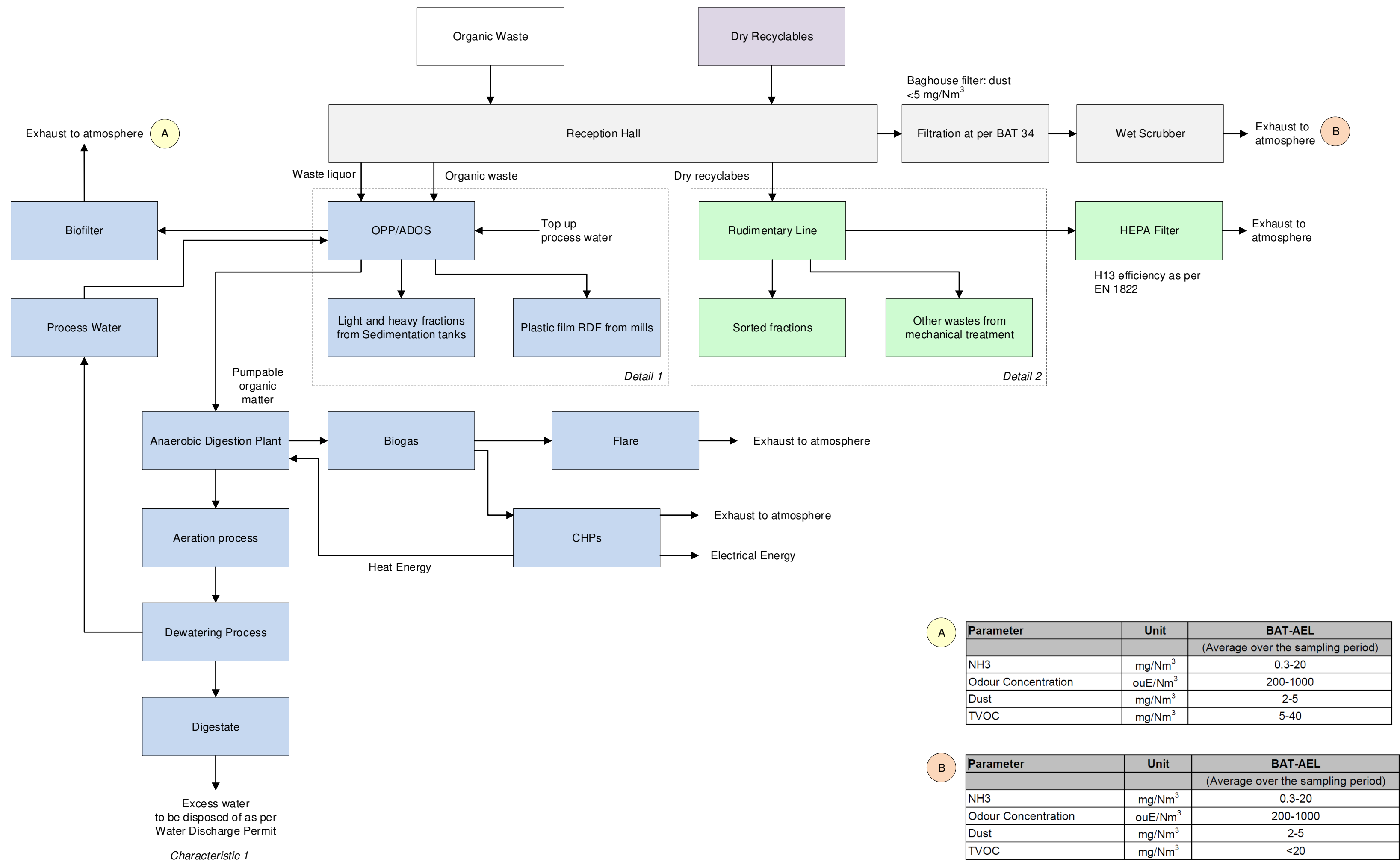
