220-1

White Young Green

Fax Transmission

To	*ATTN: Ms. Bernie Murray*
Fax No:	*05360699*
Company:	*EPA*
Job No:	*CE04780*
Project:	*Greenstar Ltd. Ramstown, Gorey, Co. Wexford.*
Subject	*Article 16 Notice*
Sender:	*Donal Marron*
Date:	*24th February 2006*
Number of Pages including this	*13*

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RE: Application for a Waste Licence for a Recycling Centre at Ramstown Gorey, Co. Wexford by Greenstar Ltd.

Article 16 Notice

Waste Licence Ref. No. 220-1

Dear Ms. Murray,

Please find attached a copy of the response to the Article 16 Notice issued to Greenstar Ltd. for their application site at Ramstown, Gorey, Co. Wexford (Ref: 220-1).

The originals with hard copies and electronic copies are in the post.

I hope this meets with your satisfaction and if you have any queries please do not hesitate to contact me.

Regards,

Donal Marron

Donal Marron

Apex Business Centre, Blackthorn Road, Sandyford, Dublin 18

Tel: 01 2931200 Fax: 01 2931250 Email: dublin@wyg.com Website: www.wyg.com

Offices throughout Ireland and the UK

GREENSTAR LTD.
WASTE RECYCLING CENTRE,
RAMSTOWN,
GOREY,
CO. WEXFORD.

ARTICLE 16 COMPLIANCE INFORMATION

REG. NO. 220-1

February 2006

Reference: Greenstar Ltd.

Issue		Prepared by		
V1	Feb. 2006			
V2	-			
V3	-	D. Marron		
V4	-	D. Marron		
V5	-	Regional Director		

File Reference: C004780/Reports

White Young Green Ireland Limited, Space Business Centre, Blackthorn Road, Sandyford, Dublin 18.
Telephone: 00353 1 2931200 Facsimile: 00353 1 2931250 E-Mail: dublin@wyg.com

GREENSTAR LTD.
WASTE RECYCLING CENTRE,
RAMSTOWN
GOREY,
CO. WEXFORD.

ARTICLE 16 COMPLIANCE INFORMATION

REG. NO. 220-1

CONTENTS

ARTICLE 16 (1) Response

Introduction

The EPA requested additional information under Article 16(1) of the Waste Management Regulations with regard to the application for a Waste Licence made by Greenstar Ltd. for their Recycling Centre at Ramstown, Gorey, Co. Wexford (ref: 220-1). The response is provided below under the relevant headings. The information contained in this response does not significantly alter the substance of the EIS or Application form and it is considered that revisions to the non technical summaries for these documents are not required. An original and two hard copies along with 16 electronic copies are provided.

E2 Surface Water

Please note that the table of results for surface water contained an error in the reporting units for some parameters where some results were reported as mg/l instead of µg/l. A revised table has been formulated and is presented in Appendix 1 along with a copy of the original laboratory records from Alcontrol Geochem Laboratories.

The results of the surface water analysis indicated contaminated water with elevated levels of conductivity, ammonia, chloride, sulphate, phenols, orthophosphate, iron and manganese among others. This is considered unusual as the only discharge from the recycling centre to this drain is roof drainage from the site building. As such, it would be expected that the results would reflect clean rainfall. We enclose a copy of the results of an analysis of this water carried on 16/9/04. This indicates a different quality water. In light of these conflicting results another sample will be collected from the monitoring station this week and the results will be forwarded on to the EPA as soon as they become available.

Enquiries at the site have confirmed that there are no other connections to the drain from the recycling centre. It is possible that a small animal has become caught in the drainage network or that an unusual amount of contaminants (e.g. bird faeces, dust etc.) was washed down through the drain at the time of sampling. While these may be unlikely scenarios the results from the next monitoring exercise may help to clarify the situation.

It is submitted that the only outlet from the recycling centre to the surface water drain is from the roof of the recycling building and this should consist of clean rainfall. Greenstar are anxious to determine the source of any contamination to the drain. Depending on the results of the next sample analysis the company may carry out a full investigation of the drain to clarify the situation.

