Monthly Water Quality Monitoring Results Cabbage Tree Road Sand Quarry, NSW

June 2022 Monitoring Event

NCA22R142239

18 July 2022

KLEINFELDER
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18 July 2022
NCA22R142239

Williamtown Sand Syndicate (WSS)
PO Box 898
Newcastle, NSW 2300

Attention: Darren Williams

Subject: Monthly Water Quality Monitoring Results Cabbage Tree Road Sand Quarry, NSW
June 2022 Monitoring Event

Please find enclosed the monthly water quality monitoring results for the June 2022 monitoring event undertaken by Kleinfelder at the Cabbage Tree Road Sand Quarry, NSW.

1 SCOPE OF WORK

The scope of work presented in this report includes the results from the monthly groundwater monitoring event undertaken in accordance with the NSW Environment Protection Authority (EPA) and Department of Planning, Industry and Environment (DPIE) requirements for monthly water quality monitoring at the quarry. **Figure 1** (**Attachment 1**) presents the groundwater sampling locations.

The scheduled June 2022 monthly monitoring event included gauging of ten monitoring wells, recording of field parameters for groundwater, and sampling from seven monitoring wells and one wash plant water sample as outlined in the Soil and Water Management Plan (SWMP, 2021).

2 SITE WORK

The monthly monitoring round was conducted on the 17th June 2022 and comprised:

- Gauging of eleven monitoring wells (BH1, BH2, BH4, BH6, BH7, BH9, BH9A, BH10, BH11, BH12 & MW239S). BH10 was an additional gauging location during this monthly round as the groundwater elevation has previously exceeded the TARP, therefore, more frequent gauging is required at this location.
- Groundwater sampling from seven monitoring wells (BH2, BH4, BH6, BH7, BH9A, BH11 & MW239S) as summarised in **Table 5** and detailed in **Attachment 2**.
- One wash plant water sample (WPW) as summarised in **Table 6** and detailed in **Attachment 2.**

Each well location was gauged using a water level meter to determine groundwater depth (relative to the top of the well casing) and the total depth of the well in order to determine potential sand/silt inundation and potential maintenance requirements. Following gauging, a HydraSleeve was placed into the well, ensuring the top of the sleeve was located below the water column to be sampled, and suspended in place while all remaining wells were gauged. Each HydraSleeve was then removed from the well and representative groundwater samples taken.

The wash plant water samples were taken directly into laboratory supplied sample containers using a gloved hand.

All samples collected were placed into an ice chilled esky and then submitted to a NATA accredited laboratory under a chain of custody (COC) for the analytical schedule as per **Table 1**.

Table 1: Summary of Monthly Water Quality Analysis (June 2022)

Analysis	Number of Samples				
	Primary	Intra-lab (Duplicate)	Inter-lab (Triplicate)	Transport Blank	Rinsate Blank
Metals*	8	1	1	1	1
PFAS (28 analytes, standard level)	1	1	1	1	1

* Metals (dissolved) - Arsenic (As), Iron (Fe), Manganese (Mn).

- BH4 was additionally analysed for Copper (Cu) due to exceedances reported in the previous month.

Table 2 provides a summary of the gauging data. The full set of gauging data for each monitoring location is provided in **Table 5**, **Attachment 2**. Additionally, Watershed HydroGeo (2019) outlined a Trigger Action and Response Plan (TARP) to mitigate groundwater elevations that may potentially impact Cabbage Tree Road Sand Quarry operations (primarily sand excavation depths). Based on these recommendations, groundwater elevation has been shaded to correspond to triggers and actions outlined in **Table 3.**

As monitoring wells BH1, BH2, BH10 and BH11 have triggered TARP rules outlined in **Table 3**, weekly monitoring of groundwater levels is required at these locations until water levels decline to below high frequency level bores listed in **Table 2**. WSS have taken over the weekly gauging of the affected wells as of 17 June 2022, therefore, groundwater elevation data is now being collected by WSS directly following the June GME. It is also recommended that the Minimum Extraction Level (MEL) be re-analysed and reviewed for BH11, in accordance with the TARP Level 2 trigger response.

Table 2: Summary of Gauging Data

Borehole	Top of Casing (mAHD)	Depth to Water (mBTOC)	Ground-water Elevation (mAHD)	Well Total Depth Current (mBTOC)	Well Total Depth 2014 (mBTOC)	Inferred Max GW Elevation (mAHD)[1]	Difference Between Inferred Max and Measured GW Elevation (mAHD)	Comment
BH1	8.64	4.569	4.071	8.18	9.45	4.5	0.429	Well gauged only. Well cap found missing.
BH2	7.79	4.418	3.372	8.97	9.45	3.8	0.428	Clear, no odour / sheen, well in good condition
BH3	-	-	-	-	-	-	-	Well decommissioned
BH4	3.06	0.934	2.126	6.01	6.45	3.0	0.874	Clear, no odour / sheen, well in good condition
BH5	7.36	-	-	-	9.28	4.0	-	No sample taken
BH6	3.62	0.771	2.849	4.52	4.95	4.4	1.551	Clear, strong sulfur odour, no sheen, well in good condition
BH7	2.98	1.041	1.939	4.48	4.95	3.7	1.761	Light yellow, no odour / sheen, well in good condition
BH8	3.88	-	-	-	6.28	4.0	-	No sample taken
BH9	17.75	15.401	2.349	16.29	18.8	3.0	0.651	Gauge only, well in good condition
BH9A	10.75	8.510	2.24	12.46	16.16	3.0[2]	0.76	Light yellow, no odour / sheen, well in good condition

Borehole	Top of Casing (mAHD)	Depth to Water (mBTOC)	Ground-water Elevation (mAHD)	Well Total Depth Current (mBTOC)	Well Total Depth 2014 (mBTOC)	Inferred Max GW Elevation (mAHD)[1]	Difference Between Inferred Max and Measured GW Elevation (mAHD)	Comment
BH10	6.69	2.264	4.426	3.43	5.45	4.9	0.474	Gauge only, well in good condition
BH11	6.63	1.363	5.267	5.25	5.95	5.5	0.233	Light yellow, moderate sulfur odour, no sheen, well in good condition
BH12	8.67	5.856	2.814	8.20	8.39	4.0	1.186	Gauge only, well in good condition
MW239S	3.04	0.715	2.325	3.83	4.0	3.9	1.575	Yellow, strong sulfur odour, no sheen, well in good condition
MW239D	3.04	-	-	-	20.49	3.9[3]	-	No sample taken
SW01*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No sample taken
SW02*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No sample taken
SW03*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No sample taken
SW04*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No sample taken

* Surface water levels representing depth of water as read at time of sampling from an installed measuring tape (when dry number is ground elevation AHD).
[1] – Sourced from Watershed HydroGeo ,2019, *Maximum Extraction Depth Management Plan, Cabbage Tree Road Sand Quarry*, May 2019.
[2] – Inferred Max Groundwater level based on adjacent wells (BH4 & BH9).
[3] – Inferred Max Groundwater level based on adjacent well (MW239S).
N/A – Not applicable

Table 3: Groundwater Level Monitoring TARP Rules (Watershed HydroGeo, 2019)

Level	Trigger	Action and Response	Report / Response Actions
0	Groundwater levels more than 0.5 m below *inferred* maximum historical level at BH1 and BH10. (**Table 2**).	Standard operations – monthly dipping of operational on-site monitoring bores.	N/A
1	Groundwater levels within 0.5 m below *inferred* maximum historical level (**Table 2**) at any on-site bore.	Weekly (or more frequent) monitoring (dipping) of groundwater levels until water level declines to below high frequency level bores listed in **Table 2**.	Internal and environmental consultant. Include note in Annual Report.

2	Groundwater levels within 0.25 m of *inferred* maximum historical level (**Table 2**) at any on-site bore.	Weekly (or more frequent) monitoring (dipping) of groundwater levels. Re-analysis and review of Minimum Extraction Level (MEL).	WSS to issue letter to DPIE, documenting groundwater level and rainfall trends, review and make recommendations regarding MEL.
3	Groundwater levels within resource area rise above previously *inferred* maximum groundwater level (**Table 2**).	Analysis of recent data by hydrogeologist, including site data and data from local HWC wells and local Defence wells (if available). Revision of MEL. Remediation of earlier excavations to revised MEL if required by DPIE.	WSS to issue letter to DPIE, DoI Water and HWC, documenting groundwater level trends, and revision (if necessary) of MEL. Letter to outline remedial options, considering access, vegetation condition in previously rehabilitated areas. Re-grading of previously rehabilitated areas if required by DPIE.

Table 4 provides a summary of the field parameters taken during the June monitoring event. All field parameters for each monitoring location are detailed in the field sheets provided in **Attachment 2**.

Table 4: Summary of Field Measurements

Borehole	Turbidity (NTU)	Temp (^{0}C)	DO (mg/L)	EC (µc/cm)	TDS (mg/L)	PH	Redox (mV)
BH1	ND	ND	ND	ND	ND	ND	ND
BH2	10.07	18.3	7.36	72.8	47	5.11	166.5
BH4	8.86	16.2	7.57	109.7	71	5.17	145
BH5	ND	ND	ND	ND	ND	ND	ND
BH6	53	15.1	8.06	214.2	139	5.22	-56.9
BH7	10.3	15.7	7.92	108	70	5.08	48.5
BH8	ND	ND	ND	ND	ND	ND	ND
BH9	ND	ND	ND	ND	ND	ND	ND
BH9A	31.9	18.1	7.13	150	98	4.79	153
BH10	ND	ND	ND	ND	ND	ND	ND
BH11	22	16.1	8.23	187	116	4.96	-72
BH12	ND	ND	ND	ND	ND	ND	ND
MW239S	108	16.3	7.84	145.6	95	4.75	-50.4
MW239D	ND	ND	ND	ND	ND	ND	ND
WPW	683	16.4	7.66	250	163	4.86	196

ND: No Data – no sample taken

Table 5 below presents a summary of the water monitoring results for key analytes found to be elevated above the laboratory limit of reporting (LOR) for groundwater. **Table 6** presents a summary of the wash plant sampling results for PFAS analytes in water. Recently approved and updated groundwater criteria outlined in the SWMP (7 July 2021) have been applied to this monthly report including a comment on comparison of results with previous data.

Full results summary tables, including quality control sample analyses, are provided in **Tables 1 – 4**, **Attachment 2**. Based on a review of the QA/QC Compliance Assessment provided by ALS, the overall data quality is considered acceptable for interpretive use. Copies of the final NATA endorsed laboratory reports, including internal QA/QC results and chain-of-custody documentation for both laboratories are provided in **Attachment 3**.

Table 5: Groundwater Results and Screening Criteria

Analyte	Metals				Discussion of results relative to previous monitoring (details on specific data trends provided in Section 4 below)
	Arsenic	Iron	Manganese	Copper	
LOR	0.001	0.05	0.001	0.001	
Units	mg/L	mg/L	mg/L	mg/L	
Adopted Site Specific Trigger Values (SWMP 2021)	0.003	4.1 (8.84 for BH1)	0.136	0.083	
Sample ID	Groundwater				
BH1	NS	NS	NS	NS	Metals for BH1 were not analysed - no sample collected.
BH2	<0.001	<0.05	0.007	NS	Metal concentrations were generally consistent with historical results and remain below adopted criteria. BH2 is located marginally down hydraulic gradient from the current quarry operations footprint.
BH4	<0.001	<0.05	0.014	0.082	Metal concentrations were generally consistent with historical variations and remain below adopted criteria. Copper (0.082 mg/L) concentrations have decreased since the previous May (0.097 mg/L) GME to below the adopted criteria (0.083 mg/L). BH4 is located down hydraulic gradient (approximately 140 m) from current quarry operations and on the southernmost boundary of the site adjacent to Cabbage Tree Road.
BH6	<0.001	2.70	0.005	NS	Metal concentrations were generally consistent with historical results and remain below adopted criteria. BH6 is considered up hydraulic gradient (approximately 570 m) from current quarry operations and the most north-eastern location at the Site.
BH7	<0.001	0.56	0.004	NS	Metal concentrations were generally consistent with historical results and below adopted criteria. BH7 is located (approximately 630 m) east of the current quarry operations.
BH8	NS	NS	NS	NS	Metals for BH8 were not analysed - no sample collected.
BH9	NS	NS	NS	NS	Metals for BH9 were not analysed - no sample collected.
BH9A	<0.001	0.42	0.032	NS	Metal concentrations were generally consistent with historical results and below adopted criteria. BH9A is down gradient (approximately 50m) from current quarry operations and is on the southernmost boundary of the Site adjacent to Cabbage Tree Road.
BH10	NS	NS	NS	NS	Metals for BH10 were not analysed - no sample collected.
MW239S	<0.001	0.36	0.004	NS	Metal concentrations were generally consistent with historical results and below adopted criteria. MW239S is located approximately 426 m east and upgradient of the current quarry operations.
BH11	<0.001	1.24	0.004	NS	Metal concentrations were generally consistent with historical results and below adopted criteria. BH11 is

Analyte	Metals				Discussion of results relative to previous monitoring (details on specific data trends provided in Section 4 below)
	Arsenic	Iron	Manganese	Copper	
LOR	0.001	0.05	0.001	0.001	
Units	mg/L	mg/L	mg/L	mg/L	
Adopted Site Specific Trigger Values (SWMP 2021)	0.003	4.1 (8.84 for BH1)	0.136	0.083	
					located approximately 450 m from current quarry operations and at the north-western most point of the Site.
BH12	NS	NS	NS	NS	Metals for BH12 were not analysed - no sample collected.

Notes:
< - Less than laboratory limit of reporting
NS - No Sample

Table 6: Wash Plant Water Sample Results and Screening Criteria

Analyte	PFAS				Discussion of results
	PFOA	PFOS	PFHxS	Sum of PFOS + PFHxS	
LOR	0.01	0.01	0.01	0.01	
Units	µg/L	µg/L	µg/L	µg/L	
Site Specific Trigger Values (SWMP 2021)	0.56	N/A	N/A	0.07	
Sample Name	Sand Wash Plant				
WPW	<0.01	<0.01	<0.01	<0.01	All PFAS analytes were recorded below the Limit of Reporting (LOR) at this location during the June 2022 GME, in line with the previous May 2022 monitoring event.

Notes:
< - Less than laboratory limit of reporting

3 RAINWATER DATA

Table 7 presents the rainfall data from Williamtown RAAF base (Station Number: 061078, Latitude: 32.79°S; Longitude: 151.84°E; Elevation: 8 m) for the period 2021/22. The total monthly rainfall for June 2022 fell far below the historical mean, a rapid decrease in comparison to the previous May 2022 rainfall data. Based on current rainfall data (mean and monthly totals) for June 2022, it is expected that groundwater elevations will begin to stabilise which is consistent with groundwater trend data.

Table 7: 2021-2022 Rainfall data (12-month period)

Date	July (21)	Aug (21)	Sep (21)	Oct (21)	Nov (21)	Dec (21)	Jan (22)	Feb (22)	Mar (22)	Apr (22)	May (22)	Jun (22)
1st	2.6	0	0	0	0.2	0	0	0	18.2	13.6	2.0	0
2nd	1.6	0.8	0	5.4	0	0.2	0	7.6	25.2	1.4	0	0
3rd	0	1.6	0	0	0	0	0	13.0	32.2	0	0	0
4th	0.2	0	0	0	0	0.2	1.0	32.8	55.4	ND	0	1.6
5th	0	0	3.0	0	4.0	0	7.6	7.2	0.2	0.2	4.0	0
6th	0	0	0	0	0	0	2.2	4.4	11.6	0.2	ND	0
7th	0	0	0	0	0	2.8	1.0	1.4	5.4	0	0	0
8th	0.2	0	0	0	21.0	0.6	10.4	2.0	11.8	36.2	0	0
9th	1.4	2.4	0	0	0	10.0	9.2	0.6	68.0	1.2	0	0
10th	7.0	0	12.6	0	0.4	0.8	0	0	0.6	2.0	1.8	0
11th	24.8	0.2	0	23.6	20.2	0	0	0	3.8	0.2	15.8	0
12th	1.0	0	0	10.2	56.8	0	0	39.4	0.6	8.4	8.8	0
13th	0	0	0	19.8	0.2	0	0.4	1.0	0.2	15.8	5.8	0
14th	0.2	0	0	1.2	0	0	0	0	0	10.8	4.0	0
15th	0.4	0.2	0	3.0	0	0	0	0	0.8	1.2	0	0

Date	July (21)	Aug (21)	Sep (21)	Oct (21)	Nov (21)	Dec (21)	Jan (22)	Feb (22)	Mar (22)	Apr (22)	May (22)	Jun (22)
16th	1.2	0	0	0.2	0.2	0.2	5.4	0	0.8	0.2	0	0
17th	2.4	0	0	0	0	1.8	0.2	0	0.2	0	0	0
18th	0	0.6	0.4	0	0.6	0	0	8.6	0	0	0	1.0
19th	0	0	0	0	0	0	32.0	0.2	2.2	0	0	18.4
20th	0	0	2.2	3.4	0	0.6	13.2	0	0.4	0.2	2.6	7.4
21st	0	0.4	8.8	0.2	5.0	0.2	0.2	0	0	0	15.0	0.2
22nd	0	0	0.4	0.2	27.6	0	0	0	0	14.6	4.4	0
23rd	0.2	0.2	0	0	9.4	0	0	25.2	0	6.4	33.0	0
24th	0.2	22.2	0	5.4	0.6	0.4	6.8	3.2	35.6	10.0	8.0	0
25th	0	20.2	0	0.2	3.4	0	0	6.0	29.4	0.2	4.6	0
26th	0	0	0.6	0	31.2	0	0	6.0	14.4	0.2	0	0
27th	0	0	0	0	16.4	0	0	2.6	6.8	0.2	0	0
28th	0	0	0	0	15.8	2.4	0	0.2	0.8	0.6	0.2	0
29th	-	0	0	0	0.8	-	0	-	2.4	0.2	0	0
30th	-	0	0	0	0	0.2	0	-	12.2	0	0	0
31st	-	0	-	1.6	-	0	0	-	14.8	-	4.2	-
Total	43.4	48.8	28.0	74.4	213.8	20.4	89.6	161.4	354.0	124.0	114.2	28.6
Historical Mean	72.6	72.8	60.6	75.9	81.9	78.6	99.5	118.3	125.2	109.5	108.6	124.6

Notes:
ND – no data retrieved.

4 DATA TRENDS

Data trends, taken from analyses undertaken throughout the duration of the sampling program (January 2019 – current), are provided as **Attachment 4.** Generally, the trends indicate a steady decrease in groundwater elevations from April 2021 to January 2022. This is likely due to a continuation of reduced rainfall following the March 2021 monitoring event. More recently, the groundwater elevations have shown a rapid increase since February 2022 as a result of above-average rainfall recorded over the past four months. However, nearly all locations across the site have recorded a decrease in groundwater elevation for the current month, likely due to the below-average rainfall described in **Section 3**. Based on these trends, groundwater elevations are likely to begin to stabilise across the quarry.

Groundwater elevations triggered the Groundwater Level Monitoring TARP Rules (**Table 3**) at BH1, BH2 and BH11 as of 12 April 2022, and more recently BH10 as of 27 May 2022. As a result, weekly gauging has been carried out at the affected locations to closely monitor elevation changes. It is also recommended that the Minimum Extraction Level (MEL) be re-analysed and reviewed for BH11, in accordance with the TARP Level 2 trigger response.

Notable changes in data trends were observed for the following analytes:

- Copper – Concentrations of copper have decreased at BH4 to levels now below the Site Specific Trigger Value following the spike reported in May 2022. However, it is expected that concentrations will remain elevated over the winter months as observed in the historical trend data. Historical variations beginning in 2019 show a seasonal trend where concentrations begin to rise in May, peak during August/September and fall back to stable levels by October 2021. These increased concentrations may be attributed to the decrease in rainfall associated with the winter months. Overall trends also show a long-term temporal

increase, where the peak concentrations are increasing with each seasonal event. Notwithstanding, copper concentrations remain below the drinking water criteria.

- PFAS – PFAS was not detected in the WPW sample during the current June 2022 sampling round, in line with the previous May monitoring event.

5 CLOSING

Overall, the results suggest that since quarry operations began in August 2019, there has been negligible change in analytical results across the sampled locations. Concentrations of copper at BH4 have historically shown elevated trends in concentrations and exceeded the Site Specific Trigger Value during the previous May 2022 monitoring event. However, this increase is in line with the seasonal variations as described in **Section 4**. While copper concentrations have decreased since the previous monitoring round, the current elevated levels are expected to continue throughout the winter months. An adjustment of the Site-Specific Trigger Value at BH4 should also be considered provided that concentrations continue to follow this trend.

We trust that the above report meets with your requirements. If you have any questions, please do not hesitate to contact the undersigned.

Sincerely,

Kleinfelder Australia Pty Ltd

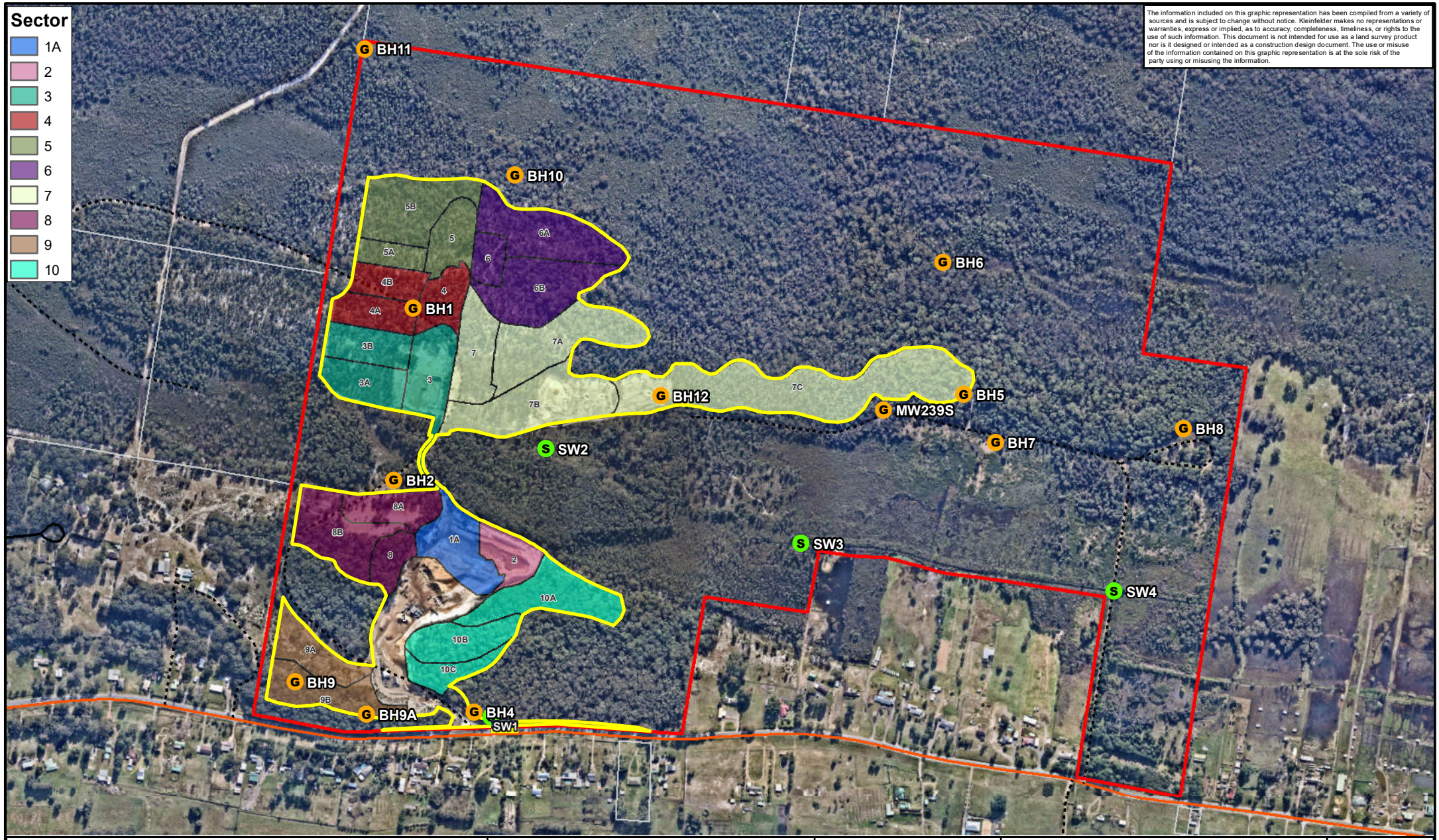
Megan Ferguson

Environmental Scientist
Contaminated Land Management
MFerguson@kleinfelder.com
Mobile: 0455 981 953

Attachments

Attachment 1: Figures
Attachment 2: Results tables and field records
Attachment 3: Lab results
Attachment 4: Data Trends

ATTACHMENT 1: FIGURES



Groundwater Sample Site
Surface Water Sample Site
Quarry Project Area
Subject Land Boundary
Arterial Road
Local Road
Track

Metres
0 50 100 200 300 400 500
N

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PROJECT REFERENCE: 20222347
DATE DRAWN: 2021/09/03 16:16 Version 1
DRAWN BY: GJoyce
DATA SOURCE:
NSW DFSI - 2017
Nearmap - 2020

Monthly Monitoring Locations

Williamtown Sand Syndicate
Proposed Sand Quarry
Cabbage Tree Road, Williamtown

FIGURE:
1

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ATTACHMENT 2: RESULTS TABLES AND FIELD RECORDS

KLEINFELDER

HYDRASLEEVE™ SAMPLING LOG

Project Number:	Date:	Site Address:
20222347	17/6	Cabbage Tree Rd, Williamtown.

Site Name:	Field Manager:	Weather Observations:
WSS	MF	Clear

Field Measurements												
Well ID	Sample Time	DTW (mbTOC)	Total Depth (mbTOC)	Sample Depth (mbTOC)	Temp (°C)	DO (mg/L)	EC (µc/cm)	TDS (mg/L)	pH	Redox (mV)	Turbidity (NTU)	Description (Odour, Colour, Sheen)
BH1	—	4.569	8.18	—								Gauge only
BH2	9:50	4.418	8.97	—	18.3	7.36	72.8	47	5.11	166.5	10.07	Clear, NO/NS
BH4	9:17	0.934	6.01	—	16.2	7.57	109.7	71	5.17	145	8.86	Clear, NO/NS
BH6	11:15	0.771	4.52	—	15.1	8.06	214.2	139	5.22	-56.9	53	clear, strong sulfur odour, NS.
BH7	11:30	1.341	4.48	—	15.7	7.92	108	70	5.08	48.5	10.3	light yellow, NO/NS.
BH9	—	15.401	16.29	—								Gauge only
BH9A	9:35	8.510	12.46	—	18.1	7.13	150	98	4.79	153	31.9	light yellow, NO/NS.
BH10	—	2.264	3.43	—								Gauge only
BH11	10:20	1.363	5.25	—	16.1	8.23	187	116	4.96	-72	22	light yellow, mod sulfur odour, NS.
BH12	—	5.856	8.20	—								Gauge only
MW2375	10:50	0.715	3.83	—	16.3	7.84	145.6	95	4.75	-50.4	108	Yellow, strong sulfur odour, NS.
WPW	12:00	—	—	—	16.4	7.66	250	163	4.86	196	683	dark brown, NO/NS.

* QW82 & QW83 = WPW
* QC01 = rinsate
* QC02 = trip blank.

