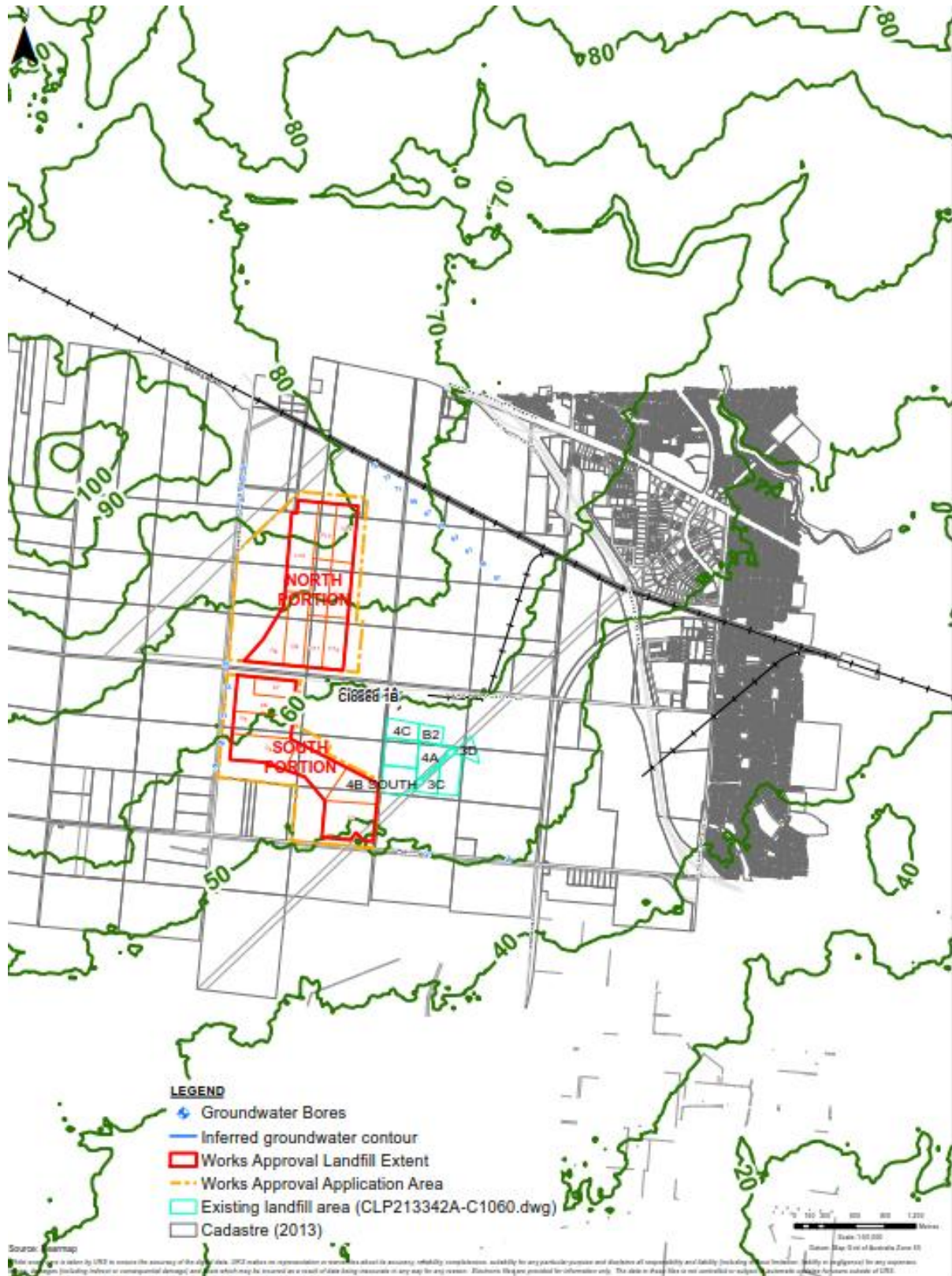


Response to Hydrogeological Issues Raised by EPA Section 22 Notice of 21st October 2016 in relation to Melbourne Regional Landfill

