## Metadata for Tidal Data Exchange

### Station Name
Port Kembla

### Date of Supply
Wednesday, 8 December 2010

### Identification

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Station Number</td>
<td>BoM=068253 ANTT=60420</td>
</tr>
<tr>
<td>Name</td>
<td>Port Kembla</td>
</tr>
<tr>
<td>Latitude and Estimated Positional Uncertainty</td>
<td>-34.4734 +/- 3m</td>
</tr>
<tr>
<td>Longitude and Estimated Positional Uncertainty</td>
<td>150.9118 +/- 3m</td>
</tr>
<tr>
<td>Map Name</td>
<td>Wollongong</td>
</tr>
<tr>
<td>Map Number</td>
<td>9029</td>
</tr>
<tr>
<td>Map Grid Northing</td>
<td>N/A</td>
</tr>
<tr>
<td>Map Grid Easting</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Type of Readings

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heights</td>
<td>Observations</td>
</tr>
<tr>
<td>Streams</td>
<td></td>
</tr>
<tr>
<td>Constituent constants</td>
<td></td>
</tr>
</tbody>
</table>

### Progress *

### Update Frequency *
Real Time

### Available Format Type *
DIGITAL, text

### Measurement Units

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tidal Heights</td>
<td>metres</td>
</tr>
<tr>
<td>Tidal Streams</td>
<td></td>
</tr>
</tbody>
</table>

### Reference Frame

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Zone</td>
<td>UTC</td>
</tr>
<tr>
<td>Vertical Reference Frame</td>
<td>LAT (m)</td>
</tr>
<tr>
<td>TGBM Name/Number</td>
<td>PSM 45274 SEAFRAME sensor BM</td>
</tr>
<tr>
<td>TGBM Elevation relative to the vertical reference</td>
<td>4.173m AHD or 5.045m LAT</td>
</tr>
<tr>
<td>Estimated Positional Uncertainty</td>
<td>+/- 2mm</td>
</tr>
<tr>
<td>Geodetic Datum of Aust (GDA94)</td>
<td></td>
</tr>
<tr>
<td>Horizontal Reference Frame</td>
<td></td>
</tr>
<tr>
<td>Direction of Stream Readings</td>
<td>+/-</td>
</tr>
<tr>
<td>Depth of Stream Readings (relative to Vertical Reference Frame)</td>
<td></td>
</tr>
<tr>
<td>Estimated Positional Uncertainty</td>
<td></td>
</tr>
</tbody>
</table>

### Search Words *
Marine, Oceanography, Water, Port Kembla

### Data Owner Details

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>National Tidal Centre</td>
</tr>
<tr>
<td>Postal Address</td>
<td>PO Box 421, Kent Town, SA 5071</td>
</tr>
<tr>
<td>Street Address</td>
<td>25 College Road, SA 5071</td>
</tr>
<tr>
<td>Telephone</td>
<td>08 8366 2730</td>
</tr>
<tr>
<td>Facsimile</td>
<td>08 8366 2651</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:ntc@bom.gov.au">ntc@bom.gov.au</a></td>
</tr>
<tr>
<td>Internet</td>
<td><a href="http://www.bom.gov.au/oceanography">www.bom.gov.au/oceanography</a></td>
</tr>
</tbody>
</table>

### Contact Officer Details

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>Paul Davill</td>
</tr>
<tr>
<td>Position</td>
<td>Data Manager</td>
</tr>
<tr>
<td>Telephone</td>
<td>08 8366 2730</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:ntc@bom.gov.au">ntc@bom.gov.au</a></td>
</tr>
</tbody>
</table>

### Data Custodian Details
## Metadata for Tidal Data Exchange

**Station Name**  
Port Kembla

**Date of Supply**  
Wednesday, 8 December 2010

<table>
<thead>
<tr>
<th>Name</th>
<th>National Tidal Centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Postal Address</td>
<td>PO Box 421, Kent Town, SA 5071</td>
</tr>
<tr>
<td>Street Address</td>
<td>25 College Road, SA 5071</td>
</tr>
<tr>
<td>Telephone</td>
<td>08 8366 2730</td>
</tr>
<tr>
<td>Facsimile</td>
<td>08 8366 2651</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:ntc@bom.gov.au">ntc@bom.gov.au</a></td>
</tr>
<tr>
<td>Internet</td>
<td><a href="http://www.bom.gov.au/oceanography">www.bom.gov.au/oceanography</a></td>
</tr>
</tbody>
</table>

