Sample Identity	Date	pH @ 25°C	EC @ 25°C	COD	Alkalinity	NH3-N	Chloride	Nitrate	Nitrite	Phosphate	Ca	As	Cd	Cu	Hg
			µS/cm	mg/l	g/l as CaC	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	µg/l	mg/l	mg/l	µg/l
BH3S	15/01/2020														<0.10
BH6S	15/01/2020												<0.15	<0.20	
BH15S	15/01/2020												<0.15	<0.20	
BH3S	05/02/2020	>12	1980	77	410	2.03	59.6	3.61	<0.03	1.88	198	19.80			
BH4S	05/02/2020	7.6	517	129	166	2.54	60.1	4.16	<0.03	2.00	41.9	12.4			
BH6S	05/02/2020	8.2	270	19	89	<0.05	25.22	3.92	<0.03	<0.03	38.4	2.70			
BH9S	05/02/2020	7.2	437	10	129	2.44	53.9	3.47	<0.03	2.62	45.3	54.30			
BH9D	05/02/2020	7.1	1070	52	310	3.46	89.8	3.93	<0.03	<0.03	175	33.70			
BH15S	05/02/2020	8.0	282	216	106	<0.05	21.44	3.61	<0.03	<0.03	39.4	0.60			
BH15D	05/02/2020	8.1	391	40	168	<0.05	20.95	4.25	<0.03	<0.03	66.1	0.8			
BH16S	05/02/2020	7.9	357	12	158	<0.05	15.86	3.95	<0.03	<0.03	62.7	3.4			
BH16D	05/02/2020	7.5	403	<4	176	<0.05	20.23	3.84	<0.03	<0.03	61.2	0.9			
BH17S	05/02/2020	7.8	262	163	94	<0.05	18.94	3.64	<0.03	<0.03	39.3	2			
BH18S	05/02/2020	8.2	292	98	121	3.19	17.75	4.03	<0.03	2.03	30.3	3			
BH19S	05/02/2020	11.5	1460	<4	290	0.20	36.29	<0.03	5.86	1.89	114	7.6			
BH20S	05/02/2020	9.8	724	<4	134	<0.05	69.8	3.57	<0.03	<0.03	52.7	18.9			
BH25S	05/02/2020	7.0	795	137	240	<0.05	91.6	3.57	<0.03	<0.03	98.4	16.1			
BH26S	05/02/2020	7.2	520	87	200	<0.05	37.65	3.49	<0.03	<0.03	82	3.6			
BH27S	05/02/2020	7.8	7100	35	82	<0.05	2170	11.03	<0.03	<0.03	112	4.7			
BH28S	05/02/2020	7.4	965	41	149	<0.05	175	17.3	<0.03	1.83	94.2	3			
BH29S	05/02/2020	7.2	909	83	210	<0.05	143	5.05	<0.03	1.87	66.1	11.6			
BH30	05/02/2020	7.7	460	99	134	0.02	41.25	3.68	<0.03	<0.03	59.1	12			
GTW3A	05/02/2020	7.8	676	14	280	<0.05	21.47	3.72	<0.03	<0.03	87.9	5.4			
P1	05/02/2020	8.0	358	72	148	<0.05	19.92	<0.03	<0.03	<0.03	62	0.5			
P2	05/02/2020	8.1	366	93	163	<0.05	24.08	3.60	<0.03	<0.03	64.9	0.5			
P3	05/02/2020	8.2	470	106	193	<0.05	20.07	3.53	<0.03	1.80	81.7	0.6			
P4	05/02/2020	8.1	467	76	220	<0.05	21.04	3.57	<0.03	<0.03	88.9	0.5			
P5	05/02/2020	8.1	440	80	200	<0.05	19.38	3.48	<0.03	<0.03	82.7	0.6			
P6	05/02/2020	7.8	390	89	181	<0.05	19.52	3.61	<0.03	<0.03	75.1	0.7			
P7	05/02/2020	7.7	372	97	163	<0.05	43.86	3.61	<0.03	<0.03	64.4	0.5			
SW1	05/02/2020	9.1	346	111	94	<0.05	68.00	3.66	<0.03	<0.03	29	3.2			
SW3	05/02/2020	7.5	330	301	188	<0.05	55.70	4.41	<0.03	<0.03	77.5	4.4			
SW4	05/02/2020	7.5	606	122	220	<0.05	216	3.71	<0.03	<0.03	94.8	8			
SW5	05/02/2020	7.5	1090	108	188	0.30	230	4.04	<0.03	<0.03	155	<0.15			
SW6	05/02/2020	7.4	1180	116	178	0.59	253	4.41	<0.03	<0.03	166	2.3			
SW7	05/02/2020	7.3	1040	205	200	<0.05	207	3.93	<0.03	<0.03	161	2.1			
SW8	05/02/2020	7.2	829	54	158	<0.05	156	4.18	<0.03	<0.03	110	1.1			
SW9	05/02/2020	7.2	1020	47	188	<0.05	24.06	3.65	<0.03	<0.03	152	2.5			
SW11	05/02/2020	7.4	385	16	106	<0.05	23.44	8.74	5.34	<0.03	39.9	0.4			
SW12	05/02/2020	7.5	381	18	109	<0.05	46.15	8.52	5.33	<0.03	40.4	0.3			
SW15	05/02/2020	7.5	488	42	166	<0.05	204	3.27	<0.03	<0.03	62	0.6			
L1	05/02/2020	8.6	1400	198	62	1.10	304	3.60	<0.03	<0.03	84	1.1			
L6	05/02/2020	9.2	1210	109	124	<0.05	130	52.2	<0.03	<0.03	20.6	1.2			
L7	05/02/2020	>12	11300	27	800	4.87	2910	3.66	<0.03	<0.03	2020	0.5			
L8	05/02/2020	>12	1300	33	22	0.53	520	13.94	<0.03	<0.03	335	0.2			
L17	05/02/2020	>12	3950	85	850	0.57	60.4	10.31	7.87	<0.03	382	0.6			

