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Facility Information Summary	
AER Reporting Year	2016
Licence Register Number	W0002-01
Name of site	Ballyguyroe Landfill
Site Location	Ballyguyroe North, Kildorrey Mallow Co. Cork
NACE Code	
Class/Classes of Activity	
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 <b>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.</b>	<p>The landfill facility at Ballyguyroe North has been in operation since 1990, accepting waste at an annual rate of approx 20,000 tonnes . The site reached full capacity and closed for the acceptance of waste on Thursday 27th September 2001. Cork County Council held a waste licence (Register No. 2-1) to operate Ballyguyroe landfill site until March 15th 2004, when it obtained a new licence ( register No 2-2/W 002-02). In accordance with the requirements of Condition 11.3 of the waste licence, an AER for the facility is submitted to the agency annually in March. Ballyguyroe landfill site occupies approx 15 hectares and is located 6km north-west of the village of Kildorrey. The site lies in the Blackwater catchment with the Farahy River flowing southwards within the valley outside the eastern boundary. Surface water from the site drains in to this river. The ground water quality in this area is indicative of the overburden geology, being high in manganese. In 2015 Cork County Council carried out a review of Ballyguyroe license, with the aim of reducing environmental monitoring. This review was approved by the EPA in 2015 (See submission LRO18556). Environmental monitoring is as follows ; Surface water and ground water sampling reduced to twice yearly, perimeter landfill gas monitoring reduced to quarterly, landfill cell gas monitoring reduced to quarterly, meteorological recording reduced to monthly and reporting reduced to twice yearly. AER and annual sampling parameters are unchanged.</p>

**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		Date
Group/Facility manager	Marie Mortell	21/3/2017
(or nominated, suitably qualified and experienced deputy)		

**AIR-summary template** Lic No: W0002-01 Year 2016

Answer all questions and complete all tables where relevant

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

Additional information	
SELECT	n/a

**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

SELECT	
--------	--

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](#)

SELECT	
--------	--

**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 thereof	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
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		
	SELECT			SELECT		SELECT	SELECT	SELECT		

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

<b>AIR-summary template</b>	Lic No: W0002-01	Year: 2016
<b>Continuous Monitoring</b>		

4 Does your site carry out continuous air emissions monitoring?

If yes please review your continuous monitoring data and report the required fields below in Table 3 and compare it to its relevant Emission Limit Value (ELV)

5 Did continuous monitoring equipment experience downtime? If yes please record downtime in table 3 below

6 Do you have a proactive service agreement for each piece of continuous monitoring equipment?

7 Did your site experience any abatement system bypasses? If yes please detail them in table 4 below

**Table A2: Summary of average emissions -continuous monitoring**

Emission reference no:	Parameter/ Substance	ELV in licence or any revision thereof	Averaging Period	Compliance Criteria	Units of measurement	Annual Emission	Annual maximum	Monitoring Equipment downtime (hours)	Number of ELV exceedences in current reporting year	Comments
	SELECT			SELECT	SELECT					
	SELECT				SELECT					
	SELECT				SELECT					
	SELECT				SELECT					
	SELECT				SELECT					

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

<b>AIR-summary template</b>		Lic No: W0002-01	Year: 2016	
<b>Solvent use and management on site</b>				
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	
<b>Table A4: Solvent Management Plan Summary</b>		Please refer to linked solvent regulations to complete table 5 and 6		
<b>Total VOC Emission limit value</b>		<a href="#">Solvent regulations</a>		
Reporting year	Total solvent input on site (kg)	Total VOC emissions to Air from entire site	Total VOC emissions as %of solvent	
			Total Emission Limit Value (ELV) in licence or any revision thereof	
			Compliance	
			SELECT	
			SELECT	
<b>Table A5: Solvent Mass Balance summary</b>				
	(I) Inputs (kg)	(O) Outputs (kg)		
Solvent	(I) Inputs (kg)	Organic solvent emission in	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

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 licensed emissions you only need to complete table W1 and W2 for surface water analysis and visual inspections

no	
no	

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

Table W1 Surface water monitoring

Location reference	Location relative to site activities	PRTR Parameter	Licensed 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
S52	downstream		pH	Quarterly	No ELV or trigger levels	N/A	7.2	pH units	yes	Median Value for 2016
S52	downstream		Temperature	Quarterly	No ELV or trigger levels	N/A	10.69	degrees C	yes	Median Value for 2016
S52	downstream		Conductivity	Quarterly	No ELV or trigger levels	N/A	105.31	µS/cm@25oC	yes	Median Value for 2016
S52	downstream		Dissolved Oxygen	Quarterly	No ELV or trigger levels	N/A	11.05	mg/L	yes	Median Value for 2016
S52	downstream	Chlorides (as Cl)		Quarterly	No ELV or trigger levels	N/A	13.85	mg/L	yes	Median Value for 2016
S52	downstream		BOD	Quarterly	No ELV or trigger levels	N/A	0.83	mg/L	yes	Median Value for 2016
S52	downstream		COD	Quarterly	No ELV or trigger levels	N/A	25.25	mg/L	yes	Median Value for 2016
S52	downstream		Ammonia (as N)	Quarterly	No ELV or trigger levels	N/A	0.02	mg/L	yes	Median Value for 2016
S52	downstream		Suspended Solids	Quarterly	No ELV or trigger levels	N/A	2	mg/L	yes	Median Value for 2016
S52	downstream	Chromium and compounds (as Cr)		Annual	N		1.3	µg/L	y	Annual results 2016
S52	downstream	Copper and compounds (as Cu)		Annual	No ELV or trigger levels	N/A	<1	µg/L	yes	Annual result
S52	downstream	Cadmium and compounds (as Cd)		Annual	No ELV or trigger levels	N/A	<1	µg/L	yes	Annual result
S52	downstream		Iron	Annual	No ELV or trigger levels	N/A	722	µg/L	yes	Annual result
S52	downstream	Lead and compounds (as Pb)		Annual	No ELV or trigger levels	N/A	2.2	µg/L	yes	Annual result
S52	downstream		Magnesium	Annual	No ELV or trigger levels	N/A	1.91	µg/L	yes	Annual result
S52	downstream		Manganese (as Mn)	Annual	No ELV or trigger levels	N/A	28.4	µg/L	yes	Annual result
S52	downstream	Mercury and compounds (as Hg)		Annual	No ELV or trigger levels	N/A	<0.5	µg/L	yes	Annual result
S52	downstream		Potassium	Annual	No ELV or trigger levels	N/A	<1	mg/L	yes	Annual result
S52	downstream		Sulphate	Annual	No ELV or trigger levels	N/A	<0.5	mg/L	yes	Annual result
S52	downstream		Total Oxidised Nitrogen (TON)	Annual	No ELV or trigger levels	N/A	0.23	mg/L	yes	Annual result
S52	downstream	Zinc and compounds (as Zn)		Annual	No ELV or trigger levels	N/A	114	µg/L	yes	Annual result
S52	downstream	Total phosphorus		Annual	No ELV or trigger levels	N/A	0.04	mg/L	yes	Annual result
S55	downstream		pH	Quarterly	No ELV or trigger levels	N/A	7.9	pH units	yes	Annual result for 2016
S55	downstream		Temperature	Quarterly	No ELV or trigger levels	N/A	11.32	degrees C	yes	Median Value for 2016
S55	downstream		Conductivity	Quarterly	No ELV or trigger levels	N/A	258	µS/cm@25oC	yes	Median Value for 2016
S55	downstream		Dissolved Oxygen	Quarterly	No ELV or trigger levels	N/A	10.75	mg/L	yes	Median Value for 2016
S55	downstream	Chlorides (as Cl)		Quarterly	No ELV or trigger levels	N/A	11.05	mg/L	yes	Median Value for 2016
S55	downstream		BOD	Quarterly	No ELV or trigger levels	N/A	0.5	mg/L	yes	Median Value for 2016
S55	downstream		COD	Quarterly	No ELV or trigger levels	N/A	29	mg/L	yes	Median Value for 2016
S55	downstream		Ammonia (as N)	Quarterly	No ELV or trigger levels	N/A	0.05	mg/L	yes	Median Value for 2016
S55	downstream		Suspended Solids	Quarterly	No ELV or trigger levels	N/A	2	mg/L	yes	Median Value for 2016
S55	downstream	Chromium and compounds (as Cr)		Annual			<1	µg/L	yes	
S55	downstream	Copper and compounds (as Cu)		Annual	No ELV or trigger levels	N/A	1.9	µg/L	yes	Annual result for 2016
S55	downstream	Cadmium and compounds (as Cd)		Annual	No ELV or trigger levels	N/A	<1	µg/L	yes	Annual result for 2016
S55	downstream		Iron	Annual	No ELV or trigger levels	N/A	258	µg/L	yes	Annual result for 2016
S55	downstream	Lead and compounds (as Pb)		Annual	No ELV or trigger levels	N/A	2.9	µg/L	yes	Annual result for 2016
S55	downstream		Magnesium	Annual	No ELV or trigger levels	N/A	2.92	µg/L	yes	Annual result for 2016

