ENVIRONMENTAL EARTH SCIENCES
CONTAMINATION RESOLVED

AUDITOR CERTIFICATION REPORT & STATEMENT OF REASONS: AYR FIRE STATION, 47-49 SOPER STREET, AYR, QLD

QUEENSLAND FIRE AND EMERGENCY SERVICES

4 MARCH 2020
719052_AYR
VERSION 1

ENVIRONMENTAL EARTH SCIENCES
CONTAMINATION RESOLVED

4 March 2020

Queensland Fire and Emergency Services
24 Corporate Drive
Cannon Hill QLD 4170

Attention: **Dr Raymond Bott**
Inspector

Dear Ray

Auditor Certification and Statement of Reasons: Detailed Site Investigation (DSI) of Ayr Fire Station, 47-49 Soper Street, Ayr, Queensland

Please find enclosed a copy of my report entitled as above. Thank you for the opportunity to undertake this work.

Following evaluation of the site investigation report (SIR) in relation to relevant guidelines, policy and legislation, the Contaminated Land Auditor (CLA) has concluded that the SIR meets the objectives of the project, in that the DSI and SIR:

- was undertaken in accordance with current best-practice methodologies, cognisant of and in accordance with applicable guidance and legislation;
- fulfils the objectives of the project with regards to the characterisation of per and poly fluoroalkyl substances (PFAS) impact (concentration and distribution) on and at the boundaries of the subject site; and
- complies with the relevant elements of the *Environmental Protection (EP) Act.1994* (Chapter 7, Part 8, Subsections 389 (1) and (2)).

Based on the above determination, the CLA agrees with the conclusions of the SIR that the site does not currently pose an unacceptable, human health risk but that further (off-site) investigation is warranted to quantify potential impacts to off-site receptors (human and ecological).

If you have any queries concerning this report, contact the undersigned on (07) 3852 6666.

For and on behalf of
Environmental Earth Sciences QLD

Report Author
Mark Stuckey
Contaminated Land Auditor

Project Manager/ Auditor Assistant
Kat Spruth
Senior Environmental Scientist

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EXECUTIVE SUMMARY

Environmental Earth Sciences QLD was commissioned by Queensland Fire and Emergency Services (QFES) to undertake the contaminated land auditor (CLA) role for a per and poly fluoroalkyl substances (PFAS) assessment of the Ayr Fire Station (47-49 Soper Street, Ayr, QLD "the site"), legally described as Lot 95, RP702279. The CLA function was necessary due to QFES's requirement that a third party review all investigation activities and reporting outcomes for the site to ensure compliance with relevant requirements of Chapter 7, Part 8, Subsections 389 (1) and (2) of the *Environmental Protection (EP) Act 1994*.

The following site investigation report (SIR) was provided by AECOM as a Contaminated Land Investigation Document (CLID) and is the subject of this Auditor Certification Report:

- AECOM (2019b). PFAS Detailed Site Investigation Ayr Fire Station, 47-49 Soper Street, Ayr, Queensland. Prepared for Queensland Fire and Emergency Services. Ref: 60609758 Revision 0 (Final). Dated 6 February 2020.

Following evaluation of the SIR in relation to relevant guidelines, policy and legislation (in particular NEPC 2013, HEPA 2018, DES 2018 and the *EP Act 1994*), the CLA has concluded that the SIR meets the objectives of the project, in that the DSI and SIR (CLID):

- was undertaken in accordance with current best-practice methodologies, cognisant of and in accordance with applicable guidance and legislation;
- fulfils the objectives of the project with regards to the characterisation of PFAS impact (concentration and distribution) on and at the boundaries of the subject site; and
- complies with the relevant elements of the *EP Act.1994* (Subsections 389 (1) and (2)).

Based on the above determination, the CLA agrees with the conclusions of the CLID that the site does not currently pose an unacceptable, direct-contact human health risk in the context of on-going commercial/ industrial land use. However, based on the identification of elevated contaminant concentrations (sum of PFOS & PFHxS) greater than human health and ecological assessment criteria in all four on-site groundwater monitoring bores, further (off-site) investigation is warranted.

The off-site investigation should seek to confirm (or otherwise) to what extent impacted groundwater (and potentially surface water) has migrated beyond the site boundary and if so, whether contaminants have migrated off-site at concentrations likely to pose an unacceptable human and/ or ecological health risk to sensitive receptors located down-gradient of the site. Any additional investigation should also seek to determine any connectivity between the shallow aquifer (Quaternary alluvium deposits) at the site and down-gradient users of the Burdekin River Alluvium aquifer in particular.

The above notwithstanding, the CLA does not consider that PFAS concentrations within the site boundary pose an unacceptable risk to human and/ or ecological site users and thus does not preclude on-going use of the site for commercial/ industrial purposes. Rather, additional off-site investigation should be undertaken to determine if notification, remediation and/ or management actions should be implemented to comply with legislation and mitigate risks to any identified off-site receptors along a complete exposure pathway.

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1 INTRODUCTION

Environmental Earth Sciences QLD was commissioned by Queensland Fire and Emergency Services (QFES) to undertake the contaminated land auditor (CLA) function in relation to the per and poly fluoroalkyl substances (PFAS) assessment project at the Ayr Fire Station (47-49 Soper Street, Ayr, QLD "the site"), legally described as Lot 95 RP702279.

The CLA function was necessary due to QFES's requirement that a third party CLA review all investigation activities and reporting outcomes for the site to ensure compliance with relevant elements of Chapter 7, Part 8, Subsections 389 (1) and (2) of the *Environmental Protection (EP) Act 1994*.

The following report was provided by AECOM and is the subject of this Auditor Certification Report:

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2 OBJECTIVES

The objectives of the CLA works were to:

- evaluate the efficacy of the detailed site investigation (DSI) and the accompanying site investigation report (SIR) in achieving the objective of characterising PFAS impacts (concentration and distribution) within and adjacent to the boundaries of the site;
- confirm that works were undertaken in accordance with best practice and all relevant national and state legislation/guidelines; and
- certify (or, where justified, propose amendments to ensure) that the SIR report fulfils the Department of Environment and Science (DES) requirements for a SIR that is a contaminated land investigation document (CLID)[1].

3 SCOPE OF WORK

The following scope of works was undertaken to meet the objectives:

- communication with the suitably qualified person (SQP) (James Peachy of AECOM) and review of documents regarding the sampling and analysis methodology;

[1] As far as practicable, noting that the investigation has been undertaken specifically to target PFAS only.

- a site visit immediately following the soil sampling/groundwater bore installation program (on 30 July 2019);
- review of the CLID, including revisions following the initial review; and
- provision of this report and appended auditor certification and declaration.

4 SITE IDENTIFICATION AND SETTING

4.1 Location and property description

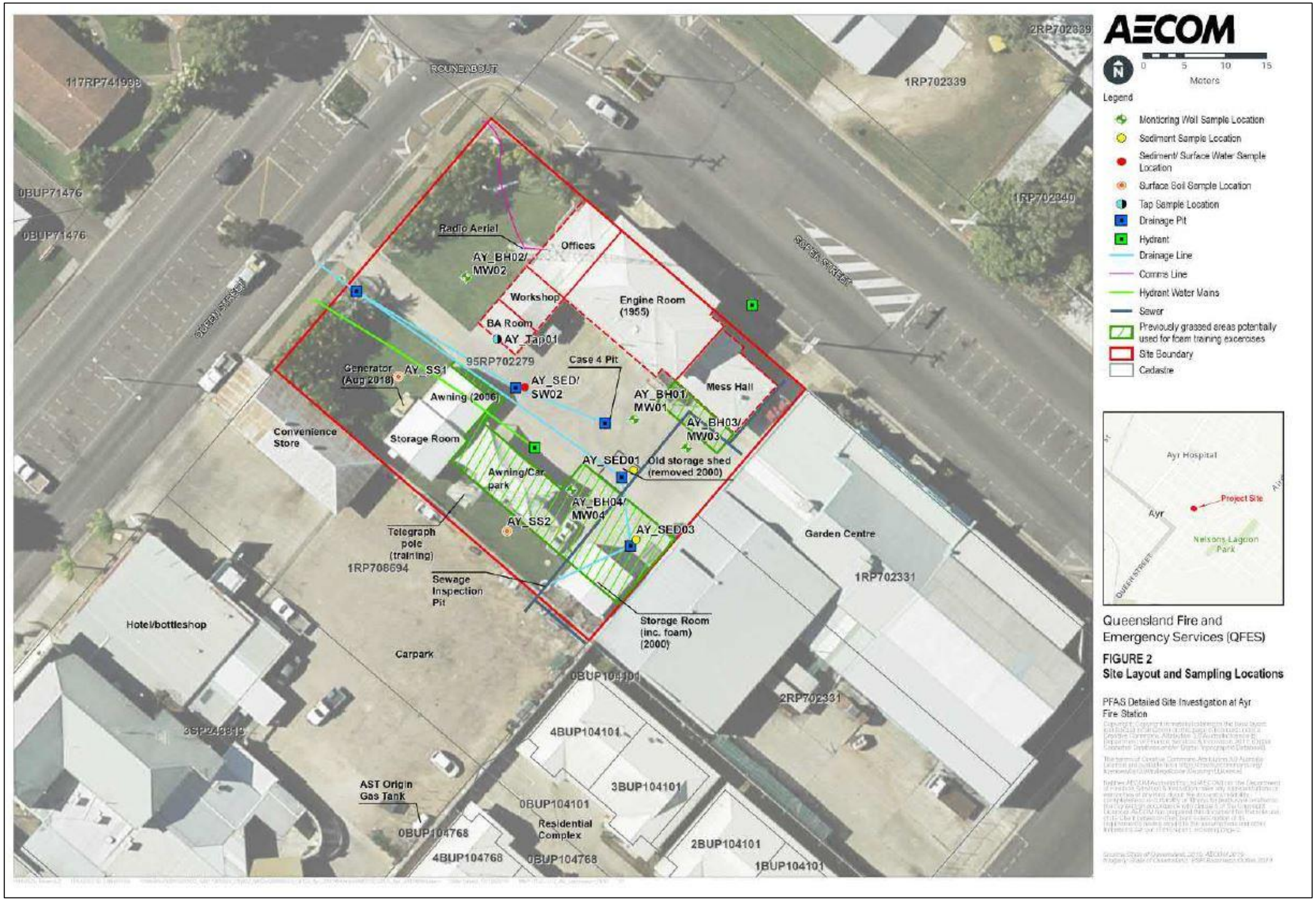
The regional locality of the site is provided on **Figure 1** and site identification details provided in **Table 1**. The subject property lot and site layout are provided on **Figures 1 and 2**.

Table 1: Site details

Item	Details
Site address	47-49 Soper Street, Ayr, QLD 4807
Registered site owner	The State of Queensland
Registered address of site owner	Public Safety Business Agency, L13 Makerston House, 30 Makerston Street, Brisbane, QLD 4000
Site occupier	Queensland Fire and Emergency Services (QFES)
Local government area	Burdekin Shire Council
Zoning/ future zoning	Public Purposes
Lot and plan	Lot 95, RP702279
Tenure	Freehold
Latitude/longitude	-19.57163, 147.40968
Site area	2,023 m^2
Current/future use	Ongoing fire station use (commercial/ industrial)
Environmental Management Register (EMR)/contaminated Land Register (CLR)	Not listed on the EMR or CLR

Figure 1: Site location Plan (reproduced from AECOM 2019b)

Figure 2: Site layout and sampling locations (reproduced from AECOM 2019b)



4.2 Site description and surrounds

4.2.1 Site

At the time of the audit, the site was an operational fire station, comprising several buildings relating to the various administration, operational and training activities required to discharge this role. Key site features included:

- One two-storey building along the north eastern edge of the site the main engine bay, and a number of interconnected rooms including office/administration areas, ablution and messing facilities, a workshop area and an equipment (breathing apparatus) room;
- A chemical/ equipment/ general storage shed located adjacent to the south western boundary of the site;
- A decommissioned[2] concrete in-ground water tank (Case 4 pit) with dimensions of approximately 0.9 metres (m) x 2.3 m (deep) and a former holding capacity of 1,460 L;
- An open hardstand area located in the centre of the site; and
- Open landscaped areas occupying approximately one third of the site area, adjacent to the north western boundary.

4.2.2 Surrounds

Surrounding land uses include:

- **Northeast:** Soper Street with commercial and residential properties beyond. An unnamed surface water course and lagoon/ pond are located at an approximate 1.1 km distance from the site boundary with a larger lagoon, labelled “Lilliesmere lagoon” located at a distance of approximately 2.2 km directly north (see **Figure 1**).
- **Southeast:** Commercial industrial property (Hardware/ Garden Centre) adjacent, to the south-east, with residential properties present immediately to the south. An unnamed surface water course and surface water features (including one labelled as Nelson’s Lagoon) are located approximately 700 m to the south-east. Additional water features including Plantation Creek and Burdekin River are located at distances of 1.5 km to the south-east and 5.3 km to the south/ south-east respectively, at their closest points.
- **Southwest**: Commercial/ industrial property comprising a convenience store, hotel/ bottle shop and an associated hardstand car parking area. It is noted a historic service station (Coles Express) was formerly located 400 m to the south-west of the site. Plantation Creek lies at a minimum distance of 2 km from the site at its closest point.
- **Northwest:** Queen Street with residential properties beyond. Two service stations (operated by BP and Caltex) are located approximately 700 m from the north-western

[2] Note: The Case 4 pit was not in use at the time of inspection, having been decommissioned via sand infill and concrete capping.

property boundary. A drainage channel is located approximately 2.4 km to the north-west, with various unnamed surface water bodies (ponds/ farm dams) beyond.

Review of the available environmentally sensitive area (ESA) mapping indicates that the site is located within a Category C, River Improvement Area. In addition:

- wetlands at Plantation Creek (1.5 km south) and Burdekin River (approximately 5.3 km south and south east of the site) are classified as "moderate potential aquatic and terrestrial GDEs" (BOM 2020) and "Category B: Endangered Regional Ecosystems (biodiversity status)" (DES 2020[3]); and
- wetlands within the Haughton River catchment, located approximately 2.4 to 2.7 km to the north and north west of the site are classified as moderate potential aquatic and terrestrial GDEs (BOM, 2020).

No subterranean ecosystems were recorded at or in the vicinity of the site.

See **Figure 1** for these features.

5 SUMMARY OF SITE HISTORY

The site history review detailed by AECOM (AECOM, 2019a) included a review of client-supplied, publicly available and third-party information from the following sources:

- Historical air photographs obtained from the Queensland Governments online mapping portal (QImagery online) from 1959, 1964, 1969, 1983, 1986, 1998 and 2003.
- Historical land title details from the Department of Natural Resources, Mines and Energy (DNRME).
- Search of DES's Environmental Management Register (EMR) and Contaminated Land Register (CLR); and
- Review of previous environmental reports/sampling activities undertaken at the site (namely, QFES, 2016 water sampling); and
- Interviews with nominated QFES personnel and site inspection (13 February 2019).

The purpose of the review was to identify potential historic sources of PFAS at and in the vicinity of the site in order to facilitate the development of a robust, PFAS-specific investigation strategy.

The results of the historic data review determined that the site was used as a fire station for approximately 64 years (since 1955). Accordingly, a number of PFAS sources were identified

[3] https://environment.des.qld.gov.au/management/maps-of-environmentally-sensitive-areas/_nocache

at the site (primarily via information obtained during site interviews), associated with past fire-fighting activities foam usage (training exercises) and storage practices, specifically:

- Training use/ application of firefighting aqueous film forming foam (AFFF) containing PFAS (3M Lightwater) between circa 1990 and 2003 to sealed/ unsealed areas during training exercises.
    - This may also include overspray and/or surface run-off toward then, unsealed areas of the site/perimeter drainage; and
- Storage/ transfer of 3M Lightwater (to/ from 20L drums) within the existing fire station building and in training areas at the site.

It is noted the central hardstand area of the site was previously unsealed grass cover and concrete hardstand was placed sometime between 2000 and 2005. Accordingly, historic AFFF training was likely undertaken on unsealed surfaces and therefore infiltration and subsequent mobilisation in the subsurface may have occurred.

No inadvertent releases of foam/significant spillage/ leakage events were recorded.

6 POTENTIAL FOR CONTAMINATION AND CONCEPTUAL SITE MODEL DEVELOPMENT

A conceptual site model (CSM) of the site can be formed by considering the geophysical characteristics at play at the site, the contaminant source, potential receptors and the pathways to the receptors. The CSM, as required by the NEPC (2013), is an iterative process constantly being updated during the investigation process as more information becomes available.

6.1 Physical setting, topography, hydrology and drainage

The site is located at an elevation approximately 7 m Australian Height Datum (m AHD) and is flat. Stormwater drainage is directed via a series of interconnected concrete lined drainage pits to the north west of the site, prior to discharge to the municipal system along Queen Street.

The closest hydrological feature to the site is an ephemeral creek/overland flow channel located approximately 700 m south east of the site, at its closest point. The flow channel runs in a broad north to south alignment, connecting with a series of water features (Nelsons Lagoon and a series of unnamed ponds/ lagoons) located at distances varying from 1 km to 2 km north east of the site boundary.

Additional water features in the vicinity of the site include:

- Plantation Creek located approximately 1.4 km to the south of the site, at its closest point. Plantation Creek runs in a broadly north-easterly direction, eventually discharging to the Coral Sea approximately 13.5 km to the north-east of the site;

- Drainage channels with unnamed surface water features (ponds/ farm dams), located within agricultural areas, approximately 2.4 km to the north-west of the site;
- Lillesmere lagoon, located approximately 2.7 km to the north of the site; and
- The Burdekin River, the main water course in the area, is located approximately 5.3 km south of the site, at its closest point.

6.2 Geology and soils

According to the Geoscience Australia portal (http://portal.geoscience.gov.au/) the site is underlain by Quaternary flood plain alluvium, comprising clay, silt, sand and gravel. This is supported by both DNRM (2020) which reports this unit as Qa "alluvium" described as "clay, silt, sand and gravel, floodplain alluvium".

According to DNRM (2020) the site is underlain by the Burdekin Deltaic deposits. This is supported by information presented on the DNRM Soils map[4] which indicates the site is likely to be underlain by Dermosols or Kandosols (alluvial soils associated with major distributary channels; Landscape Unit B) comprising clay loams, and fine sandy to light medium clays.

According to the Australian Soil Classification System (ASC, Isbell 2002):

Dermosols are described as:

"Soils other than Vertosols, Hydrosols, Calcarosols and Ferrosols which:

- *Have B2 horizons with structure more developed than weak throughout the major part of the horizon; and*
- *Do not have clear or abrupt textural B horizons."; and*

Kandosols are described as:

"Soils other than Hydrosols which have all of the following:

- *B2 horizons in which the major part is massive or has only a weak grade of structure.*
- *A maximum clay content in some part of the B2 horizon which exceeds 15% (i.e. heavy sandy loam, SL+).*
- *Do not have a tenic B horizon.*
- *Do not have clear or abrupt textural B horizons.*
- *Are not calcareous throughout the solum, or below the A1 or Ap horizon or to a depth of 0.2m if the A1 horizon is only weakly developed."*

[4] DNRM (2005) 1: 50,000 Lower Burdekin Delta Area North and South Burdekin Water Board areas Soils Map

6.3 Acid Sulfate Soils

According to ASRIS (CSIRO, 2020) the site is located in an area with a low probability for the occurrence of acid sulfate soils (ASS). This is supported by acid sulfate soil mapping (CSIRO Land and Water 2018[5]) which designates the site area as an area where there is "*an extremely low probability of occurrence (1-5%) in riparian areas with Kandosols, Ferrosols, Tenosols, Rudosols, Podosols and Kurosols <1mAHD*".

No information was available from the Burdekin Shire Council with regards to probability of acid sulfate soil occurrence. Therefore, the Auditor considers that potential acid sulfate soil occurrence requires no further consideration at this site.

6.4 Hydrogeology

6.4.1 Results of registered bore search

Queensland Globe (DNRM, 2020) was used by the Auditor and AECOM (2019b) to search for registered bores in the vicinity of the site. The database indicated that there are a total of 29 bores within a 1 km radius of the site (refer **Figure 1**), of which five are located within 500m of the site boundary.

Given the expected receptors for groundwater migration (Nelson's Lagoon 700m, Plantation Creek 1.5km and Burdekin River 5.3km) to the south-east of the site, of the five bores located within 500 m two are located in this direction:

- One bore (RN153347) is listed as a potable water supply bore, screened from **10-11m** with a yield of **2 L/s**, located approximately 140 m to the north-east of the site (note a further bore not shown on **Figure 1** – RN186255 located 380m from the site in this direction is listed as a monitoring bore and is screened from **26-28m** in alluvium); and

- One bore (RN96317) is listed as a potable water supply bore, screened from **7.9-8.5m** with a yield of **2.5 L/s**, located approximately 150 m to the south-east of the site.

Nelson's Lagoon and a number of associated registered bores are located within 1km of the site to the south-east (see **Figure 1**). The bore cards for the above two bores plus a selection of those associated with Nelson's Lagoon have been provided in **Appendix D** of this report and indicate the following:

- Bore RN140173 is listed as "water supply" and is screened from **37-38m** (but with a gravel pack from 17-38m beneath a bentonite seal) with a yield of **6.6 L/s** in Burdekin River Alluvium, and a clay aquitard from 15-17m. Salinity was reported as 1,300 µS/cm (**830 mg/L** as TDS);

- Bore RN140987 is listed as "No 2 Nelsons water supply" bore and is screened from **22-28m** with a yield of **50 L/s** in Burdekin River Alluvium, and a clay aquitard from 15-20m;

[5] CSIRO Land and Water (2018) Atlas of Australian Acid Sulphate Soils Version 2

- Bore RN99083 was installed in 1931 and decommissioned in 1983;
- Bore RN153029 is listed as "No 1 Nelsons water supply" bore and is screened from **21-27m** with a yield of **83 L/s** in Burdekin River Alluvium, and a clay aquitard from 13-18m;
- Bore RN186039 (also not shown on **Figure 1**, positioned between bores RN125854 and RN140987 to the immediate north of Nelsons Lagoon) is listed as a monitoring bore and is screened from **23-24m** in alluvium;
- Bore RN11910010 was installed in 1951 and decommissioned in 1974. This bore was screened from **9.7-10.7m** and at the time of installation in June 1951 had a salinity of **175 mg/L** as total dissolved salts (TDS);
- Bore RN11910049 is listed as a monitoring bore and is screened from **11-13m**. Water quality data collected from 1987-2011 shows salinity ranging between 50 and 350 µS/cm (**30-220 mg/L** as TDS).

It is acknowledged based on the above that there is a potential that additional unregistered bores could be present down-gradient of the site (and in closer proximity to the site than bore RN96317).

6.4.2 Aquifers and aquitards

It is anticipated that the uppermost aquifer beneath the site will be present within the unconsolidated Quaternary alluvial sediments (Burdekin River Alluvium). This unit is expected to be present from approximately 5-40m depth, with higher yielding lenses from 20-30m depth (50-83 L/s). The shallower portion of the aquifer (8-11m depth) appears to have yields of 2-2.5 L/s and the deeper portion (>30m) 6.6 L/s. Salinity appears to be very fresh throughout, with a slight increase >30m (based on data from bore RN140173). A clay aquitard has been observed from 13-20m depth in some bores, hence this unit may not be continuous.

6.4.3 Groundwater dependent ecosystems (GDEs)

The Auditor also used BOM (2020) to determine whether local surface ecosystems have been classified as GDEs. The map indicates that wetlands at Plantation Creek approximately 1.5 km south and south-east of the site are classified as a "moderate potential aquatic and terrestrial GDE". Furthermore, wetlands within the Haughton River catchment, located approximately 2.4 to 2.7 km to the north and north-west of the site are also classified as a moderate potential aquatic and terrestrial GDE. No subterranean ecosystems were recorded at or in the vicinity of the site.

6.4.4 Summary of groundwater usage and potential receptors

With reference to the *Environmental Protection (Water and Wetland Biodiversity) Policy 2019* and AECOM (2019b, Section 3.6) a review of potential groundwater receptors and likely impacts to receptors/ users of the receiving water body has been undertaken.

Given that environmental values and water quality objectives for the Haughton Basin are still under development, the CLA concurs that, as per DES guidance, the Queensland *Water*

quality objectives should be applied as default objectives. Relevant environmental values (EVs) for the site therefore include:

- aquatic ecosystems (surface water);
- irrigation (surface water and groundwater);
- farm supply/ use (surface water and groundwater);
- stock water (surface water and groundwater);
- industrial use;
- aquaculture;
- human consumption/ drinking water;
- primary, secondary and visual recreation (surface water); and
- cultural and spiritual values (surface water).

The Auditor completed a review of the identified potential groundwater/ surface water receptors and agrees with those listed in AECOM (2019b). Results have been compared against adopted assessment criteria of aquatic ecosystems and drinking water as these are the most sensitive receptors. In terms of potential length of flow-path to these key potential receptors, the nearest expected down-gradient water supply bore (potential drinking water receptor, RN96317) is 150m distant, whilst the nearest GDE is 1.5 km to the south-east (Plantation Creek).

6.5 Chemicals of potential concern

This investigation was undertaken to investigate human health and ecological health risks at the site associated with PFAS contamination only. Accordingly, no assessment and/or commentary is provided pertaining to other chemicals of potential concern (CoPCs) that could be present at the site associated with historic activities (e.g. placement of fill, legacy landfilling activities and, historic fire station use).

For the purposes of this assessment therefore, CoPCs comprise:

- PFAS compounds (28 analyte suite, refer **Table 2**); and
- PFAS compounds (28 analyte suite – total oxidisable precursor assay (TOPA) analysis).

Table 2: PFAS Compounds (28 analyte suite) – CoPCs

PFAS Group	Compound	Acronym	Carbon Chain Length	CAS No.
Perfluoroalkyl Sulfonic Acids	Perfluoro butane sulfonic acid	PFBS	4	375-73-5
	Perfluoropentane sulfonic acid	PFPeS	5	2706-91-4
	Perfluorohexane sulfonic acid	PFHxS	6	355-46-4
	Perfluoroheptane sulfonic acid	PFHpS	7	375-92-8
	Perfluorooctane sulfonic acid	PFOS	8	1763-23-1
	Perfluorodecane sulfonic acid	PFDS	10	335-77-3
Perfluoroalkyl Carboxylic Acids	Perfluorobutanoic acid	PFBA	4	375-22-4
	Perfluoropentanoic acid	PFPeA	5	2706-90-3
	Perfluorohexanoic acid PFHxA	PFHxA	6	307-24-4
	Perfluoroheptanoic acid	PFHpA	7	375-85-9
	Perfluorooctanoic acid	PFOA	8	335-67-1
	Perfluorononanoic acid	PFNA	8	375-95-1
	Perfluorodecanoic acid	PFDcA	10	335-76-2
	Perfluoroundecanoic acid	PFUnDA	11	2058-94-8
	Perfluorododecanoic acid	PFDoDA	12	307-55-1
	Perfluorotridecanoic acid	PFTrDA	12	72629-94-8
	Perfluorotetradecanoic acid	PFTeDA	14	376-06-7
Perfluoroalkyl Sulfonamides	Perfluorooctane sulphonamide	FOSA	8	754-91-6
	N-Methyl perfluorooctane	MeFOSA	8	31506-32-8
	N-Ethyl perfluorooctane	EtFOSA	8	4151-50-2
	N-Methyl perfluorooctane	MeFOSE	8	2448-09-7
	N-Ethyl perfluorooctane	EtFOSE	8	1691-99-2
	N-Methyl perfluorooctane	MeFOSAA	8	N 2355-31-9
	N-Ethyl perfluorooctane	EtFOSAA	8	2991-50-6
Fluorotelomer Sulfonic Acids	4:2 Fluorotelomer sulfonic acid	4:2 FTS	4	757124-72-4
	6:2 Fluorotelomer sulfonic acid	6:2 FTS	6	27619-97-2
	8:2 Fluorotelomer sulfonic acid	8:2 FTS	8	39108-34-4
	10:2 Fluorotelomer sulfonic	10:2 FTS	10	120226-60-0

6.6 Source to receptor pathway evaluation

AECOM (2019a)[6] developed a source, pathway and receptor exposure model for the site in both graphical and written form. This included consideration of the site's physical

[6] AECOM (2019a) *Preliminary Site Investigation and Sampling, Analysis and Quality Plan, QFES,* April 2019

characteristics that could provide a pathway to potential receptors for the CoPCs that may be identified in environmental media on the site.

The site history assessment allowed for a preliminary conceptualisation of the potential location and likely distribution of these chemicals in environmental media at the site. This in turn, facilitated the design of a robust sampling and analytical program to identify and quantify such chemicals at the site and along the site boundaries, if present.

The Auditor reviewed and approved (following discussion) the preliminary CSM and the corresponding sampling plan for the SI works (AECOM, 2019a) in March 2019 prior to the commencement of intrusive works.

