



## Attachment E4 Watergrasshill Inlet Table E4

Sample Date	16/08/2007	04/06/2008	17/07/2008	08/02/2008	Average
Sample	influent	influent	influent	influent	
Flow M <sup>3</sup> /Day	*	*	*	*	*
pH	*	*	7.7	7.4	7.55
Temperature °C	*	*	*	*	*
Cond 20°C	*	618	742	796	718.6667
SS mg/L	*	161	161	19	113.6667
NH <sub>3</sub> mg/L	36.6	31.9	39.1	11	29.65
BOD mg/L	*	*	152	140	146
COD mg/L	508	349	371	175	350.75
TN mg/L	*	*	*	*	*
Nitrite mg/L	*	*	<0.004	*	<0.004
Nitrate mg/L	*	*	<0.4	*	<0.4
TP mg/L	6.73	6.68	7.98	4	6.3475
O-PO <sub>4</sub> -P mg/L	4.62	5.26	4.66	2.3	4.21
SO <sub>4</sub> mg/L	33.9	*	44.1	*	39
Phenols µg/L	*	*	<0.1	*	<0.1
Atrazine µg/L	*	*	<0.01	*	<0.01
Dichloromethane µg/L	*	*	<1.0	*	<1.0
Simazine µg/L	*	*	<0.01	*	<0.01
Toluene µg/L	*	*	<1.0	*	<1.0
Tributyltin µg/L	*	*	*	*	*
Xylenes µg/L	*	*	<1.0	*	<1.0
Arsenic µg/L	*	*	1	*	1
Chromium mg/L	<0.02	*	*	*	<0.02
Copper mg/L	0.072	*	*	*	0.072
Cyanide µg/L	*	*	<5	*	<5
Fluoride µg/L	*	*	<100	*	<100
Lead mg/L	<0.02	*	*	*	<0.02
Nickel mg/L	<0.02	*	*	*	<0.02
Zinc mg/L	0.059	*	*	*	0.059
Boron mg/L	*	*	*	*	*
Cadmium mg/L	<0.02	*	*	*	<0.02
Mercury µg/L	*	*	0.5	*	0.5
Selenium µg/L	*	*	2	*	2
Barium mg/L	0.022	*	*	*	0.022

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### Attachment E4 Watergrasshill Discharge Outlet Table E4

