# WOOD ENVIRONMENTAL MANAGEMENT LTD

**Environmental Management Consultants** 

Mr Noel Madden The Recycling Village Unit 21, Duleek Business Park Commons, Duleek Co Meath

10th April 2013

Dear Noel,

#### RE: Annual Noise, Dust Deposition & Q1 Effluent Reports.

Please find enclosed copies of the following monitoring reports for your files;

- 1 x 2013 Annual Noise & Dust Deposition Report
- 1 x 2013 Q1 Effluent Analysis Lab Certificates

The results of the noise survey show that during the day time noise levels recorded at some of the site boundary locations were above the day time Waste Permit limit of LAeq 55 dB (A). Noise levels at these locations were influenced by noise from visiting lorries, forklifts and operation of the glass cleaning process.

However it is concluded that noise emissions from the facility are unlikely to have a negative impact on sensitive locations beyond the site boundary.

Dust deposition levels are below the waste permit limits. The results of the effluent sample that was taken from your interceptor sump on 25<sup>th</sup> February 2013 are summarized below.

Parameter	Permit Limit	Lab Results	Compliance
PH	6-9	7.3 250	Yes
BOD	<2 mg/l	123;194 mg/l	No
Suspended Solids	10 mg/l	.♥27 mg/l	No
Ammonia	0.065 mg/l	1.1 mg/l	No
Mineral Oils	0.065 mg/l 3 mg/l Non set Columbia	2.34 mg/l	Yes
VOC's	Non set Fol with	<1 ug/l	Below detection limits
Glycol	Non set	<10 mg/l	Below detection limits
Pesticides	Non set	<0.01 ug/l	Below detection limits
Heavy Metals	Non setas	Low ug/l levels	Very low levels

The above results show that there are no significant levels of hazardous chemicals in the effluent ie. VOC's, pesticides, glycol, heavy metals and mineral oils. However, as with previous effluent samples that have been taken from your interceptor sump, the effluent quality does not comply with the requirements of Clause 6.3 of the waste permit in relation to BOD, ammonia and suspended solids and is unlikely to meet the low SS, ammonia and BOD levels in your permit.

The remaining 2013 monitoring surveys are scheduled as follows;

- June 2013 Q2 Effluent
- September 2013 Q3 Effluent & Q2 Dust Deposition
- December 2013 Q4 Effluent

Please call me on 087-2854171 if you wish to discuss further.

Yours Sincerely,

Andrew Wood. Managing Director.

Enc. Environmental Noise & Dust Deposition Report

Q1 2013 Effluent Laboratory Results

1 Castle Grove, Kilgobbin Wood, Sandyford, Dublin 18, Ireland Tel/Fax: 01-2945613. Mobile: 087-2854171. E-mail: awood@weml.ie Web Site: www.weml.ie Registered in Ireland No. 315150

# **APPENDIX 2**

# **Laboratory Certificates**

Consent of copyright owner reduced for any other use.



# **ALcontrol Laboratories**

c/o Aramex Bellinstown Ballyboughal Co Dublin

Tel: +353 (0)184 33033 (Opt 2)

Wood Environmental Management Ltd (WEML)
1 Castlegrove
Killgobbin Wood
Sandyford
Dublin
Dublin 18

Attention: Andrew Wood

## CERTIFICATE OF ANALYSIS

Date:

07 March 2013

Customer:

D\_WEML\_DUB

Sample Delivery Group (SDG):

130227-30

Your Reference:

RV

Location:

RV

Report No:

214929

We received 5 samples on Tuesday February 26, 2013 and 5 of these samples were scheduled for analysis which was completed on Thursday March 07, 2013. Accredited laboratory tests are odefined 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 the last of in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at Al contract believed in its entirety and not simply with the data

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

Approved By:

Sonia McWhan
Operations Manager

mcerts





Validated

SDG:

130227-30

Location: **Customer:**  RV

Order Number:

rvq12013 214929

Job: Client Reference:

D\_WEML\_DUB-25

Attention:

Andrew Wood

Wood Environmental Management Ltd (WEMReport Number:
Andrew Wood
Superseded Report:

The state of the s				21122	DV D3	RV D4	RV EFF	
Results Legend # ISO17025 accredited. M mCERTS accredited.	Cus	stomer Sample R	RV D1	RV D2	RV D3	RV D4	2.11	
aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Depth (m) Sample Type Date Sampled		Water(GW/SW) 25/02/2013	Water(GW/SW) 25/02/2013	Water(GW/SW) 25/02/2013	Water(GW/SW) 25/02/2013	
<ul> <li>Subcontracted test.</li> <li>** % recovery of the surrogate standa</li> </ul>	ard to	Sample Time	25/02/2010				26/02/2013	
check the efficiency of the method. results of individual compounds w	The	Date Received	26/02/2013 130227-30	26/02/2013 130227-30	26/02/2013 130227-30	26/02/2013 130227-30	130227-30	
samples aren't corrected for the re-	coverv	SDG Ref ab Sample No.(s)	6988933	6988934	6988936	6988937	6988932	
(F) Trigger breach confirmed 1-4&+§@ Sample deviation (see appendix)		AGS Reference						
Component	LOD/Units	Method		•	40	2	27	
Suspended solids, Total	<2 mg/l	TM022	<2 #	<2 #	<2 #	#	#	
BOD, unfiltered	<1 mg/l	TM045					3.94	
Ammoniacal Nitrogen as NH3	<0.2 mg/l	TM099					1.1 #	
Arsenic (diss.filt)	<0.12 µg/	TM152					2.13 #	
Cadmium (diss.filt)	<0.1 µg/l	TM152					3.89	
Chromium (diss.filt)	<0.22 µg/	/I TM152					15.7	
Lead (diss.filt)	<0.02 µg/	/I TM152					15.1	
Mineral oil >C10 C40 (aq)	<10 μg/l						2340	
		TM228					0.0272	
Iron (diss.filt)	<0.019 mg/l					<b>.</b> €.	6.29	
TPH / Oil & Greases	<1 mg/l				South and other i		#	
pH	<1 pH Units	TM256			My any ot		7.7	
					es al foi			
				Durch	VIII			
				action is the				
	-			ज्यान्त्री व्याप				
			4	CODA				
			e ent					
			Consent					



Validated

SDG: Job:

130227-30 D\_WEML\_DUB-25

Location: Customer:

Wood Environmental Management Ltd (WEMReport Number:

Order Number:

rvq12013 214929

Client Reference:

RV

Andrew Wood Attention:

Superseded Report:

Glycols by GC-FID			0 1 0					
Results Legend  # ISO17025 accredited.  M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filterted sample. tot.unfilt Total / unfiltered sample.  Subcontracted test.  " recovery of the surrogate standarcheck the efficiency of the method. results of individual compounds with	The thin	S D S	Depth (m) Sample Type late Sampled Sample Time ate Received SDG Ref	RV EFF  Water(GW/SW) 25/02/2013 26/02/2013 130227-30				
samples aren't corrected for the rec (F) Trigger breach confirmed 1-4&+§@ Sample deviation (see appendix)	overy	Lab S	ample No.(s) SS Reference	6988932				
Component	LOD/Ur	nits	Method TM194	<10				
Propylene glycol	<10 n	ng/i	1101194	~10				
Ethylene glycol	<10 n		TM194	<10				
1,3-Propanediol	<10 n		TM194	<10				
1,3-Butanediol	<10 r	ng/l	TM194	<10				
1,4-Butanediol	<10 r	ng/l	TM194	<10				
Diethylene glycol	<10 r	mg/l	TM194	<10				
Triethylene glycol	<20 r	mg/l	TM194	<20				
					Corright owner of		7.0	
						net?	÷0	
						भूत वार्त्र वर्षा		
					C	es atort		
					an Pirit	Mil		
					Speciforniet			
					koriti ghi			
					COV			
			3 1	Consent	2			



Validated

SDG: Job:

130227-30 D\_WEML\_DUB-25

RV

Location: **Customer:** Attention:

Wood Environmental Management Ltd (WEMReport Number:

Order Number:

rva12013 214929

Superseded Report: Andrew Wood **Client Reference:** OC, OP Pesticides and Triazine Herb RV EFF ISO17025 accredite mCERTS accredited. Aqueous / settled sample. Dissolved / filtered sample Depth (m) Dissolved / filtered sample.
Total / unfiltered sample.
Subcontracted test.
% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recover Trigger breach confirmed
Sample deviation (see appendix) Sample Type Water(GW/SW) Date Sampled 25/02/2013 Sample Time 26/02/2013 Date Received SDG Ref 130227-30 6988932 Lab Sample No.(s) 1-4&+§@ Sample deviation (see appendix) Method LOD/Units Component <0.01 µg/l TM231 < 0.01 Tecnazene TM231 < 0.01 Hexachlorobenzene <0.01 µg/l Trifluralin <0.01 µg/l TM231 < 0.01 TM231 < 0.01 alpha-Hexachlorocyclohex <0.01 µg/l ane (HCH / Lindane) < 0.01 TM231 Quintozene (PCNB) <0.01 µg/l < 0.01 TM231 Triallate <0.01 µg/l < 0.01 TM231 gamma-Hexachlorocycloh <0.01 µg/l exane (HCH / Lindane) TM231 < 0.01 <0.01 µg/l Heptachlor <0.01 µg/l TM231 < 0.01 Aldrin TM231 < 0.01 <0.01 µa/l Chlorothalonil TM231 <0.01 beta-Hexachlorocyclohexa <0.01 µa/l ne (HCH / Lindane) TM231 < 0.01 Telodrin <0.01 µg/l <0.01 µg/l TM231 < 0.01 Isodrin Heptachlor epoxide <0.01 µg/l TM231 < 0.01 TM231 < 0.01 Triadimefon <0.01 µg/l <0.01 TM231 Pendimethalin <0.01 µg/l <0.01 TM231 o,p-DDE <0.01 µg/l < 0.01 TM231 Endosulphan I <0.01 µg/l TM231 < 0.01 <0.01 µg/l Trans-chlordane TM231 < 0.01 cis-Chlordane <0.01 µg/l TM231 <0.01 p,p-DDE <0.01 µg/l TM231 <0.01 Dieldrin <0.01 µg/l TM231 < 0.01 o,p-TDE (DDD) <0.01 µg/l Endrin <0.01 µg/l TM231 < 0.01 o,p-DDT <0.01 µg/l TM231 < 0.01 p,p-TDE (DDD) <0.01 µg/l TM231 < 0.01 TM231 <0.01 Endosulphan II <0.01 µg/l TM231 < 0.01 <0.01 µg/l p,p-DDT TM231 < 0.01 <0.01 µg/l o,p-Methoxychlor <0.01 µg/l TM231 < 0.01 p,p-Methoxychlor TM231 <0.01 <0.01 µg/l Endosulphan sulphate TM231 < 0.01 Permethrin I <0.01 µg/l



Validated

SDG: Job:

130227-30

D\_WEML\_DUB-25

Location: Customer:

Wood Environmental Management Ltd (WEMReport Number:

Order Number:

rvq12013 214929

Client Reference: OC, OP Pesticides and Triazine Herb

Andrew Wood Attention:

Superseded Report:

### Results Legend ### ISO17025 accredited. ### ISO17025 accredited. ### ICERT'S accredited. aq Acqueous / settled sample. diss.filt Dissolved / filtered sample. *## Subcontracted test. *** % recovery of the surrogate st check the efficiency of the meresults of individual compounsamples aren't corrected for the firigger breach confirmed  1-4&+§ Sample deviation (see append)  Component	andard to thod. The das within he recovery	Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref ab Sample No.(s) AGS Reference	RV EFF  Water(GW/SW) 25/02/2013 26/02/2013 130227-30 6988932					
Permethrin II	<0.01 µg/l	TM231	<0.625					
						.0.		
					neti	p <sup>©</sup>		
					अत्र अप्रति वर्ष			
					es a for a			
				Outp	direc			
				cion Pri				
				105 Pet OW				
				for yrib				
			X	of co.	Street for any other to			
			Consent					
			C					
							-	



Validated

SDG: Job:

Client Reference:

D\_WEML\_DUB-25

Location: Customer: Attention:

Order Number:

rvq12013 214929

RV
Wood Environmental Management Ltd (WEMReport Number:
Superseded Rep Superseded Report:

VOC MS (W)								
Results Legend		Custo	mer Sample R	RV EFF				
# ISO17025 accredited.  M mCERTS accredited.								
aq Aqueous / settled sample.			Depth (m)					
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.			Sample Type	Water(GW/SW) 25/02/2013				
* Subcontracted test. ** % recovery of the surrogate standard	dard to		Date Sampled Sample Time	25/02/2015				
check the efficiency of the metho	d. The		Date Received	26/02/2013				
results of individual compounds samples aren't corrected for the	ecovery		SDG Ref	130227-30 6988932				
(F) Trigger breach confirmed 1-4&+§@ Sample deviation (see appendix)			Sample No.(s) AGS Reference					
Component	LOD/U		Method					
Dibromofluoromethane**	%	5	TM208	107				
Toluene-d8**	%	b	TM208	100				
4-Bromofluorobenzene**	%	ó	TM208	98.3				
Dichlorodifluoromethane	<1	Jg/l	TM208	<1				
				#				
Chloromethane	<1	ug/l	TM208	<1				
				#				
Vinyl chloride	<1	µg/l	TM208	<1				
				#				
Bromomethane	<1	µg/l	TM208	<1				
				#				
Chloroethane	<1	µg/l	TM208	<1				
	_		T1 1000	#				
Trichlorofluoromethane	<1	µg/l	TM208	<1			1-11	
			T14000	<1	the state of the s		్దా.	
1,1-Dichloroethene	<1	µg/l	TM208	<1		of s	,	
	-		T1 1000	<1		othe		
Carbon disulphide	<1	µg/l	TM208	+		14:07		
		/1	TM208	<3		COCOL ST		
Dichloromethane	<3	µg/l	1101200	4		er of the		
		/1	TM208	<1	117	VIII		
Methyl tertiary butyl ether	<1	µg/l	1101200	4	n Pite	N.		
(MTBE)		/1	TM208	<1	dione			
trans-1,2-Dichloroethene	"	µg/l	1101200	1	t Second			
	-11	µg/l	TM208	<1	(10.01)			
1,1-Dichloroethane		рул	1141200	, ,	* Kordin			
cis-1,2-Dichloroethene	<1	µg/l	TM208	<1	COX			
CIS-1,2-DICHIOTOETHETIC		P9''	7200	<1 Consent	<del>p</del>			
2,2-Dichloropropane	<1	µg/l	TM208	<1 aset				
Z,Z Biomoropropanie				Coll				
Bromochloromethane	<1	μg/l	TM208	<1				
Di					#			
Chloroform	<1	µg/l	TM208	<1				
					#			
1,1,1-Trichloroethane	<1	µg/l	TM208	<1				
					#			
1,1-Dichloropropene	<1	µg/l	TM208	<1				
					#			
Carbontetrachloride	<1	µg/l	TM208	<1				
					#			
1,2-Dichloroethane	<1	µg/l	TM208	<1				
	_							
Benzene	<1	µg/l	TM208	<1	4			
					#			
Trichloroethene	<1	l μg/l	TM208	<1	4			
			T14000		#			
1,2-Dichloropropane	<1	l µg/l	TM208	<1	#			
		"	TN4000	<1	#			
Dibromomethane	<	1 µg/l	TM208	200	#			
Decree dishipance of the second	-	1 µg/l	TM208	<1				
Bromodichloromethane		ı µg/ı	11/12/00		#			
cis-1,3-Dichloropropene	-	1 µg/l	TM208	<1	*			
dis-1,3-Dichioropropene	`	· µg/i	1101200		#			
Toluene	<	1 μg/l	TM208	<1				
Tolucile	1	. P9"	200		#			
trans-1,3-Dichloropropene	<	1 μg/l	TM208	<1				
					#			
1,1,2-Trichloroethane	<	1 µg/l	TM208	<1				
					#			



Validated

**ALcontrol Laboratories** 

130227-30 D\_WEML\_DUB-25

RV

Location: **Customer:** Attention: RV Order Number: Wood Environmental Management Ltd (WEMReport Number: Superseded Report: Andrew Wood

rvq12013 214929

VOC MS (W)

Client Reference:

SDG:

Job:

OC MS (W)				_			
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample.		Customer Sample R  Depth (m)	RV EFF				
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. Subcontracted test.		Sample Type Date Sampled	Water(GW/SW) 25/02/2013				
** % recovery of the surrogate standa	ard to	Sample Time					
check the efficiency of the method results of individual compounds w	thin	Date Received	26/02/2013 130227-30				
samples aren't corrected for the re-	covery	SDG Ref Lab Sample No.(s)	6988932				
(F) Trigger breach confirmed 1-4&+§@ Sample deviation (see appendix)		AGS Reference					
Component	LOD/Unit						
1,3-Dichloropropane	<1 µg/	1 TM208	<1 #	<b>#</b>			
Tetrachloroethene	<1 µg/	TM208	<1	#			
Dibromochloromethane	<1 µg/	TM208	<1	#			
1,2-Dibromoethane	<1 µg/	/I TM208		#			
Chlorobenzene	<1 µg/	/I TM208	<1	#			
1,1,1,2-Tetrachloroethane	<1 µg/		<1	#			
Ethylbenzene	<1 µg/			#			
m,p-Xylene	<1 µg			#			
o-Xylene	<1 µg.		<1	#		<del>&amp;.</del>	
Styrene	<1 µg		<1	# # # # # # # # # # # # # # # # # # #	other		
Bromoform	<1 µg		<1	#	्वांभं वाम्		
Isopropylbenzene	<1 µg		<1	#	os die		
1,1,2,2-Tetrachloroethane	<1 µg		<1	chan Perse	9.		
1,2,3-Trichloropropane	<1 μg		<1	# Trightow			
Propylbenzene	<1 µg		<1	# KONSTITUTE			
2-Chlorotoluene	<1 µg		<1 Constr	#0,			
1,3,5-Trimethylbenzene	<1 µg		Coli.	#			
4-Chlorotoluene	<1 µg		<1	#			
tert-Butylbenzene	<1 µg		<1	#			
1,2,4-Trimethylbenzene	<1 μς		<1	#			
sec-Butylbenzene	<1 µg		<1	#	1		
4-iso-Propyltoluene	<1 μς		<1	#			
1,3-Dichlorobenzene	<1 μς	g/I TM208	<1	#			
1,4-Dichlorobenzene	<1 μς	g/l TM208	<1	#			
n-Butylbenzene	<1 μς	g/l TM208	<1	#			
1,2-Dichlorobenzene	<1 µg	g/l TM208	<1	#			
1,2-Dibromo-3-chloroprop	<1 µ	g/l TM208	<1				
ane 1,2,4-Trichlorobenzene	<1 µ	g/l TM208	<1	4			
Hexachlorobutadiene	<1 µ	g/l TM208	<1	#			
tert-Amyl methyl ether	<1 µ	g/l TM208	<1	#			
(TAME) Naphthalene	<1 µ	g/I TM208	<1	#			
				#			



Validated

SEG: Job:

130227-30 D\_WEML\_DUB-25 RV

Location: Customer: Attention:

RV Order Number:
Wood Environmental Management Ltd (WEMReport Number:
Andrew Wood Superseded Report:

rvq12013 214929

VOC MS (W)

Client Reference:

VOC MS (W)							
Results Legend # ISO17025 accredited.	Cu	ustomer Sample R	RV EFF				
# ISO17025 accredited.  M mCERTS accredited.							
aq Aqueous / settled sample.		Depth (m)					
diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample.		Sample Type	Water(GW/SW)				
* Subcontracted test.		Date Sampled	25/02/2013				
** % recovery of the surrogate standa	rd to	Sample Time					
check the efficiency of the method. results of individual compounds wi	ithin	Date Received	26/02/2013				
samples aren't corrected for the rec	covery	SDG Ref	130227-30 6988932				
(F) Trigger breach confirmed 1-4&+§@ Sample deviation (see appendix)		Lab Sample No.(s) AGS Reference	0300332				
Component	LOD/Units	Method					
1,2,3-Trichlorobenzene	<1 µg/l		<1				
1,=,0	1 1 1		#			100000000000000000000000000000000000000	
1,3,5-Trichlorobenzene	<1 µg/l	TM208	<1				
1,3,3-1110110100e112e11e	- 1 μg/1	1101200	~1				
					1 1 1	-177-1771	
	3.2	1 1					
		1 2 2 2 2					
		1					
		1	-				
		+				۵.	
					oses alfor any other	12	
		+			the)		
					1. 400		
					912, 2013		
					25, 501		
					os ed		
				all?	All		
				08.4	S <sub>C</sub> C		
				dionet			
				Dec Oth			
				inali			
				COL VILLE			
	-			COB			
				S			
		_	-0				
			Consen				
			Ç0'				
		1					
		1					
		+					
		+ +					
		+					

