Annex 6E

Elutriate Test Results

Table 6E.1 Elutriate Test Results

Parameters	Unit	Reporting Limit	GSVB3	GSVB4	GSVB5	GSVB6	GSVB7	GSVB8	GSVB9	GSVB10	GSVB11	GSVB12	Marine Water
Nutrients													
Ammonia as N	mg/L	0.01	1.02	0.11	8.3	9.01	0.82	0.49	0.59	0.22	1.67	0.17	<0.01
Reactive Phosphorus as P	mg/L	0.01	0.07	0.07	0.19	0.14	0.06	0.06	0.08	0.04	0.1	0.07	0.06
Total Kjeldahl Nitrogen as N	mg/L	0.1	1.6	0.5	10.6	11.5	1.4	1	1.1	0.6	2.3	0.6	0.2
Total Phosphorus as P	mg/L	0.1	0.2	0.2	0.3	0.2	0.1	0.2	0.2	0.1	0.2	0.2	0.1
Nitrate as N	mg/L	0.01	0.23	0.29	0.01	<0.01	0.54	0.27	0.12	0.33	0.12	0.25	0.21
Nitrite as N	mg/L	0.01	0.36	0.16	0.01	<0.01	0.75	0.55	0.33	0.1	0.39	<0.01	<0.01
Heavy Metals													
Arsenic	µg/L	25	<25	<25	<25	**26**	<25	<25	<25	<25	<25	<25	<25
Cadmium	µg/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chromium	µg/L	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Copper	µg/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Lead	µg/L	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Mercury	µg/L	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nickel	µg/L	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Silver	µg/L	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Zinc	µg/L	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Aggregate Organics													
Biochemical Oxygen Demand	mg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Chemical Oxygen Demand	mg/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
PCBs													
PCB 8	µg/L	3	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
PCB 18	µg/L	3	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
PCB 28	µg/L	3	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
PCB 52	µg/L	3	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
PCB 44	µg/L	3	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
PCB 66	µg/L	3	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
PCB 101	µg/L	3	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
PCB 77	µg/L	3	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
PCB 118	µg/L	3	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
PCB 153	µg/L	3	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
PCB 105	µg/L	3	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00

Parameters	Unit	Reporting Limit	GSVB3	GSVB4	GSVB5	GSVB6	GSVB7	GSVB8	GSVB9	GSVB10	GSVB11	GSVB12	Marine Water
PCB 126	µg/L	3	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
PCB 187	µg/L	3	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
PCB 128	µg/L	3	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
PCB 180	µg/L	3	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
PCB 169	µg/L	3	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
PCB 170	µg/L	3	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
PCB 138	µg/L	3	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00	<3.00
Chlorinated Pesticides													
alpha-BHC	µg/L	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
beta- & gamma-BHC	µg/L	0.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
delta-BHC	µg/L	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Heptachlor	µg/L	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Aldrin	µg/L	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Heptachlor epoxide	µg/L	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan 1	µg/L	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dieldrin	µg/L	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4.4`-DDE	µg/L	0.1	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Endrin	µg/L	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan 2	µg/L	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4.4`-DDD	µg/L	0.1	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Endrin aldehyde	µg/L	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Endosulfan sulfate	µg/L	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
4.4`-DDT	µg/L	0.1	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Endrin ketone	µg/L	0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Methoxychlor	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Cypermethrins(total)	µg/L	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Polycyclic Aromatics Hydrocarbons (PAHs)													
Naphthalene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acenaphthylene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Acenaphthene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Fluorene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Phenanthrene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Anthracene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Fluoranthene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2

Parameters	Unit	Reporting Limit	GSVB3	GSVB4	GSVB5	GSVB6	GSVB7	GSVB8	GSVB9	GSVB10	GSVB11	GSVB12	Marine Water
Pyrene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Benz(a)anthracene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Chrysene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Benzo(b) & Benzo(k)fluoranthene	µg/L	4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4	<4
Benzo(a)pyrene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Indeno(1.2.3.cd)pyrene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Dibenz(a.h)anthracene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Benzo(g.h.i)perylene	µg/L	2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Low M.W. PAHs	µg/L	55	<55	<55	<55	<55	<55	<55	<55	<55	<55	<55	<55
High M.W. PAHs	µg/L	170	<170	<170	<170	<170	<170	<170	<170	<170	<170	<170	<170