F5 Groundwater

Please note that the table of results for groundwater contained an error in the reporting units where some results were reported as mg/l instead of µg/l. A revised table has been formulated and is presented in Appendix 1 along with a copy of the original laboratory records from Alcontrol Geochem laboratories. This indicates that the recorded levels of cadmium, lead, selenium and mercury are below the drinking water standards set out in the Agency Guidance notes.

The results indicated contaminated water with elevated levels of conductivity, sodium, sulphate, chloride and manganese. Elevated levels of manganese are not unusual in Irish groundwaters generally, and the recorded level of 0.942 mg/l may not result from contamination in this environment.

It is reported that the well was constructed by grouting in steel liner into bedrock and it is considered that the well itself and its immediate surrounds at the well head are adequately sealed and do not provide an artificial pathway for any contaminants to enter the groundwater. It is reported by the well driller that the overburden beneath the site is composed of some 7m of stiff low permeability clay. The concrete nature of the surface of the yard coupled with the natural clay layer provides a protective barrier to the downward percolation of soiled water at the site.

The elevated levels of sodium, chloride, conductivity and sulphate are similar in many respects to saline conditions in the groundwater. The site is not located adjacent to the coast, therefore it is likely that other sources of salt or salt type products may have caused elevations in these parameters. The absence of significantly elevated levels of ammonia, nitrite, nitrate, TON and TOC indicate that the source of contamination may not be organic in nature such as would arise from waste storage, septic tanks, slurry spreading, dungsteads etc. There are no obvious sources of salts at or in the immediate environs of the site. One possible explanation may relate to the former Tannery that was operated in this area many years ago. It is considered likely that the Tannery used significant quantities of salts in their processes and it is possible that residues of these materials are still present in the overburden and groundwater.

Elevated levels of conductivity, chloride, sodium and sulphate are often found in waters adjacent to large (and generally new) concrete workings such as might exist at new housing estates, industrial estates etc. and these are usually associated with a high pH and elevated potassium levels which are not in evidence here. However, it is possible that concrete workings associated with the adjacent industrial estate and the site may be contributing factors.

Water from the site well is not used as a potable supply and is only used for washing and site processes.

APPENDIX 1

Table E.2.1 Surface Water Quality Results

Greenstar Ltd Gorey Parameters	Date Sampled Units	19/10/2005 SW1
pH		7.28
Conductivity	mS/cm	2.41
Dissolved Oxygen	mg/l	3.10
Ammoniacal Nitrogen (N)	mg/l	30.10
Total Cyanide	mg/l	<0.05
Potassium	mg/l	35.00
Sodium	mg/l	240.00
Sulphate	mg/l	332.00
Nitrite as NO2	mg/l	0.05
Nitrate as NO3	mg/l	<0.3
Fluoride	mg/l	0.60
Chloride	mg/l	416.00
Total Oxidised Nitrogen	mg/l	<0.3
Total Alkalinity as CaCO3	mg/l	400.00
Total Organic Carbon	mg/l	50.00
Total Solids	mg/l	1626.00
Total Phenols	mg/l	0.16
Ortho Phosphate as PO4	mg/l	4.32
Dissolved Zinc	mg/l	0.047
Dissolved Silver	mg/l	<2
Dissolved Selenium	mg/l	0.030
Dissolved Phosphorous	mg/l	1.235
Dissolved Nickel	mg/l	0.010
Dissolved Manganese	mg/l	1.542
Dissolved Magnesium	mg/l	20.550
Dissolved Lead	mg/l	14.000
Dissolved Iron	mg/l	1.219
Dissolved Copper	mg/l	0.006
Dissolved Chromium	mg/l	0.011
Dissolved Calcium	mg/l	221.800
Dissolved Cadmium	mg/l	<1
Dissolved Boron	mg/l	0.170
Dissolved Barium	mg/l	0.051
Dissolved Arsenic	mg/l	0.011
Dissolved mercury	mg/l	<0.05
Total Coliforms	cfu/100ml	-
Faecal Colifors	cfu/100ml	-

