ANNUAL ENVIRONMENTAL REPORT 2010

KMK METALS RECYCLING LTD

WASTE LICENCE REF: W0113-03

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

REPORT PERIOD: JANUARY 2010-December 2010

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All Ordnance Survey Maps are printed under the following licence from the OSI:

1.0 REPORTING PERIOD

The reporting period for this Annual Environmental Report is 1st January 2010 to 31st of December 2010.

2.0 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.

3.0 WASTE MANAGEMENT RECORD

3.1 Waste Received in 2010

Waste is received in the KMK Metals Ltd facility from the following sources; civic amenity sites, commercials customers, industrial customers and transfer station waste management sites.

A summary of all waste received during 2010 is given below:

Source of waste accepted.	**Total quantities (tonnes)**
Civic amenity sites	10,225.500
Commercial	07,113.819
Industrial	00,686.771
Transfer Stations	05,001.170
Total	**23,027.26 tonnes**

It is estimated that approximately 91% of the total waste intake in 2010 was waste electrical and electronic equipment (WEEE).
A full breakdown of waste types and quantities accepted for 2010 is included in Appendix 1 attached to this AER.

The total quantity received was 23,027.26 tonnes for 2010. KMK Metals Recycling Ltd acknowledges that this tonnage is exceeding the licence value of 20,000 tonnes. The cause of this exceeded is due to maintenance of existing commercial contracts for the management of WEEE from civic amenity sites as awarded to KMK Metals Recycling Ltd by WEEE Ireland and ERP (the two WEEE compliance schemes in Ireland at present). The increase in tonnages of WEEE is therefore directly related to the general success rate of WEEE recycling by use of the civic amenity sites by the public. KMK Metals Recycling Ltd is managing this waste in an environmentally sound manner at the waste licence site at Cappincur, Tullamore.

Furthermore, please note that KMK Metals Recycling Ltd through forward planning acknowledged this potential projected increase during 2009 and hence applied for the waste licence review (ref: W0113-04) on 20th October 2009. The licence review was to allow for an increase in waste acceptance to 35,000 tonnes per year. KMK Metals are presently waiting for a decision on this review application.

3.2 Waste Dispatched from the Facility for Recovery in 2010

The total quantity of waste dispatched from the facility in 2010 was 23,197.71 tonnes.

A summary of all waste dispatched during 2010 is included in Appendix 2 attached to this AER.

Please note that there is a carry over of waste material from the year ending 2010 into the beginning of 2011 and this is waste material left in stock (See Appendix 3) which was 631.82 tonnes. Also, please note that any reference to Old Stock in this table refers to stock which was carried over from 2009 and previous years.

4.0 EMISSIONS FROM THE FACILITY

A summary and interpretation of all emissions monitoring carried out at the facility during 2010 is discussed in detail below.

4.1 Dust

Dust deposition assessment was carried out at the site from 1st November to 30th November 2010 by ENVIROCO Management Ltd.

The Dust Deposition Assessment Report is included in Appendix 4 of this AER.

All dust deposition monitoring was based on the Bergerhoff method, 'Measurement of Dustfall Using the Bergerhoff Instrument (Standard Method)' VDI 2119. The Waste Licence requirements (ref. W0113-03) for dust monitoring are presented in table 4.1.1 below. A total of six dust monitoring locations were selected (A2-1, A2-2, A2-3, A2-4, A2-5 and A2-6).

Table 4.1.1 Dust Monitoring Licence Requirements

Stations	**Parameter ($mg/m^2/day$)**	**Monitoring frequency**	**Analysis Method/ Technique**
A2-1, A2-2, A2-3, A2-4, A2-5 and A2-6	Total Dust Deposition Metal content [note2]	Annually[note1] Annually	Standard method[note3] Standard method

Note 1: During the period May to September, or otherwise specified in writing by the Agency.
Note 2: Analysis to include the following metals: Al, As, Cd, Cr, Cu, Fe, Hg, Ni, Pb and Zn.
Note 3: 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.

A summary of Dust Deposition Results for 6 locations are tabulated below in tables 4.1.2, 4.1.3 and figures 4.1.1 and 4.1.2 below.

Table 4.1.2 Results of total dust monitoring at the site

Station I.D.	**Monitoring Location**	**Irish Grid Ref.**		**Dust Deposition** (Nov 2010) **$mg/m^2/day$**	**EPA licence Limits $mg/m^2/day$**
		Easting	**Northing**		
A2-1	Car Park at Fence Boundary	635955	725044	109	350
A2-2	Eastern boundary, beside disused portacabin	635959	725004	133	350
A2-3	Fence at southern boundary	635882	724955	173	350
A2-4	Site Entrance	635911	724993	156	350
A2-5	Western Boundary	635866	725002	23	350
A2-6	Northern Boundary	635902	725021	137	350

Table 4.1.3 Results of metallic species in dust at the site.

Parameters	Metallic analysis in dust (µg/l)					
	A2-1	**A2-2**	**A2-3**	**A2-4**	**A2-5**	**A2-6**
Aluminium (Al)	15	14	37	20	23	95
Copper (Cu)	2	2	7	5	16	37
Arsenic (As)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Cadmium (Cd)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chromium (Cr)	<0.5	<0.5	<0.5	<0.5	<0.5	0.7
Iron (Fe)	38	20	70	27	49	336
Mercury (Hg)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel (Ni)	<0.5	<0.5	<0.5	0.5	<0.5	3
Lead (Pb)	1	1	3	4	3	14
Zinc (Zn)	53	16	96	49	47	204

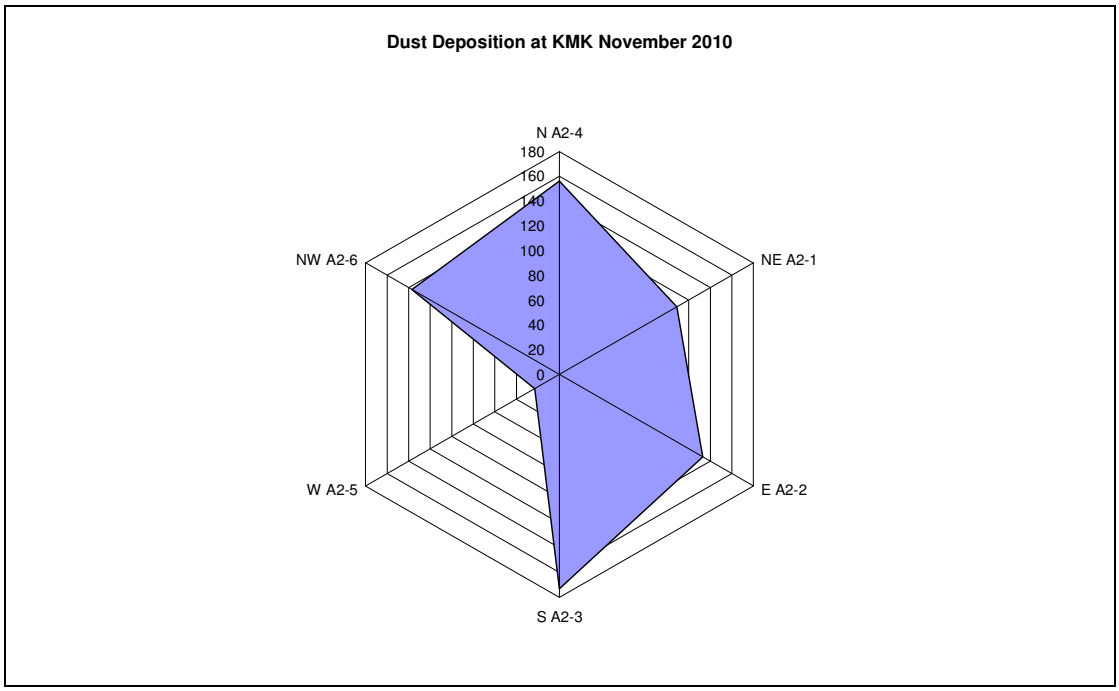


Figure 4.1.1 Distribution of the results from dust monitoring November 2010

Weather conditions can have a noticeable impact upon dust creation and dust entrainment in the air. Drier weather will increase the ambient dust on the ground and will lighten small particulates. Wind strength will determine the size of particles that can be entrained in the air and the distance they will be transported. The Met Eireann data from the Gurteen Synoptic Station for the November monitoring events show that November had higher levels of rainfall than normal, though nearly half of the total in 2009, and was notably cooler than 2009. Table 4.1.4 below give the annual averages for rainfall from the closest Met Eireann Synoptic Station – Gurteen College.

Table 4.1.4 Rainfall levels from Gurtenn Synoptic Station from the 1st to the 30th November 2010.

Date	Rainfall (mm)	Date	Rainfall (mm)
01/11/2010	2.8	16/11/2010	9.8
02/11/2010	17.7	17/11/2010	6.9
03/11/2010	6.9	18/11/2010	5.5
04/11/2010	11.2	19/11/2010	0.8
05/11/2010	1.9	20/11/2010	0.0
06/11/2010	1.9	21/11/2010	0.1
07/11/2010	12.5	22/11/2010	0.0
08/11/2010	0.9	23/11/2010	0.0
09/11/2010	1.9	24/11/2010	1.7
10/11/2010	1.8	25/11/2010	1.4
11/11/2010	7.4	26/11/2010	0.1
12/11/2010	3.0	27/11/2010	0.0
13/11/2010	4.2	28/11/2010	0.3
14/11/2010	0	29/11/2010	0.0
15/11/2010	0.5	30/11/2010	1.7
TOTAL Rainfall for the 30 day period			**102.9**

*No readings were presented for these dates on the Met Eireann database as of yet.

Based on the Beaufort Scale of Wind Force (see Appendix 4) it is clear that during the November event for 23 of the 30 days wind in the area could be classified as a wind force 3 gentle breeze or lower; which according to the specifications results in "Leaves and small twigs in constant motion, wind extends light flag". For the remaining 8 days the wind force was 4 (Moderate breeze) to 6 (Stronge Breeze) which can result in movement of small trees in leaf and large branches begin to move.

Dust monitoring around the boundaries of the KMK Metals Recycling Ltd 's site show that all monitoring stations were below the EPA limit of 350 mg/m^2/day of dustfall.

The highest values recorded during both events were at dust station A2-3 located at the southern boudnary to the site, with results of 173 mg/m^2/day. This measurement is notable below the EPA Limit.

During the Novemeber monitoring event all of the stations (A2-1, A2-2, A2-3, A2-4, A2-5 and A2-6) were below the EPA guideline limit value. Therefore dust levels detected during this monitoring event were not deemed to have likely negative effects on the surrounding environment.

An analysis of the metallic species in all seven dust samples was also carried out over the same 30day period using the same methods as those used for the total dust deposition.

The sample parameters for arsenic, cadmium and mercury measured were all below the actual laboratory limits of detection (see Table 4.1.3). There were detectible levels for aluminium, copper, zinc, iron and lead in all samples but these are quite meaningless without appropriate comparison to any relevant standards and also there are no licence limits applicable. Similarly there was one slightly detectable level for nickel in the sample at location A2-6. Furthermore, the sample taken at location A2-6 had the highest levels for metals in all of the samples. This location was at the site boundary in the car park and next to the public road within the industrial estate. Therefore this location is strongly influenced by passing traffic and associated vehicular dusts. This source is known for metals as well as hydrocarbon compounds (e.g. PAHs). In terms of comparison of metals in ambient air samples to relevant standards, this can be achieved by conducting a PM10 sampling event for industrial operations (i.e. measurement of breathable dusts in the air) which metallic speciation of the samples. This sampling event is strongly health and safety orientated with emphasis on sampling methods, times, set back distances from roads and specialised equipment to be used. The regulation S.I No 58 of 2009 (Arsenic, Cadmium, Mercury, Nickel and Polycyclic Aromatic Hydrocarbons in Ambient Air Regulations 2009) covers this process. However, for the purpose of this report, this sampling methodology is outside of the scope of monitoring for the waste licence and is not required.

4.2 Noise

The Waste Licence requirements (ref. W0113-03) for noise monitoring are presented in table 4.2.1 below. A total of eight noise monitoring locations were selected (NE1, NE2, NE3, NE4, NE5, NE6, NE7*, NE8*).

Table 4.2.1 Noise Monitoring Licence Requirements

Stations	**Parameter**	**Monitoring frequency**	**Analysis Method/ Technique**
NE1, NE2, NE3, NE4, NE5, NE6	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 and 3.

A day-time noise assessment was carried out at the site on the 1st September 2010 by ENVIROCO Management Ltd and the full Noise Monitoring Survey report is included in Appendix 5 of this AER.

Monitoring Locations:

N1: Car park at fence boundary
N2: Eastern boundary, beside disused portacabin
N3: Fence at southwest boundary
N4: Western boundary
N5: North-western boundary of the D4 yard area
N6: North-eastern boundary of the D4 yard area

All noise measurements were made according to the requirements of ISO 1996: Acoustics – Description and Measurement of Environmental Noise.

The complete set of noise measurement results is included in Appendix A of the Noise Monitoring Survey. These are summarised and discussed below.

Table 4.2.2 Summary of Site Boundary Noise Levels

Location	Start Time	L_{Aeq}	Comments
N1 Car park at fence boundary	10:29	53	**Background Noise**: Birdsong. **General Noise:** 10:30am: Banging coming from the D4 yard area. Truck leaving the site via the road adjacent to the noise meter. Banging from D4 building. Sound of Large Household Appliance (LHA) Baler in operation. 10:33am outside telephone call system sounding in neighbouring unit. Reverse alarms sounding @ the KMK Metals site. Hammering arising from the neighbouring unit and from KMK Metals site. The sound of scraping metal on the concrete yard @ the KMK facility. 10:36am Light aircraft circling overhead. 10.37am Loud hammering from the D4 building (irregular) throughout the entire monitoring event. Noise of metals being dropped in the DX building @ 10:38am followed by hammering from Condron Car Dismantlers. 10:42am hammering from both the KMK facility and buildings. Sound of cages being moved in the D4 building and yard and a truck entering the main entrance. 10.48am truck leaves the main entrance passing by the noise meter. Voices from the KMK facility audible from this location. 10:50am more banging and scraping of metal from the D4 building. 10:52am sound of forklift from neighbouring unit. 10:54am Horn sounding a number of times on a forklift @ KMK's site. Outdoor telephone call system sounding in neighbouring unit. 10:57am Truck leaves the KMK site and forklift sounding its horn and reverse alarm at D4 area while unloading a truck. 11:02am vehicles passing by on the industrial estate road, banging arising from the D4 area, van & car exiting the facility car park and passing the SLM.
N2 Eastern boundary, beside disused portacabin	11.:08	53	**General Noise:** 11:11am people shouting in Polish. Reverse alarm sounding on forklift. Dance music audible from the D1 building audible throughout the monitoring event. 11.13am birds chirping directly above the SLM in the C building. 11:16am Forklifts in operation at the DX building; scraping of metal and the sounding of reverse alarms audible. 11:17am Birds (swallows) chirping loudly in close proximity to the SLM. Forklift passing by the main entrance to Tullamore Steel. 11:19am Horn sounding on truck leaving the site and forklift passing by the main entrance with cages. Main entrance gate closed over. 11:21am People speaking loudly outside the office building. 11.25am banging arising from Tullamore Steel & scraping of metal on concrete from DX area. Reverse alarm sounding on forklift. 11.27-11.28am AES truck collecting a skip from the middle yard area, reverse alarm sounding on this truck before it leaves the area @11.30am.11.31am horn sounding in the DX building and sound of load falling from a forklift, followed by the reverse alarm. 11.33am Sound of materials being moved around by forklift. 11:35am Banging of a container and materials being loaded into it (reverse alarm sounding). 11:36am Materials being removed from a container (scraping of it along the concrete).
N3 Fence at southwest boundary	11:47	65	**Background Noise:** Traffic from the Ring Road. Wind picked up @ this location. **General Noise:** Continuous noise from the D1 building from pneumatic drills and hammering. 11:54am Traffic on the ring road clearly audible for a few minutes. 11:55am Sound from D1 building of metal being moved and scraped in the concrete floor. Some sound from the DX building audible.11:56-12:00 sound of hammering of TV units in the CRT area. Sound of fan/motor cutting in and out for the pneumatic drills in the D1 building. 12:00 Sound of LHA movement of Small Household Appliances in the DX building. Hammering/banging and the sound from pneumatic drills from the CRT dismantling area in the D1 building. All of these sounds were continuous throughout this monitoring event.

Table 4.2.2 Summary of Site Boundary Noise Locations (contd.)

Location	Start Time	L_{Aeq}	Comments
N4 Western boundary	12:23	61	**Background Noise:** Wind and Birdsong. **General Noise:** Forklifts operating in the D yards. Loading and unloading of trucks. Forklifts bringing TV's and Monitors to the CRT Dismantling Area. Operations from the DX building audible @ this location. 12:26 Noise from forklifts moving cages and general operations from within the DX building were audible at this location. 12:27 Small front loader revving its engine. Reverse alarms sounding at irregular intervals throughout the monitoring event. 12:29 Forklifts in operation in the D yard area in close proximity to the SLM. 12:30 Sound of SHA being removed from a container in the DX building and a horn sounding on the forklift. 12:32 people talking loudly @ the yard area in front of the DX building. 12::37 Noise arising from forklifts moving materials and containers. Horn sounding on a truck travelling along the ring road. 12.38 LHA Baler revving its engine and materials being loaded into the baler. 12:40 Cages being loaded into the back of a WEEE Recycle truck in the D4 yard area. From 12:41 onwards the sound of scraping metals clearly audible from the LHA Baler & DX building. Hammering taking place @ the roofed D4 building yard area (sound of capacitors being removed from washing machines). 12:51 AES truck collecting skip container from the D4 yard. 12:52 forklift beginning to load container to the left of the SLM.
N5 North-western boundary of D4 area	13:25	66	**General Noise:** LHA Baler running throughout this monitoring event. Work being carried out in the D4 building (related to Fluorescent bulbs). Movement of SHA into containers waiting in the DX building. Small front loading machine scraping its bucket on the concrete floor of the DX building. Movement of cages containing monitors and TV's by forklift from the DX building to the CRT Dismantling Area (D1 building). Noise arising from the DX building continuous throughout this monitoring event. 13:37 Employee scraping a shovel on the concrete yard at the D4 yard area.
N6 Northern boundary at fridge storage area	14:02	66	**General Noise:** 14:03 AES truck collecting a chain skip from the middle yard area making noise and revving its engine. People talking in the car park area of the KMK facility. LHA Baler starting its engine. Small front loader begins operations again in the DX building. 14:06 car alarm sounds in the KMK Metals carpark. Truck arrives at the facility and passes by the SLM. A number of staff vehicles exit the KMK car park. 14:07 Gate to the D4 yard area is opened causing a noise from the dragging of metal across concrete. A structure being erected at a neighbouring facility resulting in irregular noise (hammering, banging, drilling and people talking) travelling as far as the SLM. 14:10 AES Truck sounding its horn and revving its engine to load an ejector trailor in the middle yard) and banging on steel @ the neighbouring unit. The banging continued until 14:15. Two trucks stop outside the KMK Metals facility and their engines remain idling prior to one truck being reversed into the D yard while the other is left idling until 14:22. 14:16 The external telephone call system @ the Tullamore Steel unit audible. 14:17 Reverse alarm sounding a forklift operating at a neighbouring unit. 14:19 Hammering of metal @ the neighbouring unit (erecting new structure) clearly audible. 14:20 Pressure release from a truck being disconnected from its trailor lasting only a few seconds. 14:24 Operations commence in the D4 roofed area with LHA baler again. AES container delivered to the D4 yard area (reverse alarms sounding @ KMK Metals site on the forklifts and trucks. 14:27 Small front loader scraping its bucket on the DX buildings floor. (Revving and loading of materials into containers). 14:30 Truck travelling along the industrial estate road to the KMK site passes directly by the SLM.

Overall, the noise levels recorded at stations N3, N4, N5 and N6 during monitoring located within the boundary of the KMK Metals Recycling Ltd facility exceeded the Daytime Noise Limit Value L_{Aeq} (30 minutes) of 55dB (A), with the exception of N1 and N2 which were below the recommended limit. These results were not as a direct result of operations at the KMK facility but can be largely associated with neighbouring industrial units operations/activities and general traffic generated within the industrial estate.

On examination of the L_{Aeq} (30 minutes) for the noise monitoring locations N1, N2, N3, N4, N5 and N6, the average or steady rate of noise levels generated at the KMK Metals facility was between 53dB(A) and 66dB(A). This overall noise rate in real terms is somewhere between typical office noise to experiencing light traffic at 15m distance away as illustrated in the table 2.3.2 of the Noise Monitoring Survey (Appendix 5).

Overall results for the 1/3 octave analysis at the KMK Metal Recycling facility, show level of noise to be moderate at the boundaries of the facility, with primary noise arising from the movement of forklift trucks associated with unloading of WEEE for processing and LHA's (cold) for storage at the KMK Metals facility.

Noise monitoring at the KMK Metals Recycling Ltd facility during this event has shown that the noise levels have decreased at several locations in comparison with the 2009 noise monitoring event. The results of the noise survey show that noise emissions from the KMK Metals facility are not significant for an industrial area and will not have any negative effect of neighbouring businesses.

4.3 Surface Water

Surface water samples were taken directly from the outlets CX and DX on the 10th June, 30th September and 3rd November for all parameters applicable under the licence limits. Site visits were conducted during the first quarter but due to the fact that there was no surface water run-off flow, samples could not be taken.

The test certificates are included in Appendix 6 of this AER.

A summary of Surface Water Results are tabulated below in table 4.3.1.

Table 4.3.1 Surface Water Monitoring Results 2010

Parameters	CX 1st Quarter No flow	CX 10/06/10	CX 30/09/10	CX 03/11/10	DX 1st Quarter No flow	DX 10/06/10	DX 30/09/10 No flow	DX 03/11/10	Trigger Levels	Action levels
Aluminium (µg/l)	-	0.0112	0.0029	160	-	0.0404	-	**6,000**	**3,000**	**5,00**
COD (mg/l)	-	7.74	37.7	<10	-	**236**	-	**63**	**40**	**40**
Arsenic (µg/l)	-	0.00038		1.2	-	0.000892	-	4.5	**500**	**100**
Chromium (µg/l)	-	0.00939	0.00592	9.9	-	0.00207	-	24	**32**	**50**
Conductivity (µS/cm)	-	173	**1380**	350	-	507	-	720	**1,000**	**1,000**
Iron (mg/l)	-	<0.019	**0.26**	**70**	-	<0.019	-	0.16	**0.2**	**2.0**
Lead (mg/l)	-	0.000904	0.000397	**0.091**	-	0.00733	-	**0.4**	**0.05**	**0.05**
Mercury (µg/l)	-	<0.00001	<0.00001	<0.5	-	0.0000146	-	<0.5	**0.07**	**1**
Nickel (µg /l)	-	0.00149	0.00668	9.2	-	0.0103	-	34	**3,000**	**5,000**
Mineral Oil by Gc(mg/l)	-	<0.01	0.00001	<0.001	-	**1.3**	-	0.034	**1.0**	**2.0**
pH (units)	-	7.77	**8.54**	7.9	-	8.08	-	**10.7**	**6.0 – 9.0**	**5.5 – 9.0**
Suspended Solids (mg/l)	-	<2	6.5	43	-	**362**	-	**440**	**50**	**100**
Total Organic Carbon(mg/l)	-	-	-	-	-	-	-	-		
Chloride(mg/l)	-	-	-	**-**	-	-	-	**-**		
Zinc (mg/l)	-	0.0435	0.411	0.3	-	0.121	-	1.4	**3.0**	**5.0**
Diesel Range Organics (mg/l)	-	0.0704	0.046	<0.0001	-	**11.1**	-	0.100	**1.0**	**2.0**
Ammonia (mg/l)	-	**0.993**	**14.4**	0.06	-	<0.2	**-**	0.1	**0.2**	**4.0**

- = not measured
NRG: No reference given
* Limits for surface waters / rivers i.e. EPA Surface Water Regs (1989) mandatory value (A3 water). Please note that these levels are also now the 'Action Levels' as adopted in the May 2010 TRIGGER & ACTION LEVELS FOR SURFACE WATER DISCHARGES Report– see notes on interpretation.
** Limits established by virtue of best practise in determining mineral oils content run-off from interceptors to surface waters.

Interpretation of results from the May, September and November events of 2010.

The receiving water (land drain) has been historically eutrophic and has minimal significance. The licence limits set for the surface water discharge to drain from the facility (CX and DX) are now established under the May 2010, TRIGGER & ACTION LEVELS FOR SURFACE WATER DISCHARGES report as previously submitted to the EPA.

The discharge from DX is more significant than the discharge from CX in relation to COD levels. The results for all DX samples throughout the sampling year exceeded the 'action levels' of 40mg/l for COD, while all of the CX samples are below the levels. In general the COD levels from both CX and DX fluctuate above and below the 'action levels' during the course of the monitoring year.

