ANNUAL ENVIRONMENTAL REPORT 2014

For

KMK METALS RECYCLING LTD
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By

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REPORT PERIOD:
JANUARY 2014-DECEMBER 2014

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1.0 REPORTING PERIOD

The reporting period for this Annual Environmental Report is 1st January 2014 to 31st of December 2014.

2.0 EMISSIONS FROM THE FACILITY

A summary and interpretation of all emissions monitoring carried out at the facility during 2014 is discussed in detail below.

2.1 Dust

The full Ambient Dust Monitoring Reports were submitted separately to the EPA. A summary of the reports is provided below.

Bi-annual dust deposition events were carried out at the site from the 30th April to the 29th May 2014 and the 8th July to the 6th August 2014 by Nally Environmental Ltd, in accordance with Waste Licence Requirements (Table 1).

Table 1: Dust Monitoring Licence Requirements

Stations	Parameter ($mg/m^2/day$)	Monitoring frequency	Analysis Method/ Technique
A2-1, A2-2, A2-3, A2-4	Total Dust Deposition Metal content Note3	Annually Note1 Annually Note4	Bergerhoff Gauge Note2 Standard method

Note 1: During the period May to September, or otherwise specified in writing by the Agency.
Note 2: Standard VDI 2119 (Measurement of dustfall, Determination of dustfall using Bergerhoff Instrument (Standard Method) German Engineering Institute). Any modifications to eliminate interference due to algae growth in the gauge should be reported to the Agency.
Note 3: Analysis to include the following metals: Al, As, Cd, Cr, Cu, Fe, Hg, Ni, Pb and Zn.
Note 4: Biannually in the first twelve months following grant of licence.

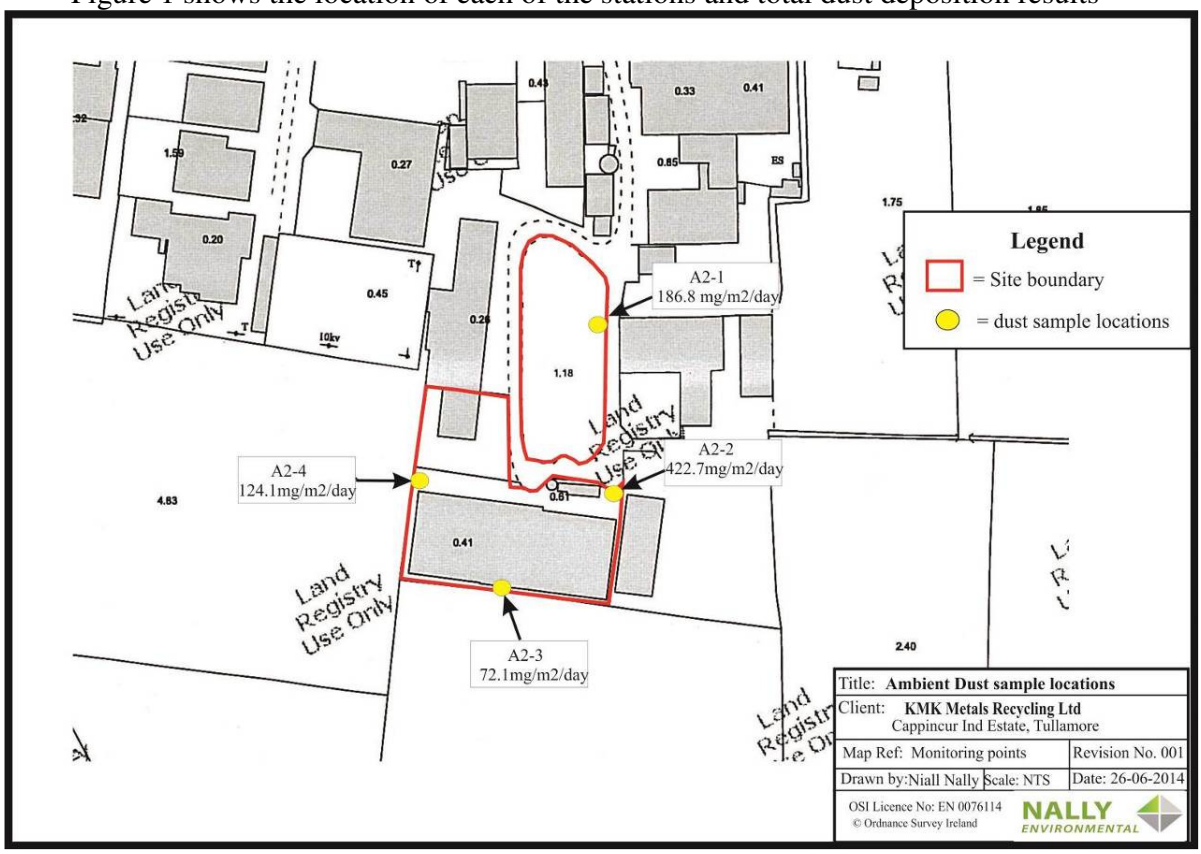
Weather conditions can have a notable impact upon dust creation and entrainment in the air and these have to be taken into account when assessing dust monitoring results.

The first biannual dust monitoring was conducted during the month of May 2014. The period of monitoring was a typical operational month at KMK with unsettled wind conditions and higher than average rainfall. Hence the climatic conditions for dust creation and movement was quite favourable. Dust monitoring around the boundaries of the KMK site for May showed that one dust deposition result was above the EPA recommendation limit of 350mg/m^2/day. This was; A2-2 at 422.7 mg/m^2/day compared to the licence ELV of 350 mg/m^2/day.

Dust monitoring station A2-2 is located at C yard inside the boundary wall which is approximately 0.5m higher than the top of the dust meter. The C yard (similar to other yards at KMK) is dampened down as required in order to control ambient dust levels to below nuisance potential. In comparison to other yard areas within the facility, the C yard area experiences minimal vehicular traffic or waste unloading/reloading operations. Hence, it is unusual to have elevated dust fall at this location.

The summary of dust deposition results are presented in Figure 1, below.

Figure 1 shows the location of each of the stations and total dust deposition results



A possible cause is dust blowing from the next door farm machinery yard (hard standing permeable surface) used to store outside farm machinery throughout the year. There is routine activity at the machinery yard during early summer due to rentals of seasonal machines such as silage cutters, balers, trailers etc. This activity may have resulted in dust creation, entrainment in the general air and added to the sample at A2-2.

In addition to Total Dust Deposition, metals are also analysed during this dust monitoring event. There were some detectable levels of metallic species within the same dust samples but these levels are not considered significant as the levels were within the micro gram quantitative range.

The second biannual dust monitoring was conducted from the 8th July to the 6th August 2014 during normal activity at the facility.

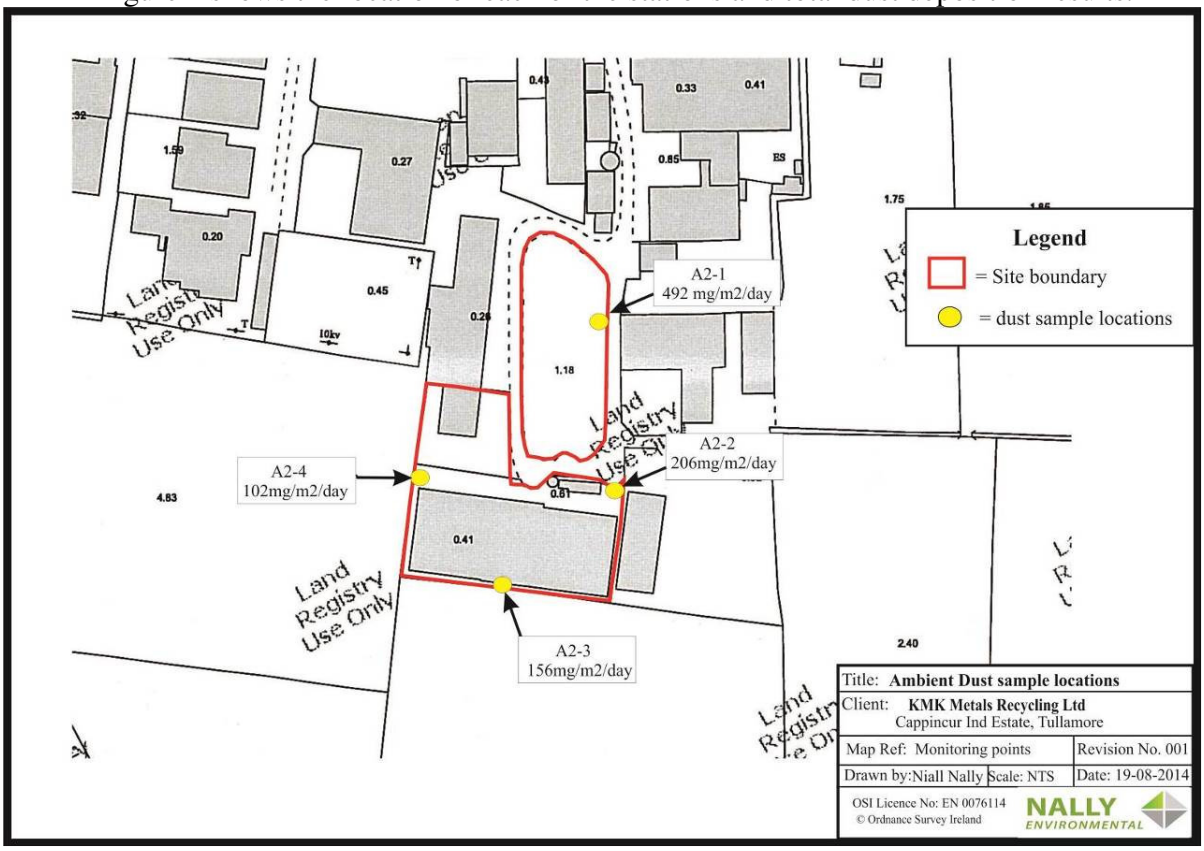
The period of monitoring was a typical operational month at KMK with unsettled wind conditions, above average temperatures and below average rainfall (compared to the long term averages [LTAs]). Hence the climatic conditions for dust creation and movement was favourable. Dust monitoring around the boundaries of the KMK site showed that one dust deposition result was above the EPA recommendation limit of 350mg/m^2/day. This was in E area; A2-1 at 492 mg/m^2/day compared to the licence ELV of 350 mg/m^2/day.

The result for A2-1 at 492 mg/m^2/day is a slight improvement when compared to the result for this location for August 2013 which was 530 mg/m^2/day. The E yard area experiences a significant amount of HGV throughput as vehicles weigh-out over the weighbridge through this yard, and the yard is used for skip drop-off and collection. This vehicular traffic rises dust which otherwise is not obviously noticeable on the yard. The dust monitoring station A2-1 is located at E yard inside the precast concrete boundary wall which is approximately 0.5m higher than the top of the dust meter. It is unlikely that ambient dust moves beyond the boundary of E area due to the height of the retaining walls along the boundary, thus the ambient dusts are effectively mitigated from causing any nuisance conditions off-site. The general appearance of E yard is tidy with no obvious debris. The yard is swept frequently to maintain a clear thoroughfare for vehicles.

The increased dust suppression practices at KMK for C yard resulted in this location (A2-2) being below the license limits and therefore shows an improvement from the previous sampling period in May 2014.

The summary of dust deposition results for the second biannual event are presented in Figure 2, below.

Figure 2 shows the location of each of the stations and total dust deposition results.



In addition to Total Dust Deposition, metals are also analysed during this dust monitoring event. There were some detectable levels of metallic species within the same dust samples but these levels are not considered significant as the levels were within the micro gram quantitative range with iron being the most quantitative for A2-1.

2.2 Stack Emission Point Monitoring.

The Waste Licence requirements for stack emission monitoring are presented in Table 2 below.

Table 2: Licence Requirements for Stack Monitoring

Emission point ref no.	Parameter	Monitoring frequency	Analysis Method/ Technique
A2-5	Total particulates and metals including Al, As, Cd, Cr, Cu, Fe, Hg, Ni, Pb and Zn	Quarterly	Standard Methods

Monitoring of A2-5 was performed over four separate monitoring events during 2014: Q1, Q2, Q3 and Q4.

The plant was in use during monitoring, and the samples were taken as discharged from the emission stack after treatment by the bag house filter unit.

The individual monitoring reports are included in Appendix 1 and are summarised below (Table 3) in terms of dates and total particulate results obtained.

Table 3: Stack Monitoring Results 2014

Date	**Company**	**Ref**	**Result** (mg/Nm3)	**Limit Value** (mg/Nm3)
31/03/14	Glenside Environmental	Q1	<1.14	10
13/05/14		Q2	4.42	10
18/08/14		Q3	0.45	10
20/10/14		Q4	<0.5	10

As can be seen from Table 3, results are low throughout 2014, representing a consistent manner of air emissions treatment by the infrastructure on-site.

KMK will continue to conduct stack air emissions in accordance with the Waste Licence Requirements and make use of the continuous particulates monitoring probe as installed on stack A2-5 on 5th April 2013. The probe is pre-set to warn management (by an alarm system) in the event of any increase so that action may be taken prior to (and thus preventing) any breach of an Emission Limit Value.

Stack emissions continue to be consistently low and of minor significance.

2.3 Noise

The waste licence (W0113-04) requirements for the noise monitoring programme is referred to in Condition 6.11 and are presented in Table 4.

Table 4: Summary of Noise Monitoring Licence Requirements

Stations & grid ref	Parameter	Monitoring frequency	Analysis Method / Technique
NE001: 635847 725118 NE002: 635959 725004 NE003: 635870 724963 NE004: 635772 725046	L(A)eq [30 minutes], $L(A)_{10}$ [30 minutes], $L(A)_{90}$ [30 minutes] and 1/3 Octave Band Analysis	Annually	Standard Method[Note1]

Note 1: International Standards Organisation, ISO 1996 Acoustics – Description and Measurement of Environmental Noise. Parts 1,2 & 3.

Furthermore it is stated *'The survey programme shall be undertaken in accordance with the methodology specified in the 'Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)' as published by the Agency.'*

Condition 6.11.2 states*: 'The licensee shall implement any noise attenuation measures as required by the Agency, having regard to the principles of BAT, to ensure compliance with the noise limits specified in this licence.'*

Schedule B.3 Noise Emissions tabulates the following:

Daytime dB $L_{Ar,T}$[note2] (30minutes)	Evening time dB $L_{Ar,T}$[note2] (30minutes)	Night-time dB dB $L_{Ar,T}$[note2] (15-30minutes)
55	50	45[note1]

Note 1: there shall be no clearly audible tonal component or impulsive component in the noise emission from the activity at any noise-sensitive location.

Note 2: $L_{Ar,T}$ is defined as the Related Noise Level, equal to the $L_{(A)eq}$ during a specified time interval (T), plus specified adjustments for tonal character and/or impulsiveness of the sound.

Hence the following parameters were measured and reported: $L_{(A)eq[30\ minute]}$, $L_{(A)10[30\ minute]}$, $L_{(A)90[30\ minute]}$ and 1/3 Octave Band analysis.

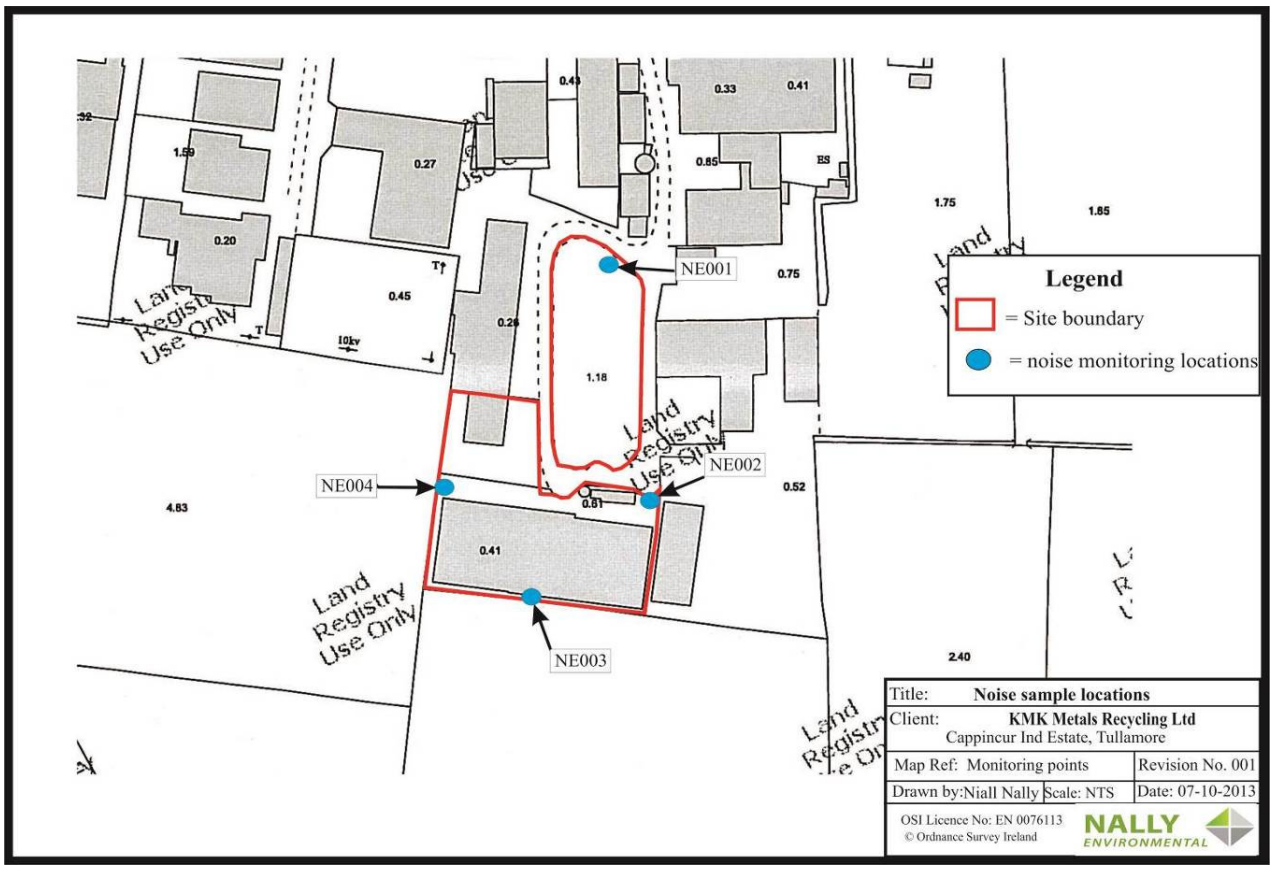
To ensure that all monitoring positions could be adequately monitored, and based upon normal best practice for noise measurements, as issued by the EPA, the night time measurement was a 15 minute period at each location.

The monitoring locations were thus as follows:

- NE001: Car park at fence boundary – northern boundary
- NE002: Eastern boundary, inside C yard
- NE003: Rear of the facility buildings – Southern boundary
- NE004: Adjacent the working yard area – Western boundary

Daytime, evening time and night time noise monitoring was carried out mid-week from Wednesday 6th August between the hours of 7am to 3am the next day Thursday 7th August. Each monitoring location is identified on the map shown in Figure 3 below. Weather conditions during sampling were; mild with gentle wind and no rainfall throughout all monitoring

Figure 3: KMK Noise Monitoring Locations 2014



The complete set of noise measurement results are included in the noise monitoring survey (Appendix 2). These are summarised and compared to the licence limits below in table 5.

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Table 5 – Compliance table of results with licence limits

Daytime			
Noise Location	**Start Time**	**KMK note1 $L_{Ar,T}$**	**Licence limits note2 $L_{Ar,T}$**
NE001	06:58	59	55
NE001	09:26	60	55
NE001	14:32	65	55
NE002	07:35	62	55
NE002	10:02	65	55
NE002	15:09	66	55
NE003	08:11	70note3	55
NE003	10:36	64note3	55
NE003	15:44	57	55
NE004	08:45	58	55
NE004	11:10	57	55
NE004	16:17	60	55

Evening Time			
Noise Location	**Start Time**	**KMK note1 $L_{Ar,T}$**	**Licence limits note2 $L_{Ar,T}$**
NE001	19:00	50	50
NE002	19:34	65note3	50
NE003	20:07	56	50
NE004	20:39	58	50

Night Time			
Noise Location	**Start Time**	**KMK note1 $L_{Ar,T}$**	**Licence limits note2 $L_{Ar,T}$**
NE001	23:05	45	45
NE001	00:26	40	45
NE002	23:24	38	45
NE002	00:45	38	45
NE003	23:42	42	45
NE003	01:04	49	45
NE004	00:04	53note3	45
NE004	01:22	53note3	45

Note1: $L_{Ar,T}$ is defined as the Related Noise Level, equal to the $L_{(A)eq}$ during a specified time interval (T), plus specified adjustments for tonal character and/or impulsiveness of the sound.
Note2: the licence does not specify whether the limits apply to the site boundaries or noise sensitive locations.
Note3: Value after adjustment by adding 5dB to the LAeq due to tones or impulsive noise.

Noise sources from the facility, audible at the site boundaries have been identified as:

- Vehicles entering/leaving the site
- Unloading and loading of trucks with waste materials and processed materials using fork lift trucks, JCB etc
- Tipping of WEEE under cover in the Hanger building
- Reversing alarms from forklift trucks
- WEEE processing operations within buildings.
- Personnel entering/leaving buildings, car park area

During the **Daytime** measurements, maximum noise levels of $L_{Aeq(30\ minute)}$ varied between 57-66dB at boundary locations. The highest levels were noted at station NE002 (62, 65 and 66dB) on consecutive occasions. The result of 66dB was certainly elevated by a fork truck reverse alarm and activity moving some empty cages close to noise meter (2m away) during the 15:09 measurement. Site activities adding to this noise included fork lift trucks accessing building areas A,B,C and trucks being loaded with empty cages close to the entrance.

Station NE001, located on the northern boundary, had noise levels $L_{Aeq(30\ minute)}$ ranging from 59-65 dB during the day. Site activities at this station were audible but not typically intrusive due to their infrequency and short periods.

Station NE003, located on the south boundary behind the WEEE building, resulted in $L_{Aeq(30\ minute)}$ values ranging from 57-65 dB during the day. Noise was dominated here by the nearby dust extraction system used to treat dusts from the WEEE processing building and also noise from materials being processed inside the same building. There was also audible background noise coming from traffic on the nearby Tullamore by-pass at this location.

Station NE004, located on the west boundary, resulted in $L_{Aeq(30\ minute)}$ values ranging from 57-60 dB during the day. Noise was dominated here by typical sites activities; DX yard vehicular activities – loading and unloading truck trailers and moving materials with the JCB was audible also.

The **evening time** measurements resulted in $L_{Aeq(30\ minute)}$ values ranging from 50-60 dB which were generally lower than the daytime readings. The highest $L_{Aeq(30\ minute)}$ was at station NE002 at 60 dB and the noise here was due to site activities, predominantly materials handling. The lowest was at station NE001 where an $L_{Aeq(30\ minute)}$ of 50 dB was measured i.e. furthest away from site activities during the measurement period.

The **night-time** measurements were taken between 11pm and 3am and followed the NG4 guidance time periods. The highest noise level in $L_{Aeq(15\ minute)}$ was 49dB at NE003 boundary location whilst the lowest noise level in $L_{Aeq(15\ minute)}$ was 38dB at NE002 boundary location. There was no site activities noted during the night time measurements. The highest noise levels of 48 dB and 49 dB were at NE004 and NE003 respectively. These locations were

directly dominated by background traffic on the by-pass and dogs barking at a close-by Council Pound. This is further proven by the $L_{A10(15\ minute)}$ values (often used to describe traffic noise) of 53 dB and 52 dB at the same stations.

In general, noise generated during KMK operations is not likely to be a source of disturbance to neighbouring properties as it is known that noise dissipates over distance, and for point source emissions, there is a decrease in 6dB(A) for every doubling in distance away (see table 6 below).

Table 6 Attenuation of Noise over Distance for point source emissions e.g. industrial sources

Distance m	Noise level dB	Noise Level dB
10	70	65
20	64	59
40	58	53
80	52	47
160	46	41

The noise levels on site range from a night-time $L_{Aeq\ (15\ minute)}$ of 38 dB to a $L_{Aeq(15\ minute)}$ of 49 dB. This is equivalent to the noise arising from a busy office environment.

1/3 Octave analysis (analysis of recorded sound pressures to identify if tonal features are present) was carried out on the same day. There were some isolated tones identified during the survey. These are summarised in the following Table 7.

Table 7: Tonal Features Identification

Monitoring Station	**Day-time Tonal Features (Frequency & Pressure)**	**Evening-time Tonal Features (Frequency & Pressure)**	**Night-time Tonal Features (Frequency & Pressure)**	**Comments**	**Rating level ($L_{ar,T}$) as adjusted by adding 5dB to the relevant L_{Aeq}**
NE001	No identified tones	No identified tones	No identified tones	No tones identified	Not applicable
NE002	No identified tones	56dB at 1.25kHz, at 19:34	No identified tones	This tone was as a result of a brief event (tipping WEEE from skip to D-Yard). There was a loud impact noise from this process which lasted a minute, hence an impulsive source.	65dB
NE003	41dB and 33dB at 8kHz at 08:11 and 10:36 respectively	No identified tones	No identified tones	These tones are due to the operational noise associated with the dust extraction plant at this location. These tones are not likely to be experience by noise sensitive receptors due to the apex side of the building acting as a close noise barrier. Also the direct affected area of noise influence is a field and then the Tullamore by-pass some further distance away.	70dB for 08:11 64dB for 10:36
NE004	No identified tones	No identified tones	32dB at 2kHz at 00:04 and 37dB at 500Hz 01:22 respectively	Tones most probably as a result of the dogs barking/whining heard from the Council Pound close by. There was no audible noise from the site due to closure at this time period.	53dB for 00:04 53dB for 01:22

In conclusion;

- Annual environmental noise monitoring occurred at KMK from Wednesday 6th to the early hours of Thursday 7th August 2014.
- 4 boundary locations were assessed as per licence requirements.
- Activities at the KMK facility were deemed normal throughout the day.
- The general acoustic environment at and around the facility is dominated by facility operations, off-site activities within the industrial estate due to neighbouring commercial premises and the Tullamore by-pass road.
- The noise measured in L_{Aeq} at all boundary locations exceeded the licence requirements (Schedule B3) for day time readings. All but one location was also exceeded for the evening time readings. The night-time readings were exceeded at NE003 and NE004 only but attributable to off-site sources. These exceedances are not likely to be experienced at any of the closest dwellings near the site due to noise dissipation over increasing distances and mitigation due to some of the buildings acting as noise reduction barriers (especially in the case for NE003).
- There was tonal noise identified at NE002, NE003 and NE004 as follows;
    - An impulsive noise identified at NE002 during the evening time measurement attributable to KMK operations.
    - During the day time measurements, tones identified at NE003 as a result of the dust extraction fans associated with the emission stack.
    - During the night-time measurements, tones identified at NE004, attributable to off-site sources.

2.4 Surface Water and Wastewater emissions

The requirements for the sanitary effluent water discharge monitoring are as follows:

Table 8: Wastewater Monitoring Licence Requirements

Locations	Parameter	Monitoring frequency	Analysis Method/ Technique
F	Flow	Continuous	On-line flow meter with recorder
F	BOD, Suspended solids, total dissolved solids, nitrates (as N), ammonia (as N), total phosphorous (as P)	Quarterly	Standard Methods

Similarly, the waste licence requirements for storm water monitoring are as follows:

Table 9: Storm Water Monitoring Licence Requirements

Locations	Parameter	Monitoring frequency	Analysis Method/ Technique
CX DX E	Visual inspection	Daily	Examine for colour and odour
CX DX E	pH, COD, Ammonia, Conductivity, Suspended solids, Mineral oils, Metals (Al, As, Cr, Cu, Fe, Hg, Ni, Pb, Zn)	Quarterly	Standard Methods

The Water Discharge Monitoring Reports were submitted separately to the EPA. The sampling dates, discharge points and reference numbers of the laboratory certificates are shown in table 10 below.

Table 10: Storm Water and Wastewater Monitoring Summary

Date	Sample taken				Laboratory	Lab Reference
	CX	DX	E	F		
31-03-2014	Yes	Yes	Yes	Yes	Fitz Scientific laboratories	2925/002/01 2925/002/02 2925/002/03 2925/002/04
29-05-2014	Yes	Yes	Yes	Yes	Alcontrol Laboratories	272623
25-09-2014	Yes	Yes	Yes	Yes	Environmental Laboratory Services (ELS).	79159-1 79160-1
19-11-2014	Yes	Yes	Yes	Yes	Environmental Laboratory Services (ELS).	80772-1 80773-1

The sanitary effluent water discharge monitoring (F sample) for all parameters applicable under the licence and compared to the emission limit values are detailed in Table 11.

Table 11: Waste Water Monitoring Results

Sample Date	**31-03-2014**	**29-05-2014**	**25-09-2014**	**19-11-2014**	**Emission Limit values (ELVs)**
Parameter	**F**	**F**	**F**	**F**	
Total dissolved solids (TDS) (mg/l)	2180	3110	1020	845	**-**
Suspended Solids (mg/l)	6	2.5	<5	<5	-
BOD (mg/l)	<2	<1	<1	2	5
Ammonia as N (mg/l)	1.27	4.28	0.379	1.7	1
Nitrates as N (mg/l)	105.77	378	57.7	82.59	-
Total phosphorous as P (mg/l)	5.075	6.5	2.6	2.7	1

Table 12: Storm Water Monitoring Results

Date	31-03-2014			29-05-2014			25-09-2014			19-11-2014			Emission Limit values (ELVs)
Parameter	**CX**	**DX**	**E**	**CX**	**DX**	**E**	**CX**	**DX**	**E**	**CX**	**DX**	**E**	
Suspended Solids (mg/l)	5	10	8	3.5	90	3.5	<5	30	6	6	57	<5	35
Conduct. (µS/cm)	237	469	146	489	1,320	246	376	1,180	124	444	774	263	-
Ammonia NH_3 (mg/l)	0.784	0.290	0.473	<0.2	1.96	0.988	0.086	2.964	0.337	0.25	0.74	0.97	-
pH (units)	7.4	7.7	8.4	8.07	7.82	8.88	7.9	7.6	7.8	7.9	7.6	9.2	-
COD (mg/l)	5	57	11	9.57	156	32.4	23	131	19	<8	85	22	-
Iron (mg/l)	0.301	0.05858	0.1195	<0.019	0.247	0.253	0.1544	1.68	0.110	0.20	1.20	0.670	-
Arsenic (mg/l)	0.00038	0.00076	0.00073	0.00122	0.00136	0.0026	0.0006	0.0009	0.0006	0.001	0.0013	0.0031	-
Zinc (mg/l)	0.1207	0.124	0.02188	0.118	0.00075	0.0866	0.2717	0.261	0.1875	0.160	0.510	0.250	-
Chromium (mg/l)	<0.00068	0.001103	<0.00068	0.00396	0.0043	0.0021	<0.001	0.0027	<0.001	<0.001	0.0034	<0.001	-
Nickel (mg/l)	0.006699	0.007821	0.002299	0.0165	0.0149	0.00703	0.0065	0.0145	0.0036	0.0085	0.0205	0.011	-
Aluminium (mg/l)	0.01693	0.05738	0.1106	0.00785	0.0136	0.210	0.0425	0.2465	0.0788	0.015	0.680	0.200	-
Copper (mg/l)	0.00697	0.01539	0.00701	0.0177	0.00166	0.00824	0.015	0.004	0.013	0.013	0.033	0.008	-
Lead (mg/l)	0.003999	0.01199	0.003881	0.00367	0.000694	0.00952	0.0572	0.204	0.0164	0.0197	0.3528	0.0127	-
Mercury (mg/l)	0.000353	0.000295	<0.0002	0.0000215	<0.00001	0.0000245	0.00004	0.00002	<0.00002	<0.00002	0.00005	<0.00002	-
Mineral Oil (mg/l)	<0.0025	0.401	0.06526	<1	1.41	<1	0.418	0.408	0.482	<0.01	0.097	0.107	2

Interpretation of Quarterly Results 2014

Discharges from CX and E were below the license emission limit values during all monitoring periods in 2014. Suspended Solids levels at DX were above the emission limit values during the May and November monitoring periods in 2014.

KMK revised their interceptor maintenance program by cleaning out the gully lines first followed by interceptor cleaning second. Furthermore, a maintenance contract is in place with an outside company to periodically visit KMK and inspect the interceptors and validate their operations so as to ensure that they are working correctly and efficiently. The site has also increased the cleaning of the storm water interceptors at C and D from once every six months to once every three months in order to achieve compliance with the storm water discharge limits. However, a planned and lasting measure for compliance with the suspended solids limit value is to remove the interceptor at DX and install a new larger and more capable Class 1 interceptor. The proposed unit will improve compliance with the emission limit values of the license and prevent the reoccurrence of further exceedances at the DX outlet. A Request For Approval for the new Class 1 interceptor was made to the Agency on the 24th November 2014.

The new WWTS & biofilter on-site was fully installed and commissioned in November 2013. This replaced the percolation area which was removed. The results for Total Phosphorous and Ammonia were above the license emission limit values during all monitoring periods in 2014 with the exception of Ammonia levels during the 3rd Quarter monitoring event. A delicate balance of Ferric Chloride dosing in the WWTS was carried out throughout 2014 in order to reduce Total Phosphorous levels below the license emission limit value. However, the increase in Ferric Chloride dosing to reduce Total Phosphorous levels has resulted in an increase in Ammonia levels. It is clear that the delicate balance of dosing that has been practiced in the WWTS is not effective at maintaining Ammonia and Total Phosphorous within license limit values. Engagement with the Agency to discuss the Emission Limit Values set in the revised license for Total Phosphorous is essential in order to resolve this continual breach.

2.5 Groundwater

KMK has two wells: GW1 and GW2, both of which are tapped onsite and were sampled on 27th November 2014. The full Annual Groundwater Monitoring Report 2014 was submitted separately to the EPA.

Schedule C.7 of the licence specifies the groundwater monitoring parameters and annual frequency. A note on this schedule states that *'The relevant hazardous substances for monitoring in groundwater shall be identified by the licensee by undertaking a risk based assessment. The Licensee shall have regard to the 'Classification of Hazardous and Non-Hazardous Substances in Groundwater' issued by the Agency. Monitoring for the identified hazardous substances shall be carried out at least annually, unless a case for less frequent*

monitoring is agreed by the Agency'. Hence a groundwater monitoring risk assessment was conducted by Nally Environmental Ltd prior to groundwater monitoring for KMK. This risk assessment report forms part of the Annual Groundwater Monitoring Report 2014.

The risk assessment report concluded that Cadmium and Hydrocarbons (including mineral oils and diesel range organics) were relevant to KMK in terms of monitoring in their two individual groundwater monitoring wells on-site in addition to the other specified parameters in the licence table. Hence monitoring was carried out annually, in accordance with the following requirements.

Table 13: Groundwater Monitoring Licence Requirements

Ref	Parameters	Monitoring frequency	Analysis Method / Technique
GW1 GW2	pH, Conductivity, groundwater level, total faecal coliforms, total nitrogen, chloride, hydrocarbons screen (mineral oils/DROs) and Metals (Al, As, Cd, Cr, Cu, Fe, Hg, Ni, Pb, Zn)	Annually	Standard Methods

All results were below the recommended guideline limits set by EC Groundwater Regs. S.I. 9/2010 and the EC Drinking Water Guideline SI 278/2007, with the exception of Nickel (35.09µg/l) and Arsenic (17.77µg/l) – both of which are known to be in soils and rock naturally.

Nickel is present in soils naturally, and has been found in KMK samples since 2006 (with the exception of 2009 and 2012). According to the 'Soils of Co. Offaly' National Soil Survey of Ireland by Teagasc 2003, the typical levels of trace nickel in agricultural soils ranges from 0.5 to 100 mg/kg. The natural occurrence of arsenic in rock veins is also well documented across the world. In the absence of specific data for arsenic in Offaly, another close licensee was reviewed in terms of their groundwater monitoring i.e. AES Ireland Ltd, Cappincur Ind. Estate, Tullamore. It was noted in their 2012 AER that arsenic was also found in one of their boreholes GW2. Both boreholes are approximately 300m apart. This presence confirms naturally occurring arsenic in the groundwater because the levels are very similar and yet the two associated businesses are very different, AES being a general waste transfer and recycling station and KMK being a metals and WEEE Recycler.

3.0 WASTE ACTIVITIES CARRIED OUT AT THE FACILITY

The principal class of activity is:

Class 13 *of the Fourth Schedule (Waste Recovery Activities) of the Waste Management Act (1996): Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.*

Non Technical Description: Temporary storage and processing of waste materials at the facility prior to removal off site for further metals recovery at an alternative facility.

Consequently, other activities carried out on site include:

Class 3 *of the Fourth Schedule (Waste Recovery Activities) of the Waste Management Act (1996): Recycling or reclamation of metals and metal compounds.*

Non Technical Description: Collection, acceptance and processing of metallic wastes (hazardous and non hazardous including electronic and electrical wastes and liquids containing dissolved metals) as part of waste loads arriving at the facility prior to removal off site for recycling or recovery.

Class 4 *of the Fourth Schedule (Waste Recovery Activities) of the Waste Management Act (1996): Recycling or reclamation of other inorganic materials.*

Non Technical Description: Acceptance of plastic components and packaging as part of incoming waste loads.

Class 6 *of the Fourth Schedule (Waste Recovery Activities) of the Waste Management Act (1996): Recovery of components used for pollution abatement.*

Non Technical Description: Acceptance of auto catalysts, filters etc.

Class 7 *of the Fourth Schedule (Waste Recovery Activities) of the Waste Management Act (1996): Recovery of components from catalysts.*

Non Technical Description: Recovery of metals from catalysts in manufacturing processes (this applies to liquids and solids)

Class 11 *of the Fourth Schedule (Waste Recovery Activities) of the Waste Management Act (1996): Use of waste obtained from any activity referred to in a preceding paragraph of this schedule.*

Non Technical Description: Re-use of some waste materials e.g. metal drums, IBCs, cardboard boxes and textile IBC bulk bags as waste receptacles.