7 FIELD PROGRAM

7.1 Auditor site inspection

The Auditor visited the site on 30 July 2019 to confirm in-field methodologies utilised by AECOM and ground-truth the site setting details identified during the data review phase. Due to the rapidity of the drilling program and mobilisation limitations, the Auditor was unable to attend site during soil sampling and bore installation. However, a site inspection and, validation of the works completed by the SQP's site representative (permanent bore installation locations, soil bore, sediment/surface water sampling locations) was undertaken immediately thereafter.

Final soil sampling and permanent groundwater monitoring bore locations are presented on **Figure 2** above. During the Auditor inspection the entire site was traversed on foot. The surface of the site consisted of a flat area containing a combination of concrete hardstand, unsealed, grassed areas and operational fire station buildings and sheds.

No sub-surface infrastructure was observed on the site at the time of the inspections that could "be affected by contaminants" or "be a barrier to or facilitate the migration of contaminants", other than the stormwater and sewer networks and associated bedding sands potentially providing a conduit to contaminant migration. However, the Auditor noted:

- It is understood a concrete, in-ground tank (the Case 4 pit) formerly used for pump testing and water drafting training was decommissioned *in-situ*, in the centre of the hardstand area via pump-out, sand infill and capping with concrete. Bedding sands in the vicinity of this tank could influence contaminant migration.

It was observed that there were no obvious indications of uses for, or activities carried out on, the surrounding land that could affect the safety of or cause environmental harm to the subject land. No soil stockpiles or inert waste was present across the site at the time of the inspection.

It is therefore concluded that no "waste storage, treatment or disposal" has occurred on the site as per the definition in Schedule 3 of the EP Act 1994 (Notifiable Activity no.37), hence no waste has been "disposed of or stored on the land". As per the definition of "waste" in s.13(1), (2) and (3) of the EP Act 1994 "including anything" that is "left over" or "surplus" to an

activity, it is considered that the “left over” and “surplus” material does not constitute “waste” as per the definition in s.389(1)(d) because it was not “disposed of or stored”.

In addition to the above, and with particular reference to s.389(1)(d)(ii) of the EP Act 1994, there was no evidence of any potential contamination of the land or the presence of any hazardous contaminant on the site at the time of the inspection.

7.2 Field investigations

Field investigations comprised the following events:

- Preliminary Site Investigation (PSI, reported in AECOM 2019a), summarised in AECOM, (2019b):
    - **Event 1** (13 February 2019): site inspection to identify areas of potential environmental concern (including interviews with selected QFES personnel regarding historic site activities) – reported in (AECOM, 2019a);
- Detailed Site Investigation (DSI, reported in AECOM, 2019b):
    - **Event 2** (23 - 24 July 2019):
        - Drilling of four soil bores (AY_BH01 to AY_BH04), installation of four monitoring bores (AY_MW01 to AY_MW04) and bore development; and
        - Advancement of two shallow bores (AY_SS01 and AY_SS02);
    - **Event 3** (6 August 2019):
        - Groundwater monitoring event (AY_MW01 to AY_MW04) and monitoring bore survey;
        - Collection of three sediment samples (AY_SED01 to AY_SED03);
        - Collection of one co-located surface water sample (AY_SW02); and
        - Collection of one tap water sample (AY_TAP01).

Sampling locations are presented on **Figure 2.**

7.2.1 Soil sampling methodology

Boreholes were advanced to a clearance depth of 1.5 metres below ground level (m BGL) via non-destructive drilling techniques (NDD) prior to follow-on with a mechanical drill rig (Geoprobe equipped with push-tube) to the maximum target depth of 8.3 m BGL for soil sample collection and logging. Each bore was subsequently “reamed out” to target depth by Proactive using a Geoprobe drilling rig equipped with solid stem augers for groundwater monitoring bore installation at each location.

Hole diameters were 60 mm and 100 mm for soil and groundwater bores respectively. All boreholes were advanced to natural material.

The shallow soil bores (AY_SS1 to AB_SS3) were advanced via hand auger to a maximum depth of 0.5 m BGL to assess shallow soil conditions.

Samples were generally collected from each borehole from surface (or materials immediately underlying the concrete slab) (0-0.2 m), subsurface (0.2 – 0.5 m) and every metre thereafter, or, where a change in lithology or visual/olfactory signs of contamination were evident until the target depth was achieved.

Samples were collected from each location, directly from the push-tube liner, solid stem auger cuttings and/or hand auger, by hand, using a fresh, clean pair of nitrile gloves for each sampling interval. Soil samples were collected into laboratory-supplied PFAS-suitable containers and immediately stored on ice for transport to the laboratory under appropriate, chain of custody (COC) control.

Representative samples were submitted for laboratory analysis for the identified CoPC as per the agreed SAQP, namely:

- Three samples from each borehole/ monitoring bore installation (two within the 0 to 1 m bgl depth interval and one at depth, within the saturated zone); and
- Two samples from each shallow bore (AY_SS1 to AY_SS2), within the 0 to 1 m depth interval.

7.2.2 Lithology encountered

The lithology encountered at the site comprised approximately 0.5 m of fill material (ranging from 0.35 m (AY_BH02) to 0.6 m (AY_BH01)) overlying natural materials described as brown-orange silty clay, sandy clay and sand (Quaternary age floodplain alluvium), with increasing moisture content with depth.

Fill material observed was variable across the site with lithological descriptions ranging from gravelly sand to clay. It is noted no fill material was reported in bore AY_BH03, with concrete immediately overlying disturbed natural material, described as brown, dry sandy clay with no plasticity.

No visual and/ or olfactory evidence of contamination (e.g. foreign materials, odour or stain) was identified during the drilling program.

7.2.3 Groundwater assessment

Four groundwater bores (AY_MW01 to AY_MW04) were installed by AECOM (2019b). Each bore was screened within the sand, below where moist materials were observed.

During the gauging and sampling event, undertaken post-drilling in August 2019, stabilised static water levels (SWLs) in all four monitoring bores were reported above the screened interval at a consistent depth of approximately 4.5 m bgl. Screened intervals for all four bores ranged from 5.3-8.3 m bgl.

Based on the groundwater elevations reported, local groundwater flow direction was inferred toward the south-east.

The field chemistry within the bores showed that the groundwater was fresh (salinity 70 to 867 mg/L as total dissolved solids (TDS)) and slightly acidic (pH 5.66 to 6.49).

No visual and/or olfactory evidence of contamination (e.g. odour, sheen, foaming) was identified during the groundwater sampling program.

7.2.4 Surface water and sediment assessment

Three sediment samples were collected from site drainage channels for assessment. A co-located surface water sample was collected from one location only, given the majority of the site drainage channels were dry at time of collection.

The surface water sample was collected using the laboratory-supplied container to collect water from the centre of the drain, while sediment samples were collected as grab samples, at each location, using a gloved hand. To minimise potential for cross-contamination, a fresh, clean pair of nitrile gloves was donned prior to sample collection at each location.

Each sampling container (bottle or jar) was filled to zero headspace prior to capping, storage on ice and submission to the nominated laboratory.

7.2.5 Tap water assessment

The tap water sample (sample AY_TAP01) was collected as a “first flush” sample directly from the tap, into a laboratory supplied sample container wearing a fresh, clean pair of nitrile gloves. The sampling container was filled to zero headspace prior to capping, storage on ice and submission to the nominated laboratory.

7.3 Auditor’s comments on field program

The Auditor considers that the sampling and analytical program was suitable to fulfil the requirements of the investigation and the assessment works were performed in accordance with best practice methodologies.

Although it is noted that post drilling SWLs stabilised at a point above the groundwater bore screening intervals (consistent with the initial observation of moist lithology), given assessment of petroleum hydrocarbons/ light non aqueous phase liquid (LNAPL) was not required as part of this investigation, the Auditor does not consider this to have adversely affected the findings of the groundwater assessment.

Furthermore, it is noted in consideration of laboratory analytical results (discussed in Section 10 below) that a data gap exists associated with groundwater flow direction/ contaminant delineation, particularly to the south-east. It is understood these data gaps will be addressed in a subsequent phase of work intended to focus on off-site assessment (refer to Sections 11 and 12 below).

8 LABORATORY ANALYTICAL PROGRAM REVIEW

Samples were analysed by Australian Laboratory Services (ALS) as the primary laboratory and National Measurement Institute (NMI) as the secondary laboratory. Both laboratories are accredited with the National Association of Testing Authorities (NATA) for the methods used.

Primary samples, intra laboratory duplicates and rinsates were sent to ALS in Stafford (QLD), and inter laboratory duplicates were sent to NMI in Ryde (NSW).

Intra and inter laboratory duplicates and rinsates were analysed as part of AECOMs quality assurance/ quality control (QA/QC) procedures.

8.1 Analytical schedule and suites

The following analytical schedule detailed in **Table 3** was used for the sampling events.

Table 3: Analytical schedule

Sampling Location	Analyte	Primary samples	QA/QC		
			Intra laboratory duplicate	Inter laboratory duplicate	Rinsate
SOIL & SEDIMENT					
AY_BH01-AY_BH04	PFAS (28)	16	2	2	4
AY_SS1 to AY SS2	PFAS (28)	4			
AY_SE01 to AY_SED03	PFAS (28)	3	1	1	
AY_BH04	TOPA	1			
GROUNDWATER, SURFACE WATER & TAP					
AY_MW01 – AY_MW04	PFAS (28)	4	1	1	1
AY_SW02	PFAS (28)	1			
AY_TAP01	PFAS (28)	1			
AY_MW01	TOPA	1			

Notes:
PFAS (28) – per and polyfluoroalkyl substances 28 compound suite (refer Table 1)
TOPA: total oxidisable precursors

The Auditor agrees with the analytical schedule used and that it is considered sufficient to characterise PFAS impacts (concentration and distribution) within and adjacent to the boundaries of the site and identify the potential for off-site contaminant migration.

8.2 Procedures for quality control and quality assurance

Quality control is achieved by using NATA registered laboratories using ASTM standard methods supported by internal duplicates, the checking of high, abnormal or otherwise anomalous results against background and other chemical results for the sample concerned.

Quality assurance is achieved by confirming that field results, or anticipated results based upon comparison with field observations, are consistent with laboratory results. Also, that sampling methods are uniform, and decontamination is thorough. In addition, the laboratory undertakes additional internal quality assurance procedures and tests.

These quality assurance/quality control (QA/QC) processes were undertaken as part of this assessment, including collection and analysis of intra and inter laboratory duplicates and rinsate blanks. No trip blanks and/or trip spikes were analysed as part of this assessment.

Field observations are compared with laboratory results when they are not as expected. Confirmation, re-sampling and re-analysis of a sample are undertaken if the results are not consistent with field observations and/or measurements. In addition, field duplicate sample results have to be within the acceptable range of reproducibility. A discussion of the quality of internal laboratory results and field duplicate relative percentage difference (RPD) calculations was included in AECOM (2019b) Appendix G and below.

The following was noted with regards to the QA/QC procedures:

- Sample integrity and container requirements were documented as acceptable;
- Holding time compliances were documented as acceptable;
- Laboratory matrix spike results were mostly within acceptable control limits;
- Laboratory duplicate % RPD results were acceptable;
- All laboratory QA/QC method blanks were found to be acceptable; and
- Field replicate and triplicate RPD values were acceptable or, where non-conformances were identified, were appropriately assessed and deemed acceptable for use.

The Auditor notes that a sample collected from the on-site hydrant used to source water for the high-pressure cleaner (used for cleaning augers and other drill equipment) returned detectable concentrations of PFAS compounds (particularly PFOS and PFHxS) at one order of magnitude above the respective LORs, indicative of the potential for cross contamination.

However, following cleaning activities, a rinsate sample was collected from the hollow flight augers (QC301) which did not report detectible concentrations of any PFAS compounds. As such, no significant cross-contamination was deemed likely to have occurred as a result of the use of site hydrant water, and the results obtained during the investigation deemed suitable for use.

It is therefore the opinion of AECOM (2019b) and the Auditor that the data quality process for both field and laboratory components of the investigation were appropriate to enable the report conclusions to be relied upon.

9 ASSESSMENT CRITERIA REVIEW

9.1 Soil

Site investigation criteria were selected to provide an appropriate indication of the environmental status of the site with consideration given to the current and future land-uses as determined by existing site zoning and information provided by QFES. The adopted assessment criteria and rationale for their selection is detailed in Section 5.0 (AECOM, (2019b).

Typically for a soil contaminant concentration to be considered acceptable for the respective land-use criteria, the data set must conform to the following requirements:

- the 95% upper confidence limit (UCL) of the arithmetic mean of analytical results is below the site criteria;
- the arithmetic (or geometric in cases where the data is log normally distributed) mean is below the site criteria;
- the standard deviation is less than 50% of the site criteria; and
- no single sample analytical result is greater than 250% of the site criteria.

Soil analytical results have been tabulated (AECOM 2019b, Appendix B, Table T4) and compared to NEMP (2018) guidelines for human health and, ecological indirect exposure, namely:

- Soil criteria for investigation – human health-based guidance value (industrial/commercial);
- ecological guideline values for indirect exposure (industrial/commercial); and
- ecological guideline values for indirect exposure (residential).

The Auditor notes that although the site is and is intended to continue as a commercial/ industrial property, AECOM has also assessed the soil analytical results against ecological guideline values for indirect exposure for the residential land-use exposure setting given:

- Parts of the site (north western third) and south western boundary are unsealed therefore there is a potential (albeit low) for exposure of terrestrial organisms (albeit transient as a result of ongoing land-uses) in these areas; and
- The PFAS DRAFT NEMP Version 2.0 (HEPA 2019 unpublished, draft for consultation) intends to adopt, the current residential guideline (0.01 mg/kg) as standard for both exposure scenarios, albeit endorsing modification of the guideline[7] for commercial/

[7] Up to a maximum guideline concentration of 0.14 mg/kg, equivalent to the currently endorsed commercial/industrial ecological guideline criteria for indirect exposure.

industrial sites on a case by case basis where use of a residential exposure scenario is deemed too conservative, for example:

- The site is intensively developed with the percentage of the surface area covered by hard surfaces higher than 80% of each hectare (to be applied separately to each hectare).
- Secondary consumers are effectively absent from the site;
- The site is situated in an extensively built-up urban setting; and
- The site is not in close proximity to waterways, drainage networks or groundwater.

9.2 Groundwater

Groundwater analytical results have been tabulated (AECOM 2019b, Appendix B) and compared to the guidelines presented in **Table 4** below, as summarised in:

- NHMRC (2019) Guidance on Per and Polyfluoroalkyl Substances in Recreational Water; and
- HEPA (2018) PFAS National Environmental Plan (NEMP), January 2018.

Table 4: Adopted assessment criteria – groundwater and surface water

Media	Environmental value	PFAS compound	Applicable guideline value (µg/L)
Groundwater	Human health – drinking water	Sum of PFHxS & PFOS	**0.07**
		PFOA	**0.56**
Groundwater discharging to surface water/ surface water	Aquatic ecosystem protection – 99%	PFOS	**0.00023**
			0.051
		PFOA	**19**
	Human health – recreational contact	Sum of PFHxS & PFOS	**2.0**
		PFOA	**10**

Notes:

0.07: (NEMP, 2018),
0.051: (Batley *et al.*, 2018 – draft guidance, after AECOM 2019b);
2.0: (NHMRC, 2019)

9.3 Sediment

No published and/ or endorsed criteria are currently available for the assessment of PFAS in sediment.

9.4 Auditor's comments

The Auditor has reviewed the results and confirms that the criteria have been correctly applied, noting that the draft guidance applied by AECOM (2019b) for ecosystem protection has not been ratified by Australian regulators.

Furthermore, it is noted that in the absence of endorsed assessment criteria for sediments, the laboratory limit of reporting (LOR) has been used as an initial screening (presence/ absence) assessment for sediments. The identification of a detectable concentration of PFAS, above LOR in sediment, does not necessarily constitute a human and/or ecological health risk. Rather, any detection above LOR in sediments should be considered a trigger for further assessment/ consideration in relation to potential, complete, exposure pathways.

10 REVIEW OF RESULTS

10.1 Soil results compared to guidelines

10.1.1 Discussion

Detectable concentrations of PFAS, greater than the laboratory limit of reporting (LOR) were recorded in all sixteen soil samples analysed.

The highest proportion of PFAS was generally observed at shallow depth (in fill materials) consistent with a "top-down" mode of contamination associated with historic application of AFFF during training activities followed by leaching and/or vertical infiltration through the soil profile.

Compositional analysis indicates that while the widest range of PFAS compounds were detected within the shallow depth interval 0.1 to 0.5 m bgl, the PFAS signature was dominated by PFOS and PFHxS throughout the soil profile and into the water-table.

Comparison with the adopted assessment criteria confirmed:

- No exceedances of the human health assessment criteria (commercial/ industrial land use scenario);
- Two exceedances of the ecological guideline criterion for PFOS (AY_BH03 at 0.5 m BGL, 0.182 mg/kg and AY_BH04 at 1.0 m BGL, 0.418 mg/kg) (ecological indirect exposure, commercial/ industrial scenario, criteria 0.14 mg/kg); and
- Nine exceedances of the ecological guideline criterion for PFOS (ecological indirect exposure, residential scenario, criteria 0.01 mg/kg) within the uppermost 2-3 metres, for which ecological assessment criteria typically applies.

  - Noting (as discussed in Section 9 above) that assessment against the ecological indirect exposure limits was undertaken as a conservative measure, to account for the southern, unsealed portion of the site where secondary consumers such as insectivorous birds and/or mammals could forage.

- An additional two ecological exceedances were reported at a depth of 6 m BGL at AY_BH03 and AY_BH04, although, as per above, typically a 2-3 m vertical limit is placed on ecological assessment, associated with typical root zone depths and anticipated activity zone for invertebrate and vertebrate organisms within soil profile.

10.1.2 Auditor interpretation of soil PFAS data

Given the majority of site soils are beneath an existing concrete slab and effectively capped on a site understood to have been subject to ongoing commercial/ industrial use for the past 64 years, the ecological guideline exceedances at AY_BH03 and AY_BH04 at 0.5 and 1m depth are not deemed significant nor are they considered to pose a significant ecological health risk.

Furthermore, while widespread exceedances of the residential ecological indirect exposure limit were identified; as noted above, assessment against residential criteria is a conservative approach given the minimal area of unsealed land and likely transient nature of wildlife likely to be directly exposed at the site. All but three of these exceedances were from samples located beneath the existing concrete slab in active commercial/ industrial areas.

10.2 Groundwater results compared to guidelines

10.2.1 Discussion

Detectable concentrations of PFAS were recorded in all four monitoring bores installed at the site with compositional analysis confirming the PFAS groundwater signature to be dominated PFOS and PFHxS (approximately 90% of the PFAS mass present) with a further nine compounds accounting for the remaining 10%. This distribution is deemed indicative of potential higher mobility of shorter-chain compounds in the subsurface and/or higher solubility of shorter chain compounds in groundwater.

Comparison with the adopted assessment criteria confirmed:

- Sum of PFOS and PFHxS concentrations exceeded the human health assessment criterion for drinking water and recreational water quality guideline in all four monitoring bores (AY_MW01 – AY_MW04), with the highest concentration reported in bore AY_MW01, located within the former foam training area and down-gradient of the decommissioned Case 4 pit (See **Figure 2**); and

- PFOA concentrations exceeded the human health assessment criterion for drinking water in three of the four groundwater monitoring bores (AY_MW01, AY_MW03 and AY_MW04);

- PFOS concentrations in all four groundwater bores exceeded the adopted ecological guideline value (99% species protection – fresh water).

10.2.2 Auditor interpretation of groundwater PFAS data

Given the above, and based on the assessment completed to date, the Auditor considers that the extent of PFAS in groundwater has not yet been fully delineated and, given the observed concentrations of PFOS and PFHxS in groundwater in particular, there is a potential that these compounds have migrated beyond the site boundary at concentrations greater than human health and ecological assessment criteria. Given the location and proximity of the nearest down-gradient groundwater receptor (RN RN96317, 150 m to the south-east) and the potential for unregistered off-site bores down-gradient of the site, this warrants further investigation.

While it is noted, based on currently available groundwater elevation data and associated groundwater contours, off-site migration appears primarily toward the south-east, there is a potential for localised flow to the south and south west. Further assessment should also be undertaken to resolve this data gap.

Observation of potential receptors for groundwater discharge indicates that an ephemeral creek/ overland flow channel is located approximately 700 m south east of the site at its closest point. The flow channel runs in a broad north to south alignment, connecting with a series of water features (Nelsons Lagoon, 700 m south east of the site and various un-named surface water features to the east and north-east). Plantation Creek is located approximately 1.4 km to the south of the site south and the Burdekin River, the main water course in the area, is located approximately 5.3 km south of the site, at its closest point.

10.3 TOPA analysis

The results of the TOPA analysis (completed on one soil and one groundwater sample) determined that the soil and groundwater analytical results are likely indicative of a degraded PFAS product that is unlikely to significantly increase or alter via biotransformation or oxidation processes, over time.

10.4 Tap water results

10.4.1 Discussion

Detectable concentrations of twelve PFAS compounds were reported in the first-flush tap water sample collected at the site. The PFAS signature was dominated by PFOS and PFHxS.

Comparison with the adopted assessment criteria confirmed:

- The Sum of PFOS and PFHxS concentration (0.105 µg/L) exceeded the human health assessment criteria for drinking water (criteria 0.07 µg/L); and
- The PFOS concentration (0.0652 µg/L) exceeded the applicable ecological guideline value (99% species protection – freshwater, criteria 0.00023 µg/L).

10.4.2 Auditor interpretation of tap water PFAS data

Given the external tap at the fire station has not been and it not intended to be used as a potable water supply, the tap drinking water exceedance is not considered to pose a significant risk to site users, although it is considered the placement and maintenance of signage to further limit the potential for incidental ingestion of the tap water would be worthwhile. Furthermore, the identified recreational water quality and/or ecological guideline exceedances are not deemed significant, given the low likelihood of impact to local water courses, given their distance from site and the identified drainage infrastructure.

The above notwithstanding, the Auditor considers further assessment should be undertaken to determine the potential source of PFAS in tap water at the site and quantify any potential risk to offsite receptors.

It is noted that PFAS compounds have sporadically been reported in the Ayr water supply and within the external tap at the Ayr fire station since 2016[8], but, the source of PFAS has not yet been identified[9]. Given it is understood tap water is not sourced on site, rather supplied to the site as a reticulated source by Burdekin Shire Council from the Ayr Water Supply network (bores located at Nelsons Lagoon (6 bores), South Ayr (12 bores) and Ayr Council chambers (1 bore)), the detections identified are not deemed to be directly associated with site activities or associated with the detectable concentrations of PFAS observed in shallow site groundwaters.

Although PFAS compounds have been detected in shallow groundwater underlying the site during this investigation, the Auditor considers there to be a relatively low likelihood that PFAS at the site has impacted upon the town water supply given the Ayr water supply bores are either located up/ cross gradient of the site, or, in the case of the Nelsons Lagoon borefield, over 700 m away from the site boundary. Thus there is a perceived low likelihood that contamination sourced from the site could have migrated, at the observed concentrations, to the Nelsons Lagoon borefield.

The Auditor acknowledges the comments above are based on interpretation of existing limited information only and considers that further off-site investigation to fully delineate PFAS impacts in groundwater beyond the site boundary and determine if the aquifer in which the water supply bores is screened has been impacted by site activities is warranted, in order to fully close out this potential exposure pathway.

10.5 Surface water and sediment results

10.5.1 Discussion – surface water

Detectable concentrations of thirteen PFAS compounds were reported in the surface water sample collected from the on-site drainage pit. Although additional samples were originally

[8] Initial testing of the external tap completed by QFES in 2016 reported detectable concentrations of PFOS (0.012µg/L) and PFHxS (0.01 µg/L).
Water supply bore testing completed by Queensland Health in 2018 reported detectable concentrations of PFAS above drinking water criteria in two of Ayrs water supply bores (details unknown).
Follow-up testing completed by Burdekin Council in 2018 confirmed elevated concentrations of PFAS in one bore, but no longer in excess of the drinking water criteria (details unknown).
[9] https://www.qld.gov.au/environment/pollution/management/disasters/investigation-pfas/sites/ayr

proposed for collection from concrete stormwater drains, co-located with sediment samples (refer Section 10.5.2 below) the additional surface water samples could not be collected as the drains were dry at time of fieldwork.

Consistent with soil, groundwater and tap water samples analysed during the investigation, the surface water signature was dominated by PFOS and PFHxS although detectable concentrations of a range of other compounds were also reported.

Comparison with the adopted assessment criteria confirmed:

- All detectable PFAS compounds were reported at concentrations less than adopted assessment criteria for recreational water and/or the laboratory LOR;
- The PFOS concentration (0.074 µg/L) exceeded both existing (0.00023 µg/L – NEMP 2019) and draft non-ratified (0.051 µg/L – AECOM 2019 ecological guideline value for 99% species protection – freshwater).

10.5.2 Discussion – sediment

No published criteria are currently available to directly assess human health and/or ecological risks associated with PFAS in sediments, therefore the sediment assessment was undertaken as a screening assessment to determine presence/ absence of PFAS compounds in sediment.

Consistent with the soil and groundwater data, the sediment PFAS signature was dominated by PFOS with detectable concentrations of PFOS recorded in all three sediment samples collected at the site, ranging from 0.0047 (AY_SED03, southern corner) and 0.0005 (AY_SED02, drainage pit at the centre of the site) (LOR 0.0002 mg/kg). A limited range of other PFAS compounds (PFHxA, PFPeS, 8:2 FTS, 10;2 FTS, MeFOSAA and FOSA) were sporadically detected at concentrations close to laboratory LOR in samples AY_SED02 and AY_SED03.

10.5.3 Auditor interpretation of sediment and surface water PFAS data

The presence of a wide range of detectable PFAS compounds in surface water and sediment indicates that drains along the boundaries of the site have, in the past, captured contaminated surface run-off and could act as preferential pathways for the migration of PFAS via surface water drainage and sediment transport.

However, noting the drains are concrete lined and ephemeral in nature, and noting both the distance to the closest surface water course likely to be impacted (~700 m) and the lack of direct connection to this water course, the likelihood of transport at distance beyond the site boundary is deemed low. Although an exceedance of the freshwater (99%) criteria was observed in surface water, this is considered a conservative assessment for a concrete-lined, ephemeral drainage pathway and there is considered to be a low risk of impact to nearby water courses associated with this surface water exceedance.

It is considered that the most significant pathway for contaminated surface water run-off is likely to be as recharge to the underlying shallow potable aquifer.

Furthermore, the detectable concentrations of PFAS compounds in sediment were at, or just above, laboratory LORs, with the exception of two compounds in sample AY_SED03 (PFOS 0.0047 mg/kg, LOR 0.0002 mg/kg and 8:2 FTS 0.0025 mg/kg, LOR 0.0005 mg/kg) and therefore are unlikely to pose a significant human and/or ecological health risk.

As discussed above, detectable concentrations of PFAS compounds in sediment, in the absence of a ratified assessment criteria, do not necessarily confirm the existence of a viable human and/or ecological health risk, rather, provide confirmation of contaminant presence and that further assessment of viable source-pathway-receptor relationships may be required to appropriately quantify the risk.

Accordingly, the detectable PFAS concentrations in sediment and the surface water guideline criteria exceedance are not considered to pose either a significant human health and/or ecological risk to off-site receptors but require further investigation.

10.6 Data quality, data gaps and other considerations

Based on the results obtained from the assessment, including QA/ QC data, it is concluded that the data quality is appropriate and as such the results can be relied upon.

AECOM (2019b) outlined that any RPD exceedances were a result of heterogeneity and did not affect the outcomes of the report. AECOM (2019b) also reviewed document completeness, data completeness, data comparability, data representativeness and precision and accuracy for sampling and analysis. No outliers were reported when compared to the adopted evaluation criteria.

The Auditor has undertaken his own assessment of the data and arrived at the same conclusions as the SQP. This assessment has included a check of RPD calculations (discussed above), as well as comparison of field and laboratory collected data (where available).

10.7 Confirmation of conceptual site model and source-receptor pathway linkages

Based on the findings of the CLID (AECOM, 2019b), it can be confirmed that all possible source to receptor pathway linkages have been identified and quantified to the extent practicable within the limitations of this investigation:

- AECOM (2019b) concludes there is no unacceptable human health and/ or ecological risk associated with the identified PFAS concentrations on-site, within the commercial/ industrial exposure context; and

- AECOM (2019b) considers that, based on the groundwater investigation completed to date, there is a potential that impacted groundwater may have or be migrating beyond the site boundary at concentrations greater than human health (drinking water/ recreational) and/ or ecological assessment criteria and that further investigation to appropriately delineate the PFAS plume and quantify risks posed to down-gradient sensitive receptors should be undertaken.

