

BRAUN

Oral-B

Annual Environmental Report

For

**Braun Oral-B Ireland Limited
Dublin Road, Carlow**

January 2010 – December 2010

Licence Reg. No. 287

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1.0 INTRODUCTION

This Annual Environmental Report (AER) has been drafted in accordance with the EPA Guidance Note for AER's and is submitted in order to comply with the requirements of Schedule 5(i), "Recording and Reporting to the Agency", of the Braun Ireland Ltd. IPC Licence, Reg. No. P0287.

The following items are included in this report:

- Summary of emissions to atmosphere
- Summary of emissions to water
- Waste management report
- Electrical, gas & water consumption data
- Complaints summary
- Environmental management programme report and proposal
- Noise survey results summary
- Bund integrity report
- Copies of all external consultant and analytical reports

The company has achieved certification to ISO 14001 Environmental Management Systems Standard. Braun Oral-B Ireland Ltd., hereafter referred to as Braun Oral-B, has a written environmental policy. This policy is outlined in this section of the AER.

1.1 Environmental Policy

Braun Oral-B Ireland Limited, Plant Carlow

Environmental Policy

The core business of Braun-Oral B Ireland Limited, is the manufacture of gas powered hair-care products, gas cartridges, ethanol cartridges, Temperature Probe Covers Toothbrush Replacement heads and dental floss. Braun-Oral B Ireland management and staff recognise the importance of environmental protection as an essential requirement of its operations. Among the stated values of Braun-Oral B Ireland Limited are the following:

- Our products will be safe to make and to use.
- Braun Oral-B will conserve natural resources.
- Braun Oral-B will continue to invest in a better environment for all.
- Braun Oral-B will undertake to conduct its business in a manner, which protects the environment of the customers, employees and community in which it operates.

Braun Oral-B Ireland is committed to the following:

- Determine the significant aspects of it's operations.
- Continual assessment and monitoring of our activities to prevent any release of a polluting substance to the environment.
- Comply with all Irish and EU environmental laws/regulations, local Town Council requirements and to Gillette's environmental policy.
- Maintaining continuous improvement programs by setting and reviewing environmental objectives and targets.
- Conservation of energy.
- Maintain an Environmental Management System in accordance with ISO14001.
- Review the Environmental Management System by way of internal audit and Management Review.
- Provide the necessary training to Braun employees to ensure that they have the knowledge, resources and authority to implement this policy.
- Initiating and encouraging communication to foster responsible environmental management.
- Ensuring the company environmental policy is available to the public.

Corporate Environmental Policy:

PROCTER & GAMBLE ENVIRONMENTAL QUALITY POLICY

Procter & Gamble is committed to providing products of superior quality and value that best fill the needs of the world's consumers. As part of this, Procter & Gamble continually strives to improve the environmental quality of its products, packages and operations around the world.

To carry out this commitment, it is Procter & Gamble's policy to:

- **Ensure our products, packaging and operations are safe for our employees, consumers and the environment.**
- **Reduce or prevent the environmental impact of our products and packaging in their design, manufacture, distribution, use and disposal whenever possible.** We take a leading role in developing innovative, practical solutions to environmental issues related to our products, packaging and processes. We support the sustainable use of resources and actively encourage reuse, recycling and composting. We share experiences and expertise and offer assistance to others who may contribute to progress in achieving environmental goals.
- **Meet or exceed the requirements of all environmental laws and regulations.** We use environmentally sound practices, even in the absence of governmental standards. We cooperate with governments in analyzing environmental issues and developing cost-effective, scientifically-based solutions and standards.
- **Continually assess our environmental technology and programs and monitor progress toward environmental goals.** We develop and use state-of-the-art science and product life cycle assessment, from raw materials through disposal, to assess environmental quality.
- **Provide our consumers, customers, employees, communities, public interest groups and others with relevant and appropriate factual information about the environmental quality of P&G products, packaging and operations.** We seek to establish and nurture open, honest and timely communications and strive to be responsive to concerns.
- **Ensure every employee understands and is responsible and accountable for incorporating environmental considerations in daily business activities.** We encourage, recognize and reward individual and team leadership efforts to improve environmental quality. We also encourage employees to reflect their commitment to environmental quality outside of work.
- **Have operating policies, programs and resources in place to implement our environmental quality policy.**

2.0 SITE DESCRIPTION

2.1 Company Profile

Max Braun founded the Braun Company in 1921 in Frankfurt, Germany. Originally engaged in mechanical engineering, Braun soon began the production of plastic components for the fledgling radio industry. This move was to prove the basis for Braun's growth into the worldwide company it is today. Of pivotal importance to this growth, was the teamwork concept, which began in 1954 with leading advocates of "functional" design from the Bauhaus movement. Braun's growth into a major multinational force was backed by the power of the Gillette organisation in 1967. Braun presently employs some 8,000 people worldwide.

Braun production is distributed among nine plants located in Germany, Ireland, Spain, Mexico, France, India and China. Braun products are distributed worldwide through an integrated sales marketing and distribution team, through our parent company Procter and Gamble.

Braun commenced manufacturing in Ireland approximately 37 years ago. The Braun Oral-B facility in Carlow produces personal care products. These products include:

- Hair Curling & Styling products. Gas powered.
- Replacement "foils" for Braun electric shavers.
- Replacement caps for ear thermometers (Thermoscan).
- Replacement cleaning cartridges for the shaver cleaning centre. These are filled with an Ethanol based cleaning, lubricating and disinfecting preparation.
- Replacement gas cartridges for portable hair curling tongs.
- Toothbrush Replacement heads.

2.2 Changes in the year 2010

Procter and Gamble

During 2010 Procter & Gamble (Manufacturing) Ireland Ltd, relocated the production of Cleaning cartridges and toothbrush replacement heads from the existing Braun Oral-B site in Carlow to a leased building in the Green Road Industrial Estate in Newbridge.

This ultimately ended up in the closure of the Carlow site in mid 2010.

The site in Carlow is currently undergoing shutdown and the licence for this site will be surrendered as part of that shutdown process.

3.0 DATA This section contains a summary of discharges to waters, air emissions, waste management, noise, energy & water usage and environmental incidents/complaints.

3.1 Emissions-to-Sewer

Due to the ending of the shaver foil plating process in 2003 the actual discharge point SE1 no longer exists. This information was communicated to the EPA on the March 4th 2005. Therefore actual discharge data is no longer available.

3.2 Emissions to Surface Waters

Braun Oral-B Ireland Ltd. discharges non-process water at discharge points SW1 and SW2 in accordance with Condition 9 and schedule 4(I) of the IPC Licence (Reg. No. 287).

Non-process water consists of:

- Storm water run-off from roofs.
- Surface water run-off from car parks and paved areas.

Surface water discharges at SW1 and SW2 are measured on a quarterly basis for COD, Chromium and Nickel. A visual inspection takes place daily. The daily inspection sheets are included in appendix 2. A summary of the surface water discharge monitoring results is presented in table 3.2 (a) and table 3.2 (b). Only one quarterly monitoring sample was taken. However, we commit to completing it to the schedule as specified in the IPPC license until the license is surrendered.

Parameter	Sample Date (SW1 Backyard)			
	Qtr 1	14/06/10	Qtr 3	Qtr 4
PH	*	6.8	*	*
COD (mg/L)	*	23	*	*
Cr (mg/L)	*	<0.002	*	*
Ni (mg/L)	*	<0.002	*	*

Table 3.2 (a): Surface Water Discharge Monitoring Results for SW1

Parameter	Sample Date (SW2 on Dublin Road)			
	Qtr 1	14/06/10	Qtr 3	Qtr 4
PH	*	7.2	*	*
COD (mg/L)	*	748	*	*
Cr (mg/L)	*	<0.002	*	*
Ni (mg/L)	*	<0.002	*	*

Table 3.2 (b): Surface Water Discharge Monitoring Results for SW2

* No water monitoring completed

3.3 Emissions to Atmosphere

Sources, Nature and Monitoring of Air Emissions

The main air emission from Braun is the natural gas fired boiler and associated combustion gases. Monitoring of combustion gases is carried out in accordance with Schedule 1 (ii) on an annual basis. A summary of the monitoring results for the boiler emission point (A1-2) is included in Table 3.3 (a).

Combustion gas emissions from the boiler A1-2 were not measured in 2010.

However there was gas farm decommissioning done in September 2010. Please see attached with this AER a summary and certificates of works completed.