	EPA Request	Response																																							
1.	Depth to groundwater to determine compliance with clause 16(2) of the WMP																																								
1 (a)	Provide information to justify the groundwater contours shown in Figure 5-5 are long-term undisturbed groundwater levels	<p>The groundwater contours in Figure 5-5 are based on empirical data from a number of monitoring rounds. These data produced a groundwater contour map that is representative of undisturbed natural groundwater conditions since most are located up-hydraulic gradient of the site.</p> <p>The groundwater levels over the area proposed for the new MRL cells are based on the readings taken in April – May 2014, because this represented the most complete data set at the time of writing the report. These data were the basis for the water table estimates provided in Table 5-2. To assess the validity of these estimates, I have compared the data from four more monitoring events carried out since – on 4th Aug 2015, 20th Nov 2015, 22nd Mar 2016 and 16th May 2016. Comparison of the maximum recorded levels during these events in the bores located in the vicinity of the footprint of the new MRL cells indicates that the groundwater levels used for the contours in Figure 5-5 are a reasonable representation of elevated groundwater conditions and the basis for Table 5-2 remains valid.</p> <table border="1" data-bbox="738 927 1141 1480"> <thead> <tr> <th>Bore</th> <th>Variation (m)</th> <th>Readings</th> </tr> </thead> <tbody> <tr><td>GW01</td><td>0.00</td><td>8</td></tr> <tr><td>GW02</td><td>0.21</td><td>3</td></tr> <tr><td>GW03</td><td>0.01</td><td>3</td></tr> <tr><td>GW04</td><td>0.00</td><td>8</td></tr> <tr><td>GW04d</td><td>0.68</td><td>7</td></tr> <tr><td>GW05</td><td>0.22</td><td>3</td></tr> <tr><td>GW06</td><td>0.00</td><td>3</td></tr> <tr><td>GW07</td><td>0.00</td><td>2</td></tr> <tr><td>GW08</td><td>0.01</td><td>3</td></tr> <tr><td>GW10</td><td>0.18</td><td>2</td></tr> <tr><td>GW11</td><td>0.00</td><td>2</td></tr> <tr><td>MB03</td><td>0.08</td><td>60</td></tr> </tbody> </table> <p>Note that although the readings for GW04d indicated a rise of 0.68m over the additional 7 readings, the levels are still 7 – 8m below the levels in the shallow aquifer monitored by GW04, as shown in Figure A-7 below. The shallow aquifer levels in GW04 are not impacting the liner design level.</p>	Bore	Variation (m)	Readings	GW01	0.00	8	GW02	0.21	3	GW03	0.01	3	GW04	0.00	8	GW04d	0.68	7	GW05	0.22	3	GW06	0.00	3	GW07	0.00	2	GW08	0.01	3	GW10	0.18	2	GW11	0.00	2	MB03	0.08	60
Bore	Variation (m)	Readings																																							
GW01	0.00	8																																							
GW02	0.21	3																																							
GW03	0.01	3																																							
GW04	0.00	8																																							
GW04d	0.68	7																																							
GW05	0.22	3																																							
GW06	0.00	3																																							
GW07	0.00	2																																							
GW08	0.01	3																																							
GW10	0.18	2																																							
GW11	0.00	2																																							
MB03	0.08	60																																							
1 (b)	Provide a map for the area showing long-term undisturbed groundwater levels (in mAHD)	<p>The regional water table level from DSE is shown in Figure 1 below. This contour map, however, is based primarily on topography, with occasional observations that have not been taken at the same time. It is considered that Figure 5-5 is a better representation of undisturbed groundwater levels since it is based on empirical data. In spite of the differences, the two sets of data confirm regional groundwater conditions.</p>																																							
1 (c)	Provide the anticipated base level of the leachate sumps (in mAHD for all the cells (Cells 1 to 16).	<p>As indicated by Golders, the base levels will be designed to ensure 2m separation from the water table level.</p>																																							

Figure 1 - Regional Water Table

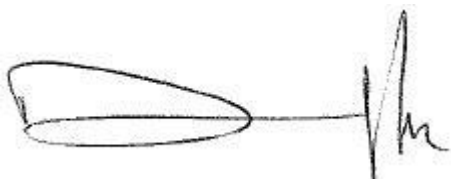


MELBOURNE REGIONAL LANDFILL

REGIONAL GROUNDWATER CONTOURS - DSE C. 2009

	EPA Request	Response
1 (d)	Provide groundwater information up-gradient of site - in the same aquifer - that confirms the groundwater segment classification as Segment C	<p>As indicated in my previous response, the TDS of the groundwater in the proximity of the MRL cells is shown by monitoring of the new groundwater bores GW01 to GW13 and MB03 and MB02A and the data for these bores, from November 2013, is shown in Figure 2 below. The table shows that the only bore that exhibited a consistently lower TDS concentration than Segment C (i.e. less than 3,500 mg/L TDS) was GW04d, a deeper piezometer installed in the lower basalt aquifer. Your request that bores be located in the same aquifer for comparative purposes means that this bore should be ignored in the assessment of beneficial use since the shallow bore at this same site indicated a higher salinity consistent with Segment C. It is the shallower “water table aquifer” that should dictate the beneficial use classification, since this is the aquifer that is susceptible to leachate impact.</p> <p>Bore BH01 was drilled to a depth of 190.5m and was screened between 172.5 and 192.5m depth. The bore is tapping the underlying Werribee Formation and Palaeozoic bedrock and is not representative of the basalt aquifer in which the landfill is to be developed.</p> <p>The TDS readings are presented in Table 1 below, as mg/L. The readings show an average salinity of 11,600 mg/L (excluding GW04d) and a minimum value of 3,900 mg/L. These data confirm the classification of the groundwaters as Segment C.</p>
2.	<p>In reviewing the potential groundwater pollution from the existing landfill cells, it is noted that there are a number of 53V environmental audits that have been completed (page 18 AECOM). There are a number of suggestions in the WA documents that there are background levels of contaminants (e.g. sulphate, nitrate) present at the site. However, there is very limited detailed discussion or sufficient data presented that demonstrate that these are background levels in accordance with Clause 9(2) and the definition in SEPP (GoV). For example, increases in concentrations in manganese in groundwater (page 55, AECOM) are also not well explained. Provide additional information to demonstrate that levels of contaminants in groundwater are background levels in accordance with SEPP (GoV).</p>	<p>The Hydrogeological Assessment does not state that all of the bores exhibit background groundwater quality conditions. In Section 6.4.3 the report states that the rising trend in Manganese concentrations in MB07 and MB08 is consistent with anaerobic digestion of organic carbon which may originate from a number of sources, including leachate from the adjacent composting facility or from the adjacent landfill cell, or from stormwater contamination. Importantly, the current concentration of Manganese of 2mg/L exceeds the maximum recorded level in leachate of 0.9mg/L, suggesting another source.</p> <p>In terms of the broader issue of potential groundwater contamination, the Auditor has indicated that</p> <p><i>The current data does not indicate evidence of leachate impacts on the protected beneficial uses of Segment C groundwater. Review of the historical data trends for the groundwater monitoring wells around the landfill show no significant change and no clear evidence of leachate impact in the upper aquifer.</i></p> <p>The Auditor also noted that:</p> <p><i>In clay lined cells (Stage 1 and Stage 2 cells 2A to 2D), historic elevated leachate levels will have resulted in some degree of leachate loss into the basal clay unit at the lower level of the upper basalt and that is understood to underlie the cells to varying depth. Hence some leachate loss to deeper groundwater is likely to have occurred over time, but a degree of attenuation of some chemical species will also have occurred in the basal clay underlying the cells and in general seepage rates are expected to be low.</i></p> <p>It should be noted, however, that the MRL will not comprise clay lined cells but will be engineered with composite liner system designed to achieve better than BPEM compliance.</p> <p>Regarding sulphate concentrations, the highest concentrations are observed in MB01 which is located up-hydraulic gradient from the existing landfill cells which is not considered impacted by leachate migration.</p>