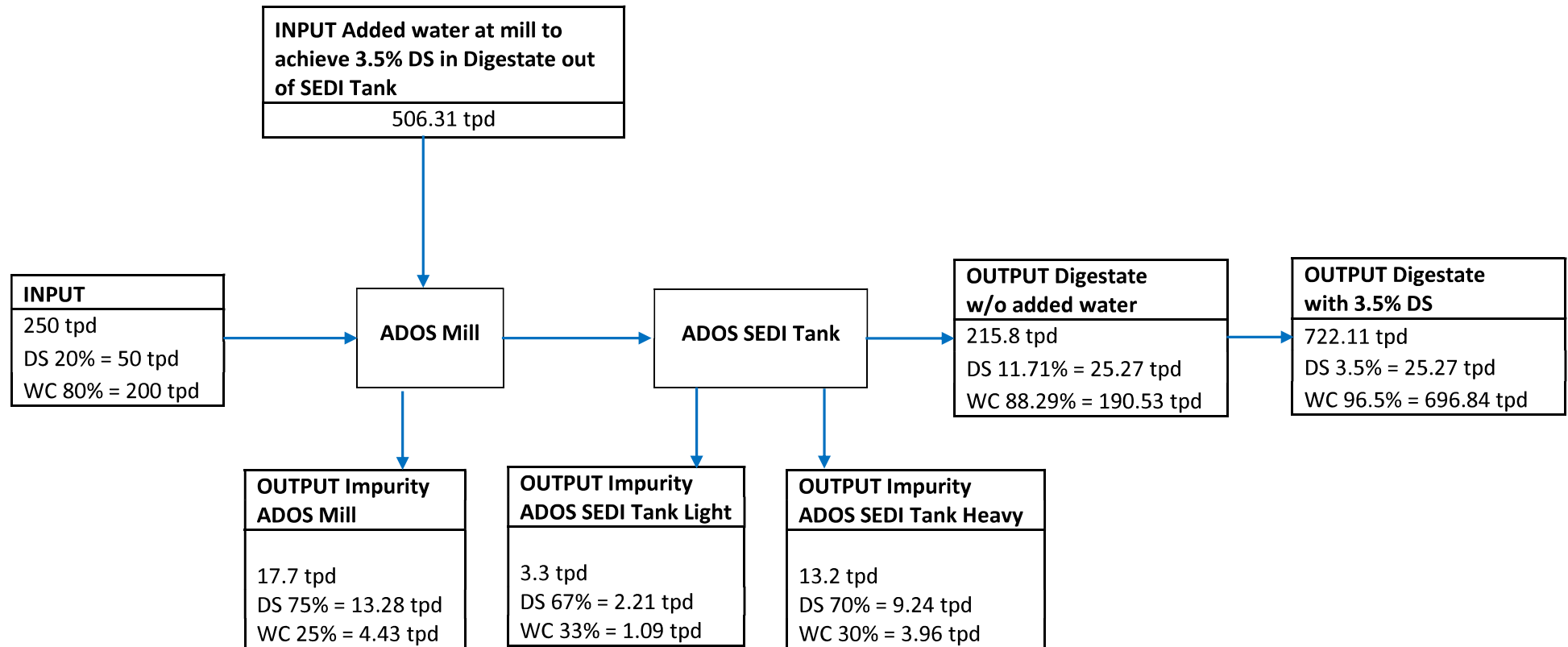