Mr Noel Madden The Recycling Village Ltd Unit 21, Duleek Business Park Duleek, Co. Meath

25/06/2013

Dear Noel,

#### **RE: Q2 Effluent Report**

Please find attached a copy of the following monitoring reports:

• 1 x 2013 Q2 Effluent Analysis Lab Certificate

The results of the effluent sample taken from your interceptor sump on 31<sup>st</sup> May 2013 are summarized below.

Parameter	Permit Limit	Lab Result	Compliance
Ammonia	0.065 mg/L	0.227 mg/L	No
BOD	<2 mg/L	<2 mg/L	Yes
Mineral Oils	3 mg/L	0.127 mg/L	Yes
рН	6-9 pH Units	7.5 pH Units	Yes
Suspended Solids	10 mg/L	9 mg/L	Yes
Heavy Metals:		2.1	
Arsenic	Non set	0.3 ug/L	
Cadmium	Non set	2.3 ug/L 0112	
Chromium	Non set	3.1 ug/Lat	
Cobalt	Non set	Q4 ug/L	
Copper	Non set	√2 <b>0:</b> 7 ug/L	
Lead	Non set	5184.1 ug/L	
Manganese	Non set	26.9 ug/L	
Mercury	Non set	0.1 ug/L	
Nickel	Non set Non set Non set Non set Non set Non set	14.9 ug/L	
Tin	Non set	6.9 ug/L	
Titanium	Non set	32.2 ug/L	

The above results show that the effluent quality is compliant with the majority of the requirements of Clause 6.3 of the Waste Permit; however although the ammonia concentration is above the low level set in your permit, it is within the drinking water regulation limit, which is set at 0.23 mg/L. On an inspection on 22/04/2013 Meath County Council's Environmental Technician reported that the facility is compliant with the conditions of the permit, and advised that the drainage system be cleaned and monitored. Cleaning of the drainage system was carried out by Greenday Environmental on 28/05/2013. It is advised to have the rain water tested for ammonia concentration to compare the Q2 results with a background ammonia level.

The remaining 2013 monitoring survey is scheduled as follows:

- September 2013 Q3 Effluent
- December 2013 Q4 Effluent

Yours sincerely,

Nikita Coulter BSc MSc EnvDip Environmental Compliance Officer Mr Noel Madden The Recycling Village Ltd Unit 21, Duleek Business Park Duleek, Co. Meath

18/09/2013

Dear Noel,

#### **RE: Q3 Effluent Report**

Please find attached a copy of the following monitoring reports:

• 1 x 2013 Q3 Effluent Analysis Lab Certificate

The results of the effluent sample taken from your interceptor sump on 06/09/2013 are summarized below.

Parameter	Permit Limit	Lab Result	Compliance
Ammonia	0.065 mg/L	0.952	No
BOD	<2 mg/L	<2	Yes
Mineral Oils	3 mg/L	0.021	Yes
рН	6-9 pH Units	7.4	Yes
Suspended Solids	10 mg/L	5	Yes
Heavy Metals:		2.	
Arsenic	Non set	<u>1</u> .058 μg/L	n/a
Cadmium	Non set		n/a
Chromium	Non set	only at <0.28 μg/L	n/a
Cobalt	Non set	0.711 μg/L	n/a
Copper	Non set	0.28 μg/L 0.711 μg/L 25.88 μg/L	n/a
Lead	Non set	194.5 μg/L	n/a
Manganese	Non set	67.61 μg/L	n/a
Mercury	Non set	<0.04 μg/L	n/a
Nickel	Non set  Non set  Non set  Non set  Non set	6.471 μg/L	n/a
Tin	Non set	371.4 μg/L	n/a
Titanium	Non setcon	<5 μg/L	n/a

The above results show that the effluent quality is compliant with the majority of the requirements of Clause 6.3 of the Waste Permit, with the exception of the ammonia concentration which is above the low level set in the Waste Permit. Although is no level has been set in the permit for Lead, it has been noted that the laboratory results for this quarter and the previous quarter have been relatively high in comparison to the limit value of 10  $\mu$ g/L set in the EU Drinking Water Directive [98/83/EC], and the limit value of 50  $\mu$ g/L set in the Surface Waters Regulations [1989]. It is recommended that the Waste Permit is examined in relation to the method for sampling the discharge from the interceptor and that background lead levels in local rain water and river water upstream and downstream of the discharge pipe from the industrial estate are measured.

