Facility Information Summary	
AER Reporting Year	2014
Licence Register Number	W0081-04
Name of site	Kilcullen Landfill Ltd (KLL)
Site Location	Brownstown, Kilcullen, Co. Kildare
NACE Code	
Class/Classes of Activity	Schedule 3, Classes 1, 5, 11, 13; Schedule 4 - recovery activities, Classes 3, 4, 9
National Grid Reference (6E, 6 N)	

A description of the activities/processes at the site for the reporting year. This should include information such as production increases or decreases on site, any infrastructural changes, environmental performance which was measured during the reporting year **and an overview of compliance with your licence** listing all exceedances of licence limits (where applicable) and what they relate to e.g. air, water, noise.

The facility is a full containment landfill, which is designed to accept treated waste for final disposal. The landfill is now closed and fully capped. No waste was accepted on site in 2014.

Declaration:

All the data and information presented in this report has been checked and certified as being accurate. The quality of the information is assured to meet licence requirements.

_____	_____
Signature Group/Facility manager (or nominated, suitably qualified and experienced deputy)	Date

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Answer all questions and complete all tables where relevant

			Additional information
1	Does your site have licensed air emissions? If yes please complete table A1 and A2 below for the current reporting year and answer further questions. If you do not have licenced emissions and do not complete a solvent management plan (table A4 and A5) you do not need to complete the tables	Yes	

Periodic/Non-Continuous Monitoring

2	Are there any results in breach of licence requirements? If yes please provide brief details in the comment section of TableA1 below	Yes	
3	Was all monitoring carried out in accordance with EPA guidance note AG2 and using the basic air monitoring checklist? Basic air monitoring checklist AGN2	Yes	

Table A1: Licensed Mass Emissions/Ambient data-periodic monitoring (non-continuous)

Emission reference no:	Parameter/ Substance	Frequency of Monitoring	ELV in licence or any revision therof	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence limit	Method of analysis	Annual mass load (kg)	Comments -reason for change in % mass load from previous year if applicable
D1	Dust	annually, but no longer requi	350	SELECT	342	mg/m2/day	yes	TM2240		
D2	Dust	annually, but no longer requi	350		159	mg/m2/day	yes	TM2240		
D3	Dust	annually, but no longer requi	350		148	mg/m2/day	yes	TM2240		
D4	Damaged									
D5	Dust	annually, but no longer requi	350		124	mg/m2/day	yes	TM2240		
D6	Dust	annually, but no longer requi	350		48	mg/m2/day	yes	TM2240		
GE03	Total Particulate Matter (TPM)	annually			3.28	mg/m3		EN13284-1:2002, SOP2000		
GE03	Carbon Monoxide (CO)	annually	1400		664.68	mg/m3	yes	EN15058:2006, SOP2004		
GE03	Oxides of Nitrogen (NOx) as NO2	annually	500		445.68	mg/m3	yes	EN14792:2006, SOP2002		
GE03	Total Volatile Organic Carbon (VOC)	annually	1000		697.73	mgC/m3	yes	Em12619:2013, SOP2009		
GE03	T A Luft Organics	annually	75		0.38	mg/m3	yes	EN13649:2002, SOP2019		
GE03	Sulphur Dioxide (SO2)	annually			458.37	mg/m3		TGN 21, SOP2012		
GE03	Stack Gas Temperature	annually			570.15	K		EN16911:2013, SOP2005		
GE03	Stack Gas Velocity	annually			10.53	m/s1		EN16911:2013, SOP2005		

AIR-summary template					Lic No:	W0081-04		Year	2014	
GE03	Volumetric Flow Rate	annually			3193	m3/h1				
GE03	Volumetric Flow Rate (Ref.)	annually			2790	m3/h1				
GE01	Total Particulate Matter (TPM)	annually			7.02	mg/m3		EN13284-1:2002, SOP2000		
GE01	Carbon Monoxide (CO)	annually	1400		665.01	mg/m3	yes	EN15058:2006, SOP2004		
GE01	Oxides of Nitrogen (NOx) as NO2	annually	500		455.65	mg/m3	yes	EN14792:2006, SOP2002		
GE01	Total Volatile Organic Carbon (VOC)	annually	1000		859.64	mgC/m3	yes	Em12619:2013, SOP2009		
GE01	T A Luft Organics	annually	75		0.37	mg/m3	yes	EN13649:2002, SOP2019		
GE01	Sulphur Dioxide (SO2)	annually			522.64	mg/m3		TGN 21, SOP2012		
GE01	Stack Gas Temperature	annually			571.15	K		EN16911:2013, SOP2005		
GE01	Stack Gas Velocity	annually			10.5	m/s1		EN16911:2013, SOP2005		
GE01	Volumetric Flow Rate	annually			3180	m3/h1				
GE01	Volumetric Flow Rate (Ref.)	annually			2612	m3/h1				
G1	Methane (CH4)	monthly	1		0.008	% v/v	yes	GA2000		
G1	Carbon dioxide (CO2)	monthly	1.5		1.17	% v/v	yes	GA2000		
G2	Methane (CH4)	monthly	1		0	% v/v	yes	GA2000		
G2	Carbon dioxide (CO2)	monthly	1.5		0.56	% v/v	yes	GA2000		
G3	Methane (CH4)	monthly	1		0	% v/v	yes	GA2000		
G3	Carbon dioxide (CO2)	monthly	1.5		5.28	% v/v	no (if no please enter details in comments box)	GA2000		The licence limit was exceeded all times on 28/01/2014 (10.1%), 26/02/2014 (4.8%), 26/03/2014 (6.9%), 28/04/2014 (6.9%), 27/05/2014 (2.7%), 27/06/2014 (6.4%), 27/07/2014 (2.7%), 29/08/2014 (3.7%), 29/09/2014 (2.7%), 24/10/2014 (4.8%), 27/11/2014 (7.7%), 15/12/2014 (4%)
G4	Methane (CH4)	monthly	1		0	% v/v	yes	GA2000		
G4	Carbon dioxide (CO2)	monthly	1.5		5.28	% v/v	no (if no please enter details in comments box)	GA2000		28/01/2014 (11.2%), 26/02/2014 (3.4%), 26/03/2014 (4.1%), 28/04/2014 (5.1%), 27/05/2014 (2.3%), 27/06/2014 (6.7%), 27/07/2014 (3.2%), 29/08/2014 (5%), 29/09/2014 (4%), 24/10/2014 (4.5%), 27/11/2014 (8.5%), 15/12/2014 (5.4%).
G5	Methane (CH4)	monthly	1		0	% v/v	yes	GA2000		

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G5	Carbon dioxide (CO2)	monthly	1.5		1.63	% v/v	no (if no please enter details in comments box)	GA2000		The licence limit was exceeded six times on 28/01/2014 (3.5%), 27/06/2014 (2.3%), 29/09/2014 (2.3%), 24/10/2014 (2.8%), 27/11/2014 (3.7%), 15/12/2014 (1.6%).
G6	Methane (CH4)	monthly	1		0	% v/v	yes	GA2000		
G6	Carbon dioxide (CO2)	monthly	1.5		2.65	% v/v	no (if no please enter details in comments box)	GA2000		28/01/2014 (4.1%), 26/02/2014 (1.6%), 26/03/2014 (2.1%), 28/04/2014 (2.6%), 27/06/2014 (2.6%), 27/07/2014 (2.4%), 29/08/2014 (2%), 29/09/2014 (2.7%), 24/10/2014 (2.8%), 27/11/2014 (4.2%), 15/12/2014 (3.5%).
G7	Methane (CH4)	monthly	1		0	% v/v	yes	GA2000		
G7	Carbon dioxide (CO2)	monthly	1.5		2.13	% v/v	no (if no please enter details in comments box)	GA2000		The licence limit was exceeded seven times on 28/01/2014 (1.9%), 28/04/2014 (2.4%), 27/06/2014 (3.4%), 27/07/2014 (2.6%), 29/09/2014 (2.1%), 24/10/2014 (1.7%), 27/11/2014 (7.6%).
G8	Methane (CH4)	monthly	1		0	% v/v	yes	GA2000		
G8	Carbon dioxide (CO2)	monthly	1.5		2.64	% v/v	no (if no please enter details in comments box)	GA2000		The licence limit was exceeded six times on 28/04/2014 (1.8%), 27/05/2014 (2.2%), 27/06/2014 (3.3%), 29/09/2014 (3.7%), 27/11/2014 (7.8%), 15/12/2014 (10.8%).
G9	Methane (CH4)	monthly	1		0	% v/v	yes	GA2000		
G9	Carbon dioxide (CO2)	monthly	1.5		1.13	% v/v	yes	GA2000		
G10	Methane (CH4)	monthly	1		0	% v/v	yes	GA2000		
G10	Carbon dioxide (CO2)	monthly	1.5		1.15	% v/v	yes	GA2000		
G11	Methane (CH4)	monthly	1		0	% v/v	yes	GA2000		
G11	Carbon dioxide (CO2)	monthly	1.5		0.42	% v/v	yes	GA2000		
G14	Methane (CH4)	monthly	1		0	% v/v	yes	GA2000		
G14	Carbon dioxide (CO2)	monthly	1.5		3.03	% v/v	no (if no please enter details in comments box)	GA2000		28/01/2014 (6.8%), 26/03/2014 (2.7%), 28/04/2014 (3.3%), 27/05/2014 (2.5%), 27/06/2014 (3.4%), 27/07/2014 (2.8%), 29/08/2014 (2.4%), 29/09/2014 (2.5%), 24/10/2014 (3.1%), 27/11/2014 (3.7%), 15/12/2014 (2.1%).
G15	Methane (CH4)	monthly	1		0	% v/v	yes	GA2000		
G15	Carbon dioxide (CO2)	monthly	1.5		2.18	% v/v	no (if no please enter details in comments box)	GA2000		28/01/2014 (1.8%), 26/02/2014 (1.5%), 26/03/2014 (2.4%), 28/04/2014 (2.2%), 27/05/2014 (1.7%), 27/06/2014 (2%), 27/07/2014 (1.9%), 29/08/2014 (2.2%), 29/09/2014 (1.6%), 24/10/2014 (2.1%), 27/11/2014 (4.8%), 15/12/2014 (2%).
G16	Methane (CH4)	monthly	1		0	% v/v	yes	GA2000		

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G16	Carbon dioxide (CO2)	monthly	1.5		0.73	% v/v	yes	GA2000		

Note 1: Volumetric flow shall be included as a reportable parameter

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Continuous Monitoring

4	Does your site carry out continuous air emissions monitoring?	Yes	

If yes please review your continuous monitoring data and report the required fields below in Table A2 and compare it to its relevant Emission Limit Value (ELV)

5	Did continuous monitoring equipment experience downtime? If yes please record downtime in table A2 below	No	
6	Do you have a proactive service agreement for each piece of continuous monitoring equipment?	SELECT	
7	Did your site experience any abatement system bypasses? If yes please detail them in table A3 below	No	

Table A2: Summary of average emissions -continuous monitoring

Emission reference no:	Parameter/ Substance	ELV in licence or any revision therof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission	Annual maximum	Monitoring Equipment downtime (hours)	Number of ELV exceedences in current reporting year	Comments
Main Site Office	Methane (CH4)	1	Q1-Q4, weekly monitoring	SELECT	% v/v	0.00	0.00	GA2000Plus, Methane Gas Surveyor 4B, Monicon MC4000	0	no breaches
Main Site Office	Carbon dioxide (CO2)	1.5	Q1-Q4, weekly monitoring		% v/v	0.06	0.20	GA2000Plus	0	no breaches
Main Site Office	Oxygen (O2)		Q1-Q4, weekly monitoring		% v/v	20.78	21.00	GA2000Plus		

note 1: Volumetric flow shall be included as a reportable parameter.

Table A3: Abatement system bypass reporting table

Bypass protocol

Date*	Duration** (hours)	Location	Reason for bypass	Impact magnitude	Corrective action

* this should include all dates that an abatement system bypass occurred

** an accurate record of time bypass beginning and end should be logged on site and maintained for future Agency inspections please refer to bypass protocol link

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Solvent use and management on site

8 Do you have a total Emission Limit Value of direct and fugitive emissions on site? if yes please fill out tables A4 and A5

SELECT

Table A4: Solvent Management Plan Summary Total VOC Emission limit value

Solvent regulations — Please refer to linked solvent regulations to complete table 5 and 6

Reporting year	Total solvent input on site (kg)	Total VOC emissions to Air from entire site (direct and fugitive)	Total VOC emissions as %of solvent input	Total Emission Limit Value (ELV) in licence or any revision therof	Compliance
					SELECT
					SELECT

Table A5: Solvent Mass Balance summary

	(I) Inputs (kg)	(O) Outputs (kg)						
Solvent	(I) Inputs (kg)	Organic solvent emission in waste gases(kg)	Solvents lost in water (kg)	Collected waste solvent (kg)	Fugitive Organic Solvent (kg)	Solvent released in other ways e.g. by-	Solvents destroyed onsite through	Total emission of Solvent to air (kg)
							Total	

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER) Lic No: W0081-04 Year 2014

			Additional information
1	Does your site have licensed emissions direct to surface water or direct to sewer? If yes please complete table W2 and W3 below for the current reporting year and answer further questions. If you do not have licenced emissions you only need to complete table W1 and or W2 for storm water analysis and visual inspections	Yes	
2	Was it a requirement of your licence to carry out visual inspections on any surface water discharges or watercourses on or near your site? If yes please complete table W2 below summarising only any evidence of contamination noted during visual inspections	Yes	

Table W1 Storm water monitoring

Location reference	Location relative to site activities	PRTR Parameter	Licenced Parameter	Monitoring date	ELV or trigger level in licence or any revision thereof*	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Comments
SW7	onsite		Total Suspended Solids	Q1-Q3		SELECT	5.17	mg/l	SELECT	
SW7	onsite		Alkalinity, Total as CaCO3	Q1-Q3			215.00	mg/l		
SW7	onsite		BOD, unfiltered	Q1-Q3			1.26	mg/l		
SW7	onsite		Organic Carbon, Total	Q2, Q3			6.85	mg/l		
SW7	onsite		Ammoniacal Nitrogen as N	Q1-Q3	0.065		0.57	mg/l	se enter details in co	EQS was exceeded on: Q1 (1.41 mg/l), Q2 (0.204 mg/l)
SW7	onsite		COD, unfiltered	Q1-Q3			15.64	mg/l		
SW7	onsite		Conductivity at 20ºC	Q1-Q3	1		0.48	mS/cm	yes	
SW7	onsite		Boron (diss.filt)	Q1-Q3	2000		30.23	µg/l	yes	
SW7	onsite		Cadmium (diss.filt)	Q1-Q3	5		<0.1	µg/l	yes	
SW7	onsite		Chromium (tot.unfilt)	Q1-Q3	30		2.05	µg/l	yes	
SW7	onsite		Copper (diss.filt)	Q1-Q3	30		2.61	µg/l	yes	
SW7	onsite		Lead (diss.filt)	Q1-Q3	10		0.06	µg/l	yes	
SW7	onsite		Manganese (diss.filt)	Q1-Q3	300		41.48	µg/l	yes	
SW7	onsite		Nickel (diss.filt)	Q1-Q3	50		3.00	µg/l	yes	
SW7	onsite		Phosphorus (diss.filt)	Q1, Q3			13.43	µg/l		
SW7	onsite		Zinc (diss.filt)	Q1-Q3	100		6.74	µg/l	yes	
SW7	onsite		Mercury (diss.filt)	Q1-Q3	1		<0.01	µg/l	yes	
SW7	onsite		Nitrite as NO2	Q1-Q3	0.2		0.13	mg/l	yes	
SW7	onsite		Sulphate	Q1, Q2	200		51.40	mg/l	yes	
SW7	onsite		Chloride	Q1-Q3	250		20.23	mg/l	yes	
SW7	onsite		Phosphate (ortho) as P	Q1-Q3			0.05	mg/l		
SW7	onsite		Nitrate as N	Q1			2.57	mg/l		
SW7	onsite		Nitrate as NO3	Q2, Q3	50		1.87	mg/l	yes	
SW7	onsite		Oxygen, dissolved	Q1, Q3			9.42	mg/l		
SW7	onsite		Calcium (diss.filt)	Q1-Q3			96.20	mg/l		
SW7	onsite		Sodium (diss.filt)	Q1-Q3			14.18	mg/l		
SW7	onsite		Magnesium (diss.filt)	Q1-Q3			5.67	mg/l		
SW7	onsite		Potassium (diss.filt)	Q1-Q3			2.28	mg/l		
SW7	onsite		Iron (diss.filt)	Q1-Q3	1		<0.019	mg/l	yes	
SW7	onsite		pH	Q1-Q3	6-9	SELECT	7.99	pH Units	yes	

*trigger values may be agreed by the Agency outside of licence conditions

Table W2 Visual inspections-Please only enter details where contamination was observed.