The Auditor concurs with AECOMs conclusions and considers further off-site investigation is warranted to appropriately assess risk to off-site receptors and determine management and/or remediation strategies, if required. Specifically, the potential exposure pathway associated with off-site groundwater (and potentially surface water) migration and subsequent groundwater use (potable/ other) or discharge to sensitive receptors needs to be investigated and quantified in order to allow an assessment of environmental harm.

11 ASSESSMENT OF REPORT AGAINST S389 OF EP ACT 1994

11.1 Key descriptive elements; (S389 (1)), EP Act (1994)

In summary, it is the Auditor's opinion that the CLID reviewed has provided adequate information about the land, as it has described the relevant elements, and the Auditor has assessed these descriptions against s.389(1) of the EP Act (1994).

A summary of the findings of the Audit is provided in this report (statement of reasons), with a reference table for each element in **Table 5** below.

11.2 Endorsement of statements under S389 (2) of the EP Act (1994)

Following on from the above summary of reasons for accepting the CLID, the Auditor is able to endorse the statements made in the CLID relating to s.389(2) of the EP Act (1994):

- Insufficient data has been collected (chemical and physical) beyond the site boundary to determine whether the site is prescribed contaminated land;
- The extent of PFAS contamination on the land has been assessed to an acceptable degree and it has been determined that the site is suitable for on-going commercial/ industrial land-use;
- Further data is required to be collected off-site to determine the extent that the land is impacting, or has the potential to impact on, any receptors or beneficial uses of groundwater; and
- It is the Auditor's opinion that the CLID complies with the contaminated land NEPM (NEPC, 2013).

Table 5: Auditors assessment of CLID contents

Subsections of section 389 of the *Environmental Protection Act 1994*		Reference to CLID (i.e. sections, pages and/or paragraphs) that comply with the corresponding subsection of section 389 of EP Act	Reference to auditor's statement of reasons (i.e. sections, pages and/or paragraphs) of why each requirement has been deemed compliant
(1)(a)	the reasons particulars of the land have been recorded in a relevant land register	Table 2	Section 4
(1)(b)	a description of all surface and subsurface infrastructure on the land, including details of the location, size and type of the infrastructure	Section 2.2 Site Layout and features/Figure 2	Sections 4.2 and 7.1
(1)(c)	a description of the surrounding area of the land, including a description of each of the following in the surrounding area:	Section 3	Section 4.2
(1)(c)(i)	- all environmentally sensitive areas	Section 3.7 GDEs and Environmentally sensitive areas	Section 4.2 and 6.4.3
(1)(c)(ii)	- the location of all water, watercourses and wetlands	Section 3.4 Hydrology, Section 3.7 GDEs and Environmentally sensitive areas	Sections 6.1 and 6.4.3
(1)(c)(iii)	- the location of all storm water drainage	Section 2.2 Site layout and features/ Figure 2, Section 2.4 Previous environmental investigation, Section 3.4 Hydrology	Sections 6.1 and 7.1
(1)(c)(iv)	- all uses of the land, including uses that may affect the safety of the relevant land or cause environmental harm	Section 2.2 Site Layout and features, Section 2.3 Surrounding land use	Sections 4 and 5
(1)(c)(v)	- all activities carried out that may affect the safety of the relevant land or cause environmental harm	Section 2.4 Previous environmental investigations/ Table 1	Section 5
(1)(d)			
(1)(d)(i)	- details of the location, volume and type of the waste	Section 2.4 Previous environmental investigation	Section 7.1

Subsections of section 389 of the *Environmental Protection Act 1994*		Reference to CLID (i.e. sections, pages and/or paragraphs) that comply with the corresponding subsection of section 389 of EP Act	Reference to auditor's statement of reasons (i.e. sections, pages and/or paragraphs) of why each requirement has been deemed compliant
(1)(d)(ii)	- details of any potential contamination of the land caused by disposing of or storing the waste on the land	Section 2.4 Previous environmental investigation	Section 10
(1)(e)	a description of the geology and hydrogeology of the land	Section 3.2 Soil type and ASS; Section 3.3 Geology; Section 3.5 Hydrogeology	Sections 6.2, 6.3 and 6.4
(1)(f)	details of any environmentally relevant activities or notifiable activities carried out on the land, including the materials used and waste produced during the carrying out of the activities	Section 2.1 Site Identification, Section 2.4 Previous Environmental Investigation	Sections 1 and 5
(1)(g)	details of any earthworks carried out on the land, including the materials used and waste produced during the earthworks	Section 2.2 Site layout and features, Section 2.4 Previous Environmental Investigation, Section 4.0 fieldwork	Sections 5 and 7
(1)(h)	if work has been carried out on the land to remediate the contamination of the land—the contamination levels recorded on the land before and after the work was carried out	Not applicable	Not applicable
(1)(i)	for a draft site management plan:		
(1)(i)(i)	- the proposed objectives to be achieved and maintained under the plan	N/A	N/A
(1)(i)(ii)	- the proposed methods for achieving and maintaining the objectives	N/A	N/A
(1)(i)(iii)	- the proposed monitoring and reporting compliance measures for the land	N/A	N/A
(2)(a)	a statement (a *site suitability statement*) of the uses or activities for which the site is suitable	-	Cover Letter and Section 12

Subsections of section 389 of the *Environmental Protection Act 1994*		Reference to CLID (i.e. sections, pages and/or paragraphs) that comply with the corresponding subsection of section 389 of EP Act	Reference to auditor's statement of reasons (i.e. sections, pages and/or paragraphs) of why each requirement has been deemed compliant
(2)(b)	a statement of the following matters:		
(2)(b)(i)	- whether the land is prescribed contaminated land	Section 6: Results, Section 7: Discussion, Figs 2-5	Sections 10 and 11.2
(2)(b)(ii)	- if the land is contaminated—the extent to which the land is contaminated		
(2)(b)(iii)	- for a draft site management plan—whether the proposed objectives, methods and measures stated in the plan under subsection (1)(i) are appropriate	N/A	N/A
(2)(b)(iv)	- the extent to which the assessment of the land is in accordance with the contaminated land ASC NEPM	Section 1.3: Objectives, Section 4: Fieldwork- DSI, Section 8: Conceptual site model, Appendix G: Data quality evaluation	Sections 11 and 12

12 AUDITOR CONCLUSION AND RECOMMENDATIONS

The following evaluation has been made on the CLID (AECOM, 2019b):

- the SIR adequately justifies the conclusions in the context of site history, level of assessment, development of a robust CSM, and relevant aspects of NEPC (2013), NEMP (2018) and DES (2015 and 2018) in particular;
    - the CSM developed for the site (AECOM, 2019b) adequately identifies CoPC including their sources and potential pathways to identified receptors at and about the site, and then allocates appropriate Tier 1 criteria to ensure the identified potential receptors are protected by concentrations at the source/s; and
    - the conclusions of the final CLID (AECOM 2019b) are therefore underpinned by a robust assessment and consistent with the appropriate guidelines and legislation.

In summary, the CLID findings have determined that while soil contamination in excess of adopted ecological indirect exposure guidelines exists at the site, given the presence of concrete hardstand, the legacy commercial/ industrial use of the site, and the relatively low concentrations identified, this does constitute a significant ecological risk and the site is suitable for on-going commercial/ industrial use.

However, noting that concentrations of PFOS and PFHxS in groundwater at the site exceed relevant guideline criteria, there is a potential that impacted groundwater has migrated beyond the site boundaries. Accordingly, the CLA considers that further off-site investigation is warranted to comply with legislation and quantify the risk (if any) to off-site human and/ or ecological receptors along a complete exposure pathway and therefore determine what notification, remediation and/ or management measures may be necessary at the site to mitigate these risks.

13 LIMITATIONS

Mark Stuckey of Environmental Earth Sciences has prepared this CLA report (719052_QFES_AYR_AuditorCert_V1) in accordance with Section 568 of the *EP Act 1994* and DES (2018). The Report has been prepared solely to support the CLA's (Mark Stuckey's) certification of the CLID prepared by the SQP for the site.

The Report relates only to those matters relevant to certification of the CLID under relevant provisions of the *EP Act 1994*. It is not intended, nor is it suitable, for any other purpose and should not be relied upon for any other purpose.

The Report only considers the contaminated land aspects of the site (in relation to PFAS compounds only) and does not provide an opinion regarding other aspects of the site or the environment not related to site contamination such as (but not limited to):

- hazardous building materials in buildings or structures;
- structures, footings, infrastructure and the like (whether above or below ground);
- the suitability of fill materials for any use and any geotechnical considerations;
- regulatory responsibilities or obligations (for which a legal opinion should be sought);
- work health and safety legislation; or
- the suitability of any engineering design.

If specialist technical review of such additional issues is required, then separate advice should be obtained from appropriate specialists.

The Auditor is not one of the specialists who prepared the CLID. The Auditor has independently evaluated the CLID and its site suitability statement prepared by the SQP in order to certify that the CLID complies with the content requirements of Sections 389(1) and 389(2) of the EP Act as far as practicable, noting the investigation was undertaken to characterise PFAS contamination, only. In preparing the Report, the Auditor has assessed the suitability of the SQP to prepare the CLID in accordance with the *EP Act*, and has relied on the experience, expertise and integrity of the SQP, as declared by the SQP.

Whilst the Auditor has taken reasonable measures to verify the accuracy and completeness of information presented by the SQP and included in the CLID, neither the Auditor nor Environmental Earth Sciences accepts any liability for misrepresentation of information or for the omission of any information in the CLID that is material to the Auditor's certification.

Sampling and chemical analysis of environmental media are based on guidance made and approved by the relevant regulatory authorities. Conclusions arising from the assessment of environmental data are based on the sampling and analysis considered appropriate based on these regulatory requirements and site history, not on sampling and analysis of all media at all locations for all potential contaminants. Ground conditions between sampling locations may vary, and this should be considered when extrapolating between sampling points.

As environmental sampling for this program has been undertaken to characterise the concentration and distribution of PFAS compounds only, no warranty or guarantee is provided that other hazardous and/ or toxic chemicals associated with previous historic land uses do not exist at the site. Furthermore, it is noted that assessment of risk is based on currently available guidance; given regulatory standards change over time and there may be materials present at the site that whilst not considered hazardous at the present time may be considered hazardous in the future.

Changes to the site conditions may occur subsequent to the investigations described in this Report, through natural processes or through the intentional or accidental addition of contaminants. The conclusions and recommendations reached in this Report are based on the available information at the time of the investigation of the site.

Should new information become available about contamination at the site that may materially affect the validity or appropriateness of the conclusions in the Report, the Auditor reserves the right to review the Report in the context of any such additional information.

14 REFERENCES

AECOM (2019a) *Preliminary Site Investigation and Sampling, Analysis and Quality Plan*, QFES, April 2019

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ENVIRONMENTAL EARTH SCIENCES GENERAL LIMITATIONS

Scope of services
The work presented in this report is Environmental Earth Sciences response to the specific scope of works requested by, planned with and approved by the client. Client may distribute this report to other parties and in doing so warrants that the report is suitable for the purpose it was intended for.

Data should not be separated from the report
A report is provided inclusive of all documentation sections, limitations, tables, figures and appendices and should not be provided or copied in part without all supporting documentation for any reason, because misinterpretation may occur.

Subsurface conditions change
Understanding an environmental study will reduce exposure to the risk of the presence of contaminated soil and or groundwater. However, contaminants may be present in areas that were not investigated, or may migrate to other areas. Analysis cannot cover every type of contaminant that could possibly be present. When combined with field observations, field measurements and professional judgement, this approach increases the probability of identifying contaminated soil and or groundwater. Under no circumstances can it be considered that these findings represent the actual condition of the site at all points.

Environmental studies identify actual sub-surface conditions only at those points where samples are taken, when they are taken. Actual conditions between sampling locations differ from those inferred because no professional, no matter how qualified, and no sub-surface exploration program, no matter how comprehensive, can reveal what is hidden below the ground surface. The actual interface between materials may be far more gradual or abrupt than an assessment indicates. Actual conditions in areas not sampled may differ from that predicted. Nothing can be done to prevent the unanticipated. However, steps can be taken to help minimize the impact. For this reason, site owners should retain our services.

Obtain regulatory approval
The investigation and remediation of contaminated sites is a field in which legislation and interpretation of legislation is changing rapidly. Our interpretation of the investigation findings should not be taken to be that of any other party.

Limit of liability
This study has been carried out to a particular scope of works at a specified site and should not be used for any other purpose. .

APPENDIX A: AUDITOR CERTIFICATE OF APPROVAL

Certificate

Environmental Protection Act 1994

Certificate of Approval

Approval No: CLAD06400917

This certificate of approval as an auditor is issued by the chief executive[1] *pursuant to section 573 (2)(a) of the* Environmental Protection Act 1994.

1. Approved person

Mark Stuckey

2. Approved auditor functions

The approved person is approved to perform auditor's functions under 568(b) of the *Environmental Protection Act 1994* and relevant auditor's functions pursuant to the provisions of the *Planning Act 2016*.

3. Term of approval

This approval will remain in force until **9 October 2020** unless it is earlier cancelled or suspended.

4. Conditions of approval

The approved person must comply with the most recent version of The Queensland Auditor Handbook for Contaminated Land, Module 4: Code of Professional Conduct.

Signature

09/10/2017

Date

Chris Loveday
Director
Environmental Services and Regulation
Department of Environment and Heritage Protection
Delegate of the chief executive
Environmental Protection Act 1994

Enquiries:
Ralph Riese
A/Manager,
Regulatory Capability and Customer Service
Department of Environment and Heritage Protection
Phone: (07) 3330 5706

[1] The Director-General of the Department of Environment and Heritage Protection is the chief executive under the *Environmental Protection Act 1994*.

APPENDIX B: AUDITOR CERTIFICATION AND DECLARATION

Auditor certification and declaration

Contaminated land investigation document

This template is for use by an auditor, in relation to a function under s. 568(b) of the Environmental Protection Act 1994 (EP Act), to certify a contaminated land investigation document under s. 389(3) of the EP Act, and to make a declaration under s. 574C of the EP Act.

1. Details of the auditor's function

Auditor

Name Mark Stuckey
Company Environmental Earth Sciences
Registered business address Unit 3, 1 Ross Street, Newstead, QLD
Telephone Unit 3, 1 Ross Street, Newstead QLD
Email mstuckey@eesigroup.com
Auditor approval number (Qld) CLAD06400917

Details of the contaminated land investigation document

Title of the contaminated land investigation document: PFAS Detailed Site Investigation: Ayr Fire Station, 47-49 Soper Street, Ayr Queensland. Rev 0 (FINAL). 6 February 2020. Author: James Peachey (SQP)
The contaminated land investigation document comprises (tick all applicable boxes): ☒ site investigation report ☐ validation report ☐ draft site management plan ☐ draft amended site management plan
Objective of the contaminated land investigation document: ☐ Required by a notice issued by the administering authority under the EP Act (notice reference number:) ☒ Prepared voluntarily to remove, or change details of, land on the environmental management register (EMR) or contaminated land register (CLR) ☐ Other (provide details):
Title(s), version number, date, and author(s) of report(s) or draft site management plan(s) evaluated—for each separate document forming a component of the contaminated land investigation document. AECOM (2019a) Preliminary Site Investigation and Sampling, Analysis and Quality Plan, QFES, April 2019

Title(s), version number, date, and author(s) of any report(s) or plan(s) previously submitted to the administering authority that forms part of the current contaminated land investigation document.

Auditor engagement

Auditor was engaged by: ☒ Owner ☒ Occupier ☐ Developer ☐ Administering authority ☐ Other (provide details):
Name of person/company who engaged the auditor: Raymond Bott, Queensland Fire and Emergency Services
Date auditor was commissioned: 18/07/2019

Relevant land

Lot on plan Lot 95/RP702279	Title(s) of attached site plan(s): Ref: 50268219
Street address 47-49 Soper Street, Ayr, QLD	Postcode 4807
Local government area Burdekin Shire Council	EMR/CLR ID (if applicable)
Registered owner name The State of Queensland (represented by Public Safety Business Agency)	Registered owner address Public Safety Business Agency, Level 13 Makerston House, 30 Makerstne Street, Brisbane, QLD 4000

Is there a radiation Impact on site?

☐ Yes—you must provide a support expert's statement
☒ No

Support expert(s) engaged by auditor

☒ No support expert was engaged ☐ One support expert was engaged—the support expert's details are provided below. ☐ More than one support expert was engaged—a full list of each support expert's details is attached.
Name N/A
Company N/A
Describe the matter(s) for which the support expert provided expert advice: N/A
☐ Support expert's report (or other document) attached

2. Auditor's certification and declaration

Certification

I certify that the contaminated land investigation document complies with ss. 389(1) and 389(2) of the *Environmental Protection Act 1994* having regard to the guidance provided in the *Queensland auditor handbook for contaminated land, Module 6: Content requirements for contaminated land investigation documents, certifications and audit reports* (Department of Environment and Science, 2018).

In particular, I certify that the site suitability statement provided in the contaminated land investigation document accurately states the uses or activities for which the land is suitable.

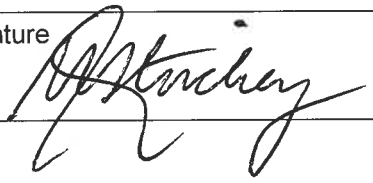
I have attached an audit report, titled *719052_QFES_AYR AuditorCert_V1.0*, about my conclusions with respect to the requirements of subsections 389 (1) and 389(2) of the *Environmental Protection Act 1994*. The audit report explains and justifies how I arrived at my decision to certify that the contaminated land investigation document and its site suitability statement comply with ss. 389(1) and 389(2) of the EP Act.

Declaration

I am an auditor approved to undertake a function under s. 568(b) of the *Environmental Protection Act 1994*.

I declare that:

1. I possess qualifications and experience relevant to the audit of the contaminated land investigation document, or, where not, I have engaged an appropriately qualified and experienced support expert.
2. I have not knowingly included false, misleading or incomplete information in my certification of the contaminated land investigation document.
3. I have not knowingly failed to reveal any relevant information or document to the administering authority.
4. The certification of the contaminated land investigation document, including the audit report, addresses the relevant matters for the audit and is factually correct.
5. The opinions I have expressed in the certification and audit report are honestly and reasonably held.

Auditor's name Mark Stuckey
Company Environmental Earth Sciences
Auditor's signature 
Date 04/03/2020

APPENDIX C: CORRESPONDANCE WITH SQP

Table 1: Auditor comments on specific sections of the SIR

Item	Section (s) in report	Report Section Name	Environmental Earth Sciences Comments
1	Figures		It is recommended that topography (e.g. 1 m and 10 m contours from Queensland Globe) be included on each site location/layout plan to assist in estimation/discussion of likely groundwater and surface water flow direction if possible to do so.
2	Figures	Figure 1	• RN153347 appears to be within a 500 m radius of the site. However, is not listed in Table 5. Please check and amend as necessary. • Given accompanying Table 4 presents data for those registered bores within 500 m of the site, it may be beneficial to add a "500 m site radius" to the Figure.
3		Figures 2 – 5	AYR_SS01 and AYR_SS02 please amend to ensure consistent symbol (colour and type) for both locations (current symbol/colour is a little unclear)..
4		Figures 4- 6	Please consider increasing the font size of the exceedances key at the base of the legend. (While it is noted electronically, this does not pose an issue, at print size A4 this data becomes unreadable in hard copy)
5		Figure 7	• Graphical CSM not yet received.
6	Tables – Appendix B	Table T1 and Table T2	• Typo (Notes): Australian height datum.

7		Table T4	• Given that commercial/industrial criteria is the primary criteria and residential used as secondary consider the following amendment to exceedances mark-up to minimise the potential for external parties mis-reading data:
			  ○ Commercial industrial criteria exceedance = purple highlight
			  ○ Residential criteria exceedance = bold text (the use of italic text to present the criteria difference is noted, but, this is not as easy to see as bold type).

Item	Section (s) in report	Report Section Name	Environmental Earth Sciences Comments
8		Table T5	• As above, consider uses of bold text rather than italics, for clarity. • PFOS criteria is presented as 0.0002 rather than 0.00023.
9		Table T8	• Row 3: typo (RN prefix to lab report)

10	Table of contents/Executive Summary		• Please update the table of contents – Section 3.1 in contents page currently references “site topography” but section 3.1 in text is “climate”.
			• Investigation scope:
			“ The DSI was completed between July and August”
			• Key findings of the DSI:
			  ○ Bullet 3: where possible (and practical to do so), sample designations and sampling depths should be provided in text after mention e.g. the 2 soil samples containing PFOS exceeding guideline levels and associated sample depths.
			  ○ Bullet 4: “…samples with the **highest**…?”
			  ○ Bullet 7 – tap water should be assessed against NEMP human health criteria and drinking water criteria.
			  ○ Bullet 8 (and in general) – sometimes location descriptions are a little wordy and difficult to understand. Consider minimising these descriptions where possible and directly referencing figures where these locations are presented clearly.
			It is noted that in Appendix G (QA/QC) that a QA sample was taken from the on-site fire hydrant to assess the composition of waters used for decontamination of drilling equipment, that returned detectable concentrations of PFAS. It is worth expanding on this finding in the main report text – where is the fire hydrant water sourced from? What compounds were identified, what concentration? What are the implications for the interpretation of PFAS contamination distribution at the site?

Item	Section (s) in report	Report Section Name	Environmental Earth Sciences Comments
11	1.1	Background	Update in relation to most recent comments received pertaining to staged approach received from QFES, namely: • Stage 5: Provide the final SIR to the regulator (DES) and subject to any further requirements, procure a suitable environmental consultant to design an investigation plan to measure and assess offsite impacts. • Stage 6: Engage an appropriately qualified third party CLA to audit the suitability of any offsite investigation plan to meet the requirements of DES prior to implementation.
12	1.4	Scope of works	Please ensure consistency throughout the document when referencing sampling location/areas: Bullet 2 discusses unsealed grassy areas on the western and southern portions of the site. However, it is noted according to Figure 2 grassed areas cover the north western third of the site, adjacent to Queen Street (aside from the access driveway) and, a small elongate area between the car park/awning and south western boundary. Please review and amend as appropriate.
13	1.5	PFAS Analysis	Footnote (3) – amend in relation to most recent comments received (Proserpine report) pertaining to NEMP Version 2.0.
14	2.2	Site layout and features	Consider inclusion of dial before you dig (DBYD) service plans to indicate how on-site stormwater and drainage (potential preferential pathways for contaminant migration) connect to municipal supply and discharge offsite; particularly as it is implied site waters are eventually discharged to aquatic ecosystems. • Paragraph 4 contains useful information but is a little wordy. Given a good graphical representation of the services is provided in Figure F2, consider minimising the descriptive text provided here, particularly in relation to directional/orientation information and refer back to Figure 2. Supporting text could perhaps be better limited to the existence of these services and providing an indication of where the offsite discharge/connections to municipal systems lies and thereby providing an indication of where off-site migration may occur. • Paragraph 6: Please refer to comment 12 above and review to ensure consistency with reference to unsealed/grassed areas on site. Grassed/landscaped areas appear to cover the north western third of

Item	Section (s) in report	Report Section Name	Environmental Earth Sciences Comments
			the site, adjacent to Queen Street (aside from the access driveway) and, a small elongate area between the car park/awning and south western boundary. • Paragraph 6: " a further" … suggest amendment to "a further small open grassed area is located adjacent to the awning/car park area, adjacent to the south western site boundary."
15	2.3	Surrounding Land use	• Table 3: Based on site orientation, the four site boundaries are – north east/south east/south west and north west; surrounding land uses would be better considered in this context, rather than standard compass bearings, (north, east, south, west). Please review and amend as necessary. • Note – a service station (Coles Express) is located approximately 400 m to the south west/ a service station (Woolworths Petrol) is located approximately 450-500 m to the west. • Consider the value of including reference to surface water courses and associated distances from site boundary in this section (refer Proserpine DSI report) – this provides a useful summation of nearby features of interest.
16	2.4	Previous environmental investigation	It is noted Section 2.4 is largely a reproduction/summary of data provided in the PSI/SAQP. Please review and ensure consistency. Ensure all relevant information is included. • Is any information known on the depth/construction details of the two groundwater bores sampled by Queensland Health in May 2018 and thereby the aquifer of interest? Can any linkages be drawn (or otherwise) with the water bearing body screened in the two water bores and the shallow bores installed as part of this investigation? Same/different aquifer? • Note observation as per comment 15 pertaining to service station sites within 400-500 m of the site. • Last paragraph – in addition to those potential sources noted above, a number of additional potential sources exist within a 4 km radius of the site including (but not limited to): sewage treatment plant, landfill/waste transfer station. Fuel depots have been identified. Please review for completeness and amend as necessary.
17	3.1	Climate	• "characteristic of" should this read "characterised by"?

Item	Section (s) in report	Report Section Name	Environmental Earth Sciences Comments
18	3.5	Hydrology	Please refer to drainage and surface water layers in Queensland Globe and consider inclusion of the following: • Plantation Creek, to the south and east of the site, trending in a broadly north easterly direction. The creek appears as a series of connected and/or non-interconnected standing water areas contingent on the resolution of map viewed (Google maps). Plantation Creek eventually discharges to the Coral Sea 10-12 km to the east of the site. (It is noted Plantation Creek is mentioned in Section 3.8) • Drainage channels running approximately parallel to Plantation Creek and In a north south direction between Chippendale Street and Cornford Crescent (connects with a number of surface water bodies – unnamed) to the north east of the site. • It would also be useful to reference the Burdekin River as the main water course in the area, located approximately 4.5 km to the south of the site.
19	3.6	Hydrogeology	• Paragraph 2: Refer to Figure 1; there are 6 registered bores within 500 m of the site, RN153347 has not been considered in Table 5, but is presented on Figure 1. Please review and amend as necessary, • Note – reference should be made to Figure 1 for registered bore locations, not Figure 2.
20	3.8	Groundwater dependent ecosystems	Stated distances between the site and aquatic ecosystems should be re-assessed. The Burdekin river is located approximately ~5.3 km from the site at closest point.
21	4.2.2	Groundwater Investigation	Decontamination procedures – it is noted that “bladder pump” is referenced here, but as per the Groundwater sampling row, a low-flow peristaltic pump was used. Please review and amend for consistency.
22	6.2.2	Groundwater elevations	Sentence one metres below top of casing repeated twice in sentence.
23	6.2.3	Water quality parameters	It is noted Table 14 is titled groundwater and surface water results. However, the table presents results for, presumably, the 4 groundwater samples only. According to the introductory paragraph, this table is to present groundwater only. Suggest table is re-titled to indicate groundwater results only are being presented. Further, it is recommended, given data is only available for four locations that all pertinent data is presented rather than statistics (minimum and maximums).

Item	Section (s) in report	Report Section Name	Environmental Earth Sciences Comments
24	6.3.1	Analytical results: Soil	Consider presenting the nominated guideline values in this summary table for clarity.
25	6.3.2	Analytical results: Groundwater	Consider presenting the nominated guideline values in this summary table for clarity.
26	6.3.5	Analytical results: Surface water	Consider presenting the nominated guideline values in this summary table for clarity.
27	7.0	Discussion	As per previous comments – it is noted that in Appendix G (QA/QC) that a QA sample was taken from the on-site fire hydrant to assess the composition of waters used for decontamination of drilling equipment, that returned detectable concentrations of PFAS. It may be worth expanding on this finding in the main report text – where is the fire hydrant water sourced from? What compounds were identified, what concentration? What are the implications for the interpretation of PFAS contamination distribution at the site?
28	7.1.1	Soil conditions	It is noted section 7.1.1 describes the geological conditions as fill and re-worked natural deposits overlying natural material. However, this is the first mention of re-worked/disturbed natural. Please review section 7.1.1 and Section 6.1 for consistency and amend as necessary. Perhaps include some comment as to how the "reworked natural" distinguished from natural material.
29	7.1.2	Hydrogeology	"The presence of underground services present beneath" – suggest present is removed from this sentence. It is understood (as per comment 16), two groundwater bores were sampled by Queensland Health in May 2018. Is any information available pertaining to construction details for these two bores? Are these screened within the same aquifer? It is noted responses will be contingent on available information.
30	7.2	Soil analytical results	Chart 1 – could consider attempting to overlay soil types (e.g. fill/natural/reworked natural) as a background to this chart to provide rapid reference to contaminant occurrence in relation to strata type. id interpretation.id interpretation. If this is too difficult, graphically, would it be possible to provide an indication (point or otherwise) of the fill/natural interface to aid interpretation. Could more reference be made in the discussion here, to distribution of contamination within fill versus natural/reworked natural material?