Table 1
Groundwater Analytical Data - Metals
Williamtown Sand Syndicate

Analyte		Metals			
		Arsenic**	Copper**	Iron	Manganese**
LOR		0.001	0.001	0.05	0.001
Units		mg/L	mg/L	mg/L	mg/L
Adopted Site Specific Trigger Values (SWMP 2021)[3]		0.003	0.083	4.1 (8.84 for BH1)	0.136
NHMRC ADWG 2018		0.01	2		0.5
Sample Name	Sample Date				
BH1	21-Feb-19	Blocked			
	15-Mar-19	< 0.001	< 0.001	**13**	**0.014**
	23-Apr-19	< 0.001	**0.002**	**10**	**0.015**
	16-May-19	< 0.001	< 0.001	**8.33**	**0.009**
	14-Jun-19	< 0.001	**0.001**	**6.31**	**0.009**
	16-Jul-19	< 0.001	**0.002**	**7.35**	**0.01**
	15-Aug-19	< 0.001	**0.002**	**7.96**	**0.008**
	16-Sep-19	< 0.001	**0.001**	**8.84**	**0.009**
	15-Oct-19	< 0.001	**0.006**	**4.32**	**0.007**
	18-Nov-19	< 0.001	< 0.001	**11**	**0.008**
	17-Dec-19	<0.001	0.001	**8.48**	**0.009**
	16-Jan-20	<0.001	**0.002**	**4.43**	**0.011**
	27-Feb-20	<0.001	**0.022**	**4.1**	**0.008**
	26-Mar-20	<0.001	**0.021**	**7.37**	**0.009**
	27-Apr-20	<0.001	**0.002**	**0.22**	**0.01**
	15-May-20	<0.001	**0.013**	**8.1**	**0.012**
	19-Jun-20	<0.001	**0.006**	**5.74**	**0.01**
	16-Jul-20	<0.001	**0.014**	**6.22**	**0.01**
	14-Aug-20	<0.001	**0.005**	**4.08**	**0.01**
	16-Sep-20	< 0.001	**0.005**	**5.48**	**0.01**
	16-Oct-20	< 0.001	**0.001**	**5.55**	**0.009**
	16-Nov-20	< 0.001	**0.001**	**7.05**	**0.012**
	16-Dec-20	< 0.001	**0.008**	**3.21**	**0.011**
	14-Jan-21	< 0.001	**0.001**	**5.21**	**0.013**
	16-Feb-21	< 0.001	**0.001**	**3.24**	**0.015**
	17-Mar-21	< 0.001	< 0.001	**4.0**	**0.027**
	22-Apr-21	< 0.001	< 0.001	**0.86**	**0.022**
	20-May-21	<0.001	<0.001	**5.71**	**0.017**
	18-Jun-21	<0.001	<0.001	**0.52**	**0.017**
	15-Jul-21	<0.001	<0.001	**0.31**	**0.02**
	24-Feb-22	< 0.001	< 0.001	**7.7**	**0.018**
	12-Apr-22	No Analysis			
	27-May-22				
	17-Jun-22				
BH2	22-Feb-19	< 0.001	**0.002**	**0.14**	**0.021**
	15-Mar-19	< 0.001	**0.003**	< 0.05	**0.02**
	23-Apr-19	< 0.001	**0.004**	**0.19**	**0.018**
	16-May-19	< 0.001	**0.001**	**0.06**	**0.014**
	14-Jun-19	< 0.001	**0.004**	**0.08**	**0.009**
	16-Jul-19	< 0.001	**0.008**	**0.05**	**0.013**
	15-Aug-19	< 0.001	**0.012**	**0.08**	**0.011**
	16-Sep-19	< 0.001	**0.008**	**0.26**	**0.014**
	15-Oct-19	< 0.001	**0.006**	**0.46**	**0.011**
	18-Nov-19	< 0.001	**0.013**	**0.08**	**0.011**
	17-Dec-19	<0.001	**0.006**	**0.1**	**0.012**
	16-Jan-20	<0.001	**0.005**	**0.73**	**0.014**
	27-Feb-20	<0.001	**0.008**	**0.07**	**0.012**
	26-Mar-20	<0.001	**0.01**	**0.06**	**0.012**
	27-Apr-20	<0.001	**0.011**	<0.05	**0.015**
	15-May-20	<0.001	**0.012**	<0.05	**0.014**
	19-Jun-20	<0.001	**0.024**	**0.08**	**0.014**
	16-Jul-20	<0.001	**0.029**	<0.5	**0.012**
	14-Aug-20	< 0.001	**0.062**	**0.22**	**0.015**
	16-Sep-20	< 0.001	**0.026**	**0.07**	**0.016**
	16-Oct-20	< 0.001	**0.013**	< 0.05	**0.015**
	16-Nov-20	< 0.001	**0.02**	**0.36**	**0.015**
	16-Dec-20	< 0.001	**0.011**	< 0.05	**0.014**
	14-Jan-21	< 0.001	**0.006**	< 0.05	**0.016**
	16-Feb-21	< 0.001	**0.021**	< 0.05	**0.009**
	17-Mar-21	< 0.001	**0.003**	< 0.05	**0.016**
	22-Apr-21	< 0.001	< 0.001	< 0.05	**0.008**
	20-May-21	<0.001	**0.001**	<0.05	**0.004**
	18-Jun-21	<0.001	**0.002**	<0.05	**0.011**
	15-Jul-21	<0.001	**0.005**	**0.07**	**0.017**
	19-Aug-21	<0.001	**0.007**	< 0.05	
	22-Sep-21	< 0.001		< 0.05	**0.013**
	13-Oct-21	< 0.001		**0.08**	**0.012**
	16-Nov-21	< 0.001	**0.006**	< 0.05	
	15-Dec-21	< 0.001		**0.05**	**0.008**

Table 1
Groundwater Analytical Data - Metals
Williamtown Sand Syndicate

Analyte		Metals			
		Arsenic**	Copper**	Iron	Manganese**
LOR		0.001	0.001	0.05	0.001
Units		mg/L	mg/L	mg/L	mg/L
Adopted Site Specific Trigger Values (SWMP 2021)[3]		0.003	0.083	4.1 (8.84 for BH1)	0.136
NHMRC ADWG 2018		0.01	2		0.5
Sample Name	Sample Date				
	18-Jan-22	< 0.001		**0.49**	**0.012**
	24-Feb-22	**0.002**	< 0.001	< 0.05	**0.009**
	12-Apr-22	**0.001**	-	**0.25**	**0.009**
	27-May-22	< 0.001	**0.004**	< 0.05	-
	17-Jun-22	< 0.001	-	< 0.05	**0.007**
BH3	21-Feb-19	< 0.001	< 0.001	**0.06**	**0.005**
BH4	21-Feb-19	< 0.001	**0.002**	**0.16**	**0.039**
	15-Mar-19	< 0.001	**0.001**	< 0.05	**0.014**
	23-Apr-19	< 0.001	**0.002**	**0.99**	**0.045**
	16-May-19	< 0.001	< 0.001	**0.27**	**0.022**
	14-Jun-19	< 0.001	**0.038**	< 0.05	**0.014**
	16-Jul-19	< 0.001	**0.046**	< 0.05	**0.019**
	15-Aug-19	< 0.001	**0.026**	< 0.05	**0.018**
	16-Sep-19	< 0.001	**0.051**	**0.19**	**0.026**
	15-Oct-19	< 0.001	**0.011**	**0.31**	**0.136**
	18-Nov-19	< 0.001	**0.005**	< 0.05	**0.013**
	17-Dec-19	<0.001	**0.008**	<0.05	**0.014**
	16-Jan-20	<0.001	**0.006**	<0.05	**0.014**
	27-Feb-20	<0.001	**0.006**	**0.09**	**0.013**
	26-Mar-20	<0.001	**0.002**	**0.2**	**0.014**
	27-Apr-20	<0.001	**0.006**	**0.22**	**0.028**
	15-May-20	<0.001	**0.052**	**0.13**	**0.019**
	19-Jun-20	<0.001	**0.079**	**0.14**	**0.016**
	16-Jul-20	<0.001	**0.069**	**0.06**	**0.01**
	14-Aug-20	< 0.001	**0.083**	**0.09**	**0.011**
	16-Sep-20	< 0.001	**0.078**	**0.06**	**0.012**
	16-Oct-20	< 0.001	**0.003**	**0.25**	**0.021**
	16-Nov-20	< 0.001	**0.005**	**0.18**	**0.008**
	16-Dec-20	< 0.001	**0.002**	**0.46**	**0.027**
	14-Jan-21	< 0.001	**0.012**	**0.27**	**0.012**
	16-Feb-21	< 0.001	**0.002**	**0.94**	**0.023**
	17-Mar-21	< 0.001	**0.006**	**1.39**	**0.029**
	22-Apr-21	< 0.001	**0.032**	**0.09**	**0.029**
	20-May-21	<0.001	**0.105**	<0.05	**0.03**
	18-Jun-21	<0.001	**0.157**	<0.05	**0.023**
	15-Jul-21	<0.001	**0.168**	**0.08**	**0.024**
	19-Aug-21	<0.001	**0.198**	**0.14**	**0.022**
	22-Sep-21	< 0.001	**0.172**	**0.1**	**0.02**
	13-Oct-21	< 0.001	**0.026**	**1.65**	**0.019**
	16-Nov-21	< 0.001	**0.012**	**0.38**	**0.021**
	15-Dec-21	< 0.001		**0.69**	**0.016**
	18-Jan-22	< 0.001		**0.52**	**0.018**
	24-Feb-22	< 0.001	< 0.001	**0.62**	**0.017**
	12-Apr-22	< 0.001		**0.27**	**0.017**
	27-May-22	< 0.001	**0.097**	< 0.05	
	17-Jun-22	< 0.001	**0.082**	< 0.05	**0.014**
BH5	22-Feb-19	< 0.001	< 0.001	**1.4**	**0.005**
	14-Aug-20	< 0.001	**0.006**	**0.33**	**0.003**
	24-Feb-22	< 0.001	< 0.001	**1.64**	**0.005**
	12-Apr-22	No Analysis			
	27-May-22				
	17-Jun-22				
	22-Feb-19	< 0.001	< 0.001	**1.03**	**0.014**
	14-Mar-19	< 0.001	< 0.001	**1.9**	**0.01**
	23-Apr-19	< 0.001	**0.001**	**0.96**	**0.01**
	16-May-19	< 0.001	< 0.001	**2.57**	**0.009**
	14-Jun-19	< 0.001	**0.001**	**2.86**	**0.008**
	16-Jul-19	< 0.001	**0.002**	**2.41**	**0.008**
	15-Aug-19	< 0.001	**0.001**	**2.19**	**0.008**
	16-Sep-19	< 0.001	**0.008**	**2.08**	**0.012**
	15-Oct-19	< 0.001	< 0.001	**1.95**	**0.009**
	18-Nov-19	< 0.001	< 0.001	**1.58**	**0.009**
	17-Dec-19	<0.001	**0.003**	**1.78**	**0.007**
	16-Jan-20	<0.001	<0.001	**2.15**	**0.01**
	27-Feb-20	<0.001	<0.001	**1.69**	**0.01**
	26-Mar-20	<0.001	<0.001	**1.51**	**0.01**
	27-Apr-20	<0.001	**0.002**	**1.14**	**0.014**
	15-May-20	<0.001	<0.001	**1.89**	**0.01**
	19-Jun-20	<0.001	**0.007**	**2.49**	**0.018**

Table 1
Groundwater Analytical Data - Metals
Williamtown Sand Syndicate

Analyte		Metals			
		Arsenic**	Copper**	Iron	Manganese**
LOR		0.001	0.001	0.05	0.001
Units		mg/L	mg/L	mg/L	mg/L
Adopted Site Specific Trigger Values (SWMP 2021)[3]		0.003	0.083	4.1 (8.84 for BH1)	0.136
NHMRC ADWG 2018		0.01	2		0.5
Sample Name	Sample Date				
BH6	16-Jul-20	<0.001	**0.002**	**1.98**	**0.016**
	14-Aug-20	< 0.001	<0.001	**2**	**0.014**
	16-Sep-20	< 0.001	**0.002**	**1.78**	**0.01**
	16-Oct-20	< 0.001	< 0.001	**1.84**	**0.011**
	16-Nov-20	< 0.001	< 0.001	**1.72**	**0.014**
	16-Dec-20	< 0.001	< 0.001	**1.64**	**0.014**
	14-Jan-21	< 0.001	**0.011**	**1.06**	**0.014**
	16-Feb-21	< 0.001	**0.013**	**1.18**	**0.012**
	17-Mar-21	< 0.001	< 0.001	**1.39**	**0.012**
	22-Apr-21	< 0.001	0.022	**1.17**	**0.008**
	20-May-21	<0.001	**0.008**	**1.05**	**0.003**
	18-Jun-21	<0.001	<0.001	**1.08**	**0.004**
	15-Jul-21	**0.002**	<0.001	**1.04**	**0.005**
	19-Aug-21	**0.005**	<0.001	**0.55**	**0.004**
	22-Sep-21	**0.002**	< 0.001	**0.55**	**0.005**
	13-Oct-21	**0.002**	< 0.001	**0.65**	**0.004**
	16-Nov-21	< 0.001	< 0.001	**0.83**	**0.004**
	15-Dec-21	< 0.001		**0.66**	**0.002**
	18-Jan-22	< 0.001		**0.7**	**0.003**
	24-Feb-22	< 0.001	< 0.001	**0.55**	**0.001**
	12-Apr-22	< 0.001		**3.24**	**0.016**
	27-May-22	< 0.001	< 0.001	**3.45**	
	17-Jun-22	< 0.001	-	**2.7**	**0.005**
BH7	22-Feb-19	< 0.001	< 0.001	**1.8**	**0.026**
	14-Mar-19	< 0.001	< 0.001	**1.8**	**0.02**
	23-Apr-19	< 0.001	< 0.001	**2.0**	**0.026**
	16-May-19	< 0.001	< 0.001	**2.32**	**0.035**
	14-Jun-19	< 0.001	< 0.001	**2.06**	**0.03**
	16-Jul-19	< 0.001	< 0.001	**1.66**	**0.025**
	15-Aug-19	< 0.001	< 0.001	**1.54**	**0.023**
	16-Sep-19	< 0.001	**0.007**	**1.42**	**0.024**
	15-Oct-19	< 0.001	**0.003**	**1.32**	**0.018**
	18-Nov-19	< 0.001	< 0.001	**1.1**	**0.015**
	17-Dec-19	<0.001	<0.001	**0.98**	**0.011**
	16-Jan-20	<0.001	<0.001	**0.93**	**0.006**
	27-Feb-20	<0.001	<0.001	**1.18**	**0.008**
	26-Mar-20	<0.001	<0.001	**0.9**	**0.009**
	27-Apr-20	<0.001	**0.012**	**0.92**	**0.011**
	15-May-20	<0.001	**0.005**	**1.26**	**0.016**
	19-Jun-20	<0.001	**0.002**	**1.36**	**0.019**
	16-Jul-20	<0.001	**0.004**	**1.14**	**0.02**
	14-Aug-20	< 0.001	<0.001	**1.5**	**0.024**
	16-Sep-20	< 0.001	< 0.001	**1.67**	**0.021**
	16-Oct-20	< 0.001	< 0.001	**1.49**	**0.015**
	16-Nov-20	< 0.001	< 0.001	**1.72**	**0.023**
	16-Dec-20	< 0.001	< 0.001	**1.79**	**0.024**
	14-Jan-21	< 0.001	**0.004**	**1.65**	**0.025**
	16-Feb-21	< 0.001	**0.002**	**1.74**	**0.025**
	17-Mar-21	< 0.001	< 0.001	**2.28**	**0.028**
	22-Apr-21	< 0.001	< 0.001	**1.72**	**0.023**
	20-May-21	<0.001	<0.001	**1.65**	**0.018**
	18-Jun-21	<0.001	<0.001	**1.35**	**0.011**
	15-Jul-21	<0.001	<0.001	**1.15**	**0.01**
	19-Aug-21	**0.003**	<0.001	**0.79**	**0.006**
	22-Sep-21	< 0.001	< 0.001	**0.62**	**0.005**
	13-Oct-21	< 0.001	< 0.001	**0.69**	**0.005**
	16-Nov-21	< 0.001	< 0.001	**0.39**	**0.003**
	15-Dec-21	< 0.001		**0.47**	**0.002**
	18-Jan-22	< 0.001		**0.45**	**0.002**
	24-Feb-22	< 0.001	< 0.001	**0.66**	**0.003**
	12-Apr-22	< 0.001		**0.43**	**0.004**
	27-May-22	< 0.001	< 0.001	**0.52**	
	17-Jun-22	< 0.001	-	**0.56**	**0.004**
	21-Feb-19	**0.001 ***	< 0.001	**4.1**	**0.012**
	14-Mar-19	< 0.001	< 0.001	**3.25**	**0.008**
	23-Apr-19	**0.001**	< 0.001	**3.2**	**0.009**
	16-May-19	**0.003**	< 0.001	**3.0**	**0.01**
	14-Jun-19	< 0.001	< 0.001	**2.5**	**0.005**
	16-Jul-19	**0.001**	< 0.001	**2.6**	**0.004**
	15-Aug-19	**0.001**	< 0.001	**1.72**	**0.004**

Table 1
Groundwater Analytical Data - Metals
Williamtown Sand Syndicate

Analyte		Metals			
		Arsenic**	Copper**	Iron	Manganese**
LOR		0.001	0.001	0.05	0.001
Units		mg/L	mg/L	mg/L	mg/L
Adopted Site Specific Trigger Values (SWMP 2021)[3]		0.003	0.083	4.1 (8.84 for BH1)	0.136
NHMRC ADWG 2018		0.01	2		0.5
Sample Name	Sample Date				
BH8	16-Sep-19	**0.001**	< 0.001	**2.06**	**0.005**
	15-Oct-19	< 0.001	**0.002**	**2.08**	**0.009**
	18-Nov-19	< 0.001	**0.002**	**2.49**	**0.01**
	17-Dec-19	<0.001	**0.003**	**3.02**	**0.011**
	16-Jan-20	<0.001	<0.001	**2.94**	**0.011**
	27-Feb-20	<0.001	<0.001	**2.56**	**0.01**
	26-Mar-20	<0.001	<0.001	**3.17**	**0.012**
	27-Apr-20	<0.001	**0.002**	**3.32**	**0.016**
	15-May-20	**0.001**	**0.001**	**3.49**	**0.015**
	19-Jun-20	**0.001**	**0.012**	**3.3**	**0.031**
	16-Jul-20	<0.001	**0.002**	**2.87**	**0.006**
	14-Aug-20	< 0.001	<0.001	**3.14**	**0.008**
	16-Sep-20	< 0.001	**0.035**	**3.35**	**0.009**
	16-Oct-20	**0.001**	< 0.001	**3.03**	**0.007**
	16-Nov-20	< 0.001	< 0.001	**3.48**	**0.008**
	16-Dec-20	< 0.001	**0.001**	**2.98**	**0.01**
	14-Jan-21	< 0.001	**0.002**	**2.71**	**0.01**
	16-Feb-21	**0.001**	**0.004**	**2.99**	**0.01**
	17-Mar-21	< 0.001	< 0.001	**3.86**	**0.01**
	22-Apr-21	**0.001**	**0.008**	**2.97**	**0.01**
	20-May-21	**0.002**	<0.001	**2.36**	**0.004**
	18-Jun-21	<0.001	<0.001	**3.38**	**0.005**
	15-Jul-21	**0.001**	<0.001	**2.96**	**0.006**
	19-Aug-21	**0.003**	<0.001	**3.72**	
	16-Nov-21	**0.001**	< 0.001	**4.23**	
	16-Dec-21			**3.78**	
	24-Feb-22	**0.001**	< 0.001	**2.98**	**0.007**
	12-Apr-22	No Analysis			
	27-May-22	**0.001**	< 0.001	**1.1**	
BH9	14-Aug-20	<0.001	**0.003**	<0.05	**0.007**
	16-Nov-21	< 0.001		< 0.05	**0.014**
BH9A	16-Sep-20	< 0.001	**0.004**	**0.14**	**0.076**
	16-Oct-20	< 0.001	**0.001**	**0.06**	**0.042**
	16-Nov-20	< 0.001	**0.001**	**0.11**	**0.03**
	16-Dec-20	< 0.001	**0.001**	**0.31**	**0.024**
	14-Jan-21	< 0.001	**0.017**	**0.14**	**0.025**
	16-Feb-21	< 0.001	< 0.001	**0.35**	**0.024**
	17-Mar-21	< 0.001	< 0.001	**0.27**	**0.024**
	22-Apr-21	< 0.001	< 0.001	< 0.05	**0.012**
	20-May-21	<0.001	**0.027**	<0.05	**0.015**
	18-Jun-21	<0.001	<0.001	**0.25**	**0.02**
	15-Jul-21	<0.001	<0.001	**0.23**	**0.023**
	19-Aug-21	<0.001	<0.001	**0.26**	**0.03**
	22-Sep-21	< 0.001	< 0.001	**0.32**	**0.027**
	13-Oct-21	< 0.001	< 0.001	**0.51**	**0.033**
	16-Nov-21	< 0.001	< 0.001	**0.33**	**0.025**
	15-Dec-21	< 0.001		**0.48**	**0.025**
	18-Jan-22	< 0.001		**0.44**	**0.03**
	24-Feb-22	< 0.001	< 0.001	**0.5**	**0.042**
	12-Apr-22	< 0.001		**0.48**	**0.038**
	27-May-22	< 0.001	< 0.001	**0.35**	
	17-Jun-22	< 0.001	-	**0.42**	**0.032**
BH10	21-Feb-19	Dry			
	15-Mar-19				
	23-Apr-19				
	16-May-19				
	14-Jun-19				
	16-Jul-19				
	15-Aug-19				
	16-Sep-19				
	15-Oct-19				
	18-Nov-19				
	17-Dec-19				
	16-Jan-20				
	27-Feb-20				
	26-Mar-20				
	27-Apr-20				
	15-May-20				
	19-Jun-20				

Table 1
Groundwater Analytical Data - Metals
Williamtown Sand Syndicate

Analyte		Metals			
		Arsenic**	Copper**	Iron	Manganese**
LOR		0.001	0.001	0.05	0.001
Units		mg/L	mg/L	mg/L	mg/L
Adopted Site Specific Trigger Values (SWMP 2021)[3]		0.003	0.083	4.1 (8.84 for BH1)	0.136
NHMRC ADWG 2018		0.01	2		0.5
Sample Name	Sample Date				
	16-Jul-20				
	14-Aug-20				
	16-Sep-20				
	16-Oct-20				
	16-Nov-20				
	16-Dec-20				
	14-Jan-21				
	16-Feb-21				
	17-Mar-21				
	22-Apr-21	< 0.001	< 0.001	**0.06**	**0.008**
	20-May-21	<0.001	<0.001	<0.05	**0.007**
	18-Jun-21	<0.001	<0.001	<0.05	**0.006**
	15-Jul-21	<0.001	<0.001	**0.1**	**0.008**
BH11	21-Feb-19	< 0.001	< 0.001	**0.26**	**0.003**
	15-Mar-19	< 0.001	< 0.001	**1.49**	**0.007**
	23-Apr-19	< 0.001	< 0.001	**0.98**	**0.007**
	16-May-19	< 0.001	< 0.001	**0.97**	**0.006**
	14-Jun-19	< 0.001	< 0.001	**0.98**	**0.005**
	16-Jul-19	< 0.001	< 0.001	**0.47**	**0.003**
	15-Aug-19	< 0.001	**0.001**	**0.87**	**0.007**
	16-Sep-19	< 0.001	< 0.001	**0.79**	**0.008**
	15-Oct-19	< 0.001	**0.004**	**0.74**	**0.006**
	18-Nov-19	< 0.001	< 0.001	**0.95**	**0.008**
	17-Dec-19	<0.001	**0.002**	**1**	**0.008**
	16-Jan-20	<0.001	<0.001	**1.08**	**0.007**
	27-Feb-20	<0.001	<0.001	**0.6**	**0.003**
	26-Mar-20	<0.001	<0.001	**0.36**	**0.004**
	27-Apr-20	<0.001	**0.002**	**0.22**	**0.005**
	15-May-20	<0.001	**0.009**	**0.78**	**0.01**
	19-Jun-20	<0.001	**0.003**	**0.72**	**0.007**
	16-Jul-20	<0.001	**0.001**	**1**	**0.007**
	14-Aug-20	<0.001	**0.004**	**0.75**	**0.004**
	16-Sep-20	< 0.001	**0.005**	**0.9**	**0.008**
	16-Oct-20	< 0.001	< 0.001	**1.06**	**0.009**
	16-Nov-20	< 0.001	< 0.001	**0.84**	**0.011**
	16-Dec-20	< 0.001	< 0.001	**1.0**	**0.009**
	14-Jan-21	< 0.001	**0.025**	**0.56**	**0.006**
	16-Feb-21	< 0.001	**0.018**	**0.59**	**0.008**
	17-Mar-21	< 0.001	< 0.001	**0.2**	**0.002**
	22-Apr-21	< 0.001	0.003	**0.28**	**0.002**
	20-May-21	<0.001	**0.004**	**0.25**	<0.001
	18-Jun-21	<0.001	**0.001**	**0.25**	**0.002**
	15-Jul-21	<0.001	**0.002**	**0.41**	**0.002**
	19-Aug-21	**0.001**	<0.001	**0.62**	**0.003**
	22-Sep-21	< 0.001	< 0.001	**0.72**	**0.003**
	13-Oct-21	< 0.001	< 0.001	**0.69**	**0.005**
	16-Nov-21	< 0.001	< 0.001	**0.92**	**0.002**
	15-Dec-21	< 0.001		**0.92**	**0.003**
	18-Jan-22	< 0.001		**1.06**	**0.003**
	24-Feb-22	< 0.001	< 0.001	**1.25**	**0.003**
	06-Mar-22	< 0.001	< 0.001	**1.27**	-
	12-Apr-22	< 0.001	-	**1.06**	**0.004**
	27-May-22	< 0.001	< 0.001	**1.27**	-
	17-Jun-22	< 0.001	-	**1.24**	**0.004**
BH12	14-Aug-20	< 0.001	**0.001**	**0.08**	**0.008**
	16-Sep-20	Hydrasleeves too large for 40mm diameter well casing no samples taken			
	16-Oct-20	Hydrasleeves too large for 40mm diameter well casing no samples taken			
	16-Nov-20	< 0.001	**0.002**		
	24-Feb-22	< 0.001	< 0.001	**0.33**	**0.006**
	12-Apr-22	No Analysis			
	27-May-22				
	17-Jun-22				
	22-Feb-19	< 0.001	< 0.001	**1.11**	**0.003**
	14-Mar-19	< 0.001	< 0.001	**1.25**	**0.005**
	23-Apr-19	< 0.001	< 0.001	**1.01**	**0.004**
	16-May-19	< 0.001	< 0.001	**0.87**	**0.003**
	14-Jun-19	< 0.001	**0.002**	**0.8**	**0.003**
	16-Jul-19	< 0.001	< 0.001	**0.87**	**0.003**
	15-Aug-19	< 0.001	< 0.001	**1.0**	**0.004**

Table 1
Groundwater Analytical Data - Metals
Williamtown Sand Syndicate

Analyte		Metals			
		Arsenic**	Copper**	Iron	Manganese**
LOR		0.001	0.001	0.05	0.001
Units		mg/L	mg/L	mg/L	mg/L
Adopted Site Specific Trigger Values (SWMP 2021)[3]		0.003	0.083	4.1 (8.84 for BH1)	0.136
NHMRC ADWG 2018		0.01	2		0.5
Sample Name	Sample Date				
MW239S	16-Sep-19	< 0.001	**0.002**	**0.94**	**0.006**
	15-Oct-19	< 0.001	**0.003**	**0.68**	**0.004**
	18-Nov-19	< 0.001	< 0.001	**1.1**	**0.004**
	17-Dec-19	<0.001	**0.001**	**1.33**	**0.003**
	16-Jan-20	<0.001	<0.001	**1.31**	**0.004**
	27-Feb-20	<0.001	<0.001	**1.03**	**0.002**
	26-Mar-20	<0.001	**0.001**	**0.97**	**0.004**
	27-Apr-20	<0.001	**0.002**	**1.14**	**0.005**
	15-May-20	<0.001	**0.006**	**1.17**	**0.004**
	19-Jun-20	<0.001	**0.002**	**0.9**	**0.004**
	16-Jul-20	<0.001	**0.01**	**0.55**	**0.006**
	14-Aug-20	< 0.001	**0.002**	**0.38**	**0.006**
	16-Sep-20	< 0.001	**0.002**	**0.51**	**0.008**
	16-Oct-20	< 0.001	< 0.001	**1.17**	**0.009**
	16-Nov-20	< 0.001	**0.001**	**0.3**	**0.011**
	16-Dec-20	< 0.001	< 0.001	**1.06**	**0.011**
	14-Jan-21	< 0.001	**0.005**	**0.77**	**0.012**
	16-Feb-21	< 0.001	**0.01**	**0.92**	**0.012**
	17-Mar-21	< 0.001	< 0.001	**0.95**	**0.01**
	22-Apr-21	< 0.001	< 0.001	**0.62**	**0.006**
	20-May-21	**0.001**	**0.033**	**0.66**	**0.003**
	18-Jun-21	<0.001	<0.001	**0.68**	**0.005**
	15-Jul-21	<0.001	<0.001	**0.67**	**0.006**
	19-Aug-21	<0.001	<0.001	**0.53**	**0.006**
	22-Sep-21	< 0.001	< 0.001	**0.65**	**0.004**
	13-Oct-21	< 0.001	< 0.001	**0.79**	**0.008**
	16-Nov-21	< 0.001	< 0.001	**0.68**	**0.006**
	15-Dec-21	< 0.001		**0.77**	**0.005**
	18-Jan-22	< 0.001		**0.48**	**0.003**
	24-Feb-22	< 0.001	< 0.001	**0.55**	**0.004**
	12-Apr-22	< 0.001		**0.93**	**0.007**
	27-May-22	< 0.001	< 0.001	**0.56**	
	17-Jun-22	< 0.001		**0.36**	**0.004**
WPW	22-Sep-21	< 0.001		**0.08**	**0.051**
	13-Oct-21	< 0.001		**0.22**	**0.079**
	16-Nov-21	< 0.001		**0.29**	**0.045**
	15-Dec-21	< 0.001		**0.2**	**0.078**
	18-Jan-22	< 0.001		**0.56**	**0.038**
	24-Feb-22	< 0.001		**1.02**	**0.084**
	12-Apr-22	< 0.001		**0.44**	**0.042**
	27-May-22	< 0.001		**0.07**	**0.038**
	17-Jun-22	< 0.001		**0.94**	**0.061**

Notes:
Not analysed
< Less than labora
mg/L Milligrams p
Bold indicates a d
"*" denotes duplica
** denotes 95% L
RPD Relative Perc
[1] value for CR VI
[2] as inorganioc
[3] Soil and Water Ma

Table 2
Wash Plant Water Analytical Data - PFAS
Williamtown Sand Syndicate

Analyte		Perfluoroalkyl Sulfonic Acids						Perfluoroalkyl Carboxylic Acids											Perfluoroalkyl Sulfonamides							(n:2) Fluorotelomer Sulfonic Acids				Sum of PFAS		
		Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonate (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	NMethyl perfluorooctane sulfonamide (MeFOSA)	NEthyl perfluorooctane sulfonamide (EtFOSA)	NMethyl perfluorooctane sulfonamidoethanol (MeFOSE)	NEthyl perfluorooctane sulfonamidoethanol (EtFOSE)	NMethyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	NEthyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS (WA DER List)	Sum of PFAS
LOR		0.02	0.02	0.02	0.02	0.01	0.02	0.1	0.02	0.02	0.02	0.01	0.02	0.02	0.02	0.02	0.02	0.05	0.02	0.05	0.05	0.05	0.05	0.02	0.02	0.05	0.05	0.05	0.05	0.01	0.01	0.01
Units		µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Adopted Site Specific												0.56																		0.07		
HEPA NEMP 2020***						0.13						19																				
HEPA NEMP 2020[4]												5.6																		0.7		
Sample Name	Sample Date																															
INPUT	22-Sep-21	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
WPW	19-Aug-21	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
	22-Sep-21	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
	13-Oct-21	< 0.02	< 0.02	< 0.02	< 0.02	**0.01**	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	**0.01**	**0.01**	**0.01**
	16-Nov-21	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
	15-Dec-21	< 0.02	< 0.02	< 0.01	< 0.02	**0.03**	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	**0.03**	**0.03**	**0.03**
	18-Jan-22	< 0.02	< 0.02	< 0.01	< 0.02	**0.03**	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	**0.03**	**0.03**	**0.03**
	24-Feb-22	< 0.02	< 0.02	**0.01**	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	**0.01**	**0.01**	**0.01**
	12-Apr-22	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
	27-May-22	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
	17-Jun-22	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01

Notes:

Not analysed
< Less than laboratory limit of reporting
µg/L Micrograms per litre
*** 95% Level of protection in freshwater slightly to moderately disturbed systems
[1] Soil and Water Management Plan July 2021
[4] Recreation water