Since November 2008 all baling of washing machines takes place under roof inside buildings. This has significantly reduced rain water run-off mixing with residual soapy water associated with washing machines at this area. This in turn has reduced COD levels in DX discharge. In addition, the yard surface water run-off at D4 area was connected to the gullies and interceptor at D3 in May 2009 which now results in all surface water run-off from WEEE yard areas being treated prior to discharge at DX outlet. The resultant impact on parameters as a result of this drainage upgrade works appears to be insignificant which further suggests that the existing interceptor at D3 yard is capable of accommodating the increase in run-off volume from D4 area.

Conductivity levels in the CX sample were above the action levels for 1 out of three samples during the year. This is a marked improvement from the results of last year.

Elevations above trigger values were recorded for Iron and ammonia at the CX discharge point in September and June respectively, while elevations above action values were recorded for these parameters at CX in November and September, respectively.

In November 2010, both CX and DX had elevations in lead in the discharges, above the action values, with a values of 0.091 and 0.4 mg/l, both above the 0.05 mg/l Trigger and Action Value limits.

During 2010 both CX and DX, at varying monitoring periods (September and November respectively) had elevated (alkaline) pH results. CX was tested at 8.54 pH units, while DX was tested to 10.7 pH units.

DX had two noted instances of elevated Suspended Solids recorded during 2010, in June and November, with values of 362 and 440 mg/l being recorded. The full development at E and D area when complete will result is less suspended solid being generated as the hardcore ground areas will be thus concreted.

Diesel Range Organics and mineral oils were elevated above the Action value at the DX discharge point in the June sampling event. DRO's were recorded at 11.1 mg/l in June

All other metallic, physical, chemical and hydrocarbon parameters for CX and DX were below the action levels.

It is important to note that both interceptors at CX and DX are emptied by a vacuum tanker on a number of occasions during the year and therefore there is no actual constant discharge from this interceptor as it remains empty for a period until it reaches capacity again. Furthermore, a maintenance contract is in place with an outside company to periodically visit KMK Metals and inspect the interceptors and validate their operations so as to ensure that they are working correctly and efficiently.

Based on the above analysis data, and nature of activity at the site, it is considered that KMK Metals Recycling Ltd discharge is not resulting in a significant negative effect on the land drain and the site interceptors are operating adequately (removal of silts, metals, physical debris etc).

All surface water monitoring was for the most part in compliance with the waste licence trigger and action levels.

4.4 Groundwater

Two groundwater samples (GW1 and GW2) were taken from the KMK Metals Recycling Ltd site on the 1st September 2010. The test certificate is included in Appendix 6 of this AER. A Summary of Groundwater Results is tabulated below in table 4.4.1

Table 4.4.1 Groundwater Monitoring Results

Parameter	**GW1**	**GW2**	**EC Environmental Objectives (Groundwater) Regulations 2010**
Conductivity @ 20C (µS/cm)	487	481	800-1875
pH (pH units)	8.26	8.28	6.5-9.5
E. Coli (cfu/100mls)	0	0	0
Total Coliforms (cfu/100mls)	-	-	0
VOC (EPA 524.2)	None	None	NRG

	Detected	Detected	
Total Nitrogen (as N) (mg/l)	<1	<1	NRG*
Chloride (mg/l)	12.5	12.6	24-187.5
Nickel (µg/l)	1.25	**20.9**	15
Lead (µg/l)	0.028	0.03	18.75
Iron (µg/l)	19	19	200 (Drinking water limits)
Chromium (µg/l)	4.66	4.43	37.5
Arsenic (µg/l)	0.197	5.88	7.5
Aluminium (µg/l)	<2.9	<2.9	150
Mercury (mg/l)	<0.01	<0.01	0.75

* EC Drinking Water Guideline SI 439/2000 used here in the absence of any limits specified in the waste licence.

Interpretation of Results for May 2010

The parameters highlighted in red are those which exceeded the recommended guideline limits set by SI 106 Drinking Water Guideline. As can be seen in table 4.4.1 above all of the parameters tested for in sample GW1 were within the recommended guideline limits, while all of the parameters except for Nickel were within the guidelines for GW2. GW2 had a slight elevation of 20.9 against a licence limit 20.

It should be noted, that although the samples are tested to SI 278/2007 Drinking Water Guidelines, this groundwater is not utilised for human consumption.

5.0 ENERGY CONSUMPTION AND COST

Electricity, green diesel and kerosene are used at the facility. The following tables summarise the electricity and fuel consumption and CO_2 emission at the facility for 2009 and 2010.

Table 5.1.1 Breakdown of the energy consumption for the years 2009 and 2010

	Consumption, kWh*			
	2009	**%**	**2010**	**%**
Electricity	138,191	18	115,962	15.82
Kerosene	31,195	5	50,523	6.89
Green Diesel	581,224	77	566,514	77.29
Total	**750,605**	**100**	**732,999**	**100**

*Energy conversion factors: kerosene 10.4kWh/l and green diesel 10.8kWh/l.

Table 5.1.2 Breakdown of the energy costs for the years 2009 and 2010

	Cost, €			
	2009	**%**	**2010**	**%**
Electricity	32,101	52	29,985	41.78
Kerosene	1,145	2	2,424	3.38
Green Diesel	29,473	46	39,362	54.84
Total	**62,710**	**100**	**71,771**	**100**

Table 5.1.3 CO_2 emissions in 2009 and 2010

	CO_2 emissions, tonnes*			
	2009	**%**	**2010**	**%**
Electricity	110.23	41	89.99	35.64
Kerosene	8.01	3	12.98	5.14
Green Diesel	153.44	56	149.56	59.22
Total	**270.68**	**100**	**252.53**	**100**

*Energy to Carbon conversion factors: electricity 0.776kg CO_2 /kWh, Kerosene 0.257 kg CO_2 /kWh and Green Diesel 0.264 kg CO_2 / kWh

In 2010 the total energy consumption decreased by approximately 2.3% from 2009. The kerosene consumption increased by approximately 62%, while electricity consumption decreased by approximately 16.1% and green diesel consumption was decreased by 2.5% at the facility in 2010. The decrease in total energy consumption in 2010 can be attributed to the lower consumptions of both electricity and green diesel during 2010.

6.0 MOBILE BUNDS ASSESSMENT

There are none required for assessment for 2010

7.0 INCIDENTS SUMMARY

There were two incidents requiring notification during 2010 at the facility. These are summarised as follows;

Ref	Incident date	Incident cause	Actions
1	3rd March 2010	Minor smoke and small fire incident within a shipping container containing small household appliances located inside D hanger building. Container had approx. 3tonnes material inside.	KMK staff put out fire immediately inside container. Fire brigade called and attended for 30mins approx. Materials removed from container and dampened down. No further threat remained. Follow up letter on 22nd March with possible cause i.e. spark ignition of dust/debris contained in the small household appliances (SHAs) e.g. hoover bag contents. The spark may have been caused by the loading shovel in brief contact with the floor of the shipping container.
2	3rd November 2010	Elevated levels for some parameters for a grab sample from CX and DX (Trigger & Action levels)	Elevated levels were CX – lead (0.091mg/l) and DX – suspended solids (440mg/l), pH (10.7), COD (63mg/l), aluminium (6.0mg/l) and lead (0.4mg/l). Lab certificate of analysis was issued on 15th November. All drains and gullies were checked, cleaned and interceptors maintained as per schedules.

In terms of future incident notifications at the facility, these will be addressed in a timely manner and reported using the newly agreed '**Guidance to Licensees/COA holders on the Notification, Management and Communication of Environmental Incidents'** form from the EPA.

8.0 DEVELOPMENT WORKS

8.1 Development works in 2010

KMK Metals Recycling Ltd is committed to the ongoing development of their facility in Tullamore as a leader in waste management within the industry. In 2010 applications were submitted to Offaly County Council for the expansion of the site and alterations to the facility as follows:

- Open ended buildings were erected at either side of D4 building (planning permission granted 04/09/09 and ref; 09/311). These structures further added to the secure roof coverage of the facility for WEEE materials management and were fully completed and commissioned on 30th May 2010 as confirmed by engineers report.
- The whole development of E area was submitted for planning permission to Offaly County Council and planning was subsequently granted on 19th August 2010, planning ref: 10/46. The items planned are a new building structure, concrete yard areas, a weighbridge, improved fencing and surface water management infrastructure. Site development at E area is underway and the expected date for building completion in April 2011.
- The re-development of building areas D1, D2 and D3 was submitted in planning to Offaly County Council on 15th March 2010 and subsequent planning permission was granted on 15th October 2010, ref; 10/101. This planning was for the demolition of D1, D2 and D3 building and replace with a new state-of-the art building for small household appliances and IT equipment acceptance and processing/treatment. Construction of this development started in early 2011.

Additional equipment was purchased in 2010, including a new van and a new forklift.

8.2 Proposed Development for 2011

Further to above the following recently granted planning permissions; 10/46 and 10/101, construction works are underway in 2011 to complete these two major developments.

Thus in terms of development of E area, these are specific phases;

Phase 1 – Construction of the proposed new building at E area as per layout plan PP02.

The proposed use for E area will be for bulk storage areas and bays for reception and loading of WEEE waste. Similarly, there will be no liquid wastes or wet/sludge wastes accepted or handled in this area.

Phase 2 – Surface infrastructure for; staff and visitor car park (tarmac type), access route (concrete road) through E area, weighbridge installation and some surfacing of remaining E area (concrete type). Install interceptor unit for surface water run-off from surfaced areas.

Phase 3 – Repairs, maintenance and modifications to the palisade fence boundary of E area including new sliding entrance gates.

In terms of re-development of D1, D2 and D3, this is allocated to the demolition of the existing building and replacement with a new state-of-the art building. The expected date for completion is approximately end of July 2011.

9.0 ENVIRONMENTAL OBJECTIVES AND TARGETS

9.1 Progress in 2010

A list of objectives and targets and their current status is included below in table 9.1.1 and are regulated by the company environmental management system. Most of the scheduled objectives and targets were achieved in 2010.

Table 9.1.1 Environmental Objectives and Targets for 2010.

Objectives	Target	Time Scale	Responsibility	Status
1. ISO 9001 incorporating revision of ISO 14001	ISO 9001 documentation system to be accredited by July 2010	July 2010	C. Walker & A. Rust	Completed
2. Managing the AQSIQ Project (China Waste Shipment Licence Application)	To allow the shipment of waste to China	September 2010	C. Walker & A. Rust	On-going
3. Proposed roof/canopies to be erected at either side of D4 building (planning permission granted 04/09/09 and ref; 09/311)	These structures will further increase the roof coverage of the facility for WEEE materials.	April 2010	KMK Management	Completed
4. Installation of a gully system and sump in the D building area.	To effectively control and treat any leakage/spillages associated with the LHA Baler Unit and its operations under the new D building.	September 2010	Kurt M. Kyck	Not completed. To be re-assessed once the on-going construction activities are complete in 2011.

5. Development of 'E' area Phase 1 – Construction of the proposed new building at E area as per layout plan PP02. Phase 2 – Surface infrastructure for; staff and visitor car park (tarmac type), access route (concrete road) through E area, weighbridge installation and some surfacing of remaining E area (concrete type). Install interceptor unit for surface water run-off from surfaced areas. Phase 3 – Repairs, maintenance and modifications to the palisade fence boundary of E area including new sliding entrance gates.	The proposed use for E area will be for bulk storage areas and bays for reception and loading of WEEE waste. Similarly, there will be no liquid wastes or wet/sludge wastes accepted or handled in this area.	It is proposed to commence building work at this area during the summer upon successful grant of planning permission.	Kurt M. Kyck	Planning permission granted. Development works have commenced expected for completion in end April 2011.
6. It is proposed to remove the existing roof structures from D1, D2 and D3 buildings and replace with a newly constructed building similar to the existing roof at DX.	This is subject to grant of planning permission.	Subject to Planning	Kurt M. Kyck	Construction works on-going and expected for completion in end July 2011.
7. Updating of KMK's original website www.metalsrecycling.ie	To improve the service options and information available to customers.	Ongoing	KMK Metals management	A revised website was launched in 2010, and updates to the page are ongoing
8. Completion of KMK's computer management system	To improve efficiency in the tracking, recording and overall management of waste at the facility.	September 2010	KMK Metals management	On-going

9.2 Schedule for 2011

Any objectives and targets listed above which have not been completed by end 2010 will be carried forward for the following year.

A summary of the new scheduled objectives and targets for the year ending 2011 is listed in table 8.2.1 below.

Table 9.2.1 Environmental Objectives and Targets for 2011

Objectives	Target	Time Scale	Responsibility	Status
1] E Area	Surface Infrastructure for staff and visitor car park (tarmac type), access route (concrete road) through E area, and some surfacing of remaining E area (concrete type).	April 2011	Kurt & Max Kyck. T. Cunningham	In Progress
	Construction of the proposed new building at E area	April 2011	As above	In progress
	Repairs, maintenance and modifications to the palisade fence boundary of the E area including new sliding entrance gates	March / April 2011	As above	Not started
	Install interceptor unit for surface water run-off from the surfaced areas	2011	As above	Not started
	Install Weighbridge and Associated software integration systems	August 2011	As above	Not started

2] D Area	Construction of new D Warehouse	July 2011	Kurt & Max Kyck. T. Cunningham	In progress
	Installation of new SHA Sorting Plant	August 2011	As above	Not started
	Installation of DX interceptor Inspection Chamber	April / May 2011	As above	On-going
3] Site Improvements	Upgrading of the Biocycle Soak Away	March / April 2011	As above	Not started
	Refurbish the Southern Boundary Fence	March / April 2011	As above	Not started
4] AQSIQ	Submission of Application to Fei by February & to the AQSIQ during March	March 2011	A.Rust	On-going
5] ISO OHSAS 18001:2007	Implementation of new Management Standard and certification	June to July 2011	C.Walker	Pending
6] Training	Environmental Manager to apply for Corporate Membership to the Institute of Chartered Waste Managers	February 2011	C.Walker	Complete

10.0 FINANCIAL PROVISIONS, MANAGEMENT & STAFFING STRUCTURE, PROGRAMME FOR PUBLIC INFORMATION

10.1 Financial Provisions and Environmental Liability Risk Assessment

KMK management wish to confirm that adequate financial provisions are in place for all proposed environmental improvements and controls for the forthcoming year and thereafter. Currently KMK Metals Recycling Ltd has a Guarantee Bond with Offaly County Council for €64,000.

A letter dated 8th November 2010 from the EPA acknowledges the adequate financial provision of €64,000.

KMK are presently waiting for confirmation from the bond provider (Ulster Bank) that all other items raised in the aforementioned EPA letter are in place and/or agreed.

ELRA annual statement;

Condition 12.3.1 of the waste licence states that: '*The licensee shall as part of the AER provide an annual statement as to the measures taken or adopted at the site in relation to the prevention of environmental damage, and the financial provisions in place in relation to the underwriting of costs for remedial actions following anticipated events (including closure) or accidents/incidents, as may be associated with the carrying out of the activity'*.

There are no deviations from the 2010 ELRA report as submitted to the EPA in February 2010. In relation to prevention of environmental damage, this is ensured by;

- Existing site and facility infrastructure.
- Proposed improvements in development works as referred to in Section 9.2 above.
- KMK Metals has established an IMS (ISO 14001 environmental management system ISO 9001 quality management system).
- Compliance with the conditions of the waste licence ref: W0113-03.

In relation to financial provisions, KMK Metals Recycling Ltd 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.

10.2 Management & Staffing Structure

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

KMK Metals Recycling Ltd Staffing Structure

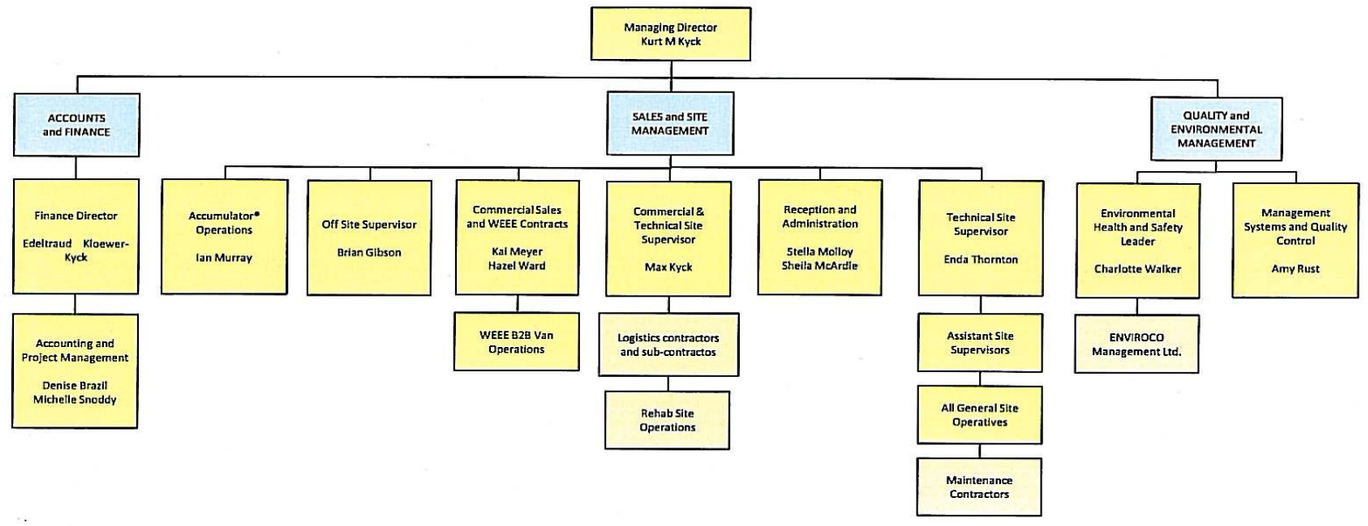
ISO 9001:2008 and 14001:2004

Responsibilities and Organisational Structure

Revision Number	Date	Page
Rev 00	06.03.2010	1 of 6

Contents

1.0 Organisational Structure



Document Reference: RES-DOC-312

All changes to this document must be correctly recorded; revisions controlled; and updates saved / filed according to Control of Records procedure.

10.3 Programme for Public Information

A file cabinet is in place at the KMK Metals Recycling Ltd facility (EHS Office) and contains all data and information similar to that supplied to the Agency in compliance with the Waste Licence (e.g. monitoring data, ISO 14001 documents, environmental policy etc).

The company's three websites (detailed below) are also a valuable source of information readily available to the public regarding company operations and environmental progress.

- (www.kmk.ie)
- (www.weeerecycle.ie)
- (www.accumulator.ie)

11.0 STAFF TRAINING

The following environmental training has been completed during the reporting period January 1st 2010 to December 31st 2010.

Table 10.1.1 Environmental Training for Staff

Course	Dates	Location	Trainer	Participants
360 Degree Excavator ("Bagger")	July 2010	On-site	Jungheinrich Training Division	Technical site supervisor Site supervisor 2 operatives
5 tonne Fork Lift Truck	June 2010	On-site	Jungheinrich Training Division	6 operatives
Sales course	November 2010	Dublin	Beacon Consultancy Ltd	Sales employee
CCTV Memo	May 2010	On-site	KMK Metals	All operatives
Collection site tidiness	July 2010	On-site	KMK Metals	2 drivers
Customer Service Excellence	April 2010	On-site	Focus Training	All office management staff
Environmental checklists	December 2010	On-site	KMK Metals	9 operatives
First Aid	May & Dec 2010	On-site	G&D First Aid Training Services	7 operatives
Fleetmatics Memo	June 2010	On-site	KMK Metals	Sales employee and 3 drivers

Table 10.1.1 Environmental Training for Staff Cont'd…

Course	Dates	Location	Trainer	Participants
Fridge/Freezer Declaration (331)	September 2010	On-site	KMK Metals	All Drivers, operatives and supervisors
Household Batteries Sorting	November 2010	On-site	KMK Metals	3 operatives
Implementation of OHSAS 18001	November 2010	Off-site	SQT Training Ltd	Quality and Systems Manager
Induction Training	May, June, Aug, Nov	On-site	KMK Metals	9 operatives
Initial Basic ADR Hazfreight Course	March 2010	Off-site	Robin Mulligan Ltd	Accumulator operative
ISO 9001 Auditor Training	Feb 2010	Off-site	SQT Training Ltd	Quality and Systems Manager
Manual Handling	Aug 2010	On-site	Jungheinrich Training Division	11 operatives
Occurrences Memo	April 2010	On-site	KMK Metals	Driver, operative and Accumulator operative
Overview of 14001	Oct 2010	Off-site	SQT Training Ltd	Quality and Systems Manager
Project Management	May 2010	Off-site	ETP Ireland	Technical site supervisor
Road Checks Memo	June 2010	On-site	KMK Metals	Accumulator operative
Safe Pass	Sept 2010	Off-site	Kearney Training & Consultancy (KTC) Ltd.	Operatives x 2 Drivers x 2 Technical site supervisor
Time Management	Sept 2010	Off-site	Procad Training	Accumulator operative
Employment Law	April 2010	Off-site	Graphite HRM Ltd	Management staff x 2
Training Review 2010	May & June 2010	On-site	KMK Metals	All operatives
Van Driver Emergency Response	Dec 2010	On-site	KMK Metals	All drivers
Van Maintenance Procedure	Aug, Sept 2010	On-site	KMK Metals	All drivers & commercial sales manager

KMK management wish to confirm that environmental training programmes are carried out for selected staff every year and all training records and training procedures will be up-dated during the next working year.

12.0 OTHER ITEMS

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

APPENDIX 1

Waste Received in 2010

Table 1: Total Amenity waste received in 2010 at KMK Metals Recycling Ltd.

Point of Collection	Description Of Waste	EWC Code	Qty Tonnes
Civic Amenity	Discarded equipment containing chlorofluorocarbons, HCFC, HFC	16 02 11*	9.317
Civic Amenity	Discarded equipment containing hazardous components other than those mentioned in 16 02 09 to 16 02 12	16 02 13*	0.001
Civic Amenity	Discarded equipment other than those mentioned in 16 02 10 and 16 02 13	16 02 14	0.002
Civic Amenity	Lead batteries	16 06 01*	130.67
Civic Amenity	Alkaline batteries (except 16 06 03)	16 06 04	57.013
Civic Amenity	Fluorescent tubes and other mercury-containing waste	20 01 21*	53.415
Civic Amenity	Discarded equipment containing chlorofluorocarbons	20 01 23*	1057.94
Civic Amenity	Discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components	20 01 35*	1725.21
Civic Amenity	Discarded electrical and electric equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	20 01 36	7191.931
TOTAL			**10,225.5**

Table 2: Total Commercial waste received in 2010 at KMK Metals Recycling Ltd.

Point of Collection	Description Of Waste	EWC Code	Qty Tonnes
Commercial	Ferrous metal filings and turnings	12 01 01	42.636
Commercial	Non-ferrous metal filings and turnings	12 01 03	23.946
Commercial	Welding wastes	12 01 13	1.686
Commercial	Paper and Cardboard	15 01 01	5.208
Commercial	Plastic packaging	15 01 02	2.017
Commercial	Wood other than mentioned in 20 01 37	15 01 03	0.989
Commercial	Metallic packaging	15 01 06	1.491
Commercial	Absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02	15 02 03	0.2
Commercial	Discarded equipment containing chlorofluorocarbons, HCFC, HFC	16 02 11*	32.098
Commercial	Smoke Detectors	16 02 13*	101.666
Commercial	Discarded equipment other than those mentioned in 16 02 10 to 16 02 13	16 02 14	324.346
Commercial	Components removed from discarded equipment other than those mentioned in 16 02 15	16 02 16	189.046
Commercial	Inorganic wastes other than those mentioned in 16 03 03	16 03 04	0.819
Commercial	Lead batteries	16 06 01*	209.15
Commercial	Ni-Cd batteries	16 06 02	6.86
Commercial	Alkaline batteries	16 06 04	53.249
Commercial	Other batteries and accumulators	16 06 05	2.019
Commercial	Ferrous Metal	19 12 02	14.413
Commercial	Non Ferrous Metal	19 12 03	6.355
Commercial	Plastic and rubber	19 12 04	0.035
Commercial	Fluorescent tubes and other mercury-containing waste	20 01 21*	25.435
Commercial	Discarded equipment containing chlorofluorocarbons	20 01 23*	945.511

Table 2: Total Commercial waste received in 2010 at KMK Metals Recycling Ltd. (continued)

Point of Collection	Description Of Waste	EWC Code	Qty Tonnes
Commercial	Batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries	20 01 33*	0.032
Commercial	Discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components	20 01 35*	465.422
Commercial	Discarded electrical and electric equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	20 01 36	4659.19
TOTAL			**7,113.819**

Table 3: Total Industrial waste received in 2010 at KMK Metals Recycling Ltd.

