



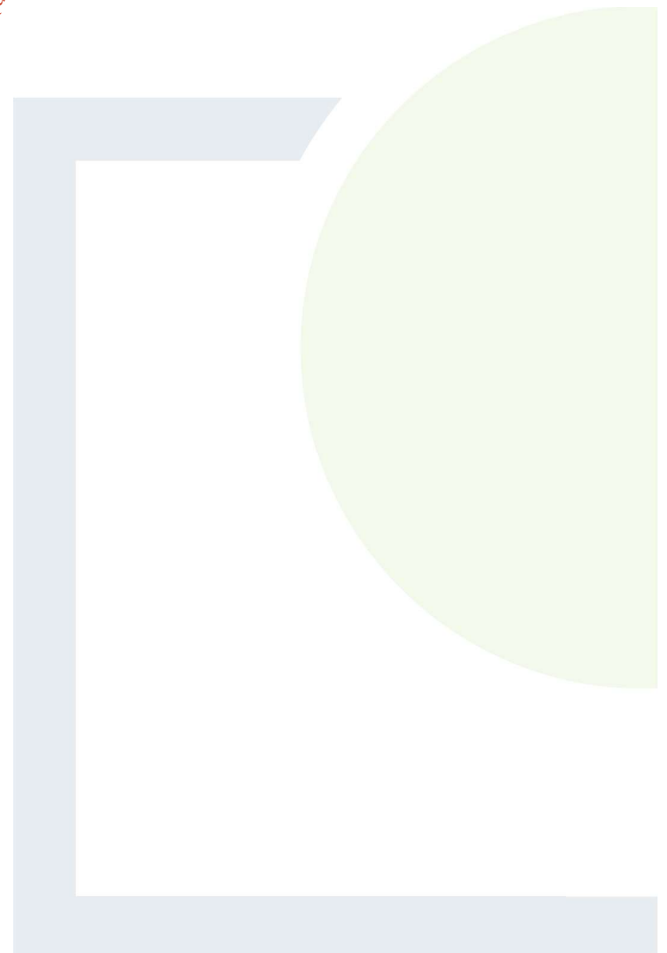
**FEHILY  
TIMONEY**

**CONSULTANTS IN ENGINEERING,  
ENVIRONMENTAL SCIENCE & PLANNING**

# **APPENDIX 3**



Parameters and Results  
for Groundwater, Surface  
Water and landfill gas  
Monitoring

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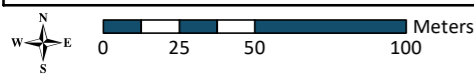




-  Borehole
-  Trial Pit
-  Site Boundary

<b>TITLE:</b>	Site Investigation Location Plan		
<b>PROJECT:</b>	Castleisland Landfill, Co. Kerry		
<b>FIGURE NO:</b>	3.1		
<b>CLIENT:</b>	Kerry County Council		
<b>SCALE:</b>	1:2500	<b>REVISION:</b>	0
<b>DATE:</b>	13/11/2019	<b>PAGE SIZE:</b>	A3

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**Table 1: Waste Sampling Results – Solid Waste Analysis**