Item	Section (s) in report	Report Section Name	Environmental Earth Sciences Comments
			For example; Paragraph 2 indicates the sample with the highest PFAS concentration was collected in “sandy clay beneath the concrete” a phrase that could be taken to imply the exceedance was within the fill material. However, based on the geology section, it is understood fill extended to a depth of 0.6 m BGL only. While this information can be pulled from other sections; reference here to types of material would enhance the clarity of the discussion provided with regards to contaminant distribution. It may be better to provide units (mg/kg) in each column as per the Sum of PFHxS and PFOS for ease of reference, rather than as a footnote.
31	7.3	Groundwater analytical results	“*this suggests a secondary source of PFAS may be present in the soil in these areas*”. Could the presence of PFAS in groundwater, in this area not simply be indicative of legacy impact associated with PFAS infiltration to groundwater following application to unsealed site surface in the southern training area? Given assessment criteria is provided for sum of PFHxS and PFOS only, it is recognised that this has driven analytical result discussion in several sections. However, based on available data it is understood that PFHxS behaves differently (with regard to mobility and offsite migration) therefore consideration of these two compounds together, may mask some pertinent information with regard to contaminant mobility and transport. This may be particularly pertinent in consideration of contaminant movement, with inferred groundwater direction, to the south east. Please provide separate discussion for consideration of PFHxS and PFHxA behaviour. Also, please present the concentrations for the individual compounds (PFHxS and PFHxA) in Figure F5 (and other relevant figures, as appropriate).
32	7.4	PFAS composition	Last paragraph. Please review and reword for clarity – some sentences appear incomplete/there seem to be a few words missing e.g. “comprised of longer chain….” As per comment 31 above, further consideration should be made to PFHxS occurrence and behaviour (noting in particular implications in relation to the occurrence of PFxS at the 1 m (32%) and 6 m (10 %) depth intervals.
33	7.6	Surface water and sediment analytical results	• Paragraph 1 - location descriptors here are a bit long and confusing; given a well drafted figure showing exceedances in relation to site features is provided (Figure 6) can the text here be refined/minimised in favour of cross referencing to the Figure.

Item	Section (s) in report	Report Section Name	Environmental Earth Sciences Comments
			• Paragraph 3 suggest the word “summarised” is replaced to provided/presented or similar.
34	8.4	Migration mechanisms	Bullet 5 – this migration mechanism is unclear. Please review and rephrase for clarity.
35	8.6	Assessment of exposure pathways	Throughout - be careful of using the “PFAS” terminology given, it appears, in some cases exceedances were only recorded for specific compounds (e.g. surface water – PFOS), tap water (PFOS/PFHxS and PFOS) • PFAS in groundwater – “five registered abstraction bores surrounding the site”. If this refers to bores within a 500 m radius, please specify. Also note – as per the Figure and earlier comments, there are 6 registered bores within 500 m of the site. • PFAS in tap water – it is agreed this risk rating is “possible”. However, commentary should be included to reference that the AECOM tap water sample exceeded criteria, while the most recent follow-up sample did not. Therefore, assessment of the tap water at the fire station has been variable. • PFAS in surface water - note earlier commentary with regard to nearby surface water receptors. It would be worthwhile splitting human recreational risk from ecological risk here: Human health: Given surface waters did not exceed recreational human health criteria is it reasonable to anticipate that surface waters down-gradient of the site would potentially be impacted by PFAS compounds at concentrations above recreational criteria (i.e. higher than the source area)? Ecological risk: The comments indicate PFAS concentrations exceeded the adopted ecological guidelines. However, it is noted only PFOS exceeded the nominated assessment criteria in AY_SW02. • Accumulation of PFAS in creek sediment: Note earlier comment regarding use of PFAS terminology rather than reference to specific compounds.

ENVIRONMENTAL EARTH SCIENCES
CONTAMINATION RESOLVED

Table 2: Requirements of Module 6

Requirement Section of CLID in which requirement is addressed	Section in CLID Addressing Requirement	Auditors review comments	Action required
3.1 Introduction			
State whether the CLID is a site investigation report, validation report, draft site management plan, or a combination of those.	Executive summary, paragraph 3	The report does not meet the definition of a CLID due to the absence of a regulatory trigger. However, the report does state that it is a site investigation report (SIR) for the detailed site investigation (DSI)	No
State why the contaminated land investigation document was prepared and note any statutory triggers.	1.1 General (Introduction)	No statutory triggers listed as none present.	No
State what the desired outcome is (e.g. to have the particulars of the land removed from, or amended on, the relevant land register).	1.3 Objectives	The auditor agrees with the desired outcomes.	No
State whether the document provides final information about the site and its intended use, or whether it is likely that one or more contaminated land investigation documents will be prepared in the foreseeable future for the same site and its same intended use.	1.2 Background	Table 2 confirms both current and future use.	No
3.2 Site Investigations			
Describe and illustrate all the site investigations that were used when preparing the contaminated land investigation document, including any that may have been undertaken for previous purposes.	Executive summary: Key findings of the PSI; Section 2.4: Previous environmental investigation; Section 7.3 Groundwater analytical results	Information pertaining to previous environmental investigations has been provided appropriately.	No
3.3 Reasons the land is on a relevant land register			
Identify and describe the land by the following information:			
· street address of the site	Table 2		No

Requirement Section of CLID in which requirement is addressed	Section in CLID Addressing Requirement	Auditors review comments	Action required
· registered lot-on-plan details	Table 2		No
· owner(s) of the land and their registered address	Table 2 (Owner only)		No
· current occupier(s) of the land	Table 2		No
· area of the land (m2 or hectares)	Table 2		No
· map of the site at a suitable scale, showing lot and plan boundaries, and latitude and longitude in decimal degrees	Figure 2		No
· relevant local government authority	Table 2		No
· zoning of the site and the surrounding land on the local government's planning scheme (current and proposed)	Table 2		No
· any proposed changes to the zoning of the site and the surrounding land on the local government's planning scheme	Table 2		No
· any existing, pending or proposed development approval or building works approval.	Not provided	Not relevant to this report	No
State whether or not the land is currently listed on the EMR or the CLR, and provide the identifying number on the EMR or CLR. Provide a short history (if available) of when any listing(s) occurred, and any changes that were made to the listings.	Table 2		No
Describe the past and current activities and use(s) of the land that resulted in its potential or actual contamination and its listing on the register. Describe and map the locations where those activities occurred. In particular, address any notifiable activities and/or environmentally relevant activities.	Section 2.2: Site layout and features; Section 2.4 Previous environmental investigation		No

Requirement Section of CLID in which requirement is addressed	Section in CLID Addressing Requirement	Auditors review comments	Action required
3.4 Surface and subsurface infrastructure			
Describe all surface and subsurface infrastructure on the land, including details of the location, size and type of the infrastructure. Relevant infrastructure includes pipes, tanks, drains, dams, bores, buildings and foundations.	Section 2.2 Site layout and features/Figure 2	Additional information would be useful, particularly in relation to potential offsite migration pathways (e.g. dial before you dig (DBYD) search results to be provided.)	**Yes**
Describe any infrastructure that has contributed to contamination of the site, even if that infrastructure has since been removed.	Section 2.2 Site layout and features/Figure 2		No
Describe any infrastructure that may either retard or increase the movement of contaminants and describe how the effect may occur. For example, bedding sand for stormwater drainage or sewerage pipes can act as a preferential pathway for contaminants even if the pipe itself has been removed.	Section 8.4 Migration mechanisms		No
Describe any infrastructure that would need to be removed or repositioned to facilitate any remediation of the site.	Not applicable		No
3.5 Site and surrounding area			
Provide a description of the site and surrounding area of the land. The description of the site and surrounding area must address the following matters (see s. 389(1)(c) of the EP Act):			
· all environmentally sensitive areas	Section 3.8: GDEs and Environmentally sensitive areas	Information provided should be reviewed in relation to commentary provided	**Yes**
· the location of all water, watercourses and wetlands	Section 3.4: Hydrology, Section 3.8 GDEs and Environmentally sensitive areas	Section 3.4 and throughout please confirm details with regard to water courses, distance from site, names and so on.	**Yes**
· the location of all stormwater drainage	Section 2.2 Site layout and features		No

Requirement Section of CLID in which requirement is addressed	Section in CLID Addressing Requirement	Auditors review comments	Action required
· all uses of the land, including uses that may affect the safety of the relevant land or cause environmental harm	Section 2.3 Surrounding landuse Table 1		No
· all activities carried out that may affect the safety of the relevant land or cause environmental harm	Section 2.4: Previous environmental investigation Table 1		No
Describe the climate of the area of the land, and the vegetation on the site and the surrounding area.	Section 3.1		No
Illustrate the description with maps, diagrams and photographs, and include the topography of the area. If the site and/or its surrounding land have areas of low relief, illustrate the topography on maps with contours at no more than 1m intervals.	Section 3.1 Site topography.	Contour plans with 1-10 m intervals not provided. This data may be useful to assist in determining likely groundwater and surface water flow directions if feasible, contingent on site topography.	**Yes**
Describe the stormwater drainage, delineate the catchments, and include any stormwater quality improvement devices, weirs, sediment basins, storage dams, and so on. Include the potential for stormwater drainage to affect the movement of contaminants. Also, address flood risk and locations where significantly large pools of water occur during or after rain events.	Section 2.2 Site layout and features; Section 2.4 Previous environmental investigation; Section 3.4 Hydrology		No
3.6 Waste disposed of or stored on the land			
Provide details of any waste that has been disposed of on the land, or that is or was stored on the land. Under Queensland law, waste is defined by s. 13 of the EP Act. The details should include the location, quantity and type of the waste, and the method(s) of its storage or disposal.	Section 2.4 Previous environmental investigation	Waste storage discussed in terms of PFAS only, which is sufficient to meet the objectives of this report.	No
Address any potential contamination of the land caused by storing or disposing of the waste on the land, such as might occur through the failure or breaching of an underground containment cell, the deterioration	Section 2.4 Previous environmental investigation		No

Requirement Section of CLID in which requirement is addressed	Section in CLID Addressing Requirement	Auditors review comments	Action required
of storage vessels, or an accident such as a fire. That is, disposal should be taken to include accidental spills or releases.			
The description should also include any waste that may have been extracted, then moved or stored at the site during earthworks (see also section 3.9 below). Suitably qualified persons must search all available records when researching information for this section of the report.	Section 2.2	Commentary has been provided to indicate no available information regarding emplacement of fill on site.	No
3.7 Geology and hydrogeology			
Describe the geology and hydrogeology of the land, including soils, subsoils, rock strata, aquifers, and aquitards.	Section 3.3 Soil type and ASS; Section 3.4 Geology; Section 3.5 hydrology, Section 2.6 Hydrogeology		No
Describe the environmental values to be enhanced or protected under the *Environmental Protection (Water) Policy 2009*.	Section 3.7	EVs for the Haughton Basin are yet to be developed therefore Queensland water quality guidelines apply as default	No
Guidance: The contaminated land NEPM (particularly its Schedules B2, B3 and B6) provides advice in regard to this requirement. However, there is a large body of research, other texts and sources of information about geology and hydrogeology that should be used to supplement the NEPM. When developing a concept or model of the groundwater system, comply with the *Australian groundwater modelling guidelines* (National Water Commission, June 2012).	As above	As above	No
Assess how the geology and hydrogeology of the land would affect the movement or retention of contaminants within soils, subsoils, and rock strata.	Section 6.1 Hydrogeology and Section 6.3 Soil analytical results, Section 8.0: Conceptual Site Model - PFAS		No
Describe groundwater quality and groundwater levels and flow directions.	Section 3.6: Hydrogeology; Section 6.2 Hydrogeology; Section 6.3.2:: Groundwater, Section 7.		No

Requirement Section of CLID in which requirement is addressed	Section in CLID Addressing Requirement	Auditors review comments	Action required
Describe any barriers to, and migration pathways for, the dispersal of contaminants in groundwater.	Section 8.0: Conceptual Site Model - PFAS		No
Assess the rate at which any contaminants may move through or out of the ground.	Section 7.1.2 Hydrogeology	Limited information pertaining to the likelihood of “low hydraulic conductivity clays” that may retard vertical and lateral migration of PFAS has been provided. It is noted the purpose of this assessment was to determine the concentration and distribution of PFAS on the site and near the site boundaries. However, now noting that PFAS may be migrating beyond the site boundary, further consideration should be given to the assessment of permeability and hydraulic conductivity of water bearing zones underlying the site, to facilitate the lateral delineation of any PFAS plumes and assessment of risk to off-site receptors. This may be subject to assessment in a subsequent report.	**Yes**
If there has been irrigation of waste water to land, or subsurface injection of waste water, describe the quantity and quality of waste water and the geological material and strata onto or into which the irrigation or injection occurred.	Not provided	Assumed not to occur	No
Describe the natural geochemistry including acid sulfate soils, or sulfide bearing minerals, if they might be present.	Section 3.3		No
Describe any naturally occurring toxicants that are present in quantities or concentrations that might affect the use or management of the site.	Not provided	Not relevant to this assessment	No

Requirement Section of CLID in which requirement is addressed	Section in CLID Addressing Requirement	Auditors review comments	Action required
Address liquid and gaseous contaminants that may be dispersed in pore spaces, and assess the potential for, and the likely rate of, dispersal of contaminants to the atmosphere.	Not provided	Not relevant to this assessment	No
Assess whether the dispersal of contaminants from the ground could impact on air quality in buildings.	Not provided	Not relevant to this assessment	No
If groundwater remediation is required, assess how effectively the site's contamination could be remediated, describe any limitations, and assess the likely residual contamination.	Not provided	Not relevant to this assessment	No
3.8 Environmentally relevant activities or notifiable activities			
Provide details of any environmentally relevant activities or notifiable activities carried out on the land, whether formerly or currently	Not provided	Please provide reference to ERA search completed during PSI and findings (e.g. no ERAs/ notifiable activities identified at the site)	**Yes**
Focus on the materials used and waste produced during the carrying out of the activities that could be sources of on-site or offsite contamination.	Section 8.5 Receptors and exposure pathways		No
Illustrate on maps where any environmentally relevant activities or notifiable activities were carried out.	Figure F2		No
3.9 Earthworks			
Provide details of any earthworks carried out on the land, including an inventory of any earth taken out to be treated or dumped elsewhere, and/or earth brought on to the site as fill.	Section 2.2	Commentary has been provided to indicate no available information regarding emplacement of fill on site.	No
Provide maps and cross-sections to illustrate how earthworks have changed the topography and geology of the land.	As above	As above.	No
Integrate the description of any earthworks with the required description of the site's watercourses, wetlands, geology and hydrogeology.	As above	As above.	No

Requirement Section of CLID in which requirement is addressed	Section in CLID Addressing Requirement	Auditors review comments	Action required
Address whether the earthworks could be a source of contamination.	As above	As above.	No
Assess how earthworks may have affected how water and/or other liquids move over, into or through the ground dispersing contaminants.	As above	As above.	No
3.10 Contamination			
Provide details of the site investigations and the findings of those investigations with regard to contamination of the site, particularly the extent, fate and movement of contamination. Describe in detail all:			
· Desk-top assessments of the site	Section 2.4: Previous environmental investigation,	Information is summarised. PSI/SAQP (AECOM, 2019) is referenced for full details of the desktop assessment.	No
· Site inspections	Section 2.2 Site Layout and features; Section 2.4 Previous environmental investigation	Information is summarised. PSI/SAQP (AECOM, 2019) is referenced for full details of site inspection & site interview details.	No
· Sampling of soil, water, and any other media	Section 2.4: Previous environmental investigation (historic data), Section 4: Fieldwork – DSI, Section 6: Results, Section 7: Discussion		No
Provide maps and diagrams, including cross-sections where necessary, to illustrate the site and where sampling has taken place on the site or its surrounds.	Figure F2: Site layout & sampling locations,		No
Provide details of a site conceptual model using text, tables and/or diagrams.	Section 8, Table 19	Graphical CSM has not yet been provided for review.	**Yes**
Describe the methods used to take, store, preserve and analyse samples of media. Discuss any limitations to those methods that may affect reliance on the results. Samples must be collected in accordance with appropriate standards, and the chain of custody of samples must be fully recorded. If the samples were handled and/or analysed by a third-party,	Section 4.2.1 Soil investigation; Section 4.2.2 Groundwater investigation, Section 4.3 Laboratory analysis and QA/QC Appendix G: Analytical Data Validation		No

Requirement Section of CLID in which requirement is addressed	Section in CLID Addressing Requirement	Auditors review comments	Action required
identify the laboratory or contractor(s) that undertook the work, and state whether or not they are accredited (e.g. by the National Association of Testing Authorities, Australia (NATA)). If the laboratory or contractor is not accredited by NATA or a similar body, explain how the methods have been appropriately validated.			
Describe and validate the methods used to interpolate and extrapolate, from the sampling results, the spatial extent of any contamination.	Section 6: Results, Section 7: Discussion, Figures 2 to 5.		No
s. 389(2)(b)(ii) of the EP Act requires that the contaminated land investigation document states the extent to which the land is contaminated. Describe and illustrate (with data tables, maps, diagrams and cross-sections at suitable scales) the location(s) of any residual contamination, and the quantities or concentrations of contaminants.	Section 6: Results, Section 7: Discussion, Figures 2 to 5.		No
Assess, describe and illustrate the potential risks of contamination either moving off the relevant land to any surrounding area, or moving onto the relevant land from any offsite sources of contamination. The assessment should determine whether there is prescribed contaminated land.	Section 8: Conceptual Site Model - PFAS	Graphical CSM has not yet been provided for review.	**Yes**
Assess the levels of contaminants against applicable criteria, considering all relevant environmental values, including human health, amenity, and ecological values.	Section 6.3 Analytical results, Section 7 discussion, Tables T4 and T5.		
Derive environmental values for water pursuant to the Environmental Protection (Water) Policy 2009 (EPP(Water)), Australian water quality guidelines for fresh and marine waters (ANZECC & ARMCANZ, 2000), and the Queensland water quality guidelines 2009 (EHP, republished in 2013). Include environmental values that relate to potential uses; for example, saline groundwater may be treated by reverse osmosis for potable or stock use during a drought, and therefore has a current environmental value. Furthermore, all environmental values that derive from Queensland's environmental protection policies cannot be	Section 3.6, Section 5.0	Assessment criteria has been provided in Table 10. However, the NEMP does not provide trigger values for all the identified EVs. Provide commentary on how the adopted assessment criteria will ensure a suitable level of protection for all EVs identified.	**Yes**

Requirement Section of CLID in which requirement is addressed	Section in CLID Addressing Requirement	Auditors review comments	Action required
subsequently disregarded or diminished by applying the contaminated land NEPM's risk-based process.			
Assess how the levels of contaminants would impact on all current and foreseeable future uses, while taking account of the likely extent that the contamination can be remediated (see also the following section).	Section 8 Conceptual site model	An assessment of contaminant remediation has not been completed at this stage of the assessment.	No
If the land was found to be not contaminated, the contaminated land investigation document should justify how the conclusion was reached, with reference to the site investigations and any remediation (see also the following section).	Not provided	Not relevant to this assessment	No
3.15 Accordance with the NEPM			
As mentioned above, s. 389(2)(b)(iv) of the EP Act requires a contaminated land investigation document to make a statement of the extent to which it is in accordance with the contaminated land NEPM. Nevertheless, the contaminated land NEPM cannot override state legislation or policies. In practice, a contaminated land investigation document must:			
• explicitly reference the various schedules of the NEPM	Various		No
• mention which schedules were or were not applicable when preparing the document	Section 1.6		No
• state the extent to which the applicable schedules were followed	Various	It is noted, given the nature of the investigation (PFAS DSI) that the investigation was undertaken in general accordance with the NEPM, but, generally with greater reference to the NEMP. Reference to applicable NEPM schedules and the NEMP have been made.	No
• describe the extent of any deviations from the recommendations of the NEPM's schedules	Appendix G- QA/QC		No
• explain whether any deviations were due to overriding state legislation or policies	As above	As above	No

Requirement Section of CLID in which requirement is addressed	Section in CLID Addressing Requirement	Auditors review comments	Action required
• evaluate with reference to current best practice how effective any alternative methods were in comparison to those of the NEPM.	As above	As above	No
The contaminated land investigation document must demonstrate that the investigation components of an assessment of site contamination listed in Section 1 of Schedule B2 of the contaminated land NEPM have been conducted for every stage of investigation. The components include a conceptual site model, data quality objectives, a sampling strategy, and a sampling and analysis quality plan. Those components should be updated as the investigations acquire better information about the site.	Section 8: Conceptual site model, Appendix G: Data quality objectives, Section 4: Fieldwork- DSI.	It is noted that a graphical CSM is yet to be provided.	**Yes**

APPENDIX D: SELECT REGISTERED BORE CARDS

Bore Report

From Year:

Registered Number	Facility Type	Facility Status	Drilled Date	Office	Shire
153347	Sub-Artesian Facility	Existing	27/08/2012	Ayr	1900 - BURDEKIN

Details

Description			
Parish	124 - ANTILL		
Original Name			
Driller Name	LIST, CARL DAVID		
Drill Company	AYR BORING COMPANY		
Const Method	AUGER		
Bore Line			
D/O File No	110/000(0007)	**Polygon**	
R/O File No		**Equipment**	
H/O File No		**RN of Bore Replaced**	
Log Received Date	27/09/2012	**Data Owner**	DNR
Roles	Water Supply		

Location

Latitude	19-34-16	**Basin**	1191
Longitude	147-24-39	**Sub-area**	
GIS Latitude	-19.57111111	**Lot**	5
GIS Longitude	147.4108333	**Plan**	RP702340
Easting	543091		
Northing	7835927	**Map Scale**	
Zone	55	**Map Series**	
Accuracy	GPS	**Map No**	
GPS Accuracy	4	**Map Name**	
Checked	Yes	**Prog Section**	

Casing

5 ***records for RN*** **153347**

Pipe	Date	Rec	Top (m)	Bottom (m)	Material Description	Mat Size (mm)	Size Desc	Outside Diameter (mm)
A	27/08/2012	1	0.00	11.00	Polyvinyl Chloride	6.300	WT - Wall Thickness	100
A	27/08/2012	2	10.00	11.00	Perforated or Slotted Casing	2.000	AP - Aperture Size	100
X	27/08/2012	3	7.00	11.00	Gravel Pack		GR - Gravel Size	150
X	27/08/2012	4	6.00	7.00	Bentonite Seal			150
X	27/08/2012	5	0.00	6.00	Grout			150

Bore Report

From Year:

Strata Logs

4 *records for RN* **153347**

Rec	Top (m)	Bottom (m)	Strata Description
1	0.00	0.30	SANDY LOAM TOP SOIL
2	0.30	4.80	SILTY SAND
3	4.80	8.00	FINE-MED GRAIN SANDS *
4	8.00	11.00	MED-COARSE SAND & STONE

Stratigraphies

0 *records for RN* **153347**

Aquifers

1 *records for RN* **153347**

Rec	Top (m)	Bottom (m)	Lithology	Date	SWL (m)	Flow	Quality	Yield (L/s)	Contr	Cond	Formation Name
1	4.80	8.00	SAGR - Sand and Gravel	27/08/2012	-4.80	N	POTABLE	2.00	Y	XX	BURDEKIN RIVER ALLUVIUM

Pump Tests Part 1

0 *records for RN* **153347**

Pump Tests Part 2

0 *records for RN* **153347**

Bore Conditions

0 *records for RN* **153347**

Elevations

0 *records for RN* **153347**

Water Analysis Part 1

0 *records for RN* **153347**

Water Analysis Part 2

0 *records for RN* **153347**

Water Levels

0 *records for RN* **153347**

Wire Line Logs

0 *records for RN* **153347**

Field Measurements

0 *records for RN* **153347**

Bore Report

From Year:

Special Water Analysis

0 *records for RN* **153347**

Bore Report

From Year:

Registered Number	Facility Type	Facility Status	Drilled Date	Office	Shire
186255	Sub-Artesian Facility	Existing	10/09/2019	Ayr	1900 - BURDEKIN

Details

Description			
Parish	6000 - NO LONGER USED		
Original Name	MONITORING BORE		
Driller Name	GIDDY, DWAYNE		
Drill Company	AYR BORING CO		
Const Method	AUGER		
Bore Line			
D/O File No	NOR/065185	**Polygon**	
R/O File No		**Equipment**	
H/O File No		**RN of Bore Replaced**	
Log Received Date	03/10/2019	**Data Owner**	DNR
Roles	Sub-Artesian Monitoring		

Location

Latitude	19-34-15	**Basin**	1191
Longitude	147-24-48	**Sub-area**	
GIS Latitude	-19.57083333	**Lot**	
GIS Longitude	147.41333333	**Plan**	
Easting	543353		
Northing	7835957	**Map Scale**	
Zone	55	**Map Series**	
Accuracy	GPS	**Map No**	
GPS Accuracy	10	**Map Name**	
Checked	Yes	**Prog Section**	

Casing

5 ***records for RN*** **186255**

Pipe	Date	Rec	Top (m)	Bottom (m)	Material Description	Mat Size (mm)	Size Desc	Outside Diameter (mm)
A	10/09/2019	1	0.00	28.00	Polyvinyl Chloride	3.350	WT - Wall Thickness	60
A	10/09/2019	2	26.00	28.00	Perforated or Slotted Casing	1.000	AP - Aperture Size	60
X	10/09/2019	3	6.00	31.00	Cuttings or other fill between casing and hole wall			150
X	10/09/2019	4	5.00	6.00	Cuttings or other fill between casing and hole wall			150
X	10/09/2019	5	0.00	5.00	Grout			150

Bore Report

From Year:

Strata Logs

9 *records for RN* **186255**

Rec	Top (m)	Bottom (m)	Strata Description
1	0.00	1.20	SILTY SOIL
2	1.20	6.00	SILTY SAND
3	6.00	10.50	CLAYEY BROWN SAND
4	10.50	16.00	CLAYBOUND SAND AND PEBBLE
5	16.00	19.00	CLAYBOUND FINE SAND
6	19.00	22.00	CREAM COLOURED CLAY AND SAND AND PEBBLE
7	22.00	23.00	FIRM/SOFT CLAYEY SAND
8	23.00	30.00	CREAM CLAYBOUND SAND NO PEBBLES SOFT FINE/MED
9	30.00	31.00	GREY CLAY

Stratigraphies

0 *records for RN* **186255**

Aquifers

0 *records for RN* **186255**

Pump Tests Part 1

0 *records for RN* **186255**

Pump Tests Part 2

0 *records for RN* **186255**

Bore Conditions

0 *records for RN* **186255**

Elevations

0 *records for RN* **186255**

Water Analysis Part 1

0 *records for RN* **186255**

Water Analysis Part 2

0 *records for RN* **186255**

Water Levels

0 *records for RN* **186255**

Bore Report

From Year:

Wire Line Logs

0 *records for RN* **186255**

Field Measurements

0 *records for RN* **186255**

Special Water Analysis

0 *records for RN* **186255**

Bore Report

From Year:

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Obligations:

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Bore Report

From Year:

Registered Number	Facility Type	Facility Status	Drilled Date	Office	Shire
96317	Sub-Artesian Facility	Existing	05/07/2004	Ayr	1900 - BURDEKIN

Details

Description			
Parish	124 - ANTILL		
Original Name			
Driller Name	BRUCE REENTS		
Drill Company	DC & V REENTS		
Const Method	ROTARY MUD		
Bore Line			
D/O File No	110/000(0007	**Polygon**	
R/O File No		**Equipment**	
H/O File No		**RN of Bore Replaced**	
Log Received Date		**Data Owner**	
Roles	Water Supply		

Location

Latitude	19-34-22	**Basin**	1191
Longitude	147-24-39	**Sub-area**	
GIS Latitude	-19.5727765761	**Lot**	2
GIS Longitude	147.4107503296	**Plan**	RP708856
Easting	543090		
Northing	7835742	**Map Scale**	
Zone	55	**Map Series**	
Accuracy	GPS	**Map No**	
GPS Accuracy	20	**Map Name**	
Checked	Yes	**Prog Section**	

Casing

3 ***records for RN*** **96317**

Pipe	Date	Rec	Top (m)	Bottom (m)	Material Description	Mat Size (mm)	Size Desc	Outside Diameter (mm)
A	05/07/2004	1	0.00	7.90	Plastic Casing	4.850	WT - Wall Thickness	114
A	05/07/2004	2	7.90	8.50	Screen	1.000	AP - Aperture Size	90
A	05/07/2004	3	0.00	1.50	Grout			220

Strata Logs

8 ***records for RN*** **96317**

Bore Report

From Year:

Rec	Top (m)	Bottom (m)	Strata Description
1	0.00	0.90	TOP SOIL
2	0.90	2.40	FINE TO COARSE BROWN SAND AND STONES
3	2.40	2.50	SMALL BAND OF GREY CLAY
4	2.50	5.10	FINE SILTY SAND
5	5.10	8.50	MEDIUM TO COARSE BROWN SAND AND
6			GRAVEL FINE TO MEDIUM CLAYEY BROWN
7			SAND AT 8.5M WATER AT 5.7M SWL 5.7M
8			EST SUPPLY 2.5L/S

