

**Veolia Environmental Services Technical
Solutions Ltd. (formerly AVR-Safeway)**

**Corrin, Fermoy,
Co. Cork**

Waste Licence W0050-02

ANNUAL ENVIRONMENTAL REPORT 2008

SUMMARY

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1.1 Facility Details

Waste Licence No: W0050-02
Company Name: Veolia Environmental Services Ltd.
Location: Corrin, Fermoy, Co. Cork.
Contact: Mike Powell,
Environmental Laboratory/Compliance Manager,
Veolia Environmental Services Ltd.
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1.2 Management structure

The management structure is outlined in appendix 11.

This Annual Environmental Report covers the period from 1st January 2008–
December 31st 2008.

Acceptability of wastes at the facility under waste licence W0050-02

Waste Type	Maximum Tonnes per Annum
Hazardous Construction and demolition	3,000
Industrial non-hazardous sludge	8,000
Hazardous waste as listed in Section H.1.3	58,000
Industrial non-hazardous solids	3,000
TOTAL	72,000

Licensed waste disposal activities, in accordance with the Third Schedule of the Waste Management Act, 1996

Class 7: Physico-chemical treatment not referred to elsewhere in this Schedule (including evaporation, drying and calcination), which results in final compounds or mixtures, which are disposed of by means of any activity, referred to in paragraphs 1 to 10 of this Schedule.

Class 11: Blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.

Class 12: Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.

Class 13: Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.

Licensed waste recovery activities, in accordance with the Fourth Schedule of the Waste Management Act, 1996 to 2005:

Class 1: Solvent reclamation or regeneration

Class 2: Recycling or reclamation of organic substances, which are not used as solvents (including composting and other biological processes)

Class 3: Recycling or reclamation of metals or metal compounds.

Class 4: Recycling or reclamation of inorganic materials

Class 8: Oil re-refining or other re-uses of oil

Class 11: Use of waste for submission from any activity referred to in the preceding paragraph of this Schedule

Class 12: Exchange of waste for submission to any activity referred to in the preceding paragraph of this Schedule.

Class 13: Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.

Environmental Policy

Veolia Environmental Services Ireland Limited is fully committed to the operation of its facilities to the highest environmental standards and fully supports and adheres to that policy.

It is the policy of Veolia Environmental Services Ireland Limited to protect the local environment and to minimise the impact of the operation on the environment. To achieve this objective it is committed to:

- Adhering to all relevant environmental legislation and relevant statutory obligations that relate to its activities both on and off site.
- Ensuring that all operations carried out by the company are done in a manner which ensures that environmental protection is taken into account.
- Providing and maintaining site facilities that are designed, constructed, operated and maintained to encompass the principles of good environmental practice.
- Striving to achieve a continuous improvement in efficiency of operations and environmental performance.
- Striving to minimise the quantity of waste disposed of at landfill and increasing the amount of material recycled / recovered.
- Providing environmental information to the community and responding positively to queries or complaints.
- Providing adequate training to all employees on environmental awareness and resource management.

2.0 MONITORING LOCATIONS GRID REFERENCES

Surface Water

STATION	EASTING	NORTHING
WSP1	181650	95521
WSP2	181831	95108

Groundwater

STATION	EASTING	NORTHING
BH1	181390	95219
BH2	181422	95338
BH3a	181502	95216
H1	181467	95070
H2	181566	94878
N1	181789	95582
N2	181028	95122
N3	181093	95060
N4	180919	95091
N5	180937	95328
HOLY WELL	181435	95389

Noise

STATION	EASTING	NORTHING
MP1	181467	95070
MP2	181407	95141
MP3	181360	95275
MP4	181434	95273
MP5	181093	95060

Note: See attached map (plot ref. no. 6948_1).

The outflow emission point from the site entering the Shanowennadrimina stream (SWD1) grid reference 181696E, 95285N is also included

2.1 Waste Management record:

A breakdown of the waste received/dispatched is included in this report.

Appendix 1 – Waste received at the facility from 1st January 2008 until 31st December 2008.

Appendix 2 – Waste dispatched from the site from 1st January 2008 until 31st December 2008 for Disposal/Recovery

2.2 Use of quarantine store:

No waste was stored in the quarantine store

2.3 Rejected waste

No waste was rejected.

2.4 Surface Water Emissions

No direct emissions are made to the surface water on-site. Monitoring is carried out on the surface water leaving the site to ensure that there has been no contamination of the rainwater falling on and passing through the site. The parameters that are monitored are pH, Conductivity and TOC. These parameters are monitored continuously.

	Monitoring Range	Warning Level	Action/T rigger Levels
pH	Continuous	pH 6.5, pH 8.5	pH 6, pH 9
Conductivity	Continuous	> 600µS	> 800µS
TOC	Continuous	> 60mg/L	> 100mg/L

Table 2

Results:

The results for the continuous monitoring of surface water emissions are tabulated monthly and are available to the public on request at the Veolia Environmental Services Ltd site reception. In summary, the values for the surface water emission parameters (pH, Conductivity and Total Organic Carbon) for all surface water leaving the site were at all times within the limits agreed with the Agency. The out-fall valve was closed several times a month for various reasons such as equipment maintenance, equipment malfunction, cleaning or because of a forecast for low rainfall.

2.5 Surface Water Monitoring:

In addition to the continuous monitoring of the surface water leaving the site there is additional monitoring of the surface water from the site in the local stream the "Shanowennadrimina" at the locations listed on page 6. Also listed are the Groundwater and noise monitoring locations.

The results for the parameters analysed were compared with the national and EU standards for water suitable for human consumption (Directive 80/778/EEC and S.I. No. 81 of 1988) and in general the water quality of all of the groundwater sites was up to these standards. For a table of results please see Appendix 3.

Summary of results and interpretations of environmental monitoring of surface water

The surface water monitoring carried out for the year 2008 was according to the schedule C of waste licence W0050-02.

Conclusions

There is no evidence that Veolia Environmental Services Ltd is having any negative impact on the quality of the water in the Shanowennadrimina stream and it can be shown that the water quality of the stream has begun to improve slightly since the last annual report.

2.6 Groundwater Monitoring

For Tables of Results please see report in Appendix 3

Summary of results and interpretations of environmental monitoring of ground water.

The environmental monitoring carried out for the year 2008 was according to schedule C of waste licence W0050-02 There were four samplings undertaken during this period. The results from this monitoring can be found in Appendix 3. There was also parallel monitoring of the surface and groundwater carried out by the Environmental Protection Agency. There is very good correlation between the Veolia Environmental Services Ltd monitoring and the EPA monitoring.

Conclusion

The results from the quarterly and annual groundwater analysis carried out during 2008 indicate that in general the water from these boreholes is free from pollution or contamination. However during the reporting period the levels of chloride, total dissolved solids and the conductivity of BH1 gradually rose, due to the direction of flow of the groundwater the operation of the site

cannot have caused this change in the water quality. Veolia Environmental Services will continue to monitor the situation in consultation with the agency.

2.7 Air Emissions Monitoring

Air emissions were measured from the fixed-point emission sources from the scrubbers. There are three scrubbers on site, Acid Gas Scrubber (AGS1) in bund H and two wet scrubber-carbon filters (WSCF1 and WSCF2) in bunds D and R.

The monitoring frequency for all scrubbers is quarterly.

Acid Gas Scrubber 1 (AGS1)

The monitoring range was 1-20 ppm hydrogen chloride and the level of hydrogen chloride gas exhausted from the scrubber was always below the limit of detection.

Wet Scrubber -carbon Filter 1 (WSCF1)

The scrubber in bund D is used during the separation of dichloromethane. Following agreement with the agency the frequency of monitoring was reduced from a monthly to a quarterly basis.

The level of Hydrogen Chloride exhausted from the scrubber was always below the limit of detection.

The levels of VOC's recorded were well below the limit of 10g/hr as specified by schedule B.1 of waste licence W0050-02

The results of the air emissions monitoring are reported to the EPA on a quarterly basis and based on these results we can conclude that the operations at Veolia Environmental Services Ltd are 100% compliant with the conditions as specified in licence W0050-02

A summary of these results is provided in Appendix 4.

Wet Scrubber-carbon filter 2 (WSCF2)

The scrubber in bund R is used during the operation of the fuel blending facility. The first quarterly monitoring was carried out in quarter 4 2008 and was well below the limit of 10g/ hr as specified in schedule B.1 of waste licence W0050-02.

2.8 Fugitive Emissions

Fugitive emissions are monitored according to the following schedule detailed below. No abnormally high levels of VOC's (volatile organic compound) were recorded during this years monitoring. The average site level of VOC's was below 1.0ppm There were a number of occasions where the PID detected low levels of VOC but these occasions were due to local agricultural activity e.g. slurry spreading and silage production . The instrument used is a photoionisation detector which has a detection range of 0-3000ppm VOC. The results from the monitoring of fugitive emissions show that the operations at Veolia Environmental Services Ltd do not produce any significant fugitive emissions

	Monitoring Frequency	Position	Method
VOC's	Week-days (Monday –Friday) 3-8 hours	Perimeter Fence	PID

2.9 Noise Monitoring Survey

2.9.1 Location of Measurement Positions

A noise survey was carried out at various positions around the site both at the nearest noise sensitive properties and at positions on the site boundary all as identified in survey of 1997. The locations are detailed on page 6 of this report.

The microphone position was at least 3.5 m from walls and at a height of approximately 1.2 m to minimise the effect of reflections.

2.9.2 Method of Measurement

Ambient noise measurements were made in accordance with BS 7445: 1991, *Description and Measurement of Environmental Noise* and BS 4142: 1990 *Method for Rating Industrial Noise Affecting Mixed Residential and Industrial Area*.

2.9.3 Results

A summary of results are attached in appendix 5. The results from 2008 are consistent with those measured in previous years. A copy of the results is provided in appendix 5.

2.9.4 Conclusion

It is concluded that due to increased road traffic noise on the existing N8/M8 noise emissions from the facility have no significant impact on the prevailing noise environment.

2.10 Resource Usage

All figures are for the year from beginning 1st January 2008 until the 31st of December 2008.

Resource	Consumption
Electricity	108160 Units
Diesel	143000 Litres
Water	803,000 Litres

3.0 Summary of other monitoring reports

3.1 Biological Monitoring

The Biological monitoring of the Shanowenadrimina Stream was carried out on the 10th of October and kick-samples of two areas, one upstream and the other down-stream were sampled. The construction of the motorway has altered the stream to such an extent that there were no suitable sites for sampling. The level of habitat damage caused by the channel alterations and siltation associated with the roadwork means that the quality cannot be strictly rated so a nominal Q3 value has been assigned to both sites indicating moderate pollution.

The full report is included in appendix 6 to this report.

3.2 Sediment analysis

The sediment analysis shows that the sediment metal concentrations are within the range previously measured. The difference in concentrations between the upstream and downstream sites is believed to relate to the significantly higher proportion of the finer grain fraction (<180 µm). The sediment analysis is included in appendix 3 of this report.

3.3 Meteorological Monitoring

The meteorological station measures the following parameters continuously and the results are available at the reception of Veolia Environmental Services Ltd. on a month-by-month basis.

Precipitation Temperature (min/max.) Wind Force and Direction,
Evaporation Humidity

It is noted that the rainfall recorded on the site ranged from a maximum of two inches of rain in 1 day to a minimum of no rainfall for several weeks.

3.4 Asbestos Monitoring Summary

Asbestos monitoring is carried out in accordance with schedule C.6 of waste licence W0050-02.

Monitoring was carried out on two separate occasions using the UK Health and Safety Executive procedure MDHS 39/4 (1995). On each occasion the result was <0.01 fibres/ml which is the clearance indicator as specified in the UK HSE guideline EH 10.