Return	Landfill	Type	Report	Parameters > assessment levels				Threshold	C&A Plan	Contingency Action/ Comments
				Sample	Date	Parameter	Result			
Surface water monitoring summary for the quarter	BV7311IE	Non Hazardous	Q							
Leachate monitoring summary for the quarter	BV7311IE		Q							
Borehole monitoring summary for the quarter	BV7311IE		Q							
Fugitive emissions monitoring summary for the quarter	BV7311IE		Q							
Energy consumption 2012	BV7311IE / BW2692IM		A							
Landfill gas monitoring summary for the month	BV7311IE / GP3430MH		Q							
Bio-cell gas monitoring summary for the month	BV7311IE / GP3430MH		Q							
Fugitive emissions monitoring summary for the quarter	BW2692IM	Hazardous	Q							
Surface water monitoring summary for the quarter	BW2692IM / SP3633MK		Q							
Leachate monitoring summary for the quarter	BW2692IM / SP3633MK		Q							
Borehole monitoring summary for the quarter	BW2692IM / SP3633MK		Q	BH27S	05/02/2020	Chloride	2170.00	250		Spikes in chloride observed since 2013. Chloride concentration observed in groundwater is higher than concentration in leachate. Emission limit requirs review.
Landfill gas monitoring summary for the quarter	BW2692IM / SP3633MK		Q							
Surface water monitoring summary for the quarter	EPA/AP3292LT	Closed	Q							
Landfill gas monitoring summary for the quarter	EPA/AP3292LT		Q							
Borehole monitoring summary for the quarter	EPR/AP3239LT		Q							
Energy consumption	BV7311IE / BW2692IM	All	A							