Mass Flow Diagram & Emissions Inventory



Detail 1

Mass Flow Diagram

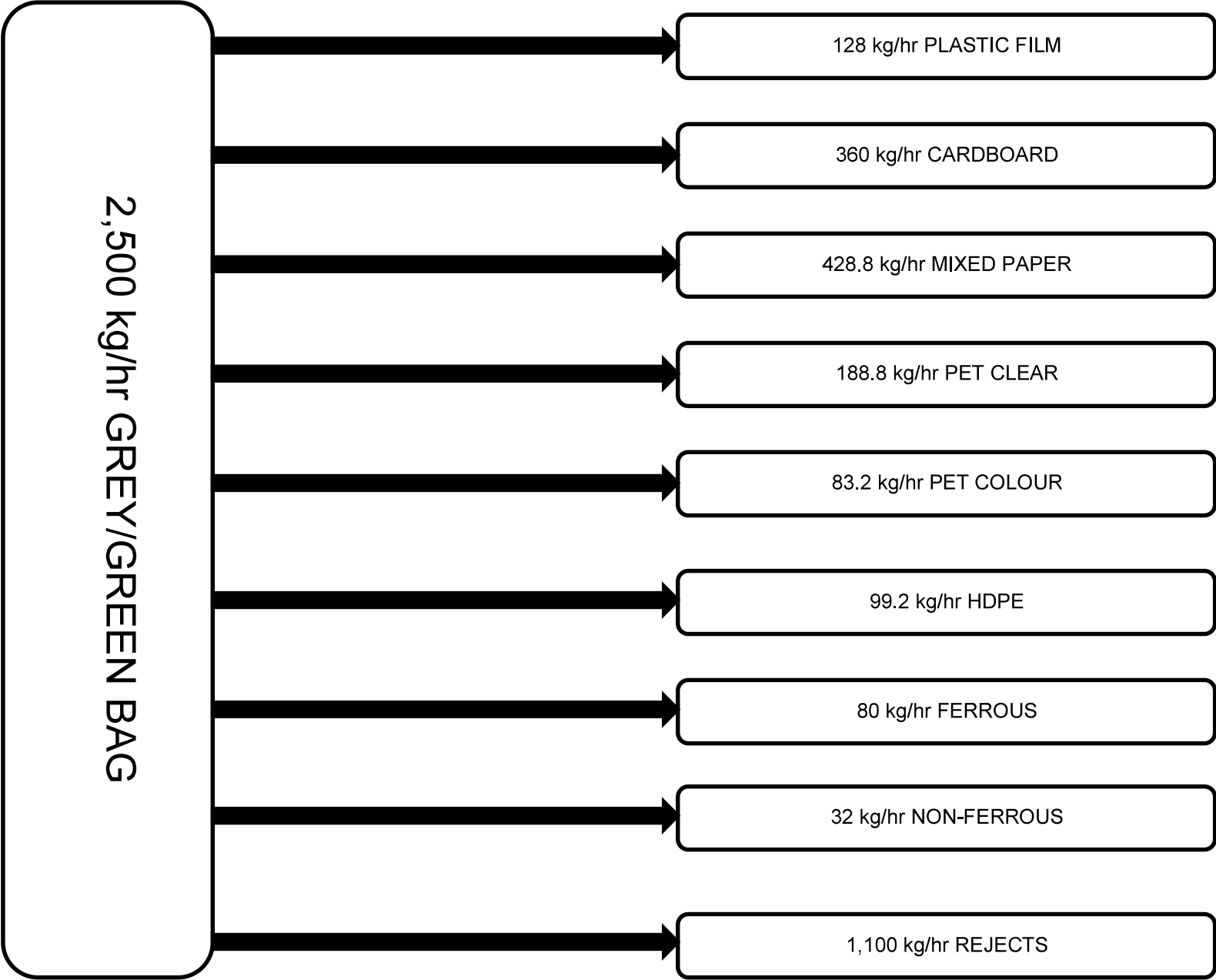


Note: Water addition is a function of incoming organic waste characteristics (dryness), thus figures and/or calculations vary with waste input.

Legend

Abbreviation	Expanded Terminology
tpd	Tonnes per Day
DS	Dry Substance
WC	Water Content

Detail 2



NB: Positive Sorting at 80% efficiency.

CHARACTERISTIC 1

SAL Reference		514085 001
Customer Sample Reference		Reservoir compost shed
Date Sampled		29-SEP-2015