rns summary template-WATER/WASTEWATER(SEWER)				Lic No:	W0002-01	Year	2016			
S55	downstream		Manganese (as Mn)	Annual	No ELV or trigger levels	N/A	19.1	µg/L	yes	Annual result for 2016
S55	downstream	Mercury and compounds (as Hg)		Annual	No ELV or trigger levels	N/A	<0.5	µg/L	yes	Annual result for 2016
S55	downstream		Potassium	Annual	No ELV or trigger levels	N/A	1.4	mg/L	yes	Annual result for 2016
S55	downstream		Sulphate	Annual	No ELV or trigger levels	N/A	0.91	mg/L	yes	Annual result for 2016
S55	downstream		Total Oxidised Nitrogen (TON)	Annual	No ELV or trigger levels	N/A	<0.2	mg/L	yes	Annual result for 2016
S55	downstream	Zinc and compounds (as Zn)		Annual	No ELV or trigger levels	N/A	43.1	µg/L	yes	Annual result for 2016
S55	downstream	Total phosphorus		annual	No ELV or trigger levels	N/A	<0.04	mg/L	yes	Annual result for 2016
R51	downstream		pH		No ELV or trigger levels	N/A	7.2	pH units	yes	Median vaule for 2016
R51	downstream		Temperature		No ELV or trigger levels	N/A	11.67	degrees C	yes	Median vaule for 2016
R51	downstream		Conductivity		No ELV or trigger levels	N/A	105.6	µS/cm@25oC	yes	Median vaule for 2016
R51	downstream		Dissolved Oxygen	mg/l	No ELV or trigger levels	N/A	10.73	mg/L	yes	Median vaule for 2016
R51	downstream	Chlorides (as Cl)		mg/l	No ELV or trigger levels	N/A	13.9	mg/L	yes	Median vaule for 2016. Tidal influence.
R51	downstream		BOD	mg/l	No ELV or trigger levels	N/A	0.8	mg/L	yes	Median vaule for 2016
R51	downstream		COD	mg/l	No ELV or trigger levels	N/A	26.50	mg/L	yes	Median vaule for 2016
R51	downstream		Ammonia (as N)	mg/l	No ELV or trigger levels	N/A	0.02	mg/L	yes	Median vaule for 2016
R51	downstream		Suspended Solids	mg/l	No ELV or trigger levels	N/A	1	mg/L	yes	Median vaule for 2016
R51	downstream	Chromium and compounds (as Cr)		ug/l	No ELV or trigger levels	N/A	4.9	µg/L	yes	annual result
R51	downstream	Copper and compounds (as Cu)		ug/l	No ELV or trigger levels	N/A	<1	µg/L	yes	Median vaule for 2016
R51	downstream	Cadmium and compounds (as Cd)		ug/l	No ELV or trigger levels	N/A	<1	µg/L	yes	Annual result for 2016
R51	downstream		Iron	ug/l	No ELV or trigger levels	N/A	341	µg/L	yes	Annual result for 2016
R51	downstream	Lead and compounds (as Pb)		ug/l	No ELV or trigger levels	N/A	<1	µg/L	yes	Annual result for 2016
R51	downstream		Magnesium	mg/l	No ELV or trigger levels	N/A	1.9	µg/L	yes	Annual result for 2016
R51	downstream		Manganese (as Mn)	ug/l	No ELV or trigger levels	N/A	14.8	µg/L	yes	Annual result for 2016. EGS limit is
R51	downstream	Mercury and compounds (as Hg)		ug/l	No ELV or trigger levels	N/A	<0.5	µg/L	yes	Annual result for 2016.
R51	downstream		Potassium	mg/l	No ELV or trigger levels	N/A	<1	mg/L	yes	Annual result for 2016
R51	downstream		Sulphate	mg/l			<0.5	mg/L	yes	Annual result for 2016.
R51	downstream		Total Oxidised Nitrogen (TON)	mg/l	No ELV or trigger levels	N/A	0.22	mg/L	yes	Annual result for 2016
R51	downstream	Zinc and compounds (as Zn)		ug/l	No ELV or trigger levels	N/A	<25	µg/L	yes	Annual result for 2016
R51	downstream	Total phosphorus		mg/l	No ELV or trigger levels	N/A	<0.04	mg/L	yes	Annual result for 2016
R52	upstream		pH	Quarterly	No ELV or trigger levels	N/A	7.3	pH units	yes	Median vaule for 2016
R52	upstream		Temperature	Quarterly	No ELV or trigger levels	N/A	11.3	degrees C	yes	Median vaule for 2016
R52	upstream		Conductivity	Quarterly	No ELV or trigger levels	N/A	116	µS/cm@25oC	yes	Median vaule for 2016
R52	upstream		Dissolved Oxygen	Quarterly	No ELV or trigger levels	N/A	10.85	mg/L	yes	Median vaule for 2016
R52	upstream	Chlorides (as Cl)		Quarterly	No ELV or trigger levels	N/A	14.2	mg/L	yes	Median vaule for 2016
R52	upstream		BOD	Quarterly	No ELV or trigger levels	N/A	1.18	mg/L	yes	Median vaule for 2016
R52	upstream		COD	Quarterly	No ELV or trigger levels	N/A	21.25	mg/L	yes	Median vaule for 2016.
R52	upstream		Ammonia (as N)	Quarterly	No ELV or trigger levels	N/A	0.01	mg/L	yes	Median vaule for 2016
R52	upstream		Suspended Solids	Annual		n/a	1	mg/L	yes	Annual results
R52	upstream	Chromium and compounds (as Cr)		Annual	No ELV or trigger levels	N/A	1.2	µg/L	yes	Annual result for 2016
R52	upstream	Copper and compounds (as Cu)		Annual	No ELV or trigger levels	N/A	2.6	µg/L	yes	Annual result for 2016
R52	upstream	Cadmium and compounds (as Cd)		Annual	No ELV or trigger levels	N/A	<1	µg/L	yes	Annual result for 2016
R52	upstream		Iron	Annual	No ELV or trigger levels	N/A	726	µg/L	yes	Annual result for 2016.
R52	upstream	Lead and compounds (as Pb)		Annual	No ELV or trigger levels	N/A	<1	µg/L	yes	Annual result for 2016
R52	upstream		Magnesium	Annual	No ELV or trigger levels	N/A	1.89	µg/L	yes	Annual result for 2016.
R52	upstream		Manganese (as Mn)	Annual	No ELV or trigger levels	N/A	28.9	µg/L	yes	Annual result for 2016
R52	upstream	Mercury and compounds (as Hg)		Annual	No ELV or trigger levels	N/A	<0.5	µg/L	yes	Annual result for 2016
R52	upstream		Potassium	Annual	No ELV or trigger levels		<1	mg/L	yes	Annual result for 2016
R52	upstream		Sulphate	Annual	No ELV or trigger levels	N/A	<0.5	mg/L	yes	Annual result for 2016



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RS2	upstream	Total Oxidised Nitrogen (TON)	Annual	No ELV or trigger levels	N/A	0.22	mg/L	yes	Annual result for 2016
RS2	upstream	Zinc and compounds (as Zn)	Annual	No ELV or trigger levels	N/A	<25	µg/L	yes	Annual result for 2016
RS2	upstream	Total phosphorus	Annual	No ELV or trigger levels	N/A	0.04	mg/L	yes	Annual result for 2016

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

3 Was there any result in breach of licence requirements? If yes please provide brief details in the comment section of Table W3 below

SELECT	Additional information
SELECT	

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](#) [Assessment of results](#) [Quality checklist](#) [checklist](#)

SELECT
--------

ter 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 <sup>1</sup>	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
SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT	SELECT			

trick 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

**Continuous monitoring**

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

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

7 Do you have a proactive service contract for each piece of continuous monitoring equipment on site?

8 Did abatement system bypass occur during the reporting year? If yes please complete table W5 below

**many 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
	<input type="text" value="SELECT"/>	<input type="text" value="SELECT"/>		<input type="text" value="SELECT"/>	<input type="text" value="SELECT"/>	<input type="text" value="SELECT"/>					
	<input type="text" value="SELECT"/>	<input type="text" value="SELECT"/>		<input type="text" value="SELECT"/>	<input type="text" value="SELECT"/>	<input type="text" value="SELECT"/>					

ric flow shall be included as a reportable parameter.

**5: 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?
						<input type="text" value="SELECT"/>	

in or proposed to reduce or limit bypass frequency

**Bund testing**

dropdown menu click to see options

Additional information

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**

- 1 Please provide integrity testing frequency period
- 2 Does the site maintain a register of bunds, underground pipelines (including stormwater and foul), Tanks, sumps and containers? (containers refers to "Chemstore")
- 3 type units and mobile bunds)
- 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?
- 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?

SELECT	n/a
SELECT	
SELECT	
SELECT	
SELECT	
SELECT	
SELECT	
SELECT	
SELECT	

- Please list any sump integrity failures in table B1**
- 11 Do all sumps and chambers have high level liquid alarms?
  - 12 If yes to Q11 are these failsafe systems included in a maintenance and testing programme?

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

Has integrity testing been carried out in accordance with licence requirements and are all structures tested in line with BS8007/EPA Guidance?

- 14 [bundings and storage guidelines](#)
- 15 Are channels/transfer systems to remote containment systems tested?
- 16 Are channels/transfer systems compliant in both integrity and available volume?

SELECT	
SELECT	
SELECT	

**Pipeline/underground structure testing**

- 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
- 1 underground structures and pipelines on site **which failed the integrity test**
  - 2 Please provide integrity testing frequency period

SELECT	
SELECT	

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

soil monitoring template		Lic No:	W0002-01	Year	2016
					Comments
1	Are you required to carry out groundwater monitoring as part of your licence requirements?	yes			
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	Is there contaminated land and /or groundwater on site? If yes please answer q's 5-12	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?	yes			
10	Has a Conceptual Site Model been developed for the site?	yes			
11	Have potential receptors been identified on and off site?	yes			
12	Is there evidence that contamination is migrating offsite?	no			

#### groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration++	Average Concentration+	unit	GTV's*	SW EQS	Upward trend in pollutant concentration over last 5 years of monitoring data
Quarterly	981s	pH	Meter	Quarterly	11.4	9.9	SELECT		9.5	no
Quarterly		Temp	Meter	Quarterly	639	511			25	no
Quarterly		Elec. Conductivity	Meter	Quarterly	48.6	26.0		800-1875	1000	no
Quarterly		Chlorides	titration	Quarterly	0.03	0.02	mg/l	24-187.5	250	no
Quarterly		Ammoniacal Nitrogen	ISE	Quarterly	0.06	0.06	mg/l	0.065-0.175		no
22/8/2016		Iron	ICP	annual	<0.2	<0.2	ug/l		0.2	no
19/8/2016		TON	HACH	annual	1.9	1.3	ug/l	-	No abnormal change	no
quarterly		TOC	TOC analyser	Quarterly	<1	<1	mg/l			no
22/8/2016		Cadmium	ICP	Annual	<1	<1	ug/l	-	0.005	no
22/8/2016		Chromium (total)	ICP	Annual	3.6	3.6	ug/l	37.5	0.03	no
22/8/2016		Copper	COLORIMETRY	Annual	<0.01	<0.01	ug/l	1500	0.03	no
22/8/2016		Cyanide (Total)	ICP	Annual	<1	<1	ug/l	-	0.01	no
22/8/2016		Lead	ICP	Annual	6.06	6.06	ug/l	18.75	0.01	no
22/8/2016		Magnesium	ICP	Annual	833	833	mg/l	-	50	no
22/8/2016		Manganese	ICP	Annual	<0.5	<0.5	ug/l	-	0.05	no
22/8/2016		Mercury	ICP	Annual	<1	<1	ug/l	0.75	0.001	no
22/8/2016		Nickle	ICP	Annual	1	1	ug/l	15	0.02	no
22/8/2016		Potassium	ICP	Annual	2.18	2.18	mg/l	-	5	no
22/8/2016		Sulphate	Aquakem auto analyser	Annual	336	336	mg/l	187.5	200	no
22/8/2016		Total Alkalinity	icp	Annual	0.06	0.06	mg/l	-		no
22/8/2016		Total Phosphorus	spectrophotometry	Annual	<0.01	<0.01	mg/l	0.09		no
22/8/2016		Naphthalene	GC-MS	Annual	<0.01	<0.01	ug/l		0.5	no

