



Net Zero Teesside – Environmental Statement

Planning Inspectorate Reference: EN010103

Volume III – Appendices

Appendix 9B: Background Water Quality Data Tables and Water Resources Data

The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (as amended)



Prepared by: **AECOM**

Table of Contents

9B. Background Water Quality Data Tables and Water Resources Data	1
---	---

Tables

Table 9B-1: Summary of Water Quality Data for Wilton Complex Main Effluent Composite based on monitoring data from 2019	1
Table 9B-2: Summary of Water Quality Data for Brans Sands (Surface) based on Monitoring between 2009-2019	1
Table 9B-3 Summary of Water Quality Data for Dabholm Gut 100m U/S Tees (Surface) based on monitoring between 2009-2019.....	2
Table 9B-4: Summary of Water Quality Data for Greatham Creek-100m from out – Surface based on monitoring between 2009-2019	2
Table 9B-5: Summary of Water Quality Data for Billingham beck 50m U/S of River Tees Confluence based on monitoring between 2009-2019.....	3
Table 9B-6: Summary of Water Quality data for Billingham Beck at Billingham Bottoms based on monitoring between 2009-2019	3
Table 9B-7: Water Activity Permits within 250m from the Site Boundary	4
Table 9B-8: Abstractions in the Study Area	8

9B. Background Water Quality Data Tables and Water Resources Data

Table 9B-1: Summary of Water Quality Data for Wilton Complex Main Effluent Composite based on monitoring data from 2019

Determinand	Unit	Mean	10th percentile	90th percentile	No. of samples
BOD	mg/l	35.8	14.96	68.2	37
Chromium	ug/l	14.8	5.7	25.6	38
Chloroform	ug/l	25.2	13	39.4	38
Copper	ug/l	12.37	7.3	16.02	38
Zinc	ug/l	65.8	43.3	106.2	38

Table 9B-2: Summary of Water Quality Data for Brans Sands (Surface) based on Monitoring between 2009-2019

Determinand	Unit	Mean	10th percentile	90th percentile	No. of samples
pH	pH Units	8.10	8.01	8.23	6
Temperature of Water	°C	10.77	6.81	16.04	6
Ammoniacal Nitrogen as N	mg/l	0.48	0.15	0.75	5
Nitrogen, Total Oxidised as N	mg/l	0.75	0.20	1.27	5
Nitrate as N	mg/l	0.70	0.18	1.20	5
Nitrite as N	mg/l	0.05	0.01	0.09	5
Orthophosphate, reactive as P	mg/l	0.07	0.03	0.10	5
Oxygen, Dissolved, % Saturation	%	114.20	114.20	114.20	1

Table 9B-3 Summary of Water Quality Data for Dabholm Gut 100m U/S Tees (Surface) based on monitoring between 2009-2019

Determinand	Unit	Mean	10th percentile	90th percentile	No. of samples
pH	pH Units	7.96	7.80	8.17	6
Copper, Dissolved	µg/l	1.83	0.37	3.38	6
Zinc, Dissolved	ug/l	21.75	4.51	34.40	6

Table 9B-4: Summary of Water Quality Data for Greatham Creek-100m from out – Surface based on monitoring between 2009-2019

Determinand	Unit	Mean	10th percentile	90th percentile	No. of samples
pH	pH Units	8.00	7.98	8.13	17
Temperature of Water	°C	11.32	6.05	14.95	17
Ammoniacal Nitrogen as N	mg/l	0.21	0.16	0.29	5
Arsenic, Dissolved	ug/l	1.19	1.0	1.41	11
Copper, Dissolved	µg/l	0.69	0.36	0.94	9
Zinc, Dissolved	ug/l	3.14	2.21	5.09	12
Cadmium, Dissolved	ug/l	<0.04	<0.04	<0.04	<0.04
Nickel, Dissolved	ug/l	0.83	0.47	1.26	12
Nitrogen, Total Oxidised as N	mg/l	0.39	0.20	0.69	5
Nitrate as N	mg/l	0.37	0.18	0.67	5
Nitrite as N	mg/l	0.02	0.01	0.02	5
Orthophosphate, reactive as P	mg/l	0.05	0.04	0.07	5
Oxygen, Dissolved as O2	mg/l	8.40	7.55	9.47	12
Oxygen, Dissolved, % Saturation	%	92.47	86.74	97.17	12

Table 9B-5: Summary of Water Quality Data for Billingham beck 50m U/S of River Tees Confluence based on monitoring between 2009-2019

Determinand	Unit	Mean	10th percentile	90th percentile	No. of samples
pH	pH Units	7.46	7.01	7.94	164
Temperature of Water	°C	13.07	6.20	20.82	117
Ammoniacal Nitrogen as N	mg/l	19.78	4.98	35.54	117
Carbon, Organic, Dissolved as C- {DOC}	mg/l	12.07	8.25	16.31	60
Copper, Dissolved	µg/l	3.51	2.46	4.56	73
Zinc, Dissolved	ug/l	9.31	3.78	15.54	73
Nitrogen, Total Oxidised as N	mg/l	28.49	6.69	49.62	117
Nitrate as N	mg/l	28.39	6.60	49.48	117
Nitrite as N	mg/l	0.11	0.06	0.18	117
Orthophosphate, reactive as P	mg/l	1.60	0.21	2.93	117
Oxygen, Dissolved, % Saturation	%	79.69	61.25	96.45	116
Oxygen, Dissolved as O2	mg/l	8.58	5.77	11.25	116