Point of Collection	Description Of Waste	EWC Code	Qty Tonnes
Industrial	Sludges from on-site effluent treatment containing dangerous solutions	06 05 02*	5.61
Industrial	Wastes not otherwise specified	06 13 99	0.218
Industrial	Other Filter cakes and spent absorbents	07 07 10*	121.626
Industrial	Sludges and filter cakes containing dangerous substances	11 01 09*	12.083
Industrial	Ferrous metal filings and turnings	12 01 01	13.018
Industrial	Non-ferrous metal filings and turnings	12 01 03	106.12
Industrial	Non-ferrous metal dust and particles	12 01 04	46.05
Industrial	Welding wastes	12 01 13	1.364
Industrial	Waste blasting material other than those mentioned in 12 01 16	12 01 17	12.583
Industrial	Spent grinding bodies and grinding materials containing dangerous substances	12 01 20*	74.147
Industrial	Spent grinding bodies and grinding materials other than those mentioned in 12 01 20	12 01 21	14.646
Industrial	Absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02	15 02 03	0.273
Industrial	Discarded equipment containing chlorofluorocarbons, HCFC, HFC	16 02 11*	6.491
Industrial	Discarded equipment containing hazardous components other than those mentioned in 16 02 10 to 16 02 12	16 02 13*	18.955
Industrial	Discarded equipment other than those mentioned in 16 02 10 to 16 02 13	16 02 14	47.901
Industrial	Components removed from discarded equipment other than those mentioned in 16 02 15	16 02 16	89.189
Industrial	Lead batteries	16 06 01*	9.19
Industrial	Ni-Cd batteries	16 06 02*	0.046
Industrial	Alkaline batteries (except 16 06 03)	16 06 04	2.273
Industrial	Non Ferrous metal	19 12 03	82.286
Industrial	Plastic and rubber	19 12 04	1.806
Industrial	Fluorescent tubes and other mercury-containing waste	20 01 21*	1.626

Table 3: Total Industrial waste received in 2010 at KMK Metals Recycling Ltd. (continued)

Point of Collection	Description Of Waste	EWC Code	Qty Tonnes
Industrial	Discarded equipment containing chlorofluorocarbons	20 01 23*	0.441
Industrial	Discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components	20 01 35*	4.315
Industrial	Discarded electrical and electric equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	20 01 36	14.514
TOTAL			**686.771**

Table 4: Total waste received at the Transfer Station in 2010 at KMK Metals Recycling Ltd.

Point of Collection	Description Of Waste	EWC Code	Qty Tonnes
Transfer Station	Sludges from on-site effluent treatment containing dangerous solutions	06 05 02*	39.04
Transfer Station	Ferrous metal filings and turnings	12 01 01	345.946
Transfer Station	Non-ferrous metal filings and turnings	12 01 03	33.826
Transfer Station	Welding waste	12 01 13	7.041
Transfer Station	Wooden packaging	15 01 03	5.239
Transfer Station	Mixed packaging	15 01 06	10.372
Transfer Station	Transformers and capacitors containing PCB's	16 02 09*	4.52
Transfer Station	Discarded electrical equipment containing chlorofluorocarbons, HCFC, HFC	16 02 11*	11.746
Transfer Station	Discarded electrical equipment containing hazardous components other than those mentioned in 16 02 10 to 16 02 12	16 02 13*	106.002
Transfer Station	Discarded equipment other than those mentioned in 16 02 10 to 16 02 13	16 02 14	2381.84
Transfer Station	Components removed from discarded equipment other than those mentioned in 16 02 15	16 02 16	412.588
Transfer Station	Lead batteries	16 06 01*	312.007
Transfer Station	Ni-Cd batteries	16 06 02*	9.444
Transfer Station	Alkaline Batteries (except 16 06 03)	16 06 04	9.512
Transfer Station	Other batteries and accumulators	16 06 05	0.165
Transfer Station	Non -Ferrous Metal	19 12 03	1.723
Transfer Station	Fluorescent tubes and other mercury-containing waste	20 01 21*	4.748
Transfer Station	Discarded equipment containing chlorofluorocarbons	20 01 23*	196.017
Transfer Station	Discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components	20 01 35*	197.632
Transfer Station	Discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	20 01 36	911.762
TOTAL			**5,001.17**

APPENDIX 2

Waste Despatched in 2010

Table 1: Waste despatched in 2010 at KMK Metals Recycling Ltd.

Description Of Waste	EWC Code	Qty Tonnes
Sludges from on-site effluent treatment containing dangerous substances	06 05 02*	44.65
Wastes not otherwise specified	06 13 99	0.268
Other filter cakes and spend absorbents	07 07 10*	82.843
Sludges and filter cakes containing dangerous substances	11 01 09*	8.335
Ferrous metal fillings and turnings	12 01 01	346.732
Non-ferrous metal filings and turnings	12 01 03	138.435
Non-ferrous metal dust and particles	12 01 04	28.045
Welding wastes	12 01 13	7.251
Spent grinding bodies and grinding materials containing dangerous substances	12 01 20*	125.781
Spend grinding bodies and grinding materials other than those mentioned in 12 01 20*	12 01 21	18.268
Other engine, gear and lubricating oils, fractions	13 02 08	1.707
Wastes not otherwise specified	13 08 99	0.79
Paper and cardboard packaging	15 01 01	5.208
Plastic packaging	15 01 02	2.017
Wooden packaging	15 01 03	5.778
Metallic packaging	15 01 04	4.434
Mixed packaging	15 01 06	11.863
Packaging containing residues of or contaminated by dangerous substances	15 01 10*	0.122
Absorbent, filter material (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	15 02 02	1.272
Absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02	15 02 03	1.134
Transformers and capacitors containing PCB's, fractions	16 02 09*	5.31
Discarded equipment containing chlorofluorocarbons, HCFC, HFC	16 02 11*	50.902
Discarded equipment containing hazardous components (16) other than those mentioned in 16 02 09 to 16 02 12	16 02 13*	226.624
Discarded equipment other than those mentioned in 16 02 09 to 16 02 13	16 02 14	2706.982
Hazardous components removed from discarded equipment, fractions	16 02 15*	22.4
Components removed from discarded equipment other than those mentioned in 16 02 15	16 02 16	708.438
Inorganic wastes other than those mentioned in 16 03 03	16 03 04	0.819
Discarded inorganic chemicals consisting of or containing dangerous substances, fractions	16 05 07*	0.256
Lead batteries	16 06 01*	652.196
Ni-Cd batteries	16 06 02*	23.115
Alkaline batteries (except 16 06 03)	16 06 04*	123.289
Other batteries and accumulators	16 06 05	5.02
Ferrous metal	19 12 02	14.413
Non-ferrous metal	19 12 03	90.364
Plastic and rubber	19 12 04	1.841
Fluorescent tubes and other mercury-containing waste	20 01 21*	92.078

Discarded equipment containing chlorofluorocarbons	20 01 23*	2225.809
Discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components	20 01 35*	2403.619
Discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	20 01 36	13009.31
TOTAL		**23,197.71**

APPENDIX 3

Waste in Stock in 2010

Table 1: Waste in stock during 2010 at KMK Metal Recycling Ltd.

Description Of Waste	EWC Code	Qty Tonnes
Wastes not otherwise specified	06 13 99	4.125
Other filter cakes and spent absorbents	07 07 10*	38.783
Photographic film and paper containing silver or silver compounds	09 01 07	0.255
Sludges and filter cakes other than those mentioned in 11 01 09	11 01 09*	3.748
Ferrous metal filings and turnings	12 01 01	54.868
Non-ferrous metal filings and turnings	12 01 03	53.778
Non-ferrous metal dust and particles	12 01 04	30.588
Welding wastes	12 01 13	4.687
Spent grinding bodies and grinding materials other than those mentioned in 12 01 20 (Old Stock)	12 01 21	21.338
Other engine, gear and lubricating oils (Old Stock)	13 02 08*	1.823
Wooden packaging	15 01 03	0.450
Transformers and capacitors	16 02 09*	1.671
Discarded equipment other than those mentioned in 16 02 10 to 16 02 13 (phones)	16 02 14	50.54
Fractions (Old Stock) from WEEE	16 02 15*	5.1
Components removed from discarded equipment other than those mentioned in 16 02 15	16 02 16	65.63
Discarded inorganic chemicals consisting of or containing dangerous substances (Fraction phosphorus powder from CRT dismantling)	16 05 07*	0.315
Lead batteries	16 06 01*	48.21
Ni-Cd batteries	16 06 02*	1.71
Alkaline batteries (except 16 06 03)	16 06 04	11.93
Fluorescent tubes and other mercury-containing waste	20 01 21*	3.546
Discarded equipment containing chlorofluorocarbons	20 01 23*	16
Batteries and accumulators included in 16 06 01, 16 06 02 or 16 06 03 and unsorted batteries and accumulators containing these batteries	20 01 33*	41.64
Discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components	20 01 35*	53.3
Discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35.	20 01 36	117.79
TOTAL		**631.82**

APPENDIX 4

Dust Monitoring Report

SEE ATTACHED FILE

Dust Report

for

KMK METALS RECYCLING LTD.

WASTE LICENCE REF: W0113-03

CAPPINCUR INDUSTRIAL ESTATE, DAINGEAN ROAD, TULLAMORE, CO. OFFALY

December 2010

Printed on
Recycled Paper

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1.0 INTRODUCTION

ENVIROCO Management were commissioned by Ms Charlotte Walker of KMK Metals Recycling Ltd, Cappincur Industrial Estate, Tullamore, Co Offaly to conduct the annual dust monitoring event at the facility.

The KMK Metals facility is located in the Cappincur Industrial Estate towards the east of Tullamore town, off the L-02025 road to Daingean – figure 1.0.1.

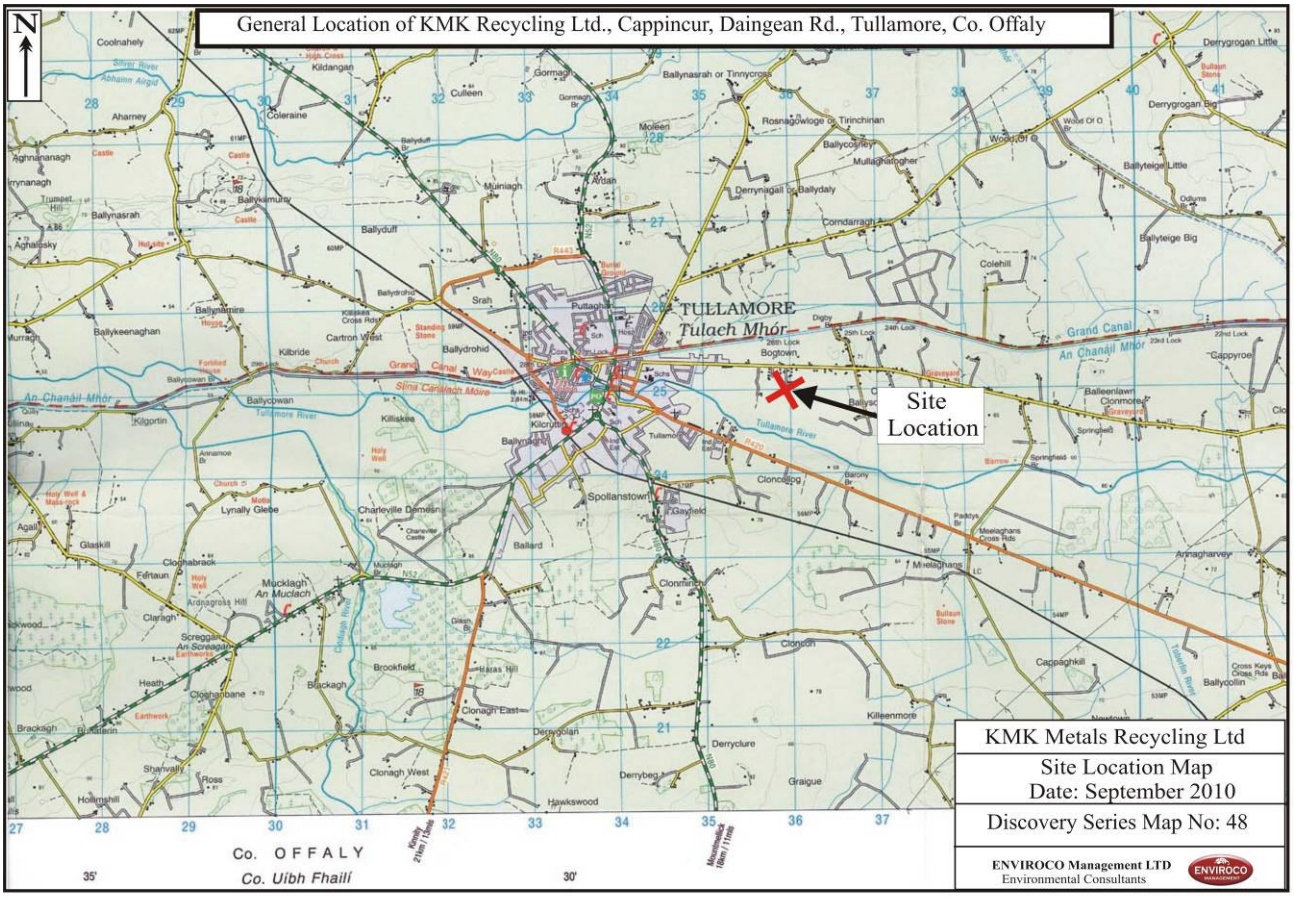

Figure 0.1 Site Location Map of the KMK Facility, Tullamore, Co. Offaly

1.1 Environmental Monitoring

Annual dust deposition monitoring was carried out by ENVIROCO Management Ltd in compliance with Waste Licence W0113-03. Monitoring occurred from the 1st November to the 30th November 2010 during normal activity at the facility. A total of 6 locations were set up for the annual monitoring, which form part of the compliance requirements of KMK's waste licence and one additional location.

2.0 METHODOLOGY

The dust monitoring method used for the monitoring event is based on a modified version of the Bergerhoff Method VID 2119 'Measurement of Dustfall Using the Bergerhoff Instrument (Standard Method)'. The dust monitoring map (Figure 2.1 below) identify the locations for the 6 monitoring stations.

The dust monitors were left in-situ for 30 days from the 1st November to the 30th November 2010. Figure 2.1 shows the location of each of the stations. These are described in table 2.1 below.

Table 0.1 Location of Dust Monitoring Stations at Cappincur Facility, Co. Offaly

Station I.D.	Location Description	Irish Grid Reference	
		Easting	Northing
A2-1	Car Park at Fence Boundary	635955	725044
A2-2	Eastern boundary, beside disused portacabin	635959	725004
A2-3	Fence at southwest boundary	635882	724955
A2-4	Site Entrance	635911	724993
A2-5	Western Boundary	635866	725002
A2-6	Northern Boundary	635902	725021

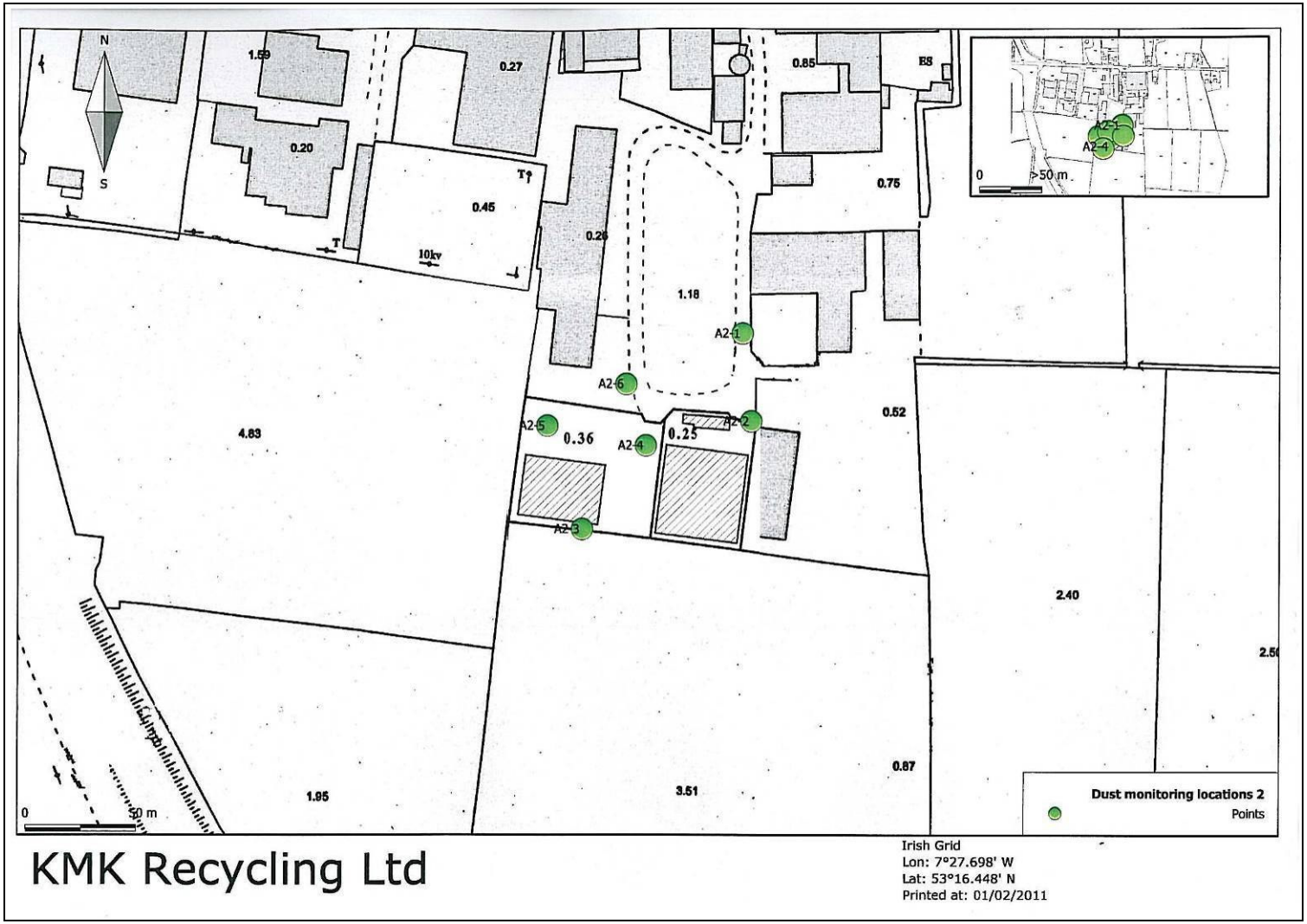

Figure 0.2: Dust Monitoring Locations at the KMK Metals Facility, Cappincur

2.1 Problems Encountered

No problems were encountered during the monitoring period. All stations were accessible during both set up and collection. Severe cold weather in the end of November did result in all samples been frozen. Each container was sealed and sent to the Accredited Laboratory.

3.0 RESULTS

After 30 days of monitoring, each of the dust stations was disassembled and the samples were sent to an Accredited Laboratory for analysis (Complete Laboratory Solutions). The Certificates of Analysis are presented in Appendix A.

The results from the monitoring are shown in table 3.1, 3.2 and figure 3.1 below. These levels are compared to the EPA guidance limit for nuisance dust.

Table 0.2: Results of Bergerhoff Total Dust Monitoring at the Facility

Station I.D.	Monitoring Location	Irish Grid Ref. (ITM)		Dust Deposition (Nov 2010) mg/m^2/day	EPA licence Limits mg/m^2/day
		Easting	Northing		
A2-1	Car Park at Fence Boundary	635955	725044	109	350
A2-2	Eastern boundary, beside portacabin	635959	725004	133	350
A2-3	Fence at southern boundary	635882	724955	173	350
A2-4	Site Entrance	635911	724993	156	350
A2-5	Western Boundary	635866	725002	23	350
A2-6	Northern Boundary	635902	725021	137	350

Table 0.3: Results of Metallic Species In Dust at the Facility

Parameters	Metallic analysis in dust (µg/l)					
	A2-1	A2-2	A2-3	A2-4	A2-5	A2-6
Aluminium (Al)	15	14	37	20	23	95
Copper (Cu)	2	2	7	5	16	37
Arsenic (As)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Cadmium (Cd)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Parameters	A2-1	A2-2	A2-3	A2-4	A2-5	A2-6
Chromium (Cr)	<0.5	<0.5	<0.5	<0.5	<0.5	0.7
Iron (Fe)	38	20	70	27	49	336
Mercury (Hg)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nickel (Ni)	<0.5	<0.5	<0.5	0.5	<0.5	3
Lead (Pb)	1	1	3	4	3	14
Zinc (Zn)	53	16	96	49	47	204

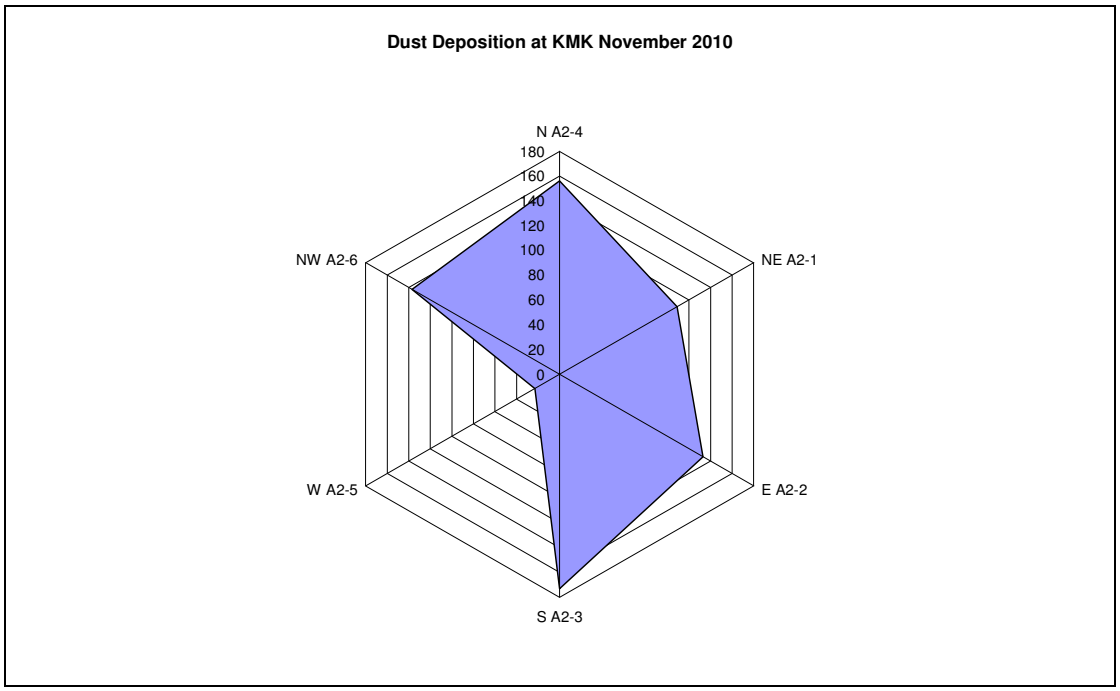

Figure 3.0.2 Distribution of the results from dust monitoring November 2010.

Weather conditions can have a noticeable impact upon dust creation and dust entrainment in the air. Drier weather will increase the ambient dust on the ground and will lighten small particulates. Wind strength will determine the size of particles that can be entrained in the air and the distance they will be transported. The Met Eireann data from the Gurteen Synoptic Station for the November monitoring events show that November had higher levels of rainfall than normal, though nearly half of the total in 2009, and was notably cooler than 2009. Tables 3.3 and 3.4 below give the annual averages for both rainfall and temperature from the closest Met Eireann Synoptic Station – Gurteen College.

Table 0.4 Rainfall Data from the Gurteen Synoptic Station

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2010	38.8	35.1	83.4			32.6	117.7	30.4	115.5	69.3	**102.9**		
2009	122.7	12.9	47.1	106.1	91.2	75.9	116.8	100.3	34.4	77.2	**243.0**	49.2	1076.8
Mean	84.0	59.0	57.0	56.0	63.0	56.0	65.0	77.0	86.0	84.0	**82.0**	93.0	860.0

Table 0.5 Temperature Data from the Gurteen Synoptic Station

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2010	1.6	2.4	5.0	8.3	10.3	14.6	15.3	13.6	13.4	9.5	**4.7**	-4.7	8.9
2009	4.2	4.9	6.8	8.7	10.7	14.3	14.5	14.8	12.4	11.1	**7.1**	2.5	9.4
Mean													

Note: data for the most recent months are provisional. All means are for the period 1961-1990 except solar radiation 1981-1990
The Annual temperatures for 2010 are the means of 336 daily values.
The Annual totals for 2010 are the totals of 336 daily values.
The Annual temperatures for 2009 are the means of 365 daily values.
The Annual totals for 2009 are the totals of 365 daily values.

Table 3.5 below provides an overview of the rainfall levels documented at the Gurteen Synoptic Station for the 30 day monitoring events.