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22/8/2016		Acenaphthylene	GC-MS	Annual	<0.01	<0.01	ug/l		no
22/8/2016		Anthracene	GC-MS	Annual	<0.01	<0.01	ug/l		no
22/8/2016		Chrysene	GC-MS	Annual	0.01	0.01	ug/l	1	no
22/8/2016		Fluoranthene	GC-MS	Annual	<0.01	<0.01	ug/l		no
22/8/2016		Fluorene	GC-MS	Annual	0.01	0.01	ug/l		no
22/8/2016		Pyrene	GC-MS	Annual	0.01	0.01	ug/l	12	no
22/8/2016		Phenanthrene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Bromodichloromethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Bromoform	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Chloroform	GC-MS	Annual			ug/l		no
22/8/2016		Dibromochloromethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Dibromochloromethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Vinyl Chloride	GC-MS	Annual			ug/l	2	no
22/8/2016		Chloromethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Trichloroethene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Bromomethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Trichloromonofluoromethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		11 Dichloroethene	GC-MS	Annual	<1	<1	ug/l	0.03	no
22/8/2016		Chloromethane	GC-MS	Annual	<1	<1	ug/l	0.1	no
22/8/2016		1,1-dichloroethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		11 Dichloropropene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		12 Dichloroethane	GC-MS	Annual	<1	<1	ug/l	2.25	no
22/8/2016		1,2-dichloropropane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		1,1,1-trichloroethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		112 Trichloroethane	GC-MS	Annual			ug/l		no
22/8/2016		1,3-dichloropropane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2-Hexanone	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		1,2-dibromoethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Chlorobenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		1,1,1,2-tetrachloroethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Ethylbenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Xylene P&M	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Styrene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Isopropylbenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		1,1,2,2-tetrachloroethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		1,2,3-trichloropropane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Propylbenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2-chlorotoluene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		4-chlorotoluene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		1,3,5-trimethylbenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Tert Butyl Benzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		1,2,4-trimethylbenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		sec-butylbenzene	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		Pentachlorophenol	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Tetrachloroethene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Hexachlorobenzene	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		Hexachlorobutadiene	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		2,4,6-Trichlorophenol	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		2,4-Dichlorophenol	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2,4-Dimethylphenol	GC-MS	Annual	<5	<5	ug/l		no

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22/8/2016		2-Chlorophenol	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		1,2,4-trichlorobenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		1,2-dichlorobenzene	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		1,3-dichlorobenzene	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		1,4-dichlorobenzene	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		2,4,5-Trichlorophenol	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2,4-Dinitrotoluene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2,6-Dinitrotoluene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2-Chloronaphthalene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2-Methylnaphthalene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2-Methylphenol	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2-Nitrophenol	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		4-Bromophenyl Phenyl Ether	GC-MS	Annual	<1	<1	ug/l	10	no
22/8/2016		4-Chloro-3-methylphenol	GC-MS	Annual	<1	<1	ug/l	10	no
22/8/2016		4-Chlorophenyl phenyl ether	GC-MS	Annual			ug/l		no
22/8/2016		4-Nitrophenol	GC-MS	Annual	0.01	0.01	ug/l		no
22/8/2016		Acenaphthene	GC-MS	Annual	0.01	0.01	ug/l		no
22/8/2016		Benzo(a)anthracene	GC-MS	Annual	<0.01	<0.01	ug/l		no
22/8/2016		Benzo(a)pyrene	GC-MS	Annual	<0.01	<0.01	ug/l	0.0075	no
22/8/2016		Benzo(b)fluoranthene	GC-MS	Annual	<0.01	<0.01	ug/l		no
22/8/2016		Benzo(g,h,i)perylene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Benzyl Butyl Phthalate	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Bis(2-chloroethoxy)methane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Bis(2-chloroethyl)ether	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Bis(2-chloroisopropyl)ether	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Bis(2-ethylhexyl)phthalate	GC-MS	Annual	<0.01	<0.01	ug/l		no
22/8/2016		Dibenz(a,h)anthracene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Dibenzofuran	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Diethylphthalate	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		di-n-Butylphthalate	GC-MS	Annual	<1	<1	ug/l	30	no
22/8/2016		Di-n-octylphthalate	GC-MS	Annual			ug/l		no
22/8/2016		Diphenylamine	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		Hexachloroethane	GC-MS	Annual	<0.01	<0.01	ug/l		no
22/8/2016		Indeno(1,2,3-c,d)pyrene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Isophorone	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Nitrobenzene	GC-MS	Annual			ug/l		no
22/8/2016		n-Nitrosodi-n-propylamine	GC-MS	Annual			ug/l	500	no
22/8/2016		Acetone	GC-MS	Annual			ug/l		no
22/8/2016		Dichloromethane	GC-MS	Annual			ug/l		no
22/8/2016		Tetrahydrofuran	GC-MS	Annual			ug/l		no
22/8/2016		Toluene	GC-MS	Annual			ug/l		no
22/8/2016		Xylene -o	GC-MS	Annual			ug/l		no
22/8/2016		Dichlorodifluoromethane	GC-MS	Annual			ug/l		no
22/8/2016		Ethyl Chloride/Chloroethane	GC-MS	Annual			ug/l		no
22/8/2016		Ethyl Ether/Diethyl Ether	GC-MS	Annual			ug/l		no
22/8/2016		Iodomethane/Methyl Iodide	GC-MS	Annual			ug/l		no
22/8/2016		Carbon Disulphide	GC-MS	Annual			ug/l		no
22/8/2016		Allyl Chloride	GC-MS	Annual			ug/l		no

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22/8/2016		Chlormethyl Cyanide/Chloroacetonitrile	GC-MS	Annual			ug/l			no
22/8/2016		Propanenitrile	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Trans-1,2 Dichloroethene	GC-MS	Annual			ug/l			no
22/8/2016		MtBE	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		2,2-dichloropropane	GC-MS	Annual	<1	<1	ug/l		1	no
22/8/2016		cis-12 Dichloroethene	GC-MS	Annual			ug/l			no
22/8/2016		2-Butanone	GC-MS	Annual			ug/l		10	no
22/8/2016		Methyl Acrylate	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Bromochloromethane	GC-MS	Annual			ug/l			no
22/8/2016		Methacrylonitrile	GC-MS	Annual			ug/l			no
22/8/2016		1-Chlorobutane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Carbon Tetrachloride	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Dibromomethane	GC-MS	Annual			ug/l			no
22/8/2016		Methyl Methacrylate	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		13 Dichloropropene,cis	GC-MS	Annual			ug/l			no
22/8/2016		MIBK/4 Methyl 2 Pentanone	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,3 Dichloropropene,trans	GC-MS	Annual			ug/l			no
22/8/2016		Ethyl Methacrylate	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Bromobenzene	GC-MS	Annual			ug/l			no
22/8/2016		Trans 14 Dichloro 2 Butene, tran	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		P Isopropyltoluene	GC-MS	Annual			ug/l			no
22/8/2016		N Butyl Benzene	GC-MS	Annual			ug/l			no
22/8/2016		1,2-dibromo-3-chloropropane	GC-MS	Annual			ug/l			no
22/8/2016		1,2,3-trichlorobenzene	GC-MS	Annual	<0.1	<0.1	ug/l			no
22/8/2016		Mecoprop	GC-MS	Annual			ug/l			no
22/8/2016		Bentazone	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Simazine	GC-MS	Annual	<0.1	<0.1	ug/l			no
Quarterly	98 1D	pH	Meter	Quarterly	7.1	6.8	SELECT		9.5	no
Quarterly		Temp	Meter	Quarterly	11.1	9.7			25	no
Quarterly		Elec.Conductivity	Meter	Quarterly	601	324		800-1875	1000	no
Quarterly		Chlorides	titration	Quarterly	17.6	13.9	mg/l	24-187.5	250	no
22/8/2016		Ammoniacal Nitrogen	ISE	Quarterly	0.04	0.02	mg/l	0.065-0.175		no
19/8/2016		Iron	ICP	annual	0.02	0.02	ug/l		0.2	no
quarterly		TON	HACH	annual	0.3	0.3	ug/l	-	No abnormal change	no
22/8/2016		TOC	TOC analyser	Quarterly	1.43	0.73	mg/l			no
22/8/2016		Cadmium	ICP	Annual	<1	<1	ug/l	-	0.005	no
22/8/2016		Chromium (total)	ICP	Annual	<1	<1	ug/l	37.5	0.03	no
22/8/2016		Copper	COLORIMETRY	Annual	<1	<1	ug/l	1500	0.03	no
22/8/2016		Cyanide (Total)	ICP	Annual	<0.01	<0.01	ug/l	-	0.01	no
22/8/2016		Lead	ICP	Annual	<1	<1	ug/l	18.75	0.01	no
22/8/2016		Magnesium	ICP	Annual	7.79	7.79	mg/l	-	50	no
22/8/2016		Manganese	ICP	Annual	22.6	22.6	ug/l	-	0.05	no
22/8/2016		Mercury	ICP	Annual	<0.5	<0.5	ug/l	0.75	0.001	no
22/8/2016		Nickle	ICP	Annual	<1	<1	ug/l	15	0.02	no
22/8/2016		Potassium	ICP	Annual	<1.0	<1.0	mg/l	-	5	no
22/8/2016		Sulphate	Aquakem auto analyser	Annual	3.4	3.4	mg/l	187.5	200	no
22/8/2016		Total Alkalinity	icp	Annual	100	100	mg/l	-		no