3.4 Waste Management Report.

Braun Oral-B Ireland Ltd. maintains full details and records of all waste arising on site in accordance with Condition 7 of the IPC Licence. This section of the Annual Environmental Report (AER) provides comprehensive information regarding these wastes. Hazardous waste disposal is carried out in accordance with Schedule 3(i) of the IPC Licence

Hazardous Waste

The main types of hazardous waste generated on-site include waste ethanol, contaminated ink wipes, waste oil, fluorescent tubes, ion exchange resin and isobutane cartridges.

Braun retains copies of all waste disposal licences/permits issued to its waste disposal contractors. C1 forms are used to track hazardous waste taken off-site for recycling or disposal. TFS movement documents are used to track shipments going directly to waste disposal companies abroad.

A summary of the hazardous waste quantities generated at the Braun plant is included in Table 3.4 (a). All hazardous wastes generated are stored in designated hazardous waste storage areas.

Most hazardous waste is incinerated on mainland Europe. However fluorescent tubes, waste oil and waste batteries are sent for recycling/recovery via hazardous waste disposal contractors based in Ireland.

Braun used the services of DEE Environmental Services Ltd, Rilta, and Veolia Environmental Services to ensure that all waste is handled correctly and shipped safely to its final destination.

Table 3.3 (a): Annual Waste Arisings 2010 - Hazardous Waste

Waste Material	EWC	Source	Kgs	Disposal or recovery?		
				Method	Location	Contractor
Ethanol	160213 & 160305	Production	21243	D10	Off-site abroad	Dee
Isobutane	160214	Production	3064	D10	Off-site abroad	Dee
Phosphoric acid & water treatment chemicals	060104 & 160507	Water treatment / mould maintenance	295	D10	Off-site abroad	Dee
Waste inks	80312	Production	198	D10	Off-site abroad	Dee
Contaminated wipes/resin	150202	Assembly	280	D10	Off-site abroad	Dee
Empty drums	150110	Plant Wide	124	D9	Off-site ROI	Dee & Rilta
Waste adhesives	200135	Production	139	D10	Off-site abroad	Dee
Fuel Oil & Diesel	130701	Maintenance/ facilities	1860	D10	Off-site abroad	Dee
Oil water seperator material	130506	Maintenance/ facilities	450	D10	Off-site abroad	Dee
Cooling Oil	120109	Maintenance/ facilities	450	D10	Off-site abroad	Dee
Process aids	160508	Production	1176	D10	Off-site abroad	Dee
			29279 kg or 29.279 tonne			

Table 3.3 (b)

Annual Waste Arisings 2010 Non-hazardous Waste

Waste Material	EWC	Source	Kgs	Disposal or recovery?		
				Method	Location	Contractor
Cardboard (for recycling)	150101	Production/ Warehouse	2.6	R5	Off-site ROI	Veolia
General Waste Skip	200301 & 200307	Plant wide	13.22	D1	Off-site ROI	Veolia
Plastic packaging	150102	Moulding & assembly	4.74	R5	Off-site ROI	Veolia
Wooden pallets	191207	Warehouse	3.3	R5	Off-site ROI	Veolia
Mixed packaging	150106	Production/ Warehouse	9.68	R5	Off-site ROI	Veolia
General waste metals	200140	Assembly	2.2	R4	Off-site abroad	Veolia
			35.74 kg			

- **Non-Hazardous Waste**

Braun Oral-B Ireland has put in place a comprehensive waste management system for monitoring and recording, the disposal and recovery of non-hazardous wastes. The main non-hazardous wastes generated at Braun include general refuse, restaurant waste, cardboard, scrap plastic and scrap metal.

These are managed in the following manner:

- General waste skips as well as restaurant waste skips are disposed of to Carlow landfill, which is managed by veolia.
- Plastic waste including PE sheeting, sprues and reject moulded parts are handled as follows.
 - All waste plastic, both hard & soft was recycled with Thorndale Recycling, acting as agents for Veolia Environmental Services.
 - To reduce the amount of plastic generated, granulators have been installed for grinding the sprues. The granulated sprue is then automatically fed into the next cycle as regrind.
 - Mixed steel waste from the metal waste skip is sent for recycling via Veolia Ireland Ltd.

Summary of waste figures

A summary of the total quantities of waste produced and recovered during 2010 is included in Table 3.4 (c) below. This information is included for the purposes of the National Waste Database and in accordance with the EPA Draft Guidance Note for an Annual Environmental Report (AER).

Table 3.3 (c) National Waste Database Report Sheet

Industrial Sector NACE1 Code	DG
Reporting period	1/1/10 to 31/12/10
Number of employees (for reporting period)	0 at the end of 2010
Total tonnage of Waste Produced	
Hazardous	29279kg
Non-Hazardous	35.74kg
Total tonnage of Waste Recovered	
Hazardous	124kg
Non-Hazardous	22.52kg

3.5 Noise

The annual noise survey report was completed on May. 29th 2009, in accordance with Condition 8.2 of its IPC Licence (report number 09071 revision 0). There was no environmental noise survey conducted in 2010.

Summary of noise survey report.

- Site Location

The Braun Ireland site is located in the townland at Rathnapish, in between the N9 & N80 roads, on the eastern outskirts of Carlow town. The plant covers an area of 22,000 m² approximately. As the site is located adjacent to the main Carlow to Dublin Road, traffic is the main contributor to background noise levels in the vicinity of the plant.

- Noise Sources

There are a limited number of environmental noise sources on-site. The main source of noise on-site are the chiller & compressor units situated at the rear of the plant. Traffic entering and leaving the plant also contributes to the noise levels. However, the main source of noise in the area is due to off site noise sources principally traffic on the adjacent main road.

- Assessment of Noise Levels

- (a) Noise Sensitive Locations

Noise measurements were taken at the nearest noise sensitive location (i.e. a dwelling located at the site boundary NSL1 which, is situated within 50 meters of the plant on the Dublin Road).

Noise levels measured during the daytime near the dwelling at NSL1 were 72.8dBA L_{95} (75.0dBA $L_{Aeq-Night}$: 75.0dBA $L_{Aeq-Day}$). The dominant noise sources were traffic and the compressor room/ pumphouse but birdcalls were also audible.

- (b) Boundary Noise Levels

A number of boundary points were monitored for noise levels. Results indicated that daytime noise levels ranged from 47 to 65dBA L_{95} (40.8 to 53.2dBA L_{Aeq}). The higher noise levels were measured at the boundary points nearest the Dublin Road roundabout.

Results indicated that night-time noise levels ranged from 43 to 54.2dBA L_{95} (41.3 to 65.1dBA L_{Aeq}). The noise survey report concluded that noise level exceedances in the vicinity of the plant.

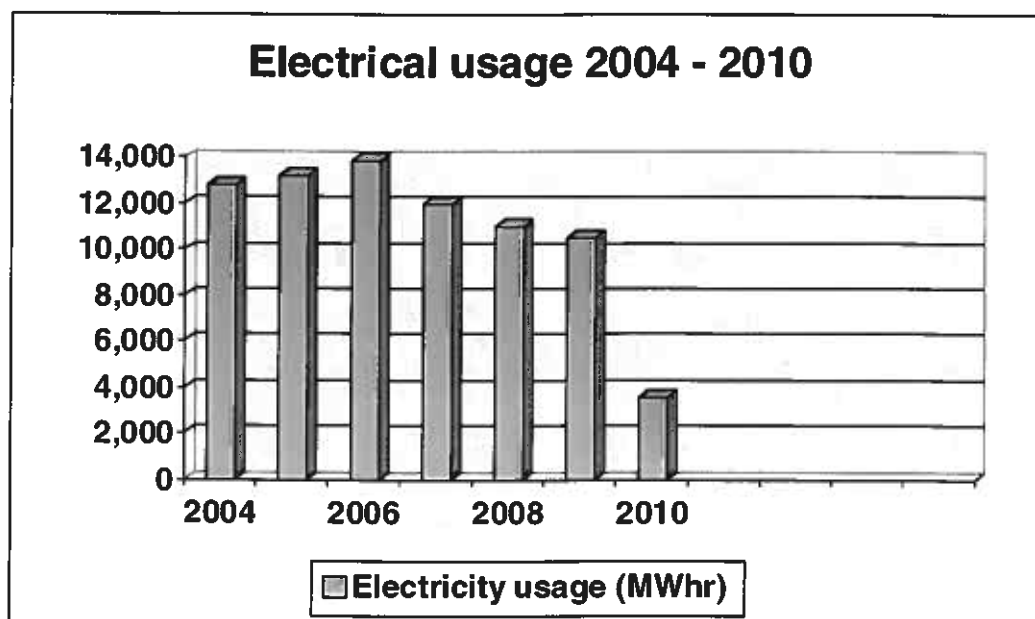
At BN1 this was as a result of background noise level of 40 dBA from a compressor room combined with birdcall noise events. While the compressor room noise contributed to the noise levels at NSL1 traffic produced exceedance. Traffic was the cause if exceedances at all other locations.