Table 3
Quality Control Sample Analysis - Metals
Williamtown Sand Syndicate

Analyte			Metals			
			Arsenic	Copper	Iron	Manganese
Units			mg/L	mg/L	mg/L	mg/L
Sample Name	Sample Date	Sample Type				
TRIP BLANK_13022019	13-Feb-19	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
RINSATE01_21022019	21-Feb-19	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
BH8_21022019	21-Feb-19	Primary	< 0.001	< 0.001	4.1	0.012
DUP01_21022019	21-Feb-19	Duplicate	0.001	< 0.001	4.09	0.012
Relative Percentage Difference			**67%**	NC	0%	0%
BH8_21022019	21-Feb-19	Primary	< 0.001	< 0.001	4.1	0.012
TRIP01_21022019	21-Feb-19	Triplicate	0.001	< 0.001	4.5	0.012
Relative Percentage Difference			**67%**	NC	9%	0%
TRIP BLANK_130319	13-Mar-19	Trip Blank	< 0.001	< 0.001	-	< 0.001
TRIP BLANK02_150319	15-Mar-19	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
RINSATE02_140319	14-Mar-19	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
BH7_140319	14-Mar-19	Primary	< 0.001	< 0.001	1.8	0.02
DUP02_140319	14-Mar-19	Duplicate	< 0.001	< 0.001	2.51	0.021
Relative Percentage Difference			NC	NC	33%	5%
BH7_140319	14-Mar-19	Primary	< 0.001	< 0.001	1.8	0.02
TRIP02_14032019	14-Mar-19	Triplicate	< 0.001	< 0.001	1.7	0.019
Relative Percentage Difference			NC	NC	6%	5%
TRIP BLANK_03	23-Apr-19	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
RINSATE_03	23-Apr-19	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
TRIP BLANK_04	16-May-19	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
RINSATE_04	16-May-19	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
TRIP BLANK 05_14062019	14-Jun-19	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
RINSATE 05_14062019	14-Jun-19	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
SW3_14062019	14-Jun-19	Primary	< 0.001	< 0.001	1.68	0.038
DUP05_14062019	14-Jun-19	Duplicate	< 0.001	< 0.001	1.63	0.039
Relative Percentage Difference			NC	NC	3%	3%
SW3_14062019	14-Jun-19	Primary	< 0.001	< 0.001	1.68	0.038
TRIP05_140619	14-Jun-19	Triplicate	< 0.001	< 0.001	1.6	-
Relative Percentage Difference			NC	NC	5%	NC
TRIP BLANK 06_16072019	16-Jul-19	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
RINSATE06_16072019	16-Jul-19	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
RINSATE07	15-Aug-19	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
TRIP BLANK 08_16092019	16-Sep-19	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
RINSATE 08_16092019	16-Sep-19	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
SW4_16092019	16-Sep-19	Primary	< 0.001	0.02	0.7	0.039
DUP08_16092019	16-Sep-19	Duplicate	< 0.001	< 0.001	0.76	0.036
Relative Percentage Difference			NC	**190%**	8%	8%
SW4_16092019	16-Sep-19	Primary	< 0.001	0.02	0.7	0.039
TRIP08_16092019	16-Sep-19	Triplicate	< 0.001	< 0.001	0.69	0.037
Relative Percentage Difference			NC	**190%**	1%	5%
TRIP BLANK_15102019	15-Oct-19	Trip Blank	< 0.001	< 0.001	-	< 0.001
RINSATE_15102019	15-Oct-19	Rinsate	< 0.001	< 0.001	-	< 0.001
TRIPBLANK09_181119	18-Nov-19	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
RINSATE09_181119	18-Nov-19	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
SW4_181119	18-Nov-19	Primary	< 0.001	< 0.001	6.32	0.032
DUP09_181119	18-Nov-19	Duplicate	< 0.001	< 0.001	5.9	0.036
Relative Percentage Difference			NC	NC	7%	12%
SW4_181119	18-Nov-19	Primary	< 0.001	0.001	6.32	0.032
TRIP09_18112019	18-Nov-19	Triplicate	< 0.001	0.01	-	0.035
Relative Percentage Difference			NC	2%	NC	9%
TRIPBLANK10_171219	17-Dec-19	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
RINSATE10_171219	17-Dec-19	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
RIP BLANK 13_200133300	16-Jan-20	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
RINSATE 13_2001333009	16-Jan-20	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
BH6_2001333004	16-Jan-20	Primary	<0.001	<0.001	2.15	0.01
QW12_2001333012	16-Jan-20	Duplicate	<0.001	<0.001	2.18	0.009
Relative Percentage Difference			NC	NC	1%	11%
BH6_2001333004	16-Jan-20	Primary	<0.001	<0.001	2.15	0.01
QW13_14392	16-Jan-20	Triplicate	< 0.001	0.004	1.6	0.009
Relative Percentage Difference			NC	**156%**	29%	11%
TRIPBLANK(QW5)	26-Mar-20	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
RINSATE (QW4)	26-Mar-20	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
BH4_ES2010734004	26-Mar-20	Primary	<0.001	0.002	0.2	0.014

Table 3
Quality Control Sample Analysis - Metals
Williamtown Sand Syndicate

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QW1_ES2010734005	26-Mar-20	Duplicate	<0.001	< 0.001	0.28	0.016
Relative Percentage Difference			NC	**67%**	**33%**	13.33%
BH4_ES2010734004	26-Mar-20	Primary	<0.001	0.002	0.2	0.014
QW2_S20-Ma47338	26-Mar-20	Triplicate	<0.001	<0.001	0.27	0.016
Relative Percentage Difference			NC	**120%**	29.79%	13.33%
TRIPBLANK(QW10)	27-Apr-20	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
RINSATE (QW11)	27-Apr-20	Rinsate	< 0.001	0.008	< 0.05	< 0.001
BH4_ES2014254004	27-Apr-20	Primary	<0.001	0.006	0.22	0.026
QW6_ES2014254005	27-Apr-20	Duplicate	<0.001	0.011	0.14	0.018
Relative Percentage Difference			NC	**59%**	**67%**	**36%**
BH4_ES2014254004	27-Apr-20	Primary	<0.001	0.006	0.22	-
QW7_S20-Ap44317	27-Apr-20	Triplicate	<0.001	<0.001	0.22	-
Relative Percentage Difference			NC	**169%**	NC	-
TRIPBLANK(QW17)	15-May-20	Trip Blank	< 0.001	0.002	-	< 0.001
RINSATE (QW16)	15-May-20	Rinsate	< 0.001	0.005	< 0.05	0.002
BH4_ES2014254004	15-May-20	Primary	<0.001	0.052	0.13	0.019
QW12_ES2014254005	15-May-20	Duplicate	<0.001	0.054	0.16	0.023
Relative Percentage Difference			NC	3.80%	20.70%	**19.05%**
BH4_ES2016918003	15-May-20	Primary	<0.001	0.052	0.13	0.019
QW13_S20-Ap44317	15-May-20	Triplicate	<0.001	0.048	-	0.021
Relative Percentage Difference			NC	8%	NC	10%
BH6_ES2010734011	15-May-20	Primary	<0.001	<0.001	1.89	0.01
QW14_ES2016918014	15-May-20	Duplicate	<0.001	0.014	1.73	0.012
Relative Percentage Difference			NC	**142%**	**9%**	**18%**
TRIPBLANK(QW18)	19-Jun-20	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
RINSATE (QW19)	19-Jun-20	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
Rinsate (QW20)	16-Jul-20	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
Trip Blank (QW21)	16-Jul-20	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
TRIPBLANK(QW26)	14-Aug-20	Trip Blank	< 0.001	< 0.001	<0.05	< 0.001
RINSATE (QW27)	14-Aug-20	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
SW4_ES2028606-012	14-Aug-20	Primary	< 0.001	<0.001	0.95	0.087
QW22_ES2028606-013	14-Aug-20	Duplicate	<0.001	<0.001	0.98	0.089
Relative Percentage Difference			NC	NC	3.11%	2%
SW4_ES2028606-012	14-Aug-20	Primary	< 0.001	<0.001	0.95	0.087
QW23_S20-Au26274	14-Aug-20	Triplicate	0.001	0.011	1.1	0.094
Relative Percentage Difference			**66%**	**167%**	15%	8%
QW33_160920	16-Sep-20	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
QW32_160920	16-Sep-20	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
SW4_160920	16-Sep-20	Primary	< 0.001	0.005	0.97	0.053
QW28_160920	16-Sep-20	Duplicate	< 0.001	0.006	0.97	0.054
Relative Percentage Difference			NC	18%	0%	2%
SW4_160920	16-Sep-20	Primary	< 0.001	0.005	0.97	0.053
QW29_16092020	16-Sep-20	Triplicate	< 0.001	0.001	0.93	0.053
Relative Percentage Difference			NC	**133%**	4%	0%
QW39_161020	16-Oct-20	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
QW38_161020	16-Oct-20	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
SW4_161020	16-Oct-20	Primary	< 0.001	0.001	2.26	0.042
QW34_161020	16-Oct-20	Duplicate	< 0.001	< 0.001	2.32	0.039
Relative Percentage Difference			NC	0%	3%	7%
SW4_161020	16-Oct-20	Primary	< 0.001	0.001	2.26	0.042
QW35_16102020	16-Oct-20	Triplicate	< 0.001	< 0.001	2.2	0.045
Relative Percentage Difference			NC	0%	3%	7%
QW39_161120	16-Nov-20	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
QW38_161120	16-Nov-20	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
SW4_161120	16-Nov-20	Primary	< 0.001	0.001	1.93	0.074
QW34_161120	16-Nov-20	Duplicate	< 0.001	< 0.001	1.77	0.071
Relative Percentage Difference			NC	0%	9%	4%
SW4_161120	16-Nov-20	Primary	< 0.001	0.001	1.93	0.074
QW35_16112020	16-Nov-20	Triplicate	< 0.001	< 0.001	2.2	0.074
Relative Percentage Difference			NC	0%	13%	0%
QW38_161220	16-Dec-20	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
QW39_161220	16-Dec-20	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
SW4_161220	16-Dec-20	Primary	< 0.001	0.002	32	0.035
QW34_161220	16-Dec-20	Duplicate	0.001	< 0.001	38	0.035
Relative Percentage Difference			**66.67%**	**67%**	17%	0%
SW4_161220	16-Dec-20	Primary	< 0.001	0.002	32	0.035
QW35_16122020	16-Dec-20	Triplicate	0.001	< 0.001	34	0.034
Relative Percentage Difference			**66.67%**	**67%**	6%	3%

QW39_140121	14-Jan-21	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
QW38_140121	14-Jan-21	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
SW4_140121	14-Jan-21	Primary	0.002	0.026	20	0.171
QW34_140121	14-Jan-21	Duplicate	0.001	< 0.001	22	0.176
Relative Percentage Difference			**67%**	**185%**	11%	3%
SW4_140121	14-Jan-21	Primary	0.002	0.026	20	0.171
QW35_140121	14-Jan-21	Triplicate	0.002	< 0.001	25	0.19
Relative Percentage Difference			0%	**185%**	22%	11%
QW38_160221	16-Feb-21	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
QW39_160221	16-Feb-21	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
SW4_160221	16-Feb-21	Primary	0.003	< 0.001	27	0.054
QW34_160221	16-Feb-21	Duplicate	0.003	< 0.001	27	0.054
Relative Percentage Difference			0%	NC	0%	0%
SW4_160221	16-Feb-21	Primary	0.003	< 0.001	27	0.054
QW35_16022021	16-Feb-21	Triplicate	0.004	0.002	32	0.065
Relative Percentage Difference			29%	**67%**	17%	18%
QW40_170321	17-Mar-21	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
QW41_170321	17-Mar-21	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
QW46_220421	22-Apr-21	Trip Blank	< 0.001	< 0.001	< 0.05	< 0.001
QW47_220421	22-Apr-21	Rinsate	< 0.001	< 0.001	< 0.05	< 0.001
SW4_220421	22-Apr-21	Primary	0.006	< 0.001	34	0.062
QW42_220421	22-Apr-21	Duplicate	0.005	< 0.001	34	0.064
Relative Percentage Difference			18.18%	NC	0%	3%
SW4_220421	22-Apr-21	Primary	0.006	< 0.001	34	0.062
QW43_220421	22-Apr-21	Triplicate	0.006	< 0.001	44	0.074
Relative Percentage Difference			0%	NC	26%	18%
TRIP BLANK MAY_200521	20-May-21	Trip Blank	<0.001	<0.001	<0.05	<0.001
RINSATE MAY_200521	20-May-21	Rinsate	<0.001	<0.001	<0.05	<0.001
SW4_200521	20-May-21	Primary	0.002	<0.001	10.1	0.073
QW51_200521	20-May-21	Duplicate	0.001	<0.001	9.85	0.083
Relative Percentage Difference			**67%**	NC	3%	13%
SW4_200521	20-May-21	Primary	0.002	<0.001	10.1	0.073
QW48_200521	20-May-21	Triplicate	0.001	<0.001	9.1	0.068
Relative Percentage Difference			**67%**	NC	10%	7%
Trip Blank June_180621	18-Jun-21	Trip Blank	<0.001	<0.001	<0.05	<0.001
Rinsate June_180621	18-Jun-21	Rinsate	<0.001	<0.001	<0.05	<0.001
SW3_180621	18-Jun-21	Primary	0.001	<0.001	10.5	0.024
QW52_180621	18-Jun-21	Duplicate	<0.001	<0.001	10.6	0.027
Relative Percentage Difference			**67%**	NC	1%	12%
SW3_180621	18-Jun-21	Primary	0.001	<0.001	10.5	0.024
QW53_180621	18-Jun-21	Triplicate	0.002	0.002	10	0.024
Relative Percentage Difference			**67%**	**120%**	10%	0%
TRIP BLANK_JULY_150721	15-Jul-21	Trip Blank	<0.001	<0.001	<0.05	<0.001
RINSATE_JULY_150721	15-Jul-21	Rinsate	<0.001	<0.001	<0.05	<0.001
SW4_150721	15-Jul-21	Primary	<0.001	<0.001	1.15	0.044
QW56_150721	15-Jul-21	Duplicate	<0.001	<0.001	1.13	0.045
Relative Percentage Difference			NC	NC	2%	2%
SW4_150721	15-Jul-21	Primary	<0.001	<0.001	1.15	0.044
QW57_150721	15-Jul-21	Triplicate	<0.001	<0.001	0.83	0.043
Relative Percentage Difference			NC	NC	32%	2%
TRIP BLANK_AUG_190821	19-Aug-21	Trip Blank	<0.001	<0.001	<0.05	<0.001
RINSATE_AUG_190821	9-Aug-21	Rinsate	<0.001	<0.001	<0.05	<0.001
SW4_190821	19-Aug-21	Primary	< 0.001	< 0.001	2.13	-
QW60_190821	19-Aug-21	Duplicate	<0.001	<0.001	2.15	0.048

Table 4
Quality Control Sample Analysis - PFAS
Williamtown Sand Syndicate

Analyte			Perfluoroalkyl Sulfonic Acids						Perfluoroalkyl Carboxylic Acids											Perfluoroalkyl Sulfonamides							(n:2) Fluorotelomer Sulfonic Acids				Sum of PFAS		
			Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonate (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecane sulfonic acid (PFDS)	Perfluorobutanoic acid (PFBA)	Perfluoropentanoic acid (PFPeA)	Perfluorohexanoic acid (PFHxA)	Perfluoroheptanoic acid (PFHpA)	Perfluorooctanoic acid (PFOA)	Perfluorononanoic acid (PFNA)	Perfluorodecanoic acid (PFDA)	Perfluoroundecanoic acid (PFUnDA)	Perfluorododecanoic acid (PFDoDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorooctane sulfonamide (FOSA)	N-Methyl-perfluorooctane sulfonamide (MeFOSA)	N-Ethyl perfluorooctane sulfonamide (EtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	4:2 Fluorotelomer sulfonic acid (4:2 FTS)	6:2 Fluorotelomer sulfonic acid (6:2 FTS)	8:2 Fluorotelomer sulfonic acid (8:2 FTS)	10:2 Fluorotelomer sulfonic acid (10:2 FTS)	Sum of PFHxS and PFOS	Sum of PFAS (WA DER List)	Sum of PFAS
Units			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Sample Name	Sample Date	Sample Type																															
TRIP BLANK_13022019	13-Feb-19	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE01_21022019	21-Feb-19	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
BH8_21022019	21-Feb-19	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
DUP01_21022019	21-Feb-19	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH8_21022019	21-Feb-19	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
TRIP01_21022019	21-Feb-19	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TRIP BLANK_130319	13-Mar-19	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
TRIP BLANK02_150319	15-Mar-19	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE02_140319	14-Mar-19	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
BH7_140319	14-Mar-19	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
DUP02_140319	14-Mar-19	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH7_140319	14-Mar-19	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
TRIP02_14032019	14-Mar-19	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TRIP BLANK 03	23-Apr-19	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE 03	23-Apr-19	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
TRIP BLANK 04	16-May-19	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE 04	16-May-19	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
TRIP BLANK 05_14062019	14-Jun-19	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE 05_14062019	14-Jun-19	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
TRIP BLANK 06_16072019	16-Jul-19	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE06_16072019	16-Jul-19	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE07	15-Aug-19	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
TRIP BLANK 08_16092019	16-Sep-19	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE 08_16092019	16-Sep-19	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
SW4_16092019	16-Sep-19	Primary	< 0.02	< 0.02	< 0.02	< 0.02	0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.01	0.01	0.01
DUP08_16092019	16-Sep-19	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.01	0.01	0.01
Relative Percentage Difference			NC	NC	NC	NC	0%	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	0%	0%	0%
SW4_16092019	16-Sep-19	Primary	< 0.02	< 0.02	< 0.02	< 0.02	0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.01	0.01	0.01
TRIP08_16092019	16-Sep-19	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	0.03	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	0.03	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	**100%**	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	**100%**	**86%**	**133%**
TRIP BLANK 09_1931069	25-Sep-19	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE 09_1931069	25-Sep-19	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
TRIPBLANK09_181119	18-Nov-19	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE09_181119	18-Nov-19	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
SW4_181119	18-Nov-19	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
DUP09_181119	18-Nov-19	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SW4_181119	18-Nov-19	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
TRIP09_18112019	18-Nov-19	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TRIPBLANK10_171219	17-Dec-19	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE10_171219	17-Dec-19	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
TRIP BLANK 13_200133300	16-Jan-20	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE 13_2001333009	16-Jan-20	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
BH6_2001333004	16-Jan-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW12_2001333012	16-Jan-20	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH6_2001333004	16-Jan-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW13_14392	16-Jan-20	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TRIP BLANK ES200685801	27-Feb-20	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
BH6_2001333004	27-Feb-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
TRIP13_2001333012	27-Feb-20	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TRIPBLANK(QW5)	26-Mar-20	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE (QW4)	26-Mar-20	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
BH4_ES2010734004	26-Mar-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW1_ES2010734005	26-Mar-20	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH4_ES2010734004	26-Mar-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW2_S20-Ma47338	26-Mar-20	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH6_ES2010734011	26-Mar-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW3_S20-Ma47339	26-Mar-20	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TRIPBLANK(QW10)	27-Apr-20	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE (QW11)	27-Apr-20	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	**0.01**	< 0.02	**0.4**	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	**0.01**	**0.41**	**0.41**
BH4_ES2014254004	27-Apr-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW6_ES2014254005	27-Apr-20	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH4_ES2014254004	27-Apr-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW7_S20-Ap44317	27-Apr-20	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH6_ES2010734011	27-Apr-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW8_ES2014254012	27-Apr-20	Duplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH6_ES2010734011	27-Apr-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW9_S20-Ap44318	27-Apr-20	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TRIPBLANK(QW16)	15-May-20	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE (QW17)	15-May-20	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
BH4_ES2014254004	15-May-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW12_ES2014254005	15-May-20	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH4_ES2016918003	15-May-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW13_S20-Ap44317	15-May-20	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH6_ES2010734011	15-May-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW14_ES2016918014	15-May-20	Duplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH6_ES2010734011	15-May-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW15_S20-My28879	15-May-20	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TRIPBLANK(QW18)	19-Jun-29	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE (QW19)	19-Jun-29	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
TRIPBLANK(QW20)	16-Jul-20	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE (QW21)	16-Jul-20	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
TRIPBLANK(QW26)	14-Aug-20	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE (QW27)	14-Aug-20	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
SW4_ES2028606-012	14-Aug-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW22_ES2028606-013	14-Aug-20	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	**0.01**	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	**0.01**	**0.01**	**0.01**
Relative Percentage Difference			NC	NC	NC	NC	**66.67%**	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	**66.67%**	**66.67%**	**66.67%**
SW4_ES2028606-012	14-Aug-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW23_S20-Au26274	14-Aug-20	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH4_ES2028606-003	14-Aug-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW24_ES2028606-014	14-Aug-20	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH4_ES2028606-003	14-Aug-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW25_S20-Au26275	14-Aug-20	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
QW33_160920	16-Sep-20	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW32_160920	16-Sep-20	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
SW4_160920	16-Sep-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW28_160920	16-Sep-20	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	**0.02**	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.02	0.02	0.02
Relative Percentage Difference			NC	NC	NC	NC	**67%**	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	**67%**	**67%**	**67%**
SW4_160920	16-Sep-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW29_16092020	16-Sep-20	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
QW39_161020	16-Oct-20	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW38_161020	16-Oct-20	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
SW4_161020	16-Oct-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW34_161020	16-Oct-20	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SW4_161020	16-Oct-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW35_16102020	16-Oct-20	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH4_161020	16-Oct-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW36_161020	16-Oct-20	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH4_161020	16-Oct-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW37_16102020	16-Oct-20	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
QW39_161120	16-Nov-20	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW38_161120	16-Nov-20	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
SW4_161120	16-Nov-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	0.02	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.02	0.02	0.02
QW34_161120	16-Nov-20	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	0.02	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.02	0.02	0.02
Relative Percentage Difference			NC	NC	NC	NC	0%	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	0%	0%	0%
SW4_161120	16-Nov-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	0.02	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.02	0.02	0.02
QW35_16112020	16-Nov-20	Triplicate	< 0.01	< 0.01	0.01	< 0.01	0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	0.02	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	**67%**	NC	**67%**	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	0%	**86%**	**133%**
BH4_161120	16-Nov-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW36_161120	16-Nov-20	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH4_161120	16-Nov-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW37_16112020	16-Nov-20	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
QW38_161220	16-Dec-20	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW39_161220	16-Dec-20	Trip_balnk	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
SW4_161220	16-Dec-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	0.02	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.02	0.02	0.02
QW34_161220	16-Dec-20	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	0.02	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.02	0.02	0.02
Relative Percentage Difference			NC	NC	NC	NC	0%	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	0%	0%	0%
SW4_161220	16-Dec-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	0.02	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.02	0.02	0.02
QW35_16122020	16-Dec-20	Triplicate	0.03	0.02	0.16	< 0.01	0.39	< 0.01	< 0.05	0.09	0.08	0.03	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	0.55	0.8	0.82
Relative Percentage Difference			**100%**	**67%**	**176%**	NC	**180%**	NC	NC	**160%**	**156%**	**100%**	**120%**	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	**186%**	**190%**	**190%**
BH4_161220	16-Dec-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW36_161220	16-Dec-20	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH4_161220	16-Dec-20	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW37_16122020	16-Dec-20	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
QW39_140121	14-Jan-21	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW38_140121	14-Jan-21	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
SW4_140121	14-Jan-21	Primary	< 0.02	< 0.02	0.03	< 0.02	0.04	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.07	0.07	0.07
QW34_140121	14-Jan-21	Duplicate	< 0.02	< 0.02	0.02	< 0.02	0.04	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.06	0.06	0.06
Relative Percentage Difference			NC	NC	40%	NC	0%	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	15%	15%	15%
SW4_140121	14-Jan-21	Primary	< 0.02	< 0.02	0.03	< 0.02	0.04	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.07	0.07	0.07
QW35_140121	14-Jan-21	Triplicate	< 0.01	< 0.01	0.02	< 0.01	0.03	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	0.05	0.05	< 0.1
Relative Percentage Difference			NC	NC	40%	NC	29%	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	33%	33%	35%
QW38_160221	16-Feb-21	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW39_160221	16-Feb-21	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
SW4_160221	16-Feb-21	Primary	< 0.02	< 0.02	< 0.02	< 0.02	0.03	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.03	0.03	0.03
QW34_160221	16-Feb-21	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	0.02	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.02	0.02	0.02
Relative Percentage Difference			NC	NC	NC	NC	40%	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	40%	40%	40%
SW4_160221	16-Feb-21	Primary	< 0.02	< 0.02	< 0.02	< 0.02	0.03	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.03	0.03	0.03
QW35_16022021	16-Feb-21	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	**100%**	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	**100%**	**50%**	**108%**
BH4_160221	16-Feb-21	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW36_160221	16-Feb-21	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH4_160221	16-Feb-21	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW37_16022021	16-Feb-21	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	0%	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	0%	NC	NC
QW40_170321	17-Mar-21	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW41_170321	17-Mar-21	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW46_220421	22-Apr-21	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW47_220421	22-Apr-21	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01

BH7_220421	22-Apr-21	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW44_220421	22-Apr-21	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH7_220421	22-Apr-21	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW45_220421	22-Apr-21	Triplicate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TRIP BLANK MAY_200521	20-May-21	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE MAY_200521	20-May-21	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
SW4_200521	20-May-21	Primary	< 0.02	< 0.02	< 0.02	< 0.02	0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.01	0.01	0.01
QW51_200521	20-May-21	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.01	0.01	0.01
Relative Percentage Difference			NC	NC	NC	NC	0%	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	0%	0%	0%
SW4_200521	20-May-21	Primary	< 0.02	< 0.02	< 0.02	< 0.02	0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW48_200521	20-May-21	Triplicate	< 0.02	< 0.02	< 0.02	< 0.02	0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	0%	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
Trip Blank June_180621	18-Jun-21	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Rinsate June_180621	18-Jun-21	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
BH2_180621	18-Jun-21	Primary	< 0.02	< 0.02	< 0.02	< 0.02	0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.01	0.01	0.01
QW54_180621	18-Jun-21	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.01	0.01	0.01
Relative Percentage Difference			NC	NC	NC	NC	0%	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	0%	0%	0%
BH2_180621	18-Jun-21	Primary	< 0.02	< 0.02	< 0.02	< 0.02	0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW55_180621	18-Jun-21	Triplicate	< 0.02	< 0.02	< 0.02	< 0.02	0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	0%	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TRIP BLANK_JULY_150721	15-Jul-21	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE_JULY_150721	15-Jul-21	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
BH4_150721	15-Jul-21	Primary	< 0.02	< 0.02	< 0.02	< 0.02	0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.01	0.01	0.01
QW58_150721	15-Jul-21	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.01	0.01	0.01
Relative Percentage Difference			NC	NC	NC	NC	0%	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	0%	0%	0%
BH4_150721	15-Jul-21	Primary	< 0.02	< 0.02	< 0.02	< 0.02	0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW59_150721	15-Jul-21	Triplicate	< 0.02	< 0.02	< 0.02	< 0.02	0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	0%	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TRIP BLANK_AUG_190821	19-Aug-21	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE_AUG_190821	19-Aug-21	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
BH4_190821	19-Aug-21	Primary	< 0.02	< 0.02	< 0.02	< 0.02	0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.01	0.01	0.01
QW62_190821	19-Aug-21	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.01	0.01	0.01
Relative Percentage Difference			NC	NC	NC	NC	0%	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	0%	0%	0%
BH4_190821	19-Aug-21	Primary	< 0.02	< 0.02	< 0.02	< 0.02	0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW63_190821	19-Aug-21	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	0%	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TRIP BLANK_SEP_220921	22-Sep-21	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE_SEP_220921	22-Sep-21	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
SW2_220921	22-Sep-21	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW64_220921	22-Sep-21	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SW2_220921	22-Sep-21	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW65_22092021	22-Sep-21	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TRIP BLANK_131021	13-Oct-21	Trip Blank	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
RINSATE_131021	13-Oct-21	Rinsate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
SW2_131021	13-Oct-21	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW66_131021	13-Oct-21	Duplicate	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SW2_131021	13-Oct-21	Primary	< 0.02	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW67_13102021	13-Oct-21	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
QC02_161121	16-Nov-21	Trip Blank	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QC01_161121	16-Nov-21	Rinsate	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
SW4_161121	16-Nov-21	Primary	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW68_161121	16-Nov-21	Duplicate	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SW4_161121	16-Nov-21	Primary	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW69_16112021	16-Nov-21	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH4_161121	16-Nov-21	Primary	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	0.15	< 0.05	< 0.05	< 0.01	0.15	0.15
QW70_161121	16-Nov-21	Duplicate	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	0.16	< 0.05	< 0.05	< 0.01	0.16	0.16
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	6%	NC	NC	NC	6%	6%
BH4_161121	16-Nov-21	Primary	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	0.15	< 0.05	< 0.05	< 0.01	0.15	0.15
QW71_16112021	16-Nov-21	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	0.13	< 0.01	< 0.01	< 0.01	0.13	0.13
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	14%	NC	NC	NC	14%	14%
QC02_15122021	15-Dec-21	Trip Blank	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QC01_15122021	15-Dec-21	Rinsate	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
WPW_15122021	15-Dec-21	Primary	< 0.02	< 0.02	< 0.01	< 0.02	0.03	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.03	0.03	0.03
QW72_15122021	15-Dec-21	Duplicate	< 0.02	< 0.02	< 0.01	< 0.02	0.03	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.03	0.03	0.03
Relative Percentage Difference			NC	NC	NC	NC	0%	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	0%	0%	0%
WPW_15122021	15-Dec-21	Primary	< 0.02	< 0.02	< 0.01	< 0.02	0.03	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.03	0.03	0.03
QW73_15122021	15-Dec-21	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	0.03	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	0.03	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	0%	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	0%	**50%**	**108%**
QC02_180122	18-Jan-22	Trip Blank	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QC01_180122	18-Jan-22	Rinsate	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
WPW_180122	18-Jan-22	Primary	< 0.02	< 0.02	< 0.01	< 0.02	0.03	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.03	0.03	0.03
QW74_180122	18-Jan-22	Duplicate	< 0.02	< 0.02	< 0.01	< 0.02	0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.01	0.01	0.01
Relative Percentage Difference			NC	NC	NC	NC	**100%**	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	**100%**	**100%**	**100%**
WPW_180122	18-Jan-22	Primary	< 0.02	< 0.02	< 0.01	< 0.02	0.03	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	0.03	0.03	0.03
QW75_18012022	18-Jan-22	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	**100%**	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	**100%**	**50%**	**108%**
QC02_24022022	24-Feb-22	Trip Blank	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QC01_24022022	24-Feb-22	Rinsate	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
SW4_24022022	24-Feb-22	Primary	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW76_24022022	24-Feb-22	Duplicate	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SW4_24022022	24-Feb-22	Primary	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW77_23022022	23-Feb-22	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH4_24022022	24-Feb-22	Primary	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	0.06	< 0.05	< 0.05	< 0.01	0.06	0.06
QW78_24022022	24-Feb-22	Duplicate	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	18%	NC	NC	NC	**143%**	**143%**
BH4_24022022	24-Feb-22	Primary	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	0.06	< 0.05	< 0.05	< 0.01	0.06	0.06
QW79_23022022	23-Feb-22	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	18%	NC	NC	NC	18%	**50%**
QC02_05272022	27-May-22	Trip Blank	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QC01_05272022	27-May-22	Rinsate	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
SW4_05272022	27-May-22	Primary	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW84_05272022	27-May-22	Duplicate	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SW4_05272022	27-May-22	Primary	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW85_05272022	27-May-22	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH2_05272022	27-May-22	Primary	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW86_05272022	27-May-22	Duplicate	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH2_05272022	27-May-22	Primary	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW87_05272022	27-May-22	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
QC02_17062022	17-Jun-22	Trip Blank	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QC01_17062022	17-Jun-22	Rinsate	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
WPW_17062022	17-Jun-22	Primary	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW82_17062022	17-Jun-22	Duplicate	< 0.02	< 0.02	**0.01**	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	**0.01**	**0.01**	**0.01**
Relative Percentage Difference			NC	NC	**0%**	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	**0%**	**0%**	**0%**
WPW_17062022	17-Jun-22	Primary	< 0.02	< 0.02	< 0.01	< 0.02	< 0.01	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
QW83_06172022	17-Jun-22	Triplicate	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.01	< 0.05	< 0.01	< 0.01	< 0.01	< 0.05	< 0.1
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

Notes:
< - Less than laboratory limit of reporting
NC - Not calculated
µg/L - Micrograms per litre