Sample Date	17/01/2007	15/03/2007	03/05/2007	16/08/2007	22/11/2007	06/12/2007	12/12/2007	07/02/2008	28/02/2008	03/04/2008	04/06/2008	12/06/2008	10/07/2008	17/07/2008	08/02/2008	Average	Kg/Day	Kg/year	
Sample	effluent	effluent	effluent	effluent	effluent	effluent	effluent	Effluent	Effluent	Effluent	effluent	effluent	Effluent	Effluent	Effluent				
Flow M <sup>3</sup> /Day	800	*	*	*	*	*	*	720	342	283	481	394	580	242	*	480.25	*	*	
pH	7.2	7.4	7.5	7.4	5.9	*	7.3	7.3	7.3	*	7.1	7.4	*	7.6	7.3	7.225	*	*	
Temperature °C	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Cond 20°C	*	*	*	*	*	*	*	*	*	519	574	562	483	535	520	532.1667	*	*	
SS mg/L	21	14	<2.5	7	42	<2.5	28	15	17	9	14	13	17	9	10	16.61538	7.979538	2912.531538	
NH <sub>3</sub> mg/L	*	*	*	0.2	1.1	<0.1	2.8	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.454545	0.218295	79.67784091	
BOD mg/L	3.6	6.8	<1	2.8	11.2	4.69	8.16	5.23	6	0.1	7.07	3.11	6	2.12	15	5.848571	2.808776	1025.203396	
COD mg/L	31	24	<21	<21	50	<21	42	28	48	21	30	25	25	21	24	30.75	14.76769	5390.205938	
TN mg/L	12	6.16	3.4	10.3	44	2.3	16	10.9	24.85	20.5	79	18.2	15.3	19.6	*	20.17929	9.691102	3537.252217	
Nitrite mg/L	*	*	*	*	*	*	*	*	*	*	*	*	*	0.071	*	0.071	0.034098	12.44567875	
Nitrate mg/L	*	*	*	*	*	*	*	*	*	*	*	*	*	20.02	*	20.02	9.614605	3509.330825	
TP mg/L	0.86	<0.2	0.3	0.8	1.82	0.37	1.06	0.58	2.05	2.42	2.08	0.95	0.79	1.07	0.9	1.146429	0.550572	200.9588973	
O-PO <sub>4</sub> -P mg/L	*	*	*	0.48	0.62	*	*	*	*	2.06	1.93	1.1	0.5	0.66	0.2	0.94375	0.453236	165.4311172	
SO <sub>4</sub> mg/L	*	*	*	47.3	97.5	<30	28	39.9	37.4	*	*	*	*	*	*	50.02	24.02211	8768.068325	
Phenols µg/L	*	*	*	*	*	*	*	*	*	*	*	*	*	<0.1	*	<0.1	<0.043457	<15.8618561	
Atrazine µg/L	*	*	*	*	*	*	*	*	*	*	*	*	*	<0.01	*	<0.01	<0.004345	<1.58618561	
Dichloromethane	*	*	*	*	*	*	*	*	*	*	*	*	*	<1.0	*	<1.0	<0.434571	<158.618561	
Simazine µg/L	*	*	*	*	*	*	*	*	*	*	*	*	*	<0.01	*	<0.01	<0.004345	<1.58618561	
Toluene µg/L	*	*	*	*	*	*	*	*	*	*	*	*	*	<1.0	*	<1.0	<0.434571	<158.618561	
Tributyltin µg/L	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Xylenes µg/L	*	*	*	*	*	*	*	*	*	*	*	*	*	<1.0	*	<1.0	<0.434571	<158.618561	
Arsenic µg/L	*	*	*	*	*	*	*	*	*	*	*	*	*	1	*	1	0.00048	0.17529125	
Chromium mg/L	*	*	*	*	<0.02	<0.02	<0.02	0.02	0.02	0.02	*	0.02	*	0.02	*	0.02	0.009605	3.505825	
Copper mg/L	*	*	*	*	0.065	<0.02	<0.02	0.02	0.02	0.02	*	0.02	*	0.02	*	0.0275	0.013207	4.820509375	
Cyanide µg/L	*	*	*	*	*	*	*	*	*	*	*	*	*	<5.0	*	<5.0	<2.172857	<793.092805	
Fluoride µg/L	*	*	*	*	*	*	*	*	*	*	*	*	*	<100	*	<100	<43.45714	<15861.8561	
Lead mg/L	*	*	*	*	<0.02	<0.02	<0.02	0.033	0.04	0.028	*	0.022	*	0.02	*	0.0286	0.013735	5.01332975	
Nickel mg/L	*	*	*	*	<0.02	<0.02	<0.02	0.02	0.02	0.02	*	0.02	*	0.02	*	0.02	0.009605	3.505825	
Zinc mg/L	*	*	*	*	0.261	0.111	0.083	0.056	0.071	0.02	*	0.042	*	0.02	*	0.083	0.039861	14.54917375	
Boron mg/L	*	*	*	*	0.183	*	*	0.02	0.074	0.02	*	0.2	*	0.064	*	0.0935	0.044903	16.38973188	
Cadmium mg/L	*	*	*	*	<0.02	<0.02	<0.02	0.02	0.02	0.02	*	0.02	*	0.02	*	0.02	0.009605	3.505825	
Mercury µg/L	*	*	*	*	*	*	*	*	*	*	*	*	*	0.6	*	0.6	0.000288	0.10517475	
Selenium µg/L	*	*	*	*	*	*	*	*	*	*	*	*	*	1	*	1	0.00048	0.17529125	
Barium mg/L	*	*	*	*	<0.02	<0.02	<0.02	0.02	0.02	0.02	*	0.02	*	0.02	*	0.02	0.009605	3.505825	