4.0 Reported incidents and complaints

4.1 Incidents

There were 3 incidents as defined in condition 11. of waste licence W0050-02. All incidents involved shutdown of the TOC and were resolved following repair of the TOC.

4.2 Complaints:

There was one complaint during the period covered in this report. The complaint referred to an odour detected and contained an enquiry about an intermittent noise. A copy of our response is included in appendix 12.

5.0 Environmental Management Programme

Attached (Appendix 6) are the Environmental Projects that make up the Environmental Management Programme of the Veolia Environmental Services Ltd EMS for the year ending December 31st 2009.

Attached (Appendix 6) is the review of the projects from 2008

5.1 Schedule of environmental objectives and targets

Objectives and targets are outlined in appendix 6.

6.0 Financial provision under license

Current Financial Provisions

Veolia Environmental Services Ltd have put in place a Bank Bond for the sum of €317,500 made payable to the EPA. In an insolvency event this Bond allows for both the disposal of waste on site and annual environmental monitoring to be carried out according to table F.1.2 of waste licence 50-1 and schedule C of waste licence W0050-02. This bond allows for payment by the Bank to the Agency an amount which equals €317,500. The Bond is based on the "worst case scenario" that all spaces are full on site with waste.

7.0 Future developments

There is no future development planned as of the date of this report.

8.0 Tank, pipeline and bund testing

Tank and bund testing was completed in early 2005.
Sump testing in the wash bay area was carried out in November 2005.
Pipeline testing was carried out in December 2008
See appendix 8 for bund testing report and location map.

9.0 List of standard operating procedures

No operating procedures were developed during 2008.

10.0 Environmental liabilities risk assessment/ CRAMP

See appendix 9

11.0 Volume of contaminated stormwater produced and volume transported off site.

None produced.

12.0 Energy audit

See appendix 11.

Appendix I:

Waste received at the facility from 1st January 2008 to 31st December 2008

Description	EWC	Amount (tonnes)
Waste from the production of alcoholic and non alcoholic beverages	02 07 04	116.73
Tank bottom sludges	05 01 03*	23.73
Sludges from on site effluent treatment not containing dangerous substances	05 01 10	46.30
Phosphoric and phosphorous acid	06 01 04*	0.24
Other acids	06 01 06*	61.14
waste from inorganic chemical process not otherwise specified	06 01 99	18.70
Bases	06 02 05*	31.72
aqueous washing liquids and mother liquors	07 01 01*	57.09
organic halogenated solvents, washing liquids and mother liquors	07 01 03*	3.64
Other organic solvents, washing liquids and mother liquors	07 01 04*	250.76
Aqueous washing liquids and mother liquors	07 02 01*	10.18
Other organic solvents, washing liquids and mother liquors	07 02 04*	13.03
Aqueous washing liquids and mother liquors	07 05 01*	7,409.58
organic halogenated solvents, washing liquids and mother liquors	07 05 03*	2,088.24
Other organic solvents, washing liquids and mother liquors	07 05 04*	35,843.22
Filter cakes and spent absorbents	07 05 10*	28.16
Sludges from on site effluent treatment not containing dangerous substances	07 05 12	4,048.10
Solid wastes containing dangerous substances	07 05 13*	1,569.17
Solid wastes not containing dangerous substances	07 05 14	382.59
Waste from MSFU of pharmaceuticals not otherwise specified	07 05 99	111.82
Waste from MSFU of fats, greases, soaps, detergents, disinfectants and cosmetics not otherwise specified	07 06 99	107.65
Other organic solvents, washing liquids and mother liquors	07 07 04*	30.91
Waste from MSFU of fine chemicals and chemical products not otherwise specified	07 07 99	0.26
waste paint and varnish containing organic solvents or other dangerous substances	08 01 11*	6.09
waste ink containing dangerous substances	08 03 12*	0.56
waste printing toner not containing dangerous substances	08 03 18	3.71
waste adhesives and sealants containing organic solvent or other dangerous substances	08 04 09*	54.89
waste adhesives and sealants containing not containing organic solvent or other dangerous substances	08 04 10	1.32
Particulates and dust	10 08 04	17.76
waste from casting of non ferrous pieces not otherwise specified	10 10 99	23.62
waste from chemical surface treatment and coating of metals and other materials; non ferrous hydrometallurgy not otherwise specified	11 01 09*	53.82
aqueous rinsing liquids containing dangerous substances	11 01 11*	0.42
other waste containing dangerous substances	11 01 98*	28.94
mineral based machining oils free of halogens	12 01 07*	1.24
machining sludges not containing dangerous substances	12 01 15	16.48
machining oils free of halogens	12 01 09*	0.12
metal sludge containing oil	12 01 18*	288.44
mineral based non chlorinated hydraulic oils	13 01 10*	0.11
other hydraulic oils	13 01 13*	0.11
other engine, gear and hydraulic oils	13 02 08*	11.37
fuel oil and diesel	13 07 01*	0.62
oil waste not otherwise specified	13 08 99*	0.72

Description	EWC	Amount (tonnes)
plastic packaging	15 01 02	5.54
metallic packaging	15 01 04	0.89
packaging containing residues or contaminated by dangerous substances	15 01 10*	547.48
absorbents, filter material wiping cloths	15 02 02*	207.26
discarded equipment containing hazardous components	16 02 13*	7.00
Inorganic waste containing inorganic substances	16 03 03*	0.30
Organic wastes containing dangerous substances	16 03 05*	0.18
Discarded inorganic chemicals consisting of or containing dangerous substances	16 05 07*	15.02
Discarded organic chemicals consisting of or containing dangerous substances	16 05 08*	31.96
Lead batteries	16 06 01*	4.21
Ni Cd batteries	16 06 02*	0.90
alkaline batteries	16 06 04	0.04
wastes containing oil	16 07 08*	0.18
spent catalysts containing dangerous transition metals or dangerous transition metal compounds	16 08 02*	90.72
Spent catalysts contaminated with dangerous substances	16 08 07*	77.62
Linings and refractories from non metallurgical processes containing dangerous substances	16 11 05*	1.17
metal waste contaminated with dangerous substances	17 04 09*	0.14
soil and stones containing dangerous substances	17 05 03*	48.49
Non-bonded asbestos	17 06 01*	0.37
Bonded asbestos	17 06 05*	278.88
cytotoxic and cytostatic substances	18 01 08*	0.29
fly ash containing dangerous substances	19 01 13*	36.95
sludges from biological treatment of wastewater	19 08 12	126.30
Sludges from other treatment of waste	19 08 14	137.78
Chemical waste	19 12 11*	135.34
Acids	20 01 14*	174.19
Alkalines	20 01 15*	23.88
Pesticides	20 01 19*	53.48
Fluorescent tubes and other mercury containing waste	20 01 21*	5.22
discarded waste containing chlorofluorocarbons	20 01 23*	0.60
edible oil and fat	20 01 25	7.04
oil and fat other than 200125	20 01 26*	0.77
paints inks adhesives and resins containing dangerous substances	20 01 27*	74.88
discarded electrical equipment containing dangerous substances	20 01 35*	5.03
discarded electrical equipment other than 200135	20 01 36	6.88

Appendix 2:

Waste dispatched from the facility from
1st January 2008 to 31st December 2008.

Appendix 5

Waste dispatched from the facility from
1st January 2008 to 31st December 2008.

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5. ONSITE TREATMENT & OFFSITE TRANSFERS OF WASTE

PRTR# : W0050 | Facility Name : Vedia Environmental Services Technical Solutions Ltd | Filename : W0050_2008.xls | Return Year : 2008 |

05052009 16:32

Transfer Destination	European Waste Code	Hazardous	Quantity T/Year	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Name and Licence / Permit No. of Recoverer / Disposer / Broker	Address of Recoverer / Disposer / Broker	Name and Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)	Licence / Permit No. of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/W/E	Method Used					
To Other Countries	02 07 04	No	17.69	Waste from the production of alcoholic and non alcoholic beverages	D10	M	Weighted	Abroad	SAVA Osterweite 1 SAVA Osterweite 1 Bunsbuhel Germany	DE-25541 Bunsbuhel Germany	SAVA Osterweite 1 SAVA Osterweite 1 Bunsbuhel Germany	A51V00605/A51G00508
To Other Countries	05 01 03	Yes	39.98	Tank bottom sludges	D10	M	Weighted	Abroad	SAVA Osterweite 1 SAVA Osterweite 1 Bunsbuhel Germany	DE-25541 Bunsbuhel Germany	SAVA Osterweite 1 SAVA Osterweite 1 Bunsbuhel Germany	A51V00605/A51G00508
Within the Country	06 01 04	Yes	0.38	Phosphoric and phosphorous acid	D9	M	Weighted	Offsite in Ireland	ENVA Cleannam Ind Estate Portlaoise Co Laois	ENVA Cleannam Ind Estate Portlaoise Co Laois	ENVA Cleannam Ind Estate Portlaoise Co Laois	W0184-01
Within the Country	06 01 04	Yes	1.23	Phosphoric and phosphorous acid	D9	M	Weighted	Offsite in Ireland	ENVA Cleannam Ind Estate Portlaoise Co Laois	ENVA Cleannam Ind Estate Portlaoise Co Laois	ENVA Cleannam Ind Estate Portlaoise Co Laois	W0184-01
Within the Country	05 01 10	No	46.3	Sludges from on site effluent treatment not containing dangerous substances	R1	M	Weighted	Offsite in Ireland	AVR Environmental Solutions Foxdale, Yougal, Co Cork	AVR Environmental Solutions Foxdale, Yougal, Co Cork	AVR Environmental Solutions Foxdale, Yougal, Co Cork	W0211-01
To Other Countries	08 01 06	Yes	55.0	Other acids	D9	M	Weighted	Abroad	Sita ECO Bedrijvenpark Twente 243	Sita ECO Bedrijvenpark Twente 243	Sita ECO Bedrijvenpark Twente 243	EMT72001/3519
To Other Countries	08 01 06	Yes	62.69	Other acids	D9	M	Weighted	Abroad	Bredox Ind De Kempen, Wetering 19, NL-6002 SM Weert Netherlands	Bredox Ind De Kempen, Wetering 19, NL-6002 SM Weert Netherlands	Bredox Ind De Kempen, Wetering 19, NL-6002 SM Weert Netherlands	02/14323
Within the Country	06 01 99	No	18.7	waste from inorganic chemical process not otherwise specified	D9	M	Weighted	Offsite in Ireland	Shannon Environmental Services (ENVA), Smithstown Industrial Estate Shannon, Co Clare	Shannon Environmental Services (ENVA), Smithstown Industrial Estate Shannon, Co Clare	Shannon Environmental Services (ENVA), Smithstown Industrial Estate Shannon, Co Clare	W004-01
To Other Countries	06 02 05	Yes	22.23	Other bases	D9	M	Weighted	Abroad	Bredox Ind De Kempen, Wetering 19, NL-6002 SM Weert Netherlands	Bredox Ind De Kempen, Wetering 19, NL-6002 SM Weert Netherlands	Bredox Ind De Kempen, Wetering 19, NL-6002 SM Weert Netherlands	02/14323
To Other Countries	06 02 05	Yes	27.22	Other bases	D10	M	Weighted	Abroad	SAVA Osterweite 1 SAVA Osterweite 1 Bunsbuhel Germany	DE-25541 Bunsbuhel Germany	SAVA Osterweite 1 SAVA Osterweite 1 Bunsbuhel Germany	A51V00605/A51G00508
To Other Countries	07 01 01	Yes	702.92	Aqueous washing liquids and mother liquors	D10	M	Weighted	Abroad	AVR Prof. Getrandingweg 10 NL-3197KK Rotterdam-Boleek Netherlands	AVR Prof. Getrandingweg 10 NL-3197KK Rotterdam-Boleek Netherlands	AVR Prof. Getrandingweg 10 NL-3197KK Rotterdam-Boleek Netherlands	340618/20176195
To Other Countries	07 01 01	Yes	3.75	Aqueous washing liquids and mother liquors	D8	M	Weighted	Abroad	NL-4782 AA Moerdijk D10	NL-4782 AA Moerdijk D10	NL-4782 AA Moerdijk D10	298105 NB 930607.002/4
To Other Countries	07 01 03	Yes	0.45	organic halogenated solvents, washing liquids and mother liquors	D10	M	Weighted	Abroad	SAVA Osterweite 1 SAVA Osterweite 1 Bunsbuhel Germany	DE-25541 Bunsbuhel Germany	SAVA Osterweite 1 SAVA Osterweite 1 Bunsbuhel Germany	A51V00605/A51G00508
To Other Countries	07 01 04	Yes	113.52	Other organic solvents, washing liquids and mother liquors	R13	M	Weighted	Abroad	SAVA Osterweite 1 SAVA Osterweite 1 Bunsbuhel Germany	DE-25541 Bunsbuhel Germany	SAVA Osterweite 1 SAVA Osterweite 1 Bunsbuhel Germany	298105 NB 930607.002/4
To Other Countries	07 01 04	Yes	6.41	Other organic solvents, washing liquids and mother liquors	R1	M	Weighted	Abroad	SAVA Osterweite 1 SAVA Osterweite 1 Bunsbuhel Germany	DE-25541 Bunsbuhel Germany	SAVA Osterweite 1 SAVA Osterweite 1 Bunsbuhel Germany	A51V00605/A51G00508
To Other Countries	07 01 04	Yes	48.0	Other organic solvents, washing liquids and mother liquors	D10	M	Weighted	Abroad	SAVA Osterweite 1 SAVA Osterweite 1 Bunsbuhel Germany	DE-25541 Bunsbuhel Germany	SAVA Osterweite 1 SAVA Osterweite 1 Bunsbuhel Germany	298105 NB 930607.002/4
To Other Countries	07 01 04	Yes	83.37	Other organic solvents, washing liquids and mother liquors	D10	M	Weighted	Abroad	SAVA Osterweite 1 SAVA Osterweite 1 Bunsbuhel Germany	DE-25541 Bunsbuhel Germany	SAVA Osterweite 1 SAVA Osterweite 1 Bunsbuhel Germany	A51V00605/A51G00508
Within the Country	07 01 04	Yes	0.52	Other organic solvents, washing liquids and mother liquors	D9	M	Weighted	Onsite in Ireland	RLTA Greenogue Industrial estate, Dublin	RLTA Greenogue Industrial estate, Dublin	RLTA Greenogue Industrial estate, Dublin	W0192-02
To Other Countries	07 02 04	Yes	0.82	Other organic solvents, washing liquids and mother liquors	D10	M	Weighted	Abroad	SAVA Osterweite 1 SAVA Osterweite 1 Bunsbuhel Germany	DE-25541 Bunsbuhel Germany	SAVA Osterweite 1 SAVA Osterweite 1 Bunsbuhel Germany	A51V00605/A51G00508
To Other Countries	07 05 01	Yes	21.2	Aqueous washing liquids and mother liquors	D10	M	Weighted	Abroad	AVR Prof. Getrandingweg 10 NL-3197KK Rotterdam-Boleek Netherlands	AVR Prof. Getrandingweg 10 NL-3197KK Rotterdam-Boleek Netherlands	AVR Prof. Getrandingweg 10 NL-3197KK Rotterdam-Boleek Netherlands	340618/20176195
To Other Countries	07 05 01	Yes	22.58	Aqueous washing liquids and mother liquors	R12	M	Weighted	Abroad	GVS Essener Str. 64 DE-68219 Mannheim Germany	GVS Essener Str. 64 DE-68219 Mannheim Germany	GVS Essener Str. 64 DE-68219 Mannheim Germany	H119139480
To Other Countries	07 05 01	Yes	1381.33	Aqueous washing liquids and mother liquors	D9	M	Weighted	Abroad	AVR Prof. Getrandingweg 10 NL-4782 AA Moerdijk Netherlands	AVR Prof. Getrandingweg 10 NL-4782 AA Moerdijk Netherlands	AVR Prof. Getrandingweg 10 NL-4782 AA Moerdijk Netherlands	298105 NB 930607.002/4