Table 5
Gauging Data and Field Parameters
Williamtown Sand Syndicate

Date	Borehole	Top of Casing (mAHD)	Depth to Water (mBTOC)	Groundwater Elevation (mAHD)	Well Total Depth at point of sampling (mBTOC)	Time	Temp (°C)	EC (us/cm)	pH	Redox (mV)	Comment
Feb-19	BH1	8.64	5.776	2.864	8.89	-	-	-	-	-	No water sample taken due to top of well casing being melted.
Mar-19	BH1	8.64	6.145	2.495	8.12	8:30	18.93	111	5.49	81	Well recently reinstated. Strong acrylic odour when gauging. Light brown in colour.
Apr-19	BH1	8.64	6.277	2.363	8.12	13:15	21.41	87	5.48	91.9	Well in good condition, will require well end cap. Slightly cloudy, no apparent odour
May-19	BH1	8.64	6.319	2.321	8.12	12:20	20.57	150	5.42	25.6	Very light brown, no odour.
Jun-19	BH1	8.64	6.375	2.265	8.12	12:30	19.97	111	6.43	33.6	Clear, no odour.
Jul-19	BH1	8.64	6.373	2.267	8.12	11:45	18.4	122	5.42	51	Slightly cloudy, no apparent odour
Aug-19	BH1	8.64	6.453	2.187	8.12	11:45	19.69	165	5.47	103	Slightly cloudy, slight sulfur odour
Sep-19	BH1	8.64	6.428	2.212	8.28	11:30	21.02	125	5.43	101	Slightly cloudy brown, no odour
Oct-19	BH1	8.64	6.427	2.213	8.28	11:40	21.12	18	5.5	78	Slightly cloudy brown, no odour
Nov-19	BH1	8.64	6.432	2.208	8.28	13:50	21.56	182	5.43	67.3	Cloudy brown, sulfur odour
Dec-19	BH1	8.64	6.558	2.082	8.28	12:25	20.53	163	6.12	15.2	Slight cloudy brown, no odour
Jan-20	BH1	8.64	6.701	1.939	8.28	11:45	22.52	123	5.39	27.7	Slight cloudy brown, no odour
Feb-20	BH1	8.64	6.701	1.939	8.28	11:45	22.52	123	5.39	27.7	Slight cloudy brown, no odour
Mar-20	BH1	8.64	6.701	1.939	8.28	11:45	22.52	123	5.39	27.7	Slight cloudy brown, no odour
Apr-20	BH1	8.64	6.08	2.560	8.28	-	20	126.2	5.34	122.4	-
May-20	BH1	8.64	6.842	1.798	8.28	11:45	19.1	132.3	5.21	135.3	Slight cloudy brown, no odour
Jun-20	BH1	8.64	6.865	1.775	8.28	11:45	19.3	121.2	5.29	118.5	Clear, no odour
Jul-20	BH1	8.64	6.958	1.682	8.28	-	17.6	108	5.4	135	Clear, no odour
Aug-20	BH1	8.64	6.165	2.475	8.22	-	18.61	273.4	4.89	278.4	Clear, no odour
Sep-20	BH1	8.64	6.216	2.424	8.22	-	20.44	103	5	220	Clear, no odour
Oct-20	BH1	8.64	6.329	2.311	9.45	-	19.1	119.7	4.84	198.5	Clear, no odour
Nov-20	BH1	8.64	6.075	2.565	9.45	-	24.23	348	5.43	131.1	Clear, no odour
Dec-20	BH1	8.64	6.181	2.459	9.45	-	22.6	233	5.62	70.1	Clear, no odour
Jan-21	BH1	8.64	6.107	2.533	9.45	-	21.6	308	6.1	-65.1	Clear, sulphur odour
Feb-21	BH1	8.64	5.954	2.686	9.45	13:00	21.1	345	5.96	51.8	clear, sulfur odour
Mar-21	BH1	8.64	5.923	2.717	9.45	13:00	21	152	5.84	-18	Clear, no odour
Apr-21	BH1	8.64	4.628	4.012	8.25	9:15	20.32	51	4.88	225	Very light brown, no odour
May-21	BH1	8.64	4.844	3.796	8.25	13:30	19.6	141	5.36	144	Clear, no odour, well cap missing
Jun-21	BH1	8.64	5.021	3.619	8.25	13:00	19.2	132	5.42	35.2	Clear, no odour / sheen
Jul-21	BH1	8.64	5.113	3.527	8.212	12:58	18.9	62	4.48	297.7	Deep yellow / brown, no odour / sheen, well cap hinge broken
Aug-21	BH1	8.64	5.284	3.356	8.212	12:50	18.4	113.7	4.79	261	Deep orange / yellow, no odour / sheen, well cap hinge broken
Sep-21	BH1	8.64	5.359	3.281	8.2	-	18.4	104	5.07	234	Light brown, no odour / sheen, well cap hinge broken
Oct-21	BH1	8.64	5.429	3.211	8.18	12:53	18.5	113.1	5.03	180.6	Light yellow, no odour / sheen
Nov-21	BH1	8.64	5.4	3.240	8.19	14:45	20.4	110.9	4.78	224.2	Deep orange, no odour, no sheen
Feb-19	BH2	7.79	5.674	2.116	8.93	10:30	22.7	124.1	4.29	111	Slightly Cloudy, light brown, slight sulfur odour.
Mar-19	BH2	7.79	5.184	2.606	8.93	9:15	19.35	101	4.49	264	Dark brown – No Odour.
Apr-19	BH2	7.79	5.833	1.957	9.02	12:45	22.9	87	4.59	308	Dark brown to black, no odour
May-19	BH2	7.79	5.86	1.930	9.02	12:00	21.13	124	4.56	111	Dark brown, no odour
Jun-19	BH2	7.79	8.852	-1.062	9.02	12:15	20.84	77	6.41	255	Very cloudy, dark brown, no odour
Jul-19	BH2	7.79	5.083	2.707	9.02	11:30	18.3	124.5	4.76	88	Dark, cloudy, no odour
Aug-19	BH2	7.79	5.888	1.902	9.02	11:20	19.66	136	4.7	275	Silty Base, dark brown, no odour
Sep-19	BH2	7.79	5.796	1.994	9.08	11:00	21.61	111	4.7	263	Dark brown, slight sulfur odour
Oct-19	BH2	7.79	5.769	2.021	9.03	11:15	20.76	48	4.83	223	Dark brown, slight sulfur odour
Nov-19	BH2	7.79	5.721	2.069	9.03	13:30	21.76	133	4.61	230	Dark brown, slight sulfur odour
Dec-19	BH2	7.79	5.936	1.854	9.03	12:00	20.13	131	5.38	178	Dark brown, slight sulfur odour
Jan-20	BH2	7.79	6.153	1.637	9.03	11:30	24.49	94	4.84	186.5	Cloudy brown, slight sulfur odour
Feb-20	BH2	7.79	6.153	1.637	9.03	11:30	24.49	94	4.84	186.5	Cloudy brown, slight sulfur odour
Mar-20	BH2	7.79	6.153	1.637	9.03	11:30	24.49	94	4.84	186.5	Cloudy brown, slight sulfur odour
Apr-20	BH2	7.79	6.069	1.721	9.03	-	20.2	106.4	4.63	253.2	-
May-20	BH2	7.79	5.102	2.688	9.03	11:30	18.7	109.9	4.5	272.2	Cloudy brown, slight sulfur odour
Jun-20	BH2	7.79	5.978	1.812	9.03	11:30	19.8	102.2	4.68	218.7	Brown, no odour
Jul-20	BH2	7.79	6.035	1.755	9.03	-	17.6	70	4.63	340	Light brown, no odour
Aug-20	BH2	7.79	5.03	2.760	8.46	-	-	-	-	-	Dark brown, no odour
Sep-20	BH2	7.79	5.462	2.328	8.46	-	20.23	103	4.53	280	Dark brown, no odour
Oct-20	BH2	7.79	5.643	2.147	9.45	-	20.8	118.6	4.38	274.7	Dark brown, no odour
Nov-20	BH2	7.79	5.328	2.462	9.45	-	29.5	346	4.91	297.2	Dark brown, sulphur odour
Dec-20	BH2	7.79	5.498	2.292	9.45	-	21.78	293	4.87	201.9	Light brown, sulphur odour
Jan-21	BH2	7.79	5.36	2.430	9.45	-	23.5	229	5.69	232.1	Dark brown, sulphur odour
Feb-21	BH2	7.79	5.293	2.497	9.45	12:45	22.6	279	5.58	170.7	light brown, sulfur odour
Mar-21	BH2	7.79	5.244	2.546	9.45	12:40	21.4	114	5.62	140	very cloudy brown
Apr-21	BH2	7.79	4.326	3.464	8.97	8:45	20.66	59.57	4.73	250	Light brown, no odour
May-21	BH2	7.79	4.535	3.255	8.97	13:05	20	60.1	4.98	251.8	Very turbid brown, no odour, well in good condition
Jun-21	BH2	7.79	4.728	3.062	8.97	12:45	19.1	64.7	4.78	209	Slight cloudy brown, no odour / sheen, well in good condition
Jul-21	BH2	7.79	4.805	2.985	8.905	12:35	18.9	91	4.74	216.5	Medium brown, no odour / sheen, well in good condition
Aug-21	BH2	7.79	4.989	2.801	8.905	12:35	18.4	96.1	4.75	228	Light brown, no odour / sheen, well in good condition
Sep-21	BH2	7.79	4.99	2.800	8.85	12:25	18.9	96	4.75	224	Light brown, no odour / sheen, well in good condition
Oct-21	BH2	7.79	5.05	2.740	8.85	11:08	18.4	93	4.83	254	Dark brown, no odour / sheen
Nov-21	BH2	7.79	4.922	2.868	8.87	14:30	20.4	85.2	4.63	22.7	Clear, no odour, no sheen
Dec-21	BH2	7.79	4.861	2.929	8.93	12:10	21.9	83.4	4.87	169	light brown, no odour, no sheen
Jan-22	BH2	7.79	5.091	2.699	8.975	9:35	20.4	9	4.57	78.3	medium brown, no odour/sheen
Jun-22	BH2	7.79	4.418	3.372	8.97	9:50	18.3	72.8	5.11	166.5	Clear, no odour / sheen
Feb-19	BH3	7.57	6.026	1.544	8.94	14:40	22.1	82.4	4.54	94	Light Brown - No Odour.
Mar-19	BH3	7.57	6.146	1.424	8.75	-	-	-	-	-	No odour – No sample taken.
Apr-19	BH3	7.57	6.059	1.511	9.03	-	-	-	-	-	Data logger attached, Silty material at base. No sample taken.
May-19	BH3	7.57	6.064	1.506	9.03	-	-	-	-	-	Data logger downloaded.
Jun-19	BH3	7.57	6.005	1.565	9.03	-	-	-	-	-	Data logger attached, Silty material at base. No sample taken.
Jul-19	BH3	7.57	5.938	1.632	9.03	-	-	-	-	-	Data logger attached, Silty material at base. No sample taken.
Aug-19	BH3	7.57	6.027	1.543	9.03	-	-	-	-	-	Data logger attached, Silty material at base. No sample taken.
Sep-19	BH3	7.57	-	-	9.03	-	-	-	-	-	Well Decommissioned
Feb-19	BH4	3.06	1.994	1.066	5.92	14:20	20.4	129.2	3.85	135	light discolouration – Brown.
Mar-19	BH4	3.06	2.091	0.969	5.92	9:50	18.92	79	4.52	311	Light Brown – No Odour.
Apr-19	BH4	3.06	1.878	1.182	5.92	12:10	21.43	43	4.88	269.9	Cloudy, no odour.
May-19	BH4	3.06	1.847	1.213	5.92	11:45	20.14	110	4.65	98.5	Stained brown, no odour.
Jun-19	BH4	3.06	1.723	1.337	5.92	11:45	19.01	55	6.41	321.9	Mildly cloudy, no odour.
Jul-19	BH4	3.06	1.617	1.443	5.92	11:00	17.6	91.5	4.78	88	Cloudy, no odour.
Aug-19	BH4	3.06	1.736	1.324	5.92	11:00	17.96	102	4.76	266	Slightly Cloudy brown
Sep-19	BH4	3.06	1.604	1.456	6.11	12:45	20.53	96	4.27	251	Clear, no odour
Oct-19	BH4	3.06	1.531	1.529	6.11	10:30	19.18	8	4.93	221	Clear, no odour
Nov-19	BH4	3.06	1.624	1.436	6.11	10:10	21.07	95	4.53	290	Cloudy brown, slight sulfur odour
Dec-19	BH4	3.06	2.051	1.009	6.11	11:45	20.93	109	6.49	174	Slight cloudy brown, no odour
Jan-20	BH4	3.06	2.252	0.808	6.11	11:00	23.3	85	4.63	221	Slight cloudy brown, no odour
Feb-20	BH4	3.06	2.252	0.808	6.11	11:00	23.3	85	4.63	221	Slight cloudy brown, no odour
Mar-20	BH4	3.06	2.252	0.808	6.11	11:00	23.3	85	4.63	221	Slight cloudy brown, no odour
Apr-20	BH4	3.06	1.881	1.179	6.11	-	19	132.1	5.04	206.3	-
May-20	BH4	3.06	1.85	1.210	6.11	11:00	18.1	174.8	4.78	282.7	Slight cloudy brown, no odour
Jun-20	BH4	3.06	1.494	1.566	6.11	11:00	18.5	165.3	4.76	217.2	Slightly brown, no odour
Jul-20	BH4	3.06	1.47	1.590	6.11	-	16.8	212	4.7	343	Clear, no odour
Aug-20	BH4	3.06	1.009	2.051	6	-	15.68	152.23	4.58	348.1	Clear, no odour
Sep-20	BH4	3.06	1.31	1.750	6	-	18.06	151	4.53	348.1	Clear, no odour
Oct-20	BH4	3.06	1.605	1.455	6.45	-	19.2	166.4	4.25	328.8	Clear, no odour
Nov-20	BH4	3.06	1.052	2.008	6.45	-	24.4	382	4.64	164.4	Clear, sulphur odour
Dec-20	BH4	3.06	1.406	1.654	6.45	-	21.23	2226	4.86	419	Clear, sulphur odour
Jan-21	BH4	3.06	1.202	1.858	6.45	-	23.3	683	5.88	230.5	Clear, no odour
Feb-21	BH4	3.06	1.132	1.928	6.45	11:15	22.9	1693	5.96	-124.9	clear, sulfur odour
Mar-21	BH4	3.06	1.098	1.962	6.45	11:50	20.7	586	5.9	-170	slight brown stain, sulfur odour
Apr-21	BH4	3.06	0.854	2.206	6.01	8:00	17.29	135	4.78	208	Light brown, no odour
May-21	BH4	3.06	0.94	2.120	6.01	12:20	17.7	126	4.8	244.4	Slight brown stain, no odour, well in good condition
Jun-21	BH4	3.06	1.029	2.031	6.01	12:02	16.2	133	4.61	284	Slight brown tannin, no odour / sheen, well in good condition
Jul-21	BH4	3.06	1.002	2.058	5.966	11:49	15.9	2.2	4.55	252	Slight cloudy yellow, no odour / sheen, well in good condition
Aug-21	BH4	3.06	1.176	1.884	5.966	11:40	17.4	139	4.52	298.3	Clear, no odour / sheen, well in good condition
Sep-21	BH4	3.06	1.063	1.997	6	11:50	17	143	4.5	316.7	Light brown, no odour / sheen, well in good condition
Oct-21	BH4	3.06	1.069	1.991	6.01	12:11	17	131.4	4.73	239	Light brown, no odour / sheen
Nov-21	BH4	3.06	1.033	2.027	6.02	13:25	19.6	103.1	4.67	205.8	Clear, no odour, no sheen
Dec-21	BH4	3.06	1.04	2.020	6.01	11:50	21.7	93.5	4.93	142	light brown, no odour, no sheen

Table 5
Gauging Data and Field Parameters
Williamtown Sand Syndicate

Date	Borehole	Top of Casing (mAHD)	Depth to Water (mBTOC)	Groundwater Elevation (mAHD)	Well Total Depth at point of sampling (mBTOC)	Time	Temp (°C)	EC (us/cm)	pH	Redox (mV)	Comment
Jan-22	BH4	3.06	1.294	1.766	6.035	10:00	20.1	9.1	4.74	170	medium brown, no odour/sheen
Jun-22	BH4	3.06	0.934	2.126	6.01	9:17	16.2	109.7	5.17	145	Clear, no odour / sheen
Feb-19	BH5	7.36	6.063	1.297	8.63	8:30	20.1	320	4.06	122	Roots evident. Brown slight sulfur odour.
Mar-19	BH5	7.36	6.146	1.214	8.63	-	-	-	-	-	Slight sulfur odour – No sample taken.
Apr-19	BH5	7.36	5.914	1.446	8.71	-	-	-	-	-	Slight sulfur odour – No sample taken.
May-19	BH5	7.36	5.894	1.466	8.71	-	-	-	-	-	No sample taken. Data logger downloaded.
Jun-19	BH5	7.36	5.823	1.537	8.71	-	-	-	-	-	No odour - No sample taken.
Jul-19	BH5	7.36	5.779	1.581	8.71	-	-	-	-	-	No odour - No sample taken.
Aug-19	BH5	7.36	5.894	1.466	8.71	-	-	-	-	-	No odour - No sample taken.
Sep-19	BH5	7.36	5.786	1.574	8.71	-	-	-	-	-	No odour - No sample taken.
Oct-19	BH5	7.36	5.767	1.593	8.8	-	-	-	-	-	No odour - No sample taken.
Nov-19	BH5	7.36	5.792	1.568	8.8	-	-	-	-	-	No odour - No sample taken.
Dec-19	BH5	7.36	6.143	1.217	8.8	-	-	-	-	-	No odour - No sample taken.
Jan-20	BH5	7.36	6.315	1.045	8.8	-	-	-	-	-	No odour - No sample taken.
Feb-20	BH5	7.36	6.315	1.045	8.8	-	-	-	-	-	No odour - No sample taken.
Mar-20	BH5	7.36	6.315	1.045	8.8	-	-	-	-	-	No odour - No sample taken.
Apr-20	BH5	7.36	6.061	1.299	8.8	-	-	-	-	-	-
May-20	BH5	7.36	6.092	1.268	8.8	-	-	-	-	-	No odour - No sample taken.
Jun-20	BH5	7.36	5.732	1.628	8.8	-	-	-	-	-	No sample taken.
Jul-20	BH5	7.36	5.76	1.600	8.8	-	-	-	-	-	No sample taken.
Aug-20	BH5	7.36	5.339	2.021	8.75	-	16.93	171.91	4.35	299.4	Light brown, no odour
Sep-20	BH5	7.36	5.632	1.728	8.75	-	18.87	254.16	4.25	71	Light brown, no odour
Oct-20	BH5	7.36	5.824	1.536	9.28	-	18.4	329.4	4.14	15.8	Light brown, no odour
Nov-20	BH5	7.36	6.345	1.015	9.28	-	21.33	356	4.7	-29.8	Clear, sulphur odour
Dec-20	BH5	7.36	5.671	1.689	9.28	-	ND	ND	ND	ND	No sample taken
Jan-21	BH5	7.36	5.411	1.949	9.28	-	ND	ND	ND	ND	No sample taken
Feb-21	BH5	7.36	5.404	1.956	9.28	-	-	-	-	-	No sample taken
Mar-21	BH5	7.36	5.316	2.044	9.28	-	-	-	-	-	No sample taken
Apr-21	BH5	7.36	5.174	2.186	8.8	10:10	ND	ND	ND	ND	No sample taken
May-21	BH5	7.36	5.226	2.134	8.8	9:15	ND	ND	ND	ND	No sample taken, well in good condition
Jun-21	BH5	7.36	5.248	2.112	8.8	-	ND	ND	ND	ND	No sample taken, well in good condition
Jul-21	BH5	7.36	5.159	2.201	8.72	-	ND	ND	ND	ND	No sample taken, well in good condition
Aug-21	BH5	7.36	5.322	2.038	8.72	-	ND	ND	ND	ND	No sample taken, well in good condition
Nov-21	BH5	7.36	5.382	1.978	8.72	-	ND	ND	ND	ND	No sample taken, well in good condition
Feb-19	BH6	3.62	1.823	1.797	4.43	8:50	23.1	228	4.28	111	Clear to slightly cloudy, sulfur odour.
Mar-19	BH6	3.62	1.913	1.707	4.44	14:15	23.17	159	4.74	178	Brown – No Odour.
Apr-19	BH6	3.62	1.761	1.859	4.52	15:10	22.03	144	4.52	140.1	Cloudy with slight sulfur odour.
May-19	BH6	3.62	1.766	1.854	4.52	14:15	20.62	226	4.7	-5.2	Light brown, no odour.
Jun-19	BH6	3.62	1.713	1.907	4.52	14:10	19.73	176	5.45	-104.7	Cloudy, slight sulfur odour
Jul-19	BH6	3.62	1.591	2.029	4.52	13:30	17.2	191	4.54	101	Slightly cloudy, no odour
Aug-19	BH6	3.62	1.723	1.897	4.52	13:30	18.32	277	4.69	140	Slight brown colour, slight sulfur odour
Sep-19	BH6	3.62	1.647	1.973	4.62	15:15	18.66	215	4.61	57	Clear, slight odour
Oct-19	BH6	3.62	1.628	1.992	4.62	15:30	21.09	110	5.05	-144	Slight brown colour, slight sulfur odour
Nov-19	BH6	3.62	1.657	1.963	4.62	12:30	23.12	335	4.8	6.4	Cloudy brown, slight sulfur odour
Dec-19	BH6	3.62	2.009	1.611	4.62	13:45	21.96	256	5.52	-86.2	Mostly clear, slight sulfur odour
Jan-20	BH6	3.62	2.169	1.451	4.62	13:20	24.62	190	4.39	92	Brown, no odour
Feb-20	BH6	3.62	2.169	1.451	4.62	13:20	24.62	190	4.39	92	Brown, no odour
Mar-20	BH6	3.62	2.169	1.451	4.62	13:20	24.62	190	4.39	92	Brown, no odour
Apr-20	BH6	3.62	2.033	1.587	4.62	-	20.7	232.2	4.68	138.4	-
May-20	BH6	3.62	2.065	1.555	4.62	13:20	19.2	305.8	4.5	138.7	Brown, no odour
Jun-20	BH6	3.62	1.798	1.822	4.62	13:20	20.1	447.8	4.74	-33.3	Clear, no odour
Jul-20	BH6	3.62	1.728	1.892	4.62	-	15.7	204	4.68	-52.4	Light brown, no odour
Aug-20	BH6	3.62	1.225	2.395	4.5	-	15.17	350.62	4.66	-30.4	Clear, sulphur odour
Sep-20	BH6	3.62	1.544	2.076	4.5	-	20.02	269	4.48	62.5	Clear, sulphur odour
Oct-20	BH6	3.62	1.745	1.875	4.95	-	19.5	292.4	4.49	17.6	Clear, sulphur odour
Nov-20	BH6	3.62	0.259	3.361	4.95	-	24.95	226	4.07	5.5	Clear, sulphur odour
Dec-20	BH6	3.62	1.472	2.148	4.95	-	22.8	1036	4.76	-134	Clear, sulphur odour
Jan-21	BH6	3.62	1.29	2.330	4.95	-	24.2	859	4.96	-94.8	Clear, sulphur odour
Feb-21	BH6	3.62	1.171	2.449	4.95	14:10	2	1160	5.23	-167.9	Ants nest in casing, clear, sulfur odour
Mar-21	BH6	3.62	0.977	2.643	4.95	-	22.9	495	5.23	-172	clear, slight sulfur odour
Apr-21	BH6	3.62	0.813	2.807	4.52	10:15	18.56	307	4.35	-3.8	Clear, strong sulphur odour
May-21	BH6	3.62	0.857	2.763	4.52	14:40	18	395	4.71	61.9	Light brown, strong sulphur odour, well in good condition
Jun-21	BH6	3.62	0.926	2.694	4.52	14:07	15.2	298	4.69	-71	Clear, strong sulphur odour, no sheen, well in good condition
Jul-21	BH6	3.62	0.823	2.797	4.52	14:45	15.3	134.1	4.79	-94.1	Light yellow, light - moderate sulphur odour, no sheen, well in good condition
Aug-21	BH6	3.62	1.038	2.582	4.52	14:10	15.7	384.8	4.87	-86.3	Clear, moderate sulphur odour, no sheen, well in good condition
Sep-21	BH6	3.62	0.88	2.740	4.5	9:55	15.2	318	5.15	-155	Clear, strong sulphur odour, no sheen, well in good condition
Oct-21	BH6	3.62	0.815	2.805	4.52	9:55	16.2	250	5.26	-72.2	Medium brown, moderate sulphur odour, no sheen
Nov-21	BH6	3.62	0.895	2.725	4.52	11:15	18.2	223.6	4.97	-116.1	Very light brown, moderate sulphur odour, no sheen
Dec-21	BH6	3.62	0.968	2.652	4.53	9:45	21.2	202	4.67	-86	very light brown, moderate sulfur odour, no sheen
Jan-22	BH6	3.62	1.276	2.344	4.54	8:45	22.3	20.8	4.58	-116	very light brown, moderate sulfur odour, no sheen
Jun-22	BH6	3.62	0.771	2.849	4.52	11:15	15.1	214.2	5.22	-56.9	Clear, strong sulfur odour, no sheen
Feb-19	BH7	2.98	1.938	1.042	4.42	9:20	23.7	283	4.04	125	Slightly Cloudy, light brown, slight sulfur odour.
Mar-19	BH7	2.98	2.015	0.965	4.42	13:30	25	251	4.34	179	Slightly Cloudy, light brown, slight sulfur odour.
Apr-19	BH7	2.98	1.744	1.236	4.51	15:30	22.9	233	4.45	94.3	Slightly Cloudy, light brown, slight sulfur odour.
May-19	BH7	2.98	1.744	1.236	4.51	14:45	20.62	226	4.7	-5.2	Slightly Cloudy, light brown, slight sulfur odour.
Jun-19	BH7	2.98	1.634	1.346	4.51	14:30	19.56	217	5.47	-227.9	Slightly cloudy sulfur odour.
Jul-19	BH7	2.98	1.544	1.436	4.51	14:00	17.2	228	4.58	100	Slightly cloudy sulfur odour.
Aug-19	BH7	2.98	1.649	1.331	4.51	13:45	17.71	329	4.88	55	Cloudy brown, sulfur odour
Sep-19	BH7	2.98	1.542	1.438	4.61	14:15	18.34	232	4.73	-22	Light brown, sulfur odour
Oct-19	BH7	2.98	1.514	1.466	4.61	13:50	21.79	183	4.89	-139	Slightly Cloudy, light brown, slight sulfur odour.
Nov-19	BH7	2.98	1.588	1.392	4.61	12:10	21.79	391	4.6	13.1	Cloudy brown, slight sulfur odour.
Dec-19	BH7	2.98	1.989	0.991	4.61	14:00	21.87	292	5.93	-92.6	Cloudy brown, slight sulfur odour.
Jan-20	BH7	2.98	2.169	0.811	4.61	14:10	22.39	164	4.45	23.1	Light brown, slight sulfur odour.
Feb-20	BH7	2.98	2.169	0.811	4.61	14:10	22.39	164	4.45	23.1	Light brown, slight sulfur odour.
Mar-20	BH7	2.98	2.169	0.811	4.61	14:10	22.39	164	4.45	23.1	Light brown, slight sulfur odour.
Apr-20	BH7	2.98	1.813	1.167	4.61	-	20.8	190	4.88	-71.2	-
May-20	BH7	2.98	1.813	1.167	4.61	14:10	19	196.3	4.63	-34.4	Light brown, slight sulfur odour.
Jun-20	BH7	2.98	1.471	1.509	4.61	14:10	18.5	170	4.89	-70.3	Light brown, sulphur odour.
Jul-20	BH7	2.98	1.43	1.550	4.61	-	15.8	155	4.83	-102	Light brown, no odour.
Aug-20	BH7	2.98	1.217	1.763	4.49	-	15.24	237.95	4.72	-66	Light brown, sulphur odour.
Sep-20	BH7	2.98	1.437	1.543	4.49	-	21.64	253	4.57	21.9	Light brown, sulphur odour.
Oct-20	BH7	2.98	1.672	1.308	4.95	-	18.7	284.6	4.27	-29.1	Light brown, sulphur odour.
Nov-20	BH7	2.98	1.225	1.755	4.95	-	22.8	792	4.42	-104	clear, sulphur odour.
Dec-20	BH7	2.98	1.473	1.507	4.95	-	24.38	770	4.42	-75.5	Clear, sulphur odour.
Jan-21	BH7	2.98	1.234	1.746	4.95	-	24.3	810	4.76	-67.2	Light brown, sulphur odour.
Feb-21	BH7	2.98	1.235	1.745	4.95	14:35	24.1	892	5.02	-146.3	light brown, sulfur odour
Mar-21	BH7	2.98	1.174	1.806	4.95	-	22.8	350	5.1	-137	clear, sulfur odour
Apr-21	BH7	2.98	1.095	1.885	4.53	10:25	18.21	348	4.46	-35	Slight yellow, strong sulphur odour
May-21	BH7	2.98	1.114	1.866	4.53	14:50	17.6	354	4.65	85	Light brown, strong sulphur odour, well in good condition
Jun-21	BH7	2.98	1.124	1.856	4.53	14:41	15.6	250	4.74	-40	Clear, strong sulphur odour, no sheen, well in good condition
Jul-21	BH7	2.98	1.038	1.942	4.52	15:10	15.5	101.4	4.82	-50.6	Light brown, slight sulphur odour, no sheen, well in good condition
Aug-21	BH7	2.98	1.177	1.803	4.52	14:30	16.3	172.6	4.9	25.2	Light brown, no odour / sheen, well in good condition
Sep-21	BH7	2.98	1.072	1.908	4.52	9:45	14.7	152	4.91	-100	Cloudy brown, strong sulphur odour, no sheen, well in good condition
Oct-21	BH7	2.98	1.065	1.915	4.51	9:42	16.3	180.6	5.14	-15.5	Dark brown / red, slight sulphur odour, no sheen
Nov-21	BH7	2.98	1.084	1.896	4.52	11:00	18.2	108.3	4.89	-65	Light brown, light sluphur odour, no sheen
Dec-21	BH7	2.98	1.163	1.817	4.52	9:35	20.3	121.2	5.09	-115	light brown, moderate sulfur odour, no sheen
Jan-22	BH7	2.98	1.413	1.567	4.525	9:00	22.7	13.2	4.18	-65	light yellow, moderate sulfur odour, no sheen
Jun-22	BH7	2.98	1.041	1.939	4.48	11:30	15.7	108	5.08	48.5	Light yellow, no odour / sheen
Feb-19	BH8	3.88	2.78	1.100	6.08	13:30	21.8	411	4.09	121	Sulfur smell - Dark Brown.
Mar-19	BH8	3.88	2.864	1.016	6.09	13:00	21.54	307	4.96	176	Sulfur smell - cloudy
Apr-19	BH8	3.88	2.511	1.369	6.18	16:00	20.66	300	4.53	17.6	Sulfur smell - cloudy
May-19	BH8	3.88	2.511	1.369	6.18	15:00	20.86	298	4.74	-75	Sulfur smell - cloudy
Jun-19	BH8	3.88	2.346	1.534	6.18	14:40	18.78	289	7.43	-340.8	Dark brown cloudy, sulfur odour
Jul-19	BH8	3.88	2.266	1.614	6.18	14:30	16.8	347	4.55	101	Cloudy brown, sulfur odour