Stratigraphies
0 *records for RN* **96317**

Aquifers
0 *records for RN* **96317**

Pump Tests Part 1
0 *records for RN* **96317**

Pump Tests Part 2
0 *records for RN* **96317**

Bore Conditions
0 *records for RN* **96317**

Elevations
0 *records for RN* **96317**

Water Analysis Part 1
0 *records for RN* **96317**

Water Analysis Part 2
0 *records for RN* **96317**

Water Levels
0 *records for RN* **96317**

Wire Line Logs
0 *records for RN* **96317**

Field Measurements
0 *records for RN* **96317**

Bore Report

From Year:

Special Water Analysis

0 *records for RN* **96317**

Bore Report

From Year:

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Bore Report

From Year:

Registered Number	Facility Type	Facility Status	Drilled Date	Office	Shire
140173	Sub-Artesian Facility	Existing	20/07/2007	Ayr	1900 - BURDEKIN

Details

Description			
Parish	124 - ANTILL		
Original Name			
Driller Name	BRUCE REENTS		
Drill Company	DC&V REENTS		
Const Method	ROTARY MUD		
Bore Line			
D/O File No	110/000/0007	**Polygon**	
R/O File No		**Equipment**	
H/O File No		**RN of Bore Replaced**	
Log Received Date	29/08/2007	**Data Owner**	
Roles	Water Supply		

Location

Latitude	19-34-29	**Basin**	1191
Longitude	147-24-53	**Sub-area**	
GIS Latitude	-19.5746503	**Lot**	2
GIS Longitude	147.4148486	**Plan**	RP739194
Easting	543511		
Northing	7835534	**Map Scale**	
Zone	55	**Map Series**	
Accuracy	GPS	**Map No**	
GPS Accuracy	20	**Map Name**	
Checked	Yes	**Prog Section**	

Casing

6 ***records for RN*** **140173**

Pipe	Date	Rec	Top (m)	Bottom (m)	Material Description	Mat Size (mm)	Size Desc	Outside Diameter (mm)
A	20/07/2007	1	0.00	36.70	Polyvinyl Chloride	4.850	WT - Wall Thickness	114
A	20/07/2007	2	36.70	37.70	Screen	1.000	AP - Aperture Size	90
X	20/07/2007	3	16.90	37.70	Gravel Pack	7.000	GR - Gravel Size	160
X	20/07/2007	4	16.00	16.90	Bentonite Seal			160
X	20/07/2007	5	5.00	16.00	Gravel Pack	7.000	GR - Gravel Size	160

Bore Report

From Year:

Pipe	Date	Rec	Top (m)	Bottom (m)	Material Description	Mat Size (mm)	Size Desc	Outside Diameter (mm)
X	20/07/2007	6	0.60	5.00	Grout			160

Strata Logs

13 *records for RN* **140173**

Rec	Top (m)	Bottom (m)	Strata Description
1	0.00	0.40	TOP SOIL
2	0.40	1.60	BROWN SILT
3	1.60	14.80	BROWN SAND FINE TO COARSE
4	14.80	15.30	MEDIUM TO COARSE GREY SAND
5	15.30	16.50	GREY CLAY FIRM
6	16.50	17.00	CREAM BROWN CLAY SOFT
7	17.00	20.00	VERY FINE BROWN SAND CLAYEY
8	20.00	21.60	CREAM BROWN SAND MEDIUM TO COARSE CLAYEY ROCKS AT 21.6M
9	21.60	24.00	MEDIUM TO COARSE CREAM BROWN SAND AND STONES CLAYEY
10	24.00	29.00	BROWN SAND FINE TO COARSE SLIGHTLY CLAYEY
11	29.00	32.00	FINE GRAINED VERY SANDY CLAY
12	32.00	36.00	BROWN SAND MEDIUM TO COARSE WITH GRAVEL SLIGHTLY CLAYEY
13	36.00	38.00	CREAM COLOURED SAND MEDIUM TO COARSE

Stratigraphies

1 *records for RN* **140173**

Source	Rec	Top (m)	Bottom (m)	Strata Description
DNR	1	0.00	38.00	BURDEKIN RIVER ALLUVIUM

Aquifers

1 *records for RN* **140173**

Rec	Top (m)	Bottom	Lithology	Date	SWL	Flow	Quality	Yield	Contr	Cond	Formation Name

Bore Report

From Year:

	(m)				(m)			(L/s)			
1	17.00	38.00	SAGR - Sand and Gravel	20/07/2007	-4.60	N	COND 1300	6.60	Y	UC	BURDEKIN RIVER ALLUVIUM

Pump Tests Part 1
0 *records for RN* **140173**

Pump Tests Part 2
0 *records for RN* **140173**

Bore Conditions
0 *records for RN* **140173**

Elevations
0 *records for RN* **140173**

Water Analysis Part 1
0 *records for RN* **140173**

Water Analysis Part 2
0 *records for RN* **140173**

Water Levels
0 *records for RN* **140173**

Wire Line Logs
0 *records for RN* **140173**

Field Measurements
0 *records for RN* **140173**

Special Water Analysis
0 *records for RN* **140173**

Bore Report

From Year:

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Bore Report

From Year:

Registered Number	Facility Type	Facility Status	Drilled Date	Office	Shire
140987	Sub-Artesian Facility	Existing	15/03/2010	Ayr	1900 - BURDEKIN

Details

Description			
Parish	124 - ANTILL		
Original Name	NO. 2 NELSONS		
Driller Name	SCHULTZ, JASON		
Drill Company	B&M DRILLING PTY LTD		
Const Method	CABLE TOOL		
Bore Line			
D/O File No	110/000/0007	**Polygon**	
R/O File No		**Equipment**	
H/O File No		**RN of Bore Replaced**	
Log Received Date	13/04/2010	**Data Owner**	
Roles	Water Supply		

Location

Latitude	19-34-34	**Basin**	1191
Longitude	147-24-50	**Sub-area**	
GIS Latitude	-19.5760803	**Lot**	88
GIS Longitude	147.4138702	**Plan**	RP708755
Easting	543408		
Northing	7835376	**Map Scale**	
Zone	55	**Map Series**	
Accuracy	GPS	**Map No**	
GPS Accuracy	20	**Map Name**	
Checked	Yes	**Prog Section**	

Casing

5 ***records for RN*** **140987**

Pipe	Date	Rec	Top (m)	Bottom (m)	Material Description	Mat Size (mm)	Size Desc	Outside Diameter (mm)
A	15/03/2010	1	0.00	22.00	Steel Casing	12.000	WT - Wall Thickness	275
A	15/03/2010	2	25.80	27.80	Screen	1.270	AP - Aperture Size	150
A	15/03/2010	3	21.80	25.80	Screen	1.020	AP - Aperture Size	150
A	15/03/2010	4	5.00	5.50	Bentonite Seal			325
A	15/03/2010	5	0.00	5.00	Grout			325

Bore Report

From Year:

Strata Logs

8 *records for RN* **140987**

Rec	Top (m)	Bottom (m)	Strata Description
1	0.00	3.50	DRY FINE SAND
2	3.50	9.60	FINE TO MEDIUM DIRTY SAND*
3	9.60	10.50	SOFT GREY CLAY
4	10.50	15.00	FINE GREY SAND*
5	15.00	20.00	HARD BROWN CLAY
6	20.00	21.00	HARD BROWN CLAYBOUND SAND
7	21.00	27.80	FINE TO MEDIUM SAND*
8	27.80	28.00	HARD CLAYBOUND SAND

Stratigraphies

1 *records for RN* **140987**

Source	Rec	Top (m)	Bottom (m)	Strata Description
DNR	1	0.00	28.00	BURDEKIN RIVER ALLUVIUM

Aquifers

3 *records for RN* **140987**

Rec	Top (m)	Bottom (m)	Lithology	Date	SWL (m)	Flow	Quality	Yield (L/s)	Contr	Cond	Formation Name
1	3.50	9.60	CSAN - Clayey Sand SAND - Sand	15/03/2010	-3.00	N			Y	UC	BURDEKIN RIVER ALLUVIUM
2	10.50	15.00		15/03/2010	-3.00	N			Y	UC	BURDEKIN RIVER ALLUVIUM
3	21.00	27.80	CSAN - Clayey Sand SAND - Sand	15/03/2010	-3.00	N		50.00	Y	UC	BURDEKIN RIVER ALLUVIUM

Pump Tests Part 1

0 *records for RN* **140987**

Pump Tests Part 2

0 *records for RN* **140987**

Bore Report

From Year:

Bore Conditions	**0** *records for RN* **140987**
Elevations	**0** *records for RN* **140987**
Water Analysis Part 1	**0** *records for RN* **140987**
Water Analysis Part 2	**0** *records for RN* **140987**
Water Levels	**0** *records for RN* **140987**
Wire Line Logs	**0** *records for RN* **140987**
Field Measurements	**0** *records for RN* **140987**
Special Water Analysis	**0** *records for RN* **140987**

Bore Report

From Year:

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Bore Report

From Year:

Registered Number	Facility Type	Facility Status	Drilled Date	Office	Shire
99083	Sub-Artesian Facility	Abandoned and Destroyed	31/01/1931	Ayr	1900 - BURDEKIN

Details

Description			
Parish	124 - ANTILL		
Original Name	CLAYTONS HOUSE		
Driller Name			
Drill Company			
Const Method			
Bore Line			
D/O File No		**Polygon**	
R/O File No		**Equipment**	TE
H/O File No		**RN of Bore Replaced**	
Log Received Date		**Data Owner**	
Roles			

Location

Latitude	19-34-28	**Basin**	1191
Longitude	147-24-55	**Sub-area**	500
GIS Latitude	-19.5745395	**Lot**	2
GIS Longitude	147.415233024	**Plan**	RP739194
Easting	543551		
Northing	7835546	**Map Scale**	104 - 1: 100 000
Zone	55	**Map Series**	M - Metric Series
Accuracy	SKET	**Map No**	
GPS Accuracy		**Map Name**	
Checked	Yes	**Prog Section**	

Casing

0 *records for RN* **99083**

Strata Logs

0 *records for RN* **99083**

Stratigraphies

0 *records for RN* **99083**

Aquifers

0 *records for RN* **99083**

Pump Tests Part 1

0 *records for RN* **99083**

Pump Tests Part 2

0 *records for RN* **99083**

Bore Report

From Year:

Bore Conditions

0 *records for RN* **99083**

Elevations

2 *records for RN* **99083**

Pipe	Date	Elevation (m)	Precision		Datum	Meas	Point	Survey Source
A	31/01/1931	7.59	SVY	Surveyed	STD - State Datum	R	Reference Point	
X	31/01/1931	7.47	SVY	Surveyed	STD - State Datum	N	Natural Surface	

Water Analysis Part 1

0 *records for RN* **99083**

Water Analysis Part 2

0 *records for RN* **99083**

Water Levels

469 *records for RN* **99083**

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	02/05/1931		-5.67	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/06/1931		-5.79	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/08/1931		-5.94	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/09/1931		-6.03	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	29/10/1931		-6.09	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/11/1931		-6.09	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/12/1931		-6.18	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/01/1932		-5.79	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	22/01/1932		-5.48	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/02/1932		-5.24	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	29/03/1932		-5.33	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/04/1932		-5.42	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/05/1932		-5.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	01/07/1932		-5.73	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/08/1932		-5.76	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/09/1932		-5.85	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/10/1932		-6.00	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/11/1932		-6.12	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/12/1932		-6.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/12/1932		-6.29	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	28/01/1933		-6.37	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/03/1933		-6.12	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/04/1933		-6.21	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/04/1933		-6.26	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/05/1933		-6.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	29/05/1933		-6.35	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/06/1933		-6.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/07/1933		-6.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/08/1933		-6.24	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/09/1933		-6.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	27/10/1933		-6.31	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/11/1933		-6.40	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/12/1933		-6.46	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/01/1934		-6.43	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/02/1934		-6.18	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/02/1934		-6.12	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/03/1934		-6.17	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/04/1934		-5.83	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	10/05/1934		-5.92	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/06/1934		-6.09	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/08/1934		-6.12	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/09/1934		-6.24	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/09/1934		-6.24	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	29/10/1934		-6.34	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	29/11/1934		-6.29	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	29/01/1935		-6.55	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/03/1935		-6.73	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/05/1935		-6.79	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/06/1935		-6.88	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/07/1935		-6.88	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/11/1935		-7.07	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/01/1936		-7.36	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/01/1936		-7.19	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	21/01/1936		-7.13	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/02/1936		-7.13	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/02/1936		-6.73	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/03/1936		-6.26	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/03/1936		-6.06	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/03/1936		-5.82	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	16/03/1936		-5.54	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	17/03/1936		-5.12	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/04/1936		-4.90	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/04/1936		-4.78	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project	Quality
A	04/05/1936		-4.78	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	10/06/1936		-5.03	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	01/07/1936		-5.03	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	01/08/1936		-5.12	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	01/10/1936		-5.21	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	25/11/1936		-5.54	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	30/11/1936		-5.45	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	29/12/1936		-5.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	05/02/1937		-5.51	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/03/1937		-5.45	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	29/03/1937		-5.33	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	25/04/1937		-5.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	29/06/1937		-5.50	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	20/07/1937		-5.67	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	30/08/1937		-5.79	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	30/09/1937		-5.94	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	29/10/1937		-6.00	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	25/11/1937		-6.03	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	01/01/1938		-6.21	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	30/01/1938		-6.02	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	01/02/1938		-5.79	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	27/02/1938		-5.24	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	01/07/1938		-5.99	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	01/08/1938		-6.03	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	30/08/1938		-6.06	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	01/12/1938		-6.40	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	29/01/1939		-6.76	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/02/1939		-6.61	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	25/02/1939		-5.94	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/04/1939		-5.88	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/05/1939		-5.91	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	29/05/1939		-6.09	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/06/1939		-6.15	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/08/1939		-6.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/11/1939		-6.67	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/12/1939		-6.82	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/01/1940		-6.91	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/02/1940		-6.76	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	25/02/1940		-6.58	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	27/02/1940		-6.15	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/03/1940		-5.88	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/03/1940		-5.60	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/04/1940		-1.98	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/04/1940		-2.83	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/04/1940		-2.98	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/04/1940		-3.29	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/05/1940		-3.62	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/06/1940		-3.99	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/07/1940		-4.29	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	25/08/1940		-4.42	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	30/09/1940		-4.60	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/12/1940		-5.21	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/01/1941		-5.06	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/01/1941		-4.75	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	28/02/1941		-4.60	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/04/1941		-3.87	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/06/1941		-4.02	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/11/1941		-4.69	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/12/1941		-4.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/12/1941		-4.99	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/01/1942		-5.15	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/03/1942		-4.75	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/03/1942		-4.96	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/04/1942		-5.15	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/05/1942		-5.03	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/06/1942		-5.06	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/08/1942		-5.03	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/12/1942		-5.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/12/1942		-5.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/03/1943		-3.20	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/05/1943		-3.81	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/05/1943		-4.11	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/06/1943		-4.11	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/07/1943		-4.05	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/10/1943		-4.93	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	29/10/1943		-5.18	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/01/1944		-5.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/01/1944		-5.15	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	25/02/1944		-5.10	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/03/1944		-4.93	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/04/1944		-4.90	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/05/1944		-5.06	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/06/1944		-5.09	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/08/1944		-5.18	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/09/1944		-5.24	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/10/1944		-5.33	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/10/1944		-5.48	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/10/1944		-5.45	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/12/1944		-5.57	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/12/1944		-5.59	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/02/1945		-5.70	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/02/1945		-5.45	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	28/02/1945		-5.57	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/03/1945		-4.39	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/04/1945		-4.54	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	25/05/1945		-4.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/06/1945		-5.06	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/09/1945		-5.03	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/10/1945		-5.44	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/12/1945		-5.76	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	15/01/1946		-5.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	29/01/1946		-5.42	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/02/1946		-5.36	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	28/02/1946		-5.30	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/03/1946		-3.90	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/03/1946		-4.26	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/03/1946		-4.54	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/04/1946		-5.04	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	28/05/1946		-5.38	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/07/1946		-5.85	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/08/1946		-6.03	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	29/09/1946		-6.15	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/10/1946		-6.24	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/10/1946		-6.37	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/12/1946		-5.18	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/02/1947		-5.48	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/02/1947		-5.12	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	28/02/1947		-4.72	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/03/1947		-4.57	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/04/1947		-4.20	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/05/1947		-4.54	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/05/1947		-4.90	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/06/1947		-5.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	25/09/1947		-5.76	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/11/1947		-5.94	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	05/12/1947		-6.06	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/12/1947		-6.15	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/01/1948		-4.85	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/02/1948		-4.78	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/03/1948		-5.21	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/04/1948		-5.12	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/09/1948		-5.76	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	25/11/1948		-6.03	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/12/1948		-6.00	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/01/1949		-5.91	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/01/1949		-5.79	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	25/01/1949		-6.03	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	28/02/1949		-5.82	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/03/1949		-3.87	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	29/03/1949		-3.62	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/05/1949		-4.11	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/06/1949		-4.51	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/07/1949		-4.45	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/10/1949		-4.84	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/11/1949		-5.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/12/1949		-5.48	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/01/1950		-5.18	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	28/02/1950		-5.09	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/03/1950		-3.44	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/04/1950		-3.26	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	29/05/1950		-3.47	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/06/1950		-3.56	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/08/1950		-3.62	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/08/1950		-3.47	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/10/1950		-3.96	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/11/1950		-4.26	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/12/1950		-4.11	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/02/1951		-1.98	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/04/1951		-3.04	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	25/05/1951		-3.71	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/07/1951		-3.93	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/07/1951		-4.32	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/08/1951		-4.20	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/12/1951		-4.51	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/01/1952		-3.93	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/01/1952		-4.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/02/1952		-4.70	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/03/1952		-4.88	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/04/1952		-4.95	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/05/1952		-5.05	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/06/1952		-5.16	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/07/1952		-5.26	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/08/1952		-5.36	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/10/1952		-5.54	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/12/1952		-5.82	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	28/02/1953		-2.98	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/03/1953		-3.30	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	29/06/1953		-4.35	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	25/12/1953		-5.21	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/03/1954		-1.82	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/03/1954		-3.04	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/04/1954		-3.62	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/05/1954		-4.11	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/09/1954		-4.42	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/11/1954		-4.39	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/12/1954		-4.45	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/03/1955		-1.86	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	25/04/1955		-2.40	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/05/1955		-2.28	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/06/1955		-3.01	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/09/1955		-3.75	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/12/1955		-4.17	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/03/1956		-2.07	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/07/1956		-3.20	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/01/1957		-3.96	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/03/1957		-3.93	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/05/1957		-4.26	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/10/1957		-4.69	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/12/1957		-5.42	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/02/1958		-2.13	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	05/03/1958		-3.17	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/03/1958		-3.47	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/04/1958		-3.81	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/05/1958		-4.05	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/07/1958		-4.45	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/09/1958		-4.57	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/10/1958		-5.45	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/12/1958		-5.54	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/03/1959		-4.96	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/12/1959		-5.42	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/03/1960		-4.45	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/10/1960		-5.12	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/02/1961		-5.54	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/05/1961		-5.51	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	27/07/1961		-5.82	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/10/1961		-6.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/12/1961		-6.73	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/01/1962		-6.98	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/03/1962		-6.15	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/01/1963		-7.10	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/01/1963		-6.76	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/02/1963		-6.73	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	25/04/1963		-5.70	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/10/1963		-6.06	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	29/11/1963		-6.43	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	01/01/1964		-6.67	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/02/1964		-6.67	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	25/02/1964		-6.46	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/02/1965		-7.11	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	24/03/1965		-6.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/03/1965		-6.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/06/1965		-6.68	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	12/08/1965		-6.93	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/10/1965		-7.11	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/11/1965		-7.36	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/12/1965		-7.34	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/02/1966		-6.53	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/02/1966		-6.48	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	28/02/1966		-6.53	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	23/03/1966		-6.58	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	18/04/1966		-6.75	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/05/1966		-6.83	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	11/07/1966		-7.19	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/09/1966		-7.42	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/11/1966		-7.64	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	13/12/1966		-8.00	R	Reference Point	D	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/03/1967		-7.36	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	29/05/1967		-6.99	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	23/08/1967		-6.55	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/12/1967		-6.83	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	11/03/1968		-4.21	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/04/1968		-4.37	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	12/06/1968		-4.70	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	13/08/1968		-5.03	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/01/1969		-5.71	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/02/1969		-5.94	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/04/1969		-6.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/06/1969		-6.53	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/08/1969		-6.81	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/10/1969		-7.24	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/12/1969		-7.49	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/02/1970		-6.93	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	09/04/1970		-6.54	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/06/1970		-6.69	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/08/1970		-6.61	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	28/10/1970		-6.74	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	09/12/1970		-6.74	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/02/1971		-6.46	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	16/03/1971		-5.49	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/04/1971		-5.42	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	28/06/1971		-5.45	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/08/1971		-5.42	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/10/1971		-5.42	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	08/12/1971		-5.67	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/02/1972		-3.72	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	19/04/1972		-3.72	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/05/1972		-4.11	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/08/1972		-4.48	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	12/10/1972		-4.81	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	12/12/1972		-5.33	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	24/01/1973		-5.76	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	26/01/1973		-5.49	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	27/01/1973		-5.38	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	28/01/1973		-5.32	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	29/01/1973		-5.30	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/01/1973		-5.29	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/01/1973		-5.29	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/02/1973		-5.26	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/02/1973		-5.26	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/02/1973		-5.23	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	09/02/1973		-5.18	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	12/02/1973		-5.13	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	16/02/1973		-4.94	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	19/02/1973		-4.78	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	23/02/1973		-4.72	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	26/02/1973		-4.68	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/03/1973		-4.66	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/03/1973		-4.65	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	09/03/1973		-4.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	12/03/1973		-4.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project	Quality
A	16/03/1973		-4.65	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	19/03/1973		-4.68	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	23/03/1973		-4.71	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	26/03/1973		-4.75	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	30/03/1973		-4.62	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/04/1973		-4.54	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	06/04/1973		-4.53	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	09/04/1973		-4.53	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	13/04/1973		-4.51	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	16/04/1973		-4.51	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	19/04/1973		-4.52	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	26/04/1973		-4.52	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	30/04/1973		-4.52	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	04/05/1973		-4.52	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	08/05/1973		-4.51	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	11/05/1973		-4.52	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	14/05/1973		-4.52	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	19/05/1973		-4.56	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	21/05/1973		-4.56	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	25/05/1973		-4.57	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	28/05/1973		-4.60	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	31/05/1973		-4.62	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	01/06/1973		-4.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	04/06/1973		-4.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	08/06/1973		-4.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	12/06/1973		-4.65	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/06/1973		-4.66	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	18/06/1973		-4.66	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	22/06/1973		-4.68	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	16/07/1973		-4.77	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	23/07/1973		-4.80	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/07/1973		-4.77	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/08/1973		-4.78	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	13/08/1973		-4.78	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/08/1973		-4.78	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	27/08/1973		-4.81	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/09/1973		-4.86	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	17/09/1973		-4.85	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	24/09/1973		-4.86	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/10/1973		-4.88	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/10/1973		-4.88	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	08/10/1973		-4.91	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/10/1973		-4.91	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	22/10/1973		-4.94	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	29/10/1973		-4.95	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/11/1973		-4.98	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	12/11/1973		-4.89	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	19/11/1973		-4.89	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	26/11/1973		-4.91	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/12/1973		-4.91	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project	Quality
A	06/12/1973		-4.89	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	10/12/1973		-4.92	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	08/02/1974		-2.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	07/03/1974		-2.17	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	05/04/1974		-2.56	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	05/06/1974		-3.12	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	01/08/1974		-3.60	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/10/1974		-4.11	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	17/12/1974		-4.69	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	04/02/1975		-4.66	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/04/1975		-4.59	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/06/1975		-4.78	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	05/08/1975		-4.94	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	11/12/1975		-4.65	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	09/02/1976		-2.49	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	06/04/1976		-2.57	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/06/1976		-3.28	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	09/08/1976		-3.83	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	01/10/1976		-4.34	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	30/11/1976		-4.68	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	09/02/1977		-4.28	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	06/04/1977		-3.39	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	23/06/1977		-3.79	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	28/07/1977		-4.04	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	06/10/1977		-4.41	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	07/12/1977		-4.95	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/02/1978		-4.71	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	11/04/1978		-4.73	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	09/06/1978		-4.70	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/08/1978		-4.77	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/10/1978		-4.92	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/12/1978		-5.16	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/02/1979		-5.02	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/04/1979		-3.02	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/06/1979		-3.70	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/08/1979		-4.02	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	08/10/1979		-4.43	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/12/1979		-4.89	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/02/1980		-4.71	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/04/1980		-4.54	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	09/06/1980		-4.75	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/07/1980		-4.83	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/10/1980		-5.04	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	09/12/1980		-5.57	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/02/1981		-4.33	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	08/04/1981		-4.32	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/08/1981		-4.46	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/11/1981		-4.87	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/02/1982		-5.07	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	13/04/1982		-5.10	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project	Quality
A	11/06/1982		-5.30	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	05/08/1982		-5.45	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	11/10/1982		-5.70	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/12/1982		-6.09	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	07/02/1983		-6.41	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	08/04/1983		-6.57	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality

Wire Line Logs

0 ***records for RN*** **99083**

Field Measurements

0 ***records for RN*** **99083**

Special Water Analysis

0 ***records for RN*** **99083**

Bore Report

From Year:

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Bore Report

From Year:

Registered Number	Facility Type	Facility Status	Drilled Date	Office	Shire
153029	Sub-Artesian Facility	Existing	17/06/2010	Ayr	1900 - BURDEKIN

Details

Description			
Parish	124 - ANTILL		
Original Name	NELSON NO. 1		
Driller Name	SCHULTZ, JASON		
Drill Company	B&M DRILLING PTY LTD		
Const Method	CABLE TOOL		
Bore Line			
D/O File No	110/000/0007	**Polygon**	
R/O File No		**Equipment**	
H/O File No		**RN of Bore Replaced**	
Log Received Date	16/07/2010	**Data Owner**	
Roles	Water Supply		

Location

Latitude	19-34-33	**Basin**	1191
Longitude	147-24-53	**Sub-area**	
GIS Latitude	-19.5757895	**Lot**	88
GIS Longitude	147.4146036	**Plan**	RP708755
Easting	543485		
Northing	7835408	**Map Scale**	
Zone	55	**Map Series**	
Accuracy	GPS	**Map No**	
GPS Accuracy	20	**Map Name**	
Checked	Yes	**Prog Section**	

Casing

5 ***records for RN*** **153029**

Pipe	Date	Rec	Top (m)	Bottom (m)	Material Description	Mat Size (mm)	Size Desc	Outside Diameter (mm)
A	17/06/2010	1	0.00	20.73	Steel Casing	9.000	WT - Wall Thickness	275
A	17/06/2010	2	20.73	27.03	Screen	1.540	AP - Aperture Size	238
X	17/06/2010	3	17.00	17.50	Bentonite Seal			325
X	17/06/2010	4	5.00	5.50	Bentonite Seal			325
X	17/06/2010	5	0.00	5.00	Grout			325

Bore Report

From Year:

Strata Logs

9 *records for RN* **153029**

Rec	Top (m)	Bottom (m)	Strata Description
1	0.00	0.40	TOP SOIL
2	0.40	1.00	LOAMY SANDY SOIL
3	1.00	5.00	FINE TO MEDIUM SAND
4	5.00	13.00	FINE TO MEDIUM SAND AND STONES*
5	13.00	14.50	HARD GREY CLAYBOUND SAND
6	14.50	18.00	HARD BROWN CLAYBOUND SAND AND STONES
7	18.00	20.00	FINE SAND AND STONES*
8	20.00	26.80	FINE TO MEDIUM SAND AND STONES*
9	26.80	27.30	HARD GREY CLAYBOUND SAND

Stratigraphies

1 *records for RN* **153029**

Source	Rec	Top (m)	Bottom (m)	Strata Description
DNR	1	0.00	27.30	BURDEKIN RIVER ALLUVIUM

Aquifers

3 *records for RN* **153029**

Rec	Top (m)	Bottom (m)	Lithology	Date	SWL (m)	Flow	Quality	Yield (L/s)	Contr	Cond	Formation Name
1	5.00	13.00	SAGR - Sand and Gravel	17/06/2010	-3.50	N			Y	UC	BURDEKIN RIVER ALLUVIUM
2	18.00	20.00		17/06/2010	-3.50	N			Y	UC	BURDEKIN RIVER ALLUVIUM
3	20.00	26.80	SAGR - Sand and Gravel	17/06/2010	-3.50	N		83.00	Y	UC	BURDEKIN RIVER ALLUVIUM

Pump Tests Part 1

0 *records for RN* **153029**

Pump Tests Part 2

0 *records for RN* **153029**

Bore Report

From Year:

Bore Conditions	**0** *records for RN* **153029**
Elevations	**0** *records for RN* **153029**
Water Analysis Part 1	**0** *records for RN* **153029**
Water Analysis Part 2	**0** *records for RN* **153029**
Water Levels	**0** *records for RN* **153029**
Wire Line Logs	**0** *records for RN* **153029**
Field Measurements	**0** *records for RN* **153029**
Special Water Analysis	**0** *records for RN* **153029**

Bore Report

From Year:

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Bore Report

From Year:

Registered Number	Facility Type	Facility Status	Drilled Date	Office	Shire
186039	Sub-Artesian Facility	Existing	02/11/2018	Ayr	1900 - BURDEKIN

Details

Description			
Parish	6000 - NO LONGER USED		
Original Name	MONITORING BORE		
Driller Name	GIDDY, DWAYNE		
Drill Company	AYR BORING CO		
Const Method	AUGER		
Bore Line			
D/O File No	NOR/065185	**Polygon**	
R/O File No		**Equipment**	
H/O File No		**RN of Bore Replaced**	
Log Received Date	28/11/2018	**Data Owner**	DNR
Roles	Sub-Artesian Monitoring		

Location

Latitude	19-34-35	**Basin**	1191
Longitude	147-24-45	**Sub-area**	
GIS Latitude	-19.5769589204	**Lot**	61
GIS Longitude	147.4120559744	**Plan**	RP708755
Easting	543264		
Northing	7835342	**Map Scale**	
Zone	55	**Map Series**	
Accuracy	GPS	**Map No**	
GPS Accuracy	20	**Map Name**	
Checked	Yes	**Prog Section**	

Casing

4 ***records for RN*** **186039**

Pipe	Date	Rec	Top (m)	Bottom (m)	Material Description	Mat Size (mm)	Size Desc	Outside Diameter (mm)
A	02/11/2018	1	0.00	24.00	Polyvinyl Chloride	2.600	WT - Wall Thickness	60
A	02/11/2018	2	23.00	24.00	Perforated or Slotted Casing	1.000	AP - Aperture Size	60
X	02/11/2018	2	5.00	28.00	Cuttings or other fill between casing and hole wall			150
X	02/11/2018	3	0.00	5.00	Grout			150

Strata Logs

9 ***records for RN*** **186039**

Bore Report

From Year:

Rec	Top (m)	Bottom (m)	Strata Description
1	0.00	1.50	SILTY SOIL
2	1.50	4.50	FINE SAND
3	4.50	10.00	BROWN SAND AND PEBBLES - CLAYEY - *
4	10.00	15.70	CLAYEY SAND
5	15.70	16.50	CLAYBOUND SAND
6	16.50	20.70	CLAYEY SAND - WATER @ 18 METRES
7	20.70	22.00	SAND AND GRAVEL, SOME LARGER STONE
8	22.00	24.60	BROWN SAND
9	24.60	28.00	SOFT CREAMY CLAYBOUND SAND

Stratigraphies
0 *records for RN* **186039**

Aquifers
0 *records for RN* **186039**

Pump Tests Part 1
0 *records for RN* **186039**

Pump Tests Part 2
0 *records for RN* **186039**

Bore Conditions
0 *records for RN* **186039**

Elevations
0 *records for RN* **186039**

Water Analysis Part 1
0 *records for RN* **186039**

Water Analysis Part 2
0 *records for RN* **186039**

Water Levels
0 *records for RN* **186039**

Wire Line Logs
0 *records for RN* **186039**

Bore Report

From Year:

Field Measurements

0 *records for RN* **186039**

Special Water Analysis

0 *records for RN* **186039**

Bore Report

From Year:

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Bore Report

From Year:

Registered Number	Facility Type	Facility Status	Drilled Date	Office	Shire
140987	Sub-Artesian Facility	Existing	15/03/2010	Ayr	1900 - BURDEKIN

Details

Description			
Parish	124 - ANTILL		
Original Name	NO. 2 NELSONS		
Driller Name	SCHULTZ, JASON		
Drill Company	B&M DRILLING PTY LTD		
Const Method	CABLE TOOL		
Bore Line			
D/O File No	110/000/0007	**Polygon**	
R/O File No		**Equipment**	
H/O File No		**RN of Bore Replaced**	
Log Received Date	13/04/2010	**Data Owner**	
Roles	Water Supply		

Location

Latitude	19-34-34	**Basin**	1191
Longitude	147-24-50	**Sub-area**	
GIS Latitude	-19.5760803	**Lot**	88
GIS Longitude	147.4138702	**Plan**	RP708755
Easting	543408		
Northing	7835376	**Map Scale**	
Zone	55	**Map Series**	
Accuracy	GPS	**Map No**	
GPS Accuracy	20	**Map Name**	
Checked	Yes	**Prog Section**	

Casing

5 ***records for RN*** **140987**

Pipe	Date	Rec	Top (m)	Bottom (m)	Material Description	Mat Size (mm)	Size Desc	Outside Diameter (mm)
A	15/03/2010	1	0.00	22.00	Steel Casing	12.000	WT - Wall Thickness	275
A	15/03/2010	2	25.80	27.80	Screen	1.270	AP - Aperture Size	150
A	15/03/2010	3	21.80	25.80	Screen	1.020	AP - Aperture Size	150
A	15/03/2010	4	5.00	5.50	Bentonite Seal			325
A	15/03/2010	5	0.00	5.00	Grout			325

Bore Report

From Year:

Strata Logs

8 *records for RN* **140987**

Rec	Top (m)	Bottom (m)	Strata Description
1	0.00	3.50	DRY FINE SAND
2	3.50	9.60	FINE TO MEDIUM DIRTY SAND*
3	9.60	10.50	SOFT GREY CLAY
4	10.50	15.00	FINE GREY SAND*
5	15.00	20.00	HARD BROWN CLAY
6	20.00	21.00	HARD BROWN CLAYBOUND SAND
7	21.00	27.80	FINE TO MEDIUM SAND*
8	27.80	28.00	HARD CLAYBOUND SAND

Stratigraphies

1 *records for RN* **140987**

Source	Rec	Top (m)	Bottom (m)	Strata Description
DNR	1	0.00	28.00	BURDEKIN RIVER ALLUVIUM

Aquifers

3 *records for RN* **140987**

Rec	Top (m)	Bottom (m)	Lithology	Date	SWL (m)	Flow	Quality	Yield (L/s)	Contr	Cond	Formation Name
1	3.50	9.60	CSAN - Clayey Sand SAND - Sand	15/03/2010	-3.00	N			Y	UC	BURDEKIN RIVER ALLUVIUM
2	10.50	15.00		15/03/2010	-3.00	N			Y	UC	BURDEKIN RIVER ALLUVIUM
3	21.00	27.80	CSAN - Clayey Sand SAND - Sand	15/03/2010	-3.00	N		50.00	Y	UC	BURDEKIN RIVER ALLUVIUM

Pump Tests Part 1

0 *records for RN* **140987**

Pump Tests Part 2

0 *records for RN* **140987**

Bore Report

From Year:

Bore Conditions	**0** *records for RN* **140987**
Elevations	**0** *records for RN* **140987**
Water Analysis Part 1	**0** *records for RN* **140987**
Water Analysis Part 2	**0** *records for RN* **140987**
Water Levels	**0** *records for RN* **140987**
Wire Line Logs	**0** *records for RN* **140987**
Field Measurements	**0** *records for RN* **140987**
Special Water Analysis	**0** *records for RN* **140987**

Bore Report

From Year:

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Bore Report

From Year:

Registered Number	Facility Type	Facility Status	Drilled Date	Office	Shire
11910010	Sub-Artesian Facility	Abandoned and Destroyed	15/06/1951	Ayr	1900 - BURDEKIN

Details

Description			
Parish	124 - ANTILL		
Original Name	L2B5		
Driller Name			
Drill Company			
Const Method	CABLE TOOL		
Bore Line	BLT - BURDEKIN RIVER LINE TWO		
D/O File No	81-0014A	**Polygon**	
R/O File No		**Equipment**	NE
H/O File No		**RN of Bore Replaced**	
Log Received Date		**Data Owner**	DNR
Roles			

Location

Latitude	19-34-32	**Basin**	1191
Longitude	147-25-01	**Sub-area**	500
GIS Latitude	-19.575670414	**Lot**	
GIS Longitude	147.416929906	**Plan**	
Easting	543785		
Northing	7835389	**Map Scale**	
Zone	55	**Map Series**	
Accuracy		**Map No**	L 38176
GPS Accuracy		**Map Name**	
Checked	No	**Prog Section**	

Casing

2 *records for RN* **11910010**

Pipe	Date	Rec	Top (m)	Bottom (m)	Material Description	Mat Size (mm)	Size Desc	Outside Diameter (mm)
A	15/06/1951	1	0.00	9.70	Steel Casing	3.350	WT - Wall Thickness	60
A	15/06/1951	2	9.70	10.70	Screen	1.000	AP - Aperture Size	60

Strata Logs

0 *records for RN* **11910010**

Stratigraphies

1 *records for RN* **11910010**

Bore Report

From Year:

Source	Rec	Top (m)	Bottom (m)	Strata Description
DNR	1			ALLUVIUM

Aquifers

1 *records for RN* **11910010**

Rec	Top (m)	Bottom (m)	Lithology	Date	SWL (m)	Flow	Quality	Yield (L/s)	Contr	Cond	Formation Name
1	0.00	10.00	SAND - Sand							UC	ALLUVIUM

Pump Tests Part 1

0 *records for RN* **11910010**

Pump Tests Part 2

0 *records for RN* **11910010**

Bore Conditions

0 *records for RN* **11910010**

Elevations

2 *records for RN* **11910010**

Pipe	Date	Elevation (m)	Precision		Datum	Meas	Point	Survey Source
A	15/06/1951	8.14	SVY	Surveyed	STD - State Datum	R	Reference Point	
X	15/06/1951	7.03	SVY	Surveyed	STD - State Datum	N	Natural Surface	

Water Analysis Part 1

1 *records for RN* **11910010**

Pipe	Date	Rec	Analyst	Analysis No	Depth (m)	Meth	Src	Cond (uS/cm)	pH	Si (mg/L)	Total Ions (mg/L)	Total Solids (mg/L)	Hard	Alk	Fig. of Merit	SAR	RAH
A	18/06/1951	1	GCL	012813	11.00	BA	GB	0	6.7		174.60	174.60	76	69	0.9	1.9	

Water Analysis Part 2

1 *records for RN* **11910010**

Pipe	Date	Rec	Na	K	Ca	Mg	Mn	HCO3	Fe	CO3	Cl	F	NO3	SO4	Zn	Al	B	Cu
A	18/06/1951	1	37.2		18.6	7.2		0.0		41.5	45.8			24.3				

Bore Report

From Year:

Water Levels

126 *records for RN* **11910010**

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	15/06/1951		-4.26	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/06/1951		-4.29	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	28/06/1951		-4.32	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	09/07/1951		-4.35	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	20/07/1951		-4.35	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/07/1951		-4.45	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/08/1951		-4.54	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	12/09/1951		-4.60	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	25/10/1951		-4.96	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/11/1951		-5.18	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/03/1952		-5.31	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	21/04/1952		-5.28	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/06/1952		-5.48	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	24/07/1952		-5.57	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	28/08/1952		-5.58	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/11/1952		-6.02	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/12/1952		-6.07	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/03/1953		-3.96	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	08/05/1953		-4.32	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/06/1953		-4.35	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	17/06/1953		-4.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	25/06/1953		-4.72	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/07/1953		-4.75	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/08/1953		-5.03	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	28/10/1953		-5.21	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	21/12/1953		-5.51	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	27/04/1954		-3.68	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	14/10/1954		-4.72	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/06/1955		-2.92	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	22/06/1955		-3.24	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	16/08/1955		-3.73	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	24/10/1955		-4.19	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	26/07/1956		-3.53	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/04/1957		-4.31	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	29/08/1957		-4.57	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/12/1957		-5.56	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	21/08/1958		-4.56	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	17/10/1958		-5.41	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	12/12/1958		-5.56	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	27/07/1959		-5.13	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/07/1960		-4.70	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/10/1960		-5.10	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	23/11/1960		-5.43	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	08/01/1961		-5.53	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	24/02/1961		-5.52	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/04/1961		-5.49	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/04/1961		-5.49	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/07/1961		-6.00	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	08/09/1961		-6.25	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project	Quality
A	09/01/1962		-6.73	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	19/03/1962		-6.05	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	01/05/1962		-6.13	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	25/06/1962		-6.22	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	11/09/1962		-6.65	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	17/10/1962		-6.78	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	31/01/1963		-7.01	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	09/02/1963		-6.78	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	25/02/1963		-6.78	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	26/03/1963		-6.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	08/04/1963		-6.35	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	22/04/1963		-5.71	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	28/05/1963		-5.76	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	29/07/1963		-5.97	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	14/08/1963		-5.94	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/10/1963		-6.09	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	08/11/1963		-6.42	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	11/12/1963		-6.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	11/01/1964		-6.83	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	04/02/1964		-6.80	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	20/02/1964		-6.60	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	09/04/1964		-6.78	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	16/06/1964		-6.93	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	12/08/1964		-6.98	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	08/10/1964		-7.24	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	06/11/1964		-7.31	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	14/12/1964		-7.31	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/01/1965		-7.54	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	16/03/1965		-7.03	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	24/03/1965		-6.96	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/04/1965		-6.96	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/06/1965		-7.08	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/08/1965		-7.31	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/10/1965		-7.52	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/11/1965		-7.75	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/12/1965		-7.72	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/02/1966		-6.73	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/02/1966		-6.83	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	28/02/1966		-6.88	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	18/04/1966		-7.14	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/05/1966		-7.21	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	11/07/1966		-7.57	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/10/1966		-7.90	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	12/12/1966		-8.08	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/03/1967		-7.67	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	29/05/1967		-7.34	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	23/08/1967		-6.86	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	08/12/1967		-7.19	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/11/1968		-5.94	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/04/1970		-11.81	R	Reference Point	D	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	04/06/1970		-11.81	R	Reference Point	D	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/08/1970		-11.81	R	Reference Point	D	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	28/10/1970		-11.81	R	Reference Point	D	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/12/1970		-11.81	R	Reference Point	D	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	15/02/1971		-7.04	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	16/03/1971		-6.98	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	21/04/1971		-6.95	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	28/06/1971		-6.89	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/08/1971		-6.86	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/10/1971		-6.83	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	08/12/1971		-6.79	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/02/1972		-6.64	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	19/04/1972		-6.49	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/05/1972		-6.46	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/08/1972		-6.43	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	12/10/1972		-6.40	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	12/12/1972		-6.38	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	24/01/1973		-6.38	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/04/1973		-6.18	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/05/1973		-6.15	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/07/1973		-6.14	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/10/1973		-6.11	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/12/1973		-6.08	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	08/02/1974		-5.83	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/03/1974		-5.75	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	05/04/1974		-5.70	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/06/1974		-5.65	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

Wire Line Logs

0 *records for RN* **11910010**

Field Measurements

0 *records for RN* **11910010**

Special Water Analysis

0 *records for RN* **11910010**

Bore Report

From Year:

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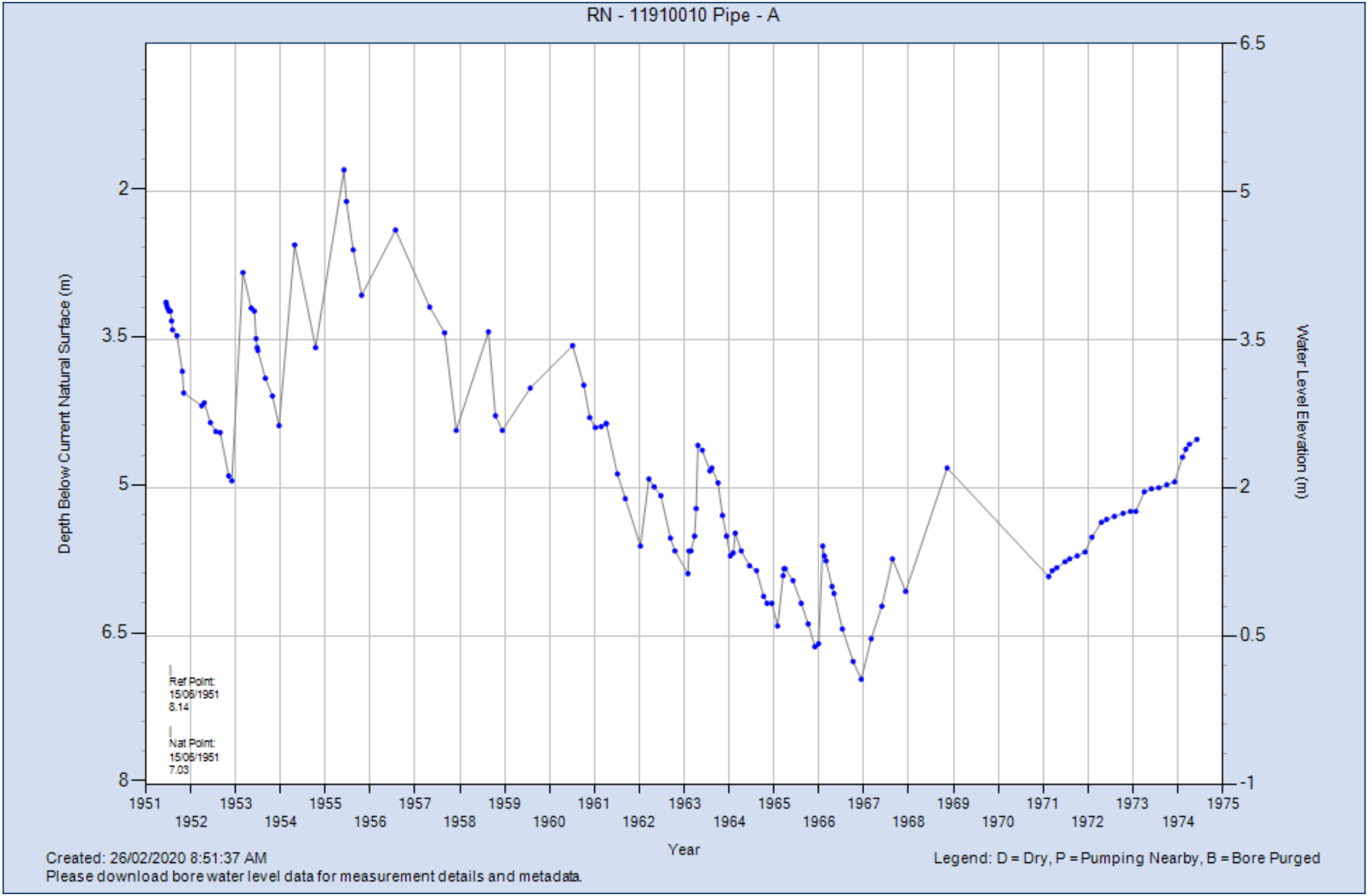

Created: 26/02/2020 8:51:37 AM
Please download bore water level data for measurement details and metadata.

Legend: D = Dry, P = Pumping Nearby, B = Bore Purged

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**** End of Report. Produced: 26/02/2020 8:51:37 AM ****

Bore Report

From Year:

Registered Number	Facility Type	Facility Status	Drilled Date	Office	Shire
11910049	Sub-Artesian Facility	Existing	14/05/1973	Ayr	1900 - BURDEKIN

Details

Description			
Parish	124 - ANTILL		
Original Name	AN4		
Driller Name	J.SVENSON		
Drill Company	I.W.S.C.		
Const Method	ROTARY RIG		
Bore Line			
D/O File No	81-0014A	**Polygon**	
R/O File No		**Equipment**	NE
H/O File No		**RN of Bore Replaced**	
Log Received Date		**Data Owner**	DNR
Roles	WR Investigation Sub-Artesian Monitoring		

Location

Latitude	19-34-33	**Basin**	1191
Longitude	147-24-53	**Sub-area**	500
GIS Latitude	-19.57574415	**Lot**	88
GIS Longitude	147.4146832	**Plan**	RP708755
Easting	543493		
Northing	7835413	**Map Scale**	
Zone	55	**Map Series**	
Accuracy	GPS	**Map No**	L 38176
GPS Accuracy	20	**Map Name**	
Checked	Yes	**Prog Section**	

Casing

2 ***records for RN*** **11910049**

Pipe	Date	Rec	Top (m)	Bottom (m)	Material Description	Mat Size (mm)	Size Desc	Outside Diameter (mm)
A	14/05/1973	1	0.00	13.20	Plastic Casing	3.500	WT - Wall Thickness	60
A	14/05/1973	2	11.20	13.20	Perforated or Slotted Casing	1.000	AP - Aperture Size	60

Strata Logs

6 ***records for RN*** **11910049**

Rec	Top (m)	Bottom	Strata Description

Bore Report

From Year:

		(m)	
1	0.00	0.30	BROWN TOP SOIL ROTARY DRILLING
2	0.30	13.11	SAND F-VC AND GRAVEL
3	13.11	16.15	GREY AND CLAY SANDY BROWN
4			SWL 14.5.73 9.70FT
5			DRILLER SVENSON
902			00/00/0000 SWL -2.90 M TMP NUL C

Stratigraphies

1 *records for RN* **11910049**

Source	Rec	Top (m)	Bottom (m)	Strata Description
DNR	1	0.00	16.15	BURDEKIN RIVER ALLUVIUM

Aquifers

1 *records for RN* **11910049**

Rec	Top (m)	Bottom (m)	Lithology	Date	SWL (m)	Flow	Quality	Yield (L/s)	Contr	Cond	Formation Name
1	0.30	13.10	GRAV - Gravel							UC	ALLUVIUM

Pump Tests Part 1

0 *records for RN* **11910049**

Pump Tests Part 2

0 *records for RN* **11910049**

Bore Conditions

0 *records for RN* **11910049**

Elevations

4 *records for RN* **11910049**

Pipe	Date	Elevation (m)	Precision		Datum	Meas	Point	Survey Source
A	14/05/1973	5.62	SVY	Surveyed	STD - State Datum	R	Reference Point	
A	19/12/1995	5.53	SVY	Surveyed	STD - State Datum	R	Reference Point	2768
A	05/09/2002	5.09	SVY	Surveyed	AHD - Aust. Height Datum	R	Reference Point	L/B 2902

Bore Report

From Year:

Pipe	Date	Elevation (m)	Precision		Datum	Meas	Point	Survey Source
X	14/05/1973	5.29	SVY	Surveyed	STD - State Datum	N	Natural Surface	

Water Analysis Part 1

5 *records for RN* **11910049**

Pipe	Date	Rec	Analyst	Analysis No	Depth (m)	Meth	Src	Cond (uS/cm)	pH	Si (mg/L)	Total Ions (mg/L)	Total Solids (mg/L)	Hard	Alk	Fig. of Merit	SAR	RAH
A	03/12/1987	1	GCL	122916	13.00	AI	GB	175	8.1	29	118.50	118.02	48	48	1.7	0.8	
A	03/01/1990	1	GCL	132704	13.00	AI	GB	87	7.6	25	55.75	68.04	20	21	1.2	0.8	
A	04/06/1990	1	GCL	134362	13.00	AI	GB	58	7.5	26	50.82	63.10	18	22	1.2	0.7	0.09
A	08/01/1992	1	GCL	142487	13.00	AI	GB	340	6.5	20	188.73	185.60	112	37	3.0	0.7	
A	27/11/1996	1	GCL	181824	13.20	AI	GB	126	7.4	26	81.07	87.00	34	32	1.5	0.8	0.00

Water Analysis Part 2

5 *records for RN* **11910049**

Pipe	Date	Rec	Na	K	Ca	Mg	Mn	HCO3	Fe	CO3	Cl	F	NO3	SO4	Zn	Al	B	Cu
A	03/12/1987	1	13.0	2.7	10.0	5.6	0.12	58.0	0.08	0.4	18.0	0.10	0.5	10.0				
A	03/01/1990	1	8.1	1.7	4.4	2.3	0.01	25.0	0.04	0.0	10.5	0.10	0.5	3.1				
A	04/06/1990	1	6.8	1.6	3.3	2.3	0.01	27.0	0.01	0.0	4.4	0.10	0.5	4.8				
A	08/01/1992	1	17.0	3.4	22.5	13.5	0.21	45.5	0.02	0.0	51.0	0.10	0.5	35.0				
A	27/11/1996	1	10.3	2.2	7.4	3.8	0.07	38.7	0.67	0.1	17.2	0.01	0.0	1.5	0.01	0.08	0.00	0.00

Water Levels

329 *records for RN* **11910049**

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project	Quality	
A	14/05/1973		-3.00	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	31/05/1973		-2.52	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/07/1973		-2.67	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/10/1973		-2.80	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	06/12/1973		-2.80	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	08/02/1974		-0.06	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/03/1974		-0.03	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/04/1974		-0.43	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/06/1974		-1.05	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/08/1974		-1.53	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/10/1974		-2.07	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	17/12/1974		-2.39	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/02/1975		-2.83	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/04/1975		-2.72	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/06/1975		-3.00	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/08/1975		-3.13	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	11/12/1975		-2.58	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	09/02/1976		-0.39	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/04/1976		-0.75	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	09/08/1976		-2.15	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/10/1976		-2.95	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	30/11/1976		-2.90	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	09/02/1977		-2.37	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/04/1977		-1.62	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/06/1977		-1.85	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	28/07/1977		-2.29	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/10/1977		-2.69	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/12/1977		-3.19	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/02/1978		-2.80	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project	Quality
A	11/04/1978		-2.89	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	09/06/1978		-2.91	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/08/1978		-2.98	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	10/10/1978		-3.12	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	07/12/1978		-3.28	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/02/1979		-3.07	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/04/1979		-1.24	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	06/06/1979		-1.92	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	01/08/1979		-2.25	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	09/10/1979		-2.65	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	04/12/1979		-3.13	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	04/02/1980		-2.92	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/04/1980		-2.72	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	09/06/1980		-2.94	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	30/07/1980		-3.05	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/10/1980		-3.29	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	09/12/1980		-3.39	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	06/02/1981		-2.17	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	08/04/1981		-2.53	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	06/08/1981		-2.68	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	01/10/1981		-2.35	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	30/11/1981		-2.93	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	04/02/1982		-3.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	13/04/1982		-3.30	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	11/06/1982		-3.53	R	Reference Point	P	NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	05/08/1982		-3.41	R	Reference Point	P	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	11/10/1982		-3.67	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/12/1982		-4.08	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/02/1983		-4.37	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	08/04/1983		-4.50	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	09/06/1983		-3.70	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/08/1983		-3.69	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/10/1983		-3.97	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	24/11/1983		-4.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/02/1984		-3.88	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/04/1984		-3.94	R	Reference Point	P	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/06/1984		-4.11	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/08/1984		-4.20	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/10/1984		-4.20	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/12/1984		-4.44	R	Reference Point	P	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/02/1985		-4.37	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/04/1985		-3.66	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/06/1985		-3.64	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/08/1985		-3.65	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	11/10/1985		-3.97	R	Reference Point	P	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	09/12/1985		-3.71	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/02/1986		-3.76	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	17/04/1986		-4.17	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/06/1986		-4.15	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/08/1986		-4.20	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project	Quality
A	08/10/1986		-4.23	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	04/12/1986		-4.46	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	06/02/1987		-4.80	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	09/06/1987		-4.87	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	05/08/1987		-4.78	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	11/09/1987		-4.82	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	16/10/1987		-4.90	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/11/1987		-4.96	R	Reference Point	P	NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/12/1987		-4.87	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	09/02/1988		-4.78	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/03/1988		-2.77	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	07/04/1988		-3.35	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	04/05/1988		-3.44	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	07/06/1988		-3.56	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	11/07/1988		-3.51	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/08/1988		-3.58	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	05/09/1988		-3.67	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	13/10/1988		-3.88	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/11/1988		-4.00	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/12/1988		-4.13	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/01/1989		-3.14	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/02/1989		-3.24	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	07/03/1989		-3.32	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	25/05/1989		-2.30	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	12/07/1989		-2.15	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	07/09/1989		-2.36	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/11/1989		-2.75	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/12/1989		-2.73	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/01/1990		-2.82	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/02/1990		-3.06	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/03/1990		-3.16	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/04/1990		-2.55	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/05/1990		-1.57	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/06/1990		-1.41	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/07/1990		-1.51	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/08/1990		-1.71	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	11/09/1990		-2.07	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/10/1990		-2.25	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	13/11/1990		-2.91	R	Reference Point	P	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/12/1990		-2.86	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	17/01/1991		-0.59	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/02/1991		-0.24	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	18/02/1991		-0.43	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/03/1991		-0.44	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/04/1991		-1.02	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/05/1991		-1.54	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/06/1991		-1.88	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/07/1991		-2.12	R	Reference Point	P	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/08/1991		-2.35	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/09/1991		-2.58	R	Reference Point	P	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