Table 6E.2 Predicted Total Inorganic Nitrogen (TIN) Concentrations (mg L^{-1}) for Scenarios 1 and 3

Sensitive Receiver	Name	ID	Relevant Water Depth [a]	Max TIN Conc. In Sediment (mg kg^{-1})	Scenario 1				Scenario 3			
					Predicted SS Elevation (mg L^{-1})		Predicted TIN Elevation (mg/L)		Predicted SS Elevation (mg L^{-1})		Predicted TIN Elevation (mg/L)	
					Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet
					Max	Max	Max	Max	Max	Max	Max	Max
Fisheries Sensitive Receivers												
Oyster Production Area	Sheung Pak Nai	SR2	s	142	0.0	0.0	3.61E-07	1.91E-07	0.0	0.0	9.05E-07	5.63E-06
Recognised Spawning/ Nursery Grounds	Fisheries Spawning Ground in North Lantau	SR8	a	100	0.3	0.4	3.29E-05	4.11E-05	0.8	0.8	8.33E-05	7.81E-05
			b	100	0.5	0.6	4.82E-05	5.56E-05	1.7	1.2	1.74E-04	1.23E-04
Artificial Reef Deployment Area	Sha Chau and Lung Kwu Chau	SR6e	a	100	0.5	0.4	4.58E-05	4.00E-05	0.5	0.5	4.96E-05	5.23E-05
			b	100	0.6	0.4	6.19E-05	4.44E-05	0.7	0.6	6.67E-05	5.77E-05
Marine Ecological Resources												
Mangroves	Sheung Pak Nai	SR2	s	142	0.0	0.0	3.61E-07	1.91E-07	0.0	0.0	9.05E-07	5.63E-06
	Ngau Hom Shek	SR2a	s	142	0.0	0.0	3.40E-07	8.82E-08	0.0	0.0	7.91E-07	1.19E-06
Marine Park	Designated Sha Chau and Lung Kwu Chau	SR6a	a	100	1.4	1.4	1.42E-04	1.42E-04	1.4	1.5	1.40E-04	1.49E-04
		SR6c	a	100	0.5	0.5	5.00E-05	5.11E-05	0.8	0.7	7.97E-05	7.16E-05
Intertidal Mudflats	Ha Pak Nai	SR1	s	142	0.0	0.1	4.21E-06	1.49E-05	1.4	3.5	1.96E-04	5.00E-04
Seagrass Beds	Sheung Pak Nai	SR2	s	142	0.0	0.0	3.61E-07	1.91E-07	0.0	0.0	9.05E-07	5.63E-06
	Ha Pak Nai	SR1	s	142	0.0	0.1	4.21E-06	1.49E-05	1.4	3.5	1.96E-04	5.00E-04
Horseshoe Crab Nursery Grounds	Ha Pak Nai	SR1	a	142	0.1	0.1	7.21E-06	1.91E-05	2.2	4.5	3.09E-04	6.43E-04
	Ngau Hom Shek	SR2a	a	142	0.0	0.0	4.65E-07	1.26E-07	0.0	0.0	1.08E-06	1.50E-06
Water Quality Sensitive Receivers												
Non-gazetted Beaches	Lung Kwu Sheung Tan	SR5a	a	100	0.4	0.1	3.62E-05	1.11E-05	4.7	1.7	4.66E-04	1.66E-04
	Lung Kwu Tan	SR5b	a	100	0.5	0.2	5.19E-05	2.35E-05	7.0	3.1	6.98E-04	3.13E-04
Secondary Contact Recreation Subzone	NW WCZ	SR5b	a	100	0.5	0.2	5.19E-05	2.35E-05	7.0	3.1	6.98E-04	3.13E-04
Seawater Intakes	Tuen Mun Area 38	SR7b	b	100	0.5	0.2	4.80E-05	1.85E-05	3.0	1.3	3.03E-04	1.28E-04
	Shiu Wing Steel Mill	SR7i	b	100	0.5	0.3	4.97E-05	3.06E-05	3.4	2.2	3.44E-04	2.17E-04
	Black Point Power Station	SR4	b	142	2.3	2.7	3.22E-04	3.81E-04	161.3	137.8	2.29E-02	1.96E-02
	Castle Peak Power Station	SR7a	b	100	0.6	0.4	5.73E-05	4.49E-05	4.8	3.0	4.84E-04	2.97E-04