Location Reference	Date of inspection	Description of contamination	Source of contamination	Corrective action	Comments
			SELECT		
			SELECT		

Licensed Emissions to water and /or wastewater(sewer)-periodic monitoring (non-continuous)

				Additional information
3	Was there any result in breach of licence requirements? If yes please provide brief details in the comment section of Table W3 below		Yes	
4	Was all monitoring carried out in accordance with EPA guidance and checklists for Quality of Aqueous Monitoring Data Reported to the EPA? If no please detail what areas require improvement in additional information box	External /Internal Lab Quality checklist / Assessment of results checklist	Yes	

Table W3: Licensed Emissions to water and /or wastewater (sewer)-periodic monitoring (non-continuous)

Emission reference no:	Emission released to	Parameter/ SubstanceNote 1	Type of sample	Frequency of monitoring	Averaging period	ELV or trigger values in licence or any revision thereof Note 2	Licence Compliance criteria	Measured value	Unit of measurement	Compliant with licence	Method of analysis	Procedural reference source	Procedural reference standard number	Annual mass load (kg)	Comments
SW4	Water	Total Suspended Solids		Q1-Q3	SELECT		SELECT	3.95	mg/l	SELECT	TM022	SELECT			
SW4	Water	Alkalinity, Total as CaCO3		Q1-Q3				245.00	mg/l		TM043				
SW4	Water	BOD, unfiltered		Q2, Q3				1.01	mg/l		TM045				
SW4	Water	Organic Carbon, Total		Q1-Q3				12.70	mg/l		TM090				
SW4	Water	Ammoniacal Nitrogen as N		Q1-Q3		0.065		<0.2	mg/l	yes	TM099				
SW4	Water	COD, unfiltered		Q1-Q3				26.97	mg/l		TM107				
SW4	Water	Conductivity at 20ºC		Q1-Q3		1		0.56	mS/cm	yes	TM120				

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER)						Lic No:	W0081-04		Year	2014					
SW4	Water	Boron (diss.filt)		Q1-Q3		2000		39.80	µg/l	yes	TM152				
SW4	Water	Cadmium (diss.filt)		Q1-Q3		5		<0.1	µg/l	yes	TM152				
SW4	Water	Chromium (tot.unfilt)		Q1-Q3		30		2.55	µg/l	yes	TM191				
SW4	Water	Copper (diss.filt)		Q1-Q3		30		1.67	µg/l	yes	TM152				
SW4	Water	Lead (diss.filt)		Q1-Q3		10		0.05	µg/l	yes	TM152				
SW4	Water	Manganese (diss.filt)		Q1-Q3		300		174.13	µg/l	yes	TM152				
SW4	Water	Nickel (diss.filt)		Q1-Q3		50		4.20	µg/l	yes	TM152				
SW4	Water	Phosphorus (diss.filt)		Q1, Q3				13.33	µg/l		TM152				
SW4	Water	Zinc (diss.filt)		Q1-Q3		100		8.46	µg/l	yes	TM152				
SW4	Water	Mercury (diss.filt)		Q1-Q3		1		<0.01	µg/l	yes	TM183				
SW4	Water	Nitrite as NO2		Q1-Q3		0.2		<0.05	mg/l	yes	TM184				
SW4	Water	Sulphate		Q1, Q2		200		54.55	mg/l	yes	TM184				
SW4	Water	Chloride		Q1-Q3		250		17.67	mg/l	yes	TM184				
SW4	Water	Phosphate (ortho) as P		Q1-Q3				<0.05	mg/l		TM184				
SW4	Water	Nitrate as N		Q1				1.28	mg/l		TM184				
SW4	Water	Nitrate as NO3		Q2, Q3		50		0.47	mg/l	yes	TM184				
SW4	Water	Oxygen, dissolved		Q1, Q2				6.19	mg/l		TM187				
SW4	Water	Calcium (diss.filt)		Q1-Q3				109.23	mg/l		TM228				
SW4	Water	Sodium (diss.filt)		Q1-Q3				13.30	mg/l		TM228				
SW4	Water	Magnesium (diss.filt)		Q1-Q3				6.72	mg/l		TM228				
SW4	Water	Potassium (diss.filt)		Q1-Q3				1.68	mg/l		TM228				
SW4	Water	Iron (diss.filt)		Q1-Q3		1		0.14	mg/l	yes	TM228				
SW4	Water	pH		Q1-Q3		6-9		7.99	pH Units	yes	TM256				
SW5	Water	Total Suspended Solids		Q1, Q2				12	mg/l		TM022				
SW5	Water	Alkalinity, Total as CaCO3		Q1, Q2				245	mg/l		TM043				
SW5	Water	BOD, unfiltered		Q1, Q2				<1	mg/l		TM045				
SW5	Water	Organic Carbon, Total		Q2				15.9	mg/l		TM090				
SW5	Water	Ammoniacal Nitrogen as N		Q1, Q2		0.065		<0.2	mg/l	yes	TM099				
SW5	Water	COD, unfiltered		Q1, Q2				41.05	mg/l		TM107				
SW5	Water	Conductivity at 20ºC		Q1, Q2		1		0.469	mS/cm	yes	TM120				
SW5	Water	Boron (diss.filt)		Q1, Q2		2000		15.55	µg/l	yes	TM152				
SW5	Water	Cadmium (diss.filt)		Q1, Q2		5		<0.1	µg/l	yes	TM152				
SW5	Water	Chromium (tot.unfilt)		Q1, Q2		30		<3	µg/l	yes	TM191				
SW5	Water	Copper (diss.filt)		Q1, Q2		30		<0.85	µg/l	yes	TM152				
SW5	Water	Lead (diss.filt)		Q1, Q2		10		0.019	µg/l	yes	TM152				
SW5	Water	Manganese (diss.filt)		Q1, Q2		300		303.85	µg/l	no (if no please enter details in comments box)	TM152				EQS was exceeded on: Q2 (563 mg/l)
SW5	Water	Nickel (diss.filt)		Q1, Q2		50		2.69	µg/l	yes	TM152				
SW5	Water	Phosphorus (diss.filt)		Q1				<6.3	µg/l		TM152				
SW5	Water	Zinc (diss.filt)		Q1, Q2		100		20.412	µg/l	yes	TM152				
SW5	Water	Mercury (diss.filt)		Q1, Q2		1		<0.01	µg/l	yes	TM183				
SW5	Water	Nitrite as NO2		Q1, Q2		0.2		0.041	mg/l	yes	TM184				
SW5	Water	Sulphate		Q1, Q2		200		29.2	mg/l	yes	TM184				
SW5	Water	Chloride		Q1, Q2		250		17.95	mg/l	yes	TM184				
SW5	Water	Phosphate (ortho) as P		Q1, Q2				0.034	mg/l		TM184				
SW5	Water	Nitrate as N		Q1				1.13	mg/l		TM184				
SW5	Water	Nitrate as NO3		Q2		50		<0.3	mg/l	yes	TM184				
SW5	Water	Oxygen, dissolved		Q1, Q2				5.27	mg/l		TM187				
SW5	Water	Calcium (diss.filt)		Q1, Q2				97.7	mg/l		TM228				
SW5	Water	Sodium (diss.filt)		Q1, Q2				7.9	mg/l		TM228				
SW5	Water	Magnesium (diss.filt)		Q1, Q2				6.125	mg/l		TM228				
SW5	Water	Potassium (diss.filt)		Q1, Q2				0.83	mg/l		TM228				
SW5	Water	Iron (diss.filt)		Q1, Q2		1		0.284	mg/l	yes	TM228				
SW5	Water	pH		Q1, Q2		6-9		7.76	pH Units	yes	TM256				
SW6	Water	Total Suspended Solids		Q1-Q3				21.87	mg/l		TM022				
SW6	Water	Alkalinity, Total as CaCO3		Q1-Q3				174.50	mg/l		TM043				
SW6	Water	BOD, unfiltered		Q1-Q3				4.88	mg/l		TM045				
SW6	Water	Organic Carbon, Total		Q2, Q3				21.10	mg/l		TM090				
SW6	Water	Ammoniacal Nitrogen as N		Q1-Q3		0.065		0.20	mg/l	no (if no please enter details in comments box)	TM099				EQS was exceeded on: Q3 (0.401 mg/l)
SW6	Water	COD, unfiltered		Q1-Q3				66.40	mg/l		TM107				
SW6	Water	Conductivity at 20ºC		Q1-Q3		1		0.58	mS/cm	yes	TM120				
SW6	Water	Boron (diss.filt)		Q1-Q3		2000		22.77	µg/l	yes	TM152				
SW6	Water	Cadmium (diss.filt)		Q1-Q3		5		0.12	µg/l	yes	TM152				
SW6	Water	Chromium (tot.unfilt)		Q1-Q3		30		1.41	µg/l	yes	TM191				
SW6	Water	Copper (diss.filt)		Q1-Q3		30		1.78	µg/l	yes	TM152				
SW6	Water	Lead (diss.filt)		Q1-Q3		10		0.04	µg/l	yes	TM152				

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SW6	Water	Manganese (diss.filt)		Q1-Q3		300		1190.17	µg/l	no (if no please enter details in comments box)	TM152				EQS was exceeded on: Q3 (3350 µg/l)
SW6	Water	Nickel (diss.filt)		Q1-Q3		50		3.94	µg/l	yes	TM152				
SW6	Water	Phosphorus (diss.filt)		Q1, Q3				114.40	µg/l		TM152				
SW6	Water	Zinc (diss.filt)		Q1-Q3		100		15.81	µg/l	yes	TM152				
SW6	Water	Mercury (diss.filt)		Q1-Q3		1		0.01	µg/l	yes	TM183				
SW6	Water	Nitrite as NO2		Q1-Q3		0.2		<0.5	mg/l	yes	TM184				
SW6	Water	Sulphate		Q1, Q2		200		82.35	mg/l	yes	TM184				
SW6	Water	Chloride		Q1-Q3		250		20.20	mg/l	yes	TM184				
SW6	Water	Phosphate (ortho) as P		Q1-Q3				0.15	mg/l		TM184				
SW6	Water	Nitrate as N		Q1				4.54	mg/l		TM184				
SW6	Water	Nitrate as NO3		Q2, Q3		50		3.18	mg/l	yes	TM184				
SW6	Water	Oxygen, dissolved		Q1, Q2				3.17	mg/l		TM187				
SW6	Water	Calcium (diss.filt)		Q1-Q3				116.33	mg/l		TM228				
SW6	Water	Sodium (diss.filt)		Q1-Q3				10.14	mg/l		TM228				
SW6	Water	Magnesium (diss.filt)		Q1-Q3				6.74	mg/l		TM228				
SW6	Water	Potassium (diss.filt)		Q1-Q3				1.08	mg/l		TM228				
SW6	Water	Iron (diss.filt)		Q1-Q3		1		1.89	mg/l	no (if no please enter details in comments box)	TM228				EQS was exceeded on: Q3 (5.01 mg/l)
SW6	Water	pH		Q1-Q3		6-9		7.32	pH Units	yes	TM256				
LP1	Wastewater/Sewer	Total Suspended Solids		Q1, Q2		300		14	mg/l	yes	TM022				
LP1	Wastewater/Sewer	BOD, unfiltered		Q1, Q2		250		141.5	mg/l	yes	TM045				
LP1	Wastewater/Sewer	Ammoniacal Nitrogen as N		Q1, Q2		5		2105	mg/l	no (if no please enter details in comments box)	TM099				Licence limit was exceeded on both measuring dates: Q1 (2130 mg/l), Q2 (2200 mg/l)
LP1	Wastewater/Sewer	COD, unfiltered		Q1, Q2		750		4390	mg/l	no (if no please enter details in comments box)	TM107				Licence limit was exceeded on both measuring dates: Q1 (4240 mg/l), Q2 (4540 mg/l)
LP1	Wastewater/Sewer	Conductivity at 20ºC		Q1, Q2		1		19.85	mS/cm	no (if no please enter details in comments box)	TM120				EQS was exceeded on both measuring dates: Q1 (19.7 mS/cm), Q2 (20 mS/cm)
LP1	Wastewater/Sewer	Boron (diss.filt)		Q1		2000		12600	µg/l	no (if no please enter details in comments	TM152				
LP1	Wastewater/Sewer	Cadmium (diss.filt)		Q1		5		1.11	µg/l	yes	TM152				
LP1	Wastewater/Sewer	Copper (diss.filt)		Q1		30		101	µg/l	no (if no please enter details in comments	TM152				
LP1	Wastewater/Sewer	Lead (diss.filt)		Q1		10		2.8	µg/l	yes	TM152				
LP1	Wastewater/Sewer	Manganese (diss.filt)		Q1		300		278	µg/l	yes	TM152				
LP1	Wastewater/Sewer	Nickel (diss.filt)		Q1		50		307	µg/l	no (if no please enter details in comments	TM152				
LP1	Wastewater/Sewer	Phosphorus (diss.filt)		Q1				19500	µg/l		TM152				
LP1	Wastewater/Sewer	Zinc (diss.filt)		Q1		100		32.2	µg/l	yes	TM152				
LP1	Wastewater/Sewer	Mercury (diss.filt)		Q1		1		<0.01	µg/l	yes	TM183				
LP1	Wastewater/Sewer	Chromium (tot.unfilt)		Q1		30		378	µg/l	no (if no please enter details in comments	TM191				
LP1	Wastewater/Sewer	Chloride		Q1, Q2		2000		2065	mg/l	no (if no please enter details in comments box)	TM226				Licence limit was exceeded on: Q2 (2140 mg/l)
LP1	Wastewater/Sewer	Fluoride		Q1		5		3.68	mg/l	yes	TM226				
LP1	Wastewater/Sewer	Sulphate		Q1, Q2		200		49.955	mg/l	yes	TM226				
LP1	Wastewater/Sewer	Total Oxidised Nitrogen as N		Q1, Q2				5.61	mg/l		TM226				
LP1	Wastewater/Sewer	Nitrate as N		Q1		1000		5.61	mg/l	yes	TM226				
LP1	Wastewater/Sewer	Phosphate as P		Q1		20		<0.46	mg/l	yes	TM226				
LP1	Wastewater/Sewer	Cyanide, Total		Q1		0.01		0.054	mg/l	no (if no please enter details in comments	TM227				
LP1	Wastewater/Sewer	Calcium (diss.filt)		Q1				38.1	mg/l		TM228				
LP1	Wastewater/Sewer	Sodium (diss.filt)		Q1				2390	mg/l		TM228				
LP1	Wastewater/Sewer	Magnesium (diss.filt)		Q1				59	mg/l		TM228				
LP1	Wastewater/Sewer	Potassium (diss.filt)		Q1				800	mg/l		TM228				
LP1	Wastewater/Sewer	Iron (diss.filt)		Q1		1		2.15	mg/l	no (if no please enter details in comments	TM228				
LP1	Wastewater/Sewer	pH		Q1, Q2		6-9		7.855	pH Units	yes	TM256				
LP3	Wastewater/Sewer	Total Suspended Solids		Q1, Q2		300		21	mg/l	yes	TM022				
LP3	Wastewater/Sewer	BOD, unfiltered		Q1, Q2		250		134	mg/l	yes	TM045				
LP3	Wastewater/Sewer	Organic Carbon, Total		Q1		300		1530	mg/l	no (if no please enter details in comments	TM090				
LP3	Wastewater/Sewer	Ammoniacal Nitrogen as N		Q1, Q2		5		2235	mg/l	no (if no please enter details in comments box)	TM099				Licence limit was exceeded on both measuring dates: Q1 (2130 mg/l), Q2 (2340 mg/l)

