

# Eastland Port Ltd

## Southern Logyard

### Stormwater Monitoring Quarterly Report

#### 1. Sampling Details

Location	Date	Time
Manhole 1	16/03/2015	9:50am
Manhole 11	16/03/2015	9:40am
Kaiti Beach Road	16/03/2015	9:30am
Debarker	16/03/2015	9:00am

Two samples were collected from Manhole 1 and Manhole 11 5 minutes apart, however they were not composited during this round of sampling. It has been discussed with Logic Forest Solutions that the samples at each manhole need to be composited as per the Stormwater Management Plan.

Samples were collected at the Kaiti Beach Road

#### 2. Relevant Site information

Location	Rainfall (event and 4 days previous)	Discharge/water colour	Obvious or visual features	Pipe flow depth
Manhole 1	n/a	Brown/grey	White foam	1m
Manhole 11	n/a	Brown/grey	White foam	1m

#### 3. Analysis of Laboratory Results

Parameter	Units	Trigger Levels For Assessing Effects			Summary of water quality results with trigger level exceedences highlighted				Summary of water quality results	
		Current trigger level (fresh-water)	Trigger level (marine)	Proposed s127 trigger levels (marine with dilution)	MH1 (North)		MH11 (South)		Kaiti Beach Road	Debarker
					S1	S2	S1	S2		
BOD	g/m <sup>3</sup>	30	30	30	220	210	270	250	6	710
pH	-log(H <sup>+</sup> )	6.7-8.5	6.7-8.5	6.7-8.5	6.3	6.4	6.3	6.3	7.7	6.0
TSS	g/m <sup>3</sup>	150	150	150	80	75	65	67	128	260
TPH	g/m <sup>3</sup>	15	15	15	<0.7	0.7	<0.7	<0.7	<0.7	<0.7
Total Zn	g/m <sup>3</sup>	0.015	0.023	0.46	0.099	0.093	0.074	0.095	0.097	0.22
Total Cu	g/m <sup>3</sup>	0.0018	0.003	0.06	0.043	0.043	0.0083	0.0089	0.0088	0.050
Total Pb	g/m <sup>3</sup>	0.0056	0.0066	0.132	0.00180	0.00177	0.0028	0.0035	0.0034	0.0028

#### 5. Findings on Consent Condition Compliance

Total suspended solids and total petroleum hydrocarbons is compliant at both sample locations.

Biochemical Oxygen Demand (BOD) exceeds the trigger level at both sample locations. The MH1 samples were 7.3 and 7 times above the trigger level. The MH11 samples were 9 and 8.6 times above the trigger level. Interpretation of the BOD results, and also the use of BOD as a monitoring tool, warrants some discussion which is addressed in a separate letter dealing specifically with this parameter in relation to the current S127 application.

The pH results for all samples are slightly lower than the lower trigger level of 6.7. However, with the large buffering effect of coastal waters these results are not considered significant.

All total zinc, total copper and total lead results were above the consented trigger levels at both locations. However, these trigger levels are for freshwater receiving environments, rather than a marine receiving environment and are pipe concentrations. Using the marine environment trigger levels, the total zinc results are between 3.2 and 4.3 times the trigger levels. The total copper results 2.8 and 3 times the trigger levels for MH11 and 14 times for MH1. Total lead results are all below the marine environment trigger level. As a small order of dilution would be required in the receiving environment the total zinc, total copper and total lead results are not considered to be significant.

#### 6. Any Further Actions Required in Light of Findings

Further discussion around BOD is provided in the s127 application. All other results are not considered significant therefore no further actions are required. The next round of sampling will occur in Quarter 2 (April, May, June).