The remaining 2013 monitoring survey is scheduled as follows:

• December 2013 – Q4 Effluent

Yours sincerely,

Nikita Coulter BSc MSc EnvDip Environmental Compliance Officer Mr Noel Madden
The Recycling Village Ltd
Unit 21, Duleek Business Park
Duleek,
Co. Meath

Co. Meath 24/02/2014

Dear Noel,

#### **RE: Q4 Effluent Report**

Please find attached a copy of the following monitoring reports:

• 1 x 2013 Q4 Effluent Analysis Lab Certificate

The results of the effluent sample taken from your interceptor discharge pipe on 05/12/2013 are summarized below.

Parameter	Permit Limit	Lab Result	Compliance
Ammonia	0.065 mg/L	1.16 mg/L	No
BOD	<2 mg/L	<2 mg/L	Yes
Mineral Oils	3 mg/L	<2.5 mg/L	Yes
рН	6-9 pH Units	7.5	Yes
Suspended Solids	10 mg/L	10 mg/L	Yes
Heavy Metals:		2.	
Arsenic	Non set	Q:474 μg/L	n/a
Cadmium	Non set	422 μg/L	n/a
Chromium	Non set		n/a
Cobalt	Non set	1.372 ug/L	n/a
Copper	Non set	15.61 μg/L	n/a
Lead	Non set	00.00/1	n/a
Manganese	Non set  Non set  Non set  Non set  Non set	194.9 μg/L	n/a
Mercury	Non set	0.159 μg/L	n/a
Nickel	Non set	2.328 μg/L	n/a
Tin	Non set	<2.8 μg/L	n/a
Titanium	Non set	5.29 μg/L	n/a

Table 1 - Q4 Effluent analysis results

The above results show that the effluent quality is compliant with the majority of the requirements of Clause 6.3 of the Waste Permit, with the exception of the ammonia concentration which is above the low level set in the Waste Permit.

Acting on recommendations made in September 2013 in relation to high lead levels in the effluent discharge, The Recycling Village Ltd collected samples of river water and river sediment from the following locations in the River Nanny:

- Duleek Bridge upstream of the industrial estate surface water discharge
- Bellewstown Bridge downstream of the industrial estate surface water discharge

The samples were analysed by Fitz Scientific laboratories. The results were compared to relevant published water and soil quality standards.

Location	Parameter	Result (ug/l)	EU Surface Water Regulations (ug/l)	EU Drinking Water Directive (ug/l)
Upstream – Duleek Bridge	Lead	0.317	50	10
Downstream – Bellewstown Bridge	Lead	3.571	50	10

Table 2 River water analysis results (lead)

The river water results indicate that lead levels are significantly lower than published water quality standards.

Location	Parameter	Result	EPA	UK CEFAS	Dutch	Canadian
		(mg/kg) Wet Weight	(mg/kg) Dry Weigh		ry Weight	
Upstream – Duleek Bridge	Lead	3.079	50	50	85	30.2
Downstream – Bellewstown Bridge	Lead	5.625	50	50	85	30.2

Table 3 River sediment analysis results (lead)

The sediment results were based on wet weight concentrations while published soil standards are presented as a 'dry weight' concentration. However, at though it is not possible to do a simple comparison of the results between wet and dry weight samples, it can be assumed from the results received that the concentrations of lead in the sediment samples are still significantly lower that the published standards.