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LP3	Wastewater/Sewer	COD, unfiltered		Q1, Q2		750		4495	mg/l	no (if no please enter details in comments box)	TM107				Licence limit was exceeded on both measuring dates: Q1 (4210 mg/l), Q2 (4780 mg/l)
LP3	Wastewater/Sewer	Conductivity at 20ºC		Q1, Q2		1		20.35	mS/cm	no (if no please enter details in comments box)	TM120				EQS was exceeded on both measuring dates: Q1 (19.3 mS/cm), Q2 (21.4 mS/cm)
LP3	Wastewater/Sewer	Boron (diss.filt)		Q1		2000		11900	µg/l	no (if no please enter details in comments box)	TM152				
LP3	Wastewater/Sewer	Cadmium (diss.filt)		Q1		5		<1	µg/l	yes	TM152				
LP3	Wastewater/Sewer	Copper (diss.filt)		Q1		30		20.8	µg/l	yes	TM152				
LP3	Wastewater/Sewer	Lead (diss.filt)		Q1		10		1.82	µg/l	yes	TM152				
LP3	Wastewater/Sewer	Manganese (diss.filt)		Q1		300		294	µg/l	yes	TM152				
LP3	Wastewater/Sewer	Nickel (diss.filt)		Q1		50		243	µg/l	no (if no please enter details in comments	TM152				
LP3	Wastewater/Sewer	Phosphorus (diss.filt)		Q1				16000	µg/l		TM152				
LP3	Wastewater/Sewer	Zinc (diss.filt)		Q1		100		17.8	µg/l	yes	TM152				
LP3	Wastewater/Sewer	Mercury (diss.filt)		Q1		1		<0.01	µg/l	yes	TM183				
LP3	Wastewater/Sewer	Chromium (tot.unfilt)		Q1		30		453	µg/l	no (if no please enter details in comments	TM191				
LP3	Wastewater/Sewer	Chloride		Q1, Q2		2000		2080	mg/l	no (if no please enter details in comments box)	TM226				Licence limit was exceeded on: Q2 (2230 mg/l)
LP3	Wastewater/Sewer	Fluoride		Q1		5		37.1	mg/l	no (if no please enter details in comments	TM226				
LP3	Wastewater/Sewer	Sulphate		Q1, Q2		200		353.95	mg/l	no (if no please enter details in comments box)	TM226				EQS was exceeded on: Q2 (692 mg/l)
LP3	Wastewater/Sewer	Total Oxidised Nitrogen as N		Q1, Q2				<0.01	mg/l		TM226				
LP3	Wastewater/Sewer	Nitrate as N		Q1		1000		<0.2	mg/l	yes	TM226				
LP3	Wastewater/Sewer	Phosphate as P		Q1		20		<0.92	mg/l	yes	TM226				
LP3	Wastewater/Sewer	Cyanide, Total		Q1		0.01		0.053	mg/l	no (if no please enter details in comments	TM227				
LP3	Wastewater/Sewer	Calcium (diss.filt)		Q1				114	mg/l		TM228				
LP3	Wastewater/Sewer	Sodium (diss.filt)		Q1				1000	mg/l		TM228				
LP3	Wastewater/Sewer	Magnesium (diss.filt)		Q1				54.4	mg/l		TM228				
LP3	Wastewater/Sewer	Potassium (diss.filt)		Q1				309	mg/l		TM228				
LP3	Wastewater/Sewer	Iron (diss.filt)		Q1		1		0.979	mg/l	yes	TM228				
LP3	Wastewater/Sewer	pH		Q1		6-9		7.935	pH Units	yes	TM256				
LP6	Wastewater/Sewer	Total Suspended Solids		Q1		300		32	mg/l	yes	TM022				
LP6	Wastewater/Sewer	BOD, unfiltered		Q1		250		110	mg/l	yes	TM045				
LP6	Wastewater/Sewer	Ammoniacal Nitrogen as N		Q1		5		1320	mg/l	no (if no please enter details in comments	TM099				
LP6	Wastewater/Sewer	COD, unfiltered		Q1		750		2400	mg/l	no (if no please enter details in comments	TM107				
LP6	Wastewater/Sewer	Conductivity at 20ºC		Q1		1		13	mS/cm	no (if no please enter details in comments	TM120				
LP6	Wastewater/Sewer	Boron (diss.filt)		Q1		2000		6580	µg/l	no (if no please enter details in comments	TM152				
LP6	Wastewater/Sewer	Cadmium (diss.filt)		Q1		5		<1	µg/l	yes	TM152				
LP6	Wastewater/Sewer	Copper (diss.filt)		Q1		30		<8.5	µg/l	yes	TM152				
LP6	Wastewater/Sewer	Lead (diss.filt)		Q1		10		3.21	µg/l	yes	TM152				
LP6	Wastewater/Sewer	Manganese (diss.filt)		Q1		300		548	µg/l	no (if no please enter details in comments	TM152				
LP6	Wastewater/Sewer	Nickel (diss.filt)		Q1		50		170	µg/l	no (if no please enter details in comments	TM152				
LP6	Wastewater/Sewer	Phosphorus (diss.filt)		Q1				10800	µg/l		TM152				
LP6	Wastewater/Sewer	Zinc (diss.filt)		Q1		100		116	µg/l	no (if no please enter details in comments	TM152				
LP6	Wastewater/Sewer	Mercury (diss.filt)		Q1		1		<0.01	µg/l	yes	TM183				
LP6	Wastewater/Sewer	Chromium (tot.unfilt)		Q1		30		299	µg/l	no (if no please enter details in comments	TM191				
LP6	Wastewater/Sewer	Chloride		Q1		2000		1230	mg/l	yes	TM226				
LP6	Wastewater/Sewer	Fluoride		Q1		5		2.97	mg/l	yes	TM226				
LP6	Wastewater/Sewer	Sulphate		Q1		200		262	mg/l	no (if no please enter details in comments	TM226				
LP6	Wastewater/Sewer	Total Oxidised Nitrogen as N		Q1				<0.01	mg/l		TM226				
LP6	Wastewater/Sewer	Nitrate as N		Q1		1000		<0.1	mg/l	yes	TM226				
LP6	Wastewater/Sewer	Phosphate as P		Q1		20		<0.46	mg/l	yes	TM226				
LP6	Wastewater/Sewer	Cyanide, Total		Q1		0.01		<0.05	mg/l	yes	TM227				
LP6	Wastewater/Sewer	Calcium (diss.filt)		Q1				85.5	mg/l		TM228				
LP6	Wastewater/Sewer	Sodium (diss.filt)		Q1				1340	mg/l		TM228				
LP6	Wastewater/Sewer	Magnesium (diss.filt)		Q1				44.3	mg/l		TM228				
LP6	Wastewater/Sewer	Potassium (diss.filt)		Q1				373	mg/l		TM228				
LP6	Wastewater/Sewer	Iron (diss.filt)		Q1		1		0.528	mg/l	yes	TM228				
LP6	Wastewater/Sewer	pH		Q1		6-9		7.91	pH Units	yes	TM256				
LP7-Tank	Wastewater/Sewer	Total Suspended Solids		Q1, Q2		300		26	mg/l	yes	TM022				
LP7-Tank	Wastewater/Sewer	BOD, unfiltered		Q1, Q2		250		133	mg/l	yes	TM045				
LP7-Tank	Wastewater/Sewer	Organic Carbon, Total		Q1		300		1380	mg/l	no (if no please enter details in comments	TM090				

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LP7-Tank	Wastewater/Sewer	Ammoniacal Nitrogen as N		Q1, Q2		5		2015	mg/l	no (if no please enter details in comments box)	TM099				Licence limit was exceeded on both measuring dates: Q1 (1910 mg/l), Q2 (2120 mg/l)
LP7-Tank	Wastewater/Sewer	COD, unfiltered		Q1, Q2		750		4205	mg/l	no (if no please enter details in comments box)	TM107				Licence limit was exceeded on both measuring dates: Q1 (3960 mg/l), Q2 (4450 mg/l)
LP7-Tank	Wastewater/Sewer	Conductivity at 20ºC		Q1, Q2		1		19.1	mS/cm	no (if no please enter details in comments box)	TM120				EQS was exceeded on: Q2 (20.1 mS/cm)
LP7-Tank	Wastewater/Sewer	Boron (diss.filt)		Q1		2000		11200	µg/l	no (if no please enter details in comments	TM152				
LP7-Tank	Wastewater/Sewer	Cadmium (diss.filt)		Q1		5		<1	µg/l	yes	TM152				
LP7-Tank	Wastewater/Sewer	Copper (diss.filt)		Q1		30		<8.5	µg/l	yes	TM152				
LP7-Tank	Wastewater/Sewer	Lead (diss.filt)		Q1		10		2.43	µg/l	yes	TM152				
LP7-Tank	Wastewater/Sewer	Manganese (diss.filt)		Q1		300		405	µg/l	no (if no please enter details in comments	TM152				
LP7-Tank	Wastewater/Sewer	Nickel (diss.filt)		Q1		50		246	µg/l	no (if no please enter details in comments	TM152				
LP7-Tank	Wastewater/Sewer	Phosphorus (diss.filt)		Q1				16700	µg/l		TM152				
LP7-Tank	Wastewater/Sewer	Zinc (diss.filt)		Q1		100		30.4	µg/l	yes	TM152				
LP7-Tank	Wastewater/Sewer	Mercury (diss.filt)		Q1		1		<0.01	µg/l	yes	TM183				
LP7-Tank	Wastewater/Sewer	Chromium (tot.unfilt)		Q1		30		407	µg/l	no (if no please enter details in comments	TM191				
LP7-Tank	Wastewater/Sewer	Chloride		Q1, Q2		2000		1995	mg/l	yes	TM226				
LP7-Tank	Wastewater/Sewer	Fluoride		Q1		5		5.32	mg/l	no (if no please enter details in comments	TM226				
LP7-Tank	Wastewater/Sewer	Sulphate		Q1, Q2		200		202	mg/l	no (if no please enter details in comments box)	TM226				EQS was exceeded on: Q2 (255 mg/l)
LP7-Tank	Wastewater/Sewer	Total Oxidised Nitrogen as N		Q1, Q2				0.315	mg/l		TM226				
LP7-Tank	Wastewater/Sewer	Nitrate as N		Q1		1000		<0.2	mg/l	yes	TM226				
LP7-Tank	Wastewater/Sewer	Phosphate as P		Q1		20		<0.92	mg/l	yes	TM226				
LP7-Tank	Wastewater/Sewer	Cyanide, Total		Q1		0.01		0.057	mg/l	no (if no please enter details in comments	TM227				