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22/8/2016		Total Phosphorus	spectrophotometry	Annual	0.09	0.09	mg/l	0.09		no
22/8/2016		Naphthalene	GC-MS	Annual	<0.01	<0.01	ug/l		0.5	no
22/8/2016		Acenaphthylene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Anthracene	GC-MS	Annual	0.01	0.01	ug/l			no
22/8/2016		Chrysene	GC-MS	Annual	<0.01	<0.01	ug/l		1	no
22/8/2016		Fluoranthene	GC-MS	Annual	0.01	0.01	ug/l			no
22/8/2016		Fluorene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Pyrene	GC-MS	Annual	0.01	0.01	ug/l		12	no
22/8/2016		Phenanthrene	GC-MS	Annual	0.01	0.01	ug/l			no
22/8/2016		Bromodichloromethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Bromoform	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Chloroform	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Dibromochloromethane	GC-MS	Annual			ug/l			no
22/8/2016		Dibromochloromethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Vinyl Chloride	GC-MS	Annual	<1	<1	ug/l		2	no
22/8/2016		Chloromethane	GC-MS	Annual			ug/l			no
22/8/2016		Trichloroethene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Bromomethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Trichloromonofluoromethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		11 Dichloroethene	GC-MS	Annual	<1	<1	ug/l		0.03	no
22/8/2016		Chloromethane	GC-MS	Annual	<1	<1	ug/l		0.1	no
22/8/2016		1,1-dichloroethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		11 Dichloropropene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,2 dichloroethane	GC-MS	Annual	<1	<1	ug/l	2.25		no
22/8/2016		1,2-dichloropropane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,1,1-trichloroethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		112 Trichloroethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,3-dichloropropane	GC-MS	Annual			ug/l			no
22/8/2016		2-Hexanone	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,2-dibromoethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Chlorobenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,1,1,2-tetrachloroethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Ethylbenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Xylene P&M	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Styrene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Isopropylbenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,1,1,2-tetrachloroethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,2,3-trichloropropane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Propylbenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		2-chlorotoluene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		4-chlorotoluene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,3,5-trimethylbenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Tert Butyl Benzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,2,4-trimethylbenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		sec-butylbenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Pentachlorophenol	GC-MS	Annual	<5	<5	ug/l			no
22/8/2016		Tetrachloroethene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Hexachlorobenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Hexachlorobutadiene	GC-MS	Annual	<5	<5	ug/l			no
22/8/2016		2,4,6-Trichlorophenol	GC-MS	Annual	<5	<5	ug/l			no



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22/8/2016		2,4-Dichlorophenol	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		2,4-Dimethylphenol	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2-Chlorophenol	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		1,2,4-trichlorobenzene	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		1,2-dichlorobenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		1,3-dichlorobenzene	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		1,4-dichlorobenzene	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		2,4,5-Trichlorophenol	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		2,4-Dinitrotoluene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2,6-Dinitrotoluene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2-Chloronaphthalene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2-Methylnaphthalene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2-Methylphenol	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2-Nitrophenol	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		4-Bromophenyl Phenyl Ether	GC-MS	Annual	<1	<1	ug/l	10	no
22/8/2016		4-Chloro-3-methylphenol	GC-MS	Annual	<1	<1	ug/l	10	no
22/8/2016		4-Chlorophenyl phenyl ether	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		4-Nitrophenol	GC-MS	Annual			ug/l		no
22/8/2016		Acenaphthene	GC-MS	Annual	0.01	0.01	ug/l		no
22/8/2016		Benzo(a)anthracene	GC-MS	Annual	<0.01	<0.01	ug/l		no
22/8/2016		Benzo(a)pyrene	GC-MS	Annual	<0.01	<0.01	ug/l	0.0075	no
22/8/2016		Benzo(b)fluoranthene	GC-MS	Annual	<0.01	<0.01	ug/l		no
22/8/2016		Benzo(g,h,i)perylene	GC-MS	Annual	<0.01	<0.01	ug/l		no
22/8/2016		Benzyl Butyl Phthalate	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Bis(2-chloroethoxy)methane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Bis(2-chloroethyl)ether	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Bis(2-chloroisopropyl)ether	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Bis(2-ethylhexyl)phthalate	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Dibenz(a,h)anthracene	GC-MS	Annual	<0.01	<0.01	ug/l		no
22/8/2016		Dibenzofuran	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Diethylphthalate	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		di-n-Butylphthalate	GC-MS	Annual	<1	<1	ug/l	30	no
22/8/2016		Di-n-octylphthalate	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Diphenylamine	GC-MS	Annual			ug/l		no
22/8/2016		Hexachloroethane	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		Indeno(1,2,3-c,d)pyrene	GC-MS	Annual	<0.01	<0.01	ug/l		no
22/8/2016		Isophorone	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Nitrobenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		n-Nitrosodi-n-propylamine	GC-MS	Annual			ug/l	500	no
22/8/2016		Acetone	GC-MS	Annual			ug/l		no
22/8/2016		Dichloromethane	GC-MS	Annual			ug/l		no
22/8/2016		Tetrahydrofuran	GC-MS	Annual			ug/l		no
22/8/2016		Toluene	GC-MS	Annual			ug/l		no
22/8/2016		Xylene -o	GC-MS	Annual			ug/l		no
22/8/2016		Dichlorodifluoromethane	GC-MS	Annual			ug/l		no
22/8/2016		Ethyl Chloride/Chloroethane	GC-MS	Annual			ug/l		no
22/8/2016		Ethyl Ether/Diethyl Ether	GC-MS	Annual			ug/l		no
22/8/2016		Iodomethane/Methyl Iodide	GC-MS	Annual			ug/l		no

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22/8/2016		Carbon Disulphide	GC-MS	Annual			ug/l			no
22/8/2016		Allyl Chloride	GC-MS	Annual			ug/l			no
22/8/2016		Chlormethyl Cyanide/Chloroacetonitrile	GC-MS	Annual			ug/l			no
22/8/2016		Propanenitrile	GC-MS	Annual			ug/l			no
22/8/2016		Trans-1,2 Dichloroethene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		MTBE	GC-MS	Annual			ug/l			no
22/8/2016		2,2-dichloropropane	GC-MS	Annual	<1	<1	ug/l		1	no
22/8/2016		cis-12 Dichloroethene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		2-Butanone	GC-MS	Annual			ug/l		10	no
22/8/2016		Methyl Acrylate	GC-MS	Annual			ug/l			no
22/8/2016		Bromochloromethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Methacrylonitrile	GC-MS	Annual			ug/l			no
22/8/2016		1-Chlorobutane	GC-MS	Annual			ug/l			no
22/8/2016		Carbon Tetrachloride	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Dibromomethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Methyl Methacrylate	GC-MS	Annual			ug/l			no
22/8/2016		13 Dichloropropene,cis	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		MIBK/4 Methyl 2 Pentanone	GC-MS	Annual			ug/l			no
22/8/2016		1,3 Dichloropropene,trans	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Ethyl Methacrylate	GC-MS	Annual			ug/l			no
22/8/2016		Bromobenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Trans 14 Dichloro 2 Butene, tran	GC-MS	Annual			ug/l			no
22/8/2016		P Isopropyltoluene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		N Butyl Benzene	GC-MS	Annual			ug/l			no
22/8/2016		1,2-dibromo-3-chloropropane	GC-MS	Annual			ug/l			no
22/8/2016		1,2,3-trichlorobenzene	GC-MS	Annual			ug/l			no
22/8/2016		Mecoprop	GC-MS	Annual	<0.1	<0.1	ug/l			no
annual		Bentazone	GC-MS	Annual					9.5	data not available
annual		Simazine	GC-MS	Annual	<0.01	<0.01			25	data not available

concentration from all monitoring results produced during the reporting year

### Groundwater monitoring results

Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration++	Average Concentration+	unit	GTV's*	SW EQS	Upward trend in yearly average pollutant concentration over last 5 years of monitoring data
Quarterly	G18	pH		Quarterly	6.6	6.45	SELECT		9.5	no
Quarterly		Temp		Quarterly	12	10.61			25	no
Quarterly		Elec.Conductivity		Quarterly	287.06	259		800-1875	1000	no
Quarterly		Chlorides		Quarterly	19	16.2	mg/l	24-187.5	250	no
22/8/2016		Ammoniacal Nitrogen		Quarterly	1.44	1.045	mg/l	0.065-0.175		no
19/8/2016		Iron		annual	57.24	57.24	ug/l		0.2	no
quarterly		TON		annual	<0.2	<0.2	ug/l	-	No abnormal change	no
22/8/2016		TOC		Quarterly	5.01	3.74	mg/l			no
22/8/2016		Cadmium		Annual	1.8		ug/l	-	0.005	no
22/8/2016		Chromium (total)		Annual	70.9	70.9	ug/l	37.5	0.03	no