3.6 Energy, Water & Resource Usage.

This section of the AER provides a summary of energy and water usage in accordance with the requirements of Schedule 5(i) of the IPC Licence which requires a "resource consumption summary" to be included in the AER.

Energy usage

	2004	2005	2006	2007	2008	2009	2010
Electricity usage (kWh)	12,944,028	13,221,723	13,915,027	11,989,253	11,000,000	10,500,365	3,565,854
Units produced	52,560,000	58,750,000	138,900,000	12,905,000	10,635,000	8,810,000	37,170,000
Usage / Unit (kW/units)	0.246	0.2250	0.100	0.09	0.10	0.11	0.09
Avg. cost €/unit	0.01736	0.0184	0.0088	0.01135	0.01234	N/A	N/A



* FOR 2007 INCLUDES PRODUCTION OF LENS FILTER(divided by 20) f

Table 3.4 (a)

Chart 3.4 (a)

Water Usage

	2002	2003	2004	2005	2006	2007	2008	2009	2010
*Usage in m ³	*22,928	*21,526	*16,450	*20,000	*18500	*2828	*10000	**8135	**7545

Table 3.4 (b)

* Includes well water and town water supply.

** From Carlow county council water rate invoices.

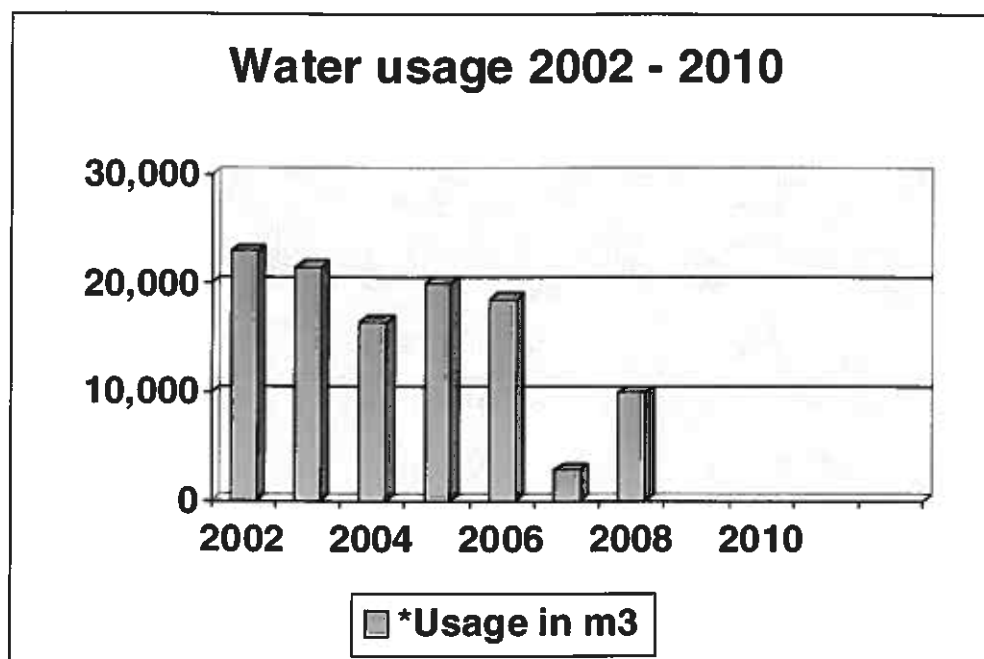


Chart 3.4 (b)

Oil Usage

	2003	2004	2005	2006	2007	2008	2009	2010
Oil Usage (litres)	5,000	5,000	3000	2000	5000	3000	Nil	Nil

Table 3.4 (c) Oil Usage 2003 - 2010

Gas Usage

	2003	2004	2005	2006	2007	2008	2009	2010
Usage in m ³	221,467	233,310	225,806	207,621	178,777	166,621	54,025	96,741

Table 3.4 (d) Gas usage 2003 – 2010

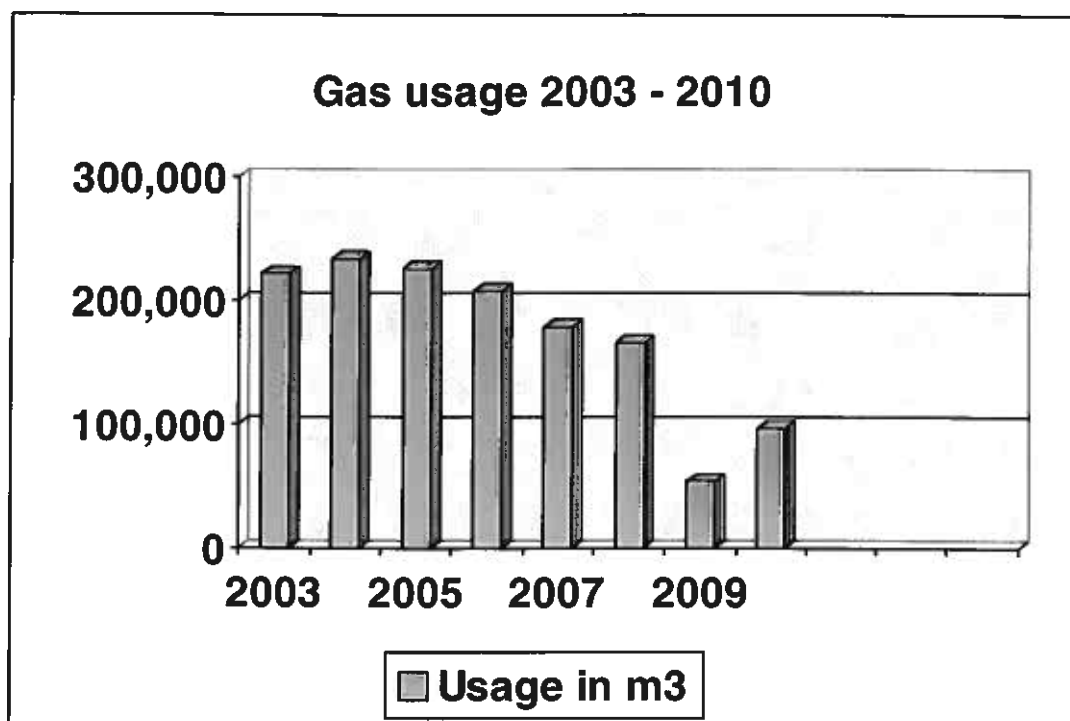


Chart 3.6 (c)

3.7 Environmental Complaints:

Braun did not receive any environmental complaints during 2010 .

3.8 Bund integrity testing

In August 2010 all bunds in the plant were tested

Summary of bund testing:

1. Flex Ethanol bund : the mean drop in water in water level was 1.28cm it was therefore outside the standard deviations of the two set measurements and is not in conformance with BS 8007 : 1987
2. Ethanol Tanks 1 & 2 bund: the mean drop in water in water level was 1.23cm it was therefore outside the standard deviations of the two set measurements and is not in conformance with BS 8007 : 1987
3. Ethanol Tanks 3 bund: No leaking occurred during the testing of the structure ensuring this bund fully complies with BS 8007 : 1987
4. Diesel tank Bund: No leaking occurred during the testing of the structure ensuring this bund fully complies with BS 8007 : 1987
5. Pump House diesel tank bund (Sprinkler 1): No leaking occurred during the testing of the structure ensuring this bund fully complies with BS 8007 : 1987
6. Hazardous chemical storage area bund: No leaking occurred during the testing of the structure ensuring this bund fully complies with BS 8007 : 1987
7. Gas storage area bund: No leaking occurred during the testing of the structure ensuring this bund fully complies with BS 8007 : 1987
8. Oil storage area bund: No leaking occurred during the testing of the structure ensuring this bund fully complies with BS 8007 : 1987
9. Hazardous Waste Storage area bund: No leaking occurred during the testing of the structure ensuring this bund fully complies with BS 8007 : 1987
10. Pump House diesel tank bund (Sprinkler 2): No leaking occurred during the testing of the structure ensuring this bund fully complies with BS 8007 : 1987
11. A copy of the Bund Test Reports are included in appendix 5.