Notes:

a. s = surface, m = middle, b = bottom, a = depth-averaged

Table 6E.3 Predicted Unionised Ammonia (NH_3-N) Concentrations (mg L^{-1}) for Scenarios 1 and 3

Sensitive Receiver	Name	ID	Relevant Water Depth [a]	Max TKN Conc. In Sediment (mg kg^{-1})	Scenario 1				Scenario 3			
					Predicted SS Elevation (mg L^{-1})		Predicted NH_3-N Elevation (mg/L)		Predicted SS Elevation (mg L^{-1})		Predicted NH_3-N Elevation (mg/L)	
					Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet
					Max	Max	Max	Max	Max	Max	Max	Max
Fisheries Sensitive Receivers												
Oyster Production Area	Sheung Pak Nai	SR2	s	2600	0.0	0.0	3.31E-07	1.75E-07	0.0	0.0	8.29E-07	5.16E-06
Recognised Spawning/ Nursery Grounds	Fisheries Spawning Ground in North Lantau	SR8	a	2100	0.3	0.4	3.45E-05	4.32E-05	0.8	0.8	8.75E-05	8.20E-05
			b	2100	0.5	0.6	5.06E-05	5.84E-05	1.7	1.2	1.82E-04	1.29E-04
Artificial Reef Deployment Area	Sha Chau and Lung Kwu Chau	SR6e	a	2100	0.5	0.4	4.81E-05	4.20E-05	0.5	0.5	5.21E-05	5.49E-05
			b	2100	0.6	0.4	6.50E-05	4.66E-05	0.7	0.6	7.00E-05	6.06E-05
Marine Ecological Resources												
Mangroves	Sheung Pak Nai	SR2	s	2600	0.0	0.0	3.31E-07	1.75E-07	0.0	0.0	8.29E-07	5.16E-06
	Ngau Hom Shek	SR2a	s	2600	0.0	0.0	3.11E-07	8.07E-08	0.0	0.0	7.24E-07	1.09E-06
Marine Park	Designated Sha Chau and Lung Kwu Chau	SR6a	a	2100	1.4	1.4	1.49E-04	1.49E-04	1.4	1.5	1.47E-04	1.57E-04
		SR6c	a	2100	0.5	0.5	5.25E-05	5.37E-05	0.8	0.7	8.37E-05	7.52E-05
Intertidal Mudflats	Ha Pak Nai	SR1	s	2600	0.0	0.1	3.86E-06	1.36E-05	1.4	3.5	1.79E-04	4.58E-04
Seagrass Beds	Sheung Pak Nai	SR2	s	2600	0.0	0.0	3.31E-07	1.75E-07	0.0	0.0	8.29E-07	5.16E-06
	Ha Pak Nai	SR1	s	2600	0.0	0.1	3.86E-06	1.36E-05	1.4	3.5	1.79E-04	4.58E-04
Horseshoe Crab Nursery Grounds	Ha Pak Nai	SR1	a	2600	0.1	0.1	6.60E-06	1.75E-05	2.2	4.5	2.83E-04	5.88E-04
	Ngau Hom Shek	SR2a	a	2600	0.0	0.0	4.25E-07	1.15E-07	0.0	0.0	9.91E-07	1.37E-06
Water Quality Sensitive Receivers												
Non-gazetted Beaches	Lung Kwu Sheung Tan	SR5a	a	2100	0.4	0.1	3.80E-05	1.16E-05	4.7	1.7	4.90E-04	1.74E-04
	Lung Kwu Tan	SR5b	a	2100	0.5	0.2	5.45E-05	2.47E-05	7.0	3.1	7.33E-04	3.29E-04
Secondary Contact Recreation Subzone	NW WCZ	SR5b	a	2100	0.5	0.2	5.45E-05	2.47E-05	7.0	3.1	7.33E-04	3.29E-04
Seawater Intakes	Tuen Mun Area 38	SR7b	b	2100	0.5	0.2	5.04E-05	1.94E-05	3.0	1.3	3.18E-04	1.34E-04
	Shiu Wing Steel Mill	SR7i	b	2100	0.5	0.3	5.21E-05	3.21E-05	3.4	2.2	3.62E-04	2.28E-04
	Black Point Power Station	SR4	b	2600	2.3	2.7	2.95E-04	3.49E-04	161.3	137.8	2.10E-02	1.79E-02
	Castle Peak Power Station	SR7a	b	2100	0.6	0.4	6.02E-05	4.72E-05	4.8	3.0	5.08E-04	3.12E-04

