform sampling campaigns. The study utilises commonly available hydrogeological parameters from large scale datasets to quantitatively assess bores for their suitability to support stygofauna across Northern Australia. The parameters assessed were chosen because of their association to the life and habitat requirements of stygofauna and because they could function as proxies for the key requirements of carbon (food), pore space, oxygen and water chemistry. The relationships between the presence or absence of stygofauna and hydrogeological parameters across four regions in northern Australia; Pilbara, Kimberley, Northern Territory and Queensland were assessed using univariate and multivariate statistical analyses. Shallower bores, shallower water depths and lower water temperatures all correlated with higher probability of stygofauna presence. A likely explanation is that these three parameters act as proxies for food availability near the surface where food inputs are higher. Larger flow rates in bores were correlated with stygofauna presence and assumed to act as a proxy for pore space availability. Increased dissolved oxygen and nitrate content, and lower manganese concentrations were correlated with stygofauna presence, with nitrate and manganese acting as proxies for oxygen availability. Evidence of correlations between salinity and pH with stygofauna presence were not found across multiple regions, probably due to a bias in bore location, with bores frequently positioned to provide access to freshwater. These results are based on the largest collation of stygofauna data across Australia. Study results inform the selection of bores for stygofauna sampling programs for research and environmental assessment.

# DECLARATION

I certify that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Signed...................................................

Date.......24/05/2024................................................

# ACKNOWLEDGEMENTS

I would like to thank my four fantastic supervisors: Dylan Irvine, Jenny Davis, Erica Garcia and Ilka Wallis. They have each provided insights into different parts of my study and without their guidance this study would not be the same.

I would like to thank my parents, who always offer great council, for proofreading this document and advising me on statistics.

I would also like to thank the Northern Territory Department for Environment, Parks and Water Security for their assistance with access to bore construction information.

# LIST OF FIGURES

# LIST OF TABLES

# 1. INTRODUCTION

Stygofauna provide important ecosystem services in subsurface environments, including the processing of organic matter (e.g., Kinsey, Cooney and Simon, 2007). Groundwater-affecting activities, including groundwater extraction (Korbel, Stephenson and Hose, 2019), urban development (Becher *et al.*, 2022), and mining activities (Karanovic *et al.*, 2013) are placing stress on stygofaunal communities. The aquifer conditions over which they can persist has been little studied and requires further investigation. Groundwater ecosystems that support stygofauna communities need to be considered in their hydrogeological context, with the major components essential to the functioning of groundwater ecosystems (a place to live, oxygen and food) assessed against a back drop of hydrogeological understanding (Humphreys, 2009).

In Australasia, the fact that karstic formations can sustain stygofauna has been known since the late 19th Century, with caves and highly karstic wells used as access points to research these animals (Halse et al., 2014). Prior to the 1990s, it was assumed that other geologies had constrained interstitial space that prevented them functioning as habitat for stygofauna (Halse et al., 2014; Hose et al., 2015). Pioneering work in the Pilbara in the 1990s and 2000s documented an extraordinary diversity of stygofauna in a range of different geologies and hydrogeological settings (Eberhard, Halse and Humphreys, 2005). Stygofauna have been documented in karst (e.g., Oberprieler et al., 2021), fractured rock (e.g., Eisendle-Flöckner and Hilberg, 2015) and alluvial aquifers/sediments (e.g., (Hancock and Boulton, 2008; Marmonier et al., 2018), and uncommonly occur in a range of other settings where there is sufficient hydraulic conductivity and suitable pore spaces (Halse et al., 2014; Hose et al., 2015). To understand the stygofauna ecosystem, biologists have collaborated with hydrogeologists to investigate subterranean systems, including the influence of geology, aquifer type, water flow, water chemistry and even bore construction (Humphreys, 2009; Maurice and Bloomfield, 2012; Halse et al., 2014; Eisendle-Flöckner and Hilberg, 2015).

While there are several definitions of stygofauna, this paper applies the same definition as Halse et al. (2014) who defines stygofauna as including stygobites (that spend their full life cycle in, and are adapted to, groundwater), stygophiles (either have a life stage in epigean habitats or some of their populations occur in surface water) and stygoxenes (animals occurring accidentally in groundwater). Stygofauna are one of two broad classifications of animals which form the subterranean fauna group, the other, troglofauna, live underground in air-filled voids rather than in water (Humphreys, 2008). Most stygofauna (across each of the sub-types highlighted above) have adapted to live below the land surface, including the loss of eyes and pigment, elongation of appendages and sensory structures, and a vermiform body shape (Halse et al., 2014). Stygofauna are comprised predominately of crustaceans, but also include worms, gastropods, water mites, insects and fishes.

Stygofauna are not able to exist in all groundwater bodies. Several factors are considered to be important in determining the presence of stygofauna in an aquifer, including; (1) the depth of the aquifer below ground level, (2) the distance of the aquifer from exchange points (e.g., rivers) or other groundwater recharge areas, (3) the concentration of dissolved oxygen and whether the water is oxic or hypoxic, (4) the availability of pore spaces of sufficient size, often determined by the aquifer geology, and (5) water quality, including salinity (Hahn, 2006; Hose et al., 2015).

Aquifer depth and distance from exchange points are important as groundwater food webs are generally controlled from the "bottom up" by organic matter supply (Boulton, 2014). The lack of light for photosynthesis means that most food sources are imported from the surface, with only the occasional chemoautotrophic bacteria able to create food (Hose et al., 2015). Both oxygen and organic matter form a biochemical gradient with depth in groundwater systems (Boulton, 2014). These gradients are driven by the downwelling of surface water recharge that transports dissolved oxygen and organic matter into the sediments where they are consumed by bacteria and stygofauna. As such, aquifers are often low oxygen environments and stygofauna have adapted accordingly with low metabolic and reproductive rates (Hose *et al.*, 2015). Stygofauna are rarely found in hypoxic groundwaters where dissolved oxygen is below 0.3 mg/L (Hose *et al.*, 2015).

Sediment structure and sufficient pore space are critical to provide sufficient space in the substrate for stygofauna (Hose et al., 2015). Both sufficient porosity for the animals to live and interact, and sufficient permeability to allow the transport of food and oxygen are required in the habitat zone. The most common parameter used to understand permeability and porosity in an aquifer is hydraulic conductivity. Generally, stygofauna are considered to be associated with geological units with high hydraulic conductivity (Hancock and Boulton, 2008; Hose *et al.*, 2015; Saccò *et al.*, 2019). Despite this widely held belief, few studies have been able to relate the presence of stygofauna with attributes of the aquifer matrix (Hose et al., 2015). In a study in Germany, Hahn and Fuchs (2009) demonstrated that stygofauna rarely occurred in areas with a hydraulic conductivity of less than $10^{-4}$ cm/sec. Geological units have hydraulic conductivities that span several orders of magnitude (Freeze and Cherry, 1979), and as such, it is likely geology alone cannot be used to determine whether there is sufficient hydraulic conductivity for stygofauna occurrence. The geologies that may have sufficient pore space for stygofauna include but are not limited to: (1) unconsolidated sedimentary formations including alluvium, colluvium and coastal deposits (Halse et al., 2014), (2) fractured rock settings with sufficient fracture size commonly in granitic, basalt, sandstone, banded iron formation, dolomite, or other rocks. (Halse et al., 2014; Hose et al., 2015), (3) karstic limestone or dolomite (Environmental Protection Authority, 2021), (4) coal seam aquifers (Hose et al., 2015), (5) chemically deposited calcretes and pisolites within tertiary drainage channels (Halse et al., 2014), and (6) channel iron deposits (Environmental Protection Authority, 2021).

Salinity is an important environmental parameter affecting stygofauna by acting as an osmotic stressor, with dissolved ions in saline water potentially toxic (Hose *et al.*, 2015). The tolerance of stygofauna to salinity is often dependent on the lineage of the stygofauna species. Stygofauna species with ancient freshwater lineages are generally less tolerant to saline conditions than those evolved from marine lineages (Humphreys, 2006). Stygofauna are commonly found in waters with salinity below 10,000 µS/cm, but have been recorded in hypersaline waters of up to 86,900 µS/cm (Hose *et al.*, 2015).

Limited studies have been completed in northern Australia, with the exception of the Pilbara region in Western Australia. These far-north regions have different climate and geological history to much of southern Australia (e.g., Johnson, 2010), and as such, stygofaunal communities may have adapted differently to these environments (e.g. Saccò *et al.*, 2020). Range and variability in climatic conditions determines patterns of recharge and discharge, which are strong drivers of spatial and temporal differences in groundwater regimes and subsurface resource supply (Tomlinson and Boulton, 2010). Paleogeographic history determines the taxa of stygofauna that have had the opportunity to colonise an area (e.g. Knott, 1993). Some stygofaunal lineages have been very persistent through geological time and support connections with supercontinents Pangea and Gondwana (Humphreys, 2006). Studying these lineages has helped understand the persistence of aquifers though major episodes of climate change, including regional aridity, ice ages, orogenic events, tectonic events, and major marine incursions (Humphreys, 2009).

In order to study stygofauna, access points are needed into the subterranean environment. Subterranean ecosystems can be accessed through caves or bores (Humphreys, 2006), however bores are generally the principle means of access (Korbel *et al.*, 2017). Bore construction can have significant influence on the presence of stygofauna in a bore (Hahn and Matzke, 2005). Most bores (and the industry standard) are constructed with a screened section across the aquifer of interest, and across the rest of the bore blank construction material is used (National Uniform Drillers Licensing Committee, 2020). This limits access into the bore for water or stygofauna to the screened section. Generally, the screened section is across the most transmissive part of the aquifer, which is also likely to be the most favourable to stygofauna because of higher fluxes of dissolved oxygen and organic matter (Hancock and Boulton, 2009).

Two recent studies in Northern Australia focused on the Cambrian Limestone Aquifer, that includes the Beetaloo Sub-basin, and involved the first survey of stygofauna in this region (Oberprieler *et al.*, 2021; Humphreys *et al.*, 2022). The studies found several new species, and estimated the likely number of taxa for the project area was 50-59 species, of which only 38 have currently been recorded. With 25 to 35 % of species yet to be discovered, a significant knowledge gap still exists in Northern Australia.

Several studies have aimed to improve understanding on key controls for stygofauna occurrence, these include: Halse *et al.* (2014) which studied stygofauna in the Pilbara regions of Western Australia found “few factors affecting stygofauna occurrence could be identified”, but there was a negative correlation between number of species and specimens and depth to groundwater. Geology and water chemistry were found to have limited influence on stygofauna (Halse *et al.*, 2014). Johns *et al.* (2015) examined distribution and composition of stygofauna with hydrogeology and water chemistry. Johns *et al.* (2015) used variance partitioning and found hydrogeological units explained a greater portion of variance than water chemistry (electrical conductivity, pH, dissolved oxygen and temperature) but much of the variance remained unexplained. Hahn (2006) found stygofauna data correlated with relative amounts of detritus, bacterial abundance and standard deviation of temperature, with very few and weak correlations found with physical-chemical variables. Korbel and Hose (2015) researched an alluvial aquifer and found stygofauna distribution was primarily influenced by habitat variables (predominately sediment structure), with water quality and seasonality having relatively little influence.

This study utilises publicly available stygofauna and bore data to identify water, bore and hydraulic parameters that affect the absence and presence of stygofauna in northern Australia. The study collates a mosaic of datasets, including groundwater and bore construction data from Western Australian, the Northern Territory and Queensland, and combines this with stygofauna data collated from individual project-scale surveys. It also considers the increased sampling of the Pilbara and Queensland regions and compares these data to less explored regions across Northern Australia to assess if similar conclusions relating to presence and absence apply in different regions. The aim of this study is to identify whether common groundwater parameters can be used to inform the likely presence or absence of stygofauna in bores in northern Australia.

# 2. STUDY AREA

## 2.1 Geology

This study focuses on the Northern Australian regions of the Northern Territory, Kimberley and Pilbara (Figure 2). The geology of Northern Australia is diverse and complex with the dominant tectonic feature being the North Australian Craton that covers the northern extents of Western Australia, Northern Territory and Queensland (Ahmad and Munson, 2013), see Figure 1. The North Australian Craton is one of three cratons that makes up much of the Australian continent, consisting of stable, geologically inactive portions of crystalline bedrock (Britannica, 2017; Kumwenda, Betts and Armit, 2023). The North Australian Craton is of Paleoproterozoic age and has localised Neoarchean inliers, as well as orogenic domains, which are overlain by widespread and locally thick sedimentary basins of various ages (Ahmad and Munson, 2013). Mesozoic and Cenozoic sediments cover large areas of the Northern Territory as a thin veneer.

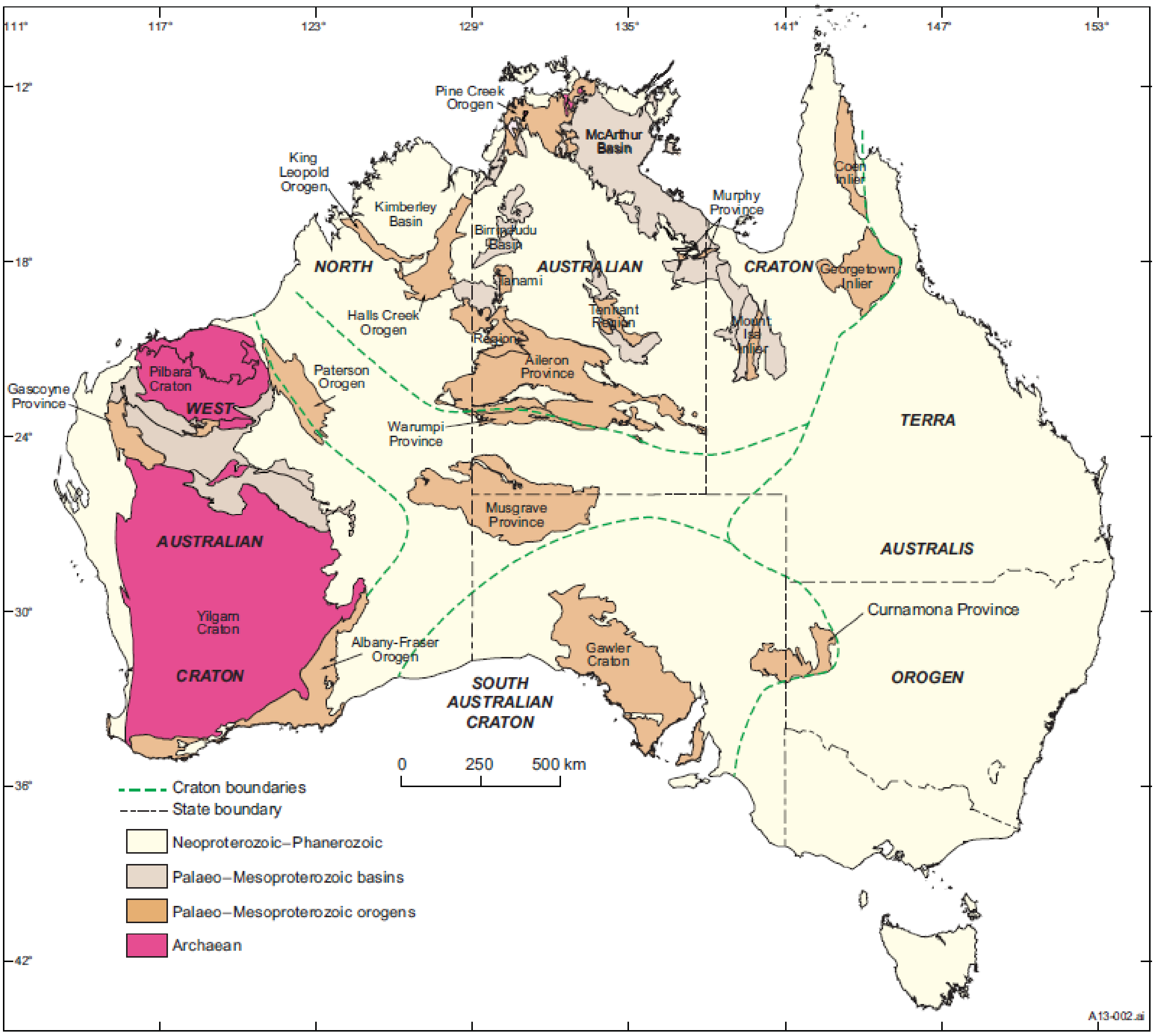


**Figure 1. Simplified tectonic map of Australia showing craton boundaries and major regions of Archean and Palaeo-Mesoproterozoic rocks. Map sourced from Ahmad and Munson (2013).**

The southern part of the Northern Territory is in the Central Australian Mobile Belts (see Figure 1), sometimes referred to as the Central Australian Terrains, or by the individual Paterson, Musgrave, Warumpi and Albany-Fraser orogens which separate the North Australian Craton from the South Australian Craton and the West Australian Craton (Ahmad and Munson, 2013). The Warumpi and Musgrave provinces, in the southern Northern Territory are of late Palaeoproterozoic to Mesoproterozoic age (Ahmad and Munson, 2013).

The Pilbara region of Western Australia is in the West Australian Craton, also referred to as the Pilbara Craton (Ahmad and Munson, 2013). The West Australian Craton is separated from the North Australian Craton by the Paterson Orogen. The West Australian Craton has an Archean aged bedrock, which includes some of the earliest known emergent landmass, around 3.5 billion years ago (Halse et al., 2014). The Archean basement is overlain by sedimentary strata, volcanic flows and laterised caps in the south (Ahmad and Munson, 2013).

Queensland includes the North Australian Craton in the north-west, see Figure 1, with most of the State within the Terra Australis Orogen. An orogen consists of orogenic lithosphere that is generally reactivated and reworked easily, unlike a craton which consists of cold and ridged cratonic lithosphere (Fonseca *et al.*, 2022). The Terra Australis Orogen stretches from the north-east coast of Australia to the Antarctic Peninsula, the southern tip of Africa and the western extent of South America (Cawood, 2011; Ahmad and Munson, 2013). The Terra Australis Orogen consists of Neoproterozoic rift and continental margin successions and accretionary Palaeozoic convergent plate margin assemblages (Ahmad and Munson, 2013).

## 2.2 Climate

Northern Australia covers a wide range of climatic zones from humid to arid. The humid zone, where rainfall averages are >600 mm/year, has hot, humid, wet summers with warm, drier winters and extends across Australia from north of Exmouth in the west, to north of Townsville in the east (Australian Government, 2023). Rainfall in the humid zone is primarily monsoonal or from local thunderstorms through the wet season (November to March), with little to no rain occurring in the dry season (Northern Territory Government, 2022). Cyclones can occur in the humid zone and can result in widespread heavy rains. Annual rainfall totals of >1,600 mm can occur on the northernmost coast and decrease progressively to <200 mm in the central desert (Tickell, 2008).

Semi-arid and arid zones, which occur where rainfall is less than 600 mm/year, are characterised by hot dry summers and mild winters (Northern Territory Government, 2022). While rainfall maxima usually occur in summer, the contrast between wet and dry seasons is not generally as significant as in the humid zone, and months of no rainfall or significant rainfall are possible in all seasons (Tickell, 2008). Semi-arid and arid zones may have significant diurnal temperature range, especially inland desert areas where overnight winter temperatures can drop to below 0 °C. Pan evaporation can range from >3,200 mm/year in the Simpson desert to between 3,200 to 2,400 mm/year in the humid zone, and mostly exceeds rainfall except during the wet season in the tropics (Tickell, 2008).

## 2.3 Hydrogeology

### 2.2.1 Primary hydrogeology

The Northern Territory and northern Western Australian groundwater regions are made up of a number of fractured rock provinces and sedimentary basins. These includes the Daly, Wiso and Georgina sedimentary basins in the Northern Territory, which are described as fractured or fissured, extensive, highly productive aquifers (Jacobson and Lau, 1987; Figure 2). The far-southeast of the Northern Territory forms the north-western extent of the Great Artesian Basin, that is porous, extensive, and highly productive (see Figure 2). In the northern region of the Northern Territory, the McArthur Basin is described as a fractured or fissured extensive aquifer of low to moderate productivity (Brodie *et al.*, 2019, Figure 2, Figure 1). In Western Australia, the Canning Basin is porous with extensive aquifers of high to low productivity (Brodie *et al.*, 2019). South of the Canning Basin, the Western Australian Fractured Rock Province covers the Pilbara region and is described as containing local aquifers of generally low productivity (Brodie *et al.*, 2019). North of the Canning Basin is the North Australian Fractured Rock Province, where local aquifers of low productivity occur in the south, and fractured and fissured extensive aquifers of low to moderate productivity occur in the north (Brodie *et al.*, 2019).

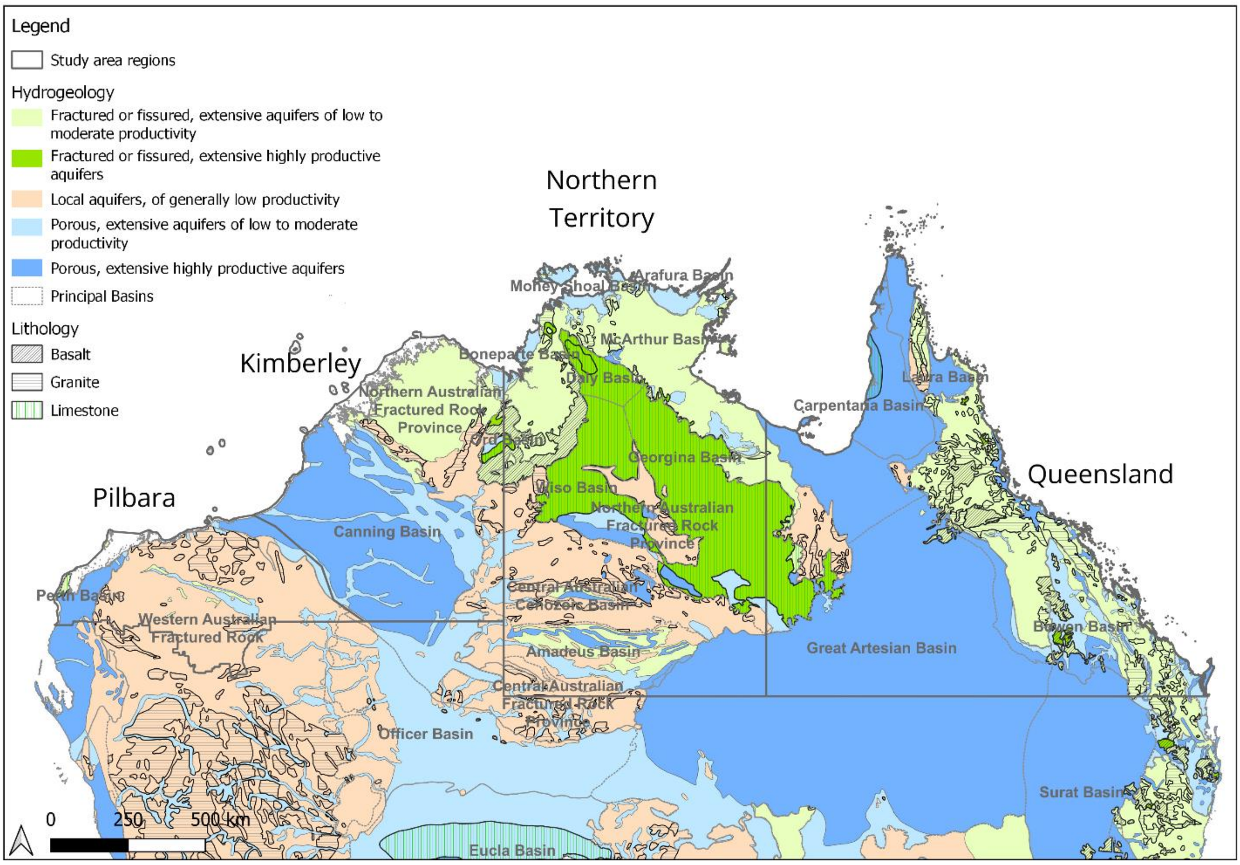



**Figure 2. Map of primary hydrogeology with major fractured rock provinces and sedimentary basins. Map compiled from: Hydrogeology and lithology layers from Brodie *et al.*, (2019); Study area regions are adapted from DBCA (2021) and Australian Bureau of Statistics (2021). Queensland analyses were restricted to <-26° latitude.**

The hydrogeology of Queensland is dominated by the Great Artesian Basin (GAB) which covers 65% of the State (Flook *et al.*, 2020; Figure 2). The GAB includes porous, extensive and highly productive aquifers (Brodie *et al.*, 2019). The GAB is bound in the east by tablelands and uplands of the Great Dividing Range (Habermehl, 2020). Eastern Queensland contains the Surat Basin which contains porous, extensive and highly productive aquifers, whereas aquifers in the Bowen Basin tend to be fractured or fissured, extensive and of low to moderate productivity (Brodie *et al.*, 2019).

### 2.2.2 Groundwater resources

Groundwater in the Pilbara is mostly fresh (200-1500 mg/L), and bicarbonate dominated (Halse et al., 2014). Sodium chloride rich waters are common in some localised areas including coastal areas, the arid eastern margins, and under the Fortescue Marsh (Halse *et al.*, 2014). Recharge is typically driven by infrequent tropical cyclones and low-pressure systems with high rainfall volumes (>20 mm per rainfall event) (Dogramaci *et al.*, 2012). Smaller more frequent rainfall events are insignificant for groundwater recharge because most water evaporates immediately after rain events (Dogramaci *et al.*, 2012). Across the Pilbara, depth of groundwater is highly variable (Halse *et al.*, 2014; Rojas *et al.*, 2018).

Groundwater in the Kimberley is predominantly accessed from aquifers comprised of fractured rock, karstic calcrete, alluvial and eolian deposits, or sedimentary materials (Johnson, 2006). Most groundwater recharge in the region is sourced from heavy rainfall (Gallardo, 2019), with parts of the Canning Basin containing 'fossil water' which is likely only recharged by major flooding on a recurrence interval of decades or centuries (Johnson, 2006). Groundwater salinity in the Kimberley is generally fresh, although some localised areas have saline groundwater (Johnson, 2006). The groundwater type varies significantly across the region from seawater-like sodium-chloride dominated compositions to calcium-bicarbonate compositions (Taylor *et al.*, 2021). Located in the Kimberley, the Canning Basin is the second largest sedimentary basin in Australia (after the Great Artesian Basin), and is estimated to hold the largest volume of groundwater storage and the second-largest volume of groundwater suitable for water supply in Western Australia (Taylor *et al.*, 2021).

Across the Northern Territory, groundwater is predominantly accessed from aquifers comprised of fractured rock, karstic limestone, alluvial, and sedimentary sandstones (Northern Territory Government, 2023b). Groundwater yield is highly variable, with the highest yields found in fractured and karstic aquifers (Tickell, 2013). Groundwater in the Northern Territory generally has a lower salinity in the north, and higher salinity in the south due to increased rainfall recharge in the north (Tickell, 2013). In the arid zone around Alice Springs, salinities are highly variable (Tickell, 2013). Most recharge occurs between November and March, and in southern Northern Territory it is episodic, occurring only after intense rainfall (Hu *et al.*, 2022).

In the Northern Territory, 90% of all water supplies are from groundwater sources, which is due to the large seasonality of rainfall and the high evaporation rates (Hu *et al.*, 2022). The Northern Territory government manages water through declaration of Water Control Districts. In the Northern Territory a permit to construct a bore is generally required within a Water Control District, or for any activity related to mining or petroleum activities (Northern Territory Government, 2023a). Within the Water Control Districts, Water Allocation Plans may be created to manage individual aquifer or coupled stream-aquifer systems. A similar approach to water resources management occurs in Western Australia, however the designated water management zones are referred to as Proclaimed Groundwater Areas. The Proclaimed Groundwater Areas which cover the study area are; Canning-Kimberley, Broome, Derby and Pilbara (Department of Water and Environmental Regulation, 2020). In Western Australia, all bores within a proclaimed groundwater area are to be registered, with a few exceptions including bores for domestic or stock use (Western Australian Government, 2023).

The dominant groundwater resource in Queensland is the GAB. The GAB is a multilayered confined sedimentary basin (Zektser and Everett, 2004). More than four thousand flowing artesian bores have been drilled to depths of up to 2,000 m, with records of individual bores having flows exceeding 100 L/sec (Zektser and Everett, 2004). Many of these bores have flowed uncontrolled, leading to a loss of pressure and the bores ceasing to flow in some locations. Significant work is underway to try and cap all artesian bores. The best quality water comes from the lower, mainly Jurassic sedimentary units which generally contain a water salinity of 500 to 1,000 mg/L TDS (Zektser and Everett, 2004). The water type is mainly sodium bicarbonate, with salinity increasing towards the centre of the basin (Zektser and Everett, 2004). Other major aquifers in Queensland include eastern coastal river valleys where aquifers occur in the quaternary alluvial sediments, with high yields obtainable in the alluvia of the Lockyer, Callide, Pioneer, Burnett and Brisbane Rivers (Zektser and Everett, 2004). The Burdekin River Delta in central Queensland is also an important aquifer, as is the Bundaberg (Zektser and Everett, 2004).

Approvals required to install a bore are complicated in Queensland and can vary depending on location, whether the owner has a licence to take water and whether it is replacing an existing bore (Queensland Government, 2017). However, most locations do not require approval for domestic and stock use bores, although there are some exceptions around this, particularly in locations with artesian water where all bores require approval (Queensland Groundwater Solutions, 2024). Additionally, any bore greater than six meters in depth must be drilled by a licenced driller (Queensland Government, 2018). Groundwater is managed through 23 water plans which occur across the state (Queensland Government, 2023).

# 3. MATERIALS AND METHODS

## 3.1 Data collection

Stygofauna presence and absence, bore construction, and groundwater chemistry data were collated from the following journal articles, and government and consultancy reports: Chandler, Tomlinson and Humphrey (2017); Cook, Pratt and Conacher (2019) Moulds Pears and Freeland (2011); Guzik et al. (2019); Humphreys et al. (2022); Oberprieler et al. (2021); Humphreys (1999); Humphreys (2003); Thomas and Hofmeester (2021); Osborne (2012); Jackett et al. (2016); Stevens, Ramlee and Ross (2014); Newcrest Mining (2002); Lythe et al. (2020); Eriksson, Keogh and Eberhard (2012); Trotter and Halse (2012); Halse et al. (2014). Stygofauna presence and absence data included cases where either specimens were collected, or where animal eDNA was detected. The number of species could not be easily included in the analysis. For example, a wide range in the taxa-level stygofauna were identified in the original reports. Similarly, as these analyses included both eDNA and physical sampling, the number of animals could not be recorded in some locations, thus, the number of species was not considered in the analysis. Additional bore construction and groundwater chemistry data were obtained from the Western Australian Department of Water and Environmental Regulation Water Information Reporting Database (Government of Western Australia, 2023), the Northern Territory Department for Environment, Parks and Water Security (Northern Territory Government, 2023e, 2023c), and the Queensland Government Groundwater Database and Subterranean Aquatic Fauna Database (Queensland Government, 2019, 2024). See Appendix 1 – Data sources for detailed description.

The bores sampled for stygofauna were matched with bores located in government databases using the following techniques: Where available, the bore ID provided in the stygofauna report was used, however often the bores had local names in the stygofauna reports that differed from the registered bore number listed on the government website. Where registered bore numbers were not provided in the original source, bores were manually matched based on a combination of GPS location, local bore name and bore depth. In the Kimberley region, 423 bores were identified as having been sampled for stygofauna, with 97 able to be matched with a registered bore, and an additional 145 bores had relevant chemical or physiochemical data in the stygofauna report that was able to be collated into the dataset for further analysis. Across the Northern Territory 118 bores were identified as having been sampled for stygofauna, with 95 able to be matched with a registered bore, and an additional six bores with no registered bore ID had sufficient data in the stygofauna report to be incorporated into the dataset. The most complete dataset used was from the Pilbara. All information regarding the 507 Pilbara bores was from a stygofauna report (Halse *et al.*, 2014), with no additional government database information added. As this thesis was restricted to northern Australia, Queensland was reduced to only include land north of -26° latitude for this study, which corresponds with the southern extent of the Northern Territory. For Queensland, 467 bores sampled for stygofauna were incorporated into the dataset, 115 of these were able to be matched with a registered bore with additional information incorporated from the bore database.

A total of 1,317 bores were collated in the final dataset. However, no bore had all data for all parameters, see Figure 3. Values for common field parameters of dissolved oxygen, electrical conductivity (EC), static water depth, water temperature and pH were most available. Laboratory parameters including iron, manganese and nitrate were the least common. The hydrogeological parameter of flow rate was also uncommon and no Pilbara data included this parameter.

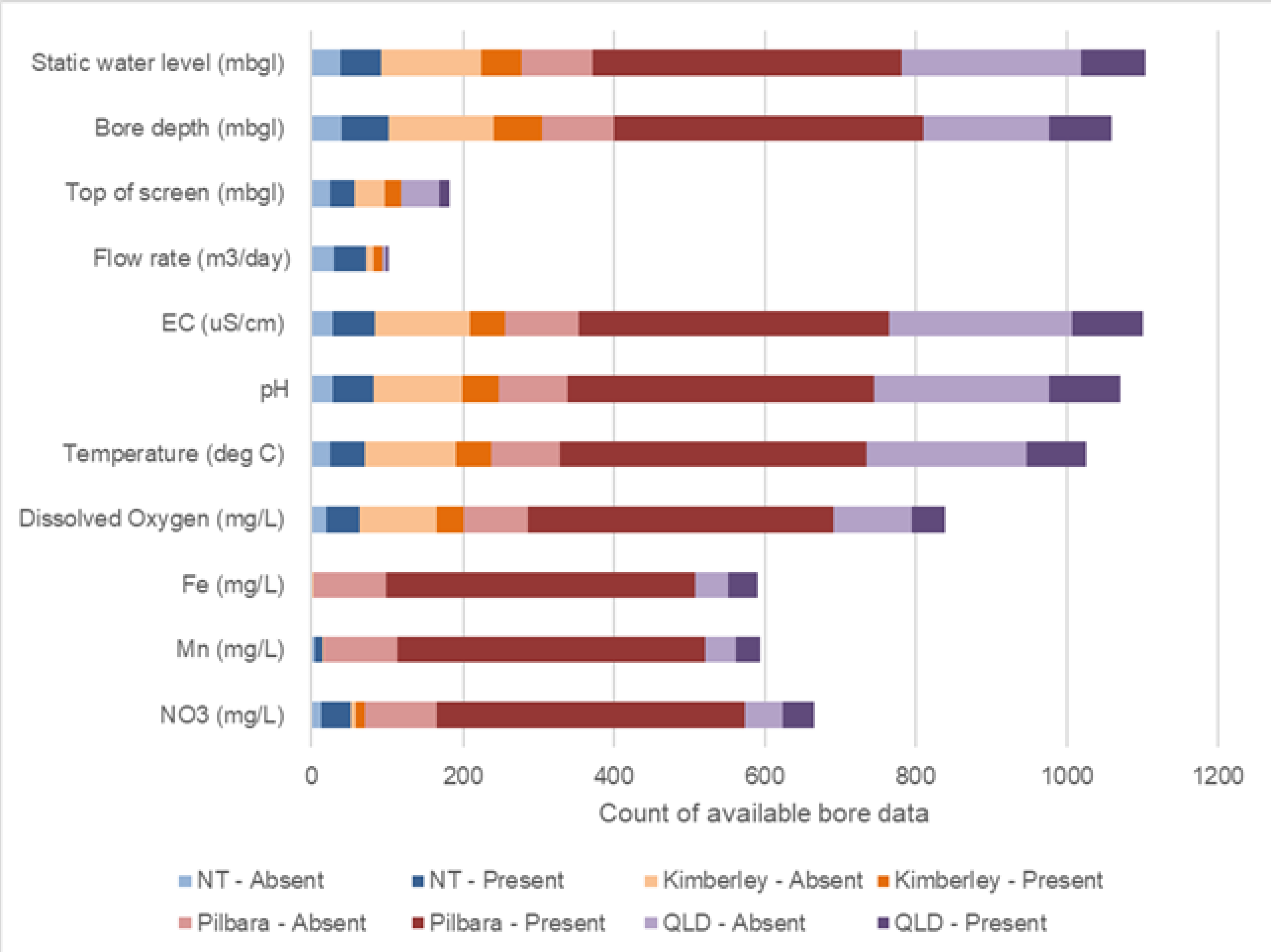



**Figure 3. Available bore data for major parameters.**

## 3.2 Quality control

Several measures were taken to assure the data collated and used was accurate. These included:

- Calculating the ionic balance based on sodium, potassium, magnesium, calcium, bicarbonate, sulphate, nitrate, chloride, and removing major ion data where the ionic balance was ±15%.
- Major outliers plotted in box and whisker graphs were double checked for potential issues.

- Visual assessment of latitude and longitude was completed by plotting bores in GIS software and removing any which plotted outside the study region.
- A selection of chemical and hydrogeological parameters were checked against original bore data (e.g., scanned laboratory reports or bore construction reports), where original data could be located. This detected large-scale database issues. Discrepancies were found in the Bureau of Meteorology (2023) Australia Groundwater Explorer and CSIRO Hydrogeochemistry of the Northern Territory: Data Release (Gray and Bardwell, 2016) (both based on the same data), and it was decided not to use these databases but rather use the individual State/Territory databases.

Because the four regions (Northern Territory, Kimberley, Pilbara and Queensland) all used data from different sources, additional visual assessments were undertaken when the data was plotted and compared. This step identified concentration errors for iron in the Northern Territory database where unrealistic concentrations suggest that some analytes were listed with concentrations in mg/L and others in µg/L. Scanned copies of the laboratory reports were available via NR Maps (Northern Territory Government, 2023d) and confirmed the issue with units in the Northern Territory iron data. As a result, all iron data from the Northern Territory were omitted from analyses. After this issue was identified other parameters were also checked against original scanned laboratory reports and no issues were found.

This thesis uses the term ‘flow rate’ to refer to a compilation of the parameter of ‘yield (L/sec)’ provided in the Northern Territory bore database, ‘borehole water supply ($m^3$/day)’ and 'pumping rate (L/sec)' both used in the WA bore database, and ‘yield’ provided in the Queensland database. All databases used this parameter with units volume/time to inform on water flow measured during drilling, development or flow rate testing.

For further information see Appendix 1 for detailed description of QAQC. The final dataset utilised in this study is provided in Appendix 5 – Data table.

## 3.3 Data analyses

Data were analysed by individual region (Pilbara, Kimberley, Northern Territory and Queensland). This approach helped to understand regional trends and potential influences of dominant geologies and climates in different regions (e.g., significant regional differences can be seen in the average temperatures of each region, whereas trends for stygofauna presence and lower temperature were completely masked when results were combined, see Section 4.2.4 Physio-chemical controls Figure 8c.). Analysing the results as individual regions also prevented the data from being skewed towards the regions with the largest data counts. The Pilbara and Queensland generally had considerably more data than the Northern Territory or Kimberley, see Figure 3 for data counts on major parameters for each region.

Statistical analyses were used to determine whether a significant relationship between presence and absence of stygofauna could be ascertained against various physical and chemical parameters. Data were log transformed to assist with the normality of the datasets, and then an unequal variance t-test was performed using the Python SciPy library to determine if datasets were statistically different. This type of test was chosen because the data was in two sets (presence and absence) and had some variation in data distribution. Depending on the *apriori* hypothesis, either a 1-tail or 2-tail t-test was applied, based on previously published research (e.g., Ackman and Jones, 1991; Di Lorenzo *et al.*, 2015; Korbel, Stephenson and Hose, 2019). The *apriori* hypothesis for static water depth (meters below ground level), bore depth (meters below ground level), top of screen (meters below ground level), temperature (°C), EC (µS/cm), manganese (mg/L) and iron (mg/L) was for stygofauna presence to be correlated to lower values, compared to stygofauna absence. The *apriori* hypothesis for flow rate (L/sec), dissolved oxygen (mg/L) and nitrate (mg/L) was for stygofauna presence to be correlated to higher values compared to stygofauna absence. For all other parameters the hypothesis was non-directional and a 2-tail t-test was applied.

The t-test *p*-value results were discussed using the language of evidence suggested in Muff *et al.*, (2022). Muff *et al.*, (2022) provides guidance on presenting *p*-value interpretation as no/weak/moderate/strong/very strong evidence for a certain finding or effect depending on the rage into which the *p*-value falls. This allows for *p*-values to considered as a continuous measure of statistical evidence rather than a binary yes/no test outcome.

Data analysis is aided by visual representations of the data as box and whisker plots and standard error plots. On the standard error plots the geometric mean is displayed with error bars representing the standard error. The box and whisker plots displayed the arithmetic mean, median, interquartile range, minimum (- 1.5 x interquartile range), maximum (+ 1.5 x interquartile range) and outliers.

Finally, Principal Component Analyses (PCA) were conducted using the Primer (v7) software to allow multivariate display of the dataset. The PCA utilised a subset of the overall dataset to ensure that as many parameters as possible contributed to values for all samples, including static water depth, bore depth, temperature, pH, EC and dissolved oxygen. All parameters were normalised prior to running the PCA. Where previous investigations were univariate, these multivariate analyses provides information on likely combinations of parameters that control presence or absence of stygofauna.

# 4. RESULTS

## 4.1 Stygofauna presence and absence

Initial results were assessed by displaying geographic locations of presence and absence of stygofauna in sampled bores against mapping of major geological and hydrogeological units (Figure 4). While this analysis shows the spatial distribution of presence and absence, the map does not include the depth component, and bores may not be screened in the major aquifers represented in Figure 4. Nonetheless, Figure 4 demonstrates the spatial distribution of the bores across northern Australia and the clustering of bores in the Pilbara, central-north Northern Territory and eastern Queensland. An overview of the presence and absence data presented in Figure 4 is summarised below in Table 1.

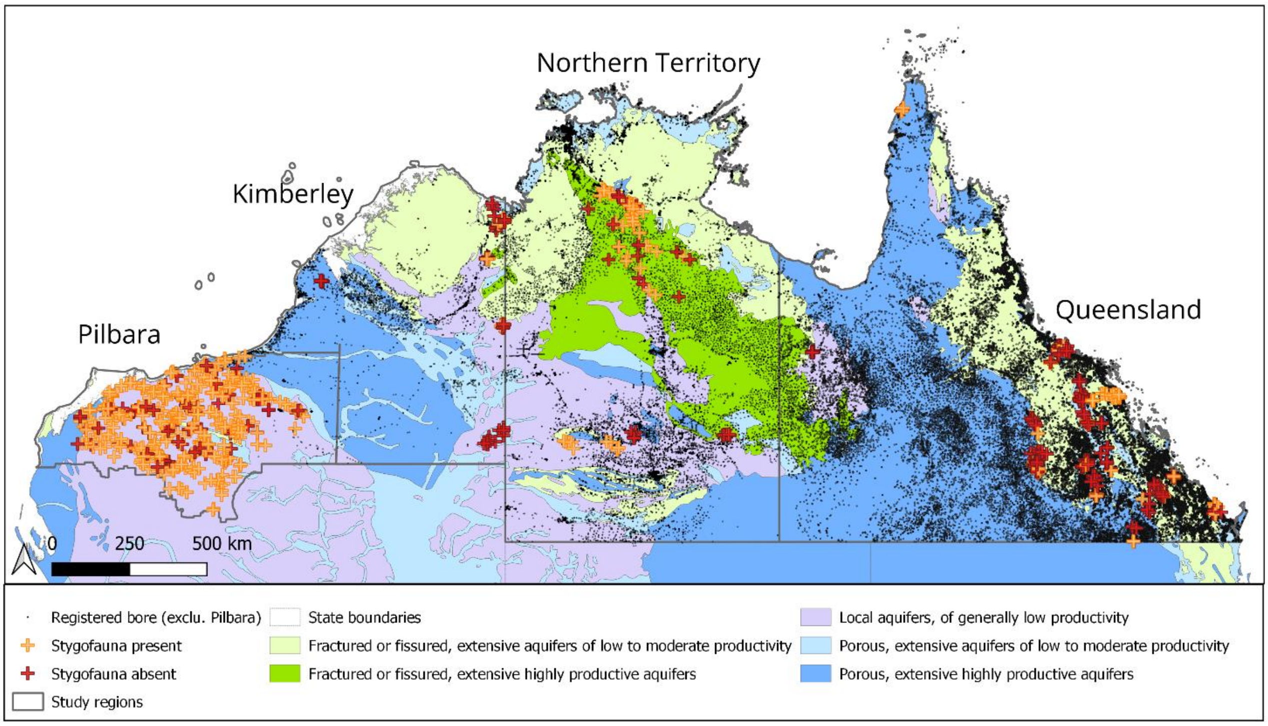



**Figure 4. Distribution of stygofauna presence and absence across study area. Stygofauna locations sourced from various reports, see Section 3. Base map compiled from: Hydrogeology and lithology layers from Brodie *et al.*, (2019); Study area regions are adapted from DBCA (2021) and Australian Bureau of Statistics (2021), with Queensland data restricted to <-26° latitude.**

**Table 1. Counts of bores in the collated dataset, by region. Data corresponds to that shown in Figure 4.**

| | Region | | | |
|---|---|---|---|---|
| Counts | Pilbara | Kimberley | Northern Territory | Queensland |
| Bores sampled for stygofauna | 507 | 242 | 101 | 467 |
| Bores with stygofauna detected | 411 | 65 | 61 | 127 |
| Bores with no stygofauna detected | 96 | 175 | 40 | 340 |

## 4.2 Physical controls

### 4.2.1 Bore construction and water depth

In the Pilbara region, the mean static water level measured as depth below ground level (mbgl) in bores where stygofauna were present was 9.4 m, and 15.8 m where stygofauna were absent (Figure 5a.; Appendix 4 – data statistics). Statistical analyses indicated very strong evidence for stygofauna presence associated with shallower water depths ($p < 0.0001$) (see also Appendix 2 – Standard error plots). There was also very strong evidence in Queensland ($p < 0.0001$), where the mean water depth when stygofauna were present was 14.7 m and where absent the water depth mean was 22.7 m. In locations in the Northern Territory and Kimberley, where stygofauna were present, the mean water depths were 34.3 m and 14.6 m, and where absent the mean water depths were 38.7 m and 16.1 m, respectively. Weak to little evidence supported water depth as relevant to stygofauna presence or absence in the Northern Territory or Kimberley ($p = 0.07$ and $p = 0.62$).

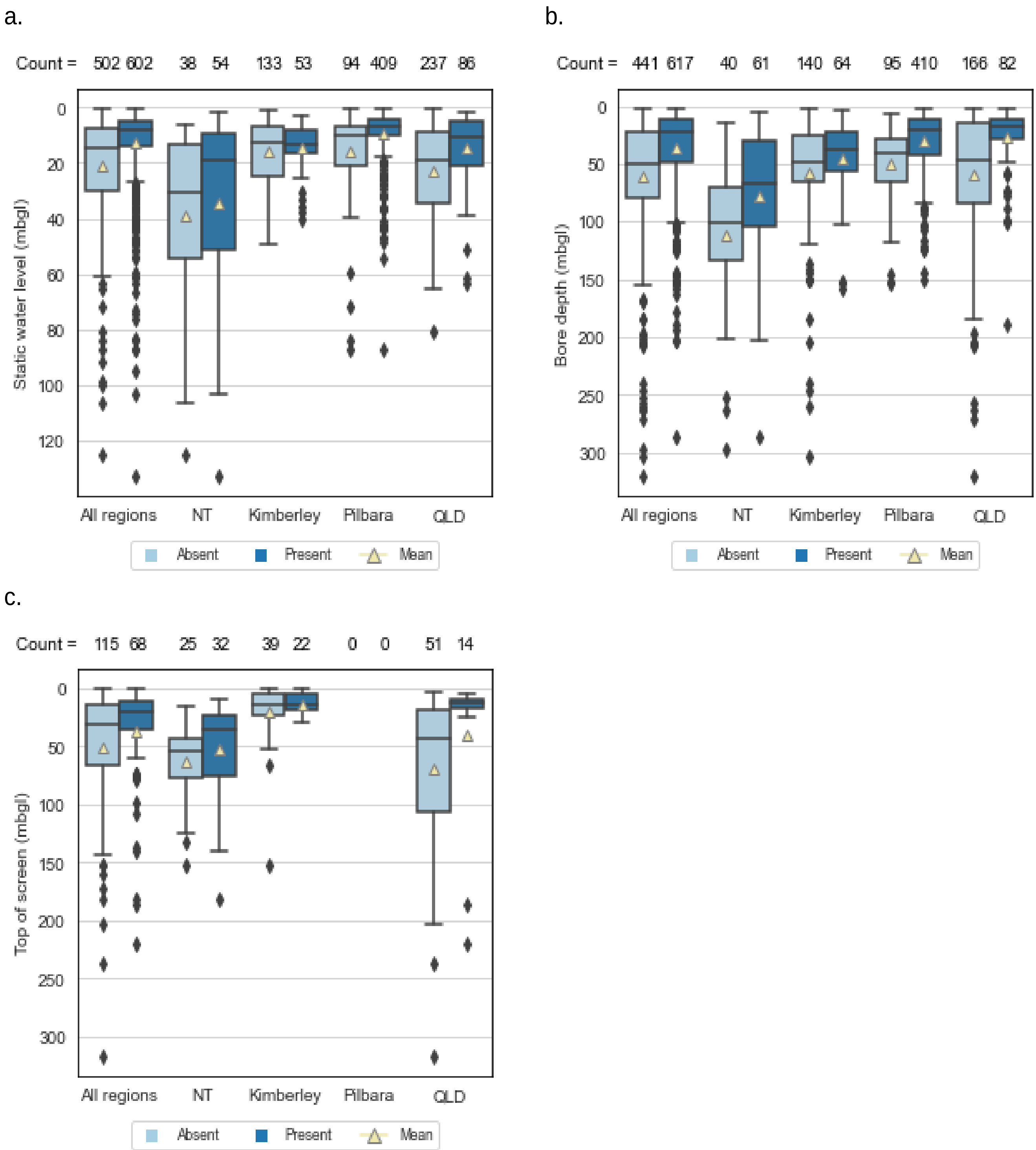



**Figure 5. Box & whisker plots displaying data distributions for data parameters: a. Water depth, b. Bore depth and c. Depth to top of screen. The data is displayed with the middle line showing the median (50%), box extents showing the interquartile range (25% and 75%), the outer whiskers showing the maximum/minimum, whiskers showing the outliers (± 1.5 x interquartile range), and yellow diamonds showing the mean. Count values have been included at the top of each plot to display the data counts used to create each box and whisker.**

In the Pilbara region, the mean bore depth (mbgl) where stygofauna were present was 29.6 m and 49.6 m where absent, in QLD the mean bore depth were 27.5 m where present and 60.1 m where absent, in the Northern Territory the mean bore depth was 77.6 m where present and 112 m where absent, and the Kimberley had a mean bore depth of 45.1 m where present and 57.2 m where absent (Figure 5b.). In both the Pilbara and Queensland, very strong evidence suggested stygofauna presence was associated with shallower bores, $p < 0.0001$, evidence was strong for the Northern Territory, $p = 0.0004$, and evidence was weak in the Kimberley, $p = 0.08$.

Depth to top of screen (TOS), measured as meters below ground level (mbgl), was not available for the Pilbara region. In Queensland, the Northern Territory and Kimberley the average lengths to TOS were shallower where stygofauna were present (39.9 m, 53.2 m and 13.5 m) compared to absent (69.5 m, 63.7 m and 19.9 m) (Figure 5c.). Strong evidence indicated stygofauna presence was associated with TOS closer to ground level in Queensland, $p = 0.008$, with moderate evidence in the Northern Territory, $p = 0.04$, and no evidence in the Kimberley, $p = 0.6$.

### 4.2.2 Flow rate

Queensland had a mean flow rate of 1.2 L/sec where stygofauna were present and 4.5 L/sec where absent, (Figure 6; Appendix 4 – data statistics). In the Northern Territory the mean flow rate where stygofauna were present was 8.6 L/sec, which is greater than where absent, 7.5 L/sec. In the Kimberley the mean flow rate where stygofauna were present was 0.4 L/sec compared to 1.6 L/sec where they were absent. No flow rate data was available for the Pilbara.

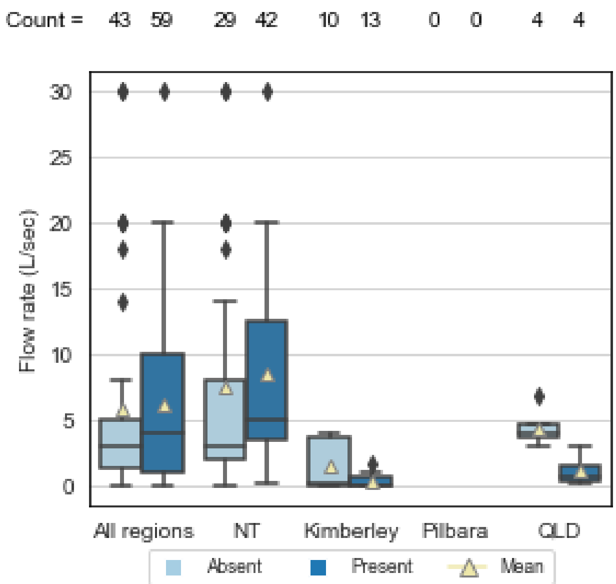
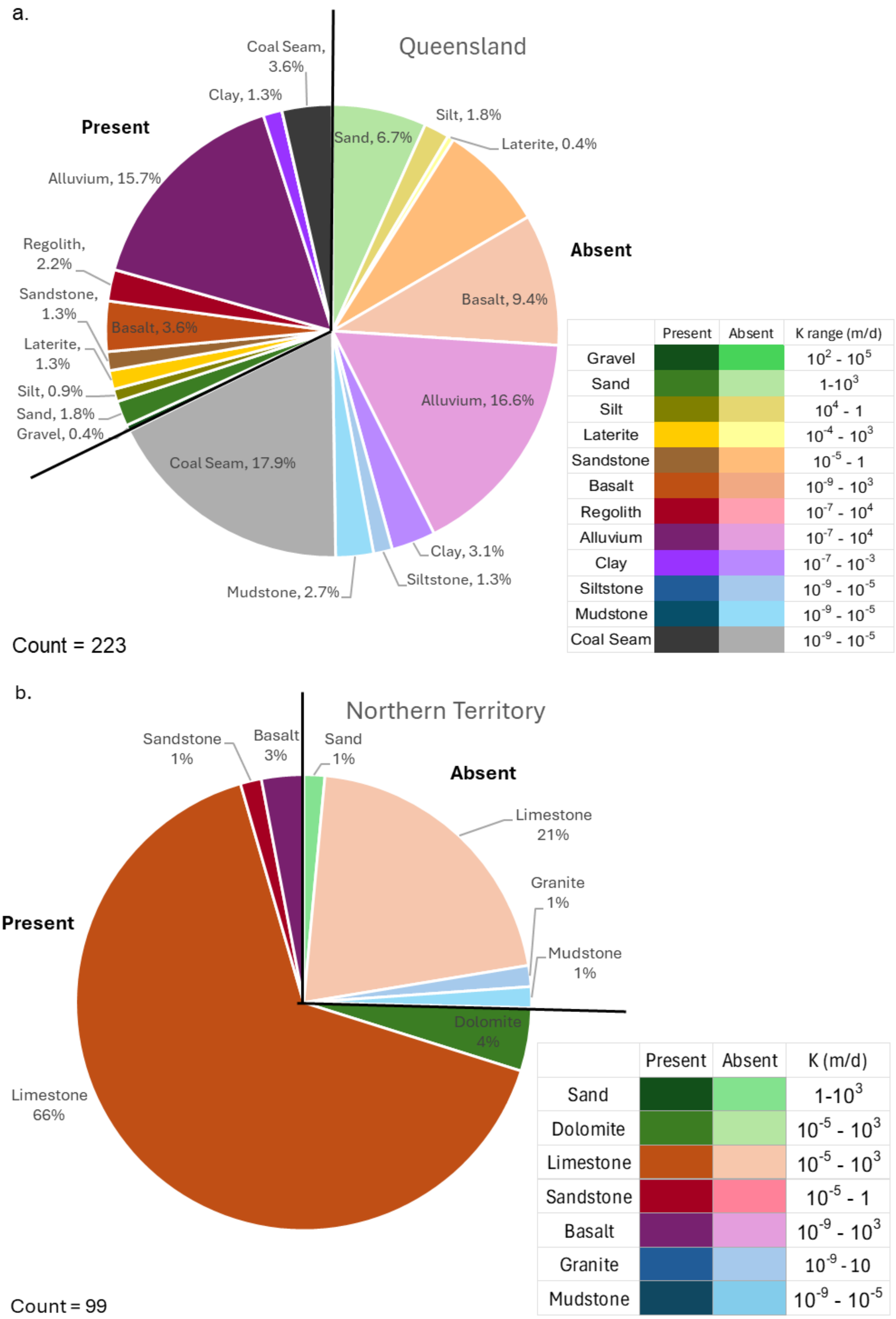



**Figure 6. Box & whisker plots for flowrate (L/sec). The data is displayed with the middle line showing the median (50%), box extents showing the interquartile range (25% and 75%), the outer whiskers showing the maximum/minimum, whiskers showing the outliers (± 1.5 x interquartile range), and yellow diamonds showing the mean. Count values have been included at the top of each plot to display the data counts used to create each box and whisker.**

Statistical analysis indicated no evidence for correlation between stygofauna absence and higher flow rates in Queensland ($p = 0.9$), moderate evidence in the Northern Territory ($p = 0.05$), and no evidence in the Kimberley ($p = 0.9$). Data counts for flow rate were low, with the total counts for Queensland, Northern Territory and Kimberley being 8, 71 and 23 respectively.

### 4.2.3 Geology

Geology was assessed by plotting stygofauna presence and absence against main geological unit and hydraulic conductivity range, as shown in Figure 7. Geology could not be assessed for the Pilbara or Kimberley due to insufficient availability of geological data in the publicly available datasets. The geologies where stygofauna were present in Queensland were; gravel, sand, silt, laterite, sandstone, basalt, regolith, alluvium, clay and coal seams. Additional geological units sampled where no stygofauna were present were siltstone and mudstone. In the Northern Territory, the geologies where stygofauna were recorded were dolomite, limestone, sandstone and basalt, with geological units sampled where no stygofauna were recorded were sand, granite and mudstone. Due to each geological unit having a hydraulic conductivity range of several orders of magnitude (e.g., Freeze and Cherry, 1979), statistical analysis could not be completed, however stygofauna were present in geologies that cover the spectrum of hydraulic conductivity ranges.




| | Present | Absent | K range (m/d) |
|---|---|---|---|
| Gravel | | | $10^{2}$ - $10^{5}$ |
| Sand | | | 1-$10^{3}$ |
| Silt | | | $10^{4}$ - 1 |
| Laterite | | | $10^{-4}$ - $10^{3}$ |
| Sandstone | | | $10^{-5}$ - 1 |
| Basalt | | | $10^{-9}$ - $10^{3}$ |
| Regolith | | | $10^{-7}$ - $10^{4}$ |
| Alluvium | | | $10^{-7}$ - $10^{4}$ |
| Clay | | | $10^{-7}$ - $10^{-3}$ |
| Siltstone | | | $10^{-9}$ - $10^{-5}$ |
| Mudstone | | | $10^{-9}$ - $10^{-5}$ |
| Coal Seam | | | $10^{-9}$ - $10^{-5}$ |

| | Present | Absent | K (m/d) |
|---|---|---|---|
| Sand | | | 1-$10^{3}$ |
| Dolomite | | | $10^{-5}$ - $10^{3}$ |
| Limestone | | | $10^{-5}$ - $10^{3}$ |
| Sandstone | | | $10^{-5}$ - 1 |
| Basalt | | | $10^{-9}$ - $10^{3}$ |
| Granite | | | $10^{-9}$ - 10 |
| Mudstone | | | $10^{-9}$ - $10^{-5}$ |

**Figure 7. Percentages of stygofauna presence and absence for each lithology type and the hydraulic conductivity range of the lithology for a). Queensland and b). Northern Territory. Insufficient data was available for Pilbara or Kimberley. Hydraulic Conductivity (K) ranges were adapted from Freeze and Cherry, 1979; Fitts, 2013; Hose *et al.*, 2015.**

### 4.2.4 Physio-chemical controls

The mean EC where stygofauna were present were 1927 µS/cm, 2610 µS/cm, 2172 µS/cm and 4107 µS/cm across the Pilbara, Queensland, Northern Territory and Kimberley respectively (Figure 8a.; Appendix 4 – data statistics). Where stygofauna were absent, the means were 2432 µS/cm, 14375 µS/cm, 2363 µS/cm and 12406 µS/cm.Statistical analysis found no evidence for correlations between stygofauna presence and lower EC were detected in the Pilbara, Queensland or Northern Territory (*$p = 0.6$, $p = 0.1$ and $p = 0.5$, respectively)*. Moderate evidence for a correlation between lower EC and stygofauna presence were found in the Kimberley, *$p = 0.04$.*

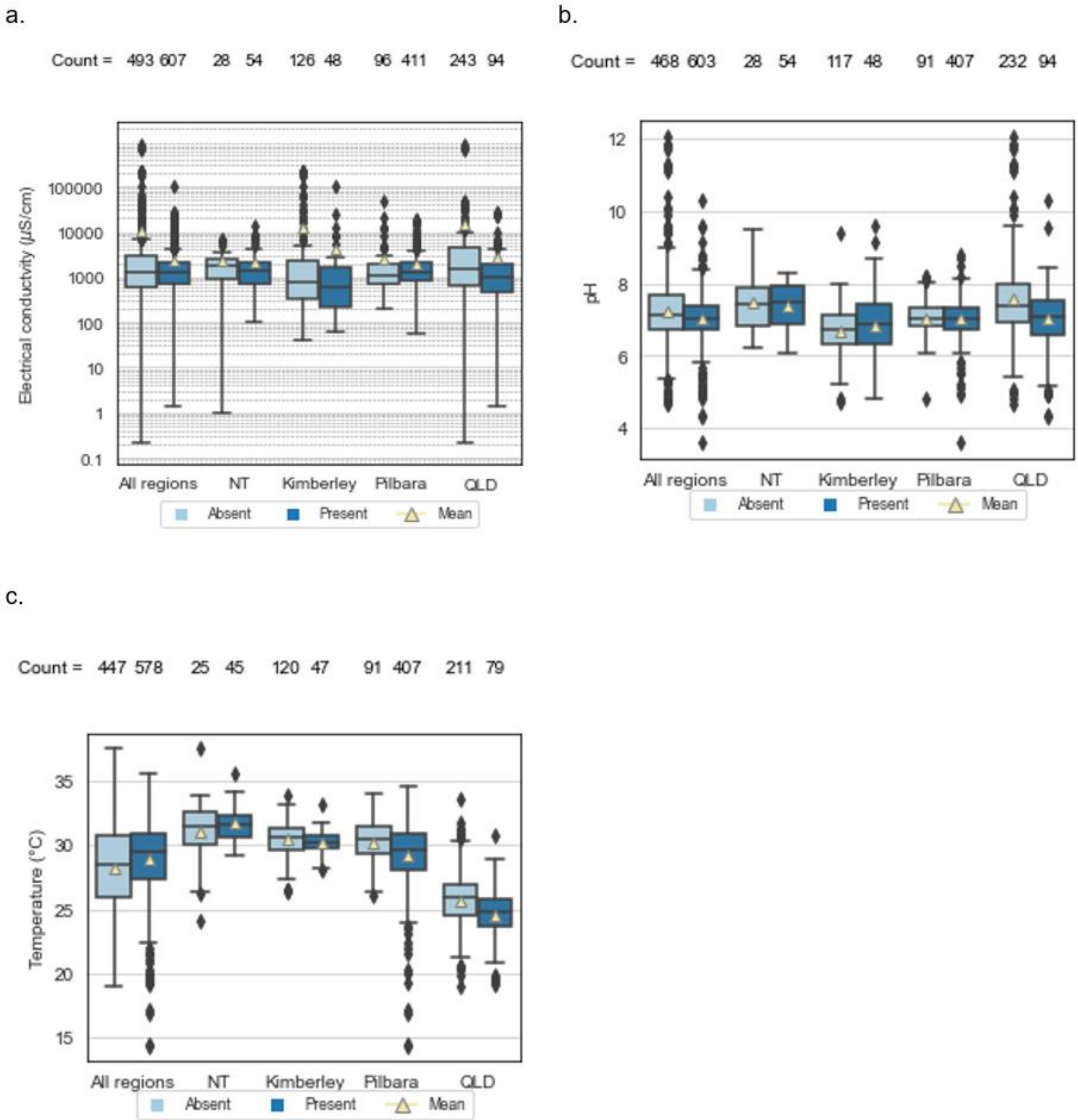



**Figure 8. Box & whisker plots displaying data distributions for data parameters: a. Electrical conductivity (log axis), b. pH and c. Temperature. The data is displayed with the middle line showing the median (50%), box extents showing the interquartile range (25% and 75%), the outer whiskers showing the maximum/minimum, whiskers showing the outliers (outside ± 1.5 x interquartile range), and yellow diamonds showing the mean. Count values have been included at the top of each plot to display the data counts used to create each box and whisker.**

In Queensland, the mean pH where stygofauna were present was 7.00, and 7.57 where absent (Figure 8b.; Appendix 4 – data statistics). In the Pilbara, Northern Territory and the Kimberley, there was no significant difference in the mean pH and stygofauna presence or absence, with the greatest difference in the Kimberley where the pH was 0.17 higher where stygofauna were present compared to absent. The results of the statistical analysis found no evidence of a correlation between stygofauna occurrence and pH in the Pilbara, Northern Territory or Kimberley regions, however Queensland had very strong evidence, $p < 0.0001$.

The mean difference in the groundwater temperature between bores where stygofauna were present or absent was second largest in the Pilbara and largest in Queensland, where the mean temperature was 29.2°C and 24.6°C, respectively, when stygofauna were present, and 30.2°C and 25.7°C where they were absent (Figure 8c.; Appendix 4 – data statistics). In the Northern Territory, the opposite relationship occurred, with the mean temperature of 31.7°C where stygofauna were present and 31.0°C where stygofauna were absent. The Kimberley had the smallest difference with 30.2°C where stygofauna were present and 30.5°C where absent. Statistical evidence found very strong evidence for a correlation between stygofauna presence and colder water in the Pilbara ($p < 0.0001$) and Queensland ($p = 0.0001$), but little to no evidence of a correlation in the other two regions; Northern Territory and Kimberley ($p = 0.9$, $p = 0.07$).

## 4.3 Chemical controls

### 4.3.1 Redox related parameters

With organic matter considered the driving reductant, groundwater chemistry will change along a sequence of reduction processes. This starts with the oxygen reduction, followed by denitrification, manganese reduction, iron reduction and sulphate reduction, and finally methane fermentation (Appelo and Postma, 2005). Each of these processes occurs in increasingly reduced conditions. In Figure 9 concentrations of reactants; dissolved oxygen (DO) and nitrate ($NO_3^-$), and reaction products manganese ($Mn^{2+}$) and iron ($Fe^{2+}$) are shown, along with stygofauna presence and absence.