Transfer Destination	European Waste Code	Hazardous	Quantity T/Year	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Name and Licence / Permit No. of Recoverer / Disposer / Broker	Address of Recoverer / Disposer / Broker	Name and Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)	Licence / Permit No. of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
To Other Countries	07 05 01	Yes	243.4	Aqueous washing liquids and mother liquors	D10	M	Weighted	Abroad	Pyros Carlston Rd, Hardley, Southampton UK-SO45 3ZA UK	Pyros Carlston Rd, Hardley, Southampton UK-SO45 3ZA UK	Pyros Carlston Rd, Hardley, Southampton UK-SO45 3ZA UK	ZP-3632SR
To Other Countries	07 05 01	Yes	2365.32	Aqueous washing liquids and mother liquors	D10	M	Weighted	Abroad	SAVA Osterweite 1 DE-25541 Brunsbuttel Germany	SAVA Osterweite 1 DE-25541 Brunsbuttel Germany	SAVA Osterweite 1 DE-25541 Brunsbuttel Germany	AS1V00605/AS1G00508
Within the Country	07 05 01	Yes	2.13	Aqueous washing liquids and mother liquors	D9	M	Weighted	Offsite in Ireland	RLTA Greenogue Industrial estate, Dublin	RLTA Greenogue Industrial estate, Dublin	RLTA Greenogue Industrial estate, Dublin	W0192-02
To Other Countries	07 05 01	Yes	22.0	Aqueous washing liquids and mother liquors	D10	M	Weighted	Abroad	Veolia, Ellesmere port, UK	Veolia, Ellesmere port, UK	Veolia, Ellesmere port, UK	BS51931E
To Other Countries	07 05 01	Yes	21.2	Aqueous washing liquids and mother liquors	D10	M	Weighted	Abroad	AVR Prof. Gebrandijweg 10 NL-3197KK Rotterdam-Botlek Netherlands	AVR Prof. Gebrandijweg 10 NL-3197KK Rotterdam-Botlek Netherlands	AVR Prof. Gebrandijweg 10 NL-3197KK Rotterdam-Botlek Netherlands	340618/20178136
To Other Countries	07 05 01	Yes	21.28	Aqueous washing liquids and mother liquors	D10	M	Weighted	Abroad	Cleanaway, ellesmere port, UK	Cleanaway, ellesmere port, UK	Cleanaway, ellesmere port, UK	BS51931E
To Other Countries	07 05 03	Yes	530.28	organic halogenated solvents, washing liquids and mother liquors	R6	M	Weighted	Abroad	AKZO Nobel Weipiaatsweg 12 NL-3197 HK Rotterdam-Botlek Netherlands	AKZO Nobel Weipiaatsweg 12 NL-3197 HK Rotterdam-Botlek Netherlands	AKZO Nobel Weipiaatsweg 12 NL-3197 HK Rotterdam-Botlek Netherlands	2001144952/20075068
To Other Countries	07 05 03	Yes	276.84	organic halogenated solvents, washing liquids and mother liquors	R5	M	Weighted	Abroad	SRM Rye Rye Harbour UK-TN31 7TE East Sussex, UK	SRM Rye Rye Harbour UK-TN31 7TE East Sussex, UK	SRM Rye Rye Harbour UK-TN31 7TE East Sussex, UK	2001144952/20075068
To Other Countries	07 05 03	Yes	363.42	organic halogenated solvents, washing liquids and mother liquors	R2	M	Weighted	Abroad	GVS Essener Str. 64 DE-68219 Mannheim Germany	GVS Essener Str. 64 DE-68219 Mannheim Germany	GVS Essener Str. 64 DE-68219 Mannheim Germany	AG8039/BK7161
To Other Countries	07 05 03	Yes	22.56	organic halogenated solvents, washing liquids and mother liquors	R2	M	Weighted	Abroad	SAVA Osterweite 1 DE-25541 Brunsbuttel Germany	SAVA Osterweite 1 DE-25541 Brunsbuttel Germany	SAVA Osterweite 1 DE-25541 Brunsbuttel Germany	H19139480
To Other Countries	07 05 03	Yes	3.76	organic halogenated solvents, washing liquids and mother liquors	D10	M	Weighted	Abroad	SAVA Osterweite 1 DE-25541 Brunsbuttel Germany	SAVA Osterweite 1 DE-25541 Brunsbuttel Germany	SAVA Osterweite 1 DE-25541 Brunsbuttel Germany	AS1V00605/AS1G00508
To Other Countries	07 05 03	Yes	18.2	organic halogenated solvents, washing liquids and mother liquors	D10	M	Weighted	Abroad	SAVA Osterweite 1 DE-25541 Brunsbuttel Germany	SAVA Osterweite 1 DE-25541 Brunsbuttel Germany	SAVA Osterweite 1 DE-25541 Brunsbuttel Germany	AS1V00605/AS1G00508
To Other Countries	07 05 04	Yes	78.16	Other organic solvents, washing liquids and mother liquors	R2	M	Weighted	Abroad	Albon King Str. Garston, UK-L19 8 EG Liverpool UK	Albon King Str. Garston, UK-L19 8 EG Liverpool UK	Albon King Str. Garston, UK-L19 8 EG Liverpool UK	BS5410IG
Within the Country	07 05 04	Yes	0.03	Other organic solvents, washing liquids and mother liquors	R4	M	Weighted	Offsite in Ireland	Cork Metal, Dublin hill, Cork	Cork Metal, Dublin hill, Cork	Cork Metal, Dublin hill, Cork	CK(S) 491/07
To Other Countries	07 05 04	Yes	11.0	Other organic solvents, washing liquids and mother liquors	R2	M	Weighted	Abroad	Geocycle Reu de Courriere 49, Z.I.B. de Feluy, BE-7181 Senefte Belgium	Geocycle Reu de Courriere 49, Z.I.B. de Feluy, BE-7181 Senefte Belgium	Geocycle Reu de Courriere 49, Z.I.B. de Feluy, BE-7181 Senefte Belgium	38.152/EP
To Other Countries	07 05 04	Yes	1715.2	Other organic solvents, washing liquids and mother liquors	R12	M	Weighted	Abroad	GVS Essener Str. 64 DE-68219 Mannheim Germany	GVS Essener Str. 64 DE-68219 Mannheim Germany	GVS Essener Str. 64 DE-68219 Mannheim Germany	H19139480
To Other Countries	07 05 04	Yes	2642.33	Other organic solvents, washing liquids and mother liquors	R13	M	Weighted	Abroad	Dow Chemicals (Haltermann) Cargo Fleet Road, Middlesbrough, UK-TS3 6AF, ClevelandUK	Dow Chemicals (Haltermann) Cargo Fleet Road, Middlesbrough, UK-TS3 6AF, ClevelandUK	Dow Chemicals (Haltermann) Cargo Fleet Road, Middlesbrough, UK-TS3 6AF, ClevelandUK	BT9828
To Other Countries	07 05 04	Yes	3816.0	Other organic solvents, washing liquids and mother liquors	R13	M	Weighted	Abroad	Scorbel Reu de Courriere 49, Z.I.B. de Feluy, BE-7181 Senefte Belgium	Scorbel Reu de Courriere 49, Z.I.B. de Feluy, BE-7181 Senefte Belgium	Scorbel Reu de Courriere 49, Z.I.B. de Feluy, BE-7181 Senefte Belgium	38.152/EP
Within the Country	07 05 04	Yes	404.98	Other organic solvents, washing liquids and mother liquors	R2	M	Weighted	Offsite in Ireland	Sotlec Mullingar Business Park Mullingar, Co Westmeath	Sotlec Mullingar Business Park Mullingar, Co Westmeath	Sotlec Mullingar Business Park Mullingar, Co Westmeath	W0115-01
To Other Countries	07 05 04	Yes	186.76	Other organic solvents, washing liquids and mother liquors	R13	M	Weighted	Abroad	SRM Morecambe Middleton Rd, Morecambe, UK-LA3 3JW Lancashire UK	SRM Morecambe Middleton Rd, Morecambe, UK-LA3 3JW Lancashire UK	SRM Morecambe Middleton Rd, Morecambe, UK-LA3 3JW Lancashire UK	BL7302ID
To Other Countries	07 05 04	Yes	1085.42	Other organic solvents, washing liquids and mother liquors	R2	M	Weighted	Abroad	SRM Rye Rye Harbour UK-TN31 7TE East Sussex, UK	SRM Rye Rye Harbour UK-TN31 7TE East Sussex, UK	SRM Rye Rye Harbour UK-TN31 7TE East Sussex, UK	AG8039/BK7161
To Other Countries	07 05 04	Yes	3480.84	Other organic solvents, washing liquids and mother liquors	R2	M	Weighted	Abroad	SRM Sunderland Hendon Dock, Sunderland UK-SR1 2ES Tyne and Wear, UK	SRM Sunderland Hendon Dock, Sunderland UK-SR1 2ES Tyne and Wear, UK	SRM Sunderland Hendon Dock, Sunderland UK-SR1 2ES Tyne and Wear, UK	BV4673IM
To Other Countries	07 05 04	Yes	107.22	Other organic solvents, washing liquids and mother liquors	R2	M	Weighted	Abroad	Veolia Garston King Str., Garston, UK-L19 8 EG Liverpool UK	Veolia Garston King Str., Garston, UK-L19 8 EG Liverpool UK	Veolia Garston King Str., Garston, UK-L19 8 EG Liverpool UK	BS5410IG