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22/8/2016		Copper		Annual	48.9	48.9	ug/l	1500	0.03	no
22/8/2016		Cyanide (Total)		Annual	<0.01	<0.01	ug/l	-	0.01	no
22/8/2016		Lead		Annual	20.8	20.8	ug/l	18.75	0.01	no
22/8/2016		Magnesium		Annual	7.04	7.04	mg/l	-	50	no
22/8/2016		Manganese		Annual	1744	1744	ug/l	-	0.05	no
22/8/2016		Mercury		Annual	<0.5	<0.5	ug/l	0.75	0.001	no
22/8/2016		Nickle		Annual	619	619	ug/l	15	0.02	no
22/8/2016		Potassium		Annual	<1.0	<1.0	mg/l	-	5	no
22/8/2016		Sulphate		Annual	3.4	3.4	mg/l	187.5	200	no
22/8/2016		Total Alkalinity		Annual	125	125	mg/l	-		no
22/8/2016		Total Phosphorus		Annual	0.1	0.1	mg/l	0.09		no
Quarterly	96 3D	pH	Meter	Quarterly	7.1	6.8	SELECT		9.5	no
Quarterly		Temp	Meter	Quarterly	15.1	12			25	no
Quarterly		Elec. Conductivity	Meter	Quarterly	480	377.1		800-1875	1000	no
Quarterly		Chlorides	titration	Quarterly	13.9	13	mg/l	24-187.5	250	no
Quarterly		Ammoniacal Nitrogen	ISE	Quarterly	8.87	4.8	mg/l	0.065-0.175		yes
22/8/2016		Iron	ICP	annual	0.04	0.0386	ug/l		0.2	no
22/8/2016		TON	HACH	annual	0.44	0.44	ug/l	-	No abnormal change	no
Quarterly		TOC	TOC analyser	Quarterly	3.8	2.48	mg/l			no
19/8/2015		Cadmium	ICP	Annual	<1	<1	ug/l	-	0.005	no
22/8/2016		Chromium (total)	ICP	Annual	<1	<1	ug/l	37.5	0.03	no
22/8/2016		Copper	COLORIMETRY	Annual	<1	<1	ug/l	1500	0.03	no
22/8/2016		Cyanide (Total)	ICP	Annual	<0.01	<0.01	ug/l	-	0.01	no
22/8/2016		Lead	ICP	Annual	<1	<1	ug/l	18.75	0.01	no
22/8/2016		Magnesium	ICP	Annual	10.6	10.6	mg/l	-	50	no
22/8/2016		Manganese	ICP	Annual	23.1	23.1	ug/l	-	0.05	no
22/8/2016		Mercury	ICP	Annual	<0.5	<0.5	ug/l	0.75	0.001	no
22/8/2016		Nickle	ICP	Annual	<1	<1	ug/l	15	0.02	no
22/8/2016		Potassium	ICP	Annual	1.33	1.33	mg/l	-	5	no
22/8/2016		Sulphate	Aquakem auto analyser	Annual	2.99	2.99	mg/l	187.5	200	no
22/8/2016		Total Alkalinity	icp	Annual	174	174	mg/l	-		no
22/8/2016		Total Phosphorus	spectrophotometry	Annual	0.6	0.6	mg/l	0.09		no
22/8/2016		Naphthalene	GC-MS	Annual	0.09	0.09	ug/l		0.5	no
22/8/2016		Acenaphthylene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Anthracene	GC-MS	Annual	<0.01	<0.01	ug/l		12	no
22/8/2016		Chrysene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Fluoranthene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Fluorene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Pyrene	GC-MS	Annual	0.01	0.01	ug/l			no
22/8/2016		Phenanthrene	GC-MS	Annual	0.01	0.01	ug/l			no
22/8/2016		Bromodichloromethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Bromoform	GC-MS	Annual	<1	<1	ug/l		2	no
22/8/2016		Chloroform	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Dibromochloromethane	GC-MS	Annual			ug/l			no
22/8/2016		Vinyl Chloride	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Chloromethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Trichloroethene	GC-MS	Annual			ug/l		0.03	no
22/8/2016		Bromomethane	GC-MS	Annual	<1	<1	ug/l		0.1	no
22/8/2016		Trichloromonofluoromethane	GC-MS	Annual			ug/l			no

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22/8/2016		11 Dichloroethene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Chloromethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		1,1-dichloroethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		11 Dichloropropene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		1,2 dichloroethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		1,2-dichloropropane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		1,1,1-trichloroethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		112 Trichloroethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		1,3-dichloropropane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2-Hexanone	GC-MS	Annual			ug/l		no
22/8/2016		1,2-dibromoethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Chlorobenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		1,1,1,2-tetrachloroethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Ethylbenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Xylene P&M	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Xylene O	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Styrene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Isopropylbenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		1,1,2,2-tetrachloroethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		1,2,3-trichloropropane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Propylbenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2-chlorotoluene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		4-chlorotoluene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		1,3,5-trimethylbenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Tert Butyl Benzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		1,2,4-trimethylbenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		sec-butylbenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Pentachlorophenol	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		Tetrachloroethene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Hexachlorobenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Hexachlorobutadiene	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		2,4,6-Trichlorophenol	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		2,4-Dichlorophenol	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		2,4-Dimethylphenol	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2-Chlorophenol	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		1,2,4-trichlorobenzene	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		1,2-dichlorobenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		1,3-dichlorobenzene	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		1,4-dichlorobenzene	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		2,4,5-Trichlorophenol	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		2,4-Dinitrotoluene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2,6-Dinitrotoluene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2-Chloronaphthalene	GC-MS	Annual	<1	<1	ug/l	10	no
22/8/2016		2-Methylnaphthalene	GC-MS	Annual	<1	<1	ug/l	10	no
22/8/2016		2-Methylphenol	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2-Nitrophenol	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		4-Bromophenyl Phenyl Ether	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		4-Chloro-3-methylphenol	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		4-Chlorophenyl phenyl ether	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		4-Nitrophenol	GC-MS	Annual			ug/l		no

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22/8/2016	Acenaphthene	GC-MS	Annual	0.01	0.01	ug/l			no
22/8/2016	Benzo(a)anthracene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016	Benzo(a)pyrene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016	Benzo(b)fluoranthene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016	Benzo(g,h,i)perylene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016	Benzyl Butyl Phthalate	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016	Bis(2-chloroethoxy)methane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016	Bis(2-chloroethyl)ether	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016	Bis(2-chloroisopropyl)ether	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016	Bis(2-ethylhexyl)phthalate	GC-MS	Annual	<1	<1	ug/l		30	no
22/8/2016	Dibenz(a,h)anthracene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016	Dibenzofuran	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016	Diethylphthalate	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016	di-n-Butylphthalate	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016	Di-n-octylphthalate	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016	Diphenylamine	GC-MS	Annual			ug/l			no
22/8/2016	Hexachloroethane	GC-MS	Annual	<5	<5	ug/l		500	no
22/8/2016	Indeno(1,2,3-c,d)pyrene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016	Isophorone	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016	Nitrobenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016	n-Nitrosodi-n-propylamine	GC-MS	Annual			ug/l			no
22/8/2016	Acetone	GC-MS	Annual			ug/l			no
22/8/2016	Dichloromethane	GC-MS	Annual	<50	<50	ug/l			no
22/8/2016	Tetrahydrofuran	GC-MS	Annual			ug/l			no
22/8/2016	Toluene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016	Xylene -o	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016	Dichlorodifluoromethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016	Ethyl Chloride/Chloroethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016	Ethyl Ether/Diethyl Ether	GC-MS	Annual			ug/l			no
22/8/2016	Iodomethane/Methyl Iodide	GC-MS	Annual			ug/l			no
22/8/2016	Carbon Disulphide	GC-MS	Annual			ug/l			no
22/8/2016	Allyl Chloride	GC-MS	Annual			ug/l			no
22/8/2016	Chlormethyl Cyanide/Chloroacetonitrile	GC-MS	Annual			ug/l		1	no
22/8/2016	Propanenitrile	GC-MS	Annual			ug/l			no
22/8/2016	Trans-1,2 Dichloroethene	GC-MS	Annual	<1	<1	ug/l		10	no
22/8/2016	MtBE	GC-MS	Annual			ug/l			no
22/8/2016	2,2-dichloropropane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016	cis-1,2 Dichloroethene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016	2-Butanone	GC-MS	Annual			ug/l			no
22/8/2016	Methyl Acrylate	GC-MS	Annual			ug/l			no
22/8/2016	Bromochloromethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016	Methacrylonitrile	GC-MS	Annual			ug/l			no
22/8/2016	1-Chlorobutane	GC-MS	Annual			ug/l			no
22/8/2016	Carbon Tetrachloride	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016	Dibromomethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016	Methyl Methacrylate	GC-MS	Annual			ug/l			no
22/8/2016	1,3 Dichloropropene.cis	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016	MIBK/4 Methyl 2 Pentanone	GC-MS	Annual			ug/l			no

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22/8/2016		13 Dichloropropene,trans	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Ethyl Methacrylate	GC-MS	Annual			ug/l			no
22/8/2016		Bromobenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Trans 14 Dichloro 2 Butene, tran	GC-MS	Annual			ug/l			no
22/8/2016		P Isopropyltoluene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		N Butyl Benzene	GC-MS	Annual					9.5	no
22/8/2016		1,2-dibromo-3-chloropropane	GC-MS	Annual					25	no
22/8/2016		1,2,3-trichlorobenzene	GC-MS	Annual					1000	no
22/8/2016		Mecoprop	GC-MS	Annual	<0.1	<0.1	mg/l		250	no
22/8/2016		Bentazone	GC-MS	Annual			mg/l			no
22/8/2016		Simazine	GC-MS	Annual	<0.01	<0.01	ug/l		0.2	no
Quarterly	96 4s	pH		Quarterly	7	6.7	SELECT		9.5	no
Quarterly		Temp		Quarterly	15	12			25	no
Quarterly		Elec.Conductivity		Quarterly	267	236		800-1875	1000	no
Quarterly		Chlorides		Quarterly	12.9	11.2	mg/l	24-187.5	250	no
Quarterly		Ammoniacal Nitrogen		Quarterly	0.23	0.15	mg/l	0.065-0.175		no
22/8/2016		Iron		Annual	0.04	0.04	ug/l		0.2	no
22/8/2016		TON		Annual	0.65	0.65	ug/l	-	No abnormal change	no
Quarterly		TOC		Quarterly	5.9	4.5	mg/l			no
22/8/2016		Cadmium		Annual	<1	<1	ug/l	-	0.005	no
22/8/2016		Chromium (total)		Annual	2	2	ug/l	37.5	0.03	no
22/8/2016		Copper		Annual	8.4	8.4	ug/l	1500	0.03	no
22/8/2016		Cyanide (Total)		Annual	<0.01	<0.01	ug/l	-	0.01	no
22/8/2016		Lead		Annual	<1	<1	ug/l	18.75	0.01	no
22/8/2016		Magnesium		Annual	8.01	8.01	mg/l	-	50	no
22/8/2016		Manganese		Annual	2182	2182	ug/l	-	0.05	no
22/8/2016		Mercury		Annual	<0.5	<0.5	ug/l	0.75	0.001	no
22/8/2016		Nickle		Annual	15.3	15.3	ug/l	15	0.02	no
22/8/2016		Potassium		Annual	1	1	mg/l	-	5	no
22/8/2016		Sulphate		Annual	4.95	4.95	mg/l	187.5	200	no
22/8/2016		Total Alkalinity		Annual	106	106	mg/l	-		no
22/8/2016		Total Phosphorus		Annual	0.15	0.15	mg/l	0.09		no
Quarterly	96 4D	pH		Quarterly	7	6.9	SELECT		9.5	no
Quarterly		Temp		Quarterly	20.1	12.9			25	no
Quarterly		Elec.Conductivity		Quarterly	628	593			1000	no
Quarterly		Chlorides		Quarterly	18.6	16.8	mg/l		250	no
Quarterly		Ammoniacal Nitrogen		Quarterly	19.2	13.8	mg/l			yes
22/8/2016		Iron		Annual	0.93	0.925	ug/l		0.2	no
22/8/2016		TON		Annual	<0.2	<0.2	ug/l		No abnormal change	no
Quarterly		TOC		Quarterly	4.96	2.72	mg/l			no
19/8/2015		Cadmium		Annual	<1	<1	ug/l		0.005	no
22/8/2016		Chromium (total)		Annual	<1	<1	ug/l		0.03	no
22/8/2016		Copper		Annual	<1	<1	ug/l		0.03	no
22/8/2016		Cyanide (Total)		Annual	<0.01	<0.01	ug/l		0.01	no
22/8/2016		Lead		Annual	660	660	ug/l		0.01	no
22/8/2016		Magnesium		Annual	17.9	17.9	mg/l		50	no
22/8/2016		Manganese		Annual	247	247	ug/l		0.05	no
22/8/2016		Mercury		Annual	<0.5	<0.5	ug/l		0.001	no
22/8/2016		Nickle		Annual	<1	<1	ug/l		0.02	no
22/8/2016		Potassium		Annual	3.44	3.44	mg/l		5	no