3.9 Groundwater Monitoring

Groundwater monitoring is carried out biannually at monitoring point AGW1 in accordance with Schedule 4(ii) of the IPC Licence, (Reg. No. 287). Monitoring was performed in June 2010 Independent Analytical Services Limited and Environmental Laboratory Services. Monitoring was performed in June 2010 by Independent Analytical Supplies Ltd.. All report will be included in AER. A number of parameters were tested, including: pH, COD,

detergents, chlorides, chromium, nickel, cyanide, silver, barium, copper, platinum, palladium, sulphide and organic solvents. A copy of the Groundwater Monitoring Report is included with the AER.

4.0 Environmental Management Programme

Environmental Management Programme for 2010/2011/2012.

- Appoint P&G environmental remediation expert for the site.
- Appoint additional contractor ERM to carry out site investigation and send report to the agency.
- Develop Closure Restoration and Aftercare management Plan.
- Remove all waste materials and chemicals from the site and leave in a good condition.
- Secure site boundaries on closure.
- Optimise energy usage and shutdown of all unnecessary power supplies.
- ERM to develop proposal for soil and groundwater remediation and submit to the agency for approval.
- Carry out structural assessment of excavation constraints for soil remediation.
- ERM to submit third party works proposal; plan to P&G corporate for approval.
- Finalise works plan in agreement with the agency.
- Site excavation works inclusive of demolition and disposal.
- Ground water sampling x 3 rounds ; the first prior to excavation works ; the second immediately after excavation works ; the third then three months after completing the excavation works.

Appendix No. 1

Surface water sample analysis report

Independent Analytical Supplies Ltd.

Kilcarrig Street, Bagenalstown, Co. Carlow.
Phone: (059)9721022/9721079. Fax: (059)9721897

Analytical Report

Client ID : BRAU.I1

BRAUN ORAL-B IRELAND LTD
ATT: ACCOUNTS DEPT
DUBLIN ROAD
CARLOW.

Card No : 2098/4

Report No : 5965E

No. Of Samples : 1

Sample Condition : Acceptable

Received : 14/06/10

Analysis Commenced : 14/06/10

Issued : 23/06/2010

Agent/IC : IAS2

Sampler :

Reference : EAMONN BATES

Delivery Mode : Customer

Page : 1 of 1

Sample No : 5965E1

Sample Description : SW1 SURFACE WATER

<u>Test Description</u>	<u>Test Result</u>	<u>Unit</u>	<u>Method</u>
Chemical Oxygen Demand	24	mg/l O ₂	Microdigestion and Colourimetry SOP 2005
Chromium	<0.002	mg/l	ICP-MS Analysis LPM 6.10.4
Nickel	<0.002	mg/l	ICP-MS Analysis LPM 6.10.4
pH	6.8	pH units	Electrometry SOP 2004

W. McCall

WENDY McCALL
LABORATORY MANAGER

Independent Analytical Supplies Ltd.

Kilcarrig Street, Bagenalstown, Co. Carlow.
Phone: (059)9721022/9721079. Fax: (059)9721897

Analytical Report

Client ID : BRAU.I1

BRAUN ORAL-B IRELAND LTD
ATT: ACCOUNTS DEPT
DUBLIN ROAD
CARLOW.

Card No : 2098/4

Report No : 5965E

No. Of Samples : 1

Sample Condition : Acceptable

Received : 14/06/10

Analysis Commenced : 14/06/10

Issued : 23/06/2010

Agent/IC : IAS2

Sampler :

Reference : EAMONN BATES

Delivery Mode : Customer

Page : 1 of 1

Sample No : 5965E2

Sample Description : SW2 SURFACE WATER

<u>Test Description</u>	<u>Test Result</u>	<u>Unit</u>	<u>Method</u>
Chemical Oxygen Demand	70	mg/l O ₂	Microdigestion and Colourimetry SOP 2005
Chromium	<0.002	mg/l	ICP-MS Analysis LPM 6.10.4
Nickel	<0.002	mg/l	ICP-MS Analysis LPM 6.10.4
pH	7.2	pH units	Electrometry SOP 2004



WENDY McCALL
LABORATORY MANAGER

Appendix No. 2
2009 Environmental noise survey

ENVIRONMENTAL
NOISE REPORT

Title of Report:	Environmental Noise Report	
Client:	Braun OralB	
Attention:	Eamonn Bates	
Date:	8 th June 2009	
TMS Ref. No:	09071 Rev. 0	
Written by:	Douglas McMillan	Approved by:

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1.0 INTRODUCTION

TMS Consultancy Ltd. was requested by Braun Oral-B Ireland Ltd to evaluate environmental noise levels at its manufacturing plant on the Dublin Road in Carlow.

2.0 PROCEDURE

Daytime and night-time noise measurements were made at ten locations identified by the company's IPPC licence on 29th May 2009. Weather conditions were dry and still.

The instrumentation employed for the noise measurements were a Bruel and Kjaer Modular Precision Sound Analyzer Type 2260 "Investigator" (serial number 2520462) and Type 4189 ½" free-field microphone (serial number 02523903).

The SLM was calibrated using a Bruel and Kjaer Sound Calibrator Type 4231 (serial number 2619383). L_{Aeq} readings were taken until these became consistent (i.e. fluctuated by only 0.1 dB(A) over a relatively extended time period).

Environmental readings were carried out in accordance with BS 7445/ISO 1996 "Description and Measurement of Environmental Noise" and EPA notes for "Noise in Relation to Scheduled Activities".

3.0 RESULTS

3.1 L_{eq} and Percentile Readings (dB(A))

All measurements given in Table 1 (daytime measurements) and Table 2 (night-time measurements) are “A” frequency-weighted with a “Fast” time-weighting. The key measurement determining the impact of noise levels on the human ear is L_{Aeq} or continuous equivalent A-weighted sound pressure level. Other measurements recorded in Tables 1 and 2 include L_1 to L_{99} which give indications of the noise level exceeded for the percentage time indicated. Standard BAT environmental noise limits for daytime operation of industrial sites are 55 dB(A) during daytime hours (7 a.m. to 7 p.m.) and 45 dB(A) at night (7 p.m. to 7 a.m.).

Table 1. Daytime environmental noise measurements at Braun Oral-B's Carlow site.

Location	L_{eq} dB(A)	L_1 dB(A)	L_5 dB(A)	L_{50} dB(A)	L_{95} dB(A)	L_{99} dB(A)	L_{max} dB(A)	L_{pk} dB(C)
NS1	82.5 (87.5)	84.2	83.6	82.6	80.2	79.6	86.1	103.5
NS2	59.8 (64.8)	61.4	60.6	59.6	58.8	58.4	64.9	88.0
NS3	70.2 (75.2)	71.6	71.2	70.4	66.8	64.8	72.2	96.8
BN1	50.7	55.2	51.6	46.6	43.8	42.4	81.2	91.9
BN2	58.8	66.6	65.8	50.4	48.4	48.0	69.6	94.8
BN3	68.3	75.8	73.4	65.6	59.2	58.0	79.3	99.4
BN4	61.0	68.0	64.2	59.8	56.4	55.6	76.2	95.1
BN5	63.6	69.6	66.8	63.0	56.8	53.6	72.0	95.6
BN6	65.0	71.6	69.4	63.4	55.8	54.4	75.1	97.5
NSL1	57.6	60.0	59.0	57.4	55.6	53.0	66.5	91.4

NS1 is located next to the compressor room. The dominant noise source arose from the compressor room itself which produced a continuous humming sound. However, the Sprinkler Pumphouse No. 1 was also operating and this contributed to the overall noise measurement. This was the loudest location for noise originating from the plant itself with the L_{eq} level measured at 82.5 dB(A). The consistency of the noise produced is indicated by the small variation between the short-term and long-term percentile values i.e. L_1 84.2 dB(A) to L_{99} 79.6 dB(A).

The main noise source at NS2 arose from the factory (associated with the gas cartridge extractor unit) while traffic sound was also audible. The L_{eq} level was 59.8 dB(A). As

for NS1 the sound was consistent with little variation between the short- and long-term percentile measurements i.e. L_1 61.4 dB(A) to L_{99} 58.4 dB(A).