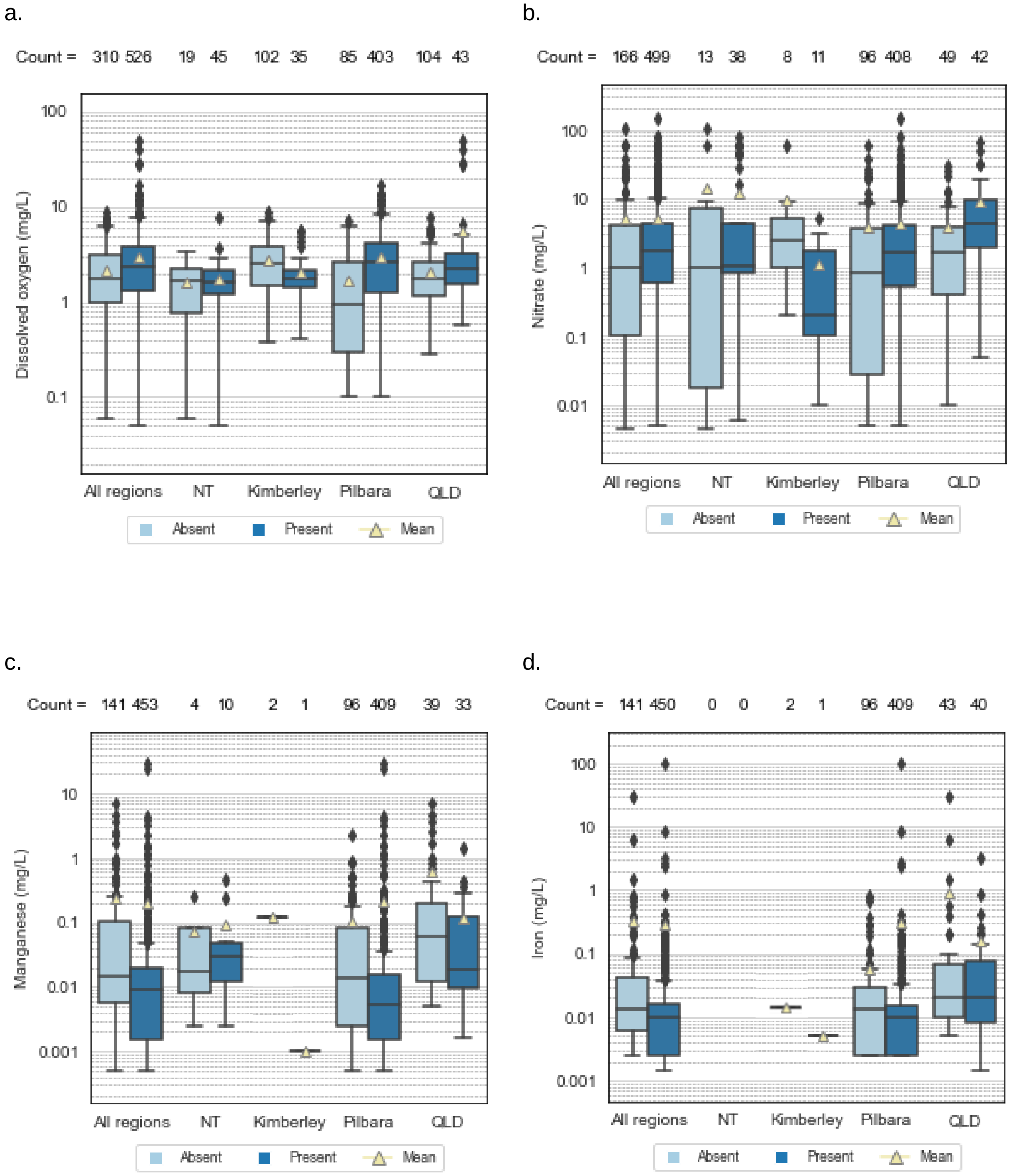



**Figure 9. Box & whisker plots displaying data distributions for data parameters: a. Dissolved oxygen, b. Nitrate, c. Manganese, and d. Iron. The data is displayed with the middle line showing the median (50%), box extents showing the interquartile range 5% and 75%), the outer whiskers showing the maximum/minimum, whiskers showing the outliers (outside ± 1.5 x interquartile range), and yellow diamonds showing the mean. Count values have been included at the top of each plot to display the data counts used to create each box and whisker.**

The plot of DO with stygofauna presence and absence shows a correlation between stygofauna presence and more oxygenated waters (Figure 9a.). The mean DO values where stygofauna were present was 4.0 mg/L, 5.5 mg/L, 1.8 mg/L, 2.1 mg/L across the Pilbara, Queensland, Northern Territory and Kimberley, respectively (Appendix 4 – data statistics). Where stygofauna were absent, the mean DO values were 2.8 mg/L, 2.1 mg/L, 1.6 mg/L, and 2.8 mg/L respectively.Statistical analysis found very strong evidence for a correlation between stygofauna presence and higher levels of dissolved oxygen in the Pilbara ($p < 0.0001$), strong evidence in Queensland ($p = 0.01$), and no evidence for the Northern Territory and Kimberley ($p = 0.2$, $p = 1$).

The mean concentration of nitrate where stygofauna were present was 4.3 mg/L in the Pilbara, 8.9 mg/L in Queensland, and 12.1 mg/L in the Northen Territory (Figure 9b.; Appendix 4 – data statistics). Where stygofauna were absent the median concentrations were 3.9 mg/L, 3.9 mg/L, and 14.1 mg/L respectively. In contrast, in the Kimberley the mean concentration of nitrate was higher where stygofauna were absent (9.6 mg/L), compared to present (1.1 mg/L), although the Kimberley also had the least data with a total count of 19 data points. Statistical analysis for a relationship between higher nitrate and stygofauna presence was strong in the Pilbara and Queensland ($p = 0.0006$, *and* $p = 0.001$), but with little or no evidence in the Northern Territory or Kimberley ($p = 0.1$, $p = 1$).

The reduction of manganese from $MnO_2$ to $Mn^{2+}$ can be related to the redox status of the water and the oxidation of carbon (Fitts, 2013). An increase in manganese ($Mn^{2+}$) would be expected where the water is more reduced and has reduced concentrations of DO and nitrate. The mean values for manganese where stygofauna were present were 0.21 mg/L, 0.11 mg/L and 0.09 mg/L in the Pilbara, Queensland and Northern Territory respectively (Figure 9c.; Appendix 4 – data statistics). Where stygofauna were absent, the mean concentrations of manganese were 0.10, 0.61 and 0.07 respectively. There were no manganese data for the Kimberley region. There was strong evidence of a correlation between stygofauna presence and lower manganese concentrations in the Pilbara, ($p = 0.0006$), moderate evidence in Queensland ($p = 0.02$), and no evidence in the Northern Territory ($p = 0.7$). With few data points existing for the Northern Territory (14 datapoints total) insufficient data was available for informative *p*-value calculations.

Iron concentration (Figure 9d.) shows low levels of iron ($Fe^{2+}$) in the bores tested. This is the fourth product in the redox reduction sequence, and as such requires the most reduced waters for this process to be dominant. There was insufficient data in the Northern Territory and Kimberley regions for calculations. In the Pilbara and Queensland, the mean concentrations of iron were 0.30 mg/L and 0.16 mg/L where stygofauna were present, and 0.06 mg/L and 0.92 mg/L where absent (Figure 9d.; Appendix 4 – data statistics). *p*-value calculations found strong evidence of a correlation between stygofauna presence and lower iron concentration in the Pilbara region ($p = 0.003$), and no evidence in Queensland ($p = 0.2$).

### 4.3.2 Major ions and water types

Evidence of correlations between stygofauna presence and absence and major ions (calcium, chloride, bicarbonate, potassium, magnesium, sodium and sulphate) were not found in multiple regions (Appendix 3 – Box and whisker plots; Appendix 5 – Data table). The exception to this was potassium with strong evidence for a correlation between stygofauna presence and lower potassium concentration in the Pilbara and Kimberley regions (*p = 0.005 and p = 0.005*).

Stygofauna were found to be present and absent in all water types, as plotted in Figure 10 a. When the regions were plotted separately no preference could be determined for stygofauna presence or absence in the Pilbara, Northern Territory or Queensland (Figure 10 b, d & e.) The Kimberley in (Figure 10 c.) Figure 10showed a tendency for stygofauna to be present in sodium bicarbonate type waters, however only 22 bores in the Kimberley region had information on all major ions and were able to be plotted.

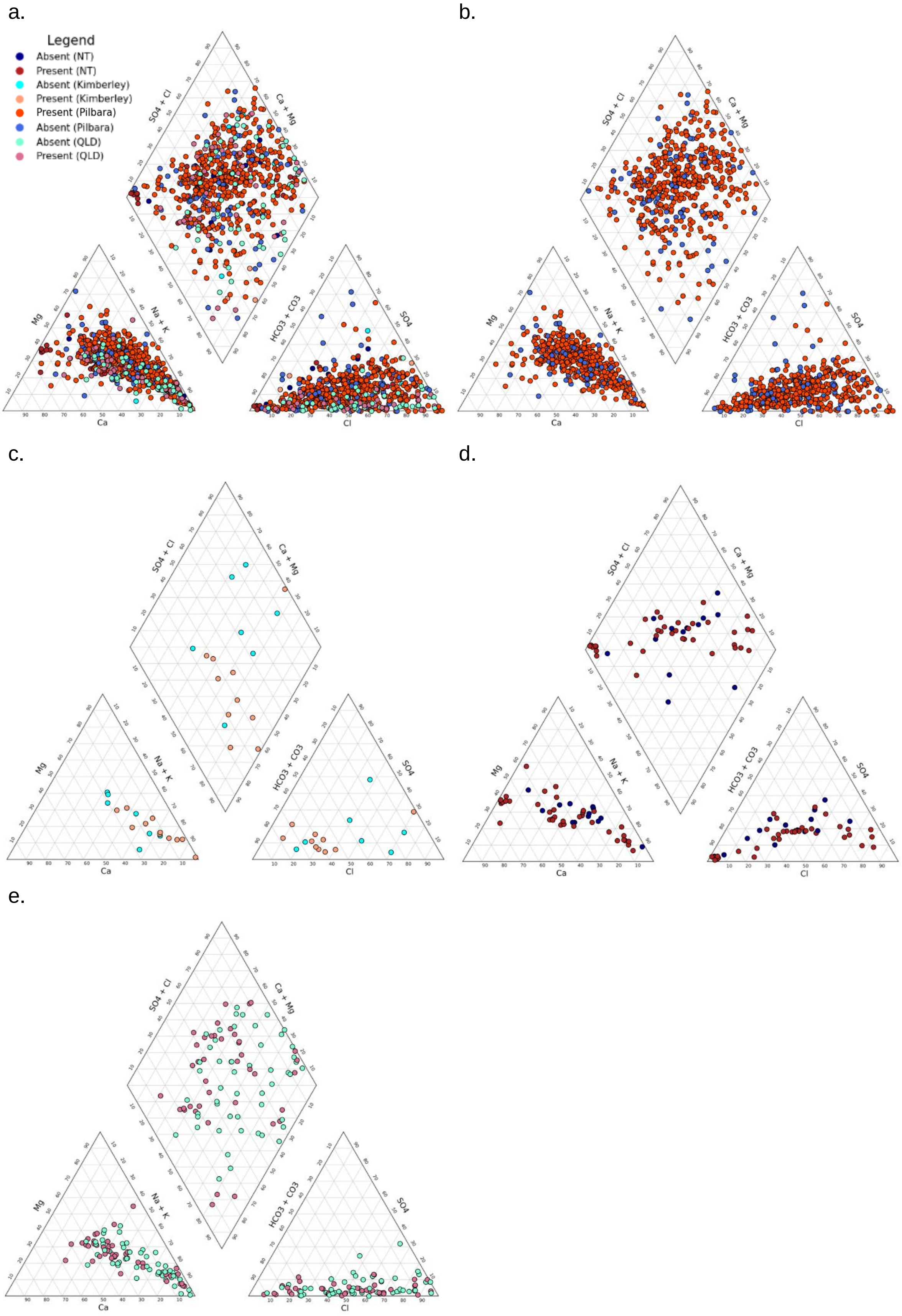



**Figure 10. Piper plots showing plot of each bore's water types (% milliequivalents per Liter) and stygofauna presence and absence for a. all regions, b. Pilbara, c. Kimberley, d. Northern Territory, and e. Queensland.**

## 4.4 Principal component analysis

The PCA for the variables bore depth, water depth, pH, EC, DO and temperature are plotted in Figure 11. The first two PCA axis explained 48.8% of the cumulative variation in the data. PC1 was correlated with bore depth and water depth, with most bores plotting towards the lower end of the bore depth and water depth vector. PC2 was correlated with temperature and pH. The plot indicated that no single component can explain the variation in the bores and stygofauna presence or absence.

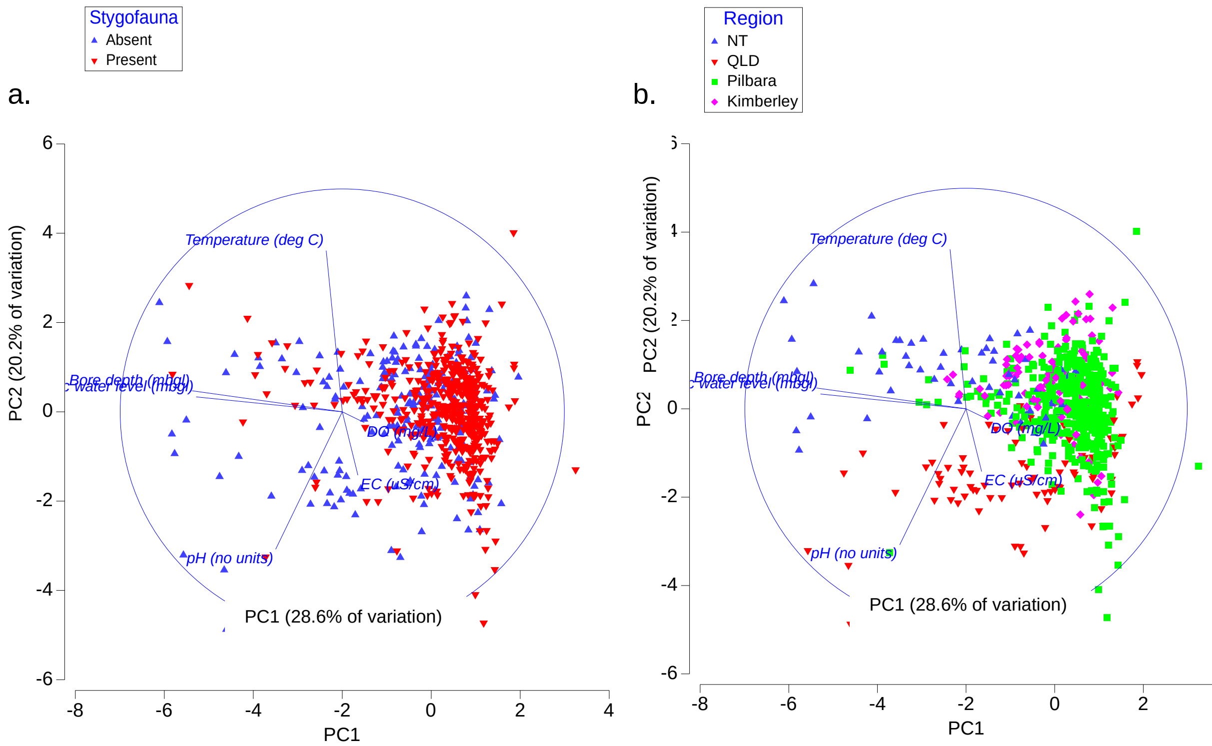



**Figure 11. PCA of a. Stygofauna absence and presence, and b. Region. PCA determined by using six components; bore depth (mbgl), water depth (mbgl), pH, temperature, dissolved oxygen (DO) and electrical conductivity (EC). Arrows indicate characteristic vectors.**

In Figure 12 the principal component plot for PC1 and PC2 are plotted individually for each region. The regions had similar cumulative variation, with Queensland able to explain the most variation within the first two components with a cumulative variation for PC1 and PC2 of 57.3%. The Northern Territory and Pilbara had the most similar cumulative variation with PC1 and PC2 able to explain 49.2% and 52.2% of the cumulative variation, respectively. In the case of the Kimberley, PC1 and PC2 were only able to explain 44.3% of the cumulative variation, i.e., lower than the other regions.

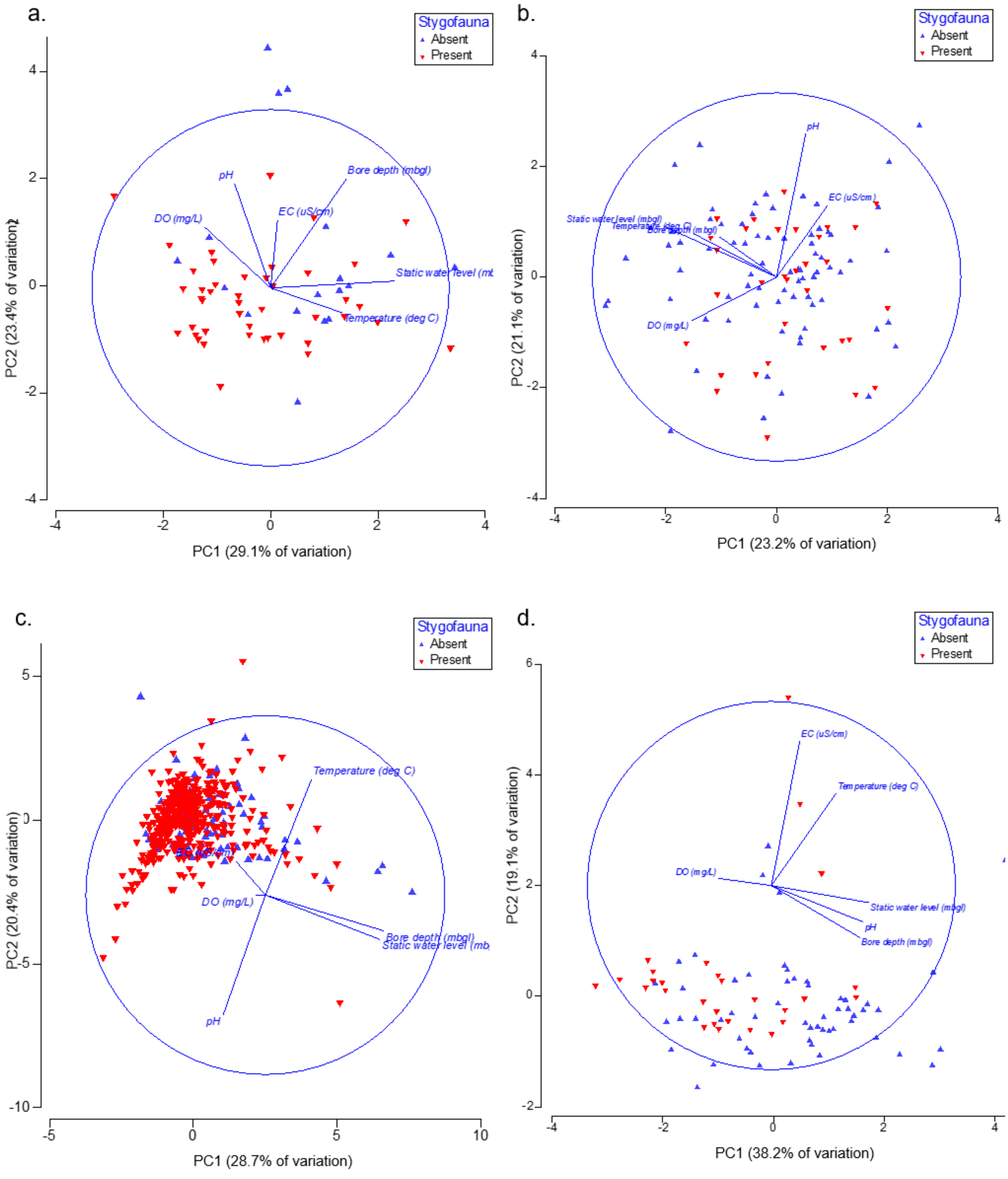



**Figure 12. PCA of a. Northern Territory, b. Kimberley, c. Pilbara and d. Queensland. PCA determined by using six drivers (bore depth (mbgl), water depth (mbgl), pH, temperature, dissolved oxygen (DO) and electrical conductivity (EC)). Arrows indicate characteristic vectors.**

# 5 DISCUSSION

## 5.1 Stygofauna presence and absence

The mapped distribution of stygofauna shows stygofauna presence in a range of hydrogeological conditions (Figure 4). The difficulty in comparing bore location and geology is driven by the need to have complex small scale 3-dimensional mapping of the geological units. While the primary hydrogeological unit type for a bore location could be accessed from 2-dimensional mapping, this is not necessarily the aquifer the bore was screened in. Additionally, sampling for stygofauna provides confirmation of presence only. Where stygofauna are absent in a sample, this may be because they are not present at that location, not present at the time of sampling, or not captured with the available sampling equipment. This issue may be addressed with the progression of eDNA sampling techniques in the place of physical detection, however eDNA data were not available for most of the sampled bores.

The spatial data distribution map demonstrates the lack of sampling in large areas of northern Australia (Figure 4). Sampling density is highest in the Pilbara and along the east coast of Queensland. This is likely because these locations are mining hubs and sampling is required before approval of large-scale dewatering, such as is usually required for mining (e.g., Doody, Hancock and Pritchard, 2018). More sampling has been completed than is shown in the collated dataset, however, the additional data could not be accessed as it is not publicly available.

An additional factor affecting the spatial distribution of sampling is the availability of bores. Bores are rarely drilled for the purpose of sampling stygofauna and are instead drilled for other hydrogeological purposes (e.g., for groundwater supplies, or to measure hydraulic heads), and as such, their distribution is typically focussed in areas around towns or where groundwater flow and groundwater quality is reasonable. As such, appropriate bores to sample for stygofauna do not occur in all landscapes.

A consideration of levels of detection of stygofauna in each region presents some interesting results, although it is difficult to understand if these are accurate indicators to stygofauna occurrence, or the result of sampling and location bias. In the Pilbara region, 81% of bores sampled detected stygofauna, in the Northern Territory it was 60%, the Kimberley 28%, and Queensland 27% (Table 1). However, the collation of this dataset obtained stygofauna sampling data from different sources that utilised different sampling techniques and sampling frequency, and this may explain some of the differences in detection levels. Also note this is presence and absence and does not consider abundance or diversity. The Pilbara data was collated from a single large study, dedicated to the collection and study of stygofauna. All sampling was completed by net hauling and most bores (93%) sampled twice or more. In the Kimberley, the dataset used was primarily collated from individual survey reports where stygofauna had been sampled for the purpose of mining approvals. These data are likely skewed by results from a small number of projects where large numbers of stygofauna sampling events were completed. Additionally, only 17% of bores were sampled twice or more, and a range of sampling techniques, including net hauling and pumping, were used to detect the presence of stygofauna. In the Northern Territory, the dataset was primarily collated from journal articles where stygofauna were reported by academics, with some additional data from stygofauna studies for project approval. A range of sampling techniques were used, including pumping, net hauling and eDNA, with only 28% of bores sampled more than once. In Queensland the data were sourced from a State database, which listed 29 references for the data and a range of sampling techniques, including netting, pumping and scrapping. Only 15% of QLD bores were sampled more than once. Regardless of the differences in sampling and reporting approaches, it is likely that some of the regional differences in stygofauna detection reflect differences in stygofauna occurrence and distributions, with the Pilbara, a region known for its rich diverse array of stygofauna species (Halse *et al.*, 2014), having the highest percentage of bores sampled containing stygofauna.

## 5.2 Physical controls

### 5.2.1 Bore construction and water depth

Water depth (mbgl) is often listed as an important factor for the presence of stygofauna (Hancock and Boulton, 2008; Hose *et al.*, 2015; Environmental Protection Authority, 2021). This is based on the assumption water depths are related to aquifer depth, and greater input of food and oxygen into the groundwater system occurs where aquifers are closer to the surface, and these factors limit stygofauna (Environmental Protection Authority, 2021). However, this is a simplification of the groundwater system as it assumes that the aquifer is unconfined and ignores that shallow groundwater may still have long residence times (100’s to 1000’s of years at large distances from the recharge zone (Poeter *et al.*, 2020). water depth measurement is a measure of depth to piezometric head, not to depth of saturated aquifer. While piezometric head and saturated zone are equivalent in unconfined aquifers, these metrics differ in confined aquifers. In confined aquifers, contained aquifer water may be significantly lower than the measured water depth in the bore where pressure has been released. In addition, access to food and oxygen may be difficult in an aquifer confined above by low permeability rock or sediments, reducing the likelihood that stygofauna will be present. The data presented in this thesis found only statistical evidence of a correlation between water depth and stygofauna presence and absence in the Pilbara and Queensland, and no evidence in the Northern Territory or the Kimberley. This observation may be due to the masking effect of sampling confined aquifers. A total of 48 of the bores studied in the Northern Territory were located in the Tindall Aquifer (Oberprieler *et al.*, 2021; Humphreys *et al.*, 2022), which is known to be confined across much of its extent by the overlying Jinduckin Formation (Department of Environment & Natural Science, 2017).

In the Northern Territory, the Pilbara and Queensland there was strong evidence of a correlation between stygofauna presence and bore depth. As bore depth had strong evidence across three regions, and water depth only had strong evidence across two regions, the former appears to be the more informative parameter to use as a guide for stygofauna occurrence. As well as *p*-value evidence, we can also consider the spread of the data in the box plots. A comparison of the data spread (i.e., interquartile range) for stygofauna presence versus absence shows greater data spread for water depth, excluding the Kimberley (Figure 5a.), compared to bore depth, where there is less data spread (Figure 5b.). The exception is the Kimberley where the differences between presence and absence are not as stark (Figure 5a. & 5b.), nor are differences between water depth and bore depth (Figure 5a. & 5b.). It is interesting that the Kimberley does not conform with the water depth and bore depth results from other regions, and this warrants further investigation in future studies. Unlike water depth, bore depth is not affected by the type of aquifer. Most bores are drilled for water production and will be constructed to the base of the shallowest aquifer with sufficient water flow for the bore's purpose.  As such, they are not drilled deeper than necessary and may better reflect the depth of the permeable aquifer unit.

The relationship between stygofauna presence and depth to the top of screened casing was also considered in this thesis where such data was available. Bores are generally constructed with screened sections across the major aquifer unit, where water and stygofauna enter the bore. Because the top of the screen is generally in line with the top of the major permeable aquifer unit, this was hypothesised to be related to stygofauna presence. However, while strong to very strong evidence indicated stygofauna preferred shallower bore depths in three regions, there was only moderate evidence that stygofauna preferred bores where the top of screen was closer to ground level in two regions (Figure 5c.). It is not clear why shallower screen intervals were not strongly correlated to stygofauna presence; this observation may have resulted from insufficient data, with no screen information available for the Pilbara region and relatively few (approximately 50%) data points available for the other regions.

### 5.2.2 Pore space

The presence of sufficient pore space is an important factor for determining suitability of an aquifer for stygofauna occurrence, with Hose *et al.*, (2015) describing it as a "key determinant". This study considered flow rate to understand if it could be used as a proxy for pore space, based on the hypothesis stygofauna would be more likely in bores with higher flow rates. While there was moderate evidence to support the hypothesis in the Northern Territory, there was no evidence in the Kimberley or Queensland and no data for the Pilbara. The data count for flow rate for the Northern Territory was 71, Kimberley 23 and Queensland 8, suggesting the reason for no evidence in Queensland was insufficient data. In the Kimberley, the lack of evidence may also caused by insufficient data, or differences in the stygofauna species that occur in the Kimberley compared to the Northern Territory. Regional differences in stygofauna species could be caused by different hydrogeological conditions in the two regions. Sampling in the Northern Territory covered larger areas of highly productive aquifers compared to the Kimberley where the aquifers were mostly of low to moderate productivity, as shown in Figure 4. The result is the Northern Territory had much higher average flow rates (8.5 L/sec to 7.5 L/sec) compared to the Kimberley (0.4 L/sec to 1.63 L/sec). In the Northern Territory, 75% of the bores where stygofauna were present had flow rates >3.6 L/sec, compared to the Kimberley where 75% had flow rates greater than 0.1 L/sec, see Figure 6 and Appendix 4 – data statistics. It is possible that different stygofauna species have adapted to the different geological conditions. It is also worth noting that the flow rate values are dependent on several factors outside of the hydraulic properties of the aquifer (e.g., the capacity of the pump and diameter of the bore).

Geology was assessed by plotting stygofauna presence and absence in Figure 7. Statistical analysis could not be calculated as each geological unit had a hydraulic conductivity range that covered several orders of magnitude. Hahn and Fuchs (2009) found stygofauna were rarely detected in areas with a hydraulic conductivity of less than $10^{-2}$ m/d ($10^{-4}$ cm/sec). In Queensland, 85% of stygofauna were found in geological units where the minimum range of hydraulic conductivity was higher than $10^{-2}$ m/d, and in the Northern Territory all stygofauna were found in geological units with a minimum hydraulic conductivity higher than $10^{-2}$ m/d. However, sampling was not proportional across a range of hydraulic conductivities, with only 1 bore in the Northern Territory sampled where hydraulic conductivity was $<10^{-2}$ m/d. In Queensland 56 bores sampled were in the low hydraulic conductivity range (with a maximum conductivity of $<10^{-2}$ m/d). Of the 56 Queensland bores sampled where hydraulic conductivity was $<10^{-2}$ m/d, 11 bores (20%) contained stygofauna. The detection rate for stygofauna in Queensland (as discussed in Section 5.1) was 27%. This suggests the method used in this study to estimate hydraulic conductivity based on main geological unit is not particularly insightful.

A deeper look into the logging and association of hydraulic conductivity to geology found several sources of error that could explain the lack of correlation between stygofauna presence and geology / hydraulic conductivity. These arise from a combination of inaccuracies related to the reduction of the geological sequence a bore intercepts to a single unit, the subjective nature of geological logging, and the subjective nature of corresponding a geological unit to a hydraulic conductivity range. If we consider clay, which was the geological unit logged in three bores where stygofauna were present, the hydraulic conductivity range applied was $10^{-7}$-$10^{-3}$ m/d, which was sourced from the hydraulic conductivity of unweathered marine clay (Freeze and Cherry, 1979). An investigation into the three bores where stygofauna were present found a ‘notes’ column where the clay was clarified as being “kaolinitic clay with ironstone”. Kaolinitic clay with ironstone is likely to be a very similar rock unit to laterite, which was used in other logs and has a higher hydraulic conductivity range as it can have karstic type features. This demonstrates how the logging is subjective and can affect the results. Similar results were found by Halse *et al.* (2014) who described the observation of geology having a very minor role in determining stygofauna occurrence as “perhaps the most surprising result of the survey” and attributed the very minor role of geology to; assigning each bore a single geological unit based on Geological survey maps, and a bias in well locations to areas with relatively high transmissivity.

### 5.2.3 Physio-chemical controls

Water quality is described as a key factor in determining aquifer suitability for stygofauna, with stygofaunal detections generally occurring in salinities below 10,000 uS/cm (Hose *et al.*, 2015). In contrast to the Hose et al. (2015) study, the data analyses presented in this thesis found very little connection between salinity and stygofauna occurrence. There are several possibilities why, including a data bias towards bores of lower salinity. Stygofauna sampling generally occurs in bores drilled and installed for other hydrogeological purposes, commonly for domestic or stock use. Thus, bores available for stygofauna sampling are generally biased towards lower salinities. An additional bias for lower salinities would occur when bores are selected for stygofauna sampling, due to the existing expectation stygofauna would prefer lower salinities (i.e., as indicated by (Hancock and Boulton, 2008; Hose *et al.*, 2015; Doody, Hancock and Pritchard, 2018). A further factor relevant to the Pilbara, is the common occurrence of stygofauna with marine lineages which are more tolerant of higher salinities (Humphreys, 2008). Additionally, stygofauna with freshwater lineages have been recorded in the Pilbara as able to survive in groundwater with marine level salinities (50,000 µS/cm) (Humphreys, 2008). The existence of such diverse stygofauna inland in marine level salinity is unknown outside the Western Plateau of Australia (Humphreys, 2008).

As is the case with salinity, bores are likely preferentially drilled in regions with reasonable pH for most purposes. Rainwater is generally slightly acidic with a pH of ~5.6 (Department of Environment Science and Innovation, 2023), but the neutral composition of the water in this study suggests the bores are installed in aquifers with a buffering capacity, which is common in rocks across Australia where the pH in most waters is controlled by a carbonate-bicarbonate buffer system (ANZECC, 2000). In the Northern Territory most stygofauna are found in limestone or calcrete aquifers (Rees *et al.*, 2020), so a relationship between stygofauna and alkaline water could be hypothesised. However, no evidence was observed in this dataset, likely because bores in general are preferentially drilled in limestone, and as such this data set is biased towards bores with alkaline groundwater. The Northern Territory dataset for pH is also small, with only 28 datapoints where stygofauna were absent, and this could also affect the results.

The only region with evidence of a correlation between stygofauna presence and pH was Queensland. There was evidence of a correlation between lower pH (closer to neutral) and stygofauna presence. It is unclear why this occurred only in Queensland and could reflect different geologies in the region compared to elsewhere. Interestingly Glanville *et al.* (2016), using a large Queensland dataset, observed taxon richness was highest in neutral to slightly alkaline pH groundwaters. It is important to note that the range of pH across most bores was small, with the interquartile range between 6.7 and 7.7, and there is likely little, if any, physiological impact on stygofauna within this range.

The Pilbara and Queensland both had a correlation between lower temperatures and presence of stygofauna. However, the average between these two groups was less than 2 °C. Groundwater temperature is influenced by geology, depth, seasonal variation and surface water recharge/groundwater discharge (Anderson, 2005; Kurylyk, Irvine and Bense, 2019). Below approximately 20 m, temperature generally increases 1°C every 20 to 40 m of depth (Anderson, 2005). Thus, the correlation between stygofauna presence and lower water temperature is likely due to these temperature correlating with shallower aquifer depth. This pattern of the presence of stygofauna correlating with lower temperatures is not observed in the Northern Territory or Kimberley datasets, although these regions had a much smaller temperature range than other regions, with climatic conditions also likely a factor. It is important to note that the temperature range across most bores was small, with interquartile temperature range between 25.9 and 30.9°C, and there is likely little, if any physiological impact on stygofauna within this range.

The physio-chemical data collected may not represent that of the stygofauna habitat where the sampling technique involved pumping water out of the bore. This technique involves the collection of large volumes of water and will pool samples from a large variety of microhabitats (Boulton, 2009). Additionally across the four regions, only in the Pilbara region were most bores sampled more than once (Section 5.1), and as such seasonality has not been accounted for. Glanville *et al.* (2016) suggested point-in-time measurements may not reflect the prevailing physio-chemical habitat characteristics in which the stygofauna actually reside.

## 5.3 Chemical controls

### 5.3.1 Redox controls

The redox reactant results (Figure 9) suggest that stygofauna show a preference towards oxidised conditions. This observation is clear in the DO results (Figure 9a.) and further confirmed with the nitrate (Figure 9b.) and manganese relationships (Figure 9c.). Most stygofauna (with the exception of some chemoautotrophic bacteria) require oxygen to sustain life (Hose et al., 2015). A limiting threshold for oxygen concentration is estimated to be between 0.2 mg/L and 0.5 mg/L (Hose et al., 2015) and stygofauna require special adaptations for these low oxygen environments (Humphreys, 2008). There are several possible explanations for the detection of stygofauna at oxygen concentrations below 0.2 mg/L. This occurred in both the Pilbara and NT, and also discussed by Halse *et al.*, (2014) when publishing the Pilbara study. Halse *et al.*, (2014) discussed the possibility that the low DO readings were caused by the stratification of DO in the water column. Halse *et al.*, (2014) conducted additional research which found DO measured 1 m below water depth and prior to purging (industry standard location for water chemistry measurement) in 34% of bores was not representative of the DO in the slotted section where stygofauna live. There was also variation on whether the DO increased or decreased down the bore water column. The spread of data in the box and whisker plots for DO (Figure 9a.) and the relationship between DO and life requirements suggest, rather than a simple relationship between increase in DO and stygofauna presence, it is more likely there is a threshold with more stygofauna found above this level. For DO, 75% of stygofauna records were found above 1.3 mg/L.

The relationship between nitrate and dissolved oxygen is complicated. While high nitrate concentrations can suggest oxidising conditions, the opposite cannot be stated, and low nitrate concentrations may be caused by reducing conditions or could result from no nitrate source (such as from agriculture) into the system, which is why stygofauna can be present even when nitrate is as the minimum detection limit (0.005 mg/L). Where stygofauna were present, 75% of the bores had a nitrate concentration of ≥0.5 mg/L, compared to where stygofauna were absent, where 75% of data had a nitrate concentration of ≥0.03 mg/L (Figure 9b.). Unlike oxygen and nitrate, manganese ($Mn^{2+}$) is a reduction reaction product, and so larger manganese concentrations suggest reduced conditions, and low manganese concentrations suggest oxidised conditions. Figure 9c. demonstrates the relationship between lower manganese and stygofauna presence, confirming the interpretations of the relationship between stygofauna occurrence and oxidising conditions.

#### 5.3.2 Major ions and water types

When analysing the stygofauna dataset against water types, analyses of the whole dataset (all regions) (Figure 10a.), Pilbara (Figure 10b.), Northern Territory (Figure 10d.), or Queensland (Figure 10e.) could not identify relationship between stygofauna presence and water type. However, in the Kimberley region there was a tendency towards an association between stygofauna presence and sodium bicarbonate type water Figure 10c.). Given that there were only 22 bores, and they were all from a relatively small area (within 50km radius), a possible explanation is that the bores intercepted two aquifers, a mixed water aquifer and a sodium bicarbonate aquifer, and only the sodium bicarbonate aquifer contained stygofauna.

The lack of evidence of a correlation between stygofauna presence and water chemistry parameters (other than salinity) has also been observed in other studies. Halse *et al.* (2014) observed pH and ionic composition had little effect on stygofauna abundance and diversity. Water chemistry parameters magnesium, calcium, phosphate and pH were found to be of minor importance in determining stygofauna occurrences by Dole-Olivier *et al.* (2009)

## 5.4 Principal component analysis

The PCA results indicate no single component had major control over the presence or absence of stygofauna and that the occurrence of stygofauna is controlled by multiple factors. The data points clustered together, indicating that many bores had similar parameter relationships (Figure 11). There was a general trend of stygofauna absence where pH was high, bore depths were high, and water depths (mbgl) were deep (Figure 11). To determine if this pattern occurred at all regions, or was caused by results from one region, PCA analysis was also completed on each region separately (Figure 12). A similar pattern could be interpreted in the Kimberley and Queensland regions (Figure 12b, & 12d.), with stygofauna absence plotting where water depths were deep and bore depth and pH were high. Where water depths were shallow and bore depth and pH were low, stygofauna presence and absence were both plotted. In the Northern Territory and Pilbara no clear patterns could be interpreted (Figure 12a, & 12 c.).

The PCA output, by region (Figure 11b.) show similar behaviour for the Pilbara and Kimberley regions, while the Northern Territory tends to have bores with greater bore depth and water depth (mbgl). Queensland bores tend to plot with higher pH. These differences are likely caused by geological and climatic differences in the regions. The combination of Queensland having a pattern of stygofauna absence at high pH, and also having water with the highest pH concentrations could potentially be explained by the high-end pH exceeding the upper limit for stygofauna occurrence based on physiological limits.

## 5.5 Region-by-region analysis

The Pilbara region had the best spatial coverage of bores across the region (see Figure 4) and the highest numbers of bore data for all parameters except screen data, flow rate and geology for which there was no data available (Figure 3). Statistical analysis of stygofauna presence and absence in the Pilbara region, provided evidence for a correlation between stygofauna presence and shallower bore depths, shallower water depths, lower water temperatures, higher DO concentrations, higher nitrate concentrations, lower manganese concentrations and lower iron concentrations (Table 2). This was broadly in line with results found in Queensland, the only other region with similar data counts. The PCA outputs had bores in the Pilbara clustered similarly to those in the Kimberley, but generally, the Pilbara and Kimberley had water depths and bore depths which were shallower than those of the Northern Territory or Queensland (Figure 11b.).

**Table 2. Summary of statistical significance of stygofauna occurrence for each major parameter by region.**

| Parameter | Statistical significance in each region | | | |
|---|---|---|---|---|
| | Pilbara | Kimberley | NT | QLD |
| Water depth | ☑**** | NS | NS | ☑*** |
| Bore depth | ☑**** | NS | ☑*** | ☑**** |
| Top of Screen | NA | NS | ☑* | ☑** |
| Temperature | ☑**** | NS | NS | ☑*** |
| Flow rate | NA | NA | ☑* | NA |
| Geology | NA | NA | NA | NA |
| Electrical conductivity | NS | ☑* | NS | NS |
| Dissolved oxygen | ☑**** | NS | NS | ☑** |
| Nitrate | ☑*** | NS | NS | ☑** |
| Manganese | ☑** | NS | NA | ☑* |
| Iron | ☑** | NA | NA | NS |
| pH | NS | NS | NS | ☑**** |

☑ *p-value* calculation was < 0.05. With the range of *p*-values presented as follows: If a *p*-value is less than 0.05 it is flagged with one star (*). If a *p*-value is less than 0.01 it is flagged with two stars (**). If a *p*-value is less than 0.0001 it is flagged with three stars. If a *p*-value is less than 0.00001 it is flagged with four stars (****).
NS indicates results were not significant (*p*-value > 0.05).
NA denotes not applicable, and has been applied where there was insufficient data for calculation.

The spatial distribution of bores sampled for stygofauna across the Kimberley region was poor (see Figure 4). This is because the Kimberley stygofauna data was collated from six mining project studies and one government report, all of which individually covered a small area. The number of bores sampled for water depth, bore depth, EC, pH, temperature and dissolved oxygen were moderate, with data available for 165 to 204 bores. Data availability for screen, flow rate, iron, manganese and nitrate were low to very low, with data available for 3 to 61 bores (Figure 3). Unlike the Pilbara and Queensland, no evidence supported hypotheses suggesting stygofauna presence was associated with water depth, bore depth, temperature, dissolved oxygen, nitrate or manganese concentrations (Table 2). This lack of evidence may be due to a combination of factors including low data numbers, and inherent data integrity issues, noting that most bore data for the Kimberley region were provided from the Western Australia water reporting information database and not collected at the time the samples were collected. Some differences may be explained by geological and climate differences, although it is unlikely this explains all the differences given there were more similarities in the other three regions, which covered a variety of geological terrains. Additionally, the PCA analysis for the Kimberley region showed the least clustering of bores (Figure 12).

In the Northern Territory, bores sampled for stygofauna were spatially clustered around locations with easy access, such as along the Stuart Highway (Figure 4), and with a bias towards data collected in the Tindall Limestone system. Little bore data were available for many parameters, with data available for 51 to 101 bores, other than nitrate, where data availability was very low (14 bores) (Figure 3). Statistical analyses indicated moderate to strong evidence supporting the hypothesis relating to stygofauna presence for bore depth, top of screen and flow rate. Interestingly weak to no evidence was found between stygofauna presence and water depth, temperature, dissolved oxygen and nitrate, when there was moderate to strong evidence for the Pilbara and Queensland regions (Table 2). Differences in geology and influence of confined aquifers may explain some of these differences in results, including the differences around water depth (see Section 5.2.1 Bore construction and water depth for discussion on the potential impact of bores in the confined Tindall limestone and how that may have affected the correlation between water depth and stygofauna presence). The differences in the results for dissolved oxygen and nitrate for the Northern Territory compared to other regions may be due to insufficient data. While the dataset contained 64 data points for dissolved oxygen (45 present, 19 absent), the additional complexity of oxygen stratification would result in greater data scatter and the need for more datapoints before evidence of a correlation was observed in *p*-value analysis. It is unclear why no evidence was found for a correlation between stygofauna presence and temperature in the Northern Territory, especially given bores were generally deeper in the Northern Territory. The PCA results for the Northern Territory were similar to other regions and did not provide much insight into explaining bore parameter relationships.

The spatial distribution of sampled bores across Queensland was poor, with ~90% of bores located in the south-east of the region (Figure 4), likely because this area represents a mining hub. The total number of bores sampled was high (467 bores). Data availability on water depth, bore depth, EC, pH, temperature and dissolved oxygen was moderate to high with data available for between 147 to 337 bores (Figure 3). The data availability for other parameters was low (65 – 91 bores), except for flow rate where only 8 bores had data available. There was moderate or strong evidence to support all the hypotheses except regarding EC and Iron (Table 2). This was largely in-line with other regions. The PCA showed bores in Queensland generally had higher EC and high pH compared to other regions (Figure 11b.), a likely consequence of geology and climate.

-

# 6 CONCLUSIONS AND RECOMMENDATIONS

## 6.1 Conclusions

Groundwater ecosystems are complex and defining which bores intercept suitable habitat for stygofauna occurrence is not simple. Humphreys (2009) described the three major components essential to the functioning of ecosystems as a place for stygofauna to live: pore space, oxygen, and food (energy input). This study attempted to find qualitative proxies for these parameters and others to inform bore selection when planning a stygofauna sampling program.

The best proxy for 'a place to live' is a measure of hydraulic conductivity, however no easily accessible data were available for the analyses presented here. As an alternative, 'flow rate', was considered a suitable alternative. There was only adequate data for analysis in the Northern Territory, where there was moderate evidence for a correlation between higher flow rates and stygofauna presence.

Concentrations of dissolved oxygen and stygofauna presence were also identified as important, with moderate to strong evidence of a correlation between stygofauna presence and increased concentrations of dissolved oxygen in the Pilbara and in Queensland. Moderate to strong evidence for a correlation between stygofauna presence and concentrations of redox-related chemicals (higher nitrate or lower manganese concentrations) were also found in the Pilbara and Queensland. Moderate evidence of a correlation between stygofauna presence and lower iron concentrations were found in the Pilbara region.

Of the parameters that represent a proxy for food availability, including bore depth, water depth (mbgl), top of screen (mbgl) and temperature (mbgl), bore depth was found to be the most important. There was strong evidence of a correlation between shallower bore depth and stygofauna presence in three regions (Pilbara, Queensland and Northern Territory), compared to water depth and temperature where there was only strong evidence in two regions (Pilbara and Queensland), or top of screen where there was only strong evidence for Queensland.

Water chemistry including salinity are also listed as important in many studies (Humphreys, 2008; Hose *et al.*, 2015; Environmental Protection Authority, 2021) due to the physiological limits of stygofauna. This study considered pH and salinity (as EC) but did not find widespread correlations between stygofauna presence and either parameter. This is likely due to a bias in the bores sampled, as most bores sampled are typically drilled to access high quality water.

## 6.2 Future research directions and recommendations

The results presented here utilised a large dataset that provide further options for reanalysis. For example, additional analyses could examine various subsets of bores. Example analyses could include grouping the Northern Territory and Kimberley regions together, as these regions are geographically adjacent and often had low data counts, to make a region of central-northern Australia. Another bore subset could be the consideration of different environments including the separation of coastal aquifers from inland aquifers (e.g., Saccò *et al.*, 2022).

Another area of research utilising the data presented here is to delve deeper into the relationship between stygofauna presence or absence and confined versus unconfined aquifers. In the Pilbara and Queensland, there was evidence of a correlation between stygofauna presence with both water depth and bore depth. In the Northern Territory there was only evidence of a correlation with bore depth, and it would be interesting to do further study and try and determine if this was caused by confined aquifers in the Northern Territory. Another research area related to bore construction would be to study the relationship between presence and absence with distance below the water table. This was studied by Hancock and Boulton (2009), who found higher abundances and taxa richness in bores where the screen was close to the water depth in an unconfined aquifer.

The next step in the stygofauna habitat research area would be to consider species abundance and diversity across the regions. Considering number of animals, numbers of species and diversity of species may offer additional insights. With the increasing use of new sampling techniques including the use of eDNA, investigations into how eDNA results compare to samples collected by netting or pumping could lead to the development of standardised sampling guidelines. While sampling technique studies have been conducted at the project scale (e.g., Hancock and Boulton, 2009), they have not been done across large, multi-regional scales.

To gain a better understanding of the hydrogeological conditions required for stygofauna habitat, and in particular pore space availability, studies would benefit from the collection of field hydraulic conductivity estimates (e.g., from rising/falling head tests). Given that hydraulic parameter estimation requires specialised hydrogeological expertise, biologists may benefit from increased collaboration with hydrogeologists in stygofauna studies.

Reaching robust conclusions from collations of multiple datasets rely on the quality and quantity of the input data. A key recommendation from this thesis is for stygofauna and bore survey data to be publicly available and easily accessible. Obtaining access to datasets across northern Australia was challenging. Wider access to datasets including, registered bore ID, a common suite of analytes, and data stored in easily accessible formats, would further facilitate the understanding of factors that control the presence of stygofauna.

# REFERENCES


Ackman, T.E. and Jones, J.R. (1991) 'Methods to identify and reduce potential surface stream water losses into abandoned underground mines', *Environmental Geology and Water Sciences*, 17(3), pp. 227–232. Available at: https://doi.org/10.1007/BF01701703.

Ahmad, M. and Munson, T. (2013) 'Chapter 2: Geological framework', in *Geology and mineral resources of the Northern Territory*. Northern Territory Geological Survey (Special Publication 5).

Anderson, M.P. (2005) 'Heat as a Ground Water Tracer', *Groundwater*, 43(6), pp. 951–968. Available at: https://doi.org/10.1111/j.1745-6584.2005.00052.x.

ANZECC (2000) *Australian and New Zealand guidelines for fresh and marine water quality*. Volume 2. Australian and New Zealand Environment and Conservation Council, Agriculture and Resource Management Council of Australia and New Zealand. Available at: https://www.waterquality.gov.au/sites/default/files/documents/anzecc-armcanz-2000-guidelines-vol2.pdf (Accessed: 25 March 2024).

Appelo, C.A.J. and Postma, D. (2005) *Geochemistry, groundwater and pollution*. 2nd edn. Amsterdam, Netherlands: A.A. Balkema Publishers.

Australian Bureau of Statistics (2021) *Digital boundary files | Australian Bureau of Statistics*. Available at: https://www.abs.gov.au/statistics/standards/australian-statistical-geography-standard-asgs-edition-3/jul2021-jun2026/access-and-downloads/digital-boundary-files (Accessed: 9 May 2024).

Australian Government (2023) *Australian climate zones | YourHome*. Available at: https://www.yourhome.gov.au/getting-started/australian-climate-zones (Accessed: 28 February 2024).

Becher, J. *et al.* (2022) 'Groundwater fauna downtown – Drivers, impacts and implications for subsurface ecosystems in urban areas', *Journal of Contaminant Hydrology*, 248, p. 104021. Available at: https://doi.org/10.1016/j.jconhyd.2022.104021.

Boulton, A.J. (2009) 'Recent progress in the conservation of groundwaters and their dependent ecosystems', *Aquatic Conservation: Marine and Freshwater Ecosystems*, 19(7), pp. 731–735. Available at: https://doi.org/10.1002/aqc.1073.

Boulton, A.J. (2014) *Australian freshwater ecology: processes and management*. Second edition. Chichester, West Sussex: Wiley Blackwell.

Britannica (2017) *Craton; Geology*, *Encyclopedia Britannica*. Available at: https://www.britannica.com/science/craton (Accessed: 9 May 2024).

Brodie, R.S. *et al.* (2019) 'Hydrogeology Map of Australia (G.Jacobson and JE.Lau Hydrogeology Map)'. Canberra: Geoscience Australia. Available at: https://pid.geoscience.gov.au/dataset/ga/32368.

Bureau of Meteorology (2023) *Australian Groundwater Explorer*. Available at: http://www.bom.gov.au/water/groundwater/explorer/map.shtml.

Cawood, P.A. (2011) *Terra Australis Orogen*, *Australia: The Land where time began*. Available at: https://austhrutime.com/.

Chandler, L., Tomlinson, M. and Humphrey, C. (2017) 'Water quality and biota in the subsurface sands of Magela Creek: report of a pilot project'.

Cook, B., Pratt, L. and Conacher, C. (2019) 'Jervois Base Metal Project Stygofauna Pilot Study: Prepared for Nitro Solutions on behalf of KGL Resources'.

Department of Biodiversity, Conservation and Attractions (2021) 'DBCA District Boundaries (DBCA-023)'. Data WA. Available at: https://catalogue.data.wa.gov.au/dataset/dpaw-district-boundaries-dpaw-034 (Accessed: 9 May 2024).

Department of Environment & Natural Science, N.T.G. (2017) *Background Brief - Tindall Limestone Aquifer, Katherine*.

Department of Environment Science and Innovation (2023) *pH (water)*. Available at: https://wetlandinfo.des.qld.gov.au/wetlands/ecology/components/water-chemical/ph-water/ (Accessed: 25 March 2024).

Department of Water and Environmental Regulation (2020) 'Proclaimed groundwater areas map'. Government of Western Australia. Available at: https://www.wa.gov.au/government/publications/proclaimed-groundwater-areas-map.

Di Lorenzo, T. *et al.* (2015) 'Ammonium threshold values for groundwater quality in the EU may not protect groundwater fauna: evidence from an alluvial aquifer in Italy', *Hydrobiologia*, 743(1), pp. 139–150. Available at: https://doi.org/10.1007/s10750-014-2018-y.

Dogramaci, S. *et al.* (2012) 'Stable isotope and hydrochemical evolution of groundwater in the semi-arid Hamersley Basin of subtropical northwest Australia', *Journal of Hydrology*, 475, pp. 281–293. Available at: https://doi.org/10.1016/j.jhydrol.2012.10.004.

Dole-Olivier, M. *et al.* (2009) 'Relationships between environmental variables and groundwater biodiversity at the regional scale', *Freshwater Biology*, 54(4), pp. 797–813. Available at: https://doi.org/10.1111/j.1365-2427.2009.02184.x.

Doody, T.M., Hancock, P.J. and Pritchard, J.L. (2018) 'Assessing Groundwater-Dependent Ecosystems: IESC Information Guidelines Explanatory Note. A report prepared for the Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development through the Department of the Environment and Energy'.

Eberhard, S.M., Halse, S.A. and Humphreys, W.F. (2005) 'Stygofauna in the Pilbara region, north-west Western Australia: a review', *Journal of the Royal Society of Western Australia*, 88, p. 167.

Eisendle-Flöckner, U. and Hilberg, S. (2015) 'Hard rock aquifers and free-living nematodes – an interdisciplinary approach based on two widely neglected components in groundwater research', *Ecohydrology*, 8(3), pp. 368–377. Available at: https://doi.org/10.1002/eco.1516.

Environmental Protection Authority (2021) *Technical guidance –Subterranean fauna surveys for environmental impact assessment*. Western Australia: EPA.

Eriksson, K., Keogh, R. and Eberhard, S. (2012) 'Canning Basin Project: Stygofauna Survey and Assessment, Prepared for Fortescue Metals Group Limited'.

Fitts, C.R. (2013) *Groundwater Science*. 2nd edn. USA: Elsevier.

Flook, S.C. *et al.* (2020) 'Evolution of Knowledge on Springs in the Surat and Southern Bowen Basins: Survey, Conceptualisation and Wetland Dynamics', *The Proceedings of the Royal Society of Queensland*, 126, pp. 47–64. Available at: https://doi.org/10.5962/p.357837.

Fonseca, A. *et al.* (2022) 'Differential exhumation of cratonic and non-cratonic lithosphere revealed by apatite fission-track thermochronology along the edge of the São Francisco craton, eastern Brazil', *Scientific Reports*, 12(1), p. 2728. Available at: https://doi.org/10.1038/s41598-022-06419-w.

Freeze, A. and Cherry, J. (1979) *Groundwater*. Englewood Cliffs, USA: Prentice Hall. Available at: https://fc79.gw-project.org/english/chapter-2/ (Accessed: 7 May 2024).

Gallardo, A.H. (2019) 'Hydrogeological characterisation and groundwater exploration for the development of irrigated agriculture in the West Kimberley region, Western Australia', *Groundwater for Sustainable Development*, 8, pp. 187–197. Available at: https://doi.org/10.1016/j.gsd.2018.11.004.

Glanville, K. *et al.* (2016) 'Biodiversity and biogeography of groundwater invertebrates in Queensland, Australia', *Subterranean Biology*, 17, pp. 55–76. Available at: https://doi.org/10.3897/subtbiol.17.7542.

Government of Western Australia (2023) *Water Information Reporting*, *Department of Water and Environmental Regulation*. Available at: https://wir.water.wa.gov.au/Pages/Water-Information-Reporting.aspx (Accessed: 28 January 2024).

Gray, D. and Bardwell, N. (2016) 'Hydrogeochemistry of Northern Territory: Data Release'. [object Object]. Available at: https://doi.org/10.4225/08/5987D4BA86FF7.

Guzik, M.T. *et al.* (2019) 'Molecular phylogenetic analysis of Australian arid-zone oniscidean isopods (Crustacea: Haloniscus) reveals strong regional endemicity and new putative species', *Invertebrate systematics*, 33(3), pp. 556–574. Available at: https://doi.org/10.1071/IS18070.

Habermehl, M.A. (2020) 'Review: The evolving understanding of the Great Artesian Basin (Australia), from discovery to current hydrogeological interpretations', *Hydrogeology Journal*, 28(1), pp. 13–36. Available at: https://doi.org/10.1007/s10040-019-02036-6.

Hahn, H.J. (2006) 'The GW-Fauna-Index: A first approach to a quantitative ecological assessment of groundwater habitats', *Limnologica*, 36(2), pp. 119–137. Available at: https://doi.org/10.1016/j.limno.2006.02.001.

Hahn, H.J. and Fuchs, A. (2009) 'Distribution patterns of groundwater communities across aquifer types in south-western Germany', *Freshwater Biology*, 54(4), pp. 848–860. Available at: https://doi.org/10.1111/j.1365-2427.2008.02132.x.

Hahn, H.J. and Matzke, D. (2005) 'A comparison of stygofauna communities inside and outside groundwater bores', *Limnologica*, 35(1–2), pp. 31–44. Available at: https://doi.org/10.1016/j.limno.2004.09.002.

Halse, S.A. *et al.* (2014) 'Pilbara stygofauna: deep groundwater of an arid landscape contains globally significant radiation of biodiversity', *Records of the Western Australian Museum, Supplement*, 78(2), p. 443. Available at: https://doi.org/10.18195/issn.0313-122x.78(2).2014.443-483.

Hancock, P.J. and Boulton, A.J. (2008) 'Stygofauna biodiversity and endemism in four alluvial aquifers in eastern Australia', *Invertebrate Systematics*, 22(2), p. 117. Available at: https://doi.org/10.1071/IS07023.

Hancock, P.J. and Boulton, A.J. (2009) 'Sampling groundwater fauna: efficiency of rapid assessment methods tested in bores in eastern Australia', *Freshwater Biology*, 54(4), pp. 902–917. Available at: https://doi.org/10.1111/j.1365-2427.2007.01878.x.

Hose, G.C. *et al.* (2015) 'Stygofauna in Australian Groundwater Systems: Extent of knowledge', *CSIRO* [Preprint].

Hu, K.X. *et al.* (2022) 'Irrigated agriculture potential of Australia's northern territory inferred from spatial assessment of groundwater availability and crop evapotranspiration', *Agricultural Water Management*, 264, p. 107466. Available at: https://doi.org/10.1016/j.agwat.2022.107466.

Humphreys, G. *et al.* (2022) ‘Aquatic Ecosystems Baseline Report: Stygofauna. Strategic Regional Environmental and Baseline Assessment for the Beetaloo Sub-Basin.’ Report to Northern Territory Department of Environment, Parks and Water Security.

Humphreys, W. (1999) ‘Groundwater fauna sampling in the Kimberley north of 16°S and east of 128°E: A report for Kinhill Pty Ltd pertaining to Stage 2 (M2): Ord River Irrigation Area project’.

Humphreys, W. (2003) ‘Report on stygofauna sampling at the Argyle Diamond Mine, Kimberley, Western Australia: Prepared for Argyle Diamond Mines Pty Ltd’.

Humphreys, W.F. (2006) ‘Aquifers: the ultimate groundwater-dependent ecosystems’, *Australian Journal of Botany*, 54(2), p. 115. Available at: https://doi.org/10.1071/BT04151.

Humphreys, W.F. (2008) ‘Rising from Down Under: developments in subterranean biodiversity in Australia from a groundwater fauna perspective’, *Invertebrate Systematics*, 22(2), p. 85. Available at: https://doi.org/10.1071/IS07016.

Humphreys, W.F. (2009) ‘Hydrogeology and groundwater ecology: Does each inform the other?’, *Hydrogeology Journal*, 17(1), pp. 5–21. Available at: https://doi.org/10.1007/s10040-008-0349-3.

Jackett, N. *et al.* (2016) ‘Terrestrial And Subterranaean Fauna Assessment: Sheffield Resources Ltd, Thunderbird Project’.

Jacobson, G. and Lau, J.E. (1987) ‘Hydrogeology Map of Australia - 1:5m.’ Canberra: Geoscience Australia. Available at: Jacobson, G., Lau, J.E. 1987. Hydrogeology Map of Australia - 1:5m. Geoscience Australia, Canberra. https://pid.geoscience.gov.au/dataset/ga/15629.

Johns, T. *et al.* (2015) ‘Regional-scale drivers of groundwater faunal distributions’, *Freshwater Science*, 34(1), pp. 316–328. Available at: https://doi.org/10.1086/678460.

Johnson, D. (2010) *The geology of Australia*. 2. ed., repr. Cambridge: Cambridge Univ. Press.

Johnson, S.L. (2006) ‘Groundwater resources of the East Kimberley – Tanami Minerals Province’, *Department of Water*, Hydrogeological Record Series(Report No. HG18).

Karanovic, T. *et al.* (2013) ‘Two new subterranean ameirids (Crustacea : Copepoda : Harpacticoida) expose weaknesses in the conservation of short-range endemics threatened by mining developments in Western Australia’, *Invertebrate Systematics*, 27(5), p. 540. Available at: https://doi.org/10.1071/IS12084.

Kinsey, J., Cooney, T.J. and Simon, K.S. (2007) ‘A comparison of the leaf shredding ability and influence on microbial films of surface and cave forms of Gammarus minus Say’, *Hydrobiologia*, 589(1), pp. 199–205. Available at: https://doi.org/10.1007/s10750-007-0739-x.

Knott, B. (1993) *Stygofauna from Cape Range peninsula, Western Australia: Tethyan relicts*. 45, pp. 109-127.

Korbel, K. *et al.* (2017) ‘Wells provide a distorted view of life in the aquifer: implications for sampling, monitoring and assessment of groundwater ecosystems’, *Scientific Reports*, 7(1), p. 40702. Available at: https://doi.org/10.1038/srep40702.

Korbel, K.L. and Hose, G.C. (2015) ‘Habitat, water quality, seasonality, or site? Identifying environmental correlates of the distribution of groundwater biota’, *Freshwater Science*, 34(1), pp. 329–343. Available at: https://doi.org/10.1086/680038.

Korbel, K.L., Stephenson, S. and Hose, G.C. (2019) ‘Sediment size influences habitat selection and use by groundwater macrofauna and meiofauna’, *Aquatic Sciences*, 81(2), p. 39. Available at: https://doi.org/10.1007/s00027-019-0636-1.

Kumwenda, J., Betts, P. and Armit, R. (2023) ‘Exposing basement terranes of the North Australian Craton’, *Earth-Science Reviews*, 237, p. 104310. Available at: https://doi.org/10.1016/j.earscirev.2022.104310.

Kurylyk, B.L., Irvine, D.J. and Bense, V.F. (2019) ‘Theory, tools, and multidisciplinary applications for tracing groundwater fluxes from temperature profiles’, *WIREs Water*, 6(1), p. e1329. Available at: https://doi.org/10.1002/wat2.1329.

Lythe, M. *et al.* (2020) ‘Havieron Project: Subterranean Fauna Survey, Biologic Environmental Survey Report to Newcrest Mining Limited’.

Marmonier, P. *et al.* (2018) ‘Ecology-based evaluation of groundwater ecosystems under intensive agriculture: A combination of community analysis and sentinel exposure’, *Science of The Total Environment*, 613–614, pp. 1353–1366. Available at: https://doi.org/10.1016/j.scitotenv.2017.09.191.

Maurice, L. and Bloomfield, J. (2012) ‘Stygobitic Invertebrates in Groundwater — A Review from a Hydrogeological Perspective’, *Freshwater Reviews*, 5(1), pp. 51–71. Available at: https://doi.org/10.1608/FRJ-5.1.443.

Moulds, T., Pears, E. and Freeland, W. (2011) ‘Nolans Mine EIS Stygofauna Pilot Survey’.

Muff, S. *et al.* (2022) ‘Rewriting results sections in the language of evidence’, *Trends in Ecology & Evolution*, 37(3), pp. 203–210. Available at: https://doi.org/10.1016/j.tree.2021.10.009.

National Uniform Drillers Licensing Committee (2020) *Minimum construction requirements for water bores in Australia*. 4th edn.

Newcrest Mining Ltd (2002) ‘Telfer Project Mine and Borefield Extensions: Notice of Intent-Additional Referral Information’.

Northern Territory Government (2022) *Weather and seasons | The Territory, Australia*. Northern Territory Government. Available at: https://theterritory.com.au/live/weather-and-seasons (Accessed: 28 February 2024).

Northern Territory Government (2023a) *Bore work permit*, *NT.GOV.AU*. Available at: https://nt.gov.au/environment/water/licensing/bore/bore-work-permit (Accessed: 27 February 2024).

Northern Territory Government (2023b) *Do I need a licence to take groundwater or construct or alter a bore?* Available at: https://www.wa.gov.au/government/publications/do-i-need-licence-take-groundwater-or-construct-or-alter-bore (Accessed: 27 February 2024).

Northern Territory Government (2023c) *Northern Territory bore locations, water quality and groundwater levels - NTG Open Data Portal*, *Northern Territory bore locations, water quality and groundwater levels - NTG Open Data Portal*. Available at: https://data.nt.gov.au/dataset/nt-bore-locations-water-quality-and-groundwater-levels (Accessed: 28 January 2024).

Northern Territory Government (2023d) *NR MAPS*, *Natural Resource Maps*. Available at: https://nrmaps.nt.gov.au/nrmaps.html (Accessed: 28 January 2024).

Northern Territory Government (2023e) ‘NT Bores Data’.

Oberprieler, S. *et al.* (2021) ‘Connectivity, not short-range endemism, characterises the groundwater biota of a northern Australian karst system’, *Science of The Total Environment*, 796, p. 148955. Available at: https://doi.org/10.1016/j.scitotenv.2021.148955.

Osborne, S. (2012) ‘Subterranean fauna desktop study and field survey for the Sorby Hills Project’.

Poeter, E. *et al.* (2020) *Groundwater in Our Water Cycle: Getting to Know Earth's Most Important Fresh Water Source*. The Groundwater Project. Available at: https://doi.org/10.21083/978-1-7770541-1-3.

Queensland Government (2017) 'Can I drill a bore'. Available at: https://adia.com.au/wp-content/uploads/2020/09/Can-I-drill-a-bore-south-west-Qld.pdf.

Queensland Government (2018) *Bore construction and approvals*. Available at: https://www.business.qld.gov.au/industries/mining-energy-water/water/bores-and-groundwater/construction-approvals (Accessed: 10 May 2024).

Queensland Government (2019) *Queensland subterranean aquatic fauna database*. Available at: https://www.data.qld.gov.au/dataset/queensland-subterranean-aquatic-fauna-database (Accessed: 16 May 2024).

Queensland Government (2023) *Water plan areas*. Available at: https://www.business.qld.gov.au/industries/mining-energy-water/water/catchments-planning/water-plan-areas (Accessed: 10 May 2024).

Queensland Government (2024) *Groundwater Database - Queensland*. Available at: https://qldspatial.information.qld.gov.au/catalogue/custom/detail.page?fid={E314CC59-7466-4A9E-AFE2-A36645B1C29E} (Accessed: 16 May 2024).

Queensland Groundwater Solutions (2024) 'FAQ: Do I need a permit to drill a bore?', *https://qldgroundwater.com.au/*. Available at: https://qldgroundwater.com.au/faq/ (Accessed: 10 May 2024).

Rees, G. *et al.* (2020) 'Characterisation of the stygofauna and microbial assemblages of the Beetaloo Sub-basin, Northern Territory', *CSIRO, Australia* [Preprint].

Rojas, R. *et al.* (2018) 'Groundwater Resource Assessment and Conceptualization in the Pilbara Region, Western Australia', *Earth Systems and Environment*, 2(2), pp. 345–365. Available at: https://doi.org/10.1007/s41748-018-0051-0.