Table 0.6 Rainfall Levels from Gurteen College Synoptic Station

Date	Rainfall (mm)	Date	Rainfall (mm)
01/11/2010	2.8	16/11/2010	9.8
02/11/2010	17.7	17/11/2010	6.9
03/11/2010	6.9	18/11/2010	5.5
04/11/2010	11.2	19/11/2010	0.8
05/11/2010	1.9	20/11/2010	0.0
06/11/2010	1.9	21/11/2010	0.1
07/11/2010	12.5	22/11/2010	0.0
08/11/2010	0.9	23/11/2010	0.0
09/11/2010	1.9	24/11/2010	1.7
10/11/2010	1.8	25/11/2010	1.4
11/11/2010	7.4	26/11/2010	0.1
12/11/2010	3.0	27/11/2010	0.0
13/11/2010	4.2	28/11/2010	0.3
14/11/2010	0	29/11/2010	0.0
15/11/2010	0.5	30/11/2010	1.7
TOTAL Rainfall for the 30day period			**102.9**

*No readings were presented for these dates on the Met Eireann database as of yet.

Table 0.7 Wind (knotts) Levels from the Gurteen Synoptic Station for Month of November

Date	Wind Speed (knots)	Date	Wind Speed (knots)
01/11/2010	11.1	16/11/2010	15.7
02/11/2010	14.6	17/11/2010	15.3
03/11/2010	9.0	18/11/2010	11.3
04/11/2010	14.9	19/11/2010	5.4
05/11/2010	6.4	20/11/2010	5.8
06/11/2010	6.2	21/11/2010	4.8

Date	Wind Speed (knots)	Date	Wind Speed (knots)
07/11/2010	9.9	22/11/2010	2.8
08/11/2010	7.1	23/11/2010	3.2
09/11/2010	9.6	24/11/2010	3.5
10/11/2010	7.3	25/11/2010	7.0
11/11/2010	22.2	26/11/2010	7.4
12/11/2010	11.1	27/11/2010	5.1
13/11/2010	6.5	28/11/2010	3.2
14/11/2010	3.9	29/11/2010	2.5
15/11/2010	6.1	30/11/2010	5.7

Table 0.8 Beaufort Scale of Wind Force

Wind Force	Short Description	Specifications for use on Land	Wind Speed at 10 metres above Level Ground		
			Knots	Metres per second	KM per hour
0	Calm	Smoke rises vertically	<1	<0.3	<1
1	Light Air	Direction of wind shown by smoke but not by wind vanes	1-3	0.3-1.5	1-5
2	Light breeze	Wind felt on face, leaves rustle, ordinary vanes moved by wind	4-6	1.6-3.3	6-11
3	Gentle breeze	Leaves and small twigs in constant motion, wind extends light flag	7-10	3.4-5.4	12-19
4	Moderate breeze	Raises dust and loose paper, small branches are moved	11-16	5.5-7.9	20-28
5	Fresh breeze	Small trees in leaf begin to sway, crested wavelets form on inland waters	17-21	8.0-10.7	29-38
6	Strong breeze	Large branches in motion, whistling heard in telegraph wires; umbellas used with difficulty	22-27	10.8-13.8	39-49
7	Near gale	Whole trees in motion, inconvenience walking against the wind	28-33	13.9-17.1	50-61
8	Gale	Breaks twigs off trees, generally impedes progress	34-40	17.2-20.7	62-74
9	Strong gale	Slight structural damage occurs (chimney pots and slates removed)	41-47	20.8-24.4	75-88
10	Storm	Seldom experienced inland, trees uprooted, considerable structural damage occurs	48-55	24.5-28.4	89-102
11	Violent storm	Very rarely experienced, accompanied by widespread damage	56-63	28.5-32.6	103-117
12	Hurricane	-	64 and over	32.7 and over	117 and over

Table 3.6 provides an overview of the wind levels throughout the 30 day period the dust jars were in position. Based on the Beaufort Scale of Wind Force (see Table 3.7 above) it is clear that during the November event for 21 of the 30days wind in the area

was less than 3 knotts, which could be classified as a wind force 1 light air; which according to the specifications results in "direction of wind shown by smoke but not by wind vanes". On only 1 day during the monitoring period did the wind rise to a Beauford Force of 5, "fresh breeze", where small trees in leaf begin to sway.

ENVIROCO Management Ltd have established a meteorological station in the Tullamore area. This unit is a Davis Vantage Vue system and was operational during the month of November 2010. Data from this unit was correlated to assess local weather patterns during November. Figure 3-1 shows a generated wind rose for November. This highlights the predominate wind was South-westerly, with significant influences from the west-northwest.

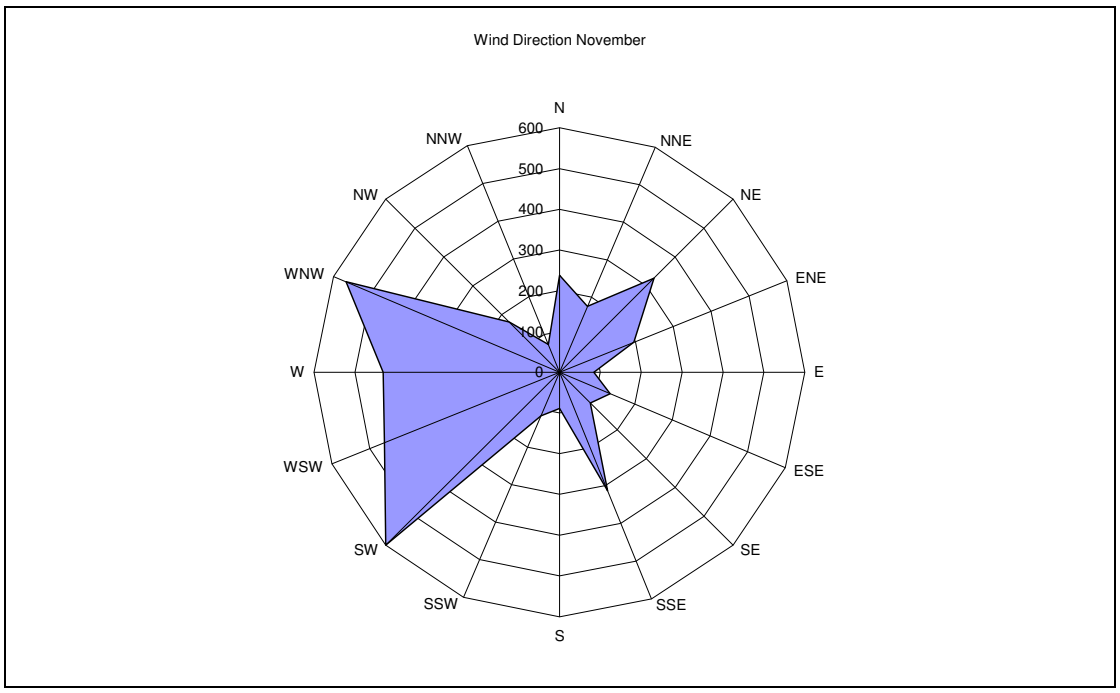

Figure 0.3 Wind Rose for Tullamore, November 2010

Table 0.9 Meteorological Data from the Vantage Vue Weather Station, Tullamore

	Week					Month
	01st - 07th	**08th - 14th**	**15th - 21st**	**22nd - 28th**	**29th - 1st**	**November**
Average Temperature	9.05	5.32	6.09	0.85	-1.80	0.60
Highest Temperature	15.20	11.20	10.40	7.30	1.90	11.20
Lowest Temperature	0.30	-2.20	-0.60	-7.20	-5.80	-5.80
Average Wind Speed	1.43	1.08	1.39	0.22	0.44	0.78
Highest Wind Speed	13.90	14.30	15.20	6.70	8.50	15.20
Rainfall Total	75.91	22.39	0.02	3.25	0.50	26.16

Temperature in ºC; Wind Speed in m/s; Rainfall in mm

4.0 DISCUSSION

Dust monitoring was conducted during the month of November 2010. While it is acknowledged that the monitoring period was not during the summer season as is required in the waste licence, the period of monitoring was a typical operational month at KMK with average wind, rainfall and dry climatic periods.

Dust monitoring around the boundaries of the KMK Metals Recycling Ltd, Cappincur site show dust deposition results which are all below the EPA recommendation limit of 350mg/m^2/day.

It is widely accepted that vehicular movements at the KMK facility and general vehicular movements within the Industrial Estate by neighbouring units contributes significantly to ambient dust levels in the area.

An analysis of the metallic species in all seven dust samples was also carried out over the same 30day period using the same methods as those used for the total dust deposition. The sample parameters for arsenic, cadmium and mercury measured were all below the actual laboratory limits of detection (see Table 3.0.2). There were detectible levels for aluminium, copper, zinc, iron and lead in all samples but these are quite meaningless without appropriate comparison to any relevant standards and also there are no licence limits given. Similarly there was one slightly detectable level for nickel in the sample at location A2-6. Furthermore, the sample taken at location A2-6 had the highest levels for metals in all of the samples. This location was at the site boundary in the car park and next to the public road within the industrial estate. Therefore this location is strongly influenced by passing traffic and associated vehicular dusts. This source is known for metals as well as hydrocarbon compounds (e.g. PAHs). In terms of comparison of metals in ambient air samples to relevant standards, this can be achieved by conducting a PM10 sampling event for industrial operations (i.e. measurement of breathable dusts in the air) which metallic speciation of the samples. This sampling event is strongly health and safety orientated with emphasis on sampling methods, times, set back distances from roads and specialised equipment to be used. The regulation S.I No 58 of 2009 (Arsenic, Cadmium, Mercury, Nickel and Polycyclic Aromatic Hydrocarbons in Ambient Air Regulations 2009) covers this process. However, for the purpose of this report, this sampling event is not actually required.

5.0 CONCLUSIONS

Monitoring of dust deposition occurred at six stations around the site between 1st and 30th November 2010. Stations were left in situ for 30 days. During the November event, none of the stations resulted in dust deposition levels greater than the EPA limit of 350 mg/m^2/day. An analysis of metals in the dust samples showed there were some detection levels but not for all metals. The significance of the metals in dust deposition is not clear in the absence of relevant limits.

6.0 RECOMMENDATIONS

- During dry weather conditions it is advised to dampen down the immediate areas around the site entrances with water (use hose reel to spray dusty areas).
- In line with future development plans at the KMK facility it is recommended that a concrete surface be installed at the D5 yard area. This will have the effect of preventing clay and muck creation at this area and hence the generation of dust particles from vehicles driving on this surface.
- Additional buildings proposed for WEEE acceptance, handling and storage and currently being constructed at the KMK facility will assist in reducing windblown dust at the site.

APPENDIX A

Certificate of Analysis

November 2010

Complete Laboratory Solutions
Ros Muc, Co. Galway.
[Tel] 091 574355
[Fax] 091 574356
[Email] services@cls.ie
[web] www.completelabsolutions.com

Client	: Eamon Lee / Eimear Gormally	Report No.	:	122035
	Enviroco Management Ltd.	Date of Receipt	:	01/10/2010
	Bow House, O'Moore Street,	Start Date of Analysis	:	01/10/2010
	Tullamore	Date of Report	:	05/10/2010
	Co. Offaly	Order Number	:	
		Sample taken by	:	Client

CERTIFICATE OF ANALYSIS

Results

Lab No	Sample Description	Test	Result	Units
279957	A2-1.30/09/10	Settleable Dust (Bergerhoff Method)	622	mg/sq.m/day
279958	A2-2.30/09/10	Settleable Dust (Bergerhoff Method)	388	mg/sq.m/day
279959	A2-3.30/09/10	Settleable Dust (Bergerhoff Method)	467	mg/sq.m/day
279960	A2-4.30/09/10	Settleable Dust (Bergerhoff Method)	969	mg/sq.m/day
279961	A2-5.30/09/10	Settleable Dust (Bergerhoff Method)	634	mg/sq.m/day
279962	A2-6.30/09/10	Settleable Dust (Bergerhoff Method)	514	mg/sq.m/day

Approved by: Barbara Lee

Barbara Lee
Environmental Scientist

See reverse for Test Specifications

APPENDIX 5

Noise Monitoring Report

SEE ATTACHED FILES

Noise Report for

KMK METALS RECYCLING LTD.

CAPPINCUR INDUSTRIAL ESTATE, DAINGEAN ROAD, TULLAMORE, CO. OFFALY

September 2010

Printed on
Recycled Paper

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Appendices

Appendix A Noise Results & Charts

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1.0 Introduction

ENVIROCO Management has been commissioned by Mr. Kurt Kyck of KMK Metal Recycling Ltd, Cappincur Industrial Estate, Tullamore, Co Offaly; Waste Licence Number W0113-03 to submit an environmental noise survey as required by the facilities licence conditions.

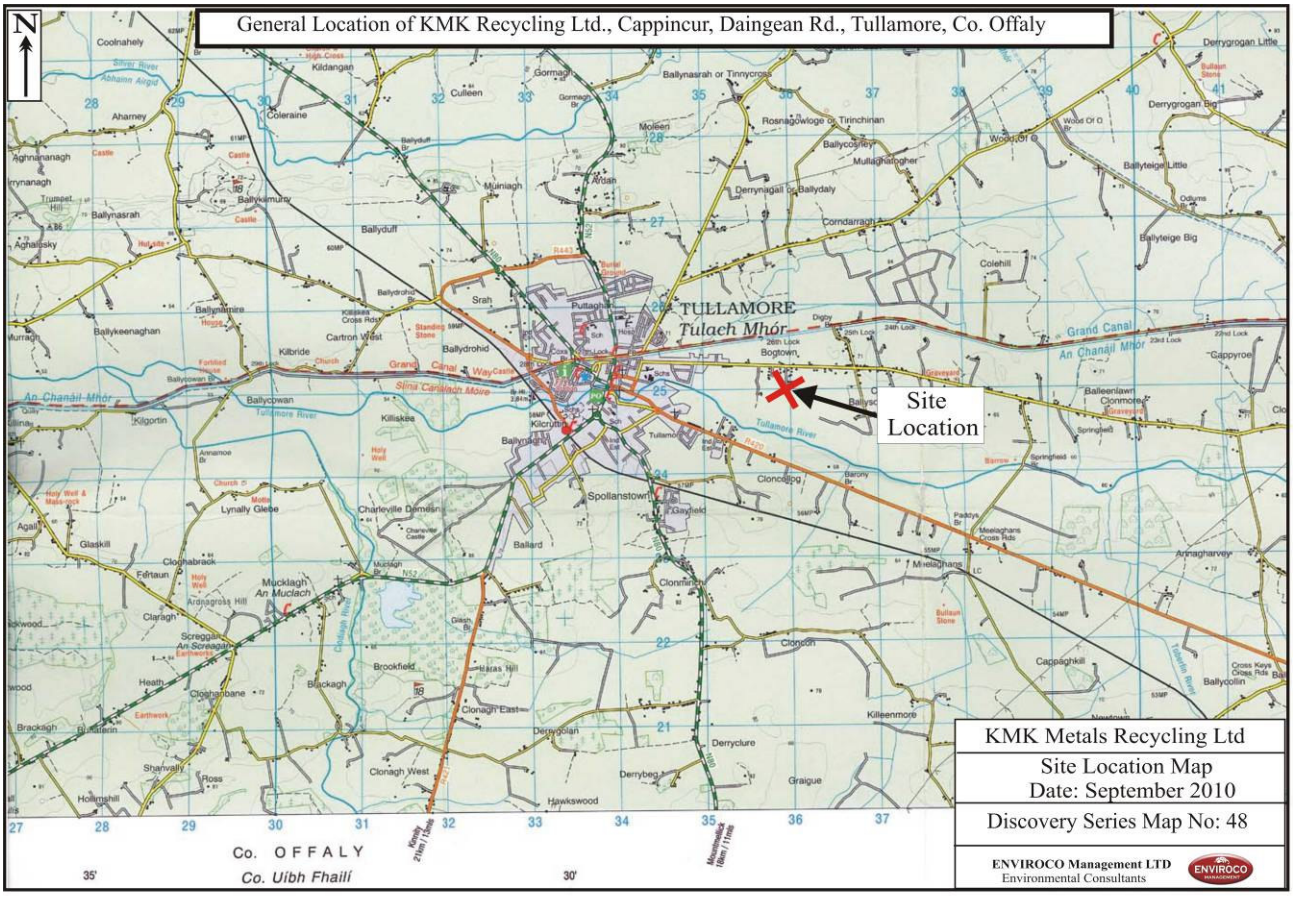


Figure 1.0 Site Location map of the KMK Facility, Tullamore, Co. Offaly

The KMK LTD facility is located in the Cappincur Industrial Estate towards the east of Tullamore town, off the L-02025 road to Daingean – Figure 1.0. The Cappincur Industrial Estate is dominated by enclosed industrial units, with little mobile machinery operating outside of these units.

The objectives of the environmental noise survey were to:

- Investigate the noise emissions arising from the facility during a typical working day as part of the waste licence operations.
- Assess the noise emissions in terms of nuisance or pollution potential on the immediate environment around the KMK Metals facility.

1.1 Environmental Monitoring

ENVIROCO Management was commissioned by KMK Metals Recycling LTD, Cappincur Industrial Estate, Tullamore, Co Offaly to carry out environmental noise monitoring.

Monitoring occurred on the 1st September 2010. Monitoring took place during the course of a normal working day.

2.0 Noise Survey

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 Environmental Protection Agency (EPA) has adopted a noise level (as a continuous equivalent noise reading – Leq) of 55 dB(A) as an indicator of annoyance due to noise arising from industrial activity. This level is given at the receptor or noise sensitive location (NSL). Monitoring of noise at the KMK plc facility in the Cappincur Industrial Estate, Tullamore, took into account both the nature of the site, the history of the site, the intensity of the operations and the proximity of local sensitive receivers. Monitoring was carried out mid-week during the hours of 9am to 3 pm; the facility does not operate during night-time therefore readings after 7pm were not recorded.

2.1 Methodology

Noise monitoring was carried out to the International Standard ISO 1996/1 "Acoustics – Description & measurement of environmental noise", using a Type 1 Bruel Kjaer 2250 Sound Level Meter with outdoor equipment 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.

Noise monitoring was carried out on the 1st September 2010. The KMK facility in the Cappincur Industrial Estate does not operate over night; therefore noise monitoring was not carried out overnight. Each monitoring location is identified on the map shown in Figure 2.1.1.

Weather conditions during sampling were; bright and sunny with a light breeze changing to a moderate breeze as the morning progressed.

Table 2.1.1 Met Eireann Report

REPORTS FROM BIRR WEATHER STATION						
Date	**Rainfall (mm)**	**Max Temp**	**Min Temp**	**Sunshine (hours)**	**Gusts**	**Wind speed**
01/09/2010	0	20.4	8.5	-	-	7.4

The monitoring equipment was manned throughout the sampling period and comments/notes taken to assist the interpretation and assessment of results.

Sampling was carried out at 6 locations along the facilities boundaries where accessible (Figure 2.1.1). ENVIROCO Management staff selected these monitoring locations in accordance with Schedule C Control and Monitoring of KMK's waste licence conditions (W0113-03).

The monitoring locations were:

N1: Car park at fence boundary
N2: Eastern boundary, beside disused portacabin
N3: Fence at southwest boundary
N4: Western boundary
N5: North-western boundary of the D4 yard area
N6: North-eastern boundary of the D4 yard area

Table 2.1.2 Grid Reference Points of Noise Monitoring Positions

Monitoring Locations	**Grid Reference (ING)**	
	Easting	**Northing**
N1	235944	225050
N2	235956	224996
N3	235859	224960
N4	235863	225011
N5	235906	225056
N6	235858	225030

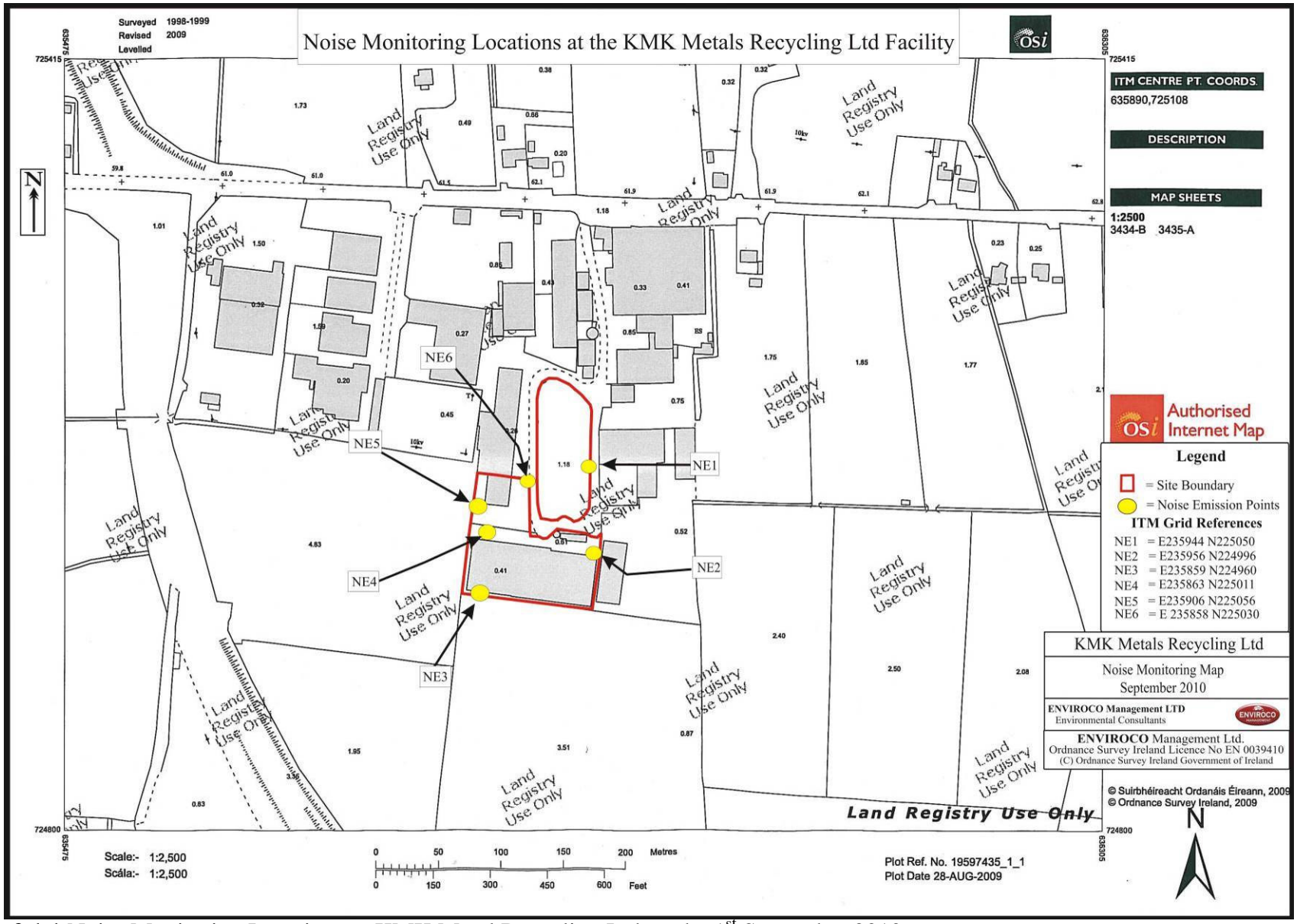


Figure 2.1.1 Noise Monitoring Locations at KMK Metal Recycling Ltd on the 1st September 2010.

2.2 Results

The complete set of noise measurement results is included in Appendix A. These are summarised and discussed below.

Table 2.2.1 Summary of Site Boundary Noise Levels

Location	Start Time	L_{Aeq}	Comments
N1 Car park at fence boundary	10:29	53	**Background Noise**: Birdsong. **General Noise:** 10:30am: Banging coming from the D4 yard area. Truck leaving the site via the road adjacent to the noise meter. Banging from D4 building. Sound of Large Household Appliance (LHA) Baler in operation. 10:33am outside telephone call system sounding in neighbouring unit. Reverse alarms sounding @ the KMK Metals site. Hammering arising from the neighbouring unit and from KMK Metals site. The sound of scraping metal on the concrete yard @ the KMK facility. 10:36am Light aircraft circling overhead. 10.37am Loud hammering from the D4 building (irregular) throughout the entire monitoring event. Noise of metals being dropped in the DX building @ 10:38am followed by hammering from Condron Car Dismantlers. 10:42am hammering from both the KMK facility and buildings. Sound of cages being moved in the D4 building and yard and a truck entering the main entrance. 10.48am truck leaves the main entrance passing by the noise meter. Voices from the KMK facility audible from this location. 10:50am more banging and scraping of metal from the D4 building. 10:52am sound of forklift from neighbouring unit. 10:54am Horn sounding a number of times on a forklift @ KMK's site. Outdoor telephone call system sounding in neighbouring unit. 10:57am Truck leaves the KMK site and forklift sounding its horn and reverse alarm at D4 area while unloading a truck. 11:02am vehicles passing by on the industrial estate road, banging arising from the D4 area, van & car exiting the facility car park and passing the SLM.
N2 Eastern boundary, beside disused portacabin	11.:08	53	**General Noise:** 11:11am people shouting in Polish. Reverse alarm sounding on forklift. Dance music audible from the D1 building audible throughout the monitoring event. 11.13am birds chirping directly above the SLM in the C building. 11:16am Forklifts in operation at the DX building; scraping of metal and the sounding of reverse alarms audible. 11:17am Birds (swallows) chirping loudly in close proximity to the SLM. Forklift passing by the main entrance to Tullamore Steel. 11:19am Horn sounding on truck leaving the site and forklift passing by the main entrance with cages. Main entrance gate closed over. 11:21am People speaking loudly outside the office building. 11.25am banging arising from Tullamore Steel & scraping of metal on concrete from DX area. Reverse alarm sounding on forklift. 11.27-11.28am AES truck collecting a skip from the middle yard area, reverse alarm sounding on this truck before it leaves the area @11.30am.11.31am horn sounding in the DX building and sound of load falling from a forklift, followed by the reverse alarm. 11.33am Sound of materials being moved around by forklift. 11:35am Banging of a container and materials being loaded into it (reverse alarm sounding). 11:36am Materials being removed from a container (scraping of it along the concrete).
N3 Fence at southwest boundary	11:47	65	**Background Noise:** Traffic from the Ring Road. Wind picked up @ this location. **General Noise:** Continuous noise from the D1 building from pneumatic drills and hammering. 11:54am Traffic on the ring road clearly audible for a few minutes. 11:55am Sound from D1 building of metal being moved and scraped in the concrete floor. Some sound from the DX building audible.11:56-12:00 sound of hammering of TV units in the CRT area. Sound of fan/motor cutting in and out for the pneumatic drills in the D1 building. 12:00 Sound of LHA movement of Small Household Appliances in the DX building. Hammering/banging and the sound from pneumatic drills from the CRT dismantling area in the D1 building. All of these sounds were continuous throughout this monitoring event.