	EPA Request	Response
		<p>Other leachate indicators have been assessed on the basis of the ratio of leachate indicators (K, NH₄ and NO₃) to natural ions (Ca, Mg, Na). This is referred to as the Mulvey ratio and the plot is shown in Figure 3. Values of L/N greater than 10 are generally indicative of leachate impacts.</p> <p>The impact of contamination from volatile organics has been assessed through monitoring and the VOC results are presented in the attached table. Results are consistently non-detect, indicating no contamination of groundwater from VOCs is occurring</p>
3.	<p>Clarification of potential groundwater interaction with surface waters. Provide data to support your statement</p>	<p>The surface drainage system is not deeply incised at the site. The one metre topographic contours shown in Figure 4 show that the tributaries of Skeleton Creek are incised less than 3m below the basalt surface to the south of the site, where the water table depth is 16 to 22m below ground surface. With such a difference in levels, there is no direct interaction between surface waters and groundwater on the site.</p>
	<p>Geotechnical Stability of the side wall and side wall liner</p>	<p>Refer Golders.</p>
	<p>If the separation between the waste and the long term undisturbed groundwater level is not likely to be met (for any area within the landfill), provide additional design and management practices to show compliance with clause 16(2) of the WMP. Note that these measures must be acceptable to the Authority.</p>	<p>As indicated by Golders, the floor of the cell will be raised accordingly to ensure 2m separation from the water table level.</p>