**Contact Officer Details**

<table>
<thead>
<tr>
<th>Name</th>
<th>Paul Davill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Position</td>
<td>Data Manager</td>
</tr>
<tr>
<td>Telephone</td>
<td>08 8366 2730</td>
</tr>
<tr>
<td>Email</td>
<td><a href="mailto:ntc@bom.gov.au">ntc@bom.gov.au</a></td>
</tr>
</tbody>
</table>

**Details of the Readings Provided Herewith**

<table>
<thead>
<tr>
<th>Date of readings supplied</th>
<th>From</th>
<th>Dec-90</th>
</tr>
</thead>
<tbody>
<tr>
<td>To</td>
<td>Current</td>
<td></td>
</tr>
</tbody>
</table>

The time interval between readings (If the readings are for high & low water then enter "Zero")

| 1-minute (average of 60, 1-second samples) |
| 6-minutes (weighted average of 4, 1-minute readings) |
| Hourly (filtered with a cut-off of 2 hours) |

Are the readings averaged or filtered

| See above. 1-minute samples are logged at the end of each minute, 6-minute centred on 0.1-hour increments |

Are there any access constraints (such as commercial-in-confidence or constraint on the use or distribution to third parties).

| No |

**Objective Quality Assessment of Tidal Observations (Height or Stream)**

**Instrument**

- **Type**  
  Telmet T320
- **Make**  
  Telvent
- **Model**  
  Telmet 320 RTU, Aquatrak Controller, Vega Radar, Hart Modem, Westermo Modem, Vaisala Barometer
- **Mode of operation**  
  PTB220A, Telstra NextG Router

**Sensor**

- **Type**  
  Acoustic-in-air sensor
- **Make**  
  Aquatrak® Transducer
- **Model**  
  Aquatrak NG XCR
- **Mode of operation**  
  RS-232

**Frequency of System Calibrations**

- **Field calibration and Laboratory calibration**  
  every 18 months
every 18 months

**Frequency of Water Level Checks**

| Daily |

**Estimate of the Precision of the Water Level Checks**

- **Time (Std Dev in Minutes)**  
  GPS Satellite Clock
1mm +/-

**System Resolution**

1mm +/-

**Estimated Local Uncertainty**

**Status of the Readings**

| Statistical analysis |
## Metadata for Tidal Data Exchange

### Station Name
Port Kembla

### Date of Supply
Wednesday, 8 December 2010

<table>
<thead>
<tr>
<th>Description of the validation process including a statement detailing how:--</th>
<th>Standard deviations reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The instrumental biases were treated</td>
<td>Recovered where possible</td>
</tr>
<tr>
<td>2. Outliers were selected and dealt with</td>
<td></td>
</tr>
<tr>
<td>3. Breaks in the record were dealt with</td>
<td></td>
</tr>
</tbody>
</table>

### Date of Validation
Checked each month, for previous month

### Name of Person certifying the validation
NTC Data Analysis Department

### Details required with the supply of tidal constituent constants

<table>
<thead>
<tr>
<th>All of the details required above</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>The name and version of the software used to calculate the constants</td>
<td>TANS</td>
</tr>
<tr>
<td>The tidal constituent model used (particularly noting the treatment of the constituents $S_a$ and $S_{sa}$) and specifying any related (inferred) constituent constants</td>
<td>Doodson’s method</td>
</tr>
<tr>
<td>The date span used to prepare the constituent constants</td>
<td>1985-2007 (for 2010)</td>
</tr>
<tr>
<td>The reference time zone for the constituents</td>
<td>AEST (-1000)</td>
</tr>
<tr>
<td>The vertical datum to which the constituents apply</td>
<td>LAT, which is TGZ and is 0.872m below AHD</td>
</tr>
<tr>
<td>A precision estimate of predictions based on the constituent constants (for example, standard deviation of the analysis residuals)</td>
<td>Standard Deviation is 0.092</td>
</tr>
</tbody>
</table>

### Additional details required with the supply of tidal predictions

<table>
<thead>
<tr>
<th>All of the details required above</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A statement describing the tidal prediction process used</td>
<td>Doodson’s method</td>
</tr>
<tr>
<td>The name and version of the software used to calculate the predictions</td>
<td>Tipp4</td>
</tr>
<tr>
<td>A list of the constituent constants used or if the list is not provided, the donor agency's identifier of the list</td>
<td>Standard 112 Constituent list</td>
</tr>
</tbody>
</table>

### Comments on data by Port Authority
- Australian Baseline Sea Level Monitoring Project (ABSLMP)
- Before 9-Nov-2009, Sutron Logger used. 6-minute samples average of 181, 1-second samples
- Earlier data read from analog tide gauge traces on the hour