Table 9B-6: Summary of Water Quality data for Billingham Beck at Billingham Bottoms based on monitoring between 2009-2019

Determinand	Unit	Mean	10th percentile	90th percentile	No. of samples
pH	pH Units	7.93	7.62	8.20	77
Temperature of Water	°C	9.55	3.96	14.64	77
Ammoniacal Nitrogen as N	mg/l	0.11	0.03	0.23	76
Copper, Dissolved	µg/l	2.84	1.68	4.12	58
Nitrogen, Total Oxidised as N	mg/l	4.92	2.69	8.55	102
Nitrate as N	mg/l	4.88	2.63	8.51	102
Nitrite as N	mg/l	0.04	0.01	0.06	105

Determinand	Unit	Mean	10th percentile	90th percentile	No. of samples
Orthophosphate, reactive as P	mg/l	0.21	0.13	0.34	38
Oxygen, Dissolved, % Saturation	%	84.37	71.00	95.60	77
Oxygen, Dissolved as O2	mg/l	9.75	7.14	12.10	77

Table 9B-7: Water Activity Permits within 250m from the Site Boundary

Label on Figure 9-1	Licence	NGR and approx. distance from nearest Site Boundary/direction	Issued Date	Discharge Type	Receiving Water
D1	Qr.25/04/1588	NZ4753022100	2nd August 1999	Trade Discharge - Process Water	Tees
D2	254/1941	NZ5400023150	6th March 2007	Trade Discharges - Site Drainage	River Tees Estuary
D2	254/1923	NZ5033023272	11th November 2008	Sewage Discharges - Final/Treated Effluent - Not Water Company	Trib of Holme Fleet
D4	254/A/0583	NZ5081023310	4th January 1980	Sewage Discharges - Final/Treated Effluent - Not Water Company	Tees, Tributary of
D5	254/A/0583	NZ5081023310	4th January 1980	Sewage and Trade Combined - Unspecified	Tees, Tributary of
D6	254/A/0582	NZ5080023300	21st November 1979	Sewage Discharges - Final/Treated Effluent - Not Water Company	Greatham Creek, Tributary of
D7	254/A/0583/5262	NZ5080023295	21st November 1979	Septic tank	Greatham Creek; Tributary of
D8	254/D/0250/5512	NZ5060023495	27th November 1970	Engineering	Greatham Creek; Tributary of
D9	QC.25/04/1432	NZ5193024405	11th September 1995	Sewage Effluent Discharge-Treated Effluent	Land
D10	25/04/1739	NZ5267024785	26th July 2012	Sewage Discharges - Final/Treated Effluent - Not Water Company	Land

Label on Figure 9-1	Licence	NGR and approx. distance from nearest Site Boundary/direction	Issued Date	Discharge Type	Receiving Water
D11	254/1141	NZ5396024160	4th September 1992	Trade Discharges - Site Drainage	Tees Estuary
D12	254/1365	NZ5390024100	19th August 1987	Chemical	Tees
D13	AO0237	NZ5390023695	23rd December 1994	Trade Effluent Discharge-Treated Effluent	Tees Estuary
D14	AL6956	NZ5425024350	16th June 1994	Trade Effluent Discharge-Treated Effluent	Tees
D15	254/0653	NZ5413024190	2nd September 1988	Sewage Discharges - Final/Treated Effluent - Not Water Company	Tees
D16	25/04/1654	NZ5474023470	30th October 2001	Trade Discharge - Process Water	Tees Dock - Saline Estuary
D17	254/1271	NZ5470023500	19th November 1993	Miscellaneous Discharges - Mine / Groundwater As Raised	Tees Estuary
D18	254/1271	NZ5470023500	19th November 1993	Miscellaneous Discharges - Mine / Groundwater As Raised	Tees Estuary
D19	254/B/0153	NZ5470023200	23rd March 1972	Unspecified	Tees
D20	254/1942	NZ5635019810	16th April 2007	Trade Discharges - Site Drainage	Tributary of Kettle Beck
D21	254/1942	NZ5635019810	16th April 2007	Sewage Discharges - Final/Treated Effluent - Not Water Company	Tributary of Kettle Beck
D22	25/04/1776	NZ5717720096	23rd March 2010	Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company	Unnamed Trib of Dabholme Beck
D23	25/04/1777	NZ5717020090	18th February 2004	Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company	Unnamed Trib of Dabholme Beck