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER)						Lic No:	W0081-04		Year	2014					
LP7-Tank	Wastewater/Sewer	Calcium (diss.filt)		Q1				53.5	mg/l		TM228				
LP7-Tank	Wastewater/Sewer	Sodium (diss.filt)		Q1				2120	mg/l		TM228				
LP7-Tank	Wastewater/Sewer	Magnesium (diss.filt)		Q1				56.5	mg/l		TM228				
LP7-Tank	Wastewater/Sewer	Potassium (diss.filt)		Q1				735	mg/l		TM228				
LP7-Tank	Wastewater/Sewer	Iron (diss.filt)		Q1		1		1.2	mg/l	no (if no please enter details in comments	TM228				
LP7-Tank	Wastewater/Sewer	pH		Q1, Q2		6-9		7.98	pH Units	yes	TM256				
Final Permate	Wastewater/Sewer	Ammoniacal Nitrogen as N		Q3		5		8.75	mg/l	no (if no please enter details in comments	TM099				
Final Permate	Wastewater/Sewer	pH		Q3		6-9		6.82	pH Units	yes	TM256				
RO1 Concentrate	Wastewater/Sewer	Total Suspended Solids		Q1, Q3		300		51.8	mg/l	yes	TM022				
RO1 Concentrate	Wastewater/Sewer	BOD, unfiltered		Q1, Q3		250		368.5	mg/l	no (if no please enter details in comments box)	TM045				Licence limit was exceeded on both measuring dates: Q1 (357 mg/l), Q3 (380 mg/l)
RO1 Concentrate	Wastewater/Sewer	Organic Carbon, Total		Q1		300		4120	mg/l	no (if no please enter details in comments	TM090				
RO1 Concentrate	Wastewater/Sewer	Ammoniacal Nitrogen as N		Q1, Q3		5		5445	mg/l		TM099				
RO1 Concentrate	Wastewater/Sewer	COD, unfiltered		Q1, Q3		750		12370	mg/l	no (if no please enter details in comments box)	TM107				Licence limit was exceeded on both measuring dates: Q1 (14800 mg/l), Q3 (9940 mg/l)
RO1 Concentrate	Wastewater/Sewer	Conductivity at 20ºC		Q1, Q3		1		46.4	mS/cm	no (if no please enter details in comments box)	TM120				EQS was exceeded on both measuring dates: Q1 (50.6 mS/cm), Q3 (42.2 mS/cm)
RO1 Concentrate	Wastewater/Sewer	Chloride		Q1, Q3		2000		5280	mg/l	no (if no please enter details in comments box)	TM184, TM226				Licence limit was exceeded on both measuring dates: Q1 (5800 mg/l), Q3 (4760 mg/l)
RO1 Concentrate	Wastewater/Sewer	Nitrate as N		Q1, Q3		1000		<1	mg/l	yes	TM184, TM226				
RO1 Concentrate	Wastewater/Sewer	Phosphate (ortho) as P		Q1, Q3		20		37.85	mg/l	no (if no please enter details in comments box)	TM184, TM226				Licence limit was exceeded on both measuring dates: Q1 (37.2 mg/l), Q3 (38.5 mg/l)
RO1 Concentrate	Wastewater/Sewer	Methane, dissolved		Q1, Q3				1.7	µg/l		TM223				
RO1 Concentrate	Wastewater/Sewer	pH		Q1, Q3		6-9		7.705	pH Units	yes	TM256				
RO1 Permate	Wastewater/Sewer	Total Suspended Solids		Q1, Q3		300		<2	mg/l	yes	TM022				
RO1 Permate	Wastewater/Sewer	BOD, unfiltered		Q1, Q3		250		6.77	mg/l	yes	TM045				
RO1 Permate	Wastewater/Sewer	Organic Carbon, Total		Q1		300		<15	mg/l	yes	TM090				
RO1 Permate	Wastewater/Sewer	Ammoniacal Nitrogen as N		Q1, Q3		5		9.715	mg/l	no (if no please enter details in comments box)	TM099				Licence limit was exceeded on both measuring dates: Q1 (8.33 mg/l), Q3 (11.1 mg/l)
RO1 Permate	Wastewater/Sewer	COD, unfiltered		Q1, Q3		750		<7	mg/l	yes	TM107				
RO1 Permate	Wastewater/Sewer	Conductivity at 20ºC		Q1, Q3		1		0.8955	mS/cm	yes	TM120				
RO1 Permate	Wastewater/Sewer	Chloride		Q1, Q3		2000		3.7	mg/l	yes	TM184				
RO1 Permate	Wastewater/Sewer	Nitrate as N		Q1, Q3		1000		<0.0677	mg/l	yes	TM184				
RO1 Permate	Wastewater/Sewer	Phosphate (ortho) as P		Q1, Q3		20		<0.02	mg/l	yes	TM184				
RO1 Permate	Wastewater/Sewer	Methane, dissolved		Q1				12.4	µg/l		TM223				
RO1 Permate	Wastewater/Sewer	pH		Q1, Q3		6-9		6.52	pH Units	yes	TM256				
RO2 Concentrate	Wastewater/Sewer	Total Suspended Solids		Q3		300		22.7	mg/l	yes	TM022				
RO2 Concentrate	Wastewater/Sewer	BOD, unfiltered		Q3		250		430	mg/l	no (if no please enter details in comments	TM045				
RO2 Concentrate	Wastewater/Sewer	Ammoniacal Nitrogen as N		Q3		5		5720	mg/l	no (if no please enter details in comments	TM099				
RO2 Concentrate	Wastewater/Sewer	COD, unfiltered		Q3		750		12200	mg/l	no (if no please enter details in comments	TM107				
RO2 Concentrate	Wastewater/Sewer	Conductivity at 20ºC		Q3		1		46.6	mS/cm	no (if no please enter details in comments	TM120				
RO2 Concentrate	Wastewater/Sewer	Chloride		Q3		2000		5630	mg/l	no (if no please enter details in comments	TM184				
RO2 Concentrate	Wastewater/Sewer	Nitrate as N		Q3		1000		<1.35	mg/l	yes	TM184				
RO2 Concentrate	Wastewater/Sewer	Phosphate (ortho) as P		Q3		20		59.6	mg/l	no (if no please enter details in comments	TM184				
RO2 Concentrate	Wastewater/Sewer	pH		Q3		6-9		7.77	pH Units	yes	TM256				
RO2 Permate	Wastewater/Sewer	Total Suspended Solids		Q3		300		<2	mg/l	yes	TM022				
RO2 Permate	Wastewater/Sewer	BOD, unfiltered		Q3		250		<1	mg/l	yes	TM045				
RO2 Permate	Wastewater/Sewer	Ammoniacal Nitrogen as N		Q3		5		8.27	mg/l	no (if no please enter details in comments	TM099				
RO2 Permate	Wastewater/Sewer	COD, unfiltered		Q3		750		<7	mg/l	yes	TM107				
RO2 Permate	Wastewater/Sewer	Conductivity at 20ºC		Q3		1		1.24	mS/cm	no (if no please enter details in comments	TM120				
RO2 Permate	Wastewater/Sewer	Chloride		Q3		2000		<2	mg/l	yes	TM184				
RO2 Permate	Wastewater/Sewer	Nitrate as N		Q3		1000		<0.0677	mg/l	yes	TM184				
RO2 Permate	Wastewater/Sewer	Phosphate (ortho) as P		Q3		20		<0.02	mg/l	yes	TM184				
RO2 Permate	Wastewater/Sewer	pH		Q3		6-9		6.77	pH Units	yes	TM256				

Note 1: Volumetric flow shall be included as a reportable parameter

Note 2: Where Emission Limit Values (ELV) do not apply to your licence please compare results against EQS for Surface water or relevant receptor quality standards

AER Monitoring returns summary template-WATER/WASTEWATER(SEWER)	Lic No:	W0081-04	Year	2014

Continuous monitoring

			Additional Information
5	Does your site carry out continuous emissions to water/sewer monitoring?	SELECT	

If yes please summarise your continuous monitoring data below in Table W4 and compare it to its relevant Emission Limit Value (ELV)

6	Did continuous monitoring equipment experience downtime? **If yes please record downtime in table W4 below**	SELECT	
7	Do you have a proactive service contract for each piece of continuous monitoring equipment on site?	SELECT	
8	Did abatement system bypass occur during the reporting year? **If yes please complete table W5 below**	SELECT	

Table W4: Summary of average emissions -continuous monitoring

Emission reference no:	Emission released to	Parameter/ Substance	ELV or trigger values in licence or any revision thereof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission for current reporting year (kg)	% change +/- from previous reporting year	Monitoring Equipment downtime (hours)	Number of ELV exceedences in reporting year	Comments
	SELECT	SELECT		SELECT	SELECT	SELECT					
	SELECT	SELECT		SELECT	SELECT	SELECT					

note 1: Volumetric flow shall be included as a reportable parameter.

Table W5: Abatement system bypass reporting table

Date	Duration (hours)	Location	Resultant emissions	Reason for bypass	Corrective action*	Was a report submitted to the EPA?	When was this report submitted?
						SELECT	

*Measures taken or proposed to reduce or limit bypass frequency

Bund/Pipeline testing template

Lic No: W0081-04 Year 2014

Bund testing

dropdown menu click to see options

			Additional information
1	Are you required by your licence to undertake integrity testing on bunds and containment structures ? if yes please fill out table B1 below listing all **new bunds and containment structures** on site, in addition to **all bunds which failed** the integrity test-**all bunding structures which failed including mobile bunds must be listed in the table below, please include all bunds outside the licenced testing period** (mobile bunds and chemstore included)	SELECT	
2	Please provide integrity testing frequency period	SELECT	
3	Does the site maintain a register of bunds, underground pipelines (including stormwater and foul), Tanks, sumps and containers? (containers refers to "Chemstore" type units and mobile bunds)	SELECT	
4	How many bunds are on site?		
5	How many of these bunds have been tested within the required test schedule?		
6	How many mobile bunds are on site?		
7	Are the mobile bunds included in the bund test schedule?	SELECT	
8	How many of these mobile bunds have been tested within the required test schedule?		
9	How many sumps on site are included in the integrity test schedule?		
10	How many of these sumps are integrity tested within the test schedule?		
	Please list any sump integrity failures in table B1		
11	Do all sumps and chambers have high level liquid alarms?	SELECT	
12	If yes to Q11 are these failsafe systems included in a maintenance and testing programme?	SELECT	
13	Is the Fire Water Retention Pond included in your integrity test programme?	SELECT	

Table B1: Summary details of bund /containment structure integrity test

Bund/Containment structure ID	Type	Specify Other type	Product containment	Actual capacity	Capacity required*	Type of integrity test	Other test type	Test date	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
	SELECT					SELECT			SELECT	SELECT		SELECT		
	SELECT					SELECT			SELECT	SELECT		SELECT		

* Capacity required should comply with 25% or 110% containment rule as detailed in your licence

			Commentary
15	Has integrity testing been carried out in accordance with licence requirements and are all structures tested in line with BS8007/EPA Guidance? bunding and storage guidelines	SELECT	
16	Are channels/transfer systems to remote containment systems tested?	SELECT	
17	Are channels/transfer systems compliant in both integrity and available volume?	SELECT	

Pipeline/underground structure testing

1	Are you required by your licence to undertake integrity testing* on underground structures e.g. pipelines or sumps etc ? if yes please fill out table 2 below listing all underground structures and pipelines on site **which failed the integrity test and all which have not been tested withing the integrity test period as specified**	SELECT	
2	Please provide integrity testing frequency period	SELECT	

*please note integrity testing means water tightness testing for process and foul pipelines (as required under your licence)

Table B2: Summary details of pipeline/underground structures integrity test

Structure ID	Type system	Material of construction:	Does this structure have Secondary containment?	Type of secondary containment	Type integrity testing	Integrity reports maintained on site?	Results of test	Integrity test failure explanation <50 words	Corrective action taken	Scheduled date for retest	Results of retest(if in current reporting year)
	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT				SELECT

Please use commentary for additional details not answered by tables/ questions above

Groundwater/Soil monitoring template	Lic No:	W0081-04	Year	2014

			Comments	
1	Are you required to carry out groundwater monitoring as part of your licence requirements?	yes		Please provide an interpretation of groundwater monitoring data in the interpretation box below or if you require additional space please include a groundwater/contaminated land monitoring results interpretaion as an additional section in this AER
2	Are you required to carry out soil monitoring as part of your licence requirements?	no		
3	Do you extract groundwater for use on site? If yes please specify use in comment section	no		
4	Do monitoring results show that groundwater generic assessment criteria such as GTVs or IGVs are exceeded or is there an upward trend in results for a substance? If yes, please complete the Groundwater Monitoring Guideline Template Report (Groundwater monitoring template)	no		
5	Is the contamination related to operations at the facility (either current and/or historic)	SELECT		
6	Have actions been taken to address contamination issues?If yes please summarise remediation strategies proposed/undertaken for the site	SELECT		
7	Please specify the proposed time frame for the remediation strategy	SELECT		
8	Is there a licence condition to carry out/update ELRA for the site?	SELECT		
9	Has any type of risk assesment been carried out for the site?	SELECT		
10	Has a Conceptual Site Model been developed for the site?	SELECT		
11	Have potential receptors been identified on and off site?	SELECT		
12	Is there evidence that contamination is migrating offsite?	SELECT		Please enter interpretation of data here

Table 1: Upgradient Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration++	Average Concentration+	Unit	GTV's*	IGV	Upward trend in pollutant concentration over last 5 years of monitoring data
quarterly	BH-11D	Dissolved Arsenic	TM30/PM14	quarterly	2.9	<2.5	ug/l	7.5	10	SELECT
quarterly	BH-11D	Dissolved Barium	TM30/PM14	quarterly	52	50.5	ug/l		100	
quarterly	BH-11D	Dissolved Boron	TM30/PM14	quarterly	12	<12	ug/l	750		
quarterly	BH-11D	Dissolved Cadmium	TM30/PM14	quarterly	<0.5	<0.5	ug/l	5		
quarterly	BH-11D	Dissolved Calcium	TM30/PM14	quarterly	137.5	133.925	mg/l	200		
quarterly	BH-11D	Total Dissolved Chromium	TM30/PM14	quarterly	<1.5	<1.5	ug/l	37.5	30	
quarterly	BH-11D	Dissolved Copper	TM30/PM14	quarterly	<7	<7	ug/l	1500	30	
quarterly	BH-11D	Total Dissolved Iron	TM30/PM14	quarterly	<20	<20	ug/l		200	
quarterly	BH-11D	Dissolved Lead	TM30/PM14	quarterly	<5	<5	ug/l	18.75	10	
quarterly	BH-11D	Dissolved Magnesium	TM30/PM14	quarterly	17.5	17	mg/l		50	
quarterly	BH-11D	Dissolved Manganese	TM30/PM14	quarterly	<2	<2	ug/l		50	
quarterly	BH-11D	Dissolved Mercury	TM30/PM14	quarterly	<1	<1	ug/l		1	
quarterly	BH-11D	Dissolved Nickel	TM30/PM14	quarterly	<2	<2	ug/l	15		
quarterly	BH-11D	Dissolved Phosphorus	TM30/PM14	quarterly	18	13.75	ug/l			
quarterly	BH-11D	Dissolved Potassium	TM30/PM14	quarterly	1.1	0.95	mg/l		5	
quarterly	BH-11D	Dissolved Selenium	TM30/PM14	quarterly	<3	<3	ug/l			
quarterly	BH-11D	Dissolved Sodium	TM30/PM14	quarterly	8.3	8.2	mg/l	150		
quarterly	BH-11D	Dissolved Zinc	TM30/PM14	quarterly	<3	<3	ug/l		100	
quarterly	BH-11D	Total Phenols HPLC	TM26/PM0	quarterly	<0.1	<0.1	mg/l		0.5	
quarterly	BH-11D	Fluoride	TM27/PM0	quarterly	<0.3	<0.3	mg/l		1	
quarterly	BH-11D	Sulphate	TM38/PM0	quarterly	11.22	10.565	mg/l	187.5		
quarterly	BH-11D	Chloride	TM38/PM0	quarterly	12.3	11.575	mg/l	187.5		