Transfer Destination	European Waste Code	Hazardous	Quantity T/Year	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment
						M/C/E	Method Used	
To Other Countries	07 05 04	Yes	28.2	Other organic solvents, washing liquids and mother liquors	R13	M	Weighted	Abroad
To Other Countries	07 05 04	Yes	40.68	Other organic solvents, washing liquids and mother liquors	D10	M	Weighted	Abroad
To Other Countries	07 05 04	Yes	189.08	Other organic solvents, washing liquids and mother liquors	D10	M	Weighted	Abroad
To Other Countries	07 05 04	Yes	335.96	Other organic solvents, washing liquids and mother liquors	D10	M	Weighted	Abroad
To Other Countries	07 05 04	Yes	1039.28	Other organic solvents, washing liquids and mother liquors	D10	M	Weighted	Abroad
Within the Country	07 05 04	Yes	2.4	Other organic solvents, washing liquids and mother liquors	D9	M	Weighted	Offsite in Ireland
To Other Countries	07 05 04	Yes	0.13	Other organic solvents, washing liquids and mother liquors	D10	M	Weighted	Abroad
To Other Countries	07 05 10	Yes	28.16	Other filter cakes and spent absorbents	R13	M	Weighted	Abroad
Within the Country	07 05 12	No	4048.82	Sludges from on site effluent treatment not containing dangerous substances	R1	M	Weighted	Offsite in Ireland
To Other Countries	07 05 12	No	7.02	Sludges from on site effluent treatment not containing dangerous substances	D10	M	Weighted	Abroad
To Other Countries	07 05 13	Yes	172.82	Solid wastes containing dangerous substances	R3	M	Weighted	Abroad
To Other Countries	07 05 13	Yes	529.74	Solid wastes containing dangerous substances	R13	M	Weighted	Abroad
Within the Country	07 05 13	Yes	0.49	Solid wastes containing dangerous substances	R13	M	Weighted	Offsite in Ireland
To Other Countries	07 05 13	Yes	567.93	Solid wastes containing dangerous substances	D10	M	Weighted	Abroad
To Other Countries	07 05 13	Yes	4.4	Solid wastes containing dangerous substances	D10	M	Weighted	Abroad
Within the Country	07 05 13	Yes	0.77	Solid wastes containing dangerous substances	R13	M	Weighted	Offsite in Ireland
Within the Country	07 05 14	No	7.1	Solid wastes not containing dangerous substances	R13	M	Weighted	Offsite in Ireland
To Other Countries	07 05 14	No	110.95	Solid wastes not containing dangerous substances	R4	M	Weighted	Abroad
To Other Countries	07 05 14	No	370.11	Solid wastes not containing dangerous substances	R4	M	Weighted	Abroad
To Other Countries	07 05 99	No	89.19	Waste from MSFU of pharmaceuticals not otherwise specified	D10	M	Weighted	Abroad
To Other Countries	07 05 99	No	21.01	Waste from MSFU of pharmaceuticals not otherwise specified	D10	M	Weighted	Abroad
To Other Countries	07 05 99	No	63.78	Waste from MSFU of fats, greases, soaps, detergents, disinfectants and cosmetics not otherwise specified	D10	M	Weighted	Abroad
To Other Countries	07 05 99	No	11.42	Waste from MSFU of fats, greases, soaps, detergents, disinfectants and cosmetics not otherwise specified	D10	M	Weighted	Abroad
To Other Countries	07 05 99	No	44.0	Waste from MSFU of fats, greases, soaps, detergents, disinfectants and cosmetics not otherwise specified	D10	M	Weighted	Abroad

Name and Licence / Permitt No. of Receiver / Disposer / Broker	Address of Receiver / Disposer / Broker	Name and Address of Final Destination i.e. Final Recovery / Disposal Site (RHZARDOUS WASTE ONLY)	Licence / Permitt No. of Final Destination i.e. Final Recovery / Disposal Site (RHZARDOUS WASTE ONLY)
ATM Viasweg 12 John v/d Berg D10 NL-4782 AA Moerdijk Netherlands	ATM Viasweg 12 John v/d Berg D10 NL-4782 AA Moerdijk Netherlands	ATM Viasweg 12 John v/d Berg D10 NL-4782 AA Moerdijk Netherlands	298105NB 9306907.002/4
Cleanway, eisenmeier port, UK	Cleanway, eisenmeier port, UK	Cleanway, eisenmeier port, UK	BS51931E
Pyros Carlston Rd, Hardley, Southampton UK-SO45 3ZA UK	Pyros Carlston Rd, Hardley, Southampton UK-SO45 3ZA UK	Pyros Carlston Rd, Hardley, Southampton UK-SO45 3ZA UK	ZP3632SR
SAVA Osterweide 1 DE-25541 Bunsbützel Germany	SAVA Osterweide 1 DE-25541 Bunsbützel Germany	SAVA Osterweide 1 DE-25541 Bunsbützel Germany	A51V00605/A51G00508
Induser Polymerizing Reactor Oerer, Oost BE-2030 Antwerpen 3, Belgium	Induser Polymerizing Reactor Oerer, Oost BE-2030 Antwerpen 3, Belgium	Induser Polymerizing Reactor Oerer, Oost BE-2030 Antwerpen 3, Belgium	A51V00605/A51G00508
RILTA Greenogue Industrial estate, Dublin	RILTA Greenogue Industrial estate, Dublin	RILTA Greenogue Industrial estate, Dublin	W0192-02
SAVA Osterweide 1 DE-25541 Bunsbützel Germany	SAVA Osterweide 1 DE-25541 Bunsbützel Germany	SAVA Osterweide 1 DE-25541 Bunsbützel Germany	A51V00605/A51G00508
Metabel Amperreit, 3 NL-5753 ST Duurne Netherlands	Metabel Amperreit, 3 NL-5753 ST Duurne Netherlands	Metabel Amperreit, 3 NL-5753 ST Duurne Netherlands	10 811
AVR Environmental Solutions Foshola, Youghal, Co Cork	AVR Environmental Solutions Foshola, Youghal, Co Cork	AVR Environmental Solutions Foshola, Youghal, Co Cork	W0211-01
SAVA Osterweide 1 DE-25541 Bunsbützel Germany	SAVA Osterweide 1 DE-25541 Bunsbützel Germany	SAVA Osterweide 1 DE-25541 Bunsbützel Germany	A51V00605/A51G00508
ATM Viasweg 12 John v/d Berg D10 NL-4782 AA Moerdijk Netherlands	ATM Viasweg 12 John v/d Berg D10 NL-4782 AA Moerdijk Netherlands	ATM Viasweg 12 John v/d Berg D10 NL-4782 AA Moerdijk Netherlands	298105 NB 9306907.002-4
Schoofl Reu de Courtoire 48, Z.I.B. de Feiry, BE-7181 Senelle Belgium	Schoofl Reu de Courtoire 48, Z.I.B. de Feiry, BE-7181 Senelle Belgium	Schoofl Reu de Courtoire 48, Z.I.B. de Feiry, BE-7181 Senelle Belgium	38152/BP
Shima Tulamore Co Orilly	Shima Tulamore Co Orilly	Shima Tulamore Co Orilly	A51V00605/A51G00508
SAVA Osterweide 1 DE-25541 Bunsbützel Germany	SAVA Osterweide 1 DE-25541 Bunsbützel Germany	SAVA Osterweide 1 DE-25541 Bunsbützel Germany	A51V00605/A51G00508
Pyros Carlston Rd, Hardley, Southampton UK-SO45 3ZA UK	Pyros Carlston Rd, Hardley, Southampton UK-SO45 3ZA UK	Pyros Carlston Rd, Hardley, Southampton UK-SO45 3ZA UK	ZP3632SR
IMMARCK Greenogue business park, rabcoice, co dublin	IMMARCK Greenogue business park, rabcoice, co dublin	IMMARCK Greenogue business park, rabcoice, co dublin	WIP 98099
Quickstep Thruets Co Tipperary	Quickstep Thruets Co Tipperary	Quickstep Thruets Co Tipperary	REC 92.014
Holcim Reu des Fabriques 2 BE-7034 Obourg Belgium	Holcim Reu des Fabriques 2 BE-7034 Obourg Belgium	Holcim Reu des Fabriques 2 BE-7034 Obourg Belgium	38152/BP
Schoofl Reu de Courtoire 48, Z.I.B. de Feiry, BE-7181 Senelle Belgium	Schoofl Reu de Courtoire 48, Z.I.B. de Feiry, BE-7181 Senelle Belgium	Schoofl Reu de Courtoire 48, Z.I.B. de Feiry, BE-7181 Senelle Belgium	38152/BP
SAVA Osterweide 1 DE-25541 Bunsbützel Germany	SAVA Osterweide 1 DE-25541 Bunsbützel Germany	SAVA Osterweide 1 DE-25541 Bunsbützel Germany	A51V00605/A51G00508
Krewees (mbt &Co.) KG, Grefler, 25, 47475 Kamp-Lintfort, Germany	Krewees (mbt &Co.) KG, Grefler, 25, 47475 Kamp-Lintfort, Germany	Krewees (mbt &Co.) KG, Grefler, 25, 47475 Kamp-Lintfort, Germany	56 8851 8, 1-4044
SAVA Osterweide 1 DE-25541 Bunsbützel Germany	SAVA Osterweide 1 DE-25541 Bunsbützel Germany	SAVA Osterweide 1 DE-25541 Bunsbützel Germany	A51V00605/A51G00508
Krewees (mbt &Co.) KG, Grefler, 25, 47475 Kamp-Lintfort, Germany	Krewees (mbt &Co.) KG, Grefler, 25, 47475 Kamp-Lintfort, Germany	Krewees (mbt &Co.) KG, Grefler, 25, 47475 Kamp-Lintfort, Germany	56 8851 8, 1-4044
Veolia, Eisenmeier port, UK	Veolia, Eisenmeier port, UK	Veolia, Eisenmeier port, UK	BS51931E