Table 2.2.1 Summary of Site Boundary Noise Locations (contd.)

Location	Start Time	L_{Aeq}	Comments
N4 Western boundary	12:23	61	**Background Noise:** Wind and Bridsong. **General Noise:** Forklifts operating in the D yards. Loading and unloading of trucks. Forklifts bringing TV's and Monitors to the CRT Dismantling Area. Operations from the DX building audible @ this location. 12:26 Noise from forklifts moving cages and general operations from within the DX building were audible at this location. 12:27 Small front loader revving its engine. Reverse alarms sounding at irregular intervals throughout the monitoring event. 12:29 Forklifts in operation in the D yard area in close proximity to the SLM. 12:30 Sound of SHA being removed from a container in the DX building and a horn sounding on the forklift. 12:32 people talking loudly @ the yard area in front of the DX building. 12::37 Noise arising from forklifts moving materials and containers. Horn sounding on a truck travelling along the ring road. 12.38 LHA Baler revving its engine and materials being loaded into the baler. 12:40 Cages being loaded into the back of a WEEE Recycle truck in the D4 yard area. From 12:41 onwards the sound of scraping metals clearly audible from the LHA Baler & DX building. Hammering taking place @ the roofed D4 building yard area (sound of capacitors being removed from washing machines). 12:51 AES truck collecting skip container from the D4 yard. 12:52 forklift beginning to load container to the left of the SLM.
N5 North-western boundary of D4 area	13:25	66	**General Noise:** LHA Baler running throughout this monitoring event. Work being carried out in the D4 building (related to Fluorescent bulbs). Movement of SHA into containers waiting in the DX building. Small front loading machine scraping its bucket on the concrete floor of the DX building. Movement of cages containing monitors and TV's by forklift from the DX building to the CRT Dismantling Area (D1 building). Noise arising from the DX building continuous throughout this monitoring event. 13:37 Employee scraping a shovel on the concrete yard at the D4 yard area.
N6 Northeast of the D4 yard area & LHA Baler	14:02	66	**General Noise:** 14:03 AES truck collecting a chain skip from the middle yard area making noise and revving its engine. People talking in the car park area of the KMK facility. LHA Baler starting its engine. Small front loader begins operations again in the DX building. 14:06 car alarm sounds in the KMK Metals carpark. Truck arrives at the facility and passes by the SLM. A number of staff vehicles exit the KMK car park. 14:07 Gate to the D4 yard area is opened causing a noise from the dragging of metal across concrete. A structure being erected at a neighbouring facility resulting in irregular noise (hammering, banging, drilling and people talking) travelling as far as the SLM. 14:10 AES Truck sounding its horn and revving its engine to load an ejector trailor in the middle yard) and banging on steel @ the neighbouring unit. The banging continued until 14:15. Two trucks stop outside the KMK Metals facility and their engines remain idling prior to one truck being reversed into the D yard while the other is left idling until 14:22. 14:16 The external telephone call system @ the Tullamore Steel unit audible. 14:17 Reverse alarm sounding a forklift operating at a neighbouring unit. 14:19 Hammering of metal @ the neighbouring unit (erecting new structure) clearly audible. 14:20 Pressure release from a truck being disconnected from its trailor lasting only a few seconds. 14:24 Operations commence in the D4 roofed area with LHA baler again. AES container delivered to the D4 yard area (reverse alarms sounding @ KMK Metals site on the forklifts and trucks. 14:27 Small front loader scraping its bucket on the DX buildings floor. (Revving and loading of materials into containers). 14:30 Truck travelling along the industrial estate road to the KMK site passes directly by the SLM.

2.3 Discussion

There are currently no statutory limits for the control of environmental noise in Ireland. However, the EPA has issued a guidance note on noise emissions that states, '*Ideally, if the total noise level from all sources is taken into account, the noise level* ***at sensitive locations*** *should be kept below an L_{Aeq} value of 55dB(A) by daytime. At night, to avoid disturbance, the noise level at noise sensitive locations should not exceed a $L_{Aeq\,T}$ value of 45dB(A).'*

Noise monitoring was carried out between the hours of 10am and 3 pm. Noise monitoring was not carried out overnight as the facility does not operate outside of normal hours. Noise sources from the plant, audible at the site boundaries have been identified as:

- Vehicles entering/leaving the site
- Personnel entering/leaving buildings
- Unloading and loading of trucks with waste materials
- The movement of fork lift trucks in the process areas
- Reversing alarms from forklift trucks
- Operation of the baler unit for Large Household Appliances (LHA).
- Operations from construction of a steel structure at a neighbouring industrial unit.

The KMK Metals facility is located within the Cappincur Industrial Estate, Tullamore. This industrial estate includes warehousing, commercial/industrial and waste management operations with Tullamore Steel, Palace Kitchens, Modified Motors, Ravenhill Couriers, Robedesign 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, acetylene torches, fork lift trucks and other ancillary activities e.g. vehicle movements. Motor modification shops result in loud noise from engine tests/revving noises etc.

In relation to KMK Metals site, the greatest ascendance in noise levels occurred at N5 & N6 located at the north-western and northern boundary of the D4 Yard area. Both of these locations resulted in a L_{Aeq} reading of 66 dB (A). This noise level was 1dB(A) greater than the next highest noise reading which was 65dB(A) at N3. An increase of 1dB(A) is not perceptible by the human ear in the form of recognisable loudness and is not seen as significant as it equates to 1.26times the sound intensity or energy being experienced by the human ear. The greater the sound energy increase experienced the greater the potential hazard to human hearing, therefore this 1.25 sound intensity increase is not deemed to be significant. The L_{Aeq} values recorded at N5 & N6 were heavily influenced by the $_{LA10}$ levels i.e. 69 dB(A) and 68dB(A). The LA10 noise parameter represents the noise level exceeded for 10% of the time and is often used as an indicator of the typical maximum level. $_{LA10}$ is widely used to describe peak road traffic noise and sometimes other short duration noises.

During monitoring at the N5 location it was noted that the LHA Baler (diesel run piece of equipment) ran throughout the monitoring event with the irregular movement of cages and SHA by forklifts taking place throughout. The L_{A10} value at station N5 was 69dB(A).

During monitoring at the N6 location it was noted that a number of truck and forklift movements in close proximity to the SLM as well as construction operations resulting in scraping of metal surfaces were taking place at a neighbouring unit being clearly audible at irregular intervals during this monitoring. The L_{A10} value at station N6 was 68dB(A).

N1 and N2 located in the middle yard (D5 area) and the main entrance to the facility experienced the lowest L_{Aeq} readings of 53db (A) which were both below the EPA limit of 55 dB (A). Much of the noise at N1 was created from sources outside the boundaries of the site such as passing traffic; truck engines idling near the SLM (sound level meter) and noise from neighbouring industrial units. The noise at N2 was created by activities taking place within the KMK Metals facility such as forklift movements, people shouting and reverse alarms sounding. Noise stations N3, N4, N5 and N6 located in the South, West of the site and the Northwest and Northeast of the D4 yard area of the site experienced similar L_{Aeq} values of 61-66 dB (A). Much of the noise at these locations were linked to general operations within the KMK facility with some outside factors i.e. removal of skips from the middle yard area by AES Ireland took place during the N6 monitoring event and noise arising from hammering of steel related to structural developments at a neighbouring unit. The operations within the site influencing the noise levels were the unloading of, baling, dismantling and processing of waste electrical products (WEEE). The noise generated during these 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 2.3.1 below).

Table 2.3.1 Attenuation of Noise over Distance for point source emissions e.g. industrial sources.

Distance m	Noise level dB
10	70
20	64
40	58
80	52
160	46

Overall, the noise levels recorded at stations N3, N4, N5 and N6 during monitoring located within the boundary of the KMK Metals Recycling Ltd facility exceeded the Daytime Noise Limit Value L_{Aeq} (30 minutes) of 55dB (A), with the exception of N1 and N2 which were both below the recommended limit.

On examination of the L_{Aeq} (30 minutes) for the noise monitoring locations N1, N2, N3, N4, N5 and N6, the average or steady rate of noise levels generated at the KMK Metals facility was between 53dB(A) and 66dB(A). This overall noise rate in real terms is somewhere between typical office noise to experiencing light traffic at 15m distance away as illustrated in the description table below;

Table 2.3.2 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

3.0 Octave Band Analysis and Discussion

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.

3.1 Octave Analysis

The scope of this noise assessment is to evaluate the noise arising from the KMK Metals Recycling Ltd facility within the Cappincur Industrial Estate, Daingean Road, Tullamore, Co. Offaly. Full results of the 1/3 octave analysis are shown in Appendix A, including charted results for each location. These results and charts are discussed below. The overview chart of all monitoring stations shows a similar trend at most locations, with a general decline in sound pressure as frequency increases with the lowest noise at 16kHz.

The octave analysis chart for the sound pressure recorded at KMK Metals Recycling Ltd facility on 01-09-10 shows a general trend for all monitoring locations. At low frequencies (20 Hz to 63 Hz) the sound pressure is highest between 51dB(A) and 66dB(A). A gradual decrease in sound pressure readings is noted with each increase in frequency bandwidth until the lowest sound pressure approximately between 9dB(A) and 36dB(A) is noted for each monitoring location after the 16KHz bandwidth. This charts highlights that primary noise arising at the site boundaries and in the surrounding area is primarily in the low frequency range (20 Hz to 63KHz).

At mid to high frequency bandwidth's (400 to 4 KHz) monitoring positions N1 and N2 displayed the lowest sound pressure levels between 36dB(A) and 46dB(A). While N3, N4, N5 and N6 all located at boundaries of KMK's site displayed very similar sound pressure levels between 45 dB(A) and 58dB(A). These locations are strongly influenced by site activities as they are in the closest proximity to on-going operations and vehicle movements.

N1 & N2 monitoring location showed the lowest sound pressure level throughout all frequencies. At these locations, noise arising from onsite activities was less audible possibly as a result of buildings acting as noise barriers.

Analysis of the octave frequencies at the KMK Metals Recycling facility show all monitoring stations to have a close relationship across the varying bandwidths. As mentioned the general trend noted is an initial high sound pressure at low frequency (20Hz – 200Hz) with a gradual drop and levelling off in sound pressure at mid

frequency (400 Hz to 2KHz) and a drop in sound pressure from 4 kHz to 16 kHz onwards.

3.2 $^1/_3$ Octave Analysis

In this section, all charts of individual noise monitoring locations (N1 to N6) as produced in Appendix A will be discussed.

N1 positioned on the east boundary of the carpark showed an initial peak in the sound pressure of 64 dB(A) at 50Hz. This was followed by a drop (2 dB(A) in sound pressure at 63 Hz which continued gradually after that until a sound pressure of 52 dB(A) was noted at 160Hz. The sound pressure continued to slightly drop further and the lowest result was at 20kHz with a sound pressure of 9 dB(A). The N1 noise monitoring station was located close to one of the sites entrance gates and in close proximity to the industrial estates internal road. The nature in sound pressure at this location was gradual with no sharp peaks noticeable and no tones detected.

N2 positioned on the eastern boundary of the site displayed an initial peak in the sound pressure of 58 dB(A) at 25 Hz. Sound pressure levels then proceeded to drop with an increase in frequency and this continued until the lowest sound pressure was recorded 9 dB(A) at 20 kHz. Specific noise sources recorded at this station included noise from forklift trucks in the yard area, reverse alarms, employees speaking loudly and vehicle movements on the nearby industrial estate road. The nature of sound pressure at this location was gradual with no sharp peaks noticeable and no tones detected.

N3 positioned on the south-western boundary of the facility showed an initial peak in the sound pressure of 65 dB(A) at 12.5 Hz. This was followed by a drop of 7 dB(A) in sound pressure at 31.5Hz to 63Hz which steadily decreased to 53dB(A) at 315Hz. A slight rise in sound pressure levels to 56 dB(A) was noted at 1.25kHz and this was followed by a continual and gradual drop in sound pressure of with an increase in frequency throughout the bandwidth spectrum. Noise levels at this location were dominated by the processing operations (CRT plant and associated manual manipulation practices i.e. hammers, drills etc). There were no tones detected at this location.

N4 positioned along the western boundary, shows an initial peak in the sound pressure of 67 dB(A) decreasing to 60dB(A) from 12.5 to 40 Hz. This was followed by a relatively sharp drop, 4 dB(A) in sound pressure, at 80Hz and continuing gradually after that until a sound pressure of 53dB(A) was noted at 160Hz. There was a slight rise in sound pressure, 55 dB(A), at 200 Hz and followed by a steady sound pressure level of 52 dB(A) from 500 Hz to 800kHz (mid frequency range). Sound pressure levels proceeded to drop noticeably after this as the frequency scale increased. Monitoring records at station N4 show that most of the noise emanated from forklift trucks in operation either loading or unloading trailers and LHA baler use inside D4 building. There were no tones detected at this location.

N5 positioned to the north-western boundary of the D4 yard area, showed an initial peak in sound pressure of 62 dB(A) at 12.5Hz. This sound pressure level then proceeded to decrease to 58dB(A) through the low frequency range 25Hz to 80Hz, with an increase in sound pressure to 61dB(A) at 100Hz decreasing to 56dB(A) at

200Hz but peaking again at 250Hz which is in the low to medium frequency range. The sound pressure level then proceeded to decrease steadily from the 315Hz to 20 kHz range. The variations in sound pressure levels at this location were indicative that there was a tonal noise detected at this location. However, it this noise was not continuous and can be attributed to the operation of the LHA baler in the D4 roofed area and truck movements.

N6 positioned on the north-eastern boundary of the D4 building showed a general erratic nature of sound pressure levels throughout the lower frequency spectrum. With a slight peak detected of 61 dB(A) between the 160Hz and 250Hz range. Sound pressure levels were consistently between 66 dB(A) and 56 dB(A) from 25 Hz to 1.25 kHz. Noise was dominated by a varying mixture of traffic both within and outside of the KMK Metal's site, with 3 trucks passing directly by the SLM and two truck engines idling for 7minutes. This noise monitoring location was quite loud but typical of industrial estate environments. The nature of sound pressure recorded is not likely result in complaints as there were no consistent peaks detected and therefore no real noticeable noise effects.

Overall results for the 1/3 octave analysis at the KMK Metal Recycling facility, show levels of noise to be moderate at the boundaries of the facility, with primary noise arising from the movement of trucks and forklift trucks associated with unloading of WEEE for processing and LHA's (cold) for storage at the KMK Metals facility. Noise levels at the N6 location were also influenced by external noise sources not associated with operations at the KMK Metal Recycling facility.

4.0 Conclusions

Environmental noise monitoring was carried out by ENVIROCO Management Ltd at the KMK Metals Recycling Ltd facility situated within the Cappincur Industrial Estate, Daingean Road, Tullamore, Co. Offaly, on the 1st September 2010. Monitoring was requested by Mr. Kurt Kyck of KMK Metals Recycling Ltd as required by the conditions of their waste licence (W0113-03) for submission to the Environmental Protection Agency.

Noise monitoring was conducted utilising the Type 1 Bruel Kjaer 2250 SLM with wind muffler noise meter. This monitor operates as a Real Time Analyser (RTA) and Sound Level Meter (SLM), enabling both statistical analysis of the audible noise and breakdown of the sound pressure recorded into frequency bandwidths.

The statistical analysis of the noise at boundary monitoring stations shows that L_{Aeq} levels increase with proximity to the industrial estate road and the main road. Notes of audible noise sources taken by staff of ENVIROCO Management Ltd. noted that primary noise arising from the activities at the KMK Metals facility were located to the front of the site (northern and western boundaries).

Statistical analysis of noise at sensitive receivers was lower at stations located east of the site. Each of noise monitoring locations except for N1 and N2 provided readings which were above the EPA recommended guidelines of 55 dB (A), the highest readings were from theN5 and N6 stations which was taken to the west of the D4 yard area and the northeast of the D4 roofed area and these levels (66dB(A)) were associated largely with operations occurring at the D4 area, truck movements on the industrial road and structural development works at a

neighbouring industrial unit in close proximity to the station. A large number of vehicle movements were noted at these locations (trucks, cars) of which only a very small amount could be associated with the KMK Metals facility.

Octave analysis of the measurements taken at the facility boundaries and at noise sensitive locations, show a general trend for sound pressure to start low at low frequency, increasing gradually to mid-frequency ranges and a peak at higher frequency levels, with an overall reduction in sound pressure levels from the 3.15KHz to 8KHz. There were slight tonal components of noise recorded during the day at N5 and N6 which were evident at the low frequency bandwidths and were direct results of diesel engines (LHA Baler unit, forklifts and trucks) running. Overall results for the 1/3 octave analysis at the KMK Metal Recycling facility, show level of noise to be moderate at the boundaries of the facility, with primary noise arising from the movement of forklift trucks associated with unloading of WEEE for processing and LHA's (cold) for storage at the KMK Metals facility.

Noise monitoring at the KMK Metals Recycling Ltd facility during this event has shown that the noise levels have not noticeably increase in comparison with the 2009 noise monitoring event. The results of the noise survey show that noise emissions from the KMK Metals facility are not significant and will not have any negative effect of neighbouring businesses.

Appendix A

- **Noise Results & Charts**

Noise Results

Client: KMK Metals Recycling Ltd
Site: Cappincur Industrial Estate, Daingean Road, Tullamore, Co. Offaly
Monitoring Date: 1st September 2010
Sampler: Pamela Maleady (ENVIROCO Management Ltd)
Weather: Clear and Sunny with a very light breeze in the morning changing to a moderate breeze in the afternoon.
Equipment: Type 1 Bruel Kjaer 2250 SLM with wind muffler

Table 1 Noise Results

Number	Time	Duration (min)	L_{eq} dB(A)	L_{max} dB(A)	L_{min} dB(A)	$L_{(1)}$ dB(A)	$L_{(5)}$ dB(A)	$L_{(10)}$ dB(A)	$L_{(50)}$ dB(A)	$L_{(90)}$ dB(A)	$L_{(95)}$ dB(A)	$L_{(99)}$ dB(A)
N1	10:29	30:00	53	72	41	62	58	56	51	46	44	42
N2	11:08	30:00	53	82	38	63	57	55	49	43	42	40
N3	11:47	30:00	65	82	50	74	70	68	62	56	54	52
N4	12:23	30:00	61	85	44	70	66	64	57	50	48	46
N5	13:25	30:00	66	87	50	75	70	69	63	57	55	53
N6	14:02	30:00	66	93	41	78	70	68	55	48	47	44

Notes

Table 2 Notes Regarding Monitoring Positions

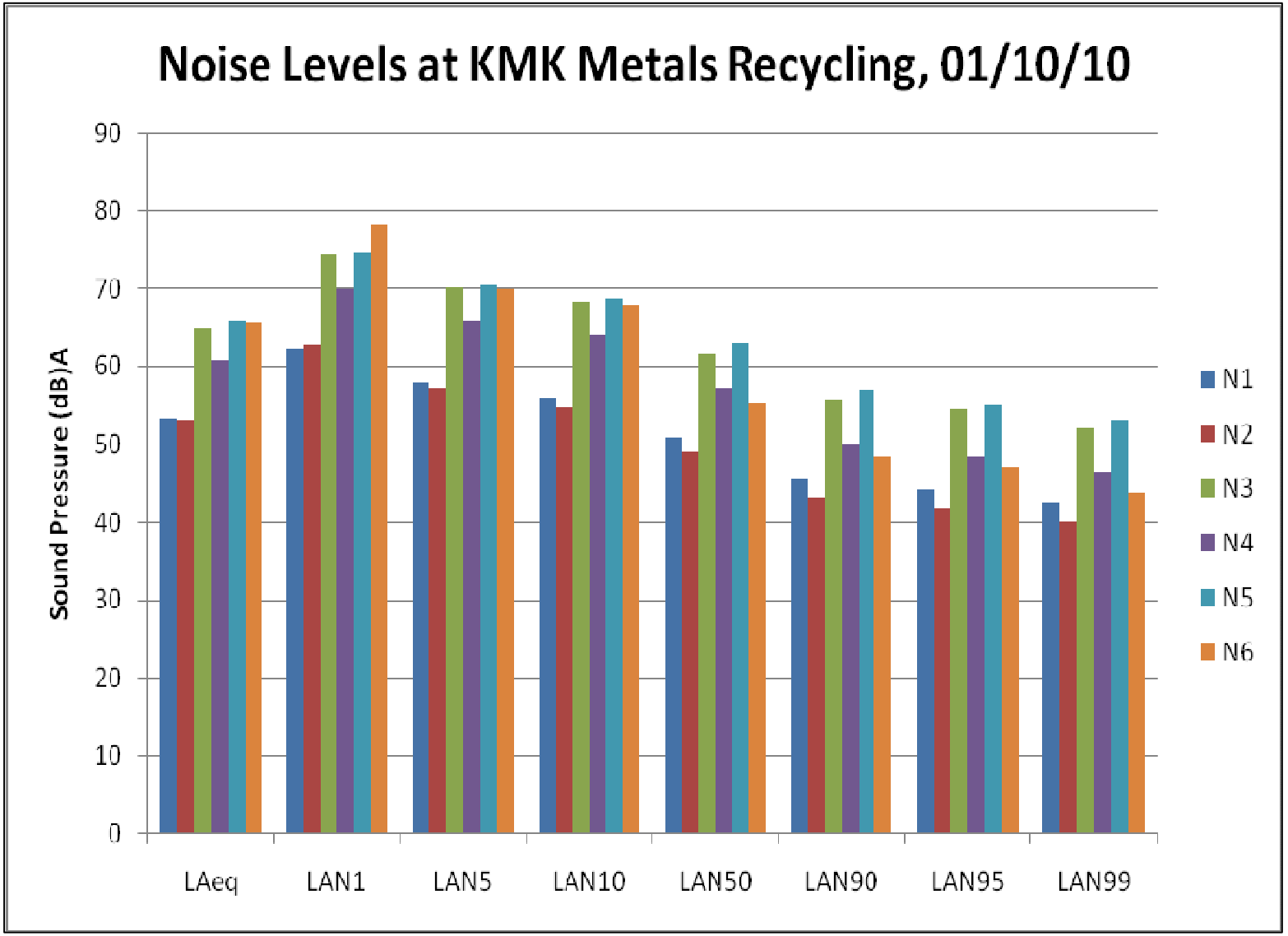
Number	Grid Ref.*		Comments
	Easting	**Northing**	
N1	235944	225050	Car park at fence eastern boundary
N2	235956	224996	Eastern boundary, beside disused portacabin
N3	235859	224960	Fence at South-western boundary
N4	235863	225011	Western boundary adjacent to the D1-D3 building
N5	235906	225056	North-western boundary in front of the newly roofed D4 yard area
N6	235858	225030	North-eastern of the D4 yard area

*Grid reference are 6 figure ING reference

Table 3 Weather Data 01-09-10

Weather Station	Rain (mm)	Max temp (˚C)	Min temp (˚C)	Sun (hours)	Gust (knots)	Wind (knots)
Gurteen	0	20.4	8.5	-	-	7.4

The above data refer to the period midnight to midnight They are provisional data and have not been quality controlled Rain is total precipitation plus deposition in mm. Max is the maximum temperature in Degrees Celsius Min is the minimum temperature in Degrees Celsius Sun is the total sunshine in hours Gust is the highest gust of wind in knots if 34 knots or greater Wind is the mean wind speed in knots Soil is the mean 10cm temperature in Degrees Celsius G_{min} is the minimum temperature on a grass surface in Degrees Celsius.