Groundwater/Soil monitoring template					Lic No:	W0081-04		Year	2014	
quarterly	BH-11D	Nitrate as NO3	TM38/PM0	quarterly	17.1	12.5075	mg/l	37.5		
quarterly	BH-11D	Nitrite as NO2	TM38/PM0	quarterly	3.77	<0.02	mg/l	0.375		
quarterly	BH-11D	Ortho Phosphate as PO4	TM38/PM0	quarterly	<0.06	<0.06	mg/l		0.03	
quarterly	BH-11D	Ammoniacal Nitrogen as N	TM38/PM0	quarterly	0.05	0.03	mg/l	0.065-0.175	0.15	
quarterly	BH-11D	Total Alkalinity as CaCO3	TM75/PM0	quarterly	424	388.5	mg/l		NAC	
quarterly	BH-11D	Dissolved Oxygen	TM59/PM0	quarterly	8	6.75	mg/l			
quarterly	BH-11D	Electrical Conductivity	TM76/PM0	quarterly	744	721.5	uS/cm	800-1,875	1000	
quarterly	BH-11D	Total Organic Carbon	TM60/PM0	quarterly	6	<2	mg/l			
monthly	KTK16	Dissolved Arsenic	TM30/PM14	monthly	22.2	6.16875	ug/l	7.5	10	
monthly	KTK16	Dissolved Barium	TM30/PM14	monthly	445	425.375	ug/l		100	
monthly	KTK16	Dissolved Boron	TM30/PM14	monthly	924	883.75	ug/l	750		
monthly	KTK16	Dissolved Cadmium	TM30/PM14	monthly	<0.5	<0.5	ug/l	5		
monthly	KTK16	Dissolved Calcium	TM30/PM14	monthly	80.1	69.275	mg/l	200		
monthly	KTK16	Total Dissolved Chromium	TM30/PM14	monthly	3.7	3.15	ug/l	37.5	30	
monthly	KTK16	Dissolved Copper	TM30/PM14	monthly	8	<7	ug/l	1500	30	
monthly	KTK16	Total Dissolved Iron	TM30/PM14	monthly	97	62.875	ug/l		200	
monthly	KTK16	Dissolved Lead	TM30/PM14	monthly	<5	<5	ug/l	18.75	10	
monthly	KTK16	Dissolved Magnesium	TM30/PM14	monthly	26.3	24.3875	mg/l		50	
monthly	KTK16	Dissolved Manganese	TM30/PM14	monthly	130	108.75	ug/l		50	
monthly	KTK16	Dissolved Mercury	TM30/PM14	monthly	2	<1	ug/l		1	
monthly	KTK16	Dissolved Nickel	TM30/PM14	monthly	84	78.375	ug/l	15		
monthly	KTK16	Dissolved Phosphorus	TM30/PM14	monthly	49	37	ug/l			
monthly	KTK16	Dissolved Potassium	TM30/PM14	monthly	105.1	95.8	mg/l		5	
monthly	KTK16	Dissolved Selenium	TM30/PM14	monthly	<3	<3	ug/l			
monthly	KTK16	Dissolved Sodium	TM30/PM14	monthly	297	274.75	mg/l	150		
monthly	KTK16	Dissolved Zinc	TM30/PM14	monthly	12	7.375	ug/l		100	
monthly	KTK16	Total Phenols HPLC	TM26/PM0	monthly	<0.1	<0.1	mg/l		0.5	
monthly	KTK16	Fluoride	TM27/PM0	monthly	<0.3	<0.3	mg/l		1	
monthly	KTK16	Sulphate	TM38/PM0	monthly	7.46	1.004375	mg/l	187.5		
monthly	KTK16	Chloride	TM38/PM0	monthly	254.5	247.4125	mg/l	187.5		
monthly	KTK16	Nitrate as NO3	TM38/PM0	monthly	116.4	37.34125	mg/l	37.5		
monthly	KTK16	Nitrite as NO2	TM38/PM0	monthly	3.07	0.57375	mg/l	0.375		
monthly	KTK16	Ortho Phosphate as PO4	TM38/PM0	monthly	0.56	<0.06	mg/l		0.03	
monthly	KTK16	Ammoniacal Nitrogen as N	TM38/PM0	monthly	189.43	176.90875	mg/l	0.065-0.175	0.15	
monthly	KTK16	Total Alkalinity as CaCO3	TM75/PM0	monthly	1266	1101	mg/l		NAC	
monthly	KTK16	Dissolved Oxygen	TM59/PM0	monthly	9	6.75	mg/l			
monthly	KTK16	Electrical Conductivity	TM76/PM0	monthly	3252	3070.125	uS/cm	800-1,875	1000	
monthly	KTK16	Total Organic Carbon	TM60/PM0	monthly	45	31.5	mg/l			
quarterly	KTK15D	Dissolved Arsenic	TM30/PM14	quarterly	4	<2.5	ug/l	7.5	10	
quarterly	KTK15D	Dissolved Barium	TM30/PM14	quarterly	246	211.75	ug/l		100	
quarterly	KTK15D	Dissolved Boron	TM30/PM14	quarterly	68	61	ug/l	750		
quarterly	KTK15D	Dissolved Cadmium	TM30/PM14	quarterly	<0.5	<0.5	ug/l	5		
quarterly	KTK15D	Dissolved Calcium	TM30/PM14	quarterly	339.8	313.85	mg/l	200		
quarterly	KTK15D	Total Dissolved Chromium	TM30/PM14	quarterly	<1.5	<1.5	ug/l	37.5	30	
quarterly	KTK15D	Dissolved Copper	TM30/PM14	quarterly	<7	<7	ug/l	1500	30	
quarterly	KTK15D	Total Dissolved Iron	TM30/PM14	quarterly	22	<20	ug/l		200	
quarterly	KTK15D	Dissolved Lead	TM30/PM14	quarterly	<5	<5	ug/l	18.75	10	
quarterly	KTK15D	Dissolved Magnesium	TM30/PM14	quarterly	32	31.6	mg/l		50	
quarterly	KTK15D	Dissolved Manganese	TM30/PM14	quarterly	1426	843.5	ug/l		50	
quarterly	KTK15D	Dissolved Mercury	TM30/PM14	quarterly	<1	<1	ug/l		1	
quarterly	KTK15D	Dissolved Nickel	TM30/PM14	quarterly	21	13.75	ug/l	15		

Groundwater/Soil monitoring template					Lic No:	W0081-04		Year	2014	
quarterly	KTK15D	Dissolved Phosphorus	TM30/PM14	quarterly	831	221.75	ug/l			
quarterly	KTK15D	Dissolved Potassium	TM30/PM14	quarterly	32.4	30.85	mg/l		5	
quarterly	KTK15D	Dissolved Selenium	TM30/PM14	quarterly	<3	<3	ug/l			
quarterly	KTK15D	Dissolved Sodium	TM30/PM14	quarterly	20.6	19.95	mg/l	150		
quarterly	KTK15D	Dissolved Zinc	TM30/PM14	quarterly	92	33.75	ug/l		100	
quarterly	KTK15D	Total Phenols HPLC	TM26/PM0	quarterly	0.2	<0.1	mg/l		0.5	
quarterly	KTK15D	Fluoride	TM27/PM0	quarterly	<0.3	<0.3	mg/l		1	
quarterly	KTK15D	Sulphate	TM38/PM0	quarterly	111.65	91.7025	mg/l	187.5		
quarterly	KTK15D	Chloride	TM38/PM0	quarterly	48.6	40.575	mg/l	187.5		
quarterly	KTK15D	Nitrate as NO3	TM38/PM0	quarterly	15.1	9.3325	mg/l	37.5		
quarterly	KTK15D	Nitrite as NO2	TM38/PM0	quarterly	4.03	1.38	mg/l	0.375		
quarterly	KTK15D	Ortho Phosphate as PO4	TM38/PM0	quarterly	2.53	<0.06	mg/l		0.03	
quarterly	KTK15D	Ammoniacal Nitrogen as N	TM38/PM0	quarterly	4.37	1.125	mg/l	0.065-0.175	0.15	
quarterly	KTK15D	Total Alkalinity as CaCO3	TM75/PM0	quarterly	832	745	mg/l		NAC	
quarterly	KTK15D	Dissolved Oxygen	TM59/PM0	quarterly	8	6.5	mg/l			
quarterly	KTK15D	Electrical Conductivity	TM76/PM0	quarterly	1606	1498.25	uS/cm	800-1,875	1000	
quarterly	KTK15D	Total Organic Carbon	TM60/PM0	quarterly	6	3.25	mg/l			SELECT

.+ where average indicates arithmetic mean

.++ maximum concentration indicates the maximum measured concentration from all monitoring results produced during the reporting year

Table 2: Downgradient Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	Unit	GTV's*	IGV	Upward trend in yearly average pollutant concentration over last 5 years of monitoring data
quarterly	97-4D	Dissolved Arsenic	TM30/PM14	quarterly	<2.5	<2.5	ug/l	7.5	10	
quarterly	97-4D	Dissolved Barium	TM30/PM14	quarterly	36	29.25	ug/l		100	
quarterly	97-4D	Dissolved Boron	TM30/PM14	quarterly	18	12.5	ug/l	750		
quarterly	97-4D	Dissolved Cadmium	TM30/PM14	quarterly	<0.5	<0.5	ug/l	5		
quarterly	97-4D	Dissolved Calcium	TM30/PM14	quarterly	119.3	107.925	mg/l	200		
quarterly	97-4D	Total Dissolved Chromium	TM30/PM14	quarterly	<1.5	<1.5	ug/l	37.5	30	
quarterly	97-4D	Dissolved Copper	TM30/PM14	quarterly	<7	<7	ug/l	1500	30	
quarterly	97-4D	Total Dissolved Iron	TM30/PM14	quarterly	<20	<20	ug/l		200	
quarterly	97-4D	Dissolved Lead	TM30/PM14	quarterly	<5	<5	ug/l	18.75	10	
quarterly	97-4D	Dissolved Magnesium	TM30/PM14	quarterly	6.5	5.55	mg/l		50	
quarterly	97-4D	Dissolved Manganese	TM30/PM14	quarterly	6	<2	ug/l		50	
quarterly	97-4D	Dissolved Mercury	TM30/PM14	quarterly	<1	<1	ug/l		1	
quarterly	97-4D	Dissolved Nickel	TM30/PM14	quarterly	<2	<2	ug/l	15		
quarterly	97-4D	Dissolved Phosphorus	TM30/PM14	quarterly	8	4.75	ug/l			
quarterly	97-4D	Dissolved Potassium	TM30/PM14	quarterly	0.2	<0.1	mg/l		5	
quarterly	97-4D	Dissolved Selenium	TM30/PM14	quarterly	<3	<3	ug/l			
quarterly	97-4D	Dissolved Sodium	TM30/PM14	quarterly	3.2	2.425	mg/l	150		
quarterly	97-4D	Dissolved Zinc	TM30/PM14	quarterly	<3	<3	ug/l		100	
quarterly	97-4D	Total Phenols HPLC	TM26/PM0	quarterly	<0.1	<0.1	mg/l		0.5	
quarterly	97-4D	Fluoride	TM27/PM0	quarterly	<0.3	<0.3	mg/l		1	
quarterly	97-4D	Sulphate	TM38/PM0	quarterly	6.21	4.25	mg/l	187.5		
quarterly	97-4D	Chloride	TM38/PM0	quarterly	6.5	4.925	mg/l	187.5		
quarterly	97-4D	Nitrate as NO3	TM38/PM0	quarterly	6.6	2.9825	mg/l	37.5		
quarterly	97-4D	Nitrite as NO2	TM38/PM0	quarterly	1.73	<0.02	mg/l	0.375		

Groundwater/Soil monitoring template					Lic No:	W0081-04		Year	2014	
quarterly	97-4D	Ortho Phosphate as PO4	TM38/PM0	quarterly	<0.06	<0.06	mg/l		0.03	
quarterly	97-4D	Ammoniacal Nitrogen as N	TM38/PM0	quarterly	0.03	0.0225	mg/l	0.065-0.175	0.15	
quarterly	97-4D	Total Alkalinity as CaCO3	TM75/PM0	quarterly	346	288.5	mg/l		NAC	
quarterly	97-4D	Dissolved Oxygen	TM59/PM0	quarterly	9	8	mg/l			
quarterly	97-4D	Electrical Conductivity	TM76/PM0	quarterly	593	537.5	uS/cm	800-1,875	1000	
quarterly	97-4D	Total Organic Carbon	TM60/PM0	quarterly	6	<2	mg/l			
monthly	97-5D	Dissolved Arsenic	TM30/PM14	monthly	5.2	<2.5	ug/l	7.5	10	
monthly	97-5D	Dissolved Barium	TM30/PM14	monthly	191	125	ug/l		100	
monthly	97-5D	Dissolved Boron	TM30/PM14	monthly	148	99.625	ug/l	750		
monthly	97-5D	Dissolved Cadmium	TM30/PM14	monthly	<0.5	<0.5	ug/l	5		
monthly	97-5D	Dissolved Calcium	TM30/PM14	monthly	163.6	151.175	mg/l	200		
monthly	97-5D	Total Dissolved Chromium	TM30/PM14	monthly	<1.5	<1.5	ug/l	37.5	30	
monthly	97-5D	Dissolved Copper	TM30/PM14	monthly	<7	<7	ug/l	1500	30	
monthly	97-5D	Total Dissolved Iron	TM30/PM14	monthly	<20	<20	ug/l		200	
monthly	97-5D	Dissolved Lead	TM30/PM14	monthly	<5	<5	ug/l	18.75	10	
monthly	97-5D	Dissolved Magnesium	TM30/PM14	monthly	19.1	17.525	mg/l		50	
monthly	97-5D	Dissolved Manganese	TM30/PM14	monthly	1061	619	ug/l		50	
monthly	97-5D	Dissolved Mercury	TM30/PM14	monthly	<1	<1	ug/l		1	
monthly	97-5D	Dissolved Nickel	TM30/PM14	monthly	7	3.5	ug/l	15		
monthly	97-5D	Dissolved Phosphorus	TM30/PM14	monthly	21	12.25	ug/l			
monthly	97-5D	Dissolved Potassium	TM30/PM14	monthly	4.4	3.0875	mg/l		5	
monthly	97-5D	Dissolved Selenium	TM30/PM14	monthly	<3	<3	ug/l			
monthly	97-5D	Dissolved Sodium	TM30/PM14	monthly	65.3	44.925	mg/l	150		
monthly	97-5D	Dissolved Zinc	TM30/PM14	monthly	8	<3	ug/l		100	
monthly	97-5D	Total Phenols HPLC	TM26/PM0	monthly	0.2	<0.1	mg/l		0.5	
monthly	97-5D	Fluoride	TM27/PM0	monthly	<0.3	<0.3	mg/l		1	
monthly	97-5D	Sulphate	TM38/PM0	monthly	120.77	49.37375	mg/l	187.5		
monthly	97-5D	Chloride	TM38/PM0	monthly	68.1	50.6125	mg/l	187.5		
monthly	97-5D	Nitrate as NO3	TM38/PM0	monthly	12.4	7.828571429	mg/l	37.5		
monthly	97-5D	Nitrite as NO2	TM38/PM0	monthly	1.63	<0.02	mg/l	0.375		
monthly	97-5D	Ortho Phosphate as PO4	TM38/PM0	monthly	<0.06	<0.06	mg/l		0.03	
monthly	97-5D	Ammoniacal Nitrogen as N	TM38/PM0	monthly	2.99	1.3825	mg/l	0.065-0.175	0.15	
monthly	97-5D	Total Alkalinity as CaCO3	TM75/PM0	monthly	472	430.25	mg/l		NAC	
monthly	97-5D	Dissolved Oxygen	TM59/PM0	monthly	9	6	mg/l			
monthly	97-5D	Electrical Conductivity	TM76/PM0	monthly	1155	1019.125	uS/cm	800-1,875	1000	
monthly	97-5D	Total Organic Carbon	TM60/PM0	monthly	8	4.25	mg/l			
quarterly	97-6D	Dissolved Arsenic	TM30/PM14	quarterly	<2.5	<2.5	ug/l	7.5	10	
quarterly	97-6D	Dissolved Barium	TM30/PM14	quarterly	104	101.25	ug/l		100	
quarterly	97-6D	Dissolved Boron	TM30/PM14	quarterly	61	56.25	ug/l	750		
quarterly	97-6D	Dissolved Cadmium	TM30/PM14	quarterly	<0.5	<0.5	ug/l	5		
quarterly	97-6D	Dissolved Calcium	TM30/PM14	quarterly	154.4	151.125	mg/l	200		
quarterly	97-6D	Total Dissolved Chromium	TM30/PM14	quarterly	<1.5	<1.5	ug/l	37.5	30	
quarterly	97-6D	Dissolved Copper	TM30/PM14	quarterly	<7	<7	ug/l	1500	30	
quarterly	97-6D	Total Dissolved Iron	TM30/PM14	quarterly	<20	<20	ug/l		200	
quarterly	97-6D	Dissolved Lead	TM30/PM14	quarterly	<5	<5	ug/l	18.75	10	
quarterly	97-6D	Dissolved Magnesium	TM30/PM14	quarterly	19.5	18.725	mg/l		50	
quarterly	97-6D	Dissolved Manganese	TM30/PM14	quarterly	2	<2	ug/l		50	
quarterly	97-6D	Dissolved Mercury	TM30/PM14	quarterly	<1	<1	ug/l		1	
quarterly	97-6D	Dissolved Nickel	TM30/PM14	quarterly	2	<2	ug/l	15		
quarterly	97-6D	Dissolved Phosphorus	TM30/PM14	quarterly	16	14	ug/l			
quarterly	97-6D	Dissolved Potassium	TM30/PM14	quarterly	1.7	1.65	mg/l		5	