David Ife

Technical Director – Environment

AECOM Australia

30th November 2016

Figure 3 Mulvey Ratios

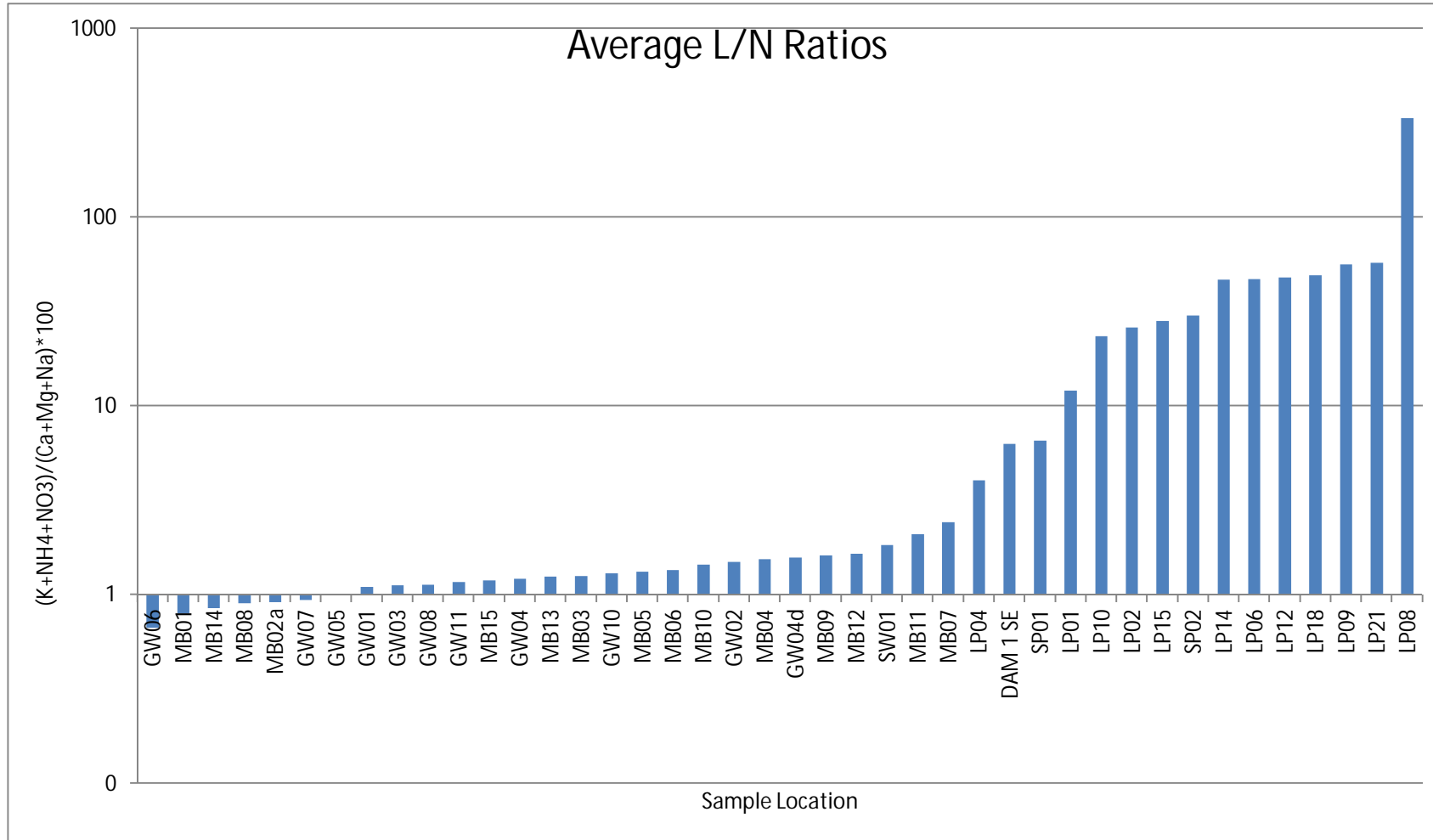


Figure 4 One metre topographic contours

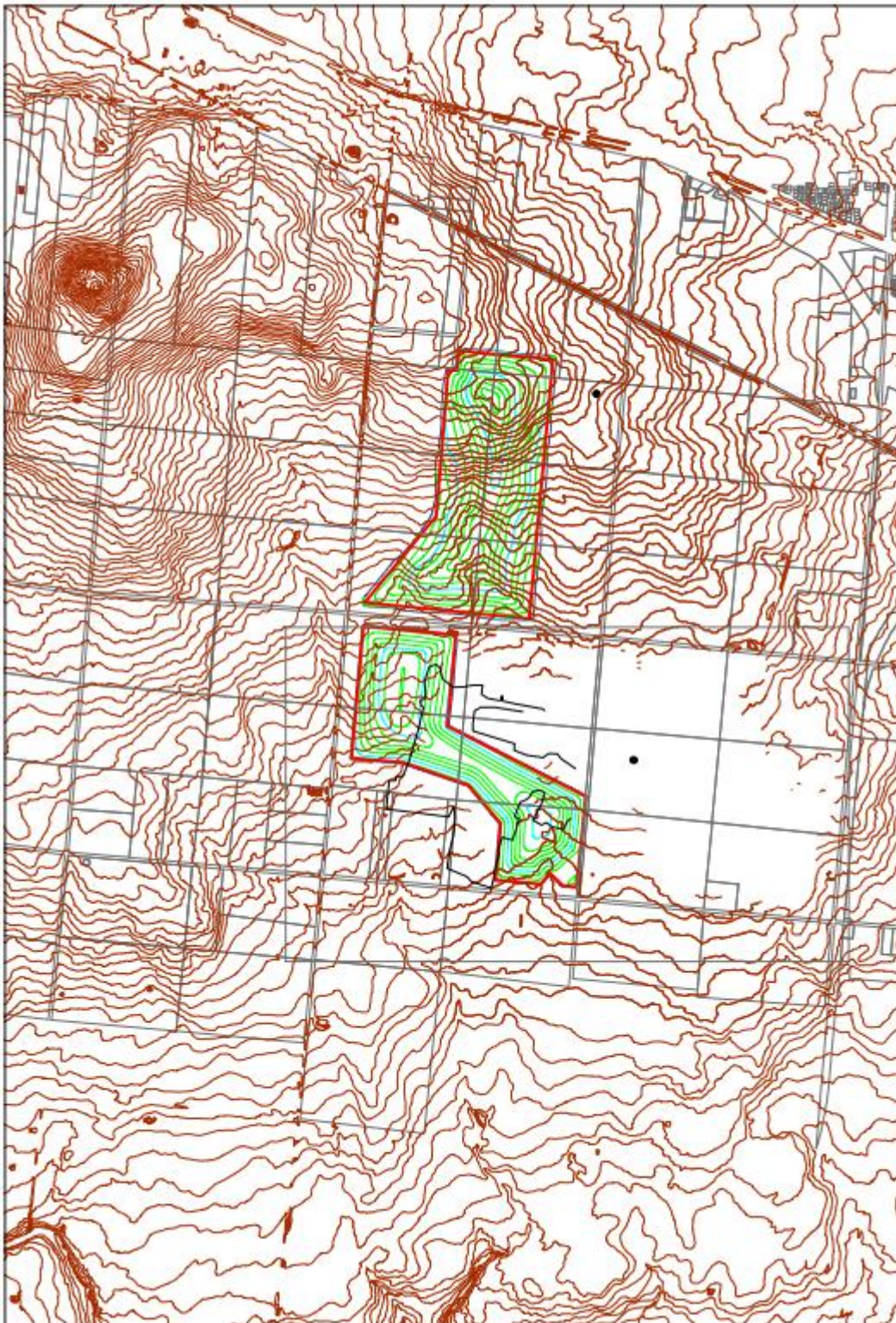


Table ??
 Analytical Results
 Boral Western landfill
 Boral - Boral Western Landfill