Parameter	Unit	Limit Value for A1 waters	EQS	SW1 16/09/04
pH	pH units	5.5 – 8.5	-	7.5
Temperature	C	-	-	
Electrical Conductivity	mS/cm	1	-	0.6
Ammoniacal Nitrogen	mg/l	0.2	0.02	0.2
Chemical Oxygen Demand	mg/l	-	-	84
Biochemical Oxygen Demand	mg/l	5	-	30
Dissolved Oxygen	mg/l	-	-	3.9
Calcium	mg/l	-	-	103.4
Cadmium	mg/l	0.005	0.005	<0.0004
Chromium	mg/l	0.05	0.03	<0.001
Chloride	mg/l	250	250	17
Copper	mg/l	0.05	0.03	<0.005
Iron	mg/l	0.2	1.0	0.062
Lead	mg/l	0.05	0.01	<0.005
Magnesium	mg/l	-	-	2.8
Manganese	mg/l	0.05	0.3	0.147
Mercury	mg/l	0.001	0.001	<0.0005
Nickel	mg/l	-	0.05	<0.001
Potassium	mg/l	-	-	5.0
Sodium	mg/l	-	-	12.5
Sulphate	mg/l	200	200	184
Zinc	mg/l	3	0.1	0.243
Total Alkalinity	mg/l	-	-	250
Total Organic Carbon	mg/l	-	-	
Total Oxidised Nitrogen	mg/l	-	-	

Legend

mg/l = milligrams

Limit Value for A1 surface waters from the Surface Water Regulations S.I. No. 294 of 1989.

EQS= Environmental Quality Standards for the Aquatic Environment, EPA Discussion Document.

- = Indicates no limit value published

Table F.5.1 Groundwater Quality Results from the the Site Well

Greenstar Ltd Gorey Parameters	Date Sampled Units	19/10/2005 GW
pH		5.90
Conductivity	mS/cm	4.84
Dissolved Oxygen	mg/l	5.60
Ammoniacal Nitrogen (N)	mg/l	<0.2
Total Cyanide	mg/l	<0.05
Potassium	mg/l	4.80
Sodium	mg/l	920.00
Sulphate	mg/l	254.00
Nitrite as NO2	mg/l	<0.05
Nitrate as NO3	mg/l	17.40
Fluoride	mg/l	<0.1
Chloride	mg/l	1405.00
Total Oxidised Nitrogen	mg/l	4.00
Total Alkalinity as CaCO3	mg/l	80.00
Total Organic Carbon	mg/l	6.00
Total Solids	mg/l	2746.00
Total Phenols	mg/l	<0.01
Ortho Phosphate as PO4	mg/l	<0.03
Dissolved Zinc	mg/l	0.069
Dissolved Silver	µg/l	<2
Dissolved Selenium	mg/l	0.004
Dissolved Phosphorous	mg/l	0.123
Dissolved Nickel	mg/l	0.005
Dissolved Manganese	mg/l	0.942
Dissolved Magnesium	mg/l	32.790
Dissolved Lead	µg/l	<1
Dissolved Iron	mg/l	0.005
Dissolved Copper	µg/l	<1
Dissolved Chromium	mg/l	0.004
Dissolved Calcium	mg/l	78.380
Dissolved Cadmium	µg/l	<1
Dissolved Boron	mg/l	0.061
Dissolved Barium	mg/l	0.023
Dissolved Arsenic	mg/l	0.001
Dissolved mercury	µg/l	<0.05
Total Coliforms	cfu/100ml	<1
Faecal Colifors	cfu/100ml	<1

☑ Interim
☐ Validated

ALcontrol Laboratories Ireland

Table Of Results

Ref Number: 05-B05610/01 **Sample Type: WATER**

Client: White Young Green (Dublin, Ireland) Ltd Location:

Date of Receipt: 19/10/2005 Client Contact: Peter Barry

(of first sample) Client Ref: C004630/PB/

	Detection Method	CV AA	Filtration	Filtration	FLAME PHOTO	FLAME PHOTO	GRAVIMETRIC	HPLC	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS
	Method Detection Limit	<0.05ug/l	<1cfu/100ml	<1cfu/100ml	<0.2mg/l	<0.2mg/l	<5mg/l	<0.01mg/l	<1ug/l	<1ug/l	<3ug/l	<1ug/l	<120ug/l	<1ug/l	<1ug/l	<2ug/l
	UKAS Accredited				✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓
ALcontrol Reference	Sample Identity	Other ID	Dissolved Mercury Low Level	Faecal Coliforms	Total Coliforms	Potassium	Sodium	Total Solids	Total Phenols	Dissolved Arsenic Low Level	Dissolved Barium Low Level	Dissolved Boron Low Level	Dissolved Cadmium Low Level	Dissolved Calcium Low Level	Dissolved Chromium Low Level	Dissolved Copper Low Level	Dissolved Iron Low Level
			ug/l	cfu/100ml	cfu/100ml	mg/l	mg/l	mg/l	mg/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
05-B05610-S0001	SW	UNKNOWN	<0.05	-	-	35.0	240.0	1626	0.16	11	51	170	<1	221800	11	6	1219
05-B05610-S0002	GW	UNKNOWN	<0.05	<1	<1	4.8	920.0	2746	<0.01	1	23	61	<1	78380	4	<1	5

Notes : METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL. **NDP** = NO DETERMINATION POSSIBLE

THE DATA ON THIS PRELIMINARY REPORT IS NOT VALIDATED AND MAY BE SUBJECT TO CHANGE.

Checked By : Lita Foley

Printed at 15:33 on 12/12/2005

* SUBCONTRACTED TO OTHER LABORATORY / ** SAMPLES ANALYSED AT THE CHESTER LABORATORY

☑ Interim
☐ Validated

ALcontrol Laboratories Ireland

Table Of Results

Ref Number: 05-B05610/01 **Sample Type: WATER**

Client: White Young Green (Dublin, Ireland) Ltd Location:

Date of Receipt: 19/10/2005 Client Contact: Peter Barry

(of first sample) Client Ref: C004630/PB/

	Detection Method		KONE	METER	METER	METER	SPECTRO	SPECTRO	TITRATION
	Method Detection Limit		<0.3mg/l	<0.014mS/cm	<0.1mg/l	napH Units	<0.2mg/l	<0.05mg/l	<1mg/l
	UKAS Accredited		✓	✓		✓	✓		✓
ALcontrol Reference	Sample Identity	Other ID	Total Oxidised Nitrogen as N	Conductivity (at 25 deg. C)	Dissolved Oxygen	pH	Ammoniacal Nitrogen as N	Total Cyanide	Total Alkalinity as CaCO3
			mg/l	mS/cm	mg/l	pH Units	mg/l	mg/l	mg/l
05-B05610-S0001	SW	UNKNOWN	<0.3	2.405	3.1	7.28	30.1	<0.05	400
05-B05610-S0002	GW	UNKNOWN	4.0	4.836	5.6	5.90	<0.2	<0.05	80

Notes : METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL. **NDP** = NO DETERMINATION POSSIBLE

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Client: White Young Green (Dublin, Ireland) Ltd Location:

Date of Receipt: 19/10/2005 Client Contact: Peter Barry

(of first sample) Client Ref: C004630/PB/

	Detection Method		ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	ICP MS	IR	KONE	KONE	KONE	KONE	KONE	KONE
	Method Detection Limit		<1ug/l	<100ug/l	<1ug/l	<1ug/l	<10ug/l	<1ug/l	<2ug/l	<1ug/l	<2mg/l	<1mg/l	<0.1mg/l	<0.3mg/l	<0.05mg/l	<0.03mg/l	<3mg/l
	UKAS Accredited		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
ALcontrol Reference	Sample Identity	Other ID	Dissolved Lead Low Level	Dissolved Magnesium Low Level	Dissolved Manganese Low Level	Dissolved Nickel Low Level	Dissolved Phosphorus Low Level	Dissolved Selenium Low Level	Dissolved Silver Low Level	Dissolved Zinc Low Level	Total Organic Carbon	Chloride	Fluoride	Nitrate as NO3	Nitrite as NO2	ortho Phosphate as PO4	Sulphate
			ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
05-B05610-S0001	SW	UNKNOWN	14	20550	1542	10	1235	3	<2	47	50	416	0.6	<0.3	0.05	4.32	332
05-B05610-S0002	GW	UNKNOWN	<1	32790	942	5	123	4	<2	69	6	1405	<0.1	17.4	<0.05	<0.03	254

Notes : METHOD DETECTION LIMITS ARE NOT ALWAYS ACHIEVABLE DUE TO VARIOUS CIRCUMSTANCES BEYOND OUR CONTROL. **NDP** = NO DETERMINATION POSSIBLE

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