Noise Levels at KMK Metals Recycling, 01/10/10
Sound Pressure (dB)A
90
80
70
60
50
40
30
20
10
0
LAeq
LAN1
LAN5
LAN10
LAN50
LAN90
LAN95
LAN99
N1
N2
N3
N4
N5
N6

Noise Results

Client: KMK Metals Recycling Ltd
Site: Cappincur Industrial Estate, Daingean Road, Tullamore, Co. Offaly
Monitoring Date: 1st September 2010
Sampler: Pamela Maleady (ENVIROCO Management Ltd)
Weather: Clear and Sunny with a very light breeze in the morning changing to a moderate breeze in the afternoon.
Equipment: Type 1 Bruel Kjaer 2250 SLM with wind muffler

Notes:
The Bruel Kjaer 2250 SLM was calibrated to 114 dB prior to sampling.

Table 1 Record of Monitoring Events and L_{Aeq} values

Rec #	Date	Time	Duration	L_{Aeq}
N1	1st Sept 10	10:29	30:00	53
N2	1st Sept 10	11:08	30:00	53
N3	1st Sept 10	11:47	30:00	65
N4	1st Sept 10	12:23	30:00	61
N5	1st Sept 10	13:25	30:00	66
N6	1st Sept 10	14:02	30:00	66

Table 2 Monitoring Locations

Monitoring Locations	Grid Reference (ING)	
	Easting	Northing
N1	235944	225050
N2	235956	224996
N3	235859	224960
N4	235863	225011
N5	235906	225056
N6	235858	225030

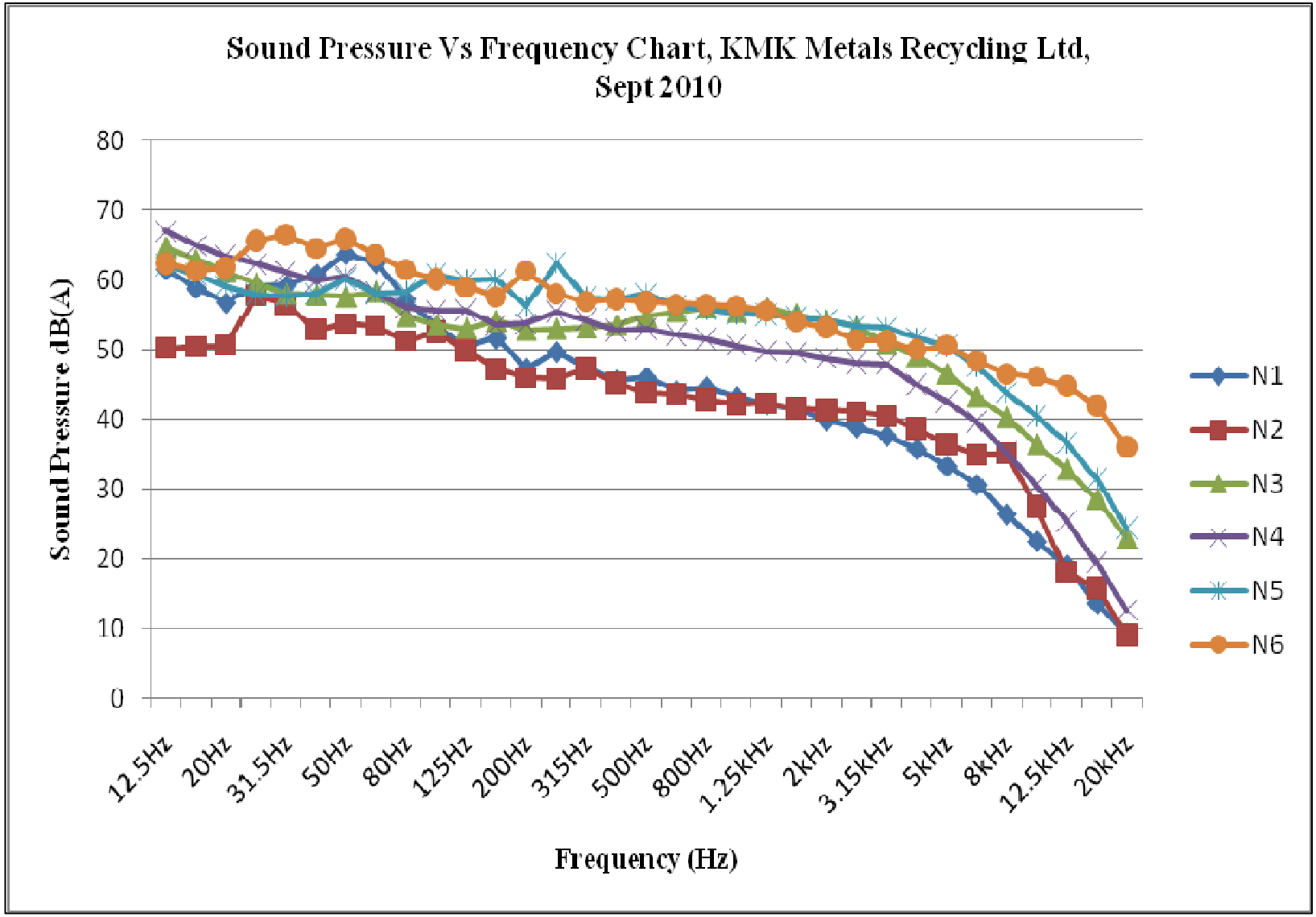
Table 5 Statistical Analysis of Noise Readings

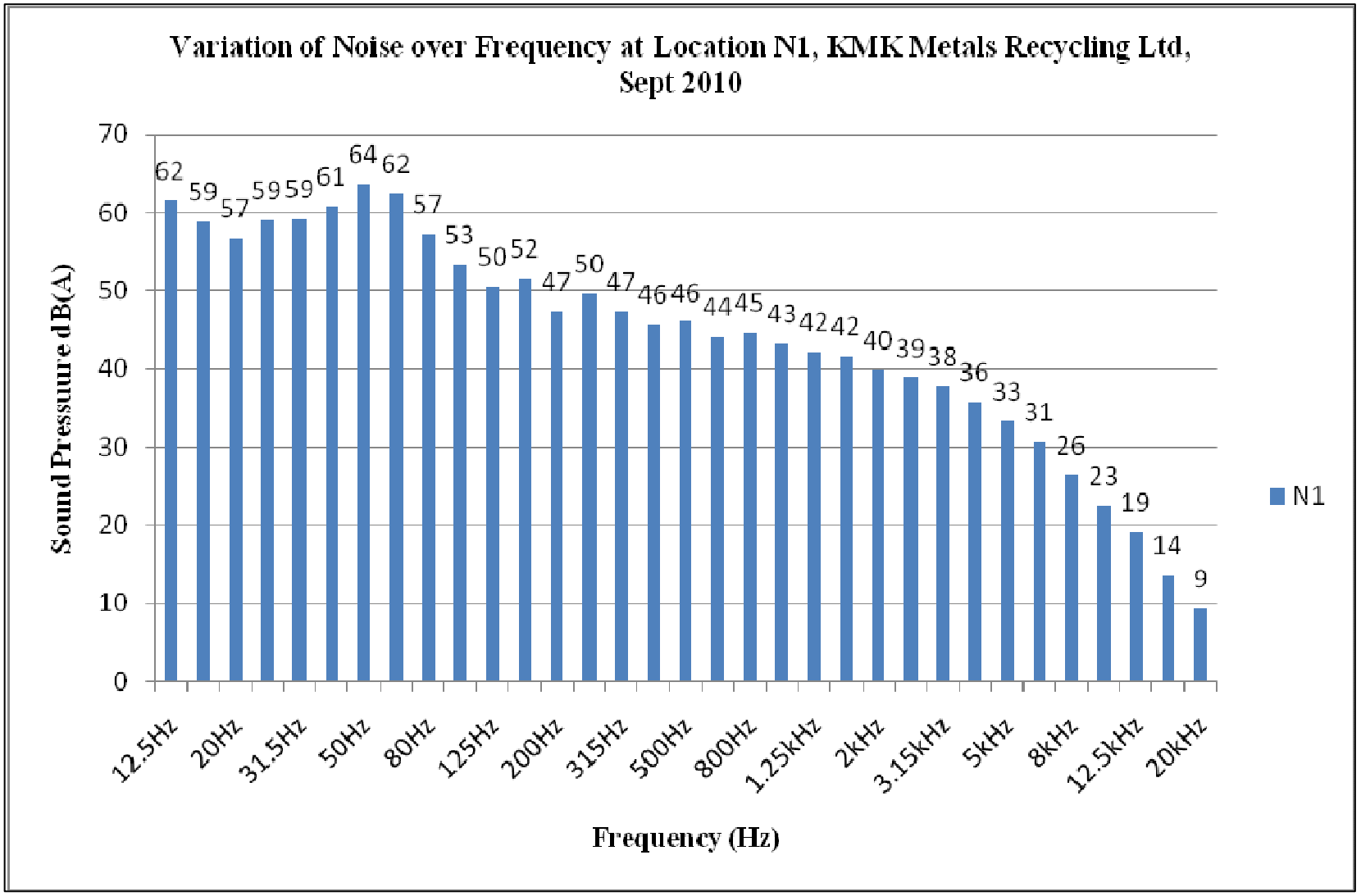
Project Name	LAeq	LAN 01	LAN 05	LAN 10	LAN 50	LAN 90	LAN 95	LAN 99
N1	53	62	58	56	51	46	44	42
N2	53	63	57	55	49	43	42	40
N3	65	74	70	68	62	56	54	52
N4	61	70	66	64	57	50	48	46
N5	66	75	70	69	63	57	55	53
N6	66	78	70	68	55	48	47	44

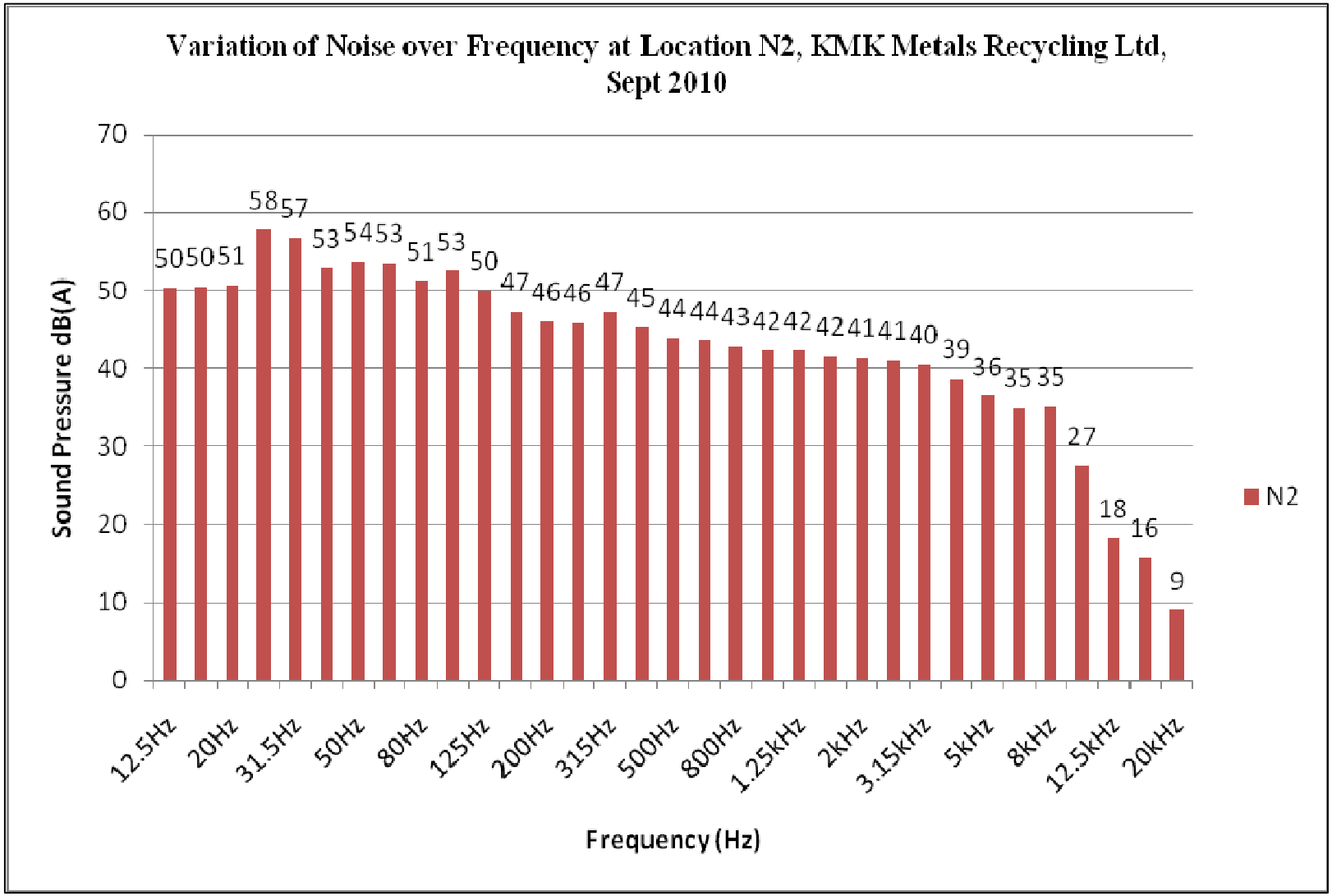
Table 6 L_{Aeq} Full Octave Analysis of Noise Measurements, taken on the 1st Sept 2010

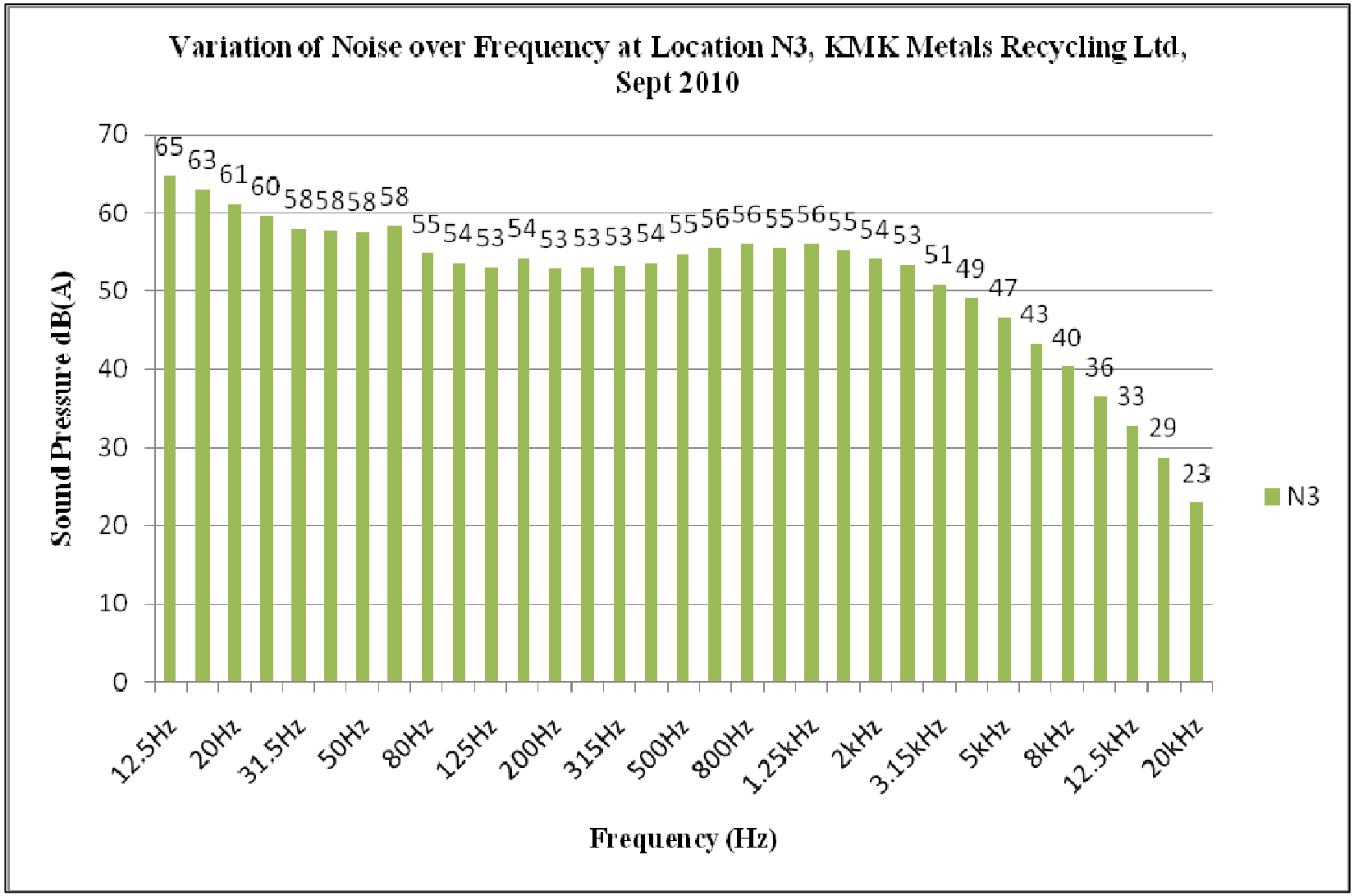
	L_{Aeq} Frequency (Hz)																		
Project Name	**12.5**	**16**	**20**	**25**	**31.5**	**40**	**50**	**63**	**80**	**100**	**125**	**160**	**200**	**250**	**315**	**400**	**500**	**630**	**800**
N1	62	59	57	59	59	61	64	62	57	53	50	52	47	50	47	46	46	44	45
N2	50	50	51	58	57	53	54	53	51	53	50	47	46	46	47	45	44	44	43
N3	65	63	61	60	58	58	58	58	55	54	53	54	53	53	53	54	55	56	56
N4	67	65	63	62	61	60	60	58	56	56	56	53	54	55	54	53	53	52	52
N5	62	61	59	58	58	58	60	58	58	61	60	60	56	62	57	57	58	56	56
N6	62	61	62	66	66	65	66	64	61	60	59	58	61	58	57	57	57	57	57

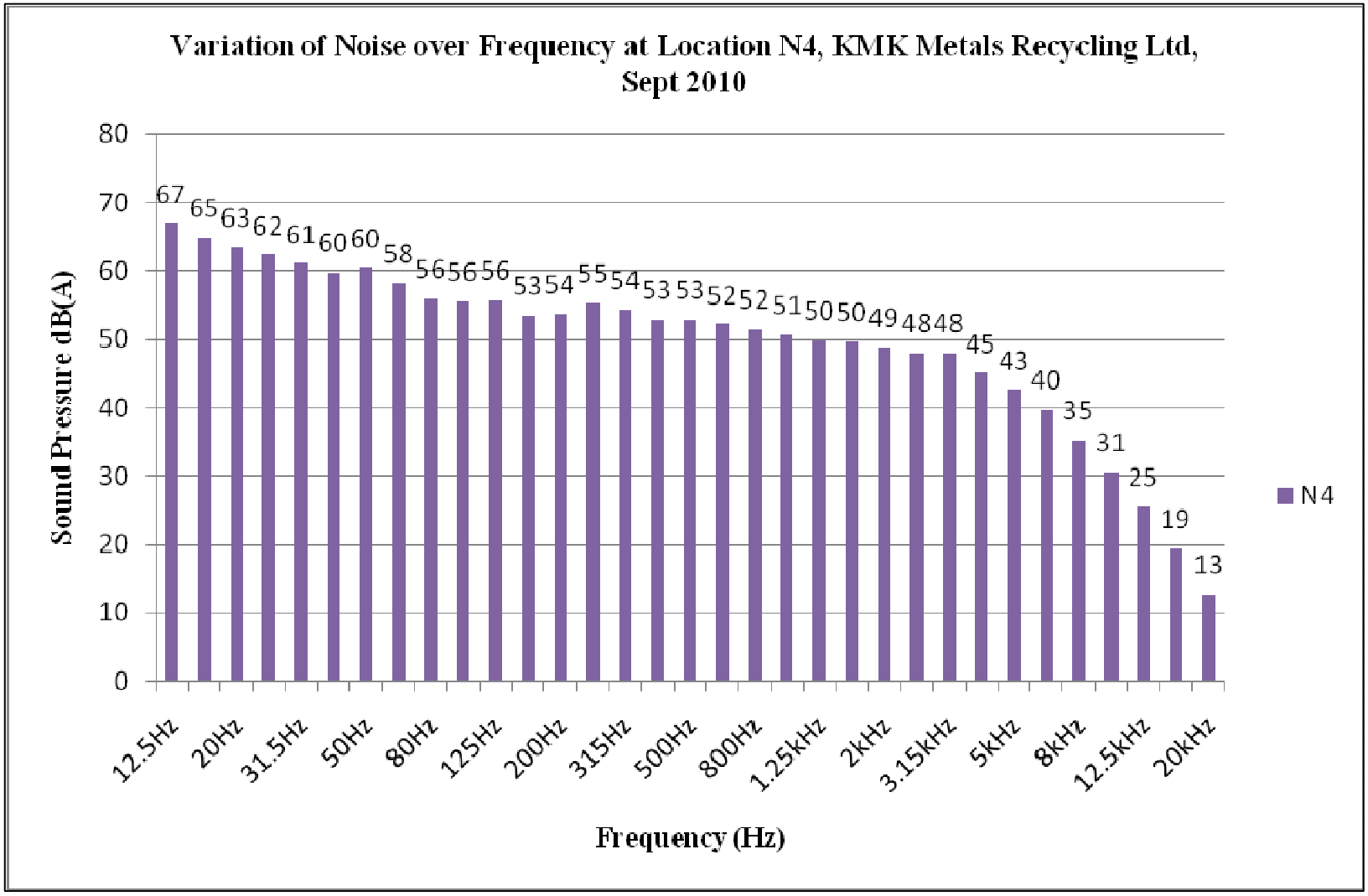
	L_{Aeq} Frequency (Hz)													
Project Name	**1k**	**1.25k**	**1.6k**	**2k**	**2.5k**	**3.15k**	**4k**	**5k**	**6.3k**	**8k**	**10k**	**12.5k**	**16k**	**20k**
N1	43	42	42	40	39	38	36	33	31	26	23	19	14	9
N2	42	42	42	41	41	40	39	36	35	35	27	18	16	9
N3	55	56	55	54	53	51	49	47	43	40	36	33	29	23
N4	51	50	50	49	48	48	45	43	40	35	31	25	19	13
N5	55	55	55	54	53	53	52	50	48	44	41	37	32	24
N6	56	56	54	53	51	51	50	51	48	47	46	45	42	36

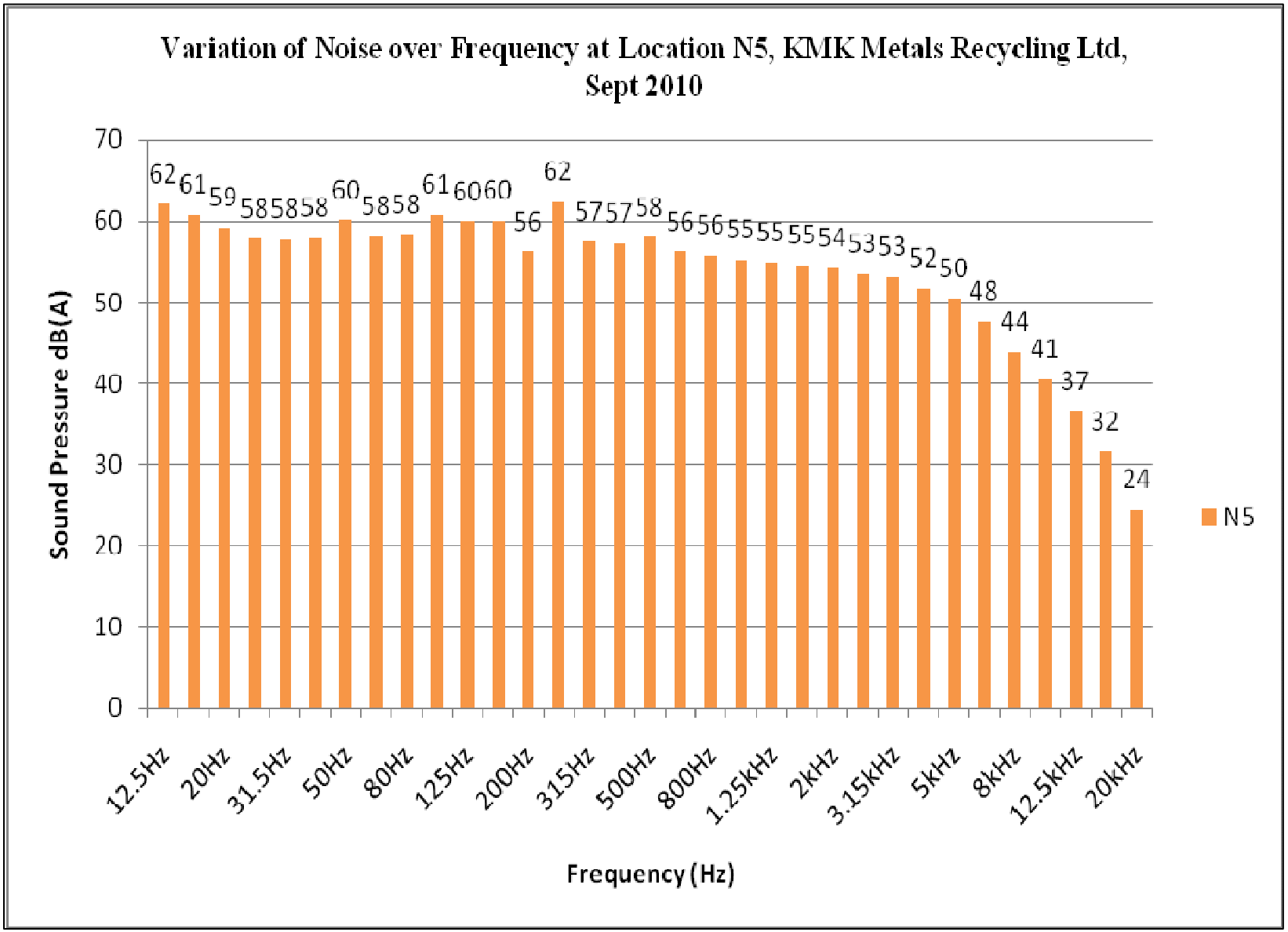

Sound Pressure Vs Frequency Chart, KMK Metals Recycling Ltd, Sept 2010
Sound Pressure dB(A)
80
70
60
50
40
30
20
10
0
12.5Hz
20Hz
31.5Hz
50Hz
80Hz
125Hz
200Hz
315Hz
500Hz
800Hz
1.25kHz
2kHz
3.15kHz
5kHz
8kHz
12.5kHz
20kHz
Frequency (Hz)
N1
N2
N3
N4
N5
N6