Determinand	Method	Test Sample	LOD	Units	
As (Total)	T303	Total	0.02	mg/l	0.03
As (Dissolved)	T373	F	0.02	mg/l	0.04
B (Total)	T303	Total	0.01	mg/l	1.8
B (Dissolved)	T373	F	0.01	mg/l	1.6
Cr (Total)	T303	Total	0.01	mg/l	0.16
Cr (Dissolved)	T373	F	0.01	mg/l	<0.01
Cu (Total)	T303	Total	0.01	mg/l	0.08
Cu (Dissolved)	T373	F	0.01	mg/l	<0.01
Pb (Total)	T303	Total	0.03	mg/l	1.6
Pb (Dissolved)	T373	F	0.03	mg/l	<0.03
Ni (Total)	T303	Total	0.01	mg/l	0.21
Ni (Dissolved)	T373	F	0.01	mg/l	0.07
Ag (Total)	T303	Total	0.01	mg/l	<0.01
Ag (Dissolved)	T373	F	0.01	mg/l	<0.01
Sulphate	T686	AR	0.5	mg/l	220
Zn (Total)	T303	Total	0.01	mg/l	7.7
Zn (Dissolved)	T373	F	0.01	mg/l	<0.01

Ammoniacal nitrogen	T686	AR	0.05	mg/l	1.1
Biochemical Oxygen Demand	T7	AR	3	mg/l	1100
Chemical Oxygen Demand	T4	AR	5	mg/l	7100
Chloride	T686	AR	1	mg/l	5900
Cyanide(Total)	T4	AR	0.05	mg/l	<0.05
Fluoride	T686	AR	0.05	mg/l	0.29
Nitrogen(Kjeldahl)	T116	AR	10	mg/l	340
Oil and Grease	T2	AR	10	mg/l	<10
Sulphide	T4	AR	0.05	mg/l	(13) <0.05
Settleable Solids (1 hour)	T713	AR	10	mg/l	1900
Suspended Solids (Total)	T2	AR	10	mg/l	2300
Temperature	T7	AR	0.5	C	18
pH	T7	AR			6.6

SAL Reference		465671 001
Customer Sample Reference		Reservoir Compost Shed
Date Sampled		23-MAR-2015

Determinand	Method	Test Sample	LOD	Units	
As (Dissolved)	T373	F	0.02	mg/l	0.04
As (Total)	T303	Total	0.02	mg/l	0.06
B (Dissolved)	T373	F	0.01	mg/l	1.6
B (Total)	T303	Total	0.01	mg/l	1.8
Cr (Dissolved)	T373	F	0.01	mg/l	0.04
Cr (Total)	T303	Total	0.01	mg/l	0.12
Cu (Dissolved)	T373	F	0.01	mg/l	<0.01
Cu (Total)	T303	Total	0.01	mg/l	0.03
Pb (Dissolved)	T373	F	0.03	mg/l	<0.03
Pb (Total)	T303	Total	0.03	mg/l	0.41
Ni (Dissolved)	T373	F	0.01	mg/l	0.28
Ni (Total)	T303	Total	0.01	mg/l	0.32
Ag (Total)	T303	Total	0.01	mg/l	<0.01
Ag (Dissolved)	T373	F	0.01	mg/l	<0.01
Sulphate	T686	AR	0.5	mg/l	1100
Zn (Dissolved)	T373	F	0.01	mg/l	0.04
Zn (Total)	T303	Total	0.01	mg/l	2.7

Ammoniacal nitrogen	T686	AR	0.05	mg/l	470
Biochemical Oxygen Demand	T7	AR	3	mg/l	2400
Chemical Oxygen Demand	T4	AR	5	mg/l	27000
Chloride	T686	AR	1	mg/l	4300
Cyanide(Total)	T4	AR	0.05	mg/l	<0.05
Fluoride	T686	AR	0.05	mg/l	23
Nitrogen(Kjeldahl)	T116	AR	10	mg/l	700
Oil and Grease	T2	AR	10	mg/l	62000
Settleable Solids (1 hour)	T713	AR	10	mg/l	1500
Sulphide	T4	AR	0.05	mg/l	<0.05
Suspended Solids (Total)	T2	AR	10	mg/l	2700
pH	T7	AR			6.2