		15/01/2020	05/02/2020	20/03/2020	
D/S	**ID**				
Deep	BH1D				
Shallow	BH2S				
Deep	BH2D				
Shallow	BH3S		0.35	0.27	
Deep	BH3D			2.61	
Shallow	BH4S		0.89	0.78	
Deep	BH4D			1.31	
Shallow	BH6S	0.52	0.8	0.61	
Deep	BH6D			1.88	
Shallow	BH8S				
Deep	BH8D				
Shallow	BH9S		0.17	0.15	
Deep	BH9D		0.84	0.72	
Shallow	BH10S				
Deep	BH10D				
Shallow	BH11S				
Deep	BH11D				
Shallow	BH12S				
Deep	BH12D				
Shallow	BH13S				
Deep	BH13D				
Shallow	BH14S				
Deep	BH14D				
Shallow	BH15S		0.74	0.56	
Deep	BH15D		1.11	1.03	
Shallow	BH16S		3.65	3.54	
Deep	BH16D			3.54	
Shallow	BH17S		0.74	0.69	
Deep	BH17D				
Shallow	BH18S		1.21		
Deep	BH18D				
Shallow	BH19S		3.71		
Deep	BH19D				
Shallow	BH20S		2.44		
Deep	BH20D				
Shallow	BH25S			0.45	
Deep	BH25D				
Shallow	BH26S		0.53	0.21	
Deep	BH26D				
Shallow	BH27S		missed		
Deep	BH27D				
Shallow	BH28S		4.29		
Deep	BH28D				
Shallow	BH29S		1.24		1.13
Deep	BH29D				4.05
Shallow	BH30S		0.31		0.24
Deep	**GWT3a**		0.81		

	Period	15/01/2020	05/02/2020	20/03/2020
ID	Description			
SW G1	Adjacent SW13	Flooded	0.93	0.96
SW G2	Adjacent SW10	0.36	0.16	0.16
SW G3				
SW G5	Adjacent SW15	Flooded	flooded	flooded
SWG6	Adjacent SW11	Flooded (>1.1)	0.9	flooded
SWG7	Adjacent SW12	0.9	0.74	0.89

	15/01/2020	05/02/2020	20/03/2020
Piezos	**Depth (m)**	**Depth (m)**	**Depth (m)**
P1	Overvegetated	Overvegetated	Overvegetated
P2	0.94	.88	0.81
P3	Overvegetated	Overvegetated	Overvegetated
P4	Overvegetated	Overvegetated	Overvegetated
P5	0.92	0.88	0.96
P6	Overvegetated	Overvegetated	0.42
P7	flooded	flooded	flooded
P8	0.29	0.26	0.55
P9	0.73	0.68	0.8
P10	0.5	0.48	0.55
P11	Overvegetated	Overvegetated	0.86
P12	Overvegetated	Overvegetated	0.83
P13	0.34	0.31	0.3
P14	0.77	0.72	
P15	0.28	0.41	0.32
P16	Overvegetated	Overvegetated	
P17	Overvegetated	Overvegetated	0.23
P18	0.3	0.51	0.4
P19	Overvegetated	Overvegetated	0.42
P20	Overvegetated	Overvegetated	0.02 flooded
P21	0.6	0.61	0.57
P22	2.5	2.31	2.19
P23	0.91	0.98	0.92
P24	Overvegetated	Overvegetated	Overvegetated
P25			1.42
P26			1.87
P27			1.73
P28			1.82
P29			1.71
P30			1.79

	Location	Date Out	Date In	(mg/m2/day)	Comments	pH	% Fe	% C	Vol (ml)	Insoluble Solids SS (mg)	Soluble Solids SS (mg)	Total Solids (mg)	No. Days	Funnel Area	

MNHL and MHL Leachate Control Levels

Leachate Point	moniacal Nitro	Cl	As
Unit	mg/l	mg/l	mg/l
New control levels	70	70000	3