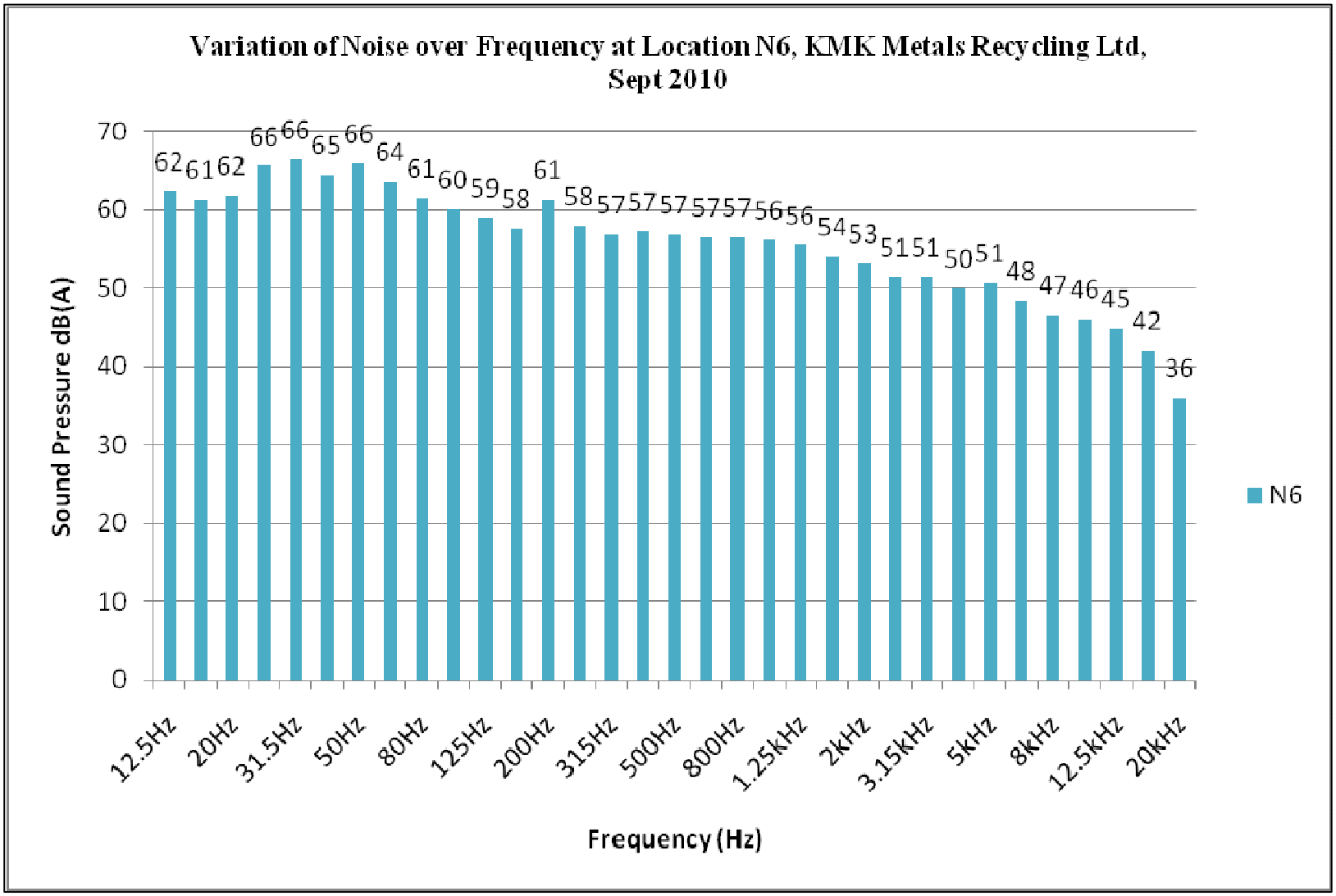

Variation of Noise over Frequency at Location N1, KMK Metals Recycling Ltd, Sept 2010
Sound Pressure dB(A)
70
60
50
40
30
20
10
0
62
59
57
59
59
61
64
62
57
53
50
52
47
50
47
46
46
44
45
43
42
42
40
39
38
36
33
31
26
23
19
14
9
12.5Hz
20Hz
31.5Hz
50Hz
80Hz
125Hz
200Hz
315Hz
500Hz
800Hz
1.25kHz
2kHz
3.15kHz
5kHz
8kHz
12.5kHz
20kHz
Frequency (Hz)
N1


Variation of Noise over Frequency at Location N2, KMK Metals Recycling Ltd, Sept 2010
Sound Pressure dB(A)
70
60
50
40
30
20
10
0
50 50 51 58 57 53 54 53 51 53 50 47 46 46 47 45 44 44 43 42 42 42 41 41 40 39 36 35 35 27 18 16 9
12.5Hz
20Hz
31.5Hz
50Hz
80Hz
125Hz
200Hz
315Hz
500Hz
800Hz
1.25kHz
2kHz
3.15kHz
5kHz
8kHz
12.5kHz
20kHz
Frequency (Hz)
N2


Variation of Noise over Frequency at Location N3, KMK Metals Recycling Ltd, Sept 2010
Sound Pressure dB(A)
70
60
50
40
30
20
10
0
65 63 61 60 58 58 58 58 55 54 53 54 53 53 53 54 55 56 56 55 56 55 54 53 51 49 47 43 40 36 33 29 23
12.5Hz
20Hz
31.5Hz
50Hz
80Hz
125Hz
200Hz
315Hz
500Hz
800Hz
1.25kHz
2kHz
3.15kHz
5kHz
8kHz
12.5kHz
20kHz
Frequency (Hz)
N3


Variation of Noise over Frequency at Location N4, KMK Metals Recycling Ltd, Sept 2010
Sound Pressure dB(A)
0
10
20
30
40
50
60
70
80
67 65 63 62 61 60 60 58 56 56 56 53 54 55 54 53 53 52 52 51 50 50 49 48 48 45 43 40 35 31 25 19 13
12.5Hz
20Hz
31.5Hz
50Hz
80Hz
125Hz
200Hz
315Hz
500Hz
800Hz
1.25kHz
2kHz
3.15kHz
5kHz
8kHz
12.5kHz
20kHz
Frequency (Hz)
N4


Variation of Noise over Frequency at Location N5, KMK Metals Recycling Ltd, Sept 2010
Sound Pressure dB(A)
70
60
50
40
30
20
10
0
62 61 59 58 58 58 60 58 58 61 60 60 56 62 57 57 58 56 56 55 55 55 54 53 53 52 50 48 44 41 37 32 24
12.5Hz
20Hz
31.5Hz
50Hz
80Hz
125Hz
200Hz
315Hz
500Hz
800Hz
1.25kHz
2kHz
3.15kHz
5kHz
8kHz
12.5kHz
20kHz
Frequency (Hz)
N5


Variation of Noise over Frequency at Location N6, KMK Metals Recycling Ltd, Sept 2010
Sound Pressure dB(A)
70
60
50
40
30
20
10
0
62 61 62 66 66 65 66 64 61 60 59 58 61 58 57 57 57 57 57 56 56 54 53 51 51 50 51 48 47 46 45 42 36
12.5Hz
20Hz
31.5Hz
50Hz
80Hz
125Hz
200Hz
315Hz
500Hz
800Hz
1.25kHz
2kHz
3.15kHz
5kHz
8kHz
12.5kHz
20kHz
Frequency (Hz)
N6

APPENDIX 6

Water Quality Analysis Test Certificate

ALcontrol Laboratories

Unit 18A
Rosemount Business Park
Ballycoolin
Dublin 11
Tel : (0035) 3188 29893

Enviroco Management Ltd
Bow House
O Moore Street
Tullamore
Co. Offaly

Attention: Niall Nally

CERTIFICATE OF ANALYSIS

Date:	16 June 2010		
Customer:	D_ENVMAN_TAM-21		
Sample Delivery Group (SDG):	100610-80	**Report No.:**	87294
Your Reference:	70905		
Location:	70905		

We received 2 samples on Thursday June 10, 2010 and 2 of these samples were scheduled for analysis which was completed on Wednesday June 16, 2010. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Asbestos testing - we are not accredited for screening soil samples for asbestos fibres. We are only accredited to identify asbestos fibres in bulk material (ACM).

Approved By:

Iain Swinton

Operations Director - Land UK & Ireland

Validated

ALcontrol Laboratories Analytical Services

SDG:	100610-80	**Customer:**	Enviroco Management Ltd
Job:	D_ENVMAN_TAM-21	**Attention:**	Niall Nally
Client Reference:	70905	**Order No.:**	
Location:	70905	**Report No:**	87294

LIQUID

Results Legend	Lab Sample No(s)	1671668	1671671	Total
X Test	Customer Sample Ref.	KMK DX	KMK DX	
No Determination Possible	Depth (m)			
	Container	1 litre plastic (H)	1 litre plastic (H)	
		500ml Plastic	500ml Plastic	
		PLAB 007 (D)	PLAB 007 (D)	
Ammonium	All	X	X	02
COD Unfiltered	All	X	X	02
Conductivity (at 20 deg.C)	All	X	X	02
Dissolved Metals by ICP-MS	All	X	X	02
EPH (DRO) (C10-C40) Aqueous (W)	All	X	X	02
Mercury Dissolved	All	X	X	02
Metals by ICap-OES Dissolved (W)	All	X	X	02
Mineral Oil C10-40 Aqueous (W)	All	X	X	02
pH Value	All	X	X	02
Total Suspended Solids	All	X	X	02

Validated

ALcontrol Laboratories Analytical Services

SDG:	100610-80	**Customer:**	Enviroco Management Ltd
Job:	D_ENVMAN_TAM-21	**Attention:**	Niall Nally
Client Reference:	70905	**Order No.:**	
Location:	70905	**Report No:**	87294

Results Legend	Customer Sample Ref.	KMK CX	KMK DX
# ISO17025 accredited.	Depth (m)		
aq Aqueous / settled sample.	Sample Type	Water(SW/BW)	Water(SW/BW)
diss./filt Dissolved / Filtered sample.	Date Sampled	08/06/2010	08/06/2010
tot/unfilt Total / unfiltered sample.	Date Received	10/06/2010	10/06/2010
* subcontracted test.	SDG Ref	100610-80	100610-80
~ % recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery.	Lab Sample No.(s)	1071058	1071071

Component	LOD/Units	Method		
Suspended solids, Total	<2 mg/l	TM022	<2 #	362 #
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	0.993 #	<0.2 #
COD, unfiltered	7 mg/l	TM107	7.74 #	236 #
Conductivity @ 20 deg.C	<0.014 mS/cm	TM120	0.173 #	0.507 #
Aluminium (diss./filt)	<2.9 µg/l	TM152	11.2 #	40.4 #
Arsenic (diss./filt)	<0.12 µg/l	TM152	0.36 #	0.892 #
Chromium (diss./filt)	<0.22 µg/l	TM152	0.939 #	2.07 #
Lead (diss./filt)	<0.02 µg/l	TM152	0.904 #	7.33 #
Nickel (diss./filt)	<0.15 µg/l	TM152	1.49 #	10.3 #
Zinc (diss./filt)	<0.41 µg/l	TM152	43.5 #	121 #
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172	70.4 #	11100 #
Mineral oil >C10 C40 (aq)	<10 µg/l	TM172	<10	1300
Mercury (diss./filt)	<0.01 µg/l	TM183	<0.01 #	0.0146 #
Iron (diss./filt)	0.019 mg/l	TM228	<0.019	<0.019
pH	<1 pH Units	TM256	7.77 #	8.08 #

APPENDIX

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GS MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRA RED (IR)	TCE	LIQUID/LIQUID EXTRACTION	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID EXTRACTION	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC FID

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
Solvent Extractable Matter	D&C	DCM	SOXTHERM	GRAVIMETRIC
Cyclohexane Ext. Matter	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
Thin Layer Chromatography	D&C	DCM	SOXTHERM	IATROSCAN
Elemental Sulphur	D&C	DCM	SOXTHERM	HPLC
Phenols by GCMS	WET	DCM	SOXTHERM	GC-MS
Herbicides	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
Pesticides	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (Min oil)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (Cleaned up)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG by GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB tot / PCB con	D&C	HEXANE:ACETONE	END OVER END	GC-MS
Polyaromatic Hydrocarbons (MS)	WET	HEXANE:ACETONE	Microwave TM218.	GC-MS
C8-C40 (C6-C40)EZ Flash	WET	HEXANE:ACETONE	SHAKER	GC-EZ
Polyaromatic Hydrocarbons Rapid GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
Semi Volatile Organic Compounds	WET	DCM:ACETONE	SONICATE	GC-MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Visual Estimation Of Fibre Content.

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -

Trace – Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Last updated 1 April 2010

ALcontrol Laboratories

Unit 18A
Rosemount Business Park
Ballycoolin
Dublin 11
Tel : (0035) 3188 29893

Enviroco Management Ltd
Bow House
O Moore Street
Tullamore
Co. Offaly

Attention: Niall Nally

CERTIFICATE OF ANALYSIS

Date:	14 October 2010		
Customer:	D_ENVMAN_TAM-29		
Sample Delivery Group (SDG):	101001-93	**Report No.:**	100097
Your Reference:	1-10-10		
Location:	70955		

We received 1 sample on Friday October 01, 2010 and 1 of these samples were scheduled for analysis which was completed on Thursday October 14, 2010. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Asbestos testing - we are not accredited for screening soil samples for asbestos fibres. We are only accredited to identify asbestos fibres in bulk material (ACM).

Approved By:

Iain Swinton

Operations Director - Land UK & Ireland

UKAS TESTING
1291

GROUP

Validated

ALcontrol Laboratories Analytical Services

SDG:	101001-93	**Customer:**	Enviroco Management Ltd
Job:	D_ENVMAN_TAM-29	**Attention:**	Niall Nally
Client Reference:	1-10-10	**Order No.:**	70955
Location:	70955	**Report No:**	100097

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
2176332	70955 CX KMK			30/09/2010

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

ALcontrol Laboratories Analytical Services

SDG:	101001-93	**Customer:**	Enviroco Management Ltd
Job:	D_ENVMAN_TAM-29	**Attention:**	Niall Nally
Client Reference:	1-10-10	**Order No.:**	70955
Location:	70955	**Report No:**	100097

LIQUID

Results Legend

- X — Test
- N — No Determination Possible

	Lab Sample No(s)		2176332		
	Customer Sample Ref.		70955 CX KMK		
	AGS Ref.				
	Depth (m)				
	Container		1l glass bottle (D)	H2SO4 (Dublin)	PLAS BOT (C)
Ammonium	All	NDPs: 0 Tests: 1		X	
COD Unfiltered	All	NDPs: 0 Tests: 1			X
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 1			X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 1			X
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 1	X		
Mercury Dissolved	All	NDPs: 0 Tests: 1	X		
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 1			X
pH Value	All	NDPs: 0 Tests: 1			X
Total Suspended Solids	All	NDPs: 0 Tests: 1			X
TPH by IR Oils and Greases	All	NDPs: 0 Tests: 1	X		

Validated

ALcontrol Laboratories Analytical Services

SDG:	101001-93	**Customer:**	Enviroco Management Ltd
Job:	D_ENVMAN_TAM-29	**Attention:**	Niall Nally
Client Reference:	1-10-10	**Order No.:**	70955
Location:	70955	**Report No:**	100097

Validated

ALcontrol Laboratories Analytical Services

SDG:	101001-93	**Customer:**	Enviroco Management Ltd
Job:	D_ENVMAN_TAM-29	**Attention:**	Niall Nally
Client Reference:	1-10-10	**Order No.:**	70955
Location:	70955	**Report No:**	100097

Test Completion Dates

Lab Sample No(s)	2176332
Customer Sample Ref.	TB06 CX KBK
AGS Ref.	
Depth	
Type	LIQUID
Ammonium	05/10/2010
COD Unfiltered	05/10/2010
Conductivity (at 20 deg.C)	12/10/2010
Dissolved Metals by ICP-MS	06/10/2010
EPH (DRO) (C10-C40) Aqueous (W)	14/10/2010
Mercury Dissolved	08/10/2010
Metals by iCap-OES Dissolved (W)	05/10/2010
pH Value	05/10/2010
Total Suspended Solids	05/10/2010
TPH by IR Oils and Greases	05/10/2010

Validated

ALcontrol Laboratories Analytical Services

SDG:	101001-93	**Customer:**	Enviroco Management Ltd
Job:	D_ENVMAN_TAM-29	**Attention:**	Niall Nally
Client Reference:	1-10-10	**Order No.:**	70955
Location:	70955	**Report No:**	100097

Results Legend	
#	ISO17025 accredited.
M	MCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
^	subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery.

Customer Sample Ref.	70955 CK KMK
Depth (m)	
Sample Type	Water(GW/SW)
Date Sampled	30/09/2010
Date Received	01/10/2010
SDG Ref	101001-93
Lab Sample No.(s)	2178332
AGS Reference	

Component	LOD/Units	Method	
Suspended solids, Total	<2 mg/l	TM022	6.5 #
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	14.4 #
COD, unfiltered	<7 mg/l	TM107	37.7 #
Conductivity @ 20 deg.C (diss.filt)	<0.014 mS/cm	TM120	1.38 #
Aluminium (diss.filt)	<2.9 µg/l	TM152	<2.9 #
Arsenic (diss.filt)	<0.12 µg/l	TM152	3.23 #
Chromium (diss.filt)	<0.22 µg/l	TM152	5.92 #
Lead (diss.filt)	<0.02 µg/l	TM152	0.397 #
Nickel (diss.filt)	<0.15 µg/l	TM152	6.88 #
Zinc (diss.filt)	<0.41 µg/l	TM152	41.1 #
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172	<46 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #
Iron (diss.filt)	<0.019 mg/l	TM228	0.26
Mineral Oil	<1 mg/l	TM235	<1
pH	<1 pH Units	TM256	8.54 #

Table of Results - Appendix

SDG Number : 101001-93 **Client :** D_ENVMAN_TAM **Client Ref :** 1-10-10

REPORT KEY

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10-7

NDP	No Determination Possible	#	ISO 17025 Accredited	*	Subcontracted Test	M	MCERTS Accredited
NFD	No Fibres Detected	PFD	Possible Fibres Detected	»	Result previously reported (incremental reports only)	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample *	Surrogate Corrected
TM022	Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part120 1983;BS EN 872	Determination of total suspended solids in waters		
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM099	BS 2690: Part 7:1985 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser		
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit		
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM228	US EPA Method 6010B	Determination of Major Cations in Water by iCap 6500 Duo ICP-OES		
TM235	The Determination of Hydrocarbon Oils in Waters by Solvent Extraction, Infra red Absorption and Gravimetry 1983, HMSO, London	Determination of Total Petroleum Hydrocarbons (TPH) in Waters By Infra-Red Spectroscopy		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter		

* Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

APPENDIX

APPENDIX

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH_4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.
2. Samples will be run in duplicate upon request, but an additional charge may be incurred.
3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.
4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.
5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.
6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.
7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample – similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.
8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.
9. NDP – No determination possible due to insufficient/unsuitable sample.
10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals – total metals must be requested separately.
11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.
12. Results relate only to the items tested
13. **Surrogate recoveries** – Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 – 130 %.
14. **Product analyses** – Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.
15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).
16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).
17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.
18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not accredited.
19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.
19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.
20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.
21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.
22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials – whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 – C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Last updated 1 April 2010

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GS MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRA RED (IR)	TCE	LIQUID/LIQUID EXTRACTION	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID EXTRACTION	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC FID

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
Solvent Extractable Matter	D&C	DCM	SOXTHERM	GRAVIMETRIC
Cyclohexane Ext. Matter	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
Thin Layer Chromatography	D&C	DCM	SOXTHERM	IATROSCAN
Elemental Sulphur	D&C	DCM	SOXTHERM	HPLC
Phenols by GCMS	WET	DCM	SOXTHERM	GC-MS
Herbicides	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
Pesticides	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (Min oil)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (Cleaned up)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG by GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB tot / PCB con	D&C	HEXANE:ACETONE	END OVER END	GC-MS
Polyaromatic Hydrocarbons (MS)	WET	HEXANE:ACETONE	Microwave TM218.	GC-MS
C8-C40 (C6-C40)EZ Flash	WET	HEXANE:ACETONE	SHAKER	GC-EZ
Polyaromatic Hydrocarbons Rapid GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
Semi Volatile Organic Compounds	WET	DCM:ACETONE	SONICATE	GC-MS

Last updated 1 April 2010

Chemtest
The right chemistry to deliver results

Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070

Enviroco Management Ltd
Bow House
O'Moore Street
Tullamore, Co. Offaly
Ireland

FAO Kenneth Goodwin
15 November 2010

Dear Kenneth Goodwin

Test Report Number **121323**
Your Project Reference **70974**

Please find enclosed the results of analysis for the samples received 5 November 2010.

All soil samples will be retained for a period of one month and all water samples will be retained for 7 days following the date of the test report. Should you require an extended retention period then please detail your requirements in an email to customerservices@chemtest.co.uk. Please be aware that charges may be applicable for extended sample storage.

If you require any further assistance, please do not hesitate to contact the Customer Services team.

Yours sincerely

KT Jones

Authorised Signatory

☐	Darrell Hall	Director
☐	Phil Hellier	Director
☑	Keith Jones	Technical Manager
☐	John Crawford	Quality Manager
☐	Malcolm Avis	Director

UKAS TESTING
2183

ISO 14001 sira UKAS ENVIRONMENTAL MANAGEMENT

Notes to accompany report:

- *The sign < means 'less than'*
- *Tests marked 'U' hold UKAS accreditation*
- *Tests marked 'M' hold MCertS (and UKAS) accreditation*
- *Tests marked 'N' do not currently hold UKAS accreditation*
- *Tests marked 'S' were subcontracted to an approved laboratory*
- *n/e means 'not evaluated'*
- *i/s means 'insufficient sample'*
- *u/s means 'unsuitable sample'*
- *Comments or interpretations are beyond the scope of UKAS accreditation*
- *The results relate only to the items tested*

Enviroco Management Ltd
Bow House
O'Moore Street
Tullamore, Co. Offaly
Ireland

FAO Kenneth Goodwin

LABORATORY TEST REPORT

Results of analysis of 2 samples
received 5 November 2010

70974

Chemtest
The right chemistry to deliver results

Report Date
15 November 2010

Login Batch No					**121323**	
Chemtest LIMS ID					AF45597	AF45598
Sample ID					CX	DX
Sample No					1	1
Sampling Date					03/11/2010	03/11/2010
Depth						
Matrix					*WATER*	*WATER*
SOP↓	Determinand↓	CAS No↓	Units↓	*		
1010	pH	PH	-	U	7.9	10.7
1020	Electrical Conductivity	EC	µS cm-¹	U	350	720
1030	Suspended solids at 105°C	SS_105	mg l-¹	N	43	440
1100	Chemical Oxygen Demand	COD	mg O2 l-¹	U	< 10	63
1220	Chloride	16887006	mg l-¹	U	46	110
	Ammonia (free)	7664417	mg l-¹	U	0.06	0.10
1470	Iron (dissolved)	7439896	µg l-¹	N	70	160
1610	Total Organic Carbon	TOC	mg l-¹	N	4.6	26
1450	Aluminium	7429905	µg l-¹	N	160	6000
	Arsenic	7440382	µg l-¹	U	1.2	4.5
	Chromium (total)	7440473	µg l-¹	U	9.9	24
	Mercury	7439976	µg l-¹	U	<0.50	<0.50
	Nickel	7440020	µg l-¹	U	9.2	34
	Lead	7439921	µg l-¹	U	91	400
	Zinc	7440666	µg l-¹	U	300	1400
1673	TPH >C6-C10		µg l-¹	U	<0.10	<0.10
	TPH >C10-C21		µg l-¹	U	<0.10	100
	TPH >C21-C40		µg l-¹	U	<0.10	34
	TPH (Aqueous Phase)		µg l-¹	U	<10	130

All tests undertaken between 10/11/2010 and 15/11/2010

* Accreditation status

This report should be interpreted in conjuction with the notes on the accompanying cover page.