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quarterly	97-6D	Dissolved Selenium	TM30/PM14	quarterly	<3	<3	ug/l			
quarterly	97-6D	Dissolved Sodium	TM30/PM14	quarterly	29.8	23.6	mg/l	150		
quarterly	97-6D	Dissolved Zinc	TM30/PM14	quarterly	<3	<3	ug/l		100	
quarterly	97-6D	Total Phenols HPLC	TM26/PM0	quarterly	<0.1	<0.1	mg/l		0.5	
quarterly	97-6D	Fluoride	TM27/PM0	quarterly	<0.3	<0.3	mg/l		1	
quarterly	97-6D	Sulphate	TM38/PM0	quarterly	18.05	17.7275	mg/l	187.5		
quarterly	97-6D	Chloride	TM38/PM0	quarterly	33.6	30.775	mg/l	187.5		
quarterly	97-6D	Nitrate as NO3	TM38/PM0	quarterly	10.9	7.2575	mg/l	37.5		
quarterly	97-6D	Nitrite as NO2	TM38/PM0	quarterly	2.3	<0.02	mg/l	0.375		
quarterly	97-6D	Ortho Phosphate as PO4	TM38/PM0	quarterly	<0.06	<0.06	mg/l		0.03	
quarterly	97-6D	Ammoniacal Nitrogen as N	TM38/PM0	quarterly	0.31	0.275	mg/l	0.065-0.175	0.15	
quarterly	97-6D	Total Alkalinity as CaCO3	TM75/PM0	quarterly	472	444	mg/l		NAC	
quarterly	97-6D	Dissolved Oxygen	TM59/PM0	quarterly	7	5.75	mg/l			
quarterly	97-6D	Electrical Conductivity	TM76/PM0	quarterly	922	882.75	uS/cm	800-1,875	1000	
quarterly	97-6D	Total Organic Carbon	TM60/PM0	quarterly	8	<2	mg/l			
quarterly	97-7D	Dissolved Arsenic	TM30/PM14	quarterly	<2.5	<2.5	ug/l	7.5	10	
quarterly	97-7D	Dissolved Barium	TM30/PM14	quarterly	79	75	ug/l		100	
quarterly	97-7D	Dissolved Boron	TM30/PM14	quarterly	20	12.75	ug/l	750		
quarterly	97-7D	Dissolved Cadmium	TM30/PM14	quarterly	<0.5	<0.5	ug/l	5		
quarterly	97-7D	Dissolved Calcium	TM30/PM14	quarterly	149.3	144.55	mg/l	200		
quarterly	97-7D	Total Dissolved Chromium	TM30/PM14	quarterly	<1.5	<1.5	ug/l	37.5	30	
quarterly	97-7D	Dissolved Copper	TM30/PM14	quarterly	<7	<7	ug/l	1500	30	
quarterly	97-7D	Total Dissolved Iron	TM30/PM14	quarterly	<20	<20	ug/l		200	
quarterly	97-7D	Dissolved Lead	TM30/PM14	quarterly	<5	<5	ug/l	18.75	10	
quarterly	97-7D	Dissolved Magnesium	TM30/PM14	quarterly	19.1	18.275	mg/l		50	
quarterly	97-7D	Dissolved Manganese	TM30/PM14	quarterly	<2	<2	ug/l		50	
quarterly	97-7D	Dissolved Mercury	TM30/PM14	quarterly	<1	<1	ug/l		1	
quarterly	97-7D	Dissolved Nickel	TM30/PM14	quarterly	<2	<2	ug/l	15		
quarterly	97-7D	Dissolved Phosphorus	TM30/PM14	quarterly	13	11.25	ug/l			
quarterly	97-7D	Dissolved Potassium	TM30/PM14	quarterly	0.6	0.6	mg/l		5	
quarterly	97-7D	Dissolved Selenium	TM30/PM14	quarterly	<3	<3	ug/l			
quarterly	97-7D	Dissolved Sodium	TM30/PM14	quarterly	11.3	10.675	mg/l	150		
quarterly	97-7D	Dissolved Zinc	TM30/PM14	quarterly	<3	<3	ug/l		100	
quarterly	97-7D	Total Phenols HPLC	TM26/PM0	quarterly	<0.1	<0.1	mg/l		0.5	
quarterly	97-7D	Fluoride	TM27/PM0	quarterly	<0.3	<0.3	mg/l		1	
quarterly	97-7D	Sulphate	TM38/PM0	quarterly	18.72	17.4325	mg/l	187.5		
quarterly	97-7D	Chloride	TM38/PM0	quarterly	18.7	18.075	mg/l	187.5		
quarterly	97-7D	Nitrate as NO3	TM38/PM0	quarterly	17.4	10.6575	mg/l	37.5		
quarterly	97-7D	Nitrite as NO2	TM38/PM0	quarterly	3.99	<0.02	mg/l	0.375		
quarterly	97-7D	Ortho Phosphate as PO4	TM38/PM0	quarterly	<0.06	<0.06	mg/l		0.03	
quarterly	97-7D	Ammoniacal Nitrogen as N	TM38/PM0	quarterly	<0.03	<0.03	mg/l	0.065-0.175	0.15	
quarterly	97-7D	Total Alkalinity as CaCO3	TM75/PM0	quarterly	426	400	mg/l		NAC	
quarterly	97-7D	Dissolved Oxygen	TM59/PM0	quarterly	7	6.75	mg/l			
quarterly	97-7D	Electrical Conductivity	TM76/PM0	quarterly	859	809.5	uS/cm	800-1,875	1000	
quarterly	97-7D	Total Organic Carbon	TM60/PM0	quarterly	7	<2	mg/l			
quarterly	KTK-10	Dissolved Arsenic	TM30/PM14	quarterly	<2.5	<2.5	ug/l	7.5	10	
quarterly	KTK-10	Dissolved Barium	TM30/PM14	quarterly	31	28.75	ug/l		100	
quarterly	KTK-10	Dissolved Boron	TM30/PM14	quarterly	13	<12	ug/l	750		
quarterly	KTK-10	Dissolved Cadmium	TM30/PM14	quarterly	<0.5	<0.5	ug/l	5		
quarterly	KTK-10	Dissolved Calcium	TM30/PM14	quarterly	76.3	69.075	mg/l	200		
quarterly	KTK-10	Total Dissolved Chromium	TM30/PM14	quarterly	<1.5	<1.5	ug/l	37.5	30	

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quarterly	KTK-10	Dissolved Copper	TM30/PM14	quarterly	<7	<7	ug/l	1500	30	
quarterly	KTK-10	Total Dissolved Iron	TM30/PM14	quarterly	<20	<20	ug/l		200	
quarterly	KTK-10	Dissolved Lead	TM30/PM14	quarterly	<5	<5	ug/l	18.75	10	
quarterly	KTK-10	Dissolved Magnesium	TM30/PM14	quarterly	8.4	7.15	mg/l		50	
quarterly	KTK-10	Dissolved Manganese	TM30/PM14	quarterly	8	<2	ug/l		50	
quarterly	KTK-10	Dissolved Mercury	TM30/PM14	quarterly	<1	<1	ug/l		1	
quarterly	KTK-10	Dissolved Nickel	TM30/PM14	quarterly	<2	<2	ug/l	15		
quarterly	KTK-10	Dissolved Phosphorus	TM30/PM14	quarterly	6	<5	ug/l			
quarterly	KTK-10	Dissolved Potassium	TM30/PM14	quarterly	0.3	0.25	mg/l		5	
quarterly	KTK-10	Dissolved Selenium	TM30/PM14	quarterly	<3	<3	ug/l			
quarterly	KTK-10	Dissolved Sodium	TM30/PM14	quarterly	24.8	18.25	mg/l	150		
quarterly	KTK-10	Dissolved Zinc	TM30/PM14	quarterly	<3	<3	ug/l		100	
quarterly	KTK-10	Total Phenols HPLC	TM26/PM0	quarterly	<0.1	<0.1	mg/l		0.5	
quarterly	KTK-10	Fluoride	TM27/PM0	quarterly	<0.3	<0.3	mg/l		1	
quarterly	KTK-10	Sulphate	TM38/PM0	quarterly	43.76	33.9975	mg/l	187.5		
quarterly	KTK-10	Chloride	TM38/PM0	quarterly	20.3	18.8	mg/l	187.5		
quarterly	KTK-10	Nitrate as NO3	TM38/PM0	quarterly	3.9	2.44	mg/l	37.5		
quarterly	KTK-10	Nitrite as NO2	TM38/PM0	quarterly	0.51	<0.02	mg/l	0.375		
quarterly	KTK-10	Ortho Phosphate as PO4	TM38/PM0	quarterly	<0.06	<0.06	mg/l		0.03	
quarterly	KTK-10	Ammoniacal Nitrogen as N	TM38/PM0	quarterly	<0.03	<0.03	mg/l	0.065-0.175	0.15	
quarterly	KTK-10	Total Alkalinity as CaCO3	TM75/PM0	quarterly	214	182	mg/l		NAC	
quarterly	KTK-10	Dissolved Oxygen	TM59/PM0	quarterly	10	8.75	mg/l			
quarterly	KTK-10	Electrical Conductivity	TM76/PM0	quarterly	486	447.25	uS/cm	800-1,875	1000	
quarterly	KTK-10	Total Organic Carbon	TM60/PM0	quarterly	3	<2	mg/l			
monthly	KTK-11	Dissolved Arsenic	TM30/PM14	monthly	4.2	<2.5	ug/l	7.5	10	
monthly	KTK-11	Dissolved Barium	TM30/PM14	monthly	82	67	ug/l		100	
monthly	KTK-11	Dissolved Boron	TM30/PM14	monthly	123	90.5	ug/l	750		
monthly	KTK-11	Dissolved Cadmium	TM30/PM14	monthly	0.7	<0.5	ug/l	5		
monthly	KTK-11	Dissolved Calcium	TM30/PM14	monthly	181.6	163.625	mg/l	200		
monthly	KTK-11	Total Dissolved Chromium	TM30/PM14	monthly	<1.5	<1.5	ug/l	37.5	30	
monthly	KTK-11	Dissolved Copper	TM30/PM14	monthly	13	<7	ug/l	1500	30	
monthly	KTK-11	Total Dissolved Iron	TM30/PM14	monthly	<20	<20	ug/l		200	
monthly	KTK-11	Dissolved Lead	TM30/PM14	monthly	<5	<5	ug/l	18.75	10	
monthly	KTK-11	Dissolved Magnesium	TM30/PM14	monthly	12.5	11.1875	mg/l		50	
monthly	KTK-11	Dissolved Manganese	TM30/PM14	monthly	2247	1776.5	ug/l		50	
monthly	KTK-11	Dissolved Mercury	TM30/PM14	monthly	<1	<1	ug/l		1	
monthly	KTK-11	Dissolved Nickel	TM30/PM14	monthly	13	8.5	ug/l	15		
monthly	KTK-11	Dissolved Phosphorus	TM30/PM14	monthly	21	14.375	ug/l			
monthly	KTK-11	Dissolved Potassium	TM30/PM14	monthly	6.4	4.4	mg/l		5	
monthly	KTK-11	Dissolved Selenium	TM30/PM14	monthly	<3	<3	ug/l			
monthly	KTK-11	Dissolved Sodium	TM30/PM14	monthly	39.1	28.65	mg/l	150		
monthly	KTK-11	Dissolved Zinc	TM30/PM14	monthly	8	3.6875	ug/l		100	
monthly	KTK-11	Total Phenols HPLC	TM26/PM0	monthly	<0.1	<0.1	mg/l		0.5	
monthly	KTK-11	Fluoride	TM27/PM0	monthly	<0.3	<0.3	mg/l		1	
monthly	KTK-11	Sulphate	TM38/PM0	monthly	161.85	113.45	mg/l	187.5		
monthly	KTK-11	Chloride	TM38/PM0	monthly	47.4	35.05	mg/l	187.5		
monthly	KTK-11	Nitrate as NO3	TM38/PM0	monthly	11	3.69125	mg/l	37.5		
monthly	KTK-11	Nitrite as NO2	TM38/PM0	monthly	0.07	<0.02	mg/l	0.375		
monthly	KTK-11	Ortho Phosphate as PO4	TM38/PM0	monthly	<0.06	<0.06	mg/l		0.03	
monthly	KTK-11	Ammoniacal Nitrogen as N	TM38/PM0	monthly	3.93	1.67875	mg/l	0.065-0.175	0.15	
monthly	KTK-11	Total Alkalinity as CaCO3	TM75/PM0	monthly	440	374.25	mg/l		NAC	