SAL Reference					487132 001
Customer Sample Reference					Reservoir compost shed
Date Sampled					17-JUN-2015
Determinand	Method	Test Sample	LOD	Units	
As (Total)	T303	Total	0.02	mg/l	0.10
As (Dissolved)	T373	AR	0.02	mg/l	(NR)
As (Dissolved)	T373	F	0.02	mg/l	-
B (Total)	T303	Total	0.01	mg/l	2.1
B (Dissolved)	T373	AR	0.01	mg/l	(NR)
B (Dissolved)	T373	F	0.01	mg/l	-
Cr (Total)	T303	Total	0.01	mg/l	0.09
Cr (Dissolved)	T373	AR	0.01	mg/l	(NR)
Cr (Dissolved)	T373	F	0.01	mg/l	-
Cu (Total)	T303	Total	0.01	mg/l	<0.01
Cu (Dissolved)	T373	AR	0.01	mg/l	(NR)
Cu (Dissolved)	T373	F	0.01	mg/l	-
Pb (Total)	T303	Total	0.03	mg/l	0.28
Pb (Dissolved)	T373	AR	0.03	mg/l	(NR)
Pb (Dissolved)	T373	F	0.03	mg/l	-
Ni (Total)	T303	Total	0.01	mg/l	0.40
Ni (Dissolved)	T373	AR	0.01	mg/l	(NR)
Ni (Dissolved)	T373	F	0.01	mg/l	-
Ag (Total)	T303	Total	0.01	mg/l	<0.01
Ag (Dissolved)	T373	AR	0.01	mg/l	(NR)
Ag (Dissolved)	T373	F	0.01	mg/l	-
Sulphate	T686	AR	0.5	mg/l	1200
Zn (Total)	T303	Total	0.01	mg/l	4.7
Zn (Dissolved)	T373	AR	0.01	mg/l	(NR)
Zn (Dissolved)	T373	F	0.01	mg/l	-
Ammoniacal nitrogen	T686	AR	0.05	mg/l	470
Biochemical Oxygen Demand	T7	AR	3	mg/l	> 2400
Chemical Oxygen Demand	T4	AR	5	mg/l	34000
Chloride	T686	AR	1	mg/l	5900
Cyanide(Total)	T4	AR	0.05	mg/l	<0.05
Fluoride	T686	AR	0.05	mg/l	24
Nitrogen(Kjeldahl)	T116	AR	10	mg/l	900
Oil and Grease	T2	AR	10	mg/l	<10
Settleable Solids (1 hour)	T713	AR	10	mg/l	2500
Sulphide	T4	AR	0.05	mg/l	1.2
Suspended Solids (Total)	T2	AR	10	mg/l	7300
Temperature	T7	AR	0.5	C	18
pH	T7	AR			6.1

SAL Reference					523797 001
Customer Sample Reference					Reservoir compost shed
Date Sampled					04-NOV-2015
Determinand	Method	Test Sample	LOD	Units	
Ammoniacal nitrogen	T686	AR	0.05	mg/l	830
Chloride	T686	AR	1	mg/l	6000
Chemical Oxygen Demand	T4	AR	5	mg/l	660
Cyanide(Total)	T4	AR	0.05	mg/l	<0.05
Fluoride	T686	AR	0.05	mg/l	<0.05
Nitrogen(Kjeldahl)	T116	AR	10	mg/l	100
Settleable Solids (1 hour)	T713	AR	10	mg/l	350
Sulphide	T4	AR	0.05	mg/l	(13) <0.05
Suspended Solids (Total)	T2	AR	10	mg/l	370
Sulphate	T686	AR	0.5	mg/l	130
Temperature	T7	AR	0.5	C	11
pH	T7	AR			7.5
As (Total)	T303	Total	0.02	mg/l	<0.02
As (Dissolved)	T373	F	0.02	mg/l	<0.02
B (Total)	T303	Total	0.01	mg/l	1.1
B (Dissolved)	T373	F	0.01	mg/l	1.2
Cr (Total)	T303	Total	0.01	mg/l	0.01
Cr (Dissolved)	T373	F	0.01	mg/l	<0.01
Cu (Total)	T303	Total	0.01	mg/l	0.04
Cu (Dissolved)	T373	F	0.01	mg/l	<0.01
Pb (Total)	T303	Total	0.03	mg/l	0.08
Pb (Dissolved)	T373	F	0.03	mg/l	<0.03
Ni (Total)	T303	Total	0.01	mg/l	0.05
Ni (Dissolved)	T373	F	0.01	mg/l	0.04
Ag (Total)	T303	Total	0.01	mg/l	0.06
Ag (Dissolved)	T373	F	0.01	mg/l	<0.01
Zn (Total)	T303	Total	0.01	mg/l	0.27
Zn (Dissolved)	T373	F	0.01	mg/l	<0.01
Oil and Grease	T2	AR	10	mg/l	<10

CADA REFERENCE		2122026-005
Parameters	Units	Dewatering Reservoir
pH	Unit	7.35
Temperature	°C	20.4
Settleable solids	ml/l	4
Suspended solids	mg/l	6
Total Kjeldhal Nitrogen	mg/l	3
Sulphides and compounds releasing hydrogen sulphide on acidification	mg/l	< 1
Hydrocyanic acid and compounds releasing hydrocyanic acid on acidification	µg/l	< 0.1
Total Fluoride	mg/l	0.22
Total Sulphates	mg/l	334
Free and emulsified grease	mg/l	0.5
Free Chlorine	mg/l	< 0.02
Chloride	mg/l	2512
METALS		
Arsenic	mg/l	< 0.01
Silver	mg/l	< 0.01
Chromium	mg/l	< 0.01
Boron	mg/l	1.86
Nickel	mg/l	< 0.01
Copper	mg/l	< 0.01
Lead	mg/l	< 0.01
Zinc	mg/l	< 0.01
Total non-ferrous metals	mg/l	1.86
Soluble Silver	mg/l	< 0.01
Soluble Arsenic	mg/l	< 0.01
Soluble Chromium	mg/l	< 0.01
Soluble Boron	mg/l	0.86
Soluble Nickel	mg/l	< 0.01
Soluble Copper	mg/l	< 0.01
Soluble Lead	mg/l	< 0.01
Soluble Zinc	mg/l	0.04
Total soluble non-ferrous metals	mg/l	0.9
Chemical Oxygen Demand	mg/l	423
Biological Oxygen Demand	mg/l	210

Feb-17

CADA REFERENCE		2122988-006
Parameters	Units	Compost Shed Reservoir
pH	Unit	5.74
Temperature	°C	18.4
Settleable solids	ml/l	50
Suspended solids	mg/l	8040
Total Kjeldhal Nitrogen	mg/l	142
Sulphides and compounds releasing hydrogen sulphide on acidification	mg/l	<1
Hydrocyanic acid and compounds releasing hydrocyanic acid on acidification	µg/l	100
Total Fluoride	mg/l	0.16
Total Sulphates	mg/l	854
Free and emulsified grease	mg/l	38
Free Chlorine	mg/l	<0.02
Chloride	mg/l	4498
Chromium	mg/l	<0.01
Silver	mg/l	<0.01
Nickel	mg/l	<0.01
Copper	mg/l	0.48
Lead	mg/l	0.99
Zinc	mg/l	3.75
Arsenic	mg/l	<0.01
Boron	mg/l	1.17
Total non-ferrous metals	mg/l	6.4
Soluble Silver	mg/l	<0.01
Soluble Nickel	mg/l	<0.01
Soluble Copper	mg/l	<0.01
Soluble Lead	mg/l	<0.01
Soluble Zinc	mg/l	3.7
Soluble Arsenic	mg/l	<0.01
Soluble Boron	mg/l	1.1
Total soluble non-ferrous metals	mg/l	4.8
Chemical Oxygen Demand	mg/l	19580
Biological Oxygen Demand	mg/l	9800