Table 5
Gauging Data and Field Parameters
Williamtown Sand Syndicate

Date	Borehole	Top of Casing (mAHD)	Depth to Water (mBTOC)	Groundwater Elevation (mAHD)	Well Total Depth at point of sampling (mBTOC)	Time	Temp (°C)	EC (us/cm)	pH	Redox (mV)	Comment
Aug-19	BH8	3.88	2.406	1.474	6.18	14:15	18.2	374	4.66	27	Cloudy brown, sulfur odour
Sep-19	BH8	3.88	2.282	1.598	6.27	13:30	18.64	300	4.72	-10	Dark brown cloudy, sulfur odour
Oct-19	BH8	3.88	2.233	1.647	6.28	14:15	20.44	224	4.89	-160	Dark brown cloudy, sulfur odour
Nov-19	BH8	3.88	2.312	1.568	6.28	14:50	22.5	545	4.51	-28.8	Cloudy brown, sulfur odour
Dec-19	BH8	3.88	2.778	1.102	6.28	14:30	22.05	995	6.16	-96.8	Cloudy brown, sulfur odour
Jan-20	BH8	3.88	2.969	0.911	6.28	14:40	21.99	284	4.08	45.6	Cloudy brown, sulfur odour
Feb-20	BH8	3.88	2.969	0.911	6.28	14:40	21.99	284	4.08	45.6	Cloudy brown, sulfur odour
Mar-20	BH8	3.88	2.969	0.911	6.28	14:40	21.99	284	4.08	45.6	Cloudy brown, sulfur odour
Apr-20	BH8	3.88	2.549	1.331	6.28	-	19.8	218.7	4.65	-70.6	-
May-20	BH8	3.88	2.489	1.391	6.28	14:40	18.2	242.6	4.49	-42.2	Cloudy brown, sulfur odour
Jun-20	BH8	3.88	2.058	1.822	6.28	14:40	17	282.9	4.8	-50.9	Light brown, no odour
Jul-20	BH8	3.88	2.02	1.860	6.28	-	16	268	4.69	-90	Light brown, no odour
Aug-20	BH8	3.88	1.804	2.076	6.14	-	15.4	367.95	4.62	-63.2	Light brown, sulphur odour
Sep-20	BH8	3.88	1.156	2.724	6.14	-	19.41	379	4.46	1.5	Light brown, sulphur odour
Oct-20	BH8	3.88	2.442	1.438	6.28	-	17.7	314.1	4.3	-57.5	Light brown, sulphur odour
Nov-20	BH8	3.88	1.472	2.408	6.28	-	22.7	1053	4.64	-116.1	clear, sulphur odour
Dec-20	BH8	3.88	2.198	1.682	6.28	-	23.5	701	4.71	-124.6	Clear, sulphur odour
Jan-21	BH8	3.88	1.209	2.671	6.28	-	22.7	846	4.97	-114	Light brown, sulphur odour
Feb-21	BH8	3.88	1.9	1.980	6.28	15:00	20.7	1105	5.26	-167.6	-
Mar-21	BH8	3.88	1.801	2.079	6.28	-	21.3	366	5.002	-159	slight cloudy brown, sulfur odour
Apr-21	BH8	3.88	1.765	2.115	6.1	10:32	17.9	280	3.92	9.4	Slight yellow, strong sulphur odour
May-21	BH8	3.88	1.8	2.080	6.1	15:00	17.5	311	4.73	78	Light brown, strong sulphur odour, well in good condition
Jun-21	BH8	3.88	1.338	2.542	6.1	14:20	16.6	391	4.72	-53.9	Clear, strong sulphur odour, no sheen, well in good condition
Jul-21	BH8	3.88	1.751	2.129	6.04	15:30	16.3	159.3	4.71	72.2	Medium brown, slight sulphur odour, no sheen, well in good condition
Aug-21	BH8	3.88	1.954	1.926	6.04	14:45	16.6	389	4.68	-57.4	Light brown, moderate sulphur odour, no sheen, well in good condition
Nov-21	BH8	3.88	1.783	2.097	6.06	10:45	17.5	452.1	4.6	-103.6	Light brown, moderate sulphur odour, no sheen
Feb-19	BH9	17.75	Dry	-	15.82	-	-	-	-	-	Well was dry.
Mar-19	BH9	17.75	Dry	-	16.01	-	-	-	-	176	Well was dry.
Apr-19	BH9	17.75	Dry	-	16.01	-	-	-	-	-	Well was dry.
May-19	BH9	17.75	Dry	-	16.01	-	-	-	-	-	Well was dry.
Jun-19	BH9	17.75	Dry	-	16.01	-	-	-	-	-	Well was dry.
Jul-19	BH9	17.75	Dry	-	16.01	-	-	-	-	-	Well was dry.
Aug-19	BH9	17.75	Dry	-	16.01	-	-	-	-	-	Well was dry.
Sep-19	BH9	17.75	Dry	-	16.01	-	-	-	-	-	Well was dry.
Oct-19	BH9	17.75	Dry	-	16.01	-	-	-	-	-	Well was dry.
Nov-19	BH9	17.75	Dry	-	16.01	-	-	-	-	-	Well was dry.
Dec-19	BH9	17.75	Dry	-	16.01	-	-	-	-	-	Well was dry.
Jan-20	BH9	17.75	Dry	-	16.01	-	-	-	-	-	Well was dry.
Feb-20	BH9	17.75	Dry	-	16.01	-	-	-	-	-	Well was dry.
Mar-20	BH9	17.75	Dry	-	16.01	-	-	-	-	-	Well was dry.
Apr-20	BH9	17.5	Dry	-	16.01	-	-	-	-	-	-
May-20	BH9	17.75	Dry	-	16.01	-	-	-	-	-	Well was dry.
Jun-20	BH9	17.75	Dry	-	16.01	-	-	-	-	-	Well was dry.
Jul-20	BH9	17.75	Dry	-	16.01	-	-	-	-	-	Well was dry.
Aug-20	BH9	17.75	15.723	2.027	16.2	-	18.43	84.33	4.79	317	Bailer used due to insufficient volume. clear, no odour
Sep-20	BH9	17.75	15.951	1.799	16.2	-	-	-	-	-	Insufficient volume to sample
Oct-20	BH9	17.75	Dry	-	18.8	-	-	-	-	-	Insufficient well volume for sampling
Aug-21	BH9	17.75	15.764	1.986	15.99	-	-	-	-	-	Insufficient well volume for sampling
Oct-21	BH9	17.75	15.702	2.048	15.98	7:45	-	-	-	-	insufficient volume to sample
Nov-21	BH9	17.75	15.668	2.082	16.15	7:55	19.1	155.2	4.66	-10.1	Clear, no odour, no sheen
Dec-21	BH9	17.75	15.656	2.094	16.19	-	-	-	-	-	no sample taken
Jan-22	BH9	17.75	15.762	1.988	16.18	-	-	-	-	-	no sample taken
Jun-22	BH9	17.75	15.401	2.349	16.29	-	-	-	-	-	no sample taken
Sep-20	BH9A	10.25	8.903	1.347	16.16	-	19.85	266	4.97	317	Newly installed. Silty brown, no odour.
Oct-20	BH9A	10.25	9.163	1.087	16.16	-	20.2	279.8	4.77	274.7	Newly installed well
Nov-20	BH9A	10.25	8.76	1.490	16.16	-	24.6	686	5.73	304.3	Dark brown, no odour
Dec-20	BH9A	10.25	9.026	1.224	16.16	-	22.8	516	4.66	-120.6	Dark brown, no odour
Jan-21	BH9A	10.25	8.528	1.722	16.16	-	22	562	5.65	52.6	Dark brown, no odour
Feb-21	BH9A	10.25	8.761	1.489	16.16	12:00	22.5	609	5.46	-141.8	dark brown, sulfur odour
Mar-21	BH9A	10.25	8.713	1.537	16.16	12:15	20.4	214	5.72	-161	cloudy brown, sulfur odour
Apr-21	BH9A	10.25	8.389	1.861	12.44	8:24	18.45	182.2	4.79	234	Dark brown, sulphur odour
May-21	BH9A	10.25	8.523	1.727	12.44	12:40	18.9	204	4.95	248	Slight brown stain, no odour, well in good condition
Jun-21	BH9A	10.25	8.613	1.637	12.44	12:30	18.3	173	4.7	-17.5	Moderate brown, sulphur odour, no sheen, well in good condition
Jul-21	BH9A	10.25	8.594	1.656	12.485	12:15	18.6	92.5	4.67	193	Moderate brown, slight sulphur odour, no sheen, well in good condition
Aug-21	BH9A	10.25	8.769	1.481	12.485	12:10	18.3	183.4	4.66	19.1	Light yellow, no odour / sheen, well in good condition
Sep-21	BH9A	10.25	8.675	1.575	8.675	12:00	18.8	166	4.8	-40.7	Medium brown, slight sulphur odour, no sheen, well in good condition
Oct-21	BH9A	10.25	8.672	1.578	12.44	12:21	18.6	165	4.88	-9.9	Medium brown, slight sulphur odour, no sheen
Nov-21	BH9A	10.25	8.656	1.594	12.4	14:10	19.2	167.5	4.65	-6	Light brown, slight sulphur odour, no sheen
Dec-21	BH9A	10.25	8.749	1.501	12.54	11:25	21.7	162	4.77	-20.8	medium brown, very slight sulfur odour, no sheen
Jan-22	BH9A	10.25	8.87	1.380	12.49	10:15	20.9	16.3	4.54	-71	medium brown, light sulfur odour, no sheen
Jun-22	BH9A	10.25	8.51	1.740	12.46	9:35	18.1	150	4.79	153	Light yellow, no odour / sheen
Feb-19	BH10	6.69	Dry	-	3.58	-	-	-	-	-	Well was dry.
Mar-19	BH10	6.69	Dry	-	3.58	-	-	-	-	-	Well was dry.
Apr-19	BH10	6.69	Dry	-	3.58	-	-	-	-	-	Well was dry.
May-19	BH10	6.69	Dry	-	3.58	-	-	-	-	-	Well was dry.
Jun-19	BH10	6.69	Dry	-	3.58	-	-	-	-	-	Well was dry.
Jul-19	BH10	6.69	Dry	-	3.58	-	-	-	-	-	Well was dry.
Aug-19	BH10	6.69	Dry	-	3.58	-	-	-	-	-	Well was dry.
Sep-19	BH10	6.69	Dry	-	3.58	-	-	-	-	-	Well was dry.
Oct-19	BH10	6.69	Dry	-	3.58	-	-	-	-	-	Well was dry.
Nov-19	BH10	6.69	Dry	-	3.58	-	-	-	-	-	Well was dry.
Dec-19	BH10	6.69	Dry	-	3.58	-	-	-	-	-	Well was dry.
Jan-20	BH10	6.69	Dry	-	3.58	-	-	-	-	-	Well was dry.
Feb-20	BH10	6.69	Dry	-	3.58	-	-	-	-	-	Well was dry.
Mar-20	BH10	6.69	Dry	-	3.58	-	-	-	-	-	Well was dry.
Apr-20	BH10	6.69	Dry	-	3.58	-	-	-	-	-	Well was dry.
May-20	BH10	6.69	Dry	-	3.58	-	-	-	-	-	Well was dry.
Jun-20	BH10	6.69	Dry	-	3.58	-	-	-	-	-	Well was dry.
Jul-20	BH10	6.69	Dry	-	3.58	-	-	-	-	-	Well was dry.
Aug-20	BH10	6.69	Dry	-	3.68	-	-	-	-	-	Well was dry. Approximately 1.8m of sediment deposited since 2014.
Sep-20	BH10	6.69	Dry	-	3.68	-	-	-	-	-	Well was dry. Approximately 1.8m of sediment deposited since 2014
Oct-20	BH10	6.69	Dry	-	3.68	-	-	-	-	-	Well was dry.
Nov-20	BH10	6.69	Dry	-	3.68	-	-	-	-	-	Well was dry.
Dec-20	BH10	6.69	Dry	-	3.68	-	-	-	-	-	Well was dry.
Jan-21	BH10	6.69	Dry	-	3.68	-	-	-	-	-	Well was dry.
Feb-21	BH10	6.69	DRY	-	3.68	-	-	-	-	-	Well was dry.
Mar-21	BH10	6.69	DRY	-	3.68	-	-	-	-	-	Well was dry.
Apr-21	BH10	6.69	2.464	4.226	3.46	9:00	19.75	245.7	5.05	35.2	Light brown, sulphur odour
May-21	BH10	6.69	2.591	4.099	3.46	13:20	18.9	227	4.77	196	Clear, moderate sulphur odour, well in good condition
Jun-21	BH10	6.69	2.734	3.956	3.44	11:05	17.1	229	4.55	24.2	Clear, slight sulphur odour, no sheen, well in good condition
Jul-21	BH10	6.69	2.731	3.959	3.42	8:20	16	284.5	4.61	52	Clear, strong sulphur odour, no sheen, well in good condition
Aug-21	BH10	6.69	2.932	3.758	3.42	-	ND	ND	ND	ND	No sample taken
Nov-21	BH10	6.69	2.991	3.699	3.43	-	ND	ND	ND	ND	No sample taken
Jun-22	BH10	6.69	2.264	4.426	3.43	-	ND	ND	ND	ND	No sample taken
Feb-19	BH11	6.63	3.02	3.610	5.21	-	-	402	-	-	Brown - No Odour.
Mar-19	BH11	6.63	3.181	3.449	5.21	7:45	18.87	168	4.95	10	Light Brown – Slight Odour.
Apr-19	BH11	6.63	3.254	3.376	5.29	13:45	21.64	155	4.75	78.3	Cloudy, slight sulfur smell
May-19	BH11	6.63	3.311	3.319	5.29	12:45	19.94	232	4.68	-71.5	Data logger downloaded. Light brown, no odour.
Jun-19	BH11	6.63	3.382	3.248	5.29	12:50	18.93	185	6.41	-78.5	Cloudy with sulfur odour
Jul-19	BH11	6.63	3.348	3.282	5.29	12:15	16.9	296	4.53	101	Cloudy no odour
Aug-19	BH11	6.63	3.503	3.127	5.29	12:15	17.66	261	4.74	126	Cloudy light brown, sulfur odour
Sep-19	BH11	6.63	3.546	3.084	5.39	12:00	20.26	195	4.64	31.2	Cloudy light brown, sulfur odour
Oct-19	BH11	6.63	3.586	3.044	5.39	12:05	19.93	124	4.83	-117	Cloudy light brown, sulfur odour
Nov-19	BH11	6.63	3.621	3.009	5.39	-	-	324	-	-	Cloudy light brown, sulfur odour

Table 5
Gauging Data and Field Parameters
Williamtown Sand Syndicate

Date	Borehole	Top of Casing (mAHD)	Depth to Water (mBTOC)	Groundwater Elevation (mAHD)	Well Total Depth at point of sampling (mBTOC)	Time	Temp (°C)	EC (us/cm)	pH	Redox (mV)	Comment
Dec-19	BH11	6.63	3.859	2.771	5.39	13:00	20.55	239	5.42	-60.7	Cloudy brown, sulfur odour
Jan-20	BH11	6.63	3.962	2.668	5.39	12:15	22.37	129	4.61	42	Cloudy brown, sulfur odour
Feb-20	BH11	6.63	3.962	2.668	5.39	12:15	22.37	129	4.61	42	Cloudy brown, sulfur odour
Mar-20	BH11	6.63	3.962	2.668	5.39	12:15	22.37	129	4.61	42	Cloudy brown, sulfur odour
Apr-20	BH11	6.63	4.087	2.543	5.39	-	20	140.4	4.84	-39.7	-
May-20	BH11	6.63	4.241	2.389	5.39	12:15	18.2	147.4	4.69	-65.4	Cloudy brown, sulfur odour
Jun-20	BH11	6.63	4.343	2.287	5.39	12:15	18.2	146.2	4.71	-24.7	Brown, dirt odour, well blockage
Jul-20	BH11	6.63	4.484	2.146	5.39	-	15.8	121	4.6	124	Light Brown, no odour – bore blocked
Aug-20	BH11	6.63	3.621	3.009	5.82	-	17.28	172.83	4.71	270.4	Light Brown, no odour
Sep-20	BH11	6.63	3.658	2.972	5.82	-	20.02	220.49	4.52	115.4	Light Brown, no odour
Oct-20	BH11	6.63	3.725	2.905	5.95	-	19	255.1	4.3	111	Light Brown, no odour
Nov-20	BH11	6.63	3.405	3.225	5.95	-	23.4	541	4.77	6.6	clear, no odour
Dec-20	BH11	6.63	3.505	3.125	5.95	-	23.6	459	4.81	-95.6	Clear, sulphur odour
Jan-21	BH11	6.63	3.384	3.246	5.95	-	22.6	668	5.23	-73.3	Clear, sulphur odour
Feb-21	BH11	6.63	3.246	3.384	5.95	13:15	21.1	68	5.3	-107.4	light brown, slight odour
Mar-21	BH11	6.63	3.143	3.487	5.95	13:25	20.8	291	5.43	-95	Clear, no odour
Apr-21	BH11	6.63	1.839	4.791	5.29	9:27	18.87	160	4.47	224	Light yellow, slight sulphur odour
May-21	BH11	6.63	1.86	4.770	5.29	13:50	18.1	200	4.54	235	Light yellow, no odour, well in good condition
Jun-21	BH11	6.63	1.993	4.637	5.29	13:20	16.8	225	4.62	132	Light yellow / brown, slight sulphur odour, no sheen, well in good condition
Jul-21	BH11	6.63	1.889	4.741	5.298	13:42	16.9	178	4.54	162	Light yellow, no odour, no sheen, well in good condition
Aug-21	BH11	6.63	2.156	4.474	5.298	13:15	16.5	411.9	4.25	67.8	Light yellow, slight sulphur odour, no sheen, well in good condition
Sep-21	BH11	6.63	2.141	4.489	5.29	12:55	18	362	4.39	-4.8	Very light brown, slight sulphur odour, no sheen, well in good condition
Oct-21	BH11	6.63	2.269	4.361	5.29	13:10	17	323	4.5	18.8	Light yellow, very slight sulphur odour, no sheen
Nov-21	BH11	6.63	2.116	4.514	5.3	15:00	18	270	4.27	-32.1	Light yellow, slight sulphur odour, no sheen
Dec-21	BH11	6.63	2.055	4.575	5.31	12:20	21.1	224	4.68	-63	light yellow brown, slight sulfur odour, no sheen
Jan-22	BH11	6.63	2.37	4.260	5.31	8:06	20.8	27.3	4.44	-90	light yellow, moderate sulfur odour, no sheen
Jun-22	BH11	6.63	1.363	5.267	5.25	10:20	16.1	187	4.96	-72	light yellow, moderate sulfur odour, no sheen
Feb-19	BH12	8.67	Dry	-	6.17	-	-	-	-	-	Well was dry.
Mar-19	BH12	8.67	6.924	1.746	8.03	-	-	-	-	-	40mm inner tube installed. No odour – No sample taken
Apr-19	BH12	8.67	6.846	1.824	8.12	-	-	-	-	-	40mm inner tube installed. No odour – No sample taken
May-19	BH12	8.67	6.863	1.807	8.12	-	-	-	-	-	Acrylic odour. No sample taken.
Jun-19	BH12	8.67	6.832	1.838	8.12	-	-	-	-	-	Slight acrylic odour. No sample taken.
Jul-19	BH12	8.67	6.799	1.871	8.12	-	-	-	-	-	Slight acrylic odour. No sample taken.
Aug-19	BH12	8.67	6.889	1.781	8.12	-	-	-	-	-	Slight acrylic odour. No sample taken.
Sep-19	BH12	8.67	6.827	1.843	8.2	-	-	-	-	-	No sample taken.
Oct-19	BH12	8.67	6.881	1.789	8.2	-	-	-	-	-	No sample taken.
Nov-19	BH12	8.67	6.89	1.780	8.2	-	-	-	-	-	No sample taken.
Dec-19	BH12	8.67	7.076	1.594	8.2	-	-	-	-	-	No sample taken.
Jan-20	BH12	8.67	7.252	1.418	8.2	-	-	-	-	-	No sample taken.
Feb-20	BH12	8.67	7.252	1.418	8.2	-	-	-	-	-	No sample taken.
Mar-20	BH12	8.67	7.252	1.418	8.2	-	-	-	-	-	No sample taken.
Apr-20	BH12	8.67	7.149	1.521	8.2	-	-	-	-	-	-
May-20	BH12	8.67	7.156	1.514	8.2	-	-	-	-	-	No sample taken.
Jun-20	BH12	8.67	7.003	1.667	8.2	-	-	-	-	-	No sample taken.
Jul-20	BH12	8.67	7.057	1.613	8.2	-	-	-	-	-	No sample taken.
Aug-20	BH12	8.67	6.443	2.227	8.17	-	17.78	163.09	5.25	-48	Light Brown, no odour
Sep-20	BH12	8.67	6.629	2.041	8.17	-	21.85	206.44	4.66	134	Light Brown, no odour
Oct-20	BH12	8.67	6.799	1.871	8.39	-	-	-	-	-	No sample take, well too skinny
Nov-20	BH12	8.67	6.459	2.211	8.39	-	24.9	525	5.02	-34.6	Light brown, sulphur odour
Dec-20	BH12	8.67	6.632	2.038	8.39	-	22.43	532	5	203.3	Clear, no odour
Jan-21	BH12	8.67	6.502	2.168	8.39	-	21.9	282	5.53	43.7	Clear, no odour
Feb-21	BH12	8.67	6.441	2.229	8.39	13:35	21.5	534	5.73	-172.9	Well damaged, clear, sulfur odour
Mar-21	BH12	8.67	6.364	2.306	8.39	13:45	20.6	211	5.77	-186	Clear, no odour
Apr-21	BH12	8.67	5.82	2.850	8.22	9:45	20	201	5.65	196	Clear, no odour
May-21	BH12	8.67	5.938	2.732	8.22	14:15	19.4	249	5.62	62.6	Cloudy brown, slight sulphur odour, broken hinge on well casing
Jun-21	BH12	8.67	6.019	2.651	8.22	13:37	18.1	94.6	5.2	288	Clear, no odour / sheen, broken hinge on well casing
Jul-21	BH12	8.67	6.005	2.665	8.22	-	ND	ND	ND	ND	No sample taken, Hydrasleeve would not fit in 35mm inner PVC piping. Suggest removing inner tube
Aug-21	BH12	8.67	6.147	2.523	8.22	13:35	19.1	249.7	4.77	250.8	Clear, no odour / sheen, well in good condition
Sep-21	BH12	8.67	6.079	2.591	8.21	10:10	17.5	210	4.98	86.7	Light grey / brown, no odour / sheen, well in good condition
Oct-21	BH12	8.67	6.18	2.490	8.21	10:35	18.6	226.2	5.15	188.5	Dark brown, no odour / sheen
Nov-21	BH12	8.67	6.048	2.622	8.21	12:10	19.8	180.8	4.76	165.9	Light brown, no odour, no sheen
Jun-22	BH12	8.67	5.856	2.814	8.2	-	ND	ND	ND	ND	No sample taken
Feb-19	MW239D	3.04	1.312	1.728	20.21	-	-	-	-	-	-
Mar-19	MW239D	3.04	1.591	1.449	20.19	-	-	-	-	-	No odour – No sample taken
Apr-19	MW239D	3.04	1.392	1.648	20.2	-	-	-	-	-	No odour – No sample taken
May-19	MW239D	3.04	1.383	1.657	20.2	-	-	-	-	-	No odour – No sample taken
Jun-19	MW239D	3.04	1.32	1.720	20.2	-	-	-	-	-	No odour – No sample taken
Jul-19	MW239D	3.04	1.239	1.801	20.2	-	-	-	-	-	No odour – No sample taken
Aug-19	MW239D	3.04	1.327	1.713	20.2	-	-	-	-	-	Slight Sulfur odour, no sample taken
Sep-19	MW239D	3.04	1.248	1.792	20.2	-	-	-	-	-	Slight Sulfur odour, no sample taken
Oct-19	MW239D	3.04	1.226	1.814	20.32	-	-	-	-	-	Slight Sulfur odour, no sample taken
Nov-19	MW239D	3.04	1.238	1.802	20.32	-	-	-	-	-	Slight Sulfur odour, no sample taken
Dec-19	MW239D	3.04	1.626	1.414	20.32	-	-	-	-	-	Slight Sulfur odour, no sample taken
Jan-20	MW239D	3.04	1.799	1.241	20.32	-	-	-	-	-	Slight Sulfur odour, no sample taken
Feb-20	MW239D	3.04	1.799	1.241	20.32	-	-	-	-	-	Slight Sulfur odour, no sample taken
Mar-20	MW239D	3.04	1.799	1.241	20.32	-	-	-	-	-	Slight Sulfur odour, no sample taken
Apr-20	MW239D	3.04	-	-	20.32	-	-	-	-	-	-
Jun-20	MW239D	3.04	1.328	1.712	20.32	-	-	-	-	-	No sample taken
Jul-20	MW239D	3.04	1.32	1.720	20.32	-	-	-	-	-	No sample taken
Aug-20	MW239D	3.04	0.955	2.085	20.49	-	-	-	-	-	No sample taken
Sep-20	MW239D	3.04	1.183	1.857	20.49	-	-	-	-	-	No sample taken
Oct-20	MW239D	3.04	1.331	1.709	20.49	-	-	-	-	-	No sample taken
Nov-20	MW239D	3.04	1.132	1.908	20.49	-	-	-	-	-	No sample taken
Dec-20	MW239D	3.04	1.172	1.868	20.49	-	-	-	-	-	No sample taken
Jan-21	MW239D	3.04	0.975	2.065	20.49	-	-	-	-	-	No sample taken
Feb-21	MW239D	3.04	0.984	2.056	20.49	-	-	-	-	-	-
Mar-21	MW239D	3.04	0.901	2.139	20.49	-	-	-	-	-	No sample
Apr-21	MW239D	3.04	0.739	2.301	20.57	10:00	ND	ND	ND	ND	No sample taken
May-21	MW239D	3.04	0.783	2.257	20.57	9:10	ND	ND	ND	ND	No sample taken, well in good condition
Jun-21	MW239D	3.04	0.794	2.246	20.57	-	ND	ND	ND	ND	No sample taken, well in good condition
Jul-21	MW239D	3.04	0.716	2.324	20.57	-	ND	ND	ND	ND	No sample taken, well in good condition
Aug-21	MW239D	3.04	0.85	2.190	20.57	-	ND	ND	ND	ND	No sample taken, well in good condition
Nov-21	MW239D	3.04	0.768	2.272	20.52	-	ND	ND	ND	ND	No sample taken, well in good condition
Feb-19	MW239S	3.04	1.529	1.511	3.89	7:30	21.7	526	4.09	121	Light Brown - Slight Sulfur odour.
Mar-19	MW239S	3.04	1.615	1.425	3.89	14:45	23.1	323	4.43	-	Dark Brown - Slight Sulfur odour.
Apr-19	MW239S	3.04	1.421	1.619	3.89	14:45	21.43	352	4.72	45.3	Light Brown - Slight Sulfur odour
May-19	MW239S	3.04	1.412	1.628	3.89	13:45	19.49	392	4.64	-65.8	Data logger downloaded. Dark brown, sulfur odour.
Jun-19	MW239S	3.04	1.344	1.696	3.89	13:50	19.3	305	5.7	-117.9	Cloudy, sulfur odour.
Jul-19	MW239S	3.04	1.262	1.778	3.89	13:15	15.8	37	4.67	94	Cloudy, sulfur odour.
Aug-19	MW239S	3.04	1.352	1.688	3.89	13:00	17.99	530	4.75	72.8	Dark Brown - Slight Sulfur odour.
Sep-19	MW239S	3.04	1.269	1.771	3.89	14:30	17.56	397	4.61	-11	Cloudy Brown, Sulfur odour.
Oct-19	MW239S	3.04	1.248	1.792	4.06	13:00	20.87	331	4.81	-132	Cloudy Brown, Sulfur odour.
Nov-19	MW239S	3.04	1.256	1.784	4.06	13:00	21.18	718	4.58	-17.6	Cloudy brown, sulfur odour
Dec-19	MW239S	3.04	1.648	1.392	4.06	13:15	20.33	523	5.64	-104.7	Cloudy brown, sulfur odour
Jan-20	MW239S	3.04	1.823	1.217	4.06	12:50	24.71	396	4.59	16.1	Dark brown, sulfur odour
Feb-20	MW239S	3.04	1.823	1.217	4.06	12:50	24.71	396	4.59	16.1	Dark brown, sulfur odour
Mar-20	MW239S	3.04	1.823	1.217	4.06	12:50	24.71	396	4.59	16.1	Dark brown, sulfur odour
Apr-20	MW239S	3.04	1.576	1.464	4.06	-	20.3	293.7	4.74	-77.4	-
May-20	MW239S	3.04	1.578	1.462	4.06	12:50	18.4	409	4.32	-53.9	Dark brown, sulfur odour
Jun-20	MW239S	3.04	1.326	1.714	4.06	12:50	15.4	474.9	4.73	-52.9	Dark brown, sulfur odour
Jul-20	MW239S	3.04	1.3	1.740	4.06	-	15.3	0.27	12.7	144	Brown, no odour
Aug-20	MW239S	3.04	0.981	2.059	3.9	-	15.74	431.08	4.72	2.3	Light Brown, sulphur odour
Sep-20	MW239S	3.04	1.116	1.924	3.9	-	18.87	337.89	4.42	79.8	Light Brown, sulphur odour
Oct-20	MW239S	3.04	1.364	1.676	4	-	19.6	522	4.27	28.7	Light Brown, sulphur odour

Table 5
Gauging Data and Field Parameters
Williamtown Sand Syndicate

Date	Borehole	Top of Casing (mAHD)	Depth to Water (mBTOC)	Groundwater Elevation (mAHD)	Well Total Depth at point of sampling (mBTOC)	Time	Temp (°C)	EC (us/cm)	pH	Redox (mV)	Comment
Nov-20	MW239S	3.04	0.998	2.042	4	-	22.4	1443	4.55	-83.8	Light Brown, sulphur odour
Dec-20	MW239S	3.04	1.2	1.840	4	-	23	1389	4.6	-126.1	Dark brown, sulphur odour
Jan-21	MW239S	3.04	0.998	2.042	4	-	23.6	1221	5.08	-127.7	Dark brown, sulphur odour
Feb-21	MW239S	3.04	0.998	2.042	4	13:50	22.8	1676	5.12	-155.7	dark brown, sulfur odour
Mar-21	MW239S	3.04	0.923	2.117	4	-	22.3	402	5.19	-158	slight cloudy brown, sulfur odour
Apr-21	MW239S	3.04	0.757	2.283	3.84	9:55	18.43	276	4.43	8.3	Dark brown/organic material, strong sulphur odour
May-21	MW239S	3.04	0.81	2.230	3.84	14:30	17.5	348	4.61	117	Dark brown/organic material, strong sulphur odour, well in good condition
Jun-21	MW239S	3.04	0.812	2.228	3.84	13:53	16.1	246	4.59	38	Slight cloudy yellow, moderate sulphur odour, no sheen, well in good condition
Jul-21	MW239S	3.04	0.736	2.304	3.86	14:09	15.3	146	4.58	50.9	Medium brown, slight - moderate sulphur odour, no sheen, well in good condition
Aug-21	MW239S	3.04	0.874	2.166	3.86	13:55	15.6	166.5	4.6	-28.4	Light brown, moderate sulphur odour, no sheen, well in good condition
Sep-21	MW239S	3.04	0.786	2.254	3.82	10:00	15.4	205	4.66	-142	Cloudy brown, slight sulphur odour, no sheen, well in good condition
Oct-21	MW239S	3.04	0.801	2.239	3.83	1:12	16.9	160.8	4.83	-34.8	Medium brown, slight sulphur odour, no sheen
Nov-21	MW239S	3.04	0.787	2.253	3.83	11:40	18.7	179.9	4.5	-74.9	Light brown, light sulphur odour, no sheen
Dec-21	MW239S	3.04	0.862	2.178	3.85	10:00	21	151.4	4.8	-91	light brown, moderate sulfur odour, no sheen
Jan-22	MW239S	3.04	1.078	1.962	3.87	9:20	21.5	20.4	4.38	-75	medium brown, slight slufur odour, no sheen
Jun-22	MW239S	3.04	0.715	2.325	3.83	10:50	16.3	145.6	4.75	-50.4	Yellow, strong sulfur odour, no sheen
Feb-19	SW1	2.5	Dry	-	N/A	-	-	-	-	-	Location was dry.
Mar-19	SW1	2.5	Dry	-	N/A	-	-	-	-	-	Location was dry.
Apr-19	SW1	2.5	2.49	0.010	N/A	12:00	23.16	1003	3.95	405.9	Small pool of surface water with stained brown water.
May-19	SW1	2.5	0.01	2.490	N/A	11:15	14.9	966	4.42	106.7	Small pool of surface water with stained brown water.
Jun-19	SW1	N/A	0.14	#VALUE!	N/A	11:40	14.5	811	6.4	298.4	Small pool of surface water with stained brown water.
Jul-19	SW1	N/A	0.2	#VALUE!	N/A	11:05	9.7	827	4.56	99	Dark brown, no odour, slight sheen
Aug-19	SW1	N/A	0.15	#VALUE!	N/A	10:45	9.52	1205	4.6	263	Natural tannin stained brown, sulfur odour
Sep-19	SW1	N/A	0.26	#VALUE!	N/A	13:00	16.59	1138	4.21	323	Natural tannin stained brown, sulfur odour
Oct-19	SW1	N/A	0.29	#VALUE!	N/A	10:45	16.56	857	4.35	339	Natural tannin stained brown, sulfur odour
Nov-19	SW1	N/A	0.02	#VALUE!	N/A	11:45	23.75	1964	4.53	230	Significant reduction in water level, tannins stained brown, sulfur odour
Dec-19	SW1	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry
Jan-20	SW1	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry
Feb-20	SW1	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry
Mar-20	SW1	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry
Apr-20	SW1	N/A	1.9	-	N/A	-	18.3	144.6	8.23	126.5	-
May-20	SW1	N/A	3	-	N/A	13:10	14	169.4	7.4	183.1	-
Jun-20	SW1	N/A	0.52	-	N/A	13:10	11.9	120.5	6.9	139.8	Light brown, no odour
Jul-20	SW1	N/A	0.54	-	N/A	-	12	98	7.4	226	Light brown, no odour
Aug-20	SW1	N/A	>0.6	-	N/A	-	14.21	83.65	6.38	229.4	Light brown, no odour
Sep-20	SW1	N/A	0.6	-	N/A	-	16.51	116	6.36	229.4	Light brown, no odour
Oct-20	SW1	N/A	0.6	N/A	N/A	-	18.2	313.3	6.68	131	Light brown, no odour
Nov-20	SW1	N/A	0.6	N/A	N/A	-	22.9	461	6.91	1140	Clear, no odour
Dec-20	SW1	N/A	0.6	N/A	N/A	-	26.4	658	6.61	49.8	Clear, no odour
Jan-21	SW1	N/A	0.6	N/A	N/A	-	25.1	594	6.77	67.2	Clear, no odour
Feb-21	SW1	N/A	-	-	-	11:00	22.58	608	6.68	65.1	Clear, no odour, very full
Mar-21	SW1	N/A	> 0.6	-	-	11:30	21.1	184	6.59	118	Slight brown/tan, no odour
Apr-21	SW1	N/A	> 0.6	N/A	N/A	12:45	15.4	310.66	5.38	41.7	Slight brown stain, sulphur odour
May-21	SW1	N/A	1.5	N/A	N/A	12:00	11	265.5	5.43	186.5	Dark brown stain, no odour
Jun-21	SW1	N/A	1.4	N/A	N/A	11:49	10.1	219	5.77	202	Natural tannin brown, no odour / sheen
Jul-21	SW1	N/A	0.65	N/A	N/A	11:56	12.2	202.3	5.29	208.2	Deep yellow, no odour / sheen
Aug-21	SW1	N/A	0.6	N/A	N/A	11:52	12	187	6.05	194.6	Clear / slight yellow, no odour / sheen
Sep-21	SW1	N/A	-	N/A	N/A	-	10.8	145	6.04	139.4	Slight yellow, no odour / sheen
Oct-21	SW1	N/A	0.7	N/A	N/A	12:13	16.6	108	6.17	152	Dark tannin red / brown, no odour / sheen
Nov-21	SW1	N/A	-	N/A	N/A	13:30	17.8	92.2	5.72	153.7	Natural tannin orange / brown, no odour, no sheen
Feb-19	SW2	3.3	Dry	-	N/A	-	-	-	-	-	Location was dry.
Mar-19	SW2	3.3	Dry	-	N/A	-	-	-	-	-	Location was dry.
Apr-19	SW2	3.3	Dry	-	N/A	-	-	-	-	-	Location was dry.
May-19	SW2	3.3	Dry	-	N/A	-	-	-	-	-	Location was dry.
Jun-19	SW2	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry.
Jul-19	SW2	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry.
Aug-19	SW2	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry.
Sep-19	SW2	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry.
Oct-19	SW2	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry.
Nov-19	SW2	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry.
Dec-19	SW2	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry.
Jan-20	SW2	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry.
Feb-20	SW2	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry.
Mar-20	SW2	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry.
Apr-20	SW2	N/A	Dry	-	N/A	-	-	-	-	-	-
May-20	SW2	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry.
Jun-20	SW2	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry.
Jul-20	SW2	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry – ground damp
Aug-20	SW2	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry – ground damp
Sep-20	SW2	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry
Oct-20	SW2	N/A	Dry	N/A	N/A	-	-	-	-	-	Location was dry
Nov-20	SW2	N/A	Dry	N/A	N/A	-	-	-	-	-	Location was dry
Dec-20	SW2	N/A	Dry	N/A	N/A	-	-	-	-	-	Location was dry
Jan-21	SW2	N/A	Dry	N/A	N/A	-	-	-	-	-	Location was dry
Mar-21	SW2	N/A	0.1	-	-	11:00	20.3	132	6.16	244	Slight brown/tan, sulfur odour
Apr-21	SW2	N/A	0.1	N/A	N/A	12:10	14.67	91.5	5.07	19	Slight brown stain, sulphur odour
May-21	SW2	N/A	0.25	N/A	N/A	11:10	11.1	89.1	4.99	166	Slight brown stain, no odour
Jun-21	SW2	N/A	0.25	N/A	N/A	10:40	12.8	105	4.69	64.2	Clear, no odour / sheen
Jul-21	SW2	N/A	0.25	N/A	N/A	10:33	12.2	96.4	4.43	87.4	Natural tannin brown, slight sulphur odour, no sheen
Aug-21	SW2	N/A	0.2	N/A	N/A	13:10	11	98.8	4.56	294	Natural tannin brown, slight sulphur odour, no sheen
Sep-21	SW2	N/A	0.6	N/A	N/A	-	13.4	103	4.57	346	Natural tannin orange, no odour / sheen
Oct-21	SW2	N/A	0.6	N/A	N/A	10:50	16.5	93.6	4.65	270.5	Dark tannin red / brown, no odour / sheen
Nov-21	SW2	N/A	-	N/A	N/A	-	17.1	89	4.96	156.8	Dark orange / brown / natural tannin, no odour, no sheen
Feb-19	SW3	2.1	1.1	1.000	N/A	16:15	26	313	5.11	62	Water was at a low level and was not seen to be flowing.
Mar-19	SW3	2.1	1.1	1.000	N/A	15:15	25.87	342	6.08	-	Water was at a low level and was not seen to be flowing.
Apr-19	SW3	2.1	1.1	1.000	N/A	14:30	19.88	311	6.02	-12.8	Water clear, no odour.
May-19	SW3	2.1	0.1	2.000	N/A	13:15	14.54	344	5.54	71.6	Water clear, no odour.
Jun-19	SW3	N/A	0.15	1.100	N/A	13:30	16.36	290	6.41	52.4	Water clear, no odour.
Jul-19	SW3	N/A	0.215	1.215	N/A	12:45	14.6	431	4.27	116	Water clear, no odour.
Aug-19	SW3	N/A	0.195	1.195	N/A	12:45	11.96	464	4.67	152	Water clear, no odour.
Sep-19	SW3	N/A	0.24	1.240	N/A	14:45	17.05	449	5.02	86.7	Water clear, no odour.
Oct-19	SW3	N/A	0.29	1.290	N/A	12:30	18.77	313	4.36	315	Water clear, no odour.
Nov-19	SW3	N/A	0.02	1.020	N/A	9:45	19.54	470	5.04	97.7	Mostly clear (red algae present), no odour
Dec-19	SW3	N/A	Dry	-	N/A	10:00	20	440	5.69	29.3	Small amount of standing water
Jan-20	SW3	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry.
Feb-20	SW3	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry.
Mar-20	SW3	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry.
Apr-20	SW3	N/A	0.76	-	N/A	-	17.5	276.9	4.24	235.6	-
May-20	SW3	N/A	0.85	-	N/A	13:30	14.3	286.6	4.72	304.7	-
Jun-20	SW3	N/A	0.24	-	N/A	13:30	14.5	468.6	4.18	220.9	Clear, no odour
Jul-20	SW3	N/A	0.3	-	N/A	-	14	395	4	381	Clear, no odour
Aug-20	SW3	N/A	0.56	-	N/A	-	13.56	477.36	3.77	4.08	Clear, no odour
Sep-20	SW3	N/A	0.39	-	N/A	-	16.99	399	3.79	4.08	Clear, no odour
Oct-20	SW3	N/A	0.39	N/A	N/A	-	18.3	375.4	3.74	318	Clear, no odour
Nov-20	SW3	N/A	0.39	N/A	N/A	-	20.1	1218	4.78	398.5	Clear, slight odour
Dec-20	SW3	N/A	0.31	N/A	N/A	-	23.6	1097	5.45	171.1	Clear, no odour
Jan-21	SW3	N/A	0.31	N/A	N/A	-	22.1	1056	5.31	147.2	Clear, no odour
Feb-21	SW3	N/A	-	-	-	10:15	21.2	1101	5.95	36.9	Clear, no odour
Mar-21	SW3	N/A	> 0.6	-	-	10:30	20.6	291	6.54	1076	Slight brown/tan, sulfur odour
Apr-21	SW3	N/A	> 0.6	N/A	N/A	11:55	15.5	312.57	5.49	48.1	Slight brown stain, sulphur odour
May-21	SW3	N/A	1.5	N/A	N/A	11:00	10.2	276	5.7	36.1	Natural sheen (brown algae), no odour
Jun-21	SW3	N/A	1.4	N/A	N/A	10:24	10.2	220	4.84	-2.9	Clear, strong sulphur odour, no sheen
Jul-21	SW3	N/A	0.65	N/A	N/A	10:20	10.1	213	5.31	-41	Natural tannin brown, strong sulphur odour, no sheen
Aug-21	SW3	N/A	0.6	N/A	N/A	9:51	8.7	203	5.02	-12.7	Natural tannin brown, strong sulphur odour, no sheen

Table 5
Gauging Data and Field Parameters
Williamtown Sand Syndicate

Date	Borehole	Top of Casing (mAHD)	Depth to Water (mBTOC)	Groundwater Elevation (mAHD)	Well Total Depth at point of sampling (mBTOC)	Time	Temp (°C)	EC (us/cm)	pH	Redox (mV)	Comment
Nov-21	SW3	N/A	-	N/A	N/A	12:00	17.8	218.3	4.03	87.3	Natural tannin orange / brown, no odour, no sheen
Feb-19	SW4	2	Dry	-	N/A	-	-	-	-	-	Location was dry.
Mar-19	SW4	2	Dry	-	N/A	-	-	-	-	-	Location was dry.
Apr-19	SW4	2	1.9	1.900	N/A	11:15	17.57	339	3.69	430.5	Water clear, no odour.
May-19	SW4	2	0.135	2.135	N/A	10:30	12.03	389	3.69	211.4	Water clear, no odour.
Jun-19	SW4	N/A	0.175	2.135	N/A	10:45	13.34	313	6.44	377.3	Water clear, no odour.
Jul-19	SW4	N/A	0.281	2.281	N/A	9:30	9.9	371	4.23	116	Light brown, no odour.
Aug-19	SW4	N/A	0.18	2.180	N/A	9:50	8.07	485	4.17	294	Clear, no odour.
Sep-19	SW4	N/A	0.29	2.290	N/A	10:30	14.8	371	4.19	360	Clear, no odour.
Oct-19	SW4	N/A	0.35	2.350	N/A	9:45	16.45	325	4.36	370	Clear, no odour.
Nov-19	SW4	N/A	0.15	2.150	N/A	10:45	18.46	538	4.56	219	Clear, no odour.
Dec-19	SW4	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry
Jan-20	SW4	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry
Feb-20	SW4	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry
Mar-20	SW4	N/A	Dry	-	N/A	-	-	-	-	-	Location was dry
Apr-20	SW4	N/A	0.68	-	N/A	-	16.2	306.1	4.83	205.6	-
May-20	SW4	N/A	1.28	-	N/A	14:00	12.1	337.5	4.69	230.1	-
Jun-20	SW4	N/A	0.38	-	N/A	14:00	12.5	375	4.82	236.2	Clear, No odour
Jul-20	SW4	N/A	0.47	-	N/A	-	13	324	4.7	311	Clear, no odour
Aug-20	SW4	N/A	0.52	-	N/A	-	12.4	433.79	4.22	389	Clear, no odour
Sep-20	SW4	N/A	0.5	-	N/A	-	17.02	383	3.88	389	Clear, no odour
Oct-20	SW4	N/A	0.5	N/A	N/A	-	17.7	397.2	3.62	303	Clear, no odour
Nov-20	SW4	N/A	0.5	N/A	N/A	-	20.3	1239	5.66	256	Clear, slight odour
Dec-20	SW4	N/A	0.5	N/A	N/A	-	21	1397	6.72	-204.6	Natural sheen, no odour
Jan-21	SW4	N/A	0.5	N/A	N/A	-	21.7	1311	7.24	-226.5	Natural sheen, sulphur odour
Feb-21	SW4	N/A	-	-	-	9:45	20.6	1468	6.98	-140.4	Natural sheen, no odour, very full
Mar-21	SW4	N/A	> 0.6	-	-	10:00	19.5	529	7.34	-15.2	Brown/Tan, sulfur odour
Apr-21	SW4	N/A	> 0.6	N/A	N/A	11:21	16.14	257.88	6.18	-65	Brown stain, sulphur odour
May-21	SW4	N/A	1.5	N/A	N/A	10:15	10.4	322	6.26	-54	Natural sheen (brown algae), no odour, water flowing in E direction
Jun-21	SW4	N/A	1.2	N/A	N/A	10:00	10.4	277	4.79	260	Natural tannin brown, no odour / sheen
Jul-21	SW4	N/A	0.65	N/A	N/A	9:55	10.2	247	5.3	152	Natural tannin brown, no odour / sheen, flowing towards eastern boundary
Aug-21	SW4	N/A	0.6	N/A	N/A	9:27	9.4	269	5.13	104	Natural tannin brown (orange algae), no odour / sheen
Sep-21	SW4	N/A	0.6	N/A	N/A	-	12.1	236	5.8	149	Natural tannin orange / yellow, no odour / sheen
Oct-21	SW4	N/A	0.65	N/A	N/A	9:26	15.4	281	6.12	37.1	Dark tannin red / brown, no odour / sheen
Nov-21	SW4	N/A	-	N/A	N/A	10:30	15.9	247.3	5.9	-75.7	Natural tannin orange / brown, no odour, no sheen
Sep-21	WPW	N/A	-	N/A	N/A	-	16.6	284	4.94	318	Dark brown
Oct-21	WPW	N/A	-	N/A	N/A	11:58	18	401.4	4.86	253	Dark brown, no odour / sheen
Nov-21	WPW	N/A	-	N/A	N/A	12:40	21.1	267	4.81	251	Very light brown, no odour, no sheen
Dec-21	WPW	N/A	-	N/A	-	10:30	26	273	6.25	-30	light brown, no odour, no sheen
Jan-22	WPW	N/A	-	N/A	-	9:50	25.7	26.2	4.7	179	dark brown, no odour/sheen
Jun-22	WPW	N/A	-	N/A	-	12:00	16.4	250	4.86	196	Dark brown, no odour / sheen

ATTACHMENT 3: LAB RESULTS

CERTIFICATE OF ANALYSIS

Work Order	: **ES2221320**	Page	: 1 of 8
Client	: **KLEINFELDER AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: Megan Ferguson	Contact	: Shirley LeCornu
Address	: Suite 3, 240 - 244 Pacific Highway Charlestown NSW 2290	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +6138549 9630
Project	: 20222347	Date Samples Received	: 17-Jun-2022 16:04
Order number	: ----	Date Analysis Commenced	: 21-Jun-2022
C-O-C number	: ----	Issue Date	: 24-Jun-2022 15:06
Sampler	: Megan Ferguson		
Site	: WSS - Cabbage Tree Rd Water Monitoring June 2022		
Quote number	: ME/114/19 ALS Compass		
No. of samples received	: 11		
No. of samples analysed	: 11		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results
- Surrogate Control Limits

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QA/QC Compliance Assessment to assist with Quality Review and Sample Receipt Notification.

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

When sampling time information is not provided by the client, sampling dates are shown without a time component. In these instances, the time component has been assumed by the laboratory for processing purposes.

Where a result is required to meet compliance limits the associated uncertainty must be considered. Refer to the ALS Contract for details.

Key : CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
^ = This result is computed from individual analyte detections at or above the level of reporting
ø = ALS is not NATA accredited for these tests.
~ = Indicates an estimated value.

- EP231X - Per- and Polyfluoroalkyl Substances (PFAS): Samples received in 20ml or 125ml bottles have been tested in accordance with the QSM5.3 compliant, NATA accredited method. 60mL or 250mL bottles have been tested to the legacy QSM 5.1 aligned, NATA accredited method.
- EP231: Stable isotope enriched internal standards are added to samples prior to extraction. Target compounds have a direct analogous internal standard with the exception of PFPeS, PFHpA, PFDS, PFTrDA and 10:2 FTS. These compounds use an internal standard that is chemically related and has a retention time close to that of the target compound. The DQO for internal standard response is 50-150% of that established at initial calibration. PFOS is quantified using a certified, traceable standard consisting of linear and branched PFOS isomers. These practices are in line with recommendations in the National Environmental Management Plan for PFAS (Australian HEPA) and also conform to QSM 5.3 (US DoD) requirements.

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	BH2	BH4	BH6	BH7	BH9A
			Sampling date / time	17-Jun-2022 00:00	17-Jun-2022 00:00	17-Jun-2022 00:00	17-Jun-2022 00:00	17-Jun-2022 00:00
Compound	CAS Number	LOR	Unit	ES2221320-001	ES2221320-002	ES2221320-003	ES2221320-004	ES2221320-005
				Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	7440-50-8	0.001	mg/L	**----**	**0.082**	**----**	**----**	**----**
Manganese	7439-96-5	0.001	mg/L	**0.007**	**0.014**	**0.005**	**0.004**	**0.032**
Iron	7439-89-6	0.05	mg/L	<0.05	<0.05	**2.70**	**0.56**	**0.42**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	BH11	MW239S	WPW	QM82	QC01
			Sampling date / time	17-Jun-2022 00:00	17-Jun-2022 00:00	17-Jun-2022 00:00	17-Jun-2022 00:00	17-Jun-2022 00:00
Compound	CAS Number	LOR	Unit	ES2221320-006	ES2221320-007	ES2221320-008	ES2221320-009	ES2221320-010
				Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Manganese	7439-96-5	0.001	mg/L	**0.004**	**0.004**	**0.061**	**0.061**	<0.001
Iron	7439-89-6	0.05	mg/L	**1.24**	**0.36**	**0.94**	**0.69**	<0.05
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	----	----	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	----	----	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	----	----	<0.01	**0.01**	<0.01
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	----	----	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	----	----	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	----	----	<0.02	<0.02	<0.02
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	----	----	<0.1	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	----	----	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	----	----	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	----	----	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	----	----	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	----	----	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	----	----	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	----	----	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	----	----	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	----	----	<0.02	<0.02	<0.02
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	----	----	<0.05	<0.05	<0.05
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	----	----	<0.02	<0.02	<0.02

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	BH11	MW239S	WPW	QM82	QC01
			Sampling date / time	17-Jun-2022 00:00	17-Jun-2022 00:00	17-Jun-2022 00:00	17-Jun-2022 00:00	17-Jun-2022 00:00
Compound	CAS Number	LOR	Unit	ES2221320-006	ES2221320-007	ES2221320-008	ES2221320-009	ES2221320-010
				Result	Result	Result	Result	Result
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	----	----	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	----	----	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	----	----	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	----	----	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	----	----	<0.02	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	----	----	<0.02	<0.02	<0.02
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	----	----	<0.05	<0.05	<0.05
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	----	----	<0.05	<0.05	<0.05
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	----	----	<0.05	<0.05	<0.05
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	----	----	<0.05	<0.05	<0.05
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	----	----	<0.01	**0.01**	<0.01
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	----	----	<0.01	**0.01**	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	----	----	<0.01	**0.01**	<0.01
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	----	----	**101**	**106**	**98.8**
13C8-PFOA	----	0.02	%	----	----	**105**	**111**	**106**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QC02	----	----	----	----
			Sampling date / time	17-Jun-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2221320-011	--------	--------	--------	--------
				Result	----	----	----	----
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	----	----	----	----
Manganese	7439-96-5	0.001	mg/L	<0.001	----	----	----	----
Iron	7439-89-6	0.05	mg/L	<0.05	----	----	----	----
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	----	----	----	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	----	----	----	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	----	----	----	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	----	----	----	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	----	----	----	----
EP231B: Perfluoroalkyl Carboxylic Acids								
Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	----	----	----	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	----	----	----	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	----	----	----	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	----	----	----	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	----	----	----	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	----	----	----	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	----	----	----	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	----	----	----	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	----	----	----	----
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides								
Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	----	----	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QC02	----	----	----	----
			Sampling date / time	17-Jun-2022 00:00	----	----	----	----
Compound	CAS Number	LOR	Unit	ES2221320-011	--------	--------	--------	--------
				Result	----	----	----	----
EP231C: Perfluoroalkyl Sulfonamides - Continued								
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	----	----	----	----
N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	----	----	----	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	----	----	----	----
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	----	----	----	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	----	----	----	----
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	----	----	----	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	----	----	----	----
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	<0.01	----	----	----	----
Sum of PFHxS and PFOS	355-46-4/1763-23-1	0.01	µg/L	<0.01	----	----	----	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	----	----	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	100	----	----	----	----
13C8-PFOA	----	0.02	%	104	----	----	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

QUALITY CONTROL REPORT

Work Order	: **ES2221320**	Page	: 1 of 6
Client	: **KLEINFELDER AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: Megan Ferguson	Contact	: Shirley LeCornu
Address	: Suite 3, 240 - 244 Pacific Highway Charlestown NSW 2290	Address	: 277-289 Woodpark Road Smithfield NSW Australia 2164
Telephone	: ----	Telephone	: +6138549 9630
Project	: 20222347	Date Samples Received	: 17-Jun-2022
Order number	: ----	Date Analysis Commenced	: 21-Jun-2022
C-O-C number	: ----	Issue Date	: 24-Jun-2022
Sampler	: Megan Ferguson		
Site	: WSS - Cabbage Tree Rd Water Monitoring June 2022		
Quote number	: ME/114/19 ALS Compass		
No. of samples received	: 11		
No. of samples analysed	: 11		

Accreditation No. 825
Accredited for compliance with
ISO/IEC 17025 - Testing

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted, unless the sampling was conducted by ALS. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percentage Difference (RPD) and Acceptance Limits
- Method Blank (MB) and Laboratory Control Spike (LCS) Report; Recovery and Acceptance Limits
- Matrix Spike (MS) Report; Recovery and Acceptance Limits

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is carried out in compliance with procedures specified in 21 CFR Part 11.

Signatories	*Position*	*Accreditation Category*
Ankit Joshi	Senior Chemist - Inorganics	Sydney Inorganics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW

General Comments

The analytical procedures used by ALS have been developed from established internationally recognised procedures such as those published by the USEPA, APHA, AS and NEPM. In house developed procedures are fully validated and are often at the client request.

Where moisture determination has been performed, results are reported on a dry weight basis.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis. Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Key : Anonymous = Refers to samples which are not specifically part of this work order but formed part of the QC process lot
CAS Number = CAS registry number from database maintained by Chemical Abstracts Services. The Chemical Abstracts Service is a division of the American Chemical Society.
LOR = Limit of reporting
RPD = Relative Percentage Difference
# = Indicates failed QC

Laboratory Duplicate (DUP) Report

The quality control term Laboratory Duplicate refers to a randomly selected intralaboratory split. Laboratory duplicates provide information regarding method precision and sample heterogeneity. The permitted ranges for the Relative Percent Deviation (RPD) of Laboratory Duplicates are specified in ALS Method QWI-EN/38 and are dependent on the magnitude of results in comparison to the level of reporting: Result < 10 times LOR: No Limit; Result between 10 and 20 times LOR: 0% - 50%; Result > 20 times LOR: 0% - 20%.

Sub-Matrix: **WATER**

				Laboratory Duplicate (DUP) Report					
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EG020F: Dissolved Metals by ICP-MS (QC Lot: 4412852)									
ES2221247-001	Anonymous	EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.737	0.731	0.8	0% - 20%
		EG020A-F: Iron	7439-89-6	0.05	mg/L	<0.05	<0.05	0.0	No Limit
ES2221247-011	Anonymous	EG020A-F: Arsenic	7440-38-2	0.001	mg/L	0.001	0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.283	0.281	0.6	0% - 20%
		EG020A-F: Iron	7439-89-6	0.05	mg/L	<0.05	<0.05	0.0	No Limit
EG020F: Dissolved Metals by ICP-MS (QC Lot: 4412854)									
ES2221320-004	BH7	EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-F: Iron	7439-89-6	0.05	mg/L	0.56	0.56	0.0	0% - 50%
EW2202798-001	Anonymous	EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.0	No Limit
		EG020A-F: Copper	7440-50-8	0.001	mg/L	0.002	0.002	0.0	No Limit
		EG020A-F: Manganese	7439-96-5	0.001	mg/L	0.004	0.004	0.0	No Limit
		EG020A-F: Iron	7439-89-6	0.05	mg/L	<0.05	<0.05	0.0	No Limit
EP231A: Perfluoroalkyl Sulfonic Acids (QC Lot: 4412035)									
ES2221217-001	Anonymous	EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	1.90	2.02	6.4	0% - 20%
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	6.79	6.98	2.7	0% - 20%
		EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	0.11	0.13	16.7	No Limit
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	0.07	0.06	0.0	No Limit
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.05	<0.05	0.0	No Limit

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Laboratory Duplicate (DUP) Report LOR	Unit	Original Result	Duplicate Result	RPD (%)	Acceptable RPD (%)
EP231B: Perfluoroalkyl Carboxylic Acids (QC Lot: 4412035)									
ES2221217-001	Anonymous	EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	0.14	0.15	6.9	No Limit
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	0.74	0.80	7.7	0% - 50%
		EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.2	<0.2	0.0	No Limit
EP231C: Perfluoroalkyl Sulfonamides (QC Lot: 4412035)									
ES2221217-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.12	<0.12	0.0	No Limit
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.12	<0.12	0.0	No Limit
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QC Lot: 4412035)									
ES2221217-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	<0.05	0.0	No Limit
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	0.0	No Limit
EP231P: PFAS Sums (QC Lot: 4412035)									
ES2221217-001	Anonymous	EP231X: Sum of PFAS	----	0.01	µg/L	9.75	10.1	3.9	0% - 20%

Method Blank (MB) and Laboratory Control Sample (LCS) Report

The quality control term Method / Laboratory Blank refers to an analyte free matrix to which all reagents are added in the same volumes or proportions as used in standard sample preparation. The purpose of this QC parameter is to monitor potential laboratory contamination. The quality control term Laboratory Control Sample (LCS) refers to a certified reference material, or a known interference free matrix spiked with target analytes. The purpose of this QC parameter is to monitor method precision and accuracy independent of sample matrix. Dynamic Recovery Limits are based on statistical evaluation of processed LCS.

Sub-Matrix: **WATER**

				Method Blank (MB) Report	Laboratory Control Spike (LCS) Report			
					Spike	Spike Recovery (%)	Acceptable Limits (%)	
Method: Compound	CAS Number	LOR	Unit	Result	Concentration	LCS	Low	High
EG020F: Dissolved Metals by ICP-MS (QCLot: 4412852)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	92.4	85.0	114
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	92.3	81.0	111
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	92.0	82.0	110
EG020A-F: Iron	7439-89-6	0.05	mg/L	<0.05	0.5 mg/L	93.2	82.0	112
EG020F: Dissolved Metals by ICP-MS (QCLot: 4412854)								
EG020A-F: Arsenic	7440-38-2	0.001	mg/L	<0.001	0.1 mg/L	91.7	85.0	114
EG020A-F: Copper	7440-50-8	0.001	mg/L	<0.001	0.1 mg/L	91.8	81.0	111
EG020A-F: Manganese	7439-96-5	0.001	mg/L	<0.001	0.1 mg/L	93.6	82.0	110
EG020A-F: Iron	7439-89-6	0.05	mg/L	<0.05	0.5 mg/L	94.2	82.0	112
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4412035)								
EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	0.25 µg/L	120	72.0	130
EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	0.25 µg/L	127	71.0	127
EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.01	µg/L	<0.01	0.25 µg/L	120	68.0	131
EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	0.25 µg/L	128	69.0	134
EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	0.25 µg/L	121	65.0	140
EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	0.25 µg/L	126	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4412035)								
EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	0.1	µg/L	<0.1	1.25 µg/L	98.5	73.0	129
EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	0.25 µg/L	115	72.0	129
EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	0.25 µg/L	121	72.0	129
EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	0.25 µg/L	121	72.0	130
EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	0.25 µg/L	123	71.0	133
EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	0.25 µg/L	124	69.0	130
EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	0.25 µg/L	124	71.0	129
EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	0.25 µg/L	122	69.0	133
EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	0.25 µg/L	127	72.0	134
EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	0.25 µg/L	115	65.0	144
EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	0.625 µg/L	119	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4412035)								
EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.02	µg/L	<0.02	0.25 µg/L	128	67.0	137
EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	0.625 µg/L	112	68.0	141
EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	0.625 µg/L	128	62.6	147
EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	0.625 µg/L	103	66.0	145

Sub-Matrix: **WATER**

Method: Compound	CAS Number	LOR	Unit	Method Blank (MB) Report: Result	Laboratory Control Spike (LCS) Report: Spike Concentration	Spike Recovery (%): LCS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4412035) - continued								
EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	0.625 µg/L	114	57.6	145
EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.02	µg/L	<0.02	0.25 µg/L	126	65.0	136
EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	0.25 µg/L	104	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4412035)								
EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.05	µg/L	<0.05	0.25 µg/L	112	63.0	143
EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	0.25 µg/L	123	64.0	140
EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.05	µg/L	<0.05	0.25 µg/L	122	67.0	138
EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	0.25 µg/L	125	71.4	144

Matrix Spike (MS) Report

The quality control term Matrix Spike (MS) refers to an intralaboratory split sample spiked with a representative set of target analytes. The purpose of this QC parameter is to monitor potential matrix effects on analyte recoveries. Static Recovery Limits as per laboratory Data Quality Objectives (DQOs). Ideal recovery ranges stated may be waived in the event of sample matrix interference.