During the same period, to further establish background lead levels, samples of rain water and roof runoff were also analysed, and the results are presented below:

Water Source	Parameter	Result (ug/l)	EU Surface Water Regulations (ug/l)	EU Drinking Water Directive (ug/l)
Rain water	Lead	26.8	50	10
Roof runoff	Lead	21.46	50	10

Table 4 Rain water and roof runoff analyses results (lead)

All effluent samples analysed from the Duleek site, up to and including Q3 in 2013, were taken from within the final chamber of the interceptor – due to the difficulty of accessing the monitoring chamber within the interceptor. As the Waste Facility Permit states that "on a quarterly basis, the permit holder shall take a grab sample of the water *discharge* from the monitoring chamber" it was decided to take samples of the discharge from the interceptor from the manhole after the interceptor for the quarterly effluent tests.

A sample of the discharge was analysed for lead only on 25/09/2013, and again on 05/12/2013 for the Q4 monitoring and the results are presented below in comparison to the result obtained from the Q3 effluent sample taken from within the interceptor chamber:

Water Source	Parameter	Result (ug/l)	EU Surface Water Regulations (ug/l)	EU Drinking Water Directive (ug/l)
Q3 effluent analysis – Interceptor <b>final chamber</b>	Lead	194.5	50	10
Interceptor discharge pipe analysis (25/09/2013)	Lead	60.63	50	10
Q4 effluent analysis – Interceptor discharge pipe	Lead	80.89	50	10

Table 5 Interceptor effluent analysis (lead) – chamber vs. discharge pipe results

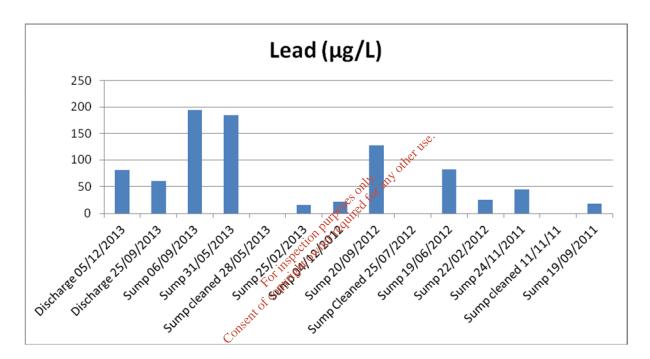


Figure 1 Lead level in interceptor sump effluent – indicates dates sump was cleaned out

### **Discussion of Results:**

From the comparison of the results presented in Table 5, it can be assumed that a significant portion of the lead recorded in the interceptor sump is being retained within the interceptor sump. From analysis of Figure 1, a potential correlation may be drawn between the times when the sump was cleaned out and higher levels of lead being recorded in the effluent samples. It was suggested by the Environmental Consultant, WEML, that if a quantity of lead has settled in the interceptor sump, when the sump is cleaned out the lead may be temporarily re-suspended, which may give rise to higher lead levels in the analysis after these episodes of cleaning.

When the results from Table 5 are compared with background levels presented in Table 4, which indicates that in excess of 20ug/L of lead are being deposited in the rainwater, and the results in Tables 2 and 3, although the sampling results indicate that the concentration of lead in the river water and river sediment samples increase downstream from the industrial estate discharge point, the concentrations of lead that were detected in the samples were significantly lower than the

published quality standards and the impact from The Recycling Village Ltd's effluent discharge is not considered to be significant.

The Recycling Village Ltd has taken measures to remove all leaded material and potential sources of lead from the yard and to store such materials indoors. The Recycling Village Ltd are also adding 5L of water per 700kg of leaded glass in the Glass Cleaner, to control potential fugitive dust emissions.

Although there are a number of potential sources of emissions of lead into the surface water runoff from the industrial estate, excluding The Recycling Village Ltd, the Environmental Consultant, WEML has recommended that that the Recycling Village Ltd continues to analyse water samples from the interceptor sump in order to record the concentration of lead in the yard surface water discharge.

The 2013 monitoring survey has been successfully completed as scheduled and a new schedule for 2014 has been set up. The monitoring dates for 2014 are:

- March 2014 Q1 Effluent, including Annual Effluent Test
- June 2014 Q2 Effluent
- September 2014 Q3 Effluent
- December 2013 Q4 Effluent

Please refer to Site Environmental Monitoring Programme (ER 004 – Revision 5).

Yours sincerely,

Nikita Coulter BSc MSc EnvDip Environmental Compliance Officer

EPA Export 16-04-2014:23:35:50