The dominant noise source at NS3 was produced by the climate chiller ACUs to the south of the factory although traffic noise was also slightly audible. The L_{eq} level measured 70.2 dB(A).

BN1 is located at the extreme south-west corner of the site and was the quietest of the all the locations measured. Audible sounds included barking dogs (as indicated by the high L_{max} value of 81.2 dB(A)), bird calls, traffic and the faint sound of a compressor room. Background noise levels are very low with values for L_{95} and L_{99} of 43.8 and 42.4 dB(A) respectively.

BN2 is situated approximately midway up the western boundary of the site. Audible sounds included traffic sounds, bird calls and the Sprinkler Pumphouse No. 2 which was operating. The L_{eq} level was relatively high at 58.8 dB(A) principally due to the pumphouse. Short-term noise events are indicated by the values for L_1 and L_5 i.e. 66.6 and 65.8 dB(A) with background noise levels considerably lower at 48.4 and 48.0 dB(A) (L_{95} and L_{99} respectively).

BN3 is located at the north-west corner of the site. Traffic was the main noise source resulting in a high L_{eq} level of 66.1 dB(A). However, bird calls and the compressor room/sprinkler house were also audible. Short term noise events are indicated by the values for L_1 and L_5 i.e. 75.8 and 73.4 dB(A) with background noise levels considerably lower at 59.2 and 58.0 dB(A) (L_{95} and L_{99} respectively).

BN4 is located at the north-east corner of the site and the only audible sound was associated with the considerable volumes of traffic passing on the main Dublin Road. The L_{eq} was 61.0 dB(A). Short term noise events are indicated by the values for L_1 and L_5 i.e. 68.0 and 64.2 dB(A) with background noise levels also due to the traffic, standing at 56.4 and 55.6 dB(A) (L_{95} and L_{99} respectively).

BN5 is located at the main entrance to the east of the site. Traffic was the main sound source with some noise also arising from rattling halliards on the flagpoles at the

entrance. The L_{eq} was 63.6 dB(A). Short term noise events are indicated by the values for L_1 and L_5 i.e. 69.6 and 66.8 dB(A) with background noise levels relatively low at 56.8 and 53.6 dB(A) (L_{95} and L_{99} respectively).

Traffic sound was the only audible noise source at BN6 (situated in the south-east corner of the site). L_{eq} was slightly higher than at BN5 at 65.0 dB(A) as a result of the close proximity of the location to a garage. Short term noise events are indicated by the values for L_1 and L_5 i.e. 71.6 and 69.4 dB(A) with background noise levels of 55.8 and 54.4 dB(A) (L_{95} and L_{99} respectively).

NSL1 is located west of location BN2 adjacent to a lane that runs between the site and the neighbouring houses. The dominant noise sources were traffic and the compressor room/pumphouse but bird calls were also audible. L_{eq} was quite high at 57.6 dB(A). Short-term, traffic-related noise events were indicated by the values for L_1 and L_5 i.e. 60.0 and 59.0 dB(A) with background (compressor room/pumphouse) noise levels relatively high at 55.6 and 53.0 dB(A) (L_{95} and L_{99} respectively).

Table 2. Night-time environmental noise measurements at Braun Oral-B's Carlow site.

Location	L_{eq} dB(A)	L_1 dB(A)	L_5 dB(A)	L_{50} dB(A)	L_{95} dB(A)	L_{99} dB(A)	L_{max} dB(A)	Lpk dB(C)
NS1	75.0 (80.0)	85.2	75.4	73.8	72.8	72.6	86.6	99.9
NS2	69.4 (74.4)	70.0	69.8	69.4	68.8	68.4	70.5	86.9
NS3	69.4 (74.4)	71.4	71.0	68.6	67.2	66.8	74.2	86.9
BN1	47.5	55.8	52.4	44.6	40.8	40.0	63.0	76.5
BN2	47.1	54.6	51.0	45.6	43.2	42.6	59.3	81.9
BN3	65.0	75.4	73.2	53.2	48.8	45.0	78.2	98.9
BN4	62.2	70.6	67.6	59.2	53.2	52.4	78.1	107.8
BN5	54.2	61.8	57.0	52.6	50.8	50.0	70.7	91.6
BN6	61.5	71.8	68.8	50.2	40.8	39.6	73.9	94.5
NSL1	49.6	57.2	54.4	47.2	43.2	41.0	66.2	89.4

Night-time measurement at NS1 resulted in a lower (than daytime) L_{eq} of 75.0 dB(A) indicating less contributory background noise probably from the adjacent sprinkler pumphouse which was operating during the daytime measurements. Again the consistency of the noise is indicated by the small variation between the short-term and long-term percentile values i.e. L_5 75.4 dB(A) to L_{99} 72.6 dB(A).

The L_{eq} level for the night-time noise measurement at NS2 was considerably higher at 69.4 dB(A) (as opposed to 59.8 dB(A)) with the ACUs apparently operating at a reduced rate. Again the sound was consistent with little variation between the short- and long-term percentile measurements i.e. L_1 70 dB(A) to L_{99} 68.4 dB(A).

The night-time L_{eq} level at NS3 was slightly lower than daytime levels at 69.4 dB(A) (as opposed to 70.2 dB(A)). Again the sound was consistent with little variation between the short- and long-term percentile measurements i.e. L_1 71.4 dB(A) to L_{99} 66.8 dB(A).

BN1 was the second quietest of all the locations measured with a L_{eq} level of 47.5 dB(A). The dominant sound came from one of the compressor rooms while bird calls also constituted significant noise events which increased the level beyond the standard 45 dB(A) limit. Background noise levels (L_{99}) were 40.0 dB(A).

The L_{eq} level at BN2 was slightly above recommended night-time levels at 47.5 dB(A). The short term noise events indicated by the values for L_1 and L_5 i.e. 54.6 and 50.8 dB(A) arose from the sound of traffic passing on the Dublin Road. A humming sound arising from the factory was also faintly audible at this location. Background noise levels were below 45 dB(A) at 43.6 and 42.8 dB(A) (L_{95} and L_{99} respectively).

Traffic was the principal noise source at BN3 and produced the high L_{eq} of 65 dB(A). Bird calls and a compressor room were also heard at this location, resulting in a high L_{eq} level of 58.8 dB(A). Short term noise events are indicated by the values for L_1 and L_5 i.e. 75.4 and 73.2 dB(A) with background noise levels considerably lower at 48.8 and 45.0 dB(A) (L_{95} and L_{99} respectively).

Dublin Road traffic was the principal noise source at BN4 producing a high L_{eq} of 62.2 dB(A). Bird calls were another noise source. Short term noise events are indicated by the values for L_1 and L_5 i.e. 70.6 and 67.6 dB(A) with background noise levels also quite high due to the traffic, standing at 53.2 and 52.4 dB(A) (L_{95} and L_{99} respectively).

Traffic was the main sound source at BN5 producing a L_{eq} of 54.2 dB(A). Short term noise events are indicated by the values for L_1 and L_5 i.e. 61.8 and 57.0 dB(A) with

background noise levels relatively low at 50.8 and 50.0 dB(A) (L_{95} and L_{99} respectively).

Again traffic sound was the dominant noise source at BN6 but there was also the sound of petrol pumps in operation from a filling station which together produced a L_{eq} of 61.5 dB(A). Short term noise events are indicated by the values for L_1 and L_5 i.e. 71.8 and 68.8 dB(A) with background noise levels below 40 dB(A).

Audible sound at NSL1 was mainly traffic-related but there was also some birdsong and noise from a compressor room. The L_{eq} was above recommended night-time noise levels at 49.6 dB(A) but this was mainly due to short term noise events (passing traffic) indicated by the values for L_1 and L_5 i.e. 57.2 and 54.4 dB(A) with background noise levels below 45 dB(A) at 43.2 and 41.0 dB(A) (L_{95} and L_{99} respectively).

3.2 One-third octave band analysis

There was no identifiable tonal component for NS1 or NSL1. For NS2 a tonal component was identified at the 2.5 kHz band and for NS3 there were tonal components at 100 Hz, 1.24 kHz and 6.3 kHz. In accordance with ISO 1996, 5 dB was added to the L_{Aeq} measurements to allow for the presence of these tonal components. These measurements are indicated in brackets in Tables 1 & 2.