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monthly	KTK-11	Dissolved Oxygen	TM59/PM0	monthly	8	6.125	mg/l				
monthly	KTK-11	Electrical Conductivity	TM76/PM0	monthly	1052	945.625	uS/cm		800-1,875	1000	
monthly	KTK-11	Total Organic Carbon	TM60/PM0	monthly	10	4.5	mg/l				
quarterly	KTK-19	Dissolved Arsenic	TM30/PM14	quarterly	<2.5	<2.5	ug/l		7.5	10	
quarterly	KTK-19	Dissolved Barium	TM30/PM14	quarterly	158	148	ug/l			100	
quarterly	KTK-19	Dissolved Boron	TM30/PM14	quarterly	33	31	ug/l		750		
quarterly	KTK-19	Dissolved Cadmium	TM30/PM14	quarterly	<0.5	<0.5	ug/l		5		
quarterly	KTK-19	Dissolved Calcium	TM30/PM14	quarterly	92.9	90.225	mg/l		200		
quarterly	KTK-19	Total Dissolved Chromium	TM30/PM14	quarterly	<1.5	<1.5	ug/l		37.5	30	
quarterly	KTK-19	Dissolved Copper	TM30/PM14	quarterly	<7	<7	ug/l		1500	30	
quarterly	KTK-19	Total Dissolved Iron	TM30/PM14	quarterly	<20	<20	ug/l			200	
quarterly	KTK-19	Dissolved Lead	TM30/PM14	quarterly	<5	<5	ug/l		18.75	10	
quarterly	KTK-19	Dissolved Magnesium	TM30/PM14	quarterly	24.7	23.525	mg/l			50	
quarterly	KTK-19	Dissolved Manganese	TM30/PM14	quarterly	925	696.5	ug/l			50	
quarterly	KTK-19	Dissolved Mercury	TM30/PM14	quarterly	<1	<1	ug/l			1	
quarterly	KTK-19	Dissolved Nickel	TM30/PM14	quarterly	<2	<2	ug/l		15		
quarterly	KTK-19	Dissolved Phosphorus	TM30/PM14	quarterly	15	10.75	ug/l				
quarterly	KTK-19	Dissolved Potassium	TM30/PM14	quarterly	1.6	1.45	mg/l			5	
quarterly	KTK-19	Dissolved Selenium	TM30/PM14	quarterly	<3	<3	ug/l				
quarterly	KTK-19	Dissolved Sodium	TM30/PM14	quarterly	20.1	16.275	mg/l		150		
quarterly	KTK-19	Dissolved Zinc	TM30/PM14	quarterly	3	<3	ug/l			100	
quarterly	KTK-19	Total Phenols HPLC	TM26/PM0	quarterly	<3	<3	mg/l			0.5	
quarterly	KTK-19	Fluoride	TM27/PM0	quarterly	0.4	0.3375	mg/l			1	
quarterly	KTK-19	Sulphate	TM38/PM0	quarterly	29.34	26.52	mg/l		187.5		
quarterly	KTK-19	Chloride	TM38/PM0	quarterly	11	10.625	mg/l		187.5		
quarterly	KTK-19	Nitrate as NO3	TM38/PM0	quarterly	0.6	0.3325	mg/l		37.5		
quarterly	KTK-19	Nitrite as NO2	TM38/PM0	quarterly	<0.02	<0.02	mg/l		0.375		
quarterly	KTK-19	Ortho Phosphate as PO4	TM38/PM0	quarterly	<0.06	<0.06	mg/l			0.03	
quarterly	KTK-19	Ammoniacal Nitrogen as N	TM38/PM0	quarterly	0.19	0.135	mg/l		0.065-0.175	0.15	
quarterly	KTK-19	Total Alkalinity as CaCO3	TM75/PM0	quarterly	362	337.5	mg/l			NAC	
quarterly	KTK-19	Dissolved Oxygen	TM59/PM0	quarterly	7	5.5	mg/l				
quarterly	KTK-19	Electrical Conductivity	TM76/PM0	quarterly	646	637	uS/cm		800-1,875	1000	
quarterly	KTK-19	Total Organic Carbon	TM60/PM0	quarterly	5	<2	mg/l				
quarterly	KTK-20	Dissolved Arsenic	TM30/PM14	quarterly	<2.5	<2.5	ug/l		7.5	10	SELECT
quarterly	KTK-20	Dissolved Barium	TM30/PM14	quarterly	221	210.25	ug/l			100	
quarterly	KTK-20	Dissolved Boron	TM30/PM14	quarterly	25	18.75	ug/l		750		
quarterly	KTK-20	Dissolved Cadmium	TM30/PM14	quarterly	<0.5	<0.5	ug/l		5		
quarterly	KTK-20	Dissolved Calcium	TM30/PM14	quarterly	148.8	145.5	mg/l		200		
quarterly	KTK-20	Total Dissolved Chromium	TM30/PM14	quarterly	<1.5	<1.5	ug/l		37.5	30	
quarterly	KTK-20	Dissolved Copper	TM30/PM14	quarterly	<7	<7	ug/l		1500	30	
quarterly	KTK-20	Total Dissolved Iron	TM30/PM14	quarterly	<20	<20	ug/l			200	
quarterly	KTK-20	Dissolved Lead	TM30/PM14	quarterly	<5	<5	ug/l		18.75	10	
quarterly	KTK-20	Dissolved Magnesium	TM30/PM14	quarterly	29.7	29.125	mg/l			50	
quarterly	KTK-20	Dissolved Manganese	TM30/PM14	quarterly	917	829	ug/l			50	
quarterly	KTK-20	Dissolved Mercury	TM30/PM14	quarterly	<1	<1	ug/l			1	
quarterly	KTK-20	Dissolved Nickel	TM30/PM14	quarterly	<2	<2	ug/l		15		
quarterly	KTK-20	Dissolved Phosphorus	TM30/PM14	quarterly	18	12.75	ug/l				
quarterly	KTK-20	Dissolved Potassium	TM30/PM14	quarterly	1.6	1.425	mg/l			5	
quarterly	KTK-20	Dissolved Selenium	TM30/PM14	quarterly	<3	<3	ug/l				
quarterly	KTK-20	Dissolved Sodium	TM30/PM14	quarterly	16.6	14.2	mg/l		150		
quarterly	KTK-20	Dissolved Zinc	TM30/PM14	quarterly	5	3.125	ug/l			100	

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quarterly	KTK-20	Total Phenols HPLC	TM26/PM0	quarterly	<0.1	<0.1	mg/l		0.5	
quarterly	KTK-20	Fluoride	TM27/PM0	quarterly	0.4	0.25	mg/l		1	
quarterly	KTK-20	Sulphate	TM38/PM0	quarterly	63.9	60.4325	mg/l	187.5		
quarterly	KTK-20	Chloride	TM38/PM0	quarterly	16.2	15.625	mg/l	187.5		
quarterly	KTK-20	Nitrate as NO3	TM38/PM0	quarterly	0.7	0.2325	mg/l	37.5		
quarterly	KTK-20	Nitrite as NO2	TM38/PM0	quarterly	<0.02	<0.02	mg/l	0.375		
quarterly	KTK-20	Ortho Phosphate as PO4	TM38/PM0	quarterly	<0.06	<0.06	mg/l		0.03	
quarterly	KTK-20	Ammoniacal Nitrogen as N	TM38/PM0	quarterly	0.14	0.1275	mg/l	0.065-0.175	0.15	
quarterly	KTK-20	Total Alkalinity as CaCO3	TM75/PM0	quarterly	628	500.5	mg/l		NAC	
quarterly	KTK-20	Dissolved Oxygen	TM59/PM0	quarterly	8	6	mg/l			
quarterly	KTK-20	Electrical Conductivity	TM76/PM0	quarterly	887	868	uS/cm	800-1,875	1000	
quarterly	KTK-20	Total Organic Carbon	TM60/PM0	quarterly	9	3	mg/l			
quarterly	KTK-21	Dissolved Arsenic	TM30/PM14	quarterly	<2.5	<2.5	ug/l	7.5	10	
quarterly	KTK-21	Dissolved Barium	TM30/PM14	quarterly	75	72.25	ug/l		100	
quarterly	KTK-21	Dissolved Boron	TM30/PM14	quarterly	18	13.5	ug/l	750		
quarterly	KTK-21	Dissolved Cadmium	TM30/PM14	quarterly	<0.5	<0.5	ug/l	5		
quarterly	KTK-21	Dissolved Calcium	TM30/PM14	quarterly	143.4	136.075	mg/l	200		
quarterly	KTK-21	Total Dissolved Chromium	TM30/PM14	quarterly	<1.5	<1.5	ug/l	37.5	30	
quarterly	KTK-21	Dissolved Copper	TM30/PM14	quarterly	<7	<7	ug/l	1500	30	
quarterly	KTK-21	Total Dissolved Iron	TM30/PM14	quarterly	<20	<20	ug/l		200	
quarterly	KTK-21	Dissolved Lead	TM30/PM14	quarterly	<5	<5	ug/l	18.75	10	
quarterly	KTK-21	Dissolved Magnesium	TM30/PM14	quarterly	12.3	11.65	mg/l		50	
quarterly	KTK-21	Dissolved Manganese	TM30/PM14	quarterly	<2	<2	ug/l		50	
quarterly	KTK-21	Dissolved Mercury	TM30/PM14	quarterly	<1	<1	ug/l		1	
quarterly	KTK-21	Dissolved Nickel	TM30/PM14	quarterly	<2	<2	ug/l	15		
quarterly	KTK-21	Dissolved Phosphorus	TM30/PM14	quarterly	14	9.25	ug/l			
quarterly	KTK-21	Dissolved Potassium	TM30/PM14	quarterly	0.4	0.325	mg/l		5	
quarterly	KTK-21	Dissolved Selenium	TM30/PM14	quarterly	<3	<3	ug/l			
quarterly	KTK-21	Dissolved Sodium	TM30/PM14	quarterly	3.2	3.175	mg/l	150		
quarterly	KTK-21	Dissolved Zinc	TM30/PM14	quarterly	<3	<3	ug/l		100	
quarterly	KTK-21	Total Phenols HPLC	TM26/PM0	quarterly	<0.1	<0.1	mg/l		0.5	
quarterly	KTK-21	Fluoride	TM27/PM0	quarterly	<0.3	<0.3	mg/l		1	
quarterly	KTK-21	Sulphate	TM38/PM0	quarterly	4.17	3.02	mg/l	187.5		
quarterly	KTK-21	Chloride	TM38/PM0	quarterly	4.6	3.7	mg/l	187.5		
quarterly	KTK-21	Nitrate as NO3	TM38/PM0	quarterly	1.7	0.7825	mg/l	37.5		
quarterly	KTK-21	Nitrite as NO2	TM38/PM0	quarterly	0.21	<0.02	mg/l	0.375		
quarterly	KTK-21	Ortho Phosphate as PO4	TM38/PM0	quarterly	<0.06	<0.06	mg/l		0.03	
quarterly	KTK-21	Ammoniacal Nitrogen as N	TM38/PM0	quarterly	0.05	0.0275	mg/l	0.065-0.175	0.15	
quarterly	KTK-21	Total Alkalinity as CaCO3	TM75/PM0	quarterly	426	414	mg/l		NAC	
quarterly	KTK-21	Dissolved Oxygen	TM59/PM0	quarterly	8	7.75	mg/l			
quarterly	KTK-21	Electrical Conductivity	TM76/PM0	quarterly	717	685	uS/cm	800-1,875	1000	
quarterly	KTK-21	Total Organic Carbon	TM60/PM0	quarterly	7	<2	mg/l			SELECT

*please note exceedance of generic assessment criteria (GAC) such as a Groundwater Threshold Value (GTV) or an Interim Guideline Value (IGV) or an upward trend in results for a substance indicates that further interpretation of monitoring results is required. In addition to completing the above table, please complete the Groundwater Monitoring Guideline Template Report at the link provided and submit separately through ALDER as a licensee return or as otherwise instructed by the EPA.

Groundwater monitoring template

More information on the use of soil and groundwater standards/ generic assessment criteria (GAC) and risk assessment tools is available in the EPA published guidance (see the link in G31)

Guidance on the Management of Contaminated Land and Groundwater at EPA Licensed Sites (EPA 2013).