Class 12 *of the Fourth Schedule (Waste Recovery Activities) of the Waste Management Act (1996): Exchange of waste for submission to any activity referred to in a preceding paragraph of this schedule.*

Non Technical Description: Trading activities in waste management.

4.0 QUANTITY AND COMPOSITION OF WASTE RECOVERED, RECEIVED AND DISPOSED OF DURING THE REPORTING PERIOD INCLUDING EWC CODES

This specific and detailed information is presented in Appendix 3 of this report.

5.0 WASTE MANAGEMENT RECORD

5.1 Waste Received in 2014

Waste is received in the KMK facility from the following sources: civic amenity sites, commercial customers, industrial customers and transfer station waste management sites. A summary of all waste received during 2014 is given below:

Table 14: Summary of Waste Received in 2014

Source of waste accepted.	Total quantities (tonnes)
Civic amenity sites	6721.234
Commercial	9173.576
Industrial	781.256
Transfer Stations	7573.757
Total	24,249.82

A full breakdown of waste types and quantities accepted for 2014 is included in Appendix 3 attached to this AER.

The total quantity received was 24,249.82 tonnes for 2014.

5.2 Waste Despatched from the Facility for Recovery in 2014

The total quantity of waste despatched from the facility in 2014 was 22,469.017 tonnes. A summary of all waste despatched during 2014 is included in Appendix 3 attached to this AER. Please note that there is a carry-over of waste material from the year ending 2014 into the beginning of 2015 (1,214.6 tonnes) and this is stock pending processing and stock pending dispatch (see Appendix 3).

6.0 WASTE RECOVERY REPORT

All waste accepted at KMK is treated for recovery and recycling. There is a 'no waste to landfill' policy on-site. KMK also acknowledges and complies with the most recent WEEE Regulations whereby recovery targets are calculated and achieved. See letter statement below.

KMK METALS·RECYCLING

KMK Metals Recycling Ltd.
Precious and Non-Ferrous Metals
Electronic Scrap & Metallic Residues
Hazardous Metal Waste

Cappincur Ind. Est.
Daingean Road
Tullamore
Co. Offaly
Ireland

Telephone
057-934 1634

Telefax
057-932 2729

E-Mail
info@kmk.ie

Website
www.kmk.ie

EPA Waste Licence:
W0113-03

24 January 2014

To whom it may concern,

I confirm that **KMK Metals Recycling Ltd** acts as your company's waste contractor for battery waste and electrical waste which we are authorised to accept.

Our facility at **Tullamore, Co Offaly** is licensed **(EPA Waste License No. W0113-04)** to accept and recover Waste Electrical & Electronic Equipment (WEEE). Our recently amended license now allows us to manage 35,000t per annum.

With reference to Article 22 of the WEEE regulations, I can confirm that we shall comply with the Seventh Schedule and the requirements for the removal and selective treatment of certain substances, preparations and components, such as batteries, cathode ray tubes, external electric cables etc.

With reference to Article 23, KMK will achieve and expect to exceed the minimum recovery targets and any minimum component, material and substance reuse and recycling targets over the next three years.

Our current recovery rates are as follows:

Large Household Appliances	**82%**
Refrigeration Appliances	**88%**
Small Household Appliances	**92%**
IT & Telecommunication Equipment	**92%**
CRT (Televisions & Monitors)	**93%**
Lighting (FL's and CFL's)	**95%**
Batteries Portable/Household	**63%**
Batteries Lead-Acid	**99%**

We have a 'no-waste to landfill' policy, with any waste generated going to Waste to Energy facility in Ireland.

If I can be of any further help, please do not hesitate to contact me.

Kind regards,

KMK Metals Recycling Ltd
Works: Cappincur Industrial Estate
Road, Tullamore, Co. Offaly
9341634 Fax: 057 9322729
metalsrecycling.ie

Kai Meyer

In addition, KMK has acheived compliance with EN50625 WEEE Treatment Standard / the WEEELABEX Standard, which prescribes methods for conducting Batch Tests and for the subsequent Calculating Recycling and Recovery Targets.

7.0 RESOURCE CONSUMPTION SUMMARY

Electricity, green diesel and kerosene are used at the facility. The following tables summarise the electricity and fuel consumption at the facility from 2013 to 2014 inclusive and for comparison purposes.

Table 15: Breakdown of the Energy Consumption for the Year

	Consumption in kWh*				
	2013	% of total		2014	% of total
Electricity	663720	47.25		654520	37.94
Kerosene	64199	4.57		49150	2.85
Diesel	676728	48.18		1021345	59.21
Total	1404647	100		1725015	100
*Energy conversion factors: kerosene 10.4kWh/l, diesel 10.8kWh/l					

In summary, the following trends are noted:

Electricity consumption in 2014 decreased by 1.4% compared to 2013 and Kerosene decreased by 23% whereas Diesel increased by 51%. The reasons for this are that:

- The decrease in electricity consumption in 2014 compared to 2013 was due to the introduction of KMKs energy management plan. KMK aim to have further electricity consumption decreases in 2015 when the energy management plan is fully implemented.
- Kerosene is used for the heating of office space. The decrease in kerosene consumption in 2014 compared to 2013 is due to the last delivery of kerosene to the facility being made in December of 2013. The majority of this kerosene was consumed in 2014, however as the consumption levels are calculated from invoice records, hence giving a lower level of consumption in 2014.
- The increase in diesel consumption is due to an increase in waste intake. Due to this increase, especially with regard to Fridge Freezer and Large Household Appliance intake, both forklift and diesel baler operation use have increased. KMK van collections have also increased resulting in higher diesel consumption levels.

8.0 REVIEW OF NUISANCE CONTROLS

The types of nuisances which could be expected at a Waste Management Facility in general are litter, vermin, birds, flies, mud, dust and odours.

Due to the dry solid and non-food related origin of materials recycled at KMK, the activities carried out onsite are not conducive to flies, birds, odours, and vermin - there are however canteens onsite, and associated businesses nearby, therefore KMK employs a pest control company to ensure rodents are controlled.

All waste processing activities are carried out within buildings; all materials prior to processing are not able to create a windblown nuisance (as they are solid / intact and too large to be blown), and all fractions generated by the activities of KMK are stored under cover.

All site surfaces are concreted for minimisation of dirt/dust onsite, however dust is entrained or deposited onsite and controls are in place in the form of yard dampening as necessary - as often as twice per day in summer time, plus KMK uses a road sweeper on smooth floor surfaces for example in the WEEE Plant. Dust monitoring around the boundaries of the KMK site during the 2014 monitoring event showed that two dust deposition results (A2-1 in August, and A2-2 in May) were above the EPA recommendation limit of 350mg/m^2/day. The increased dust suppression practices at KMK for C yard resulted in location A2-2 being below the license limits and therefore shows an improvement from the previous sampling period in May 2014.

Dust remains KMK's only evident nuisance requiring active control by employees of KMK, and control will continue throughout 2015 with additional effort being made during summer months.

9.0 SCHEDULE OF ENVIRONMENTAL OBJECTIVES AND TARGETS AND ENVIRONMENTAL MANAGEMENT PROGRAMME

The schedule of Objectives and Targets / Environmental Management Programme for 2014 and their current status is included below in Table 16 as part of the company IMS. Most of the scheduled objectives and targets were achieved in 2014; some were carried forward and where this is the case a note is made to that effect in 'Status'.

A new schedule of objectives and targets / EMP proposed for year ending 2015 is also presented in Table 17.

Table 16: Environmental Objectives and Targets 2014

ID	OBJECTIVES AND TARGETS	Timescale	Resp	Status
'13-3	Install new BAT (as agreed with the EPA) for Flat Panel Display dismantling at KMK. Document the new Process (including quality, health and safety, maintenance requirements, and risk assessment) based on material from the Manufacturer, and train employees on same.	Sep 2014	KMK	Carried forward to 2015 objectives
'13-5	Implement an **Energy Management Plan** (which may span a number of months and into 2015) based on recommendations arising from the SEAI Audit and Mentoring sessions during 2013.	Jun 2014	EL	Carried forward to 2015 objectives
2014: QUALITY				
'14-Q-1	Work in accordance with a documented **EN50625 Conformance Work Programme** for achievement of conformance to all requirements of EN50625 - before end Dec 2014. EN50625 (aka WEEELABEX) is a standard for Excellence in WEEE Recycling; it touches on all aspects of KMK's current Standards (Quality, Environment, and Health and Safety) and is our most significant Compliance Scheme requirement for 2014.	Dec 2014	AJ	Complete December 2014
'14-Q-2	Develop '**Process Performance Assessments**' as a template for SMART evaluation of IMS performance in each Process Area / Building (to include QESH aspects and controls, as applicable)	May 2014	AJ & SS's	Complete August 2014
'14-Q-3	Review and rationalize KMK's existing Management System (including rewriting the Manual) to focus only on the specific clauses of: OHSAS 18001, ISO 14001, ISO 9001, EN50625, KMK's Waste Licence W0113-04, and KMK's Waste Collection Permit WCP-OY-08-00607-01 - which will include customer requirements.	Feb 2015	AJ	Complete September 2014
2014: HEALTH AND SAFETY				
'14-S-1	Investigate the potential use of Safety Mirrors in KMK to improve safety regarding Vehicle / Pedestrian Interactions *(Update: 1 Convex Mirror purchased and installed in Nov 2013; 4 more purchased and installed in Dec 2013)*	Nov 2014	AJ / SS's	Complete December 2013
'14-S-2	Car Park Signage *(Update: more than 30 traffic signs were installed in March 2014)*	Nov 2014	MK	Complete March 2014
'14-S-3	Pedestrian Crossings to be marked for crossing the pubic road / busy area of the Site (from Visitors Car Park to Reception and from Weighbridge to Operatives canteen)	Jul 2014	MK	Complete March 2014
2014: ENVIRONMENT				
'14-E-1	(NEW) EPA Waste Licence: plan work in accordance with KMKs **Environmental Compliance Work Programme** for compliance with new Waste Licence conditions, monitoring requirements, installations, reports for review / approval and signage, incl. the following priorities: 1. Interceptor Upgrade (to be carried out in dryer weather) 2. Flow Meter installation to F 3. Trigger Level proposal (Jun 2014) for agreement with EPA (assessed by EPA)	1.Jun 2014 2.May 2014 3.Jun 2014	AJ	1.Carried forward to 2015 objectives 2.Complete 3.Complete
'14-E-2	Focus on EPA Priority Issues for 2014: 1. Waste Storage and Fire Prevention: adopt relevant recommendations from EPA Workshop in 2013 (Athlone) and IWMA/CIWM event in 2014 (3rd April, in Tullamore) into Facility Fire Prevention procedure / practice (include Isolation of Electrical Supply (and Notice for same); access to water supplies and volumes (10,000L KMK, ~40,000L Ind Est, & Rainwater Tanks); keys to electrical switch room) 2. Integrity of Bunds, tanks and pipelines: Camera Survey, Fixes, and Verification Survey (Mar 2014) & subsequent Pressure Test (Sept 2014) 3. Waste Classification and Records: review and document the classification, names and EWC codes for all principal waste types in KMK (to be included in process flows).	1.Jun 2014 2.Mar 2014 3.Dec 2014	AJ	1.Complete 2.Complete 3.Carried forward to 2015 objectives
'14-E-3	Reissue the Community Noise Control Policy (as issued during 2013).	July 2014	AJ	Complete August 2014
'14-E-4	Repeat the Community Awareness Day / Open Day at KMK (as was held in 2013; Item #11 of 2013) for: staff of KMK, the Cappincur Industrial Estate and Community, and all other interested parties, whereby KMK will be an 'Open House' and all attendees will be granted access to learn about KMK's activities and recycle their WEEE and Scrap Metals for free.	Oct 2014	BG	Complete October 2014

Table 17: Environmental Objectives and Targets 2015

ID	OBJECTIVES AND TARGETS	Timescale	Resp	Status
CARRIED FORWARD FROM 2014				
'14-E-2 / 15-1	Waste Classification and Records: Create a list of process inputs (with EWC) and fractions generated (as a % of the input) – based on WEEELABEX Batch Results.	End 2015	**CD / KM**	Not started
14-E-1(1)	Interceptor Upgrade: upgrade required by Offaly CoCo for CX (so that all trafficked areas are serviced by Class I Interceptor) – because DX is not performing, KMK proposed to install one (larger) interceptor to receive both CX and DX storm water. EPA approval = pending.	Unknown.	**CD & EPA + KK / MK**	Waiting for EPA Approval – (as at 12/01/2015)
13-5	Energy Management Plan – drafted, to be implemented 2015	TBC	**CD**	Not started.
13-3	Implement new Flatscreen Process (Currently on hold by Manufacturer.)	TBC.	**CD + KK**	Not started
ENVIRONMENTAL				
15-2	Ensure Emergency Response is drill on a 6 Monthly Basis – as per IMS Schedule. Template Drill Reports prepared	Jan & Jul for Fire; March & Sept for Accident & Spill.	**CD**	Not started.
15-3	Review and update Non-Conformance procedure.	March 2015	**CD**	Not started.
15-4	Link legal requirements to evaluation of compliance.	June 2015	**CD**	Not started.
QUALITY				
15-5-1	Update the ***Internal Audit Procedure*** to reflect current practices and document procedure for the follow up of audit findings / issues raised.	May 2015	**CD**	Not started
15-5-2	Prepare an Internal Audit Schedule to schedule auditing as per procedure	May 2015	**CD**	Not started
SAFETY				
15-6	Audit work instructions regarding new ADR rules for Damaged Lithium Cells applicable from January 2015 and mandatory from July 2015 to ensure compliance to new rules.	Sept 2015	**CD**	Not started
15-7	Update Control of Records Procedure to more specifically define types of records required to be held & retention time, + back-up of records (server back-up).	May 2015	**CD**	Not started

10.0 POLLUTANT RELEASE AND TRANSFER REGISTER – REPORT FOR PREVIOUS YEAR

The PRTR report is specifically generated every reporting year using the EPA Guidance to completing the PRTR excel based workbook. The content of the PRTR for KMK is quite minimal in that the waste activity only has to enter in data for: 1) general facility data 2) emissions to air and 3) onsite treatment and off-site transfers of waste. KMK also have obtained a confidentiality status in relation to off-site waste transfer outlets (recovery and disposal) from the EPA since 2010 and therefore is not required to give actual names and addresses of such final transfer facilities.

The full PRTR report for 2014 forms Appendix 4 of this AER report.

11.0 POLLUTANT RELEASE AND TRANSFER REGISTER – PROPOSAL FOR CURRENT YEAR

KMK's reportable PRTR is generally similar from year to year and emissions are confined to air media for the facility, hence there is no requirement to generate any actual PRTR proposal for the forthcoming year (which differs from IPPC licensees).

12.0 NOISE MONITORING REPORT SUMMARY

A summary of the noise monitoring for 2014 on-site is presented in Section 2.3 of this AER and the full noise monitoring report is in Appendix 2.

13.0 AMBIENT MONITORING REPORT SUMMARY

A summary of the ambient dust monitoring for 2014 on-site is presented in Section 2.1.

14.0 TANK AND PIPELINE TESTING AND INSPECTION REPORT

14.1 Bund Assessments.

A full assessment of the bunds storage structures was completed by Nally Environmental between the 22nd and 25th February 2013; the full report was included in the 2013 AER report.

14.2 Pipeline inspections and testing

Integrity Testing of Storm and Foul underground lines was carried out in 2014. CCTV surveys following repairs was also carried out and these reports are included in Appendix 5. A Status Report is also included in Appendix 5 which shows the Integrity Test Status of underground lines on site. KMK Recycling plan to carry out repairs to the underground lines that failed the integrity test during the installation of the new interceptor for CX and DX yards which was granted approval on the 2nd April 2015. Integrity testing of the repaired underground lines will be detailed in the AER for year ending 2015.

15.0 REPORTED INCIDENTS SUMMARY

There were six Category 1 reportable incidents during 2014 at the facility, summarised below

Table 18: Incidents Report Table during 2014

Alder Ref no	Incident reported date	Incident cause/description	Summary of Actions throughout the course of this incident history.	Incident Status
004033	31/03/14	Elevated levels of Total Phosphorous and Ammonia for final discharge at F from the waste water treatment system.	As a follow-up to this incident; The waste water treatment system (WWTS) providers (Molloy Precast, Tullamore) have attended the site and performed various technical checks on the system. Due to an oversight in WWTS set-up, the ferric dosing system used to treat phosphorous was not fully commissioned. This is now complete and set-up working from today 30/04/2014. This should therefore result in lower total phosphorous readings for the next monitoring event (It is expected to take some time in order for any residual phosphorous to flush out from the biofilter). Similarly, additional modifications have been made to the WWTS in order to further reduce NH4 levels being discharged. Molloy Precast are in the process of closely monitoring the improvements in the WWTS via in-house samples/tests on an on-going basis for KMK.	Open

Alder Ref no	Incident reported date	Incident cause/description	Summary of Actions throughout the course of this incident history.	Incident Status
004506	29/05/14	Breach of ELVs as follows: DX result - total suspended solids 90mg/L, ELV is 35mg/L F results - ammonia as N - 4.28mg/L, ELV is 1mg/L and total phosphorous as P - 6.5mg/L , ELV is 1mg/L	In relation to DX: It is noted that the interceptor for DX outlet was last fully emptied and serviced on 4th December 2013. Therefore the period of Q2 sampling (29th May) coincided very close with the next due date for maintenance (the interceptor is emptied and serviced every 6 months). Both C and D interceptors, inspection chambers and associated drains were cleaned out on the 13th June 2014 by ENVA contractors. In relation to F: Molloy Environmental attended the site on the 11th June and made some necessary adjustments to the WWTS in order to improve ammonia reduction. Molloy will train KMK to weekly inspect the WWTS and in particular the ferric chloride dosing drum to make sure it is working and enough supply is there at all times. KMK are in agreement to this in the interest of greater maintenance efficiency of the WWTS. See attached Q2 report	Open
004626	29/05/14	Breach of ELV for ambient dust at facility for monitoring location A2-2, result is 422.7mg/l and ELV is 350mg/l. All other locations were below the ELVs as follows: A2-1: 186.8mg/l, A2-3: 72.1mg/l and A2-4: 124.1mg/l.	No impact in terms of significant contamination. Possible cause is dust blowing from the next door farm machinery yard (hard standing surface) used to store outside farm machinery. Continue to dampen yard areas down during dry weather periods. KMK carried out a repeat dust monitoring event for 8th July to 6th August (30day composite sample) for all parameters at all locations.	Closed

Alder Ref no	Incident reported date	Incident cause/description	Summary of Actions throughout the course of this incident history.	Incident Status
005543	25/09/14	Breach of ELVs as follows; F discharge outlet from WWTP sand filter; Total phosphorous as P result - 2.6mg/l and ELV is 1mg/l. No other ELV breaches.	The reason for the total phosphorous level is due to a reduction in ferric chloride dosing at the SBR unit. The reduction in dosing was in order to allow for a steady build-up of bacteria within the biofilter structure and the production of a uniform and robust bio-mat which will effectively treat the nitrates and ammonia from the SBR tank. This has occurred successfully because the ammonia results are <1mg/l in the sample. Hence, now that a bio-mat is successfully established, the continuation and incremental increase of ferric chloride dosing will continue at the SBR and this will reduce the total phosphorous. The dosing cannot be increased significantly because any spike in dosing may kill off bacteria in the sand filter. Hence a delicate balance must be achieved between dosing and keeping enough bacteria in the sand filter to treat nitrates and ammonia. Molloys were on-site on 13/10/2014 and started the incremental dosing of ferric chloride. Molloys will attend the WWTS again on the 17/10/2014 to check the dosing system, take SRB samples at the secondary tank and provide system maintenance on-site. A note was attached to the details on this incident from the treatment system provider Molloy Environmental systems explaining the reasons for the results and various workings of the WWTS. The note raises important questions about the ELVs as set out in the waste licence W0113-04. KMK would like to further consider this and engage with the EPA on same	Open

Alder Ref no	Incident reported date	Incident cause/description	Summary of Actions throughout the course of this incident history.	Incident Status
006041	19/11/14	Breach of ELVs as follows for DX storm water outlet. Total suspended solids result: 57mg/l and the ELV is 35mg/l.	DX interceptor serviced on the 14th October prior to sampling event on 19th Nov. In between servicing, there was quite a lot of rainfall events whereby silt will have been washed into rain collection gullies and into the interceptor. Housekeeping keeps reasonable control on the yard in terms of sweeping up and collecting debris and silt materials for off-site removal. A permanent solution is to install a new interceptor at DX the details of which were previously submitted to the Agency as a RFA on the 24th Nov 2014. This proposed new infrastructure will effectively reduce the suspended solids to below licence limits. Maintain house-keeping measures to effectively ensure suspended solids entering the storm drainage gullies are minimal by way of sweeping up and collection. Action the RFA (new interceptor installation) once approval is gained from the Agency.	Closed
006042	19/11/14	Breach of ELVs as follows; F discharge outlet from WWTP sand filter; Total Phosphorous as P result - 2.7mg/l and the ELV is 1mg/l, ammonia as N - 4.28mg/L, ELV is 1mg/L	KMK will liaise further with Molloys (WWTS provider) in relation to options of increasing the ferric dosing further so that <1mg/l is achieved for total phosphorous whilst at the same time, maintaining the ammonia & BOD treatment to within licence limits.	Closed

All incidents will continue to be addressed in a timely manner and reported using the new ALDER online reporting portal system, as adopted by the EPA, and in accordance with Guidance and Waste Licence requirements on same.

16.0 COMPLAINTS SUMMARY

There were no complaints received at KMK during 2014 for the facility.

17.0 ENERGY EFFICIENCY AUDIT REPORT SUMMARY

Please refer to Section 7 of this report for energy usage data and information.
Whilst the energy usage has increased from 2013 values, the reason for this is the increased recycling on-site hence reduced export of activities which are now carried out in Ireland. If this is considered on a broader basis the increased energy used by KMK is off-set against a) the increase in energy that would have been used at an alternative facility in order to further recover the materials from the waste inputs, and b) the reduction in emissions created by haulage (material is more uniform and smaller in particle size hence loads are more efficient) – therefore, the increased energy consumption is positive for Irelands economy and the wider environment.

18.0 VOLUME OF TRADE EFFLUENT/LEACHATE AND/OR CONTAMINATED STORMWATER PRODUCED AND VOLUME TRANSPORTED OFF-SITE

There is no trade effluent or leachate produced at KMK.

In terms of stormwater, this is discharged off-site via CX, DX and E outlets. The site interceptors are routinely emptied and maintained throughout the year and the following off-site disposals of same occurred during 2014:

Table 19: Storm Water Transported Off-Site

No. of collection events	Ref	EWC	Description	Quantity (Kg)
2	CX & DX Interceptors	13 05 08*	Interceptor and associated drains contents, jetting & washing cleanings and silts removal	June: 19700 October: 13460 Total: 33160

There was also 34.1 Tonnes of liquid effluent collected from the site in 2014.

19.0 REPORT ON THE ASSESSMENT OF THE EFFICIENCY OF USE OF RAW MATERIALS IN PROCESSES AND THE REDUCTION IN WASTE GENERATED.

The raw materials used at KMK for the recycling process are metallic and WEEE waste inputs. Please refer to Section 6 previously for information relating to the recovery efficiency of KMK's activities.

KMK does not landfill; all residual wastes are sent for recycling (for example Timber Waste and Dry Recyclables) or energy recovery (only those wastes which are not clean / dry recyclables and which are unsuitable for recycling).

20.0 REPORT ON PROGRESS MADE AND PROPOSALS BEING DEVELOPED TO MINIMISE WATER DEMAND AND THE VOLUME OF TRADE EFFLUENT DISCHARGE.

This section is not applicable to KMK as there is no trade effluent discharge from the facility in 2014.

21.0 DEVELOPMENT / INFRASTRUCTURAL WORKS SUMMARY (COMPLETED IN PREVIOUS YEAR OR PREPARED FOR CURRENT YEAR).

Any relevant such works are already presented Section 9 of this report.

22.0 REPORT ON THE FINANCIAL PROVISION MADE UNDER THIS LICENCE, MANAGEMENT AND STAFFING STRUCTURE OF THE FACILITY, AND A PROGRAMME FOR PUBLIC INFORMATION.

- Financial Provision: KMK confirms that adequate financial provisions are in place for all proposed environmental improvements and controls for the forthcoming year and thereafter. In particular, KMK has 'Pollution Liability' of €6.5 million included in their company insurance document. This is more than adequate to cover any pollution incidence of environmental significance as requested in the Environmental Liability Directive.

  In addition, the operator has prepared a Decommissioning Management Plan (DMP) in accordance with Condition 10 of the licence. The methodology for the development of the report follows EPA guidance and it has been prepared by an independent and appropriately qualified consultant.

  The total closure and restoration/aftercare costs have been calculate as €77,376 (including contingency and adjusted for inflation). KMK has made the necessary financial provision to cover this by means of a bond previously arranged under separate cover to the EPA.

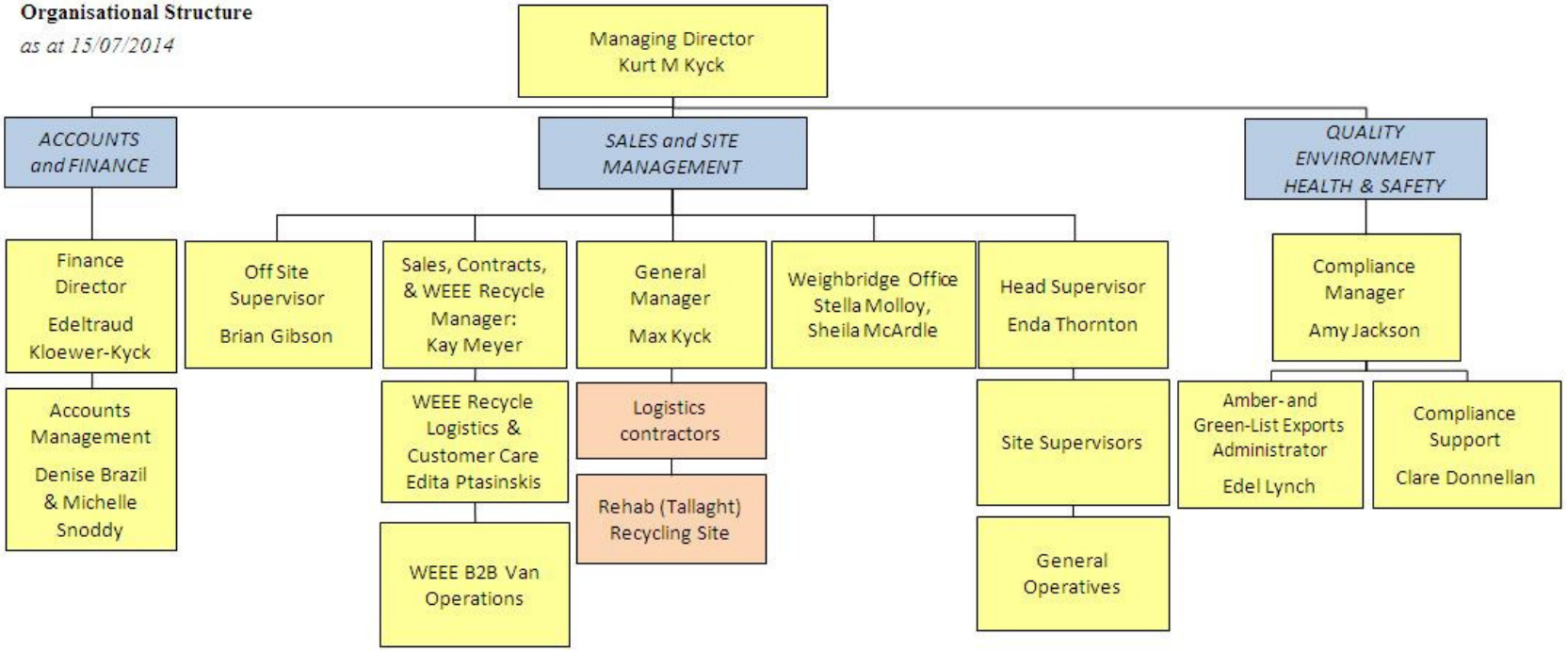
- Programme for Public Information
  - KMK provides information about the facility opening hours, website address and contact details on the Facility Notice Board which was updated in 2014 and which is located at the main gates of the facility.
  - KMK provides a website: www.kmk.ie (complete with 'Audit Us' section and videos of waste management processes) to make relevant information

readily available for interested parties. The website is updated by company employees as and when documents change, thanks to its user friendly interface.

- KMK maintains documents and records on file within the company IMS (Integrated Management System) as necessary for Waste Licence Compliance (W0113-04) and ISO 14001
- Tullamore Scouts Fundraiser: The Tullamore Scots Fundraiser was carried out in July 2014 and brought in 5.5T of WEEE and Metal Waste. The fundraiser was a great success educating the scouts about the importance of segregating and recycling waste materials and raising €1,030in total for the Tullamore Scouts.
- Free Recycle Week: KMK offered free collection and recycling of electrical and metal waste as well as obsolete batteries from the 29th of September to the 3rd of October.
- KMK Open Day: KMK had an Open Day on Saturday the 4th of October 2014. The Open Day was a great success bringing in almost 12 tonnes of metal waste and raising much needed funds for Durrow National School, community groups and businesses. Throughout the Open Day visitors were given guided tours of KMKs facility and educated about the importance of segregating and recycling waste materials.
- KMK Metals Recycling ltd. won "Green Initiative" from Tullamore Chamber of Business Awards.
- Daffodil Day at KMK: This is an annual fundraising event where KMK grow Daffodils at the back of the facility, cut and sell them. All proceeds go to the Irish Cancer Society.

- Organisational Chart: of the Management Structure at KMK Metals Recycling Ltd is presented below.

KMK Metals Recycling Ltd Organisational Chart



23.0 REVIEW OF DECOMMISSIONING PLAN

Nally Environmental has prepared a Decommissioning Management Plan (DMP) for the site in accordance with Condition 10 of the licence. The methodology for the development of the report follows EPA guidance and it has been prepared by an independent and appropriately qualified consultant. The KMK facility decommissioning plan has fully incorporated all factors which may arise in order to achieve successful clean closure. The guarantee bond currently in place is sufficient to facilitate any predicted and unpredicted costs which may be incurred during and post closure at the KMK facility.

24.0 ENIRONMENTAL LIABILITIES RISK ASSESSMENT

Condition 12.2.2 of the waste licence states that: '*The licensee shall arrange for the completion, by an independent and appropriate qualified consultant, of a comprehensive and fully costed Environmental Liabilities Risk Assessment (ELRA) which addresses the liabilities from past and present activities. The assessment shall include those liabilities and costs identified in Condition 10 for execution of the DMP. A report on this assessment shall be submitted to the Agency for agreement within twelve months of date of grant of this license. The ELRA shall be reviewed as necessary to reflect any significant change on site, and in any case every 3 years following initial agreement. Review results are to be notified as part of the AER.*

A full Environmental Liabilities Risk Assessment (ELRA) was prepared in December 2014 and submitted to the EPA.

25.0 DEVELOPMENT WORKS

25.1 Development works in 2014

Please refer to Section 9 for an update on all scheduled development works.

25.2 Proposed Development for 2015

Please refer to Section 9 for a schedule of all planned development works.

26.0 OTHER ITEMS

There are no further items included in this Annual Environmental Report.

APPENDICES

APPENDIX 1

Stack Emissions Monitoring Reports 2014

Glenside Environmental Services
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Quarter 1 of 2014
Stack Emissions Monitoring Report

for

KMK Metals Recycling Ltd

Cappincur Industrial Estate, Daingean Road, Tullamore, Co. Offaly

EPA Waste Licence REF: P0113-04

Report No: 014-024

Monitoring Date: 31st March 2014

Report Summary:	
Job Quotation No:	**QGE14-001**
Operator Licence No:	**W0113-04**
Operator Name:	**KMK Metals Recycling Ltd**
Installation:	**Cappincur Industrial Estate, Daingean Road, Tullamore, Co. Offaly**
Contact Name:	**Naill Nally/ Amy Jackson**
Phone No:	**087 122 1422**
Monitoring dates:	**31st March 2014**
Monitoring Organisation:	**Glenside Environmental, Cuil Greine House Link Road, Ballincollig, Cork**
Phone No:	**(021) 4810016**
Email:	**info@glenenv.ie**
Report Date:	**19th May 2014**
Report written by:	**Ewa Piatek**
MCERTS reg No:	**MM07 799**
Competency:	**Level 2**
Function:	**Team Leader**
Endorsements:	**TE1, TE2, TE3, TE4**
Report approved by:	**Ewa Piatek**
MCERTS reg No:	**MM07 799**
Competency:	**Level 2**
Function:	**Team Leader**
Endorsements:	**TE1, TE2, TE3, TE4**

19/05/2014

X Ewa Piatek

Signed by: Ewa Piatek

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1. Introduction

Glenside Environmental was commissioned by KMK Metals Recycling Ltd to perform air emission monitoring at the facility in Cappincur Industrial Estate, Daingean Road, Tullamore, Co. Offaly. The monitoring was carried out as required by Waste Licence W0113-03. This report presents details of this monitoring programme.

2. Objectives

2.1. Substances to be monitored at each emission point

Sample Locations	Parameter
A2-5	Particulates
	Metals (Total of Cd+Tl)
	Metals (Total of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Be)
	Chromium
	Lead
	Mercury
	Aluminium
	Arsenic
	Cadmium
	Copper
	Iron
	Nickel
	Zinc

2.2. Special Requirements

There were no special requirements for this monitoring campaign.

3. Materials and Methods

This section provides brief details of the methodologies employed to perform the air emission monitoring.

3.1. Particulates

A sample stream of gas is extracted from the main gas stream at representative sampling points for 30 minutes, with an isokinetically controlled flow rate and measured volume. The dust entrained in the gas sample is separated by a pre-weighed filter, which is then dried and reweighed. Deposits upstream of the filter in the sampling equipment are also recovered and weighed. The increase of mass of the filter and the deposited mass upstream of the filter are attributed to dust collected from the sampled gas, which allows the dust concentration to be calculated.

3.2. Metals

A known volume of flue gas is extracted representatively from a duct or a chimney during a certain period of time at a controlled flow rate following EN13284-1:2004 (Particulates Standard). The dust in the sampled gas volume is collected on a filter. Thereafter, the gas stream is passed through a series of absorbers containing absorption solutions and the filter passing fractions of the specific elements are collected within these solutions.
The results are calculated from the laboratory results divided by air volume sampled and are converted to mg/m3. Results in kg/hr are calculated from concentration of pollutant and stack flow rate. All results are corrected to Standard Temperature and Pressure and if required to Reference Oxygen and Dry conditions. LOD values are obtained from laboratory LOD and the same calculations as per results.

3.3. Volumetric Flow Rate

The volumetric airflow rate was determined from stack velocity measurements calculated in accordance with ISO 16911-1:2013. Airflow rate and temperature profiles were performed at pre-calculated intervals across the stack in order to determine the average velocity profile across the stack diameters. Results are presented in table 4.3.

4. Monitoring Results

Tables 4.1 and 4.2 presents the results of the air emission monitoring sampling program carried out at the emission stacks listed below.

4.1. Monitoring Results

Results reported are corrected to reference conditions as per IPPC Licence requirements.

Emission Point	Substances	ELV mg/Nm^3	CEMS Results	LOD mg/Nm^3	Results mg/Nm^3	Results kg/hr	Uncertainty mg/m^3	Date of Monitoring	Start –End Time of Monitoring
A2-5	Particulates	10	n/a	1.14	<1.14	n/a	0.04	31/03/2014	13:45-14:13
Blank	Particulates	n/a	n/a	1.14	<1.14	n/a	0.04	31/03/2014	14:20-14:24
A2-5	Metals (Total of Cd+Tl)	n/a	n/a	0.0051	<0.0051	n/a	n/a	31/03/2014	12:51-13:23
Blank	Metals (Total of Cd+Tl)	n/a	n/a	0.0051	<0.0051	n/a	n/a	31/03/2014	12:45-12:48
A2-5	Metals (Total of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Be)	n/a	n/a	0.0416	0.6677	n/a	n/a	31/03/2014	12:51-13:23
Blank	Metals (Total of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Be)	n/a	n/a	0.0416	0.0492	0.0197	n/a	31/03/2014	12:45-12:48

4.2. Monitoring Results

Results reported are corrected to reference conditions as per IPPC Licence requirements.