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22/8/2016		Sulphate		Annual	1.6	1.6	mg/l		200	no
22/8/2016		Total Alkalinity		Annual	306	306	mg/l			no
22/8/2016		Total Phosphorus		Annual	2.05	2.05	mg/l			no
Quarterly	96 5s	pH	Meter	Quarterly	6.7	6.6	mg/l		9.5	no
Quarterly		Temp	Meter	Quarterly	13.7	11.4	mg/l		25	no
Quarterly		Elec. Conductivity	Meter	Quarterly	800.4	730.6	mg/l	800-1875	1000	no
Quarterly		Chlorides	titration	Quarterly	59.6	57.3	mg/l	24-187.5	250	no
Quarterly		Ammoniacal Nitrogen	ISE	Quarterly	0.12	0.10	mg/l	0.065-0.175		no
22/8/2016		Iron	ICP	Annual	138.8	138.8	ug/l		0.2	no
19/8/2015		TON	HACH	Annual	<0.2	<0.2	ug/l	-	No abnormal change	no
Quarterly		TOC	TOC analyser	Quarterly	10.7	6.14	mg/l			no
19/8/2015		Cadmium	ICP	Annual	<1	<1	ug/l	-	0.005	no
22/8/2016		Chromium (total)	ICP	Annual	<1	<1	ug/l	37.5	0.03	no
22/8/2016		Copper	COLORIMETRY	Annual	2	2	ug/l	1500	0.03	no
22/8/2016		Cyanide (Total)	ICP	Annual	<0.01	<0.01	ug/l	-	0.01	no
22/8/2016		Lead	ICP	Annual	3.7	3.7	ug/l	18.75	0.01	no
22/8/2016		Manganese	ICP	Annual	8.83	8.83	mg/l	-	50	no
22/8/2016		Manganese	ICP	Annual	6233	6233	ug/l	-	0.05	no
22/8/2016		Mercury	ICP	Annual	<0.5	<0.5	ug/l	0.75	0.001	no
22/8/2016		Nickle	ICP	Annual	10.7	10.7	ug/l	15	0.02	no
22/8/2016		Potassium	ICP	Annual	1.09	1.09	mg/l	-	5	no
22/8/2016		Sulphate	Aquakem auto analyser	Annual	<0.5	<0.5	mg/l	187.5	200	no
22/8/2016		Total Alkalinity	icp	Annual	297	297	mg/l	-		no
22/8/2016		Total Phosphorus	spectrophotometry	Annual	0.08	0.08	mg/l	0.09		no
22/8/2016		Naphthalene	GC-MS	Annual	1.1	1.1	ug/l		0.5	no
22/8/2016		Acenaphthylene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Anthracene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Chrysene	GC-MS	Annual	<0.01	<0.01	ug/l		2	no
22/8/2016		Fluoranthene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Fluorene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Pyrene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Phenanthrene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Bromodichloromethane	GC-MS	Annual	<1	<1	ug/l		0.03	no
22/8/2016		Bromoform	GC-MS	Annual	<1	<1	ug/l		0.1	no
22/8/2016		Chloroform	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Dibromochloromethane	GC-MS	Annual			ug/l			no
22/8/2016		Vinyl Chloride	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Chloromethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Trichloroethene	GC-MS	Annual			ug/l			no
22/8/2016		Bromomethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Trichloromonofluoromethane	GC-MS	Annual			ug/l			no
22/8/2016		1,1-Dichloroethene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Chloromethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,1-dichloroethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,1-Dichloropropene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,2-dichloroethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,2-dichloropropane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,1,1-trichloroethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,1,2-trichloroethane	GC-MS	Annual	<1	<1	ug/l			no

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22/8/2016		1,3-dichloropropane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		2-Hexanone	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,2-dibromoethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Chlorobenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,1,1,2-tetrachloroethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Ethylbenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Xylene P&M	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Xylene O	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Styrene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Isopropylbenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,1,1,2-tetrachloroethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,2,3-trichloropropane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Propylbenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		2-chlorotoluene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		4-chlorotoluene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,3,5-trimethylbenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Tert Butyl Benzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,2,4-trimethylbenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		sec-butylbenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Pentachlorophenol	GC-MS	Annual	<5	<5	ug/l			no
22/8/2016		Tetrachloroethene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Hexachlorobenzene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Hexachlorobutadiene	GC-MS	Annual	<5	<5	ug/l			no
22/8/2016		2,4,6-Trichlorophenol	GC-MS	Annual	<5	<5	ug/l			no
22/8/2016		2,4-Dichlorophenol	GC-MS	Annual	<5	<5	ug/l			no
22/8/2016		2,4-Dimethylphenol	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		2-Chlorophenol	GC-MS	Annual	<5	<5	ug/l			no
22/8/2016		1,2,4-trichlorobenzene	GC-MS	Annual	<5	<5	ug/l			no
22/8/2016		1,2-dichlorobenzene	GC-MS	Annual	<1	<1	ug/l		10	no
22/8/2016		1,3-dichlorobenzene	GC-MS	Annual	<1	<1	ug/l		10	no
22/8/2016		1,4-dichlorobenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		2,4,5-Trichlorophenol	GC-MS	Annual	<5	<5	ug/l			no
22/8/2016		2,4-Dinitrotoluene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		2,6-Dinitrotoluene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		2-Chloronaphthalene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		2-Methylnaphthalene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		2-Methylphenol	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		2-Nitrophenol	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		4-Bromophenyl Phenyl Ether	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		4-Chloro-3-methylphenol	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		4-Chlorophenyl phenyl ether	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		4-Nitrophenol	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Acenaphthene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Benzo(a)anthracene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Benzo(a)pyrene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Benzo(b)fluoranthene	GC-MS	Annual	<0.01	<0.01	ug/l		30	no
22/8/2016		Benzo(g,h,i)perylene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Benzyl Butyl Phthalate	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Bis(2-chloroethoxy)methane	GC-MS	Annual	<1	<1	ug/l			no



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22/8/2016		Bis(2-chloroethyl)ether	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Bis(2-chloroisopropyl)ether	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Bis(2-ethylhexyl)phthalate	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Dibenz(a,h)anthracene	GC-MS	Annual	<0.01	<0.01	ug/l	500	no
22/8/2016		Dibenzofuran	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Diethylphthalate	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		di-n-Butylphthalate	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Di-n-octylphthalate	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Diphenylamine	GC-MS	Annual			ug/l		no
22/8/2016		Hexachloroethane	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		Indeno(1,2,3-c,d)pyrene	GC-MS	Annual	<0.01	<0.01	ug/l		no
22/8/2016		Isophorone	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Nitrobenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		n-Nitrosodi-n-propylamine	GC-MS	Annual			ug/l		no
22/8/2016		Acetone	GC-MS	Annual			ug/l		no
22/8/2016		Dichloromethane	GC-MS	Annual	<50	<50	ug/l		no
22/8/2016		Tetrahydrofuran	GC-MS	Annual			ug/l		no
22/8/2016		Toluene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Xylene -o	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Dichlorodifluoromethane	GC-MS	Annual	<1	<1	ug/l	1	no
22/8/2016		Ethyl Chloride/Chloroethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Ethyl Ether/Diethyl Ether	GC-MS	Annual			ug/l	10	no
22/8/2016		Iodomethane/Methyl Iodide	GC-MS	Annual			ug/l		no
22/8/2016		Carbon Disulphide	GC-MS	Annual			ug/l		no
22/8/2016		Allyl Chloride	GC-MS	Annual			ug/l		no
22/8/2016		Chlormethyl Cyanide/Chloroacetonitrile	GC-MS	Annual			ug/l		no
22/8/2016		Propanenitrile	GC-MS	Annual			ug/l		no
22/8/2016		Trans-1,2 Dichloroethene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		MtBE	GC-MS	Annual			ug/l		no
22/8/2016		2,2-dichloropropane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		cis-12 Dichloroethene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2-Butanone	GC-MS	Annual			ug/l		no
22/8/2016		Methyl Acrylate	GC-MS	Annual			ug/l		no
22/8/2016		Bromochloromethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Methacrylonitrile	GC-MS	Annual			ug/l		no
22/8/2016		1-Chlorobutane	GC-MS	Annual			ug/l		no
22/8/2016		Carbon Tetrachloride	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Dibromomethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Methyl Methacrylate	GC-MS	Annual			ug/l		no
22/8/2016		1,3 Dichloropropene,cis	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		MIBK/4 Methyl 2 Pentanone	GC-MS	Annual			ug/l		no
22/8/2016		1,3 Dichloropropene,trans	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Ethyl Methacrylate	GC-MS	Annual			ug/l		no
22/8/2016		Bromobenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Trans 1,4 Dichloro 2 Butene, tran	GC-MS	Annual			ug/l		no
22/8/2016		P Isopropyltoluene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		N Butyl Benzene	GC-MS	Annual			ug/l		no