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						M/C/E	Method Used					
To Other Countries	07 06 99	No	702.92	Waste from MSFU of fats, greases, soaps, detergents, disinfectants and cosmetics not otherwise specified	D10	M	Weighted	Abroad	AVR Prof. Gebrandjweg 10 NL-3197KK Rotterdam-Botiek Netherlands	AVR Prof. Gebrandjweg 10 NL-3197KK Rotterdam-Botiek Netherlands	34/06/18/20176195	
To Other Countries	07 07 04	Yes	418.02	Other organic solvents, washing liquids and mother liquors	R2	M	Weighted	Abroad	BIP Brooks Lane Ind. Est., Brookstone, UK-CW10 0JG Middlewich, Cheshire UK	BIP Brooks Lane Ind. Est., Brookstone, UK-CW10 0JG Middlewich, Cheshire UK	BS5231H	
To Other Countries	07 07 04	Yes	11009.17	Other organic solvents, washing liquids and mother liquors	R12	M	Weighted	Abroad	Geocycle Reu de Courriere 49, Z.I.B. de Fely, BE-7181 Senefle Belgium	Geocycle Reu de Courriere 49, Z.I.B. de Fely, BE-7181 Senefle Belgium	38-152/BP	
To Other Countries	07 07 04	Yes	24.0	Other organic solvents, washing liquids and mother liquors	R12	M	Weighted	Abroad	GVS Essener Str. 64 DE-69219 Mannheim Germany	GVS Essener Str. 64 DE-69219 Mannheim Germany	H19139480	
To Other Countries	07 07 04	Yes	57.8	Other organic solvents, washing liquids and mother liquors	R1	M	Weighted	Abroad	Pyros Carlston Rd, Hardley, Southampton UK-SO45 3ZA UK	Pyros Carlston Rd, Hardley, Southampton UK-SO45 3ZA UK	ZP-3632SR	
To Other Countries	07 07 04	Yes	83.18	Other organic solvents, washing liquids and mother liquors	R13	M	Weighted	Abroad	Scorbal Reu de Courriere 49, Z.I.B. de Fely, BE-7181 Senefle Belgium	Scorbal Reu de Courriere 49, Z.I.B. de Fely, BE-7181 Senefle Belgium	38-152/BP	
To Other Countries	07 07 04	Yes	9038.36	Other organic solvents, washing liquids and mother liquors	R2	M	Weighted	Abroad	SRM Morecambe Middleton Rd, Morecambe UK-LA3 3JW Lancashire, UK	SRM Morecambe Middleton Rd, Morecambe UK-LA3 3JW Lancashire, UK	BL7302ID	
To Other Countries	07 07 04	Yes	18.48	Other organic solvents, washing liquids and mother liquors	R2	M	Weighted	Abroad	SRM Sunderland Hendon Dock, Sunderland UK-SR1 2ES Tyne and Wear, UK	SRM Sunderland Hendon Dock, Sunderland UK-SR1 2ES Tyne and Wear, UK	BV4673IM	
To Other Countries	07 07 04	Yes	1225.8	Other organic solvents, washing liquids and mother liquors	R13	M	Weighted	Abroad	Dyckerhoff Lieneer Str. 89 DE-49525 Lengerich Germany	Dyckerhoff Lieneer Str. 89 DE-49525 Lengerich Germany	E 56692050	
To Other Countries	08 01 11	Yes	5.74	Waste paint and varnish containing organic solvents or other dangerous substances	D10	M	Weighted	Abroad	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	A51V00605/A51G00508	
To Other Countries	08 03 12	Yes	0.52	Waste ink containing dangerous substances	D10	M	Weighted	Abroad	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	A51V00605/A51G00508	
Within the Country	08 03 18	No	3.11	Waste printing toner not containing dangerous substances	R13	M	Weighted	Offsite in Ireland	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	A51V00605/A51G00508	
To Other Countries	08 04 09	Yes	54.12	Waste adhesives and sealants containing organic solvents or other dangerous substances	D10	M	Weighted	Abroad	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	A51V00605/A51G00508	
To Other Countries	08 04 10	No	1.14	waste adhesives and sealants containing not containing organic solvent or other dangerous substances	D10	M	Weighted	Abroad	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	A51V00605/A51G00508	
To Other Countries	10 08 04	No	5.21	Particulates and dust	R4	M	Weighted	Abroad	Sirma Tullamore Co Offaly	Sirma Tullamore Co Offaly	EAWML66063	
To Other Countries	10 10 99	No	23.62	waste from casting of non ferrous pieces not otherwise specified	R1	M	Weighted	Abroad	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	DDT15/CC/IV	
To Other Countries	11 01 09	Yes	98.02	Sludges and filter cakes containing dangerous substances	R4	M	Weighted	Abroad	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	A51V00605/A51G00508	
Within the Country	11 01 11	Yes	0.7	Aqueous finishing liquids containing dangerous substances	D9	M	Weighted	Offsite in Ireland	TATE Medical Engineering Ltd Leeds Road, Otley UK-LS21 3BB West Yorkshire UK	TATE Medical Engineering Ltd Leeds Road, Otley UK-LS21 3BB West Yorkshire UK	SLR3A0032	
To Other Countries	12 01 15	No	16.48	Machining sludges not containing dangerous substances	R4	M	Weighted	Abroad	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	W0184-01	
Within the Country	12 01 09	Yes	0.31	Machining emulsions and solutions free of halogens	D9	M	Weighted	Offsite in Ireland	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	G/03/005-23128MILO	
To Other Countries	12 01 18	Yes	254.28	Metal sludge containing oil	R13	M	Weighted	Offsite in Ireland	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	W0192-02	
To Other Countries	12 01 18	Yes	14.66	Metal sludge containing oil	R2	M	Weighted	Abroad	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	38-152/BP	
Within the Country	13 01 13	Yes	0.35	Other hydraulic oils	D9	M	Weighted	Offsite in Ireland	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	BS54101G	
Within the Country	13 02 08	Yes	9.65	Other engine, gear and lubricating oils	D9	M	Weighted	Offsite in Ireland	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	W0192-02	
Within the Country	13 08 99	Yes	0.8	Oil waste not otherwise specified	D9	M	Weighted	Offsite in Ireland	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	SAVA Osterweile 1 DE-25541 Brunsbuttel Germany	W0192-02	

Transfer Destination	European Waste Code	Hazardous	Quantity T/Year	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Name and Licence / Permit No. of Recoverer / Disposer	Address of Recoverer / Disposer / Broker	Name and Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)	Licence / Permit No. of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						MOE	Method Used					
To Other Countries	15 01 04	No	0.75	Metallic packaging	D10	M	Weighted	Abroad	DE-25541 Bunsbittel Germany	SAVA Osterweide 1 Cork Metal, Dublin Hill, Cork	SAVA Osterweide 1 Cork Metal, Dublin Hill, Cork	A51V00605/A51G00508 CK(S) 491107
Within the Country	15 01 10	Yes	254.18	Packaging containing residues of or contaminated by dangerous substances	R4	M	Weighted	Offsite in Ireland	DE-25541 Bunsbittel Germany	SAVA Osterweide 1 Cork Metal, Dublin Hill, Cork	SAVA Osterweide 1 Cork Metal, Dublin Hill, Cork	A51V00605/A51G00508
To Other Countries	15 01 10	Yes	519.0	Packaging containing residues of or contaminated by dangerous substances	D10	M	Weighted	Abroad	ATM Vlasweg 12, John v/d Berg D10	ATM Vlasweg 12, John v/d Berg D10	ATM Vlasweg 12, John v/d Berg D10	A51V00605/A51G00508
To Other Countries	15 02 02	Yes	23.95	Absorbents, filter material, wiping cloths and protective clothing contaminated by dangerous substances	R3	M	Weighted	Abroad	NL-4782 AA Moerdijk Netherlands	NL-4782 AA Moerdijk Netherlands	NL-4782 AA Moerdijk Netherlands	298105 NB 930607 002/4
To Other Countries	15 02 02	Yes	158.8	Absorbents, filter material, wiping cloths and protective clothing contaminated by dangerous substances	D10	M	Weighted	Abroad	DE-25541 Bunsbittel Germany	SAVA Osterweide 1	SAVA Osterweide 1	A51V00605/A51G00508
To Other Countries	15 02 02	Yes	14.09	Absorbents, filter material, wiping cloths and protective clothing contaminated by dangerous substances	D9	M	Weighted	Abroad	Kreiswe (KWA mbH KCo.) KG, Grafstr. 25, 47475 Kamp-Lintfort, Germany	Kreiswe (KWA mbH KCo.) KG, Grafstr. 25, 47475 Kamp-Lintfort, Germany	Kreiswe (KWA mbH KCo.) KG, Grafstr. 25, 47475 Kamp-Lintfort, Germany	56 9851 8 1-4/44
Within the Country	15 02 02	Yes	0.1	Absorbents, filter material, wiping cloths and protective clothing contaminated by dangerous substances	R13	M	Weighted	Offsite in Ireland	IMMARCK Greenogue business park, Rathcoole, co dublin	IMMARCK Greenogue business park, Rathcoole, co dublin	IMMARCK Greenogue business park, Rathcoole, co dublin	WP 98099
Within the Country	16 02 13	Yes	3.32	Discarded equipment containing hazardous components	R13	M	Weighted	Offsite in Ireland	IMMARCK Greenogue business park, Rathcoole, co dublin	IMMARCK Greenogue business park, Rathcoole, co dublin	IMMARCK Greenogue business park, Rathcoole, co dublin	WP 98099
To Other Countries	16 03 03	Yes	0.3	Inorganic wastes containing dangerous substances	D10	M	Weighted	Abroad	DE-25541 Bunsbittel Germany	SAVA Osterweide 1	SAVA Osterweide 1	A51V00605/A51G00508
To Other Countries	16 03 05	Yes	0.18	Organic wastes containing dangerous substances	D10	M	Weighted	Abroad	DE-25541 Bunsbittel Germany	SAVA Osterweide 1	SAVA Osterweide 1	A51V00605/A51G00508
Within the Country	16 03 05	Yes	0.38	Organic wastes containing dangerous substances	D9	M	Weighted	Offsite in Ireland	DE-25541 Bunsbittel Germany	SAVA Osterweide 1	SAVA Osterweide 1	A51V00605/A51G00508
To Other Countries	16 03 05	Yes	0.12	Organic wastes containing dangerous substances	D10	M	Weighted	Abroad	DE-25541 Bunsbittel Germany	SAVA Osterweide 1	SAVA Osterweide 1	A51V00605/A51G00508
Within the Country	16 05 07	Yes	0.14	Discarded inorganic chemicals consisting of or containing dangerous substances	R13	M	Weighted	Offsite in Ireland	WEEE Recycle, (KMK Metals Recycling), Tullamore, Co Offaly	WEEE Recycle, (KMK Metals Recycling), Tullamore, Co Offaly	WEEE Recycle, (KMK Metals Recycling), Tullamore, Co Offaly	W0113-3
To Other Countries	16 05 07	Yes	17.23	Discarded inorganic chemicals consisting of or containing dangerous substances	D10	M	Weighted	Abroad	SAVA Osterweide 1	SAVA Osterweide 1	SAVA Osterweide 1	A51V00605/A51G00508
Within the Country	16 05 08	Yes	0.04	Discarded organic chemicals consisting of or containing dangerous substances	R13	M	Weighted	Offsite in Ireland	WEEE Recycle, (KMK Metals Recycling), Tullamore, Co Offaly	WEEE Recycle, (KMK Metals Recycling), Tullamore, Co Offaly	WEEE Recycle, (KMK Metals Recycling), Tullamore, Co Offaly	W0113-3
To Other Countries	16 05 08	Yes	30.22	Discarded organic chemicals consisting of or containing dangerous substances	D10	M	Weighted	Abroad	SAVA Osterweide 1	SAVA Osterweide 1	SAVA Osterweide 1	A51V00605/A51G00508
Within the Country	16 05 08	Yes	0.02	Discarded organic chemicals consisting of or containing dangerous substances	D9	M	Weighted	Offsite in Ireland	WEEE Recycle, (KMK Metals Recycling), Tullamore, Co Offaly	WEEE Recycle, (KMK Metals Recycling), Tullamore, Co Offaly	WEEE Recycle, (KMK Metals Recycling), Tullamore, Co Offaly	W0192-02
Within the Country	16 06 01	Yes	1.34	Lead batteries	R13	M	Weighted	Offsite in Ireland	WEEE Recycle, (KMK Metals Recycling), Tullamore, Co Offaly	WEEE Recycle, (KMK Metals Recycling), Tullamore, Co Offaly	WEEE Recycle, (KMK Metals Recycling), Tullamore, Co Offaly	W0113-3
Within the Country	16 06 02	Yes	0.77	Ni-Cd batteries	R13	M	Weighted	Offsite in Ireland	WEEE Recycle, (KMK Metals Recycling), Tullamore, Co Offaly	WEEE Recycle, (KMK Metals Recycling), Tullamore, Co Offaly	WEEE Recycle, (KMK Metals Recycling), Tullamore, Co Offaly	W0113-3
Within the Country	16 06 04	No	0.04	Alkaline batteries not containing mercury	R13	M	Weighted	Offsite in Ireland	WEEE Recycle, (KMK Metals Recycling), Tullamore, Co Offaly	WEEE Recycle, (KMK Metals Recycling), Tullamore, Co Offaly	WEEE Recycle, (KMK Metals Recycling), Tullamore, Co Offaly	W0113-3
To Other Countries	16 08 02	Yes	90.72	Spent catalysts containing dangerous transition metals or dangerous transition metal compounds	R4	M	Weighted	Abroad	DE-08280 Aue Sachsen Germany	Nickelhutte Rudolf Briescheld Str., DE-08280 Aue Sachsen Germany	Nickelhutte Rudolf Briescheld Str., DE-08280 Aue Sachsen Germany	E12/1 0 008
To Other Countries	16 08 07	Yes	48.15	Spent catalysts contaminated with dangerous substances	D4	M	Weighted	Abroad	Johnson Matley Orchard Road, Royston, Hertfordshire, UK	Johnson Matley Orchard Road, Royston, Hertfordshire, UK	Johnson Matley Orchard Road, Royston, Hertfordshire, UK	VP 3430BN