Jun-17

CADA REFERENCE		2123932-006
Parameters	Units	Compost Shed Reservoir
pH	Unit	5.6
Temperature	°C	28.8
Settleable solids	ml/l	10
Suspended solids	mg/l	620
Total Kjeldhal Nitrogen	mg/l	147
Sulphides and compounds releasing hydrogen sulphide on acidification	mg/l	< 1
Hydrocyanic acid and compounds releasing hydrocyanic acid on acidification	µg/l	< 0.1
Total Fluoride	mg/l	< 50
Total Sulphates	mg/l	114
Free and emulsified grease	mg/l	< 0.05
Free Chlorine	mg/l	< 0.02
Chloride	mg/l	4289
Chromium	mg/l	0.03
Silver	mg/l	< 0.001
Nickel	mg/l	0.06
Copper	mg/l	0.22
Lead	mg/l	0.28
Zinc	mg/l	0.93
Arsenic	mg/l	0.018
Boron	mg/l	1.7
Total non-ferrous metals	mg/l	1.5
Soluble Silver	mg/l	< 0.001
Soluble Nickel	mg/l	0.046
Soluble Copper	mg/l	< 0.005
Soluble Lead	mg/l	< 0.001
Soluble Zinc	mg/l	< 0.05
Soluble Arsenic	mg/l	0.011
Soluble Boron	mg/l	1.5
Total soluble non-ferrous metals	mg/l	0.068
Chemical Oxygen Demand	mg/l	1480
Biological Oxygen Demand	mg/l	740

Sep-17

CADA REFERENCE		2125046-006
Parameters	Units	Compost Shed Reservoir
pH	Unit	6.8
Temperature	°C	28.2
Settleable solids	ml/l	10
Suspended solids	mg/l	10800
Total Kjeldhal Nitrogen	mg/l	1372
Sulphides and compounds releasing hydrogen sulphide on acidification	mg/l	< 1
Hydrocyanic acid and compounds releasing hydrocyanic acid on acidification	µg/l	< 0.1
Total Fluoride	mg/l	0.27
Total Sulphates	mg/l	1.6
Free and emulsified grease	mg/l	67.9
Free Chlorine	mg/l	< 0.02
Chloride	mg/l	4731
Chromium	mg/l	0.24
Silver	mg/l	< 0.005
Nickel	mg/l	0.25
Copper	mg/l	1.1
Lead	mg/l	2.1
Zinc	mg/l	7.4
Arsenic	mg/l	< 0.005
Boron	mg/l	1.7
Total non-ferrous metals	mg/l	65
Soluble Silver	mg/l	< 0.01
Soluble Nickel	mg/l	0.05
Soluble Copper	mg/l	< 0.01
Soluble Lead	mg/l	< 0.01
Soluble Zinc	mg/l	0.04
Soluble Arsenic	mg/l	< 0.01
Soluble Boron	mg/l	1.2
Total soluble non-ferrous metals	mg/l	1.3
Chemical Oxygen Demand	mg/l	6601
Biological Oxygen Demand	mg/l	3300

Dec-17

CADA REFERENCE COD			
Parameters	Units	Control Limit By Tender	Compost Shed Reservoir
pH	Unit	6 - 10	7.44
Temperature	°C	40	17.7
Settleable solids	ml/l	20	12
Suspended solids	mg/l	500	240
Total Kjeldhal	mg/l as	100	29.4

Parameters	Units	Control Limit By Tender	Compost Shed Reservoir
Nitrogen	N		
Sulphides and compounds releasing hydrogen sulphide on acidification	mg/l as S	10	4
Hydrocyanic acid and compounds releasing hydrocyanic acid on acidification	µg/l as CN	10000	< 5
Total Fluoride	mg/l as F	10	0.12
Total Sulphates	mg/l as SO ₄	1000	31.2
Free and emulsified grease	mg/l	200	5
Free Chlorine	mg/l as Cl	100	<0.02
Chloride	mg/l as Cl	1000	1110
Chromium	mg/l as Cr	5	0.011
Silver	mg/l as Ag	5	< 0.001
Nickel	mg/l as Ni	5	0.035
Copper	mg/l as Cu	5	0.071
Lead	mg/l as Pb	1	0.083
Zinc	mg/l as Zn	10	0.31
Arsenic	mg/l as As	0.05	0.0062
Boron	mg/l as B	2	0.66
Total non-ferrous metals	mg/l	30	0.52
Soluble Silver	mg/l as Ag	5	< 0.001
Soluble Nickel	mg/l as Ni	5	0.021
Soluble Copper	mg/l	5	< 0.005