4.0 CONCLUSIONS

From the measurements carried out above, it can be seen that with respect to daytime readings for noise measurement locations only BN1 was within recommended daytime limits of L_{eq} 55 dB(A). Where L_{eq} values exceeded this it was due to off-site noise sources, principally traffic except at BN2, BN3 and NSL1 where there was a contribution from Sprinkler Pumphouse No. 2. However, this pumphouse is not typically in operation.

All night-time readings exceeded recommended levels. At BN1 this was as a result of background noise level of 40.0 dB(A) from a compressor room combined with bird call noise events. While compressor room noise contributed to noise levels at NSL1 traffic produced the exceedence. Traffic was the cause of exceedences at all other locations.

Finally, there were distinctive tonal components at locations NS2 and NS3.

Appendix No. 3
Annual test report for AGW1 (Groundwater)

Independent Analytical Supplies Ltd.

Kilcarrig Street, Bagenalstown, Co. Carlow.
Phone: (059)9721022/9721079. Fax: (059)9721897

Analytical Report

Client ID : BRAU.I1

BRAUN ORAL-B IRELAND LTD
ATT: ACCOUNTS DEPT
DUBLIN ROAD
CARLOW.

Card No : 2098/4

Report No : 5965E

No. Of Samples : 1

Sample Condition : Acceptable

Received : 14/06/10

Analysis Commenced : 14/06/10

Issued : 24/06/2010

Agent/IC : IAS2

Sampler :

Reference : EAMONN BATES

Delivery Mode : Customer

Page : 1 of 1

Sample No : 5965E3

Sample Description : AGW1 WELL WATER

Test Description	Test Result	Unit	Method
Silver	<2	ug/l	ICP-MS Analysis LPM 6.10.4
Barium	<2	ug/l	ICP-MS Analysis LPM 6.10.4
Chloride	6.0	mg/l	Colourimetry LPM 6.1.14
Cyanide	0.007	mg/l	Colourimetry LPM 6.1.7
Chemical Oxygen Demand	25	mg/l O ₂	Microdigestion and Colourimetry SOP 2005
Chromium 3	<2	ug/l	By difference.
Chromium (hexavalent)	<2	ug/l	Colourimetry
Chromium	<2	ug/l	ICP-MS Analysis LPM 6.10.4
Copper	<2	ug/l	ICP-MS Analysis LPM 6.10.4
Detergents / Surfactants	0.005	mg/l	Colourimetric LPM 6.1.16
Nickel	<2	ug/l	ICP-MS Analysis LPM 6.10.4
Palladium	<0.001	mg/l	ICP-MS Analysis LPM 6.10.4
pH	7.2	pH units	Electrometry SOP 2004
Platinum	<2	ug/l	ICP-MS Analysis LPM 6.10.4
Sulphide	1	mg/l	Colourimetry LPM 6.1.12
Sulphate	24	mg/l	Colourimetry LPM 6.1.13



WENDY McCALL
LABORATORY MANAGER

Appendix No. 4
Bund integrity test report

BUND INTEGRITY TESTS



REPORT

Title of Report: Bund Integrity Tests
Client: Braun Oral-B Ireland Ltd
Attention: Eamonn Bates
Date: 10th August 2010
TMS Ref. No: Rev.0
Written by:
Douglas McMillan

Approved by:

BUND INTEGRITY TESTS

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BUND INTEGRITY TESTS

1.0 INTRODUCTION

TMS Consultancy Ltd. was commissioned by Braun to carry out assessments at its plant on the Dublin Road, Carlow, of four concrete bunds underlying bulk chemical tanks, two bunds in its Sprinkler Pump Houses, one bund in place for its Hazardous Chemical Store, one each for a Gas, Oil and Hazardous waste store respectively and a sump. These tests were carried out to comply with Condition 9.4 of its IPC Licence (Register No. P0287-01).

2.0 PROCEDURE

Visual inspection of the bunds prior to testing revealed no obvious cracks, fissures etc. except for the gas storage bund. Integrity tests were carried out in accordance with BS 8007: 1987 "Design of concrete structures for retaining aqueous liquids". The tests took place from 29th June 2009 to 5th June 2009.

3.0 TESTING OF STRUCTURES

For a test of liquid retention, the structures were initially filled to above a normal maximum level. After the initial filling of the bund, the water level was allowed to stabilize for a period of 2 hours while absorption and autogenous healing took place. After a 6-day period the level of the water surface was recorded again. The total permissible drop in average level, during this testing period should not exceed 1/500th of the average water depth of the full pit.

BUND INTEGRITY TESTS

4.0 BUNDS - OVERVIEW

Original drawings of the bund dimensions were not available and both the outer dimensions of the pits and the equipment contained within them were very irregular. Consequently, evaluation of the bund integrity was based on an average of approximately 35 depth readings rather than volume calculations.

For the outdoor bunds exposed to the air, two containers with given levels of water were used as a control to identify the approximate level of evaporation over the assessment period, one in the shade and one in the open. Temperatures for the measurement period were exceptionally warm and the container in the open showed a drop of 0.8 cm for the measurement period with the shaded container showing a drop of 0.4 cm. For the indoor enclosed bunds (i.e. Sprinkler Pump Houses) evaporation was not a factor.

BUND INTEGRITY TESTS

4.1 Outdoor Bunds

4.1.1 Ethanol Tanks 1 & 2

This bund underlies Ethanol Tanks 1 and 2.

Initial depth of water in bund:

= 29.69±0.13 cm

Final depth of water in bund:

= 28.47±0.05 cm

According to the test, the bund was allowed a maximum change in water level of 1/500th the average water depth of the full bund i.e. 0.06 cm plus the 0.8 cm of evaporation which occurred over the measurement period or a total drop of 0.86 cm. The actual mean drop in water level was 1.23 cm or outside the standard deviations of the two sets of measurements. It is not in conformance with BS 8007: 1987.

BUND INTEGRITY TESTS

4.1.2 Ethanol Tank 3

This underlies Ethanol Tank 3.

Initial depth of water in bund:

$$= 31.66 \pm 0.19$$

Final volume of water in bund

$$= 31.08 \pm 0.11$$

According to the test, the bund was allowed a maximum change in water level of $1/500^{\text{th}}$ the average water depth of the full bund i.e. a drop of 0.06 cm plus the 0.8 cm of evaporation which occurred over the measurement period or a total drop of 0.86 cm. The actual mean decrease in depth was 0.59 cm which was inside the standard deviations of the two sets of measurements. It is in conformance with BS 8007: 1987.

4.1.3 Flex Ethanol Tank

This bund underlies the Flex Ethanol Tank.

Initial depth of water in bund:

$$= 36.49 \pm 0.14 \text{ cm}$$

Final depth of water in bund:

$$= 35.21 \pm 0.1 \text{ cm}$$

According to the test, the bund was allowed a maximum change in water level of $1/500^{\text{th}}$ the average water depth of the full bund i.e. 0.07 cm plus the 0.8 cm of evaporation which occurred over the measurement period or a total drop of 0.87 cm.

BUND INTEGRITY TESTS

The actual mean decrease in water level was 1.28 cm, i.e. outside the standard deviations of the two sets of measurements. It is not in conformance with BS 8007: 1987.

4.1.4 Diesel Tank

This bund underlies the diesel tank.

Initial depth of water in bund:

$$= 53.77 \pm 0.18 \text{ cm}$$

Final depth of water in bund:

$$= 53.61 \pm 0.12 \text{ cm}$$

According to the test, the bund was allowed a maximum change in water level of $1/500^{\text{th}}$ the average water depth of the full bund i.e. 0.11 cm plus the 0.8 cm of evaporation which occurred over the measurement period or a total drop of 0.91 cm. The actual mean decrease in water was 0.16 cm or inside the standard deviations of the two sets of measurements. It is in conformance with BS 8007: 1987.

4.2 Indoor Bunds

4.2.1 Hazardous Chemicals

This bund contains the hazardous chemicals.

Initial depth of water in bund:

= 8.3±0.07cm

Final depth of water in bund:

= 7.92±0.09 cm

According to the test, there should be a maximum change in water level of 1/500th the average water depth of the full bund, i.e. 0.02 cm plus the 0.4 cm of evaporation which occurred over the measurement period or a total drop of 0.42 cm. The actual mean drop in water was 0.39 cm or inside the standard deviations of the two sets of measurements. It is in conformance with BS 8007: 1987.