Transfer Destination	European Waste Code	Hazardous	Quantity 17/Year	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Name and Licence / Permit No. of Recycler / Disposer / Broker	Address of Recycler / Disposer / Broker	Name and Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)	Licence / Permit No. of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
To Other Countries	17 05 03	Yes	48.45	Soil and stones containing dangerous substances	R6	M	Weighted	Abroad	ATM Vlasweg 12 John v/d Berg D10	ATM Vlasweg 12 John v/d Berg D10	ATM Vlasweg 12 John v/d Berg D10	298105 NB 930607.002/4
Within the Country	17 05 05	Yes	151.99	Construction materials containing asbestos	D1	M	Weighted	Abroad	NL-4782 AA Moerdijk Netherlands	NL-4782 AA Moerdijk Netherlands	NL-4782 AA Moerdijk Netherlands	W0081-03
Within the Country	17 06 05	Yes	127.52	Construction materials containing asbestos	D1	M	Weighted	Offsite in Ireland	Greenstar	Greenstar	Greenstar	W0081-03
To Other Countries	18 01 08	Yes	24.02	Cytotoxic and cytostatic medicines	D10	M	Weighted	Offsite in Ireland	KTK Co. Kildare	KTK Co. Kildare	Cleanaway, eilsmere port, UK	BS51931E
To Other Countries	18 01 08	Yes	0.26	Cytotoxic and cytostatic medicines	D10	M	Weighted	Abroad	SAVA Osterweide 1 DE-25541 Brunsbuttel Germany	SAVA Osterweide 1 DE-25541 Brunsbuttel Germany	SAVA Osterweide 1 DE-25541 Brunsbuttel Germany	A51V00605/A51G00508
To Other Countries	19 01 13	Yes	36.95	Fly ash containing dangerous substances	R13	M	Weighted	Abroad	Revatelch Rue de L'Il Monsin 95 BE-4020 Liège Belgium	Revatelch Rue de L'Il Monsin 95 BE-4020 Liège Belgium	Revatelch Rue de L'Il Monsin 95 BE-4020 Liège Belgium	DDT35/MJ/MV
To Other Countries	19 08 12	No	126.3	Sludges from biological treatment of industrial waste water not containing dangerous substances	R7	M	Weighted	Abroad	Remonds Am Kanal 8 DE-49565 Bramsche Germany	Remonds Am Kanal 8 DE-49565 Bramsche Germany	Remonds Am Kanal 8 DE-49565 Bramsche Germany	C7D000000
To Other Countries	19 08 14	No	113.58	Sludges from other treatment of industrial waste water not containing dangerous substances	R4	M	Weighted	Abroad	Hydrometal Zoning Industriel d'Eheln BE-4480 Engis Belgium	Hydrometal Zoning Industriel d'Eheln BE-4480 Engis Belgium	Hydrometal Zoning Industriel d'Eheln BE-4480 Engis Belgium	DDT:142758799
Within the Country	19 12 11	Yes	0.31	Other wastes from mechanical treatment of waste containing dangerous substances	R4	M	Weighted	Offsite in Ireland	Cork Metal, Dublin hill, Cork	Cork Metal, Dublin hill, Cork	Cork Metal, Dublin hill, Cork	CK(S) 491/07
To Other Countries	19 12 11	Yes	178.0	Other wastes from mechanical treatment of waste containing dangerous substances	D10	M	Weighted	Abroad	Kreiswies (KWA mbh & Co. KG), Grafstr. 25, 47475 Kamp-Lintfort, Germany	Kreiswies (KWA mbh & Co. KG), Grafstr. 25, 47475 Kamp-Lintfort, Germany	Kreiswies (KWA mbh & Co. KG), Grafstr. 25, 47475 Kamp-Lintfort, Germany	56.8851.8.1-4D44
To Other Countries	19 12 11	Yes	274.66	Other wastes from mechanical treatment of waste containing dangerous substances	D10	M	Weighted	Abroad	Pyros Carlston Rd, Hurdley, Southampton UK-SO45 3ZA UK	Pyros Carlston Rd, Hurdley, Southampton UK-SO45 3ZA UK	Pyros Carlston Rd, Hurdley, Southampton UK-SO45 3ZA UK	ZP3632SR
To Other Countries	19 12 11	Yes	12.0	Other wastes from mechanical treatment of waste containing dangerous substances	D10	M	Weighted	Abroad	Remonds Am Kanal 8 DE-49565 Bramsche Germany	Remonds Am Kanal 8 DE-49565 Bramsche Germany	Remonds Am Kanal 8 DE-49565 Bramsche Germany	C7D000000
To Other Countries	19 12 11	Yes	2796.92	Other wastes from mechanical treatment of waste containing dangerous substances	D10	M	Weighted	Abroad	Veolia, Eilsmere port, UK	Veolia, Eilsmere port, UK	Veolia, Eilsmere port, UK	BS51931E
To Other Countries	19 12 11	Yes	41.0	Other wastes from mechanical treatment of waste containing dangerous substances	D10	M	Weighted	Abroad	Cleanaway, eilsmere port, UK	Cleanaway, eilsmere port, UK	Cleanaway, eilsmere port, UK	BS51931E
To Other Countries	20 01 14	Yes	88.58	Acids	D10	M	Weighted	Abroad	SAVA Osterweide 1 DE-25541 Brunsbuttel Germany	SAVA Osterweide 1 DE-25541 Brunsbuttel Germany	SAVA Osterweide 1 DE-25541 Brunsbuttel Germany	A51V00605/A51G00508
To Other Countries	20 01 14	Yes	19.9	Acids	D9	M	Weighted	Abroad	Sita ECO Bedrijvenpark Twente 243 NL-7600 AH Almelo Netherlands	Sita ECO Bedrijvenpark Twente 243 NL-7600 AH Almelo Netherlands	Sita ECO Bedrijvenpark Twente 243 NL-7600 AH Almelo Netherlands	EMT200/13519
To Other Countries	20 01 15	Yes	9.47	Alkalines	D10	M	Weighted	Abroad	SAVA Osterweide 1 DE-25541 Brunsbuttel Germany	SAVA Osterweide 1 DE-25541 Brunsbuttel Germany	SAVA Osterweide 1 DE-25541 Brunsbuttel Germany	A51V00605/A51G00508
To Other Countries	20 01 19	Yes	60.46	Pesticides	D10	M	Weighted	Abroad	SAVA Osterweide 1 DE-25541 Brunsbuttel Germany	SAVA Osterweide 1 DE-25541 Brunsbuttel Germany	SAVA Osterweide 1 DE-25541 Brunsbuttel Germany	A51V00605/A51G00508
To Other Countries	20 01 21	Yes	2.1	Fluorescent tubes and other mercury-containing waste	R4	M	Weighted	Abroad	Reilght Haven 1940-Molenweg BE-9130 Doel-Beveren Belgium	Reilght Haven 1940-Molenweg BE-9130 Doel-Beveren Belgium	Reilght Haven 1940-Molenweg BE-9130 Doel-Beveren Belgium	46003/44/a/1-46003/233/11/1
Within the Country	20 01 23	Yes	0.4	Discarded equipment containing chlorofluorocarbons	R13	M	Weighted	Offsite in Ireland	IMMARK Greenogue business park, rathcoole, co dublin	IMMARK Greenogue business park, rathcoole, co dublin	IMMARK Greenogue business park, rathcoole, co dublin	WP 98099
To Other Countries	20 01 27	Yes	27.8	Paints, inks, adhesives and resins containing dangerous substances	R3	M	Weighted	Abroad	ATM Vlasweg 12 John v/d Berg D10	ATM Vlasweg 12 John v/d Berg D10	ATM Vlasweg 12 John v/d Berg D10	298105 NB 930607.002/4
To Other Countries	20 01 27	Yes	3.7	Paints, inks, adhesives and resins containing dangerous substances	R1	M	Weighted	Abroad	NL-4782 AA Moerdijk Netherlands	NL-4782 AA Moerdijk Netherlands	NL-4782 AA Moerdijk Netherlands	298105 NB 930607.002/4
To Other Countries	20 01 27	Yes	31.69	Paints, inks, adhesives and resins containing dangerous substances	R12	M	Weighted	Abroad	SAVA Osterweide 1 DE-25541 Brunsbuttel Germany	SAVA Osterweide 1 DE-25541 Brunsbuttel Germany	SAVA Osterweide 1 DE-25541 Brunsbuttel Germany	A51V00605/A51G00508
To Other Countries	20 01 27	Yes	4.48	Paints, inks, adhesives and resins containing dangerous substances	D10	M	Weighted	Abroad	SAVA Osterweide 1 DE-25541 Brunsbuttel Germany	SAVA Osterweide 1 DE-25541 Brunsbuttel Germany	SAVA Osterweide 1 DE-25541 Brunsbuttel Germany	A51V00605/A51G00508

Transfer Destination	European Waste Code	Hazardous	Quantity T/Year	Description of Waste	Waste Treatment Operation	Method Used		Location of Treatment	Name and Licence / Permit No. of Recoverer / Disposer / Broker	Address of Recoverer / Disposer / Broker	Name and Address of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)	Licence / Permit No. of Final Destination i.e. Final Recovery / Disposal Site (HAZARDOUS WASTE ONLY)
						M/C/E	Method Used					
Within the County	20 01 35	Yes	5.03	Discarded electrical equipment containing dangerous substances	R13	M	Weighted	Offsite in Ireland	IMAAARK Greenogue business park, rahcoole, co dublin	IMAAARK Greenogue business park, rahcoole, co dublin	IMAAARK Greenogue business park, rahcoole, co dublin	W/P 98099
Within the County	20 01 36	No	6.05	Discarded electrical equipment not containing dangerous substances	R13	M	Weighted	Offsite in Ireland	IMAAARK Greenogue business park, rahcoole, co dublin	IMAAARK Greenogue business park, rahcoole, co dublin	IMAAARK Greenogue business park, rahcoole, co dublin	W/P 98099