Saccò, M. *et al.* (2019) 'New light in the dark - a proposed multidisciplinary framework for studying functional ecology of groundwater fauna', *Science of The Total Environment*, 662, pp. 963–977. Available at: https://doi.org/10.1016/j.scitotenv.2019.01.296.

Saccò, M. *et al.* (2020) 'Stygofaunal community trends along varied rainfall conditions: Deciphering ecological niche dynamics of a shallow calcrete in Western Australia', *Ecohydrology*, 13(1), p. e2150. Available at: https://doi.org/10.1002/eco.2150.

Saccò, M. *et al.* (2022) 'Stygofaunal diversity and ecological sustainability of coastal groundwater ecosystems in a changing climate: The Australian paradigm', *Freshwater Biology*, 67(12), pp. 2007–2023. Available at: https://doi.org/10.1111/fwb.13987.

Stevens, N., Ramlee, L. and Ross, S. (2014) 'Subterranean Fauna Assessment: Northern Minerals Limited, Browns Range Project'.

Taylor, A. *et al.* (2021) 'Groundwater baseline review of the Canning Basin, Western Australia', *CSIRO Technical Report*, A technical report from CSIRO to GISERA(EP2021-1700). Available at: https://doi.org/10.25919/wsky-g072.

Thomas, E. and Hofmeester, E. (2021) 'Lake Mackay Potash Project: Consolidated Subterranean Fauna Study: Prepared For Agrimin Ltd'.

Tickell, S. (2008) *Explanatory notes to the Groundwater Map of the Northern Territory.* Technical Report No. 12/2008D. Northern Territory Government Department of Natural Resources the Environment the Arts and Sport.

Tickell, S. (2013) ‘Groundwater of the Northern Territory, 1:2000000 scale’. Northern Territory: Department of Land Resource Management.

Tomlinson, M. and Boulton, A.J. (2010) ‘Ecology and management of subsurface groundwater dependent ecosystems in Australia - a review’, *Marine and Freshwater Research*, 61(8), p. 936. Available at: https://doi.org/10.1071/MF09267.

Trotter, A. and Halse, S. (2012) ‘Subterranean Fauna Assessment of the Kintyre Uranium Deposit: Prepared for Cameco Australia Pty Ltd’.

Western Australian Government (2023) *Water licensing exemptions*. Available at: https://www.wa.gov.au/service/building-utilities-and-essential-services/integrated-essential-services/water-licensing-exemptions (Accessed: 5 March 2024).

Zektser, I.S. and Everett, L.G. (2004) *Groundwater resources of the world and their use*. Paris: UNESCO (IHP-VI, SERIES ON GROUNDWATER, NO. 6).

# APPENDIX 1 – DATA SOURCES

## Northern Territory

### Bore Data

Bore data was provided by the Northern Territory Department for Environment, Parks and Water Security (Northern Territory Government, 2023e) in the form of an excel spreadsheet.

From this spreadsheet the following was obtained:

- Bore ID
- Bore name
- Latitude
- Longitude
- Water level
- Drill depth
- Depth from
- Depth to
- Yield (L/s)

The following QAQC checks were made:

- A small selection of bores were double checked against original bore data (scanned bore construction reports) where such reports could be located.
- Latitude and longitude were checked via a visual check for any bores plotting outside region, with all outliers removed.

### Chemistry Data

Chemistry data was downloaded from the Northern Territory Government Open Data Portal (Northern Territory Government, 2023c) as a geospatial package entitled NT bore locations, water quality and groundwater levels on the 22/08/2023.

From this source the following data was obtained:

- Bore no.
- pH field

- Temperature
- Na
- K
- Mg
- Ca
- $HCO_3$
- $SO_4$
- $NO_3$
- Cl
- EC
- TDS
- Fe

No units were provided. To confirm the units and verify the data were correct a small selection of bores were checked against the original bore data (scanned laboratory reports or construction logs) where such reports could be located. These found the following units were used; Major ions (Na, K, Mg, Ca, $HCO_3$, $SO_4$, $NO_3$, Cl) were in mg/L, EC was in µS/cm, TDS was in mg/L, and Temperature was in degrees Celsius.

The following checks and corrections were made to the data:

- Where TDS was available and not EC, the TDS was converted to EC using the formula EC = TDS x 1.39 (this value was calculated based on the linear equation in Figure 1).
- Where neither TDS nor EC were available, but all major ions were, EC was calculated with the following formula: EC = Sum major ions x 1.39 (this value was calculated based on the linear equation in Figure 1).
- Ionic balance was calculated and any result ± 15% was removed.
- Where bores had been tested/analysed multiple times the results were averaged.
- When Fe data from the Northern Territory was compared to data from other regions immediate discrepancies appeared between the different data sets. This was investigated and it was found the Northern Territory dataset contained data in both mg/L and µg/L. Several attempts were made to correct for this including, looking for an identifying factor in the sample ID or the date the sample was assessed, and correcting all values >20, but even with these corrections discrepancies still occurred and it was decided to remove the dataset from the study. Other parameters were then checked for similar discrepancies, but no issues were found.

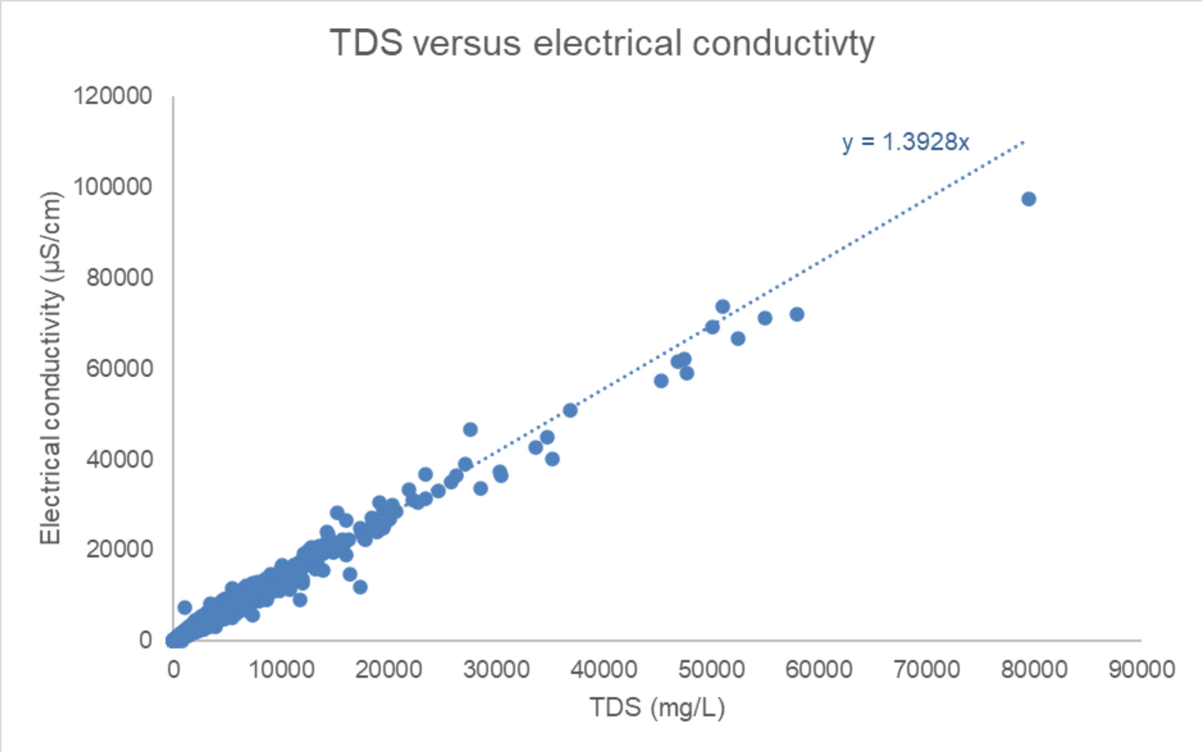



**Figure 1. Comparison of EC and TDS.**

Chemistry data for Manganese (mg/L) was downloaded from the Australian Government Bureau of Meteorology Australian Groundwater Explorer database (Bureau of Meteorology, 2023). This was the only data sourced from this location and was verified by cross-referencing the sample concentrations against original bore logs and laboratory reports. Originally all chemistry data was planned to be downloaded from this central location, however discrepancies were found in the Groundwater Explorer database (and its source data CSIRO Hydrogeology from the Northern Territory Data Release (Gray and Bardwell, 2016). After these discrepancies where found it was decided a more reliable option would be using individual State databases. The discrepancies were collated and sent to the CSIRO who responded to confirm there were issues and they would seek to address them and re-release the data.

**Additional data from stygofauna reports**

Additional data on the following was found in some stygofauna reports and incorporated into the dataset:

- EC (uS/cm)
- pH
- Temperature (deg C)
- Water level
- Bore depth

- Dissolved oxygen (mg/L)

**Stygofauna Data**

Data on the presence and absence of stygofauna was found in the following reports:

- Water quality and biota in the subsurface sands of Magela Creek – report of a pilot project (Chandler, Tomlinson and Humphrey, 2017)
- Jervois Base Metal Project Stygofauna Pilot Study: Prepared for Nitro Solutions on behalf of KGL Resources (Cook, Pratt and Conacher, 2019)
- Nolans Mine EIS Stygofauna Pilot Survey (Moulds, Pears and Freeland, 2011)
- Molecular phylogenetic analysis of Australian arid-zone oniscidean isopods (Crustacea: Haloniscus) reveals strong regional endemicity and new putative species (Guzik et al., 2019)
- Aquatic Ecosystems Baseline Report: Stygofauna. Strategic Regional Environmental and Baseline Assessment for the Beetaloo Sub-Basin (Humphreys et al., 2022)
- Connectivity, not short-range endemism, characterises the groundwater biota of a northern Australian karst system (Oberprieler et al., 2021)

## Western Australia - Kimberley

**Bore data**

Data was downloaded from the Department of Water and Environmental Regulation Water Information Reporting database (Government of Western Australia, 2023) in October 2023. Data for the Kimberley-Canning and Broome groundwater declared areas was downloaded in eight separate downloads, as the database can only download 1000 bores at a time. The excel file formats downloaded were:

- Site – All Site Details
- Water Levels Discrete For Site Cross Tab
- Water Quilty Discrete For Site Cross Tab.

The following data was used from each data download:

**Site – All Site Details:**

- Site details tab:
    - Site Ref
    - Latitude
    - Longitude
- Casing tab:

    - Site Ref
    - Screen top (where bore had multiple screens the top screen was used)
- Borehole Information tab:
    - Site Ref
    - Total construction depth (mbgl)
    - Total Drill depth (mbgl)

**Water Levels Discrete For Site Cross Tab:**

- Site Ref
- Static water level (m)
- Borehole water supply (m3/day)
- Pumping rate (L/sec)

**Water Quilty Discrete For Site Cross Tab**

- Site Ref
- Cond @ 25 deg C (uS/cm)
- pH (no units)
- Na (sol) (ug/L)
- K (sol) (ug/L)
- Mg (sol) (ug/L)
- Ca (sol) (ug/L)
- Alkalinity (HCO3-HCO3) (ug/L)
- SO4 (sol) (ug/L)
- NO3 (sol) (ug/L)
- Cl (sol) (ug/L)
- Fe (sol) (ug/L)
- Mn (sol) (ug/L)
- Temperature (deg C)
- Borehole water supply (m3/day)
- TDSolids (evap @180øC) (mg/L)
- TDSolids (mg/L)

The following checks and corrections were made to the data (completed in the order specified below):

- All ~, < and > symbols were removed from the database and the numbers next to these kept.

- All negative (-) symbols were removed, and it was assumed to be a database error that some depths had negative values and others did not.
- Where TDS was available and not EC, the TDS was converted to EC using the formula EC = TDS x 1.39 (this value was calculated based on the linear equation in Figure 1).
- Where neither TDS nor EC were available, but all major ions were, EC was calculated with the following formula: EC = Sum major ions x 1.38 (this value was calculated based on the linear equation in Figure 1).
- Ionic balance was calculated and any result ± 15% was removed.
- Where bores had been tested multiple times, the results were averaged.
- Latitude and longitude were checked via a visual check for any bores plotting outside region, with all outliers removed were removed.

### Stygofauna Data

Data on the presence and absence of stygofauna was found in the following reports:

- Groundwater fauna sampling in the Kimberley north of 16°S and east of 128°E (Humphreys, 1999)
- Report on stygofauna sampling at the Argyle Diamond Mine, Kimberley (Humphreys, 2003)
- Lake Mackay Potash Project: Consolidated Subterranean Fauna Study (Thomas and Hofmeester, 2021)
- Subterranean fauna desktop study and field survey for the Sorby Hills Project (Osborne, 2012)
- Terrestrial And Subterranaean Fauna Assessment: Sheffield Resources Ltd, Thunderbird Project (Jackett et al., 2016)
- Subterranean Fauna Assessment: Northern Minerals Limited, Browns Range Project (Stevens, Ramlee and Ross, 2014)
- Telfer Project Mine and Borefield Extensions: Notice of Intent-Additional Referral Information (Newcrest Mining Ltd, 2002)
- Havieron Project: Subterranean Fauna Survey, Biologic Environmental Survey Report to Newcrest Mining Limited (Lythe et al., 2020)
- Canning Basin Project: Stygofauna Survey and Assessment, Prepared for Fortescue Metals Group Limited (Eriksson, Keogh and Eberhard, 2012)
- Subterranean Fauna Assessment of the Kintyre Uranium Deposit: Prepared for Cameco Australia Pty Ltd (Trotter and Halse, 2012)

## Western Australia - Pilbara

### Bore Data

Bore data for the Pilbara was sourced from ‘Pilbara stygofauna: deep groundwater of an arid landscape contains globally significant radiation of biodiversity, Supplementary Data’ (Halse et al., 2014).

From this spreadsheet the following was obtained

Appendix One

- Code – this is a unique code ID used in this program and is not the same as the registered bore ID.
- Latitude
- Longitude

Appendix Two

- Code
- Depth to water (m)
- Depth to bottom (m)
- Major ions (Na (mg/L), K (mg/L), Mg (mg/L), Ca (mg/L), HCO3 (mg/L), SO4 (mg/L), NO3 (mg/L), Cl (mg/L))
- Mn (mg/L)
- Fe (mg/L)
- Dissolved $O_2$ (mg/L)
- pH
- EC (uS/cm) (Electrical conductivity)
- TDS (mg/L) (total dissolved solids)
- Temperature (deg C)

Appendix Three

- Code
- Stygofauna presence (absence assumed in bores not listed in this appendix).

The following checks and corrections were made to the data (completed in the order specified below):

- All negative (-) symbols and zeros (0) were removed, as it was assumed to be a database error.
- Where TDS was available and not EC, the TDS was converted to EC using the formula EC = TDS x 1.39 (this value was calculated based on the linear equation in Figure 1).

- Data with a 0 value was removed and replaced with a blank cell, as it could not be confirmed if the results was zero (0) or if this was a database error.
- Ionic balance was calculated and any result ± 15% was removed.
- Where multiple measurements were available the results were averaged.

**Stygofauna Data**

Data on the presence and absence of stygofauna was found in the following reports:

- Pilbara stygofauna: deep groundwater of an arid landscape contains globally significant radiation of biodiversity (Halse et al., 2014)

## Queensland

**Bore Data**

Data was downloaded from the Queensland Government subterranean aquatic fauna database (Queensland Government, 2019) and the Queensland Government Groundwater database (Queensland Government, 2024) in April 2024.

The following data was obtained from the subterranean aquatic fauna database:

Site details

- Site ID
- Registered Number
- Latitude
- Longitude
- Bore depth
- Total depth of the bore
- Depth to the top of the bore screen
- Depth to the bottom of the bore screen
- Lithology sampled

Visit

- Site ID
- Fauna (True/False)

Water chemistry

- Site ID
- Water level

- Temperature
- pH
- Electrical conductivity
- Dissolved oxygen
- Nitrates

The following data was obtained from the groundwater database:

Aquifer-flow

- RN (registered number)
- Yield
- SWL
-

Water-Analysis

- RN - (registered number)
- CONDUCT – Electrical conductivity
- pH
- Na
- K
- Ca
- Mg
- $HCO_3$
- CL
- $NO_3$
- $SO_4$
- Fe
- Mn

Water-levels

- RN - (registered number)
- Measurement (water level measurement)

Water-quality-field

- RN - (registered number)
- CONDUCT – Electrical conductivity
- $DO_2$
- pH

- Temperature

Strata-Log

- RN - (registered number)
- Bottom

Units were detailed in the appendix with all analytes in mg/l, except; electrical conductivity (µS/cm), yield (L/sec), SWL (mbgl), measurement (mbgl) pH (no units).

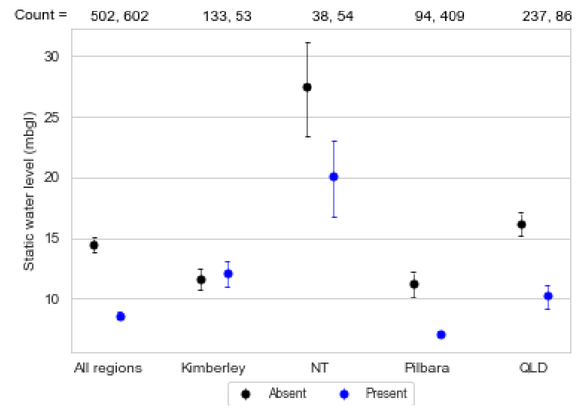
The data from the stygofauna database was collated based on the Site ID. Where the bore's registered number was provided additional data was added from the bore database. Where measurements were available for the same parameter in multiple locations the measurements were collated with the following priorities: Stygofauna database, Groundwater database (Water-levels, Aquifer-flow, Water-Analysis, Water-quality-field, Strata-log).

The following checks and corrections were made to the data:

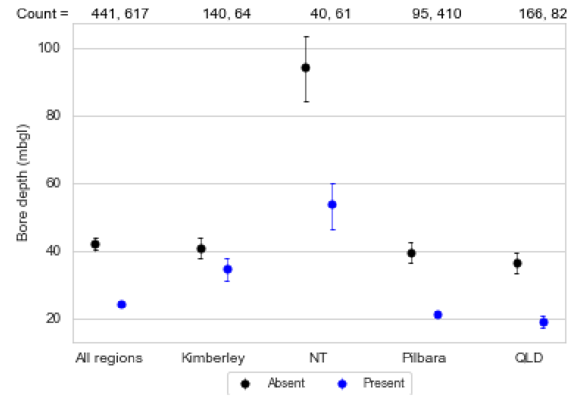
- Using the data in the Water-Analysis table the ionic balance was calculated and any result ± 15% was removed.
- All negative (-) symbols were removed, and it was assumed to be a database error that some depths had negative values and others did not.
- Where bores had been sampled/analysed multiple times the results where averaged.
- Visual check on latitude and longitude for any bores plotting outside region.

When reviewing the data some anomalous SWL readings were noted (both excessively deep and shallow). This data originated in the stygofauna database, and all had the same reference id, which could not be located when searched. Because the data could not be verified all results in the stygofauna database listed with the reference 'ALS 2010. Anglo Coal (Grosvenor) Grosvenor Stygofauna Survey. Anglo Coal (Grosvenor), pp.24.' were removed.

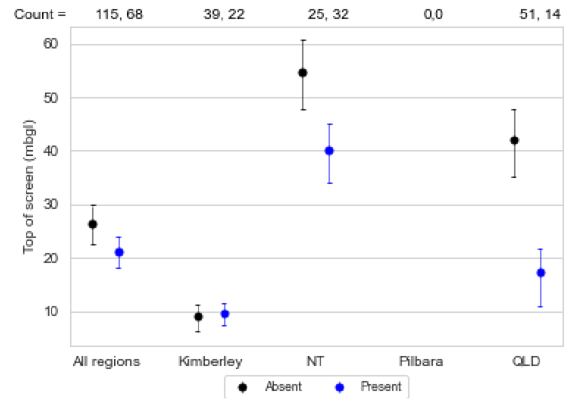
# APPENDIX 2 – STANDARD ERROR PLOTS



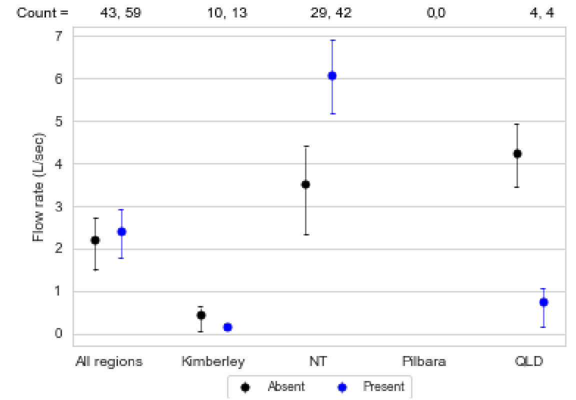

a.



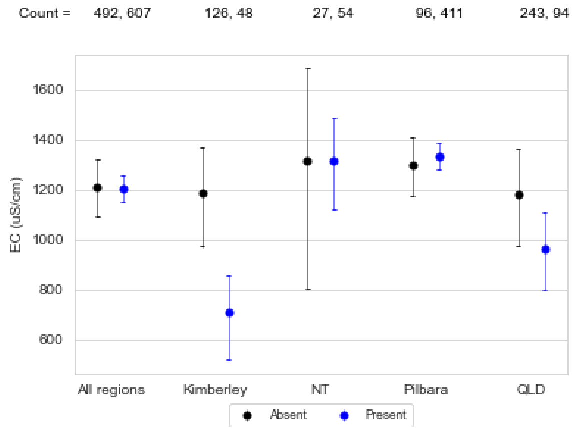

b.



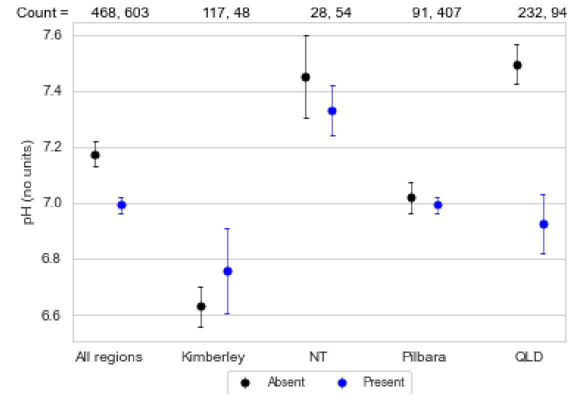

c.



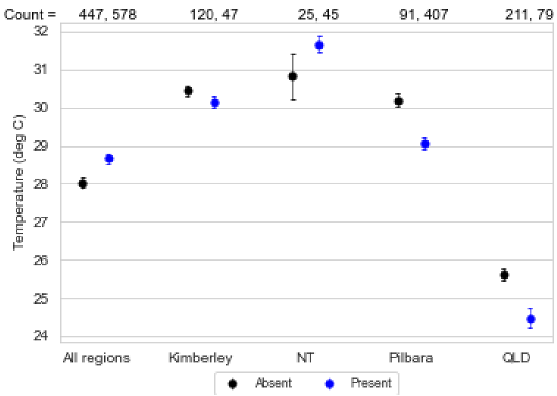

d.



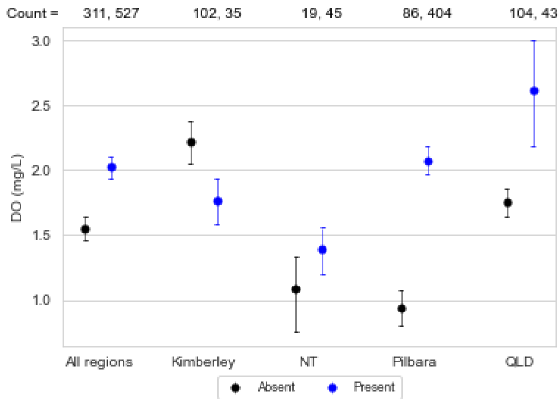

e.



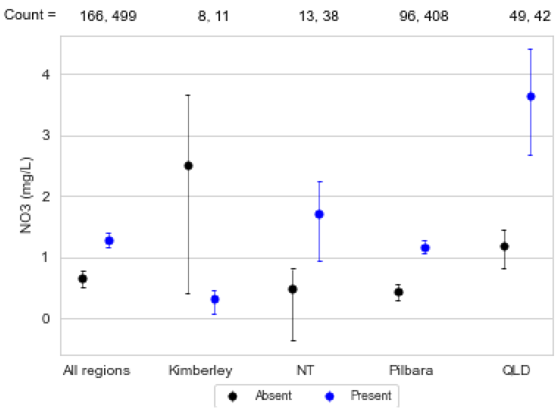

f.


Count = 447, 578 120, 47 25, 45 91, 407 211, 79
Temperature (deg C)
All regions Kimberley NT Pilbara QLD
Absent Present

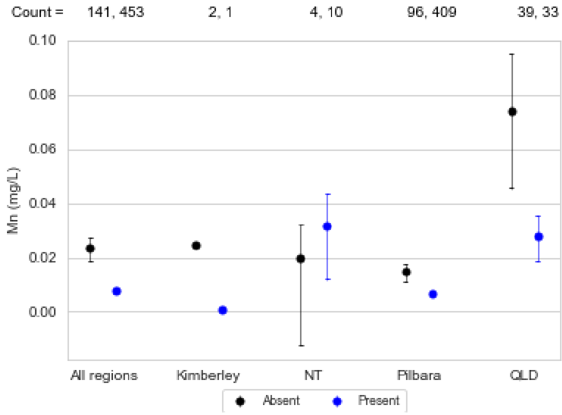
g.


Count = 311, 527 102, 35 19, 45 86, 404 104, 43
DO (mg/L)
All regions Kimberley NT Pilbara QLD
Absent Present

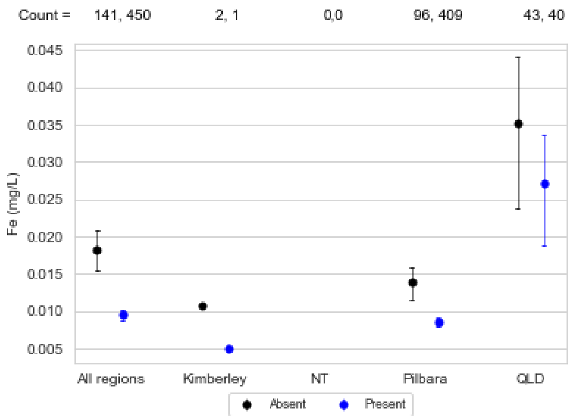
h.


Count = 166, 499 8, 11 13, 38 96, 408 49, 42
NO3 (mg/L)
All regions Kimberley NT Pilbara QLD
Absent Present

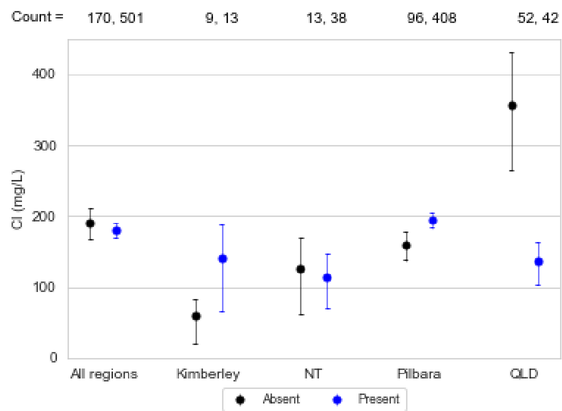
i.


Count = 141, 453 2, 1 4, 10 96, 409 39, 33
Mn (mg/L)
All regions Kimberley NT Pilbara QLD
Absent Present

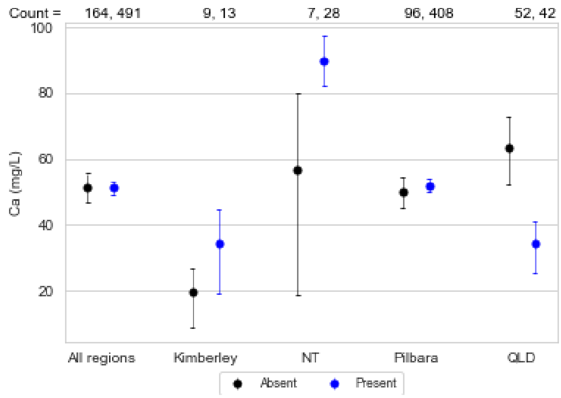
j.


Count = 141, 450 2, 1 0,0 96, 409 43, 40
Fe (mg/L)
All regions Kimberley NT Pilbara QLD
Absent Present

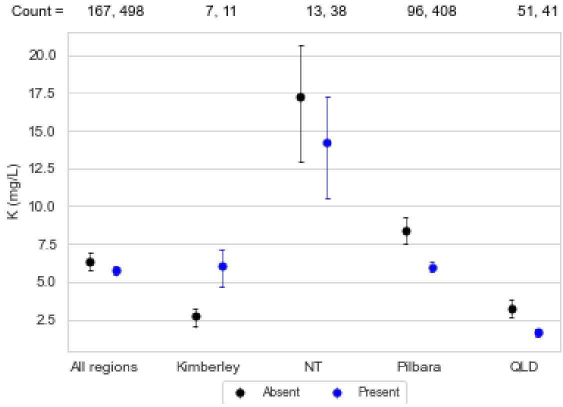
k.


Count = 170, 501 9, 13 13, 38 96, 408 52, 42
Cl (mg/L)
All regions Kimberley NT Pilbara QLD
Absent Present

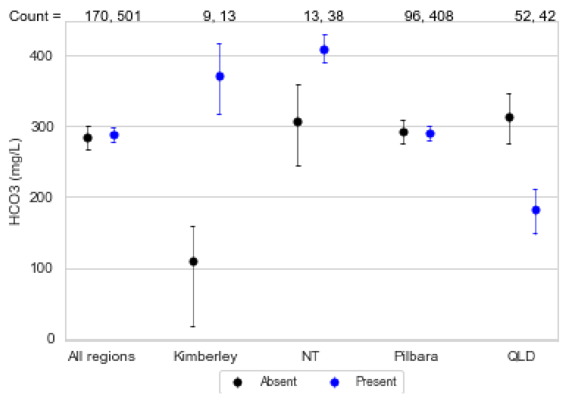
i.



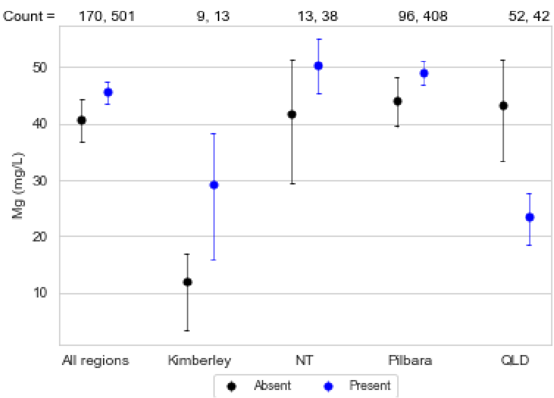

m.



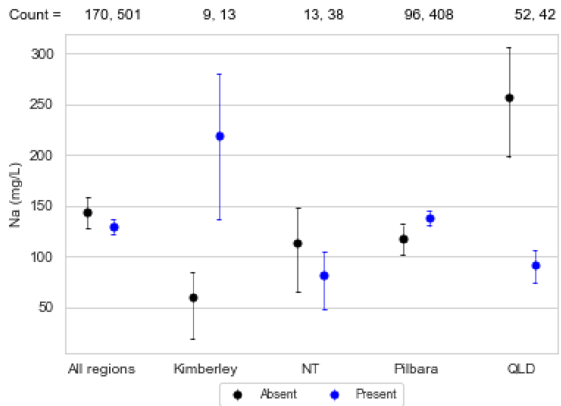

n.



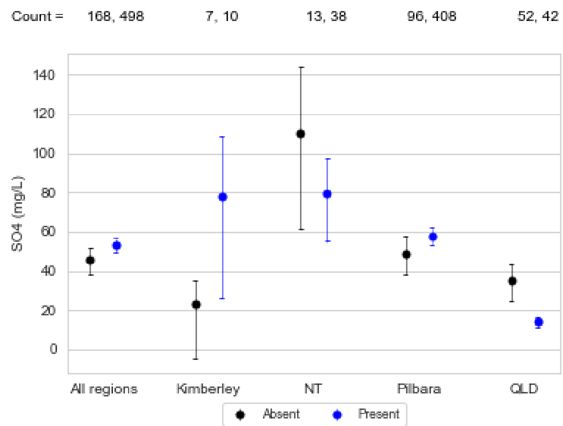

o.




p.



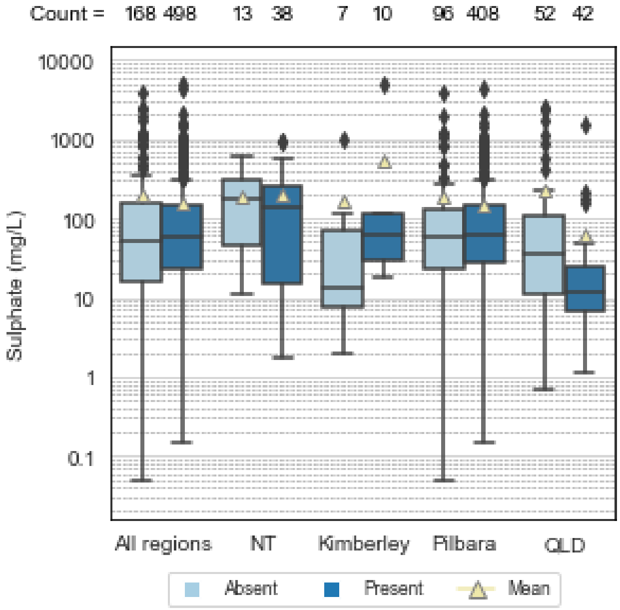

q.



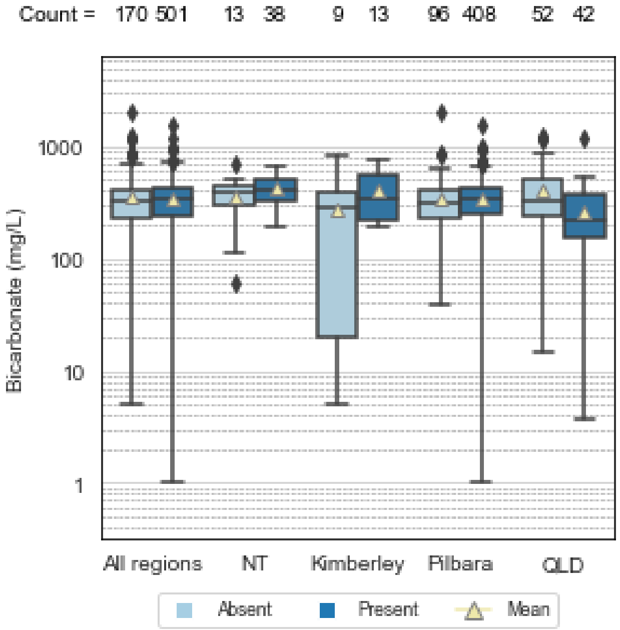

r.

**Figure 1. Standard error plots displaying the mean and standard deviation for a. Static water depth (mbgl), b. Bore depth, c. Top of screen (mbgl), d. Flow rate (L/sec), e. EC (uS/cm), f. pH, g. Temperature (deg C), h. DO (dissolved oxygen) (mg/L), i. Nitrate (mg/L), j. Manganese (mg/L), k. Iron (mg/L), i. Chloride (mg/L), m. Calcium (mg/L), n. Potassium (mg/L), o. Bicarbonate (mg/L), p. Magnesium (mg/L), q. Sodium (mg/L), r. Sulphate (mg/L).**

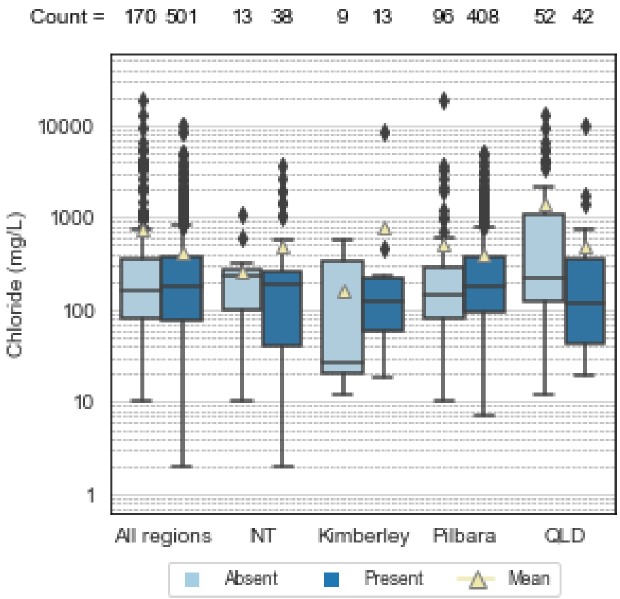
# APPENDIX 3 – BOX AND WHISKER PLOTS



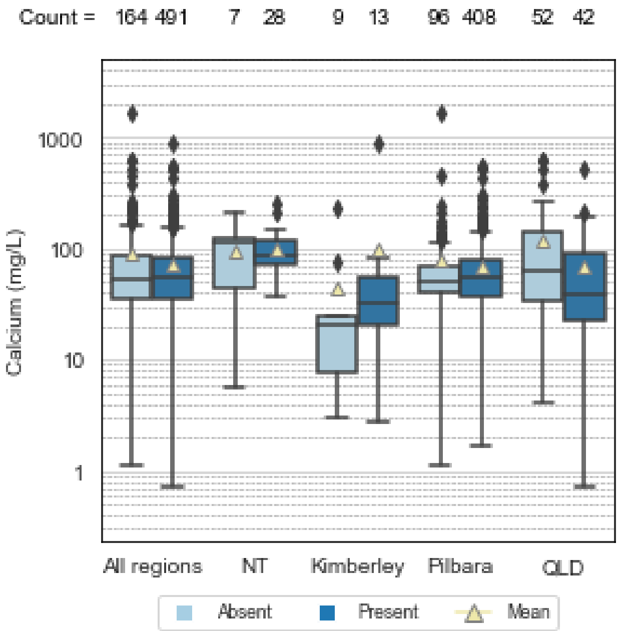

a.



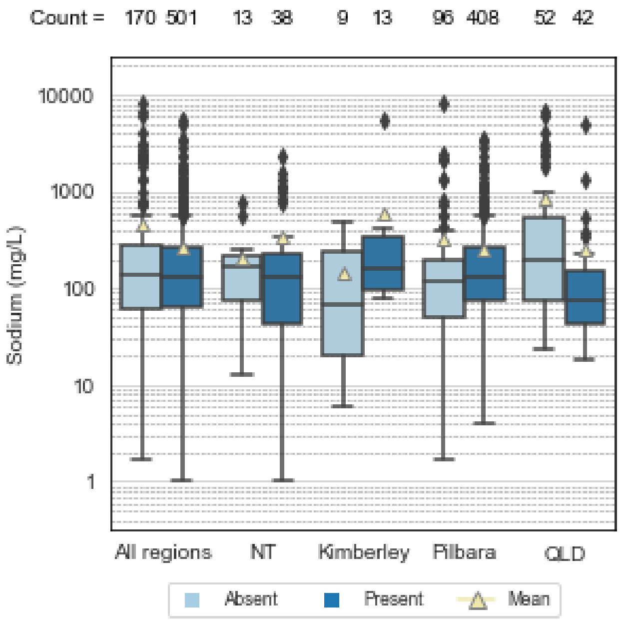

b.



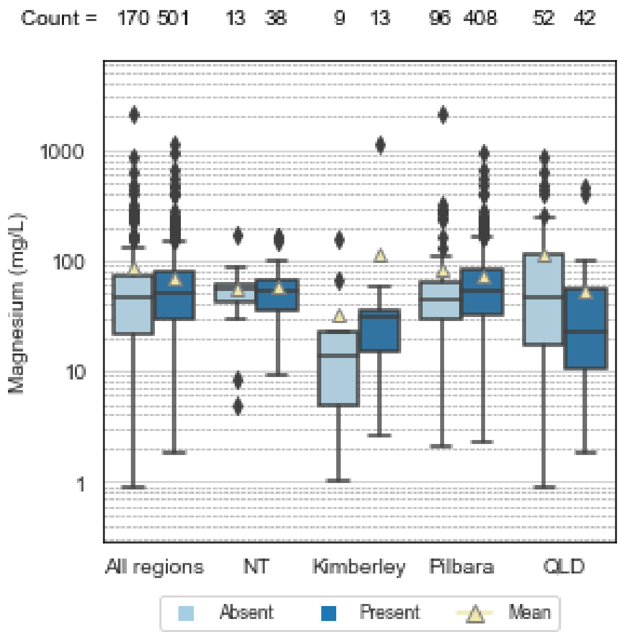

c.



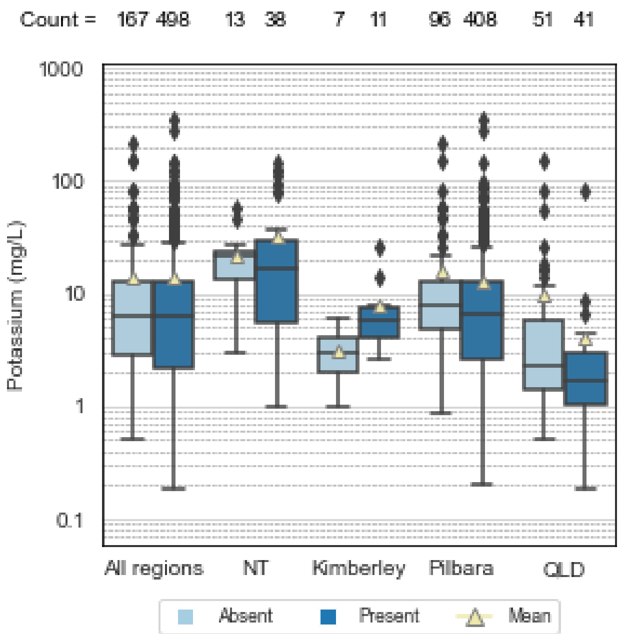

d.




e.




f.




g.

**Figure 1. Box & Whisker plots displaying data distributions for data parameters: a. Sulphate (mg/L), b. Bicarbonate (mg/L), c. Chloride (mg/L), d. Calcium (mg/L), e. Sodium (mg/L), f. Magnesium (mg/L), g. Potassium (mg/L). The data is displayed with the middle line showing the median (50%), box extents showing the interquartile range (25% and 75%), the outer whiskers showing the maximum/minimum, whiskers showing the outliers (outside ± 1.5 x interquartile range), and yellow diamonds showing the mean. Count values have been included at the top of each plot to display the data counts used to create each box and whisker.**

# APPENDIX 4 – DATA STATISTICS

| Stygofauna | Parameter | Region | Count | Mean | Min (exclu. outliers) | 25% | 50% | 75% | Max (exclu. outliers) | *p*-value (2-tailed) | *p*-value (1-tailed, lower) | *p*-value (1-tailed, greater) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Present | Bore depth (mbgl) | Pilbara | 410 | 29.6 | 2.80 | 11.50 | 21.50 | 42.00 | 87.75 | | | |
| Absent | Bore depth (mbgl) | Pilbara | 95 | 49.6 | 6.61 | 28.00 | 41.50 | 65.25 | 121.13 | 0.0000 | 0.0000 | 1.0000 |
| Present | Bore depth (mbgl) | NT | 61 | 77.6 | 5.50 | 30.00 | 67.50 | 105.00 | 217.50 | | | |
| Absent | Bore depth (mbgl) | NT | 40 | 112.0 | 14.00 | 70.63 | 101.00 | 133.50 | 227.81 | 0.0008 | 0.0004 | 0.9996 |
| Present | Bore depth (mbgl) | Kimberley | 64 | 45.1 | 4.50 | 22.84 | 37.20 | 56.93 | 108.06 | | | |
| Absent | Bore depth (mbgl) | Kimberley | 140 | 57.2 | 2.70 | 24.98 | 48.10 | 65.18 | 125.48 | 0.1647 | 0.0824 | 0.9176 |
| Present | Bore depth (mbgl) | QLD | 82 | 27.5 | 2.00 | 11.47 | 17.00 | 28.74 | 54.64 | | | |
| Absent | Bore depth (mbgl) | QLD | 166 | 60.1 | 3.00 | 15.00 | 47.50 | 84.00 | 187.50 | 0.0000 | 0.0000 | 1.0000 |
| Present | Bore depth (mbgl) | All regions | 617 | 35.7 | 2.00 | 12.25 | 23.00 | 48.00 | 101.63 | | | |
| Absent | Bore depth (mbgl) | All regions | 441 | 61.6 | 2.70 | 22.60 | 50.00 | 80.00 | 166.10 | 0.0000 | 0.0000 | 1.0000 |
| Present | Bottom of screen (mbgl) | NT | 32 | 71.16 | 14.00 | 31.28 | 57.30 | 105.25 | 190.95 | | | |
| Absent | Bottom of screen (mbgl) | NT | 25 | 84.10 | 25.50 | 58.00 | 84.00 | 95.50 | 151.75 | 0.0814 | 0.0407 | 0.9593 |
| Present | Bottom of screen (mbgl) | Kimberley | 22 | 19.30 | 4.50 | 11.65 | 20.50 | 24.20 | 35.30 | | | |
| Absent | Bottom of screen (mbgl) | Kimberley | 39 | 41.02 | 5.50 | 15.00 | 24.80 | 38.70 | 74.25 | 0.0242 | 0.0121 | 0.9879 |
| Present | Bottom of screen (mbgl) | QLD | 14 | 42.68 | 7.00 | 11.63 | 14.30 | 20.75 | 34.44 | | | |
| Absent | Bottom of screen (mbgl) | QLD | 52 | 74.59 | 5.00 | 26.00 | 49.35 | 108.75 | 232.88 | 0.0122 | 0.0061 | 0.9939 |
| Present | Bottom of screen (mbgl) | All regions | 68 | 48.52 | 4.50 | 15.45 | 26.25 | 61.13 | 129.64 | | | |
| Absent | Bottom of screen (mbgl) | All regions | 116 | 65.35 | 5.00 | 22.58 | 45.00 | 87.00 | 183.64 | 0.0199 | 0.0099 | 0.9901 |
| Present | Ca (mg/L) | Pilbara | 408 | 68.87 | 1.70 | 36.35 | 56.05 | 79.56 | 144.38 | | | |
| Absent | Ca (mg/L) | Pilbara | 96 | 80.49 | 1.10 | 39.49 | 50.95 | 69.96 | 115.68 | 0.7074 | 0.6463 | 0.3537 |
| Present | Ca (mg/L) | NT | 28 | 99.11 | 36.00 | 70.63 | 84.75 | 117.75 | 188.44 | | | |
| Absent | Ca (mg/L) | NT | 7 | 94.59 | 5.50 | 44.00 | 111.50 | 124.57 | 208.00 | 0.4108 | 0.7946 | 0.2054 |
| Present | Ca (mg/L) | Kimberley | 13 | 100.53 | 2.80 | 21.00 | 32.00 | 55.33 | 106.83 | | | |
| Absent | Ca (mg/L) | Kimberley | 9 | 44.69 | 3.00 | 7.60 | 20.35 | 24.48 | 49.80 | 0.3404 | 0.8298 | 0.1702 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Present | Ca (mg/L) | QLD | 42 | 69.17 | 0.73 | 22.51 | 38.94 | 90.44 | 192.33 | | | |
| Absent | Ca (mg/L) | QLD | 52 | 117.13 | 4.20 | 32.91 | 61.92 | 140.00 | 300.65 | 0.0288 | 0.0144 | 0.9856 |
| Present | Ca (mg/L) | All regions | 491 | 71.46 | 0.73 | 35.35 | 56.25 | 82.53 | 153.29 | | | |
| Absent | Ca (mg/L) | All regions | 164 | 90.74 | 1.10 | 34.78 | 53.53 | 87.44 | 166.43 | 0.9436 | 0.4718 | 0.5282 |
| Present | Cl (mg/L) | Pilbara | 408 | 386.95 | 7.00 | 92.88 | 181.00 | 378.50 | 806.94 | | | |
| Absent | Cl (mg/L) | Pilbara | 96 | 526.87 | 10.00 | 80.00 | 140.50 | 286.25 | 595.63 | 0.1555 | 0.9222 | 0.0778 |
| Present | Cl (mg/L) | NT | 38 | 496.21 | 2.00 | 41.25 | 190.00 | 264.60 | 599.63 | | | |
| Absent | Cl (mg/L) | NT | 13 | 261.63 | 10.00 | 97.40 | 227.50 | 268.00 | 523.90 | 0.8608 | 0.4304 | 0.5696 |
| Present | Cl (mg/L) | Kimberley | 13 | 779.71 | 18.00 | 59.00 | 120.00 | 215.00 | 449.00 | | | |
| Absent | Cl (mg/L) | Kimberley | 9 | 158.15 | 12.00 | 20.00 | 26.36 | 328.00 | 566.00 | 0.2063 | 0.8968 | 0.1032 |
| Present | Cl (mg/L) | QLD | 42 | 490.14 | 19.52 | 42.48 | 119.25 | 348.62 | 807.84 | | | |
| Absent | Cl (mg/L) | QLD | 52 | 1374.32 | 12.16 | 125.12 | 224.50 | 1096.92 | 2554.62 | 0.0030 | 0.0015 | 0.9985 |
| Present | Cl (mg/L) | All regions | 501 | 414.08 | 2.00 | 78.00 | 180.00 | 375.00 | 820.50 | | | |
| Absent | Cl (mg/L) | All regions | 170 | 746.29 | 10.00 | 80.64 | 160.90 | 357.50 | 772.78 | 0.6694 | 0.3347 | 0.6653 |
| Present | DO (mg/L) | Pilbara | 404 | 4.03 | 0.10 | 1.29 | 2.68 | 4.20 | 8.57 | | | |
| Absent | DO (mg/L) | Pilbara | 86 | 2.86 | 0.10 | 0.30 | 0.98 | 2.74 | 6.39 | 0.0000 | 1.0000 | 0.0000 |
| Present | DO (mg/L) | NT | 45 | 1.76 | 0.05 | 1.21 | 1.64 | 2.17 | 3.61 | | | |
| Absent | DO (mg/L) | NT | 19 | 1.61 | 0.06 | 0.78 | 1.66 | 2.26 | 3.36 | 0.4092 | 0.7954 | 0.2046 |
| Present | DO (mg/L) | Kimberley | 35 | 2.08 | 0.41 | 1.44 | 1.74 | 2.18 | 3.27 | | | |
| Absent | DO (mg/L) | Kimberley | 102 | 2.80 | 0.38 | 1.48 | 2.51 | 3.79 | 7.26 | 0.0667 | 0.0334 | 0.9666 |
| Present | DO (mg/L) | QLD | 43 | 5.53 | 0.57 | 1.54 | 2.23 | 3.29 | 5.92 | | | |
| Absent | DO (mg/L) | QLD | 104 | 2.11 | 0.29 | 1.17 | 1.75 | 2.67 | 4.91 | 0.0192 | 0.9904 | 0.0096 |
| Present | DO (mg/L) | All regions | 527 | 3.83 | 0.05 | 1.30 | 2.30 | 3.90 | 7.80 | | | |
| Absent | DO (mg/L) | All regions | 311 | 2.51 | 0.06 | 0.97 | 1.75 | 3.10 | 6.30 | 0.0002 | 0.9999 | 0.0001 |
| Present | EC (uS/cm) | Pilbara | 411 | 1927.18 | 54.52 | 824.40 | 1239.50 | 2078.50 | 3959.65 | | | |
| Absent | EC (uS/cm) | Pilbara | 96 | 2432.37 | 200.00 | 714.00 | 1080.80 | 1908.00 | 3699.00 | 0.7825 | 0.6087 | 0.3913 |
| Present | EC (uS/cm) | NT | 54 | 2172.36 | 104.00 | 733.50 | 1385.00 | 2127.00 | 4217.25 | | | |
| Absent | EC (uS/cm) | NT | 27 | 2363.34 | 1.00 | 1017.34 | 1795.00 | 2595.00 | 4961.49 | 0.9974 | 0.5013 | 0.4987 |
| Present | EC (uS/cm) | Kimberley | 48 | 4107.05 | 60.00 | 208.75 | 599.73 | 1604.67 | 3698.54 | | | |
| Absent | EC (uS/cm) | Kimberley | 126 | 12405.59 | 40.00 | 325.40 | 765.00 | 2280.00 | 5211.90 | 0.0753 | 0.0376 | 0.9624 |
| Present | EC (uS/cm) | QLD | 94 | 2610.40 | 1.38 | 460.25 | 1013.00 | 1973.68 | 4243.83 | | | |
| Absent | EC (uS/cm) | QLD | 243 | 14374.58 | 0.22 | 671.84 | 1461.00 | 4464.00 | 10152.24 | 0.3737 | 0.1869 | 0.8131 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Present | EC (uS/cm) | All regions | 607 | 2227.17 | 1.38 | 700.50 | 1219.90 | 2054.25 | 4084.88 | | | |
| Absent | EC (uS/cm) | All regions | 492 | 10880.99 | 0.22 | 599.58 | 1262.00 | 3026.50 | 6666.88 | 0.9544 | 0.4772 | 0.5228 |
| Present | Fe (mg/L) | Pilbara | 409 | 0.30 | 0.00 | 0.00 | 0.01 | 0.02 | 0.03 | | | |
| Absent | Fe (mg/L) | Pilbara | 96 | 0.06 | 0.00 | 0.00 | 0.01 | 0.03 | 0.07 | 0.0061 | 0.0030 | 0.9970 |
| Present | Fe (mg/L) | QLD | 40 | 0.16 | 0.00 | 0.01 | 0.02 | 0.08 | 0.18 | | | |
| Absent | Fe (mg/L) | QLD | 43 | 0.92 | 0.01 | 0.01 | 0.02 | 0.07 | 0.15 | 0.5075 | 0.2538 | 0.7462 |
| Present | Fe (mg/L) | All regions | 450 | 0.29 | 0.00 | 0.00 | 0.01 | 0.02 | 0.04 | | | |
| Absent | Fe (mg/L) | All regions | 141 | 0.32 | 0.00 | 0.01 | 0.01 | 0.04 | 0.10 | 0.0000 | 0.0000 | 1.0000 |
| Present | Flow rate (L/sec) | NT | 42 | 8.55 | 0.30 | 3.63 | 5.00 | 12.47 | 25.73 | | | |
| Absent | Flow rate (L/sec) | NT | 29 | 7.50 | 0.01 | 2.00 | 3.00 | 8.00 | 17.00 | 0.0955 | 0.9522 | 0.0478 |
| Present | Flow rate (L/sec) | Kimberley | 13 | 0.40 | 0.03 | 0.07 | 0.10 | 0.69 | 1.63 | | | |
| Absent | Flow rate (L/sec) | Kimberley | 10 | 1.62 | 0.06 | 0.08 | 0.29 | 3.78 | 4.00 | 0.2395 | 0.1197 | 0.8803 |
| Present | Flow rate (L/sec) | QLD | 4 | 1.18 | 0.20 | 0.43 | 0.75 | 1.50 | 3.00 | | | |
| Absent | Flow rate (L/sec) | QLD | 4 | 4.47 | 3.00 | 3.72 | 3.98 | 4.73 | 6.23 | 0.0496 | 0.0248 | 0.9752 |
| Present | Flow rate (L/sec) | All regions | 59 | 6.25 | 0.03 | 1.00 | 4.00 | 10.00 | 23.50 | | | |
| Absent | Flow rate (L/sec) | All regions | 43 | 5.85 | 0.01 | 1.40 | 3.00 | 5.00 | 10.40 | 0.7904 | 0.6048 | 0.3952 |
| Present | HCO3 (mg/L) | Pilbara | 408 | 343.52 | 1.00 | 251.86 | 335.50 | 427.75 | 691.59 | | | |
| Absent | HCO3 (mg/L) | Pilbara | 96 | 341.78 | 39.50 | 227.88 | 313.25 | 403.00 | 665.69 | 0.9003 | 0.4501 | 0.5499 |
| Present | HCO3 (mg/L) | NT | 38 | 426.70 | 190.00 | 330.00 | 412.00 | 511.08 | 668.33 | | | |
| Absent | HCO3 (mg/L) | NT | 13 | 358.70 | 87.38 | 300.00 | 389.17 | 441.75 | 654.38 | 0.1532 | 0.9234 | 0.0766 |
| Present | HCO3 (mg/L) | Kimberley | 13 | 412.12 | 189.57 | 220.00 | 342.69 | 565.60 | 760.00 | | | |
| Absent | HCO3 (mg/L) | Kimberley | 9 | 273.24 | 5.00 | 20.00 | 281.19 | 383.00 | 833.00 | 0.0819 | 0.9590 | 0.0410 |
| Present | HCO3 (mg/L) | QLD | 42 | 266.99 | 3.63 | 152.77 | 220.52 | 378.00 | 715.84 | | | |
| Absent | HCO3 (mg/L) | QLD | 52 | 404.95 | 14.40 | 238.97 | 332.20 | 501.43 | 895.11 | 0.0121 | 0.0060 | 0.9940 |
| Present | HCO3 (mg/L) | All regions | 501 | 345.19 | 1.00 | 244.00 | 338.50 | 434.50 | 720.25 | | | |
| Absent | HCO3 (mg/L) | All regions | 170 | 358.77 | 5.00 | 226.00 | 322.75 | 417.71 | 705.27 | 0.8535 | 0.5733 | 0.4267 |
| Present | K (mg/L) | Pilbara | 408 | 13.00 | 0.20 | 2.59 | 6.73 | 12.63 | 27.68 | | | |
| Absent | K (mg/L) | Pilbara | 96 | 15.61 | 0.85 | 4.84 | 7.85 | 12.74 | 24.59 | 0.0054 | 0.0027 | 0.9973 |
| Present | K (mg/L) | NT | 38 | 32.78 | 1.00 | 5.42 | 17.00 | 29.91 | 66.65 | | | |
| Absent | K (mg/L) | NT | 13 | 21.96 | 3.00 | 13.50 | 21.45 | 23.53 | 38.58 | 0.5653 | 0.2827 | 0.7173 |
| Present | K (mg/L) | Kimberley | 11 | 7.71 | 2.67 | 4.05 | 5.70 | 7.40 | 12.43 | | | |
| Absent | K (mg/L) | Kimberley | 7 | 3.14 | 1.00 | 2.00 | 3.00 | 4.00 | 6.00 | 0.0199 | 0.9901 | 0.0099 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Present | K (mg/L) | QLD | 41 | 3.98 | 0.18 | 1.05 | 1.66 | 2.93 | 5.76 | | | |
| Absent | K (mg/L) | QLD | 51 | 9.84 | 0.50 | 1.40 | 2.33 | 5.87 | 12.57 | 0.0053 | 0.0026 | 0.9974 |
| Present | K (mg/L) | All regions | 498 | 13.65 | 0.18 | 2.16 | 6.34 | 12.85 | 28.88 | | | |
| Absent | K (mg/L) | All regions | 167 | 13.82 | 0.50 | 2.80 | 6.18 | 13.05 | 28.43 | 0.3765 | 0.1882 | 0.8118 |
| Present | Mg (mg/L) | Pilbara | 408 | 71.60 | 2.25 | 32.40 | 54.03 | 83.68 | 160.59 | | | |
| Absent | Mg (mg/L) | Pilbara | 96 | 82.11 | 2.10 | 29.72 | 45.20 | 62.32 | 111.23 | 0.3163 | 0.8419 | 0.1581 |
| Present | Mg (mg/L) | NT | 38 | 59.19 | 9.30 | 35.25 | 52.90 | 66.13 | 112.44 | | | |
| Absent | Mg (mg/L) | NT | 13 | 56.14 | 13.72 | 42.00 | 54.75 | 60.85 | 89.13 | 0.5050 | 0.7475 | 0.2525 |
| Present | Mg (mg/L) | Kimberley | 13 | 112.63 | 2.60 | 15.00 | 30.40 | 36.00 | 67.50 | | | |
| Absent | Mg (mg/L) | Kimberley | 9 | 32.49 | 1.00 | 4.90 | 13.54 | 23.00 | 50.15 | 0.1930 | 0.9035 | 0.0965 |
| Present | Mg (mg/L) | QLD | 42 | 52.17 | 1.85 | 10.56 | 23.00 | 55.26 | 122.32 | | | |
| Absent | Mg (mg/L) | QLD | 52 | 112.15 | 0.90 | 17.39 | 45.72 | 112.20 | 254.42 | 0.0351 | 0.0175 | 0.9825 |
| Present | Mg (mg/L) | All regions | 501 | 70.10 | 1.85 | 29.35 | 50.20 | 79.10 | 153.72 | | | |
| Absent | Mg (mg/L) | All regions | 170 | 86.69 | 0.90 | 21.21 | 45.47 | 71.35 | 146.57 | 0.2665 | 0.8668 | 0.1332 |
| Present | Mn (mg/L) | Pilbara | 409 | 0.21 | 0.00 | 0.00 | 0.01 | 0.02 | 0.04 | | | |
| Absent | Mn (mg/L) | Pilbara | 96 | 0.10 | 0.00 | 0.00 | 0.01 | 0.08 | 0.20 | 0.0011 | 0.0006 | 0.9994 |
| Present | Mn (mg/L) | NT | 10 | 0.09 | 0.00 | 0.01 | 0.03 | 0.05 | 0.10 | | | |
| Absent | Mn (mg/L) | NT | 4 | 0.07 | 0.00 | 0.01 | 0.02 | 0.08 | 0.19 | 0.6854 | 0.6573 | 0.3427 |
| Present | Mn (mg/L) | QLD | 33 | 0.11 | 0.00 | 0.01 | 0.02 | 0.12 | 0.30 | | | |
| Absent | Mn (mg/L) | QLD | 39 | 0.61 | 0.01 | 0.01 | 0.06 | 0.19 | 0.46 | 0.0302 | 0.0151 | 0.9849 |
| Present | Mn (mg/L) | All regions | 453 | 0.20 | 0.00 | 0.00 | 0.01 | 0.02 | 0.05 | | | |
| Absent | Mn (mg/L) | All regions | 141 | 0.24 | 0.00 | 0.01 | 0.02 | 0.10 | 0.25 | 0.0000 | 0.0000 | 1.0000 |
| Present | Na (mg/L) | Pilbara | 408 | 253.02 | 4.00 | 73.20 | 131.60 | 271.13 | 568.01 | | | |
| Absent | Na (mg/L) | Pilbara | 96 | 321.23 | 1.70 | 50.10 | 116.00 | 198.13 | 420.16 | 0.2541 | 0.8730 | 0.1270 |
| Present | Na (mg/L) | NT | 38 | 341.99 | 1.00 | 43.50 | 134.00 | 224.95 | 497.12 | | | |
| Absent | Na (mg/L) | NT | 13 | 206.26 | 13.00 | 76.00 | 170.50 | 214.00 | 421.00 | 0.4947 | 0.2473 | 0.7527 |
| Present | Na (mg/L) | Kimberley | 13 | 607.21 | 77.00 | 95.33 | 159.10 | 343.34 | 715.35 | | | |
| Absent | Na (mg/L) | Kimberley | 9 | 141.82 | 6.10 | 20.00 | 67.25 | 239.53 | 480.00 | 0.0525 | 0.9738 | 0.0262 |
| Present | Na (mg/L) | QLD | 42 | 258.46 | 18.00 | 42.85 | 74.04 | 153.00 | 318.23 | | | |
| Absent | Na (mg/L) | QLD | 52 | 831.87 | 24.00 | 74.15 | 199.81 | 535.88 | 1228.46 | 0.0002 | 0.0001 | 0.9999 |
| Present | Na (mg/L) | All regions | 501 | 269.41 | 1.00 | 64.80 | 129.50 | 261.50 | 556.55 | | | |
| Absent | Na (mg/L) | All regions | 170 | 459.14 | 1.70 | 62.50 | 134.75 | 275.49 | 594.98 | 0.3831 | 0.1916 | 0.8084 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Present | NO3 (mg/L) | Pilbara | 408 | 4.33 | 0.01 | 0.54 | 1.65 | 4.05 | 9.32 | | | |
| Absent | NO3 (mg/L) | Pilbara | 96 | 3.86 | 0.01 | 0.03 | 0.84 | 3.57 | 8.87 | 0.0012 | 0.9994 | 0.0006 |
| Present | NO3 (mg/L) | NT | 38 | 12.05 | 0.01 | 0.81 | 1.06 | 4.25 | 9.41 | | | |
| Absent | NO3 (mg/L) | NT | 13 | 14.09 | 0.00 | 0.02 | 1.00 | 7.00 | 17.47 | 0.2645 | 0.8677 | 0.1323 |
| Present | NO3 (mg/L) | Kimberley | 11 | 1.12 | 0.01 | 0.10 | 0.20 | 1.72 | 4.14 | | | |
| Absent | NO3 (mg/L) | Kimberley | 8 | 9.63 | 0.20 | 1.00 | 2.50 | 5.20 | 11.50 | 0.0234 | 0.0117 | 0.9883 |
| Present | NO3 (mg/L) | QLD | 42 | 8.89 | 0.05 | 1.94 | 4.24 | 9.36 | 20.50 | | | |
| Absent | NO3 (mg/L) | QLD | 49 | 3.93 | 0.01 | 0.40 | 1.67 | 3.75 | 8.78 | 0.0020 | 0.9990 | 0.0010 |
| Present | NO3 (mg/L) | All regions | 499 | 5.23 | 0.01 | 0.59 | 1.70 | 4.32 | 9.91 | | | |
| Absent | NO3 (mg/L) | All regions | 166 | 4.96 | 0.00 | 0.10 | 1.00 | 4.00 | 9.85 | 0.0018 | 0.9991 | 0.0009 |
| Present | pH (no units) | Pilbara | 407 | 7.01 | 5.89 | 6.74 | 7.01 | 7.31 | 8.15 | | | |
| Absent | pH (no units) | Pilbara | 91 | 7.04 | 6.05 | 6.81 | 7.01 | 7.31 | 8.06 | 0.6705 | 0.3353 | 0.6647 |
| Present | pH (no units) | NT | 54 | 7.36 | 6.06 | 6.87 | 7.48 | 7.91 | 8.30 | | | |
| Absent | pH (no units) | NT | 28 | 7.49 | 6.20 | 6.80 | 7.43 | 7.89 | 9.50 | 0.4862 | 0.2431 | 0.7569 |
| Present | pH (no units) | Kimberley | 48 | 6.84 | 4.80 | 6.30 | 6.88 | 7.41 | 9.07 | | | |
| Absent | pH (no units) | Kimberley | 117 | 6.67 | 5.10 | 6.30 | 6.70 | 7.10 | 8.30 | 0.4398 | 0.7801 | 0.2199 |
| Present | pH (no units) | QLD | 94 | 7.00 | 5.12 | 6.57 | 7.07 | 7.54 | 8.98 | | | |
| Absent | pH (no units) | QLD | 232 | 7.57 | 5.30 | 6.92 | 7.38 | 8.00 | 9.62 | 0.0000 | 0.0000 | 1.0000 |
| Present | pH (no units) | All regions | 603 | 7.03 | 5.69 | 6.71 | 7.03 | 7.39 | 8.42 | | | |
| Absent | pH (no units) | All regions | 468 | 7.24 | 5.36 | 6.74 | 7.11 | 7.66 | 9.04 | 0.0007 | 0.0003 | 0.9997 |
| Present | SO4 (mg/L) | Pilbara | 408 | 149.78 | 0.15 | 28.10 | 62.20 | 141.50 | 311.60 | | | |
| Absent | SO4 (mg/L) | Pilbara | 96 | 190.21 | 0.05 | 23.33 | 59.35 | 128.25 | 285.64 | 0.4168 | 0.7916 | 0.2084 |
| Present | SO4 (mg/L) | NT | 38 | 194.38 | 1.70 | 15.00 | 132.83 | 257.56 | 621.41 | | | |
| Absent | SO4 (mg/L) | NT | 13 | 191.12 | 11.00 | 45.00 | 174.00 | 297.00 | 589.00 | 0.4721 | 0.2360 | 0.7640 |
| Present | SO4 (mg/L) | Kimberley | 10 | 531.23 | 18.00 | 28.75 | 61.00 | 110.50 | 233.13 | | | |
| Absent | SO4 (mg/L) | Kimberley | 7 | 166.79 | 2.00 | 7.50 | 13.00 | 68.75 | 160.63 | 0.2203 | 0.8898 | 0.1102 |
| Present | SO4 (mg/L) | QLD | 42 | 61.08 | 1.15 | 6.61 | 11.36 | 23.90 | 49.84 | | | |
| Absent | SO4 (mg/L) | QLD | 52 | 219.21 | 0.70 | 11.08 | 35.25 | 108.88 | 255.58 | 0.0076 | 0.0038 | 0.9962 |
| Present | SO4 (mg/L) | All regions | 498 | 153.36 | 0.15 | 22.30 | 56.88 | 141.63 | 320.61 | | | |
| Absent | SO4 (mg/L) | All regions | 168 | 198.28 | 0.05 | 15.98 | 50.85 | 153.13 | 358.85 | 0.3546 | 0.8227 | 0.1773 |
| Present | Static water level (mbgl) | Pilbara | 409 | 9.4 | 0.30 | 4.53 | 7.00 | 10.23 | 18.77 | | | |
| Absent | Static water level (mbgl) | Pilbara | 94 | 15.8 | 0.36 | 6.80 | 10.00 | 20.89 | 42.03 | 0.0000 | 0.0000 | 1.0000 |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Present | Static water level (mbgl) | NT | 54 | 34.3 | 1.79 | 9.39 | 19.25 | 51.25 | 114.05 | | | |
| Absent | Static water level (mbgl) | NT | 38 | 38.7 | 6.45 | 13.00 | 30.35 | 54.16 | 115.89 | 0.1381 | 0.0691 | 0.9309 |
| Present | Static water level (mbgl) | Kimberley | 53 | 14.6 | 2.99 | 7.91 | 13.45 | 16.60 | 29.63 | | | |
| Absent | Static water level (mbgl) | Kimberley | 133 | 16.1 | 0.86 | 6.80 | 12.84 | 24.70 | 49.00 | 0.7639 | 0.6181 | 0.3819 |
| Present | Static water level (mbgl) | QLD | 86 | 14.7 | 1.91 | 5.08 | 10.48 | 20.75 | 44.25 | | | |
| Absent | Static water level (mbgl) | QLD | 237 | 22.7 | 0.50 | 8.65 | 18.89 | 34.62 | 73.57 | 0.0001 | 0.0000 | 1.0000 |
| Present | Static water level (mbgl) | All regions | 602 | 12.8 | 0.30 | 4.93 | 7.96 | 13.85 | 27.23 | | | |
| Absent | Static water level (mbgl) | All regions | 502 | 20.9 | 0.36 | 7.81 | 14.57 | 30.01 | 63.30 | 0.0000 | 0.0000 | 1.0000 |
| Present | Temperature (deg C) | Pilbara | 407 | 29.20 | 23.67 | 28.01 | 29.63 | 30.91 | 34.52 | | | |
| Absent | Temperature (deg C) | Pilbara | 91 | 30.24 | 26.25 | 29.34 | 30.46 | 31.40 | 34.03 | 0.0000 | 0.0000 | 1.0000 |
| Present | Temperature (deg C) | NT | 45 | 31.69 | 29.15 | 30.67 | 31.65 | 32.36 | 34.89 | | | |
| Absent | Temperature (deg C) | NT | 25 | 30.97 | 26.22 | 30.00 | 31.39 | 32.52 | 36.30 | 0.2139 | 0.8931 | 0.1069 |
| Present | Temperature (deg C) | Kimberley | 47 | 30.15 | 28.15 | 29.70 | 30.20 | 30.73 | 32.27 | | | |
| Absent | Temperature (deg C) | Kimberley | 120 | 30.47 | 27.21 | 29.67 | 30.61 | 31.30 | 33.75 | 0.1318 | 0.0659 | 0.9341 |
| Present | Temperature (deg C) | QLD | 79 | 24.58 | 20.53 | 23.70 | 24.73 | 25.82 | 28.99 | | | |
| Absent | Temperature (deg C) | QLD | 211 | 25.71 | 20.90 | 24.50 | 25.90 | 26.90 | 30.50 | 0.0003 | 0.0001 | 0.9999 |
| Present | Temperature (deg C) | All regions | 578 | 28.84 | 22.09 | 27.37 | 29.53 | 30.89 | 35.57 | | | |
| Absent | Temperature (deg C) | All regions | 447 | 28.21 | 19.00 | 25.94 | 28.50 | 30.80 | 37.50 | 0.0021 | 0.9990 | 0.0010 |
| Present | Top of screen (mbgl) | NT | 32 | 53.2 | 9.50 | 23.75 | 35.45 | 75.23 | 152.44 | | | |
| Absent | Top of screen (mbgl) | NT | 25 | 63.7 | 16.00 | 43.10 | 54.81 | 77.20 | 128.35 | 0.0889 | 0.0444 | 0.9556 |
| Present | Top of screen (mbgl) | Kimberley | 22 | 13.5 | 1.00 | 5.18 | 14.50 | 18.88 | 29.30 | | | |
| Absent | Top of screen (mbgl) | Kimberley | 39 | 19.9 | 0.01 | 4.20 | 13.60 | 23.70 | 52.95 | 0.8533 | 0.5733 | 0.4267 |
| Present | Top of screen (mbgl) | QLD | 14 | 39.9 | 4.50 | 9.65 | 13.20 | 18.00 | 30.52 | | | |
| Absent | Top of screen (mbgl) | QLD | 51 | 69.5 | 4.00 | 19.50 | 42.94 | 106.00 | 235.75 | 0.0164 | 0.0082 | 0.9918 |
| Present | Top of screen (mbgl) | All regions | 68 | 37.6 | 1.00 | 11.67 | 20.00 | 35.75 | 71.86 | | | |
| Absent | Top of screen (mbgl) | All regions | 115 | 51.4 | 0.01 | 13.80 | 31.50 | 66.00 | 144.30 | 0.2519 | 0.1260 | 0.8740 |