Parameter	Units	Inert Waste Acceptance Criteria	Non-Hazardous Waste Acceptance Criteria	Hazardous Waste Acceptance Criteria	Sampling Results - Sample ID	
					TP01 (1.70m)	TP04 (1.0m)
Asbestos in soil	--	<b>Detected</b>	<b>Detected</b>	<b>Detected</b>		
Arsenic	l.kg <sup>-1</sup>	<b>0.5</b>	<b>2</b>	<b>25</b>	< 0.0010	0.0016
Barium	l.kg <sup>-1</sup>	<b>20</b>	<b>100</b>	<b>300</b>	0.036	0.13
Cadmium	l.kg <sup>-1</sup>	<b>0.04</b>	<b>1</b>	<b>5</b>	< 0.00010	< 0.00010
Chromium	l.kg <sup>-1</sup>	<b>0.5</b>	<b>10</b>	<b>70</b>	0.0020	< 0.0010
Copper	l.kg <sup>-1</sup>	<b>2</b>	<b>50</b>	<b>100</b>	< 0.0010	< 0.0010
Mercury	l.kg <sup>-1</sup>	<b>0.01</b>	<b>0.2</b>	<b>2</b>	< 0.00050	< 0.00050
Molybdenum	l.kg <sup>-1</sup>	<b>0.5</b>	<b>10</b>	<b>30</b>	0.010	0.012
Nickel	l.kg <sup>-1</sup>	<b>0.4</b>	<b>10</b>	<b>40</b>	< 0.0010	0.096
Lead	l.kg <sup>-1</sup>	<b>0.5</b>	<b>10</b>	<b>50</b>	< 0.0010	< 0.0010
Antimony	l.kg <sup>-1</sup>	<b>0.06</b>	<b>0.7</b>	<b>5</b>	0.0024	0.0026
Selenium	l.kg <sup>-1</sup>	<b>0.1</b>	<b>0.5</b>	<b>7</b>	0.012	0.0012
Zinc	l.kg <sup>-1</sup>	<b>4</b>	<b>50</b>	<b>200</b>	< 0.0010	0.033
Chloride	l.kg <sup>-1</sup>	<b>800</b>	<b>15000</b>	<b>25000</b>	5.3	3.2
Fluoride	l.kg <sup>-1</sup>	<b>10</b>	<b>150</b>	<b>500</b>	0.19	0.12
Sulphate	l.kg <sup>-1</sup>	<b>1000</b>	<b>20000</b>	<b>50000</b>	100	530
Total Dissolved Solids	l.kg <sup>-1</sup>	<b>4000</b>	<b>60000</b>	<b>100000</b>	220	780
Phenol Index	l.kg <sup>-1</sup>	<b>1</b>	--	--	< 0.030	< 0.030
Dissolved Organic Carbon	l.kg <sup>-1</sup>	<b>500</b>	<b>800</b>	<b>1000</b>	7.0	14
Total Organic Carbon	%	<b>3</b>	<b>5</b>	<b>6</b>	1.0	<b>6.3</b>
Loss on Ignition	%	--	--	<b>10</b>	4.2	<b>20</b>
Total BTEX	mg.kg <sup>-1</sup>	<b>6</b>	--	--	< 0.010	< 0.010
Total PCBs (7 Congeners)	mg.kg <sup>-1</sup>	<b>1</b>	--	--	< 0.10	< 0.10
TPH Total WAC (Mineral Oil)	mg.kg <sup>-1</sup>	<b>500</b>	--	--	< 10	<b>320</b>
Total (Of 17) PAH's	pH units	<b>100</b>	--	--	< 2.0	< 2.0
pH	%	--	<b>&gt;6</b>	--	8.5	8.2
Acid Neutralisation Capacity		--	<b>To evaluate</b>	<b>To evaluate</b>	0.050	0.032