Emission Point	Substances	ELV mg/Nm^3	CEMS Results	LOD mg/Nm^3	Results mg/Nm^3	Results kg/hr	Uncertainty mg/m^3	Date of Monitoring	Start –End Time of Monitoring
A2-5	Aluminium	n/a	n/a	0.0233	0.0600	0.0018	n/a	31/03/2014	12:51-13:23
Blank	Aluminium	n/a	n/a	0.0233	0.0458	n/a	n/a	31/03/2014	12:45-12:48
A2-5	Arsenic	n/a	n/a	0.0024	<0.0024	n/a	n/a	31/03/2014	12:51-13:23
Blank	Arsenic	n/a	n/a	0.0024	<0.0024	n/a	n/a	31/03/2014	12:45-12:48
A2-5	Cadmium	n/a	n/a	0.0026	<0.0026	n/a	n/a	31/03/2014	12:51-13:23
Blank	Cadmium	n/a	n/a	0.0026	<0.0026	n/a	n/a	31/03/2014	12:45-12:48
A2-5	Chromium	n/a	n/a	0.0072	0.0087	0.0003	n/a	31/03/2014	12:51-13:23
Blank	Chromium	n/a	n/a	0.0072	0.0094	n/a	n/a	31/03/2014	12:45-12:48
A2-5	Copper	n/a	n/a	0.0030	0.0043	0.0001	n/a	31/03/2014	12:51-13:23
Blank	Copper	n/a	n/a	0.0030	<0.0030	n/a	n/a	31/03/2014	12:45-12:48
A2-5	Lead	n/a	n/a	0.0025	0.0112	0.0003	n/a	31/03/2014	12:51-13:23
Blank	Lead	n/a	n/a	0.0025	<0.0025	n/a	n/a	31/03/2014	12:45-12:48
A2-5	Iron	n/a	n/a	0.0052	0.0783	0.0023	n/a	31/03/2014	12:51-13:23
Blank	Iron	n/a	n/a	0.0052	0.0320	n/a	n/a	31/03/2014	12:45-12:48

Emission Point	Substances	ELV mg/Nm^3	CEMS Results	LOD mg/Nm^3	Results mg/Nm^3	Results kg/hr	Uncertainty mg/Nm^3	Date of Monitoring	Start –End Time of Monitoring
A2-5	Nickel	n/a	n/a	0.0082	0.0086	0.0003	n/a	31/03/2014	12:51-13:23
Blank	Nickel	n/a	n/a	0.0082	0.0101	n/a	n/a	31/03/2014	12:45-12:48
A2-5	Zinc	n/a	n/a	0.0052	0.0926	0.0027	n/a	31/03/2014	12:51-13:23
Blank	Zinc	n/a	n/a	0.0052	0.0073	n/a	n/a	31/03/2014	12:45-12:48
A2-5	Mercury	n/a	n/a	0.0020	<0.0020	n/a	n/a	31/03/2014	11:45-12:17
Blank	Mercury	n/a	n/a	0.0020	<0.0020	n/a	n/a	31/03/2014	11:23-11:27

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Quarter 2 of 2014
Stack Emissions Monitoring Report

for

KMK Metals Recycling Ltd

Cappincur Industrial Estate, Daingean Road, Tullamore, Co. Offaly

EPA Waste Licence REF: P0113-04

Report No: 014-043

Monitoring Date: 13th May 2014

Report Summary:	
Job Quotation No:	QGE14-001
Operator Licence No:	W0113-04
Operator Name:	KMK Metals Recycling Ltd
Installation:	Cappincur Industrial Estate, Daingean Road, Tullamore, Co. Offaly
Contact Name:	Naill Nally/ Amy Jackson
Phone No:	087 122 1422
Monitoring dates:	13th May 2014
Monitoring Organisation:	Glenside Environmental, Cuil Greine House Link Road, Ballincollig, Cork
Phone No:	(021) 4810016
Email:	info@glenenv.ie
Report Date:	21st June 2014
Report written by:	Ewa Piatek
MCERTS reg No:	MM07 799
Competency:	Level 2
Function:	Team Leader
Endorsements:	TE1, TE2, TE3, TE4
Report approved by:	Ewa Piatek
MCERTS reg No:	MM07 799
Competency:	Level 2
Function:	Team Leader
Endorsements:	TE1, TE2, TE3, TE4

21/06/2014

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Signed by: Ewa Piatek

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1. Introduction

Glenside Environmental was commissioned by KMK Metals Recycling Ltd to perform air emission monitoring at the facility in Cappincur Industrial Estate, Daingean Road, Tullamore, Co. Offaly. The monitoring was carried out as required by Waste Licence W0113-03. This report presents details of this monitoring programme.

2. Objectives

2.1. Substances to be monitored at each emission point

Sample Locations	Parameter
A2-5	Particulates
	Metals (Total of Cd+Tl)
	Metals (Total of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Be)
	Chromium
	Lead
	Mercury
	Aluminium
	Arsenic
	Cadmium
	Copper
	Iron
	Nickel
	Zinc

2.2. Special Requirements

There were no special requirements for this monitoring campaign.

3. Materials and Methods

This section provides brief details of the methodologies employed to perform the air emission monitoring.

3.1. Particulates

A sample stream of gas is extracted from the main gas stream at representative sampling points for 30 minutes, with an isokinetically controlled flow rate and measured volume. The dust entrained in the gas sample is separated by a pre-weighed filter, which is then dried and reweighed. Deposits upstream of the filter in the sampling equipment are also recovered and weighed. The increase of mass of the filter and the deposited mass upstream of the filter are attributed to dust collected from the sampled gas, which allows the dust concentration to be calculated.

3.2. Metals

A known volume of flue gas is extracted representatively from a duct or a chimney during a certain period of time at a controlled flow rate following EN13284-1:2004 (Particulates Standard). The dust in the sampled gas volume is collected on a filter. Thereafter, the gas stream is passed through a series of absorbers containing absorption solutions and the filter passing fractions of the specific elements are collected within these solutions.
The results are calculated from the laboratory results divided by air volume sampled and are converted to mg/m3. Results in kg/hr are calculated from concentration of pollutant and stack flow rate. All results are corrected to Standard Temperature and Pressure and if required to Reference Oxygen and Dry conditions. LOD values are obtained from laboratory LOD and the same calculations as per results.

3.3. Volumetric Flow Rate

The volumetric airflow rate was determined from stack velocity measurements calculated in accordance with ISO 16911-1:2013. Airflow rate and temperature profiles were performed at pre-calculated intervals across the stack in order to determine the average velocity profile across the stack diameters. Results are presented in table 4.3.

4. Monitoring Results

Tables 4.1 and 4.2 presents the results of the air emission monitoring sampling program carried out at the emission stacks listed below.

4.1. Monitoring Results

Results reported are corrected to reference conditions as per IPPC Licence requirements.

Emission Point	Substances	ELV mg/Nm^3	CEMS Results	LOD mg/Nm^3	Results mg/Nm^3	Results kg/hr	Uncertainty mg/m^3	Date of Monitoring	Start –End Time of Monitoring
A2-5	Particulates	10	n/a	0.86	4.42	0.13	0.15	13/05/2014	11:32-12:04
Blank	Particulates	n/a	n/a	0.86	0.98	n/a	0.03	13/05/2014	11:15-11:19
A2-5	Metals (Total of Cd+Tl)	n/a	n/a	0.0058	0.0062	n/a	n/a	13/05/2014	12:16-12:48
Blank	Metals (Total of Cd+Tl)	n/a	n/a	0.0058	<0.0058	n/a	n/a	13/05/2014	12:01-12:03
A2-5	Metals (Total of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Be)	n/a	n/a	0.0461	0.1066	0.0002	n/a	13/05/2014	12:16-12:48
Blank	Metals (Total of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Be)	n/a	n/a	0.0461	0.0641	0.0032	n/a	13/05/2014	12:01-12:03

4.2. Monitoring Results

Results reported are corrected to reference conditions as per IPPC Licence requirements.

Emission Point	Substances	ELV mg/Nm^3	CEMS Results	LOD mg/Nm^3	Results mg/Nm^3	Results kg/hr	Uncertainty mg/m^3	Date of Monitoring	Start –End Time of Monitoring
A2-5	Aluminium	n/a	n/a	0.0406	0.3378	0.0101	n/a	13/05/2014	12:16-12:48
Blank	Aluminium	n/a	n/a	0.0406	0.1034	n/a	n/a	13/05/2014	12:01-12:03
A2-5	Arsenic	n/a	n/a	0.0028	0.0034	0.0001	n/a	13/05/2014	12:16-12:48
Blank	Arsenic	n/a	n/a	0.0028	0.0032	n/a	n/a	13/05/2014	12:01-12:03
A2-5	Cadmium	n/a	n/a	0.0030	0.0033	0.0001	n/a	13/05/2014	12:16-12:48
Blank	Cadmium	n/a	n/a	0.0030	<0.0030	n/a	n/a	13/05/2014	12:01-12:03
A2-5	Chromium	n/a	n/a	0.0083	0.0262	0.0008	n/a	13/05/2014	12:16-12:48
Blank	Chromium	n/a	n/a	0.0083	0.0085	n/a	n/a	13/05/2014	12:01-12:03
A2-5	Copper	n/a	n/a	0.0020	0.0089	0.0003	n/a	13/05/2014	12:16-12:48
Blank	Copper	n/a	n/a	0.0020	0.0121	n/a	n/a	13/05/2014	12:01-12:03
A2-5	Lead	n/a	n/a	0.0029	0.0242	0.0007	n/a	13/05/2014	12:16-12:48
Blank	Lead	n/a	n/a	0.0029	<0.0029	n/a	n/a	13/05/2014	12:01-12:03
A2-5	Iron	n/a	n/a	0.0246	0.1768	0.0053	n/a	13/05/2014	12:16-12:48
Blank	Iron	n/a	n/a	0.0246	<0.0246	n/a	n/a	13/05/2014	12:01-12:03

Emission Point	Substances	ELV mg/Nm^3	CEMS Results	LOD mg/Nm^3	Results mg/Nm^3	Results kg/hr	Uncertainty mg/Nm^3	Date of Monitoring	Start –End Time of Monitoring
A2-5	Nickel	n/a	n/a	0.0093	<0.0093	n/a	n/a	13/05/2014	12:16-12:48
Blank	Nickel	n/a	n/a	0.0093	<0.0093	n/a	n/a	13/05/2014	12:01-12:03
A2-5	Zinc	n/a	n/a	0.0060	0.1917	0.0057	n/a	13/05/2014	12:16-12:48
Blank	Zinc	n/a	n/a	0.0060	<0.0060	n/a	n/a	13/05/2014	12:01-12:03
A2-5	Mercury	n/a	n/a	0.0003	0.0014	n/a	n/a	13/05/2014	13:01-13:33
Blank	Mercury	n/a	n/a	0.0003	<0.0003	n/a	n/a	13/05/2014	13:45-13:49

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Quarter 3 of 2014
Stack Emissions Monitoring Report

for

KMK Metals Recycling Ltd

Cappincur Industrial Estate, Daingean Road, Tullamore, Co. Offaly

EPA Waste Licence REF: W0113-04

Report No:
014-067

Monitoring Date:
18th August 2014

Report Summary:	
Job Quotation No:	QGE14-001
Operator Licence No:	W0113-04
Operator Name:	KMK Metals Recycling Ltd
Installation:	Cappincur Industrial Estate, Daingean Road, Tullamore, Co. Offaly
Contact Name:	Naill Nally/ Amy Jackson
Phone No:	087 122 1422
Monitoring dates:	18th August 2014
Monitoring Organisation:	Glenside Environmental, Cuil Greine House Link Road, Ballincollig, Cork
Phone No:	(021) 4810016
Email:	info@glenenv.ie
Report Date:	23rd September 2014
Report written by:	Ewa Piatek
MCERTS reg No:	MM07 799
Competency:	Level 2
Function:	Team Leader
Endorsements:	TE1, TE2, TE3, TE4
Report approved by:	Ewa Piatek
MCERTS reg No:	MM07 799
Competency:	Level 2
Function:	Team Leader
Endorsements:	TE1, TE2, TE3, TE4

23/09/2014

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Signed by: Ewa Piatek

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1. Introduction

Glenside Environmental was commissioned by KMK Metals Recycling Ltd to perform air emission monitoring at the facility in Cappincur Industrial Estate, Daingean Road, Tullamore, Co. Offaly. The monitoring was carried out as required by Waste Licence W0113-03. This report presents details of this monitoring programme.

2. Objectives

2.1. Substances to be monitored at each emission point

Sample Locations	Parameter
A2-5	Particulates
	Metals (Total of Cd+Tl)
	Metals (Total of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Be)
	Chromium
	Lead
	Mercury
	Aluminium
	Arsenic
	Cadmium
	Copper
	Iron
	Nickel
	Zinc

2.2. Special Requirements

There were no special requirements for this monitoring campaign.

3. Materials and Methods

This section provides brief details of the methodologies employed to perform the air emission monitoring.

3.1. Particulates - ISO9096:2006 (high) or IS EN 13284:2004 (low)

A sample stream of gas is extracted from the main gas stream at representative sampling points for 30 minutes, with an isokinetically controlled flow rate and measured volume. The dust entrained in the gas sample is separated by a pre-weighed filter, which is then dried and reweighed. Deposits upstream of the filter in the sampling equipment are also recovered and weighed. The increase of mass of the filter and the deposited mass upstream of the filter are attributed to dust collected from the sampled gas, which allows the dust concentration to be calculated.

3.2. Metals – IS EN 14385:2004

A known volume of flue gas is extracted representatively from a duct or a chimney during a certain period of time at a controlled flow rate following EN13284-1:2004(Particulates Standard). The dust in the sampled gas volume is collected on a filter. Thereafter, the gas stream is passed through a series of absorbers containing absorption solutions and the filter passing fractions of the specific elements are collected within these solutions.

The results are calculated from the laboratory results divided by air volume sampled and are converted to mg/m^3. Results in kg/h are calculated from concentration of pollutant and stack flow rate. All results are corrected to Standard Temperature and Pressure and if required to Reference Oxygen and Dry conditions. LOD values are obtained from laboratory LOD and the same calculations as per results.

3.3. Volumetric Flow Rate – ISO 16911-1:2013

The volumetric airflow rate was determined from stack velocity measurements calculated in accordance with ISO 16911-1:2013. Airflow rate and temperature profiles were performed at pre-calculated intervals across the stack in order to determine the average velocity profile across the stack diameters.

4. Monitoring Results

Tables 4.1 and 4.2 presents the results of the air emission monitoring sampling program carried out at the emission stacks listed below.

4.1. Monitoring Results

Results reported are corrected to reference conditions as per IPPC Licence requirements.

Emission Point	Substances	ELV mg/m^3	CEMS Results	LOD mg/m^3	Results mg/m^3	Results kg/h	Uncertainty mg/m^3	Date of Monitoring	Start –End Time of Monitoring
A2-5	Particulates	10	n/a	0.45	0.89	0.02	0.03	18/08/2014	14:45-15:17
Blank	Particulates	n/a	n/a	0.45	0.72	n/a	0.02	18/08/2014	15:35-15:38
A2-5	Metals (Total of Cd+Tl)	n/a	n/a	0.0022	<0.0022	n/a	n/a	18/08/2014	13:10-13:42
Blank	Metals (Total of Cd+Tl)	n/a	n/a	0.0022	<0.0022	n/a	n/a	18/08/2014	12:55-12:58
A2-5	Metals (Total of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Be)	n/a	n/a	0.0176	0.1055	0.0037	n/a	18/08/2014	13:10-13:42
Blank	Metals (Total of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Be)	n/a	n/a	0.0176	0.00183	n/a	n/a	18/08/2014	12:55-12:58

Results for Particulates are within INAB accreditation range.

4.2. Monitoring Results

Results reported are corrected to reference conditions as per IPPC Licence requirements.

Emission Point	Substances	ELV mg/m^3	CEMS Results	LOD mg/m^3	Results mg/m^3	Results kg/h	Uncertainty mg/m^3	Date of Monitoring	Start –End Time of Monitoring
A2-5	Aluminium	n/a	n/a	0.0025	0.0724	0.0018	n/a	18/08/2014	13:10-13:42
Blank	Aluminium	n/a	n/a	0.0025	0.0025	n/a	n/a	18/08/2014	12:55-12:58
A2-5	Arsenic	n/a	n/a	0.0015	<0.0015	n/a	n/a	18/08/2014	13:10-13:42
Blank	Arsenic	n/a	n/a	0.0015	<0.0015	n/a	n/a	18/08/2014	12:55-12:58
A2-5	Cadmium	n/a	n/a	0.0016	<0.0016	n/a	n/a	18/08/2014	13:10-13:42
Blank	Cadmium	n/a	n/a	0.0016	<0.0016	n/a	n/a	18/08/2014	12:55-12:58
A2-5	Chromium	n/a	n/a	0.0043	0.0093	0.0002	n/a	18/08/2014	13:10-13:42
Blank	Chromium	n/a	n/a	0.0043	<0.0043	n/a	n/a	18/08/2014	12:55-12:58
A2-5	Copper	n/a	n/a	0.0011	0.0027	0.0001	n/a	18/08/2014	13:10-13:42
Blank	Copper	n/a	n/a	0.0011	0.0017	n/a	n/a	18/08/2014	12:55-12:58
A2-5	Lead	n/a	n/a	0.0015	0.0097	0.0002	n/a	18/08/2014	13:10-13:42
Blank	Lead	n/a	n/a	0.0015	0.0024	n/a	n/a	18/08/2014	12:55-12:58
A2-5	Iron	n/a	n/a	0.0156	0.0182	0.0005	n/a	18/08/2014	13:10-13:42
Blank	Iron	n/a	n/a	0.0156	0.0155	n/a	n/a	18/08/2014	12:55-12:58

Emission Point	Substances	ELV mg/Nm^3	CEMS Results	LOD mg/m^3	Results mg/m^3	Results kg/h	Uncertainty mg/m^3	Date of Monitoring	Start –End Time of Monitoring
A2-5	Nickel	n/a	n/a	0.0049	0.0053	0.0001	n/a	18/08/2014	13:10-13:42
Blank	Nickel	n/a	n/a	0.0049	<0.0049	n/a	n/a	18/08/2014	12:55-12:58
A2-5	Zinc	n/a	n/a	0.0032	0.0405	0.010	n/a	18/08/2014	13:10-13:42
Blank	Zinc	n/a	n/a	0.0032	<0.0032	n/a	n/a	18/08/2014	12:55-12:58
A2-5	Mercury	n/a	n/a	0.0001	0.0054	n/a	n/a	18/08/2014	13:58-14:30
Blank	Mercury	n/a	n/a	0.0001	0.0012	n/a	n/a	18/08/2014	14:42-14:45

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Glenside Environmental Services
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Quarter 4 of 2014
Stack Emissions Monitoring Report

for

KMK Metals Recycling Ltd

Cappincur Industrial Estate, Daingean Road, Tullamore, Co. Offaly

EPA Waste Licence REF: W0113-04

Report No:
014-098

Monitoring Date:
20th October 2014

Report Summary:	
Job Quotation No:	QGE14-001
Operator Licence No:	W0113-04
Operator Name:	KMK Metals Recycling Ltd
Installation:	Cappincur Industrial Estate, Daingean Road, Tullamore, Co. Offaly
Contact Name:	Naill Nally/ Amy Jackson
Phone No:	087 122 1422
Monitoring dates:	20th October 2014
Monitoring Organisation:	Glenside Environmental, Cuil Greine House Link Road, Ballincollig, Cork
Phone No:	(021) 4810016
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Report Date:	11 November 2014
Report written by:	Ewa Piatek
MCERTS reg No:	MM07 799
Competency:	Level 2
Function:	Team Leader
Endorsements:	TE1, TE2, TE3, TE4
Report approved by:	Ewa Piatek
MCERTS reg No:	MM07 799
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Endorsements:	TE1, TE2, TE3, TE4

11/11/2014

X Ewa Piatek

Signed by: Ewa Piatek

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1. Introduction

Glenside Environmental was commissioned by KMK Metals Recycling Ltd to perform air emission monitoring at the facility in Cappincur Industrial Estate, Daingean Road, Tullamore, Co. Offaly. The monitoring was carried out as required by Waste Licence W0113-03. This report presents details of this monitoring programme.

2. Objectives

2.1. Substances to be monitored at each emission point

Sample Locations	Parameter
A2-5	Particulates
	Metals (Total of Cd+Tl)
	Metals (Total of Sb, As, Pb, Cr, Co, Cu, Mn, Ni, V, Be)
	Chromium
	Lead
	Mercury
	Aluminium
	Arsenic
	Cadmium
	Copper
	Iron
	Nickel
	Zinc

2.2. Special Requirements

There were no special requirements for this monitoring campaign.

3. Materials and Methods

This section provides brief details of the methodologies employed to perform the air emission monitoring.

3.1. Particulates - ISO9096:2006 (high) or IS EN 13284:2004 (low)

A sample stream of gas is extracted from the main gas stream at representative sampling points for 30 minutes, with an isokinetically controlled flow rate and measured volume. The dust entrained in the gas sample is separated by a pre-weighed filter, which is then dried and reweighed. Deposits upstream of the filter in the sampling equipment are also recovered and weighed. The increase of mass of the filter and the deposited mass upstream of the filter are attributed to dust collected from the sampled gas, which allows the dust concentration to be calculated.

3.2. Metals – IS EN 14385:2004

A known volume of flue gas is extracted representatively from a duct or a chimney during a certain period of time at a controlled flow rate following EN13284-1:2004(Particulates Standard). The dust in the sampled gas volume is collected on a filter. Thereafter, the gas stream is passed through a series of absorbers containing absorption solutions and the filter passing fractions of the specific elements are collected within these solutions.

The results are calculated from the laboratory results divided by air volume sampled and are converted to mg/m^3. Results in kg/h are calculated from concentration of pollutant and stack flow rate. All results are corrected to Standard Temperature and Pressure and if required to Reference Oxygen and Dry conditions. LOD values are obtained from laboratory LOD and the same calculations as per results.

3.3. Volumetric Flow Rate – ISO 16911-1:2013

The volumetric airflow rate was determined from stack velocity measurements calculated in accordance with ISO 16911-1:2013. Airflow rate and temperature profiles were performed at pre-calculated intervals across the stack in order to determine the average velocity profile across the stack diameters.

4.2. Monitoring Results

Results reported are corrected to reference conditions as per IPPC Licence requirements.

Emission Point	Substances	ELV mg/m^3	CEMS Results	LOD mg/m^3	Results mg/m^3	Results kg/h	Uncertainty mg/m^3	Date of Monitoring	Start –End Time of Monitoring
A2-5	Aluminium	n/a	n/a	0.0725	0.6960	0.0157	n/a	20/10/2014	11:48-12:20
Blank	Aluminium	n/a	n/a	0.0727	0.7104	n/a	n/a	20/10/2014	12:35-12:38
A2-5	Arsenic	n/a	n/a	0.0009	<0.0009	n/a	n/a	20/10/2014	11:48-12:20
Blank	Arsenic	n/a	n/a	0.0009	<0.0009	n/a	n/a	20/10/2014	12:35-12:38
A2-5	Cadmium	n/a	n/a	0.0004	<0.0004	n/a	n/a	20/10/2014	11:48-12:20
Blank	Cadmium	n/a	n/a	0.0004	<0.0004	n/a	n/a	20/10/2014	12:35-12:38
A2-5	Chromium	n/a	n/a	0.0008	0.0010	0.0000	n/a	20/10/2014	11:48-12:20
Blank	Chromium	n/a	n/a	0.0008	<0.0008	n/a	n/a	20/10/2014	12:35-12:38
A2-5	Copper	n/a	n/a	0.0015	0.0049	0.0001	n/a	20/10/2014	11:48-12:20
Blank	Copper	n/a	n/a	0.0015	0.0021	n/a	n/a	20/10/2014	12:35-12:38
A2-5	Lead	n/a	n/a	0.0010	0.0061	0.0001	n/a	20/10/2014	11:48-12:20
Blank	Lead	n/a	n/a	0.0010	0.0010	n/a	n/a	20/10/2014	12:35-12:38
A2-5	Iron	n/a	n/a	0.0124	0.0474	0.0011	n/a	20/10/2014	11:48-12:20
Blank	Iron	n/a	n/a	0.0124	0.0194	n/a	n/a	20/10/2014	12:35-12:38

Emission Point	Substances	ELV mg/Nm^3	CEMS Results	LOD mg/m^3	Results mg/m^3	Results kg/h	Uncertainty mg/m^3	Date of Monitoring	Start –End Time of Monitoring
A2-5	Nickel	n/a	n/a	0.0027	0.0034	0.0001	n/a	20/10/2014	11:48-12:20
Blank	Nickel	n/a	n/a	0.0027	<0.0027	n/a	n/a	20/10/2014	12:35-12:38
A2-5	Zinc	n/a	n/a	0.0030	0.0899	0.002	n/a	20/10/2014	11:48-12:20
Blank	Zinc	n/a	n/a	0.0030	0.0035	n/a	n/a	20/10/2014	12:35-12:38
A2-5	Mercury	n/a	n/a	0.0003	0.0006	0.0001	n/a	20/10/2014	11:48-12:20
Blank	Mercury	n/a	n/a	0.0003	0.0004	n/a	n/a	20/10/2014	12:35-12:38

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APPENDIX 2

Annual Noise Monitoring Report 2014

ANNUAL NOISE MONITORING REPORT 2014

FOR

KMK METALS RECYCLING LTD.

AT

CAPPINCUR IND. ESTATE, TULLAMORE, CO OFFALY,

15th August 2014

Report by:

Niall Nally

Senior Environmental Consultant
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1.0 INTRODUCTION

Nally Environmental Ltd was commissioned by KMK to conduct the annual noise survey at the KMK facility at Cappincur Industrial Estate, Tullamore, Co Offaly, as part of compliance with waste licence W0113-04. The KMK facility is located in the Cappincur Industrial Estate towards the east of Tullamore town, off the L-02025 road to Daingean – Figure 1.

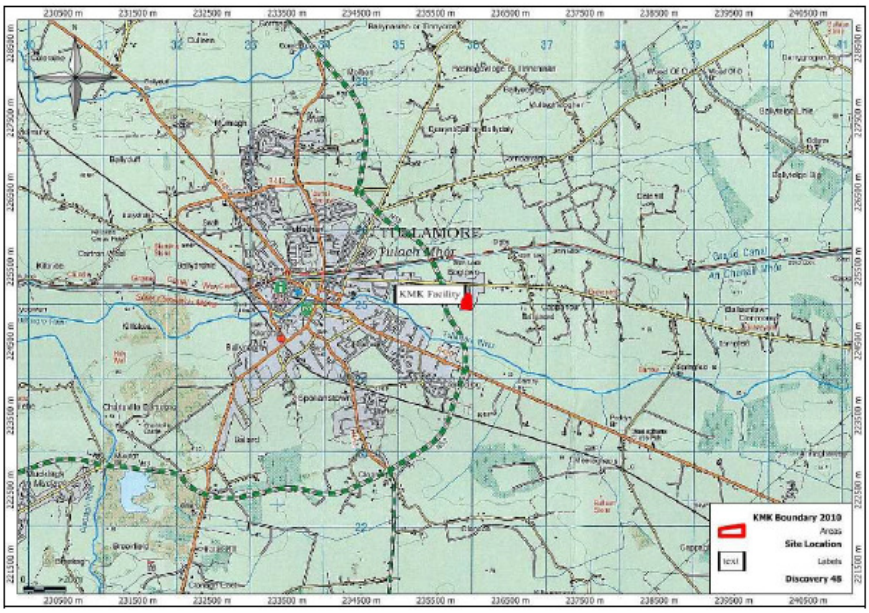


Figure 1: General site location map for KMK

The objectives of the environmental noise survey were to:

- Assess the current levels of noise arising from the operations at the facility.
- Determine the noise levels at KMK in line with Condition 6.11 of the licence and its related Schedule B3.
- Assess the noise emissions in terms of nuisance or pollution potential on the immediate environment around the KMK facility.

1.1 ENVIRONMENTAL NOISE MONITORING

Daytime, evening time and night time noise monitoring was carried out mid-week from Wednesday 6th August between the hours of 7am to 3am the next day Thursday 7th August. Four noise monitoring stations were used at site boundaries as illustrated on Figure 2 below. All monitoring stations were defined in the license W0113-04 in Condition 6.11

This noise monitoring programme is referred to in Condition 6.11 which states:
6.11.1 The licensee shall carry out a noise survey of the site operations annually at at least the following points or at alternative locations as may be agreed by the Agency:

NE001: 635847 725118
NE002: 635959 725004
NE003: 635870 724963
NE004: 635772 725046

The survey programme shall be undertaken in accordance with the methodology specified in the 'Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)' as published by the Agency.

6.11.2 The licensee shall implement any noise attenuation measures as required by the Agency, having regard to the principles of BAT, to ensure compliance with the noise limits specified in this licence.

Schedule B.3 Noise Emissions tabulates the following:

Daytime dB $L_{Ar,T}$ (30minutes)	**Evening time dB $L_{Ar,T}$ (30minutes)**	**Night-time dB $L_{Ar,T}$ (15-30minutes)**
55	50	45[note1]

Note 1: there shall be no clearly audible tonal component or impulsive component in the noise emission from the activity at any noise-sensitive location.

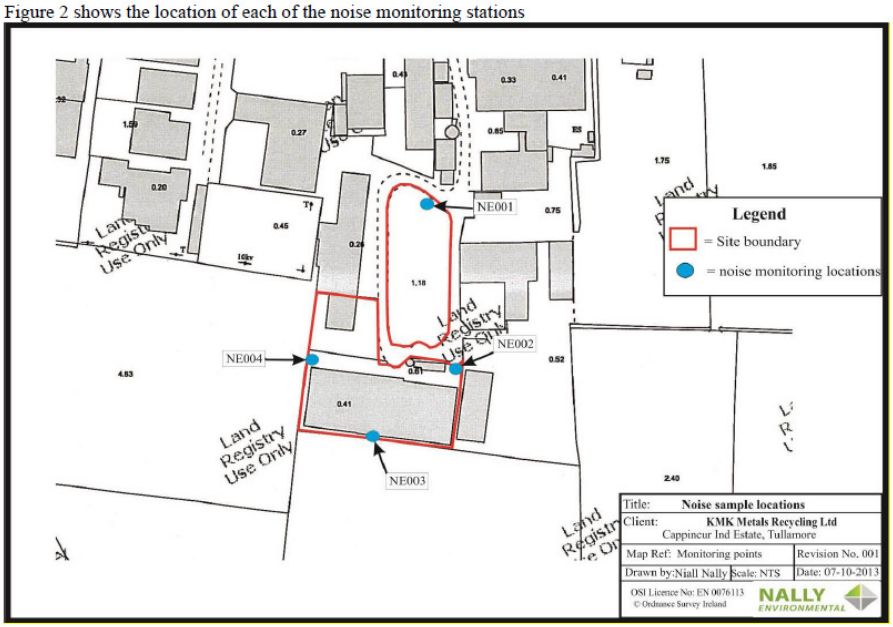
Note 2: $L_{Ar,T}$ is defined as the Related Noise Level, equal to the $L_{(A)eq}$ during a specified time interval (T), plus specified adjustments for tonal character and/or impulsiveness of the sound.

Hence the following parameters were measured and reported: $L_{(A)eq[30\ minute]}$, $L_{(A)10[30\ minute]}$, $L_{(A)90[30\ minute]}$ and 1/3 Octave Band analysis.

To ensure that all monitoring positions could be adequately monitored, and based upon normal best practice for noise measurements, as issued by the EPA, the night time measurement period was a 15 minute period.

This monitoring event took into account the EPA guidance document NG4 *'Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities' released in April 2012'*. This document seeks a notable increase in the repetitiveness of monitoring during the annual event including the requirement for evening time measurements. On page 33 of the guidance note, Table 5 states the recommended minimum survey durations and also that *night-time measurements should normally be made between 23:00hrs and 04:00hrs, Sunday to Thursday with 23:00hrs being the preferred start time.* This recommendation was followed in the survey.

Figure 2 shows the location of each of the noise monitoring stations



2.0 NOISE SURVEY

All four noise monitoring locations were accessible and monitored throughout the course of the event without any problems. The methodology is described below;

2.1 METHODOLOGY

Noise monitoring was carried out as per Section 7 of the Agency's *NG4 Guidance Note for Noise,* using a Type 1 Bruel Kjaer 2250 Sound Level Meter with outdoor equipment (foam type wind shield) that was fully calibrated prior to and after the monitoring event. The meter was set to Fast Response with an effective averaging time of 0.25sec during noise monitoring. All noise monitoring was 'A' weighted which attenuates low frequencies strongly so noise measuring is more specific to human hearing and environmental noise. The monitoring equipment was manned throughout the sampling periods and comments/notes taken to assist the interpretation and assessment of results for reporting purposes.

Weather conditions during sampling were; mild with gentle wind and no rainfall throughout all monitoring (see summary of a weather for Gurteen station below which is the closest to the Tullamore site).

Table 1 – Summary of daily statistics at Gurteen College on 06-08-2014

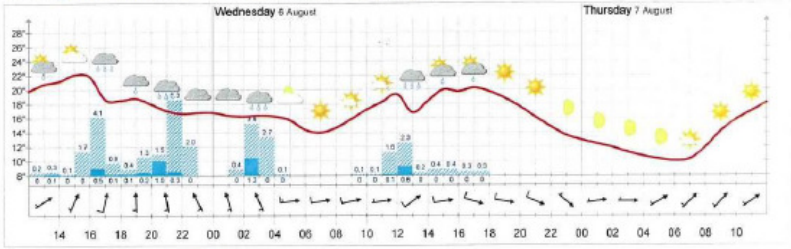
GURTEEN COLLEGE weather station					
Date	Rainfall (mm)	Max Temp (°C)	Min Temp (°C)	Grass Min Temp (°C)	Mean Wind Speed (knots)
6/8/2014	0	19.9	9.7	6.2	7.9

In addition, a daily forecast from www.yr.no shows a Meteogram for Tullamore town;

Weather forecast for Tullamore

Printed: 05/08/2014 11:00

Meteogram for Tullamore Tuesday 12:00 to Thursday 12:00



Long term forecast for Tullamore

Tomorrow 06/08/2014	Thursday 07/08/2014	Friday 08/08/2014	Saturday 09/08/2014	Sunday 10/08/2014	Monday 11/08/2014	Tuesday 12/08/2014	Wednesday 13/08/2014	Thursday 14/08/2014
19°	18°	17°	18°	17°	17°	14°	17°	16°
Rain showers. Gentle breeze, 4 m/s from southwest. 2.0 mm precipitation.	Partly cloudy. Light air, 2 m/s from southwest. 0.1 mm precipitation.	Rain showers. Light breeze, 3 m/s from southwest. 2.4 mm precipitation.	Rain. Gentle breeze, 4 m/s from southwest. 3.9 mm precipitation.	Light rain showers. Moderate breeze, 6 m/s from west. 0.7 mm precipitation.	Cloudy. Gentle breeze, 6 m/s from west. 0.2 mm precipitation.	Fair. Light air, 2 m/s from west-northwest. 0.2 mm precipitation.	Partly cloudy. Gentle breeze, 5 m/s from west. 0.4 mm precipitation.	Fair. Gentle breeze, 6 m/s from west. 0.5 mm precipitation.

The forecast shows the expected weather and precipitation for the afternoon hours. The temperature and wind forecast is for 12 noon. The forecasts are very accurate the first days, but become less reliable further into the period.

www.yr.no/place/Ireland/Leinster/Tullamore/

yr.no is a weather service from the Norwegian Meteorological Institute and the Norwegian Broadcasting Corp.

NRK Meteorologisk institutt

3.0 RESULTS

The complete set of noise measurement results is included in Appendix A. These are summarised, compared to the licence limits and discussed below in tables 3.1 to 3.6

Table 3.1 – Compliance table of results with licence limits

Daytime			
Noise Location	**Start Time**	**KMK** note1 **$L_{Ar,T}$**	**Licence limits** note2 **$L_{Ar,T}$**
NE001	06:58	59	55
NE001	09:26	60	55
NE001	14:32	65	55
NE002	07:35	62	55
NE002	10:02	65	55
NE002	15:09	66	55
NE003	08:11	70note3	55
NE003	10:36	64note3	55
NE003	15:44	57	55
NE004	08:45	58	55
NE004	11:10	57	55
NE004	16:17	60	55

Evening Time			
Noise Location	**Start Time**	**KMK** note1 **$L_{Ar,T}$**	**Licence limits** note2 **$L_{Ar,T}$**
NE001	19:00	50	50
NE002	19:34	65note3	50
NE003	20:07	56	50
NE004	20:39	58	50

Night Time			
Noise Location	**Start Time**	**KMK** note1 **$L_{Ar,T}$**	**Licence limits** note2 **$L_{Ar,T}$**
NE001	23:05	45	45
NE001	00:26	40	45
NE002	23:24	38	45
NE002	00:45	38	45
NE003	23:42	42	45
NE003	01:04	49	45
NE004	00:04	53note3	45
NE004	01:22	53note3	45

Note1: $L_{Ar,T}$ is defined as the Related Noise Level, equal to the $L_{(A)eq}$ during a specified time interval (T), plus specified adjustments for tonal character and/or impulsiveness of the sound.
Note2: the licence does not specify whether the limits apply to the site boundaries or noise sensitive locations.
Note3: Value after adjustment by adding 5dB to the LAeq due to tones or impulsive noise.