Chem Group	ChemName	output unit	EQL	Field ID																						
				Location Code	DAM A	LP02	LP04	LP06	LP08	LP09	LP10	LP11	LP12	LP13	LP14	LP15	LP18	MB05	MB07	MB08	MB12	SW01	SW04	LP01	LP02	LP07
Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	Well	
Sampled Date	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	Time	
Monocyclic Aromatic Hydrocarbons	Benzene	µg/L	1	<1	<10	<4	8	<4	<4	<4	<10	<10	<10	<10	5	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	Toluene	µg/L	1	<1	<10	<4	38	<4	<4	<4	<10	<10	<10	<10	<4	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	Ethylbenzene	µg/L	1	<1	<10	<4	<4	<4	12	<4	<10	<10	<10	<10	18	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	m&p-Xylene	µg/L	2	<2	<20	<8	<8	23	<8	<20	<20	<20	<20	8	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
	o-Xylene	µg/L	1	<1	<10	8	67	<4	6	<4	<10	<10	<10	<10	6	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	Total Xylenes	µg/L	3	<3	<30	<12	68	<12	29	<12	<30	<30	<30	<30	14	<30	<3	<3	<3	<3	<3	<3	<3	<3	<3	
	Styrene	µg/L	1	-	<10	<4	<4	<4	<4	<4	<10	<10	<10	<10	<4	<10	<1	<1	<1	<1	<1	<1	-	-	<20	
	Isopropylbenzene	µg/L	1	-	<10	<4	<4	<4	<4	<4	<10	<10	<10	<10	<4	<10	<1	<1	<1	<1	<1	<1	-	-	<20	
	1,2,4-trimethylbenzene	µg/L	1	-	<10	<4	<4	<4	12	<4	<10	<10	<10	<10	<4	<10	<1	<1	<1	<1	<1	<1	-	-	<20	
	1,3,5-trimethylbenzene	µg/L	1	-	<10	<4	9	<4	<4	<4	<10	<10	<10	<10	<4	<10	<1	<1	<1	<1	<1	<1	-	-	<20	
	Polynuclear Aromatic Hydrocarbons	Naphthalene	µg/L	1	<20	3	12	9	3	1	2	3	<1	<1	2	<1	<1	<1	<1	<1	<1	<1	<20	<20	<1	3
		2-Methylnaphthalene	µg/L	5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	<5	<5
		1-Chloronaphthalene	µg/L	5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	<5	<5
2-Chloronaphthalene		µg/L	5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	<5	<5	
Acenaphthylene		µg/L	1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1
Acenaphthene		µg/L	1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1
Anthracene		µg/L	1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1
Fluorene		µg/L	1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1
Phenanthrene		µg/L	1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1
Fluoranthene		µg/L	1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1
Benz(a)anthracene		µg/L	1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1
Benzo(b)fluoranthene		µg/L	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene		µg/L	1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1
Benzo(b&j)fluoranthene		µg/L	1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1
7,12-Dimethylbenz(a)anthracene		µg/L	5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	<5	<5
Benzo(a)pyrene		µg/L	1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1
Chrysene		µg/L	1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1
Pyrene		µg/L	1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1
3-Methylcholanthrene		µg/L	5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	<5	<5
Benzo(g,h,i)perylene		µg/L	1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1
Dibenz(a,h)anthracene	µg/L	1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1	
Indeno(1,2,3-cd)pyrene	µg/L	1	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	-	-	<1	<1	
Dibenz(a,i)acridine	µg/L	5	-	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	<5	<5	
Phenolic Compounds	Phenol	µg/L	3	-	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	-	-	<3	<3
	2-Chlorophenol	µg/L	3	-	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	-	-	<3	<3
	2-Methylphenol (o-Cresol)	µg/L	3	-	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	-	-	<3	<3
	3&4-Methylphenol (m&p-Cresol)	µg/L	6	-	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	<6	-	-	<6	<6
	2-Nitrophenol	µg/L	10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	-	-	<10	<10
	2,4-Dichlorophenol	µg/L	3	-	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	-	-	<3	<3
	2,4-Dimethylphenol	µg/L	3	-	<3	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	-	-	<3	7
	2,6-Dichlorophenol	µg/L	3	-	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	-	-	<3	<3
	4-Chloro-3-methylphenol	µg/L	10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	-	-	<10	<10
	2,4,6-Trichlorophenol	µg/L	10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	-	-	<10	<10
	2,4,5-Trichlorophenol	µg/L	10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	-	-	<10	<10
	4,6-Dinitro-2-methylphenol	µg/L	30	-	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	-	-	<30	<30
	Pentachlorophenol	µg/L	10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	-	-	<10	<10
	2,3,4,6-Tetrachlorophenol	µg/L	10	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	-	-	<10	<10
	2,4-Dinitrophenol	µg/L	30	-	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	-	-	<30	<30
	4-Nitrophenol	µg/L	30	-	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	-	-	<30	<30

Table ??
 Analytical Results
 Boral Western landfill
 Boral - Boral Western Landfill

Field ID	LP08	LP09	LP10	LP11	LP12	LP13	LP14	LP17	LP18	LP20	LP21	LP22	MB01	MB03	MB04	MB04	MB05	MB05	MB05	MB05	MB06	MB07
Location Code	LP08	LP09	LP10	LP11	LP12	LP13	LP14	LP17	LP18	LP20	LP21	LP22	MB01	MB03	MB04	MB04	MB05	MB05	MB05	MB05	MB06	MB07
Well	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sampled Date Time	20/11/2014	20/11/2014	20/11/2014	20/11/2014	20/11/2014	20/11/2014	20/11/2014	21/11/2014	20/11/2014	21/11/2014	20/11/2014	21/11/2014	28/11/2012	15/11/2013	28/11/2012	15/11/2013	28/11/2012	15/11/2013	21/11/2014	18/05/2015	15/11/2013	20/05/2014