4.2.2 Gas Store

This bund is grated and lies at the entrance to the Gas Store.

Initial depth of water in bund:

= 25.0 cm

Final depth of water in bund:

= 24.7 cm

BUND INTEGRITY TESTS

According to the test, there should be a maximum change in water level of $1/500^{\text{th}}$ the average water depth of the full bund, i.e. 0.05 cm plus the 0.4 cm of evaporation which occurred over the measurement period or a total drop of 0.45 cm. The actual mean drop in water was 0.3 cm. It is in conformance with BS 8007: 1987.

4.2.3 Oil Store

This bund is grated and lies at the entrance to the Oil Store.

Initial depth of water in bund:

= 27.9 cm

Final depth of water in bund:

= 27.7 cm

According to the test, there should be a maximum change in water level of $1/500^{\text{th}}$ the average water depth of the full bund, i.e. 0.06 cm plus the 0.4 cm of evaporation which occurred over the measurement period or a total drop of 0.46 cm. The actual mean drop in water was 0.2 cm. It is in conformance with BS 8007: 1987.

4.2.4 Hazardous Waste Store

This bund is grated and lies at the entrance to the Hazardous Waste Store.

Initial depth of water in bund:

= 20.0 cm

Final depth of water in bund:

BUND INTEGRITY TESTS

$$= 19.7 \text{ cm}$$

According to the test, there should be a maximum change in water level of $1/500^{\text{th}}$ the average water depth of the full bund, i.e. 0.04 cm plus the 0.4 cm of evaporation which occurred over the measurement period or a total drop of 0.44 cm. The actual mean drop in water was 0.3 cm. It is in conformance with BS 8007: 1987.

4.2.5 Sprinkler Pump House No. 1

This bund is in place to contain any potential spill of fuel oil.

Initial depth of water in bund:

$$= 17.14 \pm 0.1 \text{ cm}$$

Final volume of water in bund:

$$= 17.12 \pm 0.09 \text{ cm}$$

According to the test, there should be a maximum change in water level of $1/500^{\text{th}}$ the average water depth of the full bund, i.e. 0.034 cm. The actual mean increase in water was 0.025 cm. It is in conformance with BS 8007: 1987.

4.2.6 Sprinkler Pump House No. 2

This bund is in place to contain any potential spill of fuel oil.

Initial depth of water in bund:

$$= 22.51 \pm 0.07 \text{ cm}$$

BUND INTEGRITY TESTS

Final volume of water in bund:

= 22.53± 0.06 cm

According to the test, there should be a maximum change in water level of 1/500th the average water depth of the full bund, i.e. 0.07 cm. The actual mean drop in water level was 0.02 cm. It is in conformance with BS 8007: 1987.

4.2.6 Moulding Sump

Two drains empty into this which may contain oil-contaminated water.

Initial depth of water in bund:

= 99.5 cm

Final volume of water in bund:

= 99.5 cm

According to the test, there should be a maximum change in water level of 1/500th the average water depth of the full bund, i.e. 0.2 cm. The actual mean drop in water level was 0 cm. It is in conformance with BS 8007: 1987.

BUND INTEGRITY TESTS

5.0 CONCLUSION

Bunds for the Ethanol Tanks 1&2 and the Flex Ethanol bunds were not in compliance with BS 8007:1987. All other bunds and sumps are in conformance.

Appendix No. 5

Gas farm decommissioning report & certs

Old Park Engineering Services Limited

LIQUEFIED PETROLEUM GAS PLANT : DESIGN - INSTALLATION - MAINTENANCE

Braun "Oral B" Limited
Dublin Road
Carlow
Ireland

Woods Lane
Cradley Heath
West Midlands B64 7AN
Tel: +44 (0) 1384 412550
Fax: +44 (0) 1384 410784

F.A.O Eamonn Bates

Our ref: J1745/TLC

13/09/10

Dear Sir

Ref: Decommission/Mothball LPG plant

Our engineers visited site week commencing 06/09/10 and carried out the following work.

- Flared off 6,000 litres of Iso – butane liquid from vessel 50203.
- Flared off 14,000 litres of Iso – butane liquid from 50204.
- We flared off residual vapour from both vessels until vessel pressure was at zero.
- We then ram purged the vessels with nitrogen until the flare no longer supported combustion and less than 3% LEL in nitrogen was reached.
- Both vessels have been left with a 5psig nitrogen atmosphere.
- The liquid fill and vapour balance were decommissioned and ram purged with nitrogen.
- Process flow and return lines were decommissioned and ram purged with nitrogen.
- We applied a pneumatic test to the process flow and return lines from the compound to the gas house. The test was stable for 5 hours at 250psig.



VAT Reg No: 729 5660 03 Company Reg. 3636597
Member of the Liquefied Petroleum Gas Association : N°: 1233
Email: info@oldparklpg.co.uk Website: www.oldparklpg.co.uk



- On completion of the above work we have released the nitrogen from the process flow and return, liquid fill, vapour balance and vessels interconnecting Pipework.
- On completion of removing the nitrogen from the Pipework we then removed various hydrostats and left various ½" ball valves open.

Please find attached Gas free certificates for both vessels and all the Pipework, and the pressure test certificate for the process flow and return Pipework.

We trust the work carried out was to your satisfaction and should you need any additional information please do not hesitate to contact the under signed.

Yours faithfully

Old Park Engineering Services LTD

Tim L Cornforth

OLD PARK ENGINEERING SERVICES LIMITED

CUSTOMER: Braun Oral – B Ireland Ltd	Completed By: R Beet
CUSTOMER REFERENCE: Verbal E Bates	Date: 09/09/10
OPE CONTRACT No. J1745	Position: Contracts Director
CONTRACT DESCRIPTION: Decommission/Mothball Plant	Signed: 
DRAWING NO. N/A	Certificate J1745 - 1

Pressure Test Certificate

Pipe work Details:

Diameter: (Inches)	Wall Thickness: (mm)	Grade:	Type:	Schedule:	Length: (metres)	Volume: (Litres)	Test Pressure: (PSI)	Medium:	Duration: (Hours)
N/A	N/A	N/A	N/A	N/A	N/A	N/A	250	N2	5

Description of pipe work under test including all weld numbers:

Flow and return pipe work tested.

Details:	Test Information:	Comments:	Engineers Initials
Volume: (Litres)	N/A		
P/V Plot/Reference:	N/A		
Air Content: %	N/A		
Air Content: Litres	N/A		
Initial Pressure prior to Stabilization: PSI	250		
Stabilization Period: Mins	15		
Start Test Pressure: PSI	250		
Duration: Hours	5		
Final Test Pressure: PSI	250		
Temperature at Start of Pressure Test:	N/A		
Temperature at Finish of Pressure test:	N/A		
Result: Satisfactory/ failed	Satisfactory		RB.

OLD PARK ENGINEERING SERVICES LIMITED

GAS FREE CERTIFICATE

Form No. QC20
Date Issued: 8TH JULY 2008
Modified:
Approved By: G.J.Cornforth

DATE TESTED: 09/09/10	CUSTOMER: Braun Oral – B Ireland Ltd
QUOTE No. E2123	SITE ADDRESS: Dublin Road Carlow P.O. Box 123
JOB No. J1745	CUSTOMER ORDER No. Verbal E Bates

Vessel Serial No. Joseph Adamson, Job no 50203, Client Old Park Progas, Clients PO 005418	CERTIFICATE No. J1745 - 1
OPE ENGINEER: T L Cornforth	
RESULTS:	DATE/TIME: 09/09/10

L.E.L. READING: BOTTOM = 0%LEL

OXYGEN READING: BOTTOM = N/A
CO READING: BOTTOM = N/A

I/WE CONFIRM THAT THE ABOVE HAS BEEN DECOMMISSIONED AND THE INTERNAL ATMOSPHERE HAS BEEN TESTED ON THE ABOVE DATE AND TIME:

VALID FROM: 09/09/10

VALID TO: RECOMMISSIONING DATE

SIGNED:



POSITION: Engineer

SPECIAL INSTRUCTIONS:

5 PSIG of Nitrogen left in the vessel

**NOTE: THIS IS NOT A HOT WORK PERMIT OR VESSEL
ENTRY PERMIT**

OLD PARK ENGINEERING SERVICES LIMITED

GAS FREE CERTIFICATE

Form No. QC20
Date Issued: 8TH JULY 2008
Modified:
Approved By: G.J.Cornforth

DATE TESTED: 09/09/10	CUSTOMER: Braun Oral – B Ireland Ltd
QUOTE No. E2123	SITE ADDRESS: Dublin Road Carlow P.O. Box 123
JOB No. J1745	CUSTOMER ORDER No. Verbal E Bates