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Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project	Quality
A	01/10/1991		-2.84	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	05/11/1991		-3.14	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	05/12/1991		-3.08	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	08/01/1992		-3.30	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	10/02/1992		-3.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/03/1992		-2.93	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/04/1992		-3.32	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	05/05/1992		-3.54	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/06/1992		-3.34	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	07/07/1992		-3.32	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	10/08/1992		-3.43	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/09/1992		-3.48	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	06/10/1992		-3.57	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	04/11/1992		-3.72	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/12/1992		-3.89	R	Reference Point	P	NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	18/01/1993		-3.65	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	08/02/1993		-3.76	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	05/03/1993		-3.83	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	08/04/1993		-4.11	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	10/05/1993		-4.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	07/06/1993		-4.34	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	07/07/1993		-4.36	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/08/1993		-4.35	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/09/1993		-4.31	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	06/10/1993		-4.33	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality

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Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	02/11/1993		-4.34	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/12/1993		-4.55	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/01/1994		-4.64	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/02/1994		-4.65	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/03/1994		-4.45	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	18/04/1994		-4.59	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/05/1994		-4.69	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/06/1994		-4.78	R	Reference Point	P	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/07/1994		-4.75	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/08/1994		-4.78	R	Reference Point	P	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/09/1994		-4.83	R	Reference Point	P	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/10/1994		-4.93	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/11/1994		-5.00	R	Reference Point	P	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/12/1994		-5.16	R	Reference Point	P	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	09/01/1995		-5.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/01/1995		-4.32	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/02/1995		-5.33	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/03/1995		-4.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/04/1995		-4.79	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/05/1995		-4.94	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/06/1995		-4.82	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/07/1995		-4.84	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/08/1995		-4.88	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/09/1995		-4.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/10/1995		-4.71	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	02/11/1995		-4.66	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/02/1996		-4.12	R	Reference Point	P	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/03/1996		-4.35	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/04/1996		-4.55	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/05/1996		-4.53	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	11/06/1996		-4.65	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/07/1996		-4.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/08/1996		-4.64	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/09/1996		-4.60	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/10/1996		-4.67	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/11/1996		-4.79	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/12/1996		-4.90	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	09/01/1997		-5.09	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/02/1997		-4.61	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/03/1997		-3.48	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	08/04/1997		-3.06	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/05/1997		-3.25	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/06/1997		-3.23	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/07/1997		-3.25	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/08/1997		-3.32	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/09/1997		-3.39	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/10/1997		-3.35	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/11/1997		-3.58	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/12/1997		-3.81	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/01/1998		-3.16	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

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Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	02/02/1998		-2.61	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/03/1998		-2.23	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/04/1998		-2.59	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/05/1998		-2.67	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/06/1998		-2.62	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/07/1998		-2.74	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/08/1998		-2.79	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/09/1998		-2.82	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/10/1998		-2.97	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/11/1998		-2.66	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/12/1998		-2.43	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/01/1999		-2.38	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/02/1999		-2.53	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	16/03/1999		-2.22	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/04/1999		-2.37	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/05/1999		-2.51	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/06/1999		-2.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/07/1999		-2.76	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/08/1999		-2.86	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/09/1999		-2.96	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/10/1999		-3.13	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/11/1999		-3.35	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/12/1999		-3.36	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/01/2000		-3.23	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/02/2000		-3.30	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	01/03/2000		-1.50	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/04/2000		-0.97	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/05/2000		-1.25	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/06/2000		-1.58	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/07/2000		-1.72	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/08/2000		-1.92	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/09/2000		-2.16	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/10/2000		-2.38	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/11/2000		-2.29	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/12/2000		-2.18	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	09/01/2001		-1.74	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/02/2001		-1.87	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/03/2001		-2.14	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/04/2001		-2.36	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/05/2001		-2.57	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/06/2001		-2.79	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/07/2001		-2.88	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/08/2001		-2.94	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/09/2001		-3.10	R	Reference Point	P	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/10/2001		-3.22	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/11/2001		-3.49	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/12/2001		-3.70	R	Reference Point	P	NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/02/2002		-3.68	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/03/2002		-2.59	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	08/04/2002		-3.00	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements

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Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	02/05/2002		-3.20	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/06/2002		-3.19	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/07/2002		-3.24	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/08/2002		-3.33	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	07/10/2002		-3.16	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	05/11/2002		-3.34	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/12/2002		-3.50	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	08/01/2003		-3.76	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/02/2003		-3.91	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/03/2003		-3.18	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	31/03/2003		-3.48	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/05/2003		-3.60	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/06/2003		-3.67	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/07/2003		-3.65	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/08/2003		-3.70	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/09/2003		-3.75	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	06/10/2003		-3.90	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/11/2003		-4.01	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/12/2003		-4.15	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	06/01/2004		-4.23	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/02/2004		-4.04	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	05/04/2004		-3.70	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/06/2004		-3.72	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	06/07/2004		-3.76	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/08/2004		-3.76	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements

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Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	06/09/2004		-3.75	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/10/2004		-3.84	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/11/2004		-3.94	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/12/2004		-4.06	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	10/01/2005		-4.07	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/02/2005		-2.90	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/03/2005		-3.14	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/04/2005		-3.33	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/05/2005		-3.50	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	06/06/2005		-3.58	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/07/2005		-3.57	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/08/2005		-3.42	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	05/10/2005		-3.57	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/12/2005		-3.80	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/02/2006		-3.01	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/04/2006		-3.05	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/06/2006		-2.75	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/08/2006		-2.76	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/10/2006		-2.95	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	15/12/2006		-3.37	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	05/02/2007		-1.85	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/04/2007		-2.23	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/06/2007		-2.59	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	06/08/2007		-2.45	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	08/10/2007		-2.57	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	03/12/2007		-2.91	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/02/2008		-1.89	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/04/2008		-0.88	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/06/2008		-1.52	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/08/2008		-1.71	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	06/10/2008		-2.08	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	27/11/2008		-2.45	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	12/02/2009		0.04	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/03/2009		-0.05	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/04/2009		-0.43	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/06/2009		-0.99	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	05/08/2009		-1.52	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/10/2009		-1.96	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/12/2009		-2.45	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/02/2010		-1.61	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	06/04/2010		-0.81	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/06/2010		-1.36	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/08/2010		-1.80	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	05/10/2010		-1.72	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	06/12/2010		-1.13	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	07/02/2011		-0.59	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/04/2011		-0.52	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/06/2011		-1.10	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/08/2011		-1.52	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/10/2011		-1.93	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements

Bore Report

From Year:

Wire Line Logs

0 *records for RN* **11910049**

Field Measurements

119 *records for RN* **11910049**

Pipe	Date	Depth (m)	Conduct (uS/cm)	pH	Temp (C)	NO3 (mg/L)	DO2 (mg/L)	Eh (mV)	Alkalinity (mV)	Samp	Method	Samp	Source
A	16/10/1987		190							AI	Air Lifting	GB	Groundwater - from Bore
A	03/12/1987		200							AI	Air Lifting	GB	Groundwater - from Bore
A	09/02/1988		130							AI	Air Lifting	GB	Groundwater - from Bore
A	07/04/1988		90							AI	Air Lifting	GB	Groundwater - from Bore
A	04/05/1988		85							AI	Air Lifting	GB	Groundwater - from Bore
A	07/06/1988		80							AI	Air Lifting	GB	Groundwater - from Bore
A	02/08/1988		100							AI	Air Lifting	GB	Groundwater - from Bore
A	05/09/1988		80							AI	Air Lifting	GB	Groundwater - from Bore
A	03/11/1988		110							AI	Air Lifting	GB	Groundwater - from Bore
A	02/02/1989		75							AI	Air Lifting	GB	Groundwater - from Bore
A	07/03/1989		75							AI	Air Lifting	GB	Groundwater - from Bore
A	06/11/1989		85							AI	Air Lifting	GB	Groundwater - from Bore
A	03/01/1990		76							AI	Air Lifting	GB	Groundwater - from Bore
A	06/03/1990		80							AI	Air Lifting	GB	Groundwater - from Bore
A	04/06/1990		50							AI	Air Lifting	GB	Groundwater - from Bore
A	11/09/1990		55							AI	Air Lifting	GB	Groundwater - from Bore

Bore Report

From Year:

Pipe	Date	Depth (m)	Conduct (uS/cm)	pH	Temp (C)	NO3 (mg/L)	DO2 (mg/L)	Eh (mV)	Alkalinity (mV)	Samp	Method	Samp	Source
A	13/11/1990		54							AI	Air Lifting	GB	Groundwater - from Bore
A	15/02/1991		55							AI	Air Lifting	GB	Groundwater - from Bore
A	24/04/1991		70							AI	Air Lifting	GB	Groundwater - from Bore
A	03/07/1991		60							AI	Air Lifting	GB	Groundwater - from Bore
A	02/09/1991		71							AI	Air Lifting	GB	Groundwater - from Bore
A	01/10/1991		72							AI	Air Lifting	GB	Groundwater - from Bore
A	05/11/1991		80							AI	Air Lifting	GB	Groundwater - from Bore
A	08/01/1992		338							AI	Air Lifting	GB	Groundwater - from Bore
A	03/03/1992		68							AI	Air Lifting	GB	Groundwater - from Bore
A	05/05/1992		65							AI	Air Lifting	GB	Groundwater - from Bore
A	07/07/1992		86							AI	Air Lifting	GB	Groundwater - from Bore
A	02/09/1992		68							AI	Air Lifting	GB	Groundwater - from Bore
A	04/11/1992		66							AI	Air Lifting	GB	Groundwater - from Bore
A	18/01/1993		72							AI	Air Lifting	GB	Groundwater - from Bore
A	05/03/1993		80							AI	Air Lifting	GB	Groundwater - from Bore
A	10/05/1993		72							AI	Air Lifting	GB	Groundwater - from Bore
A	07/07/1993		68							AI	Air Lifting	GB	Groundwater - from Bore
A	02/09/1993		77							AI	Air Lifting	GB	Groundwater - from Bore

Bore Report

From Year:

Pipe	Date	Depth (m)	Conduct (uS/cm)	pH	Temp (C)	NO3 (mg/L)	DO2 (mg/L)	Eh (mV)	Alkalinity (mV)	Samp	Method	Samp	Source
A	02/11/1993		84							AI	Air Lifting	GB	Groundwater - from Bore
A	06/01/1994		93							AI	Air Lifting	GB	Groundwater - from Bore
A	02/03/1994		165							AI	Air Lifting	GB	Groundwater - from Bore
A	06/05/1994		253							AI	Air Lifting	GB	Groundwater - from Bore
A	07/07/1994		238							AI	Air Lifting	GB	Groundwater - from Bore
A	05/09/1994		232							AI	Air Lifting	GB	Groundwater - from Bore
A	03/11/1994		115							AI	Air Lifting	GB	Groundwater - from Bore
A	09/01/1995		116							AI	Air Lifting	GB	Groundwater - from Bore
A	02/03/1995		101							AI	Air Lifting	GB	Groundwater - from Bore
A	05/05/1995		115							AI	Air Lifting	GB	Groundwater - from Bore
A	04/07/1995		110							AI	Air Lifting	GB	Groundwater - from Bore
A	05/09/1995		120							AI	Air Lifting	GB	Groundwater - from Bore
A	02/11/1995		137							AI	Air Lifting	GB	Groundwater - from Bore
A	10/01/1996		105							AI	Air Lifting	GB	Groundwater - from Bore
A	05/03/1996		87							AI	Air Lifting	GB	Groundwater - from Bore
A	02/05/1996		80							AI	Air Lifting		
A	02/07/1996		84							AI	Air Lifting		
A	04/09/1996		100							AI	Air Lifting		
A	04/11/1996		138							AI	Air Lifting		
A	09/01/1997		135							AI	Air Lifting		

Bore Report

From Year:

Pipe	Date	Depth (m)	Conduct (uS/cm)	pH	Temp (C)	NO3 (mg/L)	DO2 (mg/L)	Eh (mV)	Alkalinity (mV)	Samp	Method	Samp	Source
A	04/03/1997		86							AI	Air Lifting		
A	02/05/1997		80							AI	Air Lifting		
A	02/07/1997		76							AI	Air Lifting	GB	Groundwater - from Bore
A	05/09/1997		74							AI	Air Lifting		
A	04/11/1997		79										
A	06/01/1998		69										
A	03/03/1998		67										
A	07/05/1998		65							AI	Air Lifting		
A	06/07/1998		69							AI	Air Lifting		
A	02/09/1998		62							AI	Air Lifting		
A	02/11/1998		71							AI	Air Lifting		
A	06/01/1999		60							AI	Air Lifting		
A	16/03/1999		68							AI	Air Lifting		
A	10/05/1999		72							AI	Air Lifting		
A	06/07/1999		63							AI	Air Lifting		
A	07/09/1999		64							AI	Air Lifting		
A	02/11/1999		67							AI	Air Lifting		
A	10/01/2000		60							AI	Air Lifting	GB	Groundwater - from Bore
A	01/03/2000		75							AI	Air Lifting	GB	Groundwater - from Bore
A	03/05/2000		65							AI	Air Lifting	GB	Groundwater - from Bore
A	04/07/2000		65							AI	Air Lifting	GB	Groundwater - from Bore
A	04/09/2000		75							AI	Air Lifting	GB	Groundwater - from Bore
A	07/11/2000		85							AI	Air Lifting	GB	Groundwater - from Bore

Bore Report

From Year:

Pipe	Date	Depth (m)	Conduct (uS/cm)	pH	Temp (C)	NO3 (mg/L)	DO2 (mg/L)	Eh (mV)	Alkalinity (mV)	Samp	Method	Samp	Source
A	09/01/2001		73							AI	Air Lifting	GB	Groundwater - from Bore
A	02/03/2001		75							AI	Air Lifting	GB	Groundwater - from Bore
A	02/05/2001		68							AI	Air Lifting	GB	Groundwater - from Bore
A	03/07/2001		84							AI	Air Lifting	GB	Groundwater - from Bore
A	14/09/2001		74							AI	Air Lifting	GB	Groundwater - from Bore
A	10/01/2002		80							AI	Air Lifting	GB	Groundwater - from Bore
A	05/03/2002		78							AI	Air Lifting		
A	02/05/2002		77							AI	Air Lifting	GB	Groundwater - from Bore
A	02/07/2002		86							AI	Air Lifting	GB	Groundwater - from Bore
A	13/11/2002		74							AI	Air Lifting	GB	Groundwater - from Bore
A	03/03/2003		62							AI	Air Lifting	GB	Groundwater - from Bore
A	02/05/2003		67							AI	Air Lifting	GB	Groundwater - from Bore
A	01/07/2003		75							AI	Air Lifting	GB	Groundwater - from Bore
A	02/09/2003		68							AI	Air Lifting	GB	Groundwater - from Bore
A	03/11/2003		67							AI	Air Lifting	GB	Groundwater - from Bore
A	06/01/2004		96							AI	Air Lifting	GB	Groundwater - from Bore
A	02/03/2004		166							AI	Air Lifting	GB	Groundwater - from Bore
A	06/07/2004		174							AI	Air Lifting	GB	Groundwater - from Bore
A	06/09/2004		152							AI	Air Lifting	GB	Groundwater - from

Bore Report

From Year:

Pipe	Date	Depth (m)	Conduct (uS/cm)	pH	Temp (C)	NO3 (mg/L)	DO2 (mg/L)	Eh (mV)	Alkalinity (mV)	Samp	Method	Samp	Source
													Bore
A	11/10/2004		137							AI	Air Lifting	GB	Groundwater - from Bore
A	03/11/2004		155							AI	Air Lifting	GB	Groundwater - from Bore
A	16/02/2005		67							AI	Air Lifting	GB	Groundwater - from Bore
A	03/05/2005		78							AI	Air Lifting	GB	Groundwater - from Bore
A	04/07/2005		82							AI	Air Lifting	GB	Groundwater - from Bore
A	07/11/2005		87							AI	Air Lifting	GB	Groundwater - from Bore
A	02/03/2006		73							AI	Air Lifting	GB	Groundwater - from Bore
A	06/07/2006		62							AI	Air Lifting	GB	Groundwater - from Bore
A	07/11/2006		74							AI	Air Lifting	GB	Groundwater - from Bore
A	02/03/2007		57							AI	Air Lifting	GB	Groundwater - from Bore
A	04/07/2007		55							AI	Air Lifting	GB	Groundwater - from Bore
A	06/11/2007		82							AI	Air Lifting	GB	Groundwater - from Bore
A	04/03/2008		65							AI	Air Lifting	GB	Groundwater - from Bore
A	03/07/2008		65							AI	Air Lifting	GB	Groundwater - from Bore
A	17/10/2008		51							AI	Air Lifting	GB	Groundwater - from Bore
A	03/03/2009		59							AI	Air Lifting	GB	Groundwater - from Bore
A	08/05/2009		62							AI	Air Lifting	GB	Groundwater - from Bore
A	21/10/2009		273							AI	Air Lifting	GB	Groundwater - from

Bore Report

From Year:

Pipe	Date	Depth (m)	Conduct (uS/cm)	pH	Temp (C)	NO3 (mg/L)	DO2 (mg/L)	Eh (mV)	Alkalinity (mV)	Samp	Method	Samp	Source
													Bore
A	24/02/2010		90							AI	Air Lifting	GB	Groundwater - from Bore
A	06/07/2010		89							BA	Bailer - Other	GB	Groundwater - from Bore
A	21/10/2010		85							AI	Air Lifting	GB	Groundwater - from Bore
A	02/03/2011		71							AI	Air Lifting	GB	Groundwater - from Bore
A	13/07/2011		351							AI	Air Lifting	GB	Groundwater - from Bore

Special Water Analysis

0 ***records for RN*** **11910049**

Bore Report

From Year:

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Bore Report

From Year:

Registered Number	Facility Type	Facility Status	Drilled Date	Office	Shire
11910801	Sub-Artesian Facility	Existing	20/06/1983	Ayr	1900 - BURDEKIN

Details

Description			
Parish	6000 - NO LONGER USED		
Original Name			
Driller Name	BARRY GIBSON		
Drill Company	WATER RESOURCES		
Const Method	ROTARY MUD		
Bore Line			
D/O File No	55/8/1	**Polygon**	
R/O File No		**Equipment**	NE
H/O File No		**RN of Bore Replaced**	
Log Received Date		**Data Owner**	DNR
Roles	Sub-Artesian Monitoring		

Location

Latitude	19-33-13	**Basin**	1191
Longitude	147-24-55	**Sub-area**	500
GIS Latitude	-19.55348472	**Lot**	
GIS Longitude	147.4152902	**Plan**	
Easting	543563		
Northing	7837876	**Map Scale**	
Zone	55	**Map Series**	
Accuracy	GPS	**Map No**	L 47530
GPS Accuracy	5	**Map Name**	
Checked	Yes	**Prog Section**	

Casing

2 *records for RN* **11910801**

Pipe	Date	Rec	Top (m)	Bottom (m)	Material Description	Mat Size (mm)	Size Desc	Outside Diameter (mm)
A	20/06/1983	1	0.00	11.50	Plastic Casing	3.500	WT - Wall Thickness	60
A	20/06/1983	2	7.50	11.50	Perforated or Slotted Casing	1.000	AP - Aperture Size	60

Strata Logs

5 *records for RN* **11910801**

Rec	Top (m)	Bottom (m)	Strata Description

Bore Report

From Year:

Rec	Top (m)	Bottom (m)	Strata Description
1	0.00	0.30	LOAM BROWN.
2	0.30	5.00	SAND FINE SOME THIN LAYERS CLAY.
3	5.00	9.30	SAND COARSE.
4	9.30	12.00	SAND AND GRAVEL COARSE.
5	12.00	13.00	CLAY GREY/BROWN.

Stratigraphies

1 *records for RN* **11910801**

Source	Rec	Top (m)	Bottom (m)	Strata Description
DNR	1	0.00	13.00	BURDEKIN RIVER ALLUVIUM

Aquifers

1 *records for RN* **11910801**

Rec	Top (m)	Bottom (m)	Lithology	Date	SWL (m)	Flow	Quality	Yield (L/s)	Contr	Cond	Formation Name
1	5.00	12.00	GRAV - Gravel							UC	ALLUVIUM

Pump Tests Part 1

0 *records for RN* **11910801**

Pump Tests Part 2

0 *records for RN* **11910801**

Bore Conditions

0 *records for RN* **11910801**

Elevations

2 *records for RN* **11910801**

Pipe	Date	Elevation (m)	Precision		Datum	Meas	Point	Survey Source
A	10/06/1982	5.82	SVY	Surveyed	STD - State Datum	R	Reference Point	
X	10/06/1982	5.33	SVY	Surveyed	STD - State Datum	N	Natural Surface	

Water Analysis Part 1

19 *records for RN* **11910801**

Bore Report

From Year:

Pipe	Date	Rec	Analyst	Analysis No	Depth (m)	Meth	Src	Cond (uS/cm)	pH	Si (mg/L)	Total Ions (mg/L)	Total Solids (mg/L)	Hard	Alk	Fig. of Merit	SAR	RAH
A	24/11/1983	1	GCL	102978	12.00	PU	GB	165	7.5	29	124.12	117.03	39	58	1.0	1.2	0.39
A	10/12/1985	1	GCL	112555	11.00		GB	175	8.3	22	135.42	113.71	52	72	1.6	0.9	0.41
A	27/11/1996	1	GCL	181835	11.50	AI	GB	329	7.7	19	233.93	185.01	82	109	1.2	1.5	0.54
A	11/07/2002	1	GCL	212385	11.50	PG	GB	241	7.1	24	169.67	147.65	61	74	1.2	1.3	0.25
A	12/03/2003	1	GCL	212447	11.50	PG	GB	211	7.8	26	156.71	135.49	57	77	1.2	1.2	0.38
A	19/10/2005	1	GCL	212520	11.50	PG	GB	268	7.5	24	188.00	160.00	85	84	2.2	0.8	0.00
A	01/11/2006	1	GCL	219539	11.50	PG	GB	230	7.2	23	159.00	137.00	70	73	1.9	0.9	0.10
A	16/10/2007	1	GCL	219562	11.50	AI	GB	452	7.7	22	281.00	242.00	126	99	1.7	1.3	0.00
A	19/11/2008	1	GCL	222852	6.50	PG	GB	385	7.1	24	238.00	207.00	105	88	1.7	1.2	0.00
A	24/11/2009	1	GCL	225216	7.50	PG	GB	358	7.3	27	243.00	210.00	88	96	1.2	1.6	0.20
A	31/08/2010	1	GCL	225241	10.00	PG	GB	341	7.4	28	235.00	204.00	81	95	1.1	1.7	0.30
A	07/09/2011	1	GCL	303206	10.00	PG	GB	375	7.3	28	249.00	217.00	78	98	0.9	2.1	0.40
A	05/09/2012	1	GCL	303299	10.00	PG	GB	367	7.6	28	250.00	216.00	72	101	0.8	2.2	0.60
A	12/07/2013	1	GCL	311502	10.00	PG	GB	385	7.2	29	252.00	220.00	74	99	0.8	2.2	0.50
A	18/07/2014	1	GCL	319013	9.00	PG	GB	437	7.1	30	283.00	248.00	84	105	0.8	2.4	0.40
A	09/07/2015	1	GCL	319038	8.00	PG	GB	421	7.0	31	287.00	254.00	82	104	0.7	2.6	0.40
A	06/07/2016	1	GCL	311978	5.00	PG	GB	283	7.0	27	195.00	168.00	65	89	1.0	1.6	0.50
A	21/09/2017	1	GCL	311540	9.00	PG	GB	242	7.2	27	174.00	153.00	55	77	0.9	1.7	0.40
A	22/10/2018	1	GCL	312322	10.00	PG	GB	460	6.7	29	296.00	268.00	103	93	0.9	2.2	0.00

Water Analysis Part 2

19 ***records for RN*** **11910801**

Pipe	Date	Rec	Na	K	Ca	Mg	Mn	HCO3	Fe	CO3	Cl	F	NO3	SO4	Zn	Al	B	Cu
A	24/11/1983	1	17.0	3.2	8.6	4.2	0.01	71.0	0.01	0.1	13.5	0.10	0.5	5.9				
A	10/12/1985	1	15.0	2.0	13.0	4.7	0.01	86.0	0.01	1.0	11.0	0.20	0.5	2.0				
A	27/11/1996	1	32.0	4.0	18.1	9.0	0.16	132.6	0.09	0.4	21.8	0.22	0.0	15.8	0.04	0.01	0.10	0.01

Bore Report

From Year:

Pipe	Date	Rec	Na	K	Ca	Mg	Mn	HCO3	Fe	CO3	Cl	F	NO3	SO4	Zn	Al	B	Cu
A	11/07/2002	1	23.6	3.3	13.2	6.9	0.14	90.1	0.15	0.1	27.8	0.18	0.0	4.5	0.03	0.02	0.07	0.01
A	12/03/2003	1	21.3	3.0	12.6	6.3	0.05	92.9	0.20	0.3	17.5	0.24	0.5	2.0	0.00	0.01	0.02	0.01
A	19/10/2005	1	18.0	2.9	20.0	8.8	0.08	102.0	<0.01	0.2	28.0	0.10	0.6	8.4	0.01	<0.05	0.06	<0.03
A	01/11/2006	1	17.0	2.7	15.0	7.7	0.08	88.0	0.02	0.1	23.0	0.11	0.6	4.9	0.06	<0.05	0.04	<0.03
A	16/10/2007	1	33.0	4.2	27.0	14.0	0.26	120.0	<0.01	0.3	60.0	0.08	<0.5	22.0	<0.01	<0.05	0.05	0.06
A	19/11/2008	1	28.0	3.8	22.0	12.0	0.21	107.0	<0.01	0.1	54.0	0.10	<0.5	10.3	<0.01	<0.05	0.05	<0.03
A	24/11/2009	1	34.0	4.4	18.0	10.0	0.27	117.0	<0.01	0.1	43.0	0.11	<0.5	14.6	<0.01	<0.05	0.06	<0.03
A	31/08/2010	1	36.0	4.4	17.0	9.4	0.24	116.0	<0.01	0.2	39.0	0.12	0.5	13.8	<0.01	<0.05	0.06	<0.03
A	07/09/2011	1	42.0	4.7	16.0	9.0	0.24	120.0	<0.01	0.1	40.0	0.11	<0.5	17.3	<0.01	<0.05	0.08	<0.03
A	05/09/2012	1	42.0	4.8	16.0	8.2	0.02	122.0	<0.01	0.4	40.0	0.12	0.6	16.2	<0.01	<0.05	0.08	<0.03
A	12/07/2013	1	43.0	4.7	15.0	8.6	0.22	120.0	0.38	0.1	43.0	0.11	<0.5	16.7	<0.01	<0.05	0.08	<0.03
A	18/07/2014	1	50.0	4.4	19.0	9.0	0.18	127.0	0.05	0.1	54.0	0.07	<0.5	20.0	0.01	<0.05	0.09	<0.03
A	09/07/2015	1	53.0	3.5	20.0	8.0	0.05	126.0	<0.01	0.1	58.0	0.11	<0.5	18.9	<0.01	<0.05	0.07	<0.03
A	06/07/2016	1	30.0	3.2	15.0	6.6	0.05	108.0	<0.01	0.1	29.0	0.08	<0.5	3.0	<0.01	<0.05	0.04	<0.03
A	21/09/2017	1	29.0	2.5	13.0	5.5	0.01	94.0	<0.01	0.1	26.0	0.12	<0.5	4.0	<0.01	<0.05	0.05	<0.03
A	22/10/2018	1	52.0	3.8	24.0	11.0	0.07	113.0	<0.01	0.1	78.0	0.09	<0.5	15.0	<0.01	<0.05	0.06	<0.03

