Berth 103 Stage 2 Dredging - Water Pollutant Monitoring

Site **TB1 South of Berth 104**
Easting 306520
Northing 6182583

Parameter	Units	LOR	Baseline 14/05/2015	20/05/2015	26/05/2015	Dredging 23/06/2015	4/07/2015	10/07/2015
Metals								
Aluminium	mg/L	0.01	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Antimony	mg/L	0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Arsenic	mg/L	0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Cadmium	mg/L	0.0001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chromium	mg/L	0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.001
Cobalt	mg/L	0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Copper	mg/L	0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Lead	mg/L	0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nickel	mg/L	0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Selenium	mg/L	0.01	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Silver	mg/L	0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Vanadium	mg/L	0.01	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Zinc	mg/L	0.005	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Iron	mg/L	0.05	<0.50	<0.10	<0.10	<0.10	<0.05	<0.05
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Polynuclear Aromatic Hydrocarbons (PAHs)								
Naphthalene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sum of PAHs	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ (zero)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Organotin Compounds								
Tributyltin	ngSn/L	2	<2	<2	<2	<2	<2	<2

Berth 103 Stage 2 Dredging - Water Pollutant Monitoring

Site **TB2 NW of OHDSCA**
Easting 307825
Northing 6183604

Parameter	Units	LOR	Baseline 14/05/2015	20/05/2015	26/05/2015	Dredging 23/06/2015	4/07/2015	10/07/2015
Metals								
Aluminium	mg/L	0.01	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Antimony	mg/L	0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Arsenic	mg/L	0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Cadmium	mg/L	0.0001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Chromium	mg/L	0.001	<0.010	<0.010	<0.010	<0.010	<0.001	<0.001
Cobalt	mg/L	0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Copper	mg/L	0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Lead	mg/L	0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nickel	mg/L	0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Selenium	mg/L	0.01	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Silver	mg/L	0.001	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Vanadium	mg/L	0.01	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Zinc	mg/L	0.005	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Iron	mg/L	0.05	<0.50	<0.10	<0.10	<0.10	<0.05	<0.05
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Polynuclear Aromatic Hydrocarbons (PAHs)								
Naphthalene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sum of PAHs	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ (zero)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Organotin Compounds								
Tributyltin	ngSn/L	2	<2	<2	<2	<2	<2	<2

Berth 103 Stage 2 Dredging - Water Pollutant Monitoring

Site TB3 East of OHDSCA
Easting 308172
Northing 6183450

Parameter	Units	LOR	Baseline 14/05/2015	20/05/2015	26/05/2015	Dredging 23/06/2015	4/07/2015	10/07/2015
Metals								
Aluminium	mg/L	0.01	<0.10	<0.01	<0.10	<0.10	<0.10	<0.10
Antimony	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010
Arsenic	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010
Cadmium	mg/L	0.0001	<0.0010	<0.0001	<0.0010	<0.0010	<0.0010	<0.0010
Chromium	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.001
Cobalt	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010
Copper	mg/L	0.001	<0.010	0.002	<0.010	<0.010	<0.010	<0.010
Lead	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010
Nickel	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010
Selenium	mg/L	0.01	<0.10	<0.01	<0.10	<0.10	<0.10	<0.10
Silver	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010
Vanadium	mg/L	0.01	<0.10	<0.01	<0.10	<0.10	<0.10	<0.10
Zinc	mg/L	0.005	<0.050	<0.005	<0.050	<0.050	<0.050	<0.050
Iron	mg/L	0.05	<0.50	<0.05	<0.10	<0.10	<0.05	<0.05
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Polynuclear Aromatic Hydrocarbons (PAHs)								
Naphthalene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sum of PAHs	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ (zero)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Organotin Compounds								
Tributyltin	ngSn/L	2	<2	<2	<2	<2	<2	<2

Berth 103 Stage 2 Dredging - Water Pollutant Monitoring

Site **TB4 Background Northern Breakwater**
Easting 307991
Northing 6184286

Parameter	Units	LOR	Baseline 14/05/2015	20/05/2015	26/05/2015	Dredging 23/06/2015	4/07/2015	10/07/2015
Metals								
Aluminium	mg/L	0.01	<0.10	0.02	<0.10	<0.10	<0.10	<0.10
Antimony	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010
Arsenic	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010
Cadmium	mg/L	0.0001	<0.0010	<0.0001	<0.0010	<0.0010	<0.0010	<0.0010
Chromium	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.001	<0.001
Cobalt	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010
Copper	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010
Lead	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010
Nickel	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010
Selenium	mg/L	0.01	<0.10	<0.01	<0.10	<0.10	<0.10	<0.10
Silver	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010
Vanadium	mg/L	0.01	<0.10	<0.01	<0.10	<0.10	<0.10	<0.10
Zinc	mg/L	0.005	<0.050	<0.005	<0.050	<0.050	<0.050	<0.050
Iron	mg/L	0.05	<0.50	<0.05	<0.10	<0.10	<0.05	<0.05
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Polynuclear Aromatic Hydrocarbons (PAHs)								
Naphthalene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sum of PAHs	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ (zero)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Organotin Compounds								
Tributyltin	ngSn/L	2	<2	<2	<2	<2	<2	<2

Berth 103 Stage 2 Dredging - Water Pollutant Monitoring

Site **TB5 Background N of Tug Berth Cut**
Easting 306795
Northing 6184439

Parameter	Units	LOR	Baseline 14/05/2015	20/05/2015	26/05/2015	Dredging 23/06/2015	4/07/2015	10/07/2015
Metals								
Aluminium	mg/L	0.01	<0.10	<0.01	<0.10	<0.10	<0.10	<0.10
Antimony	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010
Arsenic	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010
Cadmium	mg/L	0.0001	<0.0010	<0.0001	<0.0010	<0.0010	<0.0010	<0.0010
Chromium	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.001	<0.001
Cobalt	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010
Copper	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010
Lead	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010
Nickel	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010
Selenium	mg/L	0.01	<0.10	<0.01	<0.10	<0.10	<0.10	<0.10
Silver	mg/L	0.001	<0.010	<0.001	<0.010	<0.010	<0.010	<0.010
Vanadium	mg/L	0.01	<0.10	<0.01	<0.10	<0.10	<0.10	<0.10
Zinc	mg/L	0.005	<0.050	<0.005	<0.050	<0.050	<0.050	<0.050
Iron	mg/L	0.05	<0.50	<0.05	<0.10	<0.10	<0.05	<0.05
Mercury	mg/L	0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Polynuclear Aromatic Hydrocarbons (PAHs)								
Naphthalene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenanthrene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Anthracene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluoranthene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Pyrene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benz(a)anthracene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chrysene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(b+j)fluoranthene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(k)fluoranthene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(a)pyrene	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Indeno(1.2.3.cd)pyrene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz(a.h)anthracene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo(g.h.i)perylene	µg/L	1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Sum of PAHs	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Benzo(a)pyrene TEQ (zero)	µg/L	0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Organotin Compounds								
Tributyltin	ngSn/L	2	<2	<2	<2	<2	<2	<2