Groundwater/Soil monitoring template	Lic No:	W0081-04	Year	2014		
**Depending on location of the site and proximity to other sensitive receptors alternative Receptor based Water Quality standards should be used in addition to the GTV e.g. if the site is close to surface water compare to Surface Water Environmental Quality Standards (SWEQS), If the site is close to a drinking water supply compare results to the Drinking Water Standards (DWS)			Surface water EQS	Groundwater regulations GTV's	Drinking water (private supply) standards	Drinking water (public supply) standards

Groundwater/Soil monitoring template	Lic No:	W0081-04	Year	2014

Table 3: Soil results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit
							SELECT
							SELECT

Where additional detail is required please enter it here in 200 words or less

Environmental Liabilities template	Lic No:	W0081-04	Year	2014

Click here to access EPA guidance on Environmental Liabilities and Financial provision

			Commentary
1	ELRA initial agreement status	SELECT	
2	ELRA review status	SELECT	
3	Amount of Financial Provision cover required as determined by the latest ELRA	Specify	
4	Financial Provision for ELRA status	Submitted and agreed by EPA	
5	Financial Provision for ELRA - amount of cover	Specify	
6	Financial Provision for ELRA - type	SELECT	
7	Financial provision for ELRA expiry date	Enter expiry date	
8	Closure plan initial agreement status	SELECT	
9	Closure plan review status	SELECT	
10	Financial Provision for Closure status	SELECT	
11	Financial Provision for Closure - amount of cover	Specify	
12	Financial Provision for Closure - type	SELECT	
13	Financial provision for Closure expiry date	Enter expiry date	

Environmental Management Programme/Continuous Improvement Programme template

Lic No: W0081-04 Year 2014

Highlighted cells contain dropdown menu click to view

			Additional Information
1	Do you maintain an Environmental Mangement System (EMS) for the site. If yes, please detail in additional information	SELECT	
2	Does the EMS reference the most significant environmental aspects and associated impacts on-site	SELECT	
3	Does the EMS maintain an Environmental Management Programme (EMP) as required in accordance with the licence requirements	SELECT	
4	Do you maintain an environmental documentation/communication system to inform the public on environmental performance of the facility, as required by the licence	SELECT	

Environmental Management Programme (EMP) report

Objective Category	Target	Status (% completed)	How target was progressed	Responsibility	Intermediate outcomes
SELECT		SELECT		SELECT	SELECT
SELECT		SELECT		SELECT	SELECT
SELECT		SELECT		SELECT	SELECT

Noise monitoring summary report	Lic No:	W0081-04	Year	2014

1	Was noise monitoring a licence requirement for the AER period? If yes please fill in table N1 noise summary below	No
2	Was noise monitoring carried out using the EPA Guidance note, including completion of the "Checklist for noise measurement report" included in the guidance note as table 6? (Noise Guidance note NG4)	No
3	Does your site have a noise reduction plan	No
4	When was the noise reduction plan last updated?	Enter date
5	Have there been changes relevant to site noise emissions (e.g. plant or operational changes) since the last noise survey?	SELECT

Table N1: Noise monitoring summary

Date of monitoring	Time period	Noise location (on site)	Noise sensitive location -NSL (if applicable)	LA_{eq}	LA_{90}	LA_{10}	LA_{max}	Tonal or Impulsive noise* (Y/N)	If tonal /impulsive noise was identified was 5dB penalty applied?	Comments (ex. main noise sources on site, & extraneous noise ex. road traffic)	Is site compliant with noise limits (day/evening/night)?
								SELECT	SELECT		SELECT

*Please ensure that a tonal analysis has been carried out as per guidance note NG4. These records must be maintained onsite for future inspection

If noise limits exceeded as a result of noise attributed to site activities, please choose the corrective action from the following options? SELECT

** please explain the reason for not taking action/resolution of noise issues?
Any additional comments? (less than 200 words)

Resource Usage/Energy efficiency summary	Lic No:	W0081-04	Year	2014

			Additional information
1	When did the site carry out the most recent energy efficiency audit? Please list the recommendations in table 3 below	Enter date of audit	
2	Is the site a member of any accredited programmes for reducing energy usage/water conservation such as the SEAI programme linked to the right? If yes please list them in additional information	SEAI - Large Industry Energy Network (LIEN) SELECT	
3	Where Fuel Oil is used in boilers on site is the sulphur content compliant with licence conditions? Please state percentage in additional information	SELECT	

Table R1 Energy usage on site

Energy Use	Previous year	Current year	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*
Total Energy Used (MWHrs)	272	223		
Total Energy Generated (MWHrs)	15350	11390	-25.80%	
Total Renewable Energy Generated (MWHrs)				
Electricity Consumption (MWHrs)				
Fossil Fuels Consumption:				
Heavy Fuel Oil (m3)	19.3	12.85		
Light Fuel Oil (m3)				
Natural gas (m3)				
Coal/Solid fuel (metric tonnes)				
Peat (metric tonnes)				
Renewable Biomass				
Renewable energy generated on site				

* where consumption of energy can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.

** where site production information is available please enter percentage increase or decrease compared to previous year

Table R2 Water usage on site

					Water Emissions	Water Consumption	
Water use	Water extracted Previous year m3/yr.	Water extracted Current year m3/yr.	Production +/- % compared to previous reporting year**	Energy Consumption +/- % vs overall site production*	Volume Discharged back to environment(m^3yr):	Volume used i.e not discharged to environment e.g. released as steam m3/yr	Unaccounted for Water:
Groundwater							
Surface water							
Public supply	1.034	0.822	-20.5		0.822		
Recycled water							
Total							

* where consumption of water can be compared to overall site production please enter this information as percentage increase or decrease compared to the previous reporting year.

** where site production information is available please enter percentage increase or decrease compared to previous year

Table R3 Waste Stream Summary

	Total	Landfill	Incineration	Recycled	Other
Hazardous (Tonnes)	12.85			12.85	
Non-Hazardous (Tonnes)					

Resource Usage/Energy efficiency summary Lic No: W0081-04 Year 2014

Table R4: Energy Audit finding recommendations

Date of audit	Recommendations	Description of Measures proposed	Origin of measures	Predicted energy savings %	Implementation date	Responsibility	Completion date	Status and comments
			SELECT					
			SELECT					
			SELECT					

Table R5: Power Generation: Where power is generated onsite (e.g. power generation facilities/food and drink industry)please complete the following information

	Unit ID	Unit ID	Unit ID	Unit ID	Station Total
Technology					
Primary Fuel					
Thermal Efficiency					
Unit Date of Commission					
Total Starts for year					
Total Running Time					
Total Electricity Generated (GWH)					
House Load (GWH)					
KWH per Litre of Process Water					
KWH per Litre of Total Water used on Site					

Complaints and Incidents summary template Lic No: W0081-04 Year 2014

Complaints

Have you received any environmental complaints in the current reporting year? If yes please complete summary details of complaints received on site in table 1 below	SELECT	Additional information

Table 1 Complaints summary

Date	Category	Other type (please specify)	Brief description of complaint (Free txt <20 words)	Corrective action< 20 words	Resolution status	Resolution date	Further information
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		
	SELECT				SELECT		

Total complaints open at start of reporting year	
Total new complaints received during reporting year	
Total complaints closed during reporting year	
Balance of complaints end of reporting year	

Incidents

Have any incidents occurred on site in the current reporting year? Please list all incidents for current reporting year in Table 2 below	SELECT	Additional information

*For information on how to report and what constitutes an incident	What is an incident

Table 2 Incidents summary

Date of occurrence	Incident nature	Location of occurrence	Incident category*please refer to guidance	Receptor	Cause of incident	Other cause(please specify)	Activity in progress at time of incident	Communication	Occurrence	Corrective action<20 words	Preventative action <20 words	Resolution status	Resolution date	Likelihood of reoccurence
	SELECT	SELECT	SELECT	SELECT	SELECT		SELECT	SELECT	SELECT			SELECT		SELECT
	SELECT	SELECT	SELECT	SELECT	SELECT		SELECT	SELECT	SELECT			SELECT		SELECT
	SELECT	SELECT	SELECT	SELECT	SELECT		SELECT	SELECT	SELECT			SELECT		SELECT
	SELECT	SELECT	SELECT	SELECT	SELECT		SELECT	SELECT	SELECT			SELECT		SELECT
	SELECT	SELECT	SELECT	SELECT	SELECT		SELECT	SELECT	SELECT			SELECT		SELECT

Total number of incidents current year	
Total number of incidents previous year	
% reduction/ increase	

WASTE SUMMARY	Lic No:	W0081-04	Year	2014
SECTION A-PRTR ON SITE WASTE TREATMENT AND WASTE TRANSFERS TAB- TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES		PRTR facility logon		dropdown list click to see options

SECTION B- WASTE ACCEPTED ONTO SITE-TO BE COMPLETED BY ALL IPPC AND WASTE FACILITIES

			Additional Information
1	Were any wastes accepted onto your site for recovery or disposal or treatment prior to recovery or disposal within the boundaries of your facility ?; (waste generated within your boundaries is to be captured through PRTR reporting) If yes please enter details in table 1 below	No	
2	Did your site have any rejected consignments of waste in the current reporting year? If yes please give a brief explanation in the additional information	N/A	
3	Was waste accepted onto your site that was generated outside the Republic of Ireland? If yes please state the quantity in tonnes in additional information	N/A	

Table 1 Details of waste accepted onto your site for recovery, disposal or treatment (do not include wastes generated at your site, as these will have been reported in your PRTR workbook)

Licenced annual tonnage limit for your site (total tonnes/annum)	EWC code European Waste Catalogue EWC codes	Source of waste accepted	Description of waste accepted **Please enter an accurate and detailed description - which applies to relevant EWC code** European Waste Catalogue EWC codes	Quantity of waste accepted in current reporting year (tonnes)	Quantity of waste accepted in previous reporting year (tonnes)	Reduction/ Increase over previous year +/ - %	Reason for reduction/ increase from previous reporting year	Packaging Content (%)- only applies if the waste has a packaging component	Disposal/Recovery or treatment operation carried out at your site and the description of this operation	Quantity of waste remaining on site at the end of reporting year (tonnes)	Comments -
	190703	*Ballynagran Landfill Limited (W0165-02)*	*Leachate*	*985.7*	*0*	NA			*D9-Physico-Chemical treatment n*	*0*	

SECTION C-TO BE COMPLETED BY ALL WASTE FACILITIES (waste transfer stations, Composters, Material recovery facilities etc) EXCEPT LANDFILL SITES

4	Is all waste processing infrastructure as required by your licence and approved by the Agency in place? If no please list waste processing infrastructure required onsite	SELECT	
5	Is all waste storage infrastructure as required by your licence and approved by the Agency in place? If no please list waste storage infrastructure required on site	SELECT	
6	Does your facility have relevant nuisance controls in place?	SELECT	
7	Do you have an odour management system in place for your facility? If no why?	SELECT	
8	Do you maintain a sludge register on site?	SELECT	

Environmental Protection Agency

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.18

REFERENCE YEAR	2014

1. FACILITY IDENTIFICATION

Parent Company Name	Kilcullen Landfill Limited
Facility Name	Kilcullen Landfill Limited
PRTR Identification Number	W0081
Licence Number	W0081-04

Classes of Activity

No.	**class_name**
-	Refer to PRTR class activities below

Address 1	Brownstown and Carnalway
Address 2	Kilcullen
Address 3	
Address 4	
	Kildare
Country	Ireland
Coordinates of Location	-6.71785 53.1451
River Basin District	IEEA
NACE Code	3821
Main Economic Activity	Treatment and disposal of non-hazardous waste
AER Returns Contact Name	Tomas Fingleton
AER Returns Contact Email Address	tomas.fingleton@landfills.ie
AER Returns Contact Position	Landfill Manager
AER Returns Contact Telephone Number	0867741813
AER Returns Contact Mobile Phone Number	0867741813
AER Returns Contact Fax Number	045 482629
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	1
User Feedback/Comments	The levels of various parameters reported in the air emissions section show variances when compared to the 2013 PRTR due to the use of a revised GasSim model for the site.
Web Address	

2. PRTR CLASS ACTIVITIES

Activity Number	**Activity Name**
5(d)	Landfills
5(c)	Installations for the disposal of non-hazardous waste
5(d)	Landfills
50.1	General

3. SOLVENTS REGULATIONS (S.I. No. 543 of 2002)

Is it applicable?	
Have you been granted an exemption ?	
If applicable which activity class applies (as per Schedule 2 of the regulations) ?	
Is the reduction scheme compliance route being used ?	

4. WASTE IMPORTED/ACCEPTED ONTO SITE

Guidance on waste imported/accepted onto site

Do you import/accept waste onto your site for on-site treatment (either recovery or disposal activities) ?	

This question is only applicable if you are an IPPC or Quarry site

4.1 RELEASES TO AIR

Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs						
POLLUTANT		METHOD							QUANTITY		
			Method Used		Flare 1	Engine 1	Engine 2	Engine 3			
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	Emission Point 2	Emission Point 3	Emission Point 4	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
03	**Carbon dioxide (CO2)**	C	OTH	Gas sim model 2014	0.0	0.0	0.0	0.0	4136444.0	0.0	4136444.0
01	Methane (CH4)	C	OTH	Gas sim model 2014	0.0	0.0	0.0	0.0	2782551.0	0.0	2782551.0
02	Carbon monoxide (CO)	M	EN 15058:2004	horiba 250	0.0	665.01	664.845	664.68	0.0	0.0	0.0
08	Nitrogen oxides (NOx/NO2)	M	EN 14791:2005	horiba 250	91.84	455.65	22511.825	44568	67627.315	0.0	0.0
11	Sulphur oxides (SOx/SO2)	M	EN 14791:2005	horiba 250	0.0	522.64	490.505	458.37	0.0	0.0	0.0
07	Non-methane volatile organic compounds (NMVOC)	M	ALT	Signal FID 3030PM and TNMHC analyser	0.0	8.5964	7.78685	6.9773	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (As required in your Licence)

RELEASES TO AIR					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

Additional Data Requested from Landfill operators

For the purposes of the National Inventory on Greenhouse Gases, landfill operators are requested to provide summary data on landfill gas (Methane) flared or utilised on their facilities to accompany the figures for total methane generated. Operators should only report their Net methane (CH4) emission to the environment under T(total) KG/yr for Section A: Sector specific PRTR pollutants above. Please complete the table below:

Landfill: Kilcullen Landfill Limited

Please enter summary data on the quantities of methane flared and / or utilised			Method Used			
	T (Total) kg/Year	**M/C/E**	**Method Code**	**Designation or Description**	**Facility Total Capacity m3 per hour**	
Total estimated methane generation (as per site model)	5483193.0	C	other	Gas Sim model 2014	N/A	
Methane flared	631482.0	M	calculated	EPA-Bernard hyde model	0.0	(Total Flaring Capacity)
Methane utilised in engine/s	2069160.0	M	calculated	EPA-Bernard hyde model	0.0	(Total Utilising Capacity)
Net methane emission (as reported in Section A above)	2782551.0	C	other	Gas Sim model 2014	N/A	

4.2 RELEASES TO WATERS

Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

Data on ambient monitoring of storm/surface water or groundwater, conducted as part of your licence requirements, should NOT be submitted under AER / PRTR Reporting as this only conc

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING PRTR POLLUTANTS

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION C : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

4.3 RELEASES TO WASTEWATER OR SEWER

Link to previous years emissions data

SECTION A : PRTR POLLUTANTS

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

OFFSITE TRANSFER OF POLLUTANTS DESTINED FOR WASTE-WATER TREATMENT OR SEWER					Please enter all quantities in this section in KGs			
POLLUTANT		METHOD			QUANTITY			
			Method Used					
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION A : PRTR POLLUTANTS

RELEASES TO LAND					Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
			Method Used				
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

SECTION B : REMAINING POLLUTANT EMISSIONS (as required in your Licence)

RELEASES TO LAND					Please enter all quantities in this section in KGs		
POLLUTANT		METHOD			QUANTITY		
			Method Used				
Pollutant No.	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year
					0.0	0.0	0.0

* Select a row by double-clicking on the Pollutant Name (Column B) then click the delete button

Please enter all quantities on this sheet in Tonnes

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	19 07 03	No	11211.0	landfill leachate other than those mentioned in 19 07 02	D8	C	Weighed	Offsite in Ireland	Osberstown wwtp Kildare Coco ,D00**	Kildare County Council Headquarters , , , ,Aras Chill Dara Devoy Park Naas Co. Kildare		
Within the Country	13 02 05	Yes	12.85	mineral-based non-chlorinated engine, gear and lubricating oils	R3	M	Weighed	Offsite in Ireland	RILTA,W0192-03	Greenogue Industrial Estate,Rathcoole,Dublin,- ,ireland	RILTA,W0192-03,Greenogue Industrial Estate,Rathcoole ,Dublin,- ,ireland	Greenogue Industrial Estate,Rathcoole ,Dublin,- ,ireland