Water Levels

328 ***records for RN*** **11910801**

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project	Quality	
A	10/06/1982		-2.95	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/08/1982		-3.52	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	11/10/1982		-4.02	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/12/1982		-4.44	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/02/1983		-3.36	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	08/04/1983		-3.89	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	09/06/1983		-3.66	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/08/1983		-3.74	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	11/10/1983		-4.26	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	24/11/1983		-4.66	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/02/1984		-3.93	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/04/1984		-4.09	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/06/1984		-4.40	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/08/1984		-4.72	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/10/1984		-4.39	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/12/1984		-4.35	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/02/1985		-4.34	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/04/1985		-3.58	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/06/1985		-3.56	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/08/1985		-3.64	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	11/10/1985		-4.14	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/12/1985		-4.02	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/02/1986		-4.28	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	18/04/1986		-4.02	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/06/1986		-3.91	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/08/1986		-4.47	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	09/10/1986		-4.56	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/12/1986		-4.32	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/02/1987		-4.32	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	09/06/1987		-4.96	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	11/08/1987		-4.92	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project	Quality
A	11/09/1987		-4.93	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	16/10/1987		-4.98	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/11/1987		-5.02	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	04/12/1987		-4.98	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	09/02/1988		-4.90	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/03/1988		-2.88	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	07/04/1988		-3.53	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	04/05/1988		-3.41	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	07/06/1988		-3.76	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	11/07/1988		-3.71	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/08/1988		-3.73	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	06/09/1988		-3.86	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	13/10/1988		-4.01	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/11/1988		-4.05	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/12/1988		-4.19	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/01/1989		-3.68	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/02/1989		-3.75	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	07/03/1989		-3.76	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	25/05/1989		-2.67	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	14/06/1989		-2.59	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	13/07/1989		-2.49	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	17/08/1989		-2.54	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	07/09/1989		-2.67	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	14/10/1989		-2.89	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	01/11/1989		-3.02	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	08/12/1989		-3.00	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/01/1990		-3.11	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/02/1990		-3.19	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/03/1990		-3.29	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/04/1990		-2.46	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/05/1990		-2.21	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/06/1990		-2.20	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/07/1990		-2.29	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/08/1990		-2.42	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	11/09/1990		-2.71	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/10/1990		-2.81	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	14/11/1990		-3.04	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/12/1990		-3.15	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/02/1991		-1.42	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	18/02/1991		-1.71	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/03/1991		-2.09	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/04/1991		-2.24	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/05/1991		-2.58	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/06/1991		-2.62	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/07/1991		-2.84	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/08/1991		-2.98	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/09/1991		-3.14	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/10/1991		-3.11	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/11/1991		-3.07	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	14/11/1991		-3.04	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project	Quality
A	05/12/1991		-2.95	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	08/01/1992		-2.95	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	10/02/1992		-2.92	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/03/1992		-2.86	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/04/1992		-2.95	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	05/05/1992		-3.12	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/06/1992		-3.05	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	07/07/1992		-3.20	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	10/08/1992		-3.25	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/09/1992		-3.17	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	06/10/1992		-2.96	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	04/11/1992		-3.26	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	04/12/1992		-3.15	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	19/01/1993		-3.11	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	08/02/1993		-3.26	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	05/03/1993		-3.36	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	08/04/1993		-3.30	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	10/05/1993		-3.29	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	07/06/1993		-3.61	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	07/07/1993		-3.99	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/08/1993		-3.42	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/09/1993		-3.23	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	06/10/1993		-2.99	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/11/1993		-3.17	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	08/12/1993		-3.56	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	06/01/1994		-3.61	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/02/1994		-3.71	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/03/1994		-3.14	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	18/04/1994		-3.68	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/05/1994		-3.90	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/06/1994		-4.07	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/07/1994		-4.30	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/08/1994		-4.25	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/09/1994		-4.10	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/10/1994		-3.94	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/11/1994		-4.11	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/12/1994		-4.30	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	09/01/1995		-4.40	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/02/1995		-4.50	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/03/1995		-4.06	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/04/1995		-4.19	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/05/1995		-4.18	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/06/1995		-3.91	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/07/1995		-4.20	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/08/1995		-4.19	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/09/1995		-4.22	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/10/1995		-4.25	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/11/1995		-4.09	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/12/1995		-4.26	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/01/1996		-4.32	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project	Quality
A	01/02/1996		-3.98	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	05/03/1996		-4.08	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/04/1996		-4.01	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/05/1996		-4.18	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	11/06/1996		-4.15	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/07/1996		-4.25	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	06/08/1996		-4.19	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	04/09/1996		-3.99	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/10/1996		-4.09	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	04/11/1996		-4.17	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	04/12/1996		-4.33	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	09/01/1997		-4.38	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	05/02/1997		-4.01	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	05/03/1997		-2.82	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	08/04/1997		-2.84	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/05/1997		-2.97	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	03/06/1997		-3.08	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/07/1997		-3.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	06/08/1997		-3.13	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	05/09/1997		-3.17	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/10/1997		-3.17	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	04/11/1997		-3.25	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	02/12/1997		-3.35	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	06/01/1998		-2.89	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality
A	05/02/1998		-2.66	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded	130	Data is of unknown quality

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	03/03/1998		-2.37	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/04/1998		-2.64	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/05/1998		-2.67	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/06/1998		-2.68	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/07/1998		-2.81	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/08/1998		-2.86	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/09/1998		-2.88	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/10/1998		-2.96	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/11/1998		-2.45	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/12/1998		-2.61	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/01/1999		-2.64	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/02/1999		-2.73	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	16/03/1999		-2.58	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/04/1999		-2.61	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	10/05/1999		-2.69	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/06/1999		-2.81	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/07/1999		-2.78	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/08/1999		-2.88	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/09/1999		-3.02	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/10/1999		-3.05	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/11/1999		-3.11	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/12/1999		-3.18	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	11/01/2000		-3.00	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/02/2000		-2.83	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/03/2000		-2.10	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	04/04/2000		-2.05	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/05/2000		-2.35	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/06/2000		-2.46	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/07/2000		-2.55	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/08/2000		-2.63	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/09/2000		-2.51	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/10/2000		-2.53	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/11/2000		-2.65	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/12/2000		-2.70	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	09/01/2001		-2.48	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/02/2001		-2.52	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/03/2001		-2.67	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/04/2001		-2.60	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/05/2001		-2.59	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	05/06/2001		-2.81	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/07/2001		-2.84	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/08/2001		-2.73	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/09/2001		-2.85	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	02/10/2001		-3.03	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	07/11/2001		-3.14	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/12/2001		-3.24	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	06/02/2002		-3.44	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	04/03/2002		-2.59	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	05/04/2002		-2.85	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/05/2002		-2.98	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	04/06/2002		-3.17	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/07/2002		-3.29	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/08/2002		-3.19	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/09/2002		-3.18	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	07/10/2002		-3.28	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	05/11/2002		-3.38	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	05/12/2002		-3.46	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	08/01/2003		-3.61	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/02/2003		-3.57	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/03/2003		-3.27	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	12/03/2003		-3.37	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	01/04/2003		-3.40	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/05/2003		-3.46	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/06/2003		-3.44	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/07/2003		-3.63	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/08/2003		-3.52	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/09/2003		-3.60	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	06/10/2003		-3.68	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/11/2003		-3.73	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/12/2003		-3.79	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	06/01/2004		-3.95	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/02/2004		-3.87	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/03/2004		-3.75	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	05/04/2004		-3.73	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/06/2004		-3.76	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	07/07/2004		-3.85	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/08/2004		-3.54	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	07/09/2004		-3.47	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/10/2004		-3.41	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/11/2004		-3.51	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/12/2004		-3.67	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	10/01/2005		-3.69	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/02/2005		-2.74	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/03/2005		-3.08	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	05/04/2005		-3.28	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/05/2005		-3.42	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	06/06/2005		-3.42	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/07/2005		-3.58	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/08/2005		-3.43	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	05/10/2005		-3.56	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/12/2005		-3.66	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	06/02/2006		-3.08	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/04/2006		-3.30	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/06/2006		-2.95	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/08/2006		-3.12	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/10/2006		-3.18	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/11/2006		-3.27	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	11/12/2006		-3.33	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	05/02/2007		-2.29	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/04/2007		-2.66	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	04/06/2007		-2.72	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	06/08/2007		-2.82	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	08/10/2007		-2.92	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	16/10/2007		-2.97	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	03/12/2007		-3.05	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/02/2008		-2.54	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/04/2008		-2.18	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/06/2008		-2.42	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/08/2008		-2.58	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	06/10/2008		-2.65	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	27/11/2008		-2.81	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	13/02/2009		-1.51	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/03/2009		-1.78	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/04/2009		-2.01	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/06/2009		-2.29	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	05/08/2009		-2.46	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/10/2009		-2.59	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/12/2009		-2.84	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/02/2010		-2.14	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	06/04/2010		-2.33	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/06/2010		-2.45	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/08/2010		-2.53	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	31/08/2010		-2.68	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	06/10/2010		-2.63	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	07/12/2010		-2.32	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements

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From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	08/02/2011		-2.24	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/04/2011		-2.17	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/06/2011		-2.40	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/08/2011		-2.62	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	07/09/2011		-2.67	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/10/2011		-2.63	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	05/12/2011		-2.57	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	01/02/2012		-2.78	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/04/2012		-2.37	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	07/06/2012		-2.49	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	31/07/2012		-2.55	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	05/09/2012		-2.62	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	15/10/2012		-2.66	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	13/12/2012		-2.71	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	08/02/2013		-2.59	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	16/05/2013		-2.56	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	12/07/2013		-2.71	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	05/08/2013		-2.78	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	13/11/2013		-2.91	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/02/2014		-2.82	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	30/04/2014		-2.72	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	18/07/2014		-2.69	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	31/07/2014		-2.71	R	Reference Point		NR	Not Recorded	NR	NR	Not Recorded		130	Data is of unknown quality
A	27/10/2014		-2.84	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/02/2015		-2.67	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements

Bore Report

From Year:

Pipe	Date	Time	Measure (m)	Meas	Point	Remark	Meas	Type	Coll Auth	Coll	Method	Project		Quality
A	10/04/2015		-2.74	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	09/07/2015		-3.03	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	31/07/2015		-3.06	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	22/10/2015		-3.23	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/02/2016		-3.24	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	04/05/2016		-3.12	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	06/07/2016		-3.16	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	02/08/2016		-3.21	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	08/11/2016		-2.99	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	06/02/2017		-3.13	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/05/2017		-3.03	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/08/2017		-3.07	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	21/09/2017		-3.13	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	25/10/2017		-3.00	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	06/02/2018		-3.18	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	03/05/2018		-2.70	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	31/07/2018		-2.91	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	22/10/2018		-2.97	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	19/02/2019		-2.18	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	29/04/2019		-2.38	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	29/08/2019		-2.67	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements
A	05/12/2019		-2.94	R	Reference Point		ACT	Actual	DG	MA	Manual/Hand	GWAN	1	Good - Actual Manual Measurements

Wire Line Logs

0 ***records for RN*** **11910801**

Field Measurements

82 ***records for RN*** **11910801**

Bore Report

From Year:

Pipe	Date	Depth (m)	Conduct (uS/cm)	pH	Temp (C)	NO3 (mg/L)	DO2 (mg/L)	Eh (mV)	Alkalinity (mV)	Samp	Method	Samp	Source
A	10/06/1982		220									GB	Groundwater - from Bore
A	13/09/1982		240							AI	Air Lifting	GB	Groundwater - from Bore
A	02/12/1982		230							AI	Air Lifting	GB	Groundwater - from Bore
A	14/03/1983		200							AI	Air Lifting	GB	Groundwater - from Bore
A	09/06/1983		180							AI	Air Lifting	GB	Groundwater - from Bore
A	09/09/1983		160							AI	Air Lifting	GB	Groundwater - from Bore
A	24/11/1983		170							AI	Air Lifting	GB	Groundwater - from Bore
A	08/03/1984		200							AI	Air Lifting	GB	Groundwater - from Bore
A	06/06/1984		170							AI	Air Lifting	GB	Groundwater - from Bore
A	04/09/1984		210							AI	Air Lifting	GB	Groundwater - from Bore
A	04/01/1985		220							AI	Air Lifting	GB	Groundwater - from Bore
A	08/03/1985		240							AI	Air Lifting	GB	Groundwater - from Bore
A	07/06/1985		210							AI	Air Lifting	GB	Groundwater - from Bore
A	11/10/1985		190							AI	Air Lifting	GB	Groundwater - from Bore
A	10/12/1985		190							AI	Air Lifting	GB	Groundwater - from Bore
A	05/03/1986		200							AI	Air Lifting	GB	Groundwater - from Bore
A	10/06/1986		200							AI	Air Lifting	GB	Groundwater - from Bore
A	04/12/1986		170							AI	Air Lifting	GB	Groundwater - from Bore

Bore Report

From Year:

Pipe	Date	Depth (m)	Conduct (uS/cm)	pH	Temp (C)	NO3 (mg/L)	DO2 (mg/L)	Eh (mV)	Alkalinity (mV)	Samp	Method	Samp	Source
A	05/03/1987		230							AI	Air Lifting	GB	Groundwater - from Bore
A	18/02/1991		260							AI	Air Lifting	GB	Groundwater - from Bore
A	24/04/1991		230							AI	Air Lifting	GB	Groundwater - from Bore
A	01/10/1991		226							AI	Air Lifting	GB	Groundwater - from Bore
A	14/11/1991		208							AI	Air Lifting	GB	Groundwater - from Bore
A	19/01/1993		247							AI	Air Lifting	GB	Groundwater - from Bore
A	13/03/1996		370							AI	Air Lifting	GB	Groundwater - from Bore
A	25/05/1998		273							AI	Air Lifting		
A	08/03/2000		318							AI	Air Lifting	GB	Groundwater - from Bore
A	23/10/2000		446							AI	Air Lifting	GB	Groundwater - from Bore
A	18/09/2001		455							AI	Air Lifting	GB	Groundwater - from Bore
A	08/01/2002		426							AI	Air Lifting	GB	Groundwater - from Bore
A	07/03/2002		416							AI	Air Lifting		
A	11/07/2002		250							PU	Pump - Other or Flowing Bore	GB	Groundwater - from Bore
A	11/11/2002		247							AI	Air Lifting	GB	Groundwater - from Bore
A	12/03/2003		226							PG	Pump - Grundfos	GB	Groundwater - from Bore
A	08/05/2003		240							AI	Air Lifting	GB	Groundwater - from Bore
A	26/09/2003		240							AI	Air Lifting	GB	Groundwater - from Bore
A	02/03/2004		250							AI	Air Lifting	GB	Groundwater - from Bore

Bore Report

From Year:

Pipe	Date	Depth (m)	Conduct (uS/cm)	pH	Temp (C)	NO3 (mg/L)	DO2 (mg/L)	Eh (mV)	Alkalinity (mV)	Samp	Method	Samp	Source
A	07/09/2004		232							AI	Air Lifting	GB	Groundwater - from Bore
A	12/10/2004		237							AI	Air Lifting	GB	Groundwater - from Bore
A	17/02/2005		217							AI	Air Lifting	GB	Groundwater - from Bore
A	19/10/2005		293							PG	Pump - Grundfos	GB	Groundwater - from Bore
A	02/03/2006		352							AI	Air Lifting	GB	Groundwater - from Bore
A	06/07/2006		257							AI	Air Lifting	GB	Groundwater - from Bore
A	01/11/2006		256							PG	Pump - Grundfos	GB	Groundwater - from Bore
A	06/03/2007		255							AI	Air Lifting	GB	Groundwater - from Bore
A	05/07/2007		340							AI	Air Lifting	GB	Groundwater - from Bore
A	16/10/2007		445							AI	Air Lifting	GB	Groundwater - from Bore
A	04/03/2008		338							AI	Air Lifting	GB	Groundwater - from Bore
A	04/07/2008		461							AI	Air Lifting	GB	Groundwater - from Bore
A	17/10/2008		579							AI	Air Lifting	GB	Groundwater - from Bore
A	04/03/2009		334							AI	Air Lifting	GB	Groundwater - from Bore
A	11/05/2009		344							AI	Air Lifting	GB	Groundwater - from Bore
A	22/10/2009		417							AI	Air Lifting	GB	Groundwater - from Bore
A	25/02/2010		379							AI	Air Lifting	GB	Groundwater - from Bore
A	06/07/2010		344							AI	Air Lifting	GB	Groundwater - from Bore

Bore Report

From Year:

Pipe	Date	Depth (m)	Conduct (uS/cm)	pH	Temp (C)	NO3 (mg/L)	DO2 (mg/L)	Eh (mV)	Alkalinity (mV)	Samp	Method	Samp	Source
A	31/08/2010		343							PG	Pump - Grundfos	GB	Groundwater - from Bore
A	22/10/2010		352							AI	Air Lifting	GB	Groundwater - from Bore
A	02/03/2011		422							AI	Air Lifting	GB	Groundwater - from Bore
A	13/07/2011		398							AI	Air Lifting	GB	Groundwater - from Bore
A	07/09/2011		368							PG	Pump - Grundfos	GB	Groundwater - from Bore
A	31/10/2011		378							AI	Air Lifting	GB	Groundwater - from Bore
A	06/03/2012		369							AI	Air Lifting	GB	Groundwater - from Bore
A	05/09/2012		369	6.8	25.2					PG	Pump - Grundfos	GB	Groundwater - from Bore
A	06/11/2012		372		25.3					AI	Air Lifting	GB	Groundwater - from Bore
A	09/04/2013		374		27.1					AI	Air Lifting	GB	Groundwater - from Bore
A	12/07/2013		344	6.7	27.5					PG	Pump - Grundfos	GB	Groundwater - from Bore
A	09/10/2013		352		27.3					AI	Air Lifting	GB	Groundwater - from Bore
A	30/04/2014		356		27.4					AI	Air Lifting	GB	Groundwater - from Bore
A	18/07/2014		393		27.8					PG	Pump - Grundfos	GB	Groundwater - from Bore
A	27/10/2014		775		26.6					AI	Air Lifting	GB	Groundwater - from Bore
A	10/04/2015		420		26.9					AI	Air Lifting	GB	Groundwater - from Bore
A	09/07/2015		430		26.7					PG	Pump - Grundfos	GB	Groundwater - from Bore
A	22/10/2015		344		26.7					AI	Air Lifting	GB	Groundwater - from Bore

Bore Report

From Year:

Pipe	Date	Depth (m)	Conduct (uS/cm)	pH	Temp (C)	NO3 (mg/L)	DO2 (mg/L)	Eh (mV)	Alkalinity (mV)	Samp	Method	Samp	Source
A	04/05/2016		289		26.8					AI	Air Lifting	GB	Groundwater - from Bore
A	06/07/2016		276		26.4					PG	Pump - Grundfos	GB	Groundwater - from Bore
A	08/11/2016		311		25.8					AI	Air Lifting	GB	Groundwater - from Bore
A	03/05/2017		270		26.3					AI	Air Lifting	GB	Groundwater - from Bore
A	21/09/2017		243		27.0					PG	Pump - Grundfos	GB	Groundwater - from Bore
A	25/10/2017		289		26.5					AI	Air Lifting	GB	Groundwater - from Bore
A	03/05/2018		292		27.4					AI	Air Lifting	GB	Groundwater - from Bore
A	22/10/2018		470		27.3					PG	Pump - Grundfos	GB	Groundwater - from Bore
A	19/02/2019		625		27.1					AI	Air Lifting	GB	Groundwater - from Bore

Special Water Analysis

12 ***records for RN*** **11910801**

Sample

Pipe	Sample Date	Analysis No	Depth	Bottle	Coll Auth	Coll	Method	Source	Pres Methods	Received Date	Projects
A	11/07/2002	212394	11.50	D	DG	PG	Pump - Grundfos	GB	FR	23/07/2002	GWAN

Comments

Results

Variable	Name	Flag	Value	Units	Quality
2337	Total Nitrogen		0.20580	Milligrams/Litre	
2363	Total Phosphorus as P		0.05870	Milligrams/Litre	

Sample

Bore Report

From Year:

Pipe	Sample Date	Analysis No	Depth	Bottle	Coll Auth	Coll	Method	Source	Pres Methods	Received Date	Projects
A	19/11/2008	222852	6.50	D	DG	PG	Pump - Grundfos	GB	NL	25/11/2008	GWAN

Comments

Results

Variable	Name	Flag	Value	Units	Quality
2337	Total Nitrogen		0.16240	Milligrams/Litre	
2363	Total Phosphorus as P		0.07010	Milligrams/Litre	

Sample

Pipe	Sample Date	Analysis No	Depth	Bottle	Coll Auth	Coll	Method	Source	Pres Methods	Received Date	Projects
A	24/11/2009	225216	7.50	D	DG	PG	Pump - Grundfos	GB	NL	27/11/2009	GWAN

Comments

Results

Variable	Name	Flag	Value	Units	Quality
2337	Total Nitrogen		0.19030	Milligrams/Litre	
2363	Total Phosphorus as P		0.08870	Milligrams/Litre	

Sample

Pipe	Sample Date	Analysis No	Depth	Bottle	Coll Auth	Coll	Method	Source	Pres Methods	Received Date	Projects
A	31/08/2010	225241	10.00	D	DG	PG	Pump - Grundfos	GB	CH	08/09/2010	GWAN

Comments

Results

Bore Report

From Year:

Variable	Name	Flag	Value	Units	Quality
2337	Total Nitrogen		0.14000	Milligrams/Litre	
2363	Total Phosphorus as P		0.12000	Milligrams/Litre	

Sample

Pipe	Sample Date	Analysis No	Depth	Bottle	Coll Auth	Coll	Method	Source	Pres Methods	Received Date	Projects
A	07/09/2011	303206	10.00	D	DG	PG	Pump - Grundfos	GB	FR	07/09/2011	GWAN

Comments

Results

Variable	Name	Flag	Value	Units	Quality
2337	Total Nitrogen		0.16000	Milligrams/Litre	10 Good
2363	Total Phosphorus as P		0.09800	Milligrams/Litre	10 Good

Sample

Pipe	Sample Date	Analysis No	Depth	Bottle	Coll Auth	Coll	Method	Source	Pres Methods	Received Date	Projects
A	05/09/2012	303299	10.00	D	DG	PG	Pump - Grundfos	GB	FR	05/09/2012	GWAN

Comments

Results

Variable	Name	Flag	Value	Units	Quality
2337	Total Nitrogen		0.34000	Milligrams/Litre	10 Good
2363	Total Phosphorus as P		0.11000	Milligrams/Litre	10 Good

Sample

Pipe	Sample Date	Analysis No	Depth	Bottle	Coll Auth	Coll	Method	Source	Pres Methods	Received Date	Projects

Bore Report

From Year:

Pipe	Sample Date	Analysis No	Depth	Bottle	Coll Auth	Coll	Method	Source	Pres Methods	Received Date	Projects
A	12/07/2013	311502	10.00	D	DG	PG	Pump - Grundfos	GB	FR	12/07/2013	GWAN

Comments

Results

Variable	Name	Flag	Value	Units	Quality
2337	Total Nitrogen		0.16000	Milligrams/Litre	10 Good
2363	Total Phosphorus as P		0.12000	Milligrams/Litre	10 Good

Sample

Pipe	Sample Date	Analysis No	Depth	Bottle	Coll Auth	Coll	Method	Source	Pres Methods	Received Date	Projects
A	21/09/2017	311540	9.00	D	DG	PG	Pump - Grundfos	GB	FR	21/09/2017	GWAN

Comments

Results

Variable	Name	Flag	Value	Units	Quality
2337	Total Nitrogen		0.07000	Milligrams/Litre	10 Good
2363	Total Phosphorus as P		0.08500	Milligrams/Litre	10 Good

Sample

Pipe	Sample Date	Analysis No	Depth	Bottle	Coll Auth	Coll	Method	Source	Pres Methods	Received Date	Projects
A	06/07/2016	311978	5.00	D	DG	PG	Pump - Grundfos	GB	FR	20/07/2016	GWAN

Comments

Results

Bore Report

From Year:

Variable	Name	Flag	Value	Units	Quality
2337	Total Nitrogen		0.09000	Milligrams/Litre	10 Good
2363	Total Phosphorus as P		0.06300	Milligrams/Litre	10 Good

Sample

Pipe	Sample Date	Analysis No	Depth	Bottle	Coll Auth	Coll	Method	Source	Pres Methods	Received Date	Projects
A	22/10/2018	312322	10.00	D	DG	PG	Pump - Grundfos	GB	FR	22/10/2018	GWAN

Comments

Results

Variable	Name	Flag	Value	Units	Quality
2337	Total Nitrogen		0.09000	Milligrams/Litre	10 Good
2363	Total Phosphorus as P		0.05600	Milligrams/Litre	10 Good

Sample

Pipe	Sample Date	Analysis No	Depth	Bottle	Coll Auth	Coll	Method	Source	Pres Methods	Received Date	Projects
A	18/07/2014	319013	9.00	D	DG	PG	Pump - Grundfos	GB	FR	18/07/2014	GWAN

Comments

Results

Variable	Name	Flag	Value	Units	Quality
2337	Total Nitrogen		0.08000	Milligrams/Litre	10 Good
2363	Total Phosphorus as P		0.09000	Milligrams/Litre	10 Good

Sample

Pipe	Sample Date	Analysis No	Depth	Bottle	Coll Auth	Coll	Method	Source	Pres Methods	Received Date	Projects

Bore Report

From Year:

Pipe	Sample Date	Analysis No	Depth	Bottle	Coll Auth	Coll	Method	Source	Pres Methods	Received Date	Projects
A	09/07/2015	319038	8.00	D	DG	PG	Pump - Grundfos	GB	FR	09/07/2015	GWAN

Comments

Results

Variable	Name	Flag	Value	Units	Quality	
2337	Total Nitrogen		0.04000	Milligrams/Litre	10	Good
2363	Total Phosphorus as P		0.09200	Milligrams/Litre	10	Good

Bore Report

From Year:

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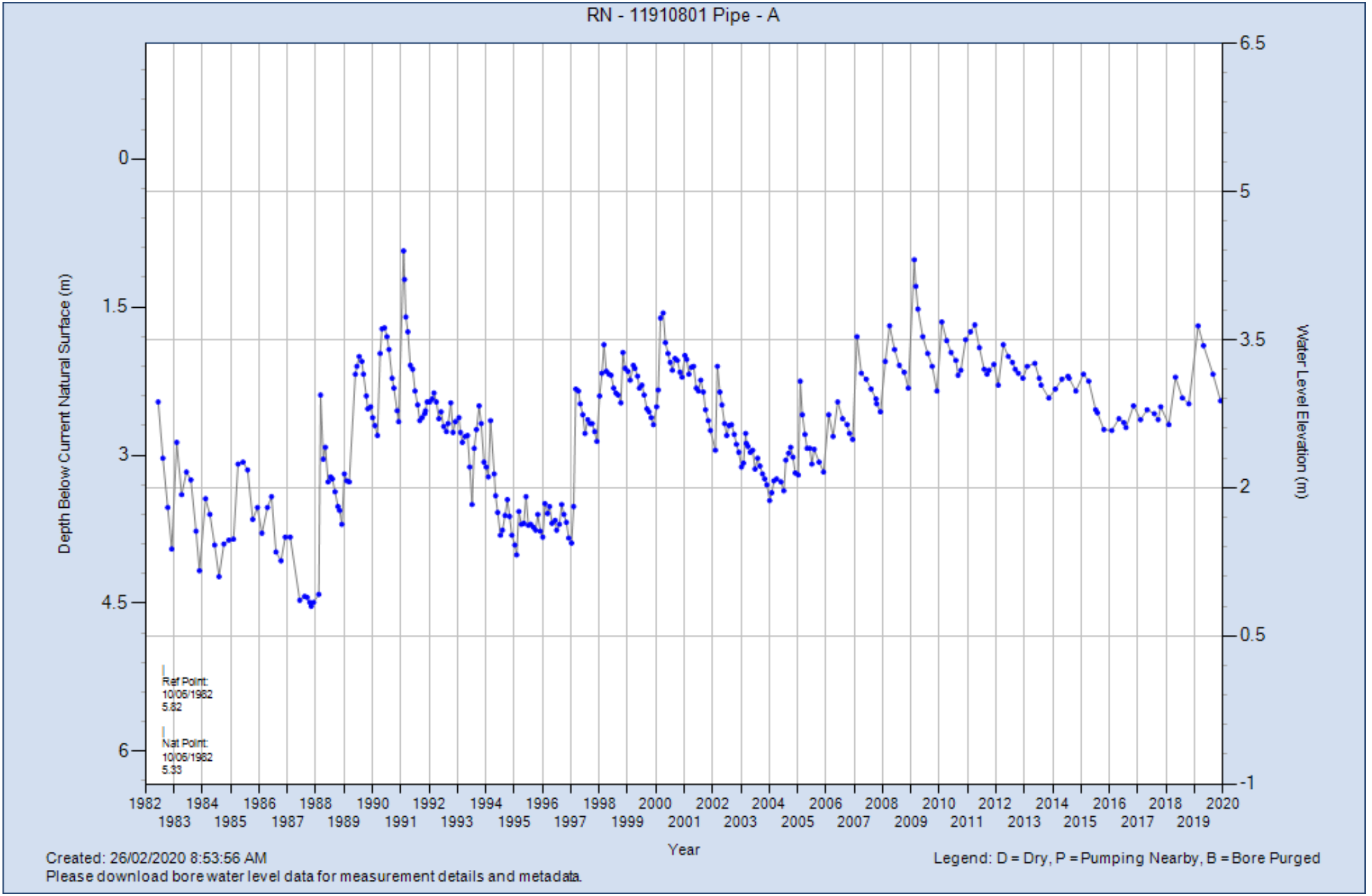
RN - 11910801 Pipe - A
Depth Below Current Natural Surface (m)
Water Level Elevation (m)
0
1.5
3
4.5
6
6.5
5
3.5
2
0.5
-1
Ref Point:
10/05/1982
5.82
Nat Point:
10/05/1982
5.33
1982
1983
1984
1985
1986
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1988
1989
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1992
1993
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2020
Year
Created: 26/02/2020 8:53:56 AM
Please download bore water level data for measurement details and metadata.
Legend: D = Dry, P = Pumping Nearby, B = Bore Purged

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