## Attachment E4 Watergrasshill Upstream Table E4

Sample Date	17/01/2007	15/03/2007	03/05/2007	22/11/2007	07/02/2008	28/02/2008	03/04/2008	04/06/2008	12/06/2008	10/07/2008	17/07/2008	Average
Sample	river	river	river	river	River	River	River	river	River	River	River	
Flow M <sup>3</sup> /Day	*	*	*	*	*	*	*	*	*	*	*	*
pH	6.9	7.1	*	7.2	7.2	7.2	*	7.3	*	*	7.4	7.185714
Temperature °C	*	*	*	*	*	*	*	*	*	*	*	*
Cond 20°C	*	*	*	*	*	*	173	170	*	201	172	179
SS mg/L	4	7	<2.5	14	4	<2.5	3	11	6	3	6	6.444444
NH <sub>3</sub> mg/L	<0.1	0.6	1.7	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	*	<0.1	0.833333
BOD mg/L	<1	4.4	1.1	1.61	<1.0	<1.0	<1.0	1.51	1.5	*	<1.0	2.024
COD mg/L	*	<21	*	*	<21	*	*	*	*	*	<21	<21
TN mg/L	4.6	6.22	2.02	1.7	3.4	4.32	*	2.7	4.9	5.9	4	3.976
Nitrite mg/L	*	*	*	*	*	*	*	*	*	*	<0.004	<0.004
Nitrate mg/L	*	*	*	*	*	*	*	*	*	*	3.94	3.94
TP mg/L	<0.2	<0.2	0.25	<0.2	<0.2	<0.2	<0.20	<0.2	<0.2	<0.2	<0.2	0.25
O-PO4-P mg/L	*	*	*	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.06	0.06
SO4 mg/L	*	*	*	<30	<30	<30	*	*	*	*	<30	<30
Phenols µg/L	*	*	*	*	*	*	*	*	*	*	<0.1	<0.1
Atrazine µg/L	*	*	*	*	*	*	*	*	*	*	<0.01	<0.01
Dichloromethane	*	*	*	*	*	*	*	*	*	*	<1.0	<1.0
Simazine µg/L	*	*	*	*	*	*	*	*	*	*	<0.01	<0.01
Toluene µg/L	*	*	*	*	*	*	*	*	*	*	<1.0	<1.0
Tributyltin µg/L	*	*	*	*	*	*	*	*	*	*	*	*
Xylenes µg/L	*	*	*	*	*	*	*	*	*	*	<1.0	<1.0
Arsenic µg/L	*	*	*	*	*	*	*	*	*	*	1	1
Chromium mg/L	*	*	*	<0.02	<0.02	<0.02	*	<0.02	<0.02	<0.02	<0.02	<0.02
Copper mg/L	*	*	*	<0.02	<0.02	<0.02	*	<0.02	<0.02	<0.02	<0.02	<0.02
Cyanide µg/L	*	*	*	*	*	*	*	*	*	*	<5	<5
Fluoride µg/L	*	*	*	*	*	*	*	*	*	*	<100	<100
Lead mg/L	*	*	*	<0.02	<0.02	<0.02	*	0.038	0.022	<0.02	<0.02	0.03
Nickel mg/L	*	*	*	<0.02	<0.02	<0.02	*	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc mg/L	*	*	*	<0.02	<0.02	<0.02	*	0.065	<0.02	<0.02	<0.02	0.065
Boron mg/L	*	*	*	<0.02	<0.02	<0.02	*	<0.02	<0.02	<0.02	<0.02	<0.02
Cadmium mg/L	*	*	*	<0.02	<0.02	<0.02	*	<0.02	<0.02	<0.02	<0.02	<0.02
Mercury µg/L	*	*	*	*	*	*	*	*	*	*	0.6	0.6
Selenium µg/L	*	*	*	*	*	*	*	*	*	*	1	1
Barium mg/L	*	*	*	<0.02	<0.02	<0.02	*	<0.02	0.04	0.025	0.043	0.036