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

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Appendix 2

Annual Groundwater & Surface Water Sediment & Biological
Quarterly Surface and Groundwater Monitoring Results and the
Analysis

Appendix 3:

Quarterly Surface and Groundwater Monitoring Results and the
Annual Groundwater & Surface Water Sediment & Biological
Analysis

Quarterly Surface & Groundwater Monitoring Results

Quarter 1 2008

Parameters	Units	Sampling Sites				
		BH1	BH2	BH3	WSP1	WSP2
Odour	PRES/ABS	0	0	0	0	0
Visual Inspection		Clear	Clear	Clear	Very Slight Colour	Very Slight Colour
Temperature	°C	N/A	N/A	N/A	9.6	10.1
pH		6.83	6.78	6.93	7.39	7.39
Conductivity	µs/cm	751	557	495	403	419
D.O.	% Sat.	N/A	N/A	N/A	98.2	101.6
Total Ammonia	mg/l, N	0.003	0.001	0.006	0.007	0.017
TON	mg/l, N	8.589	9.663	8.532	N/A	N/A
BOD	mg O ₂ /l	N/A	N/A	N/A	0.8	0.5
TOC	mg/l	0.54	0.68	0.80	N/A	N/A
Solvent Extractable Hydrocarbon	mg/l	1	<1	<1	N/A	N/A
Suspended Solids	mg/l	N/A	N/A	N/A	1.0	2.8
Residue on Evaporation (Total Solids)	mg/l	564	374	330	N/A	N/A
Sodium	mg/l, Na ⁺	19.17	13.54	9.47	N/A	N/A
Potassium	mg/l, K ⁺	0.53	1.46	1.16	N/A	N/A
Chloride	mg/l, Cl ⁻	99.46	26.06	18.25	27.26	26.30
Aluminium	µg/l	<10.0	37.5	<10.0	N/A	N/A
Mercury	µg/l	0.113	<0.010	<0.010	N/A	N/A
Zinc	µg/l	11.2	<5.0	<5.0	N/A	N/A
Nickel	µg/l	<5.0	<5.0	<5.0	N/A	N/A

Quarter 2 2008

* Results from quarter 2 are included in the annual report.

Quarter 3 2008

Parameters	Units	Sampling Sites				
		BH1	BH2	BH3	WSP1	WSP2
Odour*	PRES/ABS	0	1	0	1	1
Visual Inspection		Clear	Clear	Clear	Very Slight Colour	Very Slight Colour
Temperature	°C	N/A	N/A	N/A	12.1	11.7
pH		6.87	7.11	7.08	7.28	7.22
Conductivity	µs/cm	891	580	509	405	420
D.O.	% Sat.	N/A	N/A	N/A	78	69
Total Ammonia	mg/l, N	0.003	0.046	0.003	0.014	0.013
TON	mg/l, N	7.77	7.78	10.26	N/A	N/A
BOD	mg O ₂ /l	N/A	N/A	N/A	1.6	1.2
TOC	mg/l	0.65	0.80	0.68	N/A	N/A
Solvent Extractable Hydrocarbon	mg/l	<1	<1	<1	N/A	N/A
Suspended Solids	mg/l	N/A	N/A	N/A	0.0	0.0
Residue on Evaporation (Total Solids)	mg/l	718	380	336	N/A	N/A
Sodium	mg/l, Na ⁺	33.38	13.82	9.47	N/A	N/A
Potassium	mg/l, K ⁺	0.60	1.62	0.96	N/A	N/A
Chloride	mg/l, Cl ⁻	135.2	30.60	20.48	24.57	24.74
Aluminium	µg/l	<10.0	<10.0	<10.0	N/A	N/A
Mercury	µg/l	0.129	<0.010	0.010	N/A	N/A
Zinc	µg/l	6.89	<5.0	<5.0	N/A	N/A
Nickel	µg/l	<5.0	<5.0	<5.0	N/A	N/A

* Sample BH2, WSP1 and WSP2 had an earthy odour.

Quarter 4 2008

Parameters	Units	Sampling Sites				
		BH1	BH2	BH3	WSP1	WSP2
Odour	PRES/ABS	0	0	0	1*	1*
Visual Inspection		Clear	Clear	Clear	Very Slight Colour	Very Slight Colour
Temperature	°C	N/A	N/A	N/A	7.8	8.0
pH		6.81	6.80	6.99	7.29	7.24
Conductivity	µs/cm	1082	570	507	433	450
D.O.	% Sat.	N/A	N/A	N/A	69	69
Total Ammonia	mg/l, N	0.005	0.004	0.008	0.024	0.023
TON	mg/l, N	7.667	9.347	10.224	N/A	N/A
BOD	mg O ₂ /l	N/A	N/A	N/A	0.8	1.1
TOC	mg/l	0.53	0.63	0.50	N/A	N/A
Solvent Extractable Hydrocarbon	mg/l	2	1	1	N/A	N/A
Suspended Solids	mg/l	N/A	N/A	N/A	0.8	1.0
Residue on Evaporation (Total Solids)	mg/l	814	346	308	N/A	N/A
Sodium	mg/l, Na ⁺	48.34	14.31	9.54	N/A	N/A
Potassium	mg/l, K ⁺	0.75	1.72	1.03	N/A	N/A
Chloride	mg/l, Cl ⁻	200.5	33.63	20.86	33.54	34.06
Aluminium	µg/l	<10.0	14.9	<10.0	N/A	N/A
Mercury	µg/l	0.074	<0.010	<0.010	N/A	N/A
Zinc	µg/l	11.6	9.84	<5.0	N/A	N/A
Nickel	µg/l	<5.0	<5.0	<5.0	N/A	N/A

* The sample had strong odour similar to decayed vegetables

AVR – SAFEWAY ANNUAL GROUNDWATER & SURFACE WATER, SEDIMENT & BIOLOGICAL ANALYSIS

Parameter	Unit	WSP1	WSP2	WSP3	WSP4	WSP5
Temperature	°C	N/A	N/A	N/A	N/A	N/A
pH		6.8	6.8	6.8	6.8	6.8
Conductivity	µmhos/cm	507	507	507	507	507
TDS	mg/L	N/A	N/A	N/A	N/A	N/A
Total Phosphate	mg/L	0.005	0.005	0.005	0.005	0.005
TOT	mg/L	7.67	7.67	7.67	7.67	7.67
DOB	mg/L	N/A	N/A	N/A	N/A	N/A
TC	mg/L	0.7	0.7	0.7	0.7	0.7
Hydrocarbon (Total)	mg/L	1	1	1	1	1
Hydrocarbon (Aromatic)	mg/L	N/A	N/A	N/A	N/A	N/A
Hydrocarbon (Aliphatic)	mg/L	N/A	N/A	N/A	N/A	N/A
Residue on Evaporation (Total Solids)	mg/L	218	218	218	218	218
Sodium	mg/L	4804	4804	4804	4804	4804
Fluoride	mg/L	0.75	0.75	0.75	0.75	0.75
Chloride	mg/L	2083	2083	2083	2083	2083
Aluminum	mg/L	0.00	0.00	0.00	0.00	0.00
Zinc	mg/L	0.074	0.074	0.074	0.074	0.074
Copper	mg/L	1.00	1.00	1.00	1.00	1.00
Iron	mg/L	0.20	0.20	0.20	0.20	0.20

* The sample had strong odors similar to diesel oil.

Parameters	Units	BH1	BH2	BH3	WSP1	WSP2
Visual Inspection		Clear	Clear	Clear	Clear	Clear
Odour	PRES/ABS	0	0	0	1	1
Total Ammonia	mg/l, N	0.004	0.004	0.006	0.029	0.024
BOD	mg/l, O ₂	-	-	-	0.6	0.6
Suspended Solids	mg/l	-	-	-	2.3	2.0
Temperature	°C	-	-	-	13.0	12.6
DO	(mg/l)	-	-	-	7.57	7.24
DO	(% Saturation)	-	-	-	72	68
Conductivity	µS/cm	952	572	511	462	477
Chloride	mg/l, Cl ⁻	161.80	28.75	18.37	25.77	24.96
pH		6.96	6.82	7.01	7.53	7.42
Sodium	mg/l, Na ⁺	34.54	14.43	10.11	15.07	14.32
Potassium	mg/l, K ⁺	0.63	1.94	1.02	1.97	1.92
Hydrocarbons (solvent Extractable)	mg/l	<1	<1	<1	<1	<1
Mineral Oil	µg/l	<10	<10	<10	<10	<10
GRO (C ₄ -C ₁₂)	µg/l	<10	<10	<10	<10	<10
Total Oxidised Nitrogen	mg/l, N	7.975	9.22	10.12	3.904	4.324
TOC	mg/l, C	0.95	1.00	0.81	-	-
Total Solids (Residue on Evaporati on)	mg/l	609	327	366	-	-
Aluminium*	µg/l, Al	<10.0	<10.0	<10.0	-	-
Magnesium*	mg/l, Mg	-	-	-	7.39	6.78
Calcium*	mg/l, Ca	-	-	-	71.8	76.5
Mercury*	µg/l, Hg	0.108	<0.010	<0.010	-	-
Zinc*	µg/l, Zn	11.80	<5.00	<5.00	<5.00	<5.00
Nickel*	µg/l, Ni	<5.00	<5.00	<5.00	<5.00	<5.00
Cadmium*	µg/l, Cd	<0.100	<0.100	<0.100	<0.100	<0.100
Chromium (Total)	µg/l, Cr	<0.500	<0.500	0.558	<0.500	0.787
Copper*	µg/l, Cu	6.410	0.965	0.507	0.816	0.743
Total Cyanide	mg/l	<0.05	<0.05	<0.05	-	-
Manganese*	µg/l, Mn	<10.0	<10.0	<10.0	20.0	23.9
Fluoride	µg/l, F	<100	<100	<100	-	-
Iron*	mg/l, Fe	<30.0	<30.0	<30.0	36.6	32.7
Lead*	µg/l, Pb	<0.400	<0.400	<0.400	<0.400	<0.400
Total Phosphorus	mg/l, P	0.027	0.043	0.024	-	-
Orthophosphate	mg/l, P	0.026	0.028	0.023	0.013	0.017
Total Chlorine	mg/l Cl	-	-	-	-	-

*=Dissolved

Sediment Analysis Results

Sam ple	GPS Reading	Cd (mg/kg)	Cr (mg/kg)	Cu (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Ni (mg/kg)	Silt (% of < 0.18mm)	Solvent Extract (mg/kg)
Mess-3*		0.21	30.9	31.4	18.7	170.7	45.2		
% Diff.		-14.5	-70.6	-7.5	-11.3	7.3	-6.1		
WSP1	W8159;9561	0.88	14.0	16.8	24.3	124.4	33.6	63.6	690
WSP2	W8166;9553	1.45	19.5	25.4	30.8	174.0	41.7	65.5	700

*Mess-3 is marine sediment CRM supplied by National Research Council Canada

Bacterial counts in ground water:

Colony type	Units	BH1	BH1	BH3
Total Coliforms	MPN/100ml	<1	3	70
E. coli	MPN/100ml	<1	<1	<1

Semi-Volatile Organics Including Phenols in Water (Veolia, 24th June 2008)