Vessel Serial No. Joseph Adamson, Job no 50204, Client Old Park Progas, Clients PO 005418	CERTIFICATE No. J1745 - 2
OPE ENGINEER: T L Cornforth	
RESULTS:	DATE/TIME: 09/09/10

L.E.L. READING: BOTTOM = 0%LEL

OXYGEN READING: BOTTOM = N/A
CO READING: BOTTOM = N/A

I/WE CONFIRM THAT THE ABOVE HAS BEEN DECOMMISSIONED AND THE INTERNAL ATMOSPHERE HAS BEEN TESTED ON THE ABOVE DATE AND TIME:

VALID FROM: 09/09/10 **VALID TO: RECOMMISSIONING DATE**

SIGNED:  **POSITION: Engineer**

SPECIAL INSTRUCTIONS:

5 PSIG of Nitrogen left in the vessel

**NOTE: THIS IS NOT A HOT WORK PERMIT OR VESSEL
ENTRY PERMIT**

OLD PARK ENGINEERING SERVICES LIMITED

GAS FREE CERTIFICATE

Form No. QC20
Date Issued: 8TH JULY 2008
Modified:
Approved By: G.J.Cornforth

DATE TESTED: 09/09/10	CUSTOMER: Braun Oral – B Ireland Ltd
QUOTE No. E2123	SITE ADDRESS: Dublin Road Carlow P.O. Box 123
JOB No. J1745	CUSTOMER ORDER No. Verbal E Bates

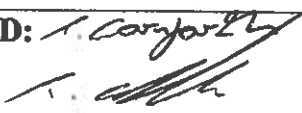
Flow Line Return Line 300mm Column	CERTIFICATE No. J1745 - 3
OPE ENGINEER: T L Cornforth	
RESULTS:	DATE/TIME: 09/09/10

L.E.L. READING: BOTTOM = 0%LEL

OXYGEN READING: BOTTOM = N/A
CO READING: BOTTOM = N/A

I/WE CONFIRM THAT THE ABOVE HAS BEEN DECOMMISSIONED AND THE INTERNAL ATMOSPHERE HAS BEEN TESTED ON THE ABOVE DATE AND TIME:

VALID FROM: 09/09/10 **VALID TO:** RECOMMISSIONING DATE

SIGNED:  **POSITION:** Engineer

SPECIAL INSTRUCTIONS:
No pressure left in the lines. Hydrostatic relief valves taken out along the lines.

**NOTE: THIS IS NOT A HOT WORK PERMIT OR VESSEL
ENTRY PERMIT**

OLD PARK ENGINEERING SERVICES LIMITED

GAS FREE CERTIFICATE

Form No. QC20
Date Issued: 8TH JULY 2008
Modified:
Approved By: G.J.Cornforth

DATE TESTED: 09/09/10	CUSTOMER: Braun Oral – B Ireland Ltd
QUOTE No. E2123	SITE ADDRESS: Dublin Road Carlow P.O. Box 123
JOB No. J1745	CUSTOMER ORDER No. Verbal E Bates

Liquid Fill Line	CERTIFICATE No. J1745 - 4
OPE ENGINEER: T L Cornforth	
RESULTS:	DATE/TIME: 09/09/10

L.E.L. READING: BOTTOM = 0%LEL

OXYGEN READING: BOTTOM = N/A
CO READING: BOTTOM = N/A

I/WE CONFIRM THAT THE ABOVE HAS BEEN DECOMMISSIONED AND THE INTERNAL ATMOSPHERE HAS BEEN TESTED ON THE ABOVE DATE AND TIME:

VALID FROM: 09/09/10	VALID TO: RECOMMISSIONING DATE
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SIGNED: 	POSITION: Engineer
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SPECIAL INSTRUCTIONS: No pressure left in the line. Various Hydro static relief valves and valves left open along the line.
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**NOTE: THIS IS NOT A HOT WORK PERMIT OR VESSEL
ENTRY PERMIT**

OLD PARK ENGINEERING SERVICES LIMITED

GAS FREE CERTIFICATE

Form No. QC20
Date Issued: 8TH JULY 2008
Modified:
Approved By. G.J.Cornforth

DATE TESTED: 09/09/10	CUSTOMER: Braun Oral – B Ireland Ltd
QUOTE No. E2123	SITE ADDRESS: Dublin Road Carlow P.O. Box 123
JOB No. J1745	CUSTOMER ORDER No. Verbal E Bates

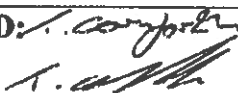
Vapour Balance Line	CERTIFICATE No. J1745 - 5
OPE ENGINEER: T L Cornforth	
RESULTS:	DATE/TIME: 09/09/10

L.E.L. READING: BOTTOM = 0%LEL

OXYGEN READING: BOTTOM = N/A
CO READING: BOTTOM = N/A

I/WE CONFIRM THAT THE ABOVE HAS BEEN DECOMMISSIONED AND THE INTERNAL ATMOSPHERE HAS BEEN TESTED ON THE ABOVE DATE AND TIME:

VALID FROM: 09/09/10	VALID TO: RECOMMISSIONING DATE
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SIGNED: 	POSITION: Engineer
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SPECIAL INSTRUCTIONS:

No pressure left in the line. Various Hydro static relief valves and valves left open along the line.

**NOTE: THIS IS NOT A HOT WORK PERMIT OR VESSEL
ENTRY PERMIT**

OLD PARK ENGINEERING SERVICES LIMITED

GAS FREE CERTIFICATE

Form No. QC20
Date Issued: 8TH JULY 2008
Modified:
Approved By. G.J.Cornforth

DATE TESTED: 09/09/10	CUSTOMER: Braun Oral – B Ireland Ltd
QUOTE No. E2123	SITE ADDRESS: Dublin Road Carlow P.O. Box 123
JOB No. J1745	CUSTOMER ORDER No. Verbal E Bates

Vaporizer	CERTIFICATE No. J1745 - 6
OPE ENGINEER: T L Cornforth	
RESULTS:	DATE/TIME: 09/09/10

L.E.L. READING: BOTTOM = 0%LEL

OXYGEN READING: BOTTOM = N/A
CO READING: BOTTOM = N/A

I/WE CONFIRM THAT THE ABOVE HAS BEEN DECOMMISSIONED AND THE INTERNAL ATMOSPHERE HAS BEEN TESTED ON THE ABOVE DATE AND TIME:

VALID FROM: 09/09/10

VALID TO: RECOMMISSIONING DATE

SIGNED: 

POSITION: Engineer

SPECIAL INSTRUCTIONS:

No pressure left in the vaporizer. Hydro static relief valves left out along the line.

**NOTE: THIS IS NOT A HOT WORK PERMIT OR VESSEL
ENTRY PERMIT**

OLD PARK ENGINEERING SERVICES LIMITED

GAS FREE CERTIFICATE

Form No. QC20
Date Issued: 8TH JULY 2008
Modified:
Approved By. G.J.Cornforth

DATE TESTED: 09/09/10	CUSTOMER: Braun Oral – B Ireland Ltd
QUOTE No. E2123	SITE ADDRESS: Dublin Road Carlow P.O. Box 123
JOB No. J1745	CUSTOMER ORDER No. Verbal E Bates

Interconnecting Pipework between vessels	CERTIFICATE No. J1745 - 7
OPE ENGINEER: T L Cornforth	
RESULTS:	DATE/TIME: 09/09/10

L.E.L. READING: BOTTOM = 0%LEL

OXYGEN READING: BOTTOM = N/A

CO READING: BOTTOM = N/A

I/WE CONFIRM THAT THE ABOVE HAS BEEN DECOMMISSIONED AND THE INTERNAL ATMOSPHERE HAS BEEN TESTED ON THE ABOVE DATE AND TIME:

VALID FROM: 09/09/10	VALID TO: RECOMMISSIONING DATE
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SIGNED: 	POSITION: Engineer
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SPECIAL INSTRUCTIONS:

No pressure left in the lines.

**NOTE: THIS IS NOT A HOT WORK PERMIT OR VESSEL
ENTRY PERMIT**