\* Hazardous Waste Landfill Criteria: >6% TOC

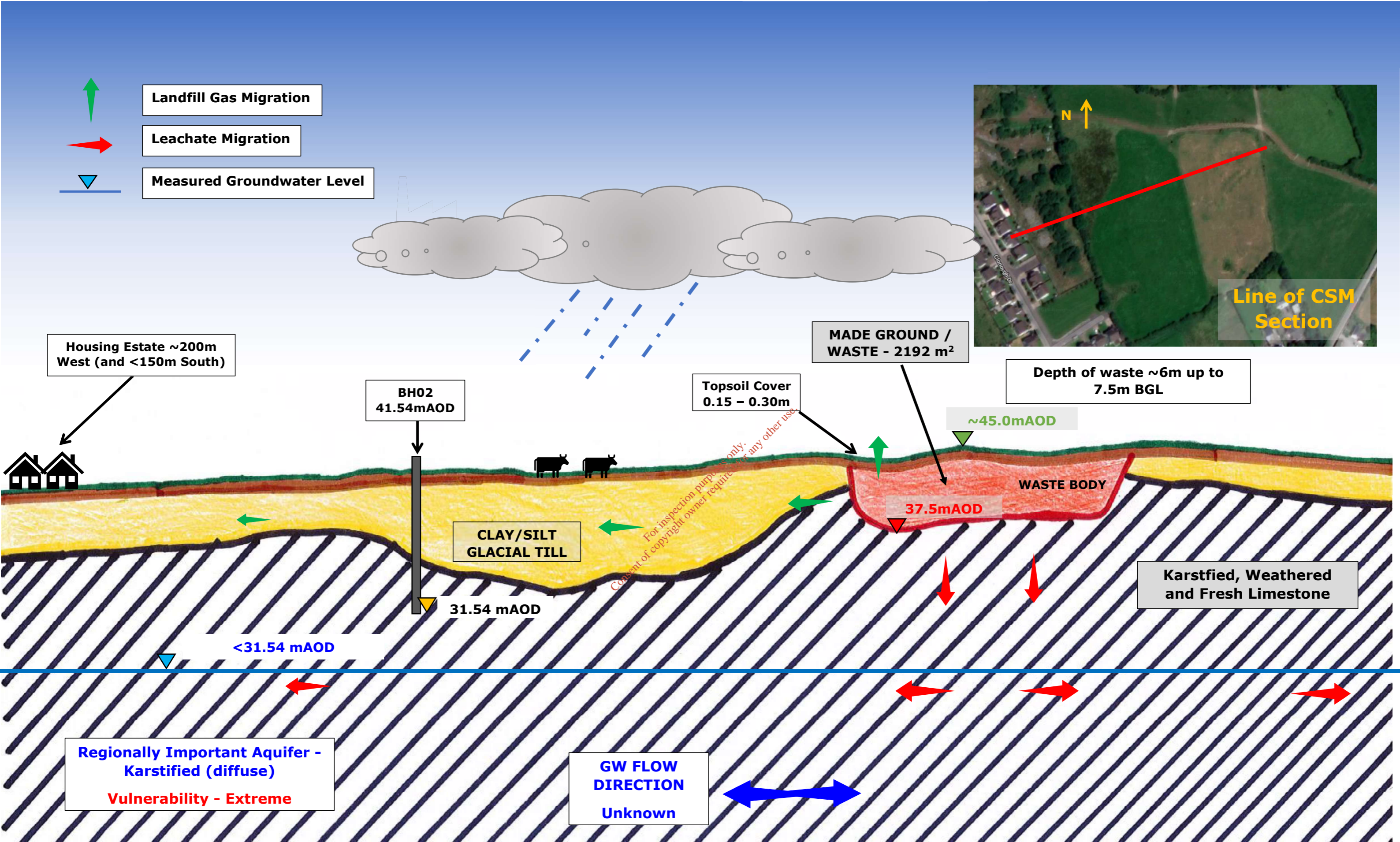
- \* Items in **bold** are in exceedance of the Inert WAC limit value
- \* Items shaded in **green** are in exceedance of the Non-Hazardous WAC limit value
- \* Items shaded in **orange** are in exceedance of the Hazardous WAC limit value

**Table 2: Landfill Gas Monitoring Results October 2019**

Date: 24/10/2019						
Sample Station	CH <sub>4</sub>	CO <sub>2</sub>	O <sub>2</sub>	Atmospheric pressure	Staff Member	Weather
	(% v/v)	(% v/v)	(% v/v)	mbar		
BH01	0.1	0.2	21.4	1009	Emily Archer	Scattered cloud with light showers, 8-12°C
BH02	0.1	0.1	21.6			

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CROSS SECTION WEST-EAST

**FIGURE 5.1 CASTLEISLAND HISTORIC LANDFILL  
CONCEPTUAL SITE MODEL**