CAS No.	Compound	Unit	BH1	BH2	BH3	WSP1	WSP2
108-95-2	Phenol	µg/l	<1	<1	<1	<1	<1
95-57-8	2-Chlorophenol	µg/l	<1	<1	<1	<1	<1
95-48-7	2-Methylphenol	µg/l	<1	<1	<1	<1	<1
106-44-5	4-Methylphenol	µg/l	<1	<1	<1	<1	<1
88-75-5	2-Nitrophenol	µg/l	<1	<1	<1	<1	<1
100-02-7	4-Nitrophenol	µg/l	<1	<1	<1	<1	<1
120-83-2	2,4-Dichlorophenol	µg/l	<1	<1	<1	<1	<1
105-67-9	2,4-Dimethylphenol	µg/l	<1	<1	<1	<1	<1
59-50-7	4-Chloro-3-methylphenol	µg/l	<1	<1	<1	<1	<1
88-06-2	2,4,6-Trichlorophenol	µg/l	<1	<1	<1	<1	<1
95-95-4	2,4,5-Trichlorophenol	µg/l	<1	<1	<1	<1	<1
87-86-5	Pentachlorophenol	µg/l	<1	<1	<1	<1	<1
541-73-1	1,3-Dichlorobenzene	µg/l	<1	<1	<1	<1	<1
106-46-7	1,4-Dichlorobenzene	µg/l	<1	<1	<1	<1	<1
95-50-1	1,2-Dichlorobenzene	µg/l	<1	<1	<1	<1	<1
120-82-1	1,2,4-Trichlorobenzene	µg/l	<1	<1	<1	<1	<1
98-95-3	Nitrobenzene	µg/l	<1	<1	<1	<1	<1
103-33-3	Azobenzene	µg/l	<1	<1	<1	<1	<1
181-74-1	Hexachlorobenzene	µg/l	<1	<1	<1	<1	<1
86-74-8	Carbazole	µg/l	<1	<1	<1	<1	<1
78-59-1	Isophorone	µg/l	<1	<1	<1	<1	<1
132-64-9	Dibenzofuran	µg/l	<1	<1	<1	<1	<1
131-11-3	Dimethyl phthalate	µg/l	<1	<1	<1	<1	<1
84-66-2	Diethyl phthalate	µg/l	<1	<1	<1	<1	<1
84-74-2	Di-n-butylphthalate	µg/l	<1	<1	<1	<1	<1
117-84-0	Di-n-octylphthalate	µg/l	<5	<5	<5	<5	<5
117-81-7	Bis(2-ethylhexyl)phthalate	µg/l	<2	<2	<2	<2	<2

Table 1.4 contd: (Semi-volatiles in water)

CAS No.	Compound	Unit	BH1	BH2	BH3	WSP1	WSP2
85-68-7	Butylbenzylphthalate	µg/l	<1	<1	<1	<1	<1
106-47-8	4-Chloroaniline	µg/l	<1	<1	<1	<1	<1
88-74-4	2-Nitroaniline	µg/l	<1	<1	<1	<1	<1
99-09-2	3-Nitroaniline	µg/l	<1	<1	<1	<1	<1
100-01-6	4-Nitroaniline	µg/l	<1	<1	<1	<1	<1
121-14-2	2,4-Dinitrotoluene	µg/l	<1	<1	<1	<1	<1
606-20-2	2,6-Dinitrotoluene	µg/l	<1	<1	<1	<1	<1
111-44-4	Bis(2-chloroethoxy)ether	µg/l	<1	<1	<1	<1	<1
101-55-3	4-Bromophenylphenylether	µg/l	<1	<1	<1	<1	<1
7005-72-3	4-Chlorophenylphenylether	µg/l	<1	<1	<1	<1	<1
67-72-1	Hexachloroethane	µg/l	<1	<1	<1	<1	<1
87-68-3	Hexachlorobutadiene	µg/l	<1	<1	<1	<1	<1
77-47-4	Hexachlorocyclopentadiene	µg/l	<1	<1	<1	<1	<1
111-91-1	Bis(2-chloroethoxy)methane	µg/l	<1	<1	<1	<1	<1
621-64-7	N-nitrosodi-n-propylamine	µg/l	<1	<1	<1	<1	<1

Table 1.5 PAHs in Water (Veolia, 24th June 2008)

CAS No.	Compounds	Units	BH1	BH2	BH3	WSP1	WSP2
91-20-30	Naphthalene Aqueous	ng/l	<100	<100	<100	<100	<100
208-96-8	Acenaphthylene Aqueous	ng/l	<11	<11	<11	<11	<11
83-32-9	Acenaphthene Aqueous	ng/l	<15	<15	<15	<15	<15
86-73-7	Fluorene Aqueous	ng/l	<14	<14	<14	<14	<14
985-01-8	Phenanthrene Aqueous	ng/l	<22	<22	<22	<22	<22
120-12-7	Anthracene Aqueous	ng/l	<15	<15	<15	<15	<15
206-44-0	Fluoranthene Aqueous	ng/l	<17	<17	<17	<17	<17
129-00-0	Pyrene Aqueous	ng/l	<15	<15	<15	<15	<15
56-55-3	Benz(a)anthracene Aqueous	ng/l	<17	<17	<17	<17	<17
218-01-9	Chrysene Aqueous	ng/l	<13	<13	<13	<13	<13
205-99-2	Benzo(b)fluoranthene Aqueous	ng/l	<23	<23	<23	<23	<23
207-08-9	Benzo(k)fluoranthene Aqueous	ng/l	<27	<27	<27	<27	<27
50-32-8	Benzo(a)pyrene Aqueous	ng/l	<9	<9	<9	<9	<9
193-39-5	Indeno(123cd)pyrene Aqueous	ng/l	<14	<14	<14	<14	<14
53-70-3	Dibenzo(ab)anthracene Aqueous	ng/l	<16	<16	<16	<16	<16
191-24-2	Benzo(ghi)perylene Aqueous	ng/l	<16	<16	<16	<16	<16
91-20-30	PAH 16 Total Aqueous	ng/l	<100	<100	<100	<100	<100

Table 1.6 Diesel Range Hydrocarbons (EPH) and Mineral Oil in Water (Veolia, 24th June 2008)

Site	Unit	EPH (DRO) (C10-C40)	Mineral Oil	Interpretation
BH1	µg/l	NDP	NDP	No identification possible
BH2	µg/l	NDP	NDP	No identification possible
BH3	µg/l	NDP	NDP	No identification possible
WSP1	µg/l	NDP	NDP	No identification possible
WSP2	µg/l	NDP	NDP	No identification possible

Table 1.6a Aliphatics & Aromatics in Water (Veolia, 24th June 2008)

Site	Unit	Total Aliphatics - Aqueous (C5-C35)	Total Aromatics - Aqueous (C6-C35)	Total Aromatics & Aliphatics - Aqueous (C5-C35)	MTBE
BH1	µg/l	<10	<10	<10	<10
BH2	µg/l	<10	<10	<10	<10
BH3	µg/l	<10	<10	<10	<10
WSP1	µg/l	<10	<10	<10	<10
WSP2	µg/l	<10	<10	<10	<10

Table 1.7 BTEX & Gasoline Range Volatiles in Water (Veolia, 24th June 2008)

Site	Unit	GRO	Benzene	Toluene	Ethyl Benzene	Total Xylene
BH1	µg/l	<10	<10	<10	<10	<10
BH2	µg/l	<10	<10	<10	<10	<10
BH3	µg/l	<10	<10	<10	<10	<10
WSP1	µg/l	<10	<10	<10	<10	<10
WSP2	µg/l	<10	<10	<10	<10	<10

ANNUAL BIOLOGICAL SAMPLING IN RECEIVING SURFACE WATERS (June - 2008) –

VEOLIA ENVIRONMENTAL SERVICES LTD - CORRIN, FERMOY

Methods

Two sites on the Shanowenadrimina Stream, one upstream and one downstream of the surface water discharge point from the Safeway Warehousing sites were sampled for macroinvertebrates. The latter is the collective term given to streambed-dwelling aquatic insects (larvae & adults), molluscs, (snails), leeches, worms etc. In each case two kick-samples were taken and combined to form a single composite sample at each site. Based on the macroinvertebrate types present and their relative abundances, EPA Q-rating values were drawn up to characterise the biological water quality at each site. The table below indicates the Q-value scores, which can be assigned and the corresponding degree of pollution associated with them.

Q-Value	Degree of Pollution
Q5, Q4-5, Q4	Unpolluted
Q3-4	Slightly Polluted
Q3, Q2-3	Moderately Polluted
Q2, Q 1-2, Q1	Serious to Gross Pollution

As part of the assessment the physical nature of each of the sites chosen was described along with the in-channel and bankside vegetation.

Results - Site Descriptions (June 27th - 2008)

U/s WSP 1

The substrate at the site of kick-sampling (W 81578 915629 to W81573 95635) comprised substantial amounts of gravel and pebble in very slack to moderate flow. Elsewhere the substrate was silted over. The water was clear. The dominant in-stream macrophyte was Watercress (*Rorippa nasturtium-aquaticum* agg.) with, marginal stands of Fools Watercress (*Apium nodiflorum*) – common, Water Starwort (*Callitriche obtusangula*) - frequent and Water speedwell (*Veronica* sp.) – frequent. The right bank comprised eroded gravel and sand topped bramble, nettle and bindweed. Great Willowherb (*Epilobium hirsutum*) was common toward the base of the bank. The left bank was grassy with very occasional Willow saplings and Alder present. Great Willowherb also common.

WSP3

The sampling point was close to the fording point in the stream (W81840 95084). The substrate comprised pebble and gravel with silt marginally in a moderate flow. Watercress and Fool's Watercress dominated marginally along with Creeping Bent (*Agrostis stolonifera*) and in-channel the green alga *Vaucheria* was very common along with other filamentous green alga. Both banks were steep, the left one grassed and also with gorse, nettle, bramble, bindweed and toward the base, Hemlock Water Dropwort (*Oenanthe crocata*). Ash and sycamore and a garden topped the bank. The right bank, which was very steep was grassed along with agricultural weeds and bramble, and backed by ash and alder.

Results – Macroinvertebrates

Table 3.1 presents the macroinvertebrates taken in samples as well as the relative abundances of each. The EPA Q-rating is given in each case also.

**Table 3.1 Biological Sampling Results – Macroinvertebrates
(June 27th, 2008)**

MACROINVERTEBRATE TAXA	WQ Quality Class	(u/s) WSP1	WSP3
Mayflies (Ephemeroptera)			
<i>Ephemerella</i>	B		++/+
<i>Caenis</i>	C	+	+
<i>Baetis</i>	C	+++	+++/+
Caddis Flies (Trichoptera)			
<i>Sericostoma personatum</i>	B	++	
Limnephilidae	C	+	
True Flies (Diptera)			
Chironomidae	D	++++	+++
Chironomus	E	+	
Tipulidae	C	+	
Water Beetles (Coleoptera)			
<i>Halipid adults</i>	C	+	+++
Gyrinid adult			+
<i>Beetle larvae</i>	C	++/+	
<i>Elminthidae (Elmis & Limnius)</i>	C		++
Water Mites	C	++	++++
Freshwater Crustaceans			
<i>Asellus</i>	D	+++/+	
<i>Gammarus</i>	C	++++D	++/+
Snails (Mollusca)			
<i>Lymnaea peregra</i>	D	+	++
<i>Potamopyrgus jenkinsi</i>	D	++	++++D
Leeches (Hirudinea)			
<i>Trochaeta</i>	D	+	
<i>Helobdella stagnalis</i>	D		++
<i>Glossiphonia complanata</i>	D	++	
Segmented Worms (Annelida)			
Oligochaetae	E	++	++
Sticklebacks (Fish)		present	
EPA Q-Values		Q3 (Q 3-4)	Q 3-4

+ = present; ++ = frequent; +++ = common; ++++ = abundant; D = dominant

Interpretation

Physically, both sites are similar in terms of substrate and substantially the same in terms of in-channel plants. However, the downstