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

July 2021 Monitoring Event

NCA21R128393

26 August 2021

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Williamtown Sand Syndicate (WSS)
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Attention: Darren Williams

Subject: Monthly Water Quality Monitoring Results Cabbage Tree Road Sand Quarry, NSW
July 2021 Monitoring Event

Please find enclosed the monthly water quality monitoring results for the July 2021 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 quarterly surface and groundwater monitoring event undertaken in accordance with the NSW Environment Protection Authority (EPA) requirements for monthly water quality monitoring at the quarry. **Figure 1** (**Attachment 1**) presents the surface water and groundwater sampling locations.

The scheduled July 2021 monitoring event included gauging of all available monitoring wells (a total of 13 wells), recording of field parameters for groundwater and surface water and sampling from 11 monitoring wells and four surface water locations.

2 SITE WORK

The monthly monitoring round was conducted on 15 July 2021 and comprised:

- Gauging of 13 monitoring wells (BH1, BH2, BH4, BH5, BH6, BH7, BH8, BH9A, BH10, BH11, BH12, MW239S & MW239D). It should be noted that sampling was not conducted at BH12 due to restricted clearance within the monitoring well. A recommendation has been made to the quarry to remove the inner PVC sleeve, which will allow continued use of Hydrasleeves.
- Groundwater sampling from 10 monitoring wells as summarised in **Table 5** and detailed in **Attachment 2**.
- Surface water sampling from four locations as summarised in **Table 5** 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.

A bailer was applied to purge groundwater from BH10 since the HydraSleeve required a larger water volume than was present in the well on the day of sampling. The bailer was lowered into the well and 3 times the bore volume was removed to ensure a representative sample was taken. This was confidently achieved given the rapid recharge of groundwater into the well.

Surface water samples were taken directly into a laboratory supplied sample containers using a gloved hand. Where access was deemed problematic a telescopic sampling pole was applied.

Water samples were collected into laboratory supplied containers and placed into an ice chilled esky. The samples were 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 (July 2021)

Analysis	Number of Samples				
	Primary	Intra-lab (Duplicate)	Inter-lab (Triplicate)	Transport Blank	Rinsate Blank
Hydrocarbons*	14	1	1	1	1
Metals**	14	1	1	1	1
Iron (dissolved)	14	1	1	1	1
General Water Quality Suite***	14	0	0	0	0
Total Dissolved Solids (TDS)	14	0	0	0	0
Total Suspended Solids (TSS)	14	0	0	0	0
PFAS (28 analytes, standard level)	14	1	1	1	1

* TRH (C6 – C40) (Silica Gel), TPH, BTEXN
** NEPM Metals Suite (dissolved) - Arsenic (As), Barium (Ba), Beryllium (Be), Boron (B), Cadmium (Cd), Chromium (Cr), Cobalt (Co), Copper (Cu), Iron (Fe), Lead (Pb), Manganese (Mn), Mercury (Hg), Nickel (Ni), Selenium (Se), Vanadium (V), Zinc (Zn).
*** General Water Quality Suite - Ca, Mg, Na, K, pH, EC, Cl, F, SO_4, Alkalinity, Fluoride, Hardness & TDS (Calc').

3 SAMPLING RESULTS

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

.

Table 2: Summary of Gauging Data

Borehole	Top of Casing (mAHD)	Depth to Water (mBTOC)	Groundwater Elevation (mAHD)	Well Total Depth Current (mBTOC)	Well Total Depth 2014 (mBTOC)	Inferred Max GW Elevation (mAHD)[1]	Comment
BH1	8.64	5.113	3.527	8.212	9.45	4.5	Deep yellow / brown, no odour / sheen, well cap hinge broken
BH2	7.79	4.805	2.985	8.905	9.45	3.8	Medium brown, no odour / sheen, well in good condition
BH3	-	-	-	-	-	3.4	Well decommissioned
BH4	3.06	1.002	2.058	5.966	6.45	3.0	Slight cloudy yellow, no odour / sheen, well in good condition
BH5	7.36	5.159	2.201	8.72	9.28	4.0	No sample taken, well in good condition
BH6	3.62	0.823	2.797	4.52	4.95	4.4	Light yellow, light - moderate sulphur odour, no sheen, well in good condition

Borehole	Top of Casing (mAHD)	Depth to Water (mBTOC)	Groundwater Elevation (mAHD)	Well Total Depth Current (mBTOC)	Well Total Depth 2014 (mBTOC)	Inferred Max GW Elevation (mAHD)[1]	Comment
BH7	2.98	1.038	1.942	4.52	4.95	3.7	Light brown, slight sulphur odour, no sheen, well in good condition
BH8	3.88	1.751	2.129	6.04	6.28	4.0	Medium brown, slight sulphur odour, no sheen, well in good condition
BH9	-	-	-	-	-	3.0	Well decommissioned
BH9A	10.25	8.594	1.656	12.485	16.16	3.0[2]	Moderate brown, slight sulphur odour, no sheen, well in good condition
BH10	6.69	2.731	3.959	3.42	5.45	4.9	Clear, strong sulphur odour, no sheen, well in good condition
BH11	6.63	1.889	4.741	5.298	5.95	5.5	Light yellow, no odour, no sheen, well in good condition
BH12	8.67	6.005	2.665	8.22	8.39	4.0	No sample taken, Hydrasleeve would not fit in 35mm inner PVC piping. Suggest removing inner tube
MW239S	3.04	0.736	2.304	3.86	4.0	3.9	Medium brown, slight - moderate sulphur odour, no sheen, well in good condition
MW239D	3.04	0.716	2.324	20.57	20.49	3.9[3]-	No sample taken, well in good condition
SW01*	N/A	0.65	N/A	N/A	N/A	N/A	Deep yellow, no odour / sheen
SW02*	N/A	0.25	N/A	N/A	N/A	N/A	Natural tannin brown, slight sulphur odour, no sheen
SW03*	N/A	0.65	N/A	N/A	N/A	N/A	Natural tannin brown, strong sulphur odour, no sheen
SW04*	N/A	0.65	N/A	N/A	N/A	N/A	Natural tannin brown, no odour / sheen, flowing towards eastern boundary

* Surface water levels measured from measuring tape installed (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 July monitoring event. All gauging data and field parameters for each monitoring location are 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	41.76	18.9	3.8	62.0	40	4.48	297.7
BH2	202	18.9	6.1	91.0	59	4.74	216.5
BH4	41.23	15.9	3.6	2.2	1	4.55	252
BH5	ND	ND	ND	ND	ND	ND	ND
BH6	68.33	15.3	4.7	134.1	87	4.79	-94.1
BH7	222	15.5	4.2	101.4	66	4.82	-50.6
BH8	104.3	16.3	3.3	159.3	103	4.71	72.2
BH9A	158.2	18.6	3.8	92.5	60	4.67	193
BH10	50.5	16.0	3.9	284.5	185	4.61	52
BH11	113	16.9	2.12	178	132	4.54	162
BH12	ND	ND	ND	ND	ND	ND	ND
MW239S	61.3	15.3	3.8	146	97	4.58	50.9

Borehole	Turbidity (NTU)	Temp (^{0}C)	DO (mg/L)	EC (µc/cm)	TDS (mg/L)	PH	Redox (mV)
MW239D	ND	ND	ND	ND	ND	ND	ND
SW01	-8.97	12.2	3.9	202.3	131	5.29	208.2
SW02	0.5	12.2	2.0	96.4	63	4.43	87.4
SW03	1.77	10.1	1.5	213	139	5.31	-41
SW04	0.5	10.2	4.3	247	161	5.30	152

ND: No Data – no sample taken

Table 5 and **Table 6** below present a summary of the water monitoring results for key analytes found to be elevated above the laboratory limit of reporting (LOR) for groundwater and surface water. Recently approved and updated groundwater and surface water criteria outlined in the Soil and Water Management Plan (SWMP) (7 July 2021) has been applied to this monthly report including a comment on comparison of results with previous data.

Non-detects for analytes BTEXN, TRH, TPH and PFAS were reported at all locations and are therefore not included in the below summary tables (**Table 6**). Full results summary tables are provided in **Attachment 2**. Full Laboratory certificates of analysis (COA), including copies of chain of custody (COC), 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 5 below)
	Arsenic	Barium	Chromium**[1]	Copper**	Cobalt	Iron	Manganese**	Nickel	Zinc**	
LOR	0.001	0.001	0.001	0.001	0.001	0.05	0.001	0.001	0.005	
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Adopted Site Specific Trigger Values (SWMP 2021)	0.003	0.07	0.004	0.083	0.006	4.1 (8.84 for BH1)	0.136	0.02	0.085 (0.1 for BH1)	
Sample ID		Groundwater								
BH1	<0.001	0.002	<0.001	<0.001	<0.001	0.31	0.020	<0.001	0.037	Concentrations of metals were generally consistent with historical variations and all below the adopted criteria. Concentrations of zinc (0.037 mg/L) have reduced since the previous June monitoring round (0.290 mg/L) to levels below the adopted criteria. Quarry operations are presently being undertaken directly adjacent (south) of BH1.
BH2	<0.001	0.003	<0.001	0.005	<0.001	0.07	0.017	<0.001	0.006	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	0.009	<0.001	0.168	0.001	0.08	0.024	<0.001	0.008	Metal concentrations were generally consistent with historical variations and remain below adopted criteria, except for copper (0.168 mg/L) which reported a concentration above the adopted criteria (0.083 mg/L). It is noted that the concentration detected is below the drinking water criteria. Concentrations of copper at BH4 are significantly higher than previously reported triggering follow up sampling for copper at this location during the next monitoring event. BH4 is down hydraulic gradient (approximately 140m) from current quarry operations and on the southernmost boundary of the site adjacent to Cabbage Tree Road.

Analyte	Metals									Discussion of results relative to previous monitoring (details on specific data trends provided in Section 5 below)
	Arsenic	Barium	Chromium**[1]	Copper**	Cobalt	Iron	Manganese**	Nickel	Zinc**	
LOR	0.001	0.001	0.001	0.001	0.001	0.05	0.001	0.001	0.005	
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Adopted Site Specific Trigger Values (SWMP 2021)	0.003	0.07	0.004	0.083	0.006	4.1 (8.84 for BH1)	0.136	0.02	0.085 (0.1 for BH1)	
Sample ID		Groundwater								
BH6	0.002	0.031	<0.001	<0.001	<0.001	1.04	0.005	<0.001	<0.005	Generally metal concentrations were consistent with historical results. Barium concentrations (0.031 mg/L) have reduced further following the previous June monitoring round and remain below adopted criteria (0.07 mg/L), indicating a decreasing trend. BH6 is considered up hydraulic gradient (approximately 570m) from current quarry operations and at the north-eastern most point of the Site.
BH7	<0.001	0.003	0.002	<0.001	0.002	1.15	0.010	0.002	0.006	Metal concentrations were generally consistent with historical results and below adopted criteria. BH7 is located (approximately 630m) east of the current quarry operations.
BH8	0.001	0.009	0.002	<0.001	<0.001	2.96	0.006	0.001	<0.005	Metal concentrations were consistent with historical results and below adopted criteria. BH8 is located (Approximately 974m) east of the current quarry operations on the eastern most boundary of the Site.
BH9A	<0.001	0.003	<0.001	<0.001	<0.001	0.23	0.023	0.003	0.006	Metal concentrations were generally consistent with historical results and below adopted criteria. Copper concentrations (<0.001 mg/L) have remained below the limit of reporting since the June monitoring round, suggesting a stable trend. 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		0.016	0.002	<0.001	<0.001	0.10	0.008	0.001	0.013	Metal concentrations were all below adopted criteria and consistent with the previous month's

Analyte	Metals									Discussion of results relative to previous monitoring (details on specific data trends provided in Section 5 below)
	Arsenic	Barium	Chromium**[1]	Copper**	Cobalt	Iron	Manganese**	Nickel	Zinc**	
LOR	0.001	0.001	0.001	0.001	0.001	0.05	0.001	0.001	0.005	
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Adopted Site Specific Trigger Values (SWMP 2021)	0.003	0.07	0.004	0.083	0.006	4.1 (8.84 for BH1)	0.136	0.02	0.085 (0.1 for BH1)	
Sample ID		Groundwater								
	<0.001									monitoring event. While BH10 has been dry in all monitoring events prior to April 2021, trends appear to be stable. BH10 is upgradient from current quarry operations (approximately 300m) and on the northern most boundary of the Site.
MW239S	<0.001	0.004	0.002	<0.001	<0.001	0.67	0.006	0.002	0.007	Metal concentrations were generally consistent with historical results and below adopted criteria. Copper concentrations (<0.001 mg/L) have remained below the LOR since spiking to 0.033mg/L in May 2021, indicating that levels have stabilised. MW239S is located approximately 426m east and upgradient of the current quarry operations.
BH11	<0.001	0.005	0.002	0.002	<0.001	0.41	0.002	0.003	0.031	Metal concentrations were generally consistent with historical results and below adopted criteria. Nickel concentrations (0.003 mg/L) have slightly increased since the previous June GME (0.002 mg/L) but remain well below the Site Specific Trigger Values.
BH12	NS	NS	NS	NS	NS	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: Surface Water Results and Screening Criteria

Analyte	Metals									
	Arsenic	Barium	Chromium**[1]	Copper**	Cobalt	Iron	Manganese**	Nickel	Zinc**	Discussion of results relative to previous monitoring (details on specific data trends provided in Section 5 below)
LOR	0.001	0.001	0.001	0.001	0.001	0.05	0.001	0.001	0.005	
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Site Specific Trigger Values (SWMP 2021)	0.006	0.08	0.004	0.033	0.017	7.25 (32 for SW3 & SW4)	0.841	0.02	0.535	
Sample Name	Surface Water									
SW1	<0.001	0.008	0.001	0.039	<0.001	1.16	0.045	0.001	0.041	Metal concentrations were generally consistent with historical variations. Copper concentrations (0.039 mg/L) have increased by an order of magnitude since the previous June monitoring round (0.002 mg/L) to a concentration marginally above the Site Specific Trigger Value (0.033mg/L). The copper concentration exceed all historical values triggering follow-up sampling to be undertaken in August. SW1 is located on the southernmost boundary of the quarry adjacent to Cabbage Tree Road.
SW2	<0.001	0.005	<0.001	<0.001	0.002	0.39	0.041	0.002	0.081	SW2 was previously dry during all sampling periods from 2019 – February 2021. Metal concentrations detected at SW2 during the July monitoring event were all below the Site Specific Trigger Values, with copper below LOR suggesting a new decreasing trend. SW2 is the most northern located surface water monitoring point directly adjacent or central to current quarry operations.
SW3	0.001	0.004	0.002	<0.001	<0.001	12.6	0.028	<0.001	<0.005	Metal concentrations were generally consistent with historical variations. Concentrations of iron (12.6 mg/L) have marginally increased since the previous June monitoring event (10.5 mg/L), however, remain below the Site Specific Trigger Value for this location. Concentrations will continue to be closely monitored

Analyte	Metals									Discussion of results relative to previous monitoring (details on specific data trends provided in Section 5 below)
	Arsenic	Barium	Chromium**[1]	Copper**	Cobalt	Iron	Manganese**	Nickel	Zinc**	
LOR	0.001	0.001	0.001	0.001	0.001	0.05	0.001	0.001	0.005	
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Site Specific Trigger Values (SWMP 2021)	0.006	0.08	0.004	0.033	0.017	7.25 (32 for SW3 & SW4)	0.841	0.02	0.535	
Sample Name	Surface Water									
										during subsequent monthly monitoring rounds to confirm trends. SW3 is located within a drainage channel that travels from west to east along the south-eastern perimeter of the quarry. SW3 is approximately 476m east of the current quarry operations.
SW4	<0.001	0.019	<0.001	<0.001	0.001	1.15	0.044	0.001	0.007	Metal concentrations at SW4 appear to be stable across most analytes. Iron concentrations (1.15 mg/L) have further decreased since the previous month (1.58 mg/L), indicating that levels are stabilising following reduced rainfall. PFOS concentrations have not been detected since the May monitoring event (0.01 µg/L). SW4 is located downstream of SW3 on the eastern most perimeter of the quarry and is the only location to historically record low concentrations of PFOS (noting PFOS was not detected during the July 2021 monitoring event).

Notes:
< - Less than laboratory limit of reporting

4 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 2020/21. The mean monthly rainfall for the June/July period indicates that there was below average rainfall leading up to the July 2021 sampling event. Based on current rainfall data (mean and monthly totals) for July 2021, it is expected that surface and groundwater elevations will steadily decrease or remain generally stable which is consistent with groundwater trend data.

Table 7: 2020-2021 Rainfall data (12-month period)

2020	Aug	Sep	Oct	Nov	Dec	Jan (21)	Feb (21)	Mar (21)	Apr (21)	May (21)	Jun (21)	July (21)
1st	0	0	0.4	0.2	0	7.0	0.2	0	7.8	0	0.2	2.6
2nd	0	0	0	3.2	12	21.2	17.2	0	0.8	0	0.2	1.6
3rd	0	0	0	0	0	2.2	4.2	0	0	0	0	0
4th	0	0	0	0	0	0.2	0.2	1.6	0.2	0	12.8	0.2
5th	0	3	0	0	0	41.6	0	0	0	6.0	0.8	0
6th	0	0	0	30.2	12	0	0	3.8	0	26.4	0	0
7th	0	0	0	0	0	5.8	10.6	0.8	6.2	31.4	0	0
8th	3	0	0	0.4	0	4.0	0.2	0	40.2	0.4	0	0.2
9th	2.8	0	0	0	0	12.0	0.4	6.4	0.2	0	7.6	1.4
10th	8.4	12.6	0	0	0	0.2	4.4	0.8	0.2	0.4	0	7.0
11th	18.4	0	0	0	1	0	0.6	0	0	0	2.0	24.8
12th	0	0	0	0	0	0	0	0	0	7.2	0	1.0
13th	1.2	0	0	4.4	0	0	3.4	7.6	0	0	0	0
14th	0	0	0	13.6	0	0	11	1.8	0	0	0	0.2
15th	5	0	0	0	5.4	0.2	0.2	39.2	0	0	0	0.4
16th	0	0	0	0	14.8	0	11	1.0	0	0	ND	1.2
17th	0	0	0	5.8	0	0	3.6	6.0	5.0	0	0.4	2.4
18th	0	0.4	0.2	0	13.6	0	0.2	43.6	8.6	0	0	0
19th	0	0	18.0	0	8.0	0	29.2	96.4	0.2	0	0.2	0
20th	0	2.2	1.0	0	5.0	0	0.4	79.2	0.2	0	26.0	0
21st	0	8.8	0	0	3.0	0	7.4	46.6	0	0	19.2	0
22nd	0	0.4	0	0	48.6	0	20.6	65.2	0	13.0	0.6	0
23rd	0	0	0	0	0.2	0	19.8	16.8	0	0	0.2	0.2
24th	0	0	9.4	0	0	0	9.2	4.4	0	3.0	0.8	0.2
25th	0	0	14.0	0.4	0	0	3.6	0.2	0	0.6	1.8	0
26th	0	0.6	128.8	0	0	0	0	0	0	0.2	0	0
27th	0	0	76.2	0	1.8	0	0	0	0.2	0	0	0
28th	0	0	0	0	0.2	50.6	0.2	0	0	0	0.4	0
29th	0	0	4.0	0	24.0	31.4		31.4	0.2	0	30.8	
30th	0	0	0	0	0.2	6		2.4	0	1.8	0.6	

2020	Aug	Sep	Oct	Nov	Dec	Jan (21)	Feb (21)	Mar (21)	Apr (21)	May (21)	Jun (21)	July (21)
31st	0	-	-	-	6.4	4.4		4.0	-	0.4	-	
Total	38.8	28	252.0	58.2	156.2	186.8	157.8	459.2	70.0	90.8	104.6	43.4
Mean	72.8	60.6	75.9	81.9	77.5	98.3	118.3	125.2	109.8	108.6	124.6	72.6

Notes:
ND – no data retrieved.

5 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 since April 2021. This is likely due to a continuation of decreased rainfall following the March 2021 monitoring event, allowing groundwater to stabilise or slightly decrease in elevation. Groundwater trends for the current month appear to be mostly stable with some locations slightly increasing, despite the below-average rainfall observed in **Section 4**. This may be due to a lag in groundwater response following moderate rainfall in June which was marginally below the expected average. Based on these trends, groundwater elevations are likely to remain generally stable across the quarry.

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

- Arsenic – Arsenic concentrations have generally remained stable across the quarry, with slight increases in concentration at BH6 and BH8 since June 2021. Despite this, concentrations remain below Site Specific Trigger Value at all monitoring locations. This is the second consecutive monitoring event of 2021 where concentrations have not exceeded the adopted criteria. Monitoring will continue to confirm whether concentrations continue to decrease or stabilise.
- Iron – generally remained stable across the quarry, with reduced concentrations reported at SW4 in comparison to the June 2021 monitoring round. SW3 reported a slight increase in iron concentrations following the June 2021 monitoring event yet remains below the Site Specific Trigger Value.
- Barium – concentrations of barium were generally consistent across the quarry, with concentrations at BH6 reported to have further decreased since the June 2021 monitoring event and remain below the Site Specific Trigger Value, indicating a decreasing trend.
- Nickel – concentrations of nickel are generally within historical variations for all locations. Nickel concentrations at BH11 have slightly increased since the June 2021 monitoring event but remain well below Site Specific Trigger Value. Monitoring will continue in subsequent events to confirm stabilisation of trends following the large spike in concentration that occurred in April 2021.
- Copper – concentrations of copper have remained stable or slightly decreased at BH9A, MW239S and SW2, which all previously exceeded historical results during the May 2021 monitoring event. However, copper concentrations have increased to marginally above the Site Specific Trigger Value at BH4 and SW1. 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.
- Zinc – concentrations of zinc have generally stabilised across the quarry, with a reduction reported at BH1 to concentrations below the Site Specific Trigger Value.
- PFAS – Concentrations of PFAS (PFOS and PFHxS compounds) were detected at SW4 in recent previous monitoring events, however, concentrations were below the LOR during the July 2021 monitoring event.

6 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. However, concentrations of copper have shown an increasing trend at BH4 and SW1 with recent concentrations exceeding the Site Specific Trigger Value. Following conversations with the Quarry Manager, quarry operations are not considered to have contributed to these increased copper concentrations.

However, it is recommended that further investigation be undertaken in the southern area of the quarry to assess the increasing trend in copper concentrations at BH4 and SW1. It is noted that the SWMP 2021 identifies a trigger response action as outlined in Section 8.6.1 of the SWMP.

> *Where the 72 hour followup sampling is not required (as per 2 above), but the result is above trigger value, re-sample location and elevated analyte in the following monitoring round to gauge if the previous exceedance was an isolated occurrence potentially due to unknown sampling error, laboratory error, an isolated natural change or may be symptomatic of broader changes in water quality.*

Additionally, the following activities should be also undertaken to respond to the triggers of the SWMP:

- A review of rainfall data in comparison to other months to understand if a decrease in rainfall may be attributed to increasing copper concentrations.
- A review of current groundwater elevation data relative to previous months to determine whether increased concentrations are associated with reduced groundwater levels.
- A description of current operations in relation to the identified locations, along with surface water movements across the site.
- Discussion with current operation staff to understand the work that has been undertaken in the last 4 months to account for the potential introduction of copper sources and/or the potential mobilisation of naturally occurring copper due to quarry operations (a comparison of sand analysis including leachability from the area would help to prove or disprove this).
- The continuation of close monitoring to confirm the new decreasing trends during subsequent monitoring rounds.

We recommend that the investigation into BH4 and SW1 be undertaken in accordance with the above, following the August 2021 monitoring event.

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

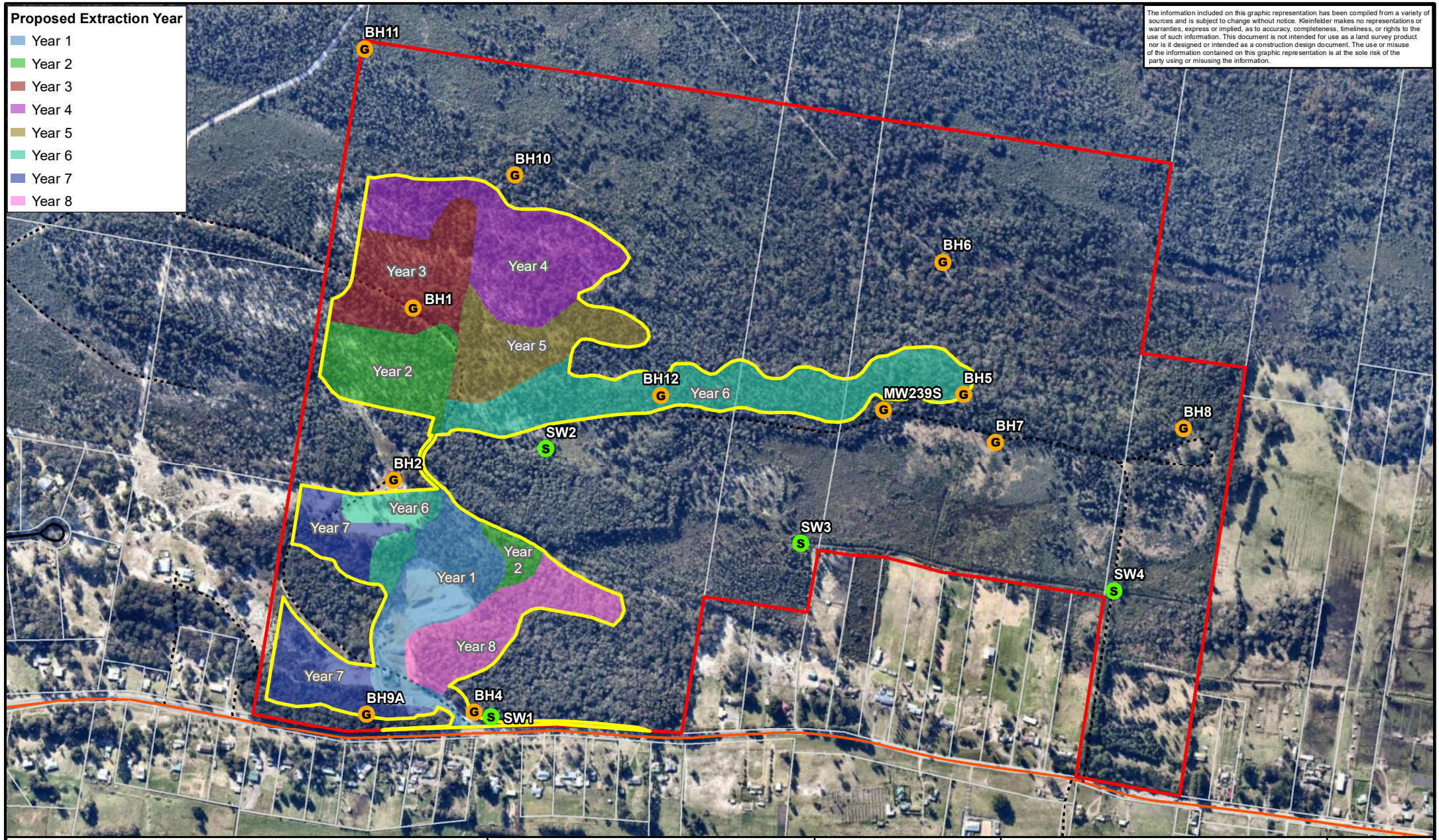
Megan Ferguson

Environmental Consultant
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



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G Groundwater Sample Site
S 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: 20170448
DATE DRAWN: 2021/03/02 22:40 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

θ.0

KLEINFELDER

HYDRASLEEVE™ SAMPLING LOG

Project Number:	Date:	Site Address:
20193820	15/7	Cabbage Tree Rd.

Site Name:	Field Manager:	Weather Observations:
williamtown Sands Syndicate	DIL	light Showers.

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)
BH4	11:49	1.002	5.966		15.9	[illegible]	2.2	1	4.55	252	41.23	slightly cloudy yellow, NO / NS
BH9A	12:15	8.594	12.485		18.6	3.8	92.5	60	4.67	193	158.2	brown colour, slight sulfur odour, NS.
BH2	12:35	4.805	8.905		18.9	6.1	91.0	59	4.74	216.5	202	brown colour, No / NS.
BH10	8:20.	2.731	3.42.		16.0	3.9	284.5	185	4.61	52	450.5	Strong Sulfur odour/clear NS
BH1	12:58	5.113	8.212		18.9	3.8	62.0	40	4.48	297.7	41.76	yellow brown no odour, NS. Well cap broken.
BH11	13:42	1.889	5.298		16.9	2.12	178	132	4.54	162	113	slight yellow, No / NS.
BH12	-	6.005	8.22									Hydrasleeve would not fit - 35mm Inner - System removing Inner
MW23RS	14:09	0.736	3.86		15.3	3.8	146	97	4.58	50.9	61.3	red brown, slight - moderate sulfur odour, NS.
MW23RD	-	0.716										No Sample.
BH5.	-	5.159	8.72									No Sample
BH6	14:45	0.823	4.52		15.3	4.7	134.1	87	4.79	-94.1	68.33	light yellow, light - mod odour, NS.
BH7	15:10	1.038	4.52.		15.5	4.2	101.4	66	4.82	-50.6	222	light brown, light sulfur odour, NS.
BH8	15:30	1.751	6.04.		16.3	3.3	159.3	103	4.71	72.2	104.3	medium brown, slight sulfur odour, NS.
SW4	0955	0.65m			10.2	4.3.	247	161	5.30	152	0.5.	Not Tannin - No - Flowing towards East Boundary
SW3	1020	0.65m			10.1	1.5	213	139	5.31	-41	1.77	Not Tannin - Str Sulfur odour - Brown Tannin colour
SW2	1033	0.25			12.2	2.0	96.4	63	4.43	87.4	0.5	Not Tannin - Slight Sulfur odour - Brown Tannin colour
SW1	11:56				12.2	3.9	202.3	131	5.29	208.2	-8.27	Strong yellow colour, NO / NS.

Damaged wells (identify how damaged): _____

*Sample Depth is reported as bottom of hydrasleeve depth

QC

SW4 = QW56 + QW57.

BH4 = QW58 + QW59 (PFAS only).

EQUIPMENT CERTIFICATION REPORT

KENNARDS HIRE

PGN9003871 WATER QUALITY METER – MULTIFUNCTION (YSI)

Plant Number: 1082484

SENSOR	CONCENTRATION	SPAN 1	SPAN 2	TRACEABILITY	PASS
pH	pH 4	pH 4		# 366070	☑
pH	pH 7	pH 7		# 363536	☑
Conductivity	12.88 mS/cm	12.88 mS/cm		# 364215	☑
Dissolvent Oxygen	Sodium Sulphite / Air	0.0ppm in Sodium Sulphite	ppm Saturation in Air	# 10640	☑
ORP	240mV	240mV		# 5931	☑
Turbidity	0 NTU	0 NTU			☑
Turbidity	90 NTU	90 NTU		# 365257	☑

Battery Status 100% (%)	Temperature 15 °C
Electrical Test & Tag (AS/NZS 3760)	Electrodes Cleaned and Checked

Note: Calibration solution traceability information is available upon request.

Please clean/decontaminate instrument and accessories before returning. A minimum 'Cleaning Fee' $55.00 (Inc GST) may apply if instrument is returned contaminated.

Checked By: Jacob Arnott Date: 08 / 07 / 21 Signed: JArnott

Accessories List:

User's Manual	pH and ORP Storage Solution	Transit Case

Analyte		BTEXN								Total Petroleum Hydrocarbons	Total Petroleum Hydrocarbons - Silcia Clean up				Total Recoverable Hydrocarbons		Total Recoverable Hydrocarbons - Silcia Clean up				
		Benzene**	Toluene	Ethylbenzene	meta- & para-Xylene	ortho-Xylene**	Total Xylenes	Naphthalene **	Sum of BTEX	C_6 - C_9	C_{10}-C_{14} - Silica Cleanup	C_{15}-C_{28} - Silica Cleanup	C_{29}-C_{36} - Silica Cleanup	C_{10}-C_{36} Sum - Silica Cleanup	C_6 - C_{10}	C_6 - C_{10} minus BTEX (F1)	>C_{10}-C_{16} - Silica Cleanup	F2 - Silica Cleanup	>C_{16}-C_{34} - Silica Cleanup	>C_{34}-C_{40} - Silica Cleanup	>C_{10}-C_{40} - Silica Cleanup
LOR		1	2	2	2	2	2	5	1	20	50	100	50	50	20	20	100	100	100	100	100
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
Adopted Site Specific Trigger Values (SWMP 2021)		-	-	-	-	-	-	-	-	-	-	-	-	-	20	20	100	-	100	100	-
NHMRC ADWG 2018		1	800	300	-	350	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample Name	Sample Date																				
BH1	21-Feb-19	Blocked																			
	15-Mar-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	**1,710**	< 50	< 100	< 50	< 50	**1,690**	**1,690**	< 100	< 100	< 100	< 100	< 100
	23-Apr-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	**40**	< 50	< 100	< 50	< 50	**30**	**30**	< 100	< 100	< 100	< 100	< 100
	16-May-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jun-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jul-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Aug-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Sep-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Oct-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Nov-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Dec-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jan-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	27-Feb-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	26-Mar-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	27-Apr-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-May-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	19-Jun-20	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<1.0	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100
	16-Jul-20	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<1.0	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100
	14-Aug-20	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<1.0	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100
	16-Sep-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Oct-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Nov-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Dec-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jan-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Feb-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Mar-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	22-Apr-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	20-May-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Jun-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Jul-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
BH2	22-Feb-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Mar-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	23-Apr-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-May-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jun-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jul-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Aug-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Sep-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Oct-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Nov-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Dec-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jan-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	27-Feb-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	26-Mar-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	27-Apr-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-May-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	19-Jun-20	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<1.0	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100
	16-Jul-20	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<1.0	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100
	14-Aug-20	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<1.0	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100
	16-Sep-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Oct-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Nov-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Dec-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jan-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Feb-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Mar-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	22-Apr-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	20-May-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Jun-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Jul-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
BH3	21-Feb-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
BH4	21-Feb-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Mar-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	23-Apr-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-May-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	**250**	< 50	**250**	< 20	< 20	< 100	< 100	**280**	< 100	**280**
	14-Jun-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jul-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Aug-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Sep-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	**130**	< 50	**130**	< 20	< 20	< 100	< 100	**140**	< 100	**140**
	15-Oct-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Nov-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Dec-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jan-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	27-Feb-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	<50	**160**	<50	**160**	< 20	<100	<100	< 100	**160**	< 100	**160**
	26-Mar-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	27-Apr-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	**70^3**	**600^2**	< 50	**600^2**	< 20	< 20	**80^3**	< 100	**700^2**	< 100	**700^2**
	15-May-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	19-Jun-20	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<1.0	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100
	16-Jul-20	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<1.0	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100
	14-Aug-20	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<1.0	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100
	16-Sep-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Oct-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Nov-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Dec-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jan-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Feb-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Mar-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	22-Apr-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	20-May-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Jun-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Jul-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
BH5	22-Feb-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
BH6	22-Feb-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Mar-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	23-Apr-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-May-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jun-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jul-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Aug-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Sep-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Oct-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Nov-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Dec-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jan-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	27-Feb-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	26-Mar-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	27-Apr-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-May-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	19-Jun-20	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<1.0	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100
	16-Jul-20	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<1.0	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100
	14-Aug-20	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<1.0	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100
	16-Sep-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Oct-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Nov-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Dec-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jan-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Feb-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Mar-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	22-Apr-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	20-May-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Jun-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Jul-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
BH7	22-Feb-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Mar-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	23-Apr-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-May-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jun-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jul-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Aug-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Sep-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Oct-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Nov-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Dec-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jan-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	27-Feb-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	26-Mar-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	27-Apr-20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	15-May-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	19-Jun-20	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<1.0	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100
	16-Jul-20	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<1.0	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100
	14-Aug-20	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<1.0	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100
	16-Sep-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Oct-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Nov-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Dec-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jan-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Feb-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Mar-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	22-Apr-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	20-May-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Jun-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Jul-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
BH8	21-Feb-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Mar-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	23-Apr-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-May-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jun-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jul-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Aug-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Sep-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Oct-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Nov-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Dec-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jan-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	27-Feb-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	26-Mar-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	27-Apr-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-May-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	19-Jun-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jul-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Aug-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Sep-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Oct-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Nov-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Dec-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jan-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Feb-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Mar-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	22-Apr-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	20-May-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Jun-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Jul-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
BH9	14-Aug-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
BH9A	16-Sep-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Oct-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Nov-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Dec-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jan-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Feb-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Mar-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	22-Apr-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	20-May-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Jun-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Jul-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
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																				
	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	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	20-May-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Jun-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Jul-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
BH11	21-Feb-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Mar-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	23-Apr-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-May-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jun-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jul-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Aug-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Sep-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Oct-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Nov-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Dec-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jan-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	27-Feb-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	26-Mar-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	27-Apr-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	**250**	**100**	**350**	< 20	< 20	< 100	< 100	**310**	< 100	**310**
	15-May-20	< 1.0	**2.0**	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	**2.0**	< 20	< 50	**460**	**220**	**680**	< 20	< 20	< 100	< 100	**580**	< 100	**580**
	19-Jun-20	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<1.0	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100
	16-Jul-20	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<1.0	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100
	14-Aug-20	<1.0	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<1.0	<20	<50	<100	<50	<50	<20	<20	<100	<100	<100	<100	<100
	16-Sep-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Oct-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Nov-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Dec-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jan-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Feb-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Mar-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	22-Apr-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	20-May-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Jun-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Jul-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
BH12	16-Sep-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Nov-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Dec-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jan-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Feb-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Mar-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	22-Apr-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	20-May-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Jun-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
MW239S	22-Feb-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Mar-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	23-Apr-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-May-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jun-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jul-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Aug-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Sep-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Oct-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Nov-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Dec-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jan-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	27-Feb-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	26-Mar-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	27-Apr-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-May-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	19-Jun-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jul-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Aug-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Sep-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Oct-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Nov-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Dec-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jan-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Feb-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Mar-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	22-Apr-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	20-May-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Jun-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Jul-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100

Notes:
- - Not analysed
< - Less than laboratory limit of reporting
µg/L - Micrograms per litre
BTEXN - Benzene, toluene, ethylbenzene, xylenes, naphthalene
1- Soil and Water Management Plan, July 2021
2- Denotes duplicate value used.
3- Denotes triplicate vhalue used.
** 95% Level of protection in freshwater

Table GW2
Groundwater Analytical Data - Metals
Williamtown Sand Syndicate

Analyte		Metals															
		Arsenic**	Barium	Beryllium	Boron**	Cadmium**	Chromium**[1]	Cobalt	Copper**	Iron	Lead**	Manganese**	Mercury**[2]	Nickel**	Selenium**	Vanadium	Zinc**
LOR		0.001	0.001	0.001	0.05	0.0001	0.001	0.001	0.001	0.05	0.001	0.001	0.0001	0.001	0.01	0.01	0.005
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Adopted Site Specific Trigger Values (SWMP 2021)[3]		0.003	0.07	0.002	0.1	0.0002	0.004	0.006	0.083	4.1 (8.84 for BH1)	0.001	0.136	0.0001	0.02	0.01	0.01	0.085 (0.1 for BH1)
NHMRC ADWG 2018		0.01	-	0.06	4	0.002	0.05	-	2	-	0.01	0.5	0.001	0.02	0.01	-	-
Sample Name	Sample Date																
BH1	21-Feb-19	Blocked															
	15-Mar-19	< 0.001	0.003	< 0.001	< 0.05	< 0.0001	0.004	< 0.001	< 0.001	13	< 0.001	0.014	< 0.0001	< 0.001	< 0.01	< 0.01	1.27
	23-Apr-19	< 0.001	0.003	< 0.001	< 0.05	< 0.0001	0.004	< 0.001	0.002	10	0.001	0.015	< 0.0001	0.002	< 0.01	< 0.01	0.363
	16-May-19	< 0.001	0.002	< 0.001	< 0.05	< 0.0001	0.003	< 0.001	< 0.001	8.33	< 0.001	0.009	< 0.0001	0.002	< 0.01	< 0.01	0.132
	14-Jun-19	< 0.001	0.001	< 0.001	< 0.05	< 0.0001	0.002	< 0.001	0.001	6.31	< 0.001	0.009	< 0.0001	< 0.001	< 0.01	< 0.01	0.074
	16-Jul-19	< 0.001	0.002	< 0.001	< 0.05	< 0.0001	0.003	< 0.001	0.002	7.35	< 0.001	0.01	< 0.0001	0.001	< 0.01	< 0.01	0.116
	15-Aug-19	< 0.001	0.002	< 0.001	< 0.05	< 0.0001	0.003	< 0.001	0.002	7.96	< 0.001	0.008	< 0.0001	< 0.001	< 0.01	< 0.01	0.023
	16-Sep-19	< 0.001	0.002	< 0.001	< 0.05	< 0.0001	0.004	< 0.001	0.001	8.84	< 0.001	0.009	< 0.0001	< 0.001	< 0.01	< 0.01	0.034
	15-Oct-19	< 0.001	0.005	< 0.001	< 0.05	< 0.0001	0.003	< 0.001	0.006	4.32	< 0.001	0.007	< 0.0001	< 0.001	< 0.01	< 0.01	0.037
	18-Nov-19	< 0.001	0.001	< 0.001	< 0.05	< 0.0001	0.004	< 0.001	< 0.001	11	< 0.001	0.008	< 0.0001	0.001	< 0.01	< 0.01	0.012
	17-Dec-19	<0.001	0.002	<0.001	<0.05	<0.0001	0.003	<0.001	0.001	8.48	<0.001	0.009	<0.0001	<0.001	<0.01	<0.01	0.028
	16-Jan-20	<0.001	0.003	<0.001	<0.05	<0.0001	0.002	<0.001	0.002	4.43	<0.001	0.011	<0.0001	0.002	<0.01	<0.01	0.044
	27-Feb-20	<0.001	0.005	<0.001	<0.05	<0.0001	0.002	<0.001	0.022	4.1	<0.001	0.008	<0.0001	0.004	<0.01	<0.01	0.075
	26-Mar-20	<0.001	0.006	<0.001	<0.05	<0.0001	0.003	<0.001	0.021	7.37	<0.001	0.009	<0.0001	0.006	<0.01	<0.01	0.08
	27-Apr-20	<0.001	-	-	-	<0.0001	<0.001	-	0.002	0.22	<0.001	0.01	<0.0001	-	-	-	0.035
	15-May-20	<0.001	0.006	<0.001	<0.05	<0.0001	0.003	0.002	0.013	8.1	<0.001	0.012	<0.0001	0.006	<0.01	<0.01	0.065
	19-Jun-20	<0.001	-	-	-	<0.0001	0.002	-	0.006	5.74	<0.001	0.01	<0.0001	-	-	-	0.06
	16-Jul-20	<0.001	-	-	-	<0.0001	0.003	-	0.014	6.22	<0.001	0.01	<0.0001	-	-	-	0.08
	14-Aug-20	<0.001	0.005	<0.001	<0.05	<0.0001	0.002	<0.001	0.005	4.08	<0.001	0.01	<0.0001	<0.001	< 0.01	< 0.01	0.025
	16-Sep-20	< 0.001	0.004	< 0.001	< 0.05	< 0.0001	0.002	< 0.001	0.005	5.48	< 0.001	0.01	< 0.0001	< 0.001	< 0.01	< 0.01	0.016
	16-Oct-20	< 0.001	0.006	< 0.001	< 0.05	< 0.0001	0.002	< 0.001	0.001	5.55	< 0.001	0.009	< 0.0001	< 0.001	< 0.01	< 0.01	0.017
	16-Nov-20	< 0.001	0.002	< 0.001	< 0.05	< 0.0001	0.003	< 0.001	0.001	7.05	< 0.001	0.012	< 0.0001	< 0.001	< 0.01	< 0.01	0.045
	16-Dec-20	< 0.001	0.006	< 0.001	< 0.05	< 0.0001	0.002	< 0.001	0.008	3.21	< 0.001	0.011	< 0.0001	0.001	< 0.01	< 0.01	0.077
	14-Jan-21	< 0.001	0.002	< 0.001	< 0.05	< 0.0001	0.002	< 0.001	0.001	5.21	< 0.001	0.013	< 0.0001	< 0.001	< 0.01	< 0.01	0.032
	16-Feb-21	< 0.001	0.003	< 0.001	< 0.05	< 0.0001	0.002	< 0.001	0.001	3.24	< 0.001	0.015	< 0.0001	< 0.001	< 0.01	< 0.01	0.652
	17-Mar-21	< 0.001	0.004	< 0.001	< 0.05	< 0.0001	0.002	< 0.001	< 0.001	4.0	< 0.001	0.027	< 0.0001	< 0.001	< 0.01	< 0.01	0.596
	22-Apr-21	< 0.001	0.002	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	0.86	< 0.001	0.022	< 0.0001	< 0.001	< 0.01	< 0.01	1.5
	20-May-21	<0.001	<0.001	<0.001	<0.05	0.0001	0.002	<0.001	<0.001	5.71	<0.001	0.017	<0.0001	<0.001	<0.01	<0.01	0.384
	18-Jun-21	<0.001	0.003	<0.001	0.11	<0.0001	<0.001	<0.001	<0.001	0.52	<0.001	0.017	<0.0001	<0.001	<0.01	<0.01	0.29
	15-Jul-21	<0.001	0.002	<0.001	< 0.05	<0.0001	<0.001	<0.001	<0.001	0.31	<0.001	0.02	<0.0001	<0.001	<0.01	<0.01	0.037
BH2	22-Feb-19	< 0.001	0.005	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.002	0.14	< 0.001	0.021	< 0.0001	0.015	< 0.01	< 0.01	0.006
	15-Mar-19	< 0.001	0.004	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.003	< 0.05	< 0.001	0.02	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
	23-Apr-19	< 0.001	0.005	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.004	0.19	< 0.001	0.018	< 0.0001	0.001	< 0.01	< 0.01	0.008
	16-May-19	< 0.001	0.004	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.001	0.06	< 0.001	0.014	< 0.0001	0.001	< 0.01	< 0.01	< 0.005
	14-Jun-19	< 0.001	0.004	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.004	0.08	< 0.001	0.009	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
	16-Jul-19	< 0.001	0.004	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.008	0.05	< 0.001	0.013	< 0.0001	0.001	< 0.01	< 0.01	0.006
	15-Aug-19	< 0.001	0.004	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.012	0.08	< 0.001	0.011	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
	16-Sep-19	< 0.001	0.004	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.008	0.26	< 0.001	0.014	< 0.0001	0.001	< 0.01	< 0.01	0.007
	15-Oct-19	< 0.001	0.004	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.006	0.46	< 0.001	0.011	< 0.0001	< 0.001	< 0.01	< 0.01	0.007
	18-Nov-19	< 0.001	0.007	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.013	0.08	< 0.001	0.011	< 0.0001	0.007	< 0.01	< 0.01	0.028
	17-Dec-19	<0.001	0.004	<0.001	<0.05	<0.0001	0.002	<0.001	0.006	0.1	<0.001	0.012	<0.0001	0.001	<0.01	<0.01	0.006
	16-Jan-20	<0.001	0.004	<0.001	<0.05	<0.0001	<0.001	<0.001	0.005	0.73	<0.001	0.014	<0.0001	<0.001	<0.01	<0.01	0.01
	27-Feb-20	<0.001	0.005	<0.001	<0.05	<0.0001	<0.001	<0.001	0.008	0.07	<0.001	0.012	<0.0001	0.003	<0.01	<0.01	0.021
	26-Mar-20	<0.001	0.005	<0.001	<0.05	<0.0001	<0.001	<0.001	0.01	0.06	<0.001	0.012	<0.0001	0.003	<0.01	<0.01	0.034
	27-Apr-20	<0.001	-	-	-	<0.0001	<0.001	-	0.011	<0.05	0.001	0.015	<0.0001	-	-	-	0.024
	15-May-20	<0.001	0.005	<0.001	<0.05	<0.0001	<0.001	<0.001	0.012	<0.05	<0.001	0.014	<0.0001	0.003	<0.01	<0.01	0.031
	19-Jun-20	<0.001	-	-	-	<0.0001	<0.001	-	0.024	0.08	<0.001	0.014	<0.0001	-	-	-	0.043
	16-Jul-20	<0.001	-	-	-	<0.0001	<0.001	-	0.029	<0.5	<0.001	0.012	<0.0001	-	-	-	0.033
	14-Aug-20	< 0.001	0.008	< 0.001	< 0.05	<0.0001	<0.001	<0.001	0.062	0.22	< 0.001	0.015	<0.0001	<0.001	<0.01	<0.01	0.006
	16-Sep-20	< 0.001	0.012	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.026	0.07	< 0.001	0.016	< 0.0001	< 0.001	< 0.01	< 0.01	0.006
	16-Oct-20	< 0.001	0.005	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.013	< 0.05	< 0.001	0.015	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
	16-Nov-20	< 0.001	0.005	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.02	0.36	< 0.001	0.015	< 0.0001	< 0.001	< 0.01	< 0.01	0.018
	16-Dec-20	< 0.001	0.004	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.011	< 0.05	< 0.001	0.014	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
	14-Jan-21	< 0.001	0.002	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.006	< 0.05	< 0.001	0.016	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
	16-Feb-21	< 0.001	0.003	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.021	< 0.05	< 0.001	0.009	< 0.0001	0.007	< 0.01	< 0.01	0.017

Table GW2
Groundwater Analytical Data - Metals
Williamtown Sand Syndicate

Analyte		Metals															
		Arsenic**	Barium	Beryllium	Boron**	Cadmium**	Chromium**[1]	Cobalt	Copper**	Iron	Lead**	Manganese**	Mercury**[2]	Nickel**	Selenium**	Vanadium	Zinc**
LOR		0.001	0.001	0.001	0.05	0.0001	0.001	0.001	0.001	0.05	0.001	0.001	0.0001	0.001	0.01	0.01	0.005
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Adopted Site Specific Trigger Values (SWMP 2021)[3]		0.003	0.07	0.002	0.1	0.0002	0.004	0.006	0.083	4.1 (8.84 for BH1)	0.001	0.136	0.0001	0.02	0.01	0.01	0.085 (0.1 for BH1)
NHMRC ADWG 2018		0.01	-	0.06	4	0.002	0.05	-	2	-	0.01	0.5	0.001	0.02	0.01	-	-
Sample Name	Sample Date																
	17-Mar-21	< 0.001	**0.005**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	**0.003**	< 0.05	< 0.001	**0.016**	< 0.0001	< 0.001	< 0.01	< 0.01	**0.006**
	22-Apr-21	< 0.001	**0.002**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	**0.008**	< 0.0001	< 0.001	< 0.01	< 0.01	**0.007**
	20-May-21	<0.001	**0.002**	<0.001	<0.05	<0.0001	<0.001	<0.001	**0.001**	<0.05	<0.001	**0.004**	<0.0001	<0.001	<0.01	<0.01	<0.005
	18-Jun-21	<0.001	**0.001**	<0.001	<0.05	<0.0001	<0.001	<0.001	**0.002**	<0.05	<0.001	**0.011**	<0.0001	<0.001	<0.01	<0.01	<0.005
	15-Jul-21	<0.001	**0.003**	<0.001	< 0.05	<0.0001	<0.001	<0.001	**0.005**	**0.07**	<0.001	**0.017**	<0.0001	<0.001	<0.01	<0.01	**0.006**
BH3	21-Feb-19	< 0.001	**0.003**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	< 0.001	**0.06**	< 0.001	**0.005**	< 0.0001	**0.053**	< 0.01	< 0.01	< 0.005
	21-Feb-19	< 0.001	**0.014**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.002**	**0.16**	< 0.001	**0.039**	< 0.0001	**0.018**	< 0.01	< 0.01	**0.014**
	15-Mar-19	< 0.001	**0.014**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.001**	< 0.05	< 0.001	**0.014**	< 0.0001	**0.022**	< 0.01	< 0.01	**0.043**
	23-Apr-19	< 0.001	**0.013**	< 0.001	**0.05**	< 0.0001	< 0.001	< 0.001	**0.002**	**0.99**	< 0.001	**0.045**	< 0.0001	**0.007**	< 0.01	< 0.01	**0.008**
	16-May-19	< 0.001	**0.013**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	**0.27**	< 0.001	**0.022**	< 0.0001	**0.022**	< 0.01	< 0.01	**0.011**
	14-Jun-19	< 0.001	**0.012**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.038**	< 0.05	< 0.001	**0.014**	< 0.0001	< 0.001	< 0.01	< 0.01	**0.005**
	16-Jul-19	< 0.001	**0.013**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.046**	< 0.05	< 0.001	**0.019**	< 0.0001	< 0.001	< 0.01	< 0.01	**0.007**
	15-Aug-19	< 0.001	**0.013**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.026**	< 0.05	< 0.001	**0.018**	< 0.0001	**0.001**	< 0.01	< 0.01	**0.007**
	16-Sep-19	< 0.001	**0.012**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.051**	**0.19**	< 0.001	**0.026**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.005**
	15-Oct-19	< 0.001	**0.01**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.011**	**0.31**	< 0.001	**0.136**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.014**
	18-Nov-19	< 0.001	**0.011**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.005**	< 0.05	< 0.001	**0.013**	< 0.0001	**0.001**	< 0.01	< 0.01	< 0.005
	17-Dec-19	<0.001	**0.012**	<0.001	**0.06**	<0.0001	**0.001**	<0.001	**0.008**	<0.05	<0.001	**0.014**	<0.0001	<0.001	<0.01	<0.01	**0.005**
	16-Jan-20	<0.001	**0.014**	<0.001	<0.05	<0.0001	<0.001	<0.001	**0.006**	<0.05	<0.001	**0.014**	<0.0001	<0.001	<0.01	<0.01	**0.009**
	27-Feb-20	<0.001	**0.009**	<0.001	<0.05	<0.0001	**0.001**	<0.001	**0.006**	**0.09**	<0.001	**0.013**	<0.0001	**0.001**	<0.01	<0.01	**0.009**
	26-Mar-20	<0.001	**0.01**	<0.001	<0.05	<0.0001	<0.001	<0.001	**0.002**	**0.2**	<0.001	**0.014**	<0.0001	**0.002**	<0.01	<0.01	**0.024**
	27-Apr-20	<0.001	**-**	**-**	**-**	<0.0001	<0.001	**-**	**0.006**	**0.22**	<0.001	**0.028**	<0.0001	**-**	**-**	**-**	**0.018**
BH4	15-May-20	<0.001	**0.012**	<0.001	<0.05	<0.0001	<0.001	<0.001	**0.052**	**0.13**	<0.001	**0.019**	<0.0001	**0.004**	<0.01	<0.01	**0.037**
	19-Jun-20	<0.001	**-**	**-**	**-**	<0.0001	<0.001	**-**	**0.079**	**0.14**	<0.001	**0.016**	<0.001	**-**	**-**	**-**	**0.033**
	16-Jul-20	<0.001	**-**	**-**	**-**	<0.0001	<0.001	**-**	**0.069**	**0.06**	<0.001	**0.01**	<0.001	**-**	**-**	**-**	<0.005
	14-Aug-20	< 0.001	**0.008**	< 0.001	< 0.05	<0.0001	<0.001	<0.001	**0.083**	**0.09**	< 0.001	**0.011**	<0.0001	<0.001	<0.01	<0.01	**0.012**
	16-Sep-20	< 0.001	**0.013**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.078**	**0.06**	< 0.001	**0.012**	< 0.0001	< 0.001	< 0.01	< 0.01	**0.006**
	16-Oct-20	< 0.001	**0.01**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.003**	**0.25**	< 0.001	**0.021**	< 0.0001	**0.001**	< 0.01	< 0.01	**0.018**
	16-Nov-20	< 0.001	**0.008**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.005**	**0.18**	< 0.001	**0.008**	< 0.0001	**0.001**	< 0.01	< 0.01	**0.005**
	16-Dec-20	< 0.001	**0.011**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.002**	**0.46**	< 0.001	**0.027**	< 0.0001	**0.003**	< 0.01	< 0.01	< 0.005
	14-Jan-21	< 0.001	**0.01**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.012**	**0.27**	< 0.001	**0.012**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.006**
	16-Feb-21	< 0.001	**0.02**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.002**	**0.94**	< 0.001	**0.023**	< 0.0001	**0.003**	< 0.01	< 0.01	**0.008**
	17-Mar-21	< 0.001	**0.027**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.006**	**1.39**	< 0.001	**0.029**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.019**
	22-Apr-21	< 0.001	**0.013**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.032**	**0.09**	< 0.001	**0.029**	< 0.0001	**0.001**	< 0.01	< 0.01	**0.007**
	20-May-21	<0.001	**0.012**	<0.001	<0.05	<0.0001	<0.001	**0.001**	**0.105**	<0.05	<0.001	**0.03**	<0.0001	**0.002**	<0.01	<0.01	<0.005
	18-Jun-21	<0.001	**0.01**	<0.001	<0.05	<0.0001	<0.001	<0.001	**0.157**	<0.05	<0.001	**0.023**	<0.0001	**0.002**	<0.01	<0.01	<0.005
	15-Jul-21	<0.001	**0.009**	<0.001	< 0.05	<0.0001	<0.001	**0.001**	**0.168**	**0.08**	<0.001	**0.024**	<0.0001	<0.001	<0.01	<0.01	**0.008**
BH5	22-Feb-19	< 0.001	**0.01**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	< 0.001	**1.4**	< 0.001	**0.005**	< 0.0001	**0.003**	< 0.01	< 0.01	**0.008**
	14-Aug-20	< 0.001	**0.015**	< 0.001	< 0.05	<0.0001	<0.001	<0.001	**0.006**	**0.33**	< 0.001	**0.003**	<0.0001	**0.002**	<0.01	<0.01	**0.01**

Table GW2
Groundwater Analytical Data - Metals
Williamtown Sand Syndicate

Analyte		Metals															
		Arsenic**	Barium	Beryllium	Boron**	Cadmium**	Chromium**[1]	Cobalt	Copper**	Iron	Lead**	Manganese**	Mercury**[2]	Nickel**	Selenium**	Vanadium	Zinc**
LOR		0.001	0.001	0.001	0.05	0.0001	0.001	0.001	0.001	0.05	0.001	0.001	0.0001	0.001	0.01	0.01	0.005
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Adopted Site Specific Trigger Values (SWMP 2021)[3]		0.003	0.07	0.002	0.1	0.0002	0.004	0.006	0.083	4.1 (8.84 for BH1)	0.001	0.136	0.0001	0.02	0.01	0.01	0.085 (0.1 for BH1)
NHMRC ADWG 2018		0.01	-	0.06	4	0.002	0.05	-	2	-	0.01	0.5	0.001	0.02	0.01	-	-
Sample Name	Sample Date																
BH6	22-Feb-19	< 0.001	**0.03**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	**1.03**	< 0.001	**0.014**	< 0.0001	**0.001**	< 0.01	< 0.01	**0.019**
	14-Mar-19	< 0.001	**0.027**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	**1.9**	< 0.001	**0.01**	< 0.0001	< 0.001	< 0.01	< 0.01	**0.012**
	23-Apr-19	< 0.001	**0.03**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.001**	**0.96**	< 0.001	**0.01**	< 0.0001	< 0.001	< 0.01	< 0.01	**0.022**
	16-May-19	< 0.001	**0.029**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	**2.57**	< 0.001	**0.009**	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
	14-Jun-19	< 0.001	**0.027**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.001**	**2.86**	< 0.001	**0.008**	< 0.0001	< 0.001	< 0.01	< 0.01	**0.008**
	16-Jul-19	< 0.001	**0.026**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.002**	**2.41**	< 0.001	**0.008**	< 0.0001	< 0.001	< 0.01	< 0.01	**0.005**
	15-Aug-19	< 0.001	**0.026**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.001**	**2.19**	< 0.001	**0.008**	< 0.0001	< 0.001	< 0.01	< 0.01	**0.007**
	16-Sep-19	< 0.001	**0.034**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.008**	**2.08**	< 0.001	**0.012**	< 0.0001	**0.007**	< 0.01	< 0.01	**0.035**
	15-Oct-19	< 0.001	**0.026**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	**1.95**	< 0.001	**0.009**	< 0.0001	< 0.001	< 0.01	< 0.01	**0.006**
	18-Nov-19	< 0.001	**0.03**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	**1.58**	< 0.001	**0.009**	< 0.0001	**0.008**	< 0.01	< 0.01	**0.073**
	17-Dec-19	<0.001	**0.026**	<0.001	**0.05**	<0.0001	**0.001**	<0.001	**0.003**	**1.78**	<0.001	**0.007**	<0.0001	**0.001**	<0.01	<0.01	**0.006**
	16-Jan-20	<0.001	**0.032**	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	**2.15**	<0.001	**0.01**	<0.0001	<0.001	<0.01	<0.01	<0.005
	27-Feb-20	<0.001	**0.03**	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	**1.69**	<0.001	**0.01**	<0.0001	**0.004**	<0.01	<0.01	**0.019**
	26-Mar-20	<0.001	**0.028**	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	**1.51**	<0.001	**0.01**	<0.0001	<0.001	<0.01	<0.01	**0.03**
	27-Apr-20	<0.001	**-**	**-**	**-**	<0.0001	<0.001	**-**	**0.002**	**1.14**	<0.001	**0.014**	<0.0001	**-**	**-**	**-**	**0.041**
	15-May-20	<0.001	**0.045**	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	**1.89**	<0.001	**0.01**	<0.0001	<0.001	<0.01	<0.01	**0.007**
	19-Jun-20	<0.001	**-**	**-**	**-**	<0.0001	<0.001	**-**	**0.007**	**2.49**	<0.001	**0.018**	<0.0001	**-**	**-**	**-**	**0.053**
	16-Jul-20	<0.001	**-**	**-**	**-**	<0.0001	<0.001	**-**	**0.002**	**1.98**	<0.001	**0.016**	<0.0001	**-**	**-**	**-**	**0.036**
	14-Aug-20	< 0.001	**0.05**	< 0.001	< 0.05	<0.0001	<0.001	<0.001	<0.001	**2**	< 0.001	**0.014**	<0.0001	<0.001	<0.01	<0.01	<0.005
	16-Sep-20	< 0.001	**0.047**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.002**	**1.78**	< 0.001	**0.01**	< 0.0001	< 0.001	< 0.01	< 0.01	**0.006**
	16-Oct-20	< 0.001	**0.04**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	**1.84**	< 0.001	**0.011**	< 0.0001	< 0.001	< 0.01	< 0.01	**0.007**
	16-Nov-20	< 0.001	**0.061**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	**1.72**	< 0.001	**0.014**	< 0.0001	< 0.001	< 0.01	< 0.01	**0.01**
	16-Dec-20	< 0.001	**0.07**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	**1.64**	< 0.001	**0.014**	< 0.0001	< 0.001	< 0.01	< 0.01	**0.007**
	14-Jan-21	< 0.001	**0.054**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.011**	**1.06**	< 0.001	**0.014**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.025**
	16-Feb-21	< 0.001	**0.048**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.013**	**1.18**	< 0.001	**0.012**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.012**
	17-Mar-21	< 0.001	**0.068**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	**1.39**	< 0.001	**0.012**	< 0.0001	< 0.001	< 0.01	< 0.01	**0.006**
	22-Apr-21	< 0.001	**0.039**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.022	**1.17**	< 0.001	**0.008**	< 0.0001	0.002	< 0.01	< 0.01	**0.011**
	20-May-21	<0.001	**0.039**	<0.001	<0.05	**0.0001**	<0.001	<0.001	**0.008**	**1.05**	<0.001	**0.003**	<0.0001	**0.002**	<0.01	<0.01	**0.009**
	18-Jun-21	<0.001	**0.033**	<0.001	<0.05	**0.0001**	<0.001	<0.001	<0.001	**1.08**	<0.001	**0.004**	<0.0001	**0.001**	<0.01	<0.01	<0.005
	15-Jul-21	**0.002**	**0.031**	<0.001	< 0.05	<0.0001	<0.001	<0.001	<0.001	**1.04**	<0.001	**0.005**	<0.0001	<0.001	<0.01	<0.01	< 0.005
BH7	22-Feb-19	< 0.001	**0.004**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.003**	< 0.001	**1.8**	< 0.001	**0.026**	< 0.0001	**0.004**	< 0.01	< 0.01	**0.019**
	14-Mar-19	< 0.001	**0.01**	< 0.001	< 0.05	< 0.0001	**0.001**	**0.003**	< 0.001	**1.8**	< 0.001	**0.02**	< 0.0001	**0.004**	< 0.01	< 0.01	**0.009**
	23-Apr-19	< 0.001	**0.012**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.003**	< 0.001	**2.0**	< 0.001	**0.026**	< 0.0001	**0.004**	< 0.01	< 0.01	**0.01**
	16-May-19	< 0.001	**0.008**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.003**	< 0.001	**2.32**	< 0.001	**0.035**	< 0.0001	**0.005**	< 0.01	< 0.01	**0.013**
	14-Jun-19	< 0.001	**0.005**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.002**	< 0.001	**2.06**	< 0.001	**0.03**	< 0.0001	**0.004**	< 0.01	< 0.01	**0.006**
	16-Jul-19	< 0.001	**0.005**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.002**	< 0.001	**1.66**	< 0.001	**0.025**	< 0.0001	**0.003**	< 0.01	< 0.01	< 0.005
	15-Aug-19	< 0.001	**0.005**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.002**	< 0.001	**1.54**	< 0.001	**0.023**	< 0.0001	**0.003**	< 0.01	< 0.01	< 0.005
	16-Sep-19	< 0.001	**0.016**	< 0.001	**0.06**	< 0.0001	**0.002**	**0.002**	**0.007**	**1.42**	**0.001**	**0.024**	< 0.0001	**0.02**	< 0.01	< 0.01	**0.085**
	15-Oct-19	< 0.001	**0.009**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.002**	**0.003**	**1.32**	< 0.001	**0.018**	< 0.0001	**0.003**	< 0.01	< 0.01	**0.011**
	18-Nov-19	< 0.001	**0.016**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.002**	< 0.001	**1.1**	< 0.001	**0.015**	< 0.0001	**0.013**	< 0.01	< 0.01	**0.053**
	17-Dec-19	<0.001	**0.009**	<0.001	**0.06**	<0.0001	**0.002**	**0.001**	<0.001	**0.98**	<0.001	**0.011**	<0.0001	**0.003**	<0.01	<0.01	**0.007**
	16-Jan-20	<0.001	**0.01**	<0.001	<0.05	<0.0001	**0.002**	<0.001	<0.001	**0.93**	<0.001	**0.006**	<0.0001	**0.003**	<0.01	<0.01	**0.007**
	27-Feb-20	<0.001	**0.01**	<0.001	<0.05	<0.0001	**0.003**	<0.001	<0.001	**1.18**	<0.001	**0.008**	<0.0001	**0.004**	<0.01	<0.01	**0.027**
	26-Mar-20	<0.001	**0.01**	<0.001	<0.05	<0.0001	**0.001**	<0.001	<0.001	**0.9**	<0.001	**0.009**	<0.0001	**0.005**	<0.01	<0.01	**0.084**
	27-Apr-20	<0.001	**-**	**-**	**-**	<0.0001	**0.003**	**-**	**0.012**	**0.92**	<0.001	**0.011**	<0.0001	**-**	**-**	**-**	**0.033**
	15-May-20	<0.001	**0.01**	<0.001	<0.05	<0.0001	**0.003**	**0.002**	**0.005**	**1.26**	<0.001	**0.016**	<0.0001	**0.007**	<0.01	<0.01	**0.045**
	19-Jun-20	<0.001	**-**	**-**	**-**	<0.0001	**0.003**	**-**	**0.002**	**1.36**	<0.001	**0.019**	<0.0001	**-**	**-**	**-**	**0.043**
	16-Jul-20	<0.001	**-**	**-**	**-**	<0.0001	**0.003**	**-**	**0.004**	**1.14**	<0.001	**0.02**	<0.0001	**-**	**-**	**-**	**0.041**
	14-Aug-20	< 0.001	**0.013**	< 0.001	< 0.05	<0.0001	**0.002**	**0.002**	<0.001	**1.5**	< 0.001	**0.024**	<0.0001	**0.002**	<0.01	<0.01	<0.005
	16-Sep-20	< 0.001	**0.013**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.002**	< 0.001	**1.67**	< 0.001	**0.021**	< 0.0001	**0.003**	< 0.01	< 0.01	**0.006**
	16-Oct-20	< 0.001	**0.009**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.002**	< 0.001	**1.49**	< 0.001	**0.015**	< 0.0001	**0.003**	< 0.01	< 0.01	**0.015**
	16-Nov-20	< 0.001	**0.006**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.003**	< 0.001	**1.72**	< 0.001	**0.023**	< 0.0001	**0.003**	< 0.01	< 0.01	**0.006**
	16-Dec-20	< 0.001	**0.003**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.002**	< 0.001	**1.79**	< 0.001	**0.024**	< 0.0001	**0.003**	< 0.01	< 0.01	< 0.005
	14-Jan-21	< 0.001	**0.004**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.002**	**0.004**	**1.65**	< 0.001	**0.025**	< 0.0001	**0.004**	< 0.01	< 0.01	**0.017**
	16-Feb-21	< 0.001	**0.004**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.002**	**0.002**	**1.74**	< 0.001	**0.025**	< 0.0001	**0.004**	< 0.01	< 0.01	**0.013**

Table GW2
Groundwater Analytical Data - Metals
Williamtown Sand Syndicate

Analyte		Metals															
		Arsenic**	Barium	Beryllium	Boron**	Cadmium**	Chromium**[1]	Cobalt	Copper**	Iron	Lead**	Manganese**	Mercury**[2]	Nickel**	Selenium**	Vanadium	Zinc**
LOR		0.001	0.001	0.001	0.05	0.0001	0.001	0.001	0.001	0.05	0.001	0.001	0.0001	0.001	0.01	0.01	0.005
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Adopted Site Specific Trigger Values (SWMP 2021)[3]		0.003	0.07	0.002	0.1	0.0002	0.004	0.006	0.083	4.1 (8.84 for BH1)	0.001	0.136	0.0001	0.02	0.01	0.01	0.085 (0.1 for BH1)
NHMRC ADWG 2018		0.01	-	0.06	4	0.002	0.05	-	2	-	0.01	0.5	0.001	0.02	0.01	-	-
Sample Name	Sample Date																
	17-Mar-21	< 0.001	**0.009**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.003**	< 0.001	**2.28**	< 0.001	**0.028**	< 0.0001	**0.005**	< 0.01	< 0.01	< 0.005
	22-Apr-21	< 0.001	**0.007**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.003**	< 0.001	**1.72**	< 0.001	**0.023**	< 0.0001	**0.004**	< 0.01	< 0.01	0.008
	20-May-21	<0.001	**0.008**	<0.001	<0.05	**0.0001**	**0.001**	**0.002**	<0.001	**1.65**	<0.001	**0.018**	<0.0001	**0.005**	<0.01	<0.01	<0.005
	18-Jun-21	<0.001	**0.004**	<0.001	<0.05	<0.0001	**0.002**	**0.001**	<0.001	**1.35**	<0.001	**0.011**	<0.0001	**0.003**	<0.01	<0.01	<0.005
	15-Jul-21	<0.001	**0.003**	<0.001	< 0.05	<0.0001	**0.002**	**0.002**	<0.001	**1.15**	<0.001	**0.01**	<0.0001	**0.002**	<0.01	<0.01	**0.006**
	21-Feb-19	**0.001 ***	**0.011**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	< 0.001	**4.1**	< 0.001	**0.012**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.006**
	14-Mar-19	< 0.001	**0.006**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	< 0.001	**3.25**	< 0.001	**0.008**	< 0.0001	**0.002**	< 0.01	< 0.01	< 0.005
	23-Apr-19	**0.001**	**0.008**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	< 0.001	**3.2**	< 0.001	**0.009**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.008**
	16-May-19	**0.003**	**0.01**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	< 0.001	**3.0**	< 0.001	**0.01**	< 0.0001	**0.003**	< 0.01	< 0.01	< 0.005
	14-Jun-19	< 0.001	**0.01**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	< 0.001	**2.5**	< 0.001	**0.005**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.006**
	16-Jul-19	**0.001**	**0.012**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	< 0.001	**2.6**	< 0.001	**0.004**	< 0.0001	**0.002**	< 0.01	< 0.01	< 0.005
	15-Aug-19	**0.001**	**0.008**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	< 0.001	**1.72**	< 0.001	**0.004**	< 0.0001	**0.001**	< 0.01	< 0.01	< 0.005
	16-Sep-19	**0.001**	**0.01**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	< 0.001	**2.06**	< 0.001	**0.005**	< 0.0001	**0.002**	< 0.01	< 0.01	< 0.005
	15-Oct-19	< 0.001	**0.007**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	**0.002**	**2.08**	< 0.001	**0.009**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.011**
	18-Nov-19	< 0.001	**0.012**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	**0.002**	**2.49**	< 0.001	**0.01**	< 0.0001	**0.013**	< 0.01	< 0.01	**0.053**
	17-Dec-19	<0.001	**0.007**	<0.001	**0.05**	<0.0001	**0.002**	<0.001	**0.003**	**3.02**	<0.001	**0.011**	<0.0001	**0.002**	<0.01	<0.01	**0.007**
	16-Jan-20	<0.001	**0.007**	<0.001	<0.05	<0.0001	**0.002**	<0.001	<0.001	**2.94**	<0.001	**0.011**	<0.0001	**0.002**	<0.01	<0.01	**0.011**
	27-Feb-20	<0.001	**0.007**	<0.001	<0.05	<0.0001	**0.002**	<0.001	<0.001	**2.56**	<0.001	**0.01**	<0.0001	**0.005**	<0.01	<0.01	**0.032**
	26-Mar-20	<0.001	**0.005**	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	**3.17**	<0.001	**0.012**	<0.0001	<0.001	<0.01	<0.01	<0.005
BH8	27-Apr-20	<0.001	-	-	-	<0.0001	**0.002**	-	**0.002**	**3.32**	<0.001	**0.016**	<0.0001	-	-	-	**0.046**
	15-May-20	**0.001**	**0.009**	<0.001	<0.05	<0.0001	**0.001**	<0.001	**0.001**	**3.49**	<0.001	**0.015**	<0.0001	**0.006**	<0.01	<0.01	**0.04**
	19-Jun-20	**0.001**	-	-	-	**0.0002**	**0.001**	-	**0.012**	**3.3**	<0.001	**0.031**	<0.0001	-	-	-	**0.057**
	16-Jul-20	<0.001	-	-	-	<0.0001	**0.001**	-	**0.002**	**2.87**	<0.001	**0.006**	<0.0001	-	-	-	<0.005
	14-Aug-20	< 0.001	**0.02**	< 0.001	< 0.05	<0.0001	**0.001**	<0.001	<0.001	**3.14**	< 0.001	**0.008**	<0.0001	**0.002**	<0.01	<0.01	**0.007**
	16-Sep-20	< 0.001	**0.014**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	**0.035**	**3.35**	**0.001**	**0.009**	< 0.0001	**0.009**	< 0.01	< 0.01	**0.039**
	16-Oct-20	**0.001**	**0.009**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	< 0.001	**3.03**	< 0.001	**0.007**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.012**
	16-Nov-20	< 0.001	**0.013**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	**3.48**	< 0.001	**0.008**	< 0.0001	**0.002**	< 0.01	< 0.01	< 0.005
	16-Dec-20	< 0.001	**0.006**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	**0.001**	**2.98**	< 0.001	**0.01**	< 0.0001	**0.001**	< 0.01	< 0.01	< 0.005
	14-Jan-21	< 0.001	**0.007**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	**0.002**	**2.71**	< 0.001	**0.01**	< 0.0001	**0.005**	< 0.01	< 0.01	**0.009**
	16-Feb-21	**0.001**	**0.009**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	**0.004**	**2.99**	< 0.001	**0.01**	< 0.0001	**0.006**	< 0.01	< 0.01	**0.013**
	17-Mar-21	< 0.001	**0.012**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	< 0.001	**3.86**	< 0.001	**0.01**	< 0.0001	**0.002**	< 0.01	< 0.01	< 0.005
	22-Apr-21	**0.001**	**0.009**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	**0.008**	**2.97**	< 0.001	**0.01**	< 0.0001	**0.008**	< 0.01	< 0.01	0.008
	20-May-21	**0.002**	**0.008**	<0.001	<0.05	<0.0001	**0.001**	<0.001	<0.001	**2.36**	<0.001	**0.004**	<0.0001	**0.002**	<0.01	<0.01	<0.005
	18-Jun-21	<0.001	**0.012**	<0.001	<0.05	<0.0001	**0.002**	<0.001	<0.001	**3.38**	<0.001	**0.005**	<0.0001	**0.002**	<0.01	<0.01	**0.005**
	15-Jul-21	**0.001**	**0.009**	<0.001	< 0.05	<0.0001	**0.002**	<0.001	<0.001	**2.96**	<0.001	**0.006**	<0.0001	**0.001**	<0.01	<0.01	< 0.005
BH9	14-Aug-20	<0.001	**0.002**	<0.001	<0.05	<0.0001	<0.001	<0.001	**0.003**	<0.05	< 0.001	**0.007**	<0.0001	**0.002**	<0.01	<0.01	**0.032**
	16-Sep-20	< 0.001	**0.028**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.002**	**0.004**	**0.14**	< 0.001	**0.076**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.02**
	16-Oct-20	< 0.001	**0.001**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.001**	**0.001**	**0.06**	< 0.001	**0.042**	< 0.0001	**0.003**	< 0.01	< 0.01	**0.016**
	16-Nov-20	< 0.001	**0.001**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.001**	**0.001**	**0.11**	< 0.001	**0.03**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.011**
	16-Dec-20	< 0.001	**0.001**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.001**	**0.31**	< 0.001	**0.024**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.006**
	14-Jan-21	< 0.001	**0.002**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	**0.017**	**0.14**	< 0.001	**0.025**	< 0.0001	**0.004**	< 0.01	< 0.01	**0.011**
BH9A	16-Feb-21	< 0.001	**0.001**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.001**	< 0.001	**0.35**	< 0.001	**0.024**	< 0.0001	**0.003**	< 0.01	< 0.01	**0.006**
	17-Mar-21	< 0.001	**0.006**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	**0.27**	< 0.001	**0.024**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.01**
	22-Apr-21	< 0.001	**0.003**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	**0.012**	< 0.0001	**0.001**	< 0.01	< 0.01	**0.007**
	20-May-21	<0.001	**0.002**	<0.001	<0.05	<0.0001	<0.001	<0.001	**0.027**	<0.05	<0.001	**0.015**	<0.0001	**0.013**	<0.01	<0.01	**0.022**
	18-Jun-21	<0.001	**0.004**	<0.001	<0.05	<0.0001	**0.001**	<0.001	<0.001	**0.25**	<0.001	**0.02**	<0.0001	**0.002**	<0.01	<0.01	<0.005
	15-Jul-21	<0.001	**0.003**	<0.001	< 0.05	<0.0001	<0.001	<0.001	<0.001	**0.23**	<0.001	**0.023**	<0.0001	**0.003**	<0.01	<0.01	**0.006**

Table GW2
Groundwater Analytical Data - Metals
Williamtown Sand Syndicate

Analyte		Metals															
		Arsenic**	Barium	Beryllium	Boron**	Cadmium**	Chromium**[1]	Cobalt	Copper**	Iron	Lead**	Manganese**	Mercury**[2]	Nickel**	Selenium**	Vanadium	Zinc**
LOR		0.001	0.001	0.001	0.05	0.0001	0.001	0.001	0.001	0.05	0.001	0.001	0.0001	0.001	0.01	0.01	0.005
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Adopted Site Specific Trigger Values (SWMP 2021)[3]		0.003	0.07	0.002	0.1	0.0002	0.004	0.006	0.083	4.1 (8.84 for BH1)	0.001	0.136	0.0001	0.02	0.01	0.01	0.085 (0.1 for BH1)
NHMRC ADWG 2018		0.01	-	0.06	4	0.002	0.05	-	2	-	0.01	0.5	0.001	0.02	0.01	-	-
Sample Name	Sample Date																
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																
	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	**0.01**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	< 0.001	**0.06**	< 0.001	**0.008**	< 0.0001	**0.001**	< 0.01	< 0.01	< 0.005
	20-May-21	<0.001	**0.011**	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.05	<0.001	**0.007**	<0.0001	**0.004**	<0.01	<0.01	<0.005
	18-Jun-21	<0.001	**0.025**	<0.001	<0.05	<0.0001	**0.001**	<0.001	<0.001	<0.05	<0.001	**0.006**	<0.0001	**0.002**	<0.01	<0.01	**0.013**
	15-Jul-21	<0.001	**0.016**	<0.001	< 0.05	<0.0001	**0.002**	<0.001	<0.001	**0.1**	<0.001	**0.008**	<0.0001	**0.001**	<0.01	<0.01	**0.013**
BH11	21-Feb-19	< 0.001	**0.008**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.001**	< 0.001	**0.26**	< 0.001	**0.003**	< 0.0001	**0.005**	< 0.01	< 0.01	**0.031**
	15-Mar-19	< 0.001	**0.005**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	< 0.001	**1.49**	< 0.001	**0.007**	< 0.0001	**0.037**	< 0.01	< 0.01	**0.016**
	23-Apr-19	< 0.001	**0.006**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	< 0.001	**0.98**	< 0.001	**0.007**	< 0.0001	**0.07**	< 0.01	< 0.01	**0.04**
	16-May-19	< 0.001	**0.005**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	< 0.001	**0.97**	< 0.001	**0.006**	< 0.0001	**0.004**	< 0.01	< 0.01	**0.024**
	14-Jun-19	< 0.001	**0.004**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	< 0.001	**0.98**	< 0.001	**0.005**	< 0.0001	**0.001**	< 0.01	< 0.01	**0.005**
	16-Jul-19	< 0.001	**0.01**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	< 0.001	**0.47**	< 0.001	**0.003**	< 0.0001	**0.004**	< 0.01	< 0.01	**0.007**
	15-Aug-19	< 0.001	**0.004**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	**0.001**	**0.87**	< 0.001	**0.007**	< 0.0001	**0.001**	< 0.01	< 0.01	**0.005**
	16-Sep-19	< 0.001	**0.005**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	< 0.001	**0.79**	< 0.001	**0.008**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.012**
	15-Oct-19	< 0.001	**0.004**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	**0.004**	**0.74**	< 0.001	**0.006**	< 0.0001	**0.003**	< 0.01	< 0.01	**0.016**
	18-Nov-19	< 0.001	**0.004**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	< 0.001	**0.95**	< 0.001	**0.008**	< 0.0001	**0.002**	< 0.01	< 0.01	< 0.005
	17-Dec-19	<0.001	**0.004**	<0.001	**0.06**	<0.0001	**0.002**	<0.001	**0.002**	**1**	<0.001	**0.008**	<0.0001	**0.001**	<0.01	<0.01	**0.006**
	16-Jan-20	<0.001	**0.005**	<0.001	<0.05	<0.0001	**0.002**	<0.001	<0.001	**1.08**	<0.001	**0.007**	<0.0001	**0.003**	<0.01	<0.01	**0.005**
	27-Feb-20	<0.001	**0.004**	<0.001	<0.05	<0.0001	**0.002**	<0.001	<0.001	**0.6**	<0.001	**0.003**	<0.0001	**0.002**	<0.01	<0.01	**0.027**
	26-Mar-20	<0.001	**0.007**	<0.001	<0.05	<0.0001	**0.001**	<0.001	<0.001	**0.36**	<0.001	**0.004**	<0.0001	**0.006**	<0.01	<0.01	**0.038**
	27-Apr-20	<0.001	-	-	-	<0.0001	<0.001	-	**0.002**	**0.22**	<0.001	**0.005**	<0.0001	-	-	-	**0.035**
	15-May-20	<0.001	**0.008**	<0.001	<0.05	<0.0001	**0.002**	<0.001	**0.009**	**0.78**	<0.001	**0.01**	<0.0001	**0.007**	<0.01	<0.01	**0.025**
	19-Jun-20	<0.001	-	-	-	<0.0001	**0.001**	-	**0.003**	**0.72**	<0.001	**0.007**	<0.0001	-	-	-	**0.051**
	16-Jul-20	<0.001	-	-	-	<0.0001	**0.001**	-	**0.001**	**1**	<0.001	**0.007**	<0.0001	-	-	-	**0.005**
	14-Aug-20	<0.001	**0.012**	< 0.001	< 0.05	<0.0001	**0.001**	< 0.001	**0.004**	**0.75**	< 0.001	**0.004**	<0.0001	< 0.001	< 0.01	< 0.01	**0.017**
	16-Sep-20	< 0.001	**0.014**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	**0.005**	**0.9**	< 0.001	**0.008**	< 0.0001	< 0.001	< 0.01	< 0.01	**0.009**
	16-Oct-20	< 0.001	**0.007**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	< 0.001	**1.06**	< 0.001	**0.009**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.01**
	16-Nov-20	< 0.001	**0.007**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	< 0.001	**0.84**	< 0.001	**0.011**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.016**
	16-Dec-20	< 0.001	**0.008**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	< 0.001	**1.0**	< 0.001	**0.009**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.008**
	14-Jan-21	< 0.001	**0.008**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	**0.025**	**0.56**	< 0.001	**0.006**	< 0.0001	**0.004**	< 0.01	< 0.01	**0.018**
	16-Feb-21	< 0.001	**0.008**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	**0.018**	**0.59**	< 0.001	**0.008**	< 0.0001	**0.007**	< 0.01	< 0.01	**0.03**

Table GW2
Groundwater Analytical Data - Metals
Williamtown Sand Syndicate

Analyte		Metals															
		Arsenic**	Barium	Beryllium	Boron**	Cadmium**	Chromium**[1]	Cobalt	Copper**	Iron	Lead**	Manganese**	Mercury**[2]	Nickel**	Selenium**	Vanadium	Zinc**
LOR		0.001	0.001	0.001	0.05	0.0001	0.001	0.001	0.001	0.05	0.001	0.001	0.0001	0.001	0.01	0.01	0.005
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Adopted Site Specific Trigger Values (SWMP 2021)[3]		0.003	0.07	0.002	0.1	0.0002	0.004	0.006	0.083	4.1 (8.84 for BH1)	0.001	0.136	0.0001	0.02	0.01	0.01	0.085 (0.1 for BH1)
NHMRC ADWG 2018		0.01	-	0.06	4	0.002	0.05	-	2	-	0.01	0.5	0.001	0.02	0.01	-	-
Sample Name	Sample Date																
	17-Mar-21	< 0.001	**0.01**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	< 0.001	**0.2**	< 0.001	**0.002**	< 0.0001	**0.003**	< 0.01	< 0.01	**0.014**
	22-Apr-21	< 0.001	**0.004**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	0.003	**0.28**	< 0.001	**0.002**	< 0.0001	**0.068**	< 0.01	< 0.01	**0.066**
	20-May-21	<0.001	**0.003**	<0.001	<0.05	**0.0002**	**0.001**	<0.001	**0.004**	**0.25**	<0.001	<0.001	<0.0001	**0.003**	<0.01	<0.01	**0.033**
	18-Jun-21	<0.001	**0.004**	<0.001	<0.05	<0.0001	**0.001**	<0.001	**0.001**	**0.25**	<0.001	**0.002**	<0.0001	**0.002**	<0.01	<0.01	**0.031**
	15-Jul-21	<0.001	**0.005**	<0.001	< 0.05	<0.0001	**0.002**	<0.001	**0.002**	**0.41**	<0.001	**0.002**	<0.0001	**0.003**	<0.01	<0.01	**0.031**
BH12	14-Aug-20	< 0.001	**0.012**	< 0.001	< 0.05	<0.0001	**0.002**	<0.001	**0.001**	**0.08**	< 0.001	**0.008**	<0.0001	<0.001	<0.01	<0.01	**0.022**
	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	-	-	-	< 0.0001	**0.002**	-	**0.002**	-	< 0.001	-	< 0.0001	**0.002**	-	-	**0.017**
MW239S	22-Feb-19	< 0.001	**0.007**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	< 0.001	**1.11**	< 0.001	**0.003**	< 0.0001	**0.001**	< 0.01	< 0.01	**0.006**
	14-Mar-19	< 0.001	**0.008**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	< 0.001	**1.25**	< 0.001	**0.005**	< 0.0001	**0.005**	< 0.01	< 0.01	**0.008**
	23-Apr-19	< 0.001	**0.008**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	< 0.001	**1.01**	< 0.001	**0.004**	< 0.0001	**0.004**	< 0.01	< 0.01	**0.007**
	16-May-19	< 0.001	**0.005**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	< 0.001	**0.87**	< 0.001	**0.003**	< 0.0001	**0.002**	< 0.01	< 0.01	< 0.005
	14-Jun-19	< 0.001	**0.005**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	**0.002**	**0.8**	< 0.001	**0.003**	< 0.0001	**0.001**	< 0.01	< 0.01	< 0.005
	16-Jul-19	< 0.001	**0.006**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	< 0.001	**0.87**	< 0.001	**0.003**	< 0.0001	**0.002**	< 0.01	< 0.01	< 0.005
	15-Aug-19	< 0.001	**0.006**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	< 0.001	**1.0**	< 0.001	**0.004**	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
	16-Sep-19	< 0.001	**0.01**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	**0.002**	**0.94**	< 0.001	**0.006**	< 0.0001	**0.006**	< 0.01	< 0.01	**0.032**
	15-Oct-19	< 0.001	**0.005**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	**0.003**	**0.68**	< 0.001	**0.004**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.011**
	18-Nov-19	< 0.001	**0.01**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	< 0.001	**1.1**	< 0.001	**0.004**	< 0.0001	**0.008**	< 0.01	< 0.01	**0.03**
	17-Dec-19	<0.001	**0.008**	<0.001	<0.05	<0.0001	**0.003**	<0.001	**0.001**	**1.33**	<0.001	**0.003**	<0.0001	**0.002**	<0.01	<0.01	<0.005
	16-Jan-20	<0.001	**0.008**	<0.001	<0.05	<0.0001	**0.002**	<0.001	<0.001	**1.31**	<0.001	**0.004**	<0.0001	**0.002**	<0.01	<0.01	**0.007**
	27-Feb-20	<0.001	**0.008**	<0.001	<0.05	<0.0001	**0.002**	<0.001	<0.001	**1.03**	<0.001	**0.002**	<0.0001	**0.002**	<0.01	<0.01	**0.019**
	26-Mar-20	<0.001	**0.008**	<0.001	<0.05	<0.0001	**0.002**	<0.001	**0.001**	**0.97**	<0.001	**0.004**	<0.0001	**0.003**	<0.01	<0.01	**0.032**
	27-Apr-20	<0.001	**-**	**-**	**-**	<0.0001	**0.002**	**-**	**0.002**	**1.14**	<0.001	**0.005**	<0.0001	**-**	**-**	**-**	**0.041**
	15-May-20	<0.001	**0.011**	<0.001	<0.05	<0.0001	**0.002**	<0.001	**0.006**	**1.17**	<0.001	**0.004**	<0.0001	**0.006**	<0.01	<0.01	**0.028**
	19-Jun-20	<0.001	**-**	**-**	**-**	<0.0001	**0.002**	**-**	**0.002**	**0.9**	<0.001	**0.004**	<0.0001	**-**	**-**	**-**	**0.057**
	16-Jul-20	<0.001	**-**	**-**	**-**	<0.0001	**0.002**	**-**	**0.01**	**0.55**	**0.001**	**0.006**	<0.0001	**-**	**-**	**-**	**0.053**
	14-Aug-20	< 0.001	**0.017**	< 0.001	< 0.05	<0.0001	**0.001**	<0.001	**0.002**	**0.38**	< 0.001	**0.006**	<0.0001	**0.001**	<0.01	<0.01	**0.006**
	16-Sep-20	< 0.001	**0.016**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	**0.002**	**0.51**	< 0.001	**0.008**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.006**
	16-Oct-20	< 0.001	**0.009**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	< 0.001	**1.17**	< 0.001	**0.009**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.005**
	16-Nov-20	< 0.001	**0.01**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	**0.001**	**0.3**	< 0.001	**0.011**	< 0.0001	**0.003**	< 0.01	< 0.01	**0.021**
	16-Dec-20	< 0.001	**0.01**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	< 0.001	**1.06**	< 0.001	**0.011**	< 0.0001	**0.002**	< 0.01	< 0.01	< 0.005
	14-Jan-21	< 0.001	**0.011**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	**0.005**	**0.77**	< 0.001	**0.012**	< 0.0001	**0.004**	< 0.01	< 0.01	**0.011**
	16-Feb-21	< 0.001	**0.011**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.001**	**0.01**	**0.92**	< 0.001	**0.012**	< 0.0001	**0.009**	< 0.01	< 0.01	**0.014**
	17-Mar-21	< 0.001	**0.011**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	< 0.001	**0.95**	< 0.001	**0.01**	< 0.0001	**0.004**	< 0.01	< 0.01	**0.009**
	22-Apr-21	< 0.001	**0.007**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.001**	< 0.001	**0.62**	< 0.001	**0.006**	< 0.0001	**0.005**	< 0.01	< 0.01	**0.012**
	20-May-21	**0.001**	**0.005**	<0.001	<0.05	<0.0001	**0.002**	<0.001	**0.033**	**0.66**	<0.001	**0.003**	<0.0001	**0.005**	<0.01	<0.01	**0.022**
	18-Jun-21	<0.001	**0.003**	<0.001	<0.05	<0.0001	**0.002**	<0.001	<0.001	**0.68**	<0.001	**0.005**	<0.0001	**0.002**	<0.01	<0.01	<0.005
	15-Jul-21	<0.001	**0.004**	<0.001	< 0.05	<0.0001	**0.002**	<0.001	<0.001	**0.67**	<0.001	**0.006**	<0.0001	**0.002**	<0.01	<0.01	**0.007**

Notes:
- - Not analysed
< - Less than laboratory limit of reporting
mg/L - Milligrams per litre
Bold indicates a detection above the laboratory limit of reporting
"*" denotes duplicate/triplicate sample result adopted for analytical use due to RPD >50%
** denotes 95% Level of protection in freshwater
RPD - Relative Percentage Difference
[1] value for CR VI
[2] as inorganioc
[3] Soil and Water Management Plan (July 2021)

Analyte		Perfluoroalkyl Sulfonic Acids						Perfluoroalkyl Carboxylic Acids											Perfluoroalkyl Sulfonamides							(n:2) Fluorotelomer Sulfonic Acids				Sum of PFAS		
Analyte		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
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		ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Adopted Site Specific Trigger Values (SWMP 2021)[1]												0.56																		0.07		
HEPA NEMP 2018***						0.00023						19																				
HEPA NEMP 2018[4]												5.6																		0.7		
Sample Name	Sample Date																															
BH1	17-Mar-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-Apr-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
	20-May-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
	18-Jun-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
	15-Jul-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
BH2	22-Feb-19	< 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
	14-Aug-20	<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-Sep-20	< 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-Oct-20	< 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-20	< 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-Dec-20	< 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
	14-Jan-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-Feb-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
	17-Mar-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-Apr-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
	20-May-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
	18-Jun-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
	15-Jul-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
BH3	21-Feb-19	< 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	21-Feb-19	< 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
	15-Mar-19	< 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
	23-Apr-19	< 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-May-19	< 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
	14-Jun-19	< 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-Jul-19	< 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
	15-Aug-19	< 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-Sep-19	< 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	**0.02**
	25-Sep-19	< 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
	15-Oct-19	< 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
	18-Nov-19	< 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
	17-Dec-19	< 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-Jan-20	< 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
	27-Feb-20	< 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
	26-Mar-20	< 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
	27-Apr-20	< 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
	15-May-20	< 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
	19-Jun-20	<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-Jul-20	<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
	14-Aug-20	<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-Sep-20	< 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-Oct-20	< 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-20	< 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-Dec-20	< 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
	14-Jan-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-Feb-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
	17-Mar-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-Apr-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
	20-May-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
	18-Jun-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
	15-Jul-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
BH5	22-Feb-19	< 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	22-Feb-19	< 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
	14-Mar-19	< 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
	23-Apr-19	< 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-May-19	< 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
	14-Jun-19	< 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-Jul-19	< 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
	15-Aug-19	< 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-Sep-19	< 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
	15-Oct-19	< 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
	18-Nov-19	< 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
	17-Dec-19	< 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	**0.19**	< 0.05	< 0.05	< 0.01	< 0.01	**0.19**
	16-Jan-20	< 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
	27-Feb-20	< 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
	26-Mar-20	< 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
	27-Apr-20	< 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
	15-May-20	< 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
	19-Jun-20	< 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-Jul-20	< 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
	14-Aug-20	< 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-Sep-20	< 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-Oct-20	< 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-20	< 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-Dec-20	< 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
	14-Jan-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-Feb-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
	17-Mar-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-Apr-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
	20-May-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
	18-Jun-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
	15-Jul-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
BH7	22-Feb-19	< 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
	14-Mar-19	< 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
	23-Apr-19	< 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-May-19	< 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
	14-Jun-19	< 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-Jul-19	< 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
	15-Aug-19	< 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-Sep-19	< 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
	15-Oct-19	< 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
	18-Nov-19	< 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
	17-Dec-19	< 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-Jan-20	< 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
	27-Feb-20	< 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
	26-Mar-20	< 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
	27-Apr-20	< 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
	15-May-20	< 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
	19-Jun-20	< 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-Jul-20	< 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
	14-Aug-20	< 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-Sep-20	< 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-Oct-20	< 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-20	< 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-Dec-20	< 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
	14-Jan-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-Feb-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
	17-Mar-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-Apr-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
	20-May-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
	18-Jun-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
	15-Jul-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
BH8	21-Feb-19	< 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
	14-Mar-19	< 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
	23-Apr-19	< 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-May-19	< 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
	14-Jun-19	< 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-Jul-19	< 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
	15-Aug-19	< 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-Sep-19	< 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
	15-Oct-19	< 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
	18-Nov-19	< 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
	17-Dec-19	< 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-Jan-20	< 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
	27-Feb-20	< 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
	26-Mar-20	< 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
	27-Apr-20	< 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
	15-May-20	< 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
	19-Jun-20	< 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-Jul-20	< 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
	14-Aug-20	< 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-Sep-20	< 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-Oct-20	< 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-20	< 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-Dec-20	< 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
	14-Jan-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-Feb-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
	17-Mar-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-Apr-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
	20-May-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
	18-Jun-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
	15-Jul-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
BH9	14-Aug-20	< 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	**0.14**	< 0.05	< 0.05	<0.01	< 0.01	**0.14**
BH9A	16-Sep-20 *	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.12	<0.05	<0.12	<0.12	<0.12	<0.12	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
	16-Oct-20	< 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-Dec-20	< 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
	14-Jan-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-Feb-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
	17-Mar-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-Apr-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
	20-May-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
	18-Jun-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
	15-Jul-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
BH10	22-Apr-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
	20-May-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
	18-Jun-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
	15-Jul-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
BH11	21-Feb-19	< 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
	14-Aug-20	< 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-Sep-20	< 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-Oct-20	< 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-20	< 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-Dec-20	< 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-Feb-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
	17-Mar-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-Apr-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
	20-May-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
	18-Jun-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
	15-Jul-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

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
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
Adoptied Site Specific Trigger Values (SWMP 2021)[1]												0.56																		0.07		
HEPA NEMP 2018***						0.00023						19																				
HEPA NEMP 2018[2]												5.6																		9.7		
BH12	14-Aug-20	< 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-Feb-19	< 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
	14-Aug-20	< 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-Sep-20	< 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-Oct-20	< 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-20	< 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-Dec-20	< 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
MW239S	14-Jan-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-Feb-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
	17-Mar-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-Apr-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
	20-May-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
	18-Jun-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
	15-Jul-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

Notes:
- - Not analysed
< - Less than laboratory limit of reporting
cm/s - Micrometers per litre
*** 99% Level of protection in freshwater
[1] Soil and Water Management Plan July 2021
2- Denotes duplicate value used.
% - Denotes hydrate shake used
* Recreation water
* BHSA 16/09/2020 Sample required dilution prior to extraction due to matrix interferences. LOR values have been adjusted accordingly

Table GW4
Groundwater Analytical Data - Inorganics
Williamtown Sand Syndicate

Analyte		Anions and Cations																			Alkalinity						Inorganics		
		Sodium	Calcium	Magnesium	Potassium	Sulphate	Chloride	Fluoride	Reactive phosphorus as P	Total Phosphorus	Nitrite as N	Nitrate as N	Nitrite + Nitrate as N	Ammonia as N	Total Nitrogen as N	Total Kjeldahl Nitrogen as N	Total Cations	Total Anions	Ionic Balance	Sodium Adsorption Ratio	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Hydroxide Alkalinity as CaCO3	Total Alkalinity as CaCO3	Total Hardness as CaCO3	Electrical Conductivity @ 25°C*	Total Dissolved Solids	Total Dissolved Solids	pH
LOR		1	1	1	1	1	1	0.1	0.01	0.01	0.01	0.01	0.01	0.01	0.1	0.1	0.01	0.01		0.01	1	1	1	1	1	1	1	10	0.01
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	meq/L	%	-	mg/L	mg/L	mg/L	mg/L	mg/L	µS/cm	mg/L	mg/L	pH units
Adopted Site Specific Trigger Values (SWMP 2021)[1]		77	5	11	2	70	148	0.2	-	2	-	-	-	0.5	5.9	-	-	-	-	-	-	-	-	-	-	500	-	-	4.2-6.5
NHMRC ADWG 2018		-	-	-	-	-	-	1.5	-	-	3	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample Name	Sample Date																												
BH1	21-Feb-19															Blocked													
	15-Mar-19	11	2.0	1.0	< 1.0	< 1.0	25	< 0.1	-	-	-	-	-	-	-	-	0.66	0.88	-	-	9.0	< 1.0	< 1.0	9.0	9.0	104	68	129	5.67
	23-Apr-19	14	1.0	2.0	< 1.0	4.0	25	< 0.1	-	-	-	-	-	-	-	-	0.82	0.99	-	-	10	< 1.0	< 1.0	10	11	84	55	97	5.83
	16-May-19	12	< 1.0	2.0	< 1.0	5.0	25	< 0.1	0.03	< 0.01	< 0.01	< 0.01	< 0.01	0.11	0.3	0.3	0.69	1.01	-	1.7	10	< 1.0	< 1.0	10	8.0	105	68	164	5.82
	14-Jun-19	10	< 1.0	2.0	< 1.0	3.0	24	< 0.1	-	-	-	-	-	-	-	-	0.6	0.94	-	-	10	< 1.0	< 1.0	10	8.0	99	64	72	5.52
	16-Jul-19	15	< 1.0	2.0	< 1.0	4.0	23	< 0.1	-	-	-	-	-	-	-	-	0.82	0.95	-	-	11	< 1.0	< 1.0	11	8.0	102	66	84	5.62
	15-Aug-19	14	< 1.0	2.0	< 1.0	2.0	21	< 0.1	-	-	-	-	-	-	-	-	0.77	0.91	-	-	14	< 1.0	< 1.0	14	8.0	128	83	82	6.22
	16-Sep-19	13	< 1.0	2.0	< 1.0	2.0	20	< 0.1	< 0.01	0.06	< 0.01	< 0.01	< 0.01	0.12	0.3	0.3	0.73	0.76	-	1.84	8.0	< 1.0	< 1.0	8.0	8.0	102	66	88	5.44
	15-Oct-19	13	< 1.0	2.0	< 1.0	2.0	21	< 0.1	-	-	-	-	-	-	-	-	0.73	0.71	-	-	4.0	< 1.0	< 1.0	4.0	8.0	98	64	-	5.5
	18-Nov-19	16	< 1.0	2.0	< 1.0	3.0	23	0.1	< 0.01	< 0.01	< 0.01	0.01	0.01	0.13	0.3	0.3	0.86	1.19	-	2.26	24	< 1.0	< 1.0	24	8.0	126	82	-	6.29
	17-Dec-19	14	<1	2	<1	5	23	<0.1	-	-	-	-	-	-	-	-	0.77	1.05	-	-	15	<1	<1	15	8	118	77	-	6.05
	16-Jan-20	16	<1	3	<1	3	25	<0.1	-	-	-	-	-	-	-	-	0.94	1.21	-	-	22	<1	<1	22	12	112	73	-	6.23
	27-Feb-20	14	<1	2	<1	4	24	<0.1	<0.01	0.02	<0.01	0.02	0.02	0.22	0.4	0.4	0.77	0.94	-	1.98	9	<1	<1	9	8	103	67	-	6.2
	26-Mar-20	12	<1	2	<1	<1	24	<0.1	-	-	-	-	-	-	-	-	0.69	0.88	-	-	10	<1	<1	10	8	118	77	-	5.61
	27-Apr-20	15	<1	2	1	<1	24	<0.1	-	-	-	-	-	-	-	-	0.84	0.92	-	-	12	<1	<1	12	8	131	85	-	5.7
	15-May-20	16	<1	2	<1	3	27	<0.1	<0.01	0.06	<0.01	0.04	0.04	0.1	1	1	0.86	1.06	-	2.26	12	<1	<1	12	8	137	89	-	6.12
	19-Jun-20	15	<1	2	<1	2	27	0.2	-	-	-	-	-	-	-	-	1.04	1.14	-	-	17	<1.0	<1.0	17	8	140	91		5.91
	16-Jul-20	17	<1	2	2	3	24	<0.1	-	-	-	-	-	-	-	-	0.96	1.26	-	-	26	<1.0	<1.0	26	8	135	88		5.91
	14-Aug-20	15	<1	2	<1	2	26	<0.1	<0.01	0.03	<0.1	0.06	0.06	0.09	0.6	0.5	0.82	0.95	-	2.12	9	<1	<1	9	8	113	73	100	5.76
	16-Sep-20	13	< 1.0	2.0	< 1.0	2.0	21	< 0.1	-	-	-	-	-	-	-	-	0.73	0.81	-	-	9.0	< 1.0	< 1.0	9.0	8.0	95	62	81	5.87
	16-Oct-20	14	< 1.0	2.0	< 1.0	4.0	21	< 0.1	-	-	-	-	-	-	-	-	0.77	0.84	-	-	8.0	< 1.0	< 1.0	8.0	8.0	88	57	-	5.7
	16-Nov-20	11	< 1.0	2.0	< 1.0	5.0	18	< 0.1	< 0.01	0.02	< 0.01	< 0.01	< 0.01	0.07	0.2	0.2	1.02	1.05	-	1.55	22	< 1.0	< 1.0	22	8.0	120	78	76	5.98
	16-Dec-20	13	< 1.0	2.0	1.0	6.0	22	< 0.1	-	-	-	-	-	-	-	-	0.93	1.16	-	-	21	< 1.0	< 1.0	21	8.0	134	87	-	5.76
	14-Jan-21	12	< 1.0	2.0	< 1.0	5.0	23	< 0.1	-	-	-	-	-	-	-	-	0.96	1.07	-	-	16	< 1.0	< 1.0	16	8.0	124	81	-	5.63
	16-Feb-21	14	< 1.0	2.0	1.0	5.0	25	< 0.1	< 0.01	< 0.01	< 0.01	0.02	0.02	0.05	< 0.1	< 0.1	0.8	1.05	-	1.98	12	< 1.0	< 1.0	12	8.0	116	75	89	5.57
	17-Mar-21	14	1.0	2.0	< 1.0	4.0	23	< 0.1	-	-	-	-	-	-	-	-	0.82	0.95	-	-	11	< 1.0	< 1.0	11	11	111	72	-	6.02
	22-Apr-21	13	1.0	2.0	< 1.0	5.0	24	0.1	-	-	-	-	-	-	-	-	0.78	1.34	-	-	28	< 1.0	< 1.0	28	11	120	78	-	5.09
	20-May-21	14	< 1.0	3	1	5	24	< 0.1	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	0.2	0.2	0.88	0.98	-	1.65	10	<1.0	<1.0	10	12	131	85	72	5.60
	18-Jun-21	15	< 1.0	3	< 1.0	5	25	< 0.1	-	-	-	-	-	-	-	-	0.90	0.87	-	-	3	< 1.0	< 1.0	3	12	99	64	59	5.27
	15-Jul-21	14	< 1.0	3.0	< 1.0	6.0	30	< 0.1	-	-	-	-	-	-	-	-	0.86	0.97	-	-	< 1.0	< 1.0	< 1.0	< 1.0	12	121	79	76	4.74
BH2	22-Feb-19	12	2.0	2.0	< 1.0	6.0	22	0.1	< 0.01	0.28	< 0.01	2.76	2.76	0.05	4.0	1.2	0.79	0.74	-	1.44	< 1.0	< 1.0	< 1.0	< 1.0	13	91	128	-	4.87
	15-Mar-19	10	3.0	2.0	< 1.0	7.0	23	< 0.1	-	-	-	-	-	-	-	-	0.75	0.79	-	-	< 1.0	< 1.0	< 1.0	< 1.0	16	101	66	90	4.71
	23-Apr-19	14	2.0	2.0	< 1.0	6.0	23	< 0.1	-	-	-	-	-	-	-	-	0.87	0.77	-	-	< 1.0	< 1.0	< 1.0	< 1.0	13	70	46	84	4.82
	16-May-19	12	2.0	2.0	< 1.0	21	22	< 0.1	< 0.01	0.26	< 0.01	0.38	0.38	0.01	1.3	0.9	0.79	1.06	-	1.44	< 1.0	< 1.0	< 1.0	< 1.0	13	94	61	144	4.85
	14-Jun-19	11	1.0	2.0	< 1.0	5.0	23	< 0.1	-	-	-	-	-	-	-	-	0.69	0.75	-	-	< 1.0	< 1.0	< 1.0	< 1.0	11	91	59	51	4.76
	16-Jul-19	13	2.0	2.0	< 1.0	9.0	20	< 0.1	-	-	-	-	-	-	-	-	0.83	0.75	-	-	< 1.0	< 1.0	< 1.0	< 1.0	13	90	58	63	4.84
	15-Aug-19	12	1.0	2.0	< 1.0	8.0	20	< 0.1	-	-	-	-	-	-	-	-	0.74	0.73	-	-	< 1.0	< 1.0	< 1.0	< 1.0	11	110	72	61	5.2
	16-Sep-19	11	2.0	2.0	< 1.0	8.0	18	< 0.1	< 0.01	0.28	< 0.01	1.07	1.07	0.04	2.7	1.6	0.74	0.67	-	1.32	< 1.0	< 1.0	< 1.0	< 1.0	13	96	62	60	4.72
	15-Oct-19	12	2.0	2.0	< 1.0	5.0	20	< 0.1	-	-	-	-	-	-	-	-	0.79	0.67	-	-	< 1.0	< 1.0	< 1.0	< 1.0	13	102	66	-	5.06
	18-Nov-19	14	2.0	1.0	< 1.0	7.0	19	< 0.1	< 0.01	0.21	< 0.01	1.01	1.01	0.05	2.1	1.1	0.79	0.68	-	2.02	< 1.0	< 1.0	< 1.0	< 1.0	9.0	102	66	-	5.47
	17-Dec-19	13	2	2	<1	8	17	<0.1	-	-	-	-	-	-	-	-	0.83	0.69	-	-	2	<1	<1	2	13	106	69	-	5.43
	16-Jan-20	13	2	2	<1	6	17	<0.1	-	-	-	-	-	-	-	-	0.83	0.72	-	-	6	<1	<1	6	13	102	66	-	5.61
	27-Feb-20	11	2	2	<1	6	16	0.1	<0.01	0.09	<0.01	2.18	2.18	0.04	2.8	0.6	0.74	0.6	-	1.32	1	<1	<1	1	13	98	64	-	5.23
	26-Mar-20	12	2	1	<1	7	23	<0.1									0.7	0.79	-		10	<1	<1	10	9	113	73	-	5.18
	27-Apr-20	12	2	1	<1	7	19	<0.1	-	-	-	-	-	-	-	-	0.7	0.72	-	-	2	<1	<1	2	9	109	71	-	5.25
	15-May-20	13	2	1	<1	3	27	<0.1	<0.01	0.13	<0.01	2.1	2.1	0.01	3.2	1.1	0.75	0.72	-	1.87	3	<1	<1	3	9	108	70	-	5.31
	19-Jun-20	12	2	2	<1	6	18	<0.1	-	-	-	-	-	-	-	-	0.79	0.64	-	-	2	<1	<1	2	13	107	70	-	5.13
	16-Jul-20	11	2	1	<1	6	16	<0.1	-	-	-	-	-	-	-	-	0.66	0.78	-	-	10	<1	<1	10	9	101	66	-	5.34
	14-Aug-20	10	2	1	<1	7	15	<0.1	<0.01	0.21	<0.01	2.31	2.31	0.02	3.9	1.6	0.62	0.63		1.44	3	<1	<1	3	9	92	60	120	5.22
	16-Sep-20	11	2.0	2.0	< 1.0	7.0	17	< 0.1	-	-	-	-	-	-	-	-	0.74	0.62	-	-	< 1.0	< 1.0	< 1.0	< 1.0	13	99	64	76	4.85
	16-Oct-20	11	2.0	2.0	< 1.0	6.0	16	< 0.1	-	-	-	-	-	-	-	-	0.74	0.58	-	-	< 1.0	< 1.0	< 1.0	< 1.0	13	90	58	-	5.07
	16-Nov-20	11	2.0	2.0	< 1.0	9.0	16	< 0.1	< 0.01	0.48	< 0.01	2.88	2.88	< 0.01	4.8	1.9	0.74	0.7	-	1.32	3.0	< 1.0	< 1.0	3.0	13	119	77	91	5.09
	16-Dec-20	11	2.0	2.0	< 1.0	7.0	15	< 0.1	-	-	-	-	-	-	-	-	0.74	0.57	-	-	< 1.0	< 1.0	< 1.0	< 1.0	13	105	68	-	4.66
	14-Jan-21	9.0	2.0	2.0	< 1.0	7.0	13	< 0.1	-	-	-	-	-	-	-	-	0.66	0.57	-	-	3.0	< 1.0	< 1.0	3.0	13	93	60	-	5.04
	16-Feb-21	12	1.0	1.0	< 1.0	8.0	12	< 0.1	< 0.01	0.15	< 0.01	2.58	2.58	< 0.01	0.9	3.5	0.65	0.5	-	2.03	< 1.0	< 1.0	< 1.0	< 1.0	7.0	89	58	67	4.84
	17-Mar-21	10	2.0	2.0	< 1.0	7.0	13	< 0.1	-	-	-	-	-	-	-	-	0.7	0.53	-	-	1.0	< 1.0	< 1.0	1.0	13	88	57	-	5.28
	22-Apr-21	6.0	1.0	2.0	< 1.0	6.0	7.0	< 1.0	-	-	-	-	-	-	-	-	0.48	0.32	-	-	< 1.0	< 1.0	< 1.0	< 1.0	11	60	39	-	4.37
	20-May-21	6	2	1	<1.0	7	6	<0.1	<0.01	0.13	<0.01	0.96	0.96	<0.01	1.8	0.8	0.44	0.33	-	0.86	1	<1.0	<1.0	1	9	57	37	32	5.00
	18-Jun-21	9	2	2	< 1.0	7	11	<0.1	-	-	-	-	-	-	-	-	0.66	0.50	-	-	2	< 1.0	< 1.0	2	13	61	40	43	4.85
	15-Jul-21	9.0	2.0	2.0	< 1.0	11	16	< 0.1	-	-	-	-	-	-	-	-	0.66	0.68	-	-	< 1.0	< 1.0	< 1.0	< 1.0	13	84	55	61	4.84
BH3	21-Feb-19	4.0	4.0	1.0	< 1.0	4.0	10	< 0.1	< 0.01	2.76	< 0.01	0.78	0.78	0.3	5.9	5.1	0.46	0.54	-	0.46	9.0	< 1.0	< 1.0	9.0	14	60	438	-	5.55
BH4	21-Feb-19	8.0	2.0	1.0	1.0	5.0	17	< 0.1	< 0.01	0.19	< 0.01	0.35	0.35	0.04	0.6	0.3	0.56	0.7	-	1.15	6.0	< 1.0	< 1.0	6.0	9.0	73	96	-	5.4
	15-Mar-19	9.0	2.0	< 1.0	< 1.0	5.0	18	< 0.1	-	-	-	-	-	-	-	-	0.49	0.61	-	-	< 1.0	< 1.0	< 1.0	< 1.0	5.0	77	50	70	5.12
	23-Apr-19	10	2.0	1.0	1.0	3.0	19	< 0.1	-	-	-	-	-	-	-	-	0.64	0.6	-	-	< 1.0	< 1.0	< 1.0	< 1.0	9.0	54	35	61	5.05
	16-May-19	9.0	2.0	1.0	1.0	22	19	< 0.1	< 0.01	0.97	< 0.01	0.29	0.29	< 0.01	1.0	0.7	0.6	0.99	-	1.3	< 1.0	< 1.0	< 1.0	< 1.0	9.0	73	47	100	4.99
	14-Jun-19	6.0	1.0	1.0	< 1.0	4.0	18	< 0.1	-	-	-	-	-	-	-	-	0.39	0.59	-	-	< 1.0	< 1.0	< 1.0	< 1.0	7.0	69	45	36	4.84
	16-Jul-19	10	2.0	2.0	1.0	6.0	18	< 0.1	-	-	-	-	-	-	-	-	0.72	0.63	-	-	< 1.0	< 1.0	< 1.0	< 1.0	13	75	49	42	4.96
	15-Aug-19	8.0	2.0	1.0	1.0	5.0	16	< 0.1	-	-	-	-	-	-	-	-	0.56	0.56	-	-	< 1.0	< 1.0	< 1.0	< 1.0	9.0	85	55	49	5.01
	16-Sep-19	11	2.0	2.0	< 1.0	8.0	19	< 0.1	< 0.01	0.4	< 0.01	0.24	0.24	0.02	0.6	0.4	0.74	0.7	-	1.32	< 1.0	< 1.0	< 1.0	< 1.0	13	95	62	58	4.83
	15-Oct-19	10	1.0	1.0	< 1.0	4.0	18	< 0.1	-	-	-	-	-	-	-	-	0.57	0.59	-	-	< 1.0	< 1.0	< 1.0	< 1.0	7.0	85	55	-	4.93
	18-Nov-19	11	1.0	1.0	< 1.0	6.0	18	< 0.1	< 0.01	0.08	< 0.01	0.29	0.29	< 0.01	0.3	< 0.1	0.61	0.63	-	1.86	< 1.0	< 1.0	< 1.0	< 1.0	7.0	86	56	-	5.34
	17-Dec-19	9	1	1	1	6	16	<0.1	-	-	-	-	-	-	-	-	0.55	0.64	-	-	3	<1	<1	3	7	85	55	-	5.44
	16-Jan-20	13	2	2	2	6	18	<0.1	-	-	-	-	-	-	-	-	0.88	0.71	-	-	4	<1	<1	4	13	85	55	-	5.5
	27-Feb-20	14	2	2	<1	9	26	<0.1	<0.01	0.18	<0.01	0.41	0.41	0.01	0.7	0.3	0.87	0.96	-	1.67	2	<1	<1	2	13	123	80	-	5.57
	26-Mar-20	12	2	2	<1	10	27	<0.1	-	-	-	-	-	-	-	-	0.79	1.01	-	-	2	<1	<1	2	13	126	82		5.36
	27-Apr-20	16	1	2	1	10	25	<0.1	-	-	-	-	-	-	-	-	0.94	0.99	-	-	4	<1	<1	4	11	130	84	-	5.68
	15-May-20	21	1	3	<1	12	37	<0.1	<0.01	0.09	<0.01	0.12	0.12	<0.01	0.6	0.5	1.21	1.33	-	2.97	3	<1	<1	3	8	438	101	-	5.04
	19-Jun-20	23	1	2	1	13	36	<0.1	-	-	-	-	-	-	-	-	1.24	1.33	-	-	2	<1	<1	2	11	172	112	-	5.07
	16-Jul-20	35	<1	6	<1	21	50	<0.1	-	-	-	-	-	-	-	-	2.02	2.01	-	-	8	<1	<1	8	25	257	167	-	5.22
	14-Aug-20	18	<1	2	<1	10	34	<0.1	<0.01	0.24	<0.01	0.16	0.16	0.02	0.8	0.6	0.95	1.21		2.54	2	<1	<1	2	8	148	96	96	5.02
	16-Sep-20	20	< 1.0	2.0	< 1.0	11	31	< 0.1	-	-	-	-	-	-	-	-	1.03	1.1	-	-	< 1.0	< 1.0	< 1.0	< 1.0	8.0	148	96	74	4.66
	16-Oct-20	19	1.0	3.0	< 1.0	10	34	< 0.1	-	-	-	-	-	-	-	-	1.12	1.21	-	-	2.0	< 1.0	< 1.0	2.0	15	133	86	-	5.21
	16-Nov-20	18	< 1.0	2.0	< 1.0	12	27	< 0.1	< 0.01	0.06	< 0.01	0.1	0.1	< 0.01	0.1	< 0.1	0.95	1.03	-	2.54	1.0	< 1.0	< 1.0	1.0	8.0	146	95	90	4.98
	16-Dec-20	25	1.0	4.0	< 1.0	15	43	< 0.1	-	-	-	-	-	-	-	-	1.47	1.58	-	-	3.0	< 1.0	< 1.0	3.0	19	193	125	-	4.81
	14-Jan-21	36	1.0	4.0	< 1.0	23	54	< 0.1	-	-	-	-	-	-	-	-	1.94	2.02	-	-	1.0	< 1.0	< 1.0	1.0	19	258	168	-	5.23
	16-Feb-21	69	2.0	9.0	1.0	32	111	< 0.1	< 0.01	0.11	< 0.01	< 0.01	< 0.01	0.03	< 0.1	< 0.1	3.87	3.82	0.65	4.63	1.0	< 1.0	< 1.0	1.0	42	445	289	251	4.86
	17-Mar-21	77	2.0	11	1.0	26	128	< 0.1	-	-	-	-	-	-	-	-	4.38	4.21	1.96	-	3.0	< 1.0	< 1.0	3.0	50	501	326	-	5.07
	22-Apr-21	14	2.0	2.0	1.0	9.0	24	< 0.1	-	-	-	-	-	-	-	-	0.9	0.86	-	-	< 1.0	< 1.0	< 1.0	< 1.0	13	118	77	-	4.56
	20-May-21	13	1	3	1	10	20	<0.1	<0.01	0.08	<0.01	0.20	0.20	<0.01	0.4	0.2	0.89	0.77	-	1.47	<1.0	<1.0	<1.0	<1.0	15	119	77	78	4.64
	18-Jun-21	14	1	3	1	14	24	<0.1	-	-	-	-	-	-	-	-	0.93	0.97	-	-	< 1.0	< 1.0	< 1.0	< 1.0	15	111	72	85	4.60
	15-Jul-21	16	1.0	3.0	< 1.0	13	29	< 0.1	-	-	-	-	-	-	-	-	0.99	1.09	-	-	< 1.0	< 1.0	< 1.0	< 1.0	15	124	81	72	4.68
BH5	22-Feb-19	42	< 1.0	6.0	1.0	19	69	0.2	< 0.01	0.34	< 0.01	< 0.01	< 0.01	0.09	3.0	3.0	2.35	2.34	-	3.59	< 1.0	< 1.0	< 1.0	< 1.0	25	250	211	-	4.87
	14-Aug-20	18	1.0	3.0	<1	30	32	<0.1	<0.01	0.09	<0.01	<0.01	<0.01	0.05	0.8	0.8	1.08	1.53		2.03	<1	<1	<1	<1	15	180	117	100	4.49
BH6	22-Feb-19	28	3.0	4.0	1.0	28	42	< 0.1	< 0.01	0.05	< 0.01	0.09	0.09	0.14	0.5	0.4	1.72	1.77	-	2.49	< 1.0	< 1.0	< 1.0	< 1.0	24	177	144	-	4.37
	14-Mar-19	23	2.0	4.0	1.0	17	37	< 0.1	-	-	-	-	-	-	-	-	1.46	1.44	-	-	2.0	< 1.0	< 1.0	2.0	21	179	116	146	4.95
	23-Apr-19	25	3.0	4.0	1.0	18	42	< 0.1	-	-	-	-	-	-	-	-	1.59	1.56	-	-	< 1.0	< 1.0	< 1.0	< 1.0	24	136	88	115	4.64
	16-May-19	23	3.0	4.0	1.0	18	45	< 0.1	< 0.01	0.13	< 0.01	< 0.01	< 0.01	0.14	0.6	0.6	1.5	1.64	-	2.04	< 1.0	< 1.0	< 1.0	< 1.0	24	175	114	214	4.88
	14-Jun-19	20	2.0	4.0	1.0	16	42	< 0.1	-	-	-	-	-	-	-	-	1.32	1.52	-	-	< 1.0	< 1.0	< 1.0	< 1.0	21	174	113	90	4.82
	16-Jul-19	23	2.0	4.0	1.0	20	35	< 0.1	-	-	-	-	-	-	-	-	1.46	1.4	-	-	< 1.0	< 1.0	< 1.0	< 1.0	21	161	105	82	4.73
	15-Aug-19	23	2.0	3.0	1.0	21	38	< 0.1	-	-	-	-	-	-	-	-	1.37	1.51	-	-	< 1.0	< 1.0	< 1.0	< 1.0	17	201	131	104	4.87
	16-Sep-19	25	3.0	3.0	1.0	21	38	< 0.1	< 0.01	0.15	< 0.01	0.07	0.07	0.19	0.8	0.7	1.51	1.55	-	2.44	2.0	< 1.0	< 1.0	2.0	20	197	128	124	4.68
	15-Oct-19	25	2.0	4.0	1.0	13	41	< 0.1	-	-	-	-	-	-	-	-	1.54	1.43	-	-	< 1.0	< 1.0	< 1.0	< 1.0	21	202	131	-	5.17
	18-Nov-19	27	3.0	3.0	1.0	18	45	< 0.1	< 0.01	0.06	< 0.01	< 0.01	< 0.01	0.23	0.4	0.4	1.6	1.64	-	2.64	< 1.0	< 1.0	< 1.0	< 1.0	20	204	133	-	5.32
	17-Dec-19	26	2	4	1	16	42	<0.1	-	-	-	-	-	-	-	-	1.58	1.62	-	-	5	<1	<1	5	21	207	134	-	5.58
	16-Jan-20	30	3	4	2	15	50	0.2	-	-	-	-	-	-	-	-	1.83	1.86	-	-	7	<1	<1	7	24	218	142	-	5.51
	27-Feb-20	27	2	4	1	16	46	<0.1	< 0.01	0.3	< 0.01	0.03	0.03	0.27	1	1	1.63	1.63	-	2.54	< 1.0	< 1.0	< 1.0	< 1.0	21	220	143	-	4.72
	26-Mar-20	26	2	4	1	18	48	<0.1	-	-	-	-	-	-	-	-	1.58	1.73	-	-	< 1.0	< 1.0	< 1.0	< 1.0	21	222	144		5.13
	27-Apr-20	31	2	4	2	7	119	<0.1	-	-	-	-	-	-	-	-	1.83	1.94	-	-	5	<1	<1	5	44	264	172	-	5.72
	15-May-20	42	2	5	2	15	73	<0.1	< 0.01	0.42	<0.01	<0.01	0.02	0.22	1.8	1.8	2.39	2.43	-	3.61	3	<1	<1	3	26	310	202	-	5.11
	19-Jun-20	67	4	7	2	13	127	<0.1	-	-	-	-	-	-	-	-	3.53	3.89	4.6	-	2	<1	<1	2	39	462	300	-	5.16
	16-Jul-20	54	4	6	2	16	102	<0.1	-	-	-	-	-	-	-	-	3.09	3.37	4.28	-	8	<1	<1	8	35	407	264	-	5.12
	14-Aug-20	50	4	5	2	17	92	<0.1	<0.01	0.22	<0.01	0.1	0.1	0.29	1.3	1.2	2.84	3.03	3.27	3.93	4	<1	<1	4	30	353	229	205	5.26
	16-Sep-20	36	2.0	4.0	1.0	16	55	< 0.1	-	-	-	-	-	-	-	-	2.02	1.9	-	-	1.0	< 1.0	< 1.0	1.0	21	273	177	121	4.98
	16-Oct-20	36	2.0	5.0	1.0	12	64	< 0.1	-	-	-	-	-	-	-	-	2.1	2.14	-	-	4.0	< 1.0	< 1.0	4.0	26	249	162	-	5.3
	16-Nov-20	37	3.0	5.0	2.0	23	61	< 0.1	0.01	0.08	< 0.01	0.01	0.01	0.22	0.3	0.3	2.22	2.2	-	3.04	< 1.0	< 1.0	< 1.0	< 1.0	28	321	209	205	4.45
	16-Dec-20	46	3.0	6.0	2.0	15	75	< 0.1	-	-	-	-	-	-	-	-	2.7	2.43	-	-	< 1.0	< 1.0	< 1.0	< 1.0	32	321	209	-	4.63
	14-Jan-21	39	3.0	5.0	2.0	21	73	< 0.1	-	-	-	-	-	-	-	-	2.31	2.5	-	-	< 1.0	< 1.0	< 1.0	< 1.0	28	332	216	-	4.33
	16-Feb-21	43	3.0	6.0	2.0	18	72	< 0.1	< 0.01	0.1	< 0.01	< 0.01	< 0.01	0.25	< 0.1	< 0.1	2.56	2.46	-	3.3	3.0	< 1.0	< 1.0	3.0	32	316	205	182	4.89
	17-Mar-21	51	4.0	9.0	1.0	25	80	< 0.1	-	-	-	-	-	-	-	-	3.18	2.82	-	-	2.0	< 1.0	< 1.0	2.0	47	358	233	-	5.07
	22-Apr-21	36	3.0	5.0	1.0	30	51	< 0.1	-	-	-	-	-	-	-	-	2.15	2.06	-	-	< 1.0	< 1.0	< 1.0	< 1.0	28	278	181	-	4.4
	20-May-21	54	2	5	1	42	72	<0.1	<0.01	0.14	<0.01	<0.01	<0.01	0.10	0.6	0.6	2.88	2.90	-	4.64	<1.0	<1.0	<1.0	<1.0	26	370	240	204	4.88
	18-Jun-21	40	3	7	< 1.0	42	58	<0.1	-	-	-	-	-	-	-	-	2.46	2.55	-	-	2	< 1.0	< 1.0	2	36	286	186	167	4.82
	15-Jul-21	36	2.0	6.0	< 1.0	20	70	< 0.1	-	-	-	-	-	-	-	-	2.16	2.39	-	-	< 1.0	< 1.0	< 1.0	< 1.0	30	259	168	142	4.88

Table GW4
Groundwater Analytical Data - Inorganics
Williamtown Sand Syndicate

Analyte		Anions and Cations																			Alkalinity						Inorganics		
		Sodium	Calcium	Magnesium	Potassium	Sulphate	Chloride	Fluoride	Reactive phosphorus as P	Total Phosphorus	Nitrite as N	Nitrate as N	Nitrite + Nitrate as N	Ammonia as N	Total Nitrogen as N	Total Kjeldahl Nitrogen as N	Total Cations	Total Anions	Ionic Balance	Sodium Adsorption Ratio	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Hydroxide Alkalinity as CaCO3	Total Alkalinity as CaCO3	Total Hardness as CaCO3	Electrical Conductivity @ 25°C*	Total Dissolved Solids	Total Dissolved Solids	pH
LOR		1	1	1	1	1	1	0.1	0.01	0.01	0.01	0.01	0.01	0.01	0.1	0.1	0.01	0.01		0.01	1	1	1	1	1	1	1	10	0.01
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	meq/L	%	-	mg/L	mg/L	mg/L	mg/L	mg/L	µS/cm	mg/L	mg/L	pH units
Adopted Site Specific Trigger Values (SWMP 2021)[1]		77	5	11	2	70	148	0.2	-	2	-	-	-	0.5	5.9	-	-	-	-	-	-	-	-	-	-	500	-	-	4.2-6.5
NHMRC ADWG 2018		-	-	-	-	-	-	1.5	-	-	3	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample Name	Sample Date																												
BH7	22-Feb-19	34	< 1.0	5.0	2.0	12	64	0.2	< 0.01	0.13	< 0.01	0.02	0.02	0.34	2.2	2.2	1.94	2.06	-	3.16	< 1.0	< 1.0	< 1.0	< 1.0	20	213	196	-	4.76
	14-Mar-19	36	< 1.0	6.0	2.0	16	61	< 0.1	-	-	-	-	-	-	-	-	2.11	2.05	1.37	-	< 1.0	< 1.0	< 1.0	< 1.0	25	271	176	212	4.73
	23-Apr-19	38	< 1.0	6.0	2.0	17	62	< 0.1	-	-	-	-	-	-	-	-	2.2	2.1	-	-	< 1.0	< 1.0	< 1.0	< 1.0	25	205	133	185	4.51
	16-May-19	35	< 1.0	5.0	2.0	15	68	0.2	< 0.01	0.06	< 0.01	< 0.01	< 0.01	0.27	0.9	0.9	1.98	2.23	-	3.26	< 1.0	< 1.0	< 1.0	< 1.0	20	235	153	310	4.87
	14-Jun-19	31	< 1.0	4.0	2.0	11	56	0.1	-	-	-	-	-	-	-	-	1.73	1.81	-	-	< 1.0	< 1.0	< 1.0	< 1.0	16	213	138	145	4.91
	16-Jul-19	36	< 1.0	5.0	2.0	12	46	< 0.1	-	-	-	-	-	-	-	-	2.03	1.55	-	-	< 1.0	< 1.0	< 1.0	< 1.0	20	202	131	164	5.0
	15-Aug-19	32	< 1.0	4.0	2.0	15	49	0.1	-	-	-	-	-	-	-	-	1.77	1.85	-	-	8.0	< 1.0	< 1.0	8.0	16	232	151	168	5.53
	16-Sep-19	27	< 1.0	4.0	1.0	13	53	< 0.1	< 0.01	0.09	< 0.01	0.06	0.06	0.2	1.2	1.1	1.53	1.86	-	2.79	5.0	< 1.0	< 1.0	5.0	16	222	144	181	5.07
	15-Oct-19	34	< 1.0	5.0	2.0	12	53	< 0.1	-	-	-	-	-	-	-	-	1.94	1.74	-	-	< 1.0	< 1.0	< 1.0	< 1.0	20	252	164	-	4.95
	18-Nov-19	31	< 1.0	5.0	1.0	15	56	0.1	< 0.01	0.02	< 0.01	< 0.01	< 0.01	0.17	0.5	0.5	1.78	1.89	-	2.89	< 1.0	< 1.0	< 1.0	< 1.0	20	239	155	-	4.97
	17-Dec-19	26	<1	5	1	15	44	<0.1	-	-	-	-	-	-	-	-	1.57	1.59	-	-	2.0	<1	<1	2.0	20	210	136	-	5.14
	16-Jan-20	27	<1	4	1	13	46	0.2	-	-	-	-	-	-	-	-	1.53	1.63	-	-	3.0	<1	<1	3.0	16	202	131	-	5.27
	27-Feb-20	23	<1	4	1	11	42	<0.1	< 0.01	0.06	< 0.01	< 0.01	< 0.01	0.22	0.8	0.8	1.36	1.41	-	2.38	<1	<1	<1	<1	16	194	126	-	4.77
	26-Mar-20	25	<1	4	1	18	44	<0.1	-	-	-	-	-	-	-	-	1.44	1.24	-	-	<1	<1	<1	<1	16	199	129	-	4.92
	27-Apr-20	28	<1	2	2	<1	42	<0.1	-	-	-	-	-	-	-	-	1.43	1.26	-	-	4	<1	<1	4	8	207	134	-	5.16
	15-May-20	27	<1	3	2	5	47	<0.1	<0.01	0.03	0.01	<0.01	0.01	0.26	1.1	1.1	1.47	1.51	-	3.18	4	<1	<1	4	12	244	159	-	5.17
	19-Jun-20	27	<1	3	2	1	44	<0.1	-	-	-	-	-	-	-	-	1.47	1.34	-	-	4	<1	<1	4	12	192	125	-	5.16
	16-Jul-20	26	<1	3	2	20	44	<0.1	-	-	-	-	-	-	-	-	1.43	1.35	-	-	7	<1	<1	7	12	196	127	-	5.21
	14-Aug-20	30	<1	4	2	4	60	0.1	<0.01	0.09	<0.01	0.01	0.01	0.3	1.2	1.2	1.68	1.84	-	3.1	3	<1	<1	3	16	233	151	169	5.18
	16-Sep-20	33	< 1.0	5.0	2.0	12	62	0.1	-	-	-	-	-	-	-	-	1.9	2.0	-	-	< 1.0	< 1.0	< 1.0	< 1.0	20	248	161	140	4.81
	16-Oct-20	34	< 1.0	5.0	2.0	9.0	64	< 0.1	-	-	-	-	-	-	-	-	1.94	1.99	-	-	< 1.0	< 1.0	< 1.0	< 1.0	20	243	158	-	4.87
	16-Nov-20	30	< 1.0	5.0	2.0	9.0	54	0.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.3	0.6	0.6	1.77	1.71	-	2.79	< 1.0	< 1.0	< 1.0	< 1.0	20	245	159	168	4.57
	16-Dec-20	30	< 1.0	6.0	2.0	9.0	58	0.1	-	-	-	-	-	-	-	-	1.85	1.82	-	-	< 1.0	< 1.0	< 1.0	< 1.0	25	265	172	-	4.34
	14-Jan-21	31	< 1.0	5.0	2.0	10	63	0.1	-	-	-	-	-	-	-	-	1.81	1.98	-	-	< 1.0	< 1.0	< 1.0	< 1.0	20	267	174	-	4.62
	16-Feb-21	34	< 1.0	6.0	2.0	12	64	< 0.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.3	0.6	0.6	2.02	2.06	-	2.9	< 1.0	< 1.0	< 1.0	< 1.0	25	270	176	161	4.54
	17-Mar-21	36	< 1.0	7.0	2.0	11	68	< 0.1	-	-	-	-	-	-	-	-	2.19	2.15	-	-	< 1.0	< 1.0	< 1.0	< 1.0	29	279	181	-	4.9
	22-Apr-21	39	< 1.0	8.0	2.0	11	78	0.2	-	-	-	-	-	-	-	-	2.4	2.43	-	-	< 1.0	< 1.0	< 1.0	< 1.0	33	318	207	-	4.43
	20-May-21	42	<1.0	8	2	17	77	0.2	<0.01	0.04	<0.01	0.01	0.01	0.21	0.5	0.5	2.54	2.53	-	3.12	<1.0	<1.0	<1.0	<1.0	33	341	222	189	4.89
	18-Jun-21	33	< 1.0	6	2	15	59	0.1	-	-	-	-	-	-	-	-	1.98	1.98	-	-	< 1.0	< 1.0	< 1.0	< 1.0	25	232	151	185	4.84
	15-Jul-21	28	< 1.0	4.0	1.0	12	46	< 0.1	-	-	-	-	-	-	-	-	1.57	1.55	-	-	< 1.0	< 1.0	< 1.0	< 1.0	16	187	122	140	4.92

Table GW4
Groundwater Analytical Data - Inorganics
Williamtown Sand Syndicate

Analyte		Anions and Cations																			Alkalinity						Inorganics		
		Sodium	Calcium	Magnesium	Potassium	Sulphate	Chloride	Fluoride	Reactive phosphorus as P	Total Phosphorus	Nitrite as N	Nitrate as N	Nitrite + Nitrate as N	Ammonia as N	Total Nitrogen as N	Total Kjeldahl Nitrogen as N	Total Cations	Total Anions	Ionic Balance	Sodium Adsorption Ratio	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Hydroxide Alkalinity as CaCO3	Total Alkalinity as CaCO3	Total Hardness as CaCO3	Electrical Conductivity @ 25°C*	Total Dissolved Solids	Total Dissolved Solids	pH
LOR		1	1	1	1	1	1	0.1	0.01	0.01	0.01	0.01	0.01	0.01	0.1	0.1	0.01	0.01		0.01	1	1	1	1	1	1	1	10	0.01
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	meq/L	%	-	mg/L	mg/L	mg/L	mg/L	mg/L	µS/cm	mg/L	mg/L	pH units
Adopted Site Specific Trigger Values (SWMP 2021)[1]		77	5	11	2	70	148	0.2	-	2	-	-	-	0.5	5.9	-	-	-	-	-	-	-	-	-	-	500	-	-	4.2-6.5
NHMRC ADWG 2018		-	-	-	-	-	-	1.5	-	-	3	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample Name	Sample Date																												
BH8	21-Feb-19	52	< 1.0	6.0	< 1.0	11	90	< 0.1	< 0.01	1.97	< 0.01	< 0.01	< 0.01	0.5	2.4	2.4	2.76	2.77	-	4.44	< 1.0	< 1.0	< 1.0	< 1.0	25	352	258	-	4.46
	14-Mar-19	45	< 1.0	6.0	< 1.0	6.0	76	< 0.1	-	-	-	-	-	-	-	-	2.45	2.27	-	-	< 1.0	< 1.0	< 1.0	< 1.0	25	319	207	253	4.77
	23-Apr-19	53	< 1.0	7.0	< 1.0	8.0	89	< 0.1	-	-	-	-	-	-	-	-	2.88	2.68	-	-	< 1.0	< 1.0	< 1.0	< 1.0	29	264	172	223	4.76
	16-May-19	47	< 1.0	4.0	< 1.0	6.0	81	< 0.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.12	0.4	0.4	2.37	2.43	-	4.86	1.0	< 1.0	< 1.0	1.0	16	302	196	354	4.9
	14-Jun-19	47	< 1.0	5.0	< 1.0	4.0	89	< 0.1	-	-	-	-	-	-	-	-	2.46	2.59	-	-	< 1.0	< 1.0	< 1.0	< 1.0	20	315	205	194	4.82
	16-Jul-19	57	< 1.0	5.0	< 1.0	70	121	0.1	-	-	-	-	-	-	-	-	2.89	4.87	26	-	< 1.0	< 1.0	< 1.0	< 1.0	20	353	229	226	4.78
	15-Aug-19	42	< 1.0	3.0	< 1.0	4.0	63	< 0.1	-	-	-	-	-	-	-	-	2.07	1.86	-	-	< 1.0	< 1.0	< 1.0	< 1.0	12	260	169	140	5.0
	16-Sep-19	46	< 1.0	3.0	< 1.0	4.0	70	< 0.1	< 0.01	0.43	< 0.01	< 0.01	< 0.01	0.13	1.1	1.1	2.25	2.06	-	5.43	< 1.0	< 1.0	< 1.0	< 1.0	12	293	190	206	4.85
	15-Oct-19	45	< 1.0	4.0	< 1.0	4.0	70	< 0.1	-	-	-	-	-	-	-	-	2.29	2.06	-	-	< 1.0	< 1.0	< 1.0	< 1.0	16	303	197	-	5.02
	18-Nov-19	49	< 1.0	4.0	< 1.0	8.0	80	< 0.1	< 0.01	0.58	< 0.01	0.01	0.01	0.17	1.3	1.3	2.46	2.42	-	5.06	< 1.0	< 1.0	< 1.0	< 1.0	16	316	205	-	5.12
	17-Dec-19	50	<1	4	<1	10	75	<0.1	-	-	-	-	-	-	-	-	2.5	2.36	-	-	2	<1	<1	2	16	328	213	-	5.02
	16-Jan-20	49	<1	4	<1	13	78	<0.1	-	-	-	-	-	-	-	-	2.46	6.61	-	-	7	<1	<1	7	16	318	207	-	5.55
	27-Feb-20	34	<1	3	<1	14	54	<0.1	< 0.01	0.14	< 0.01	< 0.01	< 0.01	0.05	0.6	0.6	1.72	1.81	-	4.01	< 1.0	< 1.0	< 1.0	< 1.0	12	250	162	-	4.57
	26-Mar-20	30	<1	3	<1	16	50	<0.1	-	-	-	-	-	-	-	-	1.55	1.74	-	-	< 1.0	< 1.0	< 1.0	< 1.0	12	221	144		4.76
	27-Apr-20	28	<1	4	<1	13	50	<0.1	-	-	-	-	-	-	-	-	1.55	1.68	-	-	<1	<1	<1	<1	16	242	157	-	4.84
	15-May-20	32	<1	4	<1	14	59	<0.1	<0.01	0.18	<0.01	0.02	0.02	0.05	0.8	0.8	1.72	2	-	3.31	2	<1	<1	2	16	250	162	-	4.93
	19-Jun-20	48	<1	5	<1	9	74	<0.1	-	-	-	-	-	-	-	-	2.5	2.29	-	-	1	<1	<1	1	20	318	207	-	4.99
	16-Jul-20	50	<1	5	<1	10	76	<0.1	-	-	-	-	-	-	-	-	2.59	2.49	-	-	7	<1	<1	7	20	342	222	-	5.03
	14-Aug-20	55	<1	4	<1	9	102	<0.1	<0.01	0.1	<0.01	0.01	0.01	0.14	0.7	0.7	2.89	3.1	3.58	5.68	2	<1	<1	2	16	367	238	236	5.16
	16-Sep-20	58	< 1.0	4.0	< 1.0	9.0	109	< 0.1	-	-	-	-	-	-	-	-	3.1	3.26	2.57	-	< 1.0	< 1.0	< 1.0	< 1.0	16	391	254	216	4.79
	16-Oct-20	43	< 1.0	4.0	< 1.0	12	70	< 0.1	-	-	-	-	-	-	-	-	2.2	2.22	-	-	< 1.0	< 1.0	< 1.0	< 1.0	16	268	174	-	5.01
	16-Nov-20	48	< 1.0	6.0	< 1.0	10	76	< 0.1	< 0.01	0.14	< 0.01	< 0.01	< 0.01	0.13	0.6	0.6	2.58	2.35	-	4.1	< 1.0	< 1.0	< 1.0	< 1.0	25	341	222	212	4.75
	16-Dec-20	35	< 1.0	4.0	< 1.0	14	56	< 0.1	-	-	-	-	-	-	-	-	1.85	1.87	-	-	< 1.0	< 1.0	< 1.0	< 1.0	16	256	166	-	4.82
	14-Jan-21	44	< 1.0	5.0	< 1.0	13	77	< 0.1	-	-	-	-	-	-	-	-	2.32	2.44	-	-	< 1.0	< 1.0	< 1.0	< 1.0	20	317	206	-	4.76
	16-Feb-21	50	< 1.0	6.0	< 1.0	17	79	< 0.1	< 0.01	0.14	< 0.01	< 0.01	< 0.01	0.12	< 0.1	< 0.1	2.67	2.58	-	4.27	< 1.0	< 1.0	< 1.0	< 1.0	25	335	218	184	4.68
	17-Mar-21	50	< 1.0	6.0	< 1.0	19	75	< 0.1	-	-	-	-	-	-	-	-	2.67	2.51	-	-	< 1.0	< 1.0	< 1.0	< 1.0	25	329	214	-	4.57
	22-Apr-21	45	< 1.0	5.0	< 1.0	44	52	< 0.1	-	-	-	-	-	-	-	-	2.37	2.38	-	-	< 1.0	< 1.0	< 1.0	< 1.0	20	331	215	-	4.2
	20-May-21	39	<1.0	4	<1.0	37	42	<0.1	<0.01	0.08	<0.01	<0.01	<0.01	0.11	0.8	0.8	2.02	1.96	-	4.03	<1.0	<1.0	<1.0	<1.0	16	275	179	153	4.71
	18-Jun-21	62	2	6	< 1.0	40	89	0.2	-	-	-	-	-	-	-	-	3.29	3.42	1.98	-	4	< 1.0	< 1.0	4	30	390	254	276	4.83
	15-Jul-21	48	< 1.0	5.0	< 1.0	35	67	< 1.0	-	-	-	-	-	-	-	-	2.5	2.62	-	-	< 1.0	< 1.0	< 1.0	< 1.0	20	292	190	168	4.85
BH9	14-Aug-20	10	< 1.0	1	< 1.0	7	17	<0.1	<0.01	0.07	<0.01	0.21	0.21	<0.01	1	0.8	0.57	0.66		1.69	2	<1.0	<1.0	2	7	80	52	63	5.17
BH9A	16-Sep-20	35	5.0	5.0	1.0	41	38	< 0.1	-	-	-	-	-	-	-	-	2.21	2.06	-	-	7.0	< 1.0	< 1.0	7.0	33	276	179	310	5.78
	16-Oct-20	32	3.0	6.0	1.0	33	48	< 0.1	-	-	-	-	-	-	-	-	2.06	2.06	-	-	1.0	< 1.0	< 1.0	1.0	32	237	154	-	5.15
	16-Nov-20	23	2.0	4.0	1.0	23	35	< 0.1	< 0.01	0.11	< 0.01	2.35	2.35	< 0.01	2.8	0.5	1.46	1.51	-	2.16	2.0	< 1.0	< 1.0	2.0	21	195	127	142	4.93
	16-Dec-20	23	1.0	3.0	1.0	9.0	37	< 0.1	-	-	-	-	-	-	-	-	1.32	1.23	-	-	< 1.0	< 1.0	< 1.0	< 1.0	15	175	114	-	4.83
	14-Jan-21	24	1.0	3.0	1.0	15	43	< 0.1	-	-	-	-	-	-	-	-	1.37	1.52	-	-	< 1.0	< 1.0	< 1.0	< 1.0	15	196	127	-	4.96
	16-Feb-21	25	1.0	3.0	1.0	12	40	< 0.1	< 0.01	1.74	< 0.01	< 0.01	< 0.01	0.15	5.1	5.1	1.41	1.42	-	2.82	2.0	< 1.0	< 1.0	2.0	15	181	118	135	4.72
	17-Mar-21	25	1.0	3.0	< 1.0	12	35	< 0.1	-	-	-	-	-	-	-	-	1.38	1.32	-	-	4.0	< 1.0	< 1.0	4.0	15	164	107	-	5.23
	22-Apr-21	22	1.0	4.0	< 1.0	21	35	< 0.1	-	-	-	-	-	-	-	-	1.34	1.42	-	-	< 1.0	< 1.0	< 1.0	< 1.0	19	192	125	-	4.53
	20-May-21	27	1	3	2	18	35	<0.1	<0.01	0.08	<0.01	<0.01	<0.01	0.07	0.8	0.8	1.52	1.36	-	3.05	<1.0	<1.0	<1.0	<1.0	15	196	127	108	4.94
	18-Jun-21	26	< 1.0	3	1	15	39	<0.1	-	-	-	-	-	-	-	-	1.40	1.57	-	-	8	< 1.0	< 1.0	8	12	165	107	103	4.81
	15-Jul-21	26	2.0	3.0	1.0	15	41	< 0.1	-	-	-	-	-	-	-	-	1.5	1.47	-	-	< 1.0	< 1.0	< 1.0	< 1.0	17	174	113	96	4.77
BH10	22-Apr-21	33	2.0	5.0	3.0	26	40	< 0.1	-	-	-	-	-	-	-	-	2.02	1.75	-	-	4.0	< 1.0	< 1.0	4.0	26	225	146	-	5.3
	20-May-21	27	<1.0	5	4	26	41	<0.1	<0.01	<0.01	<0.01	12.0	12.0	<0.01	13.2	1.2	1.69	1.70	-	2.51	<1.0	<1.0	<1.0	<1.0	20	259	168	147	4.24
	18-Jun-21	26	< 1.0	4	9	23	41	<0.1	-	-	-	-	-	-	-	-	1.69	1.64	-	-	< 1.0	< 1.0	< 1.0	< 1.0	16	199	129	111	4.66
	15-Jul-21	29	< 1.0	4.0	4.0	20	54	< 0.1	-	-	-	-	-	-	-	-	1.69	1.94	-	-	< 1.0	< 1.0	< 1.0	< 1.0	16	216	140	151	4.71
BH11	21-Feb-19	48	< 1.0	10	< 1.0	24	80	0.1	< 0.01	0.03	< 0.01	0.04	0.04	0.06	1.8	1.8	2.91	2.76	-	3.21	< 1.0	< 1.0	< 1.0	< 1.0	41	346	278	-	4.67
	15-Mar-19	26	< 1.0	2.0	< 1.0	2.0	52	< 0.1	-	-	-	-	-	-	-	-	1.3	1.51	-	-	< 1.0	< 1.0	< 1.0	< 1.0	8.0	186	121	144	4.82
	23-Apr-19	32	< 1.0	5.0	< 1.0	2.0	57	< 0.1	-	-	-	-	-	-	-	-	1.8	1.65	-	-	< 1.0	< 1.0	< 1.0	< 1.0	20	150	98	135	4.99
	16-May-19	29	< 1.0	4.0	< 1.0	2.0	55	< 0.1	< 0.01	0.01	< 0.01	< 0.01	< 0.01	0.12	0.4	0.4	1.59	1.59	-	3.0	< 1.0	< 1.0	< 1.0	< 1.0	16	188	122	216	4.91
	14-Jun-19	26	< 1.0	3.0	< 1.0	< 1.0	53	< 0.1	-	-	-	-	-	-	-	-	1.38	1.5	-	-	< 1.0	< 1.0	< 1.0	< 1.0	12	175	114	107	4.84
	16-Jul-19	49	< 1.0	8.0	< 1.0	8.0	73	0.2	-	-	-	-	-	-	-	-	2.79	2.22	-	-	< 1.0	< 1.0	< 1.0	< 1.0	33	318	207	192	4.68
	15-Aug-19	28	< 1.0	3.0	< 1.0	4.0	47	< 0.1	-	-	-	-	-	-	-	-	1.46	1.41	-	-	< 1.0	< 1.0	< 1.0	< 1.0	12	197	128	135	4.88
	16-Sep-19	27	< 1.0	3.0	< 1.0	5.0	46	< 0.1	< 0.01	0.12	< 0.01	< 0.01	< 0.01	0.15	0.7	0.7	1.42	1.4	-	3.18	< 1.0	< 1.0	< 1.0	< 1.0	12	195	127	140	4.66
	15-Oct-19	28	< 1.0	3.0	< 1.0	3.0	44	< 0.1	-	-	-	-	-	-	-	-	1.46	1.3	-	-	< 1.0	< 1.0	< 1.0	< 1.0	12	194	126	-	4.92
	18-Nov-19	28	< 1.0	3.0	< 1.0	< 1.0	53	< 0.1	< 0.01	2.11	< 0.01	0.06	0.06	0.18	5.9	5.8	1.46	1.5	-	3.3	< 1.0	< 1.0	< 1.0	< 1.0	12	193	125	-	5.12
	17-Dec-19	26	<1	4	<1	<1	48	<0.1	-	-	-	-	-	-	-	-	1.46	1.39	-	-	2	<1	<1	2	16	196	127	-	5.03
	16-Jan-20	25	<1	3	<1	<1	46	<0.1	-	-	-	-	-	-	-	-	1.33	1.34	-	-	2	<1	<1	2	12	168	109	-	5.09
	27-Feb-20	20	<1	3	<1	<1	41	<0.1	<0.01	1.09	<0.01	0.02	0.02	0.16	3.3	3.3	1.12	1.16	-	2.36	<1	<1	<1	<1	12	165	107	-	4.35
	26-Mar-20	20	1	2	<1	<1	40	<0.1	-	-	-	-	-	-	-	-	1.08	1.13	-	-	<1	<1	<1	<1	11	156	101	-	5.14
	27-Apr-20	22	<1	2	<1	1	36	<0.1	-	-	-	-	-	-	-	-	1.12	1.24	-	-	10	<1	<1	10	16	151	98	-	6.14
	15-May-20	21	<1	2	<1	2	39	<0.1	<0.01	31.8	<0.01	0.21	0.21	0.72	85.5	85.3	1.08	1.2	-	-	10	<1	<1	10	16	151	98	-	6.14
	19-Jun-20	22	<1	2	<1	1	42	<0.1	-	-	-	-	-	-	-	-	1.12	1.2	-	-	<1	<1	<1	<1	8	168	109	-	4.9
	16-Jul-20	24	<1	3	<1	2	41	<0.1	-	-	-	-	-	-	-	-	1.29	1.32	-	-	6	<1	<1	6	12	184	120	-	4.91
	14-Aug-20	22	<1	4	<1	6	43	<0.1	<0.01	0.05	<0.01	0.06	0.06	0.07	0.6	0.5	1.29	1.38		2.27	2	<1	<1	2	16	172	112	119	4.89
	16-Sep-20	29	< 1.0	5.0	< 1.0	6.0	48	< 0.1	-	-	-	-	-	-	-	-	1.67	1.48	-	-	< 1.0	< 1.0	< 1.0	< 1.0	20	223	145	111	4.61
	16-Oct-20	29	< 1.0	6.0	< 1.0	4.0	61	< 0.1	-	-	-	-	-	-	-	-	1.76	1.8	-	-	< 1.0	< 1.0	< 1.0	< 1.0	25	218	142	-	4.8
	16-Nov-20	27	< 1.0	5.0	< 1.0	5.0	50	< 0.1	< 0.01	0.06	< 0.01	< 0.01	< 0.01	0.08	0.5	0.5	1.58	1.51	-	2.51	< 1.0	< 1.0	< 1.0	< 1.0	20	217	141	146	4.81
	16-Dec-20	31	< 1.0	6.0	< 1.0	7.0	60	< 0.1	-	-	-	-	-	-	-	-	1.84	1.84	-	-	< 1.0	< 1.0	< 1.0	< 1.0	25	249	162	-	4.74
	14-Jan-21	32	< 1.0	6.0	< 1.0	12	63	< 0.1	-	-	-	-	-	-	-	-	1.88	2.03	-	-	< 1.0	< 1.0	< 1.0	< 1.0	25	264	172	-	4.41
	16-Feb-21	32	< 1.0	5.0	1.0	12	55	< 0.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.08	< 0.1	< 0.1	1.83	1.8	-	2.98	< 1.0	< 1.0	< 1.0	< 1.0	20	235	153	149	4.73
	17-Mar-21	29	< 1.0	6.0	< 1.0	17	48	< 0.1	-	-	-	-	-	-	-	-	1.76	1.71	-	-	< 1.0	< 1.0	< 1.0	< 1.0	25	223	145	-	4.66
	22-Apr-21	20	< 1.0	3.0	< 1.0	14	29	< 0.1	-	-	-	-	-	-	-	-	1.12	1.11	-	-	< 1.0	< 1.0	< 1.0	< 1.0	12	151	98	-	4.23
	20-May-21	24	<1.0	4	<1.0	16	34	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.5	0.5	1.37	1.29	-	2.48	<1.0	<1.0	<1.0	<1.0	16	190	124	111	4.51
	18-Jun-21	31	< 1.0	5	< 1.0	20	46	<0.1	-	-	-	-	-	-	-	-	1.76	1.71	-	-	< 1.0	< 1.0	< 1.0	< 1.0	20	202	131	158	4.48
	15-Jul-21	33	< 1.0	5.0	< 1.0	18	58	< 0.1	-	-	-	-	-	-	-	-	1.85	2.01	-	-	< 1.0	< 1.0	< 1.0	< 1.0	20	222	144	122	4.57
BH12	14-Aug-20	20	4	4	<1	14	36	<0.1	<0.01	0.75	0.01	0.01	0.02	<0.01	3.9	3.9	1.4	1.35	-	1.69	2	<1	<1	2	26	170	110	139	5.26
	16-Sep-20	24	< 1.0	7.0	1.0	22	38	< 0.1	-	-	-	-	-	-	-	-	1.64	1.57	-	-	2.0	< 1.0	< 1.0	2.0	29	206	134	118	5.37
	16-Nov-20	22	< 1.0	4.0	1.0	11	41	< 0.1	< 0.01	< 0.01	< 0.01	0.02	0.02	< 0.01	0.2	0.2	1.31	1.52	-	2.27	7.0	< 1.0	< 1.0	7.0	16	190	124	134	5.92
MW239S	22-Feb-19	61	< 1.0	6.0	< 1.0	6.0	104	< 0.1	< 0.01	0.56	< 0.01	< 0.01	< 0.01	0.18	3.9	3.9	3.15	3.06	1.43	5.21	< 1.0	< 1.0	< 1.0	< 1.0	25	329	234	-	4.89
	14-Mar-19	64	< 1.0	6.0	< 1.0	2.0	126	< 0.1	-	-	-	-	-	-	-	-	3.28	3.64	5.18	-	2.0	< 1.0	< 1.0	2.0	25	410	266	232	5.02
	23-Apr-19	64	< 1.0	7.0	1.0	9.0	97	< 0.1	-	-	-	-	-	-	-	-	3.38	2.92	7.32	-	< 1.0	< 1.0	< 1.0	< 1.0	29	294	191	208	4.92
	16-May-19	52	< 1.0	6.0	< 1.0	13	88	< 0.1	< 0.01	0.43	< 0.01	< 0.01	< 0.01	0.09	1.7	1.7	2.76	2.75	-	4.44	< 1.0	< 1.0	< 1.0	< 1.0	25	327	212	320	4.87
	14-Jun-19	50	< 1.0	6.0	< 1.0	13	87	< 0.1	-	-	-	-	-	-	-	-	2.67	2.86	-	-	7.0	< 1.0	< 1.0	7.0	25	334	217	220	5.39
	16-Jul-19	52	< 1.0	7.0	1.0	16	73	< 0.1	-	-	-	-	-	-	-	-	2.86	2.39	-	-	< 1.0	< 1.0	< 1.0	< 1.0	29	353	229	188	4.85
	15-Aug-19	54	< 1.0	7.0	< 1.0	11	88	< 0.1	-	-	-	-	-	-	-	-	2.92	2.71	-	-	< 1.0	< 1.0	< 1.0	< 1.0	29	359	233	195	4.83
	16-Sep-19	55	< 1.0	6.0	1.0	14	85	< 0.1	< 0.01	0.32	< 0.01	< 0.01	< 0.01	0.1	1.4	1.4	2.91	2.69	-	4.7	< 1.0	< 1.0	< 1.0	< 1.0	25	373	242	224	4.66
	15-Oct-19	58	< 1.0	6.0	< 1.0	8.0	108	< 0.1	-	-	-	-	-	-	-	-	3.02	3.21	3.15	-	< 1.0	< 1.0	< 1.0	< 1.0	25	404	263	-	4.86
	18-Nov-19	63	< 1.0	6.0	1.0	8.0	118	< 0.1	< 0.01	0.23	< 0.01	< 0.01	< 0.01	0.17	1.2	1.2	3.26	3.5	3.48	5.38	< 1.0	< 1.0	< 1.0	< 1.0	25	419	272	-	4.76
	17-Dec-19	65	<1	8	<1	6	127	<0.1	-	-	-	-	-	-	-	-	3.48	3.75	3.62	-	2	<1	<1	2	33	439	285	-	5.01
	16-Jan-20	67	<1	8	<1	7	120	<0.1	-	-	-	-	-	-	-	-	3.57	3.57	0.03	-	2	<1	<1	2	33	423	275	-	5.02
	27-Feb-20	64	<1	7	<1	11	126	<0.1	< 0.01	1.05	< 0.01	0.02	0.02	0.14	4.5	4.5	3.36	3.78	5.93	5.08	< 1.0	< 1.0	< 1.0	< 1.0	29	475	309	-	4.45
	26-Mar-20	66	<1	6	<1	5	133	<0.1	-	-	-	-	-	-	-	-	3.36	3.86	6.8	-	< 1.0	< 1.0	< 1.0	< 1.0	30	420	273	-	4.98
	27-Apr-20	64	<1	6	<1	7	119	<0.1	-	-	-	-	-	-	-	-	3.28	3.56	4.16	-	3	<1	<1	3	25	453	294	-	5.13
	15-May-20	67	<1	6	<1	2	39	<0.1	<0.01	0.57	<0.01	<0.01	<0.01	0.15	3	3	3.41	3.89	6.58	5.64	2	<1	<1	2	25	438	285	-	4.92
	19-Jun-20	70	<1	8	1	22	125	<0.1	-	-	-	-	-	-	-	-	3.73	3.98	3.31	-	<1.0	<1	<1	<1.0	33	456	296	-	4.76
	16-Jul-20	65	<1	9	1	27	110	<0.1	-	-	-	-	-	-	-	-	3.59	3.8	2.86	-	7	<1	<1	7	37	451	293	-	5.32
	14-Aug-20	62	<1	9	1	33	102	<0.1	<0.01	0.38	0.01	<0.01	0.01	0.04	0.6	2.2	3.46	3.56	1.44	4.36	<1	<1	<1	<1	37	455	296	276	4.71
	16-Sep-20	53	< 1.0	8.0	1.0	36	86	0.1	-	-	-	-	-	-	-	-	2.99	3.24	3.95	-	3.0	< 1.0	< 1.0	3.0	33	390	254	244	5.2
	16-Oct-20	76	< 1.0	9.0	1.0	17	148	< 0.1	-	-	-	-	-	-	-	-	4.14	4.57	4.99	-	2.0	< 1.0	< 1.0	2.0	37	458	298	-	4.73
	16-Nov-20	68	< 1.0	9.0	2.0	37	125	< 0.1	< 0.01	0.59	< 0.01	< 0.01	< 0.01	0.01	2.6	2.6	4.21	4.3	1.0	4.78	< 1.0	< 1.0	< 1.0	< 1.0	37	489	318	294	4.55
	16-Dec-20	68	< 1.0	10	1.0	24	126	< 0.1	-	-	-	-	-	-	-	-	3.81	4.05	3.15	-	< 1.0	< 1.0	< 1.0	< 1.0	41	484	315	-	4.68
	14-Jan-21	58	< 1.0	9.0	2.0	37	102	< 0.1	-	-	-	-	-	-	-	-	3.31	3.65	4.78	-	< 1.0	< 1.0	< 1.0	< 1.0	37	430	280	-	4.44
	16-Feb-21	66	< 1.0	11	2.0	38	124	< 0.1	< 0.01	0.58	< 0.01	< 0.01	< 0.01	0.06	2.5	2.5	4.03	4.29	3.1	4.21	< 1.0	< 1.0	< 1.0	< 1.0	45	488	317	375	4.61
	17-Mar-21	49	< 1.0	7.0	1.0	38	70	< 0.1	-	-	-	-	-	-	-	-	2.73	2.76	-	-	< 1.0	< 1.0	< 1.0	< 1.0	29	343	223	-	4.73
	22-Apr-21	33	< 1.0	5.0	1.0	23	51	< 0.1	-	-	-	-	-	-	-	-	1.87	1.92	-	-	< 1.0	< 1.0	< 1.0	< 1.0	20	257	167	-	4.44
	20-May-21	44	<1.0	7	1	30	68	<0.1	<0.01	0.35	<0.01	<0.01	<0.01	0.02	1.8	1.8	2.52	2.54	-	3.49	<1.0	<1.0	<1.0	<1.0	29	334	217	190	4.41
	18-Jun-21	33	< 1.0	5	< 1.0	31	46	<0.1	-	-	-	-	-	-	-	-	1.85	1.94	-	-	< 1.0	< 1.0	< 1.0	< 1.0	20	231	150	167	4.66
	15-Jul-21	31	< 1.0	5.0	< 1.0	30	51	< 0.1	-	-	-	-	-	-	-	-	1.76	2.06	-	-	< 1.0	< 1.0	< 1.0	< 1.0	20	222	144	154	4.68

Notes:
- - Not analysed
< - Less than laboratory limit of reporting
LOR - Laboratory limit of reporting
mg/L - Milligrams per litre
uS/cm - Microsiemens per centimeter
Bold indicates a detection above the laboratory limit of reporting
[1] Soil and Water Management Plan, July 2021

Table SW1
Surface Water Analytical Data - BTEXN
Williamtown Sand Syndicate

Analyte		BTEXN								Total Petroleum Hydrocarbons	Total Petroleum Hydrocarbons - Silcia Clean up				Total Recoverable Hydrocarbons		Total Recoverable Hydrocarbons - Silcia Clean up				
		Benzene **	Toluene	Ethylbenzene	meta- & para-Xylene	ortho-Xylene**	Total Xylenes	Naphthalene**	Sum of BTEX	C_6 - C_9	C_{10}-C_{14} - Silica Cleanup	C_{15}-C_{28} - Silica Cleanup	C_{29}-C_{36} - Silica Cleanup	C_{10}-C_{36} Sum - Silica Cleanup	C_6 - C_{10}	C_6 - C_{10} minus BTEX (F1)	>C_{10}-C_{16} - Silica Cleanup	F2 - Silica Cleanup	>C_{16}-C_{34} - Silica Cleanup	>C_{34}-C_{40} - Silica Cleanup	>C_{10}-C_{40} - Silica Cleanup
LOR		1	2	2	2	2	2	5	1	20	50	100	50	50	20	20	100	100	100	100	100
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
Adopted Site Specific Trigger Values (SWMP 2021)		-	-	-	-	-	-	-	-	-	-	-	-	-	20	20	100	-	100	100	-
NHMRC ADWG 2018		1	800	300	-	350	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample Name	Sample Date																				
SW1	22-Feb-19	Dry																			
	14-Mar-19																				
	23-Apr-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-May-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jun-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jul-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Aug-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Sep-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Oct-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Nov-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Dec-19	Dry																			
	16-Jan-20																				
	27-Feb-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	26-Mar-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	27-Apr-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-May-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	19-Jun-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jul-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Aug-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Sep-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Oct-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Nov-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Dec-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jan-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Feb-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Mar-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	22-Apr-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	20-May-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Jun-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Jul-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
SW2	22-Feb-19	Dry																			
	14-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	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	22-Apr-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	20-May-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Jun-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Jul-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
SW3	22-Feb-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Mar-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	23-Apr-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-May-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jun-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jul-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Aug-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Sep-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Oct-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Nov-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Dec-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jan-20	Dry																			
	27-Feb-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	26-Mar-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	27-Apr-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-May-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	19-Jun-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jul-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Aug-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Sep-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Oct-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Nov-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Dec-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jan-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Feb-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Mar-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	22-Apr-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	20-May-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Jun-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Jul-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
SW4	22-Feb-19	Dry																			
	14-Mar-19																				
	23-Apr-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-May-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jun-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jul-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Aug-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Sep-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Oct-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Nov-19	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Dec-19	Dry																			
	16-Jan-20																				
	27-Feb-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	26-Mar-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	27-Apr-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-May-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	19-Jun-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Jul-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Aug-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Sep-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Oct-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Nov-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Dec-20	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	14-Jan-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	16-Feb-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	17-Mar-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	22-Apr-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	20-May-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	18-Jun-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
	15-Jul-21	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100

Notes:
- - Not analysed
< - Less than laboratory limit of reporting
µg/L - Micrograms per litre
BTEXN - Benzene, toluene, ethylbenzene, xylenes, naphthalene
1- Soil and Water Management Plan, July 2021
** 95% Level of protection in freshwater

Table SW2
Surface Water Analytical Data - Metals
Williamtown Sand Syndicate

Analyte		Metals															
		Arsenic**	Barium	Beryllium	Boron**	Cadmium**	Chromium**[1]	Cobalt	Copper**	Iron	Lead**	Manganese**	Mercury**[2]	Nickel**	Selenium**	Vanadium	Zinc**
LOR		0.001	0.001	0.001	0.05	0.0001	0.001	0.001	0.001	0.05	0.001	0.001	0.0001	0.001	0.01	0.01	0.005
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Adopted Site Specific Trigger Values (SWMP 2021)[3]		0.006	0.08	0.002	0.1	0.0002	0.004	0.006	0.033	7.25 (32 for SW3 & SW4)	0.003	0.841	0.0001	0.02	0.01	0.01	0.535
NHMRC ADWG 2018		0.01	-	0.06	4	0.002	0.05	-	2	-	0.01	0.5	0.001	0.02	0.01	-	-
Sample Name	Sample Date																
SW1	22-Feb-19	Dry															
	14-Mar-19																
	23-Apr-19	< 0.001	0.043	< 0.001	0.14	< 0.0001	< 0.001	0.017	0.002	4.16	< 0.001	0.841	< 0.0001	0.02	< 0.01	< 0.01	0.356
	16-May-19	< 0.001	0.029	< 0.001	0.1	< 0.0001	< 0.001	0.01	0.003	7.25	< 0.001	0.666	< 0.0001	0.012	< 0.01	< 0.01	0.077
	14-Jun-19	< 0.001	0.029	< 0.001	0.09	0.0002	< 0.001	0.009	0.006	2.75	< 0.001	0.595	< 0.0001	0.011	< 0.01	< 0.01	0.535
	16-Jul-19	< 0.001	0.032	< 0.001	0.08	0.0001	< 0.001	0.007	0.003	1.86	< 0.001	0.59	< 0.0001	0.008	< 0.01	< 0.01	0.239
	15-Aug-19	< 0.001	0.027	< 0.001	0.09	< 0.0001	< 0.001	0.005	0.003	2.15	< 0.001	0.482	< 0.0001	0.005	< 0.01	< 0.01	0.075
	16-Sep-19	< 0.001	0.056	< 0.001	0.09	0.0002	0.001	0.008	0.012	2.45	0.001	0.587	< 0.0001	0.014	< 0.01	< 0.01	0.282
	15-Oct-19	< 0.001	0.036	< 0.001	0.07	< 0.0001	< 0.001	0.005	0.003	1.61	< 0.001	0.383	< 0.0001	0.005	< 0.01	< 0.01	0.055
	18-Nov-19	< 0.001	0.042	< 0.001	0.11	< 0.0001	0.001	0.003	< 0.001	1.14	< 0.001	0.366	< 0.0001	0.003	< 0.01	< 0.01	0.026
	17-Dec-19	Dry															
	16-Jan-20																
	27-Feb-20	0.002	0.029	<0.001	0.06	<0.0001	0.006	0.002	0.026	1.67	0.002	0.211	<0.0001	0.009	<0.01	<0.01	0.061
	26-Mar-20	0.002	0.013	<0.001	<0.05	<0.0001	0.002	<0.001	0.011	0.1	0.001	0.018	<0.0001	0.005	<0.01	<0.01	0.028
	27-Apr-20	< 0.001	-	-	-	<0.0001	0.004	-	0.016	0.2	0.003	0.012	<0.0001	-	-	-	0.041
	15-May-20	< 0.001	0.008	<0.001	<0.05	<0.0001	0.002	<0.001	0.018	0.15	0.001	0.014	<0.0001	0.005	<0.01	<0.01	0.031
	19-Jun-20	<0.001	-	-	-	<0.0001	<0.001	-	0.01	0.17	0.001	0.011	<0.0001	-	-	-	0.042
	16-Jul-20	<0.001	-	-	-	<0.0001	<0.001	-	0.002	<0.5	<0.001	0.003	<0.0001	-	-	-	<0.005
	14-Aug-20	< 0.001	0.016	< 0.001	< 0.05	<0.0001	<0.001	<0.001	0.006	0.18	< 0.001	0.01	<0.0001	<0.001	<0.01	<0.01	0.063
	16-Sep-20	< 0.001	0.021	< 0.001	< 0.05	< 0.0001	0.001	< 0.001	0.005	0.87	0.001	0.096	< 0.0001	0.002	< 0.01	< 0.01	0.061
	16-Oct-20	0.001	0.021	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.001	0.76	< 0.001	0.15	< 0.0001	0.001	< 0.01	< 0.01	0.005
	16-Nov-20	< 0.001	0.02	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.005	0.18	< 0.001	0.017	< 0.0001	< 0.001	< 0.01	< 0.01	0.03
	16-Dec-20	< 0.001	0.015	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.003	0.18	< 0.001	0.058	< 0.0001	< 0.001	< 0.01	< 0.01	0.013
	14-Jan-21	< 0.001	0.012	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.02	0.35	< 0.001	0.04	< 0.0001	0.006	< 0.01	< 0.01	0.037
	16-Feb-21	< 0.001	0.011	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	0.12	< 0.001	0.028	< 0.0001	< 0.001	< 0.01	< 0.01	0.024
	17-Mar-21	< 0.001	0.013	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	0.16	< 0.001	0.036	< 0.0001	< 0.001	< 0.01	< 0.01	0.04
	22-Apr-21	< 0.001	0.014	< 0.001	< 0.05	< 0.0001	0.002	0.002	< 0.001	6.38	< 0.001	0.078	< 0.0001	0.003	< 0.01	< 0.01	0.017
	20-May-21	< 0.001	0.009	< 0.001	< 0.05	< 0.0001	0.001	0.001	< 0.001	3.59	< 0.001	0.070	< 0.0001	0.002	< 0.01	< 0.01	0.022
	18-Jun-21	< 0.001	0.009	< 0.001	< 0.05	< 0.0001	0.002	< 0.001	0.002	1.51	< 0.001	0.052	< 0.0001	< 0.001	< 0.01	< 0.01	0.068
	15-Jul-21	< 0.001	0.008	< 0.001	< 0.05	< 0.0001	0.001	< 0.001	0.039	1.16	< 0.001	0.045	< 0.0001	0.001	< 0.01	< 0.01	0.041
SW2	22-Feb-19	Dry															
	14-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	< 0.001	0.005	< 0.001	< 0.05	< 0.0001	0.001	0.002	< 0.001	0.62	< 0.001	0.11	< 0.0001	0.004	< 0.01	< 0.01	0.097
	22-Apr-21	0.001	0.005	< 0.001	< 0.05	< 0.0001	0.002	0.001	< 0.001	4.45	< 0.001	0.061	< 0.0001	0.003	< 0.01	< 0.01	0.095
	20-May-21	0.001	0.002	< 0.001	< 0.05	< 0.0001	0.001	0.002	0.028	1.99	< 0.001	0.016	< 0.0001	0.003	< 0.01	< 0.01	0.038
	18-Jun-21	< 0.001	0.004	< 0.001	< 0.05	0.0001	< 0.001	< 0.001	< 0.001	1.58	< 0.001	0.017	< 0.0001	0.001	< 0.01	< 0.01	0.058
	15-Jul-21	< 0.001	0.005	< 0.001	< 0.05	< 0.0001	< 0.001	0.002	< 0.001	0.39	< 0.001	0.041	< 0.0001	0.002	< 0.01	< 0.01	0.081

Table SW2
Surface Water Analytical Data - Metals
Williamtown Sand Syndicate

Analyte		Metals															
		Arsenic**	Barium	Beryllium	Boron**	Cadmium**	Chromium**[1]	Cobalt	Copper**	Iron	Lead**	Manganese**	Mercury**[2]	Nickel**	Selenium**	Vanadium	Zinc**
LOR		0.001	0.001	0.001	0.05	0.0001	0.001	0.001	0.001	0.05	0.001	0.001	0.0001	0.001	0.01	0.01	0.005
Units		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Adopted Site Specific Trigger Values (SWMP 2021)[3]		0.006	0.08	0.002	0.1	0.0002	0.004	0.006	0.033	7.25 (32 for SW3 & SW4)	0.003	0.841	0.0001	0.02	0.01	0.01	0.535
NHMRC ADWG 2018		0.01	-	0.06	4	0.002	0.05	-	2	-	0.01	0.5	0.001	0.02	0.01	-	-
Sample Name	Sample Date																
SW3	22-Feb-19	**0.003**	**0.075**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	**4.84**	< 0.001	**0.033**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.016**
	14-Mar-19	**0.006**	**0.08**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.003**	< 0.001	**9.26**	< 0.001	**0.048**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.009**
	23-Apr-19	< 0.001	**0.043**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.003**	**0.001**	**2.01**	< 0.001	**0.046**	< 0.0001	**0.004**	< 0.01	< 0.01	**0.016**
	16-May-19	< 0.001	**0.034**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.002**	< 0.001	**1.78**	< 0.001	**0.038**	< 0.0001	**0.003**	< 0.01	< 0.01	**0.012**
	14-Jun-19	< 0.001	**0.035**	< 0.001	< 0.05	< 0.0001	**0.001 ***	**0.003**	< 0.001	**1.68**	< 0.001	**0.038**	< 0.0001	**0.003**	< 0.01	< 0.01	**0.016**
	16-Jul-19	< 0.001	**0.055**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.007**	**0.002**	**1.25**	< 0.001	**0.043**	< 0.0001	**0.006**	< 0.01	< 0.01	**0.029**
	15-Aug-19	< 0.001	**0.035**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.003**	**0.002**	**1.16**	< 0.001	**0.036**	< 0.0001	**0.003**	< 0.01	< 0.01	**0.013**
	16-Sep-19	< 0.001	**0.045**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.004**	**0.02**	**0.69**	**0.001**	**0.036**	< 0.0001	**0.017**	< 0.01	< 0.01	**0.094**
	15-Oct-19	< 0.001	**0.034**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.005**	**0.002**	**1.7**	< 0.001	**0.027**	< 0.0001	**0.005**	< 0.01	< 0.01	**0.022**
	18-Nov-19	< 0.001	**0.031**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	< 0.001	**2.6**	< 0.001	**0.026**	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
	17-Dec-19	<0.001	**0.041**	<0.001	<0.05	<0.0001	**0.002**	<0.001	**0.003**	**1.42**	<0.001	**0.026**	<0.0001	**0.001**	<0.01	<0.01	<0.005
	16-Jan-20	Dry															
	27-Feb-20	**0.002**	**0.051**	<0.001	<0.05	<0.0001	<0.001	**0.006**	**0.008**	**6**	<0.001	**0.054**	<0.0001	**0.01**	<0.01	<0.01	**0.049**
	26-Mar-20	**0.001**	**0.041**	<0.001	<0.05	<0.0001	<0.001	**0.001**	**0.013**	**4.01**	<0.001	**0.035**	<0.0001	**0.006**	<0.01	<0.01	**0.033**
	27-Apr-20	**0.001**	-	-	-	<0.0001	<0.001	-	**0.006**	**4.01**	0.003	**0.034**	<0.0001	-	-	-	**0.031**
	15-May-20	< 0.001	**0.038**	<0.001	<0.05	<0.0001	<0.001	**0.001**	**0.02**	**0.87**	<0.001	**0.036**	<0.0001	**0.007**	<0.01	<0.01	**0.037**
	19-Jun-20	<0.001	-	-	-	**0.0001**	<0.001	-	**0.015**	**2.9**	**0.001**	**0.04**	<0.0001	-	-	-	**0.092**
	16-Jul-20	<0.001	-	-	-	**0.0001**	**0.001**	-	**0.006**	**1.6**	<0.001	**0.036**	<0.0001	-	-	-	**0.043**
	14-Aug-20	< 0.001	**0.024**	< 0.001	< 0.05	<0.0001	<0.001	**0.004**	**0.001**	**4.28**	< 0.001	**0.034**	<0.0001	**0.005**	<0.01	<0.01	**0.025**
	16-Sep-20	< 0.001	**0.034**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.007**	**0.007**	**3.49**	< 0.001	**0.029**	< 0.0001	**0.007**	< 0.01	< 0.01	**0.031**
	16-Oct-20	< 0.001	**0.028**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.004**	**0.003**	**7.09**	< 0.001	**0.027**	< 0.0001	**0.004**	< 0.01	< 0.01	**0.019**
	16-Nov-20	< 0.001	**0.029**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.009**	**0.002**	**4.79**	< 0.001	**0.032**	< 0.0001	**0.009**	< 0.01	< 0.01	**0.03**
	16-Dec-20	**0.002**	**0.015**	< 0.001	< 0.05	< 0.0001	**0.001**	**0.002**	**0.005**	**16**	< 0.001	**0.023**	< 0.0001	**0.004**	< 0.01	< 0.01	**0.054**
	14-Jan-21	**0.002**	**0.015**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.004**	**0.02**	**8.28**	< 0.001	**0.026**	< 0.0001	**0.01**	< 0.01	< 0.01	**0.025**
	16-Feb-21	**0.004**	**0.014**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.003**	**0.001**	**11**	< 0.001	**0.015**	< 0.0001	**0.004**	< 0.01	< 0.01	**0.011**
	17-Mar-21	**0.004**	**0.013**	< 0.001	< 0.05	< 0.0001	**0.001**	**0.002**	< 0.001	**12**	< 0.001	**0.016**	< 0.0001	**0.003**	< 0.01	< 0.01	**0.007**
	22-Apr-21	**0.006**	**0.008**	< 0.001	< 0.05	< 0.0001	**0.003**	**0.006**	< 0.001	**28**	< 0.001	**0.026**	< 0.0001	**0.006**	< 0.01	< 0.01	**0.01**
	20-May-21	**0.005**	**0.006**	< 0.001	< 0.05	< 0.0001	**0.001**	< 0.001	< 0.001	**25.4**	< 0.001	**0.024**	< 0.0001	**0.001**	< 0.01	< 0.01	< 0.005
	18-Jun-21	**0.001**	**0.003**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	**10.5**	< 0.001	**0.024**	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
	15-Jul-21	**0.001**	**0.004**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	< 0.001	**12.6**	< 0.001	**0.028**	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
SW4	22-Feb-19	Dry															
	14-Mar-19																
	23-Apr-19	< 0.001	**0.059**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.003**	**0.003**	**2.09**	< 0.001	**0.037**	< 0.0001	**0.005**	< 0.01	< 0.01	**0.03**
	16-May-19	< 0.001	**0.047**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.002**	< 0.001	**1.12**	< 0.001	**0.03**	< 0.0001	**0.003**	< 0.01	< 0.01	**0.019**
	14-Jun-19	< 0.001	**0.041**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.002**	**0.003**	**0.79**	< 0.001	**0.034**	< 0.0001	**0.003**	< 0.01	< 0.01	**0.014**
	16-Jul-19	< 0.001	**0.044**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.002**	**0.002**	**0.96**	< 0.001	**0.043**	< 0.0001	**0.003**	< 0.01	< 0.01	**0.014**
	15-Aug-19	< 0.001	**0.04**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.001**	**0.001**	**0.57**	< 0.001	**0.032**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.009**
	16-Sep-19	< 0.001	**0.046**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.002**	**0.02**	**0.7**	**0.001**	**0.039**	< 0.0001	**0.017**	< 0.01	< 0.01	**0.085**
	15-Oct-19	< 0.001	**0.037**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.002**	**0.004**	**0.66**	< 0.001	**0.031**	< 0.0001	**0.003**	< 0.01	< 0.01	**0.018**
	18-Nov-19	< 0.001	**0.035**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	**6.32**	< 0.001	**0.032**	< 0.0001	**0.002**	< 0.01	< 0.01	<0.005
	17-Dec-19	Dry															
	16-Jan-20																
	27-Feb-20	<0.001	**0.054**	<0.001	<0.05	<0.0001	<0.001	**0.002**	**0.018**	**2.52**	<0.001	**0.05**	<0.0001	**0.009**	<0.01	<0.01	**0.06**
	26-Mar-20	<0.001	**0.046**	<0.001	<0.05	<0.0001	<0.001	**0.001**	**0.007**	**1.97**	<0.001	**0.039**	<0.0001	**0.003**	<0.01	<0.01	**0.034**
	27-Apr-20	<0.001	-	-	-	<0.0001	<0.001	-	**0.017**	**1.82**	<0.001	**0.04**	<0.0001	-	-	-	**1.82**
	15-May-20	<0.001	**0.039**	<0.001	<0.05	<0.0001	<0.001	<0.001	**0.033**	**0.62**	<0.001	**0.038**	<0.0001	**0.005**	<0.01	<0.01	**0.038**
	19-Jun-20	<0.001	-	-	-	<0.0001	<0.001	-	**0.015**	**1.03**	**0.001**	**0.06**	<0.0001	-	-	-	**0.063**
	16-Jul-20	<0.001	-	-	-	<0.0001	**0.001**	-	**0.008**	**0.8**	<0.001	**0.059**	<0.0001	-	-	-	**0.043**
	14-Aug-20	< 0.001	**0.043**	< 0.001	< 0.05	<0.0001	<0.001	**0.007**	<0.001	**0.95**	< 0.001	**0.087**	<0.0001	**0.007**	<0.01	<0.01	**0.04**
	16-Sep-20	< 0.001	**0.041**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.004**	**0.005**	**0.97**	< 0.001	**0.053**	< 0.0001	**0.005**	< 0.01	< 0.01	**0.02**
	16-Oct-20	< 0.001	**0.03**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.002**	**0.001**	**2.26**	< 0.001	**0.042**	< 0.0001	**0.003**	< 0.01	< 0.01	**0.007**
	16-Nov-20	< 0.001	**0.031**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.004**	**0.001**	**1.93**	< 0.001	**0.074**	< 0.0001	**0.005**	< 0.01	< 0.01	**0.016**
	16-Dec-20	< 0.001	**0.017**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.001**	**0.002**	**32**	< 0.001	**0.035**	< 0.0001	**0.002**	< 0.01	< 0.01	< 0.005
	14-Jan-21	**0.002**	**0.028**	< 0.001	< 0.05	< 0.0001	**0.002**	**0.003**	**0.026**	**20**	< 0.001	**0.171**	< 0.0001	**0.005**	< 0.01	< 0.01	**0.013**
	16-Feb-21	**0.003**	**0.02**	< 0.001	< 0.05	< 0.0001	**0.003**	**0.001**	< 0.001	**27**	< 0.001	**0.054**	< 0.0001	**0.002**	< 0.01	< 0.01	**0.01**
	17-Mar-21	**0.002**	**0.02**	< 0.001	< 0.05	< 0.0001	**0.002**	< 0.001	< 0.001	**16**	< 0.001	**0.057**	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
	22-Apr-21	**0.006**	**0.02**	< 0.001	< 0.05	< 0.0001	**0.004**	**0.002**	< 0.001	**33.9**	< 0.001	**0.062**	< 0.0001	**0.003**	< 0.01	< 0.01	< 0.005
	20-May-21	**0.002**	**0.015**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	**10.1**	< 0.001	**0.073**	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
	18-Jun-21	< 0.001	**0.025**	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	**1.58**	< 0.001	**0.045**	< 0.0001	< 0.001	< 0.01	< 0.01	**0.009**
	15-Jul-21	< 0.001	**0.019**	< 0.001	< 0.05	< 0.0001	< 0.001	**0.001**	< 0.001	**1.15**	< 0.001	**0.044**	< 0.0001	**0.001**	< 0.01	< 0.01	**0.007**

Notes:
- - Not analysed
< - Less than laboratory limit of reporting
mg/L - Milligrams per litre
Bold indicates a detection above the laboratory limit of reporting
"*" denotes duplicate/triplicate sample result adopted for analytical use due to RPD >50%
RPD - Relative Percentage Difference

** 95% Level of protection in freshwater
[1] value for CR VI
[2] as inorganioc
[3] Soil and Water Management Plan, July 2021

Analyte		Perfluoroalkyl Sulfonic Acids						Perfluoroalkyl Carboxylic Acids									
		Perfluorobutane sulfonic acid (PFBS)	Perfluoropentane sulfonic acid (PFPeS)	Perfluorohexane sulfonic acid (PFHxS)	Perfluoroheptane sulfonate (PFHpS)	Perfluorooctane sulfonic acid (PFOS)	Perfluorodecanesulfonic 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)
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
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
Adopted Site Specific Trigger Values (SWMP 2021)		-	-	-	-	-	-	-	-	-	-	0.56	-	-	-	-	-
HEPA NEMP 2018***		-	-	-	-	0.01 [1]	-	-	-	-	-	19	-	-	-	-	-
HEPA NEMP 2018[4]		-	-	-	-	-	-	-	-	-	-	5.6	-	-	-	-	-
Sample Name	Sample Date																
SW1	22-Feb-19																DRY
	16-May-19	< 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
	16-Sep-19	< 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
	18-Nov-19	< 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
	27-Jan-20	< 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
	15-May-20	< 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
	19-Jun-20	< 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
	16-Jul-20	< 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
	14-Aug-20	< 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
	16-Sep-20	< 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
	16-Oct-20	< 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
	16-Nov-20	< 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
	16-Dec-20	< 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
	14-Jan-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
	16-Feb-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
	17-Mar-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
	22-Apr-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
	20-May-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
	18-Jun-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
	15-Jul-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
SW2	22-Feb-19																
	16-May-19																
	16-Sep-19																
	18-Nov-19																
	16-Jan-20																
	27-Feb-20																
	15-May-20																
	19-Jun-20																
	16-Jul-20																DRY
	14-Aug-20																
	16-Sep-20																
	16-Oct-20																
	16-Nov-20																
	16-Dec-20																
	14-Jan-21																
	16-Feb-21																
	17-Mar-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
	22-Apr-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
	20-May-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
	18-Jun-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
	15-Jul-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
SW3	22-Feb-19	< 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
	16-May-19	< 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
	16-Sep-19	< 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
	18-Nov-19	< 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
	16-Jan-20																DRY
	27-Feb-20	< 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
	15-May-20	< 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
	19-Jun-20	< 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
	16-Jul-20	< 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
	14-Aug-20	< 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
	16-Sep-20	< 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
	16-Oct-20	< 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
	16-Nov-20	< 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
	16-Dec-20	< 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
	14-Jan-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
	16-Feb-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
	17-Mar-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
	22-Apr-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
	20-May-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
	18-Jun-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
	15-Jul-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
SW4	16-May-19	< 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
	16-Sep-19	< 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
	25-Sep-19	< 0.02	< 0.02	< 0.02	< 0.02	**0.05**	< 0.02	< 0.1	< 0.02	< 0.02	< 0.02	< 0.01	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
	18-Nov-19	< 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
	16-Jan-20																DRY
	27-Feb-20	< 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
	15-May-20	< 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
	19-Jun-20	< 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
	16-Jul-20	< 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
	14-Aug-20	< 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
	16-Sep-20	< 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
	16-Oct-20	< 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
	16-Nov-20	< 0.02	< 0.02	**0.01** [3]	< 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
	16-Dec-20	**0.03** [3]	**0.02** [3]	**0.16** [3]	< 0.02	**0.02**	< 0.02	< 0.1	**0.09** [3]	**0.08** [3]	**0.03** [3]	**0.02** [3]	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
	14-Jan-21	< 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
	16-Feb-21	< 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
	17-Mar-21	< 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
	22-Apr-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
	20-May-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
	18-Jun-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
	15-Jul-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

Notes:
- - Not analysed
< - Less than laboratory limit of reporting
µg/L - Micrograms per litre
*** 99% Level of protection in freshwater
[1] Criteria is LOR
2- Denotes duplicate value used.
3- Denotes triplicate vbalue used.
[4] Recreation water

Analyte			Perfluoroalkyl Sulfonamides							(n:2) Fluorotelomer Sulfonic Acids				Sum of PFAS		
		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
LOR		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
Adopted Site Specific Trigger Values (SWMP 2021)		-	-	-	-	-	-	-	-	-	-	-	-	0.07	-	-
HEPA NEMP 2018***		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
HEPA NEMP 2018[4]		-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	-
Sample Name	Sample Date															
SW1	22-Feb-19															
	16-May-19	< 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-Sep-19	< 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
	18-Nov-19	< 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-Jan-20	< 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**
	15-May-20	< 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
	19-Jun-20	< 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-Jul-20	< 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
	14-Aug-20	< 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-Sep-20	< 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-Oct-20	< 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-20	< 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-Dec-20	< 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
	14-Jan-21	< 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-Feb-21	< 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-Mar-21	< 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-Apr-21	< 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
	20-May-21	< 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
	18-Jun-21	< 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-Jul-21	< 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	22-Feb-19															
	16-May-19															
	16-Sep-19															
	18-Nov-19															
	16-Jan-20															
	27-Feb-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	< 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-Apr-21	< 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
	20-May-21	< 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
	18-Jun-21	< 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-Jul-21	< 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
SW3	22-Feb-19	< 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-May-19	< 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-Sep-19	< 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
	18-Nov-19	< 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-Jan-20															
	27-Feb-20	< 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-May-20	< 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
	19-Jun-20	< 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-Jul-20	< 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
	14-Aug-20	< 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-Sep-20	< 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-Oct-20	< 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-20	< 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-Dec-20	< 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
	14-Jan-21	< 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-Feb-21	< 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-Mar-21	< 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-Apr-21	< 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
	20-May-21	< 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
	18-Jun-21	< 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-Jul-21	< 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	16-May-19	< 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-Sep-19	< 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 [2]**	**0.01**	**0.01**
	25-Sep-19	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	**0.05**	**0.05**	**0.05**
	18-Nov-19	< 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-Jan-20															
	27-Feb-20	< 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-May-20	< 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**
	19-Jun-20	< 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-Jul-20	< 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
	14-Aug-20	< 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-Sep-20	< 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-Oct-20	< 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-20	< 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**
	16-Dec-20	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	**0.55 [3]**	**0.8 [3]**	**0.82 [3]**
	14-Jan-21	< 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**
	16-Feb-21	< 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**
	17-Mar-21	< 0.05	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	< 0.02	< 0.02	< 0.05	< 0.05	< 0.05	< 0.05	**0.04**	**0.04**	**0.04**
	22-Apr-21	< 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
	20-May-21	< 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**
	18-Jun-21	< 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-Jul-21	< 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
µg/L - Micrograms per litre
*** 99% Level of protection in
[1] Criteria is LOR
2- Denotes duplicate value use
3- Denotes triplicate vbalue use
[4] Recreation water

Table SW4
Groundwater Analytical Data - Inorganics
Willamtown Sand Syndicate

	Analyte	Anions and Cations																		Alkalinity						Transmissivity		
		Sodium	Calcium	Magnesium	Potassium	Sulphate	Chloride	Fluoride	Reactive phosphorus as P	Total Phosphorus	Nitrite as N	Nitrate as N	Nitrite + Nitrate as N	Ammonia as N	Total Nitrogen as N	Total Kjeldahl Nitrogen as N	Total Cations	Total Anions	Ionic Balance	Sodium Adsorption Ratio	Bicarbonate Alkalinity as CaCO3	Carbonate Alkalinity as CaCO3	Hydroxide Alkalinity as CaCO3	Total Alkalinity as CaCO3	Total Hardness as CaCO3	Electrical Conductivity @ 25°C*	Total Dissolved Solids	Total Dissolved Solids	pH
	LOR	1	1	1	1	1	1	0.1	0.01	0.01	0.01	0.01	0.01	0.01	0.1	0.1	0.01	0.01		0.01	1	1	1	1	10	1	1	0.01
	Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	meq/L	meq/L	%	-	mg/L	mg/L	mg/L	mg/L	mg/L	uS/cm	mg/L	mg/L	oH units
	Adopted Site Specific Trigger Values (SWMP 2021)[1]	142	40	52	8	324	234	0.8	-	0.17	-	-	-	0.2	5.9	-	-	-	-	-	-	-	-	-	-	500	-	-	4.2-6.5
	NHMRC ADWG 2018	-	-	-	-	-	-	1.5	-	-	3	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sample Name	Sample Date																												
SW1	22-Feb-19	Dry																											
	14-Mar-19																												
	23-Apr-19	94	34	52	6.0	310	95	0.5	-	-	-	-	-	-	-	-	10	9.13	5.6	-	< 1.0	< 1.0	< 1.0	< 1.0	299	893	580	707	4.01
	16-May-19	86	24	42	6.0	324	112	0.3	< 0.01	0.13	< 0.01	< 0.01	< 0.01	< 0.01	1.8	1.8	8.94	9.9	5.13	2.45	< 1.0	< 1.0	< 1.0	< 1.0	233	947	616	715	4.6
	14-Jun-19	77	20	34	5.0	182	112	0.4	-	-	-	-	-	-	-	-	7.27	6.95	2.28	-	< 1.0	< 1.0	< 1.0	< 1.0	190	847	550	512	4.5
	16-Jul-19	90	20	35	4.0	240	130	0.4	-	-	-	-	-	-	-	-	7.9	8.66	4.64	-	< 1.0	< 1.0	< 1.0	< 1.0	194	876	569	568	4.42
	15-Aug-19	97	18	32	4.0	212	134	0.4	-	-	-	-	-	-	-	-	7.85	8.19	2.12	-	< 1.0	< 1.0	< 1.0	< 1.0	177	813	528	548	4.53
	16-Sep-19	117	21	39	4.0	244	193	0.7	< 0.01	0.05	< 0.01	0.02	0.02	< 0.01	1.2	1.2	9.45	11	5.38	3.49	< 1.0	< 1.0	< 1.0	< 1.0	213	1,080	702	689	4.32
	15-Oct-19	124	16	31	3.0	127	191	0.6	-	-	-	-	-	-	-	-	8.82	8.03	4.68	-	< 1.0	< 1.0	< 1.0	< 1.0	168	1,050	682	-	5.32
	18-Nov-19	142	14	30	4.0	165	234	0.5	< 0.01	0.02	< 0.01	< 0.01	< 0.01	0.03	1.1	1.1	9.45	10	3.03	4.91	< 1.0	< 1.0	< 1.0	< 1.0	158	1,090	708	-	5.06
	17-Dec-19																												
	16-Jan-20	Dry																											
	27-Feb-20	56	34	10	8.0	73	64	0.4	< 0.01	0.17	<0.05	<0.05	<0.05	0.16	2.4	2.4	5.16	4.58	5.91	2.17	63	< 1.0	< 1.0	63	126	550	358	-	6.83
	26-Mar-20	12	27	2	4.0	6.0	11	<0.1	-	-	-	-	-	-	-	-	2.14	1.45	-	-	51	< 1.0	< 1.0	51	76	234	152	-	7.09
	27-Apr-20	12	13	1	5.0	18	12	0.3	-	-	-	-	-	-	-	-	1.38	1.51	-	-	40	< 1.0	< 1.0	40	36	163	106	-	6.94
	15-May-20	9.0	18	1.0	3.0	29	8.0	<0.1	0.05	0.17	0.02	0.33	0.35	0.07	1.4	1.0	1.45	1.63		0.56	40		< 1.0	40	49	178	116		7.06
	19-Jun-20	7.0	21	1.0	2.0	8.0	7.0	<0.1	-	-	-	-	-	-	-	-	1.48	1.52		-	58	< 1.0	< 1.0	58	56	159	103	-	6.68
	16-Jul-20	7.0	16	1.0	2.0	6.0	7.0	<0.1	-	-	-	-	-	-	-	-	1.24	1.34		-	51	< 1.0	< 1.0	51	44	133	86	-	6.89
	14-Aug-20	6.0	8.0	2.0	2.0	<10	8.0	<0.1	<0.01	0.04	0.01	0.01	0.02	<0.1	0.7	0.7	0.88	0.64		0.49	21	<1	<1	21	28	82	53	98	6.21
	16-Sep-20	9.0	16	3.0	3.0	< 10	< 10	0.1	-	-	-	-	-	-	-	-	1.51	1.1	-	-	55	< 1.0	< 1.0	55	52	137	89	152	6.5
	16-Oct-20	12	40	4.0	4.0	< 10	16	0.2	-	-	-	-	-	-	-	-	2.95	2.69	-	-	112	< 1.0	< 1.0	112	116	268	174		7.29
	16-Nov-20	8.0	13	2.0	3.0	< 1.0	10	< 0.1	< 0.01	0.03	< 0.01	0.04	0.04	< 0.01	0.6	0.6	1.24	1.12	-	0.54	42	< 1.0	< 1.0	42	41	127	82	127	6.5
	16-Dec-20	10	19	2.0	3.0	5.0	12	0.1	-	-	-	-	-	-	-	-	1.62	1.68	-	-	62	< 1.0	< 1.0	62	56	171	111		7.01
	14-Jan-21	10	18	2.0	3.0	< 1.0	13	0.1	-	-	-	-	-	-	-	-	1.57	1.46	-	-	55	< 1.0	< 1.0	55	53	154	100	-	6.71
	16-Feb-21	10	15	2.0	3.0	< 1.0	12	0.1	< 0.01	0.02	< 0.01	< 0.01	< 0.01	< 0.01	0.5	0.5	1.42	1.36	-	0.64	51	< 1.0	< 1.0	51	46	141	92	115	6.93
	17-Mar-21	10	15	2.0	2.0	< 1.0	13	0.1	-	-	-	-	-	-	-	-	1.4	1.26	-	-	45	< 1.0	< 1.0	45	46	139	90		6.63
	22-Apr-21	37	7.0	4.0	2.0	< 10	65	0.1	-	-	-	-	-	-	-	-	2.34	1.83	-	-	< 1.0	< 1.0	< 1.0	< 1.0	34	280	182		4.72
	20-May-21	32	6	3	2	<10	56	<0.1	<0.05	<0.05	<0.10	<0.10	<0.10	<0.01	1.3	1.3	1.99	1.70	-	2.66	6	<1.0	<1.0	6	27	264	168	232	5.16
	18-Jun-21	31	7	3	2	< 1.0	56	<0.1	-	-	-	-	-	-	-	-	2.00	2.22	-	-	32	< 1.0	< 1.0	32	30	213	138	236	5.76
	15-Jul-21	26	5.0	3.0	2.0	< 10	52	0.2	-	-	-	-	-	-	-	-	1.68	1.49	-	-	1.0	< 1.0	< 1.0	1.0	25	186	121	199	5.36
SW2	23-Apr-19	Dry																											
	16-May-19																												
	14-Jun-19																												
	16-Jul-19																												
	15-Aug-19																												
	16-Sep-19																												
	15-Oct-19																												
	18-Nov-19																												
	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	12	2.0	2.0	< 1.0	6.0	16	0.2	-	-	-	-	-	-	-	-	0.79	0.58	-	-	< 1.0	< 1.0	< 1.0	< 1.0	13	83	54	-	5.08
	22-Apr-21	9.0	2.0	1.0	< 1.0	< 10	17	< 0.1	-	-	-	-	-	-	-	-	0.57	0.58	-	-	5.0	< 1.0	< 1.0	5.0	9.0	86	56	-	4.95
	20-May-21	11	<1.0	<1.0	<1.0	3	15	<0.1	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	0.7	0.7	0.48	0.58	-	2.63	1	<1.0	<1.0	1	<1.0	82	53	71	4.96
	18-Jun-21	11	< 1.0	2	< 1.0	8	20	<0.1	-	-	-	-	-	-	-	-	0.64	0.73	-	-	< 1.0	< 1.0	< 1.0	< 1.0	8	89	58	54	4.51
	15-Jul-21	10	1.0	2.0	< 1.0	7.0	19	< 0.1	-	-	-	-	-	-	-	-	0.65	0.68	-	-	< 1.0	< 1.0	< 1.0	< 1.0	11	84	55	68	4.66
SW3	22-Feb-19	40	4.0	4.0	1.0	16	82	<0.1	< 0.01	0.06	< 0.01	< 0.01	< 0.01	0.16	1.0	1.0	2.55	2.87	-	3.38	11	< 1.0	< 1.0	11	26	262	228	-	6.21
	14-Mar-19	45	6.0	6.0	2.0	44	64	< 0.1	-	-	-	-	-	-	-	-	2.8	2.8	-	-	4.0	< 1.0	< 1.0	4.0	40	344	224	279	5.42
	23-Apr-19	37	8.0	6.0	1.0	42	53	< 0.1	-	-	-	-	-	-	-	-	2.53	2.37	-	-	< 1.0	< 1.0	< 1.0	< 1.0	45	220	143	190	5.2
	16-May-19	35	7.0	5.0	< 1.0	34	54	< 0.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.1	0.1	2.28	2.25	-	2.47	1.0	< 1.0	< 1.0	1.0	38	271	176	300	5.24
	14-Jun-19	32	7.0	6.0	< 1.0	41	55	< 0.1	-	-	-	-	-	-	-	-	2.24	2.4	-	-	< 1.0	< 1.0	< 1.0	< 1.0	42	300	195	170	4.58
	16-Jul-19	46	8.0	12	< 1.0	104	57	0.2	-	-	-	-	-	-	-	-	3.39	3.77	5.38	-	< 1.0	< 1.0	< 1.0	< 1.0	69	451	293	246	4.47
	15-Aug-19	38	6.0	7.0	< 1.0	54	56	0.1	-	-	-	-	-	-	-	-	2.53	2.7	-	-	< 1.0	< 1.0	< 1.0	< 1.0	44	338	220	192	4.47
	16-Sep-19	42	7.0	8.0	< 1.0	48	57	0.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.01	0.1	0.1	2.83	2.61	-	2.57	< 1.0	< 1.0	< 1.0	< 1.0	50	374	243	201	4.3
	15-Oct-19	40	5.0	7.0	< 1.0	42	57	0.2	-	-	-	-	-	-	-	-	2.56	2.48	-	-	< 1.0	< 1.0	< 1.0	< 1.0	41	383	249	-	4.75
	18-Nov-19	36	5.0	5.0	< 1.0	29	56	< 0.1	< 0.01	0.04	< 0.01	0.01	0.01	0.03	0.6	0.6	2.23	2.18	-	2.72	< 1.0	< 1.0	< 1.0	< 1.0	33	278	181	-	5.39
	17-Dec-19	40	4	7	1	25	57	<0.1	-	-	-	-	-	-	-	-	2.54	2.25	-	-	6	<1	<1	6	39	301	196		5.75
	16-Jan-20	Dry																											
	27-Feb-20	38	8	8	< 1.0	73	56	<0.1	< 0.01	0.01	< 0.01	0.1	0.1	0.02	0.3	0.2	2.71	3.1	-	2.27	< 1.0	< 1.0	< 1.0	< 1.0	53	437	284	-	4.6
	26-Mar-20	34	4	6	< 1.0	50	49	<0.1	-	-	-	-	-	-	-	-	2.39	2.42	-	-	< 1.0	< 1.0	< 1.0	< 1.0	35	326	212	-	4.87
	27-Apr-20	35	4	5	1	38	47	0.2	-	-	-	-	-	-	-	-	2.16	2.12	-	-	< 1.0	< 1.0	< 1.0	< 1.0	30	321	209	-	4.87
	15-May-20	33	6	5	1	35	54	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	0.2	0.2	2.17	2.31		2.41	3	< 1.0	< 1.0	3	36	294	191	-	5.12
	19-Jun-20	64	9	18	< 1.0	132	76	0.3	-	-	-	-	-	-	-	-	4.71	4.89	1.85	-	< 1.0	< 1.0	< 1.0	< 1.0	96	573	372	-	4.56
	16-Jul-20	52	5	14	< 1.0	110	63	0.2	-	-	-	-	-	-	-	-	3.75	4.07	4.15	-	< 1.0	< 1.0	< 1.0	< 1.0	70	509	331	-	4.56
	14-Aug-20	50	<1	11	<1	67	76	<0.1	<0.01	<0.01	<0.01	0.07	0.07	0.01	0.3	0.2	3.08	3.54	6.93	3.19	<1	<1	<1	<1	45	469	305	255	4.46
	16-Sep-20	39	3.0	8.0	< 1.0	65	55	0.1	-	-	-	-	-	-	-	-	3.12	2.9	3.5	-	< 1.0	< 1.0	< 1.0	< 1.0	40	402	261	224	4.41
	16-Oct-20	40	4.0	6.0	< 1.0	40	63	< 0.1	-	-	-	-	-	-	-	-	2.73	2.61	-	-	< 1.0	< 1.0	< 1.0	< 1.0	35	333	216	-	4.15
	16-Nov-20	34	2.0	5.0	< 1.0	67	53	< 0.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.3	0.3	2.6	2.89	-	2.92	< 1.0	< 1.0	< 1.0	< 1.0	26	460	299	201	3.95
	16-Dec-20	36	1.0	5.0	1.0	27	61	< 0.1	-	-	-	-	-	-	-	-	2.05	2.3	-	-	1.0	< 1.0	< 1.0	1.0	23	303	197	-	4.8
	14-Jan-21	27	< 1.0	2.0	< 1.0	26	54	< 0.1	-	-	-	-	-	-	-	-	1.82	2.06	-	-	< 1.0	< 1.0	< 1.0	< 1.0	8.0	301	196	-	4.06
	16-Feb-21	30	2.0	3.0	< 1.0	21	56	< 0.1	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.5	0.5	1.65	2.02	-	3.13	< 1.0	< 1.0	< 1.0	< 1.0	17	273	177	172	4.15
	17-Mar-21	29	< 1.0	2.0	< 1.0	15	51	< 0.1	-	-	-	-	-	-	-	-	1.43	1.75	-	-	< 1.0	< 1.0	< 1.0	< 1.0	8.0	237	154	-	4.65
	22-Apr-21	31	< 1.0	4.0	1.0	18	54	< 0.1	-	-	-	-	-	-	-	-	1.7	1.96	-	-	3.0	< 1.0	< 1.0	3.0	16	297	193	-	4.94
	20-May-21	28	2	2	1	<10	41	<0.1	<0.05	<0.05	<0.10	<0.10	<0.10	0.02	1.3	1.3	1.51	1.30	-	3.35	7	<1.0	<1.0	7	13	231	150	132	5.76
	18-Jun-21	28	< 1.0	2	< 1.0	14	47	<0.1	-	-	-	-	-	-	-	-	1.38	1.70	-	-	4	< 1.0	< 1.0	4	8	196	127	120	5.27
	15-Jul-21	28	< 1.0	2.0	< 1.0	< 10	49	< 0.1	-	-	-	-	-	-	-	-	1.38	1.4	-	-	1.0	< 1.0	< 1.0	1.0	8.0	191	124	155	5.46
SW4	22-Feb-19	Dry																											
	14-Mar-19																												
	23-Apr-19	39	5.0	5.0	< 1.0	60	64	0.1	-	-	-	-	-	-	-	-	2.36	3.05	13	-	< 1.0	< 1.0	< 1.0	< 1.0	33	293	190	198	4.0
	16-May-19	41	5.0	5.0	< 1.0	41	59	< 0.1	0.01	< 0.01	< 0.01	0.05	0.05	< 0.01	0.2	0.2	2.44	2.52	-	3.1	< 1.0	< 1.0	< 1.0	< 1.0	33	331	215	288	4.08
	14-Jun-19	40	5.0	5.0	< 1.0	39	60	< 0.1	-	-	-	-	-	-	-	-	2.4	2.5	-	-	< 1.0	< 1.0	< 1.0	< 1.0	33	316	205	163	4.31
	16-Jul-19	46	7.0	7.0	< 1.0	67	56	0.2	-	-	-	-	-	-	-	-	2.93	2.97	-	-	< 1.0	< 1.0	< 1.0	< 1.0	46	367	238	207	4.46
	15-Aug-19	40	5.0	5.0	< 1.0	43	55	0.1	-	-	-	-	-	-	-	-	2.4	2.45	-	-	< 1.0	< 1.0	< 1.0	< 1.0	33	308	200	160	4.48
	16-Sep-19	45	7.0	6.0	< 1.0	45	58	0.1	< 0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.1	0.1	2.8	2.57	-	3.01	< 1.0	< 1.0	< 1.0	< 1.0	42	360	234	208	4.35
	15-Oct-19	44	6.0	6.0	< 1.0	38	57	0.1	-	-	-	-	-	-	-	-	2.71	2.4	-	-	< 1.0	< 1.0	< 1.0	< 1.0	40	365	237	-	4.48
	18-Nov-19	41	4.0	5.0	< 1.0	41	64	0.2	< 0.01	< 0.01	< 0.01	0.02	0.02	< 0.01	0.2	0.2	2.76	2.66	-	3.22	< 1.0	< 1.0	< 1.0	< 1.0	30	348	226	-	4.48
	17-Dec-19	Dry																											
	16-Jan-20																												
	27-Feb-20	44	9.0	6.0	1.0	68	59	<0.1	< 0.01	< 0.01	< 0.01	0.01	0.01	< 0.01	0.2	0.2	2.88	3.08	-	2.79	< 1.0	< 1.0	< 1.0	< 1.0	47	479	311	-	3.82
	26-Mar-20	40	5.0	4.0	1.0	46	57	<0.1	-	-	-	-	-	-	-	-	2.34	2.56	-	-	< 1.0	< 1.0	< 1.0	< 1.0	29	346	245	-	5.29
	27-Apr-20	38	5.0	4.0	1.0	38	51	0.1	-	-	-	-	-	-	-	-	2.26	2.29	-	-	3.0	< 1.0	< 1.0	3.0	29	336	218	-	5.54
	15-May-20	41	5.0	4.0	2.0	41	61	<0.1	<0.01	<0.01	<0.01	0.01	0.01	<0.01	0.2	0.2	2.41	2.57	4	3.31	<1.0	<1.0	<1.0	<1.0	29	327	212	-	4.67
	19-Jun-20	59	12	9.0	1.0	84	69	0.3	-	-	-	-	-	-	-	-	3.93	3.7	3.1	-	< 1.0	< 1.0	< 1.0	< 1.0	67	464	302	-	4.5
	16-Jul-20	53	11	8.0	2.0	82	59	0.3	-	-	-	-	-	-	-	-	3.56	3.37	2.77	-	< 1.0	< 1.0	< 1.0	< 1.0	60	439	285	-	4.58
	14-Aug-20	47	10	10	2.0	82	70	0.3	<0.01	<0.01	<0.01	0.02	0.02	0.01	0.4	0.4	3.42	3.68	3.72	2.51	<1	<1	<1	<1	66	450	292	266	4.24
	16-Sep-20	45	6.0	7.0	< 1.0	58	59	0.1	-	-	-	-	-	-	-	-	2.83	2.87	-	-	< 1.0	< 1.0	< 1.0	< 1.0	44	421	274	228	4.16
	16-Oct-20	43	5.0	5.0	< 1.0	40	67	0.1	-	-	-	-	-	-	-	-	2.53	2.72	-	-	< 1.0	< 1.0	< 1.0	< 1.0	33	355	231	-	3.94
	16-Nov-20	37	8.0	6.0	2.0	42	54	0.2	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	0.1	0.1	2.55	2.4	-	2.41	< 1.0	< 1.0	< 1.0	< 1.0	45	338	220	196	4.21
	16-Dec-20	43	4.0	4.0	2.0	24	70	0.2	-	-	-	-	-	-	-	-	2.45	2.79	-	-	16	< 1.0	< 1.0	16	26	323	210	-	6.15
	14-Jan-21	36	16	4.0	2.0	15	58	0.8	-	-	-	-	-	-	-	-	2.74	2.69	-	-	37	< 1.0	< 1.0	37	56	316	205	-	6.38
	16-Feb-21	37	6.0	4.0	2.0	14	61	0.3	< 0.01	0.03	< 0.01	< 0.01	< 0.01	0.02	1.2	1.2	2.29	2.15	-	2.87	7.0	< 1.0	< 1.0	7.0	31	267	174	240	5.91
	17-Mar-21	36	10	4.0	2.0	10	54	0.4	-	-	-	-	-	-	-	-	2.44	2.25	-	-	26	< 1.0	< 1.0	26	41	271	176	-	6.23
	22-Apr-21	32	4.0	4.0	2.0	< 10	56	0.2	-	-	-	-	-	-	-	-	1.97	2.04	-	-	23	< 1.0	< 1.0	23	26	276	179	-	5.54
	20-May-21	35	9	4	2	18	53	0.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.6	0.6	2.35	2.33	-	2.44	23	<1.0	<1.0	23	39	276	179	176	6.26
	18-Jun-21	34	4	4	1	23	57	0.2	-	-	-	-	-	-	-	-	2.03	2.09	-	-	< 1.0	< 1.0	< 1.0	< 1.0	26	250	162	145	6.84
	15-Jul-21	33	5.0	4.0	1.0	20	58	0.2	-	-	-	-	-	-	-	-	2.04	2.09	-	-	2.0	< 1.0	< 1.0	2.0	29	226	147	143	5.48

Notes:
- - Not analysed
< - Less than laboratory limit of reporting
LOR - Laboratory limit of reporting
mg/L - Milligrams per litre
uS/cm - Microsiemens per centimeter
Bold indicates a detection above the laboratory limit of reporting
[1] Soil and Water Management Plan, July 2021

Table QC1
Quality Control Sample Analysis - BTEXN
Williamtown Sand Syndicate

Analyte			BTEXN								Total Petroleum Hydrocarbons	Total Petroleum Hydrocarbons - Silicia Clean up				Total Recoverable Hydrocarbons		Total Recoverable Hydrocarbons - Silicia Clean up				
			Benzene	Toluene	Ethylbenzene	meta- & para-Xylene	ortho-Xylene	Total Xylenes	Naphthalene	Sum of BTEX	C_6 - C_9	C_{10}-C_{14} - Silica Cleanup	C_{15}-C_{28} - Silica Cleanup	C_{29}-C_{36} - Silica Cleanup	C_{10}-C_{36} Sum - Silica Cleanup	C_6 - C_{10}	C_6 - C_{10} minus BTEX (F1)	>C_{10}-C_{16} - Silica Cleanup	F2 - Silica Cleanup	>C_{16}-C_{34} - Silica Cleanup	>C_{34}-C_{40} - Silica Cleanup	>C_{10}-C_{40} - Silica Cleanup
Units			ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Sample Name	Sample Date	Sample Type																				
TRIP BLANK_13022019	13-Feb-19	Trip Blank	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
RINSATE01_21022019	21-Feb-19	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
BH8_21022019	21-Feb-19	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
DUP01_21022019	21-Feb-19	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			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	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
TRIP01_21022019	21-Feb-19	Triplicate	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	< 10	-	< 20	< 50	< 100	< 100	< 400	< 20	< 20	< 50	-	< 100	< 100	< 100
Relative Percentage Difference			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	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	-	-	-	-	< 20	< 20	-	-	-	-	-
RINSATE02_140319	14-Mar-19	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
BH7_140319	14-Mar-19	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
DUP02_140319	14-Mar-19	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			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	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	-	-	-	-	< 20	< 20	-	-	-	-	-
RINSATE_03	23-Apr-19	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
TRIP BLANK_04	16-May-19	Trip Blank	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	-	-	-	-	< 20	< 20	-	-	-	-	-
RINSATE_04	16-May-19	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
TRIP BLANK 05_14062019	14-Jun-19	Trip Blank	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
RINSATE 05_14062019	14-Jun-19	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
SW3_14062019	14-Jun-19	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
DUP05_14062019	14-Jun-19	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SW3_14062019	14-Jun-19	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
TRIP05_140619	14-Jun-19	Triplicate	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	< 10	-	< 20	< 50	< 100	< 100	< 100	< 20	< 20	< 50	< 50	< 100	< 100	< 100
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TRIP BLANK 06_16072019	16-Jul-19	Trip Blank	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
RINSATE06_16072019	16-Jul-19	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
RINSATE07	15-Aug-19	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	-	-	-	-	< 20	< 20	-	-	-	-	-
TRIP BLANK 08_16092019	16-Sep-19	Trip Blank	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
RINSATE 08_16092019	16-Sep-19	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
SW4_16092019	16-Sep-19	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
DUP08_16092019	16-Sep-19	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SW4_16092019	16-Sep-19	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
TRIP08_16092019	16-Sep-19	Triplicate	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	< 10	-	< 20	< 50	< 100	< 100	< 400	< 20	< 20	< 50	-	< 100	< 100	-
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TRIP BLANK_15102019	15-Oct-19	Trip Blank	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
RINSATE_15102019	15-Oct-19	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
TRIPBLANK09_181119	18-Nov-19	Trip Blank	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
RINSATE09_181119	18-Nov-19	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
SW4_181119	18-Nov-19	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
DUP09_181119	18-Nov-19	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			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	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
TRIP09_18112019	18-Nov-19	Triplicate	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	< 10	-	< 20	< 50	< 100	< 100	< 100	< 20	< 20	< 50	-	< 100	< 100	-
Relative Percentage Difference			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	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
RINSATE10_171219	17-Dec-19	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
RIP BLANK 13_20013330(	16-Jan-20	Trip Blank	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
RINSATE 13_2001333005	16-Jan-20	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
BH6_2001333004	16-Jan-20	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW12_2001333012	16-Jan-20	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			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	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW13_14392	16-Jan-20	Triplicate	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	< 10	-	< 20	< 50	< 100	< 100	< 400	< 20	< 20	< 50	-	< 100	< 100	-
Relative Percentage Difference			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	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
BH6_2001333004	27-Feb-20	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Dup13_2001333012	27-Feb-20	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
BH6_2001333004	27-Feb-20	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
TRIP13_2001333012	27-Feb-20	Triplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			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	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
RINSATE (QW4)	26-Mar-20	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
BH4_ES2010734004	26-Mar-20	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW1_ES2010734005	26-Mar-20	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			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	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW2_S20-Mar47338	26-Mar-20	Triplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	-	-	-	-	< 20	< 20	-	-	-	-	-
Relative Percentage Difference			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	< 1.0	**4.0**	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
RINSATE (QW11)	27-Apr-20	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
BH4_ES2014254004	27-Apr-20	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	430	< 50	430	< 20	< 20	< 100	< 100	440	< 100	440
QW6_ES2014254005	27-Apr-20	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	600	< 50	600	< 20	< 20	< 100	< 100	700	< 100	700
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	**33%**	NC	**33%**	< 20	< 20	NC	NC	**45.61%**	NC	**45.60%**
BH4_ES2014254004	27-Apr-20	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	430	< 50	430	< 20	< 20	< 100	< 100	440	< 100	440
QW7_S20-Ap44317	27-Apr-20	Triplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	<20	70	200	<100	270	< 20	< 20	80	-	200	< 100	-
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	**94.74%**	**73.02%**	NC	**45.71%**	NC	NC	**46.15%**	NC	**75.00%**	NC	NC
TRIPBLANK(QW16)	15-May-20	Trip Blank	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
RINSATE (QW17)	15-May-20	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
BH4_ES2014254004	15-May-20	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW12_ES2014254005	15-May-20	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			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	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW13_S20-Ap44317	15-May-20	Triplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	-	-	-	-	< 20	< 20	-	-	-	-	-
Relative Percentage Difference			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	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW14_ES2016918014	15-May-20	Triplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

Table QC1
Quality Control Sample Analysis - BTEXN
Williamtown Sand Syndicate

TRIPBLANK(QW18)	19-Jun-20	Trip Blank	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
RINSATE (QW19)	19-Jun-20	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
TRIPBLANK(QW20)	16-Jul-20	Trip Blank	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
RINSATE (QW21)	16-Jul-20	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
TRIPBLANK(QW26)	14-Aug-20	Trip Blank	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
RINSATE (QW27)	14-Aug-20	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
SW4_ES2028606-012	14-Aug-20	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW22_ES2028606-013	14-Aug-20	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SW4_ES2028606-012	14-Aug-20	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW23_S20-Au26274	14-Aug-20	Triplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	-	-	-	-	< 20	< 20	-	-	-	-	-
Relative Percentage Difference			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	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW32_160920	16-Sep-20	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
SW4_160920	16-Sep-20	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW28_160920	16-Sep-20	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			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	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW38_161020	16-Oct-20	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
SW4_161020	16-Oct-20	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW34_161020	16-Oct-20	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			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	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW35_16102020	16-Oct-20	Triplicate	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	< 10	-	-	< 50	< 100	< 100	< 100	-	-	< 50	-	< 100	< 100	-
Relative Percentage Difference			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	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW38_161120	16-Nov-20	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
SW4_161120	16-Nov-20	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW34_161120	16-Nov-20	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SW4_161120	16-Nov-20	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW35_16112020	16-Nov-20	Triplicate	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	< 10	-	-	< 50	< 100	< 100	< 100	-	-	< 50	-	< 100	< 100	-
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
QW39_161220	16-Dec-20	Trip Blank	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW38_161220	16-Dec-20	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
SW4_161220	16-Dec-20	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW34_161220	16-Dec-20	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SW4_161220	16-Dec-20	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW35_16122020	16-Dec-20	Triplicate	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	< 10	-	< 20	< 50	< 100	< 100	< 100	< 20	< 20	< 50	-	< 100	< 100	-
Relative Percentage Difference			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	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW38_140121	14-Jan-21	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
SW4_140121	14-Jan-21	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW34_140121	14-Jan-21	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SW4_140121	14-Jan-21	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW35_140121	14-Jan-21	Triplicate	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	< 10	-	< 20	-	-	-	-	< 20	< 20	-	-	-	-	-
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
QW38_160221	16-Feb-21	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW39_160221	16-Feb-21	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
SW4_160221	16-Feb-21	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW34_160221	16-Feb-21	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SW4_160221	16-Feb-21	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW35_16022021	16-Feb-21	Triplicate	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	< 10	-	< 20	-	-	-	-	< 20	< 20	-	-	-	-	-
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
QW40_170321	17-Mar-21	Trip Blank	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW41_170321	17-Mar-21	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW46_220421	22-Apr-21	Trip Blank	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW47_220421	22-Apr-21	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
SW4_220421	22-Apr-21	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW42_220421	22-Apr-21	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SW4_220421	22-Apr-21	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW43_220421	22-Apr-21	Triplicate	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	< 10	-	< 20	-	-	-	-	< 20	< 20	-	-	-	-	-
Relative Percentage Difference			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	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
RINSATE MAY_200521	20-May-21	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
SW4_200521	20-May-21	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW51_200521	20-May-21	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SW4_200521	20-May-21	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW48_200521	20-May-21	Triplicate	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	< 10	-	< 20	-	-	-	-	< 20	< 20	-	-	-	-	-
Relative Percentage Difference			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	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Rinsate June_180621	18-Jun-21	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
SW3_180621	18-Jun-21	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW52_180621	18-Jun-21	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SW3_180621	18-Jun-21	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW53_180621	18-Jun-21	Triplicate	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	< 10	-	< 20	-	-	-	-	< 20	< 20	-	-	-	-	-
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
TRIP BLANK_JULY_15072	15-Jul-21	Trip Blank	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
RINSATE_JULY_150721	15-Jul-21	Rinsate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
SW4_150721	15-Jul-21	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW56_150721	15-Jul-21	Duplicate	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC
SW4_150721	15-Jul-21	Primary	< 1.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 5.0	< 1.0	< 20	< 50	< 100	< 50	< 50	< 20	< 20	< 100	< 100	< 100	< 100	< 100
QW57_150721	15-Jul-21	Triplicate	< 1.0	< 1.0	< 1.0	< 2.0	< 1.0	< 3.0	< 10	-	< 20	-	-	-	-	< 20	< 20	-	-	-	-	-
Relative Percentage Difference			NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC

Table QC2
Quality Control Sample Analysis - Metals
Williamtown Sand Syndicate

Analyte			Metals															
			Arsenic	Barium	Beryllium	Boron	Cadmium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Mercury	Nickel	Selenium	Vanadium	Zinc
Units			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Sample Name	Sample Date	Sample Type																
TRIP BLANK_13022019	13-Feb-19	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
RINSATE01_21022019	21-Feb-19	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
BH8_21022019	21-Feb-19	Primary	< 0.001	0.011	< 0.001	< 0.05	< 0.0001	0.001	< 0.001	< 0.001	4.1	< 0.001	0.012	< 0.0001	0.002	< 0.01	< 0.01	0.005
DUP01_21022019	21-Feb-19	Duplicate	0.001	0.014	< 0.001	< 0.05	< 0.0001	0.001	< 0.001	< 0.001	4.09	< 0.001	0.012	< 0.0001	0.003	< 0.01	< 0.01	0.015
Relative Percentage Difference			**67%**	24%	NC	NC	NC	0%	NC	NC	0%	NC	0%	NC	40%	NC	NC	**100%**
BH8_21022019	21-Feb-19	Primary	< 0.001	0.011	< 0.001	< 0.05	< 0.0001	0.001	< 0.001	< 0.001	4.1	< 0.001	0.012	< 0.0001	0.002	< 0.01	< 0.01	0.005
TRIP01_21022019	21-Feb-19	Triplicate	0.001	< 0.02	< 0.001	< 0.05	< 0.0002	< 0.005	< 0.001	< 0.001	4.5	< 0.001	0.012	< 0.0001	0.003	-	< 0.005	0.006
Relative Percentage Difference			**67%**	10%	NC	NC	NC	**86%**	NC	NC	9%	NC	0%	NC	40%	NC	NC	18%
TRIP BLANK_130319	13-Mar-19	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
TRIP BLANK02_150319	15-Mar-19	Trip Blank	< 0.001	0.002	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
RINSATE02_140319	14-Mar-19	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
BH7_140319	14-Mar-19	Primary	< 0.001	0.01	< 0.001	< 0.05	< 0.0001	0.001	0.003	< 0.001	1.8	< 0.001	0.02	< 0.0001	0.004	< 0.01	< 0.01	0.009
DUP02_140319	14-Mar-19	Duplicate	< 0.001	0.01	< 0.001	< 0.05	< 0.0001	0.001	0.002	< 0.001	2.51	< 0.001	0.021	< 0.0001	0.004	< 0.01	< 0.01	0.007
Relative Percentage Difference			NC	0%	NC	NC	NC	0%	**40%**	NC	33%	NC	5%	NC	0%	NC	NC	25%
BH7_140319	14-Mar-19	Primary	< 0.001	0.01	< 0.001	< 0.05	< 0.0001	0.001	0.003	< 0.001	1.8	< 0.001	0.02	< 0.0001	0.004	< 0.01	< 0.01	0.009
TRIP02_14032019	14-Mar-19	Triplicate	< 0.001	< 0.02	< 0.001	< 0.05	< 0.0002	0.001	0.002	< 0.001	1.7	< 0.001	0.019	< 0.0001	< 0.001	-	< 0.005	< 0.005
Relative Percentage Difference			NC	0%	NC	NC	NC	0%	**40%**	NC	6%	NC	5%	NC	**156%**	NC	NC	**113%**
TRIP BLANK_03	23-Apr-19	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
RINSATE_03	23-Apr-19	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
TRIP BLANK_04	16-May-19	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
RINSATE_04	16-May-19	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
TRIP BLANK 05_14062019	14-Jun-19	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
RINSATE 05_14062019	14-Jun-19	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
SW3_14062019	14-Jun-19	Primary	< 0.001	0.035	< 0.001	< 0.05	< 0.0001	< 0.001	0.003	< 0.001	1.68	< 0.001	0.038	< 0.0001	0.003	< 0.01	< 0.01	0.016
DUP05_14062019	14-Jun-19	Duplicate	< 0.001	0.036	< 0.001	< 0.05	< 0.0001	< 0.001	0.003	< 0.001	1.63	< 0.001	0.039	< 0.0001	0.003	< 0.01	< 0.01	0.013
Relative Percentage Difference			NC	3%	NC	NC	NC	NC	0%	NC	3%	NC	3%	NC	0%	NC	NC	21%
SW3_14062019	14-Jun-19	Primary	< 0.001	0.035	< 0.001	< 0.05	< 0.0001	< 0.001	0.003	< 0.001	1.68	< 0.001	0.038	< 0.0001	0.003	< 0.01	< 0.01	0.016
TRIP05_140619	14-Jun-19	Triplicate	< 0.001	-	-	-	< 0.0002	0.001	-	< 0.001	1.6	< 0.001	-	< 0.0001	0.003	-	-	0.01
Relative Percentage Difference			NC	NC	NC	NC	NC	**67%**	NC	NC	5%	NC	NC	NC	0%	NC	NC	46%
TRIP BLANK 06_16072019	16-Jul-19	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
RINSATE06_16072019	16-Jul-19	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
RINSATE07	15-Aug-19	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
TRIP BLANK 08_16092019	16-Sep-19	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
RINSATE 08_16092019	16-Sep-19	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
SW4_16092019	16-Sep-19	Primary	< 0.001	0.046	< 0.001	< 0.05	< 0.0001	< 0.001	0.002	0.02	0.7	0.001	0.039	< 0.0001	0.017	< 0.01	< 0.01	0.085
DUP08_16092019	16-Sep-19	Duplicate	< 0.001	0.041	< 0.001	< 0.05	< 0.0001	< 0.001	0.002	< 0.001	0.76	< 0.001	0.036	< 0.0001	0.003	< 0.01	< 0.01	0.012
Relative Percentage Difference			NC	11%	NC	NC	NC	NC	0%	**190%**	8%	**67%**	8%	NC	**140%**	NC	NC	**151%**
SW4_16092019	16-Sep-19	Primary	< 0.001	0.046	< 0.001	< 0.05	< 0.0001	< 0.001	0.002	0.02	0.7	0.001	0.039	< 0.0001	0.017	< 0.01	< 0.01	0.085
TRIP08_16092019	16-Sep-19	Triplicate	< 0.001	0.04	< 0.001	< 0.05	< 0.0002	< 0.001	0.002	< 0.001	0.69	< 0.001	0.037	< 0.0001	0.003	-	< 0.005	0.012
Relative Percentage Difference			NC	14%	NC	NC	NC	NC	0%	**190%**	1%	**67%**	5%	NC	**140%**	NC	NC	**151%**
TRIP BLANK_15102019	15-Oct-19	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
RINSATE_15102019	15-Oct-19	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	-	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
TRIPBLANK09_181119	18-Nov-19	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
RINSATE09_181119	18-Nov-19	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
SW4_181119	18-Nov-19	Primary	< 0.001	0.035	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	6.32	< 0.001	0.032	< 0.0001	0.002	< 0.01	< 0.01	< 0.005
DUP09_181119	18-Nov-19	Duplicate	< 0.001	0.034	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	5.9	< 0.001	0.036	< 0.0001	0.002	< 0.01	< 0.01	< 0.005
Relative Percentage Difference			NC	3%	NC	NC	NC	NC	NC	NC	7%	NC	12%	NC	0%	NC	NC	NC
SW4_181119	18-Nov-19	Primary	< 0.001	0.035	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.001	6.32	< 0.001	0.032	< 0.0001	0.002	< 0.01	< 0.01	< 0.005
TRIP09_18112019	18-Nov-19	Triplicate	< 0.001	0.04	< 0.001	< 0.05	< 0.0002	< 0.001	< 0.001	0.01	-	< 0.001	0.035	< 0.0001	0.007	-	< 0.005	0.033
Relative Percentage Difference			NC	13%	NC	NC	NC	NC	NC	2%	NC	NC	9%	NC	**111%**	NC	NC	**172%**
TRIPBLANK10_171219	17-Dec-19	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
RINSATE10_171219	17-Dec-19	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
RIP BLANK 13_200133300	16-Jan-20	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
RINSATE 13_2001333009	16-Jan-20	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
BH6_2001333004	16-Jan-20	Primary	<0.001	0.032	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	2.15	<0.001	0.01	<0.0001	<0.001	<0.01	<0.01	<0.005
QW12_2001333012	16-Jan-20	Duplicate	<0.001	0.035	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	2.18	<0.001	0.009	<0.0001	0.001	<0.01	<0.01	<0.005
Relative Percentage Difference			NC	9%	NC	NC	NC	NC	NC	NC	1%	NC	11%	NC	**67%**	NC	NC	NC
BH6_2001333004	16-Jan-20	Primary	<0.001	0.032	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	2.15	<0.001	0.01	<0.0001	<0.001	<0.01	<0.01	<0.005
QW13_14392	16-Jan-20	Triplicate	< 0.001	0.03	< 0.001	< 0.05	< 0.0002	< 0.001	< 0.001	0.004	1.6	< 0.001	0.009	< 0.0001	< 0.001	-	< 0.005	0.012
Relative Percentage Difference			NC	6%	NC	NC	NC	NC	NC	**156%**	29%	NC	11%	NC	NC	NC	NC	**131%**
TRIPBLANK(QW5)	26-Mar-20	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
RINSATE (QW4)	26-Mar-20	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
BH4_ES2010734004	26-Mar-20	Primary	<0.001	0.010	<0.001	<0.05	<0.0001	<0.001	<0.001	0.002	0.20	<0.001	0.014	<0.0001	0.002	<0.01	<0.01	0.024
QW1_ES2010734005	26-Mar-20	Duplicate	<0.001	0.009	<0.001	<0.05	<0.0001	<0.001	<0.001	< 0.001	0.28	<0.001	0.016	<0.0001	0.001	<0.01	<0.01	0.007
Relative Percentage Difference			NC	10.53%	NC	NC	NC	NC	NC	**66.70%**	**33.33%**	NC	13.33%	NC	**67.66%**	NC	NC	**109.68%**
BH4_ES2010734004	26-Mar-20	Primary	<0.001	0.010	<0.001	<0.05	<0.0001	<0.001	<0.001	0.002	0.20	<0.001	0.014	<0.0001	0.002	<0.01	<0.01	0.024
QW2_S20-Ma47338	26-Mar-20	Triplicate	<0.001	0.03	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	0.27	<0.001	0.016	<0.0001	<0.001	0.006	<0.01	0.029
Relative Percentage Difference			NC	**100%**	NC	NC	NC	NC	NC	**120%**	29.79%	NC	13.33%	NC	**120%**	18.18%	NC	18.87%
TRIPBLANK(QW10)	27-Apr-20	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
RINSATE (QW11)	27-Apr-20	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.008**	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
BH4_ES2014254004	27-Apr-20	Primary	<0.001	-	-	-	<0.0001	<0.001	-	0.006	0.22	<0.001	0.026	<0.0001	-	-	-	0.018
QW6_ES2014254005	27-Apr-20	Duplicate	<0.001	-	-	-	<0.0001	<0.001	-	0.011	0.14	<0.001	0.018	<0.0001	-	-	-	0.029
Relative Percentage Difference			NC	-	-	-	NC	NC	-	**58.80%**	**67%**	NC	**36.36%**	NC	-	-	-	**47%**
BH4_ES2014254004	27-Apr-20	Primary	<0.001	-	-	-	<0.0001	<0.001	-	0.006	0.22	<0.001	-	<0.0001	-	-	-	0.018
QW7_S20-Ap44317	27-Apr-20	Triplicate	<0.001	-	-	-	0.0003	<0.001	-	<0.001	0.22	<0.001	-	<0.0001	-	-	-	<0.005
Relative Percentage Difference			NC	-	-	-	**143%**	NC	-	**169%**	NC	NC	-	NC	-	-	-	**198%**
TRIPBLANK(QW17)	15-May-20	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	**0.002**	-	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
RINSATE (QW16)	15-May-20	Rinsate	< 0.001	**0.001**	< 0.001	< 0.05	< 0.0001	< 0.001	<0.001	**0.005**	< 0.05	< 0.001	**0.002**	< 0.0001	< 0.001	< 0.01	< 0.01	**0.012**
BH4_ES2014254004	15-May-20	Primary	<0.001	0.012	<0.001	<0.05	<0.0001	<0.001	<0.001	0.052	0.13	<0.001	0.019	<0.0001	0.004	<0.01	<0.01	0.037
QW12_ES2014254005	15-May-20	Duplicate	<0.001	0.011	<0.001	<0.05	<0.0001	<0.001	<0.001	0.054	0.16	<0.001	0.023	<0.0001	0.001	<0.01	<0.01	0.008
Relative Percentage Difference			NC	8.70%	NC	NC	NC	NC	NC	3.80%	20.70%	NC	**19.05%**	NC	**120%**	NC	NC	**129%**
BH4_ES2016918003	15-May-20	Primary	<0.001	0.012	<0.001	<0.05	<0.0001	<0.001	<0.001	0.052	0.13	<0.001	0.019	<0.0001	0.004	<0.01	<0.01	0.037
QW13_S20-Ap44317	15-May-20	Triplicate	<0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	0.048	-	0.002	0.021	<0.0001	0.001	<0.01	<0.01	0.009
Relative Percentage Difference			NC	**184%**	NC	NC	NC	NC	NC	8%	NC	**120%**	10%	NC	**120%**	NC	NC	**122%**
BH6_ES2010734011	15-May-20	Primary	<0.001	0.045	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	1.89	<0.001	0.01	<0.0001	<0.001	<0.01	<0.01	0.007
QW14_ES2016918014	15-May-20	Duplicate	<0.001	0.044	<0.001	<0.05	<0.0001	<0.001	<0.001	0.014	1.73	<0.001	0.012	<0.0001	0.002	<0.01	<0.01	0.044
Relative Percentage Difference			NC	**2.25%**	NC	NC	NC	NC	NC	**142.11%**	**8.84%**	NC	**18.18%**	NC	**120.00%**	NC	**NC**	**145.10%**
TRIPBLANK(QW18)	19-Jun-29	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
RINSATE (QW19)	19-Jun-29	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
Rinsate (QW20)	16-Jul-20	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
Trip Blank (QW21)	16-Jul-20	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
TRIPBLANK(QW26)	14-Aug-20	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	<0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
RINSATE (QW27)	14-Aug-20	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
SW4_ES2028606-012	14-Aug-20	Primary	< 0.001	0.043	< 0.001	< 0.05	<0.0001	<0.001	0.007	<0.001	0.95	< 0.001	0.087	<0.0001	0.007	<0.01	<0.01	0.04
QW22_ES2028606-013	14-Aug-20	Duplicate	<0.001	0.044	<0.001	<0.05	<0.0001	<0.001	0.006	<0.001	0.98	<0.001	0.089	<0.0001	0.007	<0.01	<0.01	0.039
Relative Percentage Difference			NC	2.30%	NC	NC	NC	NC	15.38%	NC	3.11%	NC	2%	NC	0%	NC	NC	3%
SW4_ES2028606-012	14-Aug-20	Primary	< 0.001	0.043	< 0.001	< 0.05	<0.0001	<0.001	0.007	<0.001	0.95	< 0.001	0.087	<0.0001	0.007	<0.01	<0.01	0.04
QW23_S20-Au26274	14-Aug-20	Triplicate	0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	0.007	0.011	1.1	0.002	0.094	<0.0001	0.007	<0.01	<0.01	0.051
Relative Percentage Difference			**66%**	**195%**	NC	NC	NC	NC	NC	**167%**	15%	**120%**	8%	NC	NC	NC	NC	24%
QW33_160920	16-Sep-20	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
QW32_160920	16-Sep-20	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
SW4_160920	16-Sep-20	Primary	< 0.001	0.041	< 0.001	< 0.05	< 0.0001	< 0.001	0.004	0.005	0.97	< 0.001	0.053	< 0.0001	0.005	< 0.01	< 0.01	0.02
QW28_160920	16-Sep-20	Duplicate	< 0.001	0.042	< 0.001	< 0.05	< 0.0001	< 0.001	0.004	0.006	0.97	< 0.001	0.054	< 0.0001	0.005	< 0.01	< 0.01	0.024
Relative Percentage Difference			NC	2%	NC	NC	NC	NC	0%	18%	0%	NC	2%	NC	0%	NC	NC	18%
SW4_160920	16-Sep-20	Primary	< 0.001	0.041	< 0.001	< 0.05	< 0.0001	< 0.001	0.004	0.005	0.97	< 0.001	0.053	< 0.0001	0.005	< 0.01	< 0.01	0.02
QW29_16092020	16-Sep-20	Triplicate	< 0.001	0.04	< 0.001	0.09	< 0.0002	< 0.001	0.004	0.001	0.93	< 0.001	0.053	< 0.0001	0.003	< 0.001	< 0.005	0.017
Relative Percentage Difference			NC	2%	NC	**57%**	NC	NC	0%	**133%**	4%	NC	0%	NC	**50%**	NC	NC	16%
QW39_161020	16-Oct-20	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
QW38_161020	16-Oct-20	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
SW4_161020	16-Oct-20	Primary	< 0.001	0.03	< 0.001	< 0.05	< 0.0001	< 0.001	0.002	0.001	2.26	< 0.001	0.042	< 0.0001	0.003	< 0.01	< 0.01	0.007
QW34_161020	16-Oct-20	Duplicate	< 0.001	0.028	< 0.001	< 0.05	< 0.0001	< 0.001	0.002	< 0.001	2.32	< 0.001	0.039	< 0.0001	0.002	< 0.01	< 0.01	< 0.005
Relative Percentage Difference			NC	7%	NC	NC	NC	NC	0%	0%	3%	NC	7%	NC	40%	NC	NC	33%
SW4_161020	16-Oct-20	Primary	< 0.001	0.03	< 0.001	< 0.05	< 0.0001	< 0.001	0.002	0.001	2.26	< 0.001	0.042	< 0.0001	0.003	< 0.01	< 0.01	0.007
QW35_16102020	16-Oct-20	Triplicate	< 0.001	0.03	< 0.001	< 0.05	< 0.0002	< 0.001	0.003	< 0.001	2.2	< 0.001	0.045	< 0.0001	0.003	-	< 0.005	0.006
Relative Percentage Difference			NC	0%	NC	NC	NC	NC	40%	0%	3%	NC	7%	NC	0%	NC	NC	15%
QW39_161120	16-Nov-20	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
QW38_161120	16-Nov-20	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
SW4_161120	16-Nov-20	Primary	< 0.001	0.031	< 0.001	< 0.05	< 0.0001	< 0.001	0.004	0.001	1.93	< 0.001	0.074	< 0.0001	0.005	< 0.01	< 0.01	0.016
QW34_161120	16-Nov-20	Duplicate	< 0.001	0.031	< 0.001	< 0.05	< 0.0001	< 0.001	0.004	< 0.001	1.77	< 0.001	0.071	< 0.0001	0.005	< 0.01	< 0.01	0.016
Relative Percentage Difference			NC	0%	NC	NC	NC	NC	0%	0%	9%	NC	4%	NC	0%	NC	NC	0%
SW4_161120	16-Nov-20	Primary	< 0.001	0.031	< 0.001	< 0.05	< 0.0001	< 0.001	0.004	0.001	1.93	< 0.001	0.074	< 0.0001	0.005	< 0.01	< 0.01	0.016
QW35_16112020	16-Nov-20	Triplicate	< 0.001	0.03	< 0.001	< 0.05	< 0.0002	< 0.001	0.004	< 0.001	2.2	< 0.001	0.074	< 0.0001	0.005	-	< 0.005	0.015
Relative Percentage Difference			NC	3%	NC	NC	NC	NC	0%	0%	13%	NC	0%	NC	0%	NC	NC	6%
QW38_161220	16-Dec-20	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
QW39_161220	16-Dec-20	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
SW4_161220	16-Dec-20	Primary	< 0.001	0.017	< 0.001	< 0.05	< 0.0001	0.002	0.001	0.002	32	< 0.001	0.035	< 0.0001	0.002	< 0.01	< 0.01	< 0.005
QW34_161220	16-Dec-20	Duplicate	0.001	0.017	< 0.001	< 0.05	< 0.0001	0.002	0.002	< 0.001	38	< 0.001	0.035	< 0.0001	0.001	< 0.01	< 0.01	< 0.005
Relative Percentage Difference			**66.67%**	0%	NC	NC	NC	0%	**67%**	**67%**	17%	NC	0%	NC	**67%**	NC	NC	NC
SW4_161220	16-Dec-20	Primary	< 0.001	0.017	< 0.001	< 0.05	< 0.0001	0.002	0.001	0.002	32	< 0.001	0.035	< 0.0001	0.002	< 0.01	< 0.01	< 0.005
QW35_16122020	16-Dec-20	Triplicate	0.001	< 0.02	0.001	< 0.05	< 0.0002	0.002	0.002	< 0.001	34	< 0.001	0.034	< 0.0001	0.002	< 0.001	< 0.005	< 0.005
Relative Percentage Difference			**66.67%**	16%	**66.67%**	NC	NC	0%	**67%**	**67%**	6%	NC	3%	NC	0%	NC	NC	NC

Table QC2
Quality Control Sample Analysis - Metals
Williamtown Sand Syndicate

QW39_140121	14-Jan-21	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
QW38_140121	14-Jan-21	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
SW4_140121	14-Jan-21	Primary	0.002	0.028	< 0.001	< 0.05	< 0.0001	0.002	0.003	0.026	20	< 0.001	0.171	< 0.0001	0.005	< 0.01	< 0.01	0.013
QW34_140121	14-Jan-21	Duplicate	0.001	0.028	< 0.001	< 0.05	< 0.0001	< 0.001	0.003	< 0.001	22	< 0.001	0.176	< 0.0001	0.002	< 0.01	< 0.01	< 0.005
Relative Percentage Difference			**67%**	0%	NC	NC	NC	**67%**	0%	**185%**	11%	NC	3%	NC	**86%**	NC	NC	**89%**
SW4_140121	14-Jan-21	Primary	0.002	0.028	< 0.001	< 0.05	< 0.0001	0.002	0.003	0.026	20	< 0.001	0.171	< 0.0001	0.005	< 0.01	< 0.01	0.013
QW35_140121	14-Jan-21	Triplicate	0.002	0.03	< 0.001	< 0.05	< 0.0002	0.002	0.004	< 0.001	25	< 0.001	0.19	< 0.0001	0.004	-	< 0.005	< 0.005
Relative Percentage Difference			0%	7%	NC	NC	NC	0%	29%	**185%**	22%	NC	11%	NC	22%	NC	NC	**89%**
QW38_160221	16-Feb-21	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
QW39_160221	16-Feb-21	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
SW4_160221	16-Feb-21	Primary	0.003	0.02	< 0.001	< 0.05	< 0.0001	0.003	0.001	< 0.001	27	< 0.001	0.054	< 0.0001	0.002	< 0.01	< 0.01	0.01
QW34_160221	16-Feb-21	Duplicate	0.003	0.019	< 0.001	< 0.05	< 0.0001	0.004	0.001	< 0.001	27	< 0.001	0.054	< 0.0001	0.002	< 0.01	< 0.01	0.008
Relative Percentage Difference			0%	5%	NC	NC	NC	29%	0%	NC	0%	NC	0%	NC	0%	NC	NC	22%
SW4_160221	16-Feb-21	Primary	0.003	0.02	< 0.001	< 0.05	< 0.0001	0.003	0.001	< 0.001	27	< 0.001	0.054	< 0.0001	0.002	< 0.01	< 0.01	0.01
QW35_16022021	16-Feb-21	Triplicate	0.004	< 0.02	< 0.001	< 0.05	< 0.0002	0.003	0.002	0.002	32	< 0.001	0.065	< 0.0001	< 0.001	-	0.012	0.005
Relative Percentage Difference			29%	0%	NC	NC	NC	0%	**67%**	**67%**	17%	NC	18%	NC	**67%**	NC	18%	**67%**
QW40_170321	17-Mar-21	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
QW41_170321	17-Mar-21	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
QW46_220421	22-Apr-21	Trip Blank	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
QW47_220421	22-Apr-21	Rinsate	< 0.001	< 0.001	< 0.001	< 0.05	< 0.0001	< 0.001	< 0.001	< 0.001	< 0.05	< 0.001	< 0.001	< 0.0001	< 0.001	< 0.01	< 0.01	< 0.005
SW4_220421	22-Apr-21	Primary	0.006	0.02	< 0.001	< 0.05	< 0.0001	0.004	0.002	< 0.001	34	< 0.001	0.062	< 0.0001	0.003	< 0.01	< 0.01	< 0.005
QW42_220421	22-Apr-21	Duplicate	0.005	0.02	< 0.001	< 0.05	< 0.0001	0.003	0.002	< 0.001	34	< 0.001	0.064	< 0.0001	0.003	< 0.01	< 0.01	< 0.005
Relative Percentage Difference			18.18%	0%	NC	NC	NC	29%	0%	NC	0%	NC	3%	NC	0%	NC	NC	NC
SW4_220421	22-Apr-21	Primary	0.006	0.02	< 0.001	< 0.05	< 0.0001	0.004	0.002	< 0.001	34	< 0.001	0.062	< 0.0001	0.003	< 0.01	< 0.01	< 0.005
QW43_220421	22-Apr-21	Triplicate	0.006	0.02	< 0.001	0.07	< 0.0002	0.004	0.003	< 0.001	44	< 0.001	0.074	< 0.0001	0.002	-	< 0.005	< 0.005
Relative Percentage Difference			0%	0%	NC	**95%**	NC	0%	**40%**	NC	26%	NC	18%	NC	**40%**	NC	NC	NC
TRIP BLANK MAY_200521	20-May-21	Trip Blank	<0.001	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.05	<0.001	<0.001	<0.0001	<0.001	<0.01	<0.01	<0.005
RINSATE MAY_200521	20-May-21	Rinsate	<0.001	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.05	<0.001	<0.001	<0.0001	<0.001	<0.01	<0.01	<0.005
SW4_200521	20-May-21	Primary	0.002	0.015	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	10.1	<0.001	0.073	<0.0001	<0.001	<0.01	<0.01	<0.005
QW51_200521	20-May-21	Duplicate	0.001	0.016	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	9.85	<0.001	0.083	<0.0001	<0.001	<0.01	<0.01	<0.005
Relative Percentage Difference			**67%**	6%	NC	NC	NC	NC	NC	NC	3%	NC	13%	NC	NC	NC	NC	NC
SW4_200521	20-May-21	Primary	0.002	0.015	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	10.1	<0.001	0.073	<0.0001	<0.001	<0.01	<0.01	<0.005
QW48_200521	20-May-21	Triplicate	0.001	<0.02	<0.001	0.11	<0.0002	<0.001	<0.001	<0.001	9.1	<0.001	0.068	<0.0001	<0.001	-	<0.005	<0.005
Relative Percentage Difference			**67%**	**40%**	NC	**126%**	NC	NC	NC	NC	10%	NC	7%	NC	NC	NC	NC	NC
Trip Blank June_180621	18-Jun-21	Trip Blank	<0.001	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.05	<0.001	<0.001	<0.0001	<0.001	<0.01	<0.01	<0.005
Rinsate June_180621	18-Jun-21	Rinsate	<0.001	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.05	<0.001	<0.001	<0.0001	<0.001	<0.01	<0.01	<0.005
SW3_180621	18-Jun-21	Primary	0.001	0.003	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	10.5	<0.001	0.024	<0.0001	<0.001	<0.01	<0.01	<0.005
QW52_180621	18-Jun-21	Duplicate	<0.001	0.004	<0.001	<0.05	<0.0001	0.001	<0.001	<0.001	10.6	<0.001	0.027	<0.0001	<0.001	<0.01	<0.01	<0.005
Relative Percentage Difference			**67%**	29%	NC	NC	NC	**67%**	NC	NC	1%	NC	12%	NC	NC	NC	NC	NC
SW3_180621	18-Jun-21	Primary	0.001	0.003	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	10.5	<0.001	0.024	<0.0001	<0.001	<0.01	<0.01	<0.005
QW53_180621	18-Jun-21	Triplicate	0.002	<0.02	<0.001	<0.05	<0.0002	0.002	<0.001	0.002	10	0.001	0.024	<0.0001	<0.001	-	0.02	0.006
Relative Percentage Difference			**67%**	**108%**	NC	NC	NC	**120%**	NC	**120%**	10%	**67%**	0%	NC	NC	NC	**120%**	**82.35%**
TRIP BLANK_JULY_150721	15-Jul-21	Trip Blank	<0.001	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.05	<0.001	<0.001	<0.0001	<0.001	<0.01	<0.01	<0.005
RINSATE_JULY_150721	15-Jul-21	Rinsate	<0.001	<0.001	<0.001	<0.05	<0.0001	<0.001	<0.001	<0.001	<0.05	<0.001	<0.001	<0.0001	<0.001	<0.01	<0.01	<0.005
SW4_150721	15-Jul-21	Primary	<0.001	0.019	<0.001	<0.05	<0.0001	<0.001	0.001	<0.001	1.15	<0.001	0.044	<0.0001	0.001	<0.01	<0.01	0.007
QW56_150721	15-Jul-21	Duplicate	<0.001	0.022	<0.001	<0.05	<0.0001	<0.001	0.001	<0.001	1.13	<0.001	0.045	<0.0001	0.001	<0.01	<0.01	0.01
Relative Percentage Difference			NC	15%	NC	NC	NC	NC	0%	NC	2%	NC	2%	NC	0%	NC	NC	35%
SW4_150721	15-Jul-21	Primary	<0.001	0.019	<0.001	<0.05	<0.0001	<0.001	0.001	<0.001	1.15	<0.001	0.044	<0.0001	0.001	<0.01	<0.01	0.007
QW57_150721	15-Jul-21	Triplicate	<0.001	<0.02	<0.001	<0.05	<0.0002	<0.001	0.001	<0.001	0.83	<0.001	0.043	<0.0001	0.001	-	<0.005	0.008
Relative Percentage Difference			NC	**62%**	NC	NC	NC	NC	0%	NC	32%	NC	2%	NC	0%	NC	NC	13.30%

Table QC3
Quality Control Sample Analysis - PFAS
Willemstown Solvit Syndicate

Analyte	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)	Perfluorodecanoic acid (PFDA)	Perfluorononanoic acid (PFNA)	Perfluoroundecanoic acid (PFUnA)	Perfluorododecanoic acid (PFDoA)	Perfluorotridecanoic acid (PFTrDA)	Perfluorotetradecanoic acid (PFTeDA)	N-Methyl perfluorooctane sulfonamide (NMeFOSA)	N-Ethyl perfluorooctane sulfonamide (NEtFOSA)	N-Methyl perfluorooctane sulfonamidoethanol (NMeFOSE)	N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE)	N-Methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	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 PFAS and PFOS	Sum of PFAS (WA DER List)	Sum of PFAS
LOR	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Sample Name	Sample Date	Sample Type																												
TRIP BLANK 20220318	18-Mar-19	Trip Blank	<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
RINSATE 20220319	21-Mar-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
TRIP BLANK 20220319	21-Mar-19	Trip Blank	<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
DUP01_20220319	21-Mar-19	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
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
BHF 20220319	21-Mar-19	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
TRIP02_20220319	21-Mar-19	Trip Blank	<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
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
TRIP BLANK 190319	19-Mar-19	Trip Blank	<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
TRIP BLANK02_190319	19-Mar-19	Trip Blank	<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
RINSATE 190319	19-Mar-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
BHF 190319	19-Mar-19	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
DUP02 190319	19-Mar-19	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
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
BHF 190319	19-Mar-19	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
TRIP01_190319	19-Mar-19	Trip Blank	<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	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05
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
TRIP BLANK 01	22-Apr-19	Trip Blank	<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
RINSATE 01	22-Apr-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
TRIP BLANK 04	16-Mar-19	Trip Blank	<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
RINSATE 04	16-Mar-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
TRIP BLANK 05_190319	14-Jun-19	Trip Blank	<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
RINSATE 05_190319	14-Jun-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
TRIP BLANK 06 190319	30-Jul-19	Trip Blank	<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
RINSATE 06 190319	30-Jul-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
TRIP BLANK 08 190319	16-Sep-19	Trip Blank	<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
RINSATE 08 190319	16-Sep-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
BHF 190319	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	0.01	0.01	0.01	0.02
DUP08 190319	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	0.01	0.01	0.01	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	0%	0%	0%	2%
BHF 190319	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	0.01	0.01	0.01	0.02
TRIP08_190319	16-Sep-19	Trip Blank	<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
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	100%	80%	113%	0%
TRIP BLANK 09 191109	25-Nov-19	Trip Blank	<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
RINSATE 09_191109	25-Nov-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
TRIPBLANK05_191118	18-Nov-19	Trip Blank	<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
RINSATE05_191118	18-Nov-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
BHF 191118	18-Nov-19	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
DUP05 191118	18-Nov-19	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
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
BHF 191118	18-Nov-19	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
TRIP05_191109	25-Nov-19	Trip Blank	<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	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05
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
TRIPBLANK06_171119	17-Dec-19	Trip Blank	<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
RINSATE06_171119	17-Dec-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
TRIP BLANK 10_200110391	16-Jan-20	Trip Blank	<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
RINSATE 10_200110391	16-Jan-20	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
BHF 200110391	16-Jan-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
DUP12_200110391	16-Jan-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
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
BHF 200110391	16-Jan-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
TRIP06_200110391	16-Jan-20	Trip Blank	<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	<0.05	<0.01	<0.05	<0.05	<0.05	<0.05	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05
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	50%	50%	100%	0%
BHF 200110391	16-Jan-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
DUP07_200211	20-Feb-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
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
BHF 200211	20-Feb-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
TRIP07_200211	20-Feb-20	Trip Blank	<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
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
TRIP BLANK 09A 200221	20-Mar-20	Trip Blank	<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
RINSATE 09A 200221	20-Mar-20	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
BHF 200221	20-Mar-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
DUP09_200221	20-Mar-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
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	0%	0%	0%	0%
BHF 200221	20-Mar-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
TRIP09_200221	20-Mar-20	Trip Blank	<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
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	0%	0%	0%	0%
Trip Blank June 190621	18-Jun-21	Trip Blank	<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
Rinsate June 190621	18-Jun-21	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
BHF 190621	18-Jun-21	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
DUP13_190621	18-Jun-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
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	0%	0%	0%	0%
BHF 190621	18-Jun-21	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
TRIP BLANK SLV 190701	25-Jul-21	Trip Blank	<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
RINSATE_SLV_190701	25-Jul-21	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
BHF 190701	25-Jul-21	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
DUP08_190701	25-Jul-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
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	0%	0%	0%	0%

Notes:
LOR - Limit Of Reporting
NC - Not Calculated
LOR - Minimum Value Of Blank

	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	830	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	2.495	8.12	1315	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	1220	20.57	150	5.42	25.6	Very light brown, no odour.
Jun-19	BH1	8.64	6.375	2.265	8.12	1230	19.97	111	6.43	33.6	Clear, no odour.
Jul-19	BH1	8.64	6.373	2.267	8.12	1145	18.4	122	5.42	51	Slightly cloudy, no apparent odour
Aug-19	BH1	8.64	6.453	2.187	8.12	1145	19.69	165	5.47	103	Slightly cloudy, slight sulfur odour
Sep-19	BH1	8.64	6.428	2.212	8.28	1130	21.02	125	5.43	101	Slightly cloudy brown, no odour
Oct-19	BH1	8.64	6.427	2.213	8.28	1140	21.12	18	5.5	78	Slightly cloudy brown, no odour
Nov-19	BH1	8.64	6.432	2.208	8.28	1350	21.56	182	5.43	67.3	Cloudy brown, sulfur odour
Dec-19	BH1	8.64	6.558	2.028	8.28	1225	20.53	163	6.12	15.2	Slight cloudy brown, no odour
Jan-20	BH1	8.64	6.701	1.939	8.28	1145	22.52	123	5.39	27.7	Slight cloudy brown, no odour
Feb-20	BH1	8.64	6.701	1.939	8.28	1145	22.52	123	5.39	27.7	Slight cloudy brown, no odour
Mar-20	BH1	8.64	6.701	1.939	8.28	1145	22.52	123	5.39	27.7	Slight cloudy brown, no odour
Apr-20	BH1		6.08		8.28		20	126.2	5.34	122.4	
May-20	BH1	8.64	6.842	1.798	8.28	1145	19.1	132.3	5.21	135.3	Slight cloudy brown, no odour
Jun-20	BH1	8.64	6.865	1.775	8.28	1145	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				1300	21.1	345	5.96	51.8	clear, sulfur odour
Mar-21	BH1	8.64	5.923	2.717		1300	21	152	5.84	-18	Clear, no odour
Apr-21	BH1	8.64	4.628	4.012	8.25	915	20.32	51	4.88	225	Very light brown, no odour
May-21	BH1	8.64	4.844	3.796		1330	19.6	141	5.36	144	Clear, no odour, well cap missing
Jun-21	BH1	8.64	5.021	3.619	8.25	1300	19.2	132	5.42	35.2	Clear, no odour / sheen
Jul-21	BH1	8.64	5.113	3.527	8.212	1258	18.9	62	4.48	297.7	Deep yellow / brown, no odour / sheen, well cap hinge broken
Feb-19	BH2*	7.79	5.674	2.116	8.93	1030	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	915	19.35	101	4.49	264	Dark brown – No Odour.
Apr-19	BH2	7.79	5.833	1.957	9.02	1245	22.9	87	4.59	308	Dark brown to black, no odour
May-19	BH2	7.79	5.86	1.93	9.02	1200	21.13	124	4.56	111	Dark brown, no odour
Jun-19	BH2	7.79	8.852	-1.062	9.02	1215	20.84	77	6.41	255	Very cloudy, dark brown, no odour
Jul-19	BH2	7.79	5.083	2.707	9.02	1130	18.3	124.5	4.76	88	Dark, cloudy, no odour
Aug-19	BH2	7.79	5.888	1.902	9.02	1120	19.66	136	4.7	275	Silty Base, dark brown, no odour
Sep-19	BH2	7.79	5.796	1.994	9.08	1100	21.61	111	4.7	263	Dark brown, slight sulfur odour
Oct-19	BH2	7.79	5.769	2.021	9.03	1115	20.76	48	4.83	223	Dark brown, slight sulfur odour
Nov-19	BH2	7.79	5.721	2.069	9.03	1330	21.76	133	4.61	230	Dark brown, slight sulfur odour
Dec-19	BH2	7.79	5.936	1.854	9.03	1200	20.13	131	5.38	178	Dark brown, slight sulfur odour
Jan-20	BH2	7.79	6.153	1.637	9.03	1130	24.49	94	4.84	186.5	Cloudy brown, slight sulfur odour
Feb-20	BH2	7.79	6.153	1.637	9.03	1130	24.49	94	4.84	186.5	Cloudy brown, slight sulfur odour
Mar-20	BH2	7.79	6.153	1.637	9.03	1130	24.49	94	4.84	186.5	Cloudy brown, slight sulfur odour
Apr-20	BH2		6.069		9.03		20.2	106.4	4.63	253.2	
May-20	BH2	7.79	5.102	2.688	9.03	1130	18.7	109.9	4.5	272.2	Cloudy brown, slight sulfur odour
Jun-20	BH2	7.79	5.978	1.812	9.03	1130	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	2.76	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	2.43	9.45		23.5	229	5.69	232.1	Dark brown, sulphur odour
Feb-21	BH2	7.79				1245	22.6	279	5.58	170.7	light brown, sulfur odour
Mar-21	BH2	7.79	5.244			1240	21.4	114	5.62	140	very cloudy brown
Apr-21	BH2	7.79	4.326	3.464	8.97	845	20.66	59.57	4.73	250	Light brown, no odour
May-21	BH2	7.79	4.535	3.255		1305	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	1245	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	1235	18.9	91	4.74	216.5	Medium brown, no odour / sheen, well in good condition
Feb-19	BH3	7.57	6.026	1.544	8.94	1440	22.1	82.4	4.54	94	Light Brown - No Odour.
Mar-19	BH3	7.57	6.146	1.544	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										Well Decommissioned
Feb-19	BH4	3.06	1.994	1.066	5.92	1420	20.4	129.2	3.85	135	light discolouration – Brown.
Mar-19	BH4	3.06	2.091	0.969	5.92	950	18.92	79	4.52	311	Light Brown – No Odour.
Apr-19	BH4	3.06	1.878	1.182	5.92	1210	21.43	43	4.88	269.9	Cloudy, no odour.
May-19	BH4	3.06	1.847	1.213	5.92	1145	20.14	110	4.65	98.5	Stained brown, no odour.
Jun-19	BH4	3.06	1.723	1.337	5.92	1145	19.01	55	6.41	321.9	Mildly cloudy, no odour.
Jul-19	BH4	3.06	1.617	1.443	5.92	1100	17.6	91.5	4.78	88	Cloudy, no odour.
Aug-19	BH4	3.06	1.736	1.324	5.92	1100	17.96	102	4.76	266	Slightly Cloudy brown
Sep-19	BH4	3.06	1.604	1.456	6.11	1245	20.53	96	4.27	251	Clear, no odour
Oct-19	BH4	3.06	1.531	1.529	6.11	1030	19.18	8	4.93	221	Clear, no odour
Nov-19	BH4	3.06	1.624	1.436	6.11	1010	21.07	95	4.53	290	Cloudy brown, slight sulfur odour
Dec-19	BH4	3.06	2.051	1.009	6.11	1145	20.93	109	6.49	174	Slight cloudy brown, no odour
Jan-20	BH4	3.06	2.252	0.808	6.11	1100	23.3	85	4.63	221	Slight cloudy brown, no odour
Feb-20	BH4	3.06	2.252	0.808	6.11	1100	23.3	85	4.63	221	Slight cloudy brown, no odour
Mar-20	BH4	3.06	2.252	0.808	6.11	1100	23.3	85	4.63	221	Slight cloudy brown, no odour
Apr-20	BH4		1.881		6.11		19	132.1	5.04	206.3	
May-20	BH4	3.06	1.85	1.21	6.11	1100	18.1	174.8	4.78	282.7	Slight cloudy brown, no odour
Jun-20	BH4	3.06	1.494	1.566	6.11	1100	18.5	165.3	4.76	217.2	Slightly brown, no odour
Jul-20	BH4	3.06	1.47	1.59	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	1.75	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				1115	22.9	1693	5.96	-124.9	clear, sulfur odour
Mar-21	BH4	3.06	1.098	1.962		1150	20.7	586	5.9	-170	slight brown stain, sulfur odour
Apr-21	BH4	3.06	0.854	2.206	6.01	800	17.29	135	4.78	208	Light brown, no odour
May-21	BH4	3.06	0.94	2.12		1220	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	1202	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	1149	15.9	2.2	4.55	252	Slight cloudy yellow, no odour / sheen, well in good condition
Feb-19	BH5	7.36	6.063	1.297	8.63	830	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.

	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-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		6.061		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	1.045	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									No sample taken
Mar-21	BH5	7.36	5.316	2.044							No sample taken
Apr-21	BH5	7.36	5.174	2.186	8.8	1010	ND	ND	ND	ND	No sample taken
May-21	BH5	7.36	5.226	2.134		915	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
Feb-19	BH6	3.62	1.823	1.797	4.43	850	23.1	228	4.28	111	Clear to slightly cloudy, sulfur odour.
Mar-19	BH6	3.62	1.913	1.707	4.44	1415	23.17	159	4.74	178	Brown – No Odour.
Apr-19	BH6	3.62	1.761	1.859	4.52	1510	22.03	144	4.52	140.1	Cloudy with slight sulfur odour.
May-19	BH6	3.62	1.766	1.854	4.52	1415	20.62	226	4.7	-5.2	Light brown, no odour.
Jun-19	BH6	3.62	1.713	1.907	4.52	1410	19.73	176	5.45	-104.7	Cloudy, slight sulfur odour
Jul-19	BH6	3.62	1.591	2.029	4.52	1330	17.2	191	4.54	101	Slightly cloudy, no odour
Aug-19	BH6	3.62	1.723	1.897	4.52	1330	18.32	277	4.69	140	Slight brown colour, slight sulfur odour
Sep-19	BH6	3.62	1.647	1.973	4.62	1515	18.66	215	4.61	57	Clear, slight odour
Oct-19	BH6	3.62	1.628	1.992	4.62	1530	21.09	110	5.05	-144	Slight brown colour, slight sulfur odour
Nov-19	BH6	3.62	1.657	1.963	4.62	1230	23.12	335	4.8	6.4	Cloudy brown, slight sulfur odour
Dec-19	BH6	3.62	2.009	1.611	4.62	1345	21.96	256	5.52	-86.2	Mostly clear, slight sulfur odour
Jan-20	BH6	3.62	2.169	1.451	4.62	1320	24.62	190	4.39	92	Brown, no odour
Feb-20	BH6	3.62	2.169	1.451	4.62	1320	24.62	190	4.39	92	Brown, no odour
Mar-20	BH6	3.62	2.169	1.451	4.62	1320	24.62	190	4.39	92	Brown, no odour
Apr-20	BH6		2.033		4.62		20.7	232.2	4.68	138.4	
May-20	BH6	3.62	2.065	1.555	4.62	1320	19.2	305.8	4.5	138.7	Brown, no odour
Jun-20	BH6	3.62	1.798	1.822	4.62	1320	20.1	447.8	4.74	-33.3	Clear, no odour
Jul-20	BH6	3.62	1.728	1.451	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	2.33	4.95		24.2	859	4.96	-94.8	Clear, sulphur odour
Feb-21	BH6	3.62				1410	2	1160	5.23	-167.9	Ants nest in casing, clear, sulfur odour
Mar-21	BH6	3.62	0.977	2.643			22.9	495	5.23	-172	clear, slight sulfur odour
Apr-21	BH6	3.62	0.813	2.807	4.52	1015	18.56	307	4.35	-3.8	Clear, strong sulphur odour
May-21	BH6	3.62	0.857	2.763		1440	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	1407	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	1445	15.3	134.1	4.79	-94.1	condition
Feb-19	BH7	2.98	1.938	1.042	4.42	920	23.7	283	4.04	125	Slightly Cloudy, light brown, slight sulfur odour.
Mar-19	BH7	2.98	2.015	0.965	4.42	1330	25	251	4.34	179	Slightly Cloudy, light brown, slight sulfur odour.
Apr-19	BH7	2.98	1.744	1.236	4.51	1530	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	1445	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	1430	19.56	217	5.47	-227.9	Slightly cloudy sulfur odour.
Jul-19	BH7	2.98	1.544	1.436	4.51	1400	17.2	228	4.58	100	Slightly cloudy sulfur odour.
Aug-19	BH7	2.98	1.649	1.331	4.51	1345	17.71	329	4.88	55	Cloudy brown, sulfur odour
Sep-19	BH7	2.98	1.542	1.438	4.61	1415	18.34	232	4.73	-22	Light brown, sulfur odour
Oct-19	BH7	2.98	1.514	1.466	4.61	1350	21.79	183	4.89	-139	Slightly Cloudy, light brown, slight sulfur odour.
Nov-19	BH7	2.98	1.588	1.392	4.61	1210	21.79	391	4.6	13.1	Cloudy brown, slight sulfur odour.
Dec-19	BH7	2.98	1.989	0.991	4.61	1400	21.87	292	5.93	-92.6	Cloudy brown, slight sulfur odour.
Jan-20	BH7	2.98	2.169	0.811	4.61	1410	22.39	164	4.45	23.1	Light brown, slight sulfur odour.
Feb-20	BH7	2.98	2.169	0.811	4.61	1410	22.39	164	4.45	23.1	Light brown, slight sulfur odour.
Mar-20	BH7	2.98	2.169	0.811	4.61	1410	22.39	164	4.45	23.1	Light brown, slight sulfur odour.
Apr-20	BH7		1.813		4.61		20.8	190	4.88	-71.2	
May-20	BH7	2.98	1.813	1.167	4.61	1410	19	196.3	4.63	-34.4	Light brown, slight sulfur odour.
Jun-20	BH7	2.98	1.471	1.509	4.61	1410	18.5	170	4.89	-70.3	Light brown, sulphur odour.
Jul-20	BH7	2.98	1.43	1.59	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				1435	24.1	892	5.02	-146.3	light brown, sulfur odour
Mar-21	BH7	2.98	1.174	1.806			22.8	350	5.1	-137	clear, sulfur odour
Apr-21	BH7	2.98	1.095	1.885	4.53	1025	18.21	348	4.46	-35	Slight yellow, strong sulphur odour
May-21	BH7	2.98	1.114	1.866		1450	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	1441	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	1510	15.5	101.4	4.82	-50.6	Light brown, slight sulphur odour, no sheen, well in good condition
Feb-19	BH8	3.88	2.78	1.1	6.08	1330	21.8	411	4.09	121	Sulfur smell - Dark Brown.
Mar-19	BH8	3.88	2.864	1.016	6.09	1300	21.54	307	4.96	176	Sulfur smell - cloudy
Apr-19	BH8	3.88	2.511	1.369	6.18	1600	20.66	300	4.53	17.6	Sulfur smell - cloudy
May-19	BH8	3.88	2.511	1.369	6.18	1500	20.86	298	4.74	-75	Sulfur smell - cloudy
Jun-19	BH8	3.88	2.346	1.534	6.18	1440	18.78	289	7.43	-340.8	Dark brown cloudy, sulfur odour
Jul-19	BH8	3.88	2.266	1.614	6.18	1430	16.8	347	4.55	101	Cloudy brown, sulfur odour
Aug-19	BH8	3.88	2.406	1.474	6.18	1415	18.2	374	4.66	27	Cloudy brown, sulfur odour
Sep-19	BH8	3.88	2.282	1.598	6.27	1330	18.64	300	4.72	-10	Dark brown cloudy, sulfur odour
Oct-19	BH8	3.88	2.233	1.647	6.28	1415	20.44	224	4.89	-160	Dark brown cloudy, sulfur odour
Nov-19	BH8	3.88	2.312	1.568	6.28	1450	22.5	545	4.51	-28.8	Cloudy brown, sulfur odour
Dec-19	BH8	3.88	2.778	1.102	6.28	1430	22.05	995	6.16	-96.8	Cloudy brown, sulfur odour
Jan-20	BH8	3.88	2.969	0.911	6.28	1440	21.99	284	4.08	45.6	Cloudy brown, sulfur odour
Feb-20	BH8	3.88	2.969	0.911	6.28	1440	21.99	284	4.08	45.6	Cloudy brown, sulfur odour
Mar-20	BH8	3.88	2.969	0.911	6.28	1440	21.99	284	4.08	45.6	Cloudy brown, sulfur odour
Apr-20	BH8		2.549		6.28		19.8	218.7	4.65	-70.6	
May-20	BH8	3.88	2.489	1.391	6.28	1440	18.2	242.6	4.49	-42.2	Cloudy brown, sulfur odour
Jun-20	BH8	3.88	2.058	1.822	6.28	1440	17	282.9	4.8	-50.9	Light brown, no odour
Jul-20	BH8	3.88	2.02	1.86	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				1500	20.7	1105	5.26	-167.6	
Mar-21	BH8	3.88	1.801	2.079			21.3	366	5.002	-159	slight cloudy brown, sulfur odour
Apr-21	BH8	3.88	1.765	2.115	6.1	1032	17.9	280	3.92	9.4	Slight yellow, strong sulphur odour
May-21	BH8	3.88	1.8	2.08		1500	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	1420	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	1530	16.3	159.3	4.71	72.2	Medium brown, slight sulphur odour, no sheen, well in good condition
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.

	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
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		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
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	1.49	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				1200	22.5	609	5.46	-141.8	dark brown, sulfur odour
Mar-21	BH9A	10.25	8.713	1.537		1215	20.4	214	5.72	-161	cloudy brown, sulfur odour
Apr-21	BH9A	10.25	8.389	1.861	12.44	824	18.45	182.2	4.79	234	Dark brown, sulphur odour
May-21	BH9A	10.25	8.523	1.727		1240	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	1230	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	1215	18.6	92.5	4.67	193	Moderate brown, slight sulphur odour, no sheen, well in good condition
Feb-19	BH10	6.69	Dry	-	3.58						Well was dry.
Mar-19	BH10	6.69	Dry	-	3.58					179	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	1400	22.65	324	4.62	34	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				3.58						
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	-	5.45						Well was dry.
Nov-20	BH10	6.69	Dry	-	5.45						Well was dry.
Dec-20	BH10	6.69	Dry	-	5.45						Well was dry.
Jan-21	BH10	6.69	Dry	-	5.45						Well was dry.
Feb-21	BH10	6.69	DRY								Well was dry.
Mar-21	BH10	6.69	DRY								Well was dry.
Apr-21	BH10	6.69	2.464	4.226	3.46	900	19.75	245.7	5.05	35.2	Light brown, sulphur odour
May-21	BH10	6.69	2.591	4.099		1320	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	1105	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	820	16	284.5	4.61	52	Clear, strong sulphur odour, no sheen, well in good condition
Feb-19	BH11	6.63	3.02	3.61	5.21						Brown - No Odour.
Mar-19	BH11	6.63	3.181	3.02	5.21	745	18.87	168	4.95	10	Light Brown – Slight Odour.
Apr-19	BH11	6.63	3.254	3.376	5.29	1345	21.64	155	4.75	78.3	Cloudy, slight sulfur smell
May-19	BH11	6.63	3.311	3.319	5.29	1245	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	1250	18.93	185	6.41	-78.5	Cloudy with sulfur odour
Jul-19	BH11	6.63	3.348	3.282	5.29	1215	16.9	296	4.53	101	Cloudy no odour
Aug-19	BH11	6.63	3.503	3.127	5.29	1215	17.66	261	4.74	126	Cloudy light brown, sulfur odour
Sep-19	BH11	6.63	3.546	3.084	5.39	1200	20.26	195	4.64	31.2	Cloudy light brown, sulfur odour
Oct-19	BH11	6.63	3.586	3.044	5.39	1205	19.93	124	4.83	-117	Cloudy light brown, sulfur odour
Nov-19	BH11	6.63	3.621	3.009	5.39						Cloudy light brown, sulfur odour
Dec-19	BH11	6.63	3.859	2.771	5.39	1300	20.55	239	5.42	-60.7	Cloudy brown, sulfur odour
Jan-20	BH11	6.63	3.962	2.668	5.39	1215	22.37	129	4.61	42	Cloudy brown, sulfur odour
Feb-20	BH11	6.63	3.962	2.668	5.39	1215	22.37	129	4.61	42	Cloudy brown, sulfur odour
Mar-20	BH11	6.63	3.962	2.668	5.39	1215	22.37	129	4.61	42	Cloudy brown, sulfur odour
Apr-20	BH11		4.087		5.39		20	140.4	4.84	-39.7	
May-20	BH11	6.63	4.241	2.389	5.39	1215	18.2	147.4	4.69	-65.4	Cloudy brown, sulfur odour
Jun-20	BH11	6.63	4.343	2.87	5.39	1215	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				1315	21.1	68	5.3	-107.4	light brown, slight odour
Mar-21	BH11	6.63	3.143	3.487		1325	20.8	291	5.43	-95	Clear, no odour
Apr-21	BH11	6.63	1.839	4.791	5.29	927	18.87	160	4.47	224	Light yellow, slight sulphur odour
May-21	BH11	6.63	1.86	4.77		1350	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	1320	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	1342	16.9	178	4.54	162	Light yellow, no odour, no sheen, well in good condition
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	1.78	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		7.149		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

	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-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				1335	21.5	534	5.73	-172.9	Well damaged, clear, sulfur odour
Mar-21	BH12	8.67	6.364	2.306		1345	20.6	211	5.77	-186	Clear, no odour
Apr-21	BH12	8.67	5.82	2.85	8.22	945	20	201	5.65	196	Clear, no odour
May-21	BH12	8.67	5.938	2.732		1415	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	1337	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
Feb-19	MW239S	3.04	1.529	1.511	3.89	730	21.7	526	4.09	121	Light Brown - Slight Sulfur odour.
Mar-19	MW239S	3.04	1.615	1.425	3.89	1445	23.1	323	4.43		Dark Brown - Slight Sulfur odour.
Apr-19	MW239S	3.04	1.421	1.619	3.89	1445	21.43	352	4.72	45.3	Light Brown - Slight Sulfur odour
May-19	MW239S	3.04	1.412	1.628	3.89	1345	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	1350	19.3	305	5.7	-117.9	Cloudy, sulfur odour.
Jul-19	MW239S	3.04	1.262	1.778	3.89	1315	15.8	37	4.67	94	Cloudy, sulfur odour.
Aug-19	MW239S	3.04	1.352	1.688	3.89	1300	17.99	530	4.75	72.8	Dark Brown - Slight Sulfur odour.
Sep-19	MW239S	3.04	1.269	1.771	3.89	1430	17.56	397	4.61	-11	Cloudy Brown, Sulfur odour.
Oct-19	MW239S	3.04	1.248	1.792	4.06	1300	20.87	331	4.81	-132	Cloudy Brown, Sulfur odour.
Nov-19	MW239S	3.04	1.256	1.784	4.06	1300	21.18	718	4.58	-17.6	Cloudy brown, sulfur odour
Dec-19	MW239S	3.04	1.648	1.392	4.06	1315	20.33	523	5.64	-104.7	Cloudy brown, sulfur odour
Jan-20	MW239S	3.04	1.823	1.217	4.06	1250	24.71	396	4.59	16.1	Dark brown, sulfur odour
Feb-20	MW239S	3.04	1.823	1.217	4.06	1250	24.71	396	4.59	16.1	Dark brown, sulfur odour
Mar-20	MW239S	3.04	1.823	1.217	4.06	1250	24.71	396	4.59	16.1	Dark brown, sulfur odour
Apr-20	MW239S		1.576		4.06		20.3	293.7	4.74	-77.4	
May-20	MW239S	3.04	1.578	1.462	4.06	1250	18.4	409	4.32	-53.9	Dark brown, sulfur odour
Jun-20	MW239S	3.04	1.326	1.714	4.06	1250	15.4	474.9	4.73	-52.9	Dark brown, sulfur odour
Jul-20	MW239S	3.04	1.3	1.74	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
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	1.84	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	MWS	3.04				1350	22.8	1676	5.12	-155.7	dark brown, sulfur odour
Mar-21	MW239S	3.04	0.923	2.117			22.3	402	5.19	-158	slight cloudy brown, sulfur odour
Apr-21	MW239S	3.04	0.757	2.283	3.84	955	18.43	276	4.43	8.3	Dark brown/organic material, strong sulphur odour
May-21	MW239S	3.04	0.81	2.23		1430	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	1353	16.1	246	4.59	38	Slight cloudy yellow, moderate sulphur odour, no sheen, well in good
Jul-21	MW239S	3.04	0.736	2.304	3.86	1409	15.3	146	4.58	50.9	Medium brown, slight - moderate sulphur odour, no sheen, well in good
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	1.72	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				20.32						
Jun-20	MW239D	3.04	1.328	1.712	20.32						No sample taken
Jul-20	MW239D	3.04	1.32	1.72	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	MWB	3.04									
Mar-21	MW239D	3.04	0.901	2.139							No sample
Apr-21	MW239D	3.04	0.739	2.301	20.57	1000	ND	ND	ND	ND	No sample taken
May-21	MW239D	3.04	0.783	2.257		910	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
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	0.01	N/A	1200	23.16	1003	3.95	405.9	Small pool of surface water with stained brown water.
May-19	SW1*	2.5	0.01	2.51	N/A	1115	14.9	966	4.42	106.7	Small pool of surface water with stained brown water.
Jun-19	SW1*	N/A	0.14	2.51	N/A	1140	14.5	811	6.4	298.4	Small pool of surface water with stained brown water.
Jul-19	SW1*	N/A	0.2	2.7	N/A	1105	9.7	827	4.56	99	Dark brown, no odour, slight sheen
Aug-19	SW1*	N/A	0.15	2.65	N/A	1045	9.52	1205	4.6	263	Natural tannin stained brown, sulfur odour
Sep-19	SW1*	N/A	0.26	2.76	N/A	1300	16.59	1138	4.21	323	Natural tannin stained brown, sulfur odour
Oct-19	SW1*	N/A	0.29	2.79	N/A	1045	16.56	857	4.35	339	Natural tannin stained brown, sulfur odour
Nov-19	SW1*	N/A	0.02	2.52	N/A	1145	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	1310	14	169.4	7.4	183.1	
Jun-20	SW1*	N/A	0.52	-	N/A	1310	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				1100	22.58	608	6.68	65.1	Clear, no odour, very full
Mar-21	SW1	N/A	> 0.6			1130	21.1	184	6.59	118	Slight brown/tan, no odour
Apr-21	SW1	N/A	> 0.6	N/A	N/A	1245	15.4	310.66	5.38	41.7	Slight brown stain, sulphur odour
May-21	SW1	N/A	1.5	N/A	N/A	1200	11	265.5	5.43	186.5	Dark brown stain, no odour
Jun-21	SW1	N/A	1.4	N/A	N/A	1149	10.1	219	5.77	202	Natural tannin brown, no odour / sheen
Jul-21	SW1	N/A	0.65	N/A	N/A	1156	12.2	202.3	5.29	208.2	Deep yellow, no odour / 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.

	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
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			1100	20.3	132	6.16	244	Slight brown/tan, sulfur odour
Apr-21	SW2	N/A	0.1	N/A	N/A	1210	14.67	91.5	5.07	19	Slight brown stain, sulphur odour
May-21	SW2	N/A	0.25	N/A	N/A	1110	11.1	89.1	4.99	166	Slight brown stain, no odour
Jun-21	SW2	N/A	0.25	N/A	N/A	1040	12.8	105	4.69	64.2	Clear, no odour / sheen
Jul-21	SW2	N/A	0.25	N/A	N/A	1033	12.2	96.4	4.43	87.4	Natural tannin brown, slight sulphur odour, no sheen
Feb-19	SW3*	2.1	1.1	1	N/A	1615	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	N/A	1515	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	0.1	N/A	1430	19.88	311	6.02	-12.8	Water clear, no odour.
May-19	SW3*	2.1	0.1	1.1	N/A	1315	14.54	344	5.54	71.6	Water clear, no odour.
Jun-19	SW3*	N/A	0.15	1.1	N/A	1330	16.36	290	6.41	52.4	Water clear, no odour.
Jul-19	SW3*	N/A	0.215	1.215	N/A	1245	14.6	431	4.27	116	Water clear, no odour.
Aug-19	SW3*	N/A	0.195	1.195	N/A	1245	11.96	464	4.67	152	Water clear, no odour.
Sep-19	SW3*	N/A	0.24	1.24	N/A	1445	17.05	449	5.02	86.7	Water clear, no odour.
Oct-19	SW3*	N/A	0.29	1.29	N/A	1230	18.77	313	4.36	315	Water clear, no odour.
Nov-19	SW3*	N/A	0.02	1.02	N/A	945	19.54	470	5.04	97.7	Mostly clear (red algae present), no odour
Dec-19	SW3*	N/A	Dry		N/A	1000	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	1330	14.3	286.6	4.72	304.7	
Jun-20	SW3*	N/A	0.24	-	N/A	1330	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				1015	21.2	1101	5.95	36.9	Clear, no odour
Mar-21	SW3	N/A	> 0.6			1030	20.6	291	6.54	1076	Slight brown/tan, sulfur odour
Apr-21	SW3	N/A	> 0.6	N/A	N/A	1155	15.5	312.57	5.49	48.1	Slight brown stain, sulphur odour
May-21	SW3	N/A	1.5	N/A	N/A	1100	10.2	276	5.7	36.1	Natural sheen (brown algae), no odour
Jun-21	SW3	N/A	1.4	N/A	N/A	1024	10.2	220	4.84	-2.9	Clear, strong sulphur odour, no sheen
Jul-21	SW3	N/A	0.65	N/A	N/A	1020	10.1	213	5.31	-41	Natural tannin brown, strong sulphur 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	1.9	N/A	1115	17.57	339	3.69	430.5	Water clear, no odour.
May-19	SW4*	2	0.135	2.135	N/A	1030	12.03	389	3.69	211.4	Water clear, no odour.
Jun-19	SW4*	N/A	0.175	2.135	N/A	1045	13.34	313	6.44	377.3	Water clear, no odour.
Jul-19	SW4*	N/A	0.281	2.281	N/A	930	9.9	371	4.23	116	Light brown, no odour.
Aug-19	SW4*	N/A	0.18	2.18	N/A	950	8.07	485	4.17	294	Clear, no odour.
Sep-19	SW4*	N/A	0.29	2.29	N/A	1030	14.8	371	4.19	360	Clear, no odour.
Oct-19	SW4*	N/A	0.35	2.35	N/A	945	16.45	325	4.36	370	Clear, no odour.
Nov-19	SW4*	N/A	0.15	2.15	N/A	1045	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	1400	12.1	337.5	4.69	230.1	
Jun-20	SW4*	N/A	0.38	-	N/A	1400	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				945	20.6	1468	6.98	-140.4	Natural sheen, no odour, very full
Mar-21	SW4	N/A	> 0.6			1000	19.5	529	7.34	-15.2	Brown/Tan, sulfur odour
Apr-21	SW4	N/A	> 0.6	N/A	N/A	1121	16.14	257.88	6.18	-65	Brown stain, sulphur odour
May-21	SW4	N/A	1.5	N/A	N/A	1015	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	1000	10.4	277	4.79	260	Natural tannin brown, no odour / sheen
Jul-21	SW4	N/A	0.65	N/A	N/A	955	10.2	247	5.3	152	Natural tannin brown, no odour / sheen, flowing towards eastern boundary

ATTACHMENT 3: LAB RESULTS

CERTIFICATE OF ANALYSIS

Work Order	: **ES2126200**	Page	: 1 of 22
Client	: **KLEINFELDER AUSTRALIA PTY LTD**	Laboratory	: Environmental Division Sydney
Contact	: DANIEL KOUSBROEK	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	: 20193820	Date Samples Received	: 15-Jul-2021 17:05
Order number	: ----	Date Analysis Commenced	: 15-Jul-2021
C-O-C number	: ----	Issue Date	: 22-Jul-2021 09:48
Sampler	: Megan Ferguson		
Site	: WSS - Cabbage Tree Rd water Monitoring July 2021		
Quote number	: ME/114/19 ALS Compass		
No. of samples received	: 18		
No. of samples analysed	: 18		

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	Inorganic Chemist	Sydney Inorganics, Smithfield, NSW
Edwandy Fadjar	Organic Coordinator	Sydney Organics, Smithfield, NSW
Franco Lentini	LCMS Coordinator	Sydney Organics, Smithfield, NSW
Ivan Taylor	Analyst	Sydney Inorganics, Smithfield, NSW
Neil Martin	Team Leader - Chemistry	Chemistry, Newcastle West, NSW
Sanjeshni Jyoti	Senior Chemist Volatiles	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 Contact 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.

- ED041G: LOR raised for Sulfate on sample 11 and 13 due to sample matrix.
- 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.
- EP080: Where reported, Total Xylenes is the sum of the reported concentrations of m&p-Xylene and o-Xylene at or above the LOR.
- TDS by method EA-015 may bias high for various samples due to the presence of fine particulate matter, which may pass through the prescribed GF/C paper.
- EA016: Calculated TDS is determined from Electrical conductivity using a conversion factor of 0.65.
- Sodium Adsorption Ratio (where reported): Where results for Na, Ca or Mg are <LOR, a concentration at half the reported LOR is incorporated into the SAR calculation. This represents a conservative approach for Na relative to the assumption that <LOR = zero concentration and a conservative approach for Ca & Mg relative to the assumption that <LOR is equivalent to the LOR concentration.
- 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	BH1	BH2	BH4	BH6	BH7
			Sampling date / time	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	ES2126200-001	ES2126200-002	ES2126200-003	ES2126200-004	ES2126200-005
				Result	Result	Result	Result	Result
EA005: pH								
pH Value	----	0.01	pH Unit	4.74	4.84	4.68	4.88	4.92
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	121	84	124	259	187
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	----	----	----	142	----
Total Dissolved Solids @180°C	----	10	mg/L	76	61	72	----	140
EA016: Calculated TDS (from Electrical Conductivity)								
Total Dissolved Solids (Calc.)	----	1	mg/L	79	55	81	168	122
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	5	mg/L	132	285	86	43	63
EA065: Total Hardness as CaCO3								
Total Hardness as CaCO3	----	1	mg/L	12	13	15	30	16
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	<1	<1	<1	<1	<1
Total Alkalinity as CaCO3	----	1	mg/L	<1	<1	<1	<1	<1
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	6	11	13	20	12
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	30	16	29	70	46
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	<1	2	1	2	<1
Magnesium	7439-95-4	1	mg/L	3	2	3	6	4
Sodium	7440-23-5	1	mg/L	14	9	16	36	28
Potassium	7440-09-7	1	mg/L	<1	<1	<1	<1	1
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	<0.001	0.002	<0.001
Boron	7440-42-8	0.05	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	7440-39-3	0.001	mg/L	0.002	0.003	0.009	0.031	0.003
Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	0.001	<0.001	0.002

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	BH1	BH2	BH4	BH6	BH7
			Sampling date / time	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	ES2126200-001	ES2126200-002	ES2126200-003	ES2126200-004	ES2126200-005
				Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued								
Chromium	7440-47-3	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	**0.002**
Copper	7440-50-8	0.001	mg/L	<0.001	**0.005**	**0.168**	<0.001	<0.001
Manganese	7439-96-5	0.001	mg/L	**0.020**	**0.017**	**0.024**	**0.005**	**0.010**
Nickel	7440-02-0	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	**0.002**
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Selenium	7782-49-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc	7440-66-6	0.005	mg/L	**0.037**	**0.006**	**0.008**	<0.005	**0.006**
Iron	7439-89-6	0.05	mg/L	**0.31**	**0.07**	**0.08**	**1.04**	**1.15**
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK040P: Fluoride by PC Titrator								
Fluoride	16984-48-8	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
EN055: Ionic Balance								
ø Total Anions	----	0.01	meq/L	**0.97**	**0.68**	**1.09**	**2.39**	**1.55**
ø Total Cations	----	0.01	meq/L	**0.86**	**0.66**	**0.99**	**2.16**	**1.57**
EP071 SG: Total Petroleum Hydrocarbons - Silica gel cleanup								
C10 - C14 Fraction	----	50	µg/L	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	50	µg/L	<50	<50	<50	<50	<50
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	<50	<50	<50
EP071 SG: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Silica gel cleanup								
>C10 - C16 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
>C16 - C34 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	<100	<100	<100	<100
>C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	<100	<100	<100	<100
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	<20	<20
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	<20	<20
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	<20	<20

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	BH1	BH2	BH4	BH6	BH7
			Sampling date / time	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	ES2126200-001	ES2126200-002	ES2126200-003	ES2126200-004	ES2126200-005
				Result	Result	Result	Result	Result
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L	<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	<2	<2
^ Total Xylenes	----	2	µg/L	<2	<2	<2	<2	<2
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	<5	<5
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<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	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	BH1	BH2	BH4	BH6	BH7
			Sampling date / time	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	ES2126200-001	ES2126200-002	ES2126200-003	ES2126200-004	ES2126200-005
				Result	Result	Result	Result	Result
EP231B: Perfluoroalkyl Carboxylic Acids - Continued								
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<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	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<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	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<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	<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	<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	<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	<0.05	<0.05
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	<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	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	2	%	**133**	**125**	**130**	**128**	**133**
Toluene-D8	2037-26-5	2	%	**102**	**102**	**94.2**	**101**	**94.3**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	BH1	BH2	BH4	BH6	BH7
			Sampling date / time	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	ES2126200-001	ES2126200-002	ES2126200-003	ES2126200-004	ES2126200-005
				Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued								
4-Bromofluorobenzene	460-00-4	2	%	114	111	107	113	107
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	108	108	107	114	104
13C8-PFOA	----	0.02	%	102	102	105	104	101

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	BH8	BH9A	BH10	BH11	MW239S
			Sampling date / time	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	ES2126200-006	ES2126200-007	ES2126200-008	ES2126200-009	ES2126200-010
				Result	Result	Result	Result	Result
EA005: pH								
pH Value	----	0.01	pH Unit	4.85	4.77	4.71	4.57	4.68
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	292	174	216	222	222
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	----	96	----	----	----
Total Dissolved Solids @180°C	----	10	mg/L	168	----	151	122	154
EA016: Calculated TDS (from Electrical Conductivity)								
Total Dissolved Solids (Calc.)	----	1	mg/L	190	113	140	144	144
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	5	mg/L	92	222	16	46	524
EA065: Total Hardness as CaCO3								
Total Hardness as CaCO3	----	1	mg/L	20	17	16	20	20
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	<1
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	<1	<1
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	<1	<1	<1	<1	<1
Total Alkalinity as CaCO3	----	1	mg/L	<1	<1	<1	<1	<1
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	35	15	20	18	30
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	67	41	54	58	51
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	<1	2	<1	<1	<1
Magnesium	7439-95-4	1	mg/L	5	3	4	5	5
Sodium	7440-23-5	1	mg/L	48	26	29	33	31
Potassium	7440-09-7	1	mg/L	<1	1	4	<1	<1
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	0.001	<0.001	<0.001	<0.001	<0.001
Boron	7440-42-8	0.05	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	7440-39-3	0.001	mg/L	0.009	0.003	0.016	0.005	0.004
Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cobalt	7440-48-4	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	BH8	BH9A	BH10	BH11	MW239S
			Sampling date / time	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	ES2126200-006	ES2126200-007	ES2126200-008	ES2126200-009	ES2126200-010
				Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued								
Chromium	7440-47-3	0.001	mg/L	**0.002**	<0.001	**0.002**	**0.002**	**0.002**
Copper	7440-50-8	0.001	mg/L	<0.001	<0.001	<0.001	**0.002**	<0.001
Manganese	7439-96-5	0.001	mg/L	**0.006**	**0.023**	**0.008**	**0.002**	**0.006**
Nickel	7440-02-0	0.001	mg/L	**0.001**	**0.003**	**0.001**	**0.003**	**0.002**
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Selenium	7782-49-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc	7440-66-6	0.005	mg/L	<0.005	**0.006**	**0.013**	**0.031**	**0.007**
Iron	7439-89-6	0.05	mg/L	**2.96**	**0.23**	**0.10**	**0.41**	**0.67**
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK040P: Fluoride by PC Titrator								
Fluoride	16984-48-8	0.1	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1
EN055: Ionic Balance								
ø Total Anions	----	0.01	meq/L	**2.62**	**1.47**	**1.94**	**2.01**	**2.06**
ø Total Cations	----	0.01	meq/L	**2.50**	**1.50**	**1.69**	**1.85**	**1.76**
EP071 SG: Total Petroleum Hydrocarbons - Silica gel cleanup								
C10 - C14 Fraction	----	50	µg/L	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	50	µg/L	<50	<50	<50	<50	<50
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	<50	<50	<50
EP071 SG: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Silica gel cleanup								
>C10 - C16 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
>C16 - C34 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	<100	<100	<100	<100
>C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	<100	<100	<100	<100
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	<20	<20
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	<20	<20
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	<20	<20

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	BH8	BH9A	BH10	BH11	MW239S
			Sampling date / time	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	ES2126200-006	ES2126200-007	ES2126200-008	ES2126200-009	ES2126200-010
				Result	Result	Result	Result	Result
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L	<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	<2	<2
^ Total Xylenes	----	2	µg/L	<2	<2	<2	<2	<2
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	<5	<5
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<0.02	<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	<0.1	<0.1
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	<0.02

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	BH8	BH9A	BH10	BH11	MW239S
			Sampling date / time	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	ES2126200-006	ES2126200-007	ES2126200-008	ES2126200-009	ES2126200-010
				Result	Result	Result	Result	Result
EP231B: Perfluoroalkyl Carboxylic Acids - Continued								
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<0.05	<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	<0.02	<0.02
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	<0.05
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<0.05	<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	<0.02	<0.02
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<0.02	<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	<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	<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	<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	<0.05	<0.05
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	<0.01	<0.01	<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	<0.01	<0.01
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	<0.01
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	2	%	**127**	**125**	**132**	**130**	**129**
Toluene-D8	2037-26-5	2	%	**94.5**	**101**	**105**	**105**	**106**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	BH8	BH9A	BH10	BH11	MW239S
			Sampling date / time	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	ES2126200-006	ES2126200-007	ES2126200-008	ES2126200-009	ES2126200-010
				Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued								
4-Bromofluorobenzene	460-00-4	2	%	102	109	116	116	115
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	112	109	105	104	110
13C8-PFOA	----	0.02	%	107	107	103	101	106

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	SW1	SW2	SW3	SW4	QW56
			Sampling date / time	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	ES2126200-011	ES2126200-012	ES2126200-013	ES2126200-014	ES2126200-015
				Result	Result	Result	Result	Result
EA005: pH								
pH Value	----	0.01	pH Unit	5.36	4.66	5.46	5.48	----
EA010P: Conductivity by PC Titrator								
Electrical Conductivity @ 25°C	----	1	µS/cm	186	84	191	226	----
EA015: Total Dissolved Solids dried at 180 ± 5 °C								
Total Dissolved Solids @180°C	----	10	mg/L	199	68	155	143	----
EA016: Calculated TDS (from Electrical Conductivity)								
Total Dissolved Solids (Calc.)	----	1	mg/L	121	55	124	147	----
EA025: Total Suspended Solids dried at 104 ± 2°C								
Suspended Solids (SS)	----	5	mg/L	8	13	14	18	----
EA065: Total Hardness as CaCO3								
Total Hardness as CaCO3	----	1	mg/L	25	11	8	29	----
ED037P: Alkalinity by PC Titrator								
Hydroxide Alkalinity as CaCO3	DMO-210-001	1	mg/L	<1	<1	<1	<1	----
Carbonate Alkalinity as CaCO3	3812-32-6	1	mg/L	<1	<1	<1	<1	----
Bicarbonate Alkalinity as CaCO3	71-52-3	1	mg/L	1	<1	1	2	----
Total Alkalinity as CaCO3	----	1	mg/L	1	<1	1	2	----
ED041G: Sulfate (Turbidimetric) as SO4 2- by DA								
Sulfate as SO4 - Turbidimetric	14808-79-8	1	mg/L	<10	7	<10	20	----
ED045G: Chloride by Discrete Analyser								
Chloride	16887-00-6	1	mg/L	52	19	49	58	----
ED093F: Dissolved Major Cations								
Calcium	7440-70-2	1	mg/L	5	1	<1	5	----
Magnesium	7439-95-4	1	mg/L	3	2	2	4	----
Sodium	7440-23-5	1	mg/L	26	10	28	33	----
Potassium	7440-09-7	1	mg/L	2	<1	<1	1	----
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	<0.001	<0.001	0.001	<0.001	<0.001
Boron	7440-42-8	0.05	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05
Barium	7440-39-3	0.001	mg/L	0.008	0.005	0.004	0.019	0.022
Beryllium	7440-41-7	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Cadmium	7440-43-9	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Cobalt	7440-48-4	0.001	mg/L	<0.001	0.002	<0.001	0.001	0.001
Chromium	7440-47-3	0.001	mg/L	0.001	<0.001	0.002	<0.001	<0.001

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	SW1	SW2	SW3	SW4	QW56
			Sampling date / time	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	ES2126200-011	ES2126200-012	ES2126200-013	ES2126200-014	ES2126200-015
				Result	Result	Result	Result	Result
EG020F: Dissolved Metals by ICP-MS - Continued								
Copper	7440-50-8	0.001	mg/L	**0.039**	<0.001	<0.001	<0.001	<0.001
Manganese	7439-96-5	0.001	mg/L	**0.045**	**0.041**	**0.028**	**0.044**	**0.045**
Nickel	7440-02-0	0.001	mg/L	**0.001**	**0.002**	<0.001	**0.001**	**0.001**
Lead	7439-92-1	0.001	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001
Selenium	7782-49-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Vanadium	7440-62-2	0.01	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01
Zinc	7440-66-6	0.005	mg/L	**0.041**	**0.081**	<0.005	**0.007**	**0.010**
Iron	7439-89-6	0.05	mg/L	**1.16**	**0.39**	**12.6**	**1.15**	**1.13**
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
EK040P: Fluoride by PC Titrator								
Fluoride	16984-48-8	0.1	mg/L	**0.2**	<0.1	<0.1	**0.2**	----
EN055: Ionic Balance								
ø Total Anions	----	0.01	meq/L	**1.49**	**0.68**	**1.40**	**2.09**	----
ø Total Cations	----	0.01	meq/L	**1.68**	**0.65**	**1.38**	**2.04**	----
EP071 SG: Total Petroleum Hydrocarbons - Silica gel cleanup								
C10 - C14 Fraction	----	50	µg/L	<50	<50	<50	<50	<50
C15 - C28 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
C29 - C36 Fraction	----	50	µg/L	<50	<50	<50	<50	<50
^ C10 - C36 Fraction (sum)	----	50	µg/L	<50	<50	<50	<50	<50
EP071 SG: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Silica gel cleanup								
>C10 - C16 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
>C16 - C34 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
>C34 - C40 Fraction	----	100	µg/L	<100	<100	<100	<100	<100
^ >C10 - C40 Fraction (sum)	----	100	µg/L	<100	<100	<100	<100	<100
>C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	<100	<100	<100	<100	<100
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	<20	<20	<20	<20	<20
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	<20	<20	<20	<20	<20
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	<20	<20	<20	<20	<20
EP080: BTEXN								

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	SW1	SW2	SW3	SW4	QW56
			Sampling date / time	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	ES2126200-011	ES2126200-012	ES2126200-013	ES2126200-014	ES2126200-015
				Result	Result	Result	Result	Result
EP080: BTEXN - Continued								
Benzene	71-43-2	1	µg/L	<1	<1	<1	<1	<1
Toluene	108-88-3	2	µg/L	<2	<2	<2	<2	<2
Ethylbenzene	100-41-4	2	µg/L	<2	<2	<2	<2	<2
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	<2	<2	<2	<2	<2
ortho-Xylene	95-47-6	2	µg/L	<2	<2	<2	<2	<2
^ Total Xylenes	----	2	µg/L	<2	<2	<2	<2	<2
^ Sum of BTEX	----	1	µg/L	<1	<1	<1	<1	<1
Naphthalene	91-20-3	5	µg/L	<5	<5	<5	<5	<5
EP231A: Perfluoroalkyl Sulfonic Acids								
Perfluorobutane sulfonic acid (PFBS)	375-73-5	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluoropentane sulfonic acid (PFPeS)	2706-91-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorohexane sulfonic acid (PFHxS)	355-46-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluoroheptane sulfonic acid (PFHpS)	375-92-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorooctane sulfonic acid (PFOS)	1763-23-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	----
Perfluorodecane sulfonic acid (PFDS)	335-77-3	0.02	µg/L	<0.02	<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	<0.1	----
Perfluoropentanoic acid (PFPeA)	2706-90-3	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorohexanoic acid (PFHxA)	307-24-4	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluoroheptanoic acid (PFHpA)	375-85-9	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorooctanoic acid (PFOA)	335-67-1	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	----
Perfluorononanoic acid (PFNA)	375-95-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorodecanoic acid (PFDA)	335-76-2	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluoroundecanoic acid (PFUnDA)	2058-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorododecanoic acid (PFDoDA)	307-55-1	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----
Perfluorotridecanoic acid (PFTrDA)	72629-94-8	0.02	µg/L	<0.02	<0.02	<0.02	<0.02	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	SW1	SW2	SW3	SW4	QW56
			Sampling date / time	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	ES2126200-011	ES2126200-012	ES2126200-013	ES2126200-014	ES2126200-015
				Result	Result	Result	Result	Result
EP231B: Perfluoroalkyl Carboxylic Acids - Continued								
Perfluorotetradecanoic acid (PFTeDA)	376-06-7	0.05	µg/L	<0.05	<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	<0.02	----
N-Methyl perfluorooctane sulfonamide (MeFOSA)	31506-32-8	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
N-Ethyl perfluorooctane sulfonamide (EtFOSA)	4151-50-2	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
N-Methyl perfluorooctane sulfonamidoethanol (MeFOSE)	24448-09-7	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
N-Ethyl perfluorooctane sulfonamidoethanol (EtFOSE)	1691-99-2	0.05	µg/L	<0.05	<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	<0.02	----
N-Ethyl perfluorooctane sulfonamidoacetic acid (EtFOSAA)	2991-50-6	0.02	µg/L	<0.02	<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	<0.05	----
6:2 Fluorotelomer sulfonic acid (6:2 FTS)	27619-97-2	0.05	µg/L	<0.05	<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	<0.05	----
10:2 Fluorotelomer sulfonic acid (10:2 FTS)	120226-60-0	0.05	µg/L	<0.05	<0.05	<0.05	<0.05	----
EP231P: PFAS Sums								
Sum of PFAS	----	0.01	µg/L	<0.01	<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	<0.01	----
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	<0.01	<0.01	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	2	%	**127**	**116**	**122**	**128**	**129**
Toluene-D8	2037-26-5	2	%	**104**	**88.8**	**102**	**108**	**100**

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	SW1	SW2	SW3	SW4	QW56
			Sampling date / time	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00
Compound	CAS Number	LOR	Unit	ES2126200-011	ES2126200-012	ES2126200-013	ES2126200-014	ES2126200-015
				Result	Result	Result	Result	Result
EP080S: TPH(V)/BTEX Surrogates - Continued								
4-Bromofluorobenzene	460-00-4	2	%	113	101	111	117	112
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	109	105	110	103	----
13C8-PFOA	----	0.02	%	104	107	108	110	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QW58	RINSATE_JULY	TRIPBLANK_JULY	----	----
			Sampling date / time	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2126200-016	ES2126200-017	ES2126200-018	--------	--------
				Result	Result	Result	----	----
EG020F: Dissolved Metals by ICP-MS								
Arsenic	7440-38-2	0.001	mg/L	----	<0.001	<0.001	----	----
Boron	7440-42-8	0.05	mg/L	----	<0.05	<0.05	----	----
Barium	7440-39-3	0.001	mg/L	----	<0.001	<0.001	----	----
Beryllium	7440-41-7	0.001	mg/L	----	<0.001	<0.001	----	----
Cadmium	7440-43-9	0.0001	mg/L	----	<0.0001	<0.0001	----	----
Cobalt	7440-48-4	0.001	mg/L	----	<0.001	<0.001	----	----
Chromium	7440-47-3	0.001	mg/L	----	<0.001	<0.001	----	----
Copper	7440-50-8	0.001	mg/L	----	<0.001	<0.001	----	----
Manganese	7439-96-5	0.001	mg/L	----	<0.001	<0.001	----	----
Nickel	7440-02-0	0.001	mg/L	----	<0.001	<0.001	----	----
Lead	7439-92-1	0.001	mg/L	----	<0.001	<0.001	----	----
Selenium	7782-49-2	0.01	mg/L	----	<0.01	<0.01	----	----
Vanadium	7440-62-2	0.01	mg/L	----	<0.01	<0.01	----	----
Zinc	7440-66-6	0.005	mg/L	----	<0.005	<0.005	----	----
Iron	7439-89-6	0.05	mg/L	----	<0.05	<0.05	----	----
EG035F: Dissolved Mercury by FIMS								
Mercury	7439-97-6	0.0001	mg/L	----	<0.0001	<0.0001	----	----
EP071 SG: Total Petroleum Hydrocarbons - Silica gel cleanup								
C10 - C14 Fraction	----	50	µg/L	----	<50	<50	----	----
C15 - C28 Fraction	----	100	µg/L	----	<100	<100	----	----
C29 - C36 Fraction	----	50	µg/L	----	<50	<50	----	----
^ C10 - C36 Fraction (sum)	----	50	µg/L	----	<50	<50	----	----
EP071 SG: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Silica gel cleanup								
>C10 - C16 Fraction	----	100	µg/L	----	<100	<100	----	----
>C16 - C34 Fraction	----	100	µg/L	----	<100	<100	----	----
>C34 - C40 Fraction	----	100	µg/L	----	<100	<100	----	----
^ >C10 - C40 Fraction (sum)	----	100	µg/L	----	<100	<100	----	----
>C10 - C16 Fraction minus Naphthalene (F2)	----	100	µg/L	----	<100	<100	----	----
EP080/071: Total Petroleum Hydrocarbons								
C6 - C9 Fraction	----	20	µg/L	----	<20	<20	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions								
C6 - C10 Fraction	C6_C10	20	µg/L	----	<20	<20	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QW58	RINSATE_JULY	TRIPBLANK_JULY	----	----
			Sampling date / time	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2126200-016	ES2126200-017	ES2126200-018	--------	--------
				Result	Result	Result	----	----
EP080/071: Total Recoverable Hydrocarbons - NEPM 2013 Fractions - Continued								
^ C6 - C10 Fraction minus BTEX (F1)	C6_C10-BTEX	20	µg/L	----	<20	<20	----	----
EP080: BTEXN								
Benzene	71-43-2	1	µg/L	----	<1	<1	----	----
Toluene	108-88-3	2	µg/L	----	<2	<2	----	----
Ethylbenzene	100-41-4	2	µg/L	----	<2	<2	----	----
meta- & para-Xylene	108-38-3 106-42-3	2	µg/L	----	<2	<2	----	----
ortho-Xylene	95-47-6	2	µg/L	----	<2	<2	----	----
^ Total Xylenes	----	2	µg/L	----	<2	<2	----	----
^ Sum of BTEX	----	1	µg/L	----	<1	<1	----	----
Naphthalene	91-20-3	5	µg/L	----	<5	<5	----	----
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	0.02	µg/L	<0.02	<0.02	<0.02	----	----
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	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QW58	RINSATE_JULY	TRIPBLANK_JULY	----	----
			Sampling date / time	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2126200-016	ES2126200-017	ES2126200-018	--------	--------
				Result	Result	Result	----	----
EP231B: Perfluoroalkyl Carboxylic Acids - Continued								
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	----	----
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	----	----

Analytical Results

Sub-Matrix: WATER (Matrix: WATER)			Sample ID	QW58	RINSATE_JULY	TRIPBLANK_JULY	----	----
			Sampling date / time	15-Jul-2021 00:00	15-Jul-2021 00:00	15-Jul-2021 00:00	----	----
Compound	CAS Number	LOR	Unit	ES2126200-016	ES2126200-017	ES2126200-018	--------	--------
				Result	Result	Result	----	----
EP231P: PFAS Sums - Continued								
Sum of PFAS (WA DER List)	----	0.01	µg/L	<0.01	<0.01	<0.01	----	----
EP080S: TPH(V)/BTEX Surrogates								
1.2-Dichloroethane-D4	17060-07-0	2	%	----	115	128	----	----
Toluene-D8	2037-26-5	2	%	----	85.5	105	----	----
4-Bromofluorobenzene	460-00-4	2	%	----	92.0	116	----	----
EP231S: PFAS Surrogate								
13C4-PFOS	----	0.02	%	108	106	110	----	----
13C8-PFOA	----	0.02	%	108	104	105	----	----

Surrogate Control Limits

Sub-Matrix: **WATER**		Recovery Limits (%)	
Compound	*CAS Number*	*Low*	*High*
EP080S: TPH(V)/BTEX Surrogates			
1.2-Dichloroethane-D4	17060-07-0	71	137
Toluene-D8	2037-26-5	79	131
4-Bromofluorobenzene	460-00-4	70	128
EP231S: PFAS Surrogate			
13C4-PFOS	----	60	120
13C8-PFOA	----	60	120

Inter-Laboratory Testing

Analysis conducted by ALS Newcastle - Water, NATA accreditation no. 825, site no. 1656 (Chemistry) 9854 (Biology).

(WATER) EA005: pH

KLEINFELDER AUSTRALIA PTY LTD

COC number:

KLEINFELDER Bright People. Right Solutions.

1 of 2

Client:
Kleinfelder Australia Pty Ltd
Suite 3, 240-244 Pacific Hwy
Charlestown,
NSW 2290
Phone: 02 4949 5200

SITE, COC AND CONTACT DATA

Site Name:	WSS - Cabbage Tree Rd water monitoring July 2021
QUOTE NUMBER	ME/114/19
Job No.:	20193820
Required TAT:	24 hrs 48 hrs 3 days 5 days 7 days
Data QA level:	LAB minimum unless specified:
Sampler Name:	Megan Ferguson
Contact Number:	0455 981 953
Contact e-mail:	MFerguson@kleinfelder.com
PM name (if not sampler):	Daniel Kousbroek
PM e-mail:	DKousbroek@kleinfelder.com

Laboratory:
ALS
5/585 Maitland Rd
Mayfield West,
Newcastle NSW 2304
Phone: (02) 4014 2500

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

CHAIN OF CUSTODY

Relinquished by (print):	Daniel Kousbroek / MEGAN FERGUSON	Received by (print):	CL
(sign)		(sign)	
Date / Time:	15/7/21 17:05	Date / Time:	15.7.21 17:05
Notes:		Temp. (°C)	-3.4
		Notes:	ice present / no ice, seals intact / no seal

Relinquished:		Received by:	
(sign)		(sign)	
Date / Time:	15/7/21 17:05	Date / Time:	
Notes:		Temp. (°C)	
		Notes:	ice present / no ice seals intact / no seal

Sample ID	Lab ID	Sample Point	Sample Type	Date	Start Depth	End Depth	Units	# Containers	W-04 SG TRH SG/BTEX	Organic Analytes								W-03 Metals_ NEPM 15	Iron (dissolved)	~~Turbidity~~	NT 12 - General Water Suite	~~NT 14 - Extended Water Suite~~	Total Dissolved Solids (TDS)	Total Suspended Solids (TSS)	EP231X PFAS [28 analytes, standard level]	Comments
1 BH1			Water	15/7					X									X	X	X	X		X	X	X	
2 BH2									X									X	X	X	X		X	X	X	
3 BH4									X									X	X	X	X		X	X	X	
4 BH6									X									X	X	X	X		X	X	X	
5 BH7									X									X	X	X	X		X	X	X	
6 BH8									X									X	X	X	X		X	X	X	
7 BH9A									X									X	X	X	X		X	X	X	
8 BH10									X									X	X	X	X		X	X	X	
9 BH11									X									X	X	X	X		X	X	X	
~~BH12~~									X									X	X	X	X		X	X	X	
10 MW239S									X									X	X	X	X		X	X	X	
11 SW1									X									X	X	X	X		X	X	X	
12 SW2									X									X	X	X	X		X	X	X	
13 SW3									X									X	X	X	X		X	X	X	
14 SW4									X									X	X	X	X		X	X	X	
15 QW56									X									X	X	X	X		X	X	X	
QW57									X									X	X	X	X		X	X	X	
																								X		
																								X		
																								X	Send to Eurofins	

Subcon / Forward Lab / Split WO
Lab / Analysis: QWS7 / Eurofins
Organised By / Date:
Relinquished By / Date:
Connote / Courier:
WO No: 65 210600
Attached By HO / Internal Sheet:

W-05 SG - TRH/BTEXN/ 8 Metals Silica Gel Clean Up
NT14 - Extended water suite B
Additional metals analysis to make up NEPM 15

Arsenic (As), Cadmium (Cd), Chromium (Cr), Copper (Cu), Lead (Pb), Mercury (Hg), Nickel (Ni), Zinc (Zn)

Boron (B), Barium (Ba), Beryllium (Be), Cobalt (Co), Manganese (Mn), Selenium (Se), Vanadium (V)

Environmental Division
Sydney
Work Order Reference
ES2126200

Telephone : + 61-2-8784 8555

PH @ WN

Awanthi
16/7/21

FAILED

COC number:

KLEINFELDER Bright People. Right Solutions.

2 of 2

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 July 2021	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.:	20193820	Contact e-mail:	MFerguson@kleinfelder.com	
	Required TAT:	24 hrs 48 hrs 3 days **5 days** 7 days	PM name (if not sampler):	Daniel Kousbroek	
	Data QA level:	LAB minimum unless specified:	PM e-mail:	DKousbroek@kleinfelder.com	

CHAIN OF CUSTODY

Relinquished by (print):	Daniel Kousbroek	Received by (print):	CL	Relinquished:		Received by:	
(sign)		(sign)	15.7.21	(sign)		(sign)	
Date / Time:		Date / Time:	17:05	Date / Time:	16/7/21 17:05	Date / Time:	
Notes:		Temp. (°C)	-3.4	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
DKousbroek@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 SG/BTEX	Metals: W-03 Metals_NEPM 15	Metals: Iron (dissolved)	Other Analytes: NT 12 - General Water Suite	Other Analytes: NT 14 - Extended Water Suite	Other Analytes: Total Dissolved Solids (TDS)	Other Analytes: Total Suspended Solids (TSS)	Other Analytes: EP231X PFAS (28 analytes, standard level)	Comments
16	QW58			Water	15/7												X	
	QW59			↓	↓												X	Send to Eurofins
17	RINSATE_JULY									X	X	X					X	
18	TRIPBLANK_JULY									X	X	X					X	

PH @ WN

W-05 SG - TRH/BTEXN/ 8 Metals Silica Gel Clean Up — Arsenic (As), Cadmium (Cd), Chromium (Cr), Copper (Cu), Lead (Pb), Mercury (Hg), Nickel (Ni), Zinc (Zn)

NT14 - Extended water suite B

Additional metals analysis to make up NEPM 15 — Boron (B), Barium (Ba), Beryllium (Be), Cobalt (Co), Manganese (Mn), Selenium (Se), Vanadium (V)

CHAIN OF CUSTODY

ALS Laboratory: please tick →

☐ADELAIDE 21 Burma Road Pooraka SA 5095 Ph: 08 8359 0890 E: adelaide@alsglobal.com
☐BRISBANE 32 Shand Street Stafford QLD 4053 Ph: 07 3243 7222 E: samples.brisbane@alsglobal.com
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☐MACKAY 78 Harbour Road Mackay QLD 4740 Ph: 07 4944 0177 E: mackay@alsglobal.com
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☐MUDGEE 27 Sydney Road Mudgee NSW 2850 Ph: 02 6372 6735 E: mudgee.mail@alsglobal.com
☐NEWCASTLE 5/585 Maitland Rd Mayfield West NSW 2304 Ph: 02 4014 2500 E: samples.newcastle@alsglobal.com
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☐WOLLONGONG 99 Kenny Street Wollongong NSW 2500 Ph: 02 4225 3125 E: portkembla@alsglobal.com

CLIENT: ~~NSS~~ KLEINFELDER
OFFICE: CHARLESTOWN
PROJECT:
ORDER NUMBER:
PROJECT MANAGER: DANIEL KOUSBROEK
SAMPLER: MEGAN FERGUSON
COC emailed to ALS? (YES / NO)
Email Reports to (will default to PM if no other addresses are listed): MFerguson@kleinfelder.com
Email Invoice to (will default to PM if no other addresses are listed):

TURNAROUND REQUIREMENTS : (Standard TAT may be longer for some tests e.g., Ultra Trace Organics)
☐ Standard TAT (List due date):
☐ Non Standard or urgent TAT (List due date):
ALS QUOTE NO.:
CONTACT PH:
SAMPLER MOBILE:
EDD FORMAT (or default):

COC SEQUENCE NUMBER (Circle)
COC: 1 2 3 4 5 6 7
OF: 1 2 3 4 5 6 7

FOR LABORATORY USE ONLY (Circle)
Custody Seal Intact? Yes No N/A
Free ice / frozen ice bricks present upon receipt? Yes No N/A
Random Sample Temperature on Receipt: °C
Other comment: 1.3

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
DATE/TIME: 16/7 8:31	DATE/TIME: 16/7/21 8:31	DATE/TIME: 16/7/21 17:00	DATE/TIME: 7-40pm 16/7/21

COMMENTS/SPECIAL HANDLING/STORAGE OR DISPOSAL:

ALS USE | SAMPLE DETAILS MATRIX (SOLID (S) WATER (W)) | CONTAINER INFORMATION | ANALYSIS REQUIRED including SUITES (NB. Suite Codes must be listed to attract suite price) Where Metals are required, specify Total (unfiltered bottle required) or Dissolved (field filtered bottle required). | Additional Information

LAB ID	SAMPLE ID	DATE / TIME	MATRIX	TYPE & PRESERVATIVE (refer to codes below)	TOTAL CONTAINERS	~~[illegible]~~	EP231X PFAS (28 analytes, standard level)						Additional Information
11	SW1	15/7	Water		2								To be added to work order ES2126200.
				TOTAL									

EMAILED

Water Container Codes: P = Unpreserved Plastic; N = Nitric Preserved Plastic; ORC = Nitric Preserved ORC; SH = Sodium Hydroxide/Cd Preserved; S = Sodium Hydroxide Preserved Plastic; AG = Amber Glass Unpreserved; AP - Airfreight Unpreserved Plastic; V = VOA Vial HCl Preserved; VB = VOA Vial Sodium Bisulphate Preserved; VS = VOA Vial Sulfuric Preserved; AV = Airfreight Unpreserved Vial SG = Sulfuric Preserved Amber Glass; H = HCl preserved Plastic; HS = HCl preserved Speciation bottle; SP = Sulfuric Preserved Plastic; F = Formaldehyde Preserved Glass; Z = Zinc Acetate Preserved Bottle; E = EDTA Preserved Bottles; ST = Sterile Bottle; ASS = Plastic Bag for Acid Sulphate Soils; B = Unpreserved Bag.

eurofins | Environment Testing

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NATA # 1261 Site # 20794

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NATA # 1261
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IANZ # 1327

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43 Detroit Drive
Rolleston, Christchurch 7675
Phone : 0800 856 450
IANZ # 1290

Sample Receipt Advice

Company name:	Kleinfelder Aust Pty Ltd (NEWCASTLE)
Contact name:	Daniel Kousbroek
Project name:	- CABBAGE TREE RD WATER MONITORING JUNE 2021
Project ID:	20193820
Turnaround time:	5 Day
Date/Time received	Jul 19, 2021 2:55 PM
Eurofins reference	811568

Sample Information

- ✓ A detailed list of analytes logged into our LIMS, is included in the attached summary table.
- ✗ All samples have been received as described on the above COC.
- ✓ COC has been completed correctly.
- ✓ Attempt to chill was evident.
- ✓ Appropriately preserved sample containers have been used.
- ✓ All samples were received in good condition.
- ✓ Samples have been provided with adequate time to commence analysis in accordance with the relevant holding times.
- ✓ Appropriate sample containers have been used.
- ✓ Sample containers for volatile analysis received with zero headspace.
- ✗ Split sample sent to requested external lab.
- ✗ Some samples have been subcontracted.
- **N/A** Custody Seals intact (if used).

Notes

Sample QW57 PFAS container not received, PFAS analyses cancelled.

Contact

If you have any questions with respect to these samples, please contact your Analytical Services Manager:

Andrew Black on phone : (+61) 2 9900 8490 or by email: AndrewBlack@eurofins.com

Results will be delivered electronically via email to Daniel Kousbroek - dkousbroek@kleinfelder.com.

Note: A copy of these results will also be delivered to the general Kleinfelder Aust Pty Ltd (NEWCASTLE) email address.

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

Order No.:
Report #: 811568
Phone: 02 4949 5200
Fax:

Received: Jul 19, 2021 2:55 PM
Due: Jul 26, 2021
Priority: 5 Day
Contact Name: Daniel Kousbroek

Project Name: - CABBAGE TREE RD WATER MONITORING JUNE 2021
Project ID: 20193820

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Iron (filtered)	NEPM 1999 Metals : Metals M15 (Filtered)	Per- and Polyfluoroalkyl Substances (PFASs)
Melbourne Laboratory - NATA Site # 1254								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	QW57	Jul 15, 2021		Water	S21-Jl35524	X	X	
2	QW59	Jul 15, 2021		Water	S21-Jl35525			X
Test Counts						1	1	1

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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 18217

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: **Daniel Kousbroek**

Report **811568-W**
Project name - CABBAGE TREE RD WATER MONITORING JUNE 2021
Project ID 20193820
Received Date Jul 19, 2021

Client Sample ID			**QW57**	**QW59**
Sample Matrix			**Water**	**Water**
Eurofins Sample No.			**S21-Jl35524**	**S21-Jl35525**
Date Sampled			**Jul 15, 2021**	**Jul 15, 2021**
Test/Reference	LOR	Unit		
Chromium (hexavalent)	0.005	mg/L	< 0.005	-
Chromium (trivalent filtered)	0.005	mg/L	< 0.005	-
Heavy Metals				
Arsenic (filtered)	0.001	mg/L	< 0.001	-
Barium (filtered)	0.02	mg/L	< 0.02	-
Beryllium (filtered)	0.001	mg/L	< 0.001	-
Boron (filtered)	0.05	mg/L	< 0.05	-
Cadmium (filtered)	0.0002	mg/L	< 0.0002	-
Chromium (filtered)	0.001	mg/L	< 0.001	-
Cobalt (filtered)	0.001	mg/L	0.001	-
Copper (filtered)	0.001	mg/L	< 0.001	-
Iron (filtered)	0.05	mg/L	0.83	-
Lead (filtered)	0.001	mg/L	< 0.001	-
Manganese (filtered)	0.005	mg/L	0.043	-
Mercury (filtered)	0.0001	mg/L	< 0.0001	-
Nickel (filtered)	0.001	mg/L	0.001	-
Vanadium (filtered)	0.005	mg/L	< 0.005	-
Zinc (filtered)	0.005	mg/L	0.008	-
Perfluoroalkyl carboxylic acids (PFCAs)				
Perfluorobutanoic acid (PFBA)[N11]	0.05	ug/L	-	< 0.05
Perfluoropentanoic acid (PFPeA)[N11]	0.01	ug/L	-	< 0.01
Perfluorohexanoic acid (PFHxA)[N11]	0.01	ug/L	-	< 0.01
Perfluoroheptanoic acid (PFHpA)[N11]	0.01	ug/L	-	< 0.01
Perfluorooctanoic acid (PFOA)[N11]	0.01	ug/L	-	< 0.01
Perfluorononanoic acid (PFNA)[N11]	0.01	ug/L	-	< 0.01
Perfluorodecanoic acid (PFDA)[N11]	0.01	ug/L	-	< 0.01
Perfluoroundecanoic acid (PFUnDA)[N11]	0.01	ug/L	-	< 0.01
Perfluorododecanoic acid (PFDoDA)[N11]	0.01	ug/L	-	< 0.01
Perfluorotridecanoic acid (PFTrDA)[N15]	0.01	ug/L	-	< 0.01
Perfluorotetradecanoic acid (PFTeDA)[N11]	0.01	ug/L	-	< 0.01
13C4-PFBA (surr.)	1	%	-	98
13C5-PFPeA (surr.)	1	%	-	99
13C5-PFHxA (surr.)	1	%	-	108
13C4-PFHpA (surr.)	1	%	-	110
13C8-PFOA (surr.)	1	%	-	110

Client Sample ID			QW57	QW59
Sample Matrix			Water	Water
Eurofins Sample No.			S21-Jl35524	S21-Jl35525
Date Sampled			Jul 15, 2021	Jul 15, 2021
Test/Reference	LOR	Unit		
Perfluoroalkyl carboxylic acids (PFCAs)				
13C5-PFNA (surr.)	1	%	-	124
13C6-PFDA (surr.)	1	%	-	115
13C2-PFUnDA (surr.)	1	%	-	126
13C2-PFDoDA (surr.)	1	%	-	103
13C2-PFTeDA (surr.)	1	%	-	116
Perfluoroalkyl sulfonamido substances				
Perfluorooctane sulfonamide (FOSA)[N11]	0.05	ug/L	-	< 0.05
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)[N11]	0.05	ug/L	-	< 0.05
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)[N11]	0.05	ug/L	-	< 0.05
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)[N11]	0.05	ug/L	-	< 0.05
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE)[N11]	0.05	ug/L	-	< 0.05
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)[N11]	0.05	ug/L	-	< 0.05
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)[N11]	0.05	ug/L	-	< 0.05
13C8-FOSA (surr.)	1	%	-	114
D3-N-MeFOSA (surr.)	1	%	-	70
D5-N-EtFOSA (surr.)	1	%	-	66
D7-N-MeFOSE (surr.)	1	%	-	85
D9-N-EtFOSE (surr.)	1	%	-	86
D5-N-EtFOSAA (surr.)	1	%	-	23
D3-N-MeFOSAA (surr.)	1	%	-	20
Perfluoroalkyl sulfonic acids (PFSAs)				
Perfluorobutanesulfonic acid (PFBS)[N11]	0.01	ug/L	-	< 0.01
Perfluorononanesulfonic acid (PFNS)[N15]	0.01	ug/L	-	< 0.01
Perfluoropropanesulfonic acid (PFPrS)[N15]	0.01	ug/L	-	< 0.01
Perfluoropentanesulfonic acid (PFPeS)[N15]	0.01	ug/L	-	< 0.01
Perfluorohexanesulfonic acid (PFHxS)[N11]	0.01	ug/L	-	< 0.01
Perfluoroheptanesulfonic acid (PFHpS)[N15]	0.01	ug/L	-	< 0.01
Perfluorooctanesulfonic acid (PFOS)[N11]	0.01	ug/L	-	< 0.01
Perfluorodecanesulfonic acid (PFDS)[N15]	0.01	ug/L	-	< 0.01
13C3-PFBS (surr.)	1	%	-	128
18O2-PFHxS (surr.)	1	%	-	121
13C8-PFOS (surr.)	1	%	-	125
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)[N11]	0.01	ug/L	-	< 0.01
1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA)[N11]	0.05	ug/L	-	< 0.05
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)[N11]	0.01	ug/L	-	< 0.01
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)[N11]	0.01	ug/L	-	< 0.01
13C2-4:2 FTSA (surr.)	1	%	-	INT
13C2-6:2 FTSA (surr.)	1	%	-	173
13C2-8:2 FTSA (surr.)	1	%	-	128
13C2-10:2 FTSA (surr.)	1	%	-	106

Client Sample ID			QW57	QW59
Sample Matrix			Water	Water
Eurofins Sample No.			S21-Jl35524	S21-Jl35525
Date Sampled			Jul 15, 2021	Jul 15, 2021
Test/Reference	LOR	Unit		
PFASs Summations				
Sum (PFHxS + PFOS)*	0.01	ug/L	-	< 0.01
Sum of US EPA PFAS (PFOS + PFOA)*	0.01	ug/L	-	< 0.01
Sum of enHealth PFAS (PFHxS + PFOS + PFOA)*	0.01	ug/L	-	< 0.01
Sum of WA DWER PFAS (n=10)*	0.05	ug/L	-	< 0.05
Sum of PFASs (n=30)*	0.1	ug/L	-	< 0.1

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
NEPM 1999 Metals : Metals M15 (Filtered)			
Chromium (hexavalent)	Sydney	Jul 19, 2021	28 Days
- Method: In-house method E057.1			
Chromium (trivalent filtered)	Sydney	Jul 19, 2021	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Heavy Metals (filtered)	Sydney	Jul 20, 2021	180 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Mobil Metals : Metals M15	Sydney	Jul 19, 2021	28 Days
- Method: LTM-MET-3040 Metals in Waters, Soils & Sediments by ICP-MS			
Per- and Polyfluoroalkyl Substances (PFASs)			
Perfluoroalkyl carboxylic acids (PFCAs)	Sydney	Jul 19, 2021	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonamido substances	Sydney	Jul 19, 2021	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
Perfluoroalkyl sulfonic acids (PFSAs)	Sydney	Jul 19, 2021	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)	Sydney	Jul 19, 2021	28 Days
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			
PFASs Summations	Sydney	Jul 19, 2021	
- Method: LTM-ORG-2100 Per- and Polyfluoroalkyl Substances (PFAS)			

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Company Name: Kleinfelder Aust Pty Ltd (NEWCASTLE)
Address: Suite 3, 240-244 Pacific Hwy
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Order No.:
Report #: 811568
Phone: 02 4949 5200
Fax:

Received: Jul 19, 2021 2:55 PM
Due: Jul 26, 2021
Priority: 5 Day
Contact Name: Daniel Kousbroek

Project Name: - CABBAGE TREE RD WATER MONITORING JUNE 2021
Project ID: 20193820

Eurofins Analytical Services Manager : Andrew Black

Sample Detail						Iron (filtered)	NEPM 1999 Metals : Metals M15 (Filtered)	Per- and Polyfluoroalkyl Substances (PFASs)
Melbourne Laboratory - NATA Site # 1254								
Sydney Laboratory - NATA Site # 18217						X	X	X
Brisbane Laboratory - NATA Site # 20794								
Perth Laboratory - NATA Site # 23736								
Mayfield Laboratory - NATA Site # 25079								
External Laboratory								
No	**Sample ID**	**Sample Date**	**Sampling Time**	**Matrix**	**LAB ID**			
1	QW57	Jul 15, 2021		Water	S21-Jl35524	X	X	
2	QW59	Jul 15, 2021		Water	S21-Jl35525			X
Test Counts						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.

****NOTE:** pH duplicates are reported as a range NOT as RPD

Units

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

Terms

Dry	Where a moisture has been determined on a solid sample the result is expressed on a dry basis.
LOR	Limit of Reporting.
SPIKE	Addition of the analyte to the sample and reported as percentage recovery.
RPD	Relative Percent Difference between two Duplicate pieces of analysis.
LCS	Laboratory Control Sample - reported as percent recovery.
CRM	Certified Reference Material - 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.
Surr - Surrogate	The addition of a like compound to the analyte target and reported as percentage recovery.
Duplicate	A second piece of analysis from the same sample and reported in the same units as the result to show comparison.
USEPA	United States Environmental Protection Agency
APHA	American Public Health Association
TCLP	Toxicity Characteristic Leaching Procedure
COC	Chain of Custody
SRA	Sample Receipt Advice
QSM	US Department of Defense Quality Systems Manual Version 5.3
CP	Client Parent - QC was performed on samples pertaining to this report
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.
TEQ	Toxic Equivalency Quotient

QC - Acceptance Criteria

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%

Surrogate Recoveries: Recoveries must lie between 20-130% Phenols & 50-150% PFASs

PFAS field samples that contain surrogate recoveries in excess of the QC limit designated in QSM 5.3 where no positive PFAS results have been reported have been reviewed and no data was affected.

WA DWER (n=10): PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFBS, PFHxS, PFOS, 6:2 FTSA, 8:2 FTSA

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. Organochlorine Pesticide analysis - where reporting LCS data, Toxaphene & Chlordane are not added to the LCS.
4. Organochlorine Pesticide analysis - where reporting Spike data, Toxaphene is not added to the Spike.
5. Total Recoverable Hydrocarbons - where reporting Spike & LCS data, a single spike of commercial Hydrocarbon products in the range of C12-C30 is added and it's Total Recovery is reported in the C10-C14 cell of the Report.
6. 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.
7. Recovery Data (Spikes & Surrogates) - where chromatographic interference does not allow the determination of Recovery the term "INT" appears against that analyte.
8. Polychlorinated Biphenyls are spiked only using Aroclor 1260 in Matrix Spikes and LCS.
9. For Matrix Spikes and LCS results a dash " -" in the report means that the specific analyte was not added to the QC sample.
10. 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							
Chromium (hexavalent)	mg/L	< 0.005			0.005	Pass	
Method Blank							
Heavy Metals							
Arsenic (filtered)	mg/L	< 0.001			0.001	Pass	
Barium (filtered)	mg/L	< 0.02			0.02	Pass	
Beryllium (filtered)	mg/L	< 0.001			0.001	Pass	
Boron (filtered)	mg/L	< 0.05			0.05	Pass	
Cadmium (filtered)	mg/L	< 0.0002			0.0002	Pass	
Chromium (filtered)	mg/L	< 0.001			0.001	Pass	
Cobalt (filtered)	mg/L	< 0.001			0.001	Pass	
Copper (filtered)	mg/L	< 0.001			0.001	Pass	
Iron (filtered)	mg/L	< 0.05			0.05	Pass	
Lead (filtered)	mg/L	< 0.001			0.001	Pass	
Manganese (filtered)	mg/L	< 0.005			0.005	Pass	
Mercury (filtered)	mg/L	< 0.0001			0.0001	Pass	
Nickel (filtered)	mg/L	< 0.001			0.001	Pass	
Vanadium (filtered)	mg/L	< 0.005			0.005	Pass	
Zinc (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	

Test	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
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							
Chromium (hexavalent)	%	89			70-130	Pass	
LCS - % Recovery							
Heavy Metals							
Arsenic (filtered)	%	82			80-120	Pass	
Barium (filtered)	%	102			80-120	Pass	
Beryllium (filtered)	%	101			80-120	Pass	
Boron (filtered)	%	85			80-120	Pass	
Cadmium (filtered)	%	84			80-120	Pass	
Chromium (filtered)	%	96			80-120	Pass	
Cobalt (filtered)	%	95			80-120	Pass	
Copper (filtered)	%	96			80-120	Pass	
Iron (filtered)	%	96			80-120	Pass	
Lead (filtered)	%	96			80-120	Pass	
Manganese (filtered)	%	89			80-120	Pass	
Mercury (filtered)	%	107			80-120	Pass	
Nickel (filtered)	%	98			80-120	Pass	
Vanadium (filtered)	%	93			80-120	Pass	
Zinc (filtered)	%	93			80-120	Pass	
LCS - % Recovery							
Perfluoroalkyl carboxylic acids (PFCAs)							
Perfluorobutanoic acid (PFBA)	%	98			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	%	94			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	%	99			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	%	99			50-150	Pass	
Perfluorooctanoic acid (PFOA)	%	104			50-150	Pass	
Perfluorononanoic acid (PFNA)	%	100			50-150	Pass	
Perfluorodecanoic acid (PFDA)	%	105			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	%	109			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	%	110			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	%	82			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	%	105			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonamido substances							
Perfluorooctane sulfonamide (FOSA)	%	99			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	%	92			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	%	95			50-150	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	%	100			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE)	%	99			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	%	100			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	%	98			50-150	Pass	
LCS - % Recovery							
Perfluoroalkyl sulfonic acids (PFSAs)							
Perfluorobutanesulfonic acid (PFBS)	%	88			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	%	93			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	%	98			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	%	91			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	%	91			50-150	Pass	

Test			Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
Perfluoroheptanesulfonic acid (PFHpS)			%	92			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)			%	92			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)			%	88			50-150	Pass	
LCS - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)									
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)			%	85			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA)			%	95			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)			%	100			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)			%	110			50-150	Pass	
Test	**Lab Sample ID**	**QA Source**	**Units**	**Result 1**			**Acceptance Limits**	**Pass Limits**	**Qualifying Code**
Spike - % Recovery									
				Result 1					
Chromium (hexavalent)	S21-Jl35524	CP	%	85			70-130	Pass	
Spike - % Recovery									
Heavy Metals				Result 1					
Arsenic (filtered)	S21-Jl35595	NCP	%	89			75-125	Pass	
Barium (filtered)	S21-Jl35595	NCP	%	83			75-125	Pass	
Beryllium (filtered)	S21-Jl35595	NCP	%	92			75-125	Pass	
Boron (filtered)	S21-Jl35595	NCP	%	89			75-125	Pass	
Cadmium (filtered)	S21-Jl35595	NCP	%	91			75-125	Pass	
Chromium (filtered)	S21-Jl35595	NCP	%	97			75-125	Pass	
Cobalt (filtered)	S21-Jl35595	NCP	%	96			75-125	Pass	
Copper (filtered)	S21-Jl35595	NCP	%	96			75-125	Pass	
Iron (filtered)	S21-Jl35595	NCP	%	83			75-125	Pass	
Lead (filtered)	S21-Jl35595	NCP	%	96			75-125	Pass	
Manganese (filtered)	S21-Jl35595	NCP	%	91			75-125	Pass	
Mercury (filtered)	S21-Jl35595	NCP	%	103			75-125	Pass	
Nickel (filtered)	S21-Jl35595	NCP	%	96			75-125	Pass	
Vanadium (filtered)	S21-Jl35595	NCP	%	96			75-125	Pass	
Zinc (filtered)	S21-Jl35595	NCP	%	95			75-125	Pass	
Spike - % Recovery									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1					
Perfluorobutanoic acid (PFBA)	S21-Jl21933	NCP	%	134			50-150	Pass	
Perfluoropentanoic acid (PFPeA)	S21-Jl21933	NCP	%	107			50-150	Pass	
Perfluorohexanoic acid (PFHxA)	S21-Jl21933	NCP	%	112			50-150	Pass	
Perfluoroheptanoic acid (PFHpA)	S21-Jl21933	NCP	%	117			50-150	Pass	
Perfluorooctanoic acid (PFOA)	S21-Jl21933	NCP	%	124			50-150	Pass	
Perfluorononanoic acid (PFNA)	S21-Jl21933	NCP	%	116			50-150	Pass	
Perfluorodecanoic acid (PFDA)	S21-Jl21933	NCP	%	133			50-150	Pass	
Perfluoroundecanoic acid (PFUnDA)	S21-Jl21933	NCP	%	133			50-150	Pass	
Perfluorododecanoic acid (PFDoDA)	S21-Jl21933	NCP	%	143			50-150	Pass	
Perfluorotridecanoic acid (PFTrDA)	S21-Jl21933	NCP	%	142			50-150	Pass	
Perfluorotetradecanoic acid (PFTeDA)	S21-Jl21933	NCP	%	134			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonamido substances				Result 1					
Perfluorooctane sulfonamide (FOSA)	S21-Jl21933	NCP	%	111			50-150	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	S21-Jl21933	NCP	%	131			50-150	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	S21-Jl21933	NCP	%	132			50-150	Pass	

Test	Lab Sample ID	QA Source	Units	Result 1			Acceptance Limits	Pass Limits	Qualifying Code
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	S21-Jl21933	NCP	%	125			50-150	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE)	S21-Jl21933	NCP	%	125			50-150	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	S21-Jl28437	NCP	%	93			50-150	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	S21-Jl28437	NCP	%	104			50-150	Pass	
Spike - % Recovery									
Perfluoroalkyl sulfonic acids (PFSAs)				Result 1					
Perfluorobutanesulfonic acid (PFBS)	S21-Jl21933	NCP	%	99			50-150	Pass	
Perfluorononanesulfonic acid (PFNS)	S21-Jl21933	NCP	%	99			50-150	Pass	
Perfluoropropanesulfonic acid (PFPrS)	S21-Jl21933	NCP	%	108			50-150	Pass	
Perfluoropentanesulfonic acid (PFPeS)	S21-Jl21933	NCP	%	102			50-150	Pass	
Perfluorohexanesulfonic acid (PFHxS)	S21-Jl21933	NCP	%	104			50-150	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	S21-Jl21933	NCP	%	109			50-150	Pass	
Perfluorooctanesulfonic acid (PFOS)	S21-Jl21933	NCP	%	105			50-150	Pass	
Perfluorodecanesulfonic acid (PFDS)	S21-Jl21933	NCP	%	96			50-150	Pass	
Spike - % Recovery									
n:2 Fluorotelomer sulfonic acids (n:2 FTSAs)				Result 1					
1H.1H.2H.2H-perfluorohexanesulfonic acid (4:2 FTSA)	S21-Jl21933	NCP	%	105			50-150	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA)	S21-Jl21933	NCP	%	106			50-150	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	S21-Jl21933	NCP	%	107			50-150	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	S21-Jl21933	NCP	%	135			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)	S21-Jl35524	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Barium (filtered)	S21-Jl35524	CP	mg/L	< 0.02	< 0.02	<1	30%	Pass	
Beryllium (filtered)	S21-Jl35524	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Boron (filtered)	S21-Jl35524	CP	mg/L	< 0.05	< 0.05	<1	30%	Pass	
Cadmium (filtered)	S21-Jl35524	CP	mg/L	< 0.0002	< 0.0002	<1	30%	Pass	
Chromium (filtered)	S21-Jl35524	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Cobalt (filtered)	S21-Jl35524	CP	mg/L	0.001	0.001	2.0	30%	Pass	
Copper (filtered)	S21-Jl35524	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Iron (filtered)	S21-Jl35524	CP	mg/L	0.83	0.82	1.0	30%	Pass	
Lead (filtered)	S21-Jl35524	CP	mg/L	< 0.001	< 0.001	<1	30%	Pass	
Manganese (filtered)	S21-Jl35524	CP	mg/L	0.043	0.043	<1	30%	Pass	
Mercury (filtered)	S21-Jl35524	CP	mg/L	< 0.0001	< 0.0001	<1	30%	Pass	
Nickel (filtered)	S21-Jl35524	CP	mg/L	0.001	0.001	6.0	30%	Pass	
Vanadium (filtered)	S21-Jl35524	CP	mg/L	< 0.005	< 0.005	<1	30%	Pass	
Zinc (filtered)	S21-Jl35524	CP	mg/L	0.008	0.008	3.0	30%	Pass	

Duplicate									
Perfluoroalkyl carboxylic acids (PFCAs)				Result 1	Result 2	RPD			
Perfluorobutanoic acid (PFBA)	S21-Jl21932	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
Perfluoropentanoic acid (PFPeA)	S21-Jl21932	NCP	ug/L	0.01	0.01	<1	30%	Pass	
Perfluorohexanoic acid (PFHxA)	S21-Jl21932	NCP	ug/L	0.02	0.02	3.0	30%	Pass	
Perfluoroheptanoic acid (PFHpA)	S21-Jl21932	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorooctanoic acid (PFOA)	S21-Jl21932	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorononanoic acid (PFNA)	S21-Jl21932	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorodecanoic acid (PFDA)	S21-Jl21932	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoroundecanoic acid (PFUnDA)	S21-Jl21932	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorododecanoic acid (PFDoDA)	S21-Jl21932	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotridecanoic acid (PFTrDA)	S21-Jl21932	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorotetradecanoic acid (PFTeDA)	S21-Jl21932	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonamido substances				Result 1	Result 2	RPD			
Perfluorooctane sulfonamide (FOSA)	S21-Jl21932	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-methylperfluoro-1-octane sulfonamide (N-MeFOSA)	S21-Jl21932	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-ethylperfluoro-1-octane sulfonamide (N-EtFOSA)	S21-Jl21932	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
2-(N-methylperfluoro-1-octane sulfonamido)-ethanol (N-MeFOSE)	S21-Jl21932	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
2-(N-ethylperfluoro-1-octane sulfonamido)-ethanol (N-EtFOSE)	S21-Jl21932	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-ethyl-perfluorooctanesulfonamidoacetic acid (N-EtFOSAA)	S21-Jl21932	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
N-methyl-perfluorooctanesulfonamidoacetic acid (N-MeFOSAA)	S21-Jl21932	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
Duplicate									
Perfluoroalkyl sulfonic acids (PFSAs)				Result 1	Result 2	RPD			
Perfluorobutanesulfonic acid (PFBS)	S21-Jl21932	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorononanesulfonic acid (PFNS)	S21-Jl21932	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoropropanesulfonic acid (PFPrS)	S21-Jl21932	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluoropentanesulfonic acid (PFPeS)	S21-Jl21932	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorohexanesulfonic acid (PFHxS)	S21-Jl21932	NCP	ug/L	0.01	0.01	<1	30%	Pass	
Perfluoroheptanesulfonic acid (PFHpS)	S21-Jl21932	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
Perfluorooctanesulfonic acid (PFOS)	S21-Jl21932	NCP	ug/L	0.06	0.07	6.0	30%	Pass	
Perfluorodecanesulfonic acid (PFDS)	S21-Jl21932	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)	S21-Jl21932	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
1H.1H.2H.2H-perfluorooctanesulfonic acid (6:2 FTSA)	S21-Jl21932	NCP	ug/L	< 0.05	< 0.05	<1	30%	Pass	
1H.1H.2H.2H-perfluorodecanesulfonic acid (8:2 FTSA)	S21-Jl21932	NCP	ug/L	< 0.01	< 0.01	<1	30%	Pass	
1H.1H.2H.2H-perfluorododecanesulfonic acid (10:2 FTSA)	S21-Jl21932	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
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).

Authorised by:

Emma Beesley	Analytical Services Manager
Andrew Sullivan	Senior Analyst-PFAS (NSW)
Charl Du Preez	Senior Analyst-Inorganic (NSW)
John Nguyen	Senior Analyst-Metal (NSW)

Glenn Jackson
General Manager

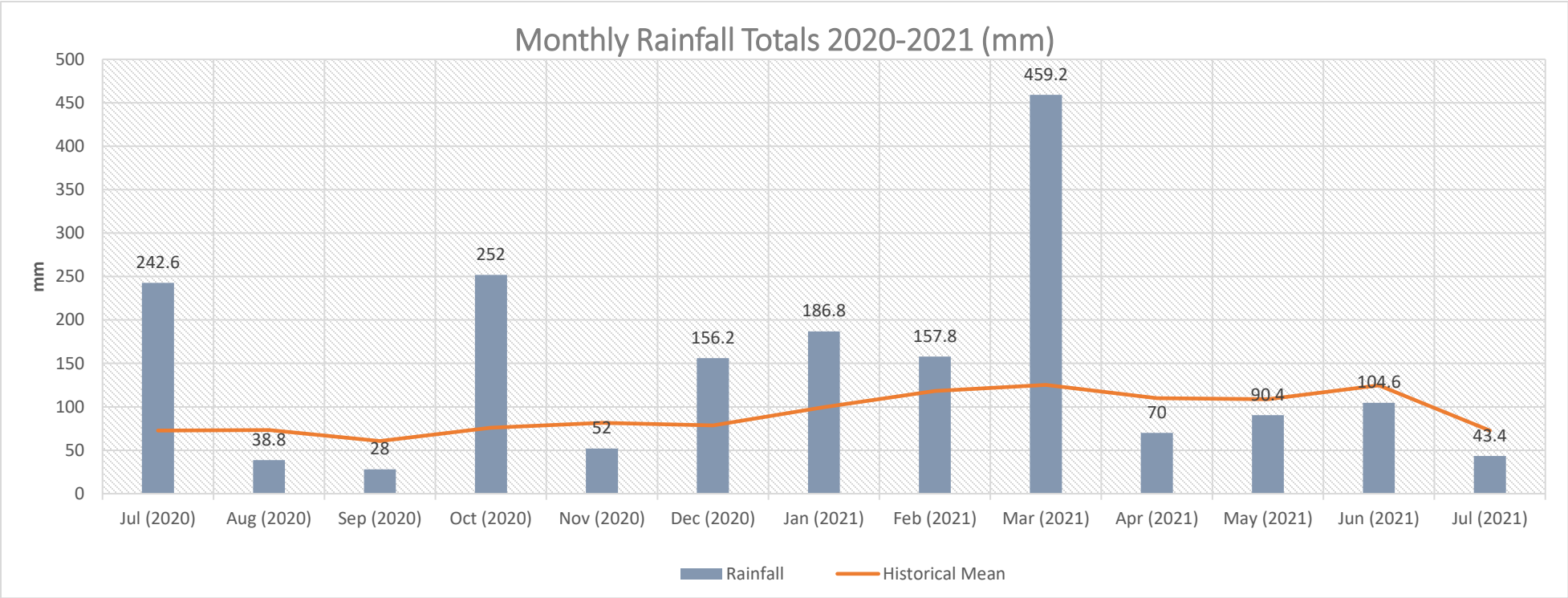
Final Report – this report replaces any previously issued Report

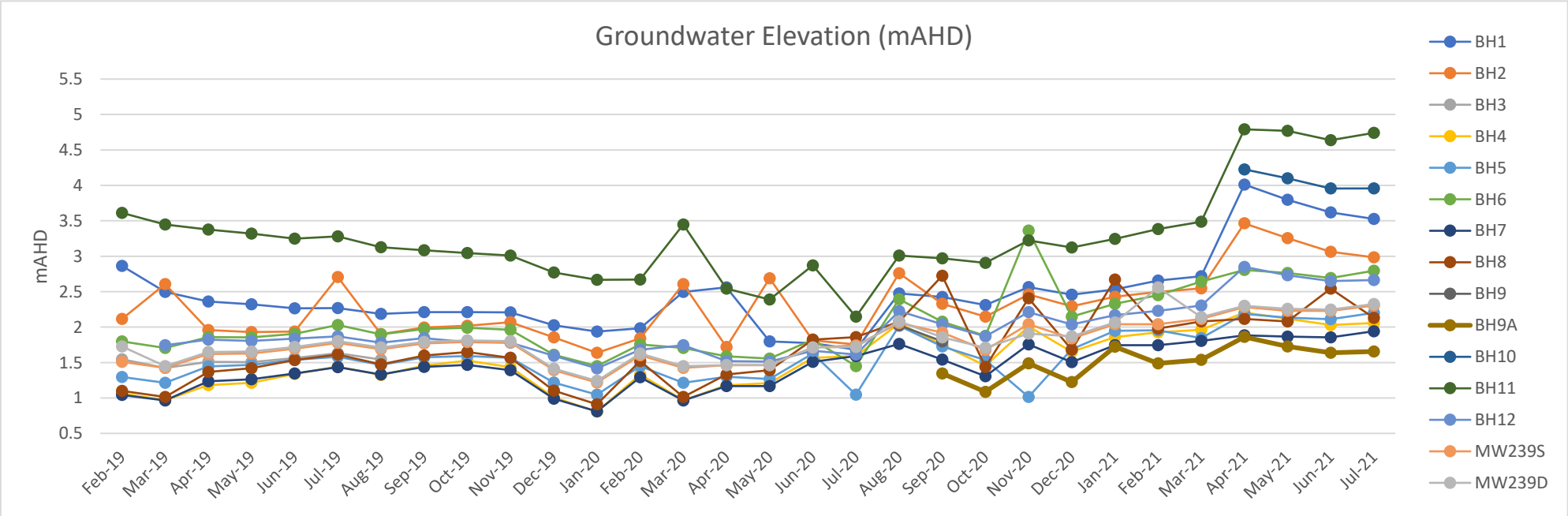
- Indicates Not Requested

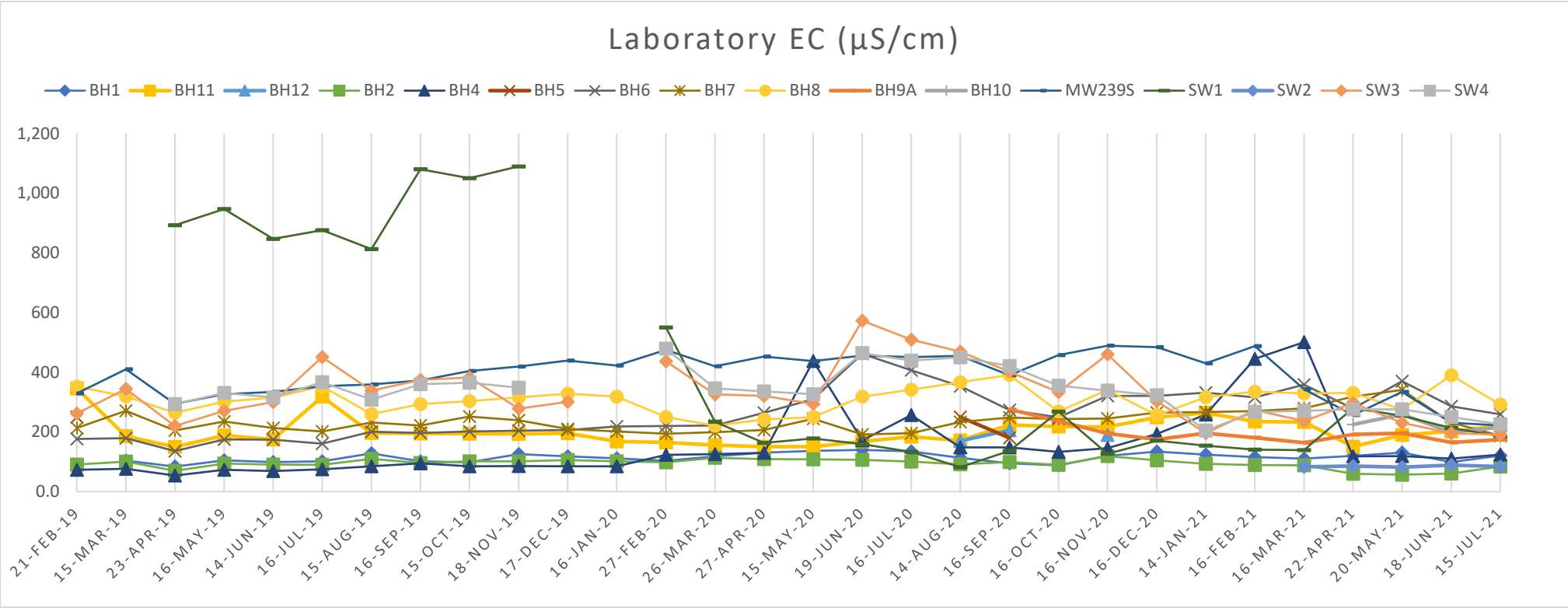
* Indicates NATA accreditation does not cover the performance of this service

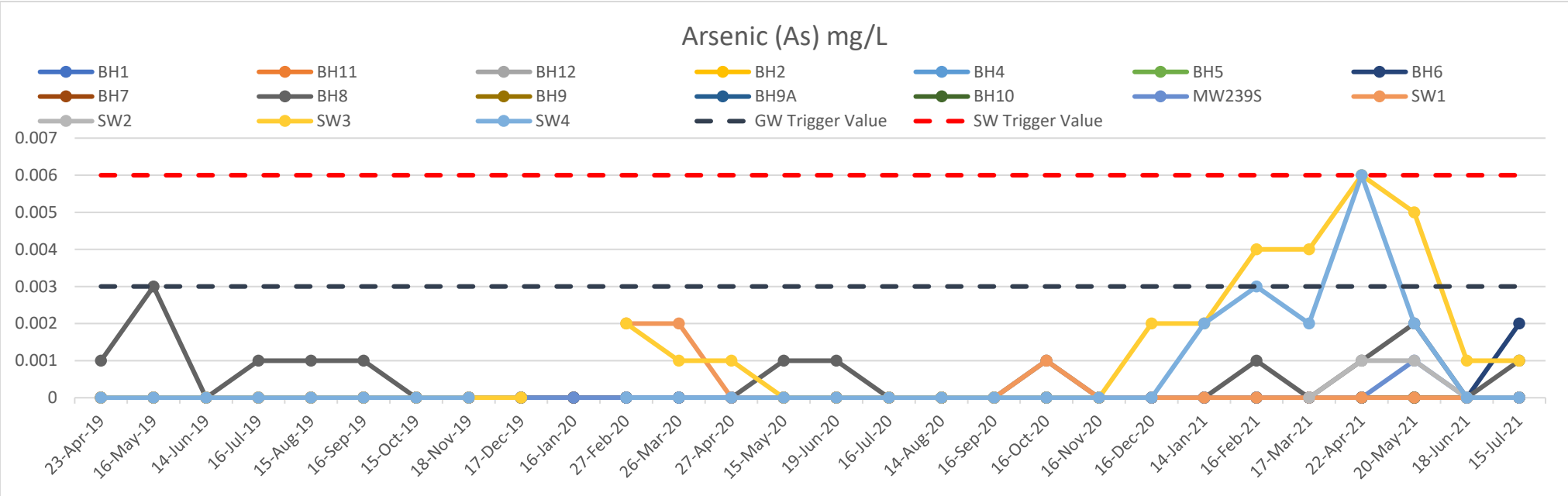
Measurement uncertainty of test data is available on request or please click here.

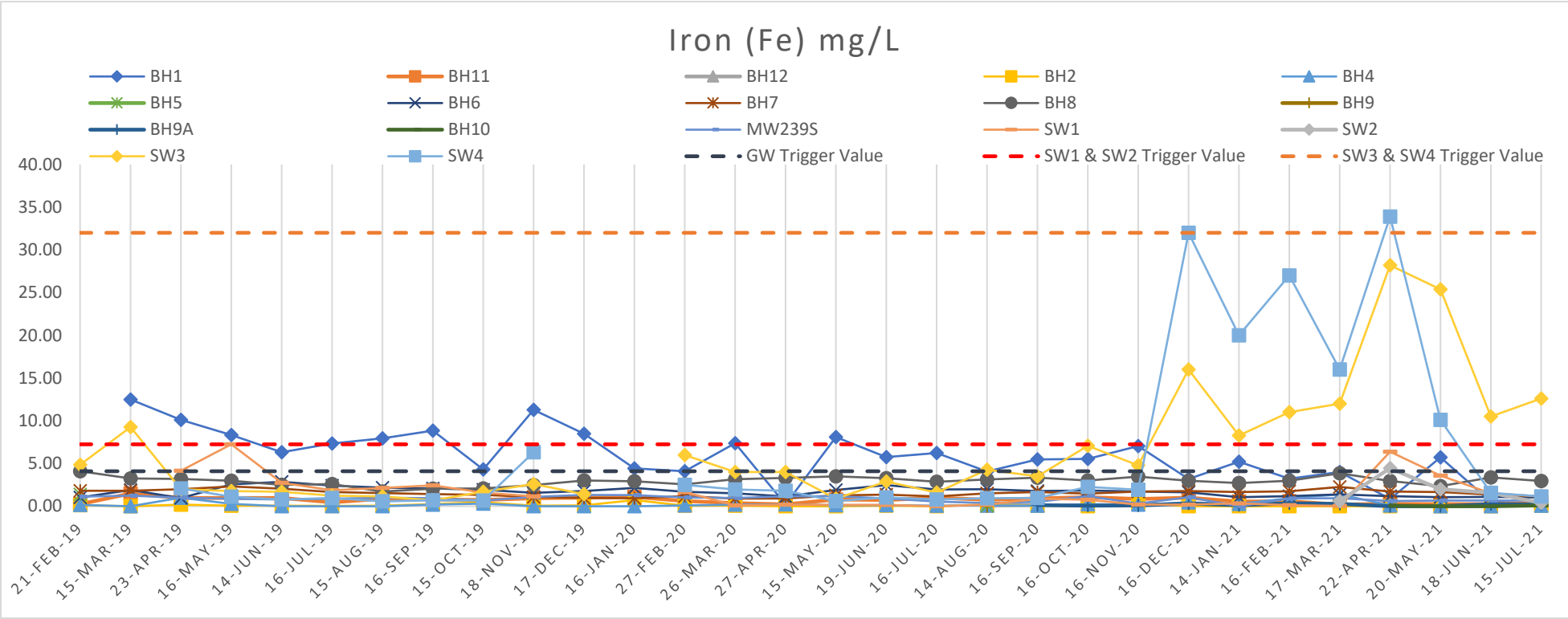
ATTACHMENT 4: DATA TRENDS

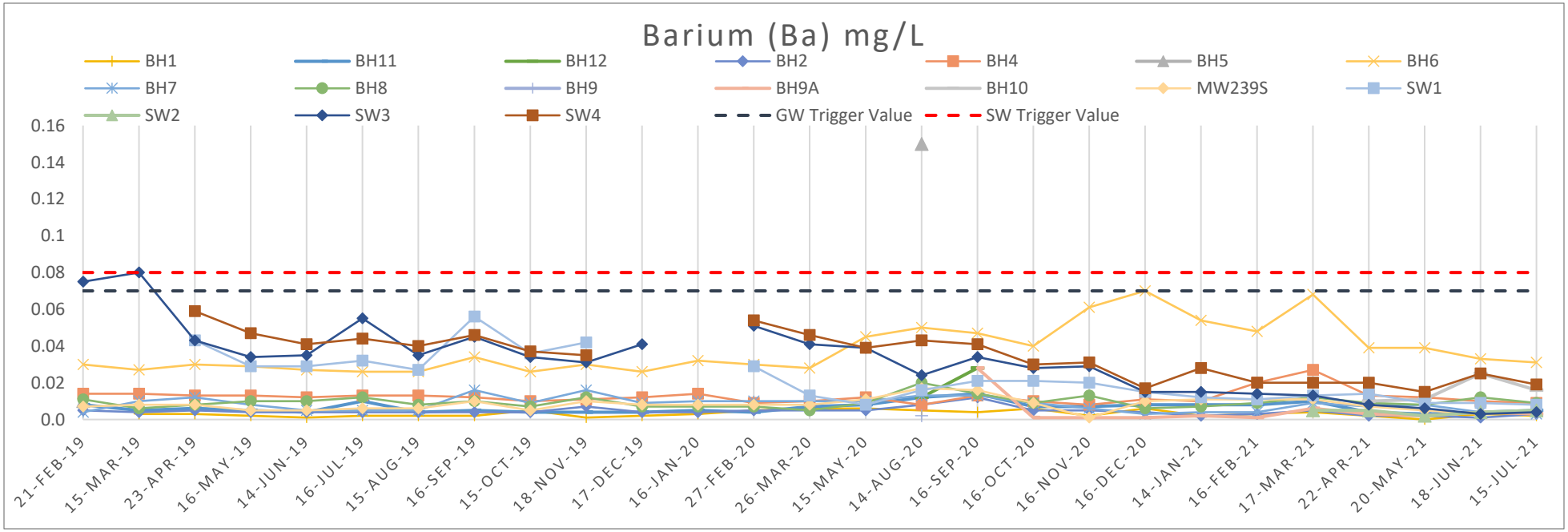

Monthly Rainfall Totals 2020-2021 (mm)
mm
500
450
400
350
300
250
200
150
100
50
0
242.6
38.8
28
252
52
156.2
186.8
157.8
459.2
70
90.4
104.6
43.4
Jul (2020)
Aug (2020)
Sep (2020)
Oct (2020)
Nov (2020)
Dec (2020)
Jan (2021)
Feb (2021)
Mar (2021)
Apr (2021)
May (2021)
Jun (2021)
Jul (2021)
Rainfall
Historical Mean


Groundwater Elevation (mAHD)
mAHD
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
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
BH1
BH2
BH3
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
BH11
BH12
MW239S
MW239D


Laboratory EC (µS/cm)
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
1,200
1,000
800
600
400
200
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-FEB-21
16-MAR-21
22-APR-21
20-MAY-21
18-JUN-21
15-JUL-21


Arsenic (As) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
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


Iron (Fe) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
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


Barium (Ba) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
GW Trigger Value
SW Trigger Value
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
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
14-AUG-20
16-SEP-20
16-OCT-20
16-NOV-20
16-DEC-20
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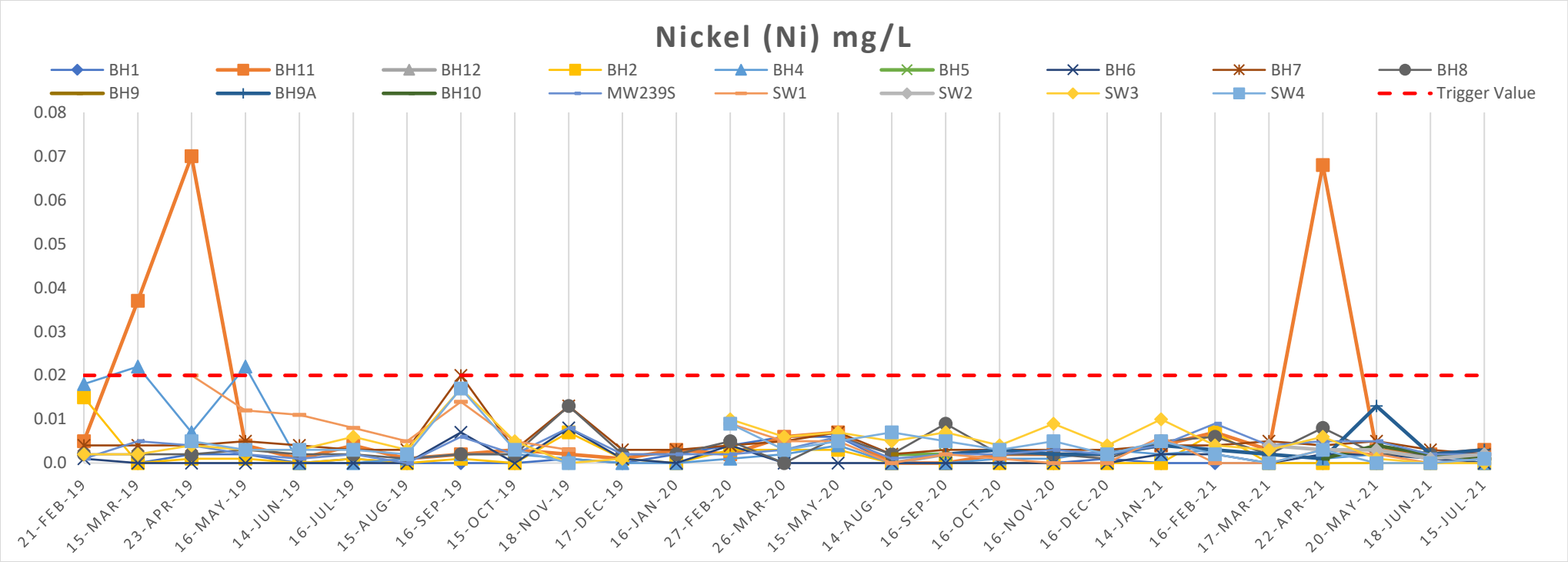
16-FEB-21
17-MAR-21
22-APR-21
20-MAY-21
18-JUN-21
15-JUL-21


Nickel (Ni) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
Trigger Value
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
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
14-AUG-20
16-SEP-20
16-OCT-20
16-NOV-20
16-DEC-20
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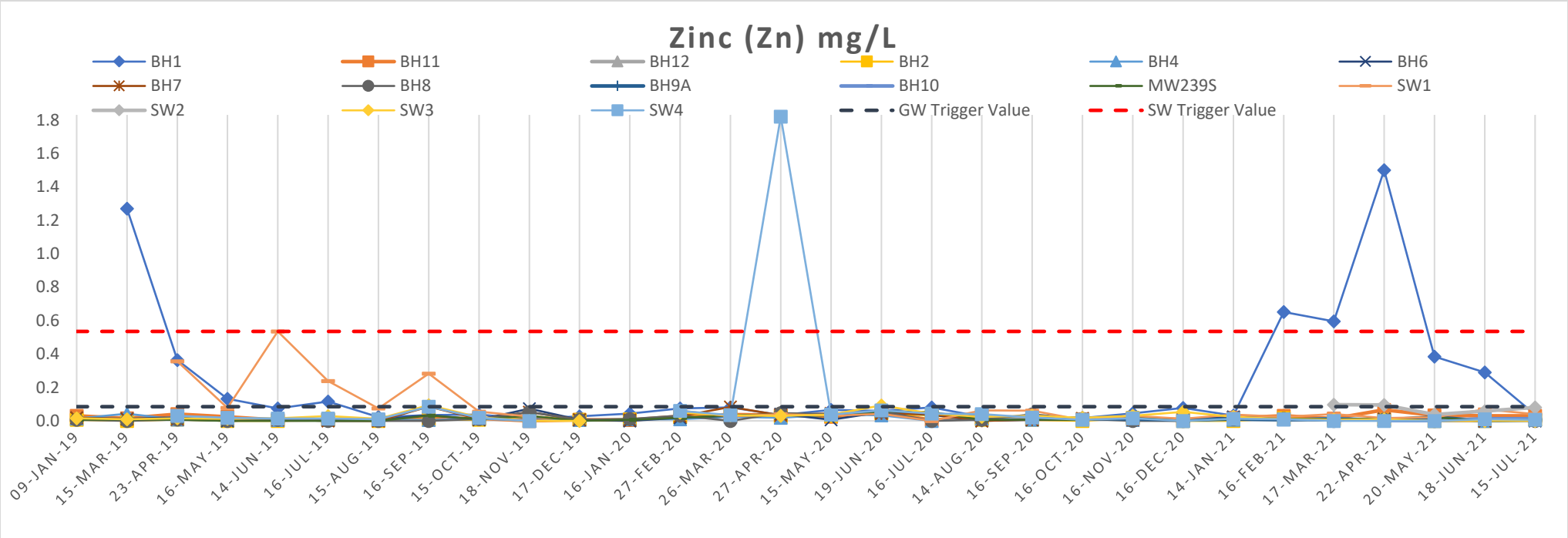
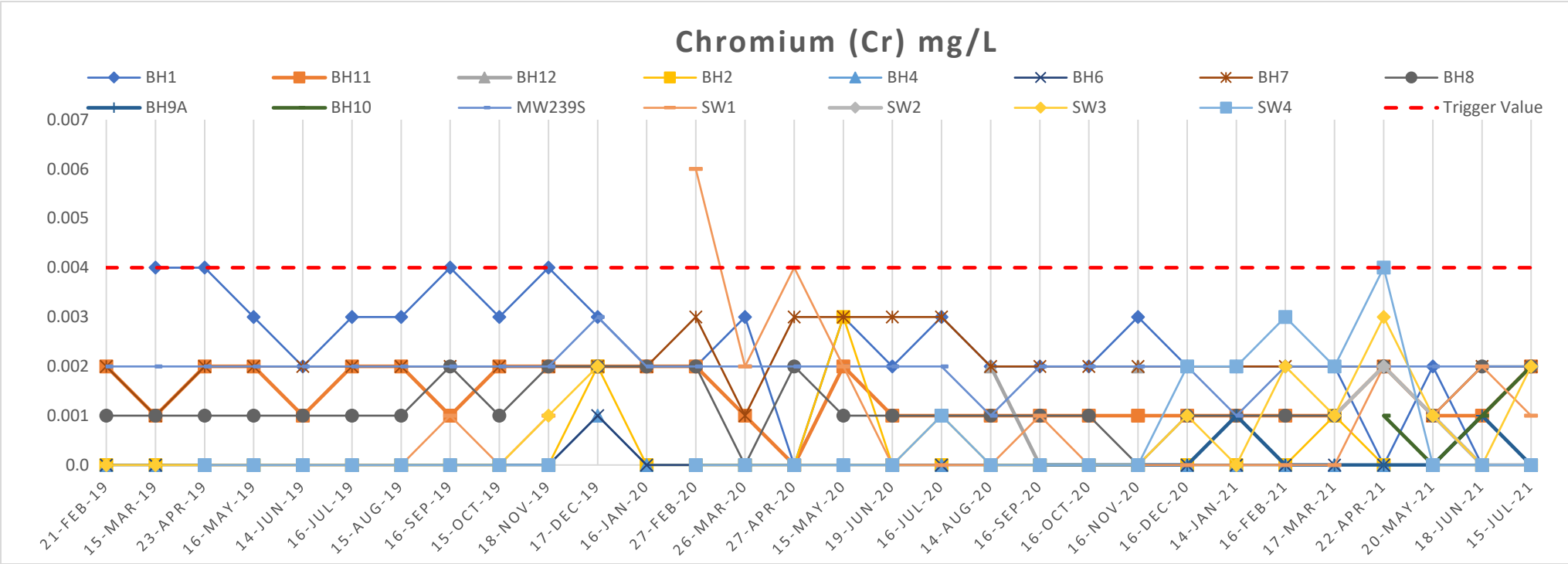
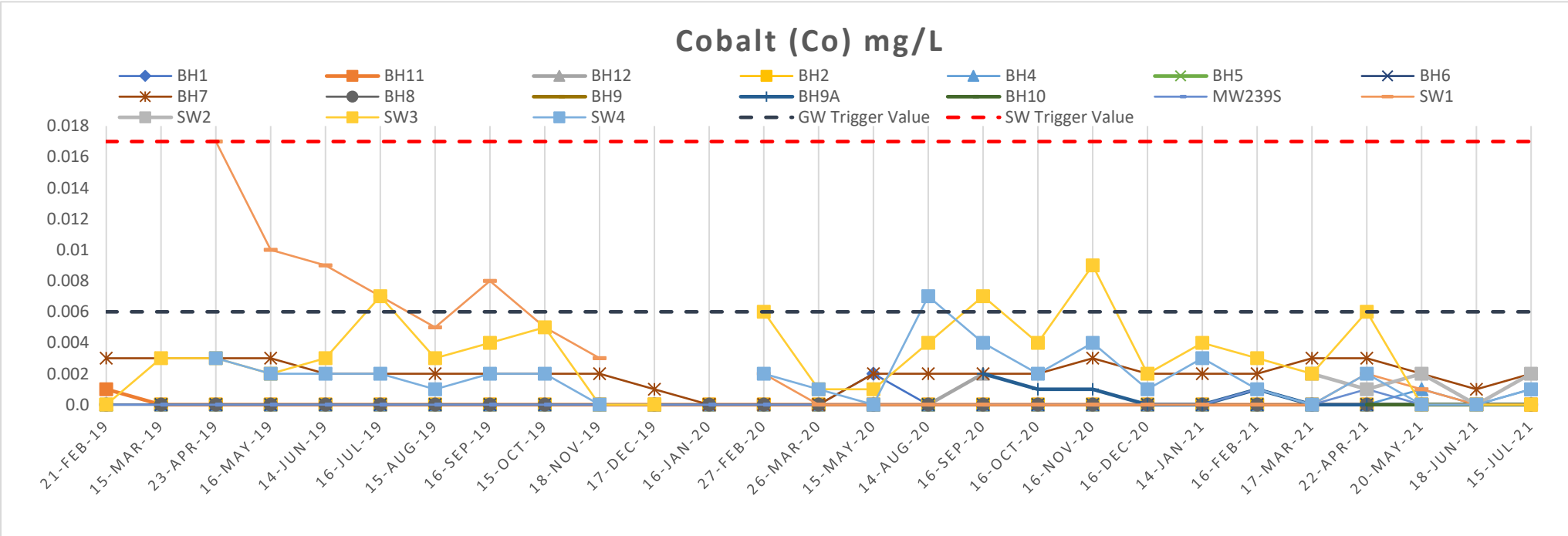
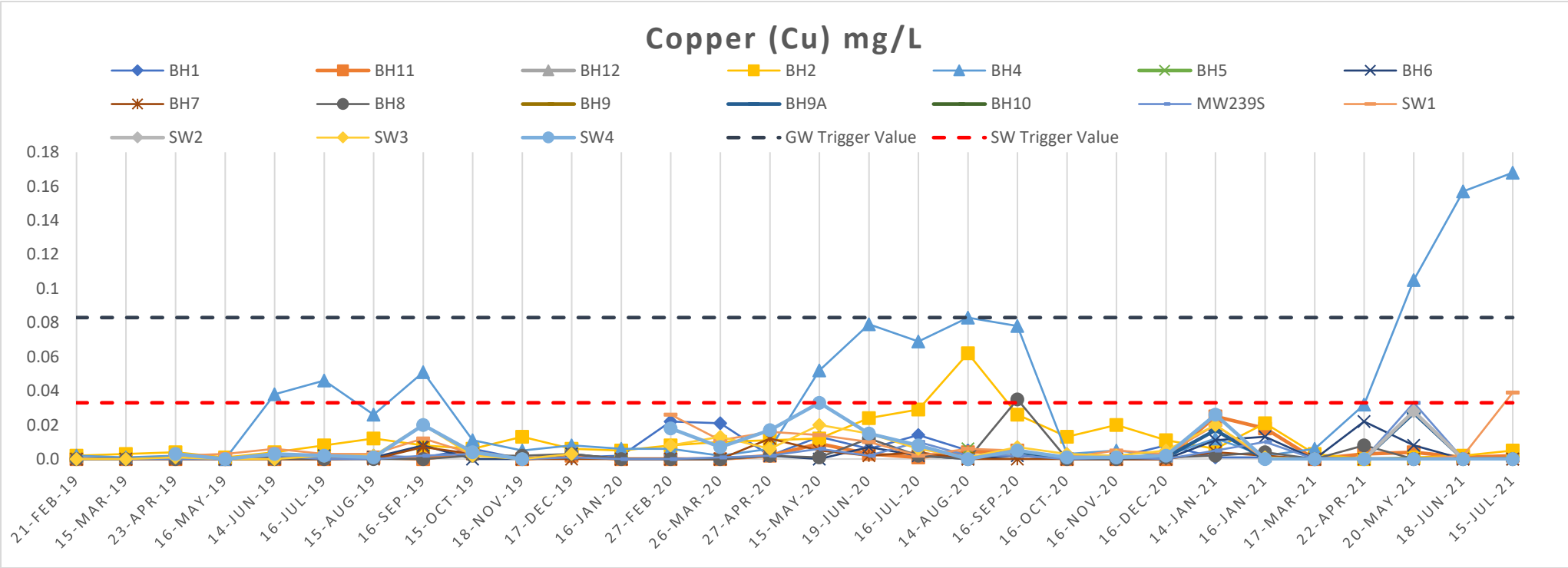
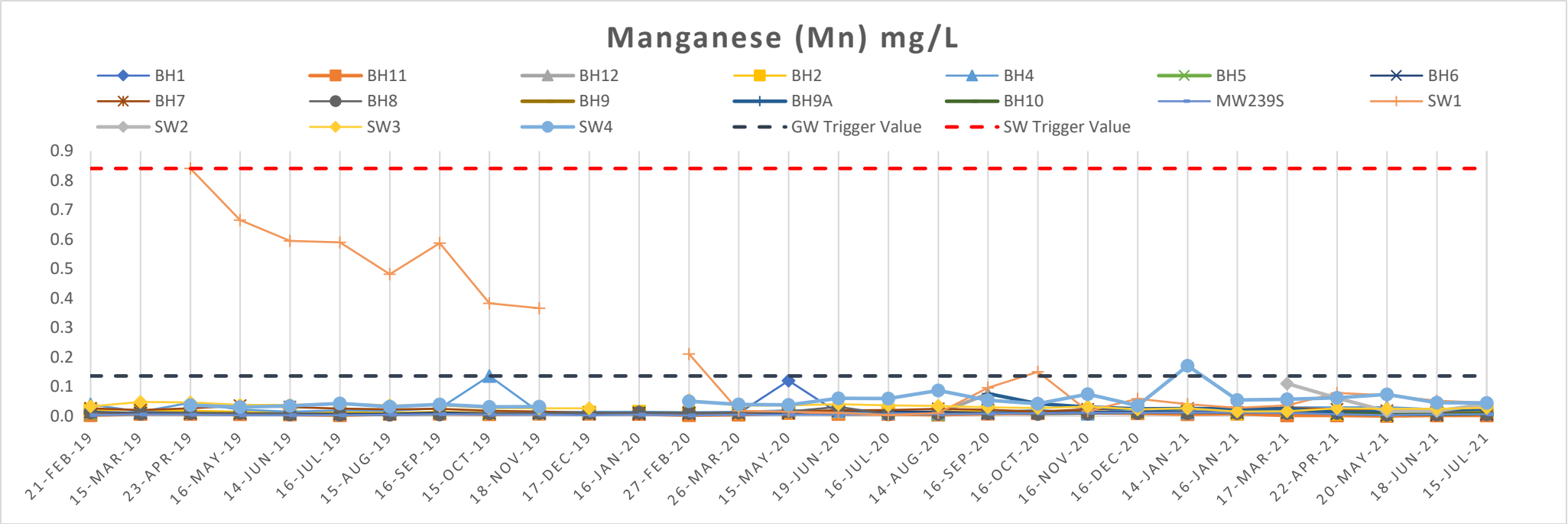
17-MAR-21
22-APR-21
20-MAY-21
18-JUN-21
15-JUL-21

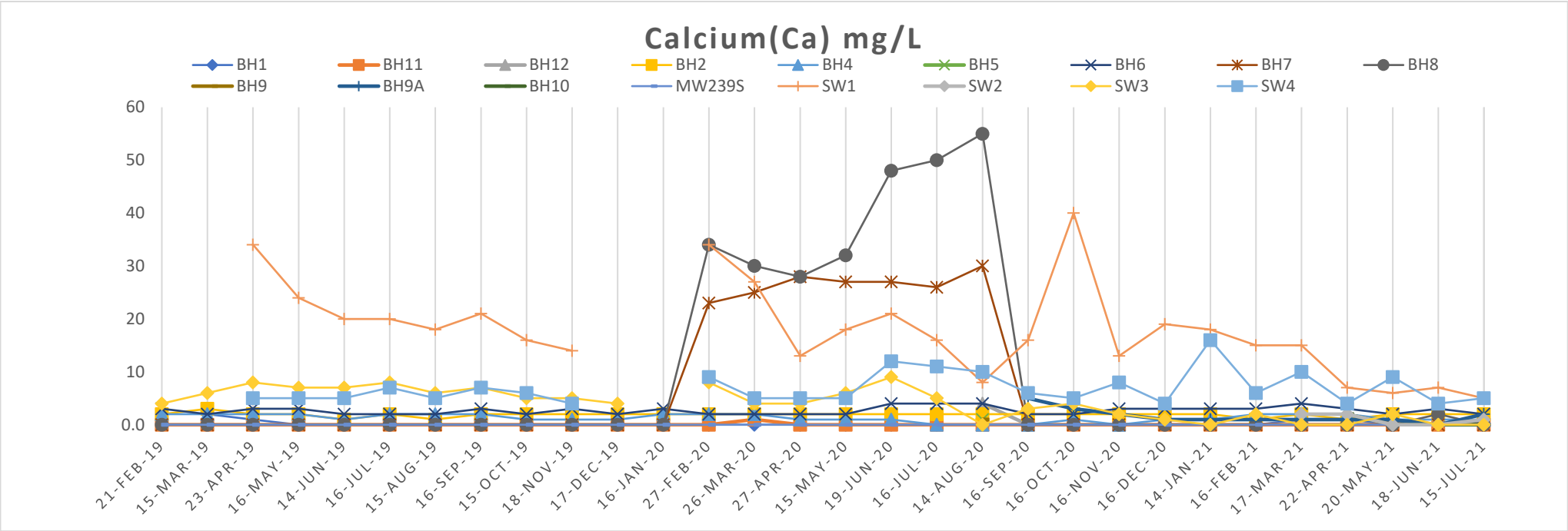

Zinc (Zn) mg/L
BH1
BH11
BH12
BH2
BH4
BH6
BH7
BH8
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
GW Trigger Value
SW Trigger Value
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
09-JAN-19
15-MAR-19
23-APR-19
16-MAY-19
14-JUN-19
16-JUL-19
15-AUG-19
16-SEP-19
15-OCT-19
18-NOV-19
17-DEC-19
16-JAN-20
27-FEB-20
26-MAR-20
27-APR-20
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


Chromium (Cr) mg/L
BH1
BH11
BH12
BH2
BH4
BH6
BH7
BH8
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
Trigger Value
0.007
0.006
0.005
0.004
0.003
0.002
0.001
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-FEB-21
17-MAR-21
22-APR-21
20-MAY-21
18-JUN-21
15-JUL-21


Cobalt (Co) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
GW Trigger Value
SW Trigger Value
0.018
0.016
0.014
0.012
0.01
0.008
0.006
0.004
0.002
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
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


Copper (Cu) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
GW Trigger Value
SW Trigger Value
0.18
0.16
0.14
0.12
0.1
0.08
0.06
0.04
0.02
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


Manganese (Mn) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
GW Trigger Value
SW Trigger Value
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
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


Calcium(Ca) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
60
50
40
30
20
10
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
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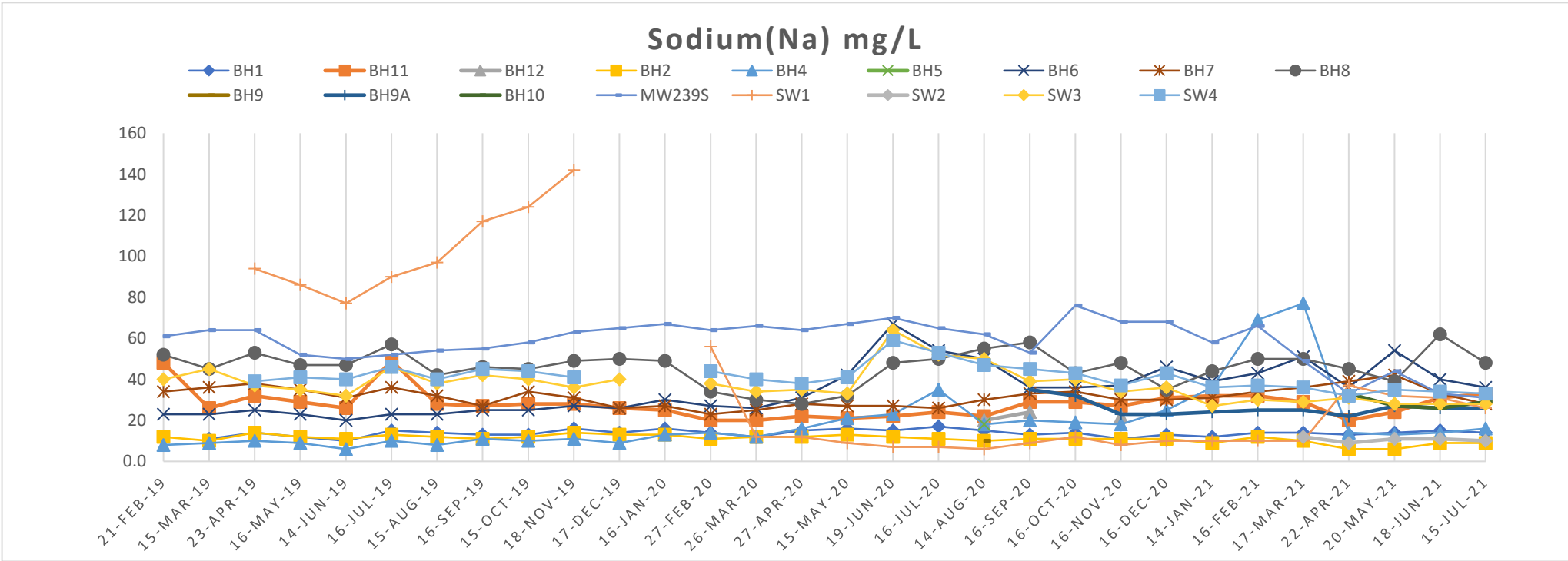
17-MAR-21
22-APR-21
20-MAY-21
18-JUN-21
15-JUL-21


Sodium(Na) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
160
140
120
100
80
60
40
20
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
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16-FEB-21
17-MAR-21
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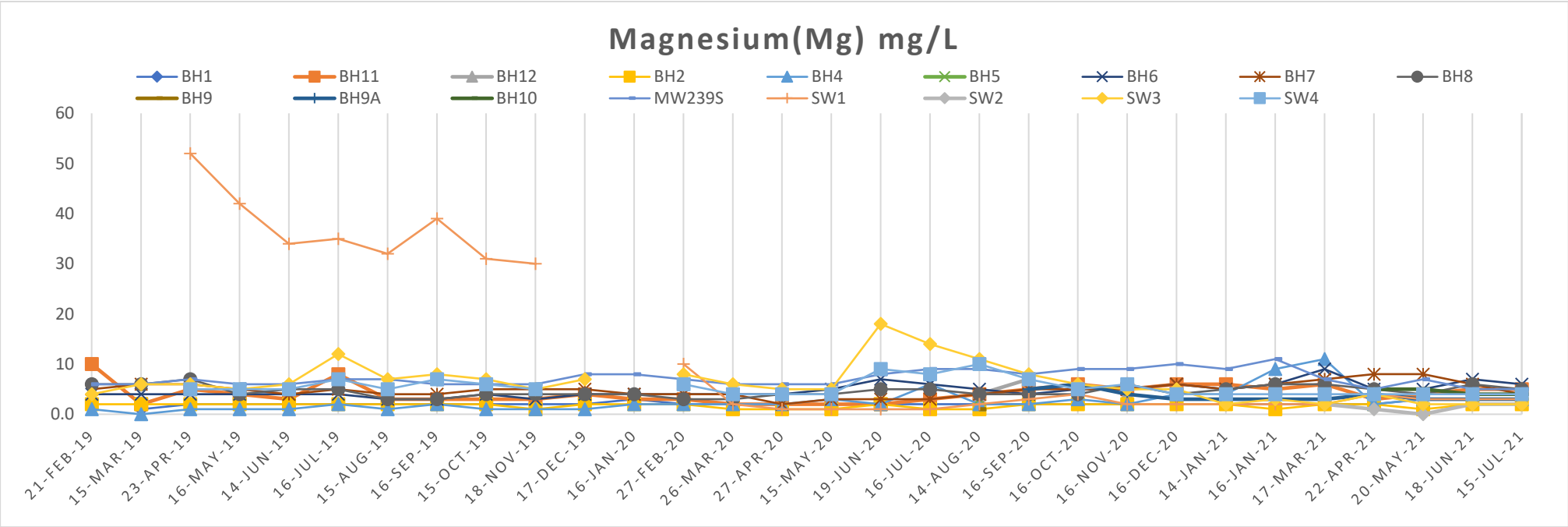
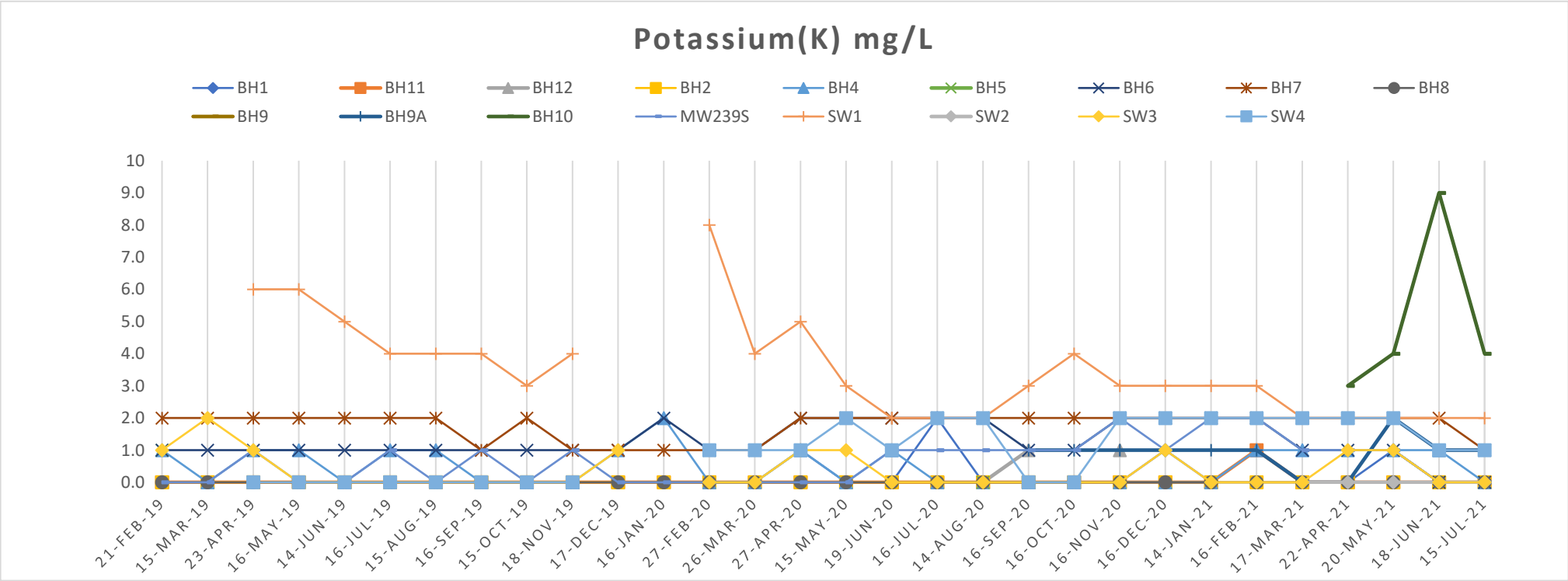
20-MAY-21
18-JUN-21
15-JUL-21


Magnesium(Mg) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
60
50
40
30
20
10
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


Potassium(K) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
10
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
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
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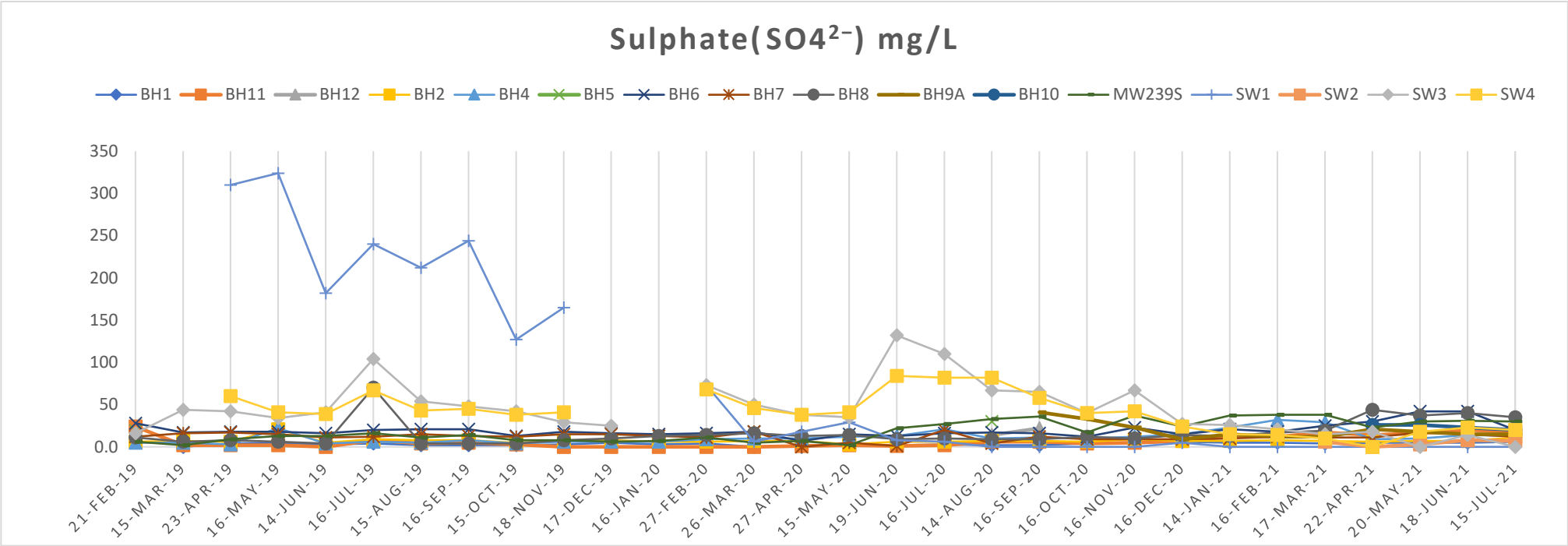
17-MAR-21
22-APR-21
20-MAY-21
18-JUN-21
15-JUL-21


Sulphate($SO4^{2-}$) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
350
300
250
200
150
100
50
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
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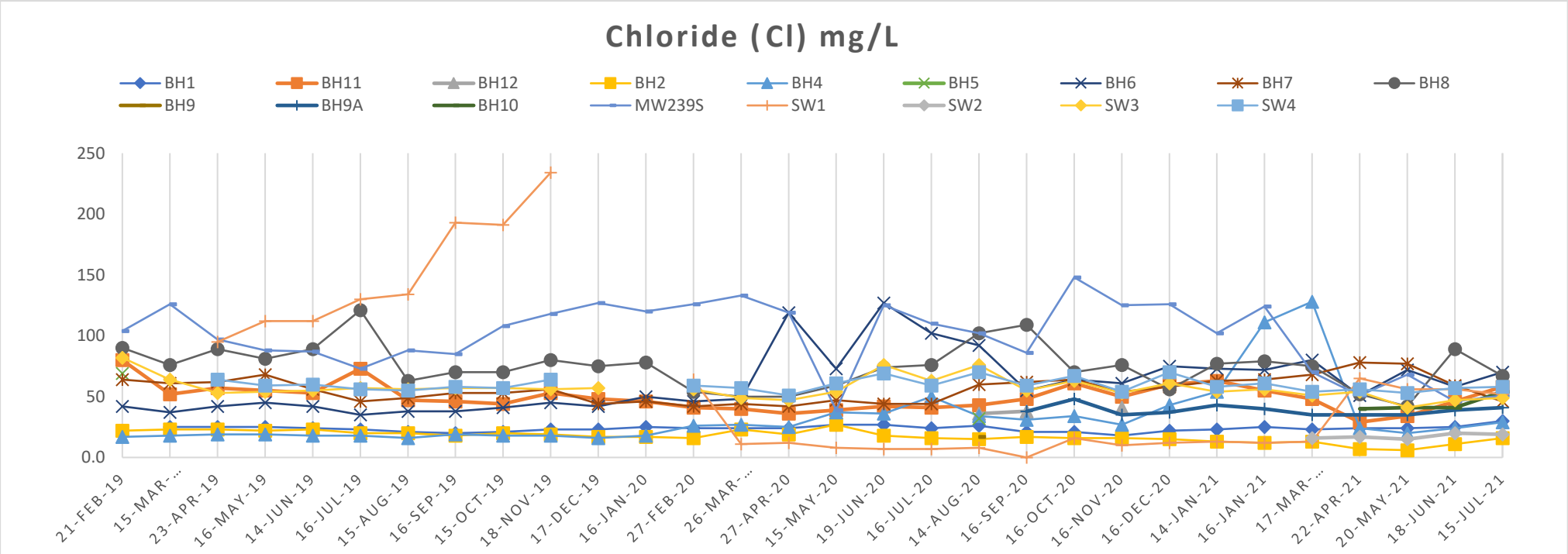
16-FEB-21
17-MAR-21
22-APR-21
20-MAY-21
18-JUN-21
15-JUL-21


Chloride (Cl) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
250
200
150
100
50
0.0
21-FEB-19
15-MAR-...
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-...
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
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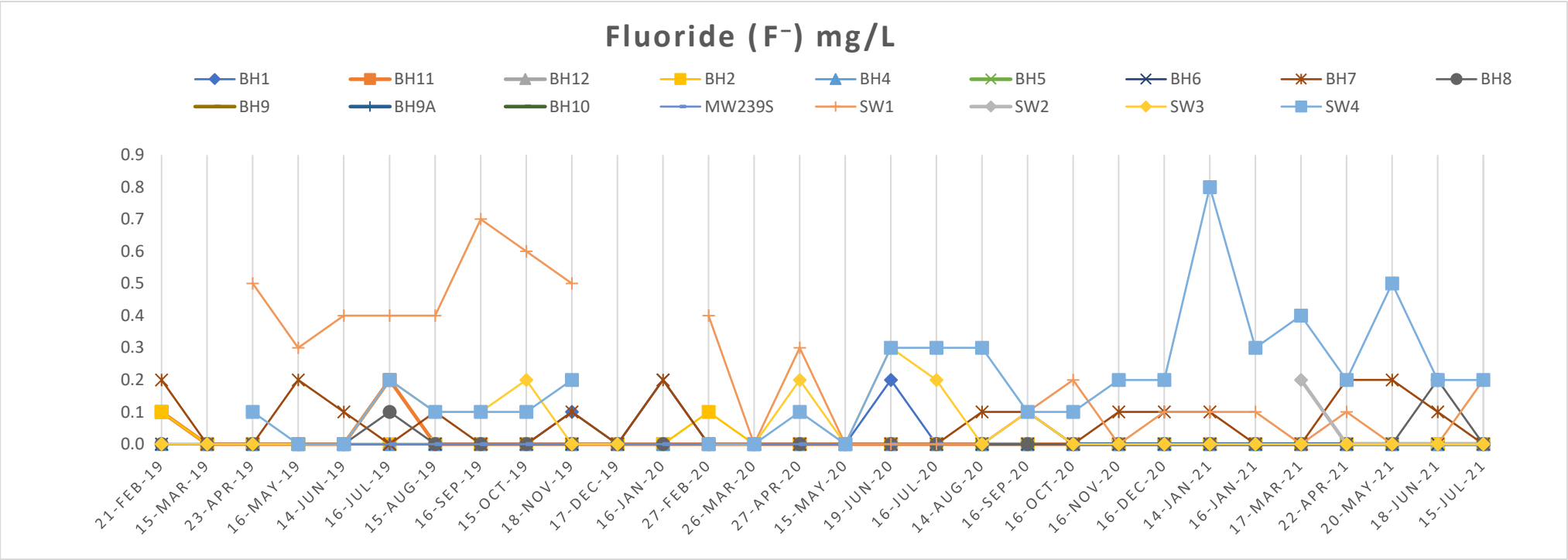
16-JAN-21
17-MAR-...
22-APR-21
20-MAY-21
18-JUN-21
15-JUL-21


Fluoride (F⁻) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
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
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16-SEP-20
16-OCT-20
16-NOV-20
16-DEC-20
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17-MAR-21
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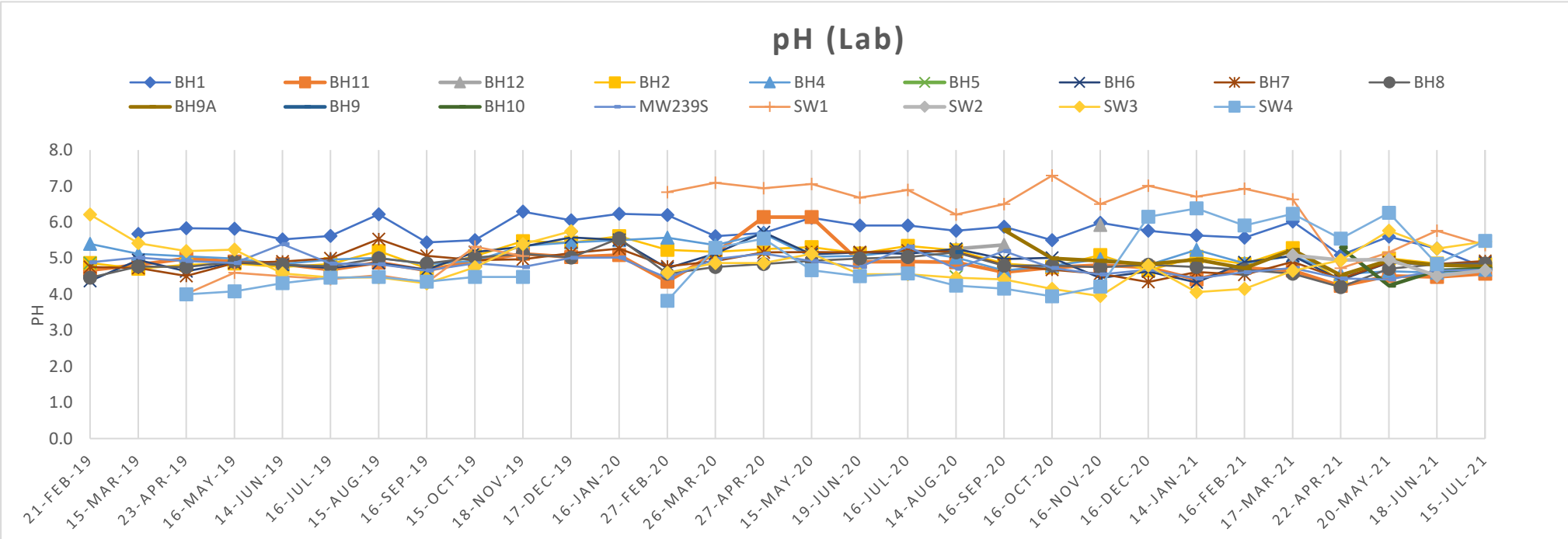
20-MAY-21
18-JUN-21
15-JUL-21


pH (Lab)
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9A
BH9
BH10
MW239S
SW1
SW2
SW3
SW4
PH
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
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
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16-SEP-20
16-OCT-20
16-NOV-20
16-DEC-20
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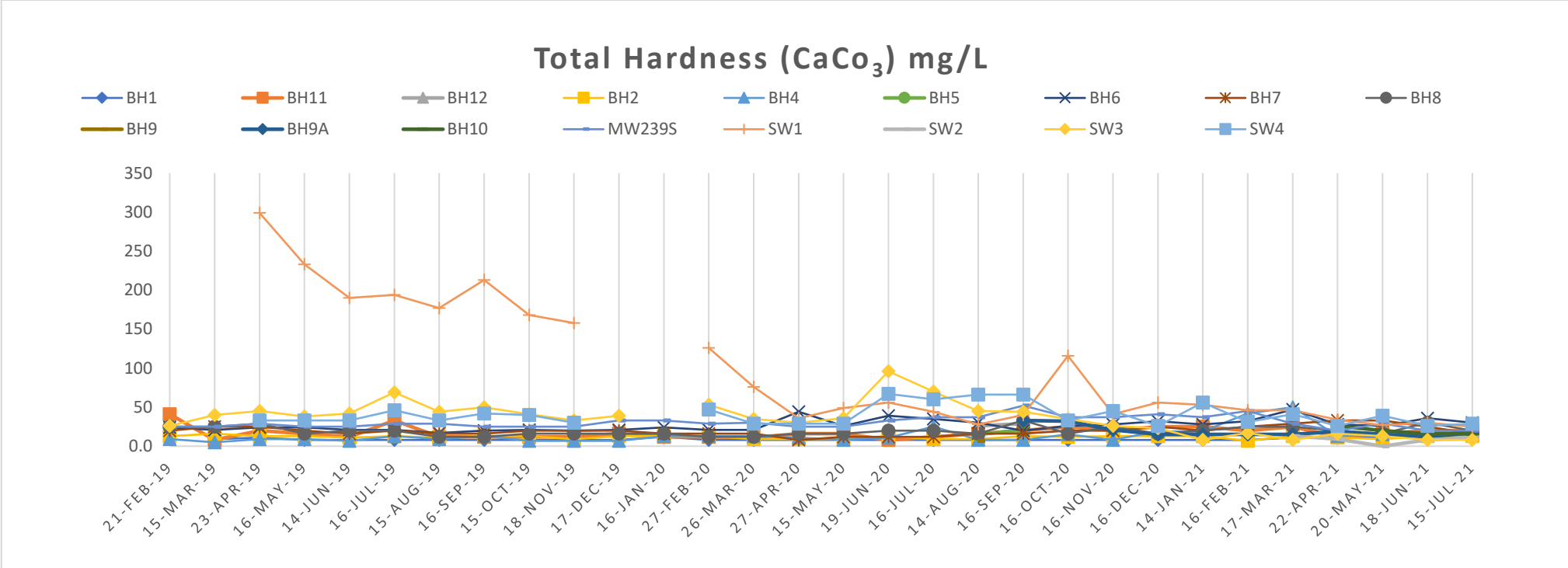
16-FEB-21
17-MAR-21
22-APR-21
20-MAY-21
18-JUN-21
15-JUL-21


Total Hardness ($CaCo_3$) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
350
300
250
200
150
100
50
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
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19-JUN-20
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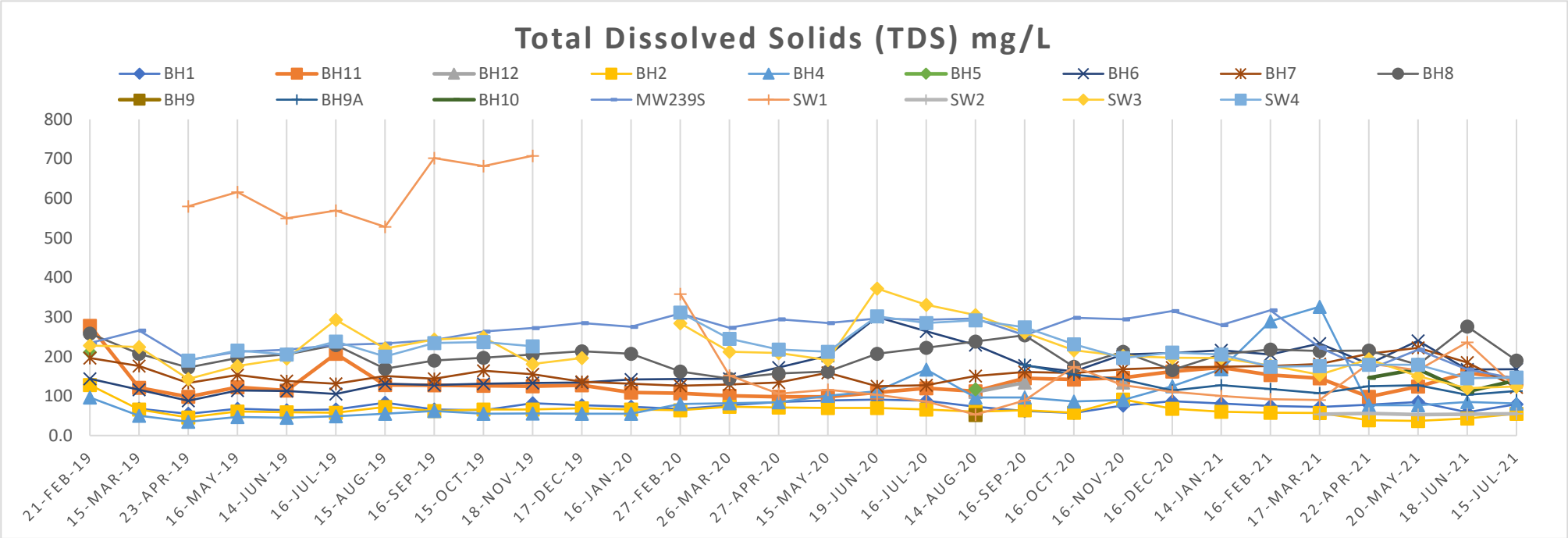
16-OCT-20
16-NOV-20
16-DEC-20
14-JAN-21
16-FEB-21
17-MAR-21
22-APR-21
20-MAY-21
18-JUN-21
15-JUL-21


Total Dissolved Solids (TDS) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
800
700
600
500
400
300
200
100
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
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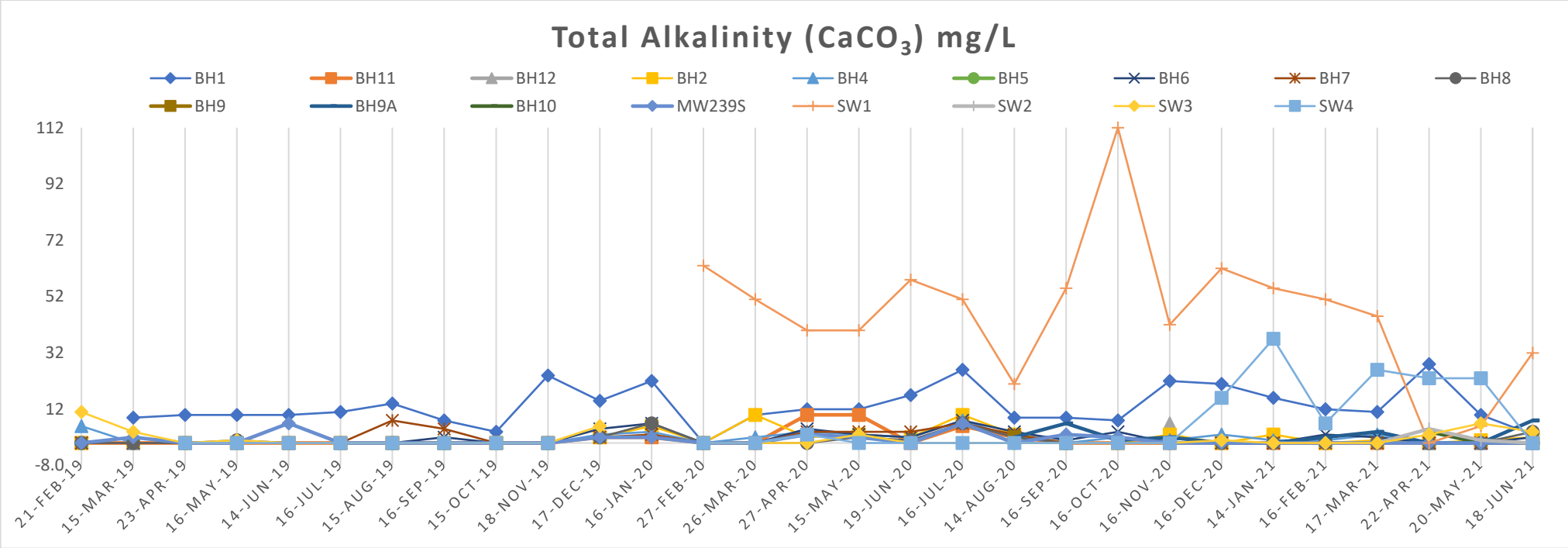
16-OCT-20
16-NOV-20
16-DEC-20
14-JAN-21
16-FEB-21
17-MAR-21
22-APR-21
20-MAY-21
18-JUN-21
15-JUL-21


Total Alkalinity ($CaCO_3$) mg/L
BH1
BH11
BH12
BH2
BH4
BH5
BH6
BH7
BH8
BH9
BH9A
BH10
MW239S
SW1
SW2
SW3
SW4
112
92
72
52
32
12
-8.0
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-FEB-21
17-MAR-21
22-APR-21
20-MAY-21
18-JUN-21