# APPENDIX 5 – DATA TABLE

# Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RN000541 | -17.5499 | 133.5385 | NT | Absent | 95.20 | 75.00 | 97.40 | 1.20 | 1084.67 | | 2.00 | 332.40 | 22.20 |
| RN000558 | -16.2598 | 133.3741 | NT | Absent | 68.30 | 111.50 | 268.00 | 0.78 | 1795.00 | | 1.80 | 441.75 | 22.25 |
| RN001559 | -22.9864 | 132.6769 | NT | Present | 7.30 | 82.56 | 1395.44 | | 8363.24 | | | 622.33 | 91.89 |
| RN001561 | -22.9075 | 132.7303 | NT | Present | 6.40 | 82.50 | 1063.00 | | 4808.45 | | | 634.50 | 125.00 |
| RN001577 | -22.7377 | 132.4610 | NT | Present | 5.50 | 115.00 | 1910.00 | | 6680.00 | | | 349.00 | 83.00 |
| RN001804 | -22.7195 | 130.9875 | NT | Present | 9.10 | 86.50 | 1040.00 | | 4198.49 | | | 583.00 | 78.50 |
| RN001924 | -22.7325 | 131.0989 | NT | Present | 21.30 | 212.20 | 3581.80 | | 12960.00 | | | 516.60 | 142.80 |
| RN002149 | -22.7163 | 132.3250 | NT | Present | 7.60 | 248.00 | 2597.00 | | 9150.00 | | | 293.00 | 110.00 |
| RN004320 | -22.6933 | 130.9194 | NT | Present | 8.80 | 89.67 | 1451.67 | | 5999.43 | | | 668.33 | 94.33 |
| RN004332 | -22.7278 | 131.1704 | NT | Present | 18.30 | 36.00 | 197.00 | | 1300.00 | | | 244.00 | 36.00 |
| RN005764 | -16.2943 | 133.6927 | NT | Present | 84.40 | 71.00 | 69.00 | 0.33 | 1219.67 | | 2.60 | 298.67 | 11.67 |
| RN005917 | -15.5282 | 132.6517 | NT | Present | 65.80 | | | 1.78 | 1231.00 | | 1.20 | | |
| RN005942 | -16.2886 | 133.6198 | NT | Present | 104.20 | 74.33 | 72.33 | 0.62 | 1003.33 | | | 273.67 | 12.00 |
| RN006329 | -16.6359 | 134.8648 | NT | Present | 109.20 | 107.00 | 78.00 | 1.19 | 1064.00 | | 11.70 | 376.20 | 9.80 |
| RN007823 | -14.5660 | 132.4322 | NT | Present | 87.00 | 85.50 | 5.00 | 1.64 | 591.00 | | 5.00 | 411.00 | 2.00 |
| RN008221 | -14.5879 | 132.4687 | NT | Present | 61.00 | 108.00 | 6.00 | 1.64 | 780.00 | | 3.00 | 531.00 | 2.00 |
| RN008299 | -14.9206 | 133.0648 | NT | Present | 25.97 | 126.00 | 136.33 | 1.26 | 1402.50 | | 17.00 | 494.50 | 16.00 |
| RN008856 | -16.2617 | 133.3741 | NT | Absent | 95.00 | 123.14 | 260.57 | | 1907.57 | | | 517.29 | 27.57 |
| RN010151 | -22.9330 | 131.2413 | NT | Present | 6.10 | 108.00 | 1901.00 | | 7315.00 | | 3.16 | 623.50 | 120.50 |
| RN010759 | -22.4947 | 133.2319 | NT | Absent | 52.00 | 13.00 | 592.00 | | 3590.00 | | 2.30 | 696.00 | 46.00 |
| RN015647 | -22.4065 | 133.2817 | NT | Absent | 116.00 | 208.00 | 1100.00 | | 5040.00 | | 5.00 | 409.00 | 57.00 |
| RN018165 | -22.3984 | 133.1391 | NT | Absent | 27.00 | | | | | | 1.00 | | |
| RN019774 | -22.4750 | 136.2440 | NT | Absent | 90.00 | | | | | | 0.01 | | |
| RN019775 | -22.5013 | 136.1467 | NT | Absent | 117.00 | | | | | | 2.50 | | |
| RN019776 | -22.4824 | 136.1987 | NT | Absent | 28.50 | | | | | | 4.00 | | |
| RN019778 | -22.5018 | 136.3826 | NT | Absent | 168.00 | | | | | | 2.75 | | |
| RN019779 | -22.4735 | 136.3425 | NT | Absent | 150.00 | | | | | | 8.00 | | |
| RN019780 | -22.4649 | 136.3330 | NT | Present | 148.30 | | | | | | 4.00 | | |
| RN019781 | -22.4818 | 136.1850 | NT | Absent | 53.40 | | | | | | 0.60 | | |
| RN019782 | -22.4974 | 136.1824 | NT | Absent | 58.00 | | | | | | 14.00 | | |
| RN019793 | -22.4974 | 136.1822 | NT | Absent | 101.50 | | | | | | 7.00 | | |
| RN019794 | -22.4733 | 136.3427 | NT | Absent | 65.00 | | | | | | 5.00 | | |
| RN020509 | -14.6204 | 132.6967 | NT | Absent | 78.00 | 5.50 | 10.00 | 0.08 | 144.80 | | 2.00 | 61.50 | 3.00 |
| RN021694 | -14.4576 | 132.2415 | NT | Present | 30.00 | 84.00 | 5.50 | 2.87 | 606.50 | | 12.62 | 413.00 | 1.50 |
| RN022002 | -14.5866 | 132.5359 | NT | Present | 116.90 | | | 2.17 | 264.00 | | | | |
| RN022286 | -14.4543 | 132.2130 | NT | Present | 162.40 | 76.83 | 5.00 | 1.56 | 562.00 | | 20.00 | 373.00 | 2.08 |
| RN022288 | -14.4616 | 132.2318 | NT | Present | 35.50 | 73.00 | 2.00 | 1.11 | 531.00 | | | 367.00 | 1.00 |
| RN022289 | -14.4676 | 132.2125 | NT | Present | 65.90 | 69.50 | 78.83 | 1.58 | 881.67 | | 30.00 | 436.50 | 9.67 |
| RN022391 | -14.4111 | 132.2043 | NT | Present | 96.00 | 65.08 | 8.33 | 1.48 | 537.25 | | 7.00 | 319.50 | 2.48 |
| RN022475 | -14.4781 | 132.2691 | NT | Present | 30.00 | 39.00 | 8.00 | 1.85 | 420.00 | | 12.00 | 285.00 | 2.00 |

# Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RN026705 | -14.5554 | 132.4251 | NT | Present | 29.00 | 64.00 | 7.00 | 1.21 | 490.00 | | | 317.00 | 2.00 |
| RN028082 | -15.5954 | 133.2261 | NT | Present | 203.20 | 143.00 | 183.00 | 0.09 | 1615.00 | | | 598.00 | 16.00 |
| RN029012 | -15.2711 | 133.1256 | NT | Present | 121.80 | 149.00 | 215.00 | 1.12 | 1720.00 | | 20.00 | 567.50 | 26.00 |
| RN029025 | -16.4856 | 134.6364 | NT | Absent | 144.00 | 126.00 | 100.00 | | 1260.00 | | 2.50 | 472.00 | 14.00 |
| RN030507 | -15.6315 | 132.8590 | NT | Present | 90.00 | 49.00 | 32.00 | 2.20 | 621.00 | | | 339.00 | 4.00 |
| RN031243 | -16.6461 | 133.0079 | NT | Present | 156.00 | | | | | | 3.00 | | |
| RN031984 | -14.9593 | 133.3183 | NT | Absent | 79.60 | | 321.00 | 1.73 | 2095.00 | | 20.00 | 389.17 | 23.53 |
| RN031985 | -14.9625 | 133.2653 | NT | Absent | 39.60 | | 227.50 | 1.70 | 1525.00 | | 18.00 | 311.00 | 21.45 |
| RN034030 | -15.0023 | 133.2332 | NT | Present | 29.00 | | | 7.70 | 3290.00 | | 3.50 | | |
| RN034031 | -15.0160 | 133.1975 | NT | Present | 41.40 | | | 1.50 | 1380.00 | | 20.00 | | |
| RN034032 | -14.9390 | 133.1643 | NT | Present | 15.50 | | | 3.75 | 0.00 | | 8.00 | | |
| RN034038 | -15.0837 | 133.1245 | NT | Present | 14.00 | | | 1.67 | 139.00 | | 4.00 | | |
| RN034039 | -14.9810 | 133.3395 | NT | Present | 53.50 | | | 0.51 | 2850.00 | | 5.00 | | |
| RN034230 | -14.9036 | 133.0929 | NT | Present | 66.40 | | 74.00 | 2.49 | 880.00 | | 15.00 | 410.00 | 12.00 |
| RN034231 | -15.0082 | 133.2684 | NT | Present | 74.50 | | | 2.51 | 1327.00 | | 10.00 | | |
| RN034813 | -16.3198 | 132.7161 | NT | Absent | 130.00 | | | 2.05 | 836.00 | | 1.00 | | |
| RN035518 | -15.0757 | 131.7384 | NT | Absent | 71.40 | | | 3.36 | 692.00 | | 1.00 | | |
| RN035519 | -14.8684 | 133.0024 | NT | Present | 34.40 | | | 2.37 | 718.00 | | 8.00 | | |
| RN035790 | -14.9112 | 133.2514 | NT | Present | 88.00 | 129.00 | 161.60 | 2.50 | 1456.00 | | 2.00 | 469.00 | 14.56 |
| RN035792 | -14.9160 | 133.1378 | NT | Present | 49.20 | | 117.00 | 2.15 | 1010.00 | | 2.00 | 368.00 | 10.60 |
| RN035795 | -14.9899 | 133.3048 | NT | Absent | 73.50 | | 150.00 | 1.31 | 1375.00 | | 30.00 | 419.00 | 16.50 |
| RN035796 | -14.9319 | 133.1382 | NT | Present | 37.50 | 64.40 | 266.80 | 2.20 | 1878.00 | | 15.00 | 473.20 | 26.64 |
| RN035860 | -14.7242 | 132.8235 | NT | Present | 54.10 | | 4.00 | 2.57 | 320.00 | | 4.00 | 190.00 | 1.30 |
| RN035861 | -14.6483 | 132.1152 | NT | Present | 120.00 | | | 1.96 | 104.00 | | 10.00 | | |
| RN035863 | -14.6206 | 132.6966 | NT | Absent | 121.10 | | 12.70 | 0.06 | 284.00 | | | 114.00 | 13.40 |
| RN035926 | -14.9715 | 133.1300 | NT | Present | 31.60 | | 230.00 | 2.40 | 1800.00 | | 15.00 | 525.00 | 18.00 |
| RN035927 | -14.9958 | 133.1483 | NT | Present | 85.70 | 137.00 | 245.25 | 1.48 | 1780.00 | | 10.00 | 468.50 | 18.60 |
| RN035928 | -14.9253 | 132.9912 | NT | Absent | 108.50 | | 13.00 | 1.79 | 590.00 | | 5.00 | 300.00 | 5.10 |
| RN035929 | -15.2254 | 133.3260 | NT | Present | 59.50 | | | 2.01 | 1413.00 | | 5.00 | | |
| RN036304 | -14.9772 | 133.0780 | NT | Present | 49.00 | | | 0.53 | 2610.00 | | 0.30 | | |
| RN036305 | -15.0791 | 133.2034 | NT | Present | 67.50 | | 570.00 | 1.59 | 3100.00 | | | 490.00 | 31.00 |
| RN036479 | -14.6944 | 132.7308 | NT | Absent | 168.81 | | | 2.47 | 2820.00 | | | | |
| RN036654 | -16.7921 | 132.9771 | NT | Present | 106.00 | | | | | | 4.00 | | |
| RN036775 | -17.5476 | 133.5410 | NT | Present | 99.50 | | | | | | 5.00 | | |
| RN036776 | -17.5490 | 133.5405 | NT | Present | 105.00 | | | | | | 5.00 | | |
| RN036778 | -17.3600 | 133.3844 | NT | Absent | 96.50 | | | 0.51 | 1760.00 | | 2.50 | | |
| RN036781 | -17.5491 | 133.5407 | NT | Absent | 100.50 | | | | | | 3.00 | | |
| RN037410 | -14.4745 | 132.2474 | NT | Present | 85.60 | | | 1.42 | 223.00 | | 2.00 | | |
| RN038630 | -16.4800 | 133.9798 | NT | Present | 146.54 | | | | | | 5.00 | | |
| RN038810 | -15.3733 | 133.1653 | NT | Present | 178.98 | | 216.00 | 0.89 | 1630.00 | | | 452.00 | 20.00 |

Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| RN038811 | -15.4898 | 133.1950 | NT | Present | 69.75 | | 218.00 | 1.42 | 1630.00 | | | 465.00 | 20.80 |
| RN038816 | -17.0266 | 133.4402 | NT | Present | 194.00 | | 238.00 | 0.05 | 1530.00 | | 15.00 | 328.00 | 21.00 |
| RN038817 | -17.7401 | 133.7249 | NT | Present | 203.00 | | 209.00 | 2.04 | 1390.00 | | 6.00 | 336.00 | 24.40 |
| RN038818 | -17.9053 | 133.9391 | NT | Present | 285.90 | | 258.00 | | 1810.00 | | 20.00 | 305.00 | 24.70 |
| RN039070 | -17.9637 | 134.7061 | NT | Absent | 298.00 | | 249.00 | 2.49 | 1710.00 | | 30.00 | 200.00 | 13.50 |
| RN041141 | -15.1702 | 133.5282 | NT | Present | 96.00 | | | 1.82 | 792.00 | | | | |
| RN041440 | -15.8682 | 133.4068 | NT | Present | 83.00 | | | 1.71 | 2920.00 | | 3.50 | | |
| RN041441 | -14.6946 | 132.7313 | NT | Absent | 155.98 | | | 0.32 | 2030.00 | | 3.50 | | |
| RN041442 | -16.7395 | 132.4005 | NT | Absent | 202.23 | | | 0.77 | 2200.00 | | 3.00 | | |
| RN041443 | -16.3196 | 132.7360 | NT | Present | 125.30 | | | 1.68 | 803.00 | | | | |
| RN041444 | -16.6215 | 133.3503 | NT | Absent | 198.70 | | | 1.66 | 950.00 | | | | |
| RN041445 | -15.5901 | 132.5426 | NT | Absent | 262.70 | | | 3.35 | 2330.00 | | 20.00 | | |
| RN041446 | -15.5901 | 132.5426 | NT | Present | 71.10 | | | 0.80 | 2210.00 | | 4.50 | | |
| RN041447 | -15.5905 | 132.5426 | NT | Absent | 252.80 | | | 3.35 | 2370.00 | | 20.00 | | |
| RN042218 | -16.7425 | 135.0664 | NT | Absent | 116.00 | | | 1.57 | 1.00 | | | | |
| 80910595 | -15.7893 | 128.7065 | Kimberley | Absent | 44.50 | | | | | | | | |
| 80911224 | -16.6529 | 128.4397 | Kimberley | Absent | 53.00 | | | | | | | | |
| 80911229 | -16.6667 | 128.4570 | Kimberley | Absent | 31.50 | | | | | | | | |
| 80911230 | -16.6667 | 128.4570 | Kimberley | Absent | 10.00 | | | | | | | | |
| 80911232 | -16.7188 | 128.4043 | Kimberley | Present | 20.00 | | | | | | | | |
| 80911233 | -16.7188 | 128.4043 | Kimberley | Absent | 7.00 | | | | | | | | |
| 80911241 | -16.7203 | 128.4018 | Kimberley | Present | 8.40 | | | | | | | | |
| 80911242 | -16.7203 | 128.4018 | Kimberley | Present | 4.50 | | | | | | | | |
| 80911244 | -16.7272 | 128.3780 | Kimberley | Absent | 35.40 | | | | | | | | |
| 80911248 | -16.7286 | 128.3908 | Kimberley | Absent | 22.60 | | | | | | | | |
| 80911249 | -16.7286 | 128.3908 | Kimberley | Present | 12.40 | | | | | | | | |
| 80911250 | -16.7209 | 128.4018 | Kimberley | Absent | 15.50 | | | | | | | | |
| 80911262 | -16.6902 | 128.4513 | Kimberley | Absent | 15.00 | | | | | | | | |
| 80911263 | -16.6902 | 128.4513 | Kimberley | Absent | 25.60 | | | | | | | | |
| 80911265 | -16.6920 | 128.4541 | Kimberley | Present | 15.30 | | | | | | | | |
| 80911266 | -16.6920 | 128.4541 | Kimberley | Present | 23.50 | | | | | | | | |
| 80911267 | -16.6879 | 128.4525 | Kimberley | Present | 15.30 | | | | | | | | |
| 80911268 | -16.6879 | 128.4525 | Kimberley | Absent | 41.80 | | | | | | | | |
| 80911270 | -16.7262 | 128.4256 | Kimberley | Absent | 5.50 | | | | | | | | |
| 80911271 | -16.7314 | 128.4116 | Kimberley | Absent | 35.60 | | | | | | | | |
| 80911272 | -16.7314 | 128.4116 | Kimberley | Present | 7.50 | | | | | | | | |
| 80911276 | -16.7210 | 128.4276 | Kimberley | Absent | 52.80 | | | | | | | | |
| 80911277 | -16.7210 | 128.4276 | Kimberley | Absent | 15.00 | | | | | | | | |
| 80911278 | -16.7219 | 128.3980 | Kimberley | Present | 11.40 | | | | | | | | |
| 80911279 | -16.7219 | 128.3980 | Kimberley | Absent | 19.60 | | | | | | | | |

# Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80911286 | -16.7285 | 128.4063 | Kimberley | Absent | 10.00 | | | | | | | | |
| 80911287 | -16.7285 | 128.4063 | Kimberley | Absent | 22.30 | | | | | | | | |
| 80911289 | -16.6648 | 128.4376 | Kimberley | Absent | 25.00 | | | | | | | | |
| 80911292 | -16.7296 | 128.3860 | Kimberley | Absent | 10.00 | | | | | | | | |
| 80911293 | -16.7296 | 128.3860 | Kimberley | Absent | 24.80 | | | | | | | | |
| 80911294 | -16.7275 | 128.3956 | Kimberley | Absent | 10.00 | | | | | | | | |
| 80911295 | -16.7270 | 128.3945 | Kimberley | Present | 10.10 | | | | | | | | |
| 80911298 | -16.6776 | 128.4249 | Kimberley | Absent | 25.00 | | | | | | | | |
| 80911303 | -16.6994 | 128.4385 | Kimberley | Absent | 24.90 | | | | | | | | |
| 80911306 | -16.7164 | 128.4560 | Kimberley | Present | 96.00 | | | | | | | | |
| 80911307 | -16.7237 | 128.3596 | Kimberley | Absent | 90.00 | | | | | | | | |
| 80911416 | -16.6834 | 128.3647 | Kimberley | Absent | 105.00 | | | | | | | | |
| 80911421 | -16.7036 | 128.3853 | Kimberley | Absent | 241.00 | | | | | | | | |
| 80911423 | -16.7128 | 128.3892 | Kimberley | Absent | 303.00 | | | | | | | | |
| 80911467 | -16.6927 | 128.3705 | Kimberley | Absent | 83.40 | | | | | | | | |
| 80911472 | -16.7270 | 128.3964 | Kimberley | Absent | 10.40 | | | | | | | | |
| 80911473 | -16.7263 | 128.3950 | Kimberley | Present | 9.50 | | | | | | | | |
| 80918082 | -15.6777 | 128.7283 | Kimberley | Present | 28.55 | 83.84 | 233.81 | | 981.47 | | 0.07 | 189.57 | |
| 80918099 | -15.6994 | 128.6911 | Kimberley | Absent | 14.98 | 19.00 | 328.00 | | 3472.23 | | | 833.00 | |
| 80910308 | -14.9697 | 128.5938 | Kimberley | Absent | 20.11 | | | | 458.70 | | 3.78 | | |
| 80910778 | -15.0939 | 128.6338 | Kimberley | Absent | 18.28 | | | | 323.87 | | 3.78 | | |
| 80918063 | -15.6153 | 128.7010 | Kimberley | Absent | 13.00 | | | | 6995.00 | | | | |
| 80918064 | -15.6255 | 128.7270 | Kimberley | Absent | 14.00 | 20.35 | 53.05 | | 551.18 | 0.02 | 0.08 | 341.06 | 2.00 |
| 80918065 | -15.6256 | 128.7271 | Kimberley | Absent | 26.20 | 75.33 | 379.10 | | 2118.10 | 0.01 | 0.08 | 476.61 | 5.00 |
| 80918067 | -15.6413 | 128.7509 | Kimberley | Present | 22.90 | 35.57 | 469.96 | | 1641.33 | | 0.08 | 418.26 | 8.00 |
| 80918091 | -15.6309 | 128.7465 | Kimberley | Present | 18.25 | 24.16 | 25.85 | | 590.47 | | 0.08 | 342.69 | |
| 80918092 | -15.6312 | 128.7466 | Kimberley | Absent | 18.23 | 24.48 | 26.36 | | 489.84 | | 0.08 | 281.19 | |
| 80918103 | -15.6105 | 128.7437 | Kimberley | Present | 5.67 | | | | | | | | |
| 80918104 | -15.6105 | 128.7438 | Kimberley | Absent | 9.95 | | | | | | | | |
| 80918105 | -15.6188 | 128.7576 | Kimberley | Absent | 3.20 | | | | | | | | |
| 80918106 | -15.6188 | 128.7576 | Kimberley | Absent | 6.58 | | | | | | | | |
| 80918117 | -15.5405 | 128.8075 | Kimberley | Absent | 16.00 | 7.60 | 12.00 | | 1000.00 | | 0.50 | 20.00 | 1.00 |
| 80918121 | -15.5729 | 128.7836 | Kimberley | Present | 25.00 | 55.33 | 96.67 | | 1064.16 | 0.01 | 1.67 | 331.40 | 2.67 |
| 80918255 | -15.5271 | 128.8331 | Kimberley | Absent | 19.10 | 5.45 | 22.83 | | 4761.37 | | 0.06 | 14.29 | 2.00 |
| 80918261 | -15.4337 | 128.9724 | Kimberley | Present | 50.00 | 66.17 | 136.91 | | 1420.83 | | 0.07 | 565.60 | 4.00 |
| 80918268 | -15.4377 | 128.9206 | Kimberley | Present | 34.00 | 11.00 | 215.00 | | 922.50 | | 0.69 | 685.00 | 3.00 |
| 80918270 | -15.3928 | 128.9526 | Kimberley | Present | 37.50 | 890.00 | 8420.00 | | 12763.45 | | 0.98 | 335.00 | 26.00 |
| 80918271 | -15.4871 | 128.8285 | Kimberley | Present | 24.00 | 23.00 | 87.00 | | 610.00 | | 0.33 | 200.00 | 4.60 |
| 80918272 | -15.4645 | 128.8928 | Kimberley | Present | 30.50 | 21.00 | 54.00 | | 1785.80 | | 0.03 | 760.00 | 4.10 |
| 80918273 | -15.4573 | 128.9034 | Kimberley | Present | 35.50 | 44.00 | 200.00 | | 1592.44 | | 0.03 | 580.00 | 5.90 |

# Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 80918284 | -15.4934 | 128.9979 | Kimberley | Present | 33.00 | 32.00 | 59.00 | | 126.30 | | 0.12 | 220.00 | 6.80 |
| 80918289 | -15.4634 | 128.8370 | Kimberley | Present | 30.00 | 2.80 | 120.00 | | 2080.67 | | 1.00 | 520.00 | 14.00 |
| 80918501 | -15.5183 | 128.9825 | Kimberley | Absent | 30.00 | 21.00 | 20.00 | | 232.58 | | 0.07 | 105.00 | 3.00 |
| 80918512 | -15.4943 | 128.9808 | Kimberley | Present | 23.00 | 18.00 | 18.00 | | 298.33 | | 0.10 | 210.00 | 5.70 |
| 80918513 | -15.5183 | 128.9826 | Kimberley | Absent | 32.70 | 3.00 | 16.00 | | 260.36 | | 4.00 | 5.00 | 3.00 |
| 80918517 | -15.5097 | 128.9753 | Kimberley | Absent | 49.00 | 226.00 | 566.00 | | 2873.00 | | | 383.00 | 6.00 |
| 81010010 | -15.4355 | 128.9733 | Kimberley | Absent | | | | | 1139.00 | | | | |
| 81010011 | -15.5097 | 128.9752 | Kimberley | Absent | 60.00 | | | | 636.05 | | | | |
| 81010012 | -15.4356 | 128.9744 | Kimberley | Present | | | | | | | | | |
| 81010015 | -15.4347 | 128.9685 | Kimberley | Absent | | | | | | | | | |
| 81010018 | -15.4346 | 128.9743 | Kimberley | Absent | | | | | | | | | |
| 81010020 | -15.4356 | 128.9761 | Kimberley | Absent | | | | | | | | | |
| 81010048 | -15.4627 | 128.9808 | Kimberley | Absent | 90.10 | | | | | | | | |
| 81010050 | -15.4563 | 128.9808 | Kimberley | Present | 60.30 | | | | | | | | |
| 81010052 | -15.4541 | 128.9776 | Kimberley | Absent | 60.00 | | | | | | | | |
| 81010053 | -15.4541 | 128.9833 | Kimberley | Present | 50.00 | | | | | | | | |
| 81010055 | -15.4493 | 128.9794 | Kimberley | Absent | 65.00 | | | | | | | | |
| 81010056 | -15.4518 | 128.9803 | Kimberley | Absent | 65.00 | | | | | | | | |
| 81010071 | -15.4541 | 128.9873 | Kimberley | Absent | 65.00 | | | | | | | | |
| 81010072 | -15.4491 | 128.9845 | Kimberley | Absent | 246.55 | | | | | | | | |
| 81010073 | -15.4518 | 128.9845 | Kimberley | Absent | 260.90 | | | | | | | | |
| 81010074 | -15.4563 | 128.9845 | Kimberley | Absent | 204.00 | | | | | | | | |
| 81010077 | -15.4541 | 128.9821 | Kimberley | Present | 152.35 | | | | | | | | |
| 81010081 | -15.4355 | 128.9715 | Kimberley | Present | 153.50 | | | | | | | | |
| 81010130 | -15.4512 | 128.9873 | Kimberley | Absent | 35.00 | | | | | | | | |
| 81010134 | -15.4367 | 128.9770 | Kimberley | Absent | 142.05 | | | | | | | | |
| 81010137 | -15.4337 | 128.9762 | Kimberley | Absent | 185.00 | | | | 793.52 | | | | |
| 81010208 | -15.4590 | 128.9873 | Kimberley | Present | 40.00 | | | | | | | | |
| 81010209 | -15.3179 | 128.6426 | Kimberley | Absent | | | | | 315.53 | | | | |
| 81010211 | -14.8973 | 128.5667 | Kimberley | Absent | 9.14 | | | | 692.22 | | 3.78 | | |
| 81010338 | -15.4482 | 128.9803 | Kimberley | Absent | 58.50 | | | | | | | | |
| 81010342 | -15.4482 | 128.9803 | Kimberley | Absent | 65.00 | | | | | | | | |
| PSS001 | -23.3395 | 119.7609 | Pilbara | Present | 37.50 | 81.45 | 185.00 | 2.35 | 1978.50 | 0.14 | | 450.00 | 6.75 |
| PSS002 | -23.3171 | 119.8503 | Pilbara | Present | 9.00 | 88.65 | 230.00 | 1.90 | 1559.50 | 0.03 | | 421.00 | 9.05 |
| PSS003 | -23.2920 | 119.8699 | Pilbara | Present | 22.50 | 69.63 | 265.17 | 1.46 | 1622.33 | 0.01 | | 330.33 | 8.45 |
| PSS004 | -23.3276 | 119.8383 | Pilbara | Present | 48.00 | | | 2.10 | 1732.00 | 0.03 | | | |
| PSS005 | -23.4034 | 119.7959 | Pilbara | Present | 8.00 | 56.00 | 114.50 | 0.60 | 1336.00 | 0.02 | | 384.50 | 2.55 |
| PSS006 | -22.9186 | 119.2006 | Pilbara | Present | 22.42 | 42.13 | 60.00 | 1.62 | 605.83 | 0.08 | | 193.83 | 11.48 |
| PSS007 | -22.9173 | 119.2057 | Pilbara | Present | 10.00 | 44.00 | 71.00 | 1.40 | 643.60 | 0.03 | | 268.50 | 11.90 |
| PSS008 | -22.9173 | 119.2057 | Pilbara | Present | 21.00 | 73.25 | 89.50 | 2.40 | 1003.50 | 0.02 | | 372.00 | 11.10 |

# Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PSS009 | -22.9167 | 119.2008 | Pilbara | Present | 35.83 | 41.95 | 75.33 | 1.83 | 638.67 | 0.01 | | 235.83 | 13.25 |
| PSS010 | -22.7936 | 119.2983 | Pilbara | Present | 42.00 | 50.55 | 62.00 | 3.35 | 888.00 | 0.01 | | 317.50 | 6.75 |
| PSS011 | -22.4014 | 118.2547 | Pilbara | Present | 33.00 | 30.40 | 122.00 | 2.40 | 729.50 | 0.01 | | 375.50 | 14.20 |
| PSS012 | -21.2218 | 116.1084 | Pilbara | Present | 49.33 | 7.83 | 52.67 | 0.45 | 274.97 | 0.07 | | 52.00 | 3.87 |
| PSS013 | -21.1992 | 116.0518 | Pilbara | Present | 26.67 | 50.80 | 140.00 | 5.35 | 505.60 | 0.02 | | 229.00 | 7.87 |
| PSS014 | -21.0586 | 116.2617 | Pilbara | Present | 23.50 | 40.55 | 950.00 | 2.15 | 4438.50 | 0.03 | | 549.00 | 2.20 |
| PSS015 | -21.5754 | 115.8827 | Pilbara | Present | 23.00 | 54.95 | 227.50 | 17.00 | 1164.50 | 0.04 | | 349.25 | 11.45 |
| PSS016 | -21.5813 | 115.8705 | Pilbara | Present | 13.41 | 53.66 | 157.57 | 11.62 | 878.99 | 0.02 | | 251.43 | 7.79 |
| PSS017 | -21.5497 | 115.8639 | Pilbara | Present | 17.33 | 58.67 | 273.33 | 4.90 | 1580.23 | 0.00 | | 384.33 | 13.03 |
| PSS018 | -21.1903 | 116.0201 | Pilbara | Present | 20.00 | 89.10 | 385.00 | 1.10 | 2066.50 | 0.02 | | 344.50 | 12.50 |
| PSS019 | -20.9706 | 117.0917 | Pilbara | Present | 23.00 | 78.90 | 215.00 | 0.50 | 1492.00 | 0.02 | | 372.00 | 3.55 |
| PSS020 | -20.9631 | 117.0987 | Pilbara | Present | 6.50 | 68.60 | 115.00 | 0.95 | 954.50 | 0.03 | | 334.00 | 2.40 |
| PSS021 | -20.9550 | 117.1131 | Pilbara | Present | 8.00 | 52.25 | 92.50 | 0.85 | 992.00 | 0.02 | | 363.00 | 2.15 |
| PSS022 | -20.9706 | 117.0917 | Pilbara | Present | 22.00 | 37.85 | 335.00 | 4.95 | 2062.00 | 0.02 | | 137.00 | 2.00 |
| PSS023 | -20.3935 | 118.7994 | Pilbara | Absent | 9.00 | 42.00 | 53.00 | 0.40 | 889.00 | 0.23 | | 168.00 | 26.00 |
| PSS024 | -20.3706 | 118.9494 | Pilbara | Present | 16.00 | 80.40 | 210.50 | 1.05 | 752.50 | 0.02 | | 217.00 | 5.40 |
| PSS025 | -20.3704 | 118.9478 | Pilbara | Present | 15.85 | 105.12 | 247.50 | 1.53 | 1207.00 | 0.02 | | 219.50 | 6.85 |
| PSS026 | -20.9458 | 117.6304 | Pilbara | Present | 9.50 | 42.50 | 360.00 | 0.35 | 2155.50 | 0.03 | | 285.00 | 5.80 |
| PSS027 | -20.8382 | 117.8483 | Pilbara | Absent | 45.50 | 72.37 | 103.33 | 2.03 | 966.00 | 0.01 | | 416.83 | 0.85 |
| PSS028 | -20.3389 | 119.1238 | Pilbara | Present | 20.50 | 7.70 | 145.00 | 1.95 | 1143.50 | 0.13 | | 361.50 | 8.30 |
| PSS029 | -20.3163 | 119.4264 | Pilbara | Present | 9.00 | 58.40 | 2200.00 | 1.45 | 8150.00 | 0.02 | | 485.00 | 45.40 |
| PSS030 | -20.2786 | 119.5130 | Pilbara | Present | 41.00 | 3.90 | 7.00 | 3.70 | 102.50 | 2.70 | | 31.00 | 2.50 |
| PSS031 | -20.6801 | 119.2453 | Pilbara | Present | 36.00 | 45.65 | 450.00 | 4.35 | 1918.00 | 0.03 | | 489.50 | 6.75 |
| PSS032 | -20.6028 | 119.1232 | Pilbara | Present | 50.75 | 66.28 | 165.17 | 3.07 | 1062.67 | 0.01 | | 278.67 | 6.17 |
| PSS033 | -21.6030 | 118.8144 | Pilbara | Present | 34.75 | 14.20 | 115.00 | 2.05 | 1054.50 | 0.01 | | 323.50 | 4.45 |
| PSS034 | -21.1134 | 118.7022 | Pilbara | Present | 27.50 | 54.90 | 220.00 | 1.20 | 1527.00 | 0.04 | | 386.00 | 15.95 |
| PSS035 | -22.3639 | 118.6500 | Pilbara | Present | 107.50 | 41.90 | 35.00 | 1.90 | 555.00 | 0.00 | | 197.00 | 7.30 |
| PSS036 | -21.6588 | 117.1289 | Pilbara | Absent | 17.00 | 65.00 | 210.00 | 0.10 | 1599.00 | 0.10 | | 336.00 | 18.00 |
| PSS037 | -22.2659 | 117.9540 | Pilbara | Absent | 45.50 | 54.15 | 63.50 | 1.70 | 717.00 | 0.02 | | 264.00 | 10.45 |
| PSS038 | -22.1592 | 118.0763 | Pilbara | Absent | 118.50 | 37.80 | 29.00 | 0.85 | 432.00 | 0.01 | | 189.50 | 5.90 |
| PSS039 | -21.5776 | 116.9699 | Pilbara | Present | 12.00 | 60.90 | 95.00 | 3.70 | 907.50 | 0.02 | | 337.50 | 9.15 |
| PSS040 | -21.6253 | 116.4404 | Pilbara | Absent | 21.50 | 45.40 | 44.50 | 1.35 | 783.00 | 0.05 | | 235.00 | 6.35 |
| PSS041 | -21.7091 | 116.7656 | Pilbara | Present | 27.50 | 33.15 | 17.00 | 1.75 | 665.50 | 0.01 | | 94.00 | 6.00 |
| PSS042 | -22.7176 | 117.5106 | Pilbara | Present | 55.00 | 115.00 | 595.00 | 2.70 | 2850.50 | 0.01 | | 263.50 | 18.85 |
| PSS043 | -22.5018 | 117.9606 | Pilbara | Present | 69.50 | 56.70 | 98.00 | 2.65 | 977.00 | 0.03 | | 321.50 | 7.15 |
| PSS044 | -22.4203 | 117.8569 | Pilbara | Present | 84.42 | 29.80 | 47.33 | 4.44 | 659.60 | 0.01 | | 303.67 | 0.65 |
| PSS045 | -23.1283 | 117.6106 | Pilbara | Present | 73.50 | 97.45 | 165.00 | 1.55 | 2564.50 | 0.03 | | 437.50 | 0.60 |
| PSS046 | -23.2059 | 117.5386 | Pilbara | Present | 11.50 | 28.75 | 55.50 | 1.00 | 865.50 | 0.01 | | 296.00 | 1.90 |
| PSS047 | -23.2105 | 117.5368 | Pilbara | Present | 18.00 | 56.00 | 77.00 | 0.65 | 1213.50 | 0.01 | | 536.50 | 1.10 |
| PSS048 | -23.1919 | 117.6698 | Pilbara | Present | 41.50 | 13.15 | 94.00 | 0.20 | 537.50 | 0.02 | | 119.00 | 8.10 |

Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PSS049 | -22.2847 | 122.1064 | Pilbara | Present | | | | | 534.00 | | | | |
| PSS050 | -23.1826 | 117.7049 | Pilbara | Present | 78.50 | 11.55 | 120.00 | 0.15 | 610.50 | 0.02 | | 33.50 | 16.45 |
| PSS051 | -23.1782 | 117.7150 | Pilbara | Present | 19.50 | 21.40 | 62.50 | 0.85 | 1082.50 | 0.02 | | 268.50 | 1.75 |
| PSS052 | -23.3713 | 117.8482 | Pilbara | Present | 9.00 | 45.40 | 109.00 | 1.35 | 2582.00 | 0.16 | | 262.00 | 7.15 |
| PSS053 | -23.3243 | 117.7461 | Pilbara | Present | 19.50 | 54.75 | 200.00 | 10.20 | 1199.00 | 0.01 | | 296.00 | 9.25 |
| PSS054 | -23.3629 | 117.8641 | Pilbara | Present | 41.25 | 148.50 | 640.00 | 2.00 | 3222.00 | 0.01 | | 290.00 | 39.55 |
| PSS055 | -23.3659 | 117.8179 | Pilbara | Present | 8.50 | 48.05 | 109.00 | 0.80 | 1225.50 | 0.03 | | 368.00 | 8.80 |
| PSS056 | -23.3500 | 117.8255 | Pilbara | Absent | 48.92 | 66.05 | 107.67 | 4.24 | 920.87 | 0.01 | | 250.83 | 6.18 |
| PSS057 | -23.3685 | 117.9599 | Pilbara | Absent | 30.50 | 61.45 | 290.00 | 1.25 | 1711.00 | 0.01 | | 283.50 | 16.75 |
| PSS058 | -23.3684 | 117.9598 | Pilbara | Present | 9.58 | 51.02 | 191.33 | 3.30 | 1234.00 | 0.00 | | 349.83 | 8.77 |
| PSS059 | -23.3292 | 117.7875 | Pilbara | Absent | 152.50 | 57.95 | 175.00 | 2.20 | 1264.00 | 0.01 | | 277.50 | 9.00 |
| PSS060 | -23.3063 | 117.7433 | Pilbara | Present | 52.00 | 53.55 | 150.00 | 1.85 | 1316.50 | 0.01 | | 281.00 | 8.35 |
| PSS061 | -23.2074 | 117.6682 | Pilbara | Absent | 65.00 | 6.40 | 245.00 | 0.25 | 1366.00 | 0.02 | | 155.50 | 3.80 |
| PSS062 | -23.3092 | 117.7686 | Pilbara | Present | 68.00 | 75.45 | 500.00 | 0.75 | 2617.00 | 0.00 | | 317.50 | 352.00 |
| PSS063 | -22.7060 | 118.9746 | Pilbara | Present | 83.00 | 4.95 | 11.00 | 2.60 | 607.40 | 0.26 | | 74.50 | 4.35 |
| PSS064 | -22.7284 | 119.0111 | Pilbara | Present | 19.00 | 50.80 | 114.00 | 8.20 | 793.00 | 0.03 | | 350.50 | 12.35 |
| PSS065 | -22.7517 | 119.1118 | Pilbara | Present | 46.00 | 124.00 | 224.00 | 6.00 | 1139.00 | 0.03 | | 364.50 | 6.45 |
| PSS066 | -22.7596 | 119.1224 | Pilbara | Present | 66.00 | 41.10 | 76.50 | 11.90 | 556.00 | 0.02 | | 294.50 | 2.70 |
| PSS067 | -22.7702 | 119.1295 | Pilbara | Absent | 52.00 | 40.00 | 99.00 | | 667.20 | 0.01 | | 323.00 | 3.00 |
| PSS068 | -22.7768 | 119.1299 | Pilbara | Present | 59.00 | 36.00 | 135.00 | 0.75 | 1266.00 | 0.04 | | 236.50 | 6.70 |
| PSS069 | -20.9703 | 117.0910 | Pilbara | Present | 9.50 | 70.75 | 125.00 | 5.05 | 855.50 | 0.00 | | 283.50 | 2.85 |
| PSS070 | -20.9702 | 117.0904 | Pilbara | Present | 5.50 | 86.95 | 180.00 | 8.30 | 1049.00 | 0.01 | | 349.00 | 1.70 |
| PSS071 | -20.9568 | 117.1084 | Pilbara | Present | 8.50 | 43.75 | 85.50 | 2.90 | 834.00 | 0.14 | | 406.00 | 0.90 |
| PSS072 | -21.5684 | 115.8454 | Pilbara | Present | 27.83 | 44.50 | 180.00 | 3.90 | 1130.33 | 0.04 | | 263.33 | 7.73 |
| PSS073 | -21.5687 | 115.8457 | Pilbara | Present | 24.50 | 46.00 | 165.00 | 1.35 | 1111.00 | 0.01 | | 270.00 | 7.85 |
| PSS074 | -21.5684 | 115.8454 | Pilbara | Present | 21.50 | 35.35 | 325.00 | 0.20 | 1151.50 | 2.34 | | 15.00 | 7.60 |
| PSS075 | -21.5315 | 115.8558 | Pilbara | Present | 20.00 | 58.57 | 283.33 | 3.30 | 1577.27 | 0.01 | | 386.33 | 12.30 |
| PSS076 | -21.1945 | 116.0740 | Pilbara | Present | 70.00 | 6.00 | 120.00 | 0.30 | 534.77 | 0.03 | | 133.33 | 7.60 |
| PSS077 | -21.1945 | 116.0740 | Pilbara | Present | 20.67 | 55.90 | 153.33 | 3.60 | 849.63 | 0.01 | | 185.00 | 7.20 |
| PSS078 | -21.2159 | 116.0421 | Pilbara | Present | 25.00 | 78.17 | 453.33 | 4.80 | 1864.67 | 0.01 | | 302.00 | 14.60 |
| PSS079 | -21.1992 | 116.0518 | Pilbara | Present | 16.50 | 33.90 | 320.00 | 4.05 | 1074.50 | 101.50 | | 1.00 | 3.85 |
| PSS080 | -21.6789 | 115.3617 | Pilbara | Absent | 11.00 | 36.40 | 30.00 | 0.50 | 515.00 | 0.79 | | 186.00 | 4.50 |
| PSS081 | -21.6783 | 115.3666 | Pilbara | Present | 25.00 | 55.95 | 27.50 | 3.10 | 363.50 | 0.03 | | 189.00 | 3.55 |
| PSS082 | -21.7126 | 115.3404 | Pilbara | Present | 42.00 | 12.30 | 64.00 | 4.20 | 1120.00 | 0.03 | | 259.00 | 22.75 |
| PSS083 | -21.7182 | 115.3937 | Pilbara | Present | 31.00 | 70.85 | 165.00 | 4.35 | 1310.50 | 0.03 | | 363.00 | 11.20 |
| PSS085 | -21.6800 | 115.3635 | Pilbara | Present | 11.00 | 131.50 | 280.00 | 0.30 | 1265.00 | 0.33 | | 204.50 | 7.55 |
| PSS086 | -21.6962 | 115.3727 | Pilbara | Present | 29.98 | 35.90 | 77.00 | 3.78 | 578.67 | 0.01 | | 185.50 | 10.63 |
| PSS087 | -21.7006 | 115.3814 | Pilbara | Present | 32.00 | 58.15 | 920.00 | 0.75 | 3831.50 | 0.07 | | 507.50 | 37.70 |
| PSS088 | -21.6638 | 116.1373 | Pilbara | Present | 53.67 | 25.58 | 65.83 | 0.63 | 574.67 | 0.29 | | 139.33 | 12.12 |
| PSS089 | -21.6330 | 115.9613 | Pilbara | Present | 23.00 | 71.80 | 470.00 | 11.95 | 2438.50 | 0.03 | | 456.00 | 18.65 |

Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PSS090 | -22.2659 | 117.9540 | Pilbara | Present | 44.00 | 53.10 | 58.50 | 0.40 | 579.85 | 0.01 | | 259.00 | 9.95 |
| PSS091 | -22.2659 | 117.9540 | Pilbara | Absent | 41.50 | 63.00 | 85.00 | 0.20 | 693.25 | 0.06 | | 323.50 | 12.25 |
| PSS092 | -22.2322 | 117.1181 | Pilbara | Absent | 40.00 | 44.35 | 140.00 | 2.35 | 1213.50 | 0.01 | | 337.00 | 12.65 |
| PSS093 | -22.2331 | 117.1571 | Pilbara | Absent | 47.00 | 58.50 | 170.00 | 3.75 | 1320.50 | 0.01 | | 353.50 | 10.45 |
| PSS094 | -22.2389 | 117.1504 | Pilbara | Present | 33.00 | 46.70 | 185.00 | 3.70 | 1384.50 | 0.01 | | 313.00 | 10.35 |
| PSS095 | -22.2439 | 117.1729 | Pilbara | Present | 41.75 | 59.15 | 160.00 | 1.30 | 1330.50 | 0.01 | | 353.00 | 11.35 |
| PSS096 | -22.4261 | 117.3107 | Pilbara | Absent | 60.00 | 66.80 | 100.00 | 0.50 | 904.00 | 0.01 | | 293.00 | 11.20 |
| PSS097 | -22.4246 | 117.3104 | Pilbara | Present | 19.50 | 101.90 | 34.00 | | 708.90 | 0.02 | | 456.00 | 5.15 |
| PSS098 | -22.4253 | 117.3106 | Pilbara | Absent | 73.00 | 75.65 | 41.00 | | 486.50 | 0.01 | | 324.50 | 7.40 |
| PSS099 | -22.4253 | 117.3295 | Pilbara | Absent | 85.50 | 58.20 | 115.00 | 3.90 | 848.90 | 0.01 | | 253.00 | 11.50 |
| PSS100 | -22.4163 | 117.3418 | Pilbara | Present | 68.00 | 69.30 | 190.00 | 5.30 | 1012.70 | 0.01 | | 270.00 | 15.70 |
| PSS101 | -22.4222 | 117.3418 | Pilbara | Present | 58.00 | 47.50 | 84.00 | 0.90 | 690.35 | 0.01 | | 190.50 | 13.10 |
| PSS102 | -23.3255 | 117.7406 | Pilbara | Present | 23.00 | 102.00 | 740.00 | | 2780.00 | 0.00 | | 433.00 | 35.60 |
| PSS103 | -23.3713 | 117.8482 | Pilbara | Present | 32.00 | 63.60 | 220.00 | 1.10 | 1250.60 | 0.00 | | 293.00 | 15.65 |
| PSS104 | -23.3793 | 117.8992 | Pilbara | Present | 8.00 | 42.60 | 145.00 | 3.60 | 1072.25 | 0.01 | | 350.50 | 8.10 |
| PSS105 | -23.3637 | 117.9451 | Pilbara | Absent | 67.00 | 35.20 | 69.50 | 0.60 | 679.05 | 0.04 | | 290.00 | 10.90 |
| PSS106 | -23.3626 | 117.8196 | Pilbara | Absent | 61.00 | 72.45 | 275.00 | | 1098.10 | 0.01 | | 290.00 | 12.15 |
| PSS107 | -23.3479 | 117.7990 | Pilbara | Absent | 32.00 | 50.50 | 225.00 | 1.00 | 1235.30 | 0.01 | | 238.50 | 12.15 |
| PSS108 | -23.1915 | 117.7249 | Pilbara | Present | 42.50 | 38.00 | 145.00 | 1.30 | 1028.95 | 0.01 | | 389.00 | 2.50 |
| PSS109 | -23.1883 | 117.6676 | Pilbara | Present | 13.00 | 41.10 | 150.00 | 2.60 | 1148.10 | 0.01 | | 463.50 | 1.40 |
| PSS110 | -23.1898 | 117.6784 | Pilbara | Present | 26.00 | 9.40 | 70.00 | 0.30 | 606.55 | 0.04 | | 199.50 | 4.65 |
| PSS111 | -23.1881 | 117.6774 | Pilbara | Present | 52.33 | 12.43 | 74.33 | 0.20 | 629.97 | 0.02 | | 269.67 | 3.80 |
| PSS112 | -23.1837 | 117.6893 | Pilbara | Present | 121.00 | 39.15 | 90.00 | 0.30 | 1020.65 | 0.00 | | 479.00 | 1.95 |
| PSS113 | -23.3187 | 119.8490 | Pilbara | Present | 40.00 | 113.15 | 165.00 | 1.35 | 1556.00 | 0.32 | | 673.00 | 11.25 |
| PSS114 | -23.2650 | 119.8867 | Pilbara | Present | 16.50 | 78.45 | 305.00 | 2.60 | 2125.50 | 0.01 | | 492.50 | 16.35 |
| PSS115 | -23.2866 | 119.8679 | Pilbara | Present | 54.50 | 120.50 | 780.00 | 3.10 | 4248.50 | 0.01 | | 541.50 | 17.15 |
| PSS116 | -23.3311 | 119.8310 | Pilbara | Absent | 36.50 | 39.80 | 114.00 | 2.15 | 832.00 | 0.05 | | 195.00 | 6.00 |
| PSS117 | -23.3311 | 119.8310 | Pilbara | Present | 30.00 | 24.95 | 74.50 | 2.10 | 646.50 | 0.09 | | 97.50 | 14.45 |
| PSS118 | -23.2574 | 119.9817 | Pilbara | Present | 16.00 | 124.50 | 540.00 | 5.00 | 2819.00 | 0.01 | | 347.50 | 7.85 |
| PSS119 | -22.9416 | 119.1664 | Pilbara | Absent | 44.50 | 52.67 | 31.67 | 1.40 | 598.33 | 0.05 | | 324.33 | 8.33 |
| PSS120 | -22.9244 | 119.1969 | Pilbara | Absent | | 54.15 | 78.50 | | 590.75 | 0.01 | | 338.50 | 10.50 |
| PSS121 | -21.6693 | 117.1566 | Pilbara | Present | 15.00 | 115.50 | 375.00 | 2.30 | 2157.50 | 0.01 | | 425.50 | 21.15 |
| PSS122 | -21.7275 | 116.8041 | Pilbara | Absent | 28.50 | 28.00 | 120.00 | 0.25 | 722.00 | 0.38 | | 186.00 | 8.15 |
| PSS123 | -21.7408 | 116.7686 | Pilbara | Absent | 51.50 | 50.90 | 99.00 | 0.20 | 777.50 | 0.67 | | 265.50 | 7.00 |
| PSS124 | -21.8174 | 116.7107 | Pilbara | Present | 12.50 | 8.45 | 61.00 | 0.20 | 308.50 | 0.04 | | 43.00 | 6.80 |
| PSS125 | -21.6366 | 116.9686 | Pilbara | Absent | 55.00 | 40.40 | 160.00 | 0.20 | 705.00 | 0.76 | | 85.50 | 5.25 |
| PSS126 | -21.6695 | 116.8851 | Pilbara | Absent | 28.00 | 54.95 | 133.00 | 1.35 | 894.00 | 0.01 | | 186.50 | 5.85 |
| PSS127 | -21.5719 | 116.9678 | Pilbara | Present | 6.00 | 72.00 | 110.00 | 2.35 | 1140.50 | 0.01 | | 381.50 | 10.45 |
| PSS128 | -21.5720 | 116.9618 | Pilbara | Present | 10.50 | 53.90 | 185.00 | 1.10 | 1582.00 | 0.01 | | 434.50 | 13.35 |
| PSS129 | -21.5796 | 116.9648 | Pilbara | Present | 12.25 | 64.60 | 93.50 | 3.90 | 893.00 | 0.01 | | 343.50 | 8.20 |

Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PSS130 | -21.5810 | 116.9726 | Pilbara | Present | 26.00 | 50.50 | 96.00 | 5.40 | 928.50 | 0.04 | | 294.00 | 7.50 |
| PSS131 | -21.5819 | 116.9676 | Pilbara | Present | 18.00 | 63.05 | 99.50 | 3.65 | 953.50 | 0.01 | | 349.00 | 8.55 |
| PSS132 | -20.5387 | 118.2173 | Pilbara | Present | 45.00 | 17.95 | 18.50 | 1.15 | 252.50 | 0.01 | | 151.00 | 3.75 |
| PSS133 | -20.5320 | 118.2035 | Pilbara | Present | 17.50 | 19.20 | 35.50 | 0.60 | 270.50 | 0.03 | | 142.00 | 3.35 |
| PSS134 | -20.5581 | 118.2413 | Pilbara | Present | 8.50 | 37.35 | 45.00 | 2.90 | 701.00 | 0.03 | | 392.00 | 0.30 |
| PSS135 | -20.5575 | 118.2203 | Pilbara | Absent | 16.00 | 1.10 | 51.50 | 0.50 | 1697.00 | 0.12 | | 349.00 | 58.05 |
| PSS136 | -20.3045 | 119.2609 | Pilbara | Absent | 36.00 | 51.00 | 285.00 | 0.20 | 1128.20 | 0.01 | | 177.00 | 5.75 |
| PSS137 | -20.2889 | 119.2813 | Pilbara | Present | 17.00 | 14.25 | 300.00 | 0.10 | 1226.85 | 0.02 | | 111.50 | 3.25 |
| PSS138 | -20.2944 | 119.2740 | Pilbara | Absent | 29.00 | 48.10 | 120.00 | 0.20 | 875.30 | 0.30 | | 616.50 | 7.30 |
| PSS139 | -20.3082 | 119.2755 | Pilbara | Absent | 12.50 | 9.05 | 170.00 | | 854.45 | 0.00 | | 224.50 | 6.65 |
| PSS140 | -20.8394 | 119.6072 | Pilbara | Present | 53.50 | 21.07 | 18.00 | 1.48 | 222.85 | 0.01 | | 68.83 | 5.07 |
| PSS141 | -20.6801 | 119.2453 | Pilbara | Present | 48.00 | 20.20 | 210.00 | 3.70 | 1199.05 | 0.01 | | 342.00 | 4.15 |
| PSS142 | -20.6028 | 119.1232 | Pilbara | Present | 51.50 | 70.25 | 260.00 | 3.40 | 1219.90 | 0.01 | | 287.00 | 5.90 |
| PSS143 | -21.8321 | 120.1574 | Pilbara | Present | 11.00 | 66.70 | 135.00 | 0.30 | 980.90 | 0.01 | | 363.00 | 7.80 |
| PSS144 | -21.1403 | 119.8651 | Pilbara | Present | 50.00 | 153.50 | 905.00 | 4.75 | 4348.50 | 0.01 | | 350.50 | 5.45 |
| PSS145 | -20.9591 | 119.8477 | Pilbara | Present | 28.50 | 112.50 | 180.00 | | 1107.35 | 0.01 | | 426.00 | 1.55 |
| PSS146 | -20.9591 | 119.8477 | Pilbara | Present | 14.00 | 110.50 | 175.00 | 0.10 | 1100.40 | 0.01 | | 413.50 | 1.03 |
| PSS147 | -20.9352 | 119.8501 | Pilbara | Present | 17.50 | 33.45 | 525.00 | 3.75 | 2836.00 | 0.01 | | 744.00 | 1.05 |
| PSS148 | -20.9028 | 119.7693 | Pilbara | Present | 22.00 | 70.25 | 210.00 | 2.00 | 1211.60 | 0.00 | | 442.50 | 1.85 |
| PSS149 | -22.9518 | 119.1563 | Pilbara | Present | 56.50 | 56.10 | 64.50 | 8.60 | 431.85 | 0.01 | | 299.00 | 6.35 |
| PSS150 | -22.4457 | 119.9844 | Pilbara | Absent | 41.50 | 446.50 | 335.00 | | 2455.00 | 0.28 | | 402.50 | 31.85 |
| PSS151 | -22.3653 | 119.9736 | Pilbara | Absent | 61.50 | 74.30 | 18.00 | 0.30 | 618.35 | 0.01 | | 120.50 | 13.15 |
| PSS152 | -23.0026 | 119.1321 | Pilbara | Present | 48.00 | 90.35 | 64.50 | 2.50 | 559.60 | 0.01 | | 316.00 | 4.85 |
| PSS153 | -22.7334 | 118.9557 | Pilbara | Present | 75.00 | 51.30 | 93.50 | 13.10 | 698.00 | 0.01 | | 353.50 | 12.35 |
| PSS154 | -22.7373 | 119.0346 | Pilbara | Present | 55.50 | 48.35 | 110.00 | 9.20 | 543.90 | 0.01 | | 296.00 | 10.00 |
| PSS155 | -21.9545 | 116.4847 | Pilbara | Present | 42.50 | 6.70 | 15.50 | 7.75 | 179.50 | 0.01 | | 53.00 | 3.40 |
| PSS156 | -21.9505 | 116.4669 | Pilbara | Absent | 55.00 | 11.60 | 27.00 | 0.70 | 200.00 | 0.05 | | 79.00 | 4.20 |
| PSS157 | -21.9638 | 116.4967 | Pilbara | Present | 104.00 | 10.10 | 28.00 | 0.65 | 184.00 | 0.02 | | 64.00 | 4.20 |
| PSS158 | -21.8636 | 116.4351 | Pilbara | Present | 23.50 | 40.00 | 150.00 | 0.65 | 1221.00 | 0.00 | | 454.50 | 12.50 |
| PSS159 | -21.7271 | 116.0989 | Pilbara | Present | 34.00 | 52.45 | 485.00 | 8.70 | 2005.50 | 0.01 | | 328.00 | 13.90 |
| PSS160 | -21.7633 | 116.2290 | Pilbara | Present | 32.00 | 26.45 | 49.00 | 2.35 | 410.50 | 0.01 | | 155.50 | 6.05 |
| PSS161 | -21.8208 | 116.3258 | Pilbara | Present | 8.00 | 24.75 | 75.50 | 4.70 | 612.00 | 0.01 | | 216.50 | 6.25 |
| PSS162 | -21.6716 | 115.9101 | Pilbara | Absent | 24.00 | 17.80 | 350.00 | 102.90 | 2200.00 | 0.03 | | 418.00 | 21.30 |
| PSS163 | -21.6528 | 115.8219 | Pilbara | Present | 50.50 | 15.65 | 98.50 | 5.40 | 981.50 | 0.01 | | 80.50 | 6.05 |
| PSS164 | -21.6443 | 115.8157 | Pilbara | Present | 16.50 | 93.25 | 740.00 | 2.25 | 2592.00 | 0.00 | | 288.50 | 22.70 |
| PSS165 | -23.1606 | 118.6878 | Pilbara | Absent | 25.00 | 116.50 | 242.50 | 4.85 | 1711.50 | 0.02 | | 390.50 | 1.25 |
| PSS166 | -23.1268 | 118.7790 | Pilbara | Present | 21.50 | 183.50 | 405.00 | 6.55 | 3268.50 | 0.01 | | 468.50 | 3.70 |
| PSS167 | -23.1532 | 118.7476 | Pilbara | Present | 70.00 | 152.50 | 295.00 | 3.55 | 3762.00 | 0.01 | | 558.50 | 1.15 |
| PSS168 | -23.1653 | 118.7058 | Pilbara | Present | 78.50 | 124.00 | 295.00 | 1.80 | 1787.50 | 0.01 | | 374.50 | 5.40 |
| PSS169 | -23.1626 | 118.7066 | Pilbara | Present | 46.50 | 104.15 | 295.00 | 2.90 | 1664.00 | 0.00 | | 320.00 | 5.30 |

# Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PSS170 | -22.7139 | 116.3992 | Pilbara | Present | 61.00 | 48.40 | 240.00 | 4.65 | 1765.50 | 0.01 | | 489.50 | 2.90 |
| PSS171 | -22.8372 | 116.6325 | Pilbara | Present | 43.50 | 15.75 | 46.00 | 0.45 | 748.00 | 0.02 | | 38.00 | 10.55 |
| PSS172 | -22.4646 | 116.0363 | Pilbara | Present | 6.86 | 71.73 | 183.83 | 2.03 | 1356.50 | 0.01 | | 441.83 | 6.33 |
| PSS173 | -22.9264 | 117.3844 | Pilbara | Present | 30.00 | 59.55 | 505.00 | 2.90 | 3081.50 | 0.01 | | 622.00 | 12.70 |
| PSS174 | -22.9264 | 117.3844 | Pilbara | Present | 15.50 | 69.05 | 505.00 | 2.15 | 3065.00 | 0.01 | | 629.50 | 13.30 |
| PSS175 | -22.8567 | 117.4404 | Pilbara | Present | 17.00 | 72.20 | 295.00 | 1.30 | 1875.00 | 0.01 | | 509.50 | 13.75 |
| PSS176 | -22.8063 | 117.4858 | Pilbara | Present | 29.50 | 44.65 | 135.00 | 5.40 | 1270.00 | 0.01 | | 439.00 | 0.55 |
| PSS177 | -23.0255 | 117.5402 | Pilbara | Present | 47.00 | 37.25 | 57.00 | 2.80 | 727.80 | 0.01 | | 279.00 | 4.05 |
| PSS178 | -23.0459 | 117.5857 | Pilbara | Present | 73.00 | 38.00 | 140.00 | 4.70 | 1355.05 | 0.01 | | 622.00 | 0.20 |
| PSS179 | -23.1956 | 117.6536 | Pilbara | Present | 43.75 | 25.70 | 121.00 | 4.20 | 771.35 | 0.01 | | 219.50 | 5.00 |
| PSS180 | -22.5512 | 118.4543 | Pilbara | Present | 52.50 | 6.30 | 8.00 | 1.60 | 54.52 | 0.02 | | 6.50 | 5.60 |
| PSS181 | -23.2421 | 119.5534 | Pilbara | Present | 54.00 | 31.55 | 85.00 | 5.70 | 949.45 | 0.01 | | 556.50 | 1.55 |
| PSS182 | -23.1212 | 119.1721 | Pilbara | Absent | 86.50 | 47.35 | 91.50 | 0.20 | 568.60 | 0.04 | | 62.50 | 7.55 |
| PSS183 | -22.6219 | 117.8886 | Pilbara | Present | 56.50 | 70.40 | 140.00 | 3.50 | 1068.75 | 0.01 | | 439.50 | 1.05 |
| PSS184 | -22.7173 | 117.8780 | Pilbara | Present | 32.50 | 55.80 | 140.00 | 0.80 | 1191.80 | 0.01 | | 471.50 | 1.35 |
| PSS185 | -23.2953 | 119.6951 | Pilbara | Present | 30.50 | 29.35 | 165.00 | 4.20 | 990.45 | 0.01 | | 270.00 | 11.55 |
| PSS186 | -23.1963 | 119.4522 | Pilbara | Present | 57.00 | 23.55 | 19.00 | 5.00 | 288.75 | 0.01 | | 128.00 | 5.10 |
| PSS187 | -22.1696 | 118.7788 | Pilbara | Absent | 64.00 | 87.25 | 230.00 | 0.10 | 2593.00 | 0.05 | | 645.00 | 58.10 |
| PSS188 | -21.6981 | 118.8274 | Pilbara | Absent | 51.50 | 25.10 | 54.00 | 1.60 | 444.00 | 0.00 | | 218.50 | 2.40 |
| PSS189 | -22.3133 | 118.6119 | Pilbara | Absent | 36.50 | 55.30 | 80.50 | 1.50 | 1043.90 | 0.01 | | 247.50 | 12.65 |
| PSS190 | -22.0798 | 118.1074 | Pilbara | Present | 34.50 | 112.00 | 720.00 | 2.30 | 3543.00 | 0.01 | | 358.50 | 37.10 |
| PSS191 | -22.1214 | 118.7899 | Pilbara | Present | 50.00 | 61.80 | 135.00 | 1.10 | 1167.95 | 0.01 | | 415.00 | 1.65 |
| PSS192 | -21.6981 | 118.8274 | Pilbara | Present | 12.00 | 17.70 | 8.00 | 0.10 | 238.60 | 0.25 | | 49.00 | 4.25 |
| PSS193 | -21.6039 | 118.8170 | Pilbara | Present | 27.00 | 23.20 | 75.00 | 2.30 | 826.80 | 0.01 | | 406.00 | 6.90 |
| PSS194 | -21.5268 | 118.7551 | Pilbara | Present | 48.00 | 15.45 | 335.00 | 5.40 | 1848.50 | 0.01 | | 345.00 | 11.05 |
| PSS195 | -21.2234 | 118.6851 | Pilbara | Absent | 28.50 | 58.25 | 104.50 | 3.20 | 1038.65 | 0.01 | | 442.00 | 6.20 |
| PSS196 | -21.2234 | 118.6851 | Pilbara | Present | 59.50 | 26.35 | 105.00 | 4.70 | 908.05 | 0.01 | | 367.50 | 3.50 |
| PSS197 | -20.7779 | 118.5254 | Pilbara | Present | 21.50 | 56.05 | 28.50 | 1.30 | 625.35 | 0.01 | | 389.00 | 1.65 |
| PSS198 | -20.3938 | 118.8002 | Pilbara | Present | 27.33 | 63.97 | 1706.67 | 3.05 | 5844.67 | 0.01 | | 651.67 | 17.97 |
| PSS199 | -20.8971 | 117.7385 | Pilbara | Present | 14.00 | 64.75 | 365.00 | 2.90 | 1836.50 | 0.02 | | 482.00 | 0.85 |
| PSS200 | -21.6452 | 116.0597 | Pilbara | Absent | 29.00 | 123.50 | 270.00 | 0.10 | 2741.00 | 0.02 | | 621.00 | 13.60 |
| PSS201 | -21.6330 | 115.9613 | Pilbara | Present | 22.50 | 67.40 | 425.00 | 5.10 | 2346.50 | 0.01 | | 486.50 | 16.55 |
| PSS202 | -21.6854 | 115.3699 | Pilbara | Present | 53.00 | 6.95 | 14.50 | 1.65 | 249.00 | 0.02 | | 109.50 | 22.85 |
| PSS203 | -21.6769 | 115.3671 | Pilbara | Present | 26.50 | 57.30 | 26.50 | 1.30 | 519.50 | 0.01 | | 288.50 | 5.95 |
| PSS204 | -22.4539 | 117.7560 | Pilbara | Present | 50.50 | 25.55 | 60.00 | 3.05 | 611.00 | 0.01 | | 239.50 | 2.30 |
| PSS205 | -22.3600 | 117.9331 | Pilbara | Absent | 42.50 | 59.80 | 80.50 | 2.45 | 826.50 | 0.01 | | 309.00 | 9.05 |
| PSS206 | -22.6653 | 116.2389 | Pilbara | Present | 23.00 | 99.55 | 705.00 | 2.70 | 3504.00 | 0.01 | | 486.50 | 1.40 |
| PSS207 | -22.8667 | 116.7167 | Pilbara | Absent | 33.50 | 55.25 | 68.00 | 3.00 | 798.00 | 0.01 | | 382.50 | 4.50 |
| PSS208 | -22.9264 | 116.8626 | Pilbara | Present | 48.50 | 21.15 | 44.50 | 4.30 | 468.00 | 0.01 | | 178.50 | 3.75 |
| PSS209 | -22.9755 | 116.9687 | Pilbara | Present | 21.50 | 6.40 | 205.00 | 0.25 | 1245.00 | 0.19 | | 173.50 | 13.25 |

Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PSS210 | -23.1409 | 117.2739 | Pilbara | Absent | 30.00 | 40.35 | 72.50 | 1.95 | 967.00 | 0.01 | | 381.50 | 0.95 |
| PSS211 | -22.9955 | 117.0807 | Pilbara | Present | 41.50 | 12.90 | 96.50 | 0.15 | 839.50 | 0.04 | | 291.00 | 5.05 |
| PSS212 | -22.8972 | 117.1028 | Pilbara | Present | 55.00 | 31.50 | 160.00 | 1.85 | 1277.00 | 0.01 | | 343.00 | 4.60 |
| PSS213 | -22.9251 | 117.0422 | Pilbara | Present | 31.00 | 66.45 | 130.00 | 2.90 | 1189.00 | 0.01 | | 421.00 | 2.70 |
| PSS214 | -21.7412 | 122.3057 | Pilbara | Present | 72.00 | 14.35 | 74.50 | 2.05 | 406.00 | 0.01 | | 49.00 | 9.25 |
| PSS215 | -21.7609 | 122.1439 | Pilbara | Absent | 146.00 | 140.00 | 525.00 | 0.15 | 2485.50 | 0.01 | | 352.00 | 33.10 |
| PSS216 | -21.8888 | 122.3798 | Pilbara | Present | 103.00 | 32.00 | 132.50 | 2.25 | 1335.50 | 0.01 | | 149.50 | 16.30 |
| PSS217 | -21.8902 | 122.3848 | Pilbara | Present | 125.00 | 31.75 | 126.00 | 3.50 | 934.00 | 0.04 | | 158.50 | 17.50 |
| PSS218 | -21.6885 | 122.2538 | Pilbara | Absent | 105.00 | 18.55 | 106.00 | 2.80 | 702.50 | 0.01 | | 168.00 | 12.15 |
| PSS219 | -21.7391 | 122.1540 | Pilbara | Present | 145.00 | 6.85 | 22.00 | 3.90 | 154.50 | 0.03 | | 96.00 | 11.55 |
| PSS220 | -21.5044 | 121.8597 | Pilbara | Present | 43.50 | 142.50 | 590.00 | 2.70 | 3257.00 | 0.01 | | 256.50 | 31.75 |
| PSS221 | -21.4778 | 121.7814 | Pilbara | Present | 47.00 | 73.95 | 355.00 | 0.95 | 2172.00 | 0.32 | | 161.50 | 27.95 |
| PSS222 | -21.4076 | 121.6114 | Pilbara | Present | 77.00 | 87.20 | 625.00 | 0.50 | 2858.00 | 0.03 | | 209.00 | 40.60 |
| PSS223 | -21.6194 | 122.1148 | Pilbara | Present | 80.00 | 67.25 | 510.00 | 0.30 | 3617.50 | 0.00 | | 96.00 | 37.35 |
| PSS224 | -21.7252 | 122.2492 | Pilbara | Present | 68.00 | 114.75 | 555.00 | 2.90 | 2739.50 | 0.01 | | 245.50 | 34.85 |
| PSS225 | -21.6951 | 122.1999 | Pilbara | Absent | 94.50 | 172.50 | 960.00 | 4.70 | 2225.00 | 0.01 | | 372.00 | 46.75 |
| PSS226 | -21.3012 | 121.2876 | Pilbara | Present | 12.18 | 75.50 | 705.00 | 2.30 | 2996.00 | 0.01 | | 376.50 | 50.90 |
| PSS227 | -21.2975 | 121.1459 | Pilbara | Present | 34.00 | 58.60 | 75.50 | 0.40 | 1058.00 | 0.01 | | 549.00 | 0.60 |
| PSS228 | -21.2967 | 121.1456 | Pilbara | Present | 34.00 | 70.70 | 58.50 | 1.70 | 880.00 | 0.01 | | 432.00 | 1.20 |
| PSS229 | -21.3151 | 121.0308 | Pilbara | Absent | 84.50 | 69.70 | 420.00 | 0.45 | 2641.50 | 0.01 | | 263.50 | 13.00 |
| PSS230 | -21.2963 | 120.6378 | Pilbara | Present | 81.50 | 51.65 | 20.50 | 0.30 | 691.50 | 0.01 | | 467.00 | 1.35 |
| PSS231 | -20.8409 | 120.0800 | Pilbara | Present | 8.00 | 49.10 | 355.00 | 3.05 | 1836.50 | 0.01 | | 443.50 | 1.35 |
| PSS232 | -20.3394 | 119.5304 | Pilbara | Absent | 23.00 | 18.75 | 124.00 | 0.75 | 816.50 | 0.19 | | 430.00 | 4.35 |
| PSS233 | -20.3470 | 119.5236 | Pilbara | Absent | 14.00 | 59.65 | 170.00 | 0.95 | 1063.50 | 0.01 | | 281.00 | 3.20 |
| PSS234 | -20.3659 | 119.4780 | Pilbara | Present | 40.50 | 20.55 | 75.50 | 0.35 | 435.00 | 0.04 | | 82.00 | 5.80 |
| PSS235 | -20.5210 | 120.1506 | Pilbara | Absent | 28.00 | 30.60 | 50.50 | 0.15 | 610.00 | 0.27 | | 278.00 | 6.90 |
| PSS236 | -20.3058 | 120.1996 | Pilbara | Absent | 105.50 | 15.60 | 54.50 | 0.10 | 311.50 | 0.10 | | 116.00 | 4.30 |
| PSS237 | -20.6113 | 120.2661 | Pilbara | Present | 49.50 | 49.10 | 80.00 | 2.40 | 837.00 | 0.01 | | 146.00 | 3.05 |
| PSS238 | -20.6051 | 120.2691 | Pilbara | Present | 25.00 | 16.30 | 60.00 | 3.95 | 698.00 | 0.17 | | 129.50 | 1.65 |
| PSS239 | -22.9297 | 118.8797 | Pilbara | Present | 116.00 | 57.85 | 62.00 | 0.85 | 688.50 | 0.02 | | 291.50 | 10.50 |
| PSS240 | -22.9267 | 119.0455 | Pilbara | Present | 90.00 | 46.00 | 47.50 | 1.15 | 580.00 | 0.01 | | 252.00 | 9.00 |
| PSS241 | -22.9553 | 119.0665 | Pilbara | Present | 93.00 | 35.25 | 68.00 | 3.60 | 474.00 | 0.01 | | 177.00 | 4.05 |
| PSS242 | -23.0109 | 119.1700 | Pilbara | Present | 39.50 | 74.75 | 42.00 | 1.35 | 789.50 | 0.06 | | 439.50 | 6.15 |
| PSS243 | -22.9254 | 118.9858 | Pilbara | Absent | 154.00 | 41.20 | 38.00 | 2.80 | 460.00 | 0.01 | | 223.00 | 5.60 |
| PSS244 | -23.1993 | 118.4843 | Pilbara | Present | 70.50 | 83.60 | 104.00 | 4.15 | 1104.00 | 0.01 | | 448.50 | 8.05 |
| PSS245 | -23.2408 | 118.4592 | Pilbara | Present | 81.50 | 19.15 | 23.00 | 4.70 | 289.00 | 0.00 | | 129.50 | 4.05 |
| PSS246 | -23.2262 | 118.4689 | Pilbara | Present | 83.00 | 31.10 | 56.50 | 4.15 | 496.00 | 0.01 | | 141.50 | 9.40 |
| PSS247 | -23.1831 | 118.4541 | Pilbara | Present | 125.00 | 66.35 | 90.00 | 0.70 | 863.00 | 0.00 | | 314.50 | 8.50 |
| PSS248 | -21.4499 | 120.0781 | Pilbara | Present | 25.00 | 81.65 | 215.00 | 0.10 | 1418.55 | 0.00 | | 633.00 | 0.25 |
| PSS250 | -20.8088 | 119.4920 | Pilbara | Present | 34.03 | 68.13 | 122.00 | 1.70 | 1046.85 | 0.00 | | 404.50 | 3.88 |

# Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PSS251 | -20.8088 | 119.4920 | Pilbara | Present | 24.67 | 76.37 | 119.00 | 0.20 | 1035.07 | 0.01 | | 408.67 | 4.40 |
| PSS252 | -20.8254 | 119.5134 | Pilbara | Absent | 28.50 | 15.80 | 42.00 | 0.20 | 444.60 | 0.01 | | 39.50 | 8.50 |
| PSS253 | -21.8321 | 120.1574 | Pilbara | Present | 10.00 | 83.65 | 240.00 | 0.10 | 1380.70 | 0.00 | | 441.00 | 2.60 |
| PSS254 | -22.9433 | 119.9968 | Pilbara | Absent | 85.00 | 106.00 | 1200.00 | | 4031.00 | 0.00 | | 293.00 | 48.90 |
| PSS255 | -20.0252 | 119.8086 | Pilbara | Present | 7.28 | 15.75 | 155.00 | 5.40 | 1934.50 | 0.00 | | 703.00 | 49.20 |
| PSS256 | -19.9853 | 119.7919 | Pilbara | Present | 5.33 | 88.70 | 1215.00 | 1.00 | 6334.00 | 0.01 | | 315.00 | 69.65 |
| PSS257 | -19.9594 | 120.2552 | Pilbara | Present | 7.38 | 30.00 | 98.00 | 1.95 | 1565.50 | 0.06 | | 622.00 | 25.40 |
| PSS258 | -19.9142 | 120.4688 | Pilbara | Present | 49.25 | 2.95 | 32.00 | 4.65 | 187.00 | 0.11 | | 15.00 | 2.95 |
| PSS259 | -20.1088 | 119.8134 | Pilbara | Present | 5.61 | 34.15 | 671.50 | 5.60 | 3205.50 | 0.00 | | 305.00 | 13.65 |
| PSS260 | -20.1489 | 119.5868 | Pilbara | Present | 7.93 | 271.50 | 1730.00 | 1.00 | 6291.00 | 0.00 | | 236.50 | 36.60 |
| PSS261 | -20.4332 | 118.0505 | Pilbara | Present | 2.95 | 62.35 | 258.00 | 1.25 | 1652.00 | 0.00 | | 297.50 | 55.10 |
| PSS262 | -20.4081 | 118.0911 | Pilbara | Present | 6.50 | 37.60 | 220.00 | 4.30 | 1527.00 | 0.00 | | 332.00 | 40.70 |
| PSS263 | -20.4643 | 118.0255 | Pilbara | Present | 3.20 | 55.65 | 1500.00 | 3.00 | 6695.00 | 0.00 | | 555.00 | 88.65 |
| PSS264 | -20.6090 | 118.6636 | Pilbara | Present | 44.50 | 20.05 | 39.00 | 2.20 | 601.00 | 0.02 | | 91.50 | 3.30 |
| PSS265 | -21.0533 | 118.7387 | Pilbara | Present | 35.86 | 11.60 | 154.00 | 0.55 | 926.50 | 0.09 | | 155.50 | 4.60 |
| PSS266 | -21.3607 | 118.8852 | Pilbara | Present | 12.25 | 35.35 | 720.50 | 5.10 | 3306.50 | 0.00 | | 350.50 | 1.80 |
| PSS267 | -21.7714 | 118.8811 | Pilbara | Absent | 37.81 | 5.15 | 360.00 | 0.55 | 2136.50 | 0.00 | | 482.00 | 2.55 |
| PSS268 | -22.3001 | 119.0218 | Pilbara | Absent | 55.50 | 46.80 | 3710.00 | 0.50 | 12150.00 | 0.02 | | 87.00 | 151.00 |
| PSS269 | -22.3985 | 118.9985 | Pilbara | Present | 41.74 | 113.50 | 4800.00 | 4.50 | 17000.00 | 0.01 | | 297.50 | 276.50 |
| PSS270 | -22.5144 | 119.1302 | Pilbara | Present | 40.00 | 37.90 | 842.00 | 0.40 | 3264.00 | 0.09 | | 123.50 | 54.85 |
| PSS271 | -22.9708 | 119.7713 | Pilbara | Present | 40.48 | 10.75 | 101.50 | 0.40 | 403.00 | 8.60 | | 6.00 | 9.95 |
| PSS272 | -23.7979 | 119.7188 | Pilbara | Present | 48.75 | 26.40 | 66.00 | 2.80 | 536.00 | 0.00 | | 55.00 | 7.05 |
| PSS273 | -24.0951 | 119.7533 | Pilbara | Present | 8.50 | 243.50 | 1270.00 | 4.55 | 4883.50 | 0.00 | | 328.50 | 50.35 |
| PSS274 | -24.1344 | 119.6693 | Pilbara | Present | 14.96 | 83.20 | 21.50 | 0.40 | 771.00 | 0.06 | | 290.00 | 6.95 |
| PSS275 | -24.3123 | 119.6991 | Pilbara | Present | 6.15 | 76.75 | 67.00 | 3.00 | 687.50 | 0.00 | | 151.00 | 7.85 |
| PSS276 | -24.4603 | 119.6923 | Pilbara | Present | 20.12 | 53.35 | 262.50 | 2.90 | 1578.00 | 0.00 | | 181.50 | 31.70 |
| PSS277 | -24.9059 | 119.4282 | Pilbara | Present | 10.82 | 160.50 | 726.50 | 0.60 | 4391.00 | 0.00 | | 566.50 | 84.55 |
| PSS278 | -24.9528 | 119.4121 | Pilbara | Present | 5.43 | 144.00 | 335.00 | 4.10 | 2046.50 | 0.02 | | 439.50 | 47.30 |
| PSS279 | -23.8607 | 120.0742 | Pilbara | Present | 4.25 | 85.20 | 254.50 | 5.85 | 1507.00 | 0.00 | | 256.50 | 25.25 |
| PSS280 | -23.8637 | 120.1507 | Pilbara | Present | 4.05 | 161.00 | 1510.00 | 2.90 | 6445.00 | 0.00 | | 422.50 | 142.00 |
| PSS281 | -23.5036 | 120.2875 | Pilbara | Present | 83.00 | 157.50 | 1800.00 | 1.30 | 7528.50 | 0.00 | | 309.50 | 21.70 |
| PSS282 | -23.4564 | 120.3240 | Pilbara | Present | 10.88 | 79.75 | 271.00 | 3.65 | 1834.00 | 0.00 | | 326.50 | 9.50 |
| PSS283 | -23.0590 | 118.8156 | Pilbara | Absent | 27.25 | 30.05 | 10.00 | 2.75 | 607.00 | 0.00 | | 287.00 | 0.85 |
| PSS284 | -22.2656 | 118.7026 | Pilbara | Present | 5.43 | 83.10 | 811.50 | 4.00 | 4086.00 | 0.00 | | 364.50 | 40.55 |
| PSS285 | -22.0524 | 118.0468 | Pilbara | Present | 15.21 | 70.80 | 306.50 | 4.10 | 1678.00 | 0.00 | | 216.50 | 19.60 |
| PSS286 | -22.0436 | 118.0544 | Pilbara | Present | 2.80 | 174.00 | 1155.00 | 2.20 | 3314.50 | 0.02 | | 467.00 | 73.15 |
| PSS287 | -21.7032 | 117.7537 | Pilbara | Present | 11.00 | 124.00 | 282.00 | 1.70 | 1675.00 | 0.00 | | 323.50 | 1.95 |
| PSS288 | -21.6866 | 117.2965 | Pilbara | Present | 20.50 | 192.00 | 1365.00 | 0.60 | 4498.00 | 0.01 | | 149.50 | 20.35 |
| PSS289 | -21.4417 | 117.1590 | Pilbara | Present | 77.00 | 10.35 | 51.00 | 0.70 | 414.00 | 0.05 | | 76.00 | 2.25 |
| PSS290 | -21.2703 | 117.3073 | Pilbara | Present | 5.50 | 57.15 | 77.50 | 2.60 | 806.50 | 0.00 | | 325.00 | 1.50 |

# Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PSS291 | -21.1179 | 117.4071 | Pilbara | Present | 8.25 | 71.65 | 248.00 | 4.35 | 1389.00 | 0.00 | | 367.50 | 1.50 |
| PSS292 | -20.8854 | 117.1381 | Pilbara | Present | 6.37 | 83.60 | 612.00 | 5.85 | 1586.50 | 0.02 | | 222.50 | 3.30 |
| PSS293 | -20.8571 | 116.5630 | Pilbara | Present | 6.50 | 65.10 | 280.00 | 3.70 | 1536.00 | 0.01 | | 378.00 | 6.50 |
| PSS294 | -20.8782 | 116.3970 | Pilbara | Present | 11.57 | 127.00 | 777.00 | 5.25 | 3160.00 | 0.00 | | 313.50 | 2.95 |
| PSS295 | -21.1246 | 115.9711 | Pilbara | Present | 5.59 | 89.15 | 460.50 | 2.00 | 2211.00 | 0.00 | | 348.00 | 13.85 |
| PSS296 | -22.3279 | 115.5298 | Pilbara | Present | 31.25 | 12.25 | 158.00 | 0.50 | 1770.50 | 0.17 | | 313.00 | 37.35 |
| PSS297 | -22.6521 | 115.3863 | Pilbara | Present | 16.94 | 22.70 | 370.50 | 0.75 | 2138.00 | 0.02 | | 337.00 | 30.40 |
| PSS298 | -20.7830 | 116.8309 | Pilbara | Present | 13.78 | 101.50 | 985.00 | 3.90 | 4061.50 | 0.00 | | 424.00 | 10.45 |
| PSS299 | -20.7856 | 116.6974 | Pilbara | Present | 8.00 | 306.00 | 2000.00 | 5.80 | 6548.00 | 0.00 | | 177.00 | 6.10 |
| PSS300 | -21.2916 | 120.4060 | Pilbara | Present | 5.00 | 84.90 | 23.00 | 2.80 | 681.00 | 0.00 | | 430.00 | 0.20 |
| PSS301 | -21.1360 | 120.9005 | Pilbara | Present | 12.25 | 58.55 | 450.00 | 4.20 | 2446.50 | 0.01 | | 427.00 | 3.40 |
| PSS302 | -20.9947 | 120.7444 | Pilbara | Present | 16.00 | 77.90 | 110.50 | 3.15 | 972.50 | 0.00 | | 339.00 | 6.85 |
| PSS303 | -21.1034 | 120.7593 | Pilbara | Absent | 59.00 | 72.45 | 480.00 | 0.40 | 2092.50 | 0.01 | | 322.00 | 6.60 |
| PSS304 | -21.1075 | 120.7594 | Pilbara | Present | 9.25 | 48.45 | 96.00 | 0.45 | 808.50 | 0.00 | | 221.00 | 2.80 |
| PSS305 | -21.2028 | 121.0117 | Pilbara | Present | 11.50 | 79.50 | 501.50 | 3.80 | 2595.50 | 0.00 | | 244.00 | 4.00 |
| PSS306 | -21.1624 | 121.0336 | Pilbara | Present | 14.50 | 188.00 | 900.00 | 4.65 | 4139.00 | 0.00 | | 364.50 | 8.45 |
| PSS307 | -21.2934 | 121.0937 | Pilbara | Present | 25.50 | 56.60 | 21.50 | 1.20 | 679.00 | 0.00 | | 398.00 | 2.35 |
| PSS308 | -22.0852 | 120.7267 | Pilbara | Present | 56.00 | 58.70 | 3060.00 | 1.95 | 14100.00 | 0.01 | | 992.00 | 5.00 |
| PSS309 | -22.0378 | 120.5873 | Pilbara | Present | 46.50 | 44.65 | 346.00 | 4.55 | 2064.00 | 0.00 | | 440.50 | 1.65 |
| PSS310 | -22.1969 | 120.0422 | Pilbara | Present | 12.50 | 36.40 | 257.00 | 3.20 | 1802.00 | 0.00 | | 593.00 | 2.55 |
| PSS311 | -22.1793 | 119.9927 | Pilbara | Present | 15.25 | 31.40 | 409.00 | 3.30 | 2416.00 | 0.00 | | 530.50 | 0.65 |
| PSS312 | -21.4595 | 120.0214 | Pilbara | Present | 11.50 | 39.30 | 153.50 | 3.55 | 1489.00 | 0.00 | | 625.50 | 0.55 |
| PSS313 | -21.2119 | 119.7743 | Pilbara | Present | 19.50 | 75.50 | 181.50 | 0.45 | 1303.00 | 0.00 | | 457.50 | 1.50 |
| PSS314 | -21.4563 | 119.5817 | Pilbara | Absent | 17.75 | 70.75 | 141.00 | 0.55 | 1151.00 | 0.00 | | 408.50 | 1.50 |
| PSS315 | -21.7218 | 119.3987 | Pilbara | Present | 8.35 | 63.70 | 119.50 | 4.20 | 1274.50 | 0.00 | | 502.00 | 2.10 |
| PSS316 | -21.7428 | 119.2919 | Pilbara | Present | 10.15 | 53.30 | 124.00 | 3.45 | 1175.50 | 0.00 | | 485.00 | 1.10 |
| PSS317 | -21.8241 | 119.5120 | Pilbara | Present | 10.35 | 24.95 | 213.50 | 2.05 | 1791.50 | 0.00 | | 725.50 | 0.90 |
| PSS318 | -21.9516 | 119.6579 | Pilbara | Present | 7.00 | 78.35 | 173.00 | 2.45 | 1257.00 | 0.00 | | 422.50 | 0.95 |
| PSS319 | -22.1522 | 119.5302 | Pilbara | Present | 17.00 | 58.60 | 223.50 | 1.50 | 1690.00 | 0.04 | | 671.00 | 6.55 |
| PSS320 | -22.1152 | 119.6558 | Pilbara | Present | 9.75 | 35.25 | 377.00 | 3.85 | 2215.50 | 0.00 | | 520.50 | 1.40 |
| PSS321 | -22.2603 | 119.7059 | Pilbara | Present | 8.75 | 67.40 | 310.50 | 1.95 | 2039.00 | 0.00 | | 354.00 | 4.00 |
| PSS322 | -22.2237 | 119.8085 | Pilbara | Present | 11.50 | 75.20 | 65.50 | 4.50 | 770.00 | 0.00 | | 388.50 | 0.50 |
| PSS323 | -22.4220 | 120.2063 | Pilbara | Present | 5.75 | 72.95 | 158.00 | 3.20 | 1248.50 | 0.01 | | 212.00 | 24.10 |
| PSS324 | -22.5793 | 120.2988 | Pilbara | Present | 25.00 | 129.50 | 356.00 | 4.30 | 1766.00 | 0.00 | | 293.00 | 1.95 |
| PSS325 | -24.3659 | 118.5543 | Pilbara | Present | 9.08 | 152.70 | 336.00 | 3.50 | 2172.50 | 0.00 | | 242.50 | 52.75 |
| PSS326 | -24.3622 | 118.5405 | Pilbara | Present | 20.85 | 101.90 | 151.50 | 3.85 | 1147.50 | 0.00 | | 299.00 | 1.20 |
| PSS327 | -24.2753 | 118.3826 | Pilbara | Present | 15.78 | 82.40 | 33.50 | 2.25 | 748.50 | 0.00 | | 322.00 | 1.80 |
| PSS328 | -24.2343 | 118.2923 | Pilbara | Present | 13.16 | 65.40 | 73.50 | 5.45 | 685.00 | 0.00 | | 210.50 | 1.15 |
| PSS329 | -24.2561 | 117.9843 | Pilbara | Present | 6.40 | 137.50 | 838.50 | 6.25 | 4086.00 | 0.00 | | 630.00 | 15.05 |
| PSS330 | -23.7878 | 117.8068 | Pilbara | Present | 13.25 | 159.00 | 668.00 | 3.15 | 2717.50 | 0.00 | | 158.50 | 10.60 |

Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PSS331 | -23.6056 | 117.2776 | Pilbara | Present | 20.87 | 74.30 | 144.50 | 0.75 | 1136.50 | 0.00 | | 276.00 | 3.90 |
| PSS332 | -23.3897 | 117.0307 | Pilbara | Present | 22.77 | 49.80 | 405.00 | 2.50 | 2120.00 | 0.00 | | 370.50 | 6.35 |
| PSS333 | -21.8033 | 115.1069 | Pilbara | Present | 14.00 | 281.50 | 4920.00 | 1.70 | 16000.00 | 0.00 | | 53.50 | 87.95 |
| PSS334 | -22.0175 | 115.4038 | Pilbara | Present | 50.25 | 27.20 | 138.50 | 0.25 | 1182.00 | 0.00 | | 415.00 | 25.95 |
| PSS335 | -22.0936 | 115.4891 | Pilbara | Present | 34.50 | 46.60 | 290.50 | 1.40 | 1440.50 | 0.01 | | 296.00 | 20.85 |
| PSS337 | -22.0961 | 117.7042 | Pilbara | Present | 7.50 | | | 3.94 | 793.00 | | | | |
| PSS338 | -24.0008 | 119.5750 | Pilbara | Present | 13.00 | 85.30 | 175.50 | 3.25 | 1193.00 | 0.00 | | 357.00 | 3.35 |
| PSS339 | -24.0641 | 119.5579 | Pilbara | Present | 32.75 | 58.45 | 2640.00 | 1.90 | 10000.00 | 0.00 | | 381.50 | 15.65 |
| PSS340 | -23.9549 | 119.5843 | Pilbara | Present | 3.30 | 126.95 | 814.00 | 3.90 | 2927.50 | 0.00 | | 390.00 | 10.45 |
| PSS341 | -22.7985 | 120.8624 | Pilbara | Present | 21.50 | 186.50 | 255.50 | 0.30 | 2018.00 | 0.00 | | 332.50 | 27.75 |
| PSS342 | -22.8364 | 121.1308 | Pilbara | Present | 12.00 | 438.50 | 1620.00 | 4.85 | 7278.50 | 0.00 | | 250.00 | 73.40 |
| PSS343 | -22.5360 | 120.1560 | Pilbara | Present | 20.75 | 37.65 | 162.50 | 0.35 | 2784.00 | 0.14 | | 938.00 | 57.45 |
| PSS344 | -22.3525 | 120.1826 | Pilbara | Present | 17.00 | 51.20 | 104.50 | 0.65 | 704.50 | 0.00 | | 311.00 | 4.10 |
| PSS345 | -22.4213 | 120.1819 | Pilbara | Present | 6.25 | 25.05 | 20.50 | 4.10 | 515.00 | 0.00 | | 213.50 | 8.35 |
| PSS346 | -22.2433 | 120.2674 | Pilbara | Present | 12.00 | 70.00 | 180.00 | 1.50 | 1522.00 | 0.00 | | 712.00 | 10.80 |
| PSS347 | -22.1981 | 120.5580 | Pilbara | Absent | 40.50 | 38.45 | 205.00 | 2.10 | 1140.50 | 0.00 | | 192.50 | 12.65 |
| PSS348 | -22.2437 | 120.3284 | Pilbara | Present | 18.25 | 58.85 | 176.50 | 1.90 | 1139.50 | 0.00 | | 366.00 | 22.20 |
| PSS349 | -21.1732 | 119.9410 | Pilbara | Present | 5.85 | 34.75 | 240.50 | 1.65 | 1522.50 | 0.00 | | 595.00 | 2.25 |
| PSS350 | -21.1738 | 119.9403 | Pilbara | Absent | 21.25 | 41.95 | 469.50 | 0.25 | 2587.00 | 0.00 | | 869.50 | 4.20 |
| PSS351 | -21.2318 | 119.7246 | Pilbara | Present | 15.00 | 95.75 | 194.50 | 1.15 | 1399.00 | 0.00 | | 267.00 | 0.35 |
| PSS352 | -22.8137 | 115.4037 | Pilbara | Absent | 22.25 | 133.30 | 1946.00 | 7.05 | 4440.00 | 0.00 | | 567.50 | 9.65 |
| PSS353 | -22.8873 | 115.4791 | Pilbara | Present | 22.75 | 69.80 | 887.00 | 0.75 | 2228.50 | 0.03 | | 652.50 | 7.45 |
| PSS354 | -22.4893 | 115.6178 | Pilbara | Present | 20.00 | 32.35 | 246.50 | 4.20 | 2260.50 | 0.02 | | 321.50 | 16.65 |
| PSS355 | -22.5256 | 115.7156 | Pilbara | Present | 12.00 | 48.70 | 356.00 | 4.40 | 1924.50 | 0.00 | | 701.50 | 6.35 |
| PSS356 | -22.4765 | 115.9758 | Pilbara | Present | 34.75 | 52.15 | 564.50 | 1.80 | 1706.00 | 0.00 | | 463.50 | 4.60 |
| PSS357 | -22.0310 | 116.1053 | Pilbara | Present | 13.25 | 45.10 | 335.50 | 3.00 | 933.50 | 0.05 | | 767.00 | 11.35 |
| PSS358 | -22.1198 | 116.0648 | Pilbara | Present | 8.75 | 32.80 | 198.50 | 5.50 | 1584.50 | 0.15 | | 343.00 | 10.55 |
| PSS359 | -22.2476 | 116.1337 | Pilbara | Present | 19.75 | 38.95 | 818.50 | 3.85 | 1118.00 | 0.00 | | 637.50 | 10.15 |
| PSS360 | -22.7888 | 116.3144 | Pilbara | Absent | 10.50 | 240.00 | 2150.00 | 0.80 | 12200.00 | 0.01 | | 403.00 | 21.10 |
| PSS361 | -22.8203 | 116.3297 | Pilbara | Present | 34.25 | 46.65 | 199.50 | 2.85 | 834.50 | 0.00 | | 360.00 | 9.00 |
| PSS362 | -22.8304 | 116.2824 | Pilbara | Present | 14.50 | 62.20 | 334.00 | 0.65 | 2090.50 | 0.00 | | 283.50 | 10.85 |
| PSS363 | -22.8895 | 116.3703 | Pilbara | Present | 23.50 | 525.20 | 2516.00 | 0.90 | 461.00 | 0.02 | | 212.00 | 44.60 |
| PSS364 | -22.6212 | 116.3944 | Pilbara | Present | 25.38 | 90.25 | 670.00 | 2.50 | 1160.50 | 0.00 | | 439.00 | 36.60 |
| PSS365 | -23.2098 | 116.1543 | Pilbara | Present | 14.00 | 25.25 | 875.00 | 0.55 | 7625.00 | 0.19 | | 542.50 | 19.90 |
| PSS366 | -22.7260 | 115.8381 | Pilbara | Present | 16.00 | 98.95 | 303.50 | 4.15 | 2029.50 | 0.00 | | 462.00 | 7.55 |
| PSS367 | -22.8873 | 115.8694 | Pilbara | Present | 15.00 | 56.00 | 519.50 | 3.90 | 2263.50 | 0.00 | | 400.00 | 11.55 |
| PSS368 | -22.9303 | 115.7094 | Pilbara | Present | 10.00 | 106.00 | 525.00 | 5.20 | 1419.00 | 0.01 | | 482.00 | 8.40 |
| PSS369 | -22.2299 | 115.1600 | Pilbara | Present | 12.00 | 539.90 | 3070.00 | 1.65 | 16950.00 | 0.00 | | 459.00 | 53.95 |
| PSS370 | -22.2682 | 115.2331 | Pilbara | Absent | 50.50 | 46.20 | 1030.00 | 1.05 | 4932.00 | 0.02 | | 2060.00 | 80.75 |
| PSS371 | -22.3225 | 115.2507 | Pilbara | Present | 28.50 | 39.65 | 295.00 | 0.25 | 1294.50 | 0.20 | | 231.50 | 19.90 |

# Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PSS372 | -21.9860 | 115.0449 | Pilbara | Present | 16.00 | 96.85 | 352.00 | 2.65 | 1623.50 | 0.00 | | 522.00 | 18.50 |
| PSS373 | -21.9279 | 115.0397 | Pilbara | Absent | 28.75 | 207.70 | 3280.00 | 4.15 | 20150.00 | 0.00 | | 488.00 | 58.35 |
| PSS374 | -22.2088 | 115.5276 | Pilbara | Present | 17.50 | 71.30 | 374.00 | 1.70 | 1807.50 | 0.03 | | 472.50 | 24.25 |
| PSS375 | -21.9392 | 115.8886 | Pilbara | Present | 21.75 | 54.30 | 213.00 | 2.75 | 1691.00 | 0.00 | | 393.50 | 9.15 |
| PSS376 | -22.2688 | 115.6470 | Pilbara | Absent | 29.00 | 65.00 | 270.00 | 5.80 | 875.00 | 0.00 | | 476.00 | 4.10 |
| PSS377 | -23.3034 | 117.0628 | Pilbara | Present | 34.50 | 72.50 | 1545.00 | 0.60 | 11350.00 | 0.00 | | 457.50 | 6.00 |
| PSS378 | -23.3545 | 117.2869 | Pilbara | Present | 16.50 | 41.15 | 850.00 | 1.15 | 4238.35 | 0.01 | | 663.50 | 12.00 |
| PSS379 | -23.2016 | 117.2734 | Pilbara | Present | 34.75 | 19.40 | 119.50 | 0.50 | 774.50 | 0.00 | | 326.50 | 13.55 |
| PSS380 | -23.1062 | 117.2465 | Pilbara | Absent | 24.50 | 50.40 | 243.50 | 1.30 | 2759.50 | 0.00 | | 544.50 | 6.70 |
| PSS381 | -23.1982 | 117.1269 | Pilbara | Present | 43.25 | 18.75 | 546.50 | 4.35 | 4036.00 | 0.00 | | 328.00 | 12.70 |
| PSS382 | -23.4570 | 117.1153 | Pilbara | Present | 36.75 | 76.55 | 677.00 | 1.75 | 2960.00 | 0.00 | | 576.50 | 11.35 |
| PSS383 | -23.6808 | 117.6003 | Pilbara | Present | 48.00 | 62.95 | 370.00 | 0.30 | 3649.00 | 0.00 | | 433.50 | 4.60 |
| PSS384 | -23.5506 | 117.7543 | Pilbara | Absent | 46.50 | 100.65 | 592.00 | 3.35 | 4375.50 | 0.00 | | 381.50 | 17.90 |
| PSS385 | -23.5589 | 117.7454 | Pilbara | Present | 45.00 | 81.95 | 378.50 | 2.15 | 2650.00 | 0.00 | | 550.50 | 7.65 |
| PSS386 | -23.5423 | 117.5850 | Pilbara | Absent | 7.50 | 113.00 | 190.00 | 0.70 | 8100.00 | 0.00 | | 287.00 | 9.80 |
| PSS387 | -23.5713 | 118.5035 | Pilbara | Present | 3.00 | 123.00 | 260.00 | 5.30 | 1322.00 | 0.00 | | 195.00 | 6.50 |
| PSS388 | -23.5519 | 118.2546 | Pilbara | Present | 15.50 | 208.20 | 3132.00 | 4.10 | 672.00 | 0.00 | | 270.00 | 54.60 |
| PSS389 | -23.6738 | 118.1236 | Pilbara | Present | 9.00 | 95.60 | 1100.00 | 1.70 | 904.00 | 0.00 | | 436.00 | 15.40 |
| PSS390 | -23.6414 | 118.0968 | Pilbara | Present | 11.75 | 76.55 | 378.50 | 5.35 | 2963.50 | 0.00 | | 416.00 | 12.60 |
| PSS391 | -23.4566 | 118.3774 | Pilbara | Present | 11.00 | 229.95 | 2028.00 | 3.70 | 845.00 | 0.03 | | 375.00 | 14.80 |
| PSS392 | -23.6577 | 118.7198 | Pilbara | Present | 24.88 | 72.35 | 165.00 | 0.70 | 1632.00 | 0.00 | | 280.50 | 15.40 |
| PSS393 | -23.5535 | 118.7742 | Pilbara | Present | 26.75 | 49.85 | 350.50 | 2.65 | 1725.00 | 0.03 | | 360.00 | 5.90 |
| PSS394 | -23.7257 | 118.8007 | Pilbara | Present | 27.00 | 65.90 | 102.00 | 2.35 | 1357.00 | 0.00 | | 149.50 | 7.25 |
| PSS395 | -23.5918 | 118.9407 | Pilbara | Present | 32.25 | 101.25 | 216.50 | 4.05 | 1568.50 | 0.00 | | 302.00 | 5.35 |
| PSS396 | -20.8018 | 120.1212 | Pilbara | Present | 9.00 | 79.35 | 608.50 | 4.95 | 2150.00 | 0.00 | | 284.00 | 2.35 |
| PSS397 | -20.7398 | 120.2499 | Pilbara | Present | 15.00 | 68.35 | 51.50 | 0.70 | 600.00 | 0.00 | | 361.50 | 1.60 |
| PSS398 | -20.8499 | 120.6959 | Pilbara | Present | 10.50 | 78.60 | 126.50 | 2.80 | 938.00 | 0.00 | | 297.50 | 1.05 |
| PSS399 | -20.6776 | 120.7155 | Pilbara | Present | 6.25 | 33.75 | 1560.00 | 0.35 | 5473.50 | 0.03 | | 462.50 | 98.40 |
| PSS400 | -20.6314 | 120.5022 | Pilbara | Present | 14.00 | 33.30 | 48.50 | 3.75 | 741.50 | 0.00 | | 418.00 | 3.75 |
| PSS401 | -20.8595 | 120.5459 | Pilbara | Present | 8.25 | 26.30 | 714.00 | 5.70 | 2787.50 | 0.00 | | 611.50 | 1.15 |
| PSS402 | -20.8833 | 120.4851 | Pilbara | Present | 6.50 | 45.35 | 760.00 | 5.85 | 2891.00 | 0.00 | | 512.00 | 0.70 |
| PSS403 | -20.7815 | 120.4386 | Pilbara | Present | 3.50 | 63.80 | 214.50 | 2.60 | 921.00 | 0.01 | | 244.00 | 2.45 |
| PSS404 | -20.8703 | 120.3456 | Pilbara | Present | 8.00 | 53.00 | 388.00 | 4.80 | 1724.50 | 0.00 | | 367.50 | 0.70 |
| PSS405 | -20.6823 | 120.0763 | Pilbara | Present | 8.00 | 63.55 | 494.50 | 1.75 | 2291.00 | 0.00 | | 568.00 | 11.75 |
| PSS406 | -20.5977 | 120.0633 | Pilbara | Present | 9.00 | 62.55 | 339.00 | 2.70 | 1685.50 | 0.00 | | 465.00 | 16.80 |
| PSS407 | -20.5141 | 119.9115 | Pilbara | Present | 8.00 | 90.35 | 290.00 | 4.65 | 1192.50 | 0.00 | | 177.00 | 2.80 |
| PSS408 | -20.8728 | 119.9869 | Pilbara | Present | 10.00 | 49.50 | 208.00 | 1.45 | 1316.50 | 0.00 | | 459.00 | 3.60 |
| PSS409 | -20.9378 | 119.9601 | Pilbara | Present | 8.00 | 11.50 | 390.50 | 3.45 | 1907.00 | 0.00 | | 532.00 | 0.40 |
| PSS410 | -21.8809 | 120.2833 | Pilbara | Present | 24.50 | 25.85 | 4125.00 | 3.75 | 18400.00 | 0.00 | | 592.00 | 3.00 |
| PSS411 | -21.0973 | 119.4065 | Pilbara | Present | 150.00 | 97.00 | 130.00 | 1.70 | 900.00 | 0.00 | | 307.00 | 1.00 |

# Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PSS412 | -21.0969 | 119.3663 | Pilbara | Present | 17.00 | 44.80 | 70.50 | 418.85 | 859.50 | 0.00 | | 373.50 | 1.55 |
| PSS413 | -21.1253 | 119.3596 | Pilbara | Present | 28.75 | 53.00 | 207.00 | 2.40 | 1115.50 | 0.00 | | 361.00 | 4.90 |
| PSS414 | -21.1032 | 119.4076 | Pilbara | Present | 21.00 | 58.75 | 65.00 | 5.20 | 682.00 | 0.00 | | 369.00 | 0.95 |
| PSS415 | -20.7096 | 119.3372 | Pilbara | Present | 43.75 | 34.70 | 56.50 | 4.80 | 385.50 | 0.00 | | 207.00 | 3.65 |
| PSS416 | -20.7096 | 119.3372 | Pilbara | Present | 59.75 | 9.45 | 23.50 | 2.40 | 150.00 | 0.00 | | 35.00 | 9.30 |
| PSS417 | -20.9027 | 119.0130 | Pilbara | Present | 6.00 | 51.45 | 242.50 | 6.90 | 1362.00 | 0.00 | | 421.00 | 3.15 |
| PSS418 | -20.8307 | 118.8952 | Pilbara | Present | 20.25 | 65.65 | 350.00 | 1.90 | 1479.50 | 0.00 | | 410.50 | 12.25 |
| PSS419 | -21.0461 | 117.6639 | Pilbara | Present | 10.00 | 50.90 | 113.50 | 1.45 | 900.50 | 0.00 | | 384.50 | 10.05 |
| PSS420 | -21.0711 | 117.4556 | Pilbara | Present | 12.00 | 96.00 | 524.50 | 5.45 | 2240.00 | 0.00 | | 328.00 | 2.20 |
| PSS421 | -21.0855 | 117.7195 | Pilbara | Present | 9.00 | 41.85 | 207.50 | 6.25 | 1206.50 | 0.00 | | 340.00 | 1.55 |
| PSS422 | -21.1734 | 117.7839 | Pilbara | Present | 7.29 | 57.50 | 71.50 | 5.30 | 553.00 | 0.00 | | 268.50 | 1.20 |
| PSS423 | -21.2515 | 117.8291 | Pilbara | Present | 9.00 | 48.50 | 85.00 | 8.35 | 553.50 | 0.00 | | 262.50 | 1.35 |
| PSS424 | -21.2913 | 117.8593 | Pilbara | Present | 13.67 | 59.15 | 117.00 | 5.95 | 700.00 | 0.00 | | 282.50 | 2.00 |
| PSS425 | -21.3236 | 117.8798 | Pilbara | Present | 16.50 | 163.00 | 940.50 | 5.50 | 3343.50 | 0.00 | | 248.50 | 4.05 |
| PSS426 | -21.2687 | 117.7926 | Pilbara | Present | 10.13 | 47.90 | 61.00 | 3.05 | 592.50 | 0.00 | | 264.00 | 1.15 |
| PSS427 | -21.2214 | 117.7708 | Pilbara | Present | 8.38 | 49.45 | 206.50 | 3.40 | 1224.50 | 0.00 | | 380.00 | 1.30 |
| PSS428 | -21.6330 | 117.6085 | Pilbara | Present | 26.00 | 81.25 | 156.50 | 1.35 | 884.50 | 0.00 | | 283.50 | 0.50 |
| PSS429 | -21.8906 | 118.0524 | Pilbara | Present | 12.00 | 68.00 | 180.50 | 2.85 | 922.50 | 0.00 | | 319.00 | 3.80 |
| PSS430 | -21.8688 | 118.0738 | Pilbara | Present | 17.25 | 238.50 | 778.50 | 5.05 | 2542.50 | 0.00 | | 268.50 | 3.75 |
| PSS431 | -21.8261 | 118.1052 | Pilbara | Present | 22.25 | 189.00 | 540.50 | 10.55 | 1958.00 | 0.00 | | 173.50 | 2.95 |
| PSS432 | -21.8266 | 118.1473 | Pilbara | Present | 22.00 | 121.00 | 360.50 | 13.70 | 1549.50 | 0.00 | | 314.50 | 1.85 |
| PSS433 | -21.8230 | 118.2203 | Pilbara | Present | 5.90 | 51.45 | 167.50 | 2.70 | 1012.00 | 0.00 | | 309.50 | 1.10 |
| PSS434 | -21.7658 | 118.2003 | Pilbara | Present | 6.25 | 32.80 | 308.50 | 5.05 | 1992.50 | 0.00 | | 894.50 | 0.75 |
| PSS435 | -21.9384 | 118.2428 | Pilbara | Present | 9.25 | 37.75 | 270.00 | 13.55 | 1346.50 | 0.00 | | 321.50 | 1.60 |
| PSS436 | -21.9464 | 118.2876 | Pilbara | Present | 16.50 | 55.50 | 79.50 | 8.35 | 761.50 | 0.00 | | 355.00 | 0.40 |
| PSS437 | -21.9282 | 118.3262 | Pilbara | Present | 8.50 | 30.60 | 60.00 | 8.50 | 719.50 | 0.00 | | 366.00 | 0.65 |
| PSS438 | -22.8017 | 118.3926 | Pilbara | Absent | 110.50 | 160.00 | 414.50 | 5.50 | 1756.50 | 0.00 | | 213.50 | 16.45 |
| PSS439 | -22.7744 | 118.3019 | Pilbara | Present | 68.00 | 95.60 | 453.50 | 3.85 | 1598.50 | 0.00 | | 143.50 | 9.35 |
| PSS440 | -22.7163 | 118.2635 | Pilbara | Absent | 41.00 | 71.35 | 203.50 | 3.85 | 966.00 | 0.00 | | 273.50 | 17.35 |
| PSS441 | -22.1218 | 117.7334 | Pilbara | Present | 58.00 | 39.70 | 110.00 | 6.00 | 543.00 | 0.00 | | 210.00 | 11.20 |
| PSS442 | -22.0376 | 117.6722 | Pilbara | Present | 88.00 | 55.40 | 180.00 | 6.50 | 949.00 | 0.00 | | 235.00 | 11.20 |
| PSS443 | -21.7758 | 117.5696 | Pilbara | Present | 77.00 | 36.20 | 97.00 | 3.80 | 662.00 | 0.00 | | 12.00 | 30.00 |
| PSS444 | -21.6795 | 117.4630 | Pilbara | Absent | 85.00 | 48.50 | 88.00 | 5.50 | 645.00 | 0.00 | | 220.00 | 16.60 |
| PSS445 | -21.5583 | 117.2108 | Pilbara | Absent | 80.00 | 23.25 | 76.50 | 1.35 | 443.00 | 0.02 | | 77.50 | 10.75 |
| PSS446 | -21.8478 | 117.0996 | Pilbara | Present | 64.50 | 42.00 | 108.00 | 3.50 | 761.00 | 0.00 | | 273.00 | 1.65 |
| PSS447 | -21.1758 | 116.0378 | Pilbara | Present | 15.35 | 43.45 | 118.50 | 4.35 | 756.50 | 0.00 | | 189.00 | 7.40 |
| PSS448 | -21.0816 | 116.0100 | Pilbara | Present | 27.00 | 123.00 | 744.00 | 0.50 | 6572.50 | 0.01 | | 371.00 | 15.65 |
| PSS449 | -24.0721 | 119.1383 | Pilbara | Present | 10.78 | 535.00 | 3595.00 | 3.60 | 14050.00 | 0.00 | | 292.50 | 34.35 |
| PSS450 | -23.9800 | 119.3473 | Pilbara | Present | 15.11 | 95.45 | 296.00 | 2.85 | 1680.00 | 0.00 | | 326.50 | 12.90 |
| PSS451 | -22.0502 | 115.0591 | Pilbara | Present | 17.92 | 138.50 | 1050.00 | 7.30 | 4442.50 | 0.00 | | 271.50 | 26.30 |

Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PSS452 | -21.8859 | 115.0456 | Pilbara | Absent | 33.63 | 1620.00 | 18900.00 | 3.70 | 48550.00 | 0.04 | | 229.00 | 216.50 |
| PSS453 | -21.2840 | 118.4231 | Pilbara | Present | 22.00 | 46.20 | 57.50 | 1.15 | 643.50 | 0.00 | | 241.00 | 1.60 |
| PSS454 | -21.2649 | 118.3636 | Pilbara | Absent | 10.00 | 36.75 | 297.00 | 0.25 | 1653.00 | 0.00 | | 396.50 | 2.80 |
| PSS455 | -21.1986 | 118.2606 | Pilbara | Present | 30.65 | 37.30 | 270.50 | 1.35 | 1991.50 | 0.00 | | 592.00 | 0.85 |
| PSS456 | -21.1736 | 118.2899 | Pilbara | Present | 25.41 | 56.05 | 281.00 | 0.35 | 1661.50 | 0.01 | | 515.50 | 0.50 |
| PSS457 | -21.0943 | 118.2432 | Pilbara | Present | 33.12 | 37.60 | 2045.00 | 4.95 | 8400.00 | 0.00 | | 716.50 | 9.45 |
| PSS458 | -21.2810 | 118.4053 | Pilbara | Present | 19.75 | 52.75 | 196.50 | 2.70 | 1434.50 | 0.00 | | 326.50 | 1.25 |
| PSS459 | -21.3164 | 118.4052 | Pilbara | Present | 27.00 | 18.45 | 35.00 | 0.90 | 606.00 | 0.00 | | 302.00 | 0.90 |
| PSS460 | -21.5235 | 118.5160 | Pilbara | Absent | 13.43 | 25.45 | 2615.00 | 0.10 | 11100.00 | 0.00 | | 823.50 | 9.50 |
| PSS461 | -21.5565 | 118.5565 | Pilbara | Present | 3.28 | 26.40 | 143.50 | 0.55 | 1034.50 | 0.42 | | 235.00 | 2.80 |
| PSS462 | -21.6242 | 118.5493 | Pilbara | Present | 24.08 | 47.05 | 78.00 | 3.25 | 822.00 | 0.00 | | 344.50 | 0.85 |
| PSS463 | -21.6258 | 118.5503 | Pilbara | Present | 15.33 | 48.75 | 72.00 | 1.25 | 818.50 | 0.00 | | 338.50 | 0.55 |
| PSS464 | -21.6104 | 118.5788 | Pilbara | Present | 15.15 | 53.15 | 93.00 | 3.10 | 853.00 | 0.00 | | 323.50 | 1.65 |
| PSS465 | -21.5993 | 118.6227 | Pilbara | Absent | 6.61 | 42.95 | 161.50 | 0.30 | 1405.00 | 0.01 | | 448.50 | 4.95 |
| PSS466 | -21.7423 | 118.8129 | Pilbara | Present | 28.50 | 24.20 | 125.00 | 0.35 | 1239.50 | 0.00 | | 338.50 | 11.80 |
| PSS467 | -21.7851 | 118.8151 | Pilbara | Absent | 13.75 | 56.40 | 158.00 | 0.30 | 1434.50 | 0.00 | | 485.00 | 3.65 |
| PSS468 | -21.8206 | 118.8033 | Pilbara | Present | 21.75 | 56.60 | 76.50 | 2.15 | 936.00 | 0.00 | | 369.00 | 1.60 |
| PSS469 | -21.5763 | 118.9028 | Pilbara | Present | 57.00 | 44.60 | 92.00 | 2.10 | 977.00 | 0.00 | | 409.00 | 3.30 |
| PSS470 | -21.5768 | 118.9025 | Pilbara | Absent | 75.00 | 46.40 | 82.00 | 2.70 | 984.00 | 0.00 | | 433.00 | 3.00 |
| PSS471 | -21.5995 | 118.9288 | Pilbara | Present | 7.25 | 28.00 | 100.50 | 2.30 | 1175.00 | 0.01 | | 454.50 | 5.90 |
| PSS472 | -21.8176 | 118.9146 | Pilbara | Present | 43.00 | 1.70 | 77.00 | 0.30 | 789.50 | 0.08 | | 213.50 | 1.90 |
| PSS473 | -21.8203 | 118.9139 | Pilbara | Present | 44.75 | 9.10 | 27.50 | 5.10 | 598.00 | 0.00 | | 244.00 | 5.70 |
| PSS474 | -22.4079 | 120.8617 | Pilbara | Absent | 18.11 | 121.00 | 449.00 | 4.35 | 2296.50 | 0.00 | | 305.00 | 2.45 |
| PSS475 | -22.4244 | 120.8585 | Pilbara | Present | 26.15 | 80.45 | 159.00 | | 1091.15 | 0.00 | | 360.00 | 10.25 |
| PSS476 | -21.1882 | 118.5853 | Pilbara | Present | 6.92 | 70.55 | 166.00 | 1.95 | 1272.00 | 0.00 | | 290.00 | 3.80 |
| PSS477 | -20.2590 | 119.0681 | Pilbara | Present | 6.03 | 127.00 | 1320.00 | 2.15 | 5543.00 | 0.00 | | 445.50 | 13.70 |
| PSS478 | -20.1936 | 119.1353 | Pilbara | Present | 7.73 | 72.05 | 604.00 | 3.65 | 2403.50 | 0.01 | | 259.50 | 5.20 |
| PSS479 | -20.1506 | 119.1463 | Pilbara | Present | 6.25 | 79.35 | 1610.00 | 4.75 | 6051.00 | 0.00 | | 390.50 | 6.45 |
| PSS480 | -20.2166 | 119.1919 | Pilbara | Absent | 65.50 | 38.55 | 97.50 | 1.90 | 642.50 | 0.00 | | 131.00 | 3.35 |
| PSS481 | -21.2966 | 121.1453 | Pilbara | Present | 79.50 | 61.40 | 55.00 | 1.60 | 866.50 | 0.00 | | 412.00 | 1.65 |
| PSS482 | -21.2967 | 121.1455 | Pilbara | Present | 10.83 | 47.45 | 130.50 | 0.10 | 3000.50 | 0.20 | | 1560.00 | 68.35 |
| PSS483 | -21.3255 | 120.8687 | Pilbara | Present | 46.50 | 56.25 | 45.50 | 0.40 | 831.00 | 0.01 | | 311.00 | 8.40 |
| PSS484 | -21.2141 | 120.9450 | Pilbara | Absent | 34.30 | 42.65 | 689.50 | 0.25 | 3028.00 | 0.07 | | 454.50 | 10.85 |
| PSS485 | -21.0932 | 120.7773 | Pilbara | Present | 7.41 | 58.70 | 183.50 | 6.55 | 1183.00 | 0.00 | | 274.50 | 13.95 |
| PSS486 | -21.3239 | 120.8692 | Pilbara | Absent | 94.50 | 50.85 | 15.00 | 6.20 | 693.00 | 0.00 | | 302.00 | 5.85 |
| PSS487 | -21.3225 | 120.8695 | Pilbara | Absent | 72.00 | 66.10 | 18.50 | 0.45 | 685.50 | 0.00 | | 317.50 | 5.55 |
| PSS488 | -21.3223 | 120.8699 | Pilbara | Present | 53.50 | 24.40 | 86.00 | 1.90 | 1054.50 | 0.00 | | 311.50 | 15.15 |
| PSS489 | -21.3213 | 120.8698 | Pilbara | Absent | 68.50 | 63.55 | 87.00 | 0.60 | 1244.00 | 0.01 | | 351.00 | 13.10 |
| PSS490 | -21.3209 | 120.8699 | Pilbara | Absent | 59.50 | 152.00 | 291.50 | 0.40 | 3029.50 | 0.00 | | 341.50 | 12.30 |
| PSS491 | -21.3231 | 120.9408 | Pilbara | Absent | 39.09 | 9.55 | 23.00 | 0.25 | 769.50 | 0.01 | | 381.50 | 3.90 |

Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PSS492 | -21.3134 | 121.0303 | Pilbara | Present | 89.00 | 25.40 | 197.00 | 4.70 | 1289.00 | 0.00 | | 274.50 | 8.65 |
| PSS493 | -21.3396 | 120.7561 | Pilbara | Present | 17.18 | 68.80 | 53.50 | 0.85 | 873.50 | 0.00 | | 341.50 | 1.35 |
| PSS494 | -22.2934 | 120.1750 | Pilbara | Present | 9.88 | 130.00 | 776.00 | 5.30 | 3888.50 | 0.00 | | 366.00 | 0.90 |
| PSS495 | -22.2164 | 120.2173 | Pilbara | Present | 20.81 | 104.50 | 531.00 | 0.20 | 2742.50 | 0.00 | | 537.00 | 8.85 |
| PSS496 | -22.1734 | 120.2385 | Pilbara | Present | 18.13 | 109.00 | 1570.00 | 3.30 | 5876.50 | 0.00 | | 405.50 | 4.60 |
| PSS497 | -22.2937 | 120.2383 | Pilbara | Present | 20.25 | 93.00 | 779.00 | 0.10 | 3284.50 | 0.01 | | 710.50 | 20.95 |
| PSS498 | -22.3909 | 120.2417 | Pilbara | Present | 17.35 | 108.50 | 180.50 | 4.15 | 1480.00 | 0.00 | | 210.50 | 6.70 |
| PSS499 | -22.4143 | 120.3408 | Pilbara | Present | 16.58 | 116.50 | 365.00 | 3.85 | 2112.50 | 0.00 | | 503.50 | 1.15 |
| PSS500 | -22.7608 | 115.2507 | Pilbara | Present | 21.52 | 136.50 | 932.50 | 3.85 | 4481.50 | 0.00 | | 360.00 | 6.95 |
| PSS501 | -22.7628 | 115.1106 | Pilbara | Present | 42.85 | 33.45 | 193.50 | 2.75 | 1492.50 | 0.00 | | 348.00 | 17.70 |
| PSS502 | -22.7863 | 114.9674 | Pilbara | Absent | 8.95 | 128.00 | 332.50 | 0.50 | 1846.50 | 0.00 | | 369.00 | 13.25 |
| PSS503 | -22.8194 | 119.7715 | Pilbara | Present | 57.00 | 60.00 | 147.00 | | 1264.90 | 0.00 | | 275.00 | 6.20 |
| PSS504 | -22.7903 | 119.2528 | Pilbara | Present | 62.00 | 14.90 | 102.00 | 4.70 | 898.00 | 0.00 | | 279.00 | 6.20 |
| PSS505 | -20.8868 | 117.8128 | Pilbara | Present | 39.80 | 70.10 | 360.00 | | 2142.00 | 0.00 | | 464.00 | 4.20 |
| PSS506 | -21.6684 | 121.2408 | Pilbara | Absent | 61.00 | 56.30 | 142.00 | 5.40 | 1364.00 | 0.00 | | 555.00 | 1.30 |
| PSS507 | -21.6684 | 121.2334 | Pilbara | Absent | 90.00 | 15.90 | 198.00 | | 1339.00 | 0.05 | | 299.00 | 5.80 |
| PSS508 | -21.6726 | 121.2294 | Pilbara | Absent | 97.00 | 49.30 | 128.00 | 1.20 | 1219.00 | 0.00 | | 421.00 | 5.40 |
| PSS509 | -21.6656 | 121.2345 | Pilbara | Absent | 84.00 | 46.70 | 125.00 | | 1234.00 | 0.07 | | 451.00 | 5.50 |
| PSS510 | -21.6688 | 121.2368 | Pilbara | Absent | 29.43 | 46.40 | 163.00 | | 1502.00 | 0.00 | | 403.00 | 6.70 |
| New1 | -22.3356 | 128.9506 | Kimberley | Present | | | | 0.41 | 101649.00 | | | | |
| New2 | -22.6856 | 128.5038 | Kimberley | Absent | | | | | 11380.00 | | | | |
| New3 | -22.7375 | 128.4165 | Kimberley | Absent | | | | 1.75 | 1017.00 | | | | |
| New4 | -22.3883 | 128.9292 | Kimberley | Absent | | | | | 210700.00 | | | | |
| New5 | -22.2492 | 128.9515 | Kimberley | Absent | | | | | 191200.00 | | | | |
| New6 | -22.3358 | 128.8052 | Kimberley | Absent | | | | | 214900.00 | | | | |
| New7 | -22.5510 | 128.4725 | Kimberley | Absent | | | | | 215000.00 | | | | |
| New8 | -22.3353 | 128.9418 | Kimberley | Absent | | | | 3.27 | 2911.00 | | | | |
| New9 | -22.5149 | 128.9425 | Kimberley | Absent | | | | 1.38 | 162800.00 | | | | |
| New10 | -22.3356 | 128.9506 | Kimberley | Absent | | | | 0.41 | 101649.00 | | | | |
| New11 | -22.7999 | 128.4300 | Kimberley | Absent | | | | 2.80 | 3805.00 | | | | |
| New12 | -22.7119 | 128.6761 | Kimberley | Absent | | | | 1.56 | 67286.00 | | | | |
| New13 | -22.6856 | 128.5038 | Kimberley | Absent | | | | | 11380.00 | | | | |
| New14 | -22.6762 | 128.4361 | Kimberley | Absent | | | | 0.40 | 56230.00 | | | | |
| New15 | -22.7375 | 128.4165 | Kimberley | Absent | | | | 1.75 | 1017.00 | | | | |
| New16 | -22.7762 | 128.3018 | Kimberley | Absent | | | | 0.40 | 6347.00 | | | | |
| New17 | -17.4727 | 122.9732 | Kimberley | Absent | | | | 7.65 | 309.00 | | | | |
| New18 | -17.4588 | 122.9853 | Kimberley | Absent | | | | 4.17 | 244.00 | | | | |
| New19 | -17.4599 | 122.9721 | Kimberley | Absent | | | | 4.21 | 171.00 | | | | |
| New20 | -17.4333 | 122.9830 | Kimberley | Absent | | | | 3.28 | 224.00 | | | | |
| New21 | -17.4373 | 122.9733 | Kimberley | Absent | | | | 3.60 | 258.00 | | | | |

Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| New22 | -17.4338 | 122.9582 | Kimberley | Present | | | | 2.82 | 297.00 | | | | |
| New23 | -17.4217 | 122.9687 | Kimberley | Absent | | | | 5.54 | 270.00 | | | | |
| New24 | -17.4291 | 122.9375 | Kimberley | Absent | | | | 2.32 | 40.00 | | | | |
| New25 | -17.4563 | 123.0152 | Kimberley | Absent | | | | 2.04 | 484.00 | | | | |
| New26 | -17.4625 | 123.0216 | Kimberley | Absent | | | | 2.08 | 320.00 | | | | |
| New27 | -17.4680 | 122.9712 | Kimberley | Absent | | | | 5.89 | 273.00 | | | | |
| New28 | -17.4511 | 122.9612 | Kimberley | Absent | | | | 4.21 | 235.00 | | | | |
| New29 | -17.4499 | 122.9778 | Kimberley | Absent | | | | 5.09 | 111.00 | | | | |
| New30 | -17.4611 | 122.9587 | Kimberley | Absent | | | | 3.52 | 45.00 | | | | |
| New31 | -17.4422 | 122.9507 | Kimberley | Absent | | | | 4.52 | 182.00 | | | | |
| New32 | -18.9017 | 128.9264 | Kimberley | Absent | 59.40 | | | | 2840.00 | | | | |
| New33 | -18.9028 | 128.9262 | Kimberley | Present | 103.50 | | | 1.26 | 1890.00 | | | | |
| New34 | -18.9028 | 128.9253 | Kimberley | Absent | 136.00 | | | 1.65 | 2280.00 | | | | |
| New35 | -18.9022 | 128.9264 | Kimberley | Absent | 70.00 | | | 2.19 | 3400.00 | | | | |
| New36 | -18.9028 | 128.9256 | Kimberley | Present | 56.57 | | | 2.00 | 1320.00 | | | | |
| New37 | -18.9021 | 128.9265 | Kimberley | Absent | 60.00 | | | 2.86 | 1450.00 | | | | |
| New38 | -18.9025 | 128.9264 | Kimberley | Absent | 57.60 | | | 1.31 | 600.00 | | | | |
| New39 | -18.9031 | 128.9258 | Kimberley | Absent | 65.70 | | | 1.88 | 2280.00 | | | | |
| New40 | -18.9019 | 128.9247 | Kimberley | Present | 56.50 | | | 2.11 | 1476.67 | | | | |
| New41 | -18.8932 | 128.9314 | Kimberley | Absent | 150.00 | | | 1.41 | 1020.00 | | | | |
| New42 | -18.8853 | 128.9459 | Kimberley | Present | 55.50 | | | 0.61 | 1260.00 | | | | |
| New43 | -18.8989 | 128.9283 | Kimberley | Present | 39.60 | | | 3.91 | 140.00 | | | | |
| New44 | -18.8986 | 128.9281 | Kimberley | Absent | 48.60 | | | 6.30 | 70.00 | | | | |
| New45 | -18.8978 | 128.9272 | Kimberley | Absent | 56.70 | | | 7.02 | 1900.00 | | | | |
| New46 | -18.8975 | 128.9275 | Kimberley | Absent | 47.70 | | | 4.61 | 180.00 | | | | |
| New47 | -18.9019 | 128.9253 | Kimberley | Absent | 66.00 | | | 7.10 | 1810.00 | | | | |
| New48 | -18.9019 | 128.9256 | Kimberley | Absent | 56.25 | | | 0.92 | 1715.00 | | | | |
| New49 | -18.9017 | 128.9250 | Kimberley | Absent | 52.65 | | | 0.79 | 430.00 | | | | |
| New50 | -18.9017 | 128.9247 | Kimberley | Absent | 51.30 | | | 3.63 | 1040.00 | | | | |
| New51 | -18.9022 | 128.9258 | Kimberley | Absent | 66.50 | | | 0.99 | 1550.00 | | | | |
| New52 | -18.9025 | 128.9256 | Kimberley | Absent | 53.10 | | | 3.38 | 1390.00 | | | | |
| New53 | -18.9011 | 128.9247 | Kimberley | Absent | 53.10 | | | 4.31 | 1700.00 | | | | |
| New54 | -18.8997 | 128.9236 | Kimberley | Absent | 56.70 | | | 3.66 | 1240.00 | | | | |
| New55 | -18.9394 | 128.9014 | Kimberley | Absent | 35.10 | | | 6.05 | 31910.00 | | | | |
| New56 | -18.9450 | 128.9050 | Kimberley | Present | 34.20 | | | 1.58 | 24280.00 | | | | |
| New57 | -18.9439 | 128.9056 | Kimberley | Absent | 35.25 | | | 3.39 | 28670.00 | | | | |
| New58 | -18.9392 | 128.9047 | Kimberley | Absent | 31.00 | | | 1.09 | 28260.00 | | | | |
| New59 | -18.9181 | 128.9214 | Kimberley | Absent | 26.50 | | | 3.83 | 19090.00 | | | | |
| New60 | -18.9286 | 128.9214 | Kimberley | Present | 41.70 | | | 1.45 | 2666.67 | | | | |
| New61 | -18.9328 | 128.9211 | Kimberley | Absent | 32.40 | | | 2.94 | 22520.00 | | | | |

# Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| New62 | -18.9443 | 128.9224 | Kimberley | Absent | 48.50 | | | 1.72 | 39210.00 | | | | |
| New63 | -18.9395 | 128.8986 | Kimberley | Absent | 150.00 | | | 1.48 | 690.00 | | | | |
| New64 | -18.8678 | 128.9407 | Kimberley | Absent | 54.50 | | | 0.61 | 420.00 | | | | |
| New65 | -18.8679 | 128.9393 | Kimberley | Absent | 27.90 | | | 1.13 | 620.00 | | | | |
| New66 | -18.8678 | 128.9385 | Kimberley | Absent | 16.00 | | | 0.64 | 660.00 | | | | |
| New67 | -18.8686 | 128.9386 | Kimberley | Absent | 73.80 | | | 3.92 | 790.00 | | | | |
| New68 | -18.8689 | 128.9385 | Kimberley | Present | 59.50 | | | 1.74 | 1030.00 | | | | |
| New69 | -18.8680 | 128.9388 | Kimberley | Absent | 45.50 | | | 1.17 | | | | | |
| New70 | -18.8686 | 128.9397 | Kimberley | Absent | 22.50 | | | 1.53 | 210.00 | | | | |
| New71 | -18.8691 | 128.9397 | Kimberley | Absent | 53.50 | | | 3.28 | 430.00 | | | | |
| New72 | -18.8681 | 128.9394 | Kimberley | Present | 32.40 | | | 2.24 | 250.00 | | | | |
| New73 | -18.8681 | 128.9397 | Kimberley | Absent | 71.10 | | | 1.19 | 555.00 | | | | |
| New74 | -18.8683 | 128.9392 | Kimberley | Absent | 67.50 | | | 3.94 | 400.00 | | | | |
| New75 | -18.8683 | 128.9417 | Kimberley | Absent | 20.70 | | | 2.81 | 130.00 | | | | |
| New76 | -18.8678 | 128.9411 | Kimberley | Absent | 56.15 | | | | 315.00 | | | | |
| New77 | -18.8669 | 128.9436 | Kimberley | Absent | 118.00 | | | 2.90 | 190.00 | | | | |
| New78 | -18.8675 | 128.9444 | Kimberley | Absent | 38.70 | | | 3.06 | 170.00 | | | | |
| New79 | -18.8711 | 128.9436 | Kimberley | Present | 44.33 | | | 1.96 | 609.00 | | | | |
| New80 | -18.8711 | 128.9447 | Kimberley | Present | 40.00 | | | 1.66 | 427.20 | | | | |
| New81 | -18.8683 | 128.9447 | Kimberley | Absent | 39.60 | | | 2.00 | 90.00 | | | | |
| New82 | -18.8678 | 128.9444 | Kimberley | Present | 36.90 | | | 5.52 | 100.00 | | | | |
| New83 | -18.8681 | 128.9431 | Kimberley | Present | 50.40 | | | 1.84 | 150.00 | | | | |
| New84 | -18.8689 | 128.9421 | Kimberley | Present | 89.50 | | | 1.53 | 340.00 | | | | |
| New85 | -18.8689 | 128.9392 | Kimberley | Absent | 87.30 | | | 0.56 | 470.00 | | | | |
| New86 | -18.8678 | 128.9439 | Kimberley | Absent | 60.75 | | | 4.44 | 180.00 | | | | |
| New87 | -18.8689 | 128.9349 | Kimberley | Absent | 21.50 | | | 3.54 | 1710.00 | | | | |
| New88 | -18.8689 | 128.9359 | Kimberley | Absent | 47.50 | | | 0.44 | 1480.00 | | | | |
| New89 | -18.8690 | 128.9366 | Kimberley | Absent | 120.00 | | | 1.41 | 1370.00 | | | | |
| New90 | -18.8689 | 128.9369 | Kimberley | Absent | 11.70 | | | 1.13 | 810.00 | | | | |
| New91 | -18.8685 | 128.9369 | Kimberley | Absent | 36.50 | | | 1.65 | 680.00 | | | | |
| New92 | -18.8714 | 128.9328 | Kimberley | Absent | 36.50 | | | 0.43 | 1800.00 | | | | |
| New93 | -18.8500 | 128.9333 | Kimberley | Present | 158.00 | | | 0.66 | 430.00 | | | | |
| New94 | -18.8533 | 128.9075 | Kimberley | Absent | 37.35 | | | 1.92 | 15960.00 | | | | |
| New95 | -18.8569 | 128.9127 | Kimberley | Absent | 37.30 | | | 2.62 | 2125.00 | | | | |
| New96 | -18.8621 | 128.9127 | Kimberley | Present | 22.65 | | | 1.73 | 8380.00 | | | | |
| New97 | -18.8700 | 128.9192 | Kimberley | Present | 31.20 | | | 1.78 | 5105.00 | | | | |
| New98 | -18.8719 | 128.9231 | Kimberley | Present | 35.55 | | | 1.01 | 7945.00 | | | | |
| New99 | -18.9424 | 128.8679 | Kimberley | Absent | | | | 3.69 | 200.00 | | | | |
| New100 | -18.9208 | 128.8579 | Kimberley | Present | 83.50 | | | 1.44 | 70.00 | | | | |
| New101 | -18.9550 | 128.9303 | Kimberley | Absent | 54.90 | | | 1.41 | 3870.00 | | | | |

# Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| New102 | -18.9547 | 128.9303 | Kimberley | Absent | 28.80 | | | 6.87 | 11100.00 | | | | |
| New103 | -18.9564 | 128.9297 | Kimberley | Absent | 54.00 | | | 4.53 | 1210.00 | | | | |
| New104 | -18.9554 | 128.9297 | Kimberley | Absent | 89.50 | | | 8.59 | 2540.00 | | | | |
| New105 | -18.9553 | 128.9297 | Kimberley | Absent | 71.10 | | | 1.68 | 8300.00 | | | | |
| New106 | -18.9547 | 128.9297 | Kimberley | Present | 71.10 | | | 5.47 | 8240.00 | | | | |
| New107 | -18.9653 | 128.9372 | Kimberley | Absent | 85.05 | | | 4.38 | 1540.00 | | | | |
| New108 | -18.9644 | 128.9378 | Kimberley | Absent | 56.70 | | | 3.30 | 370.00 | | | | |
| New109 | -18.9647 | 128.9378 | Kimberley | Present | 63.90 | | | 1.24 | 290.00 | | | | |
| New110 | -18.9650 | 128.9372 | Kimberley | Absent | 69.30 | | | 2.14 | 340.00 | | | | |
| New111 | -18.9650 | 128.9375 | Kimberley | Present | 52.20 | | | 1.67 | 80.00 | | | | |
| New112 | -18.9644 | 128.9375 | Kimberley | Absent | 96.30 | | | 1.52 | 330.00 | | | | |
| New113 | -18.9652 | 128.9369 | Kimberley | Present | 58.95 | | | 4.90 | 280.00 | | | | |
| New114 | -18.9642 | 128.9369 | Kimberley | Absent | 61.00 | | | 4.29 | 410.00 | | | | |
| New115 | -18.9642 | 128.9364 | Kimberley | Present | 17.10 | | | 1.52 | 190.00 | | | | |
| New116 | -18.9641 | 128.9364 | Kimberley | Absent | 63.00 | | | 2.40 | 890.00 | | | | |
| New117 | -18.9803 | 128.9334 | Kimberley | Absent | 150.00 | | | 0.56 | 2010.00 | | | | |
| New118 | -18.9740 | 128.9221 | Kimberley | Absent | 34.50 | | | 2.91 | 1550.00 | | | | |
| New119 | -18.8606 | 128.9536 | Kimberley | Absent | 39.50 | | | 0.38 | 1533.33 | | | | |
| New120 | -18.8577 | 128.9526 | Kimberley | Absent | 38.50 | | | 1.89 | 1170.00 | | | | |
| New121 | -18.8617 | 128.9450 | Kimberley | Absent | 35.10 | | | 0.71 | 420.00 | | | | |
| New122 | -18.8608 | 128.9469 | Kimberley | Absent | 2.70 | | | 1.53 | 245.00 | | | | |
| New123 | -18.8771 | 128.9828 | Kimberley | Absent | 150.00 | | | 2.67 | 3070.00 | | | | |
| New124 | -18.8592 | 128.9403 | Kimberley | Present | 45.90 | | | 0.74 | 300.00 | | | | |
| New125 | -18.8592 | 128.9404 | Kimberley | Absent | 47.50 | | | 4.07 | 390.00 | | | | |
| New126 | -18.8592 | 128.9411 | Kimberley | Present | 18.90 | | | 1.86 | 205.00 | | | | |
| New127 | -18.8589 | 128.9411 | Kimberley | Absent | 27.45 | | | 2.04 | 315.00 | | | | |
| New128 | -18.8589 | 128.9389 | Kimberley | Absent | 75.60 | | | 3.66 | 590.00 | | | | |
| New129 | -18.8592 | 128.9389 | Kimberley | Present | 17.10 | | | 2.40 | 440.00 | | | | |
| New130 | -18.8594 | 128.9378 | Kimberley | Absent | 57.60 | | | 3.95 | 340.00 | | | | |
| New131 | -18.8594 | 128.9373 | Kimberley | Absent | 144.00 | | | 2.35 | 430.00 | | | | |
| New132 | -18.8588 | 128.9364 | Kimberley | Absent | 57.50 | | | 3.08 | 550.00 | | | | |
| New133 | -18.8589 | 128.9372 | Kimberley | Absent | 14.40 | | | 1.76 | 550.00 | | | | |
| New134 | -18.8600 | 128.9383 | Kimberley | Absent | 70.00 | | | 1.43 | 740.00 | | | | |
| New135 | -18.8594 | 128.9414 | Kimberley | Present | 75.60 | | | 4.30 | 100.00 | | | | |
| New136 | -18.8589 | 128.9419 | Kimberley | Absent | 85.50 | | | 1.56 | 130.00 | | | | |
| New137 | -18.8594 | 128.9364 | Kimberley | Present | 51.30 | | | 1.38 | 730.00 | | | | |
| New138 | -18.8597 | 128.9372 | Kimberley | Absent | 40.00 | | | 3.48 | 390.00 | | | | |
| New139 | -18.8592 | 128.9408 | Kimberley | Absent | 53.10 | | | 1.49 | 240.00 | | | | |
| New140 | -18.8592 | 128.9411 | Kimberley | Absent | 17.10 | | | 3.49 | 160.00 | | | | |
| New141 | -18.8592 | 128.9406 | Kimberley | Present | 73.00 | | | 1.56 | 150.00 | | | | |

# Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| New142 | -18.8600 | 128.9425 | Kimberley | Present | 54.80 | | | 1.86 | 210.00 | | | | |
| New143 | -18.8598 | 128.9426 | Kimberley | Present | 58.00 | | | 2.61 | 170.00 | | | | |
| New144 | -18.8593 | 128.9395 | Kimberley | Present | 67.00 | | | 1.88 | 60.00 | | | | |
| New145 | -18.8589 | 128.9394 | Kimberley | Absent | 58.50 | | | 5.48 | 470.00 | | | | |
| New_NT_13 | -22.5780 | 133.2366 | NT | Absent | 91.00 | | | | 6370.00 | | | | |
| New_NT_14 | -22.5782 | 133.2379 | NT | Absent | 120.00 | | | | 6740.00 | | | | |
| New_NT_15 | -22.5789 | 133.2354 | NT | Absent | 113.00 | | | | 5820.00 | | | | |
| New_NT_16 | -22.5774 | 133.2372 | NT | Absent | 121.00 | | | | 6490.00 | | | | |
| New_NT_17 | -22.5909 | 133.2313 | NT | Absent | 37.00 | | | | | | | | |
| New_NT_18 | -22.5944 | 133.2315 | NT | Absent | 14.00 | | | | 1.00 | | | | |
| 1 | -24.3786 | 150.5019 | QLD | Absent | | | | | 865916.00 | | | | |
| 10 | -23.1520 | 146.6149 | QLD | Present | | | | | 840.00 | | | | |
| 100 | -24.4499 | 148.3640 | QLD | Absent | 80.00 | | | 1.26 | 681.00 | | | | |
| 101 | -23.7475 | 146.5012 | QLD | Absent | 72.00 | | | 1.16 | 1421.00 | | | | |
| 102 | -24.2109 | 150.5299 | QLD | Present | | | | | | | | | |
| 103 | -24.2391 | 150.4601 | QLD | Absent | | | | | | | | | |
| 104 | -24.2301 | 150.4029 | QLD | Absent | | | | | | | | | |
| 105 | -24.2104 | 150.5300 | QLD | Absent | | | | | | | | | |
| 106 | -24.2216 | 150.5098 | QLD | Absent | | | | | | | | | |
| 107 | -24.2215 | 150.5094 | QLD | Absent | | | | | | | | | |
| 108 | -24.2290 | 150.4874 | QLD | Absent | 208.00 | | | | | | | | |
| 109 | -24.2287 | 150.4880 | QLD | Absent | 119.70 | | | | | | | | |
| 11 | -23.2094 | 146.4795 | QLD | Absent | | | | | 1.25 | | | | |
| 110 | -24.2287 | 150.4872 | QLD | Absent | 92.30 | | | | | | | | |
| 111 | -24.2393 | 150.4596 | QLD | Absent | 69.00 | | | | | | | | |
| 112 | -24.2395 | 150.4593 | QLD | Absent | | | | | | | | | |
| 113 | -20.7079 | 147.8610 | QLD | Absent | 48.00 | | | | 2.40 | | | | |
| 114 | -20.6993 | 147.8782 | QLD | Absent | 18.00 | | | | 5.01 | | | | |
| 115 | -20.6993 | 147.8782 | QLD | Absent | 22.00 | | | | 1.30 | | | | |
| 116 | -20.6877 | 147.8151 | QLD | Absent | 55.00 | | | | 0.30 | | | | |
| 117 | -21.1313 | 147.8766 | QLD | Absent | 56.00 | | | 1.98 | 1532.00 | | | | |
| 118 | -21.1279 | 147.8995 | QLD | Absent | 59.50 | | | 1.39 | 1697.00 | | | | |
| 119 | -21.0841 | 147.9095 | QLD | Absent | 52.00 | | | 1.03 | 1477.00 | | | | |
| 12 | -23.1639 | 146.4976 | QLD | Absent | | | | | | | | | |
| 120 | -21.2115 | 147.8595 | QLD | Present | 59.50 | | | 1.92 | 9975.00 | | | | |
| 121 | -21.2853 | 147.8907 | QLD | Absent | 67.00 | | | 0.92 | 2302.00 | | | | |
| 122 | -21.3587 | 147.8516 | QLD | Absent | 105.00 | | | 1.04 | 17058.00 | | | | |
| 123 | -21.2819 | 147.9171 | QLD | Absent | 120.00 | | | 2.01 | 3026.00 | | | | |
| 124 | -21.3047 | 147.8414 | QLD | Absent | 66.00 | | | 2.75 | 4458.00 | | | | |
| 125 | -22.0562 | 146.3771 | QLD | Absent | 47.00 | | | 1.56 | 13187.50 | | | | |

# Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 126 | -22.0561 | 146.3771 | QLD | Absent | 118.40 | | | 1.37 | 947.50 | | | | |
| 127 | -22.0741 | 146.3575 | QLD | Present | 57.50 | | | 1.03 | 21424.00 | | | | |
| 128 | -22.0741 | 146.3575 | QLD | Absent | 271.50 | | | 1.32 | 3287.50 | | | | |
| 129 | -21.9735 | 146.3108 | QLD | Absent | 105.00 | | | 1.50 | 973.00 | | | | |
| 13 | -23.1237 | 146.4991 | QLD | Absent | | | | | | | | | |
| 130 | -21.9742 | 146.3306 | QLD | Absent | 99.00 | | | 1.70 | 1913.00 | | | | |
| 131 | -22.0275 | 146.3288 | QLD | Absent | 204.40 | | | 1.56 | 4615.00 | | | | |
| 132 | -21.9290 | 146.2639 | QLD | Absent | 50.00 | | | 2.77 | 676.00 | | | | |
| 133 | -21.9290 | 146.2640 | QLD | Present | 89.00 | | | 1.70 | 1638.00 | | | | |
| 134 | -21.9289 | 146.2639 | QLD | Absent | 146.00 | | | 1.89 | 973.50 | | | | |
| 135 | -22.0094 | 146.2910 | QLD | Absent | 67.00 | | | 1.31 | 329.00 | | | | |
| 136 | -21.9571 | 146.3115 | QLD | Absent | 49.00 | | | 1.54 | 1606.00 | | | | |
| 137 | -22.1012 | 146.3991 | QLD | Absent | | | | | | | | | |
| 138 | -22.1013 | 146.3991 | QLD | Absent | 36.90 | | | 0.97 | 13468.00 | | | | |
| 139 | -22.1103 | 146.3567 | QLD | Absent | 12.00 | | | 2.81 | 6022.50 | | | | |
| 14 | -23.1509 | 146.4965 | QLD | Absent | | | | | | | | | |
| 140 | -22.1103 | 146.3567 | QLD | Absent | 32.00 | | | 1.60 | 706.50 | | | | |
| 141 | -22.1082 | 146.3959 | QLD | Present | 13.60 | | | 0.74 | 27305.00 | | | | |
| 142 | -22.1082 | 146.3959 | QLD | Absent | 46.00 | | | 0.75 | 10895.00 | | | | |
| 143 | -22.2002 | 146.4122 | QLD | Absent | 263.00 | | | 0.94 | 1201.50 | | | | |
| 144 | -22.1829 | 146.4316 | QLD | Absent | 62.00 | | | 1.67 | 3892.50 | | | | |
| 145 | -24.4710 | 148.4218 | QLD | Absent | 66.00 | | | 6.00 | 913.00 | | | | |
| 146 | -22.1353 | 148.1094 | QLD | Present | | | | 2.10 | 880.00 | | | | |
| 147 | -22.1413 | 148.1532 | QLD | Present | | | | 3.20 | 470.00 | | | | |
| 148 | -22.1179 | 148.1843 | QLD | Present | | | | 2.32 | 436.00 | | | | |
| 149 | -19.7736 | 139.1279 | QLD | Absent | | | | 0.95 | 1225.00 | | | | |
| 15 | -23.1597 | 146.4453 | QLD | Absent | | | | | | | | | |
| 150 | -23.6802 | 146.4759 | QLD | Absent | 87.00 | | | 0.84 | 1088.00 | | | | |
| 151 | -23.6833 | 146.4754 | QLD | Absent | 80.00 | | | 1.18 | 3163.00 | | | | |
| 152 | -23.6597 | 146.4739 | QLD | Absent | 70.00 | | | 1.04 | 287.00 | | | | |
| 153 | -23.6797 | 146.4780 | QLD | Absent | 71.00 | | | 1.35 | 987.00 | | | | |
| 154 | -23.7019 | 146.4784 | QLD | Absent | 76.00 | | | 1.25 | 1521.00 | | | | |
| 155 | -23.7294 | 146.4901 | QLD | Present | 75.00 | | | 1.02 | 4085.00 | | | | |
| 156 | -20.0815 | 146.8855 | QLD | Absent | | | | | | | | | |
| 159 | -23.8728 | 150.9740 | QLD | Absent | 44.10 | | | | | | | | |
| 16 | -23.1597 | 146.4553 | QLD | Absent | | | | | | | | | |
| 160 | -23.8745 | 150.9717 | QLD | Present | 19.53 | | | | | | | | |
| 161 | -23.8390 | 150.9472 | QLD | Present | 28.98 | | | | | | | | |
| 162 | -23.8563 | 150.9499 | QLD | Absent | 65.52 | | | | | | | | |
| 163 | -23.8914 | 150.9722 | QLD | Present | 33.39 | | | | | | | | |

Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 164 | -23.8368 | 150.9396 | QLD | Absent | 61.11 | | | | | | | | |
| 165 | -23.9002 | 150.9654 | QLD | Present | 34.02 | | | | | | | | |
| 166 | -23.8829 | 150.9748 | QLD | Absent | 54.81 | | | | | | | | |
| 167 | -23.8062 | 150.9127 | QLD | Absent | 21.42 | | | | | | | | |
| 168 | -23.8844 | 150.9696 | QLD | Present | 45.99 | | | | | | | | |
| 169 | -20.7445 | 147.8250 | QLD | Absent | 145.00 | | | | 1.60 | | | | |
| 17 | -23.1012 | 146.4250 | QLD | Absent | | | | | | | | | |
| 170 | -20.7407 | 147.8565 | QLD | Absent | 44.00 | | | | 2.80 | | | | |
| 171 | -21.1640 | 148.0111 | QLD | Absent | | | | | | | | | |
| 172 | -21.1811 | 148.0072 | QLD | Absent | | | | | | | | | |
| 173 | -21.2314 | 148.0147 | QLD | Absent | | | | | | | | | |
| 174 | -23.8873 | 150.9690 | QLD | Absent | 31.50 | | | | | | | | |
| 175 | -23.8848 | 150.9721 | QLD | Present | 11.97 | | | | | | | | |
| 176 | -23.3413 | 148.1172 | QLD | Present | | | | 4.92 | 1524.00 | | | | |
| 177 | -21.2460 | 147.9401 | QLD | Absent | | | | | | | | | |
| 178 | -22.9015 | 148.7667 | QLD | Absent | | | | 2.65 | 30936.00 | | | | |
| 179 | -22.9012 | 148.7675 | QLD | Absent | | | | 2.45 | 29387.00 | | | | |
| 18 | -23.0876 | 146.2504 | QLD | Absent | | | | | | | | | |
| 180 | -22.9000 | 148.7701 | QLD | Absent | | | | 2.07 | 39655.00 | | | | |
| 181 | -22.8998 | 148.7706 | QLD | Absent | | | | 1.96 | 45131.00 | | | | |
| 182 | -22.9019 | 148.7701 | QLD | Absent | | | | 2.72 | 41941.00 | | | | |
| 183 | -22.9028 | 148.7686 | QLD | Absent | | | | 7.71 | 36295.00 | | | | |
| 184 | -22.9033 | 148.7678 | QLD | Absent | | | | 2.25 | 32024.00 | | | | |
| 185 | -22.9037 | 148.7670 | QLD | Absent | | | | 1.54 | 32987.00 | | | | |
| 186 | -22.0168 | 148.0651 | QLD | Present | | | | 2.23 | 621.00 | | | | |
| 187 | -22.0357 | 148.0939 | QLD | Present | | | | 2.78 | 688.00 | | | | |
| 188 | -22.0489 | 148.1193 | QLD | Present | | | | 3.68 | 630.00 | | | | |
| 189 | -23.3223 | 148.1499 | QLD | Absent | 9.00 | | | 3.02 | 16827.00 | | | | |
| 19 | -23.0597 | 146.4648 | QLD | Present | | | | | 1.38 | | | | |
| 190 | -23.3223 | 148.1499 | QLD | Absent | 50.00 | | | 3.12 | 6587.00 | | | | |
| 192 | -24.4473 | 148.3973 | QLD | Present | 25.00 | | | 1.41 | 1632.00 | | | | |
| 193 | -24.4737 | 148.4258 | QLD | Present | 20.00 | | | 2.93 | 1280.00 | | | | |
| 194 | -21.8685 | 147.9700 | QLD | Absent | | | | | 1800.00 | | | | |
| 195 | -21.7856 | 148.0120 | QLD | Absent | | | | | 7030.00 | | | | |
| 196 | -21.7361 | 147.9355 | QLD | Absent | | | | | 650.00 | | | | |
| 197 | -22.1612 | 148.1407 | QLD | Present | | | | | | | | | |
| 198 | -23.5058 | 146.4007 | QLD | Absent | | | | | | | | | |
| 199 | -23.4259 | 146.4465 | QLD | Present | | | | | | | | | |
| 2 | -21.8500 | 147.9931 | QLD | Absent | | | | | 400.00 | | | | |
| 20 | -23.1231 | 146.4155 | QLD | Absent | | | | | 6.72 | | | | |

## Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | -23.3986 | 146.4277 | QLD | Absent | | | | | | | | | |
| 201 | -23.3841 | 146.4653 | QLD | Present | | | | | | | | | |
| 202 | -23.4707 | 146.4356 | QLD | Absent | | | | | | | | | |
| 203 | -23.3397 | 146.4948 | QLD | Absent | | | | | | | | | |
| 204 | -23.5113 | 146.3589 | QLD | Absent | | | | | | | | | |
| 205 | -23.6350 | 146.4740 | QLD | Absent | | | | | | | | | |
| 206 | -22.0324 | 148.1229 | QLD | Present | | | | 3.46 | 306.00 | | | | |
| 207 | -22.0467 | 148.1467 | QLD | Present | | | | 2.97 | 349.00 | | | | |
| 208 | -19.7589 | 139.0819 | QLD | Absent | | | | 0.86 | 1040.00 | | | | |
| 209 | -19.7830 | 139.0786 | QLD | Present | | | | 1.57 | 894.00 | | | | |
| 21 | -23.2231 | 146.4100 | QLD | Absent | | | | | 2.05 | | | | |
| 210 | -19.7956 | 139.0666 | QLD | Absent | | | | 2.03 | 622.00 | | | | |
| 211 | -19.7778 | 139.0733 | QLD | Absent | | | | 2.11 | 665.00 | | | | |
| 213 | -22.0372 | 148.0704 | QLD | Present | | | | 3.16 | 1710.00 | | | | |
| 214 | -22.0596 | 148.0999 | QLD | Present | | | | 2.01 | 1442.00 | | | | |
| 215 | -23.6963 | 146.4669 | QLD | Absent | 80.00 | | | 0.96 | 3100.00 | | | | |
| 216 | -22.0659 | 148.1197 | QLD | Absent | | | | 3.57 | 1756.00 | | | | |
| 217 | -22.0798 | 148.1462 | QLD | Absent | | | | 2.12 | 3659.00 | | | | |
| 218 | -22.0923 | 148.5417 | QLD | Absent | 76.00 | | | | | | | | |
| 219 | -22.1193 | 148.5801 | QLD | Present | 7.50 | | | | | | | | |
| 22 | -23.2608 | 146.4747 | QLD | Absent | | | | | 1.62 | | | | |
| 222 | -23.6372 | 148.8890 | QLD | Absent | | | | | 40100.00 | | | | |
| 223 | -22.0778 | 148.0807 | QLD | Absent | | | | 3.71 | 8630.00 | | | | |
| 225 | -22.0863 | 148.1004 | QLD | Absent | | | | 1.26 | 1289.00 | | | | |
| 226 | -23.6066 | 148.9028 | QLD | Absent | | | | | 46900.00 | | | | |
| 227 | -25.9816 | 149.6492 | QLD | Absent | 15.00 | | | 5.15 | 1615.00 | | | | |
| 228 | -23.6290 | 148.8731 | QLD | Absent | | | | | 31096.00 | | | | |
| 229 | -23.6290 | 148.8731 | QLD | Absent | | | | | 32124.00 | | | | |
| 23 | -23.0619 | 146.4857 | QLD | Absent | | | | | | | | | |
| 230 | -25.9924 | 149.6418 | QLD | Absent | 10.50 | | | 4.19 | 4600.00 | | | | |
| 231 | -23.6327 | 148.8741 | QLD | Absent | | | | | 33666.00 | | | | |
| 233 | -22.1740 | 148.1630 | QLD | Absent | | | | 0.71 | 7118.00 | | | | |
| 234 | -25.9667 | 149.6267 | QLD | Absent | 10.00 | | | 5.58 | 1859.00 | | | | |
| 24 | -23.2650 | 146.4558 | QLD | Absent | | | | | 1.94 | | | | |
| 240 | -22.0923 | 148.5417 | QLD | Absent | 32.00 | | | | | | | | |
| 242 | -23.6079 | 148.8848 | QLD | Present | | | | | 22400.00 | | | | |
| 244 | -23.0882 | 148.5489 | QLD | Absent | 130.00 | | | | | | | | |
| 248 | -23.6444 | 148.8762 | QLD | Absent | | | | | 44973.00 | | | | |
| 249 | -22.1038 | 148.5379 | QLD | Present | 12.00 | | | | | | | | |
| 25 | -23.1088 | 146.3636 | QLD | Absent | | | | | 3.72 | | | | |

Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 250 | -23.6114 | 148.8648 | QLD | Absent | | | | | 37263.00 | | | | |
| 253 | -22.1009 | 148.5603 | QLD | Absent | 84.00 | | | | | | | | |
| 255 | -23.6365 | 148.8713 | QLD | Absent | | | | | 45230.00 | | | | |
| 257 | -22.0801 | 148.6050 | QLD | Absent | 86.00 | | | | | | | | |
| 259 | -23.6419 | 148.9002 | QLD | Absent | | | | | 23180.00 | | | | |
| 26 | -23.2092 | 146.4637 | QLD | Absent | | | | | 1.33 | | | | |
| 260 | -22.0802 | 148.6050 | QLD | Absent | 34.00 | | | | | | | | |
| 263 | -22.0895 | 148.5729 | QLD | Absent | 88.00 | | | | | | | | |
| 265 | -22.0895 | 148.5729 | QLD | Absent | 34.00 | | | | | | | | |
| 267 | -22.1193 | 148.5801 | QLD | Absent | 106.00 | | | | | | | | |
| 269 | -23.6532 | 148.8951 | QLD | Present | | | | | 457.00 | | | | |
| 27 | -23.2565 | 146.5294 | QLD | Absent | | | | | 0.60 | | | | |
| 270 | -20.0895 | 146.9041 | QLD | Absent | | | | | | | | | |
| 271 | -23.3274 | 148.1258 | QLD | Absent | 169.00 | | | 2.32 | 6273.00 | | | | |
| 272 | -23.3275 | 148.1258 | QLD | Present | 189.00 | | | 1.24 | 4100.00 | | | | |
| 273 | -23.3636 | 148.1479 | QLD | Absent | 119.00 | | | 2.59 | 1938.00 | | | | |
| 274 | -23.3636 | 148.1478 | QLD | Absent | 257.00 | | | 2.13 | 6101.00 | | | | |
| 275 | -23.3636 | 148.1478 | QLD | Absent | 321.00 | | | 1.14 | 7356.00 | | | | |
| 276 | -23.3848 | 148.0978 | QLD | Absent | 149.00 | | | 4.09 | 2647.00 | | | | |
| 277 | -23.3515 | 148.0669 | QLD | Absent | 140.00 | | | 2.79 | 3856.00 | | | | |
| 278 | -23.3516 | 148.0668 | QLD | Absent | 197.00 | | | 2.23 | 1589.00 | | | | |
| 279 | -23.3524 | 148.0613 | QLD | Absent | 149.00 | | | 3.50 | 3342.00 | | | | |
| 28 | -23.2892 | 146.5316 | QLD | Absent | | | | | 0.46 | | | | |
| 280 | -23.3525 | 148.0613 | QLD | Absent | 184.00 | | | 1.80 | 1323.00 | | | | |
| 281 | -23.3525 | 148.0612 | QLD | Absent | 207.00 | | | 2.82 | 1734.00 | | | | |
| 283 | -19.7735 | 139.1282 | QLD | Absent | | | | 0.98 | 1851.00 | | | | |
| 284 | -23.6610 | 146.4274 | QLD | Absent | 85.00 | | | 1.36 | 2733.00 | | | | |
| 285 | -23.8950 | 148.3057 | QLD | Absent | | | | | | | | | |
| 286 | -20.1273 | 146.8941 | QLD | Present | | | | | | | | | |
| 287 | -20.1284 | 146.9022 | QLD | Present | | | | | | | | | |
| 288 | -20.1179 | 146.8887 | QLD | Present | | | | | | | | | |
| 29 | -23.2574 | 146.3732 | QLD | Absent | | | | | 0.65 | | | | |
| 292 | -25.9652 | 149.6243 | QLD | Absent | 100.00 | | | 1.39 | 1543.00 | | | | |
| 293 | -25.9657 | 149.6314 | QLD | Absent | 43.00 | | | 1.56 | 2114.00 | | | | |
| 294 | -25.9730 | 149.6266 | QLD | Present | 100.00 | | | 1.85 | 6454.00 | | | | |
| 295 | -25.9799 | 149.6213 | QLD | Present | 100.00 | | | 1.51 | 5189.00 | | | | |
| 296 | -25.9810 | 149.6303 | QLD | Present | 101.00 | | | 1.27 | 4640.00 | | | | |
| 297 | -19.7760 | 139.0742 | QLD | Absent | | | | 2.03 | 559.00 | | | | |
| 298 | -19.7652 | 139.0793 | QLD | Absent | | | | 1.30 | 914.00 | | | | |
| 299 | -19.7894 | 139.0869 | QLD | Absent | | | | | | | | | |

Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | -21.8152 | 148.0167 | QLD | Absent | | | | | 13700.00 | | | | |
| 30 | -23.2094 | 146.4638 | QLD | Absent | | | | | 3.19 | | | | |
| 300 | -19.7891 | 139.0793 | QLD | Absent | | | | | | | | | |
| 301 | -19.7444 | 139.1078 | QLD | Absent | | | | | | | | | |
| 302 | -19.7578 | 139.0835 | QLD | Absent | | | | | | | | | |
| 303 | -19.7602 | 139.0835 | QLD | Absent | | | | | | | | | |
| 304 | -19.7750 | 139.0759 | QLD | Absent | | | | | | | | | |
| 305 | -19.7786 | 139.0718 | QLD | Absent | | | | | | | | | |
| 306 | -19.7453 | 139.1011 | QLD | Absent | | | | | | | | | |
| 307 | -19.7399 | 139.1067 | QLD | Absent | | | | | | | | | |
| 308 | -19.7569 | 139.0874 | QLD | Absent | | | | | | | | | |
| 309 | -19.7604 | 139.0798 | QLD | Absent | | | | | | | | | |
| 31 | -23.2368 | 146.4756 | QLD | Absent | | | | | 0.22 | | | | |
| 310 | -19.7709 | 139.0739 | QLD | Absent | | | | | | | | | |
| 311 | -19.7638 | 139.0780 | QLD | Absent | | | | | | | | | |
| 312 | -19.7654 | 139.0758 | QLD | Absent | | | | | | | | | |
| 313 | -19.7676 | 139.0798 | QLD | Absent | | | | | | | | | |
| 314 | -19.7713 | 139.0760 | QLD | Absent | | | | | | | | | |
| 315 | -19.7751 | 139.0797 | QLD | Absent | | | | | | | | | |
| 316 | -19.7784 | 139.0757 | QLD | Absent | | | | 2.59 | 869.00 | | | | |
| 317 | -19.7693 | 139.0775 | QLD | Absent | | | | 0.97 | 814.00 | | | | |
| 32 | -23.0226 | 146.5208 | QLD | Absent | | | | | 1.73 | | | | |
| 320 | -24.4789 | 148.4052 | QLD | Absent | 60.00 | | | 1.68 | 1257.00 | | | | |
| 321 | -21.1528 | 147.9110 | QLD | Absent | | | | | | | | | |
| 322 | -21.2332 | 147.9571 | QLD | Absent | | | | | | | | | |
| 323 | -21.2424 | 147.9443 | QLD | Absent | | | | | | | | | |
| 324 | -21.2425 | 147.9461 | QLD | Absent | | | | | | | | | |
| 325 | -21.1750 | 147.9082 | QLD | Absent | | | | | | | | | |
| 326 | -21.1427 | 147.9016 | QLD | Absent | | | | | | | | | |
| 33 | -23.4440 | 146.3353 | QLD | Absent | | | | | 1430.00 | | | | |
| 334 | -21.3717 | 147.8612 | QLD | Absent | | | | | | | | | |
| 335 | -21.3828 | 147.8881 | QLD | Absent | | | | | | | | | |
| 336 | -21.3340 | 147.8733 | QLD | Absent | | | | | | | | | |
| 337 | -21.3855 | 147.9080 | QLD | Absent | | | | | | | | | |
| 338 | -21.3819 | 147.8667 | QLD | Absent | | | | | | | | | |
| 339 | -21.3541 | 147.9614 | QLD | Absent | | | | | | | | | |
| 34 | -23.4440 | 146.3353 | QLD | Absent | | | | | 1380.00 | | | | |
| 340 | -21.3678 | 147.8957 | QLD | Absent | | | | | | | | | |
| 341 | -21.3462 | 147.8611 | QLD | Absent | | | | | | | | | |
| 342 | -20.1003 | 146.9186 | QLD | Present | | | | | | | | | |

Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 343 | -20.0975 | 146.9221 | QLD | Present | | | | | | | | | |
| 344 | -20.1074 | 146.9274 | QLD | Present | | | | | | | | | |
| 345 | -23.8748 | 150.9674 | QLD | Absent | 31.50 | | | | | | | | |
| 346 | -23.9257 | 148.3781 | QLD | Absent | | | | | | | | | |
| 347 | -23.9257 | 148.3782 | QLD | Absent | | | | | | | | | |
| 348 | -23.9122 | 148.3612 | QLD | Absent | | | | | | | | | |
| 349 | -23.1680 | 146.5381 | QLD | Absent | | | | | 1.40 | | | | |
| 35 | -23.3989 | 146.3455 | QLD | Absent | | | | | 1360.00 | | | | |
| 350 | -20.0936 | 146.9098 | QLD | Absent | | | | | | | | | |
| 351 | -21.4094 | 147.9672 | QLD | Absent | | | | | | | | | |
| 352 | -21.4049 | 147.9650 | QLD | Absent | | | | | | | | | |
| 353 | -23.5497 | 147.9290 | QLD | Absent | | | | | 910.00 | | | | |
| 354 | -23.5427 | 147.9810 | QLD | Absent | | | | | 980.00 | | | | |
| 355 | -23.5078 | 147.9240 | QLD | Absent | | | | | 704.00 | | | | |
| 356 | -23.5343 | 147.9467 | QLD | Absent | | | | | 510.00 | | | | |
| 357 | -23.5063 | 147.9334 | QLD | Absent | | | | | 1388.00 | | | | |
| 358 | -23.5520 | 147.9357 | QLD | Absent | | | | | 301.00 | | | | |
| 359 | -23.5179 | 147.9682 | QLD | Absent | | | | | 576.00 | | | | |
| 36 | -23.5164 | 146.3352 | QLD | Present | | | | | 1386.00 | | | | |
| 360 | -23.3197 | 148.0518 | QLD | Present | 20.00 | | | 3.38 | 903.00 | | | | |
| 361 | -23.3196 | 148.0518 | QLD | Absent | 51.00 | | | 2.86 | 1324.00 | | | | |
| 362 | -23.3964 | 148.0887 | QLD | Present | 23.00 | | | 3.17 | 5321.00 | | | | |
| 363 | -23.3964 | 148.0887 | QLD | Absent | 60.00 | | | 3.84 | 2454.00 | | | | |
| 364 | -19.7894 | 139.0916 | QLD | Absent | | | | 1.08 | 952.00 | | | | |
| 365 | -19.7891 | 139.0863 | QLD | Absent | | | | | | | | | |
| 366 | -19.7893 | 139.0796 | QLD | Absent | | | | 1.43 | 1180.00 | | | | |
| 367 | -23.8650 | 148.3097 | QLD | Absent | | | | | | | | | |
| 368 | -23.3266 | 148.1327 | QLD | Absent | | | | 2.88 | 810.00 | | | | |
| 369 | -23.3335 | 148.0666 | QLD | Absent | 111.00 | | | 5.69 | 2168.00 | | | | |
| 37 | -23.4981 | 146.3547 | QLD | Present | | | | | 2132.00 | | | | |
| 370 | -23.3500 | 148.1143 | QLD | Absent | 137.00 | | | 3.01 | 4138.00 | | | | |
| 371 | -23.3767 | 148.1166 | QLD | Absent | 156.00 | | | 4.20 | 1897.00 | | | | |
| 372 | -23.6713 | 146.4977 | QLD | Present | 60.00 | | | 1.24 | 673.00 | | | | |
| 373 | -23.6802 | 146.5404 | QLD | Present | 40.00 | | | 3.55 | 3413.00 | | | | |
| 374 | -23.8767 | 148.3104 | QLD | Absent | | | | | | | | | |
| 38 | -23.3979 | 146.3551 | QLD | Absent | | | | | 550.00 | | | | |
| 39 | -23.3979 | 146.3551 | QLD | Present | | | | | 3684.00 | | | | |
| 4 | -24.3747 | 150.5316 | QLD | Absent | | | | | 669670.00 | | | | |
| 40 | -23.3979 | 146.3551 | QLD | Absent | | | | | 1911.00 | | | | |
| 41 | -23.3937 | 146.3605 | QLD | Present | | | | | 4447.00 | | | | |

Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 42 | -23.5162 | 146.3545 | QLD | Absent | | | | | 1349.00 | | | | |
| 43 | -23.4727 | 146.3644 | QLD | Absent | | | | | 1460.00 | | | | |
| 44 | -23.4727 | 146.3644 | QLD | Absent | | | | | 1370.00 | | | | |
| 45 | -23.4980 | 146.3743 | QLD | Absent | | | | | 1345.00 | | | | |
| 46 | -23.4802 | 146.3743 | QLD | Absent | | | | | 1375.00 | | | | |
| 47 | -23.4892 | 146.3844 | QLD | Absent | | | | | 5335.00 | | | | |
| 48 | -23.4891 | 146.3843 | QLD | Absent | | | | | 1373.00 | | | | |
| 49 | -23.4893 | 146.3842 | QLD | Absent | | | | | 1435.00 | | | | |
| 5 | -23.0502 | 146.6277 | QLD | Absent | | | | | 950.00 | | | | |
| 50 | -23.4797 | 146.3938 | QLD | Absent | | | | | 1626.00 | | | | |
| 51 | -23.3920 | 146.4005 | QLD | Absent | | | | | 5826.00 | | | | |
| 52 | -23.3763 | 146.3945 | QLD | Absent | | | | | 6366.00 | | | | |
| 53 | -23.3719 | 146.3944 | QLD | Absent | | | | | 4470.00 | | | | |
| 54 | -23.3717 | 146.3944 | QLD | Present | | | | | 3431.00 | | | | |
| 55 | -23.5164 | 146.3938 | QLD | Absent | | | | | 1525.00 | | | | |
| 56 | -23.3628 | 146.4141 | QLD | Absent | | | | | 7037.00 | | | | |
| 57 | -23.3628 | 146.4141 | QLD | Present | | | | | 6285.00 | | | | |
| 58 | -23.3449 | 146.4142 | QLD | Absent | | | | | 3201.00 | | | | |
| 584 | -11.8434 | 142.0340 | QLD | Present | 22.11 | | | | 88.00 | | | | |
| 585 | -11.7970 | 142.0458 | QLD | Absent | 20.50 | | | | 750.00 | | | | |
| 586 | -11.8244 | 142.0575 | QLD | Present | 21.73 | | | | 48.00 | | | | |
| 587 | -11.8439 | 142.0051 | QLD | Absent | 11.25 | | | | 41.00 | | | | |
| 588 | -11.8634 | 141.9984 | QLD | Absent | 12.50 | | | | 36.00 | | | | |
| 589 | -11.8229 | 142.0465 | QLD | Present | 14.14 | | | | 60.00 | | | | |
| 59 | -23.3449 | 146.4141 | QLD | Absent | | | | | 2790.00 | | | | |
| 590 | -11.8030 | 142.0531 | QLD | Present | 13.39 | | | | 50.00 | | | | |
| 591 | -11.8031 | 142.0606 | QLD | Absent | 13.15 | | | | 37.00 | | | | |
| 592 | -11.8752 | 142.0154 | QLD | Present | 15.03 | | | | 70.00 | | | | |
| 593 | -11.7619 | 142.0702 | QLD | Present | 10.79 | | | | 101.00 | | | | |
| 594 | -21.3748 | 148.3169 | QLD | Absent | | | | | | | | | |
| 595 | -21.3748 | 148.3169 | QLD | Present | | | | | | | | | |
| 596 | -21.3748 | 148.3171 | QLD | Present | | | | | | | | | |
| 597 | -21.3748 | 148.3170 | QLD | Present | | | | | | | | | |
| 598 | -21.3580 | 148.2694 | QLD | Absent | | | | | | | | | |
| 599 | -21.3476 | 148.2640 | QLD | Present | | | | | | | | | |
| 6 | -23.8544 | 148.3548 | QLD | Absent | | | | | | | | | |
| 60 | -23.3994 | 146.4333 | QLD | Present | | | | | 6749.00 | | | | |
| 600 | -21.3763 | 148.2691 | QLD | Present | | | | | | | | | |
| 601 | -21.3693 | 148.2629 | QLD | Present | | | | | | | | | |
| 602 | -21.3753 | 148.2795 | QLD | Present | | | | | | | | | |

Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 603 | -21.3641 | 148.2904 | QLD | Present | | | | | | | | | |
| 61 | -23.3904 | 146.4337 | QLD | Absent | | | | | 5413.00 | | | | |
| 62 | -23.3904 | 146.4337 | QLD | Absent | | | | | 3067.00 | | | | |
| 63 | -23.3904 | 146.4339 | QLD | Absent | | | | | 5328.00 | | | | |
| 64 | -23.3720 | 146.4336 | QLD | Absent | | | | | 8516.00 | | | | |
| 65 | -23.3647 | 146.4325 | QLD | Absent | | | | | 2828.00 | | | | |
| 66 | -23.3648 | 146.4325 | QLD | Absent | | | | | 3347.00 | | | | |
| 67 | -23.3724 | 146.4434 | QLD | Absent | | | | | 5155.00 | | | | |
| 68 | -23.3631 | 146.4434 | QLD | Absent | | | | | 2828.00 | | | | |
| 69 | -23.3495 | 146.4483 | QLD | Absent | | | | | 2685.00 | | | | |
| 7 | -24.1366 | 150.3138 | QLD | Absent | | | | | 730741.00 | | | | |
| 70 | -23.3722 | 146.4529 | QLD | Absent | | | | | 10963.00 | | | | |
| 71 | -23.3722 | 146.4532 | QLD | Absent | | | | | 2375.00 | | | | |
| 72 | -23.3721 | 146.4531 | QLD | Absent | | | | | 7737.00 | | | | |
| 73 | -23.3698 | 146.5065 | QLD | Absent | | | | | | | | | |
| 74 | -23.8247 | 148.3015 | QLD | Absent | | | | | | | | | |
| 75 | -23.8240 | 148.3042 | QLD | Absent | | | | | | | | | |
| 76 | -23.4189 | 148.7449 | QLD | Absent | 66.00 | | | 3.36 | 13225.00 | | | | |
| 77 | -23.3987 | 148.7432 | QLD | Absent | 61.00 | | | 2.63 | 1542.00 | | | | |
| 78 | -23.4099 | 148.7229 | QLD | Absent | 27.00 | | | 2.25 | 775.00 | | | | |
| 79 | -23.4210 | 148.7659 | QLD | Absent | 61.00 | | | 1.19 | 9250.00 | | | | |
| 8 | -23.8333 | 148.3517 | QLD | Absent | | | | | | | | | |
| 80 | -23.3830 | 148.7446 | QLD | Absent | 30.00 | | | 2.14 | 1939.00 | | | | |
| 81 | -23.3829 | 148.7612 | QLD | Absent | 30.00 | | | 1.31 | 1558.00 | | | | |
| 82 | -23.8473 | 150.9519 | QLD | Present | 47.25 | | | | | | | | |
| 83 | -24.4136 | 148.3850 | QLD | Absent | 84.00 | | | 5.18 | 1026.00 | | | | |
| 84 | -23.6674 | 146.4733 | QLD | Absent | 56.00 | | | 0.77 | 1202.00 | | | | |
| 85 | -23.6859 | 146.4761 | QLD | Absent | 85.00 | | | 1.81 | 1461.00 | | | | |
| 86 | -23.7293 | 146.4891 | QLD | Present | 78.00 | | | 0.61 | 5341.00 | | | | |
| 87 | -23.7019 | 146.4767 | QLD | Absent | 85.00 | | | 0.78 | 1565.00 | | | | |
| 88 | -23.6859 | 146.4773 | QLD | Absent | 53.00 | | | 1.11 | 1170.00 | | | | |
| 89 | -23.6674 | 146.4743 | QLD | Absent | 79.00 | | | 0.94 | 871.00 | | | | |
| 9 | -23.9556 | 148.4219 | QLD | Absent | | | | | | | | | |
| 90 | -24.4436 | 148.4337 | QLD | Present | 49.00 | | | 2.06 | 1496.00 | | | | |
| 91 | -24.4472 | 148.3974 | QLD | Present | 25.00 | | | 2.48 | 1703.00 | | | | |
| 92 | -23.6880 | 146.4600 | QLD | Absent | 139.00 | | | 1.05 | 3745.00 | | | | |
| 93 | -23.6851 | 146.4791 | QLD | Absent | 69.00 | | | 1.30 | 1125.00 | | | | |
| 94 | -23.6672 | 146.4752 | QLD | Absent | 90.00 | | | 1.93 | 748.00 | | | | |
| 95 | -23.6672 | 146.4752 | QLD | Absent | 62.00 | | | 2.49 | 762.00 | | | | |
| 96 | -24.4734 | 148.4256 | QLD | Absent | 40.00 | | | 2.58 | 1650.00 | | | | |

Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 97 | -24.4966 | 148.4083 | QLD | Absent | 90.00 | | | 5.34 | 480.00 | | | | |
| 98 | -24.4967 | 148.4081 | QLD | Present | 28.00 | | | 1.71 | 1422.50 | | | | |
| 99 | -23.6964 | 146.4667 | QLD | Absent | 121.00 | | | | | | | | |
| 375 | -23.6021 | 146.5057 | QLD | Present | 42.70 | | | | 702.00 | | | | |
| 376 | -23.4592 | 146.4562 | QLD | Absent | 30.50 | 70.00 | 960.00 | | 4654.00 | 0.40 | | 415.00 | 17.80 |
| 377 | -22.4424 | 146.4936 | QLD | Present | 18.60 | 8.80 | 220.00 | | 3219.00 | 0.07 | | 215.00 | 4.40 |
| 378 | -21.2833 | 149.0167 | QLD | Present | 74.00 | | | | | | 1.00 | | |
| 379 | -21.2833 | 149.0500 | QLD | Present | | | | | | | | | |
| 380 | -21.2833 | 149.0000 | QLD | Present | | | | | | | | | |
| 381 | -21.2833 | 149.0000 | QLD | Present | | | | | | | | | |
| 382 | -21.2667 | 148.9333 | QLD | Present | | | | | | | | | |
| 383 | -19.5434 | 147.1796 | QLD | Present | 7.01 | 35.14 | 161.85 | | 899.06 | 0.01 | | 153.79 | 1.32 |
| 384 | -19.5802 | 147.1573 | QLD | Absent | 51.80 | 29.77 | 86.57 | | 601.47 | 0.01 | | 217.17 | 2.58 |
| 385 | -19.6177 | 147.1354 | QLD | Absent | 9.00 | 52.90 | 64.20 | | 647.13 | | | 298.70 | 0.70 |
| 386 | -19.5781 | 147.4650 | QLD | Absent | 64.00 | 520.20 | 12764.21 | | 33615.38 | 0.20 | | 242.04 | 153.56 |
| 387 | -19.8315 | 147.1404 | QLD | Absent | 9.60 | 81.20 | 1099.76 | | 5993.64 | 0.02 | | 585.31 | 1.16 |
| 388 | -19.6977 | 147.2068 | QLD | Present | 8.00 | 44.65 | 219.66 | | 1256.62 | 0.01 | | 362.51 | 1.83 |
| 389 | -19.5660 | 147.1785 | QLD | Absent | 6.71 | 24.04 | 67.26 | | 649.78 | 0.01 | | 161.96 | 1.26 |
| 390 | -19.5615 | 147.2377 | QLD | Absent | 7.50 | 31.13 | 129.63 | | 433.89 | 0.02 | | 149.75 | 1.28 |
| 391 | -19.6992 | 147.1377 | QLD | Present | 9.00 | 38.05 | 1422.44 | | 5928.60 | 0.01 | | 1184.33 | 1.19 |
| 392 | -19.5841 | 147.1756 | QLD | Absent | 40.70 | 42.29 | 128.13 | | 553.26 | 0.07 | | 177.01 | 1.59 |
| 393 | -19.6094 | 147.2539 | QLD | Absent | 9.00 | 29.34 | 172.84 | | 1175.20 | 0.01 | | 360.74 | 2.11 |
| 394 | -19.6651 | 147.2321 | QLD | Absent | 8.50 | 44.13 | 160.30 | | 982.29 | 0.01 | | 229.75 | 2.33 |
| 395 | -19.7110 | 147.2048 | QLD | Absent | 6.20 | 46.74 | 240.76 | | 1387.94 | 0.01 | | 453.66 | 2.12 |
| 396 | -19.7395 | 147.1165 | QLD | Absent | 8.20 | 17.68 | 81.08 | | 2866.34 | 0.04 | | 348.53 | 1.85 |
| 397 | -19.8350 | 147.1562 | QLD | Absent | 7.90 | 129.53 | 3919.48 | | 5789.70 | 0.01 | | 879.80 | 1.40 |
| 398 | -19.6458 | 147.3533 | QLD | Absent | 4.50 | 41.00 | 39.00 | | 667.68 | 0.01 | | 289.00 | 1.40 |
| 399 | -19.6052 | 147.3200 | QLD | Absent | 3.00 | 14.00 | 32.00 | | 252.29 | 0.01 | | 74.00 | 2.70 |
| 400 | -19.5915 | 147.3317 | QLD | Present | 2.00 | 14.00 | 21.00 | | 239.00 | 0.01 | | 104.00 | 3.65 |
| 401 | -19.7390 | 147.1767 | QLD | Present | 8.80 | 98.00 | 620.00 | | 1837.88 | 0.01 | 3.00 | 450.00 | 1.90 |
| 402 | -19.8137 | 147.1893 | QLD | Absent | 9.50 | 57.10 | 116.08 | | 1193.36 | 0.01 | | 546.13 | 1.35 |
| 403 | -19.8654 | 147.1833 | QLD | Absent | 7.00 | 266.12 | 1095.97 | | 3838.54 | 0.01 | | 505.71 | 2.91 |
| 404 | -19.7254 | 147.3542 | QLD | Absent | 10.20 | 33.50 | 1475.05 | | 9980.00 | 0.04 | | 1125.00 | 1.05 |
| 405 | -19.7200 | 147.4179 | QLD | Present | 7.00 | 190.00 | 760.00 | | 2974.74 | 0.01 | | 523.00 | 4.50 |
| 406 | -19.6669 | 147.4355 | QLD | Absent | 5.70 | | | | 335.79 | | 3.00 | | |
| 407 | -23.1127 | 146.7785 | QLD | Absent | 5.50 | | | | 1.05 | | | | |
| 408 | -23.3811 | 146.4682 | QLD | Absent | 9.40 | 129.25 | 6525.00 | | 14412.00 | 0.03 | | 319.75 | 26.00 |
| 409 | -23.3864 | 146.4636 | QLD | Absent | 8.20 | 4.20 | 37.00 | | 476.00 | 6.10 | | 40.25 | 2.10 |
| 410 | -19.7735 | 147.5155 | QLD | Absent | | 10.00 | 184.00 | | 1180.00 | | | 312.00 | 14.00 |
| 411 | -19.7360 | 147.4333 | QLD | Absent | 8.50 | 38.61 | 152.30 | | 1495.74 | 0.01 | | 653.96 | 1.63 |

Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 412 | -21.1384 | 148.5903 | QLD | Present | 5.20 | 22.06 | 25.50 | | 327.79 | 0.43 | | 135.06 | 3.26 |
| 413 | -21.1422 | 148.5905 | QLD | Present | 4.70 | 35.30 | 19.52 | | 318.05 | 0.21 | | 183.82 | 2.65 |
| 414 | -21.1335 | 148.7267 | QLD | Present | 6.09 | 10.95 | 47.50 | | 218.89 | 0.12 | | 37.75 | 1.15 |
| 415 | -21.1774 | 148.7457 | QLD | Present | 15.00 | 101.70 | 202.50 | | 1010.00 | 3.29 | | 361.85 | 0.70 |
| 416 | -21.1680 | 148.7543 | QLD | Present | 20.46 | 38.80 | 35.30 | | 440.31 | 0.04 | | 228.16 | 1.88 |
| 417 | -21.1483 | 148.9720 | QLD | Present | 15.90 | 76.76 | 27.33 | | 567.62 | 0.01 | | 291.19 | 0.18 |
| 418 | -21.1813 | 148.8977 | QLD | Present | 17.70 | 143.40 | 600.52 | | 1864.73 | 0.01 | | 414.45 | 1.08 |
| 419 | -21.1769 | 149.0419 | QLD | Present | 14.50 | 66.72 | 75.09 | | 968.64 | 0.01 | | 450.93 | 0.54 |
| 420 | -21.1626 | 149.0786 | QLD | Present | 20.20 | | | | | | | | |
| 421 | -21.2653 | 149.0810 | QLD | Present | 27.90 | 34.09 | 72.86 | | 523.93 | 0.01 | | 174.01 | 0.74 |
| 422 | -21.2519 | 149.0922 | QLD | Present | 27.90 | 23.87 | 24.73 | | 346.86 | 0.06 | | 139.50 | 2.95 |
| 423 | -21.2454 | 149.1955 | QLD | Absent | 9.60 | 243.39 | 5258.78 | | 18215.88 | 0.56 | | 412.31 | 83.07 |
| 424 | -21.2722 | 149.1821 | QLD | Present | 10.60 | 522.38 | 9852.55 | | 26550.22 | 0.20 | | 200.63 | 81.70 |
| 425 | -21.1845 | 148.9718 | QLD | Present | 9.30 | 137.55 | 234.60 | | 1254.56 | 0.00 | | 394.33 | 0.40 |
| 426 | -21.2843 | 149.0494 | QLD | Present | 29.40 | 39.07 | 77.10 | | 500.33 | | | 171.53 | 1.23 |
| 427 | -21.2540 | 149.1575 | QLD | Present | 9.20 | 117.22 | 577.67 | 27.21 | 2261.14 | 0.00 | | 118.62 | 1.85 |
| 428 | -21.2288 | 149.1647 | QLD | Present | 15.26 | 34.99 | 178.47 | 40.59 | 1027.19 | 0.00 | | 138.26 | 1.09 |
| 429 | -21.2313 | 149.1224 | QLD | Present | 14.80 | 27.63 | 55.47 | 50.18 | 573.36 | 0.00 | | 152.43 | 0.63 |
| 430 | -21.1736 | 149.1500 | QLD | Present | 11.30 | 38.82 | 42.44 | 28.63 | 515.45 | 0.01 | | 243.78 | 1.08 |
| 431 | -23.4762 | 148.0791 | QLD | Present | 9.50 | 10.66 | 20.60 | 6.54 | 1300.00 | 0.01 | 0.50 | 420.60 | 0.26 |
| 432 | -23.4650 | 148.1149 | QLD | Present | 5.80 | 3.30 | 29.24 | 2.53 | 342.00 | 0.12 | 0.20 | 216.03 | 0.65 |
| 433 | -23.4663 | 148.1556 | QLD | Absent | 9.20 | 16.26 | 12.16 | | 429.75 | 0.01 | 4.00 | 212.40 | 0.50 |
| 434 | -24.5116 | 150.6364 | QLD | Absent | 6.40 | 96.00 | 330.00 | | 1965.33 | 0.03 | | 405.00 | 2.90 |
| 435 | -24.1449 | 150.4177 | QLD | Absent | 3.70 | 88.00 | 140.00 | | 1190.43 | | | 268.00 | |
| 436 | -24.3616 | 150.4990 | QLD | Present | 9.50 | 212.50 | 660.00 | | 1597.83 | 0.06 | | 362.50 | 2.35 |
| 437 | -24.3669 | 150.4994 | QLD | Absent | 5.30 | | | | 1000.00 | | | | |
| 438 | -24.3807 | 150.4614 | QLD | Absent | 3.50 | | | | 2200.00 | | | | |
| 439 | -24.0833 | 150.2926 | QLD | Absent | 9.80 | | | | 5763.20 | | | | |
| 440 | -24.1279 | 150.3092 | QLD | Absent | 8.70 | 182.67 | 780.67 | | 3792.12 | 0.01 | | 319.40 | 2.63 |
| 441 | -24.1696 | 148.4502 | QLD | Absent | 62.40 | 9.00 | 132.00 | | 667.50 | | 6.90 | 110.00 | 2.00 |
| 442 | -23.9763 | 148.3504 | QLD | Absent | 90.00 | 5.20 | 214.00 | | 1040.00 | | | 215.00 | 3.00 |
| 443 | -24.0231 | 148.2406 | QLD | Absent | 98.00 | | | | 615.00 | | 3.96 | | |
| 444 | -24.7403 | 152.2788 | QLD | Present | 8.00 | 1.30 | 42.60 | 2.02 | 169.00 | 0.84 | | 28.80 | 6.50 |
| 445 | -24.7668 | 152.3373 | QLD | Absent | 31.17 | 212.26 | 4268.40 | 0.36 | 5400.00 | 29.56 | | 14.40 | 54.30 |
| 446 | -24.7718 | 152.2942 | QLD | Absent | 79.06 | 6.95 | 59.50 | 0.39 | 372.00 | 0.01 | | 48.00 | 3.00 |
| 447 | -24.7718 | 152.2942 | QLD | Present | 7.00 | 0.73 | 72.23 | 1.80 | 498.00 | | | 3.63 | 1.57 |
| 448 | -24.8409 | 152.3078 | QLD | Present | 20.50 | 0.90 | 39.00 | 5.03 | 230.00 | 0.14 | | 6.40 | 1.80 |
| 449 | -24.8517 | 152.4075 | QLD | Present | 36.58 | 65.00 | 1741.80 | 0.60 | 11.46 | 0.01 | | 337.60 | 3.34 |
| 450 | -24.9847 | 152.3295 | QLD | Present | 13.10 | 2.57 | 86.03 | 0.57 | 418.00 | 0.25 | | 16.07 | |
| 451 | -25.0638 | 152.2334 | QLD | Absent | 17.60 | | | 0.40 | 324.00 | | | | |