Chem Group	ChemName	output unit	EQL	LP08	LP09	LP10	LP11	LP12	LP13	LP14	LP17	LP18	LP20	LP21	LP22	MB01	MB03	MB04	MB04	MB05	MB05	MB05	MB05	MB06	MB07	
Fumigants	1,2-Dibromoethane (EDB)	ug/L	1	<1	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	1,2-Dichloropropane	ug/L	1	<1	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	cis-1,3-Dichloropropene	ug/L	1	<1	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	trans-1,3-Dichloropropene	ug/L	1	<1	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	Bromodichloromethane	ug/L	1	<1	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Trihalomethanes	Bromoform	ug/L	1	<1	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	Chloroform	ug/L	5	<5	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Dibromochloromethane	ug/L	1	<1	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	2-Propanone (Acetone)	ug/L	1	<1	<20	<20	<100	<100	<100	<100	1600	<100	<100	<100	<20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Oxygenated Compounds	2-Butanone (MEK)	ug/L	1	<1	<20	<20	<20	<20	<20	<20	850	<20	<20	<20	<20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	4-Methyl-2-pentanone (MIBK)	ug/L	1	<1	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	Carbon disulfide	ug/L	1	<1	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Sulfonated Compounds	Butyl benzyl phthalate	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Diethyl phthalate	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Dimethyl phthalate	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Di-n-butyl phthalate	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Di-n-octyl phthalate	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Bis(2-ethylhexyl)phthalate	ug/L	5	8	16	8	40	30	9	26	31	<5	16	7	11	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Nitrosamines	Diphenylamine	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	N-Nitrosodibutylamine	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	N-Nitrosodipropylamine	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	N-Nitrosopiperidine	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Nitroaromatics and Ketones	1-Naphthylamine	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	2,4-Dinitrotoluene	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	2,6-Dinitrotoluene	ug/L	5	<5	<5	<5	<5	<10	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	2-Naphthylamine	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	2-Picoline	ug/L	5	190	<5	<5	<5	<5	<5	<5	13	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	4-Aminobiphenyl	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Acetophenone	ug/L	5	<5	<5	<5	<5	<5	<5	<5	14	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Dimethylaminoazobenzene	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Nitrobenzene	ug/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	Pentachloronitrobenzene	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Haloethers	Pronamide	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	4-Bromophenyl phenyl ether	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Bis(2-chloroisopropyl)ether	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Bis(2-chloroethoxy) methane	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Chlorinated Hydrocarbons	4-Chlorophenyl phenyl ether	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Hexachlorocyclopentadiene	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Hexachloroethane	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Pentachlorobenzene	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Aldrin	ug/L	5	<5	<100	<10	<500	<100	<5	<10	<200	<5	<5	<20	<20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Organochlorine Pesticides (OC)	Dieldrin	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	a-BHC	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	b-BHC	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	d-BHC	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	g-BHC (Lindane)	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	DDD	ug/L	5	<5	<5	<																				

Table ??
 Analytical Results
 Boral Western landfill
 Boral - Boral Western Landfill

Field ID	MB07	MB07	MB08	MB08	MB08	MB1	MB10	MB10	MB10	MB11	MB11	MB12	MB12	MB12	MB12	MB14	MB14	MB14	MB15	MB15	MB15	MB15	MB2A	
Location Code	MB07	MB07	MB08	MB08	MB08	MB01	MB10	MB10	MB10	MB11	MB11	MB12	MB12	MB12	MB12	MB14	MB14	MB14	MB15	MB15	MB15	MB15	MB02A	
Well	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Sampled Date Time	21/11/2014	19/05/2015	20/05/2014	21/11/2014	19/05/2015	22/08/2012	22/08/2012	29/11/2012	15/11/2013	22/08/2012	15/11/2013	22/08/2012	28/11/2012	15/11/2013	21/11/2014	19/05/2014	21/11/2014	18/05/2015	19/05/2014	21/11/2014	18/05/2015	18/05/2015	22/08/2012	
Chem Group	ChemName	output unit	EQL																					
Fumigants	1,2-Dibromoethane (EDB)	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	1,2-Dichloropropane	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	cis-1,3-Dichloropropene	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	trans-1,3-Dichloropropene	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Trihalomethanes	Bromodichloromethane	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	Bromoform	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	Chloroform	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Oxygenated Compounds	Dibromochloromethane	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	2-Propanone (Acetone)	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	2-Butanone (MEK)	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
	4-Methyl-2-pentanone (MIBK)	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Sulfonated Compounds	Carbon disulfide	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Phthalate Esters	Butyl benzyl phthalate	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Diethyl phthalate	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Dimethyl phthalate	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Di-n-butyl phthalate	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Di-n-octyl phthalate	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Bis(2-ethylhexyl)phthalate	ug/L	5	7	18	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Nitrosamines	Diphenylamine	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	N-Nitrosodibutylamine	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	N-Nitrosodipropylamine	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	N-Nitrosopiperidine	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Nitroaromatics and Ketones	1-Naphthylamine	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	2,4-Dinitrotoluene	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	2,6-Dinitrotoluene	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	2-Naphthylamine	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	2-Picoline	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	4-Aminobiphenyl	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Acetophenone	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Dimethylaminoazobenzene	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Nitrobenzene	ug/L	50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50
	Pentachloronitrobenzene	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Pronamide	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Haloethers	4-Bromophenyl phenyl ether	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Bis(2-chloroisopropyl)ether	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Bis(2-chloroethoxy) methane	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	4-Chlorophenyl phenyl ether	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Chlorinated Hydrocarbons	Hexachlorocyclopentadiene	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Hexachloroethane	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Pentachlorobenzene	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Organochlorine Pesticides (OC)	Aldrin	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	Dieldrin	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	a-BHC	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	b-BHC	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	d-BHC	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	g-BHC (Lindane)	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	DDD	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	DDE	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	DDT	ug/L	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
	DDT+DDE+DDD	ug/L						<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	<15	
	Endosulfan	ug/L						<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
	Endosulfan 1	ug/L	5	<5	<																			

Field ID	MB4	MB5	SP01	SP02
Location Code	MB04	MB05	SP01	SP02
Well	-	-	-	-
Sampled Date Time	22/08/2012	22/08/2012	21/11/2014	21/11/2014