Parameters	Units	Control Limit By Tender	Compost Shed Reservoir
	as Cu		
Soluble Lead	mg/l as Pb	1	0.0014
Soluble Zinc	mg/l as Zn	10	< 0.05
Soluble Arsenic	mg/l as As	0.05	0.0043
Soluble Boron	mg/l as B	2	0.56
Total soluble non-ferrous metals	mg/l	10	0.032
Chemical Oxygen Demand	mg/l	/	637
Biological Oxygen Demand	mg/l	/	320

01-02-2018

Parameters	Units	Control Limit By Tender	Compost Shed Reservoir
pH	Unit	6 - 10	7
Temperature	°C	40	13.7
Settleable solids	ml/l	20	10
Suspended solids	mg/l	500	179
Total Kjeldhal Nitrogen	mg/l as N	100	16.1
Sulphides and compounds releasing hydrogen sulphide on acidification	mg/l as S	10	< 1
Hydrocyanic acid and compounds releasing hydrocyanic acid on acidification	µg/l as CN	10000	< 5
Total Fluoride	mg/l as F	10	< 0.1
Total Sulphates	mg/l as SO ₄	1000	18.6
Free and emulsified grease	mg/l	200	< 0.05
Free Chlorine	mg/l as Cl	100	< 0.02
Chloride	mg/l as Cl	1000	269
Chromium	mg/l as Cr	5	< 0.01
Silver	mg/l as Ag	5	< 0.005
Nickel	mg/l as Ni	5	0.0082
Copper	mg/l as Cu	5	0.044
Lead	mg/l as Pb	1	0.048
Zinc	mg/l as Zn	10	0.38
Arsenic	mg/l as As	0.05	< 0.005

SUNLAB REFERENCE COD			
CADA REFERENCE COD			
Parameters	Units	Control Limit By Tender	Compost Shed Reservoir
Boron	mg/l as B	2	0.19
Total non-ferrous metals	mg/l	30	0.49
Soluble Silver	mg/l as Ag	5	< 0.01
Soluble Nickel	mg/l as Ni	5	0.011
Soluble Copper	mg/l as Cu	5	< 0.01
Soluble Lead	mg/l as Pb	1	< 0.01
Soluble Zinc	mg/l as Zn	10	0.026
Soluble Arsenic	mg/l as As	0.05	< 0.01
Soluble Boron	mg/l as B	2	0.13
Total soluble non-ferrous metals	mg/l	10	0.46
Chemical Oxygen Demand	mg/l	/	169
Biological Oxygen Demand	mg/l	/	80

18-12-2019

Parameters	Units	Control Limit By Tender	Compost Shed Reservoir
pH	Unit	6 - 10	6.77
Temperature	°C	40	19.4
Settleable solids	ml/l	20	300
Suspended solids	mg/l	500	1435
Total Kjeldhal Nitrogen	mg/l as N	100	1736
Sulphides and compounds releasing hydrogen	mg/l as S	10	49.9

Parameters	Units	Control Limit By Tender	Compost Shed Reservoir
sulphide on acidification			
Hydrocyanic acid and compounds releasing hydrocyanic acid on acidification	µg/l as CN	10000	< 5
Total Fluoride	mg/l as F	10	220
Total Sulphates	mg/l as SO ₄	1000	183
Free and emulsified grease	mg/l	200	232
Free Chlorine	mg/l as Cl	100	< 0.02
Chloride	mg/l as Cl	1000	1904
Chromium	mg/l as Cr	5	0.556
Silver	mg/l as Ag	5	0.023
Nickel	mg/l as Ni	5	0.354
Copper	mg/l as Cu	5	2.1
Lead	mg/l as Pb	1	3.1
Zinc	mg/l as Zn	10	14.8
Arsenic	mg/l as As	0.05	0.092
Boron	mg/l as B	2	2.26
Total non-ferrous metals	mg/l	30	18
Soluble Silver	mg/l as Ag	5	< 0.001
Soluble Nickel	mg/l as Ni	5	0.0299
Soluble Copper	mg/l as Cu	5	< 0.005
Soluble Lead	mg/l as Pb	1	< 0.001
Soluble Zinc	mg/l as Zn	10	< 0.05
Soluble Arsenic	mg/l as As	0.05	0.0131