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22/8/2016		1,2-dibromo-3-chloropropane	GC-MS	Annual			ug/l			no
22/8/2016		1,2,3-trichlorobenzene	GC-MS	Annual			ug/l			no
22/8/2016		Mecoprop	GC-MS	Annual	1.9	1.9	ug/l			no
22/8/2016		Bentazone	GC-MS	Annual			ug/l			no
22/8/2016		Simazine	GC-MS	Annual	<0.01	<0.01	ug/l			no
Quarterly	96 5d	pH	Meter	Quarterly	7.3	7.1	SELECT		9.5	no
Quarterly		Temp	Meter	Quarterly	13.9	11.1			25	no
Quarterly		Elec. Conductivity	Meter	Quarterly	540	516		800-1875	1000	no
Quarterly		Chlorides	titration	Quarterly	14.8	14.4	mg/l	24-187.5	250	no
Quarterly		Ammoniacal Nitrogen	ISE	Quarterly	0.10	0.09	mg/l	0.065-0.175		no
19/82015		Iron	ICP	Annual	2.09	2.09	ug/l		0.2	no
19/82015		TON	HACH	Annual	<0.2	<0.2	ug/l	-	No abnormal change	no
Quarterly		TOC	TOC analyser	Quarterly	0.82	0.60	mg/l			no
22/8/2016		Cadmium	ICP	Annual	<1	<1	ug/l	-	0.005	no
22/8/2016		Chromium (total)	ICP	Annual	<1	<1	ug/l	37.5	0.03	no
22/8/2016		Copper	COLORIMETRY	Annual	<1	<1	ug/l	1500	0.03	no
22/8/2016		Cyanide (Total)	ICP	Annual	<0.01	<0.01	ug/l	-	0.01	no
22/8/2016		Lead	ICP	Annual	<1	<1	ug/l	18.75	0.01	no
22/8/2016		Magnesium	ICP	Annual	31.6	31.6	mg/l	-	50	no
22/8/2016		Manganese	ICP	Annual	702	702	ug/l	-	0.05	no
22/8/2016		Mercury	ICP	Annual	<0.5	<0.5	ug/l	0.75	0.001	no
22/8/2016		Nickle	ICP	Annual	1.4	1.4	ug/l	15	0.02	no
22/8/2016		Potassium	ICP	Annual	1.16	1.16	mg/l	-	5	no
22/8/2016		Sulphate	Aquakem auto analyser	Annual	0.5	0.5	mg/l	187.5	200	no
22/8/2016		Total Alkalinity	icp	Annual	291	291	mg/l	-		no
22/8/2016		Total Phosphorus	spectrophotometry apha	Annual	0.1	0.1	mg/l	0.09		no
22/8/2016		Naphthalene	GC-MS	Annual	0.01	0.01	ug/l		0.5	no
22/8/2016		Acenaphthylene	GC-MS	Annual	<0.01	<0.01	ug/l		2	no
22/8/2016		Anthracene	GC-MS	Annual	0.01	0.01	ug/l			no
22/8/2016		Chrysene	GC-MS	Annual	0.01	0.01	ug/l			no
22/8/2016		Fluoranthene	GC-MS	Annual	0.01	0.01	ug/l			no
22/8/2016		Fluorene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Pyrene	GC-MS	Annual	0.01	0.01	ug/l		0.03	no
22/8/2016		Phenanthrene	GC-MS	Annual	0.02	0.02	ug/l		0.1	no
22/8/2016		Bromodichloromethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Bromoform	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Chloroform	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Dibromochloromethane	GC-MS	Annual			ug/l			no
22/8/2016		Vinyl Chloride	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Chloromethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Trichloroethene	GC-MS	Annual			ug/l			no
22/8/2016		Bromomethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Trichloromonofluoromethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,1-Dichloroethene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Chloromethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,1-dichloroethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,1-Dichloropropene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,2-dichloroethane	GC-MS	Annual	<1	<1	ug/l			no

soil monitoring template					Lic No:	W0002-01	Year 2016			
22/8/2016		1,2-dichloropropane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,1,1-trichloroethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		112 Trichloroethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,3-dichloropropane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		2-Hexanone	GC-MS	Annual			ug/l			no
22/8/2016		1,2-dibromoethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Chlorobenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,1,1,2-tetrachloroethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Ethylbenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Xylene P&M	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Xylene O	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Styrene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Isopropylbenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,1,2,2-tetrachloroethane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,2,3-trichloropropane	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Propylbenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		2-chlorotoluene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		4-chlorotoluene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,3,5-trimethylbenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Tert Butyl Benzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,2,4-trimethylbenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		sec-butylbenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Pentachlorophenol	GC-MS	Annual	<5	<5	ug/l			no
22/8/2016		Tetrachloroethene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Hexachlorobenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		Hexachlorobutadiene	GC-MS	Annual	<5	<5	ug/l			no
22/8/2016		2,4,6-Trichlorophenol	GC-MS	Annual	<5	<5	ug/l			no
22/8/2016		2,4-Dichlorophenol	GC-MS	Annual	<5	<5	ug/l			no
22/8/2016		2,4-Dimethylphenol	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		2-Chlorophenol	GC-MS	Annual	<5	<5	ug/l		10	no
22/8/2016		1,2,4-trichlorobenzene	GC-MS	Annual	<5	<5	ug/l		10	no
22/8/2016		1,2-dichlorobenzene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		1,3-dichlorobenzene	GC-MS	Annual	<5	<5	ug/l			no
22/8/2016		1,4-dichlorobenzene	GC-MS	Annual	<5	<5	ug/l			no
22/8/2016		2,4,5-Trichlorophenol	GC-MS	Annual	<5	<5	ug/l			no
22/8/2016		2,4-Dinitrotoluene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		2,6-Dinitrotoluene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		2-Chloronaphthalene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		2-Methylnaphthalene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		2-Methylphenol	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		2-Nitrophenol	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		4-Bromophenyl Phenyl Ether	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		4-Chloro-3-methylphenol	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		4-Chlorophenyl phenyl ether	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		4-Nitrophenol	GC-MS	Annual			ug/l			no
22/8/2016		Acenaphthene	GC-MS	Annual	0.01	0.01	ug/l			no
22/8/2016		Benzo(a)anthracene	GC-MS	Annual	0.01	0.01	ug/l		30	no
22/8/2016		Benzo(a)pyrene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Benzo(b)fluoranthene	GC-MS	Annual	<0.01	<0.01	ug/l			no
22/8/2016		Benzo(g,h,i)perylene	GC-MS	Annual	<0.01	<0.01	ug/l			no

Soil monitoring template				Lic No:	W0002-01	Year		2016	
22/8/2016		Benzyl Butyl Phthalate	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Bis(2-chloroethoxy)methane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Bis(2-chloroethyl)ether	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Bis(2-chloroisopropyl)ether	GC-MS	Annual	<1	<1	ug/l	500	no
22/8/2016		Bis(2-ethylhexyl)phthalate	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Dibenz(a,h)anthracene	GC-MS	Annual	<0.01	<0.01	ug/l		no
22/8/2016		Dibenzofuran	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Diethylphthalate	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		di-n-Butylphthalate	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Di-n-octylphthalate	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Diphenylamine	GC-MS	Annual			ug/l		no
22/8/2016		Hexachloroethane	GC-MS	Annual	<5	<5	ug/l		no
22/8/2016		Indeno(1,2,3-c,d)pyrene	GC-MS	Annual	<0.01	<0.01	ug/l		no
22/8/2016		Isophorone	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Nitrobenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		n-Nitrosodi-n-propylamine	GC-MS	Annual			ug/l		no
22/8/2016		Acetone	GC-MS	Annual			ug/l		no
22/8/2016		Dichloromethane	GC-MS	Annual			ug/l		no
22/8/2016		Tetrahydrofuran	GC-MS	Annual			ug/l		no
22/8/2016		Toluene	GC-MS	Annual			ug/l	1	no
22/8/2016		Xylene -o	GC-MS	Annual			ug/l		no
22/8/2016		Dichlorodifluoromethane	GC-MS	Annual			ug/l	10	no
22/8/2016		Ethyl Chloride/Chloroethane	GC-MS	Annual			ug/l		no
22/8/2016		Ethyl Ether/Diethyl Ether	GC-MS	Annual			ug/l		no
22/8/2016		Iodomethane/Methyl Iodide	GC-MS	Annual			ug/l		no
22/8/2016		Carbon Disulphide	GC-MS	Annual			ug/l		no
22/8/2016		Allyl Chloride	GC-MS	Annual			ug/l		no
22/8/2016		Chlormethyl Cyanide/Chloroacetonitrile	GC-MS	Annual			ug/l		no
22/8/2016		Propanenitrile	GC-MS	Annual			ug/l		no
22/8/2016		Trans-1,2 Dichloroethene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		MtBE	GC-MS	Annual			ug/l		no
22/8/2016		2,2-dichloropropane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		cis-1,2 Dichloroethene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		2-Butanone	GC-MS	Annual			ug/l		no
22/8/2016		Methyl Acrylate	GC-MS	Annual			ug/l		no
22/8/2016		Bromochloromethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Methacrylonitrile	GC-MS	Annual			ug/l		no
22/8/2016		1-Chlorobutane	GC-MS	Annual			ug/l		no
22/8/2016		Carbon Tetrachloride	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Dibromomethane	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Methyl Methacrylate	GC-MS	Annual			ug/l		no
22/8/2016		1,3 Dichloropropene,cis	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		MIBK/4 Methyl 2 Pentanone	GC-MS	Annual			ug/l		no
22/8/2016		1,3 Dichloropropene,trans	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Ethyl Methacrylate	GC-MS	Annual			ug/l		no
22/8/2016		Bromobenzene	GC-MS	Annual	<1	<1	ug/l		no
22/8/2016		Trans 1,4 Dichloro 2 Butene, tran	GC-MS	Annual			ug/l		no