Chem Group	ChemName	output unit	EQL	Statistical Summary													
				Number of	Number of	Minimum	Minimum	Maximum	Maximum	Average	Median	Standard					
Monocyclic Aromatic Hydrocarbons	Benzene	µg/L	1	<1	<1	<1	<1	70	3	<1	5	<20	8	3.1	0.5	3.8	
	Toluene	µg/L	1	<1	<1	<1	<1	70	7	<1	3	<55	55	5.1	0.5	9.7	
	Ethylbenzene	µg/L	1	<1	<1	<1	<1	70	8	<1	12	55	55	5.3	0.5	9.7	
	m&p-Xylene	µg/L	2	<2	<2	<2	<2	70	6	<2	8	46	46	7.9	1	12	
	o-Xylene	µg/L	1	<1	<1	<1	<1	70	7	<1	6	67	67	4.7	0.5	9.3	
	Total Xylenes	µg/L	3	<3	<3	<3	<3	70	6	<3	14	72	72	12	1.5	18	
	Styrene	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8	
	Isopropylbenzene	µg/L	1	<1	<1	<1	<1	67	1	<1	3	<20	3	3.1	0.5	3.8	
	1,2,4-trimethylbenzene	µg/L	1	<1	<1	<1	<1	67	2	<1	12	22	22	3.5	0.5	4.6	
	1,3,5-trimethylbenzene	µg/L	1	<1	<1	<1	<1	67	2	<1	7	<20	9	3.2	0.5	3.9	
	Polynuclear Aromatic Hydrocarbons	Naphthalene	µg/L	1	<1	<1	<1	<1	70	17	<1	1	<20	12	1.6	0.5	2.6
		2-Methylnaphthalene	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	0	0
1-Chloronaphthalene		µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	0	0	
2-Chloronaphthalene		µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	0	0	
Acenaphthylene		µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<1	ND	0.5	0.5	0	
Acenaphthene		µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<1	ND	0.5	0.5	0	
Anthracene		µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<1	ND	0.5	0.5	0	
Fluorene		µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<1	ND	0.5	0.5	0	
Phenanthrene		µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<1	ND	0.5	0.5	0	
Fluoranthene		µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<1	ND	0.5	0.5	0	
Benz(a)anthracene		µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<1	ND	0.5	0.5	0	
Benzo(b)fluoranthene		µg/L	1	<1	<1	-	-	12	0	<1	ND	<1	ND	0.5	0.5	0	
Benzo(k)fluoranthene		µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<1	ND	0.5	0.5	0	
Benzo(b&j)fluoranthene		µg/L	1	-	-	<1	<1	55	0	<1	ND	<1	ND	0.5	0.5	0	
7,12-Dimethylbenz(a)anthracene		µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	0	0	
Benzo(a)pyrene		µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<1	ND	0.5	0.5	0	
Chrysene		µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<1	ND	0.5	0.5	0	
Pyrene		µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<1	ND	0.5	0.5	0	
3-Methylcholanthrene		µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	0	0	
Benzo(g,h,i)perylene		µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<1	ND	0.5	0.5	0	
Dibenz(a,h)anthracene		µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<1	ND	0.5	0.5	0	
Indeno(1,2,3-cd)pyrene		µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<1	ND	0.5	0.5	0	
Dibenz(a,j)acridine		µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	0	0	
Phenolic Compounds		Phenol	µg/L	3	<3	<3	<3	<3	67	1	<3	160	160	160	3.9	1.5	19
	2-Chlorophenol	µg/L	3	<3	<3	<3	<3	67	0	<3	ND	<3	ND	1.5	0	0	
	2-Methylphenol (o-Cresol)	µg/L	3	<3	<3	<3	<3	67	4	<3	8	18	18	2.1	1.5	2.5	
	3&4-Methylphenol (m&p-Cresol)	µg/L	6	<6	<6	<6	<6	67	2	<6	34	310	310	8	3	38	
	2-Nitrophenol	µg/L	10	<10	<10	<10	<10	67	0	<10	ND	<10	ND	5	0	0	
	2,4-Dichlorophenol	µg/L	3	<3	<3	<3	<3	67	0	<3	ND	<3	ND	1.5	1.5	0	
	2,4-Dimethylphenol	µg/L	3	<3	<3	<3	<3	67	5	<3	7	13	13	2.6	1.5	2.8	
	2,6-Dichlorophenol	µg/L	3	<3	<3	<3	<3	67	0	<3	ND	<3	ND	1.5	1.5	0	
	4-Chloro-3-methylphenol	µg/L	10	<10	<10	<10	<10	67	0	<10	ND	<20	ND	5.1	5	0.61	
	2,4,6-Trichlorophenol	µg/L	10	<10	<10	<10	<10	67	0	<10	ND	<10	ND	5	0	0	
	2,4,5-Trichlorophenol	µg/L	10	<10	<10	<10	<10	67	0	<10	ND	<10	ND	5	0	0	
	4,6-Dinitro-2-methylphenol	µg/L	30	<30	<30	<30	<30	67	0	<30	ND	<30	ND	15	15	0	
	Pentachlorophenol	µg/L	10	<10	<10	<10	<10	67	0	<10	ND	<10	ND	5	0	0	
	2,3,4,6-Tetrachlorophenol	µg/L	10	<10	<10	<10	<10	67	0	<10	ND	<10	ND	5	0	0	
	2,4-Dinitrophenol	µg/L	30	<30	<30	<30	<30	67	0	<30	ND	<30	ND	15	15	0	
	4-Nitrophenol	µg/L	30	<30	<30	<30	<30	67	0	<30	ND	<30	ND	15	15	0	
	Halogenated Aromatic Compounds	Benzyl chloride	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	0	0
		Bromobenzene	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8
Chlorobenzene		µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8	
4-Chlorotoluene		µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8	
1,2-Dichlorobenzene		µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<10	ND	1.5	0.5	1.4	
1,3-Dichlorobenzene		µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<10	ND	1.5	0.5	1.4	
1,4-Dichlorobenzene		µg/L	1	<1	<1	<1	<1	67	1	<1	ND	<10	3	1.5	0.5	1.4	
1,2,3,4-Tetrachlorobenzene		µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	0	0	
1,2,3,5-Tetrachlorobenzene		µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	0	0	
1,2,4,5-Tetrachlorobenzene		µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	0	0	
1,2,3-Trichlorobenzene		µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	0	0	
1,2,4-Trichlorobenzene		µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	0	0	
1,3,5-Trichlorobenzene		µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	0	0	
Halogenated Aliphatic Compounds		Bromochloromethane	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8
		Allyl chloride	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8
	Dichlorodifluoromethane (Freon 12)	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8	
	Chloromethane	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8	
	Vinyl chloride	µg/L	1	<1	<1	<1	<1	67	1	<1	1	<20	1	3	0.5	3.8	
	Bromomethane	µg/L	1	<1	<1	<1	<1	67	1	<1	6	<20	6	3.1	0.5	3.9	
	Chloroethane	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8	
	Trichlorofluoromethane (Freon 11)	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8	
	1,1-Dichloroethene	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8	
	Iodomethane	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8	
	1,1-Dichloroethane	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8	
	cis-1,2-Dichloroethene	µg/L	1	<1	<1	<1	<1	67	1	<1	8	<20	8	3.1	0.5	3.9	
	trans-1,2-Dichloroethene	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8	
	1,1,1-Trichloroethane	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8	
	Carbon Tetrachloride	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8	
	1,2-Dichloroethane	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8	
	Trichloroethene	µg/L	1	<1	<1	<1	<1	67	1	<1	5	<20	5	3.1	0.5	3.8	
	Dibromomethane	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8	
	1,1,2-Trichloroethane	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8	
	1,3-Dichloropropane</																

Field ID	MB4	MB5	SP01	SP02
Location Code	MB04	MB05	SP01	SP02
Well	-	-	-	-
Sampled Date Time	22/08/2012	22/08/2012	21/11/2014	21/11/2014

Chem Group	ChemName	output unit	EQL	Statistical Summary												
				Number of	Number of	Minimum	Minimum	Maximum	Maximum	Average	Median	Standard				
Fumigants	1,2-Dibromoethane (EDB)	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8
	1,2-Dichloropropane	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8
	cis-1,3-Dichloropropene	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8
	trans-1,3-Dichloropropene	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8
Trihalomethanes	Bromodichloromethane	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8
	Bromoform	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8
	Chloroform	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<20	ND	4.3	2.5	3
	Dibromochloromethane	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8
Oxygenated Compounds	2-Propanone (Acetone)	µg/L	1	<1	<1	7	21	67	5	<1	3	1600	1600	32	0.5	195
	2-Butanone (MEK)	µg/L	1	<1	<1	<1	<1	67	1	<1	850	850	16	0.5	104	
	4-Methyl-2-pentanone (MIBK)	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8
Sulfonated Compounds	Carbon disulfide	µg/L	1	<1	<1	<1	<1	67	0	<1	ND	<20	ND	3	0.5	3.8
Phthalate Esters	Butyl benzyl phthalate	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Diethyl phthalate	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Dimethyl phthalate	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Di-n-butyl phthalate	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Di-n-octyl phthalate	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Bis(2-ethylhexyl)phthalate	µg/L	5	<5	<5	9	10	67	21	<5	7	40	40	6.5	2.5	8
Nitrosamines	Diphenylamine	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	N-Nitrosodibutylamine	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	N-Nitrosodipropylamine	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	N-Nitrosopiperidine	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
Nitroaromatics and Ketones	1-Naphthylamine	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	2,4-Dinitrotoluene	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	2,6-Dinitrotoluene	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<10	ND	2.6	2.5	0.52
	2-Naphthylamine	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	2-Picoline	µg/L	5	<5	<5	<5	<5	67	3	<5	13	190	190	5.7	2.5	23
	4-Aminobiphenyl	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Acetophenone	µg/L	5	<5	<5	<5	<5	67	1	<5	14	14	14	2.7	2.5	1.4
	Dimethylaminoazobenzene	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Nitrobenzene	µg/L	50	<50	<50	<50	<50	67	0	<50	ND	<100	ND	25	25	3.1
	Pentachloronitrobenzene	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Pronamide	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
Haloethers	4-Bromophenyl phenyl ether	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Bis(2-chloroisopropyl)ether	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Bis(2-chloroethoxy) methane	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	4-Chlorophenyl phenyl ether	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
Chlorinated Hydrocarbons	Hexachlorocyclopentadiene	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Hexachloroethane	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Pentachlorobenzene	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
Organochlorine Pesticides (OC)	Aldrin	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<500	ND	9.4	2.5	33
	Dieldrin	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	a-BHC	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	b-BHC	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	d-BHC	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	g-BHC (Lindane)	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	DDD	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	DDE	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	DDT	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	DDT+DDE+DDD	µg/L		<15	<15	-	-	14	0	<15	ND	<15	ND	7.5	7.5	0
	Endosulfan	µg/L		<10	<10	-	-	14	0	<10	ND	<10	ND	5	5	0
	Endosulfan 1	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Endosulfan 2	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Endosulfan sulfate	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Endrin	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Endrin aldehyde	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Endrin ketone	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Heptachlor	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Heptachlor epoxide	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Hexachlorobenzene (HCB)	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
Methoxychlor	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0	
Anilines	2-Nitroaniline	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Aniline	µg/L	5	<5	<5	<5	<5	67	7	<5	8	110	110	6.5	2.5	18
	Dibenzofuran	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0
	Trifluralin	µg/L	5	<5	<5	<5	<5	67	0	<5	ND	<5	ND	2.5	2.5	0