

Berth 103 Stage 2 Dredging - Water Pollutant Monitoring

Site TB1 South of Berth 104

Easting 306520

Northing 6182583

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

Berth 103 Stage 2 Dredging - Water Pollutant Monitoring

Site TB2 NW of OHSCA

Easting 307825

Northing 6183604

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

Berth 103 Stage 2 Dredging - Water Pollutant Monitoring

Site TB3 East of OHSCA

Easting 308172

Northing 6183450

| Parameter | Units | LOR | Baseline | | | Dredging |
|---|--------|--------|------------|------------|------------|------------|
| | | | 14/05/2015 | 20/05/2015 | 26/05/2015 | 23/06/2015 |
| Metals | | | | | | |
| Aluminium | mg/L | 0.01 | <0.10 | <0.01 | <0.10 | <0.10 |
| Antimony | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Arsenic | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Cadmium | mg/L | 0.0001 | <0.0010 | <0.0001 | <0.0010 | <0.0010 |
| Chromium | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Cobalt | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Copper | mg/L | 0.001 | <0.010 | 0.002 | <0.010 | <0.010 |
| Lead | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Nickel | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Selenium | mg/L | 0.01 | <0.10 | <0.01 | <0.10 | <0.10 |
| Silver | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Vanadium | mg/L | 0.01 | <0.10 | <0.01 | <0.10 | <0.10 |
| Zinc | mg/L | 0.005 | <0.050 | <0.005 | <0.050 | <0.050 |
| Iron | mg/L | 0.05 | <0.50 | <0.05 | <0.10 | <0.10 |
| Mercury | mg/L | 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 |
| Acenaphthylene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Acenaphthene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Fluorene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Phenanthrene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Anthracene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Fluoranthene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Pyrene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Benzo(a)anthracene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Chrysene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Benzo(b+j)fluoranthene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Benzo(k)fluoranthene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Benzo(a)pyrene | µg/L | 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 |
| Dibenz(a.h)anthracene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Benzo(g.h.i)perylene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Sum of PAHs | µg/L | 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 |
| Organotin Compounds | | | | | | |
| Tributyltin | ngSn/L | 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 | | | Dredging |
|---|--------|--------|------------|------------|------------|------------|
| | | | 14/05/2015 | 20/05/2015 | 26/05/2015 | 23/06/2015 |
| Metals | | | | | | |
| Aluminium | mg/L | 0.01 | <0.10 | 0.02 | <0.10 | <0.10 |
| Antimony | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Arsenic | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Cadmium | mg/L | 0.0001 | <0.0010 | <0.0001 | <0.0010 | <0.0010 |
| Chromium | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Cobalt | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Copper | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Lead | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Nickel | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Selenium | mg/L | 0.01 | <0.10 | <0.01 | <0.10 | <0.10 |
| Silver | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Vanadium | mg/L | 0.01 | <0.10 | <0.01 | <0.10 | <0.10 |
| Zinc | mg/L | 0.005 | <0.050 | <0.005 | <0.050 | <0.050 |
| Iron | mg/L | 0.05 | <0.50 | <0.05 | <0.10 | <0.10 |
| Mercury | mg/L | 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 |
| Acenaphthylene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Acenaphthene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Fluorene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Phenanthrene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Anthracene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Fluoranthene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Pyrene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Benz(a)anthracene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Chrysene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Benzo(b+j)fluoranthene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Benzo(k)fluoranthene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Benzo(a)pyrene | µg/L | 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 |
| Dibenz(a.h)anthracene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Benzo(g.h.i)perylene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Sum of PAHs | µg/L | 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 |
| Organotin Compounds | | | | | | |
| Tributyltin | ngSn/L | 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 | | | Dredging |
|---|--------|--------|------------|------------|------------|------------|
| | | | 14/05/2015 | 20/05/2015 | 26/05/2015 | 23/06/2015 |
| Metals | | | | | | |
| Aluminium | mg/L | 0.01 | <0.10 | <0.01 | <0.10 | <0.10 |
| Antimony | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Arsenic | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Cadmium | mg/L | 0.0001 | <0.0010 | <0.0001 | <0.0010 | <0.0010 |
| Chromium | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Cobalt | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Copper | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Lead | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Nickel | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Selenium | mg/L | 0.01 | <0.10 | <0.01 | <0.10 | <0.10 |
| Silver | mg/L | 0.001 | <0.010 | <0.001 | <0.010 | <0.010 |
| Vanadium | mg/L | 0.01 | <0.10 | <0.01 | <0.10 | <0.10 |
| Zinc | mg/L | 0.005 | <0.050 | <0.005 | <0.050 | <0.050 |
| Iron | mg/L | 0.05 | <0.50 | <0.05 | <0.10 | <0.10 |
| Mercury | mg/L | 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 |
| Acenaphthylene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Acenaphthene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Fluorene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Phenanthrene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Anthracene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Fluoranthene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Pyrene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Benz(a)anthracene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Chrysene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Benzo(b+j)fluoranthene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Benzo(k)fluoranthene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Benzo(a)pyrene | µg/L | 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 |
| Dibenz(a.h)anthracene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Benzo(g.h.i)perylene | µg/L | 1 | <1.0 | <1.0 | <1.0 | <1.0 |
| Sum of PAHs | µg/L | 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 |
| Organotin Compounds | | | | | | |
| Tributyltin | ngSn/L | 2 | <2 | <2 | <2 | <2 |