Soil monitoring template				Lic No:	W0002-01	Year 2016				
22/8/2016		P Isopropyltoluene	GC-MS	Annual	<1	<1	ug/l			no
22/8/2016		N Butyl Benzene	GC-MS	Annual			ug/l			no
22/8/2016		1,2-dibromo-3-chloropropane	GC-MS	Annual			ug/l			no
22/8/2016		1,2,3-trichlorobenzene	GC-MS	Annual			ug/l			no
22/8/2016		Mecoprop	GC-MS	Annual	<0.1	<0.1	ug/l			no
22/8/2016		Bentazone	GC-MS	Annual			ug/l			no
22/8/2016		Simazine	GC-MS	Annual	<0.01	<0.01	ug/l			no
Quarterly	99 15	pH	Meter	Quarterly	7	6.9	SELECT		9.5	no
Quarterly		Temp	Meter	Quarterly	15.2	11.4			25	no
Quarterly		Elec.Conductivity	Meter	Quarterly	356	337		800-1875	1000	no
Quarterly		Chlorides	titration	Quarterly	14.1	13.5	mg/l	24-187.5	250	no
Quarterly		Ammoniacal Nitrogen	ISE	Quarterly	0.05	0.02	mg/l	0.065-0.175		no
19/8/2015		Iron	ICP	Annual	0.03	0.03	ug/l		0.2	no
22/8/2016		TON	HACH	Annual	0.3	0.3	ug/l	-	No abnormal change	no
Quarterly		TOC	TOC analyser	Quarterly	0.4	0.19	mg/l			no
22/8/2016		Cadmium	ICP	Annual	<1	<1	ug/l	-	0.005	no
22/8/2016		Chromium (total)	ICP	Annual	<1	<1	ug/l	37.5	0.03	no
22/8/2016		Copper	COLORIMETRY	Annual	<1	<1	ug/l	1500	0.03	no
22/8/2016		Cyanide (Total)	ICP	Annual	<0.01	<0.01	ug/l	-	0.01	no
22/8/2016		Lead	ICP	Annual	<1	<1	ug/l	18.75	0.01	no
22/8/2016		Magnesium	ICP	Annual	9.65	9.65	mg/l	-	50	no
22/8/2016		Manganese	ICP	Annual	840	840	ug/l	-	0.05	no
22/8/2016		Mercury	ICP	Annual	<0.5	<0.5	ug/l	0.75	0.001	no
22/8/2016		Nickle	ICP	Annual	<1	<1	ug/l	15	0.02	no
22/8/2016		Potassium	ICP	Annual	<1.0	<1.0	mg/l	-	5	no
22/8/2016		Sulphate	Aquakem auto analyser	Annual	1.83	1.83	mg/l	187.5	200	no
22/8/2016		Total Alkalinity	icp	Annual	166	166	mg/l	-		no
22/8/2016		Total Phosphorus	spectrophotometry apha	Annual	0.07	0.07	mg/l	0.09		no

soil monitoring template				Lic No:	W0002-01	Year 2016				
Quarterly	99 ID	pH	Meter	Quarterly	7.1	7	SELECT		9.5	no
Quarterly		Temp	Meter	Quarterly	13.6	12.0			25	no
Quarterly		Elec.Conductivity	Meter	Quarterly	447	437		800-1875	1000	no
Quarterly		Chlorides	titration	Quarterly	15.7	14.8	mg/l	24-187.5	250	no
Quarterly		Ammoniacal Nitrogen	ISE	Quarterly	1.29	0.45	mg/l	0.065-0.175		no
22/8/2016		Iron	ICP	Annual	0.09	0.09	ug/l		0.2	no
22/8/2016		TON	HACH	Annual	0.36	0.36	ug/l	-	No abnormal change	no
Quarterly		TOC	TOC analyser	Quarterly	1.7	1.2	mg/l			no
22/8/2016		Cadmium	ICP	Annual	<1	<1	ug/l	-	0.005	no
22/8/2016		Chromium (total)	ICP	Annual	<1	<1	ug/l	37.5	0.03	no
22/8/2016		Copper	COLORIMETRY	Annual	<1	<1	ug/l	1500	0.03	no
22/8/2016		Cyanide (Total)	ICP	Annual	<0.01	<0.01	ug/l	-	0.01	no
22/8/2016		Lead	ICP	Annual	1.1	1.1	ug/l	18.75	0.01	no
22/8/2016		Manganese	ICP	Annual	10.1	10.1	mg/l	-	50	no
22/8/2016		Manganese	ICP	Annual	4630	4630	ug/l	-	0.05	no
22/8/2016		Mercury	ICP	Annual	<0.5	<0.5	ug/l	0.75	0.001	no
22/8/2016		Nickle	ICP	Annual	<1	<1	ug/l	15	0.02	no
22/8/2016		Potassium	ICP	Annual	<1.0	<1.0	mg/l	-	5	no
22/8/2016		Sulphate	Aquakem auto analyser	Annual	1.59	1.59	mg/l	187.5	200	no
22/8/2016		Total Alkalinity	icp	Annual	225	225	mg/l	-		no
22/8/2016		Total Phosphorus	spectrophotometry apha	Annual	0.11	0.11	mg/l	0.09		no

<b>Soil monitoring template</b>			Lic No:	W0002-01	Year	2016	
<p>* please note exceedance of a relevant Groundwater threshold value (GTV) at a representative monitoring point does not indicate non compliance, an exceedance triggers further investigation to confirm whether the criteria for poor groundwater chemical status are being met.</p> <p>**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)</p>							
<p><b>3: Soil results</b></p>							
Date of sampling	Sample location reference	Parameter/ Substance	Methodology	Monitoring frequency	Maximum Concentration	Average Concentration	unit
							SELECT
							SELECT

[Interim Guideline Values \(IGV\)](#)

[Surface water EQS](#)     [Groundwater regulations GTV's](#)















































**Environmental Liabilities template**

Lic No:

W0002-01

Year

2016

[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	SELECT	
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	

<b>Environmental Management Programme/Continuous Improvement Programme template</b>	Lic No:	W0002-01	Year	2016
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	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	No n/a
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

<b>Noise monitoring summary report</b>	Lic No: W0002-01	Year	2016
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1 Was noise monitoring a licence requirement for the AER period?

If yes please fill in table N1 noise summary below

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](#)

3 Does your site have a noise reduction plan

4 When was the noise reduction plan last updated?

5 Have there been changes relevant to site noise emissions (e.g. plant or operational changes) since the last noise survey?

**Table N1: Noise monitoring summary**

Date of monitoring	Time period	Noise location (on site)	Noise sensitive location -NSL (if applicable)	LA <sub>eq</sub>	LA <sub>90</sub>	LA <sub>10</sub>	LA <sub>max</sub>	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 <u>site</u> 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?

\*\* 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:

W0002-01

Year

2016

## Additional information

- 1 When did the site carry out the most recent energy efficiency audit? Please list the recommendations in table 3 below
- 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
- 2 Where Fuel Oil is used in boilers on site is the sulphur content compliant with licence conditions? Please state percentage in additional information
- 3

[SEAI - Large](#)  
[Industry Energy Network \(LIEN\)](#)

no	
no	

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)		17607Kwh		
Total Energy Generated (MWHrs)				
Total Renewable Energy Generated (MWHrs)				
Electricity Consumption (MWHrs)				
Fossil Fuels Consumption:				
Heavy Fuel Oil (m3)				
Light Fuel Oil (m3)				
Natural gas (CMN)				
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 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*	Water Emissions	Water Consumption	Unaccounted for Water:
					Volume Discharged back to environment(m <sup>3</sup> /yr):	Volume used i.e not discharged to environment e.g. released as steam m3/yr	
Groundwater							
Surface water							
Public supply							
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)					
Non-Hazardous (Tonnes)					

## Resource Usage/Energy efficiency summary

Lic No: W0002-01

Year

2016

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					







<b>WASTE SUMMARY</b>	Lic No:	W0002-01	Year	2016
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**Table 4 Environmental monitoring-landfill only** [Landfill Manual-Monitoring Standards](#)

Was meteorological monitoring in compliance with Landfill Directive (LD) standard in reporting year +	Was leachate monitored in compliance with LD standard in reporting year	Was Landfill Gas monitored in compliance with LD standard in reporting year	Was SW monitored in compliance with LD standard in reporting year	Have GW trigger levels been established	Were emission limit values agreed with the Agency (ELVs)	Was topography of the site surveyed in reporting year	Has the statement under S53(A)(5) of WMA been submitted in reporting year	Comments

+ please refer to Landfill Manual linked above for relevant Landfill Directive monitoring standards

**Table 5 Capping-Landfill only**

Area uncapped*	Area with temporary cap	Area with final cap to LD Standard m2 ha, a	Area capped other	Area with waste that should be permanently capped to date under licence	What materials are used in the cap	Comments
SELECT UNIT	SELECT UNIT					

\*please note this includes daily cover area

**Table 6 Leachate-Landfill only**

9 Is leachate from your site treated in a Waste Water Treatment Plant?

SELECT
SELECT

10 Is leachate released to surface water? If yes please complete leachate mass load information below

Volume of leachate in reporting year(m3)	Leachate (BOD) mass load (kg/annum)	Leachate (COD) mass load (kg/annum)	Leachate (NH4) mass load (kg/annum)	Leachate (Chloride) mass load kg/annum	Leachate treatment on-site	Specify type of leachate treatment	Comments

Please ensure that all information reported in the landfill gas section is consistent with the Landfill Gas Survey submitted in conjunction with PRTR returns

**Table 7 Landfill Gas-Landfill only**

Gas Captured&Treated by LFG System m3	Power generated (MW / KWh)	Used on-site or to national grid	Was surface emissions monitoring performed during the reporting year?	Comments
			SELECT	