Sub-Matrix: **WATER**

Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Matrix Spike (MS) Report: Spike Concentration	SpikeRecovery(%): MS	Acceptable Limits (%): Low	Acceptable Limits (%): High
EG020F: Dissolved Metals by ICP-MS (QCLot: 4412852)							
ES2221247-002	Anonymous	EG020A-F: Arsenic	7440-38-2	1 mg/L	99.4	70.0	130
		EG020A-F: Copper	7440-50-8	1 mg/L	93.7	70.0	130
		EG020A-F: Manganese	7439-96-5	1 mg/L	91.1	70.0	130
EG020F: Dissolved Metals by ICP-MS (QCLot: 4412854)							
ES2221320-005	BH9A	EG020A-F: Arsenic	7440-38-2	1 mg/L	89.6	70.0	130
		EG020A-F: Copper	7440-50-8	1 mg/L	91.0	70.0	130
		EG020A-F: Manganese	7439-96-5	1 mg/L	93.7	70.0	130
EP231A: Perfluoroalkyl Sulfonic Acids (QCLot: 4412035)							
ES2221217-001	Anonymous	EP231X: Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.25 µg/L	119	72.0	130
		EP231X: Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.25 µg/L	100	71.0	127
		EP231X: Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.25 µg/L	111	68.0	131
		EP231X: Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.25 µg/L	122	69.0	134
		EP231X: Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.25 µg/L	94.4	65.0	140
		EP231X: Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.25 µg/L	120	53.0	142
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4412035)							
ES2221217-001	Anonymous	EP231X: Perfluorobutanoic acid (PFBA)	375-22-4	1.25 µg/L	102	73.0	129
		EP231X: Perfluoropentanoic acid (PFPeA)	2706-90-3	0.25 µg/L	128	72.0	129
		EP231X: Perfluorohexanoic acid (PFHxA)	307-24-4	0.25 µg/L	129	72.0	129

Sub-Matrix: **WATER**

				Matrix Spike (MS) Report			
				Spike	SpikeRecovery(%)	Acceptable Limits (%)	
Laboratory sample ID	Sample ID	Method: Compound	CAS Number	Concentration	MS	Low	High
EP231B: Perfluoroalkyl Carboxylic Acids (QCLot: 4412035) - continued							
ES2221217-001	Anonymous	EP231X: Perfluoroheptanoic acid (PFHpA)	375-85-9	0.25 µg/L	125	72.0	130
		EP231X: Perfluorooctanoic acid (PFOA)	335-67-1	0.25 µg/L	120	71.0	133
		EP231X: Perfluorononanoic acid (PFNA)	375-95-1	0.25 µg/L	120	69.0	130
		EP231X: Perfluorodecanoic acid (PFDA)	335-76-2	0.25 µg/L	124	71.0	129
		EP231X: Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.25 µg/L	127	69.0	133
		EP231X: Perfluorododecanoic acid (PFDoDA)	307-55-1	0.25 µg/L	122	72.0	134
		EP231X: Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.25 µg/L	120	65.0	144
		EP231X: Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.625 µg/L	118	71.0	132
EP231C: Perfluoroalkyl Sulfonamides (QCLot: 4412035)							
ES2221217-001	Anonymous	EP231X: Perfluorooctane sulfonamide (FOSA)	754-91-6	0.25 µg/L	129	67.0	137
		EP231X: N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.625 µg/L	124	68.0	141
		EP231X: N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.625 µg/L	120	62.6	147
		EP231X: N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.625 µg/L	112	66.0	145
		EP231X: N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.625 µg/L	107	57.6	145
		EP231X: N-Methyl perfluorooctane sulfonamidoacetic acid (MeFOSAA)	2355-31-9	0.25 µg/L	108	65.0	136
		EP231X: N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.25 µg/L	108	61.0	135
EP231D: (n:2) Fluorotelomer Sulfonic Acids (QCLot: 4412035)							
ES2221217-001	Anonymous	EP231X: 4:2 Fluorotelomer sulfonic acid (4:2 FTS)	757124-72-4	0.25 µg/L	118	63.0	143
		EP231X: 6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.25 µg/L	116	64.0	140
		EP231X: 8:2 Fluorotelomer sulfonic acid (8:2 FTS)	39108-34-4	0.25 µg/L	125	67.0	138
		EP231X: 10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.25 µg/L	122	71.4	144

QA/QC Compliance Assessment to assist with Quality Review

Work Order	: **ES2221320**	Page	: 1 of 5
Client	: **KLEINFELDER AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: Megan Ferguson	Telephone	: +6138549 9630
Project	: 20222347	Date Samples Received	: 17-Jun-2022
Site	: WSS - Cabbage Tree Rd Water Monitoring June 2022	Issue Date	: 24-Jun-2022
Sampler	: Megan Ferguson	No. of samples received	: 11
Order number	: ----	No. of samples analysed	: 11

This report is automatically generated by the ALS LIMS through interpretation of the ALS Quality Control Report and several Quality Assurance parameters measured by ALS. This automated reporting highlights any non-conformances, facilitates faster and more accurate data validation and is designed to assist internal expert and external Auditor review. Many components of this report contribute to the overall DQO assessment and reporting for guideline compliance.

Brief method summaries and references are also provided to assist in traceability.

Summary of Outliers

Outliers : Quality Control Samples

This report highlights outliers flagged in the Quality Control (QC) Report.

- **NO Method Blank value outliers occur.**
- **NO Duplicate outliers occur.**
- **NO Laboratory Control outliers occur.**
- **NO Matrix Spike outliers occur.**
- **For all regular sample matrices, NO surrogate recovery outliers occur.**

Outliers : Analysis Holding Time Compliance

- **NO Analysis Holding Time Outliers exist.**

Outliers : Frequency of Quality Control Samples

- **Quality Control Sample Frequency Outliers exist - please see following pages for full details.**

Outliers : Frequency of Quality Control Samples

Matrix: **WATER**

Quality Control Sample Type	Count		Rate (%)		Quality Control Specification
Method	QC	Regular	Actual	Expected	
Laboratory Duplicates (DUP)					
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	1	19	5.26	10.00	NEPM 2013 B3 & ALS QC Standard

Analysis Holding Time Compliance

If samples are identified below as having been analysed or extracted outside of recommended holding times, this should be taken into consideration when interpreting results.

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times (referencing USEPA SW 846, APHA, AS and NEPM) based on the sample container provided. Dates reported represent first date of extraction or analysis and preclude subsequent dilutions and reruns. A listing of breaches (if any) is provided herein.

Holding time for leachate methods (e.g. TCLP) vary according to the analytes reported. Assessment compares the leach date with the shortest analyte holding time for the equivalent soil method. These are: organics 14 days, mercury 28 days & other metals 180 days. A recorded breach does not guarantee a breach for all non-volatile parameters.

Holding times for ***VOC in soils*** vary according to analytes of interest. Vinyl Chloride and Styrene holding time is 7 days; others 14 days. A recorded breach does not guarantee a breach for all VOC analytes and should be verified in case the reported breach is a false positive or Vinyl Chloride and Styrene are not key analytes of interest/concern.

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / *Container / Client Sample ID(s)*		*Sample Date*	*Extraction / Preparation*			*Analysis*		
			Date extracted	*Due for extraction*	*Evaluation*	*Date analysed*	*Due for analysis*	*Evaluation*
EG020F: Dissolved Metals by ICP-MS								
Clear Plastic Bottle - Nitric Acid; Filtered (EG020A-F)								
BH2,	BH4,	**17-Jun-2022**	**----**	----	----	**22-Jun-2022**	14-Dec-2022	✓
BH6,	BH7,							
BH9A,	BH11,							
MW239S,	WPW,							
QM82,	QC01,							
QC02								
EP231A: Perfluoroalkyl Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
WPW,	QM82,	**17-Jun-2022**	**23-Jun-2022**	14-Dec-2022	✓	**23-Jun-2022**	14-Dec-2022	✓
QC01,	QC02							
EP231B: Perfluoroalkyl Carboxylic Acids								
HDPE (no PTFE) (EP231X)								
WPW,	QM82,	**17-Jun-2022**	**23-Jun-2022**	14-Dec-2022	✓	**23-Jun-2022**	14-Dec-2022	✓
QC01,	QC02							
EP231C: Perfluoroalkyl Sulfonamides								
HDPE (no PTFE) (EP231X)								
WPW,	QM82,	**17-Jun-2022**	**23-Jun-2022**	14-Dec-2022	✓	**23-Jun-2022**	14-Dec-2022	✓
QC01,	QC02							
EP231D: (n:2) Fluorotelomer Sulfonic Acids								
HDPE (no PTFE) (EP231X)								
WPW,	QM82,	**17-Jun-2022**	**23-Jun-2022**	14-Dec-2022	✓	**23-Jun-2022**	14-Dec-2022	✓
QC01,	QC02							

Matrix: **WATER**

Evaluation: × = Holding time breach ; ✓ = Within holding time.

Method / Container / Client Sample ID(s)		Sample Date	Extraction / Preparation			Analysis		
			Date extracted	Due for extraction	Evaluation	Date analysed	Due for analysis	Evaluation
EP231P: PFAS Sums								
HDPE (no PTFE) (EP231X)								
WPW, QC01,	QM82, QC02	**17-Jun-2022**	**23-Jun-2022**	14-Dec-2022	✓	**23-Jun-2022**	14-Dec-2022	✓

Quality Control Parameter Frequency Compliance

The following report summarises the frequency of laboratory QC samples analysed within the analytical lot(s) in which the submitted sample(s) was(were) processed. Actual rate should be greater than or equal to the expected rate. A listing of breaches is provided in the Summary of Outliers.

Matrix: **WATER**

Evaluation: × = Quality Control frequency not within specification ; ✓ = Quality Control frequency within specification.

Quality Control Sample Type		Count		Rate (%)			Quality Control Specification
Analytical Methods	*Method*	*QC*	*Regular*	***Actual***	***Expected***	*Evaluation*	
Laboratory Duplicates (DUP)							
Dissolved Metals by ICP-MS - Suite A	EG020A-F	4	38	**10.53**	**10.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**10.00**	×	NEPM 2013 B3 & ALS QC Standard
Laboratory Control Samples (LCS)							
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Method Blanks (MB)							
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Matrix Spikes (MS)							
Dissolved Metals by ICP-MS - Suite A	EG020A-F	2	38	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	1	19	**5.26**	**5.00**	✓	NEPM 2013 B3 & ALS QC Standard

Brief Method Summaries

The analytical procedures used by the Environmental Division have been developed from established internationally recognized procedures such as those published by the US EPA, APHA, AS and NEPM. In house developed procedures are employed in the absence of documented standards or by client request. The following report provides brief descriptions of the analytical procedures employed for results reported in the Certificate of Analysis. Sources from which ALS methods have been developed are provided within the Method Descriptions.

Analytical Methods	*Method*	*Matrix*	*Method Descriptions*
Dissolved Metals by ICP-MS - Suite A	EG020A-F	WATER	In house: Referenced to APHA 3125; USEPA SW846 - 6020, ALS QWI-EN/EG020. Samples are 0.45µm filtered prior to analysis. The ICPMS technique utilizes a highly efficient argon plasma to ionize selected elements. Ions are then passed into a high vacuum mass spectrometer, which separates the analytes based on their distinct mass to charge ratios prior to their measurement by a discrete dynode ion detector.
Per- and Polyfluoroalkyl Substances (PFAS) by LCMSMS	EP231X	WATER	In-house: Analysis of fresh and saline waters by Solid Phase Extraction (SPE) followed by LC-Electrospray-MS-MS, Negative Mode using MRM and internal standard quantitation. Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures and data quality objectives conform to US DoD QSM 5.3, table B-15 requirements.

Preparation Methods	*Method*	*Matrix*	*Method Descriptions*
Solid Phase Extraction (SPE) for PFAS in water	ORG72	WATER	In-house: Isotopically labelled analogues of target analytes used as internal standards and surrogates are added to the sample container. The entire contents are transferred to a solid phase extraction (SPE) cartridge. The sample container is successively rinsed with aliquots of the elution solvent. The eluted extract is combined with an equal volume of reagent water and a portion is filtered for analysis. Method procedures conform to US DoD QSM 5.3, table B-15 requirements.

KLEINFELDER AUSTRALIA PTY LTD

COC number:

KLEINFELDER
Bright People. Right Solutions.

Client:	SITE, COC AND CONTACT DATA				Laboratory:
Kleinfelder Australia Pty Ltd Suite 3, 240-244 Pacific Hwy Charlestown, NSW 2290 Phone: 02 4949 5200	Site Name:	WSS - Cabbage Tree Rd Water Monitoring June 2022	Sampler Name:	Megan Ferguson	ALS 5/585 Maitland Rd Mayfield West, Newcastle NSW 2304 Phone: (02) 4014 2500
	QUOTE NUMBER	ME/114/19	Contact Number:	0455 981 953	
	Job No.:	20222347	Contact e-mail:	mferguson@kleinfelder.com	
	Required TAT:	24 hrs 48 hrs 3 days 5 days 7 days	EDD Format	KLF_EFWEDD	
	Data QA level:	LAB minimum unless specified:			

CHAIN OF CUSTODY

Relinquished by (print):	Megan Ferguson	Received by (print):	ICS	Relinquished:		Received by:	
(sign)		(sign)		(sign)	17-6-22	(sign)	
Date / Time:	17/6/22	Date / Time:	17/6/22 4:03	Date / Time:	5pm	Date / Time:	
Notes:	4:03pm	Temp. (°C)	1.4	Notes:		Temp. (°C)	
		Notes:	ice present / no ice seals intact / no seal			Notes:	ice present / no ice seals intact / no seal

Send Results to:

mferguson@kleinfelder.com

Suite 3, 240-244 Pacific Hwy
Charlestown, NSW 2290
newcastle@kleinfelder.com
Phone: 02 4949 5200

	Sample ID	Lab ID	Sample Point	Sample Type	Date	Start Depth	End Depth	Units	# Containers	Organic Analytes: W-04 SG TRH SGBTEX									Metals: W-03 Metals_ NEPM 15	Iron (dissolved)	8 Metals (As, Ba, Cr, Cu, Fe, Mg, Ni and Zn)	Other Analytes: 3 metals only (As, Fe & Mn)	Copper (Cu)	Total Phosphorus, Ammonia as N, Total Nitrogen as N	EP231X PFAS (28 analytes, standard level)	Co
1	BH2			Water	17/06/2022				1													X				
2	BH4			Water	17/06/2022				1													X	X			
3	BH6			Water	17/06/2022				1													X				
4	BH7			Water	17/06/2022				1													X				
5	BH9A			Water	17/06/2022				1													X				
6	BH11			Water	17/06/2022				1													X				
7	MW239S			Water	17/06/2022				1													X				
8	WPW			Water	17/06/2022				3													X			X	
9	QW82			Water	17/06/2022				3													X			X	
.	QW83			Water	17/06/2022				3													X			X	Send to Eurofins
10	QC01			Water	17/06/2022				3													X			X	
11	QC02			Water	17/06/2022				3													X			X	

Subcon / Forward Lab / Split WO: Envirolab
Lab / Analysis: QW83
Organised By / Date:
Relinquished By / Date:
Connote / Courier:
WO No:
Attached By PO / Internal Sheet:

W-03 Metals (NEPM 15) - As, Ba, Be, B, Cd, Cr, Co, Cu, Fe, Pb, Mn, Hg, Ni, Se, V, Zn
NT14 - Extended water suite B

Environmental Division
Sydney
Work Order Reference
ES2221320

Telephone : + 61-2-8784 8555

PP 17/6/22 7130

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Certificate of Analysis

Kleinfelder Australia Pty Ltd (NEWC)
Suite 3, 240-244 Pacific Hwy
Charlestown
NSW 2290

NATA Accredited
Accreditation Number 1261
Site Number 20794

Accredited for compliance with ISO/IEC 17025 – Testing
NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration, inspection, proficiency testing scheme providers and reference materials producers reports and certificates.

Attention: **M Ferguson**

Report **900420-W**
Project name WSS - CABBAGE TREE RD WATER MONITERING JUNE 2022
Project ID 20223457
Received Date Jun 22, 2022

Client Sample ID			[G01]**QW83**
Sample Matrix			**Water**
Eurofins Sample No.			**S22-Jn0055971**
Date Sampled			**Jun 17, 2022**
Test/Reference	LOR	Unit	
Heavy Metals			
Arsenic (filtered)	0.001	mg/L	< 0.001
Iron (filtered)	0.05	mg/L	0.80
Manganese (filtered)	0.005	mg/L	0.064
Perfluoroalkyl carboxylic acids (PFCAs)			
Perfluorobutanoic acid (PFBA)[N11]	0.05	ug/L	< 0.5
Perfluoropentanoic acid (PFPeA)[N11]	0.01	ug/L	< 0.1
Perfluorohexanoic acid (PFHxA)[N11]	0.01	ug/L	< 0.1
Perfluoroheptanoic acid (PFHpA)[N11]	0.01	ug/L	< 0.1
Perfluorooctanoic acid (PFOA)[N11]	0.01	ug/L	< 0.1
Perfluorononanoic acid (PFNA)[N11]	0.01	ug/L	< 0.1
Perfluorodecanoic acid (PFDA)[N11]	0.01	ug/L	< 0.1
Perfluoroundecanoic acid (PFUnDA)[N11]	0.01	ug/L	< 0.1
Perfluorododecanoic acid (PFDoDA)[N11]	0.01	ug/L	< 0.1
Perfluorotridecanoic acid (PFTrDA)[N15]	0.01	ug/L	< 0.1
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.01	ug/L	< 0.1
13C4-PFBA (surr.)	1	%	134
13C5-PFPeA (surr.)	1	%	129
13C5-PFHxA (surr.)	1	%	120
13C4-PFHpA (surr.)	1	%	124
13C8-PFOA (surr.)	1	%	103
13C5-PFNA (surr.)	1	%	61
13C6-PFDA (surr.)	1	%	15
13C2-PFUnDA (surr.)	1	%	[Q09]INT
13C2-PFDoDA (surr.)	1	%	[Q09]INT
13C2-PFTeDA (surr.)	1	%	[Q09]INT
Perfluoroalkyl sulfonamido substances			
Perfluorooctane sulfonamide (FOSA)[N11]	0.05	ug/L	< 0.5
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.05	ug/L	< 0.5
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.05	ug/L	< 0.5
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)[N11]	0.05	ug/L	< 0.5
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)[N11]	0.05	ug/L	< 0.5
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.05	ug/L	< 0.5

Client Sample ID			[G01]QW83
Sample Matrix			Water
Eurofins Sample No.			S22-Jn0055971
Date Sampled			Jun 17, 2022
Test/Reference	LOR	Unit	
Perfluoroalkyl sulfonamido substances			
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.05	ug/L	< 0.5
13C8-FOSA (surr.)	1	%	[Q09]INT
D3-N-MeFOSA (surr.)	1	%	[Q09]INT
D5-N-EtFOSA (surr.)	1	%	[Q09]INT
D7-N-MeFOSE (surr.)	1	%	[Q09]INT
D9-N-EtFOSE (surr.)	1	%	[Q09]INT
D5-N-EtFOSAA (surr.)	1	%	[Q09]INT
D3-N-MeFOSAA (surr.)	1	%	[Q09]INT
Perfluoroalkyl sulfonic acids (PFSAs)			
Perfluorobutanesulfonic acid (PFBS)[N11]	0.01	ug/L	< 0.1
Perfluorononanesulfonic acid (PFNS)[N15]	0.01	ug/L	< 0.1
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.01	ug/L	< 0.1
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.01	ug/L	< 0.1
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.01	ug/L	< 0.1
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.01	ug/L	< 0.1
Perfluorooctanesulfonic acid (PFOS)[N11]	0.01	ug/L	< 0.1
Perfluorodecanesulfonic acid (PFDS)[N15]	0.01	ug/L	< 0.1
13C3-PFBS (surr.)	1	%	110
18O2-PFHxS (surr.)	1	%	81
13C8-PFOS (surr.)	1	%	13
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.01	ug/L	< 0.1
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)[N11]	0.05	ug/L	< 0.5
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.01	ug/L	< 0.1
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.01	ug/L	< 0.1
13C2-4:2 FTSA (surr.)	1	%	76
13C2-6:2 FTSA (surr.)	1	%	43
13C2-8:2 FTSA (surr.)	1	%	[Q09]INT
13C2-10:2 FTSA (surr.)	1	%	[Q09]INT
PFASs Summations			
Sum (PFHxS + PFOS)*	0.01	ug/L	< 0.1
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	< 0.1
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	< 0.1
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	< 0.5
Sum of PFASs (n=30)*	0.1	ug/L	< 0.5

Sample History

Where samples are submitted/analysed over several days, the last date of extraction is reported.

If the date and time of sampling are not provided, the Laboratory will not be responsible for compromised results should testing be performed outside the recommended holding time.

Description	Testing Site	Extracted	Holding Time
Heavy Metals (filtered)	Sydney	Jun 24, 2022	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs)	Brisbane	Jun 27, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonamido substances	Brisbane	Jun 27, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonic acids (PFSAs)	Brisbane	Jun 27, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)	Brisbane	Jun 27, 2022	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			

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Phone : 0800 856 450
IANZ # 1290

Company Name: Kleinfelder Aust Pty Ltd (NEWCASTLE)
Address: Suite 3, 240-244 Pacific Hwy
Charlestown
NSW 2290

Order No.:
Report #: 900420
Phone: 02 4949 5200
Fax:

Received: Jun 22, 2022 2:21 PM
Due: Jun 29, 2022
Priority: 5 Day
Contact Name: ALL INVOICES

Project Name: WSS - CABBAGE TREE RD WATER MONITERING JUNE 2022
Project ID: 20223457

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Arsenic (filtered)	Iron (filtered)	Manganese (filtered)	Per- and Polyfluoroalkyl Substances (PFASs)
Melbourne Laboratory - NATA # 1261 Site # 1254									
Sydney Laboratory - NATA # 1261 Site # 18217						X	X	X	
Brisbane Laboratory - NATA # 1261 Site # 20794									X
Mayfield Laboratory - NATA # 1261 Site # 25079									
Perth Laboratory - NATA # 2377 Site # 2370									
External Laboratory									
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**				
1	QW83	Jun 17, 2022		Water	S22-Jn0055971	X	X	X	X
Test Counts						1	1	1	1

Internal Quality Control Review and Glossary

General

1. Laboratory QC results for Method Blanks, Duplicates, Matrix Spikes, and Laboratory Control Samples follows guidelines delineated in the National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended May 2013 and are included in this QC report where applicable. Additional QC data may be available on request.
2. All soil/sediment/solid results are reported on a dry basis, unless otherwise stated.
3. All biota/food results are reported on a wet weight basis on the edible portion, unless otherwise stated.
4. Actual LORs are matrix dependant. Quoted LORs may be raised where sample extracts are diluted due to interferences.
5. Results are uncorrected for matrix spikes or surrogate recoveries except for PFAS compounds.
6. SVOC analysis on waters are performed on homogenised, unfiltered samples, unless noted otherwise.
7. Samples were analysed on an 'as received' basis.
8. Information identified on this report with blue colour, indicates data provided by customer that may have an impact on the results.
9. This report replaces any interim results previously issued.

Holding Times

Please refer to 'Sample Preservation and Container Guide' for holding times (QS3001).

For samples received on the last day of holding time, notification of testing requirements should have been received at least 6 hours prior to sample receipt deadlines as stated on the SRA.

If the Laboratory did not receive the information in the required timeframe, and regardless of any other integrity issues, suitably qualified results may still be reported.

Holding times apply from the date of sampling, therefore compliance to these may be outside the laboratory's control.

For VOCs containing vinyl chloride, styrene and 2-chloroethyl vinyl ether the holding time is 7 days however for all other VOCs such as BTEX or C6-10 TRH then the holding time is 14 days.

Units

mg/kg: milligrams per kilogram
mg/L: milligrams per litre
µg/L: micrograms per litre
ppm: parts per million
ppb: parts per billion
%: Percentage
org/100 mL: Organisms per 100 millilitres
NTU: Nephelometric Turbidity Units
MPN/100 mL: Most Probable Number of organisms per 100 millilitres

Terms

APHA	American Public Health Association
COC	Chain of Custody
CP	Client Parent - QC was performed on samples pertaining to this report
CRM	Certified Reference Material (ISO17034) - reported as percent recovery.
Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
LOR	Limit of Reporting.
LCS	Laboratory Control Sample - reported as percent recovery.
Method Blank	In the case of solid samples these are performed on laboratory certified clean sands and in the case of water samples these are performed on de-ionised water.
NCP	Non-Client Parent - QC performed on samples not pertaining to this report, QC is representative of the sequence or batch that client samples were analysed within.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
SRA	Sample Receipt Advice
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
TBTO	Tributyltin oxide (*bis*-tributyltin oxide) - individual tributyltin compounds cannot be identified separately in the environment however free tributyltin was measured and its values were converted stoichiometrically into tributyltin oxide for comparison with regulatory limits.
TCLP	Toxicity Characteristic Leaching Procedure
TEQ	Toxic Equivalency Quotient or Total Equivalence
QSM	US Department of Defense Quality Systems Manual Version 5.4
US EPA	United States Environmental Protection Agency
WA DWER	Sum of PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

QC - Acceptance Criteria

The acceptance criteria should be used as a guide only and may be different when site specific Sampling Analysis and Quality Plan (SAQP) have been implemented

RPD Duplicates: Global RPD Duplicates Acceptance Criteria is 30% however the following acceptance guidelines are equally applicable:

Results <10 times the LOR: No Limit

Results between 10-20 times the LOR: RPD must lie between 0-50%

Results >20 times the LOR : RPD must lie between 0-30%

NOTE: pH duplicates are reported as a range not as RPD

Surrogate Recoveries: Recoveries must lie between 20-130% for Speciated Phenols & 50-150% for PFAS

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.4 where no positive PFAS results have been reported have been reviewed and no data was affected.

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QC Data General Comments

1. Where a result is reported as a less than (<), higher than the nominated LOR, this is due to either matrix interference, extract dilution required due to interferences or contaminant levels within the sample, high moisture content or insufficient sample provided.
2. Duplicate data shown within this report that states the word "BATCH" is a Batch Duplicate from outside of your sample batch, but within the laboratory sample batch at a 1:10 ratio. The Parent and Duplicate data shown is not data from your samples.
3. pH and Free Chlorine analysed in the laboratory - Analysis on this test must begin within 30 minutes of sampling. Therefore, laboratory analysis is unlikely to be completed within holding time.Analysis will begin as soon as possible after sample receipt.
4. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of recovery the term "INT" appears against that analyte.
5. For Matrix Spikes and LCS results a dash "-" in the report means that the specific analyte was not added to the QC sample.
6. Duplicate RPDs are calculated from raw analytical data thus it is possible to have two sets of data.