Label on Figure 9-1	Licence	NGR and approx. distance from nearest Site Boundary/direction	Issued Date	Discharge Type	Receiving Water
D24	254/1813	NZ5714020140	21st February 2005	Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company	Dabholme Beck, Trib of
D25	256/E/0259	NZ5647019710	25th March 1960	Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company	Kettle Beck
D26	254/E/0130	NZ5713019990	26th October 1956	Unspecified	Dabholme Beck,
D27	254/1935	NZ5536122142	15th February 2019	Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company	Kinkerdale Beck
D28	254/1814	NZ5533022170	3rd March 2005	Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company	Kinkerdale Beck
D29	254/1423	NZ5600023000	26th July 2012	Trade Discharges - Cooling Water	Land
D30	QC 254/1423	NZ5600023000	19th October 1995	Cooling Water	Land
D31	QC.254/1423	NZ5600022995	19th October 1995	Trade Effluent Discharge-Cooling Water (Direct)	Soakaway
D32	AR0241	NZ5650022600	7th September 1995	Trade Effluent Discharge-Cooling Water (Direct)	Not Supplied
D33	254/1528	NZ5614024055	31st July 2014	Trade Discharge - Process Water	The Dabholm Gut
D34	254/1528	NZ5614024055	31st July 2014	Sewage (Private)/SSO	The Dabholm Gut
D35	254/1920	NZ5614024090	25th November 2010	Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company	Dabholm Gut

Label on Figure 9-1	Licence	NGR and approx. distance from nearest Site Boundary/direction	Issued Date	Discharge Type	Receiving Water
D36	254/1920	NZ5614024090	25th November 2010	Sewage Discharges - Pumping Station - Water Company	Dabholm Gut
D37	254/1920	NZ5614024090	25th November 2010	Sewage Discharges - Final/Treated Effluent - Water Company	Dabholm Gut
D38	254/1920	NZ5614024090	25th November 2010	Sewage Discharges - Unspecified - Water Company	Dabholm Gut
D39	25/04/1630	NZ5612024090	21st August 2002	Sewage Discharges - Unspecified - Water Company	The Dabholm Gut
D40	25/04/1630	NZ5612024090	21st August 2002	Sewage Discharges - Stw Storm Overflow/Storm Tank - Water Company	The Dabholm Gut
D41	Qc.25/04/1579	NZ5507024310	26th July 2012	Sewage Discharges - Final/Treated Effluent - Not Water Company	Land in The Tees Catchment
D42	QC.25/04/1578	NZ5518024210	28th April 1999	Sewage Discharges - Final/Treated Effluent - Not Water Company	Land (River Tees)
D43	25/04/1646	NZ5655023780	1st November 2000	Sewage Discharges - Pumping Station - Water Company	Dabholm Gut
D44	254/EPA/028	NZ5470026400	3rd June 1987	Chemical	Tees Estuary
D45	AJ0094	NZ5694027130	18th June 1993	Trade Effluent Discharge-Cooling Water (Direct)	North Sea

Table 9B-8: Abstractions in the Study Area

Label on Figure 9-1	Licence Holder Name	Abstraction Licence Number	Use	Source Description	National Grid Reference
A1	Sabic UK Petrochemicals	1/25/04/134	Water Supply	Groundwater	NZ51232470
A2	Sabic UK Petrochemicals	1/25/04/134	Industrial, Commercial and Public Services	Groundwater	NZ51282500
A3	KP Snacks Ltd	1/25/04/142	Industrial, Commercial and Public Services	Groundwater	NZ475241
A4	Sabic UK Petrochemicals	1/25/04/134	Water Supply	Groundwater	NZ50702295
A5	Sabic UK Petrochemicals	1/25/04/134	Industrial, Commercial and Public Services	Groundwater	NZ50832340
A6	Sabic UK Petrochemicals	1/25/04/134	Industrial, Commercial and Public Services	Groundwater	NZ51032338
A7	Sabic UK Petrochemicals	1/25/04/134	Industrial, Commercial and Public Services	Groundwater	NZ51182410
A8	Sabic UK Petrochemicals	1/25/04/134	Industrial, Commercial and Public Services	Groundwater	NZ51202437
A9	Sabic UK Petrochemicals	1/25/04/134	Environmental	Groundwater	NZ51232470
A10	Middlesbrough Council	1/25/04/183/R01	Industrial, Commercial and Public Services	Groundwater	NZ4951320865
A11	Sabic UK Petrochemicals	1/25/04/134	Industrial, Commercial and Public Services	Groundwater	NZ50702295
A12	North Tees Ltd	1/25/04/164	Environmental	Groundwater	NZ52312319
A13	Sahaviriya Steel Industries UK Ltd	1/25/04/135	Industrial, Commercial and Public Services	Tidal Waters	NZ547259
A14	British Energy Generation Ltd	1/25/04/120	Production of Energy	Tidal Waters	NZ529268
A15	Able UK Ltd	NE/025/0001/018	Industrial, Commercial and Public Services	Tidal Waters	NZ5218826949
A16	SUEZ Recycling and Recovery Tees Valley Ltd	1/25/04/161	Industrial, Commercial and Public Services	Tidal Waters	NZ48082192
A17	Cleveland Potash Ltd	NE/025/0001/011	Industrial, Commercial and Public Services	Tidal Waters	NZ5466023558
A18	RSPB	NE/025/0001/008	Environmental	Surface Water	NZ4973222992