Notes:

b. s = surface, m = middle, b = bottom, a = depth-averaged

Table 6E.4 Predicted Arsenic Concentrations (μg L^{-1}) for Scenarios 1 and 3

Sensitive Receiver	Name	ID	Relevant Water Depth [a]	Max As Conc. In Sediment (mg kg^{-1})	Scenario 1				Scenario 3			
					Predicted SS Elevation (mg L^{-1})		Predicted As Elevation (μg/L)		Predicted SS Elevation (mg L^{-1})		Predicted As Elevation (μg/L)	
					Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet
					Max	Max	Max	Max	Max	Max	Max	Max
Fisheries Sensitive Receivers												
Oyster Production Area	Sheung Pak Nai	SR2	s	38	0.0	0.0	0.0001	0.0001	0.0	0.0	0.0002	0.0015
Recognised Spawning/ Nursery Grounds	Fisheries Spawning Ground in North Lantau	SR8	a	38	0.3	0.4	0.0125	0.0156	0.8	0.8	0.0317	0.0297
			b	38	0.5	0.6	0.0183	0.0211	1.7	1.2	0.0660	0.0467
Artificial Reef Deployment Area	Sha Chau and Lung Kwu Chau	SR6e	a	38	0.5	0.4	0.0174	0.0152	0.5	0.5	0.0189	0.0199
			b	38	0.6	0.4	0.0235	0.0169	0.7	0.6	0.0253	0.0219
Marine Ecological Resources												
Mangroves	Sheung Pak Nai	SR2	s	38	0.0	0.0	0.0001	0.0001	0.0	0.0	0.0002	0.0015
	Ngau Hom Shek	SR2a	s	38	0.0	0.0	0.0001	0.0000	0.0	0.0	0.0002	0.0003
Marine Park	Designated Sha Chau and Lung Kwu Chau	SR6a	a	38	1.4	1.4	0.0539	0.0540	1.4	1.5	0.0533	0.0568
		SR6c	a	38	0.5	0.5	0.0190	0.0194	0.8	0.7	0.0303	0.0272
Intertidal Mudflats	Ha Pak Nai	SR1	s	38	0.0	0.1	0.0011	0.0040	1.4	3.5	0.0523	0.1339
Seagrass Beds	Sheung Pak Nai	SR2	s	38	0.0	0.0	0.0001	0.0001	0.0	0.0	0.0002	0.0015
	Ha Pak Nai	SR1	s	38	0.0	0.1	0.0011	0.0040	1.4	3.5	0.0523	0.1339
Horseshoe Crab Nursery Grounds	Ha Pak Nai	SR1	a	38	0.1	0.1	0.0019	0.0051	2.2	4.5	0.0826	0.1720
	Ngau Hom Shek	SR2a	a	38	0.0	0.0	0.0001	0.0000	0.0	0.0	0.0003	0.0004
Water Quality Sensitive Receivers												
Non-gazetted Beaches	Lung Kwu Sheung Tan	SR5a	a	38	0.4	0.1	0.0137	0.0042	4.7	1.7	0.1772	0.0630
	Lung Kwu Tan	SR5b	a	38	0.5	0.2	0.0197	0.0089	7.0	3.1	0.2654	0.1191
Secondary Contact Recreation Subzone	NW WCZ	SR5b	a	38	0.5	0.2	0.0197	0.0089	7.0	3.1	0.2654	0.1191
Seawater Intakes	Tuen Mun Area 38	SR7b	b	38	0.5	0.2	0.0182	0.0070	3.0	1.3	0.1152	0.0486
	Shiu Wing Steel Mill	SR7i	b	38	0.5	0.3	0.0189	0.0116	3.4	2.2	0.1309	0.0823
	Black Point Power Station	SR4	b	38	2.3	2.7	0.0861	0.1019	161.3	137.8	6.1294	5.2372
	Castle Peak Power Station	SR7a	b	38	0.6	0.4	0.0218	0.0171	4.8	3.0	0.1838	0.1129

Notes:

c. s = surface, m = middle, b = bottom, a = depth-averaged