Quality Control Results

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Iron (filtered)	mg/L	< 0.05			0.05	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	ug/L	< 0.05			0.05	Pass	
Perfluoropentanoic acid (PFPeA)	ug/L	< 0.01			0.01	Pass	
Perfluorohexanoic acid (PFHxA)	ug/L	< 0.01			0.01	Pass	
Perfluoroheptanoic acid (PFHpA)	ug/L	< 0.01			0.01	Pass	
Perfluorooctanoic acid (PFOA)	ug/L	< 0.01			0.01	Pass	
Perfluorononanoic acid (PFNA)	ug/L	< 0.01			0.01	Pass	
Perfluorodecanoic acid (PFDA)	ug/L	< 0.01			0.01	Pass	
Perfluoroundecanoic acid (PFUnDA)	ug/L	< 0.01			0.01	Pass	
Perfluorododecanoic acid (PFDoDA)	ug/L	< 0.01			0.01	Pass	
Perfluorotridecanoic acid (PFTrDA)	ug/L	< 0.01			0.01	Pass	
Perfluorotetradecanoic acid (PFTeDA)	ug/L	< 0.01			0.01	Pass	
Method Blank							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	ug/L	< 0.05			0.05	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	ug/L	< 0.05			0.05	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	ug/L	< 0.05			0.05	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	ug/L	< 0.05			0.05	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	ug/L	< 0.05			0.05	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	ug/L	< 0.05			0.05	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	ug/L	< 0.05			0.05	Pass	
Method Blank							
Perfluoroalkyl sulfonic acids (PFSAs)							
Perfluorobutanesulfonic acid (PFBS)	ug/L	< 0.01			0.01	Pass	
Perfluorononanesulfonic acid (PFNS)	ug/L	< 0.01			0.01	Pass	
Perfluoropropanesulfonic acid (PFPrS)	ug/L	< 0.01			0.01	Pass	
Perfluoropentanesulfonic acid (PFPeS)	ug/L	< 0.01			0.01	Pass	
Perfluorohexanesulfonic acid (PFHxS)	ug/L	< 0.01			0.01	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	ug/L	< 0.01			0.01	Pass	
Perfluorooctanesulfonic acid (PFOS)	ug/L	< 0.01			0.01	Pass	
Perfluorodecanesulfonic acid (PFDS)	ug/L	< 0.01			0.01	Pass	
Method Blank							
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)							
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	ug/L	< 0.01			0.01	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	ug/L	< 0.05			0.05	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	ug/L	< 0.01			0.01	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	ug/L	< 0.01			0.01	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic (filtered)	%	108			80-120	Pass	
Iron (filtered)	%	95			80-120	Pass	
Manganese (filtered)	%	101			80-120	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	%	104			50-150	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluoropentanoic acid (PFPeA)			%	103			50-150	Pass	
Perfluorohexanoic acid (PFHxA)			%	110			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)			%	91			50-150	Pass	
Perfluorooctanoic acid (PFOA)			%	96			50-150	Pass	
Perfluorononanoic acid (PFNA)			%	106			50-150	Pass	
Perfluorodecanoic acid (PFDA)			%	114			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)			%	107			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)			%	111			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)			%	117			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)			%	118			50-150	Pass	
LCS - % Recovery									
Perfluoroalkyl sulfonamido substances									
Perfluorooctane sulfonamide (FOSA)			%	94			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)			%	100			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)			%	105			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)			%	111			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)			%	126			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)			%	117			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)			%	117			50-150	Pass	
LCS - % Recovery									
Perfluoroalkyl sulfonic acids (PFSAs)									
Perfluorobutanesulfonic acid (PFBS)			%	95			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)			%	102			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)			%	117			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)			%	80			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)			%	91			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)			%	91			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)			%	101			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)			%	100			50-150	Pass	
LCS - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)									
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)			%	106			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)			%	99			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)			%	97			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)			%	94			50-150	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	S22-Jn0055971	CP	%	97			75-125	Pass	
Iron (filtered)	S22-Jn0055971	CP	%	93			75-125	Pass	
Manganese (filtered)	S22-Jn0055971	CP	%	96			75-125	Pass	
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1					
Perfluorobutanoic acid (PFBA)	S22-Jn0052344	NCP	%	141			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	S22-Jn0052344	NCP	%	97			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	S22-Jn0052344	NCP	%	148			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	S22-Jn0052344	NCP	%	125			50-150	Pass	
Perfluorooctanoic acid (PFOA)	S22-Jn0052344	NCP	%	84			50-150	Pass	
Perfluorononanoic acid (PFNA)	S22-Jn0052344	NCP	%	111			50-150	Pass	
Perfluorodecanoic acid (PFDA)	S22-Jn0052344	NCP	%	138			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	S22-Jn0052344	NCP	%	139			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	S22-Jn0052344	NCP	%	140			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluorotridecanoic acid (PFTrDA)	S22-Jn0052344	NCP	%	104			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	S22-Jn0052344	NCP	%	148			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances				Result 1					
Perfluorooctane sulfonamide (FOSA)	S22-Jn0052344	NCP	%	104			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	S22-Jn0052344	NCP	%	120			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	S22-Jn0052344	NCP	%	118			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	S22-Jn0052344	NCP	%	144			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	S22-Jn0052344	NCP	%	127			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	S22-Jn0052344	NCP	%	140			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	S22-Jn0052344	NCP	%	146			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSAs)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	S22-Jn0052344	NCP	%	126			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	S22-Jn0052344	NCP	%	113			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	S22-Jn0052344	NCP	%	138			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	S22-Jn0052344	NCP	%	129			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	S22-Jn0052344	NCP	%	126			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	S22-Jn0052344	NCP	%	110			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	S22-Jn0052344	NCP	%	104			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	S22-Jn0052344	NCP	%	101			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	S22-Jn0052344	NCP	%	126			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	S22-Jn0052344	NCP	%	103			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	S22-Jn0052344	NCP	%	136			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	S22-Jn0052344	NCP	%	123			50-150	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Duplicate									
Heavy Metals				Result 1	Result 2	RPD			
Arsenic (filtered)	R22-Jn0046046	NCP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Iron (filtered)	R22-Jn0046046	NCP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Manganese (filtered)	R22-Jn0046046	NCP	mg/L	< 0.005	< 0.005	<1	30%	Pass	

Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	S22-Jn0052339	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	S22-Jn0052339	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	S22-Jn0052339	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	S22-Jn0052339	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol(N-MeFOSE)	S22-Jn0052339	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol(N-EtFOSE)	S22-Jn0052339	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	S22-Jn0052339	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	S22-Jn0052339	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				Result 1	Result 2	RPD			
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid(6:2 FTSA)	S22-Jn0052339	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	S22-Jn0052339	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	

Comments

Sample Integrity

Custody Seals Intact (if used)	N/A
Attempt to Chill was evident	Yes
Sample correctly preserved	Yes
Appropriate sample containers have been used	Yes
Sample containers for volatile analysis received with minimal headspace	Yes
Samples received within HoldingTime	Yes
Some samples have been subcontracted	No

Qualifier Codes/Comments

Code	Description
G01	The LORs have been raised due to matrix interference
N11	Isotope dilution is used for calibration of each native compound for which an exact labelled analogue is available (Isotope Dilution Quantitation). The isotopically labelled analogues allow identification and recovery correction of the concentration of the associated native PFAS compounds.
N15	Where the native PFAS compound does not have labelled analogue then the quantification is made using the Extracted Internal Standard Analyte with the closest retention time to the analyte and no recovery correction has been made (Internal Standard Quantitation).
Q09	The Surrogate recovery is outside of the recommended acceptance criteria due to matrix interference. Acceptance criteria were met for all other QC

Authorised by:

Andrew Black	Analytical Services Manager
Gabriele Cordero	Senior Analyst-Metal
Jonathon Angell	Senior Analyst-PFAS

Glenn Jackson
General Manager

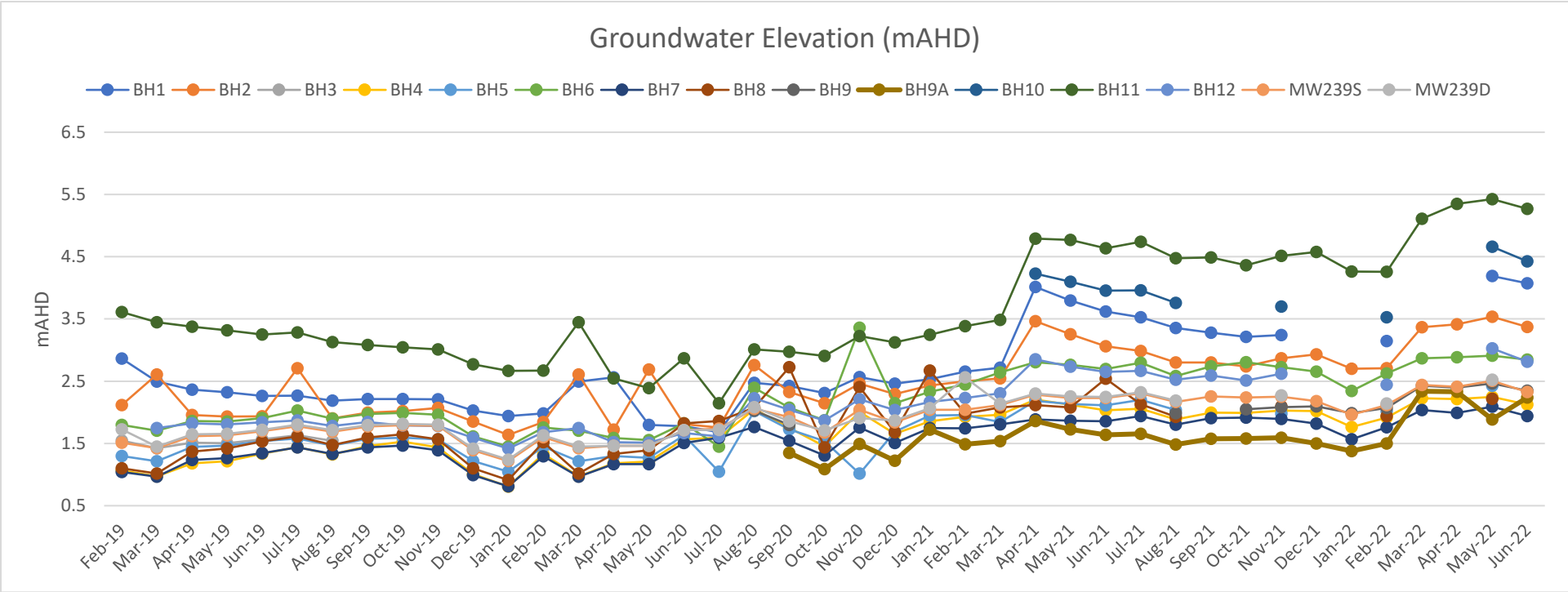
Final Report – this report replaces any previously issued Report

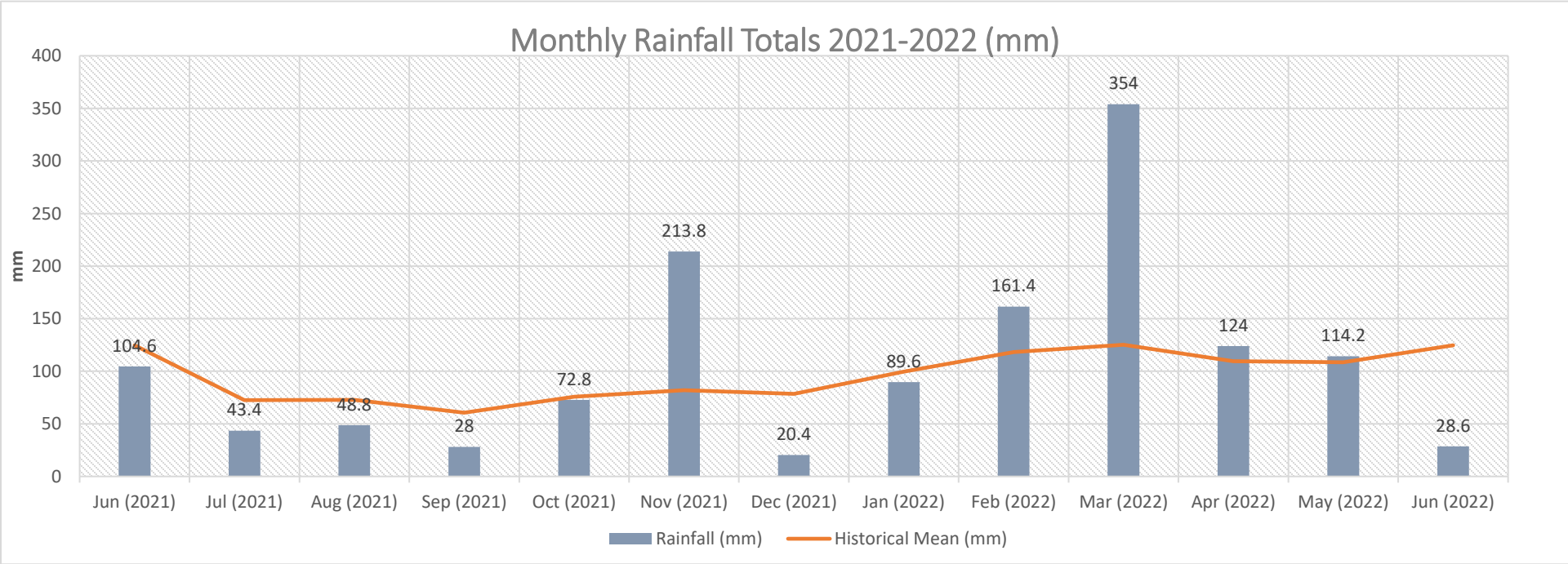
- Indicates Not Requested

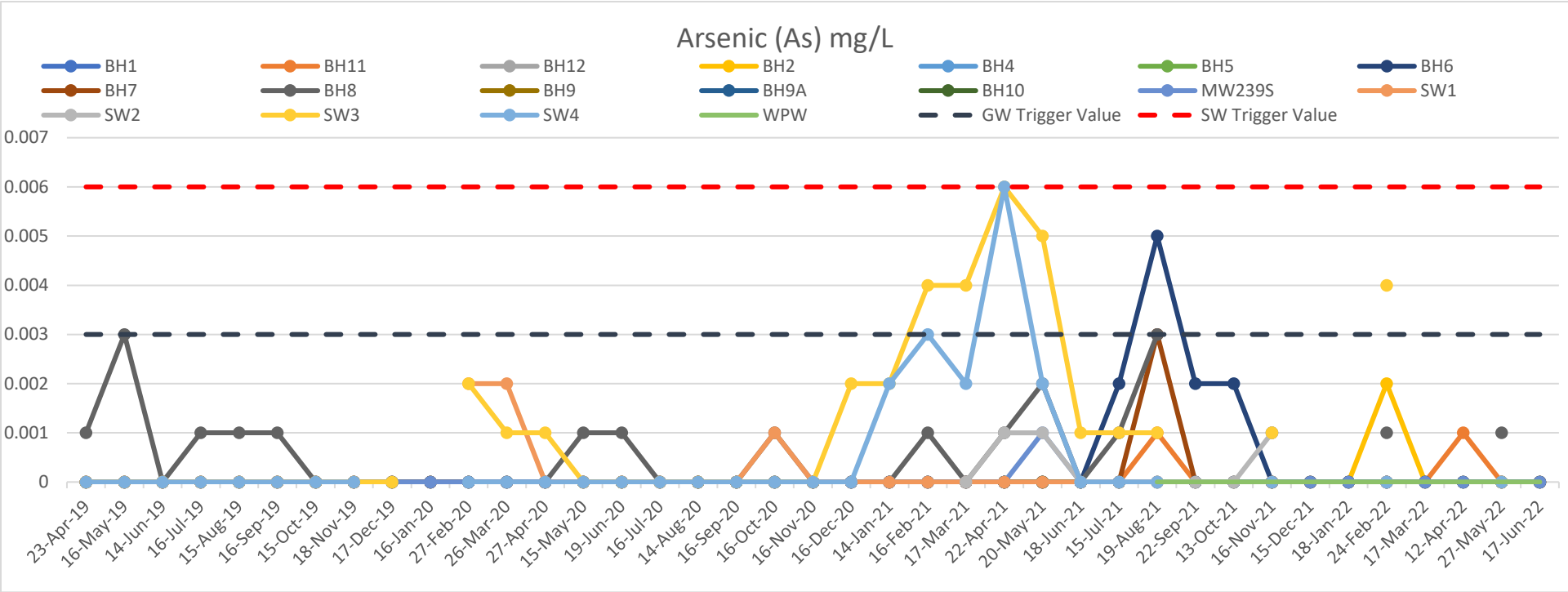
* Indicates NATA accreditation does not cover the performance of this service

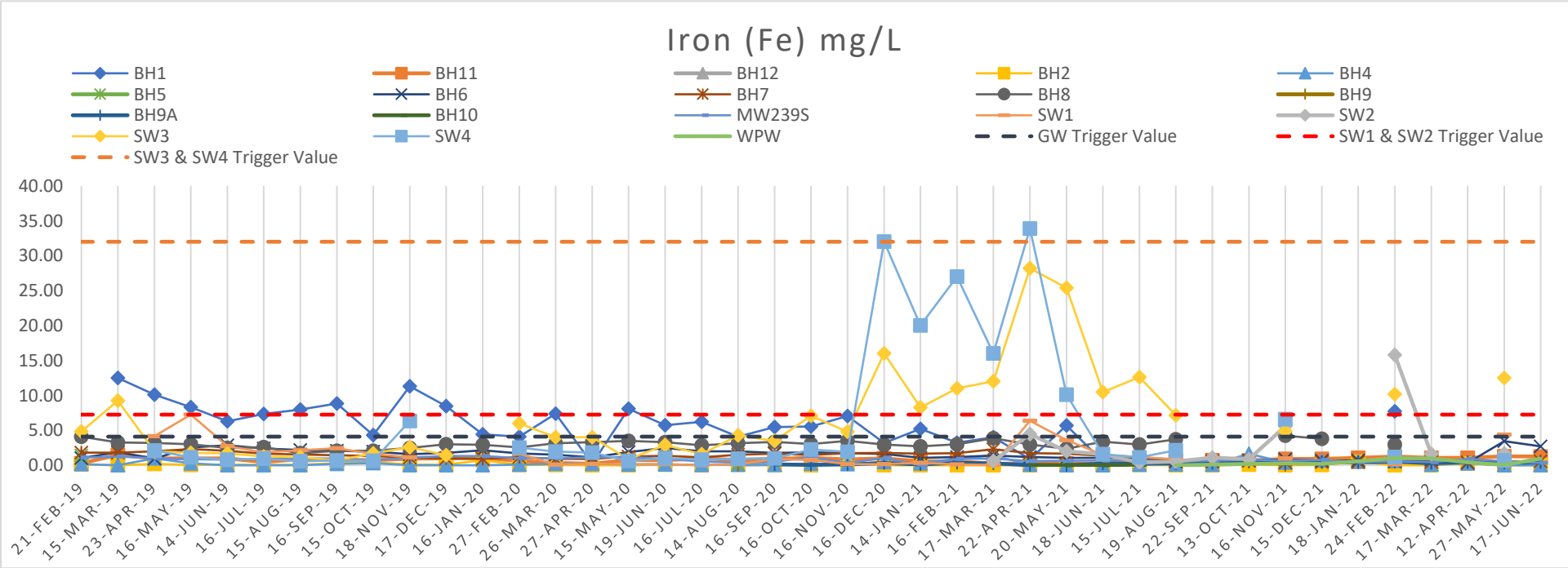
Measurement uncertainty of test data is available on request or please click here.

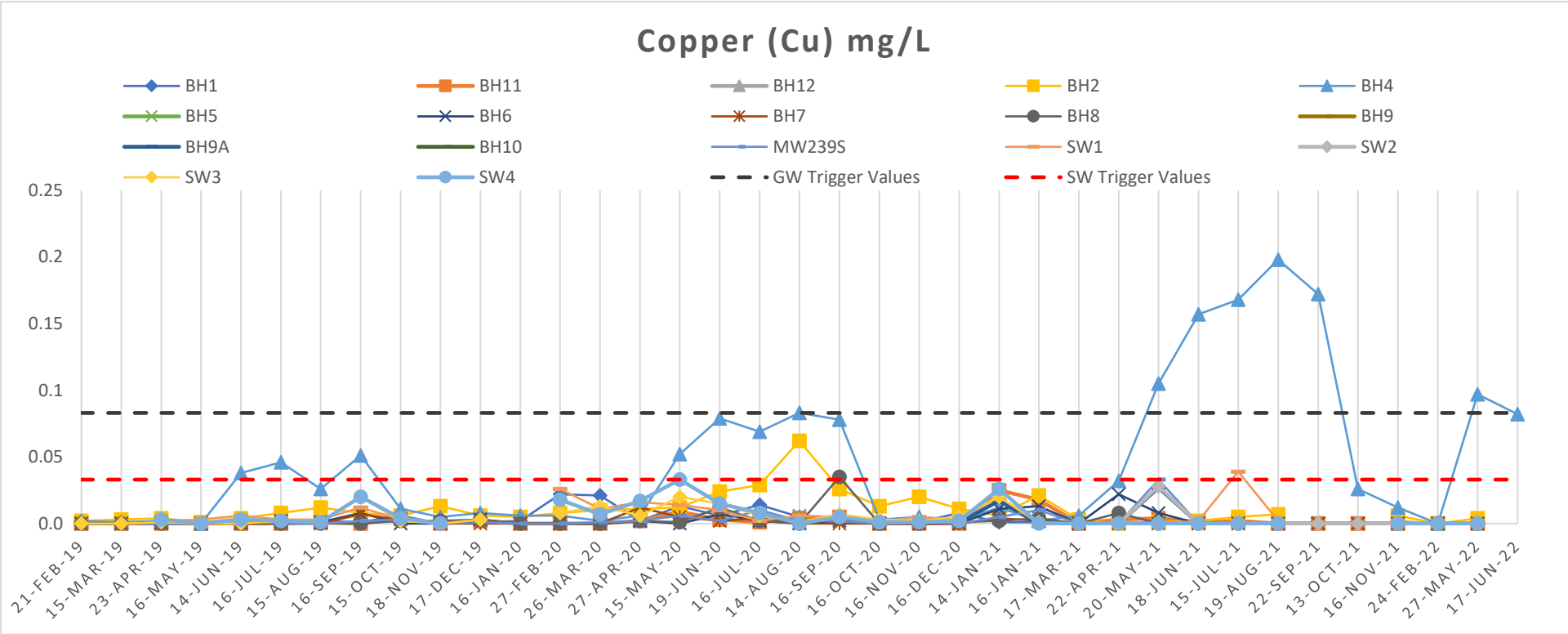
ATTACHMENT 4: DATA TRENDS

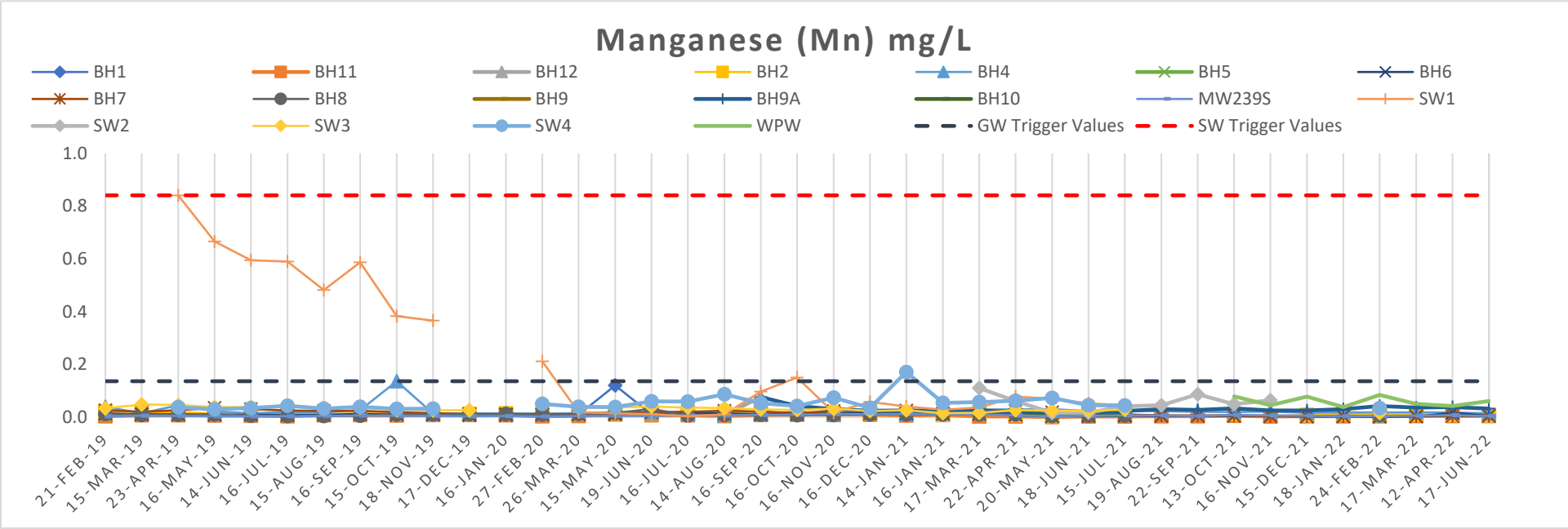

Groundwater Elevation (mAHD)
BH1
BH2
BH3
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
BH11
BH12
MW239S
MW239D
mAHD
6.5
5.5
4.5
3.5
2.5
1.5
0.5
Feb-19
Mar-19
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Sep-19
Oct-19
Nov-19
Dec-19
Jan-20
Feb-20
Mar-20
Apr-20
May-20
Jun-20
Jul-20
Aug-20
Sep-20
Oct-20
Nov-20
Dec-20
Jan-21
Feb-21
Mar-21
Apr-21
May-21
Jun-21
Jul-21
Aug-21
Sep-21
Oct-21
Nov-21
Dec-21
Jan-22
Feb-22
Mar-22
Apr-22
May-22
Jun-22

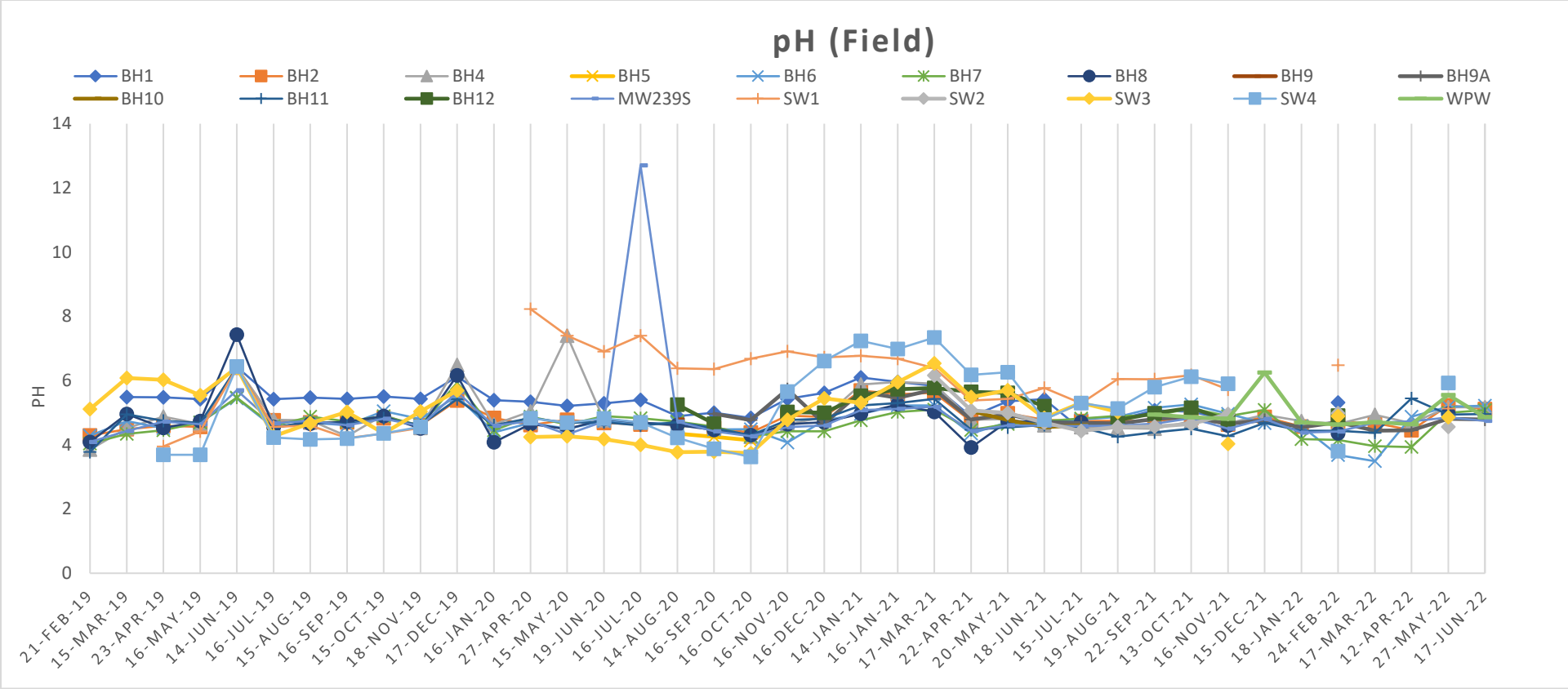

Monthly Rainfall Totals 2021-2022 (mm)
mm
400
350
300
250
200
150
100
50
0
104.6
43.4
48.8
28
72.8
213.8
20.4
89.6
161.4
354
124
114.2
28.6
Jun (2021)
Jul (2021)
Aug (2021)
Sep (2021)
Oct (2021)
Nov (2021)
Dec (2021)
Jan (2022)
Feb (2022)
Mar (2022)
Apr (2022)
May (2022)
Jun (2022)
Rainfall (mm)
Historical Mean (mm)


Arsenic (As) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
WPW
GW Trigger Value
SW Trigger Value
0.007
0.006
0.005
0.004
0.003
0.002
0.001
0
23-Apr-19
16-May-19
14-Jun-19
16-Jul-19
15-Aug-19
16-Sep-19
15-Oct-19
18-Nov-19
17-Dec-19
16-Jan-20
27-Feb-20
26-Mar-20
27-Apr-20
15-May-20
19-Jun-20
16-Jul-20
14-Aug-20
16-Sep-20
16-Oct-20
16-Nov-20
16-Dec-20
14-Jan-21
16-Feb-21
17-Mar-21
22-Apr-21
20-May-21
18-Jun-21
15-Jul-21
19-Aug-21
22-Sep-21
13-Oct-21
16-Nov-21
15-Dec-21
18-Jan-22
24-Feb-22
17-Mar-22
12-Apr-22
27-May-22
17-Jun-22


Iron (Fe) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
WPW
GW Trigger Value
SW1 & SW2 Trigger Value
SW3 & SW4 Trigger Value
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
21-FEB-19
15-MAR-19
23-APR-19
16-MAY-19
14-JUN-19
16-JUL-19
15-AUG-19
16-SEP-19
15-OCT-19
18-NOV-19
17-DEC-19
16-JAN-20
27-FEB-20
26-MAR-20
27-APR-20
15-MAY-20
19-JUN-20
16-JUL-20
14-AUG-20
16-SEP-20
16-OCT-20
16-NOV-20
16-DEC-20
14-JAN-21
16-FEB-21
17-MAR-21
22-APR-21
20-MAY-21
18-JUN-21
15-JUL-21
19-AUG-21
22-SEP-21
13-OCT-21
16-NOV-21
15-DEC-21
18-JAN-22
24-FEB-22
17-MAR-22
12-APR-22
27-MAY-22
17-JUN-22


Copper (Cu) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
GW Trigger Values
SW Trigger Values
0.25
0.2
0.15
0.1
0.05
0.0
21-FEB-19
15-MAR-19
23-APR-19
16-MAY-19
14-JUN-19
16-JUL-19
15-AUG-19
16-SEP-19
15-OCT-19
18-NOV-19
17-DEC-19
16-JAN-20
27-FEB-20
26-MAR-20
27-APR-20
15-MAY-20
19-JUN-20
16-JUL-20
14-AUG-20
16-SEP-20
16-OCT-20
16-NOV-20
16-DEC-20
14-JAN-21
16-JAN-21
17-MAR-21
22-APR-21
20-MAY-21
18-JUN-21
15-JUL-21
19-AUG-21
22-SEP-21
13-OCT-21
16-NOV-21
24-FEB-22
27-MAY-22
17-JUN-22


Manganese (Mn) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
WPW
GW Trigger Values
SW Trigger Values
1.0
0.8
0.6
0.4
0.2
0.0
21-FEB-19
15-MAR-19
23-APR-19
16-MAY-19
14-JUN-19
16-JUL-19
15-AUG-19
16-SEP-19
15-OCT-19
18-NOV-19
17-DEC-19
16-JAN-20
27-FEB-20
26-MAR-20
15-MAY-20
19-JUN-20
16-JUL-20
14-AUG-20
16-SEP-20
16-OCT-20
16-NOV-20
16-DEC-20
14-JAN-21
16-JAN-21
17-MAR-21
22-APR-21
20-MAY-21
18-JUN-21
15-JUL-21
19-AUG-21
22-SEP-21
13-OCT-21
16-NOV-21
15-DEC-21
18-JAN-22
24-FEB-22
17-MAR-22
12-APR-22
17-JUN-22


pH (Field)
BH1
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
BH11
BH12
MW239S
SW1
SW2
SW3
SW4
WPW
PH
0
2
4
6
8
10
12
14
21-FEB-19
15-MAR-19
23-APR-19
16-MAY-19
14-JUN-19
16-JUL-19
15-AUG-19
16-SEP-19
15-OCT-19
18-NOV-19
17-DEC-19
16-JAN-20
27-APR-20
15-MAY-20
19-JUN-20
16-JUL-20
14-AUG-20
16-SEP-20
16-OCT-20
16-NOV-20
16-DEC-20
14-JAN-21
16-JAN-21
17-MAR-21
22-APR-21
20-MAY-21
18-JUN-21
15-JUL-21
19-AUG-21
22-SEP-21
13-OCT-21
16-NOV-21
15-DEC-21
18-JAN-22
24-FEB-22
17-MAR-22
12-APR-22
27-MAY-22
17-JUN-22