MHL Groundwater Control and Compliance Levels

	BH3S (shallow aquifer)			BH12 (shallow aquifer)			BH 25S (shallow aquifer)		
Parameter	CL1	CL2	Compliance	CL1	CL2	Compliance	CL1	CL2	Compliance
Cadmium	-	0.1		-	0.1			0.1	
Mercury	-	0.1		-	0.1			0.1	
Chloride		100	250	100	200			200	250
Ammonia	8	10	12	0.44	0.52		3.5	4	4.5
Alkalinity	2400	2700	3000	284	335		500	550	600
	BH26S (shallow aquifer)			BH27S (shallow aquifer)			BH28S (shallow aquifer)		
Cadmium		0.1			0.1			0.1	
Mercury		0.1			0.1			0.1	
Chloride		200	250		200	250		400	450
Ammonia	1.6	1.8	2	1.6	1.8	2	1.6	1.8	2
Alkalinity	350	400	450	350	400	450	350	400	450
	BH29S (shallow aquifer)								
Cadmium		0.1							
Mercury		0.1							
Chloride		250	300						
Ammonia	1.6	1.8	2						
Alkalinity	350	400	450						

Cadmium, copper and mercury reported as µg/l. Alkalinity reported as mg/l CaCO3. Ammonia reported as mg/l.
These Assessment Criteria will also apply to future replacement boreholes for these positions although the situation will be reviewed at the time.

MNHL Groundwater Control and Compliance Levels

	BH3 (shallow aquifer)			BH4 (shallow aquifer)			BH6 (shallow aquifer)		
Parameter	CL1	CL2	Compliance	CL1	CL2	Compliance	CL1	CL2	Compliance
Cadmium	-	0.1		-	0.1		-	0.1	
Mercury	-	0.1		-	0.1		-	0.1	
Chloride		100	250		100	250		100	250
Ammonia	8	10	12	2	3	4	14	16	18
Alkalinity	2400	2700	3000	650	700	750	1200	1300	1400
	BH11 (shallow aquifer)			BH12 (shallow aquifer)			BH13 (shallow aquifer)		
	CL1			CL1			CL1		
Cadmium	-	0.1		-	0.1		-	0.1	
Mercury	-	0.1		-	0.1		-	0.1	
Chloride	100	200		100	200		100	200	
Ammonia	0.88	1.1		0.44	0.52		1.8	2.1	
Alkalinity	556	657		284	335		738	872	
	BH14 (shallow aquifer)			BH30 (shallow aquifer)					
	CL1	CL2	Compliance	CL1	CL2	Compliance			
Cadmium	-	0.1			0.1				
Mercury	-	0.1			0.1				
Chloride	100	200			100	250			
Ammonia	10.9	12.9		2	3	4			
Alkalinity	178	211		650	700	750			

Cadmium, copper and mercury reported as µg/l. Alkalinity reported as mg/l CaCO3. Ammonia reported as mg/l.
These Assessment Criteria will also apply to future replacement boreholes for these positions although the situation will be reviewed at the time.

Surface Water Assessment Levels

Parameter	SW2 and SW4	
	Ass lvl 1	Ass' lvl 22
	AL1	AL2
Cadmium	0.1	
Copper	25	28
Mercury	0.1	
Chloride	200	250
Ammonia	2.75	3
Alkalinity	350	400

Cadmium, copper and mercury reported as µg/l. Alkalinity reported as mg/l $CaCO_3$. Ammonia reported as mg/l.