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### Attachment E4 Watergrasshill Downstream Table E4

Sample Date	17/01/2007	15/03/2007	03/05/2007	22/11/2007	07/02/2008	28/02/2008	03/04/2008	04/06/2008	12/06/2008	10/07/2008	17/07/2008	Average
Sample	river	river	river	river	River	River	River	river	River	River	river	
Flow M <sup>3</sup> /Day	*	*	*	*	*	*	*	*	*	*	*	*
pH	7.1	7.1	*	7.3	7.1	7.2	*	7.3	*	*	7.3	7.2
Temperature °C	*	*	*	*	*	*	*	*	*	*	*	*
Cond 20°C	*	*	*	*	*	*	179	173	*	226	166	186
SS mg/L	*	*	*	*	3	4	3	8	8	3	4	4.714286
NH <sub>3</sub> mg/L	<0.1	0.4	3.3	<0.1	<0.1	<0.1	<0.1	<0.1	0.2	*	<0.1	1.3
BOD mg/L	2.5	2.8	6.1	1.26	<1.0	1.2	1.31	<1	2.97	*	<1.0	2.591429
COD mg/L	*	<21	*	*	<21	*	*	*	*	*	<21	<21
TN mg/L	4.8	5.79	3.56	6.2	4	7.32	*	2.8	10.4	6.2	4.6	5.567
Nitrite mg/L	*	*	*	*	*	*	*	*	*	*	<0.004	<0.004
Nitrate mg/L	*	*	*	*	*	*	*	*	*	*	3.92	3.92
TP mg/L	<0.2	<0.2	0.47	<0.2	<0.20	0.27	<0.20	<0.2	0.52	<0.2	<0.2	0.42
O-PO4-P mg/L	*	*	*	<0.05	<0.05	0.25	<0.05	<0.05	0.41	0.1	<0.05	0.253333
SO4 mg/L	*	*	*	<30	<30	<30	*	*	*	*	<30	<30
Phenols µg/L	*	*	*	*	*	*	*	*	*	*	<0.1	<0.1
Atrazine µg/L	*	*	*	*	*	*	*	*	*	*	<0.01	<0.01
Dichloromethane	*	*	*	*	*	*	*	*	*	*	<1.0	<1.0
Simazine µg/L	*	*	*	*	*	*	*	*	*	*	<0.01	<0.01
Toluene µg/L	*	*	*	*	*	*	*	*	*	*	<1.0	<1.0
Tributyltin µg/L	*	*	*	*	*	*	*	*	*	*	*	*
Xylenes µg/L	*	*	*	*	*	*	*	*	*	*	<1.0	<1.0
Arsenic µg/L	*	*	*	*	*	*	*	*	*	*	1	1
Chromium mg/L	*	*	*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Copper mg/L	*	*	*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Cyanide µg/L	*	*	*	*	*	*	*	*	*	*	<5	<5
Fluoride µg/L	*	*	*	*	*	*	*	*	*	*	<100	<100
Lead mg/L	*	*	*	<0.02	<0.02	0.026	<0.02	0.029	<0.02	<0.02	<0.02	0.0275
Nickel mg/L	*	*	*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Zinc mg/L	*	*	*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Boron mg/L	*	*	*	<0.02	<0.02	<0.02	<0.02	<0.02	0.036	<0.02	<0.02	0.036
Cadmium mg/L	*	*	*	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
Mercury µg/L	*	*	*	*	*	*	*	*	*	*	1	1
Selenium µg/L	*	*	*	*	*	*	*	*	*	*	1	1
Barium mg/L	*	*	*	0.021	<0.02	<0.02	<0.02	0.048	0.023	0.024	0.04	0.0312