ALcontrol Laboratories

Unit 18A
Rosemount Business Park
Ballycoolin
Dublin 11
Tel : (0035) 3188 29893

Enviroco Management Ltd
Bow House
O Moore Street
Tullamore
Co. Offaly

Attention: Pamela Maleady

CERTIFICATE OF ANALYSIS

Date:	14 September 2010		
Customer:	D_ENVMAN_TAM-28		
Sample Delivery Group (SDG):	100901-92	**Report No.:**	96757
Your Reference:	70955		
Location:	KMK		

We received 2 samples on Wednesday September 01, 2010 and 2 of these samples were scheduled for analysis which was completed on Tuesday September 14, 2010. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Asbestos testing - we are not accredited for screening soil samples for asbestos fibres. We are only accredited to identify asbestos fibres in bulk material (ACM).

Approved By:

Iain Swinton

Operations Director - Land UK & Ireland

UKAS TESTING
1291

GROUP

Validated

ALcontrol Laboratories Analytical Services

SDG:	100901-92	**Customer:**	Enviroco Management Ltd
Job:	D_ENVMAN_TAM-28	**Attention:**	Pamela Maleady
Client Reference:	70955	**Order No.:**	70955
Location:	KMK	**Report No:**	96757

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
2030199	GW1 70955			01/09/2010
2030212	GW2 70955			01/09/2010

Only received samples which have had analysis scheduled will be shown on the following pages.

Validated

ALcontrol Laboratories Analytical Services

SDG:	100901-92	**Customer:**	Enviroco Management Ltd
Job:	D_ENVMAN_TAM-28	**Attention:**	Pamela Maleady
Client Reference:	70955	**Order No.:**	70955
Location:	KMK	**Report No:**	96757

LIQUID

Results Legend

X Test

N No Determination Possible

			2300199	2300212
		Lab Sample No(s)		
		Customer Sample Ref.	GWM 78955	GWM 78955
		AGS Ref.		
		Depth (m)		
		Container	1L plastic bottle (U)	1L plastic bottle (U)
Anions by Kone (w)	All	NDPs: 0 Tests: 2	X	X
Coliforms (W)	All	NDPs: 0 Tests: 2	X	X
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 2	X	X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 2	X	X
Mercury Dissolved	All	NDPs: 0 Tests: 2	X	X
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 2	X	X
pH Value	All	NDPs: 0 Tests: 2	X	X
Total Nitrogen	All	NDPs: 0 Tests: 2	X	X
VOC MS (W)	All	NDPs: 0 Tests: 2	X	X

Validated

ALcontrol Laboratories Analytical Services

SDG:	100901-92	**Customer:**	Enviroco Management Ltd
Job:	D_ENVMAN_TAM-28	**Attention:**	Pamela Maleady
Client Reference:	70955	**Order No.:**	70955
Location:	KMK	**Report No:**	96757

Test Completion Dates

Lab Sample No(s)	2030199	2030212
Customer Sample Ref.	GW1 70955	GW2 70955
AGS Ref.		
Depth		
Type	LIQUID	LIQUID
Anions by Kone (w)	02/09/2010	02/09/2010
Coliforms (W)	14/09/2010	14/09/2010
Conductivity (at 20 deg.C)	03/09/2010	03/09/2010
Dissolved Metals by ICP-MS	03/09/2010	03/09/2010
Mercury Dissolved	07/09/2010	07/09/2010
Metals by iCap-OES Dissolved (W)	03/09/2010	03/09/2010
pH Value	03/09/2010	02/09/2010
Total Nitrogen	02/09/2010	02/09/2010
VOC MS (W)	03/09/2010	03/09/2010

Validated

ALcontrol Laboratories Analytical Services

SDG:	100901-92	**Customer:**	Enviroco Management Ltd
Job:	D_ENVMAN_TAM-28	**Attention:**	Pamela Maleady
Client Reference:	70955	**Order No.:**	70955
Location:	KMK	**Report No:**	96757

Results Legend	
#	ISO17025 accredited.
M	MCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
^	subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery.

Customer Sample Ref.	GW1 70955	GW2 70955
Depth (m)		
Sample Type	Water(GW/SW)	Water(GW/SW)
Date Sampled	01/09/2010	01/09/2010
Date Received	01/09/2010	01/09/2010
SDG Ref	100901-92	100901-92
Lab Sample No.(s)	2030199	2030212
AGS Reference		

Component	LOD/Units	Method		
Faecal Coliforms (W)*	CFU/100ml	SUB	0	0
Conductivity @ 20 deg.C	<0.014 mS/cm	TM120	0.487 #	0.481 #
Aluminium (diss.filt)	<2.9 µg/l	TM152	<2.9 #	<2.9 #
Arsenic (diss.filt)	<0.12 µg/l	TM152	0.197 #	5.88 #
Chromium (diss.filt)	<0.22 µg/l	TM152	4.66 #	4.43 #
Lead (diss.filt)	<0.02 µg/l	TM152	0.028 #	0.03 #
Nickel (diss.filt)	<0.15 µg/l	TM152	1.25 #	20.9 #
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #
Chloride	<2 mg/l	TM184	12.5 #	12.8 #
Nitrogen, Total	<1 mg/l	TM212	<1	<1
Iron (diss.filt)	<0.018 mg/l	TM228	<0.018	<0.018
pH	<1 pH Units	TM256	8.28 #	8.28 #

Validated

ALcontrol Laboratories Analytical Services

SDG:	100901-92	**Customer:**	Enviroco Management Ltd
Job:	D_ENVMAN_TAM-28	**Attention:**	Pamela Maleady
Client Reference:	70955	**Order No.:**	70955
Location:	KMK	**Report No:**	96757

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	MCERTS accredited.
aq	Aqueous / settled sample.
diss./filt.	Dissolved / filtered sample.
tot./unfilt	Total / unfiltered sample.
^	subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery.

Customer Sample Ref.		GW1 70955	GW2 70955			
Depth (m)						
Sample Type		Water(GW/SW)	Water(GW/SW)			
Date Sampled		01/09/2010	01/09/2010			
Date Received		01/09/2010	01/09/2010			
SDG Ref		100901-92	100901-92			
Lab Sample No.(s)		2030199	2030212			
AGS Reference						
Component	**LOD/Units**	**Method**				
Dibromofluoromethane**	%	TM208	110	109		
Toluene-d8**	%	TM208	97.7	99.3		
4-Bromofluorobenzene**	%	TM208	98.2	98.4		
Dichlorodifluoromethane	<7 µg/l	TM208	<7 #	<7 #		
Chloromethane	<9 µg/l	TM208	<9 #	<9 #		
Vinyl chloride	<1.2 µg/l	TM208	<1.2 #	<1.2 #		
Bromomethane	<2 µg/l	TM208	<2 #	<2 #		
Chloroethane	<2.5 µg/l	TM208	<2.5 #	<2.5 #		
Trichlorofluoromethane	<1.3 µg/l	TM208	<1.3 #	<1.3 #		
1,1-Dichloroethene	<1.2 µg/l	TM208	<1.2 #	<1.2 #		
Carbon disulphide	<1.3 µg/l	TM208	<1.3 #	<1.3 #		
Dichloromethane	<3.7 µg/l	TM208	<3.7 #	<3.7 #		
Methyl tertiary butyl ether (MTBE)	<1.8 µg/l	TM208	<1.8 #	<1.8 #		
trans-1,2-Dichloroethene	<1.9 µg/l	TM208	<1.9 #	<1.9 #		
1,1-Dichloroethane	<1.2 µg/l	TM208	<1.2 #	<1.2 #		
cis-1,2-Dichloroethene	<2.3 µg/l	TM208	<2.3 #	<2.3 #		
2,2-Dichloropropane	<3.8 µg/l	TM208	<3.8 #	<3.8 #		
Bromochloromethane	<1.9 µg/l	TM208	<1.9 #	<1.9 #		
Chloroform	<1.8 µg/l	TM208	<1.8 #	<1.8 #		
1,1,1-Trichloroethane	<1.3 µg/l	TM208	<1.3 #	<1.3 #		
1,1-Dichloropropene	<1.3 µg/l	TM208	<1.3 #	<1.3 #		
Carbontetrachloride	<1.4 µg/l	TM208	<1.4 #	<1.4 #		
1,2-Dichloroethane	<3.3 µg/l	TM208	<3.3	<3.3		
Benzene	<1.3 µg/l	TM208	<1.3 #	<1.3 #		
Trichloroethene	<2.5 µg/l	TM208	<2.5 #	<2.5 #		
1,2-Dichloropropane	<3 µg/l	TM208	<3 #	<3 #		
Dibromomethane	<2.7 µg/l	TM208	<2.7 #	<2.7 #		
Bromodichloromethane	<0.9 µg/l	TM208	<0.9 #	<0.9 #		
cis-1,3-Dichloropropene	<1.9 µg/l	TM208	<1.9 #	<1.9 #		
Toluene	<1.4 µg/l	TM208	<1.4 #	<1.4 #		
trans-1,3-Dichloropropene	<3.5 µg/l	TM208	<3.5 #	<3.5 #		
1,1,2-Trichloroethane	<2.2 µg/l	TM208	<2.2 #	<2.2 #		
1,3-Dichloropropane	<2.2 µg/l	TM208	<2.2 #	<2.2 #		
Tetrachloroethene	<1.5 µg/l	TM208	<1.5 #	<1.5 #		
Dibromochloromethane	<1.7 µg/l	TM208	<1.7 #	<1.7 #		
1,2-Dibromoethane	<2.3 µg/l	TM208	<2.3 #	<2.3 #		
Chlorobenzene	<3.5 µg/l	TM208	<3.5 #	<3.5 #		
1,1,1,2-Tetrachloroethane	<1.3 µg/l	TM208	<1.3 #	<1.3 #		
Ethylbenzene	<2.5 µg/l	TM208	<2.5 #	<2.5 #		

Validated

ALcontrol Laboratories Analytical Services

SDG:	100901-92	**Customer:**	Enviroco Management Ltd
Job:	D_ENVMAN_TAM-28	**Attention:**	Pamela Maleady
Client Reference:	70955	**Order No.:**	70955
Location:	KMK	**Report No:**	96757

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	MCERTS accredited.
aq	Aqueous / settled sample.
diss./filt.	Dissolved / filtered sample.
tot./unfilt	Total / unfiltered sample.
^	subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery.

Customer Sample Ref.		GW1 70955	GW2 70955
Depth (m)			
Sample Type		Water(GW/SW)	Water(GW/SW)
Date Sampled		01/09/2010	01/09/2010
Date Received		01/09/2010	01/09/2010
SDG Ref		100901-92	100901-92
Lab Sample No.(s)		2030199	2030212
AGS Reference			

Component	LOD/Units	Method		
m,p-Xylene	<2.5 µg/l	TM208	<2.5 #	<2.5 #
o-Xylene	<1.7 µg/l	TM208	<1.7 #	<1.7 #
Styrene	<1.2 µg/l	TM208	<1.2 #	<1.2 #
Bromoform	<3 µg/l	TM208	<3 #	<3 #
Isopropylbenzene	<1.4 µg/l	TM208	<1.4 #	<1.4 #
1,1,2,2-Tetrachloroethane	<5.2 µg/l	TM208	<5.2	<5.2
1,2,3-Trichloropropane	<7.8 µg/l	TM208	<7.8 #	<7.8 #
Bromobenzene	<2 µg/l	TM208	<2 #	<2 #
Propylbenzene	<2.6 µg/l	TM208	<2.6 #	<2.6 #
2-Chlorotoluene	<1.9 µg/l	TM208	<1.9 #	<1.9 #
1,3,5-Trimethylbenzene	<1.8 µg/l	TM208	<1.8 #	<1.8 #
4-Chlorotoluene	<1.9 µg/l	TM208	<1.9 #	<1.9 #
tert-Butylbenzene	<2 µg/l	TM208	<2 #	<2 #
1,2,4-Trimethylbenzene	<1.7 µg/l	TM208	<1.7 #	<1.7 #
sec-Butylbenzene	<1.7 µg/l	TM208	<1.7 #	<1.7 #
4-iso-Propyltoluene	<2.6 µg/l	TM208	<2.6 #	<2.6 #
1,3-Dichlorobenzene	<2.2 µg/l	TM208	<2.2 #	<2.2 #
1,4-Dichlorobenzene	<2.7 µg/l	TM208	<2.7 #	<2.7 #
n-Butylbenzene	<2 µg/l	TM208	<2 #	<2 #
1,2-Dichlorobenzene	<3.7 µg/l	TM208	<3.7	<3.7
1,2-Dibromo-3-chloropropane	<8.8 µg/l	TM208	<8.8	<8.8
1,2,4-Trichlorobenzene	<2.3 µg/l	TM208	<2.3 #	<2.3 #
Hexachlorobutadiene	<2.5 µg/l	TM208	<2.5 #	<2.5 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #
Naphthalene	<3.5 µg/l	TM208	<3.5 #	<3.5 #
1,2,3-Trichlorobenzene	<3.1 µg/l	TM208	<3.1 #	<3.1 #
1,3,5-Trichlorobenzene	<10 µg/l	TM208	<10	<10

Table of Results - Appendix

SDG Number : 100901-92 **Client :** D_ENVMAN_TAM **Client Ref :** 70955

REPORT KEY

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10-7

NDP	No Determination Possible	#	ISO 17025 Accredited	*	Subcontracted Test	M	MCERTS Accredited
NFD	No Fibres Detected	PFD	Possible Fibres Detected	»	Result previously reported (incremental reports only)	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample †	Surrogate Corrected
SUB		Subcontracted Test		
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM183	BS EN 13506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM184	EPA Methods 325.1 & 325.2.	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters		
TM212	ISO/TR 11905-2: 1997. Water quality – Determination of nitrogen –Part 2:Determination of bound nitrogen, after combustion and oxidation to nitrogen dioxide, chemiluminescence detection.	Determination of Total Nitrogen by High Temperature Catalytic Oxidation followed by Chemiluminescence Detection		
TM228	US EPA Method 6010B	Determination of Major Cations in Water by iCap 6500 Duo ICP-OES		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751421 4.	Determination of pH in Water and Leachate using the OLpH pH Meter		

† Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

APPENDIX

APPENDIX

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH_4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.
2. Samples will be run in duplicate upon request, but an additional charge may be incurred.
3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.
4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.
5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.
6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.
7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample – similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.
8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.
9. NDP – No determination possible due to insufficient/unsuitable sample.
10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals – total metals must be requested separately.
11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.
12. Results relate only to the items tested
13. **Surrogate recoveries** – Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 – 130 %.
14. **Product analyses** – Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.
15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).
16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).
17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.
18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not accredited.
19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.
19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.
20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.
21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.
22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials – whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 – C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Last updated 1 April 2010

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GS MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRA RED (IR)	TCE	LIQUID/LIQUID EXTRACTION	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID EXTRACTION	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC FID

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
Solvent Extractable Matter	D&C	DCM	SOXTHERM	GRAVIMETRIC
Cyclohexane Ext. Matter	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
Thin Layer Chromatography	D&C	DCM	SOXTHERM	IATROSCAN
Elemental Sulphur	D&C	DCM	SOXTHERM	HPLC
Phenols by GCMS	WET	DCM	SOXTHERM	GC-MS
Herbicides	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
Pesticides	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (Min oil)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (Cleaned up)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG by GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB tot / PCB con	D&C	HEXANE:ACETONE	END OVER END	GC-MS
Polyaromatic Hydrocarbons (MS)	WET	HEXANE:ACETONE	Microwave TM218.	GC-MS
C8-C40 (C6-C40)EZ Flash	WET	HEXANE:ACETONE	SHAKER	GC-EZ
Polyaromatic Hydrocarbons Rapid GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
Semi Volatile Organic Compounds	WET	DCM:ACETONE	SONICATE	GC-MS

Last updated 1 April 2010

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Visual Estimation Of Fibre Content.

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -

Trace – Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Last updated 1 April 2010

Environmental Protection Agency

Guidance to completing the PRTR workbook

AER Returns Workbook

Version 1.1.12

REFERENCE YEAR	2010

1. FACILITY IDENTIFICATION

Parent Company Name	KMK Metals Recycling Ltd.
Facility Name	KMK Metals Recycling Ltimited
PRTR Identification Number	W0113
Licence Number	W0113-03

Waste or IPPC Classes of Activity

No.	class_name
4.13	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.
4.11	Use of waste obtained from any activity referred to in a preceding paragraph of this Schedule.
4.12	Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule.
4.3	Recycling or reclamation of metals and metal compounds.
4.4	Recycling or reclamation of other inorganic materials.
4.6	Recovery of components used for pollution abatement.
4.7	Recovery of components from catalysts.

Address 1	Cappincur Industrial Estate
Address 2	Daingean Road
Address 3	Tullamore
Address 4	Co Offaly
Country	Ireland
Coordinates of Location	-8.67198 52.6465
River Basin District	IEGBNISH
NACE Code	3832
Main Economic Activity	Recovery of sorted materials
AER Returns Contact Name	Kurt M Kyck
AER Returns Contact Email Address	charlotte@metalsrecycling.ie
AER Returns Contact Position	Managing Director
AER Returns Contact Telephone Number	057 93 41634
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	0
User Feedback/Comments	
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?	
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 ?	

4.1 RELEASES TO AIR

Link to previous years emissions data

SECTION A : SECTOR SPECIFIC PRTR POLLUTANTS

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

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

Additional Data Requested from Landfill operators

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

Landfill: KMK Metals Recycling Ltimited

Please enter summary data on the quantities of methane flared and / or utilised	T (Total) kg/Year	M/C/E	Method Used: Method Code	Method Used: Designation or Description	Facility Total Capacity m3 per hour	
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	

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					
No. Annex II	Name	M/C/E	Method Code	Designation or Description	Emission Point 1	T (Total) KG/Year	A (Accidental) KG/Year	F (Fugitive) KG/Year
					0.0	0.0	0.0	0.0

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

SECTION B : REMAINING PRTR POLLUTANTS

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

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

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

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

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

4.3 RELEASES TO WASTEWATER OR SEWER

Link to previous years emissions data

SECTION A : PRTR POLLUTANTS

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

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

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

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

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

Transfer Destination	European Waste Code	Hazardous	Quantity (Tonnes per Year)	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Haz Waste : Name and Licence/Permit No of Next Destination Facility Non Haz Waste: Name and Licence/Permit No of Recover/Disposer	Haz Waste : Address of Next Destination Facility Non Haz Waste: Address of Recover/Disposer	Name and License / Permit No. and Address of Final Recoverer / Disposer (HAZARDOUS WASTE ONLY)	Actual Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the Country	06 05 02	Yes	44.0	sludges from on-site effluent treatment containing dangerous solutions	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road ,Tullamore,Co Offaly,Ireland	Confidential information,Confidential information,,,,,,,,Ireland	,,,,,,,,Ireland
Within the Country	06 05 02	Yes	0.65	sludges from on-site effluent treatment containing dangerous solutions	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	Confidential information,Confidential information,,,,,,,,Ireland	,,,,,,,,Ireland
Within the Country	06 13 99	No	0.268	wastes not otherwise specified	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	07 07 10	Yes	82.843	other filter cakes and spent sbsorbents	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential information,Confidential information,,,,,,,,Ireland	,,,,,,,,Ireland
Within the Country	11 01 09	Yes	8.335	sludges and filter cakes containing dangerous substances	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential information,Confidential information,,,,,,,,Ireland	,,,,,,,,Ireland
Within the Country	12 01 01	No	346.732	ferrous metal filings and turnings	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	12 01 03	No	138.435	non-ferrous metal filings and turnings	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	12 01 04	No	28.045	non-ferrous metal dust and particles	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	12 01 13	No	7.251	welding wastes	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	12 01 20	Yes	125.781	spent grinding bodies and grinding materials containing dangerous substances	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential information,Confidential information,,,,,,,,Ireland	,,,,,,,,Ireland
Within the Country	12 01 21	No	18.268	spent grinding bodies and grinding materials other than those mentioned in 12 01 20	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	13 02 08	Yes	1.707	other engine, gear and lubricating oils	R5	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential information,Confidential information,,,,,,,,Ireland	,,,,,,,,Ireland
Within the Country	13 08 99	Yes	0.79	wastes not otherwise specified	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential information,Confidential information,,,,,,,,Ireland	,,,,,,,,Ireland
Within the Country	15 01 01	No	5.208	paper and cardboard packaging	R3	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	15 01 02	No	2.017	plastic packaging	R5	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	15 01 03	No	5.778	wooden packaging	R3	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	15 01 04	No	4.434	metallic packaging	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	15 01 06	No	11.863	mixed packaging	R5	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	15 01 10	Yes	0.122	packaging containing residues of or contaminated by dangerous substances	R5	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential information,Confidential information,,,,,,,,Ireland	,,,,,,,,Ireland
Within the Country	15 02 02	Yes	1.272	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	R5	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential information,Confidential information,,,,,,,,Ireland	,,,,,,,,Ireland
Within the Country	15 02 03	No	1.134	absorbents, filter materials, wiping cloths and protective clothing other than those mentioned in 15 02 02	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	16 02 09	Yes	5.31	transformers and capacitors containing PCBs	R4	M	Weighed	Onsite in Ireland	KMK Metals recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential information,Confidential information,,,,,,,,Ireland	,,,,,,,,Ireland
Within the Country	16 02 11	Yes	50.902	discarded equipment containing chlorofluorocarbons, HCFC, HFC	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential information,Confidential information,,,,,,,,Ireland	,,,,,,,,Ireland
Within the Country	16 02 13	Yes	226.624	discarded equipment containing hazardous components (16) other than those mentioned in 16 02 09 to 16 02 12	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential information,Confidential information,,,,,,,,Ireland	,,,,,,,,Ireland
Within the Country	16 02 14	No	2706.982	discarded equipment other than those mentioned in 16 02 09 to 16 02 13	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	16 02 15	Yes	22.4	hazardous components removed from discarded equipment	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential information,Confidential information,,,,,,,,Ireland	,,,,,,,,Ireland
Within the Country	16 02 16	No	708.438	components removed from discarded equipment other than those mentioned in 16 02 15	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	16 03 04	No	0.819	inorganic wastes other than those mentioned in 16 03 03	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	16 05 07	Yes	0.256	discarded inorganic chemicals consisting of or containing dangerous substances	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential information,Confidential information,,,,,,,,Ireland	,,,,,,,,Ireland
Within the Country	16 06 01	Yes	652.196	lead batteries	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential information,Confidential information,,,,,,,,Ireland	,,,,,,,,Ireland
Within the Country	16 06 02	Yes	23.115	Ni-Cd batteries	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland	Confidential information,Confidential information,,,,,,,,Ireland	,,,,,,,,Ireland
Within the Country	16 06 04	No	123.289	alkaline batteries (except 16 06 03)	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	16 06 05	No	5.02	other batteries and accumulators	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co Offaly,Ireland		
Within the Country	19 12 02	No	14.413	ferrous metal	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland		
Within the Country	19 12 03	No	90.364	non-ferrous metal	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland		
Within the Country	19 12 04	No	1.841	plastic and rubber	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland		
Within the Country	20 01 21	Yes	92.078	fluorescent tubes and other mercury-containing waste	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	Confidential information,Confidential information,,,,,,,,Ireland	,,,,,,,,Ireland
Within the Country	20 01 23	Yes	2225.809	discarded equipment containing chlorofluorocarbons	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	Confidential information,Confidential information,,,,,,,,Ireland	,,,,,,,,Ireland

Within the Country	20 01 35	Yes	2403.619	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and and 20 01 23 containing hazardous components	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland	Confidential information,Confidential information,.....,Ireland	.....,Ireland
Within the Country	**20 01 36**	**No**	13009.31	discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	R4	M	Weighed	Onsite in Ireland	KMK Metals Recycling Ltd,W0113-03	Cappincur Industrial Estate,Daingean Road,Tullamore,Co. Offaly,Ireland		

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

Link to previous years waste data
Link to previous years waste summary data & percentage change