Methane Compliance Limits

Perimeter gas position	Compliance Limit
GA7	2
GA16	3.6

Carbon Dioxide Assessment Levels

Perimeter gas position	Assessment level
GA7	3.5


GA16
3.4

	Landfill	Lab analysis	Surface water samples	Quarterly Groundwater samples	Annual Groundwater Samples	Monthly levels	Leachate chemistry	Gas
Q1	MNHL	Indicator suite	SW1 – SW15	BH3S, BH4S, BH6S, BH17S, BH18S, BH19S, BH20S, BH30, GWT3A		Each month: SW gauges 1,2,4,5,6, Piezometers All sampled groundwater	L1, L6, L7, L8, L17	GA1, GA2, GA7 – GA12,W1 – W16
	MHL			BH25S, BH26S, BH27S, BH28S, BH29S,				
	MCL		Collection Ponds 1 – 6 on surface of MCL	BH8S, BH8D, BH9S, BH9D, BH15S, BH15D, BH16S, BH16D,				GV1 – GV4, BH8S, BH9S, BH14S, BH15S, BH16S, BH17S,
Q2	MNHL	Indicator suite/ Characterisation suite alternated every year. **2015 is characterisation suite**	SW1 – SW15	BH1, BH2, BH3S, BH4S, BH6S, BH10S, BH11S, BH12S, BH13S, BH14S, BH17S, BH18S, BH19S, BH20S, BH30, GWT3A,	BH2D, BH3D, BH4D, BH6D, BH17D, BH18D, BH19D, BH20D, BH10D, BH11D, BH12D, BH13D, BH14D	Each month: SW gauges 1,2,4,5,6, Piezometers All sampled groundwater	L1, L6, L7, L8, L17	GA1, GA2, GA7 – GA12,W1 – W16
	MHL			BH25S, BH26S, BH27S, BH28S, BH29S,				
	MCL		Collection Ponds 1 – 6 on surface of MCL	BH8S, BH8D, BH9S, BH9D, BH15S, BH15D, BH16S, BH16D,				GV1 – GV4, BH8S, BH9S, BH14S, BH15S, BH16S, BH17S,
Q3	MNHL	Indicator suite	SW1 – SW15	BH3S, BH4S, BH6S, BH17S, BH18S, BH19S, BH20S, BH30, GWT3A		Each month: SW gauges 1,2,4,5,6, Piezometers All sampled groundwater	L1, L6, L7, L8, L17	GA1, GA2, GA7 – GA12,W1 – W16
	MHL			BH25S, BH26S, BH27S, BH28S, BH29S,				
	MCL		Collection Ponds 1 – 6 on surface of MCL	BH8S, BH8D, BH9S, BH9D, BH15S, BH15D, BH16S, BH16D,				GV1 – GV4, BH8S, BH9S, BH14S, BH15S, BH16S, BH17S,
Q4	MNHL	Indicator suite / Characterisation suite alternated every year. **2015 is Indicator suite**	SW1 – SW15	BH1, BH2, BH3S, BH4S, BH6S, BH10S, BH11S, BH12S, BH13S, BH14S, BH17S, BH18S, BH19S, BH20S, BH30, GWT3A,		Each month: SW gauges 1,2,4,5,6, Piezometers All sampled groundwater	L1, L6, L7, L8, L17	GA1, GA2, GA7 – GA12,W1 – W16
	MHL			BH25S, BH26S, BH27S, BH28S, BH29S,				
	MCL		Collection Ponds 1 – 6 on surface of MCL	BH8S, BH8D, BH9S, BH9D, BH15S, BH15D, BH16S, BH16D,				GV1 – GV4, BH8S, BH9S, BH14S, BH15S, BH16S, BH17S,

	Indicator Suite Quarterly (Q1, Q2, Q3, Q4)	Characterisation suite* Annually (alternated each year between Q2 and Q4)
Analysis	pH, Electrical Conductivity, alkalinity, Calcium, Chloride, Chemical Oxygen Demand, Total Organic Carbon, Ammoniacal Nitrogen, Nitrate, Nitrite, Phosphorous, Phosphate, Arsenic	pH, Electrical Conductivity, alkalinity, Calcium, Chloride, Chemical Oxygen Demand, Total Organic Carbon, Ammoniacal Nitrogen, Nitrate, Nitrite, Phosphorous, Phosphate, Arsenic , Sodium, Potassium, Magnesium, Sulphate, Boron, Total Chromium, Copper, Iron, Lead, Vanadium, Zinc, Cadmium, Mercury, VOC and SVOC

*Other parameters may be added depending upon any changes to the types of waste landfilled and review of results from preceding indicator suite