# Appendix 5 - Data Table

| Site Ref | Latitude | Longitude | Region | Stygofauna Present | Bore depth (mbgl) | Ca (mg/L) | Cl (mg/L) | DO (mg/L) | EC (uS/cm) | Fe (mg/L) | Flow rate (L/sec) | HCO3 (mg/L) | K (mg/L) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 452 | -24.9697 | 152.2739 | QLD | Absent | 23.00 | | | 2.33 | 3420.00 | | | | |
| 457 | -25.0856 | 152.3194 | QLD | Present | 13.20 | | | 2.88 | 373.00 | | | | |
| 458 | -25.0226 | 152.5133 | QLD | Absent | 27.00 | | | 0.29 | 210.00 | | | | |
| 496 | -24.4220 | 150.5812 | QLD | Present | 13.40 | 55.33 | 151.00 | | 1016.00 | 0.04 | | 173.33 | 1.05 |
| 497 | -24.4251 | 150.1535 | QLD | Absent | 19.00 | 82.00 | 590.00 | | 3440.00 | | | 649.00 | 2.10 |
| 498 | -24.4302 | 150.5390 | QLD | Present | 14.00 | | | | 419.00 | | | | |
| 499 | -24.4126 | 150.4325 | QLD | Present | 17.00 | 139.70 | 512.00 | | 1348.00 | 0.01 | | 412.20 | 1.66 |
| 500 | -24.4198 | 150.6164 | QLD | Present | 14.91 | 51.25 | 79.50 | | 895.00 | 0.10 | | 225.00 | 2.05 |
| 501 | -24.5135 | 150.6222 | QLD | Present | 20.60 | 128.33 | 430.00 | | 1257.00 | 0.03 | | 390.00 | 2.93 |
| 502 | -24.4140 | 150.5590 | QLD | Present | 15.90 | 33.50 | 202.50 | | 908.00 | 0.02 | | 156.50 | 1.85 |
| 503 | -24.5162 | 150.6352 | QLD | Present | 21.50 | 95.00 | 292.50 | | 1578.00 | 0.06 | | 370.00 | 3.35 |
| 504 | -24.4936 | 150.5966 | QLD | Present | 19.40 | 71.67 | 367.33 | | 1639.00 | 0.03 | | 380.67 | 0.95 |
| 505 | -24.4196 | 150.5980 | QLD | Present | 17.00 | 70.47 | 158.82 | | 829.00 | 0.01 | | 242.18 | 1.33 |
| 506 | -24.5939 | 149.9299 | QLD | Present | 14.00 | 17.60 | 39.20 | | 2010.00 | 0.02 | | 454.80 | 8.50 |
| 507 | -24.4285 | 150.5415 | QLD | Present | 13.20 | 45.50 | 87.50 | | 914.00 | 0.04 | | 188.50 | 1.05 |
| 508 | -24.4232 | 150.5551 | QLD | Present | 11.00 | | | | 1125.00 | | | | |
| 530 | -24.4240 | 150.5619 | QLD | Absent | 13.30 | 91.73 | 207.53 | | 983.00 | 0.01 | | 289.77 | 0.99 |
| 532 | -24.4227 | 150.5307 | QLD | Absent | 11.80 | 44.80 | 135.60 | | 2213.00 | 0.01 | | 1253.70 | 0.52 |
| 533 | -24.3630 | 150.5337 | QLD | Absent | 13.70 | 88.50 | 137.50 | | 875.00 | 0.03 | | 322.50 | 11.45 |
| 534 | -24.4140 | 150.4717 | QLD | Absent | 16.50 | 27.50 | 106.50 | | 315.00 | 0.01 | | 394.00 | 0.85 |
| 536 | -24.4170 | 150.4351 | QLD | Absent | 14.50 | 67.67 | 250.00 | | 500.00 | 0.02 | | 339.67 | 2.20 |
| 537 | -24.4836 | 150.5337 | QLD | Absent | 19.20 | 113.60 | 795.40 | | 5200.00 | 0.05 | | 335.40 | 2.90 |
| 538 | -24.3835 | 150.4538 | QLD | Absent | 16.00 | 61.50 | 268.75 | | 366.00 | 0.02 | | 346.50 | 1.80 |
| 539 | -24.9364 | 150.0706 | QLD | Absent | 14.90 | 185.20 | 548.50 | | 298.00 | 0.03 | | 1196.93 | 4.25 |
| 540 | -24.9487 | 150.0843 | QLD | Absent | 16.20 | 171.43 | 4007.93 | | 392.00 | 0.07 | | 857.63 | 7.24 |
| 541 | -24.4895 | 150.5578 | QLD | Absent | 16.70 | 62.33 | 199.67 | | 416.00 | 0.02 | | 292.93 | 4.83 |
| 542 | -24.3837 | 150.5410 | QLD | Absent | 17.00 | 76.50 | 235.00 | | 2126.00 | 0.07 | | 225.00 | 1.95 |
| 543 | -24.4223 | 150.5712 | QLD | Absent | 14.00 | 56.50 | 112.50 | | 954.00 | 1.52 | | 255.00 | 0.95 |
| 544 | -24.9464 | 150.0739 | QLD | Absent | 18.40 | 36.97 | 53.77 | | 179.00 | 0.20 | | 242.47 | 3.84 |
| 545 | -24.9347 | 150.0772 | QLD | Absent | 21.70 | 235.00 | 2150.00 | | 270.00 | 0.08 | | 795.00 | 8.40 |
| 546 | -25.0325 | 150.1516 | QLD | Absent | 15.00 | 220.00 | 740.00 | | 2022.00 | 0.02 | | 500.00 | 2.80 |
| 547 | -24.9544 | 150.0915 | QLD | Absent | 22.70 | 375.00 | 9600.00 | | 216.00 | 0.10 | | 700.00 | 16.00 |
| 548 | -24.9409 | 150.0744 | QLD | Absent | 23.00 | 245.00 | 1150.00 | | 266.00 | 0.02 | | 340.00 | 9.50 |
| 549 | -24.5112 | 150.6024 | QLD | Absent | 23.00 | | | | 1362.00 | | | | |
| 552 | -25.5006 | 149.5953 | QLD | Absent | 19.60 | 37.00 | 410.00 | | 1122.00 | | | 588.00 | 1.30 |
| 553 | -25.5442 | 149.7183 | QLD | Absent | 15.00 | 615.00 | 5670.00 | | 8620.00 | | | 329.00 | 17.00 |
| 554 | -24.7567 | 150.1503 | QLD | Absent | 15.40 | 625.00 | 3370.00 | | 11600.00 | | | 415.00 | 6.90 |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| RN000541 | 48.40 | | 8.74 | 76.00 | 7.50 | 45.00 | 63.40 | 32.52 | 78.50 |
| RN000558 | 54.75 | | 6.50 | 188.50 | 7.15 | 159.50 | 54.20 | 33.75 | 57.40 |
| RN001559 | 161.00 | | 58.20 | 992.33 | 7.80 | 581.56 | | | |
| RN001561 | 100.00 | | 41.50 | 842.00 | 8.00 | 522.50 | | | |
| RN001577 | 102.00 | | 16.00 | 1150.00 | 8.10 | 280.00 | | | |
| RN001804 | 74.50 | | 43.50 | 785.00 | | 328.00 | | | |
| RN001924 | 161.60 | | 54.20 | 2326.00 | 7.72 | 937.40 | 4.60 | | |
| RN002149 | 148.00 | | 62.00 | 1575.00 | 7.60 | 900.00 | | | |
| RN004320 | 91.67 | | 27.67 | 1091.67 | 7.90 | 479.67 | | | |
| RN004332 | 27.00 | | 46.00 | 169.00 | 8.10 | 97.00 | | | |
| RN005764 | 68.67 | | 1.00 | 67.33 | 7.33 | 134.67 | 76.20 | 32.28 | |
| RN005917 | | | | | 6.50 | | 51.80 | 31.30 | 59.70 |
| RN005942 | 56.00 | | 1.00 | 72.67 | 7.43 | 112.33 | 84.20 | 31.69 | |
| RN006329 | 51.60 | | 1.00 | 56.20 | 7.24 | 99.00 | 73.00 | 34.01 | 76.20 |
| RN007823 | 29.50 | | 1.50 | 2.50 | 7.05 | 10.00 | 33.50 | 29.94 | |
| RN008221 | 39.00 | | 1.00 | 2.00 | 7.60 | 13.00 | 18.00 | 29.79 | 55.00 |
| RN008299 | 46.58 | | 1.38 | 104.02 | 7.44 | 94.85 | 11.90 | 33.86 | 25.60 |
| RN008856 | 57.57 | | 7.00 | 192.71 | 7.37 | 181.86 | 59.60 | 33.74 | 77.20 |
| RN010151 | 58.50 | | 75.50 | 1330.00 | 7.95 | 330.00 | 4.00 | | |
| RN010759 | 42.00 | | 57.00 | 765.00 | 8.90 | 310.00 | | | |
| RN015647 | 169.00 | | 101.00 | 567.00 | 7.80 | 589.00 | | | |
| RN018165 | | | | | | | 13.00 | | 16.00 |
| RN019774 | | | | | | | 11.70 | | 72.00 |
| RN019775 | | | | | | | 20.15 | | 57.00 |
| RN019776 | | | | | | | 11.00 | | 19.50 |
| RN019778 | | | | | | | 9.60 | | 153.00 |
| RN019779 | | | | | | | 13.00 | | 132.00 |
| RN019780 | | | | | | | 12.15 | | 25.30 |
| RN019781 | | | | | | | 21.05 | | 41.40 |
| RN019782 | | | | | | | 14.00 | | 46.00 |
| RN019793 | | | | | | | 14.10 | | 47.50 |
| RN019794 | | | | | | | 11.60 | | 53.00 |
| RN020509 | 5.00 | | 1.00 | 15.00 | 6.20 | 14.50 | 28.00 | 31.99 | 66.00 |
| RN021694 | 35.00 | | 2.00 | 4.00 | 7.00 | 11.00 | 12.00 | 31.65 | |
| RN022002 | | | | | 6.80 | | 66.50 | 32.17 | |
| RN022286 | 27.50 | | 1.50 | 2.83 | 7.13 | 8.50 | 10.00 | 30.40 | |
| RN022288 | 27.00 | | 1.00 | 1.00 | 6.30 | 9.00 | 12.00 | 30.32 | |
| RN022289 | 50.33 | | 4.33 | 42.00 | 7.47 | 13.00 | 15.00 | 29.76 | 58.10 |
| RN022391 | 25.44 | | 0.81 | 6.51 | 7.66 | 4.40 | 16.10 | 31.61 | |
| RN022475 | 36.00 | | 1.00 | 4.00 | 7.60 | 6.00 | 9.70 | 31.00 | 23.00 |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| RN026705 | 24.00 | | 1.00 | 4.00 | 7.50 | 9.00 | 8.00 | 30.67 | |
| RN028082 | 56.00 | | 4.00 | 129.00 | 7.00 | 142.00 | 45.00 | 31.94 | |
| RN029012 | 53.00 | | 2.19 | 167.00 | 7.40 | 167.50 | 41.60 | 32.70 | |
| RN029025 | 55.00 | | 1.00 | 80.00 | 7.30 | 174.00 | 125.00 | | 125.00 |
| RN030507 | 21.00 | | 1.00 | 48.00 | 6.30 | 21.00 | 41.00 | 30.85 | |
| RN031243 | | | | | | | 103.00 | | 137.00 |
| RN031984 | 88.35 | | 0.81 | 255.83 | 8.17 | 341.17 | 6.92 | 31.31 | 25.60 |
| RN031985 | 62.50 | | 0.00 | 170.50 | 8.30 | 191.50 | 10.20 | 30.00 | 30.10 |
| RN034030 | | | | | 6.87 | | 3.40 | 32.07 | 27.00 |
| RN034031 | | | | | 6.90 | | 5.20 | 30.67 | 35.40 |
| RN034032 | | | | | 6.61 | | 8.00 | 29.86 | 9.50 |
| RN034038 | | | | | 7.91 | | 3.00 | 31.11 | 11.00 |
| RN034039 | | | | | 6.18 | | 17.00 | 31.48 | 20.50 |
| RN034230 | 35.00 | | 0.16 | 60.00 | 7.90 | 38.00 | 4.00 | 33.24 | 12.40 |
| RN034231 | | | | | 8.07 | | 3.00 | 29.98 | 26.50 |
| RN034813 | | | | | 6.80 | | 92.00 | 31.04 | 123.50 |
| RN035518 | | | | | 6.75 | | 39.16 | 32.28 | 51.40 |
| RN035519 | | | | | 6.87 | | 7.17 | 31.75 | 32.40 |
| RN035790 | 48.86 | 0.23 | 0.01 | 117.20 | 7.66 | 131.00 | 9.28 | 31.76 | 74.00 |
| RN035792 | 41.40 | | 0.19 | 73.10 | 7.70 | 70.70 | 10.57 | 30.15 | 24.00 |
| RN035795 | 60.85 | 0.25 | 0.02 | 116.50 | 7.70 | 152.50 | 6.45 | 31.71 | 23.80 |
| RN035796 | 73.16 | 0.47 | 0.23 | 226.60 | 7.92 | 190.25 | 5.10 | 31.80 | 19.50 |
| RN035860 | 9.30 | | 0.09 | 5.00 | 8.00 | 1.70 | 20.50 | 34.10 | 46.20 |
| RN035861 | | | | | 6.81 | | 53.77 | 29.15 | 107.40 |
| RN035863 | 8.30 | 0.00 | 0.01 | 27.30 | 7.70 | 17.50 | 32.70 | 31.96 | 43.10 |
| RN035926 | 51.00 | 0.05 | 1.50 | 165.00 | 7.65 | 160.00 | 1.79 | 32.84 | 16.20 |
| RN035927 | 57.63 | 0.01 | 0.48 | 167.75 | 7.73 | 158.33 | 13.81 | 33.88 | 36.50 |
| RN035928 | 29.00 | 0.01 | 0.03 | 13.00 | 8.20 | 11.00 | 45.60 | 37.50 | 49.30 |
| RN035929 | | 0.02 | | | 6.70 | | 26.95 | 31.87 | 35.50 |
| RN036304 | | 0.00 | | | 6.16 | | 34.00 | 33.01 | 35.00 |
| RN036305 | 89.00 | | 0.22 | 350.00 | 7.40 | 470.00 | 3.00 | 30.96 | 19.50 |
| RN036479 | | | | | 6.70 | | 53.00 | 32.53 | 54.81 |
| RN036654 | | | | | | | 74.50 | | 99.50 |
| RN036775 | | | | | | | 59.80 | | 74.90 |
| RN036776 | | | | | | | 60.95 | | 79.00 |
| RN036778 | | | | | 6.62 | | 59.40 | 31.39 | 70.50 |
| RN036781 | | | | | | | 61.10 | | 78.50 |
| RN037410 | | | | | 8.01 | | 10.20 | 30.75 | |
| RN038630 | | | | | | | 95.00 | | 140.54 |
| RN038810 | 56.60 | 0.01 | 0.65 | 173.00 | 8.10 | 149.00 | 39.00 | 32.36 | |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| RN038811 | 55.80 | 0.02 | 0.82 | 171.00 | 8.00 | 145.00 | 48.00 | 31.96 | |
| RN038816 | 54.60 | 0.04 | 1.11 | 154.00 | 8.30 | 144.00 | 83.23 | 33.84 | 182.40 |
| RN038817 | 52.90 | | 2.11 | 139.00 | 8.20 | 126.00 | 43.00 | 29.89 | 76.67 |
| RN038818 | 52.90 | 0.05 | 0.01 | 220.00 | 8.30 | 291.00 | 49.15 | | |
| RN039070 | 49.10 | 0.03 | 0.01 | 214.00 | 8.50 | 297.00 | 40.98 | 29.05 | |
| RN041141 | | | | | 6.44 | | 133.00 | 35.57 | |
| RN041440 | | | | | 6.44 | | 39.69 | 30.89 | |
| RN041441 | | | | | 6.80 | | 54.02 | 31.32 | |
| RN041442 | | | | | 6.43 | | 106.60 | 33.85 | |
| RN041443 | | | | | 6.59 | | 87.00 | 33.64 | |
| RN041444 | | | | | 6.96 | | 99.00 | 31.97 | |
| RN041445 | | | | | 9.50 | | 43.40 | 31.00 | |
| RN041446 | | | | | 6.06 | | 49.60 | 31.40 | |
| RN041447 | | | | | 8.66 | | 49.29 | 31.25 | |
| RN042218 | | | | | 6.62 | | 100.00 | 33.37 | |
| 80910595 | | | | | | | | | |
| 80911224 | | | | | | | | | 42.00 |
| 80911229 | | | | | | | | | 13.50 |
| 80911230 | | | | | | | | | 1.00 |
| 80911232 | | | | | | | | | 14.00 |
| 80911233 | | | | | | | | | 1.00 |
| 80911241 | | | | | | | | | 6.90 |
| 80911242 | | | | | | | | | 1.00 |
| 80911244 | | | | | | | | | 16.50 |
| 80911248 | | | | | | | | | 16.60 |
| 80911249 | | | | | | | | | 9.40 |
| 80911250 | | | | | | | | | 4.50 |
| 80911262 | | | | | | | | | 3.00 |
| 80911263 | | | | | | | | | 19.60 |
| 80911265 | | | | | | | | | 3.30 |
| 80911266 | | | | | | | | | 17.30 |
| 80911267 | | | | | | | | | 2.90 |
| 80911268 | | | | | | | | | 23.80 |
| 80911270 | | | | | | | | | 0.75 |
| 80911271 | | | | | | | | | 23.60 |
| 80911272 | | | | | | | | | 1.50 |
| 80911276 | | | | | | | | | 34.00 |
| 80911277 | | | | | | | | | 3.00 |
| 80911278 | | | | | | | | | 5.40 |
| 80911279 | | | | | | | | | 13.60 |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| 80911286 | | | | | | | | | 4.00 |
| 80911287 | | | | | | | | | 16.30 |
| 80911289 | | | | | | | | | 19.00 |
| 80911292 | | | | | | | | | 4.00 |
| 80911293 | | | | | | | | | 18.80 |
| 80911294 | | | | | | | | | 4.00 |
| 80911295 | | | | | | | | | 5.10 |
| 80911298 | | | | | | | | | 6.00 |
| 80911303 | | | | | | | | | 7.00 |
| 80911306 | | | | | | | | | |
| 80911307 | | | | | | | | | 66.00 |
| 80911416 | | | | | | | | | |
| 80911421 | | | | | | | | | 0.01 |
| 80911423 | | | | | | | | | 152.80 |
| 80911467 | | | | | | | | | 29.70 |
| 80911472 | | | | | | | | | 4.40 |
| 80911473 | | | | | | | | | 4.50 |
| 80918082 | 45.95 | | | 90.60 | 7.43 | | 12.46 | 31.06 | |
| 80918099 | 23.00 | | 4.00 | 480.00 | 7.48 | | 9.82 | 29.53 | |
| 80910308 | | | | | | | | | |
| 80910778 | | | | | | | | | |
| 80918063 | | | | | | | 13.53 | 30.02 | 1.00 |
| 80918064 | 13.54 | 0.25 | 1.00 | 129.46 | 7.74 | 22.50 | 8.91 | 29.44 | 12.00 |
| 80918065 | 66.41 | 0.00 | 4.00 | 239.53 | 7.54 | 115.00 | 8.54 | 28.92 | 24.20 |
| 80918067 | 30.40 | | 2.33 | 343.34 | 7.65 | | 7.91 | 30.06 | 20.90 |
| 80918091 | 11.29 | | 5.00 | 95.42 | 7.77 | | 7.15 | 28.45 | 12.25 |
| 80918092 | 11.00 | | | 67.25 | 7.33 | | 6.81 | 28.84 | 12.23 |
| 80918103 | | | | | | | 5.70 | | |
| 80918104 | | | | | | | 5.04 | | |
| 80918105 | | | | | | | 3.05 | | |
| 80918106 | | | | | | | 4.97 | | |
| 80918117 | 1.00 | | 8.80 | 20.00 | | 10.00 | 3.61 | | 10.00 |
| 80918121 | 36.00 | 0.00 | 0.20 | 95.33 | 7.64 | 26.33 | 3.07 | 29.69 | 19.00 |
| 80918255 | 4.90 | | 1.00 | 6.10 | 6.22 | 2.00 | 6.52 | 31.57 | 7.10 |
| 80918261 | 56.90 | | 3.00 | 159.10 | 7.46 | 114.00 | 15.98 | 31.06 | |
| 80918268 | 32.00 | | 0.20 | 420.00 | 8.50 | 115.00 | 18.73 | 28.70 | 28.00 |
| 80918270 | 1140.00 | | | 5450.00 | 7.40 | 4760.00 | 14.66 | 30.27 | 29.30 |
| 80918271 | 18.00 | | 0.10 | 93.00 | 8.20 | 18.00 | 12.57 | | 15.00 |
| 80918272 | 29.00 | | 0.10 | 370.00 | 9.15 | 100.00 | 12.51 | 29.95 | 18.50 |
| 80918273 | 32.00 | | 0.10 | 280.00 | 7.60 | 36.00 | 15.58 | 30.45 | 17.00 |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| 80918284 | 15.00 | | 0.20 | 77.00 | 7.45 | 21.00 | 11.06 | 29.19 | 27.00 |
| 80918289 | 2.60 | | 0.01 | 300.00 | 9.60 | 71.00 | 6.03 | 29.50 | 21.00 |
| 80918501 | 18.00 | | 57.00 | 27.00 | 7.70 | 13.00 | 12.53 | 30.62 | 18.00 |
| 80918512 | 15.00 | | 1.10 | 120.00 | 8.70 | 51.00 | 14.55 | 30.35 | 17.00 |
| 80918513 | 1.60 | | 0.20 | 11.00 | 9.40 | 5.00 | 11.66 | 30.33 | 26.00 |
| 80918517 | 153.00 | | 1.00 | 296.00 | 7.10 | 1000.00 | 17.04 | 29.10 | 18.00 |
| 81010010 | | | | | | | 12.84 | 30.50 | |
| 81010011 | | | | | | | 13.30 | 29.69 | |
| 81010012 | | | | | | | | | |
| 81010015 | | | | | | | 1.25 | | |
| 81010018 | | | | | | | | | |
| 81010020 | | | | | | | | | |
| 81010048 | | | | | | | 12.91 | | |
| 81010050 | | | | | | | 15.39 | | |
| 81010052 | | | | | | | 15.39 | | |
| 81010053 | | | | | | | 15.53 | | |
| 81010055 | | | | | | | 15.88 | | |
| 81010056 | | | | | | | 15.86 | | |
| 81010071 | | | | | | | | | |
| 81010072 | | | | | | | 15.70 | | |
| 81010073 | | | | | | | 15.68 | | |
| 81010074 | | | | | | | 15.54 | | |
| 81010077 | | | | | | | 14.80 | | |
| 81010081 | | | | | | | 22.35 | | |
| 81010130 | | | | | | | | | |
| 81010134 | | | | | | | | | |
| 81010137 | | | | | | | 13.73 | 31.46 | |
| 81010208 | | | | | | | | | |
| 81010209 | | | | | | | | | |
| 81010211 | | | | | | | 6.70 | | |
| 81010338 | | | | | | | | | 52.50 |
| 81010342 | | | | | | | | | 47.80 |
| PSS001 | 104.00 | 0.11 | 1.08 | 122.50 | 7.07 | 201.50 | 10.75 | 26.91 | |
| PSS002 | 102.00 | 0.02 | 1.14 | 120.50 | 6.69 | 155.50 | 5.00 | 27.55 | |
| PSS003 | 104.60 | 0.01 | 0.62 | 116.15 | 7.14 | 138.02 | 2.72 | 27.85 | |
| PSS004 | | 0.01 | | | 7.01 | | 9.00 | 24.80 | |
| PSS005 | 60.15 | 0.02 | 4.95 | 115.00 | 7.30 | 108.00 | 5.00 | 26.21 | |
| PSS006 | 21.55 | 0.01 | 0.22 | 44.32 | 6.97 | 19.05 | 2.76 | 27.95 | |
| PSS007 | 29.65 | 0.02 | 0.09 | 54.10 | 7.05 | 25.60 | 3.00 | 30.88 | |
| PSS008 | 54.75 | 0.01 | 0.07 | 52.35 | 6.83 | 54.80 | 3.48 | 27.27 | |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| PSS009 | 22.67 | 0.01 | 0.25 | 58.77 | 7.09 | 17.37 | 3.89 | 26.12 | |
| PSS010 | 45.70 | 0.01 | 2.20 | 39.65 | 6.77 | 35.10 | 6.05 | 26.73 | |
| PSS011 | 37.90 | 0.01 | 3.71 | 129.00 | 6.22 | 33.55 | 14.60 | 26.42 | |
| PSS012 | 5.80 | 0.01 | 0.01 | 38.43 | 8.48 | 3.20 | 7.09 | 29.54 | |
| PSS013 | 36.47 | 0.01 | 0.31 | 86.37 | 6.55 | 68.20 | 7.77 | 31.21 | |
| PSS014 | 135.50 | 0.03 | 1.40 | 631.50 | 6.70 | 125.00 | 6.00 | 30.84 | |
| PSS015 | 58.05 | 0.02 | 1.45 | 154.25 | 6.80 | 74.95 | 8.28 | 31.92 | |
| PSS016 | 41.09 | 0.01 | 0.64 | 84.44 | 6.91 | 46.83 | 6.06 | 31.41 | |
| PSS017 | 67.10 | 0.01 | 1.80 | 197.33 | 6.94 | 97.50 | 6.14 | 31.12 | |
| PSS018 | 83.95 | 0.11 | 0.05 | 200.00 | 6.84 | 137.50 | 9.50 | 31.09 | |
| PSS019 | 75.00 | 0.05 | 0.41 | 96.65 | 6.90 | 29.85 | 8.50 | 32.45 | |
| PSS020 | 35.55 | 0.02 | 0.38 | 56.10 | 6.57 | 12.15 | 5.32 | 32.38 | |
| PSS021 | 49.10 | 0.02 | 0.61 | 79.95 | 6.82 | 33.85 | 4.50 | 32.42 | |
| PSS022 | 34.65 | 0.03 | 1.50 | 196.00 | 7.15 | 50.15 | 5.00 | 30.49 | |
| PSS023 | 20.00 | 0.24 | 20.00 | 99.00 | 6.85 | 69.00 | 6.00 | 30.67 | |
| PSS024 | 34.70 | 1.01 | 0.43 | 52.80 | 5.82 | 3.20 | 5.50 | 33.02 | |
| PSS025 | 46.65 | 0.31 | 0.82 | 56.27 | 6.94 | 12.67 | 6.36 | 31.92 | |
| PSS026 | 40.00 | 0.03 | 3.26 | 286.50 | 7.07 | 95.20 | 6.50 | 30.44 | |
| PSS027 | 48.48 | 0.01 | 2.00 | 80.10 | 6.75 | 21.38 | 10.38 | 30.81 | |
| PSS028 | 5.80 | 0.02 | 0.17 | 227.50 | 6.97 | 18.80 | 5.00 | 32.19 | |
| PSS029 | 164.00 | 0.03 | 1.24 | 1640.00 | 6.46 | 580.50 | 3.00 | 33.00 | |
| PSS030 | 2.25 | 0.03 | 0.08 | 7.10 | 7.16 | 1.50 | 3.98 | 31.57 | |
| PSS031 | 54.85 | 0.03 | 2.75 | 395.50 | 6.64 | 76.15 | 3.00 | 31.49 | |
| PSS032 | 26.88 | 0.01 | 4.05 | 111.40 | 6.73 | 20.18 | 5.34 | 31.88 | |
| PSS033 | 22.30 | 0.01 | 3.35 | 180.50 | 7.71 | 30.95 | 4.55 | 30.03 | |
| PSS034 | 74.20 | 0.01 | 3.10 | 149.50 | 6.53 | 49.15 | 16.20 | 32.27 | |
| PSS035 | 31.70 | 0.01 | 2.30 | 21.75 | 6.43 | 43.50 | 44.45 | 30.83 | |
| PSS036 | 66.00 | 0.14 | 0.01 | 175.00 | 6.55 | 177.00 | 11.00 | 29.93 | |
| PSS037 | 37.95 | 0.05 | 0.61 | 40.60 | 7.18 | 36.95 | 17.00 | 27.32 | |
| PSS038 | 27.70 | 0.01 | 0.64 | 17.20 | 7.16 | 37.85 | 32.00 | 31.84 | |
| PSS039 | 50.00 | 0.03 | 2.20 | 70.60 | 7.11 | 56.45 | 5.00 | 28.72 | |
| PSS040 | 22.45 | 0.08 | 0.82 | 32.20 | 7.38 | 7.75 | 3.00 | 30.27 | |
| PSS041 | 9.85 | 0.01 | 4.00 | 5.75 | 7.23 | 14.70 | 9.30 | 29.85 | |
| PSS042 | 158.50 | 0.01 | 2.80 | 223.50 | 7.53 | 330.50 | 17.00 | 28.82 | |
| PSS043 | 44.10 | 0.03 | 6.10 | 89.65 | 7.22 | 68.10 | 32.00 | 28.72 | |
| PSS044 | 31.93 | 0.01 | 3.02 | 85.48 | 7.15 | 28.38 | 14.96 | 28.06 | |
| PSS045 | 60.95 | 0.03 | 19.50 | 135.50 | 6.78 | 80.80 | 12.00 | 30.93 | |
| PSS046 | 35.70 | 0.08 | 0.16 | 70.35 | 7.31 | 19.25 | 1.50 | 29.74 | |
| PSS047 | 70.00 | 0.04 | 4.30 | 115.50 | 7.19 | 61.50 | 2.75 | 28.32 | |
| PSS048 | 17.65 | 0.05 | 0.02 | 50.80 | 8.05 | 0.35 | 4.50 | 30.80 | |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| PSS049 | | | | | 6.69 | | | 28.60 | |
| PSS050 | 11.45 | 0.18 | 0.02 | 64.65 | 8.19 | 0.18 | 7.50 | 30.53 | |
| PSS051 | 36.85 | 0.04 | 0.08 | 80.20 | 7.24 | 45.15 | 8.00 | 29.86 | |
| PSS052 | 38.30 | 0.01 | 0.96 | 99.90 | 7.10 | 74.35 | 5.50 | 29.68 | |
| PSS053 | 28.50 | 28.76 | 3.75 | 113.50 | 7.37 | 102.00 | 7.50 | 30.10 | |
| PSS054 | 160.50 | 0.01 | 41.00 | 224.00 | 6.96 | 161.00 | 17.00 | 32.00 | |
| PSS055 | 43.65 | 0.03 | 0.11 | 129.50 | 7.42 | 104.00 | 2.50 | 29.21 | |
| PSS056 | 46.55 | 0.01 | 19.17 | 63.38 | 7.00 | 52.55 | 39.37 | 31.55 | |
| PSS057 | 74.20 | 0.02 | 0.81 | 165.50 | 6.95 | 128.00 | 8.00 | 30.04 | |
| PSS058 | 59.90 | 0.01 | 25.68 | 145.33 | 7.05 | 107.50 | 5.64 | 30.34 | |
| PSS059 | 58.00 | 0.01 | 6.80 | 119.00 | 7.41 | 107.00 | 14.00 | 31.28 | |
| PSS060 | 53.50 | 0.01 | 2.40 | 105.00 | 6.65 | 98.60 | 13.50 | 30.72 | |
| PSS061 | 73.00 | 0.22 | 0.02 | 152.00 | 8.20 | 87.05 | 8.50 | 31.20 | |
| PSS062 | 49.85 | 0.01 | 1.65 | 124.00 | 6.65 | 93.20 | 32.03 | 31.07 | |
| PSS063 | 3.95 | 0.03 | 1.02 | 23.85 | 6.71 | 5.35 | 7.70 | 27.60 | |
| PSS064 | 55.90 | 0.03 | 1.39 | 81.50 | 5.80 | 54.10 | 14.50 | 30.30 | |
| PSS065 | 88.45 | 0.02 | 14.40 | 66.65 | 6.38 | 50.30 | 11.50 | 29.09 | |
| PSS066 | 43.40 | 0.03 | 0.97 | 67.05 | 6.07 | 35.05 | 43.50 | 30.75 | |
| PSS067 | 43.00 | 0.03 | 0.01 | 73.00 | | 24.00 | 12.00 | | |
| PSS068 | 39.85 | 0.02 | 0.21 | 100.55 | 5.50 | 69.70 | 25.00 | 30.98 | |
| PSS069 | 34.05 | 0.01 | 0.06 | 61.50 | 7.04 | 21.80 | 6.40 | 33.54 | |
| PSS070 | 53.55 | 0.01 | 1.65 | 82.15 | 7.07 | 37.65 | 3.74 | 34.52 | |
| PSS071 | 74.50 | 0.00 | 0.80 | 53.45 | 7.26 | 51.90 | 5.97 | 32.31 | |
| PSS072 | 44.13 | 0.01 | 1.93 | 105.67 | 7.19 | 51.83 | 7.90 | 31.90 | |
| PSS073 | 45.95 | 0.01 | 0.39 | 99.85 | 7.40 | 47.85 | 8.50 | 31.98 | |
| PSS074 | 29.65 | 3.95 | 0.01 | 97.80 | 7.02 | 0.20 | 8.00 | 31.82 | |
| PSS075 | 69.33 | 0.01 | 1.57 | 180.00 | 7.01 | 91.30 | 7.08 | 30.80 | |
| PSS076 | 12.57 | 0.01 | 0.01 | 90.50 | 8.77 | 3.97 | 9.66 | 30.64 | |
| PSS077 | 32.20 | 0.01 | 0.40 | 75.17 | 6.99 | 57.17 | 10.00 | 30.68 | |
| PSS078 | 92.17 | 0.01 | 1.27 | 220.00 | 8.13 | 131.33 | 8.04 | 30.72 | |
| PSS079 | 16.75 | 24.00 | 0.01 | 33.95 | 6.34 | 1.05 | 9.50 | 31.13 | |
| PSS080 | 12.30 | 0.81 | 0.03 | 35.00 | 6.47 | 8.00 | 10.00 | 31.96 | |
| PSS081 | 7.70 | 0.03 | 0.16 | 14.25 | 6.92 | 5.25 | 8.50 | 31.03 | |
| PSS082 | 19.40 | 0.03 | 0.25 | 111.00 | 7.56 | 13.30 | 8.50 | 30.51 | |
| PSS083 | 51.15 | 0.03 | 0.83 | 75.65 | 7.05 | 20.40 | 9.50 | 30.56 | |
| PSS085 | 40.40 | 0.33 | 0.61 | 32.80 | 6.92 | 5.80 | 10.00 | 30.77 | |
| PSS086 | 32.68 | 0.01 | 0.40 | 17.20 | 7.34 | 7.55 | 9.80 | 31.24 | |
| PSS087 | 63.35 | 0.04 | 0.01 | 595.00 | 6.91 | 1.05 | 10.00 | 30.90 | |
| PSS088 | 19.75 | 0.10 | 1.30 | 30.97 | 6.19 | 6.67 | 16.42 | 30.97 | |
| PSS089 | 119.50 | 0.03 | 0.55 | 288.00 | 6.71 | 159.50 | 5.00 | 32.31 | |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| PSS090 | 36.05 | 0.01 | 3.65 | 37.45 | 7.25 | 50.80 | 17.00 | 27.33 | |
| PSS091 | 40.90 | 0.50 | 4.35 | 44.25 | 7.08 | 36.75 | 14.89 | 27.15 | |
| PSS092 | 58.30 | 0.01 | 1.55 | 110.50 | 6.89 | 103.50 | 10.90 | 30.46 | |
| PSS093 | 59.70 | 0.01 | 1.40 | 134.50 | 7.22 | 118.00 | 4.32 | 29.36 | |
| PSS094 | 63.05 | 0.01 | 1.55 | 141.00 | 6.91 | 121.00 | 15.00 | 29.19 | |
| PSS095 | 56.85 | 0.01 | 7.55 | 133.50 | 7.41 | 109.50 | 7.95 | 30.82 | |
| PSS096 | 44.20 | 0.03 | 0.01 | 48.50 | 7.22 | 49.10 | 16.00 | 29.77 | |
| PSS097 | 49.50 | 0.01 | 4.05 | 13.65 | | 13.05 | 13.60 | | |
| PSS098 | 35.30 | 0.01 | 0.97 | 21.15 | | 15.90 | 13.94 | | |
| PSS099 | 39.95 | 0.01 | 0.49 | 62.70 | 7.36 | 57.25 | 33.56 | 29.62 | |
| PSS100 | 61.90 | 0.01 | 0.76 | 83.60 | 7.10 | 100.10 | 40.99 | 29.52 | |
| PSS101 | 27.05 | 0.01 | 3.50 | 41.55 | 6.90 | 33.05 | 36.46 | 29.13 | |
| PSS102 | 176.00 | 0.02 | 28.00 | 375.00 | | 380.00 | 7.01 | | |
| PSS103 | 62.20 | 0.00 | 5.15 | 156.00 | 7.14 | 145.00 | 4.12 | 29.70 | |
| PSS104 | 58.60 | 0.01 | 1.53 | 130.00 | 7.51 | 98.10 | 5.20 | 29.22 | |
| PSS105 | 30.40 | 0.02 | 3.17 | 72.25 | 6.80 | 11.95 | 30.81 | 31.92 | |
| PSS106 | 74.40 | 0.01 | 2.75 | 156.50 | | 141.00 | 5.02 | | |
| PSS107 | 62.40 | 0.01 | 4.60 | 136.00 | 7.12 | 122.00 | 5.70 | 29.91 | |
| PSS108 | 61.75 | 0.01 | 4.25 | 171.50 | 7.68 | 135.00 | 6.96 | 30.67 | |
| PSS109 | 80.80 | 0.01 | 5.35 | 165.50 | 6.97 | 123.00 | 6.56 | 30.42 | |
| PSS110 | 20.05 | 0.05 | 0.01 | 96.75 | 7.24 | 40.70 | 6.58 | 30.55 | |
| PSS111 | 28.33 | 0.05 | 43.34 | 86.23 | 7.89 | 0.47 | 5.65 | 30.65 | |
| PSS112 | 56.90 | 0.01 | 0.39 | 125.50 | 7.39 | 69.85 | 5.58 | 30.04 | |
| PSS113 | 64.15 | 0.22 | 0.11 | 131.00 | 7.01 | 63.10 | 5.38 | 28.78 | |
| PSS114 | 89.75 | 0.03 | 3.25 | 206.50 | 7.14 | 200.00 | 4.83 | 29.27 | |
| PSS115 | 169.00 | 0.01 | 1.15 | 548.00 | 6.89 | 532.00 | 4.33 | 27.98 | |
| PSS116 | 35.80 | 0.05 | 0.01 | 72.55 | 7.25 | 70.40 | 3.43 | 28.20 | |
| PSS117 | 19.75 | 0.03 | 3.13 | 53.40 | 7.59 | 43.70 | 2.42 | 27.39 | |
| PSS118 | 126.00 | 0.01 | 2.60 | 274.50 | 7.05 | 348.50 | 6.78 | 27.88 | |
| PSS119 | 31.67 | 0.13 | 0.02 | 28.63 | 7.37 | 0.53 | 6.08 | 27.73 | |
| PSS120 | 50.10 | 0.01 | 0.13 | 43.85 | | 40.65 | | | |
| PSS121 | 93.15 | 0.01 | 2.30 | 196.50 | 6.83 | 167.00 | 14.00 | 28.75 | |
| PSS122 | 27.20 | 0.02 | 0.02 | 59.60 | 7.31 | 0.23 | 24.00 | 30.45 | |
| PSS123 | 37.00 | 0.25 | 0.01 | 50.15 | 7.38 | 33.90 | 19.00 | 31.24 | |
| PSS124 | 5.10 | 0.18 | 0.18 | 24.25 | 7.97 | 0.50 | 3.50 | 30.34 | |
| PSS125 | 21.80 | 0.14 | 0.01 | 42.90 | 7.19 | 0.05 | 23.00 | 28.51 | |
| PSS126 | 17.20 | 0.01 | 0.85 | 95.15 | 7.09 | 55.05 | 20.50 | 28.42 | |
| PSS127 | 53.60 | 0.01 | 1.49 | 79.80 | 7.13 | 74.75 | 1.50 | 28.74 | |
| PSS128 | 76.25 | 0.01 | 0.58 | 132.00 | 7.10 | 111.00 | 3.00 | 27.37 | |
| PSS129 | 46.75 | 0.01 | 2.40 | 62.40 | 7.06 | 43.45 | 8.14 | 28.74 | |

# Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| PSS130 | 45.00 | 0.01 | 2.55 | 61.40 | 7.37 | 50.30 | 19.50 | 28.84 | |
| PSS131 | 48.20 | 0.01 | 1.26 | 67.60 | 7.08 | 45.10 | 13.04 | 28.97 | |
| PSS132 | 12.05 | 0.00 | 0.11 | 30.55 | 6.85 | 5.75 | 6.55 | 32.40 | |
| PSS133 | 8.65 | 0.09 | 0.01 | 38.20 | 7.15 | 2.20 | 6.40 | 31.69 | |
| PSS134 | 20.90 | 0.01 | 0.03 | 111.50 | 6.83 | 11.30 | 7.22 | 32.24 | |
| PSS135 | 2.10 | 0.01 | 59.85 | 41.60 | 6.65 | 5.70 | 6.32 | 31.81 | |
| PSS136 | 36.10 | 0.01 | 0.19 | 137.00 | 6.33 | 23.95 | 8.50 | 32.47 | |
| PSS137 | 25.05 | 0.23 | 0.01 | 214.00 | 6.29 | 0.15 | 10.00 | 32.81 | |
| PSS138 | 42.80 | 0.10 | 0.06 | 94.75 | 6.33 | 4.95 | 10.50 | 32.07 | |
| PSS139 | 13.30 | 0.04 | 0.02 | 170.50 | 6.34 | 1.30 | 9.00 | 32.97 | |
| PSS140 | 4.47 | 0.02 | 2.30 | 10.08 | 7.08 | 5.42 | 4.96 | 31.96 | |
| PSS141 | 24.40 | 0.01 | 2.50 | 224.00 | 6.39 | 30.30 | 2.50 | 32.63 | |
| PSS142 | 34.45 | 0.01 | 4.05 | 150.50 | 6.35 | 24.35 | 5.00 | 32.53 | |
| PSS143 | 37.70 | 0.08 | 3.00 | 104.45 | 4.90 | 38.60 | 8.50 | 31.77 | |
| PSS144 | 58.85 | 0.00 | 1.66 | 653.00 | 6.80 | 506.50 | 7.33 | 31.63 | |
| PSS145 | 49.70 | 0.01 | 2.60 | 83.80 | 5.53 | 40.95 | 7.00 | 33.35 | |
| PSS146 | 49.10 | 0.01 | 2.15 | 85.50 | 6.19 | 41.40 | 7.00 | 32.92 | |
| PSS147 | 40.65 | 0.01 | 0.93 | 507.50 | 6.75 | 111.15 | 3.84 | 31.51 | |
| PSS148 | 58.35 | 0.30 | 0.14 | 132.50 | 3.59 | 33.15 | 9.50 | 33.77 | |
| PSS149 | 39.35 | 0.01 | 0.60 | 40.05 | 6.47 | 45.95 | 25.00 | 25.62 | |
| PSS150 | 264.50 | 0.22 | 0.07 | 309.50 | 6.47 | 1940.00 | 2.00 | 30.69 | |
| PSS151 | 16.30 | 0.11 | 0.80 | 14.75 | 4.83 | 157.00 | 9.00 | 30.63 | |
| PSS152 | 35.00 | 0.01 | 1.75 | 36.95 | 6.41 | 70.00 | 31.50 | 30.34 | |
| PSS153 | 49.80 | 0.01 | 1.75 | 82.15 | 6.82 | 54.15 | 8.52 | 29.23 | |
| PSS154 | 46.35 | 0.01 | 0.89 | 82.05 | 5.10 | 58.05 | 16.59 | 30.78 | |
| PSS155 | 6.70 | 0.01 | 1.70 | 14.15 | 6.33 | 7.65 | 15.50 | 31.93 | |
| PSS156 | 9.20 | 0.06 | 0.01 | 18.40 | 6.38 | 3.70 | 17.00 | 32.06 | |
| PSS157 | 6.05 | 0.03 | 0.01 | 19.75 | 7.12 | 0.65 | 9.50 | 30.71 | |
| PSS158 | 64.90 | 0.28 | 0.01 | 141.00 | 6.73 | 58.10 | 6.50 | 33.01 | |
| PSS159 | 83.15 | 0.01 | 1.65 | 259.00 | 6.86 | 109.85 | 8.00 | 32.08 | |
| PSS160 | 19.45 | 0.01 | 2.10 | 30.65 | 6.42 | 12.75 | 19.00 | 31.98 | |
| PSS161 | 20.60 | 0.01 | 0.44 | 66.50 | 6.72 | 32.60 | 4.00 | 30.64 | |
| PSS162 | 59.10 | 0.03 | 3.60 | 404.00 | 6.39 | 160.00 | 10.00 | 32.09 | |
| PSS163 | 11.90 | 0.01 | 0.60 | 50.90 | 6.18 | 10.10 | 13.09 | 32.83 | |
| PSS164 | 74.75 | 0.10 | 0.23 | 343.00 | 6.97 | 26.25 | 12.93 | 29.93 | |
| PSS165 | 103.75 | 0.01 | 9.01 | 120.90 | 6.83 | 233.00 | 10.63 | 27.44 | |
| PSS166 | 218.00 | 0.01 | 2.85 | 266.00 | 6.65 | 888.00 | 7.50 | 27.91 | |
| PSS167 | 223.00 | 0.01 | 6.25 | 236.50 | 6.74 | 903.00 | 14.86 | 28.05 | |
| PSS168 | 122.50 | 0.06 | 16.50 | 131.00 | 7.00 | 232.50 | 7.55 | 28.16 | |
| PSS169 | 121.70 | 0.10 | 13.00 | 137.00 | 6.85 | 238.50 | 10.81 | 28.23 | |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| PSS170 | 59.75 | 0.01 | 5.55 | 241.00 | 6.94 | 111.50 | 10.00 | 30.48 | |
| PSS171 | 7.60 | 0.25 | 37.50 | 35.40 | 7.30 | 2.90 | 12.54 | 30.92 | |
| PSS172 | 65.93 | 0.02 | 0.90 | 128.00 | 6.68 | 90.52 | 5.50 | 31.38 | |
| PSS173 | 130.50 | 0.01 | 5.05 | 384.00 | 7.32 | 293.00 | 3.00 | 28.23 | |
| PSS174 | 136.00 | 0.01 | 4.15 | 359.00 | 7.13 | 300.50 | 3.00 | 27.82 | |
| PSS175 | 108.00 | 0.01 | 1.70 | 197.00 | 7.05 | 230.50 | 3.40 | 27.37 | |
| PSS176 | 72.65 | 0.01 | 7.75 | 108.50 | 7.26 | 65.20 | 10.50 | 29.78 | |
| PSS177 | 49.75 | 0.01 | 0.98 | 61.20 | 7.35 | 74.95 | 11.20 | 28.61 | |
| PSS178 | 90.35 | 0.01 | 2.95 | 160.50 | 6.82 | 90.25 | 14.38 | 29.31 | |
| PSS179 | 52.00 | 0.03 | 11.70 | 120.40 | 6.14 | 88.65 | 1.68 | 28.15 | |
| PSS180 | 4.00 | 0.01 | 6.00 | 4.00 | 5.24 | 3.20 | 15.00 | 26.87 | |
| PSS181 | 66.90 | 0.01 | 0.28 | 107.00 | 8.14 | 27.65 | 4.00 | 25.78 | |
| PSS182 | 5.00 | 0.05 | 11.78 | 33.95 | 6.92 | 2.95 | 23.50 | 26.53 | |
| PSS183 | 44.30 | 0.01 | 4.45 | 122.50 | 6.79 | 44.60 | 13.65 | 26.09 | |
| PSS184 | 70.15 | 0.01 | 2.75 | 97.20 | 6.82 | 41.05 | 8.13 | 25.47 | |
| PSS185 | 64.15 | 0.01 | 0.48 | 91.30 | 7.67 | 94.70 | 17.50 | 26.81 | |
| PSS186 | 9.75 | 0.01 | 0.93 | 15.45 | 7.19 | 12.35 | 25.50 | 27.37 | |
| PSS187 | 50.75 | 0.06 | 36.50 | 141.00 | 7.45 | 174.00 | 22.50 | 27.71 | |
| PSS188 | 10.40 | 0.00 | 0.02 | 69.95 | 7.70 | 14.00 | 10.00 | 29.21 | |
| PSS189 | 48.40 | 0.14 | 3.65 | 50.30 | 6.74 | 103.40 | 24.03 | 29.13 | |
| PSS190 | 110.00 | 0.01 | 1.85 | 432.50 | 6.93 | 394.00 | 3.00 | 28.33 | |
| PSS191 | 55.70 | 0.01 | 2.30 | 104.00 | 6.63 | 50.50 | 6.00 | 27.22 | |
| PSS192 | 4.55 | 0.25 | 11.90 | 10.05 | 6.89 | 1.65 | 2.50 | 26.87 | |
| PSS193 | 19.60 | 0.01 | 0.92 | 156.50 | 7.41 | 52.50 | 7.00 | 28.65 | |
| PSS194 | 28.75 | 0.01 | 17.50 | 370.50 | 8.11 | 127.00 | 7.00 | 30.36 | |
| PSS195 | 61.45 | 0.01 | 9.25 | 100.50 | 8.17 | 55.80 | 7.50 | 30.67 | |
| PSS196 | 56.80 | 0.01 | 0.73 | 98.65 | 7.54 | 52.10 | 7.50 | 30.99 | |
| PSS197 | 37.05 | 0.01 | 0.75 | 29.60 | 7.17 | 6.80 | 6.50 | 29.95 | |
| PSS198 | 99.67 | 0.01 | 3.97 | 1206.67 | 7.03 | 201.67 | 7.68 | 30.64 | |
| PSS199 | 81.40 | 0.01 | 4.40 | 225.50 | 7.38 | 50.90 | 6.50 | 29.03 | |
| PSS200 | 61.80 | 0.08 | 26.04 | 172.65 | 6.91 | 20.65 | 23.00 | 29.76 | |
| PSS201 | 108.00 | 0.01 | 0.93 | 235.50 | 6.90 | 126.50 | 5.50 | 31.10 | |
| PSS202 | 9.30 | 0.01 | 0.05 | 20.40 | 8.15 | 1.25 | 9.85 | 31.01 | |
| PSS203 | 22.35 | 0.01 | 0.37 | 13.70 | 6.88 | 6.45 | 8.91 | 30.71 | |
| PSS204 | 22.35 | 0.01 | 3.60 | 77.50 | 7.60 | 21.25 | 12.50 | 25.70 | |
| PSS205 | 40.25 | 0.01 | 2.80 | 49.95 | 7.05 | 49.55 | 25.00 | 27.42 | |
| PSS206 | 135.00 | 0.01 | 7.15 | 429.00 | 6.83 | 252.00 | 5.50 | 30.52 | |
| PSS207 | 40.55 | 0.00 | 1.85 | 68.55 | 6.85 | 46.85 | 22.30 | 30.89 | |
| PSS208 | 19.35 | 0.00 | 1.50 | 48.70 | 6.42 | 28.25 | 7.50 | 31.06 | |
| PSS209 | 19.05 | 0.29 | 0.01 | 122.25 | 7.38 | 2.25 | 12.00 | 29.68 | |

# Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| PSS210 | 55.30 | 0.00 | 2.60 | 77.65 | 7.12 | 47.50 | 20.50 | 30.51 | |
| PSS211 | 35.05 | 0.55 | 0.05 | 101.00 | 7.89 | 11.10 | 14.00 | 30.57 | |
| PSS212 | 54.05 | 0.00 | 0.08 | 157.00 | 7.32 | 109.00 | 11.75 | 30.94 | |
| PSS213 | 57.05 | 0.00 | 1.10 | 113.50 | 6.80 | 92.30 | 7.75 | 28.92 | |
| PSS214 | 11.40 | 0.01 | 2.70 | 44.45 | 6.38 | 26.70 | 22.05 | 28.96 | |
| PSS215 | 83.05 | 0.00 | 1.09 | 314.00 | 6.77 | 324.50 | 71.90 | 30.47 | |
| PSS216 | 19.80 | 0.00 | 2.65 | 102.35 | 6.64 | 70.05 | 21.30 | 29.22 | |
| PSS217 | 21.70 | 0.00 | 1.44 | 96.30 | 7.05 | 69.60 | 20.33 | 28.89 | |
| PSS218 | 14.45 | 0.00 | 2.10 | 111.00 | 6.84 | 58.10 | 31.37 | 29.95 | |
| PSS219 | 8.90 | 0.01 | 0.45 | 22.60 | 7.33 | 5.90 | 47.30 | 28.69 | |
| PSS220 | 46.85 | 0.00 | 2.33 | 391.00 | 6.97 | 303.50 | 4.40 | 30.44 | |
| PSS221 | 32.40 | 0.25 | 0.80 | 236.50 | 7.52 | 180.80 | 1.10 | 27.19 | |
| PSS222 | 49.65 | 0.16 | 0.12 | 436.00 | 7.72 | 305.50 | 2.60 | 29.45 | |
| PSS223 | 46.35 | 0.03 | 4.05 | 319.00 | 7.38 | 216.50 | 29.30 | 30.38 | |
| PSS224 | 71.25 | 0.00 | 5.35 | 318.00 | 7.07 | 273.50 | 36.95 | 30.05 | |
| PSS225 | 106.50 | 0.00 | 2.80 | 556.00 | 7.41 | 481.00 | 27.21 | 29.32 | |
| PSS226 | 72.70 | 0.00 | 3.65 | 451.50 | 7.22 | 140.50 | 2.81 | 28.52 | |
| PSS227 | 49.70 | 0.00 | 0.38 | 112.00 | 7.09 | 31.90 | 1.43 | 29.11 | |
| PSS228 | 33.25 | 0.00 | 1.49 | 83.55 | 7.10 | 45.00 | 2.40 | 29.69 | |
| PSS229 | 74.20 | 0.00 | 7.00 | 269.50 | 7.30 | 199.50 | 7.93 | 30.51 | |
| PSS230 | 32.70 | 0.02 | 0.04 | 72.90 | 7.21 | 9.30 | 1.15 | 27.94 | |
| PSS231 | 83.65 | 0.00 | 3.25 | 224.50 | 7.62 | 80.40 | 4.11 | 28.10 | |
| PSS232 | 8.45 | 0.00 | 4.25 | 275.50 | 7.43 | 115.70 | 9.43 | 32.63 | |
| PSS233 | 30.95 | 0.00 | 1.33 | 108.50 | 6.97 | 37.70 | 8.90 | 32.65 | |
| PSS234 | 10.20 | 1.50 | 0.20 | 48.35 | 6.74 | 22.30 | 6.90 | 32.71 | |
| PSS235 | 15.70 | 0.08 | 0.01 | 41.65 | 7.39 | 0.80 | 4.49 | 31.37 | |
| PSS236 | 8.70 | 0.08 | 0.01 | 39.80 | 7.16 | 1.35 | 84.00 | 32.06 | |
| PSS237 | 11.95 | 0.00 | 1.33 | 56.95 | 7.15 | 53.80 | 4.95 | 31.06 | |
| PSS238 | 8.55 | 0.00 | 1.29 | 63.70 | 7.58 | 22.30 | 3.60 | 30.80 | |
| PSS239 | 38.25 | 0.00 | 0.53 | 37.30 | 7.12 | 53.75 | 87.50 | 14.52 | |
| PSS240 | 33.90 | 0.00 | 0.05 | 32.60 | 7.31 | 39.70 | 42.50 | 29.74 | |
| PSS241 | 19.00 | 0.00 | 0.05 | 39.10 | 6.68 | 10.90 | 47.00 | 27.72 | |
| PSS242 | 55.30 | 1.10 | 0.04 | 22.60 | 6.88 | 34.50 | 23.50 | 28.84 | |
| PSS243 | 23.80 | 0.00 | 0.10 | 26.10 | 6.87 | 33.60 | 87.00 | 29.44 | |
| PSS244 | 62.00 | 0.00 | 2.40 | 58.80 | 6.86 | 88.10 | 48.55 | 28.62 | |
| PSS245 | 13.05 | 0.00 | 5.90 | 34.35 | 6.95 | 12.20 | 32.88 | 29.16 | |
| PSS246 | 23.25 | 0.00 | 5.85 | 40.85 | 7.04 | 47.65 | 42.75 | 29.46 | |
| PSS247 | 45.70 | 0.00 | 0.01 | 52.35 | 6.83 | 73.30 | 54.70 | 29.28 | |
| PSS248 | 74.95 | 0.06 | 0.84 | 182.00 | 6.42 | 55.70 | 7.00 | 31.65 | |
| PSS250 | 59.25 | 0.01 | 1.25 | 65.48 | 6.72 | 23.78 | 12.49 | 32.54 | |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| PSS251 | 56.83 | 0.00 | 0.01 | 64.17 | 7.43 | 16.17 | 12.62 | 32.61 | |
| PSS252 | 6.80 | 0.09 | 5.51 | 22.15 | 7.02 | 8.95 | 4.40 | 33.20 | |
| PSS253 | 59.30 | 0.07 | 0.02 | 157.00 | 6.81 | 109.30 | 8.25 | 29.53 | |
| PSS254 | 110.00 | 0.00 | 1.60 | 732.00 | | 483.00 | 28.00 | | |
| PSS255 | 11.30 | 0.00 | 0.90 | 391.50 | 7.37 | 51.80 | 4.04 | 27.96 | |
| PSS256 | 204.00 | 0.00 | 0.16 | 797.50 | 6.80 | 841.00 | 3.10 | 29.47 | |
| PSS257 | 18.10 | 0.00 | 0.72 | 313.00 | 7.33 | 29.40 | 5.07 | 28.58 | |
| PSS258 | 3.55 | 0.00 | 6.25 | 29.45 | 5.68 | 15.55 | 13.44 | 32.07 | |
| PSS259 | 19.05 | 0.00 | 0.02 | 606.50 | 7.72 | 184.50 | 1.10 | 23.97 | |
| PSS260 | 166.00 | 0.00 | 0.17 | 787.00 | 6.43 | 469.00 | 2.69 | 30.73 | |
| PSS261 | 59.00 | 0.00 | 20.50 | 182.00 | 6.94 | 89.00 | 2.25 | 28.08 | |
| PSS262 | 31.00 | 0.00 | 5.60 | 249.00 | 7.75 | 154.00 | 6.30 | 24.52 | |
| PSS263 | 149.50 | 0.00 | 2.89 | 1219.50 | 7.31 | 552.50 | 2.45 | 25.18 | |
| PSS264 | 7.00 | 0.00 | 0.15 | 33.50 | 6.64 | 28.40 | 10.23 | 31.16 | |
| PSS265 | 38.15 | 0.02 | 0.01 | 102.75 | 7.03 | 27.45 | 5.52 | 31.51 | |
| PSS266 | 68.10 | 0.00 | 8.95 | 558.50 | 7.94 | 147.00 | 5.86 | 28.30 | |
| PSS267 | 9.70 | 0.00 | 0.01 | 447.50 | 7.99 | 33.95 | 9.21 | 29.53 | |
| PSS268 | 236.00 | 0.26 | 0.02 | 2195.00 | 7.99 | 805.50 | 8.83 | 29.42 | |
| PSS269 | 211.50 | 0.00 | 4.00 | 3465.00 | 6.99 | 1440.00 | 4.49 | 30.85 | |
| PSS270 | 99.55 | 0.10 | 0.02 | 411.50 | 7.11 | 163.50 | 9.98 | 29.93 | |
| PSS271 | 7.60 | 0.76 | 0.02 | 26.15 | 6.52 | 0.50 | 25.00 | 29.16 | |
| PSS272 | 20.35 | 0.00 | 11.60 | 35.75 | 6.73 | 46.55 | 16.38 | 28.40 | |
| PSS273 | 187.50 | 0.00 | 10.50 | 467.00 | 7.09 | 293.00 | 4.88 | 22.37 | |
| PSS274 | 21.95 | 0.00 | 0.01 | 4.05 | 6.28 | 4.75 | 9.30 | 27.24 | |
| PSS275 | 16.70 | 0.00 | 13.00 | 32.35 | 6.99 | 29.95 | 3.66 | 23.13 | |
| PSS276 | 54.15 | 0.00 | 7.55 | 165.00 | 6.98 | 164.50 | 5.18 | 27.58 | |
| PSS277 | 160.50 | 0.00 | 12.45 | 546.50 | 6.97 | 573.50 | 6.19 | 24.77 | |
| PSS278 | 112.55 | 0.00 | 1.03 | 112.30 | 8.05 | 187.50 | 4.80 | 16.93 | |
| PSS279 | 68.05 | 0.00 | 9.85 | 124.50 | 7.56 | 101.75 | 3.05 | 19.23 | |
| PSS280 | 202.00 | 0.00 | 2.57 | 827.00 | 7.26 | 673.50 | 1.44 | 20.30 | |
| PSS281 | 186.50 | 0.00 | 1.70 | 1140.00 | 6.53 | 774.00 | 8.56 | 27.22 | |
| PSS282 | 90.30 | 0.00 | 13.00 | 160.00 | 7.01 | 146.00 | 4.00 | 25.41 | |
| PSS283 | 50.05 | 0.00 | 4.60 | 1.70 | 6.81 | 4.50 | 3.37 | 28.38 | |
| PSS284 | 91.80 | 0.00 | 7.45 | 653.00 | 6.80 | 531.00 | 4.03 | 26.09 | |
| PSS285 | 67.45 | 0.00 | 1.35 | 173.50 | 6.97 | 192.00 | 4.20 | 29.43 | |
| PSS286 | 208.50 | 0.01 | 0.22 | 430.50 | 7.34 | 339.00 | 2.04 | 17.23 | |
| PSS287 | 54.75 | 0.00 | 3.50 | 131.50 | 6.34 | 121.50 | 3.83 | 29.36 | |
| PSS288 | 120.50 | 1.20 | 0.04 | 509.00 | 6.90 | 65.30 | 16.42 | 28.12 | |
| PSS289 | 2.60 | 0.02 | 0.02 | 43.05 | 7.10 | 0.90 | 3.38 | 29.71 | |
| PSS290 | 32.45 | 0.00 | 0.28 | 55.60 | 6.75 | 15.20 | 3.23 | 30.68 | |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| PSS291 | 69.90 | 0.00 | 0.91 | 104.95 | 6.78 | 35.70 | 5.78 | 29.59 | |
| PSS292 | 93.55 | 0.01 | 0.76 | 309.00 | 7.58 | 130.00 | 5.65 | 25.75 | |
| PSS293 | 48.00 | 0.00 | 3.10 | 216.00 | 8.04 | 41.80 | 5.40 | 25.38 | |
| PSS294 | 96.35 | 0.00 | 2.10 | 382.50 | 7.15 | 104.00 | 7.15 | 25.96 | |
| PSS295 | 74.65 | 0.00 | 0.98 | 270.00 | 7.04 | 177.00 | 4.38 | 27.95 | |
| PSS296 | 13.35 | 0.04 | 3.43 | 57.10 | 7.00 | 26.30 | 9.02 | 30.93 | |
| PSS297 | 31.15 | 0.11 | 1.16 | 302.00 | 6.83 | 62.30 | 9.80 | 32.52 | |
| PSS298 | 182.00 | 0.00 | 3.20 | 450.50 | 6.77 | 118.50 | 8.20 | 29.63 | |
| PSS299 | 99.50 | 0.00 | 4.50 | 983.00 | 7.27 | 286.00 | 4.30 | 27.12 | |
| PSS300 | 28.30 | 0.00 | 0.66 | 37.30 | 6.71 | 10.80 | 2.20 | 27.98 | |
| PSS301 | 92.85 | 0.00 | 2.55 | 366.50 | 6.98 | 248.50 | 6.60 | 28.44 | |
| PSS302 | 47.10 | 0.00 | 0.49 | 69.05 | 6.65 | 42.90 | 7.70 | 29.98 | |
| PSS303 | 41.55 | 0.01 | 0.62 | 335.00 | 6.88 | 119.50 | 7.95 | 32.59 | |
| PSS304 | 29.45 | 0.00 | 6.30 | 80.35 | 7.03 | 33.60 | 3.48 | 31.30 | |
| PSS305 | 110.75 | 0.00 | 0.78 | 338.00 | 7.50 | 349.50 | 8.19 | 27.88 | |
| PSS306 | 246.00 | 0.00 | 1.58 | 424.50 | 7.45 | 725.00 | 8.94 | 28.76 | |
| PSS307 | 40.10 | 0.00 | 0.74 | 45.55 | 6.84 | 19.15 | 0.30 | 31.46 | |
| PSS308 | 83.75 | 0.00 | 3.25 | 3275.00 | 7.36 | 2105.00 | 4.16 | 29.63 | |
| PSS309 | 62.00 | 0.00 | 0.16 | 328.00 | 7.50 | 102.65 | 3.58 | 28.76 | |
| PSS310 | 68.60 | 0.00 | 0.77 | 283.00 | 7.12 | 54.80 | 4.80 | 26.64 | |
| PSS311 | 72.50 | 0.00 | 0.43 | 427.00 | 7.42 | 170.00 | 2.63 | 25.56 | |
| PSS312 | 49.50 | 0.00 | 1.04 | 252.00 | 7.09 | 34.25 | 4.94 | 28.45 | |
| PSS313 | 54.00 | 0.00 | 0.45 | 140.00 | 7.37 | 68.85 | 8.38 | 30.84 | |
| PSS314 | 47.35 | 0.00 | 0.65 | 113.00 | 6.88 | 35.60 | 6.00 | 30.42 | |
| PSS315 | 43.45 | 0.00 | 5.50 | 168.50 | 7.02 | 43.35 | 6.37 | 28.76 | |
| PSS316 | 41.10 | 0.00 | 0.98 | 148.50 | 6.92 | 27.05 | 5.68 | 27.60 | |
| PSS317 | 14.65 | 0.00 | 1.80 | 400.00 | 7.25 | 43.90 | 2.80 | 27.67 | |
| PSS318 | 35.35 | 0.00 | 4.20 | 161.00 | 6.59 | 37.90 | 3.40 | 29.05 | |
| PSS319 | 50.20 | 0.03 | 0.65 | 240.50 | 6.93 | 40.85 | 10.49 | 29.61 | |
| PSS320 | 71.45 | 0.00 | 1.22 | 387.00 | 7.22 | 128.00 | 5.20 | 28.08 | |
| PSS321 | 105.75 | 0.00 | 2.90 | 187.00 | 6.96 | 108.50 | 3.03 | 25.40 | |
| PSS322 | 40.45 | 0.00 | 0.29 | 46.05 | 7.06 | 19.85 | 4.07 | 27.08 | |
| PSS323 | 35.50 | 0.00 | 26.50 | 147.50 | 7.31 | 136.00 | 3.35 | 19.94 | |
| PSS324 | 87.15 | 0.00 | 10.50 | 130.50 | 6.55 | 91.35 | 4.53 | 29.40 | |
| PSS325 | 86.50 | 0.00 | 0.71 | 201.50 | 6.64 | 489.00 | 6.00 | 28.76 | |
| PSS326 | 41.20 | 0.00 | 4.85 | 76.05 | 6.59 | 67.50 | 6.52 | 28.81 | |
| PSS327 | 32.55 | 0.00 | 3.95 | 18.75 | 6.46 | 33.65 | 9.06 | 27.74 | |
| PSS328 | 29.50 | 0.00 | 2.85 | 47.50 | 7.20 | 62.15 | 6.75 | 26.15 | |
| PSS329 | 217.00 | 0.00 | 2.15 | 521.50 | 7.59 | 721.00 | 4.55 | 21.59 | |
| PSS330 | 100.15 | 0.00 | 1.80 | 282.00 | 6.70 | 311.50 | 8.26 | 31.09 | |

# Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| PSS331 | 55.30 | 0.00 | 1.75 | 77.75 | 6.56 | 112.00 | 6.45 | 30.29 | |
| PSS332 | 125.00 | 0.00 | 1.87 | 249.50 | 6.36 | 216.00 | 14.80 | 31.21 | |
| PSS333 | 394.50 | 0.21 | 0.84 | 2340.00 | 6.48 | 200.00 | 2.40 | 28.78 | |
| PSS334 | 20.85 | 0.00 | 1.15 | 185.50 | 7.68 | 28.35 | 6.29 | 32.85 | |
| PSS335 | 49.45 | 0.00 | 2.65 | 165.00 | 6.67 | 31.35 | 9.54 | 31.69 | |
| PSS337 | | | | | 6.67 | | 6.00 | 28.55 | |
| PSS338 | 59.85 | 0.00 | 16.50 | 146.50 | 7.06 | 145.50 | 6.42 | 27.29 | |
| PSS339 | 167.50 | 0.00 | 4.90 | 1885.00 | 7.40 | 759.50 | 4.55 | 29.72 | |
| PSS340 | 172.00 | 0.00 | 8.60 | 342.00 | 7.81 | 222.00 | 2.43 | 22.02 | |
| PSS341 | 74.95 | 0.06 | 76.50 | 112.50 | 6.79 | 162.50 | 12.10 | 27.59 | |
| PSS342 | 396.50 | 0.00 | 145.00 | 711.00 | 6.72 | 1113.50 | 7.45 | 28.33 | |
| PSS343 | 17.35 | 0.22 | 0.05 | 109.50 | 7.34 | 56.65 | 9.84 | 29.89 | |
| PSS344 | 29.35 | 0.00 | 0.46 | 97.65 | 7.50 | 45.30 | 12.72 | 28.30 | |
| PSS345 | 40.65 | 0.00 | 4.30 | 11.80 | 7.12 | 12.85 | 2.98 | 27.43 | |
| PSS346 | 68.10 | 0.00 | 20.00 | 230.00 | 7.52 | 78.00 | 7.60 | 25.93 | |
| PSS347 | 60.50 | 0.00 | 8.60 | 128.50 | 6.94 | 121.00 | 15.29 | 28.39 | |
| PSS348 | 53.05 | 0.00 | 6.60 | 150.50 | 7.85 | 57.65 | 17.38 | 24.41 | |
| PSS349 | 32.05 | 0.00 | 1.25 | 336.00 | 7.35 | 52.40 | 2.60 | 27.52 | |
| PSS350 | 40.20 | 0.02 | 0.01 | 570.00 | 7.66 | 98.45 | 1.97 | 29.80 | |
| PSS351 | 58.40 | 0.00 | 3.90 | 138.50 | 6.54 | 223.00 | 11.52 | 30.64 | |
| PSS352 | 274.50 | 0.00 | 5.95 | 1321.00 | 7.01 | 828.50 | 20.94 | 32.31 | |
| PSS353 | 140.40 | 0.17 | 4.42 | 832.00 | 6.43 | 551.85 | 15.31 | 31.56 | |
| PSS354 | 61.75 | 0.10 | 1.42 | 160.45 | 6.61 | 63.65 | 8.95 | 29.85 | |
| PSS355 | 85.20 | 0.00 | 2.57 | 373.00 | 6.76 | 109.00 | 9.86 | 29.86 | |
| PSS356 | 119.75 | 0.00 | 1.80 | 413.00 | 6.71 | 306.50 | 9.28 | 30.21 | |
| PSS357 | 92.10 | 0.19 | 0.62 | 289.40 | 6.67 | 23.95 | 5.48 | 30.79 | |
| PSS358 | 47.05 | 0.50 | 1.42 | 131.70 | 6.87 | 40.75 | 5.40 | 28.39 | |
| PSS359 | 159.25 | 0.00 | 3.56 | 658.00 | 6.70 | 446.20 | 8.11 | 30.58 | |
| PSS360 | 319.00 | 2.25 | 2.21 | 792.00 | 7.39 | 41.75 | 8.57 | 26.13 | |
| PSS361 | 72.10 | 0.00 | 2.35 | 152.20 | 6.47 | 124.85 | 11.75 | 32.22 | |
| PSS362 | 57.55 | 0.05 | 2.61 | 197.80 | 7.15 | 25.55 | 9.73 | 29.33 | |
| PSS363 | 478.65 | 0.00 | 0.50 | 841.10 | 6.90 | 911.65 | 7.48 | 27.82 | |
| PSS364 | 85.95 | 0.00 | 0.43 | 415.00 | 6.69 | 196.75 | 11.44 | 30.71 | |
| PSS365 | 154.30 | 0.01 | 7.02 | 690.05 | 6.98 | 481.05 | 6.66 | 32.44 | |
| PSS366 | 94.30 | 0.00 | 3.15 | 131.00 | 6.66 | 89.85 | 12.46 | 30.51 | |
| PSS367 | 146.65 | 0.16 | 5.15 | 345.00 | 6.70 | 298.00 | 5.95 | 32.46 | |
| PSS368 | 127.50 | 0.00 | 7.55 | 303.95 | 6.86 | 195.10 | 8.09 | 28.80 | |
| PSS369 | 541.25 | 2.20 | 1.34 | 1034.50 | 7.22 | 906.50 | 10.19 | 26.77 | |
| PSS370 | 60.65 | 0.00 | 0.02 | 1320.00 | 6.29 | 168.25 | 8.65 | 32.34 | |
| PSS371 | 57.35 | 0.01 | 0.81 | 124.60 | 6.86 | 87.80 | 12.33 | 31.37 | |

# Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| PSS372 | 92.70 | 0.00 | 1.18 | 208.00 | 6.75 | 121.00 | 12.78 | 29.93 | |
| PSS373 | 289.60 | 0.00 | 2.51 | 2154.00 | 6.52 | 1150.35 | 11.13 | 30.92 | |
| PSS374 | 61.85 | 0.30 | 2.75 | 261.50 | 6.74 | 66.10 | 10.78 | 31.60 | |
| PSS375 | 111.40 | 0.00 | 1.80 | 83.50 | 6.57 | 47.10 | 12.47 | 29.79 | |
| PSS376 | 78.20 | 0.00 | 2.30 | 189.00 | 7.30 | 79.10 | 22.10 | 30.03 | |
| PSS377 | 232.30 | 0.00 | 6.44 | 1062.50 | 6.15 | 706.45 | 12.17 | 31.16 | |
| PSS378 | 184.50 | 0.00 | 3.25 | 700.20 | 6.52 | 521.05 | 7.37 | 30.87 | |
| PSS379 | 42.90 | 0.01 | 6.60 | 141.00 | 8.07 | 62.25 | 8.07 | 30.43 | |
| PSS380 | 62.30 | 0.39 | 2.90 | 246.80 | 8.01 | 81.75 | 20.75 | 29.64 | |
| PSS381 | 85.85 | 0.05 | 3.66 | 452.50 | 7.63 | 265.85 | 11.26 | 30.83 | |
| PSS382 | 136.50 | 0.00 | 11.75 | 487.50 | 6.32 | 350.50 | 17.42 | 31.69 | |
| PSS383 | 119.35 | 0.04 | 15.00 | 247.55 | 6.46 | 181.60 | 17.88 | 30.81 | |
| PSS384 | 129.45 | 0.00 | 21.50 | 349.00 | 6.39 | 226.00 | 33.13 | 31.14 | |
| PSS385 | 100.25 | 0.00 | 6.50 | 264.00 | 6.45 | 157.50 | 27.40 | 31.30 | |
| PSS386 | 55.60 | 0.00 | 23.00 | 107.00 | 7.23 | 97.60 | 6.50 | 30.46 | |
| PSS387 | 59.80 | 0.00 | 24.00 | 132.00 | 8.06 | 137.00 | 2.50 | 14.36 | |
| PSS388 | 255.35 | 0.00 | 4.47 | 1931.80 | 6.87 | 1071.05 | 2.70 | 30.30 | |
| PSS389 | 151.00 | 0.00 | 2.30 | 585.00 | 7.74 | 270.00 | 8.25 | 28.75 | |
| PSS390 | 74.35 | 0.00 | 4.35 | 301.50 | 7.12 | 152.65 | 9.64 | 28.97 | |
| PSS391 | 276.40 | 1.55 | 9.50 | 768.75 | 6.85 | 16.25 | 2.25 | 26.80 | |
| PSS392 | 58.30 | 0.02 | 14.85 | 92.15 | 6.97 | 66.00 | 10.35 | 28.20 | |
| PSS393 | 80.90 | 0.15 | 5.15 | 210.50 | 6.54 | 116.35 | 7.11 | 28.30 | |
| PSS394 | 30.20 | 0.01 | 23.70 | 50.25 | 6.76 | 54.95 | 3.99 | 28.67 | |
| PSS395 | 61.25 | 0.00 | 29.75 | 139.00 | 6.74 | 100.45 | 13.38 | 27.76 | |
| PSS396 | 71.85 | 0.00 | 6.40 | 359.50 | 7.31 | 107.95 | 5.10 | 28.47 | |
| PSS397 | 45.75 | 0.00 | 0.98 | 20.05 | 6.86 | 11.00 | 5.25 | 30.07 | |
| PSS398 | 43.65 | 0.00 | 3.65 | 78.25 | 6.88 | 71.15 | 8.44 | 29.94 | |
| PSS399 | 83.85 | 0.20 | 0.06 | 1195.00 | 7.42 | 459.00 | 3.95 | 30.98 | |
| PSS400 | 39.40 | 0.00 | 5.00 | 116.00 | 7.31 | 13.50 | 10.03 | 29.81 | |
| PSS401 | 71.85 | 0.00 | 4.05 | 579.50 | 7.81 | 130.50 | 1.35 | 26.94 | |
| PSS402 | 61.45 | 0.00 | 3.50 | 626.00 | 7.64 | 230.50 | 3.10 | 28.38 | |
| PSS403 | 16.95 | 0.00 | 0.07 | 150.50 | 7.53 | 37.35 | 2.93 | 23.65 | |
| PSS404 | 74.20 | 0.00 | 1.14 | 260.00 | 7.27 | 117.50 | 4.98 | 26.02 | |
| PSS405 | 51.95 | 0.00 | 6.60 | 493.00 | 7.12 | 242.00 | 4.38 | 29.30 | |
| PSS406 | 97.15 | 0.00 | 3.80 | 215.00 | 7.05 | 79.15 | 4.45 | 30.62 | |
| PSS407 | 38.10 | 0.00 | 0.87 | 97.90 | 7.31 | 35.20 | 5.60 | 29.08 | |
| PSS408 | 70.70 | 0.00 | 4.75 | 185.00 | 7.11 | 57.90 | 3.23 | 28.90 | |
| PSS409 | 120.50 | 0.00 | 1.05 | 327.50 | 7.15 | 98.10 | 3.92 | 29.78 | |
| PSS410 | 958.50 | 0.00 | 4.00 | 2925.00 | 6.96 | 4285.00 | 11.13 | 30.40 | |
| PSS411 | 55.20 | 0.00 | 3.70 | 73.80 | 7.21 | 162.00 | 35.50 | 28.65 | |

# Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| PSS412 | 67.70 | 0.00 | 0.02 | 60.80 | 7.26 | 60.60 | 6.63 | 29.67 | |
| PSS413 | 54.60 | 0.00 | 2.00 | 169.50 | 7.66 | 64.95 | 5.22 | 31.45 | |
| PSS414 | 36.80 | 0.00 | 1.55 | 78.75 | 6.84 | 22.90 | 9.29 | 31.75 | |
| PSS415 | 15.75 | 0.00 | 0.95 | 49.40 | 7.56 | 13.05 | 7.89 | 31.29 | |
| PSS416 | 2.70 | 0.00 | 3.21 | 17.75 | 6.77 | 11.05 | 7.68 | 31.10 | |
| PSS417 | 36.65 | 0.00 | 0.53 | 243.00 | 7.77 | 37.25 | 4.69 | 27.26 | |
| PSS418 | 63.90 | 0.00 | 3.65 | 210.00 | 7.39 | 41.75 | 8.43 | 30.76 | |
| PSS419 | 55.65 | 0.00 | 0.03 | 53.05 | 6.98 | 11.30 | 8.70 | 28.97 | |
| PSS420 | 81.80 | 0.00 | 1.92 | 293.50 | 7.61 | 169.05 | 9.40 | 26.37 | |
| PSS421 | 52.60 | 0.00 | 1.49 | 178.00 | 7.71 | 94.60 | 7.30 | 28.25 | |
| PSS422 | 26.05 | 0.00 | 0.75 | 45.00 | 7.04 | 16.35 | 4.24 | 30.84 | |
| PSS423 | 26.45 | 0.00 | 1.60 | 53.25 | 7.73 | 13.85 | 5.99 | 26.38 | |
| PSS424 | 32.40 | 0.00 | 0.66 | 73.30 | 7.35 | 23.85 | 4.45 | 28.79 | |
| PSS425 | 127.50 | 0.00 | 6.15 | 415.00 | 7.77 | 236.50 | 7.45 | 29.70 | |
| PSS426 | 27.00 | 0.00 | 0.60 | 42.75 | 7.04 | 9.50 | 5.40 | 31.30 | |
| PSS427 | 55.50 | 0.00 | 2.20 | 145.50 | 7.09 | 59.95 | 4.84 | 29.25 | |
| PSS428 | 37.65 | 0.00 | 0.32 | 62.25 | 6.90 | 22.85 | 3.88 | 27.42 | |
| PSS429 | 46.75 | 0.00 | 1.02 | 100.65 | 7.21 | 43.75 | 6.12 | 26.69 | |
| PSS430 | 151.00 | 0.00 | 29.00 | 142.50 | 6.84 | 115.00 | 7.10 | 26.12 | |
| PSS431 | 76.65 | 0.00 | 16.50 | 191.50 | 7.23 | 205.50 | 14.93 | 25.29 | |
| PSS432 | 78.80 | 0.00 | 31.00 | 171.00 | 7.21 | 106.35 | 17.28 | 25.45 | |
| PSS433 | 57.25 | 0.00 | 0.26 | 82.00 | 6.67 | 26.80 | 4.93 | 28.44 | |
| PSS434 | 66.55 | 0.00 | 0.03 | 405.50 | 7.86 | 46.90 | 4.60 | 23.54 | |
| PSS435 | 69.60 | 0.00 | 5.80 | 207.50 | 7.71 | 84.60 | 3.78 | 24.28 | |
| PSS436 | 37.80 | 0.00 | 6.55 | 79.75 | 7.08 | 25.10 | 10.34 | 26.28 | |
| PSS437 | 47.85 | 0.00 | 0.54 | 74.20 | 7.38 | 11.85 | 5.68 | 25.44 | |
| PSS438 | 97.35 | 0.00 | 7.05 | 165.00 | 7.23 | 329.50 | 59.29 | 28.77 | |
| PSS439 | 81.60 | 0.00 | 1.04 | 119.55 | 6.96 | 57.10 | 28.25 | 28.42 | |
| PSS440 | 57.70 | 0.00 | 0.45 | 101.85 | 7.27 | 98.75 | 0.36 | 26.72 | |
| PSS441 | 38.30 | 0.00 | 1.10 | 54.70 | 7.12 | 48.60 | 3.95 | 28.91 | |
| PSS442 | 61.50 | 0.00 | 0.06 | 84.40 | 7.26 | 126.00 | 9.00 | 30.50 | |
| PSS443 | 36.00 | 4.40 | 1.80 | 69.90 | 4.94 | 262.00 | 25.50 | 30.55 | |
| PSS444 | 32.10 | 0.00 | 0.03 | 75.90 | 7.18 | 129.00 | 16.04 | 28.71 | |
| PSS445 | 26.60 | 0.18 | 0.01 | 45.40 | 6.13 | 107.00 | 10.90 | 28.77 | |
| PSS446 | 42.70 | 0.00 | 3.20 | 78.60 | 7.00 | 34.10 | 4.03 | 30.59 | |
| PSS447 | 30.20 | 0.00 | 0.67 | 62.30 | 6.79 | 50.70 | 8.78 | 30.62 | |
| PSS448 | 79.10 | 0.01 | 0.28 | 364.00 | 6.47 | 123.50 | 5.27 | 30.36 | |
| PSS449 | 653.00 | 0.00 | 23.00 | 1385.00 | 6.22 | 1640.00 | 8.48 | 26.91 | |
| PSS450 | 72.30 | 0.00 | 4.75 | 194.50 | 6.88 | 221.00 | 3.68 | 25.67 | |
| PSS451 | 126.00 | 0.00 | 0.75 | 591.50 | 7.73 | 330.50 | 13.65 | 28.91 | |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| PSS452 | 2100.00 | 0.85 | 0.83 | 8055.00 | 6.06 | 3730.00 | 9.41 | 30.73 | |
| PSS453 | 17.70 | 0.00 | 1.06 | 53.50 | 6.73 | 14.70 | 6.31 | 31.09 | |
| PSS454 | 53.30 | 0.02 | 2.08 | 230.00 | 7.11 | 39.15 | 2.93 | 31.18 | |
| PSS455 | 89.20 | 0.00 | 0.39 | 278.00 | 7.17 | 88.70 | 5.14 | 32.07 | |
| PSS456 | 126.50 | 0.00 | 0.03 | 93.85 | 7.27 | 31.40 | 13.08 | 28.61 | |
| PSS457 | 195.00 | 0.00 | 0.61 | 1720.00 | 8.08 | 907.50 | 26.10 | 29.40 | |
| PSS458 | 34.90 | 0.00 | 2.03 | 197.00 | 6.80 | 89.80 | 5.46 | 31.04 | |
| PSS459 | 14.40 | 0.00 | 0.39 | 92.00 | 7.26 | 4.05 | 8.67 | 31.19 | |
| PSS460 | 49.80 | 0.02 | 0.01 | 2455.00 | 8.08 | 1070.00 | 8.24 | 29.08 | |
| PSS461 | 8.80 | 0.00 | 0.90 | 175.50 | 7.02 | 51.25 | 2.49 | 30.27 | |
| PSS462 | 26.75 | 0.00 | 1.55 | 94.35 | 7.05 | 16.50 | 11.32 | 28.93 | |
| PSS463 | 24.20 | 0.00 | 2.14 | 89.55 | 7.02 | 17.85 | 4.12 | 32.00 | |
| PSS464 | 25.65 | 0.00 | 2.70 | 81.50 | 6.83 | 22.05 | 4.56 | 30.68 | |
| PSS465 | 30.70 | 0.24 | 0.01 | 212.50 | 7.26 | 16.00 | 4.43 | 30.72 | |
| PSS466 | 18.55 | 0.06 | 6.30 | 178.00 | 7.42 | 13.10 | 7.62 | 30.83 | |
| PSS467 | 39.80 | 0.00 | 2.40 | 196.50 | 6.84 | 51.70 | 4.81 | 30.11 | |
| PSS468 | 27.25 | 0.00 | 3.30 | 95.20 | 6.50 | 21.50 | 4.73 | 30.10 | |
| PSS469 | 23.90 | 0.00 | 5.30 | 134.00 | 6.75 | 14.30 | 7.42 | 32.44 | |
| PSS470 | 25.10 | 0.00 | 5.40 | 135.00 | 6.72 | 14.40 | 7.77 | 34.03 | |
| PSS471 | 20.70 | 0.00 | 0.32 | 223.00 | 7.75 | 22.65 | 4.24 | 26.27 | |
| PSS472 | 3.90 | 0.00 | 0.01 | 172.00 | 8.70 | 28.75 | 7.62 | 30.58 | |
| PSS473 | 7.80 | 0.00 | 0.51 | 112.50 | 7.96 | 11.80 | 7.88 | 30.04 | |
| PSS474 | 97.00 | 0.00 | 4.40 | 203.00 | 6.61 | 170.50 | 7.28 | 28.51 | |
| PSS475 | 47.30 | 0.00 | 12.00 | 113.50 | | 48.40 | 12.60 | | |
| PSS476 | 45.65 | 0.00 | 2.27 | 120.00 | 6.81 | 89.80 | 4.50 | 31.63 | |
| PSS477 | 97.30 | 0.00 | 3.40 | 842.50 | 6.79 | 147.50 | 2.66 | 27.27 | |
| PSS478 | 49.80 | 0.00 | 1.21 | 371.00 | 6.98 | 78.60 | 4.73 | 28.12 | |
| PSS479 | 63.30 | 0.00 | 10.95 | 1145.00 | 7.18 | 238.00 | 3.64 | 27.24 | |
| PSS480 | 18.70 | 0.00 | 0.92 | 41.30 | 6.89 | 21.45 | 6.64 | 31.60 | |
| PSS481 | 33.75 | 0.00 | 1.40 | 92.65 | 6.80 | 40.50 | 4.06 | 31.39 | |
| PSS482 | 42.25 | 0.09 | 0.05 | 142.00 | 7.96 | 12.10 | 4.14 | 31.29 | |
| PSS483 | 61.40 | 0.59 | 4.40 | 21.20 | 7.07 | 73.25 | 7.42 | 31.65 | |
| PSS484 | 163.50 | 0.04 | 0.12 | 407.00 | 7.71 | 242.00 | 8.68 | 30.75 | |
| PSS485 | 63.55 | 0.00 | 10.50 | 97.65 | 7.93 | 56.20 | 3.28 | 29.19 | |
| PSS486 | 48.30 | 0.01 | 3.56 | 23.05 | 6.88 | 72.50 | 9.17 | 31.43 | |
| PSS487 | 50.25 | 0.50 | 0.32 | 12.95 | 6.84 | 64.30 | 9.51 | 31.58 | |
| PSS488 | 46.95 | 0.00 | 0.03 | 141.00 | 7.07 | 120.50 | 6.68 | 32.28 | |
| PSS489 | 92.55 | 0.01 | 0.02 | 74.10 | 6.64 | 272.00 | 6.22 | 31.64 | |
| PSS490 | 244.50 | 0.50 | 0.09 | 224.50 | 6.70 | 1187.50 | 4.87 | 31.64 | |
| PSS491 | 20.20 | 0.01 | 0.02 | 147.00 | 8.07 | 0.60 | 6.38 | 29.80 | |

# Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| PSS492 | 36.80 | 0.00 | 3.50 | 212.50 | 8.13 | 56.65 | 6.09 | 31.47 | |
| PSS493 | 42.05 | 0.00 | 0.43 | 55.10 | 6.59 | 22.60 | 3.14 | 31.11 | |
| PSS494 | 179.50 | 0.00 | 30.00 | 553.00 | 7.52 | 578.00 | 5.52 | 24.44 | |
| PSS495 | 102.60 | 0.00 | 5.00 | 387.00 | 7.23 | 258.00 | 7.27 | 26.78 | |
| PSS496 | 159.50 | 0.00 | 1.72 | 1055.00 | 6.68 | 632.50 | 5.58 | 28.29 | |
| PSS497 | 143.50 | 3.25 | 0.03 | 435.50 | 7.40 | 26.10 | 17.20 | 27.72 | |
| PSS498 | 74.50 | 0.00 | 53.50 | 83.85 | 6.90 | 93.40 | 7.14 | 27.77 | |
| PSS499 | 96.70 | 0.00 | 12.95 | 226.00 | 6.63 | 144.50 | 8.40 | 28.24 | |
| PSS500 | 155.50 | 0.00 | 2.25 | 585.00 | 6.67 | 500.50 | 11.67 | 30.33 | |
| PSS501 | 31.80 | 0.00 | 5.64 | 234.50 | 6.60 | 64.70 | 16.25 | 31.61 | |
| PSS502 | 43.55 | 0.00 | 0.58 | 196.50 | 7.44 | 17.45 | 6.34 | 26.34 | |
| PSS503 | 69.40 | 0.00 | 1.33 | 82.30 | | 115.00 | 11.26 | | |
| PSS504 | 36.10 | 0.00 | 0.86 | 58.60 | 6.47 | 39.80 | | 29.52 | |
| PSS505 | 84.30 | 0.02 | 0.01 | 177.00 | 6.86 | 53.00 | 9.65 | 32.48 | |
| PSS506 | 65.90 | 0.00 | 1.00 | 134.00 | 6.98 | 35.30 | | 30.40 | |
| PSS507 | 40.40 | 0.04 | 0.01 | 188.00 | 7.96 | 89.30 | 22.30 | 30.46 | |
| PSS508 | 45.90 | 0.00 | 0.43 | 133.00 | 6.92 | 64.80 | 19.00 | 31.35 | |
| PSS509 | 44.50 | 0.29 | 0.06 | 144.00 | 6.93 | 60.60 | 25.00 | 30.84 | |
| PSS510 | 40.60 | 0.01 | 0.40 | 165.00 | 7.05 | 82.80 | 18.88 | 30.10 | |
| New1 | | | | | 6.38 | | 2.99 | 33.10 | |
| New2 | | | | | 7.60 | | 7.50 | 26.50 | |
| New3 | | | | | 7.72 | | 5.45 | 31.20 | |
| New4 | | | | | 7.06 | | 1.54 | 26.40 | |
| New5 | | | | | 7.30 | | 0.86 | 29.60 | |
| New6 | | | | | 7.00 | | 1.32 | 27.50 | |
| New7 | | | | | 8.00 | | 0.94 | 30.00 | |
| New8 | | | | | | | 3.79 | 31.20 | |
| New9 | | | | | 6.95 | | 2.89 | 31.00 | |
| New10 | | | | | 6.38 | | 2.99 | 33.10 | |
| New11 | | | | | 7.09 | | 6.35 | 31.90 | |
| New12 | | | | | 6.99 | | 8.02 | 32.00 | |
| New13 | | | | | 7.60 | | 7.50 | 26.50 | |
| New14 | | | | | 7.02 | | 3.78 | 31.00 | |
| New15 | | | | | 7.72 | | 5.45 | 31.20 | |
| New16 | | | | | 7.02 | | 7.20 | 31.00 | |
| New17 | | | | | 5.67 | | 22.00 | 32.07 | |
| New18 | | | | | 6.13 | | 30.00 | 32.64 | |
| New19 | | | | | 5.38 | | 28.00 | 32.97 | |
| New20 | | | | | 5.34 | | 39.00 | 33.91 | |
| New21 | | | | | 5.42 | | 32.00 | 32.34 | |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| New22 | | | | | 5.35 | | 38.00 | 31.80 | |
| New23 | | | | | 5.27 | | 41.00 | 33.21 | |
| New24 | | | | | 5.26 | | 49.00 | 32.72 | |
| New25 | | | | | 5.98 | | 42.00 | 31.45 | |
| New26 | | | | | 6.27 | | 44.00 | 30.88 | |
| New27 | | | | | 5.58 | | 23.00 | 33.10 | |
| New28 | | | | | 5.57 | | 32.00 | | |
| New29 | | | | | 5.46 | | 33.00 | 31.75 | |
| New30 | | | | | 5.96 | | 30.00 | 32.90 | |
| New31 | | | | | 5.39 | | 39.00 | | |
| New32 | | | | | 7.50 | | 34.50 | 28.30 | |
| New33 | | | | | 7.00 | | 30.50 | 29.30 | |
| New34 | | | | | 7.20 | | 31.60 | 31.60 | |
| New35 | | | | | 7.00 | | 32.70 | 31.00 | |
| New36 | | | | | 6.70 | | 33.53 | 31.03 | |
| New37 | | | | | 6.70 | | 31.90 | 30.70 | |
| New38 | | | | | 7.10 | | 31.50 | 27.30 | |
| New39 | | | | | 7.40 | | 33.80 | 29.50 | |
| New40 | | | | | 7.03 | | 35.57 | 30.63 | |
| New41 | | | | | 6.80 | | 27.70 | 28.20 | |
| New42 | | | | | 6.80 | | 40.00 | 29.70 | |
| New43 | | | | | 5.10 | | 25.40 | 30.00 | |
| New44 | | | | | 4.70 | | 15.80 | 31.20 | |
| New45 | | | | | 6.10 | | 41.00 | 30.90 | |
| New46 | | | | | 6.70 | | 39.00 | 30.00 | |
| New47 | | | | | 6.90 | | 34.75 | 31.05 | |
| New48 | | | | | 6.70 | | 36.45 | 30.95 | |
| New49 | | | | | 5.80 | | 38.90 | 29.90 | |
| New50 | | | | | 6.90 | | 37.20 | 31.30 | |
| New51 | | | | | 6.70 | | 35.40 | 31.25 | |
| New52 | | | | | 6.70 | | 33.60 | 32.70 | |
| New53 | | | | | 6.80 | | 39.30 | 30.70 | |
| New54 | | | | | 6.80 | | 38.70 | 30.60 | |
| New55 | | | | | 7.00 | | 7.63 | 30.80 | |
| New56 | | | | | 6.90 | | 10.69 | 30.10 | |
| New57 | | | | | 6.45 | | 10.66 | 28.65 | |
| New58 | | | | | 7.95 | | 7.89 | 30.00 | |
| New59 | | | | | 6.70 | | 16.20 | 30.20 | |
| New60 | | | | | 6.97 | | 13.66 | 29.77 | |
| New61 | | | | | 6.90 | | 18.61 | 31.10 | |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| New62 | | | | | 6.70 | | 9.95 | 30.50 | |
| New63 | | | | | 6.20 | | 5.40 | 29.60 | |
| New64 | | | | | 6.80 | | 6.00 | 30.60 | |
| New65 | | | | | 6.70 | | 9.30 | 31.60 | |
| New66 | | | | | 6.70 | | 9.30 | 31.50 | |
| New67 | | | | | 6.70 | | 8.70 | 30.60 | |
| New68 | | | | | 7.20 | | 14.30 | 31.10 | |
| New69 | | | | | 7.20 | | 8.70 | 31.10 | |
| New70 | | | | | 5.80 | | 9.80 | 30.90 | |
| New71 | | | | | 7.00 | | 15.20 | 30.60 | |
| New72 | | | | | 6.30 | | 11.70 | 28.50 | |
| New73 | | | | | 6.35 | | 10.00 | 30.00 | |
| New74 | | | | | 6.30 | | 8.90 | 29.50 | |
| New75 | | | | | 4.80 | | 13.30 | 30.60 | |
| New76 | | | | | 6.50 | | 6.20 | 30.10 | |
| New77 | | | | | 6.40 | | 8.10 | 30.60 | |
| New78 | | | | | 5.30 | | 13.10 | 29.60 | |
| New79 | | | | | 6.67 | | 17.13 | 30.23 | |
| New80 | | | | | 7.40 | | 22.00 | 29.90 | |
| New81 | | | | | 5.20 | | 13.80 | 30.70 | |
| New82 | | | | | 5.90 | | 21.70 | 31.20 | |
| New83 | | | | | 6.70 | | 19.80 | 29.90 | |
| New84 | | | | | 6.30 | | 16.60 | 30.40 | |
| New85 | | | | | 6.40 | | 8.50 | 31.00 | |
| New86 | | | | | 5.30 | | 20.35 | 30.80 | |
| New87 | | | | | 7.10 | | 13.27 | 29.90 | |
| New88 | | | | | 7.20 | | 7.86 | 31.00 | |
| New89 | | | | | 7.40 | | 6.74 | 31.60 | |
| New90 | | | | | 7.20 | | 7.64 | 30.40 | |
| New91 | | | | | 6.80 | | 6.90 | 30.90 | |
| New92 | | | | | 7.20 | | 16.10 | 30.10 | |
| New93 | | | | | 7.40 | | 4.50 | 30.70 | |
| New94 | | | | | 7.40 | | 5.35 | 29.95 | |
| New95 | | | | | 7.65 | | 7.45 | 30.55 | |
| New96 | | | | | 7.40 | | 10.80 | 29.95 | |
| New97 | | | | | 7.20 | | 12.50 | 30.60 | |
| New98 | | | | | 7.05 | | 13.10 | 30.75 | |
| New99 | | | | | 5.70 | | 3.10 | 30.80 | |
| New100 | | | | | 5.20 | | 8.90 | 30.70 | |
| New101 | | | | | 6.40 | | 19.60 | 29.70 | |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| New102 | | | | | 7.00 | | 23.50 | 29.20 | |
| New103 | | | | | 6.10 | | 28.10 | 31.50 | |
| New104 | | | | | 6.40 | | 24.70 | 31.40 | |
| New105 | | | | | 6.80 | | 24.90 | 31.00 | |
| New106 | | | | | 6.90 | | 24.00 | 30.20 | |
| New107 | | | | | 5.95 | | 16.95 | 30.85 | |
| New108 | | | | | 7.40 | | 15.20 | 30.50 | |
| New109 | | | | | 6.85 | | 15.65 | 29.75 | |
| New110 | | | | | 6.60 | | | 30.20 | |
| New111 | | | | | 5.90 | | 5.30 | 29.80 | |
| New112 | | | | | 6.70 | | 14.70 | 31.40 | |
| New113 | | | | | 6.60 | | 13.45 | 31.30 | |
| New114 | | | | | 7.60 | | | 29.60 | |
| New115 | | | | | 6.80 | | 10.75 | 31.60 | |
| New116 | | | | | 7.60 | | 12.10 | 31.30 | |
| New117 | | | | | 7.40 | | 26.60 | 31.70 | |
| New118 | | | | | 7.30 | | 22.60 | 31.40 | |
| New119 | | | | | 6.83 | | 19.00 | 30.10 | |
| New120 | | | | | 7.10 | | 13.10 | 29.00 | |
| New121 | | | | | 6.50 | | 2.80 | 28.80 | |
| New122 | | | | | 6.45 | | 2.00 | 28.75 | |
| New123 | | | | | 6.70 | | 30.10 | 28.20 | |
| New124 | | | | | 6.70 | | 3.35 | 28.60 | |
| New125 | | | | | 6.55 | | 5.85 | 29.45 | |
| New126 | | | | | 5.80 | | 5.65 | 28.20 | |
| New127 | | | | | 6.65 | | 6.40 | 28.20 | |
| New128 | | | | | 6.80 | | 6.10 | 28.90 | |
| New129 | | | | | 6.40 | | 6.40 | 29.20 | |
| New130 | | | | | 6.70 | | 6.40 | 30.40 | |
| New131 | | | | | 7.40 | | 7.60 | 28.40 | |
| New132 | | | | | 6.70 | | 14.50 | 29.30 | |
| New133 | | | | | 6.60 | | 8.90 | 30.60 | |
| New134 | | | | | 6.70 | | 6.80 | 30.90 | |
| New135 | | | | | 4.80 | | 6.30 | 29.20 | |
| New136 | | | | | 5.80 | | 7.20 | 29.80 | |
| New137 | | | | | 6.50 | | 12.00 | 30.20 | |
| New138 | | | | | 6.40 | | 5.90 | 31.90 | |
| New139 | | | | | 7.10 | | 9.80 | 31.60 | |
| New140 | | | | | 6.00 | | 6.10 | 27.50 | |
| New141 | | | | | 5.90 | | 6.20 | 30.90 | |

# Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| New142 | | | | | 5.10 | | 15.25 | 30.70 | |
| New143 | | | | | 5.00 | | 16.20 | 31.40 | |
| New144 | | | | | 5.50 | | 3.00 | 28.10 | |
| New145 | | | | | 6.40 | | 4.90 | 31.50 | |
| New_NT_13 | | | | | 7.30 | | 13.00 | 27.26 | |
| New_NT_14 | | | | | 7.48 | | 13.00 | 26.19 | |
| New_NT_15 | | | | | 7.25 | | 13.00 | 26.39 | |
| New_NT_16 | | | | | 7.49 | | 13.00 | 26.76 | |
| New_NT_17 | | | | | | | 37.00 | | |
| New_NT_18 | | | | | 7.60 | | 14.00 | 24.12 | |
| 1 | | | | | | | 14.20 | | |
| 10 | | | | | 6.96 | | | | |
| 100 | | | | | 8.91 | | 7.75 | 22.40 | |
| 101 | | | | | 8.51 | | 46.71 | 24.60 | |
| 102 | | | | | | | | | |
| 103 | | | | | | | | | |
| 104 | | | | | | | | | |
| 105 | | | | | | | | | |
| 106 | | | | | | | | | |
| 107 | | | | | | | | | |
| 108 | | | | | | | | | |
| 109 | | | | | | | | | |
| 11 | | | | | 7.65 | | 8.64 | 26.20 | |
| 110 | | | | | | | | | |
| 111 | | | | | | | | | |
| 112 | | | | | | | | | |
| 113 | | | | | 7.45 | | 1.00 | 27.10 | |
| 114 | | | | | 6.57 | | 8.00 | 25.90 | |
| 115 | | | | | 6.95 | | 3.00 | 25.70 | |
| 116 | | | | | 6.32 | | 19.00 | 27.50 | |
| 117 | | | | | 7.97 | | 21.03 | 27.00 | |
| 118 | | | | | 8.33 | | 10.57 | 26.80 | |
| 119 | | | | | 11.70 | | 27.08 | 27.00 | |
| 12 | | | | | | | 9.00 | | |
| 120 | | | | | 6.82 | | 33.47 | 28.40 | |
| 121 | | | | | 6.34 | | 34.19 | 26.70 | |
| 122 | | | | | 10.39 | | 80.69 | 28.50 | |
| 123 | | | | | 11.77 | | 55.95 | 24.20 | |
| 124 | | | | | 12.07 | | 42.70 | 28.40 | |
| 125 | | | | | 7.33 | | 23.10 | 24.80 | |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| 126 | | | | | 8.21 | | 21.20 | 24.65 | |
| 127 | | | | | 6.64 | | 26.85 | 25.45 | |
| 128 | | | | | 7.66 | | 25.55 | 25.30 | |
| 129 | | | | | 8.44 | | 28.30 | 27.40 | |
| 13 | | | | | | | 16.70 | | |
| 130 | | | | | 7.12 | | 26.60 | 26.85 | |
| 131 | | | | | 11.29 | | 47.00 | 28.95 | |
| 132 | | | | | 7.07 | | 37.05 | 25.50 | |
| 133 | | | | | 6.76 | | 38.90 | 25.95 | |
| 134 | | | | | 6.87 | | 39.40 | 25.60 | |
| 135 | | | | | 7.48 | | 28.20 | 27.70 | |
| 136 | | | | | 6.83 | | 30.30 | 27.25 | |
| 137 | | | | | | | | | |
| 138 | | | | | 6.73 | | 10.65 | 27.05 | |
| 139 | | | | | 6.82 | | 3.95 | 23.75 | |
| 14 | | | | | | | 14.50 | | |
| 140 | | | | | 7.05 | | 1.40 | 23.40 | |
| 141 | | | | | 6.68 | | 11.30 | 27.70 | |
| 142 | | | | | 6.85 | | 6.05 | 26.90 | |
| 143 | | | | | 9.07 | | 23.30 | 27.60 | |
| 144 | | | | | 7.42 | | 4.50 | 25.25 | |
| 145 | | | | | 7.39 | | 21.73 | 24.60 | |
| 146 | | | | | 7.70 | | | 24.30 | |
| 147 | | | | | 7.45 | | | 19.60 | |
| 148 | | | | | 7.32 | | | 19.80 | |
| 149 | | | | | 6.85 | | 9.66 | 30.80 | |
| 15 | | | | | | | 21.80 | | |
| 150 | | | | | 8.10 | | 49.21 | 23.30 | |
| 151 | | | | | 8.15 | | 49.85 | 25.00 | |
| 152 | | | | | 8.22 | | 39.13 | 22.80 | |
| 153 | | | | | 8.08 | | 48.09 | 23.70 | |
| 154 | | | | | 8.11 | | 59.72 | 25.70 | |
| 155 | | | | | 8.05 | | 61.57 | 25.30 | |
| 156 | | | | | | | | | |
| 159 | | | | | | | 19.53 | | |
| 16 | | | | | | | 20.10 | | |
| 160 | | | | | | | 13.86 | | |
| 161 | | | | | | | 25.83 | | |
| 162 | | | | | | | 28.35 | | |
| 163 | | | | | | | 4.41 | | |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| 164 | | | | | | | 32.13 | | |
| 165 | | | | | | | 13.23 | | |
| 166 | | | | | | | 0.50 | | |
| 167 | | | | | | | 2.52 | | |
| 168 | | | | | | | 16.38 | | |
| 169 | | | | | 7.06 | | 13.00 | 27.20 | |
| 17 | | | | | | | 22.10 | | |
| 170 | | | | | 6.44 | | 23.00 | 28.00 | |
| 171 | | | | | | | | | |
| 172 | | | | | | | | | |
| 173 | | | | | | | | | |
| 174 | | | | | | | 16.38 | | |
| 175 | | | | | | | 3.15 | | |
| 176 | | | | | 7.25 | | | 25.10 | |
| 177 | | | | | | | | | |
| 178 | | | | | 6.70 | | 30.00 | 22.40 | |
| 179 | | | | | 6.80 | | 35.00 | 23.20 | |
| 18 | | | | | | | 44.50 | | |
| 180 | | | | | 7.20 | | 11.00 | 24.20 | |
| 181 | | | | | 6.70 | | 12.00 | 26.10 | |
| 182 | | | | | 6.80 | | 12.00 | 24.80 | |
| 183 | | | | | 6.80 | | 19.00 | 26.30 | |
| 184 | | | | | 6.50 | | 15.00 | 23.80 | |
| 185 | | | | | 6.90 | | 20.00 | 26.20 | |
| 186 | | | | | 7.21 | | | 19.20 | |
| 187 | | | | | 8.30 | | | 19.30 | |
| 188 | | | | | 8.01 | | | 21.50 | |
| 189 | | | | | 6.98 | | | 25.40 | 4.00 |
| 19 | | | | | 8.42 | | 24.15 | 27.60 | |
| 190 | | | | | 8.26 | | | 25.50 | |
| 192 | | | | | 7.13 | | 23.73 | 22.40 | |
| 193 | | | | | 7.27 | | 4.13 | 24.10 | |
| 194 | | | | | | | 12.06 | | 59.00 |
| 195 | | | | | | | 21.84 | | 23.00 |
| 196 | | | | | | | | | 41.00 |
| 197 | | | | | | | | | |
| 198 | | | | | | | | | |
| 199 | | | | | | | | | |
| 2 | | | | | | | 14.45 | | 54.00 |
| 20 | | | | | 7.77 | | 28.10 | 28.20 | |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| 200 | | | | | | | | | |
| 201 | | | | | | | | | |
| 202 | | | | | | | | | |
| 203 | | | | | | | | | |
| 204 | | | | | | | | | |
| 205 | | | | | | | | | |
| 206 | | | | | 7.48 | | | 19.50 | |
| 207 | | | | | 7.03 | | | 20.90 | |
| 208 | | | | | 6.97 | | 43.57 | 31.30 | |
| 209 | | | | | 7.08 | | 33.22 | 28.90 | |
| 21 | | | | | 8.03 | | 28.28 | 27.10 | |
| 210 | | | | | 7.12 | | 30.01 | 30.10 | |
| 211 | | | | | 6.89 | | 43.02 | 29.80 | |
| 213 | | | | | 6.82 | | | 25.20 | |
| 214 | | | | | 6.86 | | | 26.30 | |
| 215 | | | | | 8.35 | | 59.22 | 24.50 | |
| 216 | | | | | 7.22 | | | 21.80 | |
| 217 | | | | | 6.90 | | | 24.90 | |
| 218 | | | | | | | | | |
| 219 | | | | | | | | | 4.50 |
| 22 | | | | | 7.70 | | 14.75 | 26.90 | |
| 222 | | | | | 7.70 | | | | 43.70 |
| 223 | | | | | 8.03 | | | 26.90 | |
| 225 | | | | | 7.27 | | | 23.00 | |
| 226 | | | | | 7.70 | | | | 12.30 |
| 227 | | | | | 7.51 | | 7.75 | 20.60 | 8.00 |
| 228 | | | | | 7.50 | | | | 31.50 |
| 229 | | | | | 7.30 | | | | 19.50 |
| 23 | | | | | | | 7.80 | | |
| 230 | | | | | 7.15 | | 8.11 | 20.30 | 5.20 |
| 231 | | | | | 7.80 | | | | 19.50 |
| 233 | | | | | 6.94 | | | 26.50 | |
| 234 | | | | | 7.54 | | 3.06 | 22.40 | |
| 24 | | | | | 7.57 | | 17.16 | 28.15 | |
| 240 | | | | | | | | | 26.00 |
| 242 | | | | | 8.40 | | | | 220.00 |
| 244 | | | | | | | | | 127.00 |
| 248 | | | | | 7.60 | | | | 59.00 |
| 249 | | | | | | | | | 6.00 |
| 25 | | | | | 9.15 | | 9.15 | 28.40 | |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| 250 | | | | | 7.10 | | | | |
| 253 | | | | | | | | | 74.00 |
| 255 | | | | | 7.20 | | | | 42.00 |
| 257 | | | | | | | | | 77.00 |
| 259 | | | | | 7.60 | | | | 32.00 |
| 26 | | | | | 7.80 | | 12.08 | 27.80 | |
| 260 | | | | | | | | | 28.00 |
| 263 | | | | | | | | | 78.50 |
| 265 | | | | | | | | | 28.00 |
| 267 | | | | | | | | | 101.00 |
| 269 | | | | | 8.30 | | | | 9.50 |
| 27 | | | | | 8.67 | | 15.50 | 27.40 | |
| 270 | | | | | | | | | |
| 271 | | | | | 11.23 | | | 26.90 | 161.00 |
| 272 | | | | | 10.27 | | | 30.70 | 187.00 |
| 273 | | | | | 8.01 | | | 28.30 | 111.00 |
| 274 | | | | | 9.91 | | | 27.50 | 236.60 |
| 275 | | | | | 10.02 | | | 29.20 | 317.50 |
| 276 | | | | | 7.94 | | | 24.60 | 141.00 |
| 277 | | | | | 11.07 | | | 28.00 | 132.00 |
| 278 | | | | | 9.56 | | | 27.00 | 182.50 |
| 279 | | | | | 8.17 | | | 25.80 | 141.00 |
| 28 | | | | | 6.84 | | 28.82 | 28.50 | |
| 280 | | | | | 11.23 | | | 25.80 | 173.00 |
| 281 | | | | | 11.17 | | | 25.20 | 203.30 |
| 283 | | | | | 6.79 | | 10.08 | 29.90 | |
| 284 | | | | | 7.94 | | 65.07 | 25.90 | |
| 285 | | | | | | | | | |
| 286 | | | | | | | | | |
| 287 | | | | | | | | | |
| 288 | | | | | | | | | |
| 29 | | | | | 6.78 | | 24.93 | 30.20 | |
| 292 | | | | | 7.01 | | 2.62 | 21.20 | |
| 293 | | | | | 8.72 | | 21.39 | 21.70 | |
| 294 | | | | | 8.08 | | 7.96 | 21.10 | |
| 295 | | | | | 7.39 | | 30.75 | 22.50 | |
| 296 | | | | | 7.76 | | 18.91 | 23.70 | |
| 297 | | | | | 6.94 | | 42.84 | 30.80 | |
| 298 | | | | | 6.91 | | 45.58 | 30.90 | |
| 299 | | | | | | | 39.47 | | |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| 3 | | | | | | | 13.31 | | 9.05 |
| 30 | | | | | 6.57 | | 14.70 | 26.60 | |
| 300 | | | | | | | 33.54 | | |
| 301 | | | | | | | 19.50 | | |
| 302 | | | | | | | 47.00 | | |
| 303 | | | | | | | 44.81 | | |
| 304 | | | | | | | 49.20 | | |
| 305 | | | | | | | 40.62 | | |
| 306 | | | | | | | 35.48 | | |
| 307 | | | | | | | 28.65 | | |
| 308 | | | | | | | 39.24 | | |
| 309 | | | | | | | 50.33 | | |
| 31 | | | | | 7.08 | | 8.65 | 30.50 | |
| 310 | | | | | | | 57.11 | | |
| 311 | | | | | | | 45.59 | | |
| 312 | | | | | | | 48.34 | | |
| 313 | | | | | | | 54.84 | | |
| 314 | | | | | | | 53.31 | | |
| 315 | | | | | | | 46.86 | | |
| 316 | | | | | | | 41.75 | 31.70 | |
| 317 | | | | | 6.90 | | 54.82 | 30.30 | |
| 32 | | | | | 6.50 | | 11.51 | 27.80 | |
| 320 | | | | | 7.08 | | 24.16 | 22.70 | |
| 321 | | | | | | | | | |
| 322 | | | | | | | | | |
| 323 | | | | | | | | | |
| 324 | | | | | | | | | |
| 325 | | | | | | | | | |
| 326 | | | | | | | | | |
| 33 | | | | | 6.85 | | 45.63 | 26.40 | |
| 334 | | | | | | | | | |
| 335 | | | | | | | | | |
| 336 | | | | | | | | | |
| 337 | | | | | | | | | |
| 338 | | | | | | | | | |
| 339 | | | | | | | | | |
| 34 | | | | | 6.92 | | 46.95 | 25.60 | |
| 340 | | | | | | | | | |
| 341 | | | | | | | | | |
| 342 | | | | | | | | | |

# Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| 343 | | | | | | | | | |
| 344 | | | | | | | | | |
| 345 | | | | | | | 30.50 | | |
| 346 | | | | | | | | | |
| 347 | | | | | | | | | |
| 348 | | | | | | | | | |
| 349 | | | | | 7.35 | | 25.51 | 26.10 | |
| 35 | | | | | 7.85 | | 40.96 | 26.60 | |
| 350 | | | | | | | | | |
| 351 | | | | | | | | | |
| 352 | | | | | | | | | |
| 353 | | | | | 7.57 | | 35.97 | 25.10 | |
| 354 | | | | | 7.66 | | 24.91 | 25.40 | |
| 355 | | | | | 7.58 | | 38.65 | 23.10 | |
| 356 | | | | | 9.57 | | 11.73 | 24.50 | |
| 357 | | | | | 7.46 | | 7.08 | 25.80 | |
| 358 | | | | | 8.52 | | 44.29 | 24.60 | |
| 359 | | | | | 10.07 | | 48.03 | 24.80 | |
| 36 | | | | | 7.61 | | 29.64 | 25.10 | |
| 360 | | | | | 6.39 | | | 25.10 | 15.00 |
| 361 | | | | | 8.01 | | | 24.90 | 43.20 |
| 362 | | | | | 7.13 | | | 24.60 | 18.00 |
| 363 | | | | | 8.68 | | | 24.80 | 47.00 |
| 364 | | | | | 7.05 | | 34.70 | 31.10 | |
| 365 | | | | | | | 42.96 | | |
| 366 | | | | | 6.76 | | 29.92 | 33.60 | |
| 367 | | | | | | | | | |
| 368 | | | | | 7.82 | | | 25.90 | |
| 369 | | | | | 8.96 | | | 26.60 | 99.00 |
| 37 | | | | | 7.85 | | 31.65 | 26.20 | |
| 370 | | | | | 11.86 | | | 26.90 | 129.10 |
| 371 | | | | | 9.36 | | | 27.70 | 144.00 |
| 372 | | | | | 7.74 | | 28.86 | 23.90 | |
| 373 | | | | | 7.68 | | 25.31 | 23.90 | |
| 374 | | | | | | | | | |
| 38 | | | | | 6.25 | | 33.97 | 23.60 | |
| 39 | | | | | 6.24 | | 31.12 | 24.90 | |
| 4 | | | | | | | 15.05 | | |
| 40 | | | | | 7.11 | | 42.69 | 25.40 | |
| 41 | | | | | 6.85 | | 34.63 | 24.40 | |

# Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| 42 | | | | | 8.35 | | 27.69 | 26.50 | |
| 43 | | | | | 6.87 | | 32.80 | 26.10 | |
| 44 | | | | | 7.54 | | 32.36 | 26.30 | |
| 45 | | | | | 8.05 | | 26.52 | 26.60 | |
| 46 | | | | | 7.01 | | 30.06 | 26.60 | |
| 47 | | | | | 6.91 | | 26.70 | 25.30 | |
| 48 | | | | | 6.48 | | 26.29 | 25.40 | |
| 49 | | | | | 7.85 | | 26.32 | 26.20 | |
| 5 | | | | | 6.95 | | | 24.50 | |
| 50 | | | | | 7.71 | | 23.34 | 26.70 | |
| 51 | | | | | 7.32 | | 28.01 | 25.00 | |
| 52 | | | | | 7.06 | | 45.96 | 27.30 | |
| 53 | | | | | 7.01 | | 52.42 | 27.80 | |
| 54 | | | | | 6.97 | | 51.51 | 27.50 | |
| 55 | | | | | 7.08 | | 27.74 | 28.00 | |
| 56 | | | | | 7.12 | | 32.18 | 25.60 | |
| 57 | | | | | 6.86 | | 32.34 | 25.40 | |
| 58 | | | | | 6.71 | | 34.62 | 25.90 | |
| 584 | | | | | 4.89 | | 3.85 | | |
| 585 | | | | | 4.96 | | 4.39 | | |
| 586 | | | | | 4.96 | | 7.62 | | |
| 587 | | | | | 4.97 | | 2.20 | | |
| 588 | | | | | 4.83 | | 2.84 | | |
| 589 | | | | | 4.98 | | 4.90 | | |
| 59 | | | | | 7.03 | | 34.67 | 26.30 | |
| 590 | | | | | 4.93 | | 6.08 | | |
| 591 | | | | | 5.04 | | 6.83 | | |
| 592 | | | | | 5.15 | | 4.51 | | |
| 593 | | | | | 5.05 | | 2.29 | | |
| 594 | | | | | | | | | |
| 595 | | | | | | | | | |
| 596 | | | | | | | | | |
| 597 | | | | | | | | | |
| 598 | | | | | | | | | |
| 599 | | | | | | | | | |
| 6 | | | | | | | | | |
| 60 | | | | | 7.93 | | 17.87 | 25.60 | |
| 600 | | | | | | | | | |
| 601 | | | | | | | | | |
| 602 | | | | | | | | | |

# Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| 603 | | | | | | | | | |
| 61 | | | | | 7.35 | | 16.83 | 26.30 | |
| 62 | | | | | 6.91 | | 15.23 | 25.70 | |
| 63 | | | | | 7.61 | | 16.72 | 25.90 | |
| 64 | | | | | 6.71 | | 20.50 | 26.30 | |
| 65 | | | | | 7.42 | | 24.83 | 27.00 | |
| 66 | | | | | 7.26 | | 18.89 | 26.20 | |
| 67 | | | | | 7.37 | | 16.74 | 26.20 | |
| 68 | | | | | 7.11 | | 19.10 | 26.40 | |
| 69 | | | | | 6.74 | | 19.74 | 26.30 | |
| 7 | | | | | | | 12.31 | | |
| 70 | | | | | 6.91 | | 10.78 | 26.20 | |
| 71 | | | | | 7.34 | | 9.48 | 26.50 | |
| 72 | | | | | 7.31 | | 9.83 | 26.20 | |
| 73 | | | | | | | | | |
| 74 | | | | | | | | | |
| 75 | | | | | | | | | |
| 76 | | | | | 6.45 | | | 25.80 | 43.50 |
| 77 | | | | | 6.93 | | | 23.00 | 41.00 |
| 78 | | | | | | | | 25.30 | 19.00 |
| 79 | | | | | 6.50 | | | 25.60 | 40.50 |
| 8 | | | | | | | | | |
| 80 | | | | | 6.45 | | | 26.40 | 14.00 |
| 81 | | | | | 6.55 | | | 25.10 | 15.00 |
| 82 | | | | | | | 25.20 | | |
| 83 | | | | | 7.57 | | 4.73 | 19.90 | |
| 84 | | | | | 7.98 | | 43.50 | 24.60 | |
| 85 | | | | | 8.08 | | 50.33 | 26.20 | |
| 86 | | | | | 7.76 | | 63.18 | 25.10 | |
| 87 | | | | | 7.98 | | 60.32 | 26.20 | |
| 88 | | | | | 8.23 | | 49.88 | 25.20 | |
| 89 | | | | | 7.86 | | 42.92 | 25.00 | |
| 9 | | | | | | | | | |
| 90 | | | | | 6.86 | | 7.79 | 22.70 | |
| 91 | | | | | 7.37 | | 23.95 | 23.00 | |
| 92 | | | | | 8.12 | | 59.43 | 24.10 | |
| 93 | | | | | 7.95 | | 49.39 | 26.70 | |
| 94 | | | | | 7.89 | | 42.80 | 25.10 | |
| 95 | | | | | 8.23 | | 42.87 | 24.80 | |
| 96 | | | | | 7.53 | | 13.46 | 23.80 | |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| 97 | | | | | 7.49 | | 15.22 | 23.20 | |
| 98 | | | | | 7.06 | | 14.53 | 23.60 | |
| 99 | | | | | | | 58.98 | | |
| 375 | | | | | 7.64 | | 29.64 | 26.70 | |
| 376 | 83.00 | | 6.00 | 564.00 | 7.04 | 50.00 | 13.95 | 25.90 | |
| 377 | 9.60 | 0.04 | 3.00 | 210.00 | 6.97 | 18.50 | 10.53 | 25.20 | |
| 378 | | | | | | | 21.00 | | |
| 379 | | | | | | | | | |
| 380 | | | | | | | | | |
| 381 | | | | | | | | | |
| 382 | | | | | | | | | |
| 383 | 22.99 | 0.12 | 5.23 | 84.66 | 6.52 | 10.87 | 5.51 | 26.37 | |
| 384 | 17.27 | 0.13 | 0.20 | 73.10 | 7.68 | 6.22 | 8.57 | 26.46 | |
| 385 | 20.80 | 0.01 | 0.40 | 55.70 | 7.40 | 1.70 | 11.03 | | |
| 386 | 871.06 | 3.58 | 5.47 | 6679.97 | 7.68 | 1709.97 | 4.20 | 26.39 | |
| 387 | 73.14 | 0.06 | 1.57 | 717.15 | 7.30 | 41.59 | 10.17 | 27.15 | |
| 388 | 30.60 | 0.01 | 6.66 | 178.29 | 6.95 | 12.01 | 6.60 | 26.01 | |
| 389 | 12.92 | 0.01 | 2.46 | 55.27 | 7.90 | 2.99 | 7.76 | 25.98 | |
| 390 | 17.42 | 0.43 | 0.40 | 74.50 | 7.40 | 6.70 | 4.43 | 25.30 | |
| 391 | 47.36 | 0.01 | 1.70 | 1369.80 | 7.88 | 207.59 | 6.13 | 27.06 | |
| 392 | 22.10 | 0.07 | 0.96 | 62.43 | 7.60 | 4.50 | 6.93 | 26.73 | |
| 393 | 18.10 | 0.03 | 3.31 | 187.63 | 7.93 | 11.75 | 4.77 | 26.41 | |
| 394 | 21.08 | 0.01 | 4.63 | 135.25 | 8.10 | 7.78 | 7.08 | | |
| 395 | 28.44 | 0.08 | 1.22 | 222.66 | 7.70 | 16.80 | 5.63 | 26.65 | |
| 396 | 9.73 | 0.08 | 0.22 | 148.40 | 7.20 | 4.05 | 8.65 | 27.25 | |
| 397 | 225.08 | 0.01 | 7.55 | 2408.63 | 8.03 | 199.18 | 7.61 | | |
| 398 | 17.00 | | 30.00 | 77.00 | 8.00 | 21.00 | 9.27 | 26.73 | |
| 399 | 5.10 | 1.70 | 0.10 | 24.00 | 6.60 | 12.00 | 7.07 | 26.34 | |
| 400 | 6.95 | 1.40 | 0.30 | 20.50 | 7.15 | 3.85 | 3.64 | 27.42 | |
| 401 | 56.00 | | 16.00 | 380.00 | 8.10 | 24.00 | 3.60 | 27.07 | |
| 402 | 49.55 | 0.01 | 0.63 | 133.35 | 7.90 | 16.83 | 11.25 | | |
| 403 | 156.61 | 0.01 | 11.94 | 330.02 | 6.93 | 53.19 | 3.04 | 27.96 | |
| 404 | 46.50 | 0.04 | 9.15 | 2275.00 | 8.30 | 44.25 | 2.18 | | |
| 405 | 100.00 | | 67.00 | 340.00 | 6.70 | 31.00 | 6.08 | 25.73 | |
| 406 | | | | | 7.10 | | 4.13 | 25.87 | |
| 407 | | | | | 6.80 | | 16.30 | 24.90 | |
| 408 | 258.75 | 0.10 | 2.65 | 4160.00 | 7.98 | 850.00 | 24.22 | 28.80 | |
| 409 | 2.90 | 0.01 | 0.75 | 32.00 | 6.82 | 9.05 | 4.83 | 25.70 | |
| 410 | 17.00 | | | 212.00 | 8.40 | 46.00 | 2.59 | | |
| 411 | 28.33 | 0.03 | 21.40 | 275.46 | 8.09 | 37.43 | 6.01 | 26.72 | |

Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| 412 | 5.66 | 0.03 | 2.93 | 40.08 | 6.55 | 14.02 | 3.00 | 22.70 | |
| 413 | 10.50 | | 7.62 | 31.12 | 6.55 | 11.37 | 2.88 | 24.03 | |
| 414 | 5.15 | 0.22 | 6.45 | 18.00 | 6.80 | 13.95 | 3.40 | 23.80 | |
| 415 | 46.20 | | 5.10 | 64.80 | 7.55 | 1.15 | 6.90 | 27.40 | |
| 416 | 14.94 | 0.11 | 2.32 | 42.54 | 6.85 | 5.84 | 10.45 | 23.75 | |
| 417 | 17.57 | 0.01 | 50.02 | 31.59 | 7.32 | 2.65 | 2.80 | 25.49 | |
| 418 | 98.23 | 0.00 | 1.85 | 205.78 | 6.50 | 16.03 | 9.80 | 25.00 | |
| 419 | 35.78 | 0.01 | 9.95 | 83.28 | 7.29 | 5.29 | 10.50 | 25.71 | |
| 420 | | | | | | | 7.70 | | |
| 421 | 17.76 | 0.01 | 18.57 | 47.76 | 7.01 | 4.29 | 15.80 | 25.48 | |
| 422 | 10.73 | 0.42 | 30.45 | 29.40 | 6.30 | 7.10 | 14.60 | 24.73 | |
| 423 | 241.43 | 0.97 | 12.39 | 3227.95 | 7.10 | 1134.23 | 2.93 | 26.23 | |
| 424 | 457.70 | 0.17 | 5.73 | 5069.39 | 7.07 | 1498.39 | 3.10 | 26.50 | |
| 425 | 53.05 | | 30.55 | 59.53 | 7.10 | 9.15 | 2.48 | 23.90 | |
| 426 | 21.70 | | 10.93 | 36.07 | 6.35 | 5.17 | 14.20 | 24.55 | |
| 427 | 70.46 | 0.28 | 6.38 | 172.37 | 6.36 | 6.62 | 8.00 | 25.18 | |
| 428 | 25.33 | 0.02 | 12.04 | 90.00 | 6.73 | 6.53 | 4.94 | 24.70 | |
| 429 | 13.33 | 0.00 | 13.23 | 46.80 | 6.42 | 9.30 | 9.80 | 24.27 | |
| 430 | 16.76 | 0.01 | 2.46 | 59.68 | 6.68 | 32.86 | 6.70 | 25.72 | |
| 431 | 11.70 | 0.00 | 3.22 | 145.12 | 7.84 | 3.42 | 2.74 | 25.90 | 8.60 |
| 432 | 3.56 | 0.01 | 1.01 | 97.01 | 7.39 | 11.35 | 7.71 | 26.00 | 14.50 |
| 433 | 18.94 | 0.01 | 1.94 | 36.92 | 7.60 | 3.76 | 19.75 | 25.83 | 28.60 |
| 434 | 76.00 | | 1.00 | 120.00 | 8.00 | 38.00 | 16.58 | 23.35 | |
| 435 | 15.00 | | | 68.00 | 7.30 | 12.00 | 13.26 | 26.65 | |
| 436 | 95.50 | 0.01 | 0.50 | 155.00 | 7.70 | 48.50 | 14.57 | | |
| 437 | | | | | 8.20 | | 13.37 | 23.20 | |
| 438 | | | | | 8.20 | | 11.90 | 22.60 | |
| 439 | | | | | | | 10.17 | 25.20 | |
| 440 | 118.80 | 0.01 | 2.12 | 221.60 | 6.97 | 57.53 | 12.45 | 25.29 | |
| 441 | 1.10 | | 0.20 | 137.00 | 7.70 | 36.50 | 12.15 | 23.70 | |
| 442 | 0.90 | | 0.40 | 237.00 | 8.40 | 0.70 | 13.96 | 25.90 | |
| 443 | | | | | 7.70 | | 3.00 | 26.10 | |
| 444 | 1.85 | 0.01 | 2.20 | 36.15 | 5.38 | 7.75 | 1.91 | 24.80 | |
| 445 | 433.68 | 2.50 | 0.06 | 2001.88 | 5.66 | 549.00 | 0.95 | 23.50 | 9.96 |
| 446 | 5.00 | 0.16 | | 46.00 | 6.16 | 3.00 | 6.42 | 24.20 | 42.94 |
| 447 | 4.87 | 0.04 | 3.20 | 43.77 | 6.53 | 3.20 | 3.39 | 26.60 | |
| 448 | 2.80 | 0.07 | 6.30 | 32.30 | 4.35 | 6.60 | 8.49 | 24.20 | 18.00 |
| 449 | 394.40 | 0.02 | 17.40 | 540.80 | 6.33 | 178.80 | 20.00 | 23.60 | 24.67 |
| 450 | 3.33 | | 3.90 | 58.53 | 5.40 | 9.43 | 3.18 | 24.30 | 11.90 |
| 451 | | | 0.01 | | 4.67 | | 3.04 | 24.50 | 7.65 |

# Appendix 5 - Data Table

| Site Ref | Mg (mg/L) | Mn (mg/L) | NO3 (mg/L) | Na (mg/L) | pH (no units) | SO4 (mg/L) | Static water level (mbgl) | Temperature (deg C) | Top of screen (mbgl) |
|---|---|---|---|---|---|---|---|---|---|
| 452 | | | 0.01 | | 6.92 | | 23.38 | 24.40 | 12.82 |
| 457 | | | 1.30 | | 4.33 | | 11.19 | 24.50 | 10.10 |
| 458 | | | | | 5.44 | | 4.92 | 24.90 | 7.50 |
| 496 | 28.67 | 0.14 | 0.10 | 51.33 | 6.38 | 11.77 | 4.86 | 22.90 | |
| 497 | 103.00 | | 0.10 | 400.00 | 7.54 | 425.00 | 8.59 | 22.60 | |
| 498 | | | | | 7.42 | | 7.73 | 22.50 | |
| 499 | 91.70 | 0.01 | 1.69 | 229.50 | 7.18 | 153.50 | 2.04 | 23.70 | |
| 500 | 23.00 | 0.02 | 0.30 | 39.25 | 6.63 | 14.25 | 10.82 | 21.50 | 11.00 |
| 501 | 86.33 | 0.00 | 6.00 | 121.67 | 7.21 | 32.00 | 16.08 | 22.50 | |
| 502 | 21.00 | | 0.05 | 114.00 | 9.52 | 8.75 | 11.98 | | |
| 503 | 67.00 | 0.01 | 0.65 | 95.50 | 7.09 | 35.25 | 14.25 | | |
| 504 | 90.33 | 0.35 | 2.30 | 137.67 | 6.31 | 30.83 | 16.08 | | |
| 505 | 38.06 | 0.01 | 4.59 | 53.12 | 7.75 | 23.60 | 8.82 | 24.58 | |
| 506 | 9.00 | 0.20 | | 147.00 | 7.49 | 7.40 | 10.50 | 24.20 | |
| 507 | 23.50 | | 2.30 | 46.00 | 7.31 | 21.50 | 8.85 | | |
| 508 | | | | | 7.33 | | 6.96 | | |
| 530 | 45.04 | 0.01 | 6.76 | 65.86 | 7.21 | 26.54 | 6.06 | 22.00 | |
| 532 | 46.40 | 0.09 | 2.17 | 455.30 | 8.09 | 65.50 | 7.70 | 22.30 | |
| 533 | 21.60 | 4.70 | 0.75 | 65.50 | 7.14 | 3.90 | 8.54 | 23.30 | |
| 534 | 29.00 | 0.01 | 0.50 | 141.00 | 7.31 | 22.50 | 12.18 | 23.80 | |
| 536 | 52.67 | | | 158.33 | 7.91 | 101.00 | 7.40 | | |
| 537 | 162.60 | 0.21 | 2.40 | 280.00 | 6.22 | 163.20 | 16.75 | | |
| 538 | 60.13 | 0.02 | | 166.50 | 8.86 | 88.50 | 9.20 | | |
| 539 | 48.53 | 0.01 | 2.35 | 526.50 | 6.28 | 28.51 | 7.42 | 21.60 | |
| 540 | 239.38 | 0.80 | 6.80 | 3013.52 | 6.96 | 230.83 | 7.38 | 22.70 | |
| 541 | 54.33 | | 1.63 | 78.67 | 7.14 | 16.57 | 14.64 | 23.75 | |
| 542 | 40.00 | 0.02 | 0.70 | 75.00 | 8.04 | 24.00 | 10.55 | | |
| 543 | 31.25 | 0.02 | 2.75 | 55.00 | 7.95 | 14.75 | 3.12 | | |
| 544 | 13.23 | 0.18 | 1.67 | 56.31 | 7.11 | 1.01 | 7.58 | 22.60 | |
| 545 | 240.00 | 0.06 | 3.75 | 995.00 | 7.37 | 132.50 | 7.03 | 22.50 | |
| 546 | 110.00 | 0.07 | 3.00 | 285.00 | 7.19 | 145.00 | 3.63 | 22.50 | |
| 547 | 620.00 | 0.70 | 25.00 | 6000.00 | 7.09 | 2400.00 | 6.59 | 23.00 | |
| 548 | 95.00 | 6.90 | 3.00 | 440.00 | 6.60 | 53.00 | 7.57 | 22.10 | |
| 549 | | | | | 7.24 | | 15.24 | 24.20 | |
| 552 | 17.00 | | 0.10 | 460.00 | 7.39 | 34.00 | 6.68 | 20.50 | |
| 553 | 405.00 | | 0.10 | 2770.00 | 6.75 | 155.00 | 10.74 | 20.50 | |
| 554 | 485.00 | | 0.10 | 1770.00 | 6.54 | 2280.00 | 2.75 | 19.00 | |