Table 3.2 – summary of broad band noise data

Daytime				
Noise Location	**Start Time**	**LAeq**	**LAF10.0**	**LAF90.0**
NE001	06:58	59	65	47
NE001	09:26	60	61	47
NE001	14:32	65	71	51
NE002	07:35	62	65	52
NE002	10:02	65	68	52
NE002	15:09	66	68	57
NE003	08:11	65	68	59
NE003	10:36	59	61	57
NE003	15:44	57	59	52
NE004	08:45	58	60	54
NE004	11:10	57	59	52
NE004	16:17	60	61	55

Evening Time				
Noise Location	**Start Time**	**LAeq**	**LAF10.0**	**LAF90.0**
NE001	19:00	50	52	40
NE002	19:34	60	63	50
NE003	20:07	56	57	49
NE004	20:39	58	60	52

Night Time				
Noise Location	**Start Time**	**LAeq**	**LAF10.0**	**LAF90.0**
NE001	23:05	45	43	38
NE001	00:26	40	42	34
NE002	23:24	38	39	34
NE002	00:45	38	39	31
NE003	23:42	42	43	37
NE003	01:04	49	53	40
NE004	00:04	48	52	38
NE004	01:22	48	53	35

Table 3.3 Broadband Noise results recorded at each Monitoring Station

Receiver	NE001 site boundary location					
Period	**Time**	**Measured Noise Levels (dB re. $2x10^{-5}$ Pa)**				**Comments**
		L_{Aeq}	**L_{AFmax}**	**L_{AF90}**	**L_{AF10}**	
Daytime, 07:00 to 19:00	06:58 – 07:28	59	83	47	65	Normal site activities. Reverse alarms from trucks, fork lifts moving around D yards and C area. Truck engine idle noise for 3mins about 10m from noise meter for 06:58 period. Hook loader dropped skip about 10m from noise meter, collected another skip and left site, (both for the 09:26 and 14:32 time periods). Batteries emptied into sorter machine at E area for the 14:32 time period.
	09:26 – 09:56	60	84	47	61	
	14:32 – 15:02	65	87	51	71	
	Arithmetic Average of L_{AF90} (dB)			48		
	Daytime Criterion, dB $L_{Ar,30mins}$			55		
	Background noise: Ravenhill Couriers trucks passing, fuel merchant opening shop and Condrons recovery trucks parking outside walls/starting up.					
Evening, 19:00 to 23:00						Normal site activities. 3xemployee cars entered car park and one left. Artic truck accessed weighbridge and went to D yard. Reverse beeps audible from fork lifts. Background noise audible – traffic on by-pass road and main Ballinagar road.
		L_{Aeq}	**L_{AFmax}**	**L_{AF90}**	**L_{AF10}**	
	19:00 – 19:30	50	72	40	52	
	Arithmetic Average of L_{AF90} (dB)			40		
	Evening time Criterion, dB $L_{Ar,30mins}$			50		
Night-time 23:00 to 07:00		**L_{Aeq}**	**L_{AFmax}**	**L_{AF90}**	**L_{AF10}**	No audible site activity. Background noise audible – occasional traffic on by-pass road and main Ballinagar road.
	23:05 – 23:20	45	75	38	43	
	00:26 – 00:41	40	62	34	42	
	Arithmetic Average of L_{AF90} (dB)			36		
	Night-time Criterion, dB $L_{Ar,15mins}$			45		
Reported by	Name (Block Letters): Niall Nally					
	Position : Environmental Consultant					
	Signed: Niall Nally					

Receiver	NE002 site boundary location at C area					
Period	**Time**	**Measured Noise Levels (dB re. $2x10^{-5}$ Pa)**				**Comments**
		L_{Aeq}	**L_{AFmax}**	**L_{AF90}**	**L_{AF10}**	
Daytime, 07:00 to 19:00	07:35 – 08:05	62	83	52	65	Normal site activities. Reverse alarms from trucks, fork lifts moving around D yards and C area. Truck engine idle noise for 10mins outside C entrance and loaded with cages for 07:35 period. WEEE dismantling at C building. Some empty cages moved from C yard, van deliveries during 10:02 time period. Also general fork truck reverse alarms moving some empty cages close to noise meter (2m) during 15:09 time period for a few minutes.
	10:02 – 10:32	65	85	52	68	
	15:09 – 15:39	66	87	57	68	
	Arithmetic Average of L_{AF90} (dB)			54		
	Daytime Criterion, dB $L_{Ar,30mins}$			55		
	Background noise: Ravenhill Couriers trucks passing, fuel merchant opening shop and Condrons recovery trucks parking outside walls/starting up.					
Evening, 19:00 to 23:00						Normal site activities. Hook loader truck accessed D yard from E yard and tipped WEEE to yard. Reverse alarms audible from fork lifts moving tipped materials to trucks and inside buildings. WEEE handling inside D-Hanger building also audible.
		L_{Aeq}	**L_{AFmax}**	**L_{AF90}**	**L_{AF10}**	
	19:34 – 20:04	60	79	50	63	
	Arithmetic Average of L_{AF90} (dB)			50		
	Evening time Criterion, dB $L_{Ar,30mins}$			50		
Night-time 23:00 to 07:00		**L_{Aeq}**	**L_{AFmax}**	**L_{AF90}**	**L_{AF10}**	No audible site activity. Background noise audible – occasional traffic on by-pass road and main Ballinagar road.
	23:24 – 23:39	38	64	34	39	
	00:45 – 01:00	38	63	31	39	
	Arithmetic Average of L_{AF90} (dB)			33		
	Night-time Criterion, dB $L_{Ar,15mins}$			45		
Reported by	Name (Block Letters): Niall Nally					
	Position : Environmental Consultant					
	Signed: Niall Nally					

Receiver	NE003 site boundary location					
Period	**Time**	**Measured Noise Levels (dB re. $2x10^{-5}$ Pa)**				**Comments**
		L_{Aeq}	**L_{AFmax}**	**L_{AF90}**	**L_{AF10}**	
Daytime, 07:00 to 19:00	08:11 – 08:41	65	80	59	68	Normal site activities. Audible waste processing & handling inside D-WEEE building, reverse alarms of vehicles. Noise from dust extractor fans & cyclone treatment / emission stack unit constant during all measurement periods.
	10:36 – 11:06	59	72	57	61	
	15:44 – 16:14	57	80	52	59	
	Arithmetic Average of L_{AF90} (dB)			56		
	Daytime Criterion, dB $L_{Ar,30mins}$			55		
	Background noise audible –busy traffic on by-pass road & swallows lighting on fence on occasion.					
Evening, 19:00 to 23:00						Normal site activities. Dust extractor fans & cyclone treatment / emission stack unit was not in operation during measurement as it does not operate after 4pm. Noise audible was from fork trucks loading trailers in D-yard and WEEE handling at D-hanger building. Background noise - traffic on by-pass road.
		L_{Aeq}	**L_{AFmax}**	**L_{AF90}**	**L_{AF10}**	
	20:07 – 20:37	56	79	49	57	
	Arithmetic Average of L_{AF90} (dB)			49		
	Evening time Criterion, dB $L_{Ar,30mins}$			50		
Night-time 23:00 to 07:00		**L_{Aeq}**	**L_{AFmax}**	**L_{AF90}**	**L_{AF10}**	No audible site activity. Background noise audible – traffic on by-pass road was dominant at this location during this time period. Occasional dog barking noise from Council Pound.
	23:42 – 23:57	42	56	37	43	
	01:04 – 01:19	49	62	40	53	
	Arithmetic Average of L_{AF90} (dB)			39		
	Night-time Criterion, dB $L_{Ar,15mins}$			45		
Reported by	Name (Block Letters): Niall Nally					
	Position : Environmental Consultant					
	Signed: Niall Nally					

Receiver	NE004 site boundary location				
Period	**Time**	**Measured Noise Levels (dB re. $2x10^{-5}$ Pa)**			**Comments**
		L_{Aeq}	**L_{AFmax}**	**L_{AF90}**	**L_{AF10}**	
Daytime, 07:00 to 19:00	08:45 – 09:15	58	75	54	60	Normal site activities. Audible waste processing & handling inside D-WEEE building, reverse alarms of vehicles, conveyors etc. Noise from trailers being loaded in D-yard and off-loaded by fork lifts during all time periods. JCB moving WEEE to D-Hanger building.
	11:10 – 11:40	57	77	52	59	
	16:17 – 16:47	60	89	55	61	
	Arithmetic Average of L_{AF90} (dB)			54		
	Daytime Criterion, dB $L_{Ar,30mins}$)			55		
	Background noise audible –busy traffic on by-pass road & dog barking from Council Pound.					
Evening, 19:00 to 23:00						Normal site activities. JCB and fork lifts moving waste from D-yard area. JCB also pushing WEEE at D-hanger. Sweeper used at E area and access roads for end of day clean-up. Background noise - busy traffic on by-pass road & dog barking from Council Pound.
		L_{Aeq}	**L_{AFmax}**	**L_{AF90}**	**L_{AF10}**	
	20:39 – 21:09	58	83	52	60	
	Arithmetic Average of L_{AF90} (dB)			52		
	Evening time Criterion, dB $L_{Ar,30mins}$)			50		
Night-time 23:00 to 07:00		**L_{Aeq}**	**L_{AFmax}**	**L_{AF90}**	**L_{AF10}**	No audible site activity. Background noise audible – traffic on by-pass road and dogs barking was clearly audible and dominant at this location during these time periods.
	00:04 – 00:19	48	63	38	52	
	01:22 – 01:37	48	65	35	53	
	Arithmetic Average of L_{AF90} (dB)			37		
	Night-time Criterion, dB $L_{Ar,15mins}$)			45		
Reported by	Name (Block Letters): Niall Nally					
	Position : Environmental Consultant					
	Signed: Niall Nally					

Table 3.4 1/3 Octave Noise results **Daytime** recorded at Monitoring Stations NE001 to NE004

	Project Name	NE001	NE001	NE001	NE002	NE002	NE002	NE003	NE003	NE003	NE004	NE004	NE004
	Start Time	06:58	09:26	14:32	07:35	10:02	15:09	08:11	10:36	15:44	08:45	11:10	16:17
Frequency (Hz)	12.5	-10	-7	8	-12	-2	2	-4	1	-5	-10	-4	0
	16	1	2	13	-2	2	7	6	9	4	0	1	5
	20	7	9	18	3	8	11	13	14	10	4	6	10
	25	29	19	25	18	19	18	23	22	19	20	21	26
	31.5	39	24	31	22	21	22	29	28	26	25	20	23
	40	27	26	33	25	26	25	32	32	30	29	25	29
	50	32	31	39	38	37	31	37	36	34	31	30	31
	63	37	35	39	34	35	36	44	42	41	34	36	32
	80	38	37	42	38	42	38	46	45	43	36	35	36
	100	43	37	41	39	42	38	41	40	38	36	35	35
	125	41	39	43	39	41	41	42	40	36	37	36	34
	160	42	43	46	40	44	44	46	42	38	41	39	37
	200	41	41	50	43	44	46	47	42	38	40	38	37
	250	43	42	50	46	47	48	50	42	39	42	39	41
	315	46	44	50	47	47	50	48	43	41	43	40	42
	400	47	49	51	48	48	51	51	47	41	44	41	44
	500	47	49	53	50	52	53	53	47	44	45	43	46
	800	50	50	57	51	53	55	55	50	48	48	50	52
	1k	51	51	56	51	53	56	55	51	49	50	50	52
	1.25k	51	51	56	53	57	57	56	50	47	50	49	51
	1.6k	48	51	55	54	54	56	54	48	45	47	46	49
	2k	47	49	55	51	53	56	53	46	44	47	43	46

Table 3.4 1/3 Octave Noise results **Daytime** recorded at Monitoring Stations NE001 to NE004

	Project Name	NE001	NE001	NE001	NE002	NE002	NE002	NE003	NE003	NE003	NE004	NE004	NE004
	Start Time	06:58	09:26	14:32	07:35	10:02	15:09	08:11	10:36	15:44	08:45	11:10	16:17
	2.5k	46	49	51	51	54	56	53	46	46	46	41	47
	3.15k	45	46	48	51	58	58	54	49	46	43	39	44
	4k	42	42	47	48	49	51	51	41	40	41	36	44
	5k	39	40	44	46	47	49	48	39	38	40	34	42
	6.3k	36	39	41	44	45	46	46	39	37	38	31	41
	8k	31	35	36	41	41	42	41	33	35	34	27	41
	10k	28	31	33	37	37	37	36	27	29	29	23	34
	12.5k	22	26	29	32	32	32	29	22	24	24	18	28
	16k	16	20	23	26	24	25	21	15	18	19	12	22

Table 3.5 1/3 Octave Noise results **Evening time** recorded at Monitoring Stations NE001 to NE004

Evening Time

Frequency (Hz)	NE001 19:00	NE002 19:34	NE003 20:07	NE004 20:39
12.5	-2	-9	-15	-12
16	0	-3	-7	-2
20	7	5	0	3
25	16	14	14	25
31.5	20	19	8	25
40	28	25	13	28
50	32	32	23	28
63	31	34	32	34
80	29	36	31	34
100	29	36	26	39
125	30	38	28	37
160	32	41	31	40
200	36	40	35	39
250	35	42	37	41
315	36	44	38	41
400	37	45	41	42
500	37	46	43	45
800	40	48	48	50
1k	42	50	48	50
1.25k	41	56	48	49
1.6k	39	48	45	46
2k	38	47	43	45
2.5k	36	47	42	46
3.15k	33	46	42	43
4k	31	43	39	40
5k	29	40	37	38
6.3k	27	37	35	36
8k	25	33	32	32
10k	19	29	27	28
2.5k	14	23	21	23
16k	10	17	16	16

Table 3.6 1/3 Octave Noise results **Night-time** recorded at Monitoring Stations NE001 to NE004

Night Time

Frequency (Hz)	Project Name	NE001	NE001	NE002	NE002	NE003	NE003	NE004	NE004
	Start Time	23:05	00:26	23:24	00:45	23:42	01:04	00:04	01:22
	12.5	-17	-21	-21	-28	-22	-20	-23	-18
	16	-8	-13	-12	-20	-15	-12	-14	-11
	20	-2	-7	-7	-12	-10	-6	-7	-6
	25	9	1	-1	-7	0	0	0	1
	31.5	7	7	6	-1	3	8	5	8
	40	9	9	6	8	9	14	11	16
	50	16	12	13	33	19	23	16	23
	63	16	14	14	19	20	26	25	26
	80	19	17	17	17	20	22	22	19
	100	21	19	16	22	24	20	30	20
	125	22	20	17	14	23	20	28	21
	160	24	22	19	17	20	22	22	25
	200	29	27	23	18	22	28	21	29
	250	29	26	23	18	23	28	25	28
	315	31	25	24	19	25	29	28	29
	400	31	26	26	22	27	34	31	32
	500	33	27	27	25	31	38	35	37
	800	36	33	30	27	34	42	43	42
	1k	37	32	30	27	33	42	41	41
	1.25k	36	32	29	25	32	39	39	39
	1.6k	33	30	27	25	30	36	38	36
	2k	32	25	24	23	26	32	32	31
	2.5k	30	22	22	22	22	28	27	27
	3.15k	28	20	21	22	20	24	25	24
	4k	27	18	20	21	18	20	22	21
	5k	26	17	18	18	16	16	20	18
	6.3k	26	15	19	16	14	13	22	17
	8k	26	12	14	13	10	9	17	15
	10k	22	10	11	13	14	11	14	11
	12.5k	17	8	7	9	18	15	10	7
	16k	13	5	4	10	4	3	7	5

4.0 DISCUSSION AMBIENT NOISE

Noise has many sources, both manmade and environmental. Noise is observer defined, as levels unacceptable to one person may be perceived as necessary or enjoyable to another. As such the monitoring of noise is primarily an observational discipline requiring a full identification of the sources of possible noise and the type of sound that is been emitted (continuous, intermittent, tonal, broad-spectrum, single source, multiple source).
The EPA documents *'Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)*, released in April 2012, and the subsequent EPA *'Frequently Asked Questions (FAQ's) on NG4'* have been reviewed in the preparation of monitoring on site and this report.

The revised guidance note on noise for licensed activities (NG4), requires additional monitoring to be conducted at all licensed facilities as follows; Daytime, a minimum of 3 monitoring periods per station, Evening time a minimum of 1 monitoring period per station and finally for Night-time, a minimum of 2 monitoring periods per station.

Daytime is defined as a time period between: 07:00 to 19:00
Evening time is defined as a time period between: 19:00 to 23:00
Night-time is defined as a time period between: 23:00 to 07:00

Noise monitoring was carried out between the hours of 7:00am (6th August) and 3:00am (7th August). Noise sources from the facility, audible at the site boundaries have been identified as:

- Vehicles entering/leaving the site
- Unloading and loading of trucks with waste materials and processed materials using fork lift trucks, JCB etc
- Tipping of WEEE under cover in the Hanger building
- Reversing alarms from forklift trucks
- WEEE processing operations within buildings.
- Personnel entering/leaving buildings, car park area

The KMK facility is located within the Cappincur Industrial Estate, Tullamore. This industrial estate includes warehousing, commercial/industrial and waste management operations with Tullamore Steel, Midland Farm Machinery, Modified Motors, Ravenhill Couriers, Dunne & son solid fuel merchant and Condron Car Dismantlers and a number of other businesses, all located within a relatively close proximity to the KMK site. These other occupants all have noise associated with their activities and this results in a cumulative noise impact within the industrial estate e.g. all warehousing environments require controlled ventilation and air supply, and therefore there is noise associated with these fans, car dismantlers use angle grinders, manual tools, fork lift trucks and other ancillary activities e.g. vehicle movements. Machinery yards and solid fuel merchant have HGV movements delivering and removing machinery and supplies etc.

During the **Daytime** measurements, noise levels of $L_{Aeq(30\ minute)}$ varied between 57-66dB at boundary locations. The highest levels were noted at station NE002 (62, 65 and 66dB) on consecutive occasions The result of 66dB was certainly elevated by a fork truck reverse alarm and activity moving some empty cages close to noise meter (2m) during the 15:09 measurement. Site activities adding to this noise included fork lift trucks accessing building areas A,B,C and trucks being loaded with empty cages close to the entrance.

Station NE001, located on the northern boundary, had noise levels $L_{Aeq(30\ minute)}$ ranging from 59-65 dB during the day. The 65dB was due to a hook loader depositing a skip and collecting one close to the monitoring station. Site activities at this station were audible but not typically intrusive due to their infrequency and short periods. This is further supported by the value of $L_{A10(30\ minute)}$ 71dB which means that for only 10% of the time, the environment is louder than 71dB.

Station NE003, located on the south boundary behind the WEEE building, resulted in $L_{Aeq(30\ minute)}$ values ranging from 57-65 dB during the day. Noise was dominated here by the nearby dust extraction system used to treat dusts from the WEEE processing building and also noise from materials being processed inside the same building. There was also audible background noise coming from traffic on the nearby Tullamore by-pass at this location.

Station NE004, located on the west boundary, resulted in $L_{Aeq(30\ minute)}$ values ranging from 57-60 dB during the day. Noise was dominated here by typical sites activities; DX yard vehicular activities – loading and unloading truck trailers and moving materials with the JCB was audible also.

The **evening time** measurements resulted in $L_{Aeq(30\ minute)}$ values ranging from 50-60 dB which were generally lower than the daytime readings. The highest $L_{Aeq(30\ minute)}$ was at station NE002 at 60 dB and the noise here was due to site activities, predominantly materials handling. The lowest was at station NE001 where an $L_{Aeq(30\ minute)}$ of 50 dB was measured i.e. furthest away from site activities during the measurement period.

The **night-time** measurements were taken between 11pm and 3am and followed the NG4 guidance time periods. The highest noise level in $L_{Aeq(15\ minute)}$ was 49dB at NE003 boundary location whilst the lowest noise level in $L_{Aeq(15\ minute)}$ was 38dB at NE002 boundary location. There was no site activities noted during the night time measurements. The highest noise levels of 48 dB and 49 dB were at NE004 and NE003 respectively. These locations were directly dominated by background traffic on the by-pass and dogs barking at a close-by Council Pound. This is further proven by the $L_{A10(15\ minute)}$ values (often used to describe traffic noise) of 53 dB and 52 dB at the same stations.

In general, noise generated during KMK operations is not likely to be a source of disturbance to neighbouring properties as it is known that noise dissipates over distance, and for point source emissions, there is a decrease in 6dB(A) for every doubling in distance away (see table 4.1 below).

Table 4.1 Attenuation of Noise over Distance for point source emissions e.g. industrial sources

Distance m	Noise level dB	Noise Level dB
10	70	65
20	64	59
40	58	53
80	52	47
160	46	41

The noise levels on site range from a night-time $L_{Aeq\ (15\ minute)}$ of 38 dB to a $L_{Aeq(15\ minute)}$ of 49 dB. This is equivalent to the noise arising from a busy office environment. The KMK facility is located within an urban zone of acoustic influence. There are no notable housing estates within close proximity to the Cappincur Industrial Estate, nor is there identified houses positioned at significant distance from local road infrastructure, that would bring said dwellings closer to the Cappincur Industrial Estate. It is therefore reasoned that dwellings located along the local road to the north experience noise from the urban traffic movements in/out of Tullamore Town, vehicle movements associated with the Cappincur Industrial Estate, and the daily movement of traffic on the National N52 by-pass road of Tullamore, located to the west of the Cappincur Industrial Estate.

Approximate distances from the peak $L_{Aeq\ (30minute)}$ station to the closest dwelling, located northeast, is 240metres. Distances from the closest operational zones, the E-Area, located along the northern section of the site, is approximately 200m to the closest dwelling, again located to the northeast.

The table below is a standardised acoustic ratings table, utilised to characterise the dB scale to those not familiar with the logarithmic nature of the scale or the standarised reference values of 'Threshold of hearing or pain'.

Table 4.2: Sound Levels from Typical Sources

Sound Pressure level dB(A)	Typical source
120	Jet take off at 50m
100	Pneumatic Drill
90	Generator hall
80	Light machine shop, Heavy Truck at 15m
70 – 60	Light traffic (cars) at 15m
60	Office Noise
40	Library
20	Rural evening

4.1 DISCUSSION OCTAVE BAND ANALYSIS

Octave band analysis of noise is the breakdown of the sound pressure readings, as recorded on site, into specific frequency band widths. This enables a greater understanding of the type of noise evident at a site and can give indications to where tonal noise is present. There are two common forms of octave analysis. Full octave analysis groups sound pressure readings into frequency readings that cover a full octave. This type of monitoring gives a good general description of how people will perceive a sound/noise. One third octave analysis, further separates the noise reading into $^1/_3$ octave frequency groupings. Each frequency reading is given in Hz. The frequency reading is the central frequency for each band that is been monitored (i.e. Frequency band 250 Hz covers all sound pressure readings recorded between 167Hz to 333Hz). 1/3 octave analysis of noise enables the identification of tonal components present at a site. Long duration tonal noise is typically found as more aggravating to nearby sensitive receivers than broad spectrum noise sources and control measures can be used to minimise the annoyance caused by tonal sources.

4.2 $^1/_3$ OCTAVE ANALYSIS

1/3 Octave analysis is a method of analysing the recorded sound pressures to identify if tonal features are present. Tones are investigated because it is widely accepted that noise with tonal or impulsive characteristics is likely to be more annoying than noise without such characteristics. For this reason that tonal noise is more noticeable than broadband noise and can therefore be more intrusive, it is appropriate to penalise tonal noise in assessments by applying a correction factor to the measured noise level in order to arrive at a 'rating level'. The rating level ($L_{ar,T}$) is therefore calculated by adding a 5dB value to the sound pressure for the L_{Aeq} at that location and time period.

NG4 guidance document states that tonal elements can be identified by the variation in one 1/3 octave band to its neighbouring two bands by a minimum value. These minima vary depending upon the frequency band, mid and higher frequency tones been more audible than lower frequency bands. The variation is given as:

- 15dB in low-frequency one-third-octave bands (25Hz to 125 Hz)
- 8dB in middle-frequency one-third-octave bands (160Hz to 400Hz)
- 5dB in high-frequency one-third-octave bands (500Hz to 10,000Hz)

Reviewing the 1/3 octave data for the site stations, there were some tones identified under this guidance as can be seen from the data sets labelled in the corresponding charts.

In relation to impulsive noise, this is usually described as something with a thumping, banging or impact noise that is clearly audible above everything else. There was such noise experienced at station NE002, likely due to the tipping of WEEE from a skip to the yard at D.

Tones identified are summarised below;

The table below lists the tones identified from the monitoring.

Table 4.3: Tonal Features Identification

Monitoring Station	Day-time Tonal Features (Frequency & Pressure)	Evening-time Tonal Features (Frequency & Pressure)	Night-time Tonal Features (Frequency & Pressure)	Comments	Rating level ($L_{ar,T}$) as adjusted by adding 5dB to the relevant L_{Aeq}
NE001	No identified tones	No identified tones	No identified tones	No tones identified	Not applicable
NE002	No identified tones	56dB at 1.25kHz, at 19:34	No identified tones	This tone was as a result of a brief event (tipping WEEE from skip to D-Yard). There was a loud impact noise from this process which lasted a minute, hence an impulsive source.	65dB
NE003	41dB and 33dB at 8kHz at 08:11 and 10:36 respectively	No identified tones	No identified tones	These tones are due to the operational noise associated with the dust extraction plant at this location. These tones are not likely to be experience by noise sensitive receptors due to the apex side of the building acting as a close noise barrier. Also the direct affected area of noise influence is a field and then the Tullamore by-pass some further distance away.	70dB for 08:11 64dB for 10:36
NE004	No identified tones	No identified tones	32dB at 2kHz at 00:04 and 37dB at 500Hz 01:22 respectively	These tones were most probably as a result of the dogs barking and whining heard from the Council Pound close by. There was no audible noise from the site due to closure at this time period.	53dB for 00:04 53dB for 01:22

5.0 CONCLUSIONS

- Annual environmental noise monitoring occurred at KMK from Wednesday 6th to the early hours of Thursday 7th August 2014.
- 4 boundary locations were assessed as per licence requirements.
- Activities at the KMK facility were deemed normal throughout the day.
- The general acoustic environment at and around the facility is dominated by facility operations, off-site activities within the industrial estate due to neighbouring commercial premises and the Tullamore by-pass road.
- The noise measured in L_{Aeq} at all boundary locations exceeded the licence requirements (Schedule B3) for day time readings. All but one location was also exceeded for the evening time readings. The night-time readings were exceeded at NE003 and NE004 only but attributable to off-site sources. These exceedances are not likely to be experienced at any of the closest dwellings near the site due to noise dissipation over increasing distances and mitigation due to some of the buildings acting as noise reduction barriers (especially in the case for NE003).
- There was tonal noise identified at NE002, NE003 and NE004 as follows;
    - An impulsive noise identified at NE002 during the evening time measurement attributable to KMK operations.
    - During the day time measurements, tones identified at NE003 as a result of the dust extraction fans associated with the emission stack.
    - During the night-time measurements, tones identified at NE004, attributable to off-site sources.

APPENDIX 3

Waste Received in 2014

Point of Collection	Description of Wate	Ewc Code	Qty Tonnes
Civic Amenity Site	Cable Scrap (Mixed Household)	16 02 16	0.384
Civic Amenity Site	IT Equipment b2b	16 02 16	0.35
Civic Amenity Site	Batteries (Lead)	16 06 01*	48.956
Civic Amenity Site	Batteries (Alkaline)	16 06 04	36.526
Civic Amenity Site	Batteries (Fence)	16 06 04	24.6
Civic Amenity Site	Fluorescent Tubes & Bulbs	20 01 21*	62.198
Civic Amenity Site	LHA (Fridges) CAS	20 01 23*	821.619
Civic Amenity Site	CRT (TVs & Monitors) CAS	20 01 35*	1,807.81
Civic Amenity Site	LHA - CAS	20 01 36	1,539.29
Civic Amenity Site	SHA CAS	20 01 36	2,379.50
Commercial	Nickel Filter Cake	06 05 02*	9.489
Commercial	Filter Cake Residue - Materion	06 05 03	0.331
Commercial	X-ray Film	09 01 07	0.025
Commercial	Filter Cake (Andersen)	11 01 10	26.575
Commercial	Stainless Steel (Springs)	12 01 01	0.013
Commercial	Steel Scrap	12 01 01	128.371
Commercial	High Speed Steel (HSS Tools)	12 01 02	18.356
Commercial	Aluminium	12 01 03	85.653
Commercial	Aluminium Scrap (clean)	12 01 03	1.128
Commercial	Brass Scrap	12 01 03	8.449
Commercial	Brass Scrap (Jewellery)	12 01 03	0.129
Commercial	Brass Wire	12 01 03	0.029
Commercial	Cobalt Chrome Swarf	12 01 03	4.165
Commercial	Copper Braziery Scrap	12 01 03	0.032
Commercial	Copper Cylinders	12 01 03	1.418
Commercial	Copper Scrap	12 01 03	9.289
Commercial	Copper Wire Scrap	12 01 03	0.206
Commercial	Inconel (LPPS) overspray	12 01 03	5.105
Commercial	Inconel Scrap	12 01 03	1.24
Commercial	Molybdenum Scrap	12 01 03	0.155
Commercial	Nickel Residues	12 01 03	13.207
Commercial	Nickel Scrap	12 01 03	17.643
Commercial	Precious Metal Scrap	12 01 03	0.135
Commercial	Silvered Copper Wire	12 01 03	1.893
Commercial	Titanium Scrap	12 01 03	0.197
Commercial	Tungsten Carbide	12 01 03	2.99
Commercial	Tungsten Carbide Tools	12 01 03	0.093

Commercial	Zinc Scrap	12 01 03	106.755
Commercial	Zinc Scrap with attachments	12 01 03	1.938
Commercial	Zirconium Scrap	12 01 03	0.01
Commercial	Cobalt Chrome Extractor Dust (1)	12 01 04	20.503
Commercial	Cobalt Chrome Extractor Filter	12 01 04	0.716
Commercial	Cobalt Chrome Filters	12 01 04	4.074
Commercial	Cobalt Chrome Solids	12 01 04	0.118
Commercial	Solder Dross	12 01 13	2.623
Commercial	Aluminium Oxide Powder	12 01 17	0.351
Commercial	Tungsten Carbide Grinding Paste	12 01 20*	4.135
Commercial	Spent Grinding Bodies Non Haz	12 01 21	5.027
Commercial	Cardboard Packaging	15 01 01	3.871
Commercial	Paper Packaging	15 01 01	0.196
Commercial	Plastic Packaging	15 01 02	1.496
Commercial	Timber (Pallets & Packaging)	15 01 03	29.998
Commercial	Rubbish / Sweepings	15 01 06	2.474
Commercial	Glass Packaging	15 01 07	0.818
Commercial	Engines from ELV (cars)	16 01 22	13.992
Commercial	Capacitors 16 02 09*	16 02 09*	0.636
Commercial	Fridges	16 02 11*	2.439
Commercial	Fridges (Commercial b2b)	16 02 11*	18.682
Commercial	Fridges b2b	16 02 11*	30.725
Commercial	CRT (TVs & Monitors) b2b	16 02 13*	122.539
Commercial	IT Equipment (Flat Screen - Monitor)	16 02 13*	21.605
Commercial	IT Equipment (Flat Screen - Tv)	16 02 13*	1.888
Commercial	IT Equipment (Laptops)	16 02 13*	2.248
Commercial	IT Equipment (PC Monitors)	16 02 13*	5.678
Commercial	IT Equipment (mixed) Haz	16 02 13*	239.371
Commercial	Smoke Alarms	16 02 13*	0.248
Commercial	Headsets	16 02 14	2.663
Commercial	IT Equipment (CPUs)	16 02 14	0.073
Commercial	IT Equipment (Copiers)	16 02 14	11.809
Commercial	IT Equipment (Keyboards)	16 02 14	4.255
Commercial	IT Equipment (PCs)	16 02 14	90.978
Commercial	IT Equipment (Phones)	16 02 14	2.334
Commercial	IT Equipment (Printers)	16 02 14	127.728
Commercial	IT Equipment (Servers)	16 02 14	47.349
Commercial	IT Equipment (UPS)	16 02 14	1.781
Commercial	LHA (b2b)	16 02 14	11.192
Commercial	Machinery Scrap	16 02 14	379.343
Commercial	Medical Devices	16 02 14	8.683

Commercial	Microwaves	16 02 14	0.55
Commercial	Mixed Metal Scrap	16 02 14	38.571
Commercial	SHA (b2b)	16 02 14	49.453
Commercial	CRT Glass (Back & Mixed, haz.)	16 02 15*	0.455
Commercial	Cable Scrap (High grade)	16 02 16	44.173
Commercial	Cable Scrap (Low Grade)	16 02 16	7.533
Commercial	Cable Scrap (Mixed Household)	16 02 16	47.842
Commercial	Circuit Boards (Grade 1 Plus)	16 02 16	0.042
Commercial	Circuit Boards (Grade 1)	16 02 16	8.619
Commercial	Circuit Boards (Grade 2)	16 02 16	6.094
Commercial	Circuit Boards (Grade 3)	16 02 16	2.062
Commercial	Circuit Boards blank	16 02 16	13.609
Commercial	E-Scrap for Dismantling	16 02 16	337.567
Commercial	Electric Motors	16 02 16	182.458
Commercial	Electronic Components	16 02 16	37.111
Commercial	Electronic Components (Connectors)	16 02 16	0.407
Commercial	Gold Scrap	16 02 16	0.004
Commercial	IC Scrap	16 02 16	0.402
Commercial	IT Equipment (Floppy/CD Drives)	16 02 16	4.304
Commercial	IT Equipment (Hard Drives)	16 02 16	43.415
Commercial	IT Equipment (PC Power Supplies)	16 02 16	141.472
Commercial	IT Equipment (Tapes / CDs)	16 02 16	0.566
Commercial	IT Equipment (Transformers)	16 02 16	20.028
Commercial	IT Equipment b2b	16 02 16	193.396
Commercial	Plastic Foil with PM, black/clear	16 02 16	0.201
Commercial	Plastic Scrap (from IT)	16 02 16	49.605
Commercial	Printer & Toner Cartridges	16 02 16	2.679
Commercial	Silicon Wafer	16 02 16	1.397
Commercial	Plastic with Stainless Steel Spring	16 03 04	9.984
Commercial	Batteries (Lead)	16 06 01*	487.043
Commercial	Batteries (Nickel Cadmium)	16 06 02*	12.717
Commercial	Ni-Cd Batteries	16 06 02*	0.417
Commercial	Batteries (Alkaline)	16 06 04	162.63
Commercial	Batteries (Fence)	16 06 04	58.282
Commercial	Batteries (Lithium - Ion)	16 06 05	3.965
Commercial	Batteries (Lithium)	16 06 05	5.322
Commercial	Batteries (Nickel Metal Hydride)	16 06 05	0.013
Commercial	Spent catalysts containing precious metals	16 08 01	0.014
Commercial	Lead	19 12 03	1.482
Commercial	Stainless Steel Scrap	19 12 03	22.342
Commercial	Plastic Scrap	19 12 04	11.51

Commercial	Fluorescent Tubes & Bulbs	20 01 21*	34.585
Commercial	LHA (Fridges) CAS	20 01 23*	1,192.34
Commercial	Batteries (Unsorted)*	20 01 33*	7.726
Commercial	CRT (TVs & Monitors) CAS	20 01 35*	691.94
Commercial	Discarded WEEE Containing Haz Components	20 01 35*	9.745
Commercial	IT Equipment CAS	20 01 36	0.215
Commercial	LHA - CAS	20 01 36	2,726.09
Commercial	SHA CAS	20 01 36	823.759
Commercial	Aluminium Foil - Indaver	20 01 40	3.218
Commercial	Steel Scrap - Commercial	20 01 40	4.572
Industrial	Pots (Iron and Stainless Steel)	06 04 99	0.942
Industrial	Nickel Filter Cake	06 05 02*	6.484
Industrial	Nickel Iron Filter Cake	06 05 02*	2.199
Industrial	Graphite	06 13 99	0.105
Industrial	Foundry Ceramic & Runnings	10 10 08	60.318
Industrial	Nickel Hydroxide Filter Cake	11 01 09*	0.578
Industrial	Magnets	12 01 01	3.678
Industrial	Stainless Steel (Springs)	12 01 01	6.803
Industrial	Steel Scrap	12 01 01	20.198
Industrial	Aluminium	12 01 03	3.397
Industrial	Brass Scrap	12 01 03	0.012
Industrial	Cobalt Chrome Grinding Dust	12 01 03	1.989
Industrial	Cobalt Chrome Runnings	12 01 03	57.072
Industrial	Cobalt Chrome Swarf	12 01 03	43.053
Industrial	Copper Braziery Scrap	12 01 03	0.899
Industrial	Copper Clad Steel Pins	12 01 03	7.404
Industrial	Copper Pins	12 01 03	2.732
Industrial	Copper Scrap	12 01 03	2.536
Industrial	Inconel Metal (Filters)	12 01 03	0.412
Industrial	Inconel Metal (Powder)	12 01 03	0.579
Industrial	Inconel Scrap	12 01 03	8.719
Industrial	Inconel Turnings	12 01 03	1.22
Industrial	Molybdenum Scrap	12 01 03	0.252
Industrial	Nickel Residues	12 01 03	2.159
Industrial	Nickel Scrap (Flash / Foil)	12 01 03	0.106
Industrial	Nickel Scrap (Pellets)	12 01 03	0.878
Industrial	Solder Paste (Tubes)	12 01 03	0.525
Industrial	Titanium Scrap	12 01 03	1.963
Industrial	Titanium Swarf	12 01 03	16.112
Industrial	Tungsten Carbide	12 01 03	5.342
Industrial	Cobalt Chrome Extractor Dust (1)	12 01 04	114.162

Industrial	Cobalt Chrome Extractor Filter	12 01 04	3.101
Industrial	Cobalt Chrome Filters	12 01 04	18.077
Industrial	Cobalt Chrome Magnetic	12 01 04	0.992
Industrial	Cobalt Chrome Solids	12 01 04	13.936
Industrial	Cobalt Chrome Sponge	12 01 04	4.698
Industrial	Stainless Steel Powder	12 01 04	0.59
Industrial	Solder Dross	12 01 13	0.456
Industrial	Solder Lead Free	12 01 13	1.73
Industrial	Solder Lead Free with Ag	12 01 13	1.385
Industrial	Aluminium Oxide Powder	12 01 17	64.605
Industrial	Tungsten Carbide Grinding Paste	12 01 20*	0.752
Industrial	Cobalt Chrome Grinding	12 01 21	2.394
Industrial	Spent Grinding Bodies Non Haz	12 01 21	0.076
Industrial	Cardboard Packaging	15 01 01	0.443
Industrial	Timber (Pallets & Packaging)	15 01 03	0.276
Industrial	Rubbish / Sweepings	15 01 06	0.995
Industrial	Solder Wipes	15 02 03	1.032
Industrial	Fridges (Commercial b2b)	16 02 11*	0.291
Industrial	Fridges b2b	16 02 11*	1.866
Industrial	CRT (TVs & Monitors) b2b	16 02 13*	2.926
Industrial	IT Equipment (Flat Screen - Monitor)	16 02 13*	0.468
Industrial	IT Equipment (PC Monitors)	16 02 13*	1.145
Industrial	IT Equipment (mixed) Haz	16 02 13*	40.026
Industrial	Smoke Alarms	16 02 13*	0.241
Industrial	IT Equipment (CPUs)	16 02 14	0.081
Industrial	IT Equipment (Copiers)	16 02 14	24.007
Industrial	IT Equipment (PCs)	16 02 14	6.342
Industrial	IT Equipment (Printers)	16 02 14	17.657
Industrial	IT Equipment (Servers)	16 02 14	18.785
Industrial	Machinery Scrap	16 02 14	1.018
Industrial	Mixed Metal Scrap	16 02 14	1.655
Industrial	SHA (b2b)	16 02 14	9.525
Industrial	Cable Scrap (High grade)	16 02 16	1.846
Industrial	Cable Scrap (Low Grade)	16 02 16	5.584
Industrial	Cable Scrap (Mixed Household)	16 02 16	5.78
Industrial	Circuit Boards (Grade 1)	16 02 16	1.676
Industrial	Circuit Boards (Grade 2)	16 02 16	2.481
Industrial	Circuit Boards (Grade 3)	16 02 16	9.02
Industrial	Circuit Boards blank	16 02 16	4.024
Industrial	Copper Pins on Paper	16 02 16	1.68
Industrial	E-Scrap for Dismantling	16 02 16	9.382

Industrial	Electric Motors	16 02 16	8.948
Industrial	Electronic Components	16 02 16	1.003
Industrial	Glass Tubes and Panels	16 02 16	0.138
Industrial	IC Scrap	16 02 16	1.23
Industrial	IT Equipment (Floppy/CD Drives)	16 02 16	0.408
Industrial	IT Equipment (Hard Drives)	16 02 16	0.92
Industrial	IT Equipment (PC Power Supplies)	16 02 16	10.369
Industrial	IT Equipment (Tapes / CDs)	16 02 16	0.017
Industrial	IT Equipment (Transformers)	16 02 16	0.237
Industrial	IT Equipment b2b	16 02 16	21.831
Industrial	Mandrills	16 02 16	0.35
Industrial	Plastic Foil with Gold (Flex)	16 02 16	1.01
Industrial	Plastic Foil with Gold (Magma Flex)	16 02 16	0.349
Industrial	Plastic Foil with Gold, blue	16 02 16	0.129
Industrial	Plastic Foil with PM, black/clear	16 02 16	0.419
Industrial	Plastic Scrap (from IT)	16 02 16	3.801
Industrial	Batteries (Lead)	16 06 01*	3.988
Industrial	Batteries (Nickel Cadmium)	16 06 02*	0.196
Industrial	Batteries (Alkaline)	16 06 04	2.072
Industrial	Batteries (Lithium)	16 06 05	0.124
Industrial	Lead	19 12 03	0.011
Industrial	Stainless Steel Scrap	19 12 03	3.422
Industrial	Plastic Scrap	19 12 04	0.452
Industrial	Fluorescent Tubes & Bulbs	20 01 21*	1.493
Industrial	LHA (Fridges) CAS	20 01 23*	4.37
Industrial	Batteries (Unsorted)*	20 01 33*	0.543
Industrial	CRT (TVs & Monitors) CAS	20 01 35*	11.121
Industrial	LHA - CAS	20 01 36	0.44
Industrial	SHA CAS	20 01 36	13.052
Industrial	Steel Scrap - Commercial	20 01 40	32.941
Transfer Station	Steel Scrap	12 01 01	251.507
Transfer Station	Aluminium	12 01 03	12.033
Transfer Station	Brass Scrap	12 01 03	6.308
Transfer Station	Copper Scrap	12 01 03	0.24
Transfer Station	Silvered Copper Wire	12 01 03	5.732
Transfer Station	Titanium Scrap	12 01 03	0.152
Transfer Station	Tungsten Carbide	12 01 03	0.68
Transfer Station	Solder Dross	12 01 13	12.008
Transfer Station	Nickel Residues - Plasma Dust*	12 01 16*	0.412
Transfer Station	Timber (Pallets & Packaging)	15 01 03	7.099
Transfer Station	Rubbish / Sweepings	15 01 06	23.037

Transfer Station	Capacitors 16 02 09*	16 02 09*	0.122
Transfer Station	Fridges	16 02 11*	11.106
Transfer Station	Fridges (Commercial b2b)	16 02 11*	4.72
Transfer Station	Fridges b2b	16 02 11*	24.343
Transfer Station	CRT (TVs & Monitors) b2b	16 02 13*	124.402
Transfer Station	IT Equipment (Flat Screen - Monitor)	16 02 13*	50.011
Transfer Station	IT Equipment (Flat Screen - Tv)	16 02 13*	1.599
Transfer Station	IT Equipment (mixed) Haz	16 02 13*	6.895
Transfer Station	SDA	16 02 13*	0.402
Transfer Station	Smoke Alarms	16 02 13*	1.503
Transfer Station	IT Equipment (Copiers)	16 02 14	152.352
Transfer Station	IT Equipment (Keyboards)	16 02 14	3.732
Transfer Station	IT Equipment (PCs)	16 02 14	127.634
Transfer Station	IT Equipment (Phones)	16 02 14	1.725
Transfer Station	IT Equipment (Printers)	16 02 14	109.435
Transfer Station	IT Equipment (Servers)	16 02 14	50.934
Transfer Station	IT Equipment (UPS)	16 02 14	10.751
Transfer Station	LHA (b2b)	16 02 14	3.052
Transfer Station	Machinery Scrap	16 02 14	13.693
Transfer Station	Microwaves	16 02 14	241.27
Transfer Station	Mixed Metal Scrap	16 02 14	0.087
Transfer Station	Radiators (Oil Filled)	16 02 14	46.801
Transfer Station	SHA (b2b)	16 02 14	1,916.59
Transfer Station	Cable Scrap (Low Grade)	16 02 16	10.251
Transfer Station	Cable Scrap (Mixed Household)	16 02 16	42.833
Transfer Station	Circuit Boards (Grade 1)	16 02 16	12.592
Transfer Station	Circuit Boards (Grade 2)	16 02 16	14.247
Transfer Station	Circuit Boards (Grade 3)	16 02 16	19.415
Transfer Station	Circuit Boards blank	16 02 16	40.361
Transfer Station	E-Scrap for Dismantling	16 02 16	12.52
Transfer Station	Electric Motors	16 02 16	12.668
Transfer Station	Electronic Components	16 02 16	12.247
Transfer Station	IT Equipment (Floppy/CD Drives)	16 02 16	10.421
Transfer Station	IT Equipment (Hard Drives)	16 02 16	11.696
Transfer Station	IT Equipment (PC Power Supplies)	16 02 16	42.371
Transfer Station	IT Equipment (Tapes / CDs)	16 02 16	3.913
Transfer Station	IT Equipment (Transformers)	16 02 16	7.851
Transfer Station	IT Equipment b2b	16 02 16	103.077
Transfer Station	Microfiche	16 02 16	17.493
Transfer Station	Plastic Scrap (from IT)	16 02 16	13.631
Transfer Station	Batteries (Lead)	16 06 01*	42.23

Transfer Station	Batteries (Nickel Cadmium)	16 06 02*	18.691
Transfer Station	Batteries (Alkaline)	16 06 04	20.785
Transfer Station	Batteries (Fence)	16 06 04	14.878
Transfer Station	Batteries (Lithium - Ion)	16 06 05	0.806
Transfer Station	Batteries (Lithium)	16 06 05	2.141
Transfer Station	Stainless Steel Scrap	19 12 03	3.003
Transfer Station	Shredded Electrical Scrap	19 12 04	63.053
Transfer Station	Fluorescent Tubes & Bulbs	20 01 21*	38.005
Transfer Station	LHA (Fridges) CAS	20 01 23*	459.527
Transfer Station	Batteries (Unsorted)*	20 01 33*	2.989
Transfer Station	CRT (TVs & Monitors) CAS	20 01 35*	700.628
Transfer Station	LHA - CAS	20 01 36	920.58
Transfer Station	SHA CAS	20 01 36	1,676.48
Total:			**24,249.82**

Waste Despatched in 2014

Description of Waste	EWC Code	Qty Tonnes
NFM Tin Scrap	12 01 13	8.848
NFM Tin Scrap	12 01 13	1.364
Cobalt Chrome Extractor Dust Haz	12 01 20*	144.53
Cobalt Chrome Extractor Dust Haz	12 01 20*	38.17
Spent grinding bodies	12 01 20*	71.8
Spent Grinding Bodies Non Haz	12 01 21	20.92
Waste Oil	13 02 08*	26.12
Cardboard Packaging	15 01 01	12.34
Plastic Packaging	15 01 02	15.94
Wooden Packaging	15 01 03	80.78
Mixed Packaging	15 01 06	71.895
Fridges	16 02 11*	14.3
Fridges	16 02 11*	1,048.28
Fridges	16 02 11*	7.68
Fridges	16 02 11*	1,460.56
IT Equipment (Flat Screen - Monitor)	16 02 13*	124.78
IT Equipment (Flat Screen - Monitor)	16 02 13*	155.714
IT Equipment (CPUs)	16 02 14	54.21
IT Equipment (CPUs)	16 02 14	712.38
Light Iron Steel Scrap	16 02 14	120.18
Light Iron Steel Scrap	16 02 14	1,973.52
Steel Scrap LHA	16 02 14	2,650.47
Steel Scrap LHA	16 02 14	3,269.92
CRT Glass	16 02 15*	1,666.79
NFM WEEE Scrap	16 02 16	1.015
NFM WEEE Scrap	16 02 16	4.602
NFM WEEE Assemblies	16 02 16	115.315
NFM WEEE Assemblies	16 02 16	188.619
NFM WEEE Scrap	16 02 16	124.2
NFM WEEE Scrap	16 02 16	14.18
NFM WEEE Assemblies	16 02 16	942.858
NFM WEEE Assemblies	16 02 16	41.102
NFM WEEE Assemblies	16 02 16	1,427.96
NFM WEEE Assemblies	16 02 16	131.46
LA Batteries	16 06 01*	623.872
Ni-Cd Batteries	16 06 02*	24.753
Batteries (Fence)	16 06 04	297.454

Batteries (Lithium)	16 06 05	10.983
Steel Scrap Other	19 12 02	136.28
Steel Scrap Other	19 12 02	67.54
Steel Scrap Other	19 12 02	1.731
NFM Copper Scrap	19 12 03	0.84
NFM Aluminium Scrap	19 12 03	1.64
NFM Copper Scrap	19 12 03	49.24
NFM Aluminium Scrap	19 12 03	133.64
NFM Aluminium Scrap	19 12 03	27.054
NFM Aluminium Scrap	19 12 03	37.338
NFM Aluminium Scrap	19 12 03	519.141
NFM Aluminium Scrap	19 12 03	324.355
Plastic Scrap	19 12 04	106.1
CRT Plastic	19 12 04	1,017.89
Plastic Scrap	19 12 04	430.68
Plastic Scrap	19 12 04	167.51
Plastic Scrap	19 12 04	191.98
Plastic Scrap	19 12 04	20.86
Plastic Scrap	19 12 04	46.916
Plastic Scrap	19 12 04	317.18
Plastic Scrap	19 12 04	76.48
Mineral Waste	19 12 09	10.06
Waste to Energy - R&R1 Filter Dust	19 12 12	41.038
Waste to Energy - MT Residue	19 12 12	865.886
Waste to Energy - R&R1 Filter Dust	19 12 12	51.692
Fluorescent Tubes & Bulbs	20 01 21*	126.096
Total		**22469.017**

Waste in Stock in 2014

Description of Waste	EWC Code	Qty Tonnes
Non-ferrous metal dust and particles	12 01 04	43.936
Non-ferrous metal filings and turnings	12 01 03	110.506
Waste blasting material other than those mentioned in 12 01 16	12 01 17	12.621
Components removed from discarded equipment other than those mentioned in 16 02 15	16 02 16	55.91
Sludges and filter cakes other than those mentioned in 11 01 09	11 01 10	0.508
Non-ferrous Metal	19 12 03	5.044
Ferrous metal filings and turnings	12 01 01	1.709
Casting cores and moulds which have undergone pouring, other than those mentioned in 10 10 07	10 10 08	2.306
Spent catalysts containing precious metals	16 08 01	0.034
Waste not specified (graphite)	06 13 99	3.225
Discarded equipment other than those mentioned in 16 02 09 to16 02 13	16 02 14	93.734
Plastic and rubber	19 12 04	108.88
Capacitors potentially containing PCB's	16 02 09*	0.061
Discarded equipment containing hazardous components (16) other than those mentioned in 16 02 09 to 16 02 12	16 02 13*	182.017
Batteries (Lead)	16 06 01*	62.117
Spent grinding bodies and grinding materials other than those mentioned in 12 01 20	12 01 21	14.145
Batteries (Alkaline)	16 06 04	1.1
Welding Waste (Solder Dross)	12 01 13	0.187
Fluorescent Tubes & Bulbs	20 01 21*	3.6
Discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	20 01 36	255
Discarded equipment containing chlorofluorocarbons	20 01 23*	15
Discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components	20 01 35*	56
Discarded equipment (CRT Glass)	16 02 15*	35.859
Batteries (Nickel Cadmium)	16 06 02*	16.482
Batteries (Other)	16 06 05	9.631
Batteries (Mercury containing)	16 06 03*	3.558
Batteries (Unsorted)	20 01 33*	44.88
Other wastes (including mixtures of materials) from mechanical treatment of wastesother than those mentioned in 19 12 11	19 12 12	68.55
Ferrous Metal	19 12 02	8
Total		**1214.6**

APPENDIX 4

Underground lines Integrity Reports 2014

KMK RECYCLING-STATUS TO DATE **1/7/2014**

Line Reference	CCTV Status	Integrity Test Status
MH SW4C3 --- MHSW4C2	Complete	Fail
MH SWID --- MH SW2	Complete	Fail
G7 --- INTERSEPTR	complete	Pass
MH G9 --- INTERSEPTR	complete	Pass
WEIGHBRIDG --- MHSW4D	attempted-too many bends	Fail
MHSW4E --- MHSW4D	complete	Pass
MHSW4E --- ACO DRAIN	attempted-too many bends	Pass
MHSW4D --- FLOW RESTR	complete	Fail
UNKNOWN --- MHSW4D	complete	Line goes up through concrete wall to an open end at the top.
ACODRAIN --- MHSW4C	complete	Pass
MHSW4C --- MHSW4C1	complete	Pass
MHSW4C --- MHSW4B	complete	Fail
MHSW4A --- MHSW4	complete	Pass
MHSW4B --- MHSW4A	complete	Pass
MHSW4C2 --- MHSW4C	complete	Pass
G1 --- MHSW3A	complete	Pass
G5 --- MHSW3A	complete	Kingblocks in way
MHSW3A --- MAINLINE	complete	Pass
G3 --- G1	complete	G3 full of debris,no access
G1A --- G1	complete	Pass
G2 --- G3	complete	Kingblocks/fridges in way
G6 --- G5	complete	Kingblocks in way
INTERSEPTR --- MHSW1D	complete	Fail
G8 --- MAINLINE	complete	Pass
G10 --- G9	complete	Steel covering.no access
INTERSEPTR --- MHSW3	complete	Pass
FS5 --- FS1	complete	Pass
FS1 --- TREATMENT	complete	Pass
FS7 --- FS5	complete	Pass
FS4 --- FS5	complete	Fail
FS3 --- TREATMENT	complete	Pass
TREATMENT --- PERCOLATIN	Pumped line	Pumped Line

McBreen Environmental
Drain Services Ltd

Lismagratty, Cootehill Road, Cavan

Tel: 1890 66 33 33 Fax: 049 4380039
eMail: info@mcbreenenvironmental.ie
Web: www.mcbreenenvironmental.ie

KMK INTEGERITY TESTING OF STORM AND FOUL LINES..

Client:	**kmk recycling tullamore** **TULLAMORE** **OFFALY**
Project number:	**4**
Project:	
Start of project:	**2013/11/06 01:15:23 PM**
Principale cont.:	**kmk recycling tullamore**
Last change:	**2014/07/02 06:31:43 PM**

Order no.: 11078 Test no.: 1

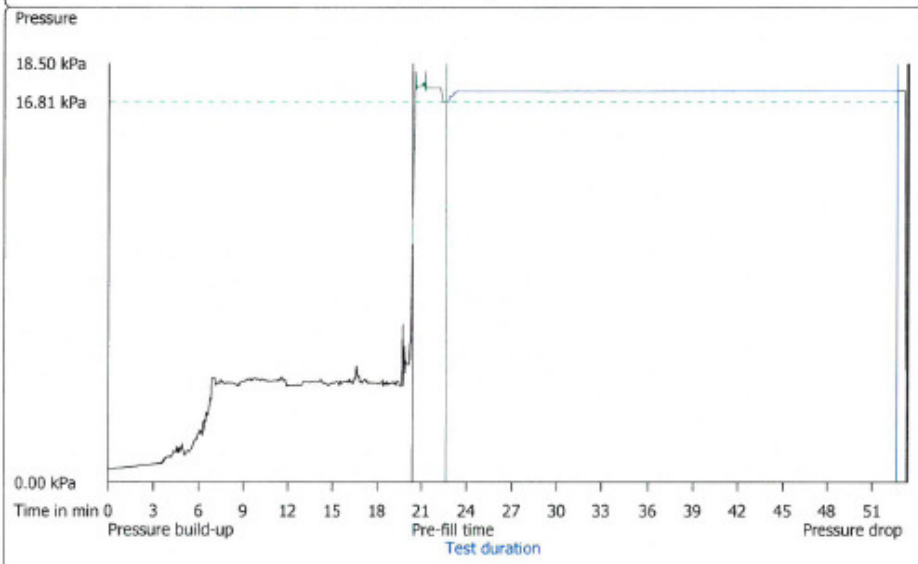
McBreen Environmental

24hr Emergency Callout Service

Ir- Cootehill road, Cavan - Lismagratty - Tel : 049 432 6306

Client:	**Principale cont.:**
KMK METALS TULLAMORE	Mc Breen environmental GRANGE CASTLE Co. Dublin

Pressure test report Pipe - Water/EN 1610



Location	:		
Location	: OFFALY	Drawing No.	:
Street	: TULLAMORE	Section no.:	: YARD
Tester	: Damien Galligan	from manhole	: INTERCEP
Test equipment	: MASTERTEST® SN:120914	to manhole	: G 7
Order no.	: 11078	Length of test section	: 25.0 m
Test date	: 30/12/1899	Pipe profile	: Circle
Test method	: Water/EN 1610	Diameter	: 150 mm
Test category	: Water		
Test section	: Pipe	Pipe no.	: INTERSEP
Material	: PVC	Internal protection	: without
Remark	:		
Sensor	: PMC131 0 - 1000 mbar, SN: F804E801052	Sensor test	: 11/02/2014
Approval	:		

Test pressure	: 16.81 kPa	Pre-fill time	: 2:15 min
Permiss. addition of water	: 1767.1 ml	Test duration	: 30:01 min
Act. water addition	: 1500.0 ml	Result	: Passed

Testing contractor | Client | Principale contractor

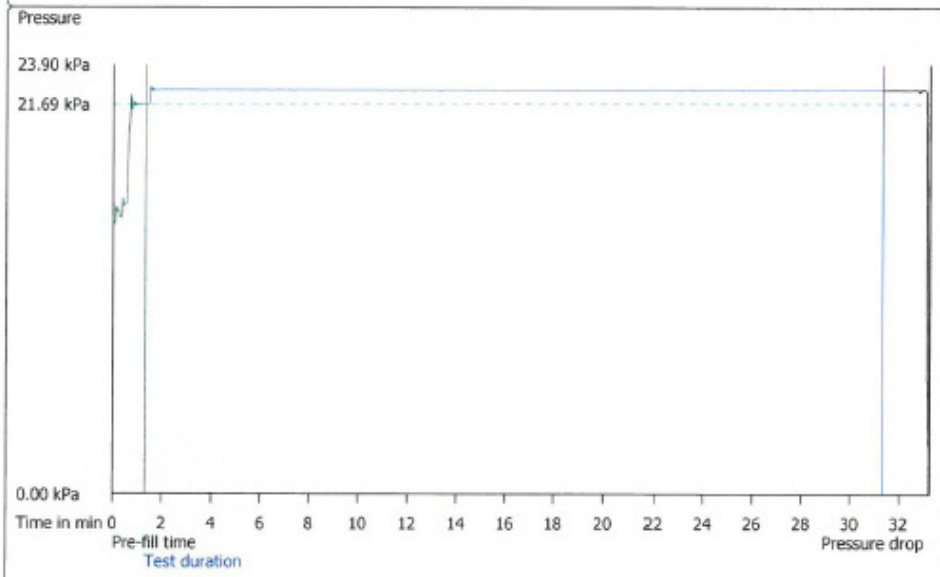
Order no.: 11078 Test no.: 2

McBreen Environmental

Ir- Cootehill road, Cavan - Lismagratty - Tel : 049 432 6306

Client:	**Principale cont.:**
KMK METALS TULLAMORE	Mc Breen environmental GRANGE CASTLE Co. Dublin

Pressure test report Pipe - Water/EN 1610



Location	:		
Location	: OFFALY	Drawing No.	:
Street	: TULLAMORE	Section no.:	: YARD
Tester	: Damien Galligan	from manhole	: INTERCEP
Test equipment	: MASTERTEST® SN:120914	to manhole	: G 9
Order no.	: 11078	Length of test section	: 43.0 m
Test date	: 30/12/1899	Pipe profile	: Circle
Test method	: Water/EN 1610	Diameter	: 150 mm
Test category	: Water		
Test section	: Pipe	Pipe no.	: INTERSEP
Material	: PVC	Internal protection	: without
Remark	:		
Sensor	: PMC131 0 - 1000 mbar, SN: F804E801052	Sensor test	: 11/02/2014
Approval	:		

Test pressure	: 21.69 kPa	Pre-fill time	: 1:19 min
Permiss. addition of water	: 3039.5 ml	Test duration	: 30:02 min
Act. water addition	: 2000.0 ml	Result	: Passed

Testing contractor | Client | Principale contractor

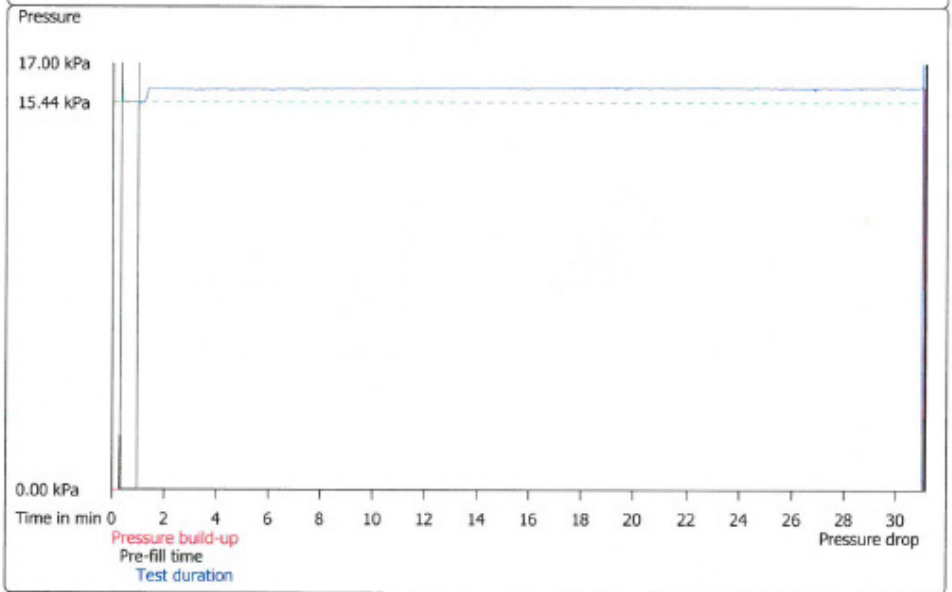
Order no.: 11078 Test no.: 3

McBreen Environmental

Ir- Cootehill road, Cavan - Lismagratty - Tel : 049 432 6306

Client:	**Principale cont.:**
KMK METALS TULLAMORE	Mc Breen environmental GRANGE CASTLE Co. Dublin

Pressure test report Pipe - Water/EN 1610



Location	:		
Location	: OFFALY	Drawing No.	:
Street	: TULLAMORE	Section no.:	: YARD
Tester	: Damien Galligan	from manhole	: G 1
Test equipment	: MASTERTEST® SN:120914	to manhole	: G 1A
Order no.	: 11078	Length of test section	: 7.0 m
Test date	: 30/12/1899	Pipe profile	: Circle
Test method	: Water/EN 1610	Diameter	: 100 mm
Test category	: Water		
Test section	: Pipe	Pipe no.	: G1
Material	: PVC	Internal protection	: without
Remark	:		
Sensor	: PMC131 0 - 1000 mbar, SN: FB04E801052	Sensor test	: 11/02/2014
Approval	:		

Test pressure	: 15.44 kPa	Pre-fill time	: 0:39 min
Permiss. addition of water	: 329.9 ml	Test duration	: 30:03 min
Act. water addition	: 250.0 ml	Result	: Passed

Testing contractor | Client | Principale contractor

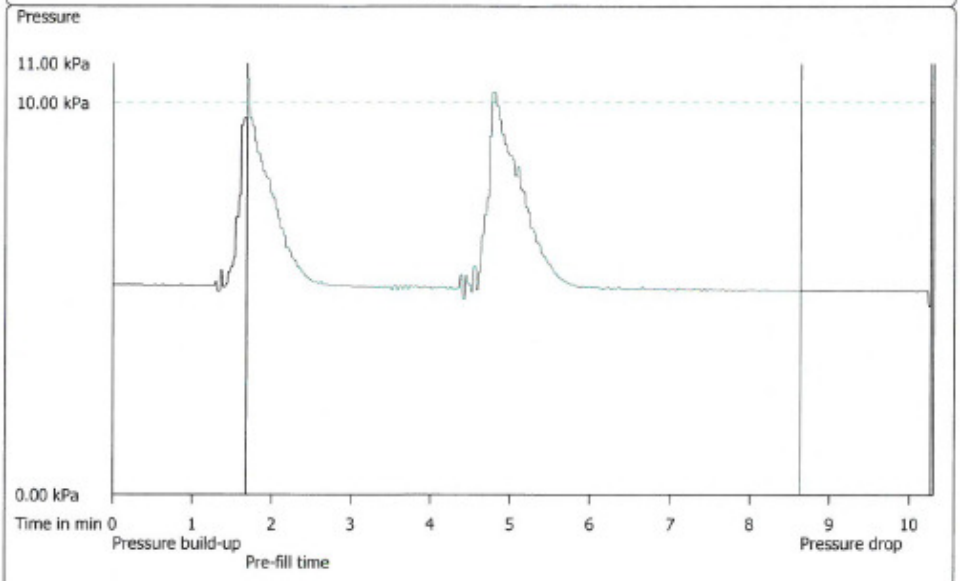
Order no.: 11078 Test no.: 4

McBreen Environmental

Ir- Cootehill road, Cavan - Lismagratty - Tel : 049 432 6306

Client:	**Principale cont.:**
KMK METALS TULLAMORE	Mc Breen environmental GRANGE CASTLE Co. Dublin

Pressure test report Pipe - Water/EN 1610



Location	:		
Location	: OFFALY	Drawing No.	:
Street	: TULLAMORE	Section no.:	: YARD
Tester	: Damien Galligan	from manhole	: SW2
Test equipment	: MASTERTEST® SN:120914	to manhole	: SWID
Order no.	: 11078	Length of test section	: 65.8 m
Test date	: 30/12/1899	Pipe profile	: Circle
Test method	: Water/EN 1610	Diameter	: 225 mm
Test category	: Water		
Test section	: Pipe	Pipe no.	: INTERSEP
Material	: PVC	Internal protection	: without
Remark	:		
Sensor	: PMC131 0 - 1000 mbar, SN: F804E801052	Sensor test	: 11/02/2014
Approval	:		

Test pressure	: 10.00 kPa	Pre-fill time	: 6:59 min
Permiss. addition of water	: 6975.6 ml	Test duration	: 0:00 min
Act. water addition	: 0.0 ml	Result	: Failed

Testing contractor | Client | Principale contractor

Order no.: 11078 Test no.: 5

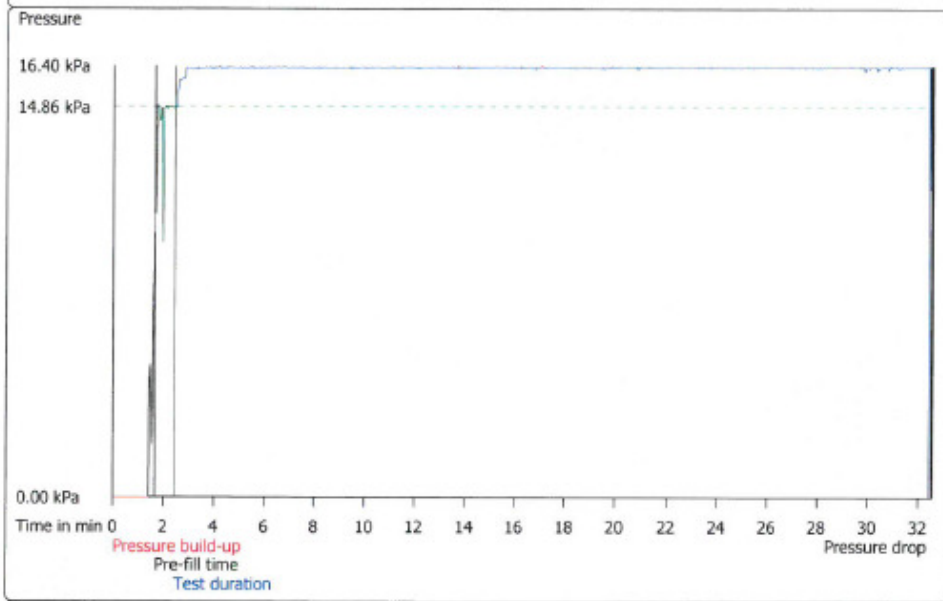
McBreen Environmental

24hr Emergency

Ir- Cootehill road, Cavan - Lismagratty - Tel : 049 432 6306

Client:	**Principale cont.:**
KMK METALS TULLAMORE	Mc Breen environmental GRANGE CASTLE Co. Dublin

Pressure test report Pipe - Water/EN 1610



Location	:		
Location	: OFFALY	Drawing No.	:
Street	: TULLAMORE	Section no.:	: YARD
Tester	: Damien Galligan	from manhole	: MHSW4A
Test equipment	: MASTERTEST® SN:120914	to manhole	: MHSW4B
Order no.	: 11078	Length of test section	: 4.0 m
Test date	: 30/12/1899	Pipe profile	: Circle
Test method	: Water/EN 1610	Diameter	: 150 mm
Test category	: Water		
Test section	: Pipe	Pipe no.	: MHSW4A
Material	: PVC	Internal protection	: without
Remark	:		
Sensor	: PMC131 0 - 1000 mbar, SN: F804E801052	Sensor test	: 11/02/2014
Approval	:		

Test pressure	: 14.86 kPa	Pre-fill time	: 0:46 min
Permiss. addition of water	: 282.7 ml	Test duration	: 30:01 min
Act. water addition	: 250.0 ml	Result	: Passed

Testing contractor | Client | Principale contractor

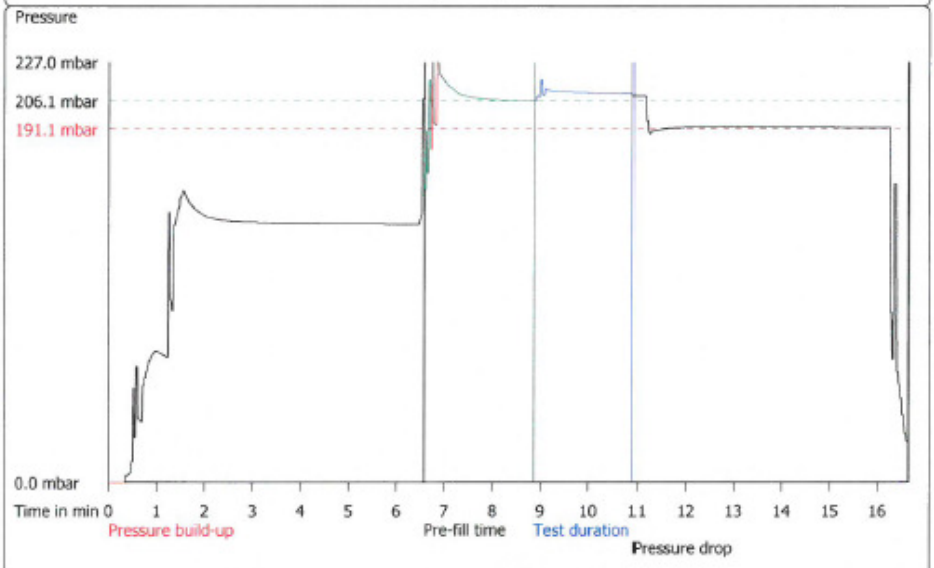
Order no.: 4 Test no.: 1

McBreen Environmental
Drain Services Ltd

- Lismagratty, Cootehill Road, Cavan - Tel : 1890 66 33 33

Client:
kmk recycling tullamore
TULLAMORE
OFFALY

Pressure test report Pipe - Air/EN 1610



Location	: ALL OF SITE		
Location	: OFFALY	Drawing No.	: ALL OF SITE
Street	: TULLAMORE	Section no.:	:
Tester	:	from manhole	: SW4C
Test equipment	: MASTERTEST® SN:131009	to manhole	: SW4C1
Order no.	: 4	Length of test section	: 14.5 m
Test date	: 2014/06/28 10:52:07 AM	Pipe profile	: Circle
Test method	: Air/EN 1610	Diameter	: 300 mm
Test category	: Air LD		
Test section	: Pipe	Pipe no.	: SW4C
Material	: PVC	Internal protection	: without
Remark	:		
Sensor	: PMC131 -300 - +300 mbar, SN: H713C101052	Sensor test	: 2013/10/09
Approval	:		

Test pressure	: 206.1 mbar	Pre-fill time	: 2:18 min
Permiss. pressure loss	: 15.0 mbar	Test duration	: 2:02 min
Act. pressure loss	: -0.1 mbar	Result	: Passed

Testing contractor

Client

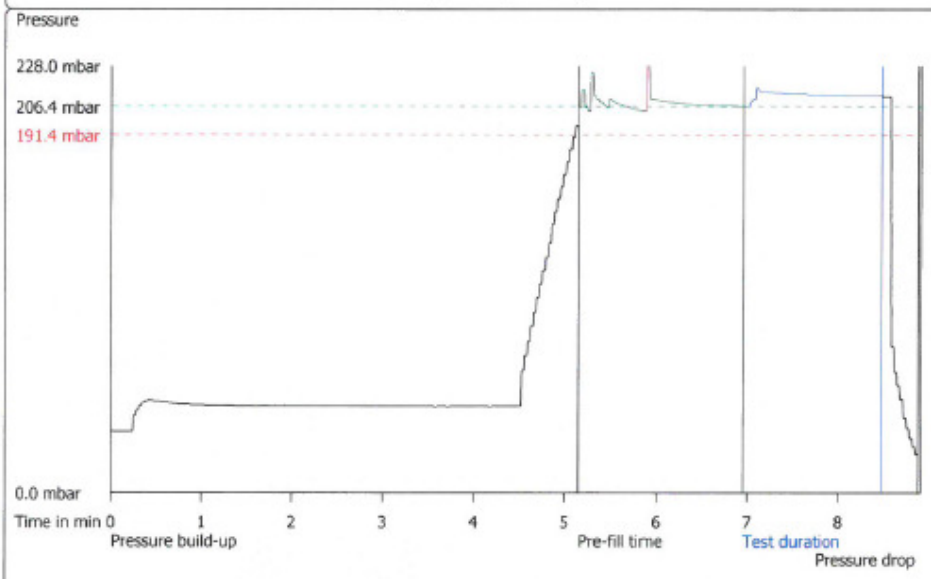
Order no.: 4 Test no.: 2

McBreen Environmental
Drain Services Ltd

- Lismagratty, Cootehill Road, Cavan - Tel : 1890 66 33 33

Client:
kmk recycling tullamore
TULLAMORE
OFFALY

Pressure test report Pipe - Air/EN 1610



Location	: ALL OF SITE		
Location	: OFFALY	Drawing No.	: ALL OF SITE
Street	: TULLAMORE	Section no.:	:
Tester	:	from manhole	: SW4D
Test equipment	: MASTERTEST® SN:131009	to manhole	: SW4E
Order no.	: 4	Length of test section	: 20.0 m
Test date	: 2014/06/28 11:06:18 AM	Pipe profile	: Circle
Test method	: Air/EN 1610	Diameter	: 150 mm
Test category	: Air LD		
Test section	: Pipe	Pipe no.	: SW4D
Material	: PVC	Internal protection	: without
Remark	:		
Sensor	: PMC131 -300 - +300 mbar, SN: H713C101052	Sensor test	: 2013/10/09
Approval	:		

Test pressure	: 206.4 mbar	Pre-fill time	: 1:48 min
Permiss. pressure loss	: 15.0 mbar	Test duration	: 1:32 min
Act. pressure loss	: 0.0 mbar	Result	: Passed

Testing contractor

Client

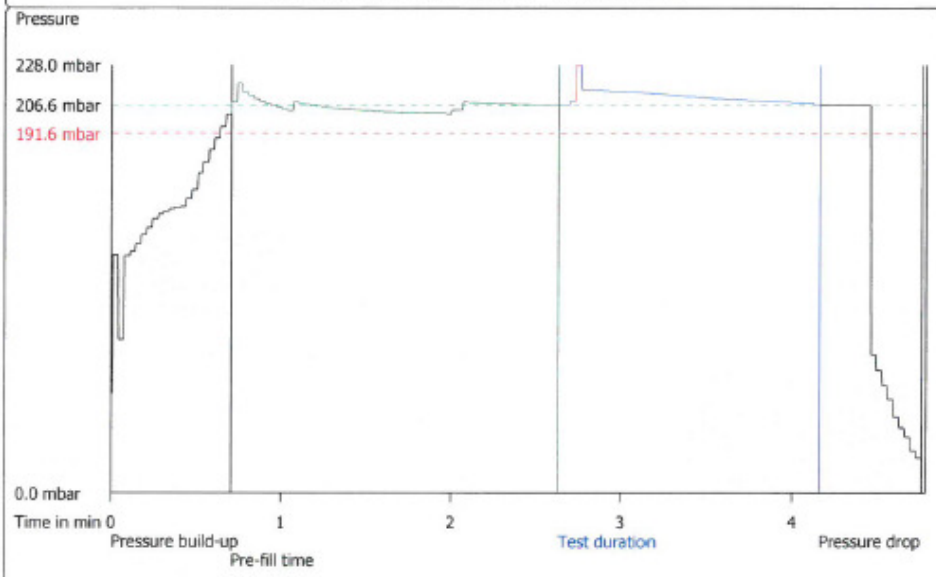
Order no.: 4 Test no.: 3

McBreen Environmental
Drain Services Ltd

- Lismagratty, Cootehill Road, Cavan - Tel : 1890 66 33 33

Client:
kmk recycling tullamore
TULLAMORE
OFFALY

Pressure test report Pipe - Air/EN 1610



Location	: ALL OF SITE		
Location	: OFFALY	Drawing No.	: ALL OF SITE
Street	: TULLAMORE	Section no.:	:
Tester	:	from manhole	: SW4E
Test equipment	: MASTERTEST® SN:131009	to manhole	: ACO DRAIN
Order no.	: 4	Length of test section	: 50.0 m
Test date	: 2014/06/28 11:12:46 AM	Pipe profile	: Circle
Test method	: Air/EN 1610	Diameter	: 100 mm
Test category	: Air LD		
Test section	: Pipe	Pipe no.	: SW4E
Material	: PVC	Internal protection	: without
Remark	: 2 CONNECTIONS		
Sensor	: PMC131 -300 - +300 mbar, SN: H713C101052	Sensor test	: 2013/10/09
Approval	:		

Test pressure	: 206.6 mbar	Pre-fill time	: 1:56 min
Permiss. pressure loss	: 15.0 mbar	Test duration	: 1:32 min
Act. pressure loss	: -0.7 mbar	Result	: Passed

Testing contractor

Client

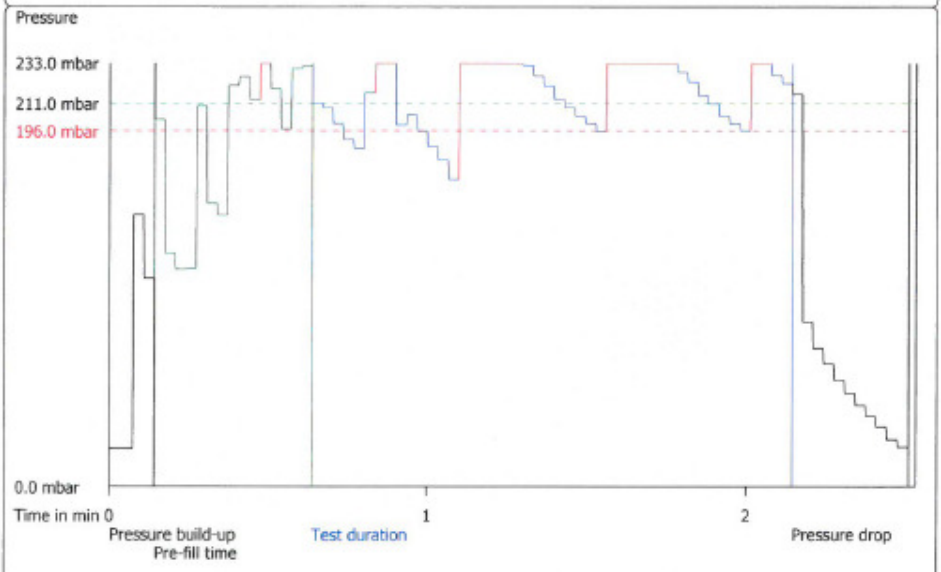
Order no.: 4 Test no.: 4

McBreen Environmental
Drain Services Ltd

- Lismagratty, Cootehill Road, Cavan - Tel : 1890 66 33 33

Client:
kmk recycling tullamore
TULLAMORE
OFFALY

Pressure test report Pipe - Air/EN 1610



Location	: ALL OF SITE		
Location	: OFFALY	Drawing No.	: ALL OF SITE
Street	: TULLAMORE	Section no.:	:
Tester	:	from manhole	: WEIGHBRIDGE
Test equipment	: MASTERTEST® SN:131009	to manhole	: SW 4D
Order no.	: 4	Length of test section	: 13.0 m
Test date	: 2014/06/28 11:19:32 AM	Pipe profile	: Circle
Test method	: Air/EN 1610	Diameter	: 150 mm
Test category	: Air LD		
Test section	: Pipe	Pipe no.	: WEIGHBRIDGE
Material	: PVC	Internal protection	: without
Remark	: ? CONNECTIONS SURVEY ABANDONED		
Sensor	: PMC131 -300 - +300 mbar, SN: H713C101052	Sensor test	: 2013/10/09
Approval	:		

Test pressure	: 211.0 mbar	Pre-fill time	: 0:30 min
Permiss. pressure loss	: 15.0 mbar	Test duration	: 1:31 min
Act. pressure loss	: -62.3 mbar	Result	: Failed

Testing contractor

Client

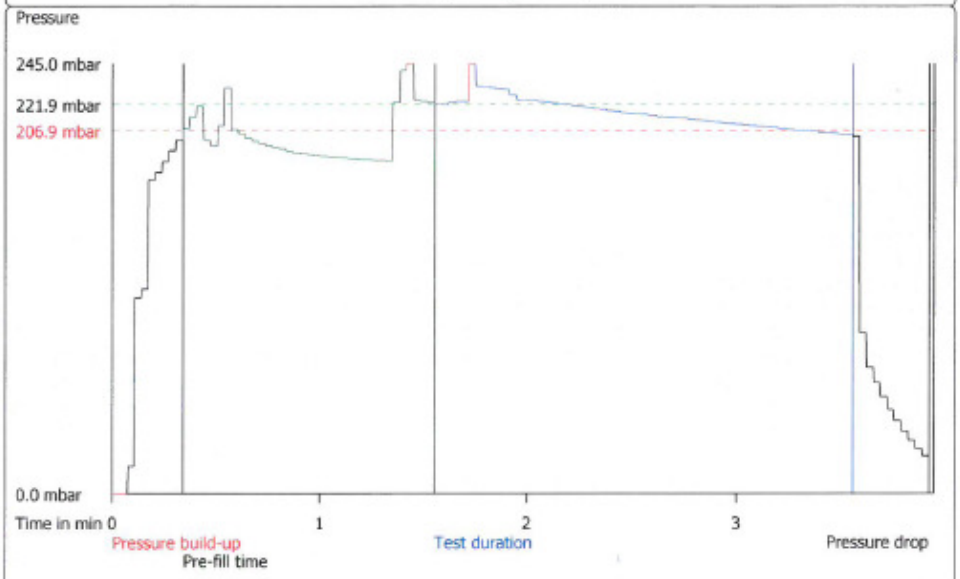
Order no.: 4 Test no.: 5

McBreen Environmental
Drain Services Ltd

- Lismagratty, Cootehill Road, Cavan - Tel : 1890 66 33 33

Client:
kmk recycling tullamore
TULLAMORE
OFFALY

Pressure test report Pipe - Air/EN 1610



Location	: ALL OF SITE		
Location	: OFFALY	Drawing No.	: ALL OF SITE
Street	: TULLAMORE	Section no.:	:
Tester	:	from manhole	: SW1D
Test equipment	: MASTERTEST® SN:131009	to manhole	: INTERCEPTER
Order no.	: 4	Length of test section	: 5.0 m
Test date	: 2014/06/28 11:28:06 AM	Pipe profile	: Circle
Test method	: Air/EN 1610	Diameter	: 300 mm
Test category	: Air LD		
Test section	: Pipe	Pipe no.	: SW1D
Material	: PVC	Internal protection	: without
Remark	: FLOW IN ALL THE TIME		
Sensor	: PMC131 -300 - +300 mbar, SN: H713C101052	Sensor test	: 2013/10/09
Approval	:		

Test pressure	: 221.9 mbar	Pre-fill time	: 1:13 min
Permiss. pressure loss	: 15.0 mbar	Test duration	: 2:01 min
Act. pressure loss	: -18.3 mbar	Result	: Failed

Testing contractor

Client

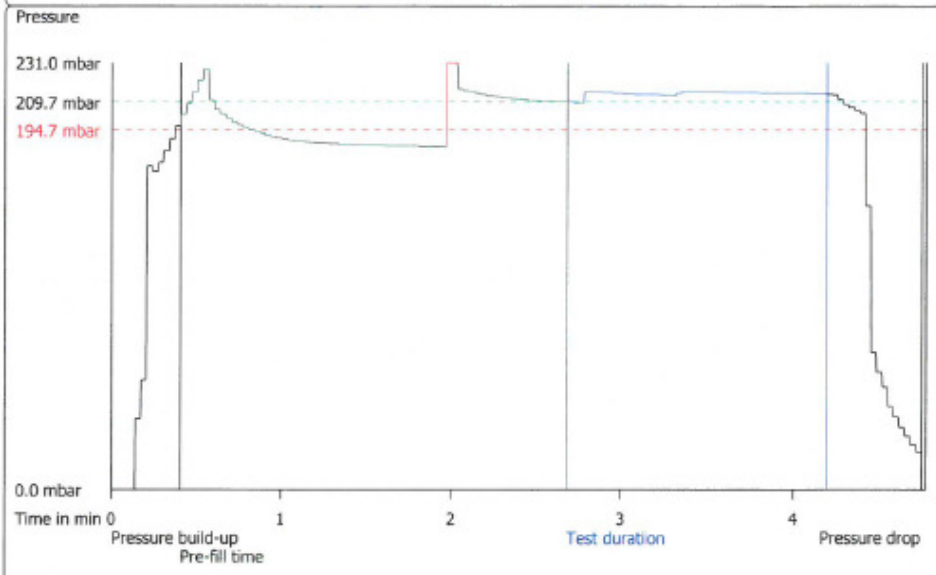
Order no.: 4 Test no.: 6

McBreen Environmental
Drain Services Ltd

- Lismagratty, Cootehill Road, Cavan - Tel : 1890 66 33 33

Client:
kmk recycling tullamore
TULLAMORE
OFFALY

Pressure test report Pipe - Air/EN 1610



Location	: ALL OF SITE		
Location	: OFFALY	Drawing No.	: ALL OF SITE
Street	: TULLAMORE	Section no.:	:
Tester	:	from manhole	: SW4C
Test equipment	: MASTERTEST® SN:131009	to manhole	: ACO DRAIN
Order no.	: 4	Length of test section	: 30.0 m
Test date	: 2014/06/28 11:42:43 AM	Pipe profile	: Circle
Test method	: Air/EN 1610	Diameter	: 100 mm
Test category	: Air LD		
Test section	: Pipe	Pipe no.	: SW4C
Material	: PVC	Internal protection	: without
Remark	:		
Sensor	: PMC131 -300 - +300 mbar, SN: H713C101052	Sensor test	: 2013/10/09
Approval	:		

Test pressure	: 209.7 mbar	Pre-fill time	: 2:17 min
Permiss. pressure loss	: 15.0 mbar	Test duration	: 1:31 min
Act. pressure loss	: -0.5 mbar	Result	: Passed

Testing contractor

Client

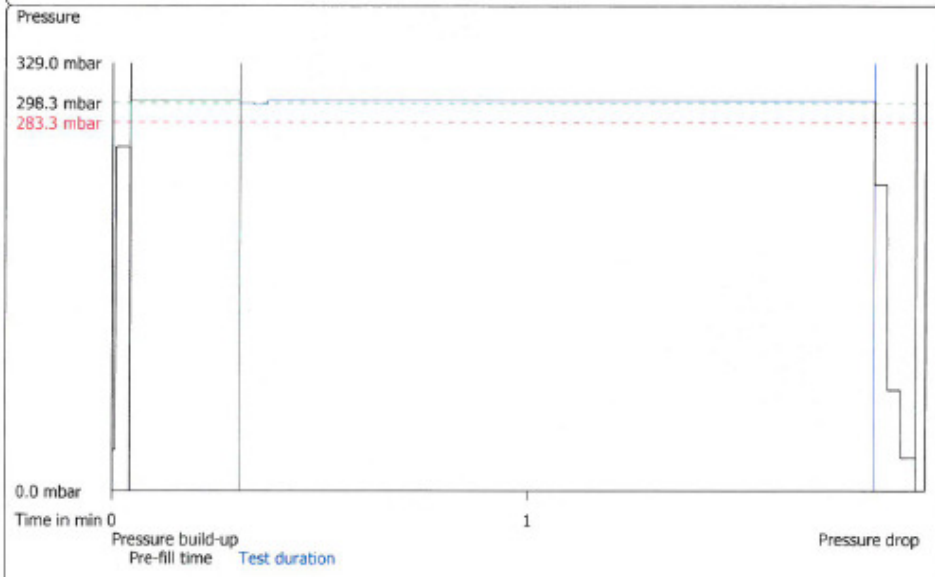
Order no.: 4 Test no.: 9

McBreen Environmental
Drain Services Ltd

- Lismagratty, Cootehill Road, Cavan - Tel : 1890 66 33 33

Client:
kmk recycling tullamore
TULLAMORE
OFFALY

Pressure test report Pipe - Air/EN 1610



Location	: ALL OF SITE		
Location	: OFFALY	Drawing No.	: ALL OF SITE
Street	: TULLAMORE	Section no.:	:
Tester	:	from manhole	: G8
Test equipment	: MASTERTEST® SN:131009	to manhole	: MAINLINE
Order no.	: 4	Length of test section	: 2.5 m
Test date	: 2014/06/28 12:58:20 PM	Pipe profile	: Circle
Test method	: Air/EN 1610	Diameter	: 100 mm
Test category	: Air LD		
Test section	: Pipe	Pipe no.	: G8
Material	: PVC	Internal protection	: without
Remark	:		
Sensor	: PMC131 -300 - +300 mbar, SN: H713C101052	Sensor test	: 2013/10/09
Approval	:		

Test pressure	: 298.3 mbar	Pre-fill time	: 0:16 min
Permiss. pressure loss	: 15.0 mbar	Test duration	: 1:32 min
Act. pressure loss	: -2.6 mbar	Result	: Passed

Testing contractor

Client

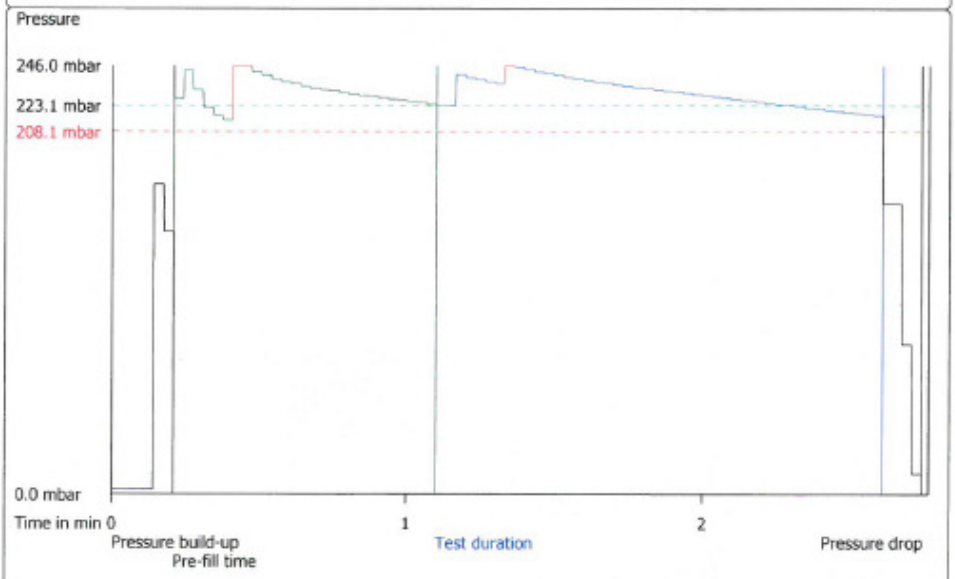
Order no.: 4 Test no.: 11

McBreen Environmental
Drain Services Ltd

- Lismagratty, Cootehill Road, Cavan - Tel : 1890 66 33 33

Client:
kmk recycling tullamore
TULLAMORE
OFFALY

Pressure test report Pipe - Air/EN 1610



Location	: ALL OF SITE		
Location	: OFFALY	Drawing No.	: ALL OF SITE
Street	: TULLAMORE	Section no.:	:
Tester	:	from manhole	: SW4A
Test equipment	: MASTERTEST® SN:131009	to manhole	: SW4
Order no.	: 4	Length of test section	: 52.0 m
Test date	: 2014/06/28 01:19:38 PM	Pipe profile	: Circle
Test method	: Air/EN 1610	Diameter	: 150 mm
Test category	: Air LD		
Test section	: Pipe	Pipe no.	: SW4A
Material	: PVC	Internal protection	: without
Remark	:		
Sensor	: PMC131 -300 - +300 mbar, SN: H713C101052	Sensor test	: 2013/10/09
Approval	:		

Test pressure	: 223.1 mbar	Pre-fill time	: 0:54 min
Permiss. pressure loss	: 15.0 mbar	Test duration	: 1:31 min
Act. pressure loss	: -6.5 mbar	Result	: Passed

Testing contractor

Client

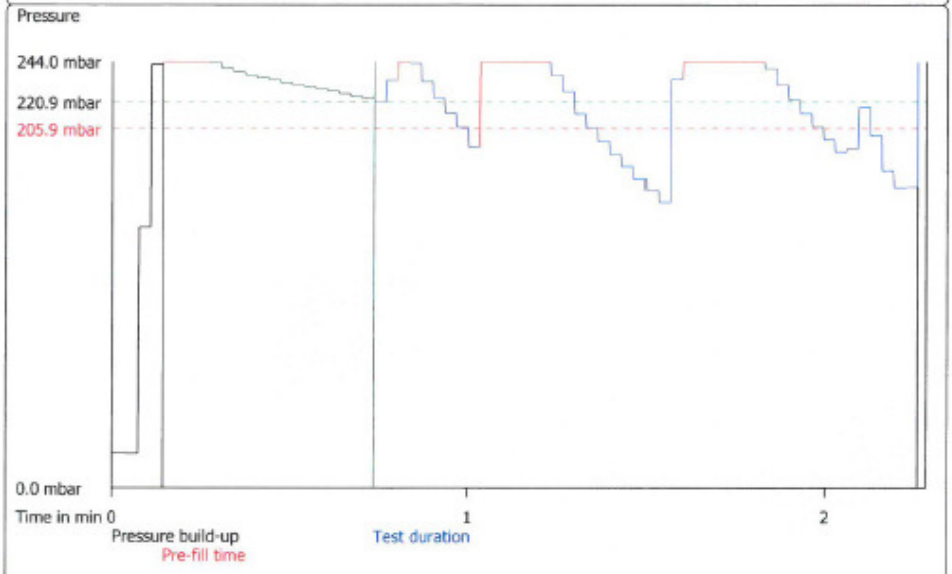
Order no.: 4 Test no.: 12

McBreen Environmental
Drain Services Ltd

- Lismagratty, Cootehill Road, Cavan - Tel : 1890 66 33 33

Client:
kmk recycling tullamore
TULLAMORE
OFFALY

Pressure test report Pipe - Air/EN 1610



Location	: ALL OF SITE		
Location	: OFFALY	Drawing No.	: ALL OF SITE
Street	: TULLAMORE	Section no.:	:
Tester	:	from manhole	: SW4D
Test equipment	: MASTERTEST® SN:131009	to manhole	: FLOW RESTR
Order no.	: 4	Length of test section	: 18.0 m
Test date	: 2014/06/28 01:22:59 PM	Pipe profile	: Circle
Test method	: Air/EN 1610	Diameter	: 150 mm
Test category	: Air LD		
Test section	: Pipe	Pipe no.	: SW4D
Material	: PVC	Internal protection	: without
Remark	:		
Sensor	: PMC131 -300 - +300 mbar, SN: H713C101052	Sensor test	: 2013/10/09
Approval	:		

Test pressure	: 220.9 mbar	Pre-fill time	: 0:36 min
Permiss. pressure loss	: 15.0 mbar	Test duration	: 1:32 min
Act. pressure loss	: -62.4 mbar	Result	: Failed

Testing contractor

Client

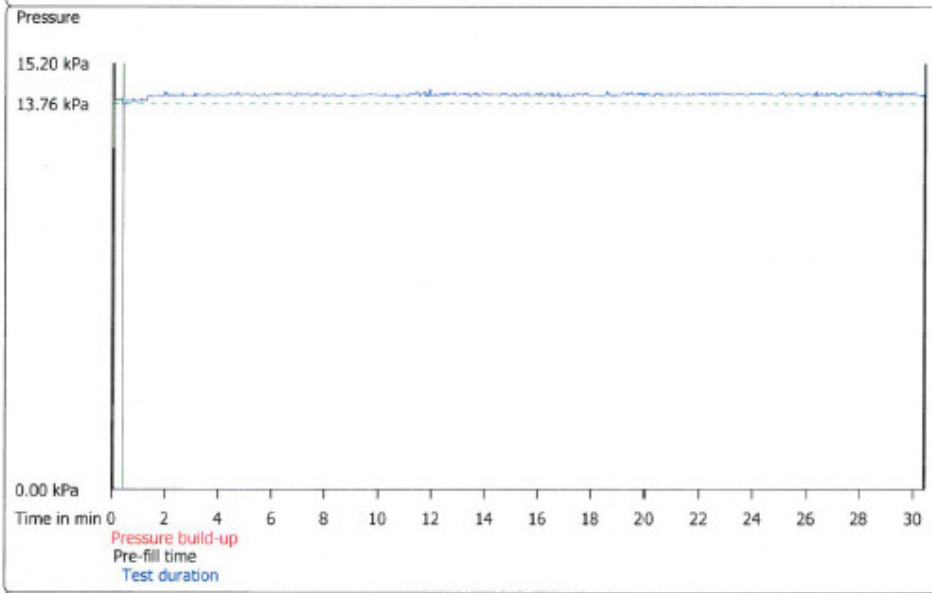
Order no.: 4 Test no.: 16

McBreen Environmental
Drain Services Ltd

- Lismagratty, Cootehill Road, Cavan - Tel : 1890 66 33 33

Client:
kmk recycling tullamore
TULLAMORE
OFFALY

Pressure test report Pipe - Water/EN 1610



Location	: ALL OF SITE		
Location	: OFFALY	Drawing No.	: ALL OF SITE
Street	: TULLAMORE	Section no.:	:
Tester	:	from manhole	: SW3A
Test equipment	: MASTERTEST® SN:131009	to manhole	: G1
Order no.	: 4	Length of test section	: 17.7 m
Test date	: 2014/07/02 04:23:42 PM	Pipe profile	: Circle
Test method	: Water/EN 1610	Diameter	: 150 mm
Test category	: Water		
Test section	: Pipe	Pipe no.	: SW3A
Material	: PVC	Internal protection	: without
Remark	:		
Sensor	: PMC131 0 - 1000 mbar, SN: H91ABF01052	Sensor test	: 2014/02/14
Approval	:		

Test pressure	: 13.76 kPa	Pre-fill time	: 0:20 min
Permiss. addition of water	: 1251.1 ml	Test duration	: 30:02 min
Act. water addition	: 1100.0 ml	Result	: Passed

Testing contractor

Client

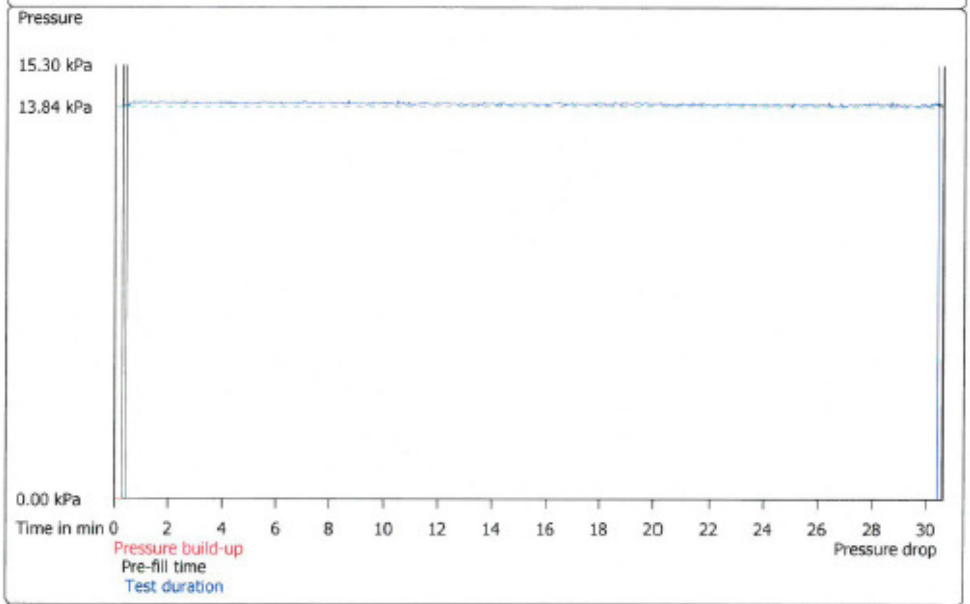
Order no.: 4 Test no.: 17

McBreen Environmental
Drain Services Ltd

- Lismagratty, Cootehill Road, Cavan - Tel : 1890 66 33 33

Client:
kmk recycling tullamore
TULLAMORE
OFFALY

Pressure test report Pipe - Water/EN 1610



Location	: ALL OF SITE		
Location	: OFFALY	Drawing No.	: ALL OF SITE
Street	: TULLAMORE	Section no.:	:
Tester	:	from manhole	: SW3A
Test equipment	: MASTERTEST® SN:131009	to manhole	: MAINLINE
Order no.	: 4	Length of test section	: 10.7 m
Test date	: 2014/07/02 04:58:53 PM	Pipe profile	: Circle
Test method	: Water/EN 1610	Diameter	: 150 mm
Test category	: Water		
Test section	: Pipe	Pipe no.	: SW3A
Material	: PVC	Internal protection	: without
Remark	:		
Sensor	: PMC131 0 - 1000 mbar, SN: H91ABF01052	Sensor test	: 2014/02/14
Approval	:		

Test pressure	: 13.84 kPa	Pre-fill time	: 0:08 min
Permiss. addition of water	: 756.3 ml	Test duration	: 30:02 min
Act. water addition	: 540.0 ml	Result	: Passed

Testing contractor

Client

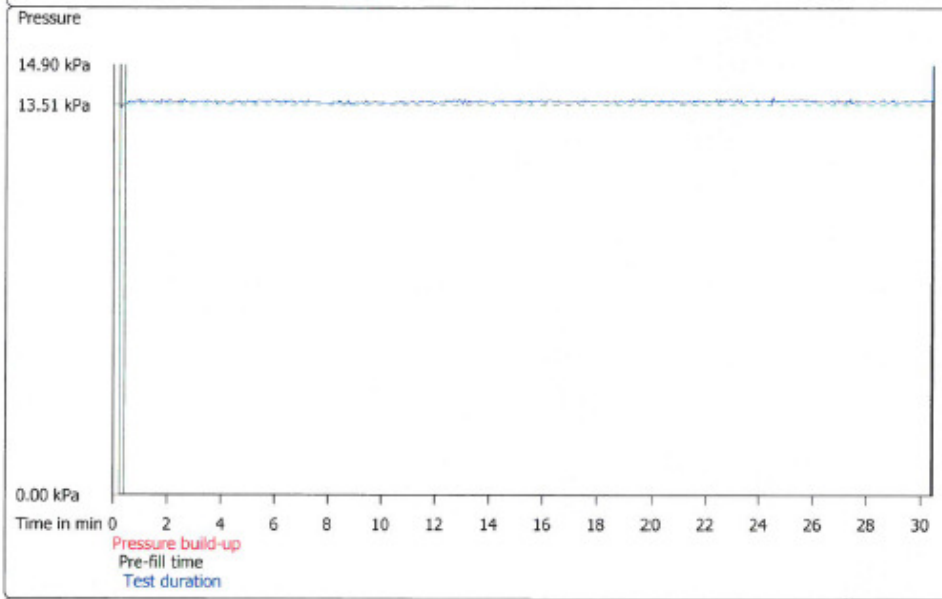
Order no.: 4 Test no.: 18

McBreen Environmental
Drain Services Ltd

- Lismagratty, Cootehill Road, Cavan - Tel : 1890 66 33 33

Client:
kmk recycling tullamore
TULLAMORE
OFFALY

Pressure test report Pipe - Water/EN 1610



Location	: ALL OF SITE		
Location	: OFFALY	Drawing No.	: ALL OF SITE
Street	: TULLAMORE	Section no.:	:
Tester	:	from manhole	: FS 1
Test equipment	: MASTERTEST® SN:131009	to manhole	: TREATMENT
Order no.	: 4	Length of test section	: 1.0 m
Test date	: 2014/07/02 06:31:43 PM	Pipe profile	: Circle
Test method	: Water/EN 1610	Diameter	: 100 mm
Test category	: Water		
Test section	: Pipe	Pipe no.	: FS 1
Material	: PVC	Internal protection	: without
Remark	:		
Sensor	: PMC131 0 - 1000 mbar, SN: H91ABF01052	Sensor test	: 2014/02/14
Approval	:		

Test pressure	: 13.51 kPa	Pre-fill time	: 0:10 min
Permiss. addition of water	: 47.1 ml	Test duration	: 30:01 min
Act. water addition	: 35.0 ml	Result	: Passed

Testing contractor

Client

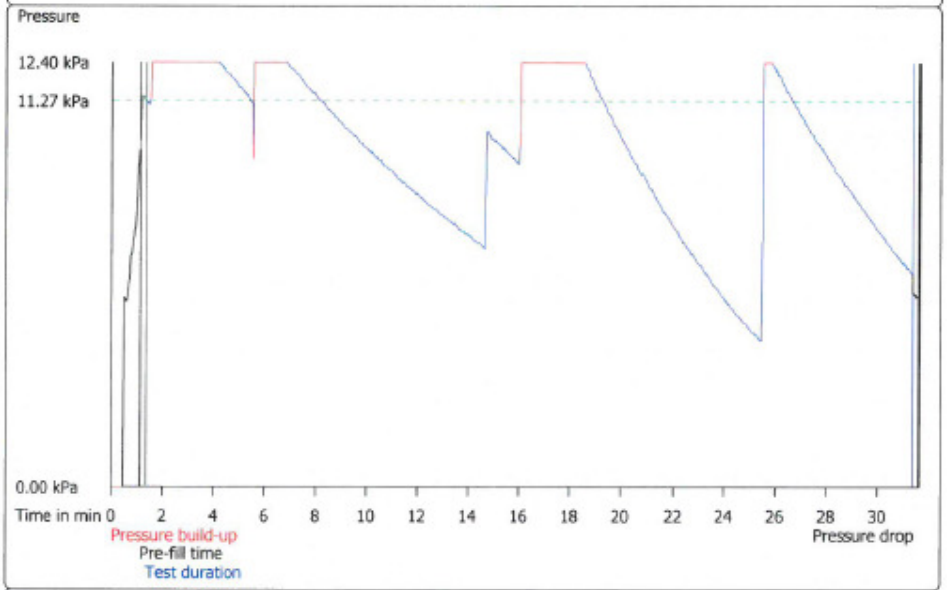
Order no.: 2 Test no.: 1

McBreen Environmental
Drain Services Ltd

- Lismagratty, Cootehill Road, Cavan - Tel : 1890 66 33 33

Client:	**Principale cont.:**
KMK METALS TULLAMORE	Mc Breen environmental GRANGE CASTLE Co. Dublin

Pressure test report Pipe - Water/EN 1610



Location	:		
Location	:	Drawing No.	:
Street	:	Section no.:	:
Tester	: RAY PLUNKETT	from manhole	: mhsw4c3
Test equipment	: MASTERTEST® SN:120914	to manhole	: mhsw4c2
Order no.	: 2	Length of test section	: 79.5 m
Test date	: 28/06/2014 10:33:54	Pipe profile	: Circle
Test method	: Water/EN 1610	Diameter	: 225 mm
Test category	: Water		
Test section	: Pipe	Pipe no.	: mhsw4c3
Material	: PVC	Internal protection	: without
Remark	: this line includes nine connections, roof gullys		
Sensor	: PMC131 0 - 1000 mbar, SN: F804E801052	Sensor test	: 11/02/2014
Approval	:		

Test pressure	: 11.27 kPa	Pre-fill time	: 0:14 min
Permiss. addition of water	: 8429.3 ml	Test duration	: 30:03 min
Act. water addition	: 9000.0 ml	Result	: Failed

Testing contractor | Client | Principale contractor

Order no.: 2 Test no.: 2

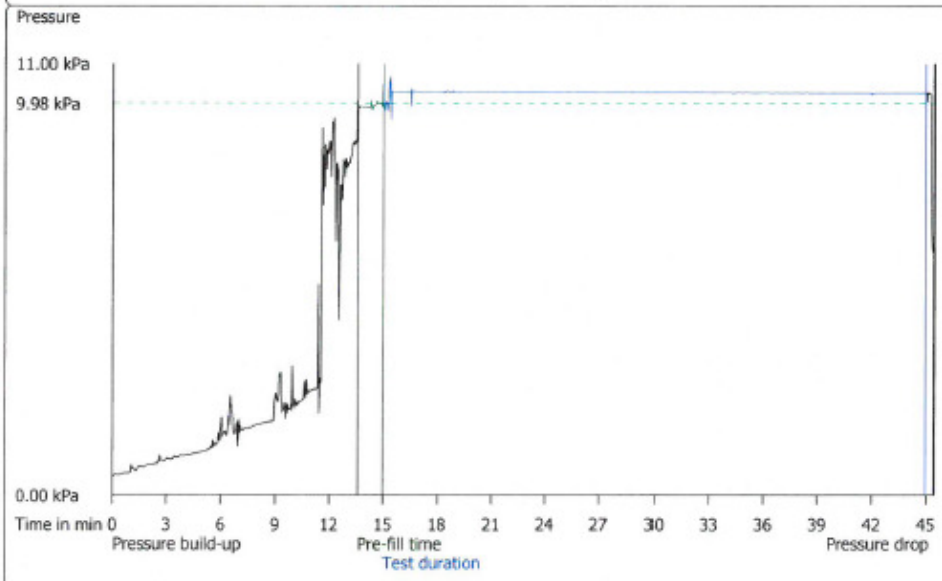
McBreen Environmental
Drain Services Ltd

- Lismagratty, Cootehill Road, Cavan - Tel : 1890 66 33 33

Client:
KMK METALS
TULLAMORE

Principale cont.:
Mc Breen environmental
GRANGE CASTLE
Co. Dublin

Pressure test report Pipe - Water/EN 1610



Location	:		
Location	:	Drawing No.	:
Street	:	Section no.:	:
Tester	: RAY PLUNKETT	from manhole	: fs7
Test equipment	: MASTERTEST® SN:120914	to manhole	: fs5
Order no.	: 2	Length of test section	: 22.0 m
Test date	: 28/06/2014 11:43:19	Pipe profile	: Circle
Test method	: Water/EN 1610	Diameter	: 100 mm
Test category	: Water		
Test section	: Pipe	Pipe no.	: fs7
Material	: PVC	Internal protection	: without
Remark	: this line includes fs6		
Sensor	: PMC131 0 - 1000 mbar, SN: F804E801052	Sensor test	: 11/02/2014
Approval	:		

Test pressure	: 9.98 kPa	Pre-fill time	: 1:24 min
Permiss. addition of water	: 1036.7 ml	Test duration	: 30:01 min
Act. water addition	: 1000.0 ml	Result	: Passed

Testing contractor | Client | Principale contractor

Order no.: 2 Test no.: 3

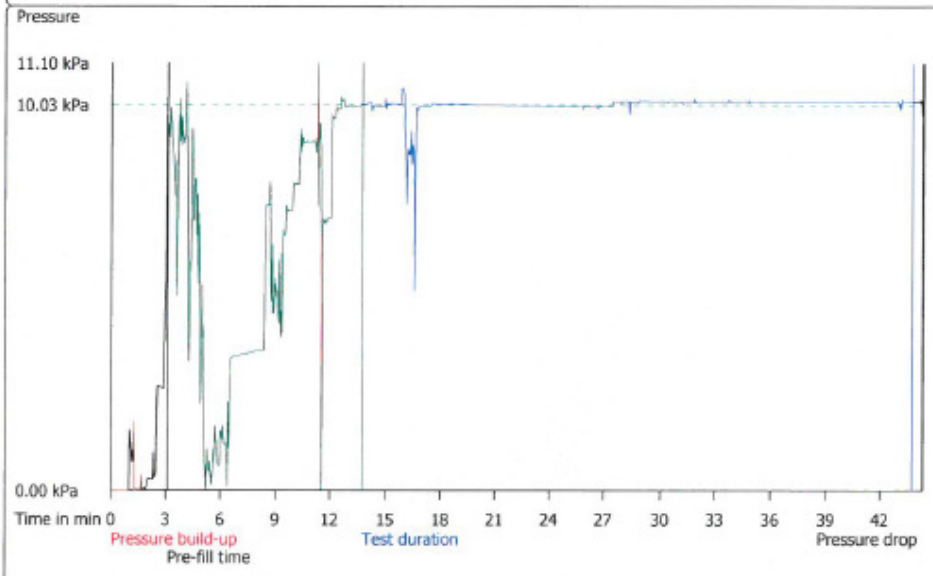
McBreen Environmental
Drain Services Ltd

- Lismagratty, Cootehill Road, Cavan - Tel : 1890 66 33 33

Client:
KMK METALS
TULLAMORE

Principale cont.:
Mc Breen environmental
GRANGE CASTLE
Co. Dublin

Pressure test report Pipe - Water/EN 1610



Location	:		
Location	:	Drawing No.	:
Street	:	Section no.:	:
Tester	: RAY PLUNKETT	from manhole	: fs4
Test equipment	: MASTERTEST® SN:120914	to manhole	: fs5
Order no.	: 2	Length of test section	: 2.0 m
Test date	: 28/06/2014 12:33:19	Pipe profile	: Circle
Test method	: Water/EN 1610	Diameter	: 100 mm
Test category	: Water		
Test section	: Pipe	Pipe no.	: fs4
Material	: PVC	Internal protection	: without
Remark	:		
Sensor	: PMC131 0 - 1000 mbar, SN: F804E801052	Sensor test	: 11/02/2014
Approval	:		

Test pressure	: 10.03 kPa	Pre-fill time	: 10:39 min
Permiss. addition of water	: 94.2 ml	Test duration	: 30:00 min
Act. water addition	: 94.0 ml	Result	: Failed

Testing contractor | Client | Principale contractor

Order no.: 2 Test no.: 4

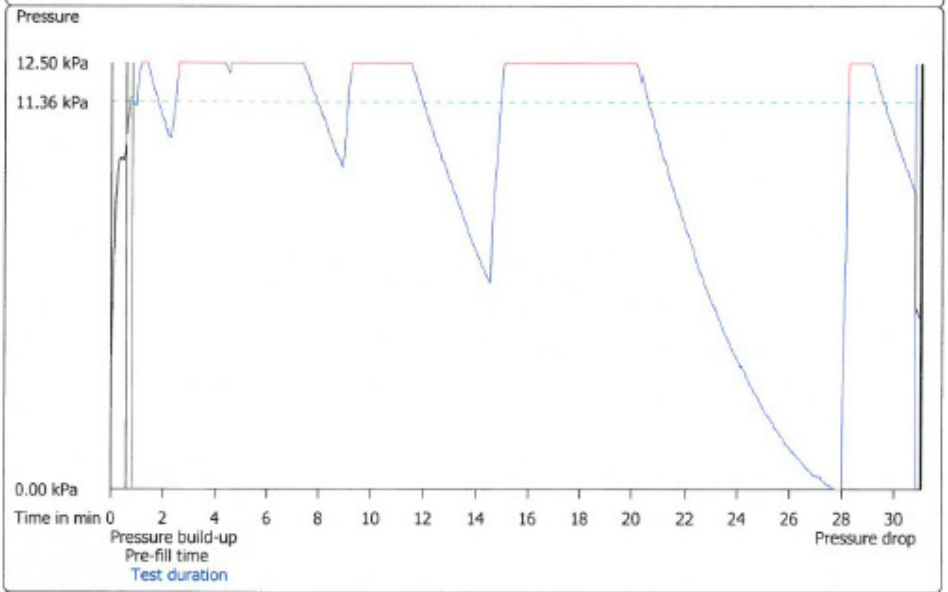
McBreen Environmental
Drain Services Ltd

- Lismagratty, Cootehill Road, Cavan - Tel : 1890 66 33 33

Client:
KMK METALS
TULLAMORE

Principale cont.:
Mc Breen environmental
GRANGE CASTLE
Co. Dublin

Pressure test report Pipe - Water/EN 1610



Location	:		
Location	:	Drawing No.	:
Street	:	Section no.:	:
Tester	: RAY PLUNKETT	from manhole	: mhsw4c
Test equipment	: MASTERTEST® SN:120914	to manhole	: mhsw4b
Order no.	: 2	Length of test section	: 5.0 m
Test date	: 28/06/2014 13:11:33	Pipe profile	: Circle
Test method	: Water/EN 1610	Diameter	: 150 mm
Test category	: Water		
Test section	: Pipe	Pipe no.	: mhsw4c
Material	: PVC	Internal protection	: without
Remark	:		
Sensor	: PMC131 0 - 1000 mbar, SN: F804E801052	Sensor test	: 11/02/2014
Approval	:		

Test pressure	: 11.36 kPa	Pre-fill time	: 0:14 min
Permiss. addition of water	: 353.4 ml	Test duration	: 30:02 min
Act. water addition	: 1000.0 ml	Result	: Failed

Testing contractor | Client | Principale contractor

Order no.: 2 Test no.: 5

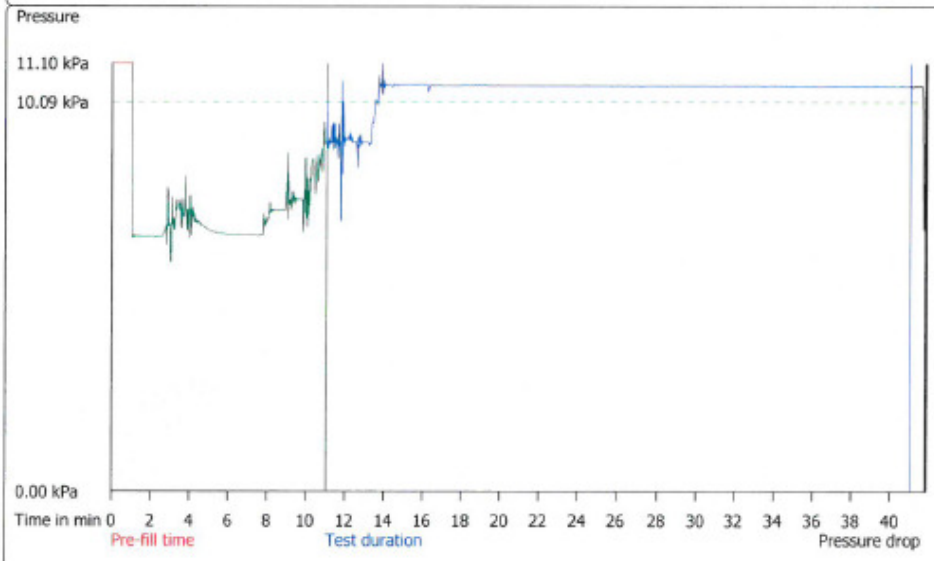
McBreen Environmental
Drain Services Ltd

- Lismagratty, Cootehill Road, Cavan - Tel : 1890 66 33 33

Client:
KMK METALS
TULLAMORE

Principale cont.:
Mc Breen environmental
GRANGE CASTLE
Co. Dublin

Pressure test report Pipe - Water/EN 1610



Location	:		
Location	:	Drawing No.	:
Street	:	Section no.:	:
Tester	: RAY PLUNKETT	from manhole	: fs5
Test equipment	: MASTERTEST® SN:120914	to manhole	: fs1
Order no.	: 2	Length of test section	: 22.0 m
Test date	: 28/06/2014 15:09:28	Pipe profile	: Circle
Test method	: Water/EN 1610	Diameter	: 100 mm
Test category	: Water		
Test section	: Pipe	Pipe no.	: fs5
Material	: PVC	Internal protection	: without
Remark	:		
Sensor	: PMC131 0 - 1000 mbar, SN: F804E801052	Sensor test	: 11/02/2014
Approval	:		

Test pressure	: 10.09 kPa	Pre-fill time	: 11:03 min
Permiss. addition of water	: 1036.7 ml	Test duration	: 30:02 min
Act. water addition	: 1030.0 ml	Result	: Passed

Testing contractor | Client | Principale contractor

Order no.: 2 Test no.: 6

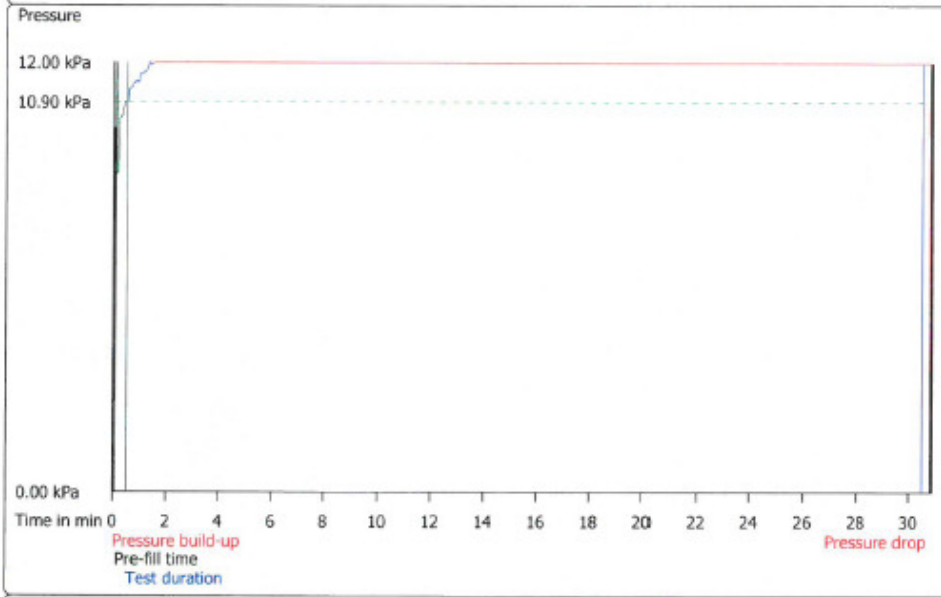
McBreen Environmental
Drain Services Ltd

- Lismagratty, Cootehill Road, Cavan - Tel : 1890 66 33 33

Client:
KMK METALS
TULLAMORE

Principale cont.:
Mc Breen environmental
GRANGE CASTLE
Co. Dublin

Pressure test report Pipe - Water/EN 1610



Location	:		
Location	:	Drawing No.	:
Street	:	Section no.:	:
Tester	: RAY PLUNKETT	from manhole	: fs3
Test equipment	: MASTERTEST® SN:120914	to manhole	: treatmeant
Order no.	: 2	Length of test section	: 32.0 m
Test date	: 28/06/2014 16:08:56	Pipe profile	: Circle
Test method	: Water/EN 1610	Diameter	: 100 mm
Test category	: Water		
Test section	: Pipe	Pipe no.	: fs3
Material	: PVC	Internal protection	: without
Remark	:		
Sensor	: PMC131 0 - 1000 mbar, SN: F804E801052	Sensor test	: 11/02/2014
Approval	:		

Test pressure	: 10.90 kPa	Pre-fill time	: 0:26 min
Permiss. addition of water	: 1508.0 ml	Test duration	: 30:01 min
Act. water addition	: 1400.0 ml	Result	: Passed

Testing contractor | Client | Principale contractor

Order no.: 2 Test no.: 7

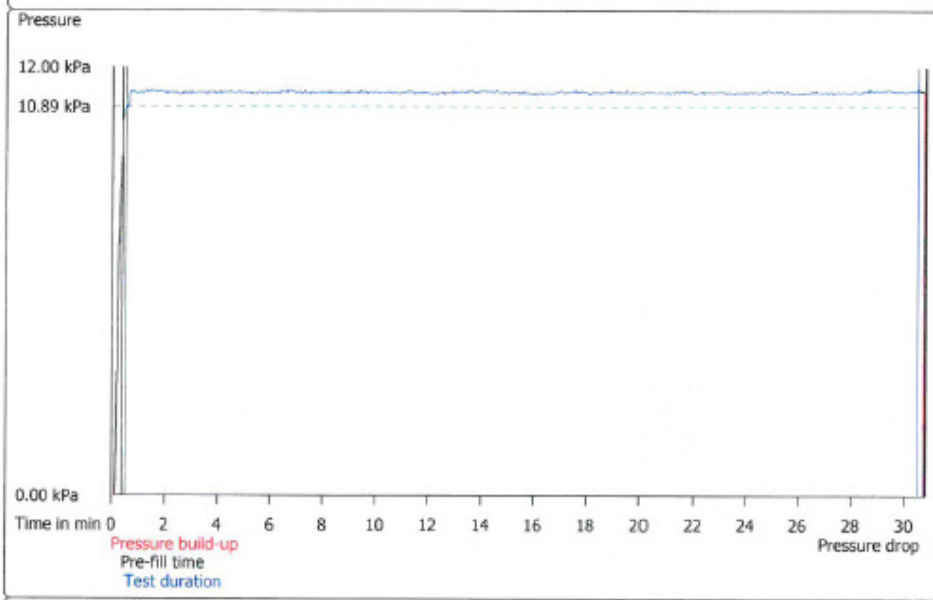
McBreen Environmental
Drain Services Ltd

- Lismagratty, Cootehill Road, Cavan - Tel : 1890 66 33 33

Client:
KMK METALS
TULLAMORE

Principale cont.:
Mc Breen environmental
GRANGE CASTLE
Co. Dublin

Pressure test report Pipe - Water/EN 1610



Location	:		
Location	:	Drawing No.	:
Street	:	Section no.:	:
Tester	: RAY PLUNKETT	from manhole	: mhsw4c2
Test equipment	: MASTERTEST® SN:120914	to manhole	: mhsw4c
Order no.	: 2	Length of test section	: 10.0 m
Test date	: 28/06/2014 16:43:01	Pipe profile	: Circle
Test method	: Water/EN 1610	Diameter	: 225 mm
Test category	: Water		
Test section	: Pipe	Pipe no.	: mhsw4c2
Material	: PVC	Internal protection	: without
Remark	:		
Sensor	: PMC131 0 - 1000 mbar, SN: FBD4E8D1052	Sensor test	: 11/02/2014
Approval	:		

Test pressure	: 10.89 kPa	Pre-fill time	: 0:08 min
Permiss. addition of water	: 1060.3 ml	Test duration	: 30:01 min
Act. water addition	: 1000.0 ml	Result	: Passed

Testing contractor | Client | Principale contractor

Order no.: 2 Test no.: 8

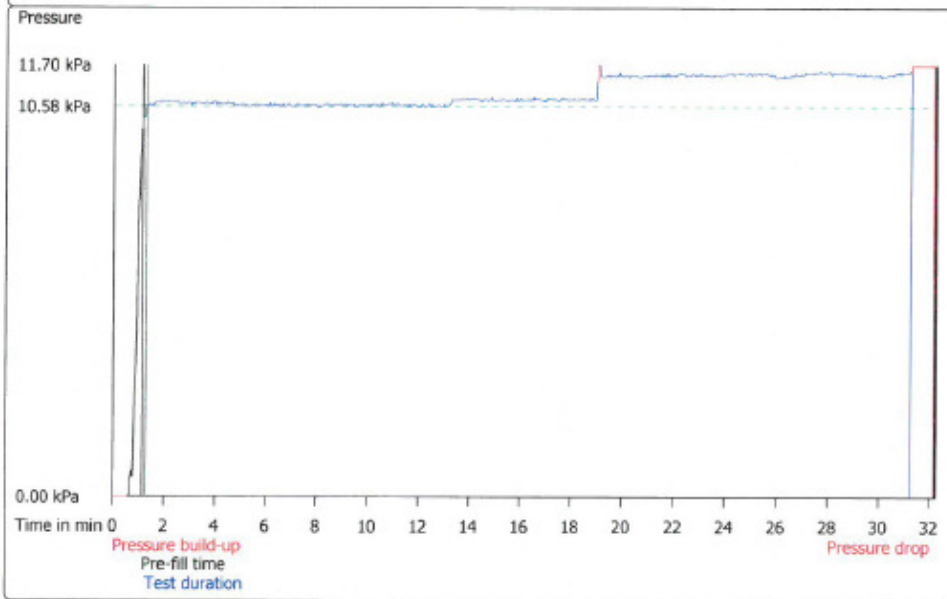
McBreen Environmental
Drain Services Ltd

- Lismagratty, Cootehill Road, Cavan - Tel : 1890 66 33 33

Client:
KMK METALS
TULLAMORE

Principale cont.:
Mc Breen environmental
GRANGE CASTLE
Co. Dublin

Pressure test report Pipe - Water/EN 1610



Location	:		
Location	:	Drawing No.	:
Street	:	Section no.:	:
Tester	: RAY PLUNKETT	from manhole	: mhsw3
Test equipment	: MASTERTEST® SN:120914	to manhole	: interceptor
Order no.	: 2	Length of test section	: 16.0 m
Test date	: 28/06/2014 17:21:26	Pipe profile	: Circle
Test method	: Water/EN 1610	Diameter	: 225 mm
Test category	: Water		
Test section	: Pipe	Pipe no.	: mhsw3
Material	: PVC	Internal protection	: without
Remark	:		
Sensor	: PMC131 0 - 1000 mbar, SN: F804E801052	Sensor test	: 11/02/2014
Approval	:		

Test pressure	: 10.58 kPa	Pre-fill time	: 0:08 min
Permiss. addition of water	: 1696.5 ml	Test duration	: 30:02 min
Act. water addition	: 1500.0 ml	Result	: Passed

Testing contractor | Client | Principale contractor

MCBREEN ENVIRONMENTAL
UNIT 2
FAIRTOWN
Tel.: 0494326306
Fax: 0494338054
Email: info@mcbreenenvironmental.ie

Table of contents

Project Name:	Project number:	Date:	Contact:	
43-12316 KMK METALS PO		03/07/2014		

Place :

MCBREEN ENVIRONMENTAL
UNIT 2
FAIRTOWN
Tel: 0494326306
Fax: 0494338054
Email: info@mcbreenenvironmental.ie

∑∅ / Main sections

Project name :	Project number :	Contact :	Date :
43-12316 KMK METALS POST REPAI			03/07/2014

Nr.	US MH	DS MH	Date	Road	Tape No.	Material	m	(m)
1	FS1	TREATMENT	24/01/2014	KMK METALS		Polyvinyl chloride	0.90	0.90
2	FS7	FS5	24/01/2014	KMK METALS		Polyvinyl chloride	18.70	18.70
3	FS4	FS5	24/01/2014	KMK METALS		Polyvinyl chloride	1.65	1.65
4	FS3	TREATMENT	24/01/2014	KMK METALS		Polyvinyl chloride	23.69	23.69
5	TREATMENT	PERCOLATIN	24/01/2014	KMK METALS		Polyvinyl chloride	0.00	0.00
6	FS5	FS1	31/03/2014	KMK METALS		Polyvinyl chloride	26.50	26.50

Pipe size: CIRCULAR 100 = 71.44 m (71.44 m)

All sections = 71.44 m (71.44 m)

Place :

MCBREEN ENVIRONMENTAL
UNIT 2
FAIRTOWN
Tel: 0494326306
Fax: 0494338054
info@mcbreenenvironmental.ie

Defect Grade Description

Project Name :	Project number :	Contact :	Date :
43-12316 KMK METALS POST REPAI			03/07/2014

1:

Brick: No Structural Defects
Pipe: No Structural Defects

Acceptable Structural Condition

2:

Brick: Minor cracking, Surface mortar loss, Spalling slight, wear slight
Pipe: Circumfrential crack, Moderate joint defects, Spalling slight, Wear slight

Minor collapse risk in short term but potential for further deterioration

3:

Brick: Total mortorloss without other defects, single brick displaced, Deformation up to 5%, Spalling medium, Wear medium
Pipe: Fractures with deformation up tp 5%, Longitudinal cracking or mulitlpe cracking, Minor loss of level, More severe joint defects, Spalling medium, Wear medium

! Collapse unlikely in near future but future deterioration likely !

4:

Brick: Total mortorloss with deformation greater than 10%, Deformation up to 10% and fractured, Displaced/hanging brickwork, Small number of missing bricks
Pipe: Broken, Deformation up to 10% and broken,, Fractured with deformation 5 - 10%, Multiple fractures, Serious loss of level, spalling large, wear large

!! Collapse likely in foreseeable future !!

5:

Brick: Already Collapsed, Missing invert, Deformation over 10% and fractured, Displaced/hanging brickwork and deformation over 10%, Extensive missing bricks
Pipe: Already collapsed, Deformation over 10% and broken, Extensive areas of fabric missing, Fractured with deformation over 10%

!!! Collapsed or collapse imminent !!!

Place :

MCBREEN ENVIRONMENTAL
UNIT 2
Street : FAIRTOWN
Tel: 0494326306
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Email: info@mcbreenenvironmental.ie

Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
24/01/2014	29-10855	no rain or snow	RICHARD	1	X
Weather	Vehicle :	Camera :	Preset :	Cleaned :	Operator :
no rain or snow					RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	FS1
Road :	KMK METALS	Catchment:		U/S Depth :	
Location		Tape number :	240114_1	D/S MH :	TREATMENT
Inspection Direction	FS1 (D/S) TREATMENT	Pipe Length		D/S Depth :	

Use:	Foul	Pipe shape :	Circular
Year laid :		Pipe size :	100 mm
Purpose :	Routine inspection of condition	Pipe material :	Polyvinyl chloride
Total length :	0.90 m	Lining :	

Comment :

1:50	Position	Code	Observation	Photo	Grade
FS1	0.00	MH	Start node type, manhole, reference number : FS1		0
	0.00	WL	Water level, 05% of the vertical dimension		0
TREATMENT	0.90	BRF	Finish node type, major connection without manhole reference number: TREATMENT		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

MCBREEN ENVIRONMENTAL
UNIT 2
Street : FAIRTOWN
Tel: 0494326306
Fax: 0494338054
Email: info@mcbreenenvironmental.ie

Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
24/01/2014	29-10855	no rain or snow	RICHARD	2	X
Weather	Vehicle :	Camera :	Preset :	Cleaned :	Operator :
no rain or snow					RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	FS7
Road :	KMK METALS	Catchment:		U/S Depth :	
Location		Tape number :	240114_1	D/S MH :	FS5
Inspection Direction	FS5 (U/S) FS7	Pipe Length		D/S Depth :	
Use:	Foul			Pipe shape :	Circular
Year laid :				Pipe size :	100 mm
Purpose :	Routine inspection of condition			Pipe material :	Polyvinyl chloride
Total length :	18.70 m			Lining :	

Comment :

1:150	Position	Code	Observation	Photo	Grade
FS5					
	0.00	MH	Start node type, manhole, reference number : FS5		0
	0.00	WL	Water level, 00% of the vertical dimension		0
	11.00	LL	Line deviates left		0
	18.70	MHF	Finish node type, manhole reference number: FS7 Remarks: MANHOLE FS6 DOES NOT EXIST		0
FS7					

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

MCBREEN ENVIRONMENTAL
UNIT 2
Street : FAIRTOWN
Tel: 0494326306
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Email: info@mcbreenenvironmental.ie

Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
24/01/2014	29-10855	no rain or snow	RICHARD	3	X
Weather	Vehicle :	Camera :	Preset :	Cleaned :	Operator :
no rain or snow					RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	FS4
Road :	KMK METALS	Catchment:		U/S Depth :	
Location		Tape number :	240114_1	D/S MH :	FS5
Inspection Direction	FS4 (D/S) FS5	Pipe Length		D/S Depth :	

Use:	Foul	Pipe shape :	Circular
Year laid :		Pipe size :	100 mm
Purpose :	Routine inspection of condition	Pipe material :	Polyvinyl chloride
Total length :	1.65 m	Lining :	

Comment :

1:50	Position	Code	Observation	Photo	Grade
FS4					
	0.00	MH	Start node type, manhole, reference number : FS4		0
	0.00	WL	Water level, 05% of the vertical dimension		0
	1.65	MHF	Finish node type, manhole reference number: FS5		0
FS5					

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

MCBREEN ENVIRONMENTAL
UNIT 2
Street : FAIRTOWN
Tel: 0494326306
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Email: info@mcbreenenvironmental.ie

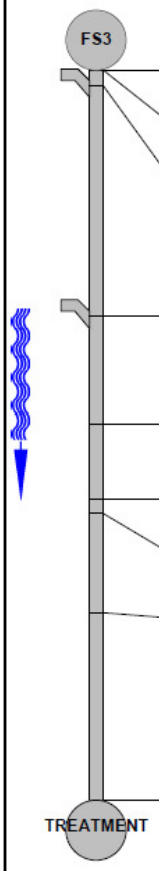
Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
24/01/2014	29-10855	no rain or snow	RICHARD	4	X
Weather	Vehicle :	Camera :	Preset :	Cleaned :	Operator :
no rain or snow					RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	FS3
Road :	KMK METALS	Catchment:		U/S Depth :	
Location		Tape number :	240114_1	D/S MH :	TREATMENT
Inspection Direction	FS3 (D/S) TREATMENT	Pipe Length		D/S Depth :	

Use:	Foul	Pipe shape :	Circular
Year laid :		Pipe size :	100 mm
Purpose :	Routine inspection of condition	Pipe material :	Polyvinyl chloride
Total length :	23.69 m	Lining :	

Comment :



1:195 Position	Code	Observation	Photo	Grade
0.00	MH	Start node type, manhole, reference number : FS3		0
0.00	WL	Water level, 00% of the vertical dimension		0
0.50	JN	Junction, at 3 o'clock, diameter 100mm		0
8.00	JN	Junction, at 3 o'clock, diameter 100mm		0
11.50	WL	Water level, 10% of the vertical dimension		0
13.90	REM	General remark Remarks: GOES THROUGH INSPECTION CHAMBER		0
14.40	LR	Line deviates right		0
17.60	LL	Line deviates left		0
23.69	BRF	Finish node type, major connection without manhole reference number: TREATMENT		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

MCBREEN ENVIRONMENTAL
UNIT 2
Street : FAIRTOWN
Tel: 0494326306
Fax: 0494338054
Email: info@mcbreenenvironmental.ie

Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
24/01/2014	29-10855	no rain or snow	RICHARD	5	X
Weather	Vehicle :	Camera :	Preset :	Cleaned :	Operator :
no rain or snow					RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	TREATMENT
Road :	KMK METALS	Catchment:		U/S Depth :	
Location		Tape number :	240114_1	D/S MH :	PERCOLATIN
Inspection Direction	TREATMENT (D/S) PERCOLATIN	Pipe Length		D/S Depth :	

Use:	Foul	Pipe shape :	Circular
Year laid :		Pipe size :	100 mm
Purpose :	Routine inspection of condition	Pipe material :	Polyvinyl chloride
Total length :	0.00 m	Lining :	

Comment :

1:50	Position	Code	Observation	Photo	Grade
TREATMENT					
	0.00	BR	Start node type, major connection without manhole, reference number : TREATMENT Remarks: NO ACCESS TO TREATMENT AREA BIOCYCLES. THIS IS A PUMPED LINE.		0
	0.00	SA	Survey abandoned Remarks: NO ACCESS TO PERCOLATION TO SURVEY IN OPPOSITE DIRECTION		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

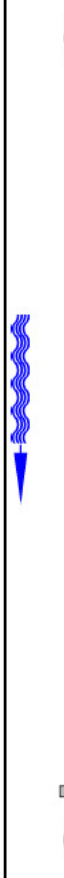
MCBREEN ENVIRONMENTAL
UNIT 2
Street : FAIRTOWN
Tel: 0494326306
Fax: 0494338054
Email: info@mcbreenenvironmental.ie

Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
31/03/2014		no rain or snow	LEON	6	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	MERC	RAUSCH		yes	LEON

Place :	TULLAMORE	Location details:		U/S MH :	FS5
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	310314_1	D/S MH :	FS1
Inspection Direction	FS5 (D/S) FS1	Pipe Length		D/S Depth :	
Use:	Foul			Pipe shape :	Circular
Year laid :				Pipe size :	100 mm
Purpose :	Sample survey to determin asset condition			Pipe material :	Polyvinyl chloride
Total length :	26.50 m			Lining :	

Comment :



1:210 Position	Code	Observation	Photo	Grade
0.00	MH	Start node type, manhole, reference number : FS5		0
1.10	WL	Water level, 10% of the vertical dimension		0
1.70	JN	Junction, at 8 o'clock, diameter 100mm		0
3.70	JN	Junction, at 8 o'clock, diameter 100mm		0
16.00	LL	Line deviates left		0
25.30	LR	Line deviates right		0
25.80	LD	Line deviates down		0
26.20	JN	Junction, at 3 o'clock, diameter 100mm		0
26.50	WL	Water level, 5% of the vertical dimension		0
26.50	MHF	Finish node type, manhole reference number: 26.5FS1		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
3	165	10	265	5	0	0	0	0	1

D MC BREEN
COOTEHILL
CAVAN
Tel.: 0494326306
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Email: INFO@MCBREENENVIRONMENTAL.IE

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Project Name:	Project number:	Date:	Contact:	
43-12316 KMK METALS PO		03/07/2014		

D MC BREEN
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Project Name:	Project number:	Date:	Contact:	
43-12316 KMK METALS PO		03/07/2014		

Place :

D MC BREEN
COOTEHILL
CAVAN
Tel: 0494326306
Fax: 0494326306
Email: INFO@MCBREENENVIRONMENTAL.IE

ΣØ / Main sections

Project name :	Project number :	Contact :	Date :
43-12316 KMK METALS POST REPAI			03/07/2014

Nr.	US MH	DS MH	Date	Road	Tape No.	Material	m	(m)
14	G3	G1	23/01/2014	KMK METALS		Polyvinyl chloride	15.49	15.49
15	G2	G1	24/01/2014	KMK METALS		Polyvinyl chloride	9.20	9.20
27	G6	G5.1	01/07/2014	KMK METALS		Polyvinyl chloride	16.00	16.00
28	G5.1	G5	01/07/2014	KMK METALS		Polyvinyl chloride	7.20	7.20
Pipe size: CIRCULAR 100 = 47.89 m (47.89 m)								

Nr.	US MH	DS MH	Date	Road	Tape No.	Material	m	(m)
3	MHSW4E	MHSW4D	23/01/2014	KMK METALS		Polyvinyl chloride	23.32	23.32
4	MHSW4E	ACO DRAIN	23/01/2014	KMK METALS		Polyvinyl chloride	16.14	16.14
5	MHSW4D	FLOW RESTR	23/01/2014	KMK METALS		Polyvinyl chloride	19.44	19.44
6	UNKNOWN	MHSW4D	23/01/2014	KMK METALS		Polyvinyl chloride	11.23	11.23
7	ACODRAIN	MHSW4C	23/01/2014	KMK METALS		Polyvinyl chloride	1.70	1.70
9	MHSW4C	MHSW4B	23/01/2014	KMK METALS		Polyvinyl chloride	4.84	4.84
10	MHSW4A	MHSW4	23/01/2014	KMK METALS		Polyvinyl chloride	47.80	47.80
12	G1	MHSW3A	23/01/2014	KMK METALS		Polyvinyl chloride	17.70	17.70
13	G5	MHSW3A	23/01/2014	KMK METALS		Polyvinyl chloride	8.40	**8.20**
16	INTERSEPTR	MHSW1D	24/01/2014	KMK METALS		Polyvinyl chloride	1.50	1.50
17	G8	MAINLINE	24/01/2014	KMK METALS		Polyvinyl chloride	1.00	1.00
18	G10	G9	24/01/2014	KMK METALS		Polyvinyl chloride	32.03	32.03
20	G7	INTERSEPTO	31/03/2014	KMK METALS		Polyvinyl chloride	24.94	**24.64**
22	SW4A	SW4B	31/03/2014	KMK METALS		Polyvinyl chloride	3.30	3.30
23	WEIGHTBRID	SW4D	31/03/2014	KMK METALS		Polyvinyl chloride	1.30	1.30
24	G9	INTERSEPTO	31/03/2014	KMK METALS		Polyvinyl chloride	34.40	34.40
25	SW3A	MAINLINE	31/03/2014	KMK METALS		Polyvinyl chloride	8.76	**8.46**
26	G1A	G1	31/03/2014	KMK METALS		Polyvinyl chloride	9.40	**9.39**
Pipe size: CIRCULAR 150 = 267.2 m (266.39 m)								

Nr.	US MH	DS MH	Date	Road	Tape No.	Material	m	(m)
1	MH SW4C3	MHSW4C2	13/01/2014	KMK METALS		Polyvinyl chloride	71.91	71.91
2	MH SW2	OUTFALL	14/01/2014	KMK METALS		Polyvinyl chloride	0.51	**0.50**
8	MHSW4C	MHSW4C1	23/01/2014	KMK METALS		Polyvinyl chloride	13.50	13.50
11	MHSW4C2	MHSW4C	23/01/2014	KMK METALS		Polyvinyl chloride	8.04	8.04
19	INTERSEPT	MHSW3	28/06/2014	KMK METALS		Polyvinyl chloride	16.38	**5.09**
21	SW1D	SW2	31/03/2014	KMK METALS		Polyvinyl chloride	65.09	**64.79**
Pipe size: CIRCULAR 225 = 175.43 m (163.83 m)								

All sections = 490.52 m (478.11 m)

Place :

D MC BREEN
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CAVAN
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INFO@MCBREENENVIRONMENTAL.IE

Defect Grade Description

Project Name :	Project number :	Contact :	Date :
43-12316 KMK METALS POST REPAI			03/07/2014

1:

Brick: No Structural Defects
Pipe: No Structural Defects

Acceptable Structural Condition

2:

Brick: Minor cracking, Surface mortar loss, Spalling slight, wear slight
Pipe: Circumfrential crack, Moderate joint defects, Spalling slight, Wear slight

Minor collapse risk in short term but potential for further deterioration

3:

Brick: Total mortorloss without other defects, single brick displaced, Deformation up to 5%, Spalling medium, Wear medium
Pipe: Fractures with deformation up tp 5%, Longitudinal cracking or mulitlpe cracking, Minor loss of level, More severe joint defects, Spalling medium, Wear medium

! Collapse unlikely in near future but future deterioration likely !

4:

Brick: Total mortorloss with deformation greater than 10%, Deformation up to 10% and fractured, Displaced/hanging brickwork, Small number of missing bricks
Pipe: Broken, Deformation up to 10% and broken,, Fractured with deformation 5 - 10%, Multiple fractures, Serious loss of level, spalling large, wear large

!! Collapse likely in foreseeable future !!

5:

Brick: Already Collapsed, Missing invert, Deformation over 10% and fractured, Displaced/hanging brickwork and deformation over 10%, Extensive missing bricks
Pipe: Already collapsed, Deformation over 10% and broken, Extensive areas of fabric missing, Fractured with deformation over 10%

!!! Collapsed or collapse imminent !!!

Place :

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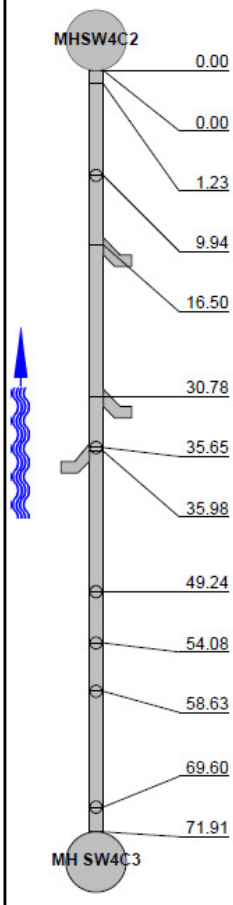
Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
13/01/2014		no rain or snow	RICHARD	1	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	MH SW4C3
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	130114_1	D/S MH :	MHSW4C2
Inspection Direction	MHSW4C2 (U/S) MH SW4C3	Pipe Length		D/S Depth :	

Use:	Surface water	Pipe shape :	Circular
Year laid :		Pipe size :	225 mm
Purpose :	Sample survey to determin asset condition	Pipe material :	Polyvinyl chloride
Total length :	71.91 m	Lining :	

Comment :



1:570 Position	Code	Observation	Photo	Grade
0.00	WL	Water level, 0% of the vertical dimension		0
0.00	MH	Start node type, manhole, reference number : MHSW4C2		0
1.23	LL	Line deviates left		0
9.94	JN	Junction, at 12 o'clock, diameter 150mm Remarks: REDUCING TO 100MM		0
16.50	JN	Junction, at 10 o'clock, diameter 150mm		0
30.78	JN	Junction, at 10 o'clock, diameter 150mm		0
35.65	JN	Junction, at 12 o'clock, diameter 150mm Remarks: REDUCING TO 100MM		0
35.98	JN	Junction, at 3 o'clock, diameter 150mm		0
49.24	JN	Junction, at 12 o'clock, diameter 150mm		0
54.08	JN	Junction, at 12 o'clock, diameter 150mm		0
58.63	JN	Junction, at 12 o'clock, diameter 150mm		0
69.60	JN	Junction, at 12 o'clock, diameter 100mm		0
71.91	MHF	Finish node type, manhole reference number: MH SW4C3		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
14/01/2014		no rain or snow	RICHARD	2	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	MH SW2
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	130114_1	D/S MH :	OUTFALL
Inspection Direction	MH SW2 (D/S) OUTFALL	Pipe Length		D/S Depth :	
Use:	Surface water			Pipe shape :	Circular
Year laid :				Pipe size :	225 mm
Purpose :	Sample survey to determin asset condition			Pipe material :	Polyvinyl chloride
Total length :	0.51 m			Lining :	

Comment :

1:50	Position	Code	Observation	Photo	Grade
MH SW2					
	0.00	MH	Start node type, manhole, reference number : MH SW2	3_1A	0
	0.50	MHF	Finish node type, manhole reference number: OUTFALL		0
OUTFALL					

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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Inspection pictures

Place :	Road :	Date :	Section number :	PLR Suffix :
TULLAMORE	KMK METALS	14/01/2014	2	X

Photo: 3_1A
0m, Start node type, manhole, reference number : MH SW2

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
23/01/2014	29-10855	no rain or snow	RICHARD	3	X
Weather	Vehicle :	Camera :	Preset :	Cleaned :	Operator :
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	MHSW4E
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	130114_1	D/S MH :	MHSW4D
Inspection	MHSW4D (U/S) MHSW4E	Pipe Length		D/S Depth :	

Direction			
Use:	Surface water	Pipe shape :	Circular
Year laid :		Pipe size :	150 mm
Purpose :	Sample survey to determin asset condition	Pipe material :	Polyvinyl chloride
Total length :	23.32 m	Lining :	

Comment :

1:195 Position	Code	Observation	Photo	Grade
MHSW4D				
0.00	MH	Start node type, manhole, reference number : MHSW4D		0
0.00	WL	Water level, 0% of the vertical dimension		0
12.00	JN	Junction, at 2 o'clock, diameter 100mm		0
19.80	JN	Junction, at 2 o'clock, diameter 100mm		0
23.32	MHF	Finish node type, manhole reference number: MHSW4E Remarks: nOTE TEXT ON VIDEO WRONG		0
MHSW4E				

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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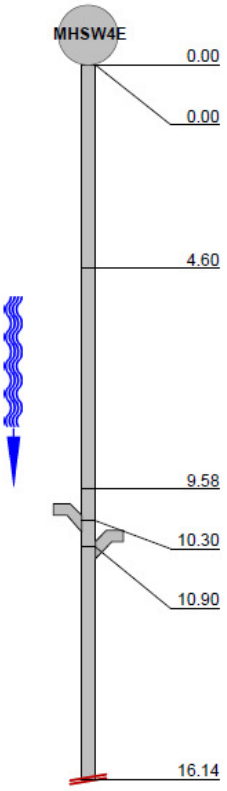
Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
23/01/2014	29-10855	no rain or snow	RICHARD	4	X
Weather	Vehicle :	Camera :	Preset :	Cleaned :	Operator :
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	MHSW4E
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	130114_1	D/S MH :	ACO DRAIN
Inspection Direction	MHSW4E (D/S) ACO DRAIN	Pipe Length		D/S Depth :	
Use:	Surface water	Pipe shape :	Circular		
Year laid :		Pipe size :	150 mm		
Purpose :	Sample survey to determin asset condition	Pipe material :	Polyvinyl chloride		
Total length :	16.14 m	Lining :			

Comment :



1:135 Position	Code	Observation	Photo	Grade
0.00	MH	Start node type, manhole, reference number : MHSW4E		0
0.00	WL	Water level, 0% of the vertical dimension		0
4.60	LR	Line deviates right		0
9.58	LL	Line deviates left		0
10.30	JN	Junction, at 3 o'clock, diameter 100mm		0
10.90	JN	Junction, at 9 o'clock, diameter 100mm		0
16.14	SA	Survey abandoned Remarks: DUE TO BENDS		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
23/01/2014	29-10855	no rain or snow	RICHARD	5	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	MHSW4D
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	130114_1	D/S MH :	FLOW RESTR
Inspection Direction	MHSW4D (D/S) FLOW RESTR	Pipe Length		D/S Depth :	

Use:	Surface water	Pipe shape :	Circular
Year laid :		Pipe size :	150 mm
Purpose :	Sample survey to determin asset condition	Pipe material :	Polyvinyl chloride
Total length :	19.44 m	Lining :	

Comment :

1:165 Position	Code	Observation	Photo	Grade
MHSW4D				
0.00	MH	Start node type, manhole, reference number : MHSW4D		0
0.00	WL	Water level, 0% of the vertical dimension		0
5.55	JN	Junction, at 10 o'clock, diameter 100mm		0
10.70	JN	Junction, at 12 o'clock, diameter 100mm		0
18.20	LR	Line deviates right		0
19.44	MHF	Finish node type, manhole reference number: FLOW RESTR Remarks: FLOW RESTRICTOR MHSW4C		0
FLOW RESTR				

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
23/01/2014	29-10855	no rain or snow	RICHARD	6	X
Weather	Vehicle :	Camera :	Preset :	Cleaned :	Operator :
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	UNKNOWN
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	130114_1	D/S MH :	MHSW4D
Inspection Direction	MHSW4D (U/S) UNKNOWN	Pipe Length		D/S Depth :	

Use:	Surface water	Pipe shape :	Circular
Year laid :		Pipe size :	150 mm
Purpose :	Sample survey to determin asset condition	Pipe material :	Polyvinyl chloride
Total length :	11.23 m	Lining :	

Comment :

1:90	Position	Code	Observation	Photo	Grade
MHSW4D	0.00	MH	Start node type, manhole, reference number : MHSW4D		0
	0.00	WL	Water level, 0% of the vertical dimension		0
	5.00	LR	Line deviates right		0
	11.00	LU	Line deviates up		0
UNKNOWN	11.23	BRF	Finish node type, major connection without manhole reference number: UNKNOWN		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
23/01/2014	29-10855	no rain or snow	RICHARD	7	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	ACODRAIN
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	130114_1	D/S MH :	MHSW4C
Inspection Direction	MHSW4C (U/S) ACODRAIN	Pipe Length		D/S Depth :	

Use:	Surface water	Pipe shape :	Circular
Year laid :		Pipe size :	150 mm
Purpose :	Sample survey to determin asset condition	Pipe material :	Polyvinyl chloride
Total length :	1.70 m	Lining :	

Comment :

1:50	Position	Code	Observation	Photo	Grade
MHSW4C	0.00	MH	Start node type, manhole, reference number : MHSW4C		0
	0.00	WL	Water level, 0% of the vertical dimension		0
	1.70	LU	Line deviates up		0
ACODRAIN	1.70	SKF	Finish node type, soakaway reference number: ACODRAIN		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
23/01/2014	29-10855	no rain or snow	RICHARD	8	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	MHSW4C
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	130114_1	D/S MH :	MHSW4C1
Inspection Direction	MHSW4C (D/S) MHSW4C1	Pipe Length		D/S Depth :	

Use:	Surface water	Pipe shape :	Circular
Year laid :		Pipe size :	225 mm
Purpose :	Sample survey to determin asset condition	Pipe material :	Polyvinyl chloride
Total length :	13.50 m	Lining :	

Comment :

1:120	Position	Code	Observation	Photo	Grade
MHSW4C					
	0.00	MH	Start node type, manhole, reference number : MHSW4C		0
	0.00	WL	Water level, 0% of the vertical dimension		0
	13.50	MHF	Finish node type, manhole reference number: MHSW4C1		0
MHSW4C1					

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
23/01/2014	29-10855	no rain or snow	RICHARD	9	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	MHSW4C
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	130114_1	D/S MH :	MHSW4B
Inspection Direction	MHSW4C (D/S) MHSW4B	Pipe Length		D/S Depth :	
Use:	Surface water			Pipe shape :	Circular
Year laid :				Pipe size :	150 mm
Purpose :	Sample survey to determin asset condition			Pipe material :	Polyvinyl chloride
Total length :	4.84 m			Lining :	

Comment :

1:50 Position	Code	Observation	Photo	Grade
MHSW4C 0.00	MH	Start node type, manhole, reference number : MHSW4C		0
0.00	WL	Water level, 0% of the vertical dimension		0
0.90	WL	Water level, 10% of the vertical dimension		0
4.60	LL	Line deviates left		0
MHSW4B 4.84	MHF	Finish node type, manhole reference number: MHSW4B		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
23/01/2014	29-10855	no rain or snow	RICHARD	10	X
Weather	Vehicle :	Camera :	Preset :	Cleaned :	Operator :
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	MHSW4A
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	130114_1	D/S MH :	MHSW4
Inspection Direction	MHSW4A (D/S) MHSW4	Pipe Length		D/S Depth :	
Use:	Surface water			Pipe shape :	Circular
Year laid :				Pipe size :	150 mm
Purpose :	Sample survey to determin asset condition			Pipe material :	Polyvinyl chloride
Total length :	47.80 m			Lining :	

Comment :

1:390	Position	Code	Observation	Photo	Grade
MHSW4A					
	0.00	MH	Start node type, manhole, reference number : MHSW4A		0
	0.00	WL	Water level, 10% of the vertical dimension		0
	0.80	LL	Line deviates left		0
	3.00	LL	Line deviates left		0
	47.80	MHF	Finish node type, manhole reference number: MHSW4		0
MHSW4					

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
23/01/2014	29-10855	no rain or snow	RICHARD	11	X
Weather	Vehicle :	Camera :	Preset :	Cleaned :	Operator :
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	MHSW4C2
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	130114_1	D/S MH :	MHSW4C
Inspection Direction	MHSW4C2 (D/S) MHSW4C	Pipe Length		D/S Depth :	

Use:	Surface water	Pipe shape :	Circular
Year laid :		Pipe size :	225 mm
Purpose :	Sample survey to determin asset condition	Pipe material :	Polyvinyl chloride
Total length :	8.04 m	Lining :	

Comment :

1:75	Position	Code	Observation	Photo	Grade
MHSW4C2					
	0.00	MH	Start node type, manhole, reference number : MHSW4C2		0
	0.00	WL	Water level, 5% of the vertical dimension		0
	0.80	LR	Line deviates right		0
	8.04	MHF	Finish node type, manhole reference number: MHSW4C		0
MHSW4C					

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
23/01/2014	29-10855	no rain or snow	RICHARD	12	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	G1
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	130114_1	D/S MH :	MHSW3A
Inspection	MHSW3A (U/S) G1	Pipe Length		D/S Depth :	
Direction					
Use:	Surface water			Pipe shape :	Circular
Year laid :				Pipe size :	150 mm
Purpose :	Sample survey to determin asset condition			Pipe material :	Polyvinyl chloride
Total length :	17.70 m			Lining :	

Comment :

1:150	Position	Code	Observation	Photo	Grade
MHSW3A	0.00	MH	Start node type, manhole, reference number : MHSW3A		0
	0.00	WL	Water level, 5% of the vertical dimension		0
	17.70	GYF	Finish node type, gully reference number: G1		0
G1					

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
23/01/2014	29-10855	no rain or snow	RICHARD	13	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	G5
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	130114_1	D/S MH :	MHSW3A
Inspection	MHSW3A (U/S) G5	Pipe Length		D/S Depth :	
Direction					
Use:	Surface water			Pipe shape :	Circular
Year laid :				Pipe size :	150 mm
Purpose :	Sample survey to determin asset condition			Pipe material :	Polyvinyl chloride
Total length :	8.40 m			Lining :	

Comment :

1:75 Position	Code	Observation	Photo	Grade
MHSW3A				
0.00	MH	Start node type, manhole, reference number : MHSW3A		0
0.00	WL	Water level, 5% of the vertical dimension		0
0.30	LR	Line deviates right		0
6.38	LR	Line deviates right		0
8.04	LL	Line deviates left		0
G5 8.20	GYF	Finish node type, gully reference number: G5		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

D M C BREEN
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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
23/01/2014	29-10855	no rain or snow	RICHARD	14	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	G3
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	130114_1	D/S MH :	G1
Inspection	G1 (U/S) G3	Pipe Length		D/S Depth :	

Direction			
Use:	Surface water	Pipe shape :	Circular
Year laid :		Pipe size :	100 mm
Purpose :	Sample survey to determin asset condition	Pipe material :	Polyvinyl chloride
Total length :	15.49 m	Lining :	

Comment :

1:135	Position	Code	Observation	Photo	Grade
G1					
	0.00	GY	Start node type, gully, reference number : G1		0
	0.00	WL	Water level, 5% of the vertical dimension		0
	15.49	GYF	Finish node type, gully reference number: G3 Remarks: INLET G3 LOWER THAN OUTFALL, CONTINUALLY FULL OF WATER AS IT CANNOT GET AWAY		0
G3					

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
24/01/2014	29-10855	no rain or snow	RICHARD	15	X
Weather	Vehicle :	Camera :	Preset :	Cleaned :	Operator :
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	G2
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	130114_1	D/S MH :	G1
Inspection Direction	G1 (U/S) G2	Pipe Length		D/S Depth :	

Use:	Surface water	Pipe shape :	Circular
Year laid :		Pipe size :	100 mm
Purpose :	Sample survey to determin asset condition	Pipe material :	Polyvinyl chloride
Total length :	9.20 m	Lining :	

Comment :

1:75	Position	Code	Observation	Photo	Grade
G1	0.00	GY	Start node type, gully, reference number : G1		0
	0.00	WL	Water level, 5% of the vertical dimension		0
G2	9.20	GYF	Finish node type, gully reference number: G2		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
24/01/2014	29-10855	no rain or snow	RICHARD	16	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	INTERSEPTR
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	130114_1	D/S MH :	MHSW1D
Inspection	MHSW1D (U/S) INTERSEPTR	Pipe Length		D/S Depth :	

Direction			
Use:	Surface water	Pipe shape :	Circular
Year laid :		Pipe size :	150 mm
Purpose :	Sample survey to determin asset condition	Pipe material :	Polyvinyl chloride
Total length :	1.50 m	Lining :	

Comment :

1:50	Position	Code	Observation	Photo	Grade
MHSW1D					
	0.00	MH	Start node type, manhole, reference number : MHSW1D		0
	0.00	WL	Water level, 5% of the vertical dimension		0
	0.20	LR	Line deviates right		0
	1.50	OSF	Finish node type, oil separator reference number: INTERSEPTR		0
INTERSEPTR					

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
24/01/2014	29-10855	no rain or snow	RICHARD	17	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	G8
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	130114_1	D/S MH :	MAINLINE
Inspection Direction	G8 (D/S) MAINLINE	Pipe Length		D/S Depth :	

Use:	Surface water	Pipe shape :	Circular
Year laid :		Pipe size :	150 mm
Purpose :	Sample survey to determin asset condition	Pipe material :	Polyvinyl chloride
Total length :	1.00 m	Lining :	

Comment :

1:50	Position	Code	Observation	Photo	Grade
G8	0.00	GY	Start node type, gully, reference number : G8		0
	0.00	WL	Water level, 0% of the vertical dimension		0
	0.82	LD	Line deviates down		0
MAINLINE	1.00	BRF	Finish node type, major connection without manhole reference number: MAINLINE		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
24/01/2014	29-10855	no rain or snow	RICHARD	18	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	G10
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	130114_1	D/S MH :	G9
Inspection	G9 (U/S) G10	Pipe Length		D/S Depth :	
Direction					
Use:	Surface water			Pipe shape :	Circular
Year laid :				Pipe size :	150 mm
Purpose :	Sample survey to determin asset condition			Pipe material :	Polyvinyl chloride
Total length :	32.03 m			Lining :	

Comment :

1:255 Position	Code	Observation	Photo	Grade
G9				
0.00	GY	Start node type, gully, reference number : G9		0
0.00	WL	Water level, 0% of the vertical dimension		0
8.27	JN	Junction, at 3 o'clock, diameter 100mm		0
32.01	JN	Junction, at 3 o'clock, diameter 100mm		0
32.03	GYF	Finish node type, gully reference number: G10		0
G10				

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
28/06/2014		no rain or snow	RICHARD	19	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	INTERSEPT
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :		D/S MH :	MHSW3
Inspection Direction	MHSW3 (U/S) INTERSEPT	Pipe Length		D/S Depth :	
Use:	Surface water			Pipe shape :	Circular
Year laid :				Pipe size :	225 mm
Purpose :	Sample survey to determin asset condition			Pipe material :	Polyvinyl chloride
Total length :	16.38 m			Lining :	

Comment :

1:50	Position	Code	Observation	Photo	Grade
MHSW3					
	0.00	WL	Water level, 5% of the vertical dimension		0
	0.00	MH	Start node type, manhole, reference number : MHSW3		0
	5.09	MHF	Finish node type, manhole reference number: INTERSEPT		0

Place :

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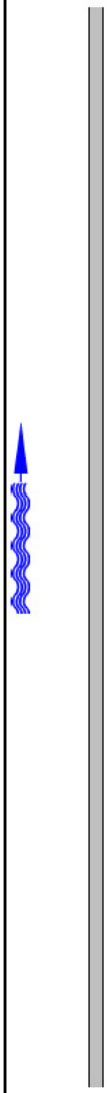
Inspection Report

Date :	Job number :	Weather :	Operator :	Section number :	PLR :
28/06/2014		no rain or snow	RICHARD	19	X
Weather	Vehicle :	Camera :	Preset :	Cleaned :	Grade:
no rain or snow	09-CN-6033			yes	

1:50	Position	Code	Observation	Photo	Grade



Place :

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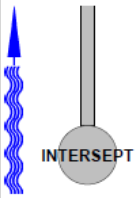
Inspection Report

Date :	Job number :	Weather :	Operator :	Section number :	PLR :
28/06/2014		no rain or snow	RICHARD	19	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Grade:**
no rain or snow	09-CN-6033			yes	

1:50	Position	Code	Observation	Photo	Grade



STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
31/03/2014		no rain or snow	LEON	20	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	MERC	RAUSCH		yes	LEON

Place :	TULLAMORE	Location details:		U/S MH :	G7
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	310314_1	D/S MH :	INTERSEPTO
Inspection	INTERSEPTO (U/S) G7	Pipe Length		D/S Depth :	
Direction					

Use:	Surface water	Pipe shape :	Circular
Year laid :		Pipe size :	150 mm
Purpose :	Sample survey to determin asset condition	Pipe material :	Polyvinyl chloride
Total length :	24.94 m	Lining :	

Comment :

1:210 Position	Code	Observation	Photo	Grade
INTERSEPTO				
0.30	MH	Start node type, manhole, reference number : INTERSEPTO		0
0.30	WL	Water level, 0% of the vertical dimension		0
3.22	JN	Junction, at 3 o'clock, diameter 10OMM		0
4.09	WL	Water level, 5% of the vertical dimension		0
13.34	RPL	Point repair, localised lining, from 12 to 12 o'clock	1_5A	0
13.85	JN	Junction, at 3 o'clock, diameter 100mm		0
24.58	JN	Junction, at 3 o'clock, diameter 100mm		0
24.94	WL	Water level, 5% of the vertical dimension		0
G7 24.94	MHF	Finish node type, manhole reference number: G7		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

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Inspection pictures

Place :	Road :	Date :	Section number :	PLR Suffix :
TULLAMORE	KMK METALS	31/03/2014	20	X

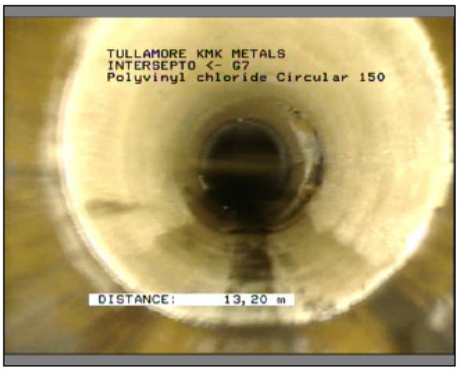

Photo: 1_5A
13.34m, Point repair, localised lining, from 12 to 12 o'clock

Place :

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
31/03/2014		no rain or snow	LEON	21	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	MERC	RAUSCH		yes	LEON

Place :	TULLAMORE	Location details:		U/S MH :	SW1D
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	310314_1	D/S MH :	SW2
Inspection Direction	SW1D (D/S) SW2	Pipe Length		D/S Depth :	

Use:	Surface water	Pipe shape :	Circular
Year laid :		Pipe size :	225 mm
Purpose :	Sample survey to determin asset condition	Pipe material :	Polyvinyl chloride
Total length :	65.09 m	Lining :	

Comment :

1:525 Position	Code	Observation	Photo	Grade
SW1D				
0.30	MH	Start node type, manhole, reference number : SW1D		0
0.30	WL	Water level, 5% of the vertical dimension		0
0.30	LL	Line deviates left		3
24.99	RPL	Point repair, localised lining, from 12 to 12 o'clock	2_4A	0
51.13	WL	Water level, 10% of the vertical dimension		0
54.88	WL	Water level, 5% of the vertical dimension		0
57.98	LR	Line deviates right		0
65.09	WL	Water level, 5% of the vertical dimension		0
65.09	MHF	Finish node type, manhole reference number: SW2		0
SW2				

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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Inspection pictures

Place :	Road :	Date :	Section number :	PLR Suffix :
TULLAMORE	KMK METALS	31/03/2014	21	X

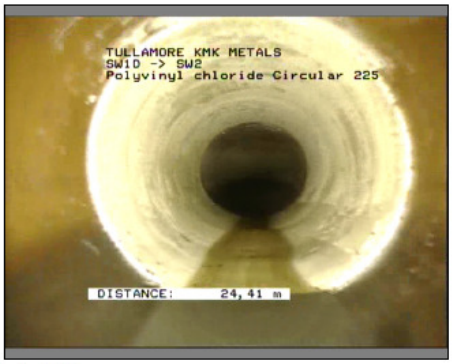

Photo: 2_4A
24.99m, Point repair, localised lining, from 12 to 12 o'clock

Place :

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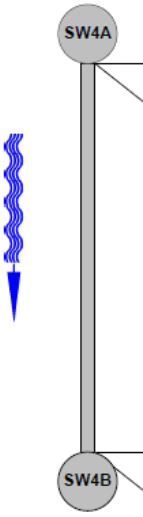
Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
31/03/2014		no rain or snow	LEON	22	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	MERC	RAUSCH		yes	LEON

Place :	TULLAMORE	Location details:		U/S MH :	SW4A
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	310314_1	D/S MH :	SW4B
Inspection Direction	SW4A (D/S) SW4B	Pipe Length		D/S Depth :	

Use:	Surface water	Pipe shape :	Circular
Year laid :		Pipe size :	150 mm
Purpose :	Sample survey to determin asset condition	Pipe material :	Polyvinyl chloride
Total length :	3.30 m	Lining :	

Comment :



1:50 Position	Code	Observation	Photo	Grade
0.00	MH	Start node type, manhole, reference number : SW4A		0
0.00	WL	Water level, 10% of the vertical dimension		0
3.30	WL	Water level, 30% of the vertical dimension		0
3.30	MHF	Finish node type, manhole reference number: SW4B		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
31/03/2014		no rain or snow	LEON	23	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	MERC	RAUSCH		yes	LEON

Place :	TULLAMORE	Location details:		U/S MH :	WEIGHTBRID
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	310314_1	D/S MH :	SW4D
Inspection	SW4D (U/S) WEIGHTBRID	Pipe Length		D/S Depth :	

Direction			
Use:	Surface water	Pipe shape :	Circular
Year laid :		Pipe size :	150 mm
Purpose :	Sample survey to determin asset condition	Pipe material :	Polyvinyl chloride
Total length :	1.30 m	Lining :	

Comment :

1:50	Position	Code	Observation	Photo	Grade
SW4D	0.00	MH	Start node type, manhole, reference number : SW4D		0
	0.00	WL	Water level, 5% of the vertical dimension		0
	1.30	SCC	Shape changes to circular, 100mm high	5_3A	0
	1.30	SA	Survey abandoned Remarks: DUE TO PIPE CHANGES SIZE CAMERA CANNOT FIT IN NO ACCESS FROM WEIGHTBRIDGE		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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Inspection pictures

Place :	Road :	Date :	Section number :	PLR Suffix :
TULLAMORE	**KMK METALS**	**31/03/2014**	**23**	**X**

Photo: 5_3A
1.3m, Shape changes to circular, 100mm high

Place :

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
31/03/2014		no rain or snow	LEON	24	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	MERC	RAUSCH		yes	LEON

Place :	TULLAMORE	Location details:		U/S MH :	G9
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	310314_1	D/S MH :	INTERSEPTO
Inspection	G9 (D/S) INTERSEPTO	Pipe Length		D/S Depth :	

Direction			
Use:	Surface water	Pipe shape :	Circular
Year laid :		Pipe size :	150 mm
Purpose :	Sample survey to determin asset condition	Pipe material :	Polyvinyl chloride
Total length :	34.40 m	Lining :	

Comment :

1:285	Position	Code	Observation	Photo	Grade
G9	0.00	MH	Start node type, manhole, reference number : G9		0
	0.00	WL	Water level, 5% of the vertical dimension		0
	7.30	WL	Water level, 15% of the vertical dimension		0
	15.80	RPL	Point repair, localised lining, from 12 to 12 o'clock		0
	31.09	RPL	Point repair, localised lining, from 12 to 12 o'clock		0
INTERSEPTO	34.40	REM	General remark Remarks: HAD TO STOP CAMERA CANT PUSH ANY FUTHER . BOTH PATCHES ARE SURVEYED.LINE IS 43 M LONG.		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade

Place :

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
31/03/2014		no rain or snow	LEON	25	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	MERC	RAUSCH		yes	LEON

Place :	TULLAMORE	Location details:		U/S MH :	SW3A
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	310314_1	D/S MH :	MAINLINE
Inspection Direction	SW3A (D/S) MAINLINE	Pipe Length		D/S Depth :	

Use:	Surface water	Pipe shape :	Circular
Year laid :		Pipe size :	150 mm
Purpose :	Sample survey to determin asset condition	Pipe material :	Polyvinyl chloride
Total length :	8.76 m	Lining :	

Comment :

1:75	Position	Code	Observation	Photo	Grade
SW3A					
	0.30	MH	Start node type, manhole, reference number : SW3A		0
	0.30	WL	Water level, 5% of the vertical dimension		0
	8.31	LL	Line deviates left		0
	8.76	WL	Water level, 5% of the vertical dimension		0
MAINLINE	8.76	MHF	Finish node type, manhole reference number: MAINLINE		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

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Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
31/03/2014		no rain or snow	LEON	26	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	MERC	RAUSCH		yes	LEON

Place :	TULLAMORE	Location details:		U/S MH :	G1A
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :	310314_1	D/S MH :	G1
Inspection Direction	G1A (D/S) G1	Pipe Length		D/S Depth :	
Use:	Surface water			Pipe shape :	Circular
Year laid :				Pipe size :	150 mm
Purpose :	Sample survey to determin asset condition			Pipe material :	Polyvinyl chloride
Total length :	9.40 m			Lining :	

Comment :

1:75	Position	Code	Observation	Photo	Grade
G1A					
	0.01	MH	Start node type, manhole, reference number : G1A		0
	0.01	WL	Water level, 0% of the vertical dimension		0
	7.20	WL	Water level, 15% of the vertical dimension		0
	9.40	WL	Water level, 50% of the vertical dimension		0
	9.40	MHF	Finish node type, manhole reference number: G1		0
G1					

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

D M C BREEN
COOTEHILL
Street : CAVAN
Tel: 0494326306
Fax: 0494326306
Email: INFO@MCBREENENVIRONMENTAL.IE

Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
01/07/2014		no rain or snow	RICHARD	27	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	G6
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :		D/S MH :	G5.1
Inspection Direction	G6 (D/S) G5.1	Pipe Length		D/S Depth :	
Use:	Surface water		Pipe shape :	Circular	
Year laid :			Pipe size :	100 mm	
Purpose :	Sample survey to determin asset condition		Pipe material :	Polyvinyl chloride	
Total length :	16.00 m		Lining :		

Comment :

1:135	Position	Code	Observation	Photo	Grade
G6	0.00	GY	Start node type, gully, reference number : G6		0
	0.00	WL	Water level, 5% of the vertical dimension		0
	5.60	JN	Junction, at 12 o'clock, diameter 100mm		0
	9.90	JN	Junction, at 12 o'clock, diameter 100mm		0
	11.90	JN	Junction, at 12 o'clock, diameter 100mm		0
	16.00	JN	Junction, at 12 o'clock, diameter 100mm		0
G5.1	16.00	GYF	Finish node type, gully reference number: G5.1		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

Place :

D M C BREEN
COOTEHILL
Street : CAVAN
Tel: 0494326306
Fax: 0494326306
Email: INFO@MCBREENENVIRONMENTAL.IE

Inspection report

Date :	Job number :	Weather :	Operator :	Section number :	PLR SUFFIX:
01/07/2014		no rain or snow	RICHARD	28	X
Weather	**Vehicle :**	**Camera :**	**Preset :**	**Cleaned :**	**Operator :**
no rain or snow	09-CN-6033			yes	RICHARD

Place :	TULLAMORE	Location details:		U/S MH :	G5.1
Road :	KMK METALS	Catchment:		U/S Depth :	
Location	Property with buildings	Tape number :		D/S MH :	G5
Inspection Direction	G5.1 (D/S) G5	Pipe Length		D/S Depth :	
Use:	Surface water	Pipe shape :	Circular		
Year laid :		Pipe size :	100 mm		
Purpose :	Sample survey to determin asset condition	Pipe material :	Polyvinyl chloride		
Total length :	7.20 m	Lining :			

Comment :

1:60	Position	Code	Observation	Photo	Grade
G5.1					
	0.00	GY	Start node type, gully, reference number : G5.1		0
	0.00	WL	Water level, 0% of the vertical dimension		0
	7.20	WL	Water level, 10% of the vertical dimension		0
G5	7.20	GYF	Finish node type, gully reference number: G5 Remarks: NO ACCESS TO GULLY 5 AS BLOCKS BUILT ON TOP.		0

STR no def	STR peak	STR mean	STR total	STR grade	SER no def	SER peak	SER mean	SER total	SER grade
0	0	0	0	1	0	0	0	0	1

APPENDIX 5

PRTR Report for 2014

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	KMK Metals Recycling Limited
Facility Name	KMK Metals Recycling Limited
PRTR Identification Number	W0113
Licence Number	W0113-03

Classes of Activity

No.	class_name
-	Refer to PRTR class activities below

Address 1	Cappincur Industrial Estate
Address 2	Daingean Road
Address 3	Tullamore
Address 4	
	Offaly
Country	Ireland
Coordinates of Location	-7.462581076 53.27421423
River Basin District	IEGBNISH
NACE Code	3832
Main Economic Activity	Recovery of sorted materials
AER Returns Contact Name	Anthony Meehan
AER Returns Contact Email Address	anthony@qedeng.ie
AER Returns Contact Position	Environmental Consultant
AER Returns Contact Telephone Number	04772060
AER Returns Contact Mobile Phone Number	
AER Returns Contact Fax Number	
Production Volume	0.0
Production Volume Units	
Number of Installations	0
Number of Operating Hours in Year	0
Number of Employees	70
User Feedback/Comments	Inclusion of releases to water as limits set on discharge points in licence review. Please note that on tab 'treatment & transfers of waste' all data is to be takn as confidential. Examples of abroad destinations are entered only as a way of completion of the PRTR.
Web Address	

2. PRTR CLASS ACTIVITIES

Activity Number	Activity Name
5(a)	Installations for the recovery or disposal of hazardous waste
50.1	General

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

Is it applicable?	No
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

SECTION A : SECTOR SPECIFIC 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 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		A2-5			
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
244	**Total Particulates**	M	ALT	ISEN 13284: 2004	60.75	60.75	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: KMK Metals Recycling Limited

Please enter summary data on the quantities of methane flared and / or utilised	**T (Total) kg/Year**	**M/C/E**	**Method Used**		**Facility Total Capacity m3 per hour**	
			Method Code	**Designation or Description**		
Total estimated methane generation (as per site model)	0.0				N/A	
Methane flared	0.0				0.0	(Total Flaring Capacity)
Methane utilised in engine/s	0.0				0.0	(Total Utilising Capacity)
Net methane emission (as reported in Section A above)	0.0				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 concerns Releases from your facility

RELEASES TO WATERS					Please enter all quantities in this section in KGs			
POLLUTANT					QUANTITY			
			Method Used		F			
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
13	Total phosphorus	C	ALT	EW146 Spectrophotometry Method (colorimetry)	3.503	3.503	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		CX	DX	E	F			
Pollutant No.	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
240	Suspended Solids	C	ALT	APHA/AWWA Standard Methods	8.36	40.34	8.712	0.0	57.412	0.0	0.0
324	Mineral oils	C	ALT	Determination of TPH by Infra Red Spectroscopy	0.613	0.4996	0.64	0.0	1.7526	0.0	0.0
303	BOD	C	ALT	APHA 5210B	0.0	0.0	0.0	1.245	1.245	0.0	0.0
238	Ammonia (as N)	C	ALT	4500 NH3 G, Automated Phenate Method	0.0	0.0	0.0	1.583	1.583	0.0	0.0
		C			0.0	0.0	0.0	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

5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

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					
To Other Countries	06 05 02	Yes	0.0	sludges from on-site effluent treatment containing dangerous solutions	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential Information,,,,,,,,,,Ireland	,,,,,,,Ireland
To Other Countries	07 07 10	Yes	0.0	other filter cakes and spent sbsorbents	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential Information,,,,,,,,,,Belgium	,,,,,,,Belgium
To Other Countries	12 01 13	No	8.848	welding wastes	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
To Other Countries	12 01 20	Yes	144.53	spent grinding bodies and grinding materials containing dangerous substances	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential Information,,,,,,,,,,Belgium	,,,,,,,Belgium
Within the Country	13 02 08	Yes	26.12	other engine, gear and lubricating oils	R3	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential Information,,,,,,,,,,Ireland	,,,,,,,Ireland
Within the Country	15 01 02	No	15.94	plastic packaging	R3	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	15 01 03	No	80.78	wooden packaging	R3	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	15 01 06	No	71.895	mixed packaging	R5	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
To Other Countries	16 02 13	Yes	124.78	discarded equipment containing hazardous components (16) other than those mentioned in 16 02 09 to 16 02 12	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential Information,,,,,,,,,,Belgium	,,,,,,,Belgium
To Other Countries	16 02 15	Yes	1666.79	hazardous components removed from discarded equipment	R5	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential Information,,,,,,,,,,Belgium	,,,,,,,Belgium
To Other Countries	16 02 16	No	4.602	components removed from discarded equipment other than those mentioned in 16 02 15	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	16 02 16	No	1.015	components removed from discarded equipment other than those mentioned in 16 02 15	R4	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
To Other Countries	16 06 01	Yes	623.87	lead batteries	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential Information,,,,,,,,,,Belgium	,,,,,,,Belgium
To Other Countries	16 06 02	Yes	24.753	Ni-Cd batteries	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential Information,,,,,,,,,,Belgium	,,,,,,,Belgium
To Other Countries	16 06 04	No	297.45	alkaline batteries (except 16 06 03)	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
To Other Countries	19 12 02	No	1.731	ferrous metal	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	19 12 02	No	203.84	ferrous metal	R4	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		

To Other Countries	19 12 03	No	0.84	non-ferrous metal	R5	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland			
To Other Countries	19 12 03	No	1.64	non-ferrous metal	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland			
Within the Country	19 12 09	No	10.06	minerals (for example sand, stones)	R5	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland			
Within the Country	19 12 12	No	41.038	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R4	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland			
Within the Country	20 01 21	Yes	126.1	fluorescent tubes and other mercury-containing waste	R4	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential Information,,,,,,,,,Ireland	,,,,,,,Ireland	
Within the Country	20 01 33	Yes	0.0	batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries	R4	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential Information,,,,,,,,,Ireland	,,,,,,,Ireland	
To Other Countries	16 06 05	No	10.983	other batteries and accumulators	R12	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland			
Within the Country	15 01 01	No	12.34	paper and cardboard packaging	R3	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland			
To Other Countries	16 02 16	No	303.94	components removed from discarded equipment other than those mentioned in 16 02 15	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland			
To Other Countries	16 02 14	No	766.59	discarded equipment other than those mentioned in 16 02 09 to 16 02 13	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland			
To Other Countries	19 12 04	No	106.1	plastic and rubber	R5	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland			
Within the Country	16 02 14	No	120.18	discarded equipment other than those mentioned in 16 02 09 to 16 02 13	R4	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland			
Within the Country	19 12 03	No	49.24	non-ferrous metal	R4	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland			
Within the Country	16 02 14	No	1973.52	discarded equipment other than those mentioned in 16 02 09 to 16 02 13	R4	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland			
Within the Country	19 12 03	No	133.64	non-ferrous metal	R4	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland			
To Other Countries	16 02 11	Yes	14.3	discarded equipment containing chlorofluorocarbons, HCFC, HFC	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential Information,,,,,,,,,Belgium	,,,,,,,Belgium	
To Other Countries	16 02 14	No	2650.47	discarded equipment other than those mentioned in 16 02 09 to 16 02 13	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland			
To Other Countries	16 02 16	No	124.2	components removed from discarded equipment other than those mentioned in 16 02 15	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland			
Within the Country	19 12 12	No	865.89	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R4	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland			
Within the Country	19 12 12	No	51.692	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11	R4	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland			

To Other Countries	16 02 16	No	14.18	components removed from discarded equipment other than those mentioned in 16 02 15	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	
To Other Countries	19 12 03	No	27.054	non-ferrous metal	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	
To Other Countries	16 02 16	No	942.86	components removed from discarded equipment other than those mentioned in 16 02 15	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	
Within the Country	19 12 04	No	1017.89	plastic and rubber	R5	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	
To Other Countries	19 12 04	No	430.68	plastic and rubber	R5	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	
To Other Countries	19 12 04	No	167.51	plastic and rubber	R5	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	
To Other Countries	19 12 04	No	191.98	plastic and rubber	R5	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	
To Other Countries	12 01 20	Yes	38.17	spent grinding bodies and grinding materials containing dangerous substances	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential Information,,,,,,,,,,,Belgium ,,,,,,,Belgium
To Other Countries	19 12 04	No	20.86	plastic and rubber	R5	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	
Within the Country	19 12 04	No	46.916	plastic and rubber	R5	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	
Within the Country	19 12 04	No	20.92	plastic and rubber	R5	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	
To Other Countries	12 01 20	Yes	71.8	spent grinding bodies and grinding materials containing dangerous substances	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential Information,,,,,,,,,,,Belgium ,,,,,,,Belgium
To Other Countries	16 02 14	No	3269.92	discarded equipment other than those mentioned in 16 02 09 to 16 02 13	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	
To Other Countries	19 12 03	No	37.338	non-ferrous metal	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	
To Other Countries	16 02 16	No	41.102	components removed from discarded equipment other than those mentioned in 16 02 15	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	
To Other Countries	19 12 04	No	317.18	plastic and rubber	R5	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	
To Other Countries	19 12 03	No	519.14	non-ferrous metal	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	
To Other Countries	16 02 16	No	1427.96	components removed from discarded equipment other than those mentioned in 16 02 15	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	
To Other Countries	16 02 16	No	131.46	components removed from discarded equipment other than those mentioned in 16 02 15	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	
To Other Countries	19 12 04	No	76.48	plastic and rubber	R5	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	

To Other Countries	19 12 03	No	324.36	non-ferrous metal	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland			
To Other Countries	12 01 13	No	1.364	welding wastes	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland			
To Other Countries	16 02 11	Yes	1048.28	discarded equipment containing chlorofluorocarbons, HCFC, HFC	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential Information,,,,,,,,,Belgium	,,,,,,,Belgium	
Within the Country	16 02 13	Yes	155.71	discarded equipment containing hazardous components (16) other than those mentioned in 16 02 09 to 16 02 12	R4	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential Information,,,,,,,,,Ireland	,,,,,,,Ireland	
To Other Countries	16 02 11	Yes	7.68	discarded equipment containing chlorofluorocarbons, HCFC, HFC	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential Information,,,,,,,,,Belgium	,,,,,,,Belgium	
To Other Countries	16 02 11	Yes	1460.56	discarded equipment containing chlorofluorocarbons, HCFC, HFC	R4	M	Weighed	Abroad	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential Information,,,,,,,,,Belgium	,,,,,,,Belgium	
Within the Country	16 10 02	No	31.98	aqueous liquid wastes other than those mentioned in 16 10 01	D9	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland			
Within the Country	13 05 03	Yes	2.14	interceptor sludges	D9	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential Information,,,,,,,,,Ireland	,,,,,,,Ireland	
Within the Country	13 05 08	Yes	33.16	mixtures of wastes from grit chambers and oil/water separators	D9	M	Weighed	Offsite in Ireland	KMK Metals Recycling Ltd ,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential Information,,,,,,,,,Ireland	,,,,,,,Ireland	

* Select a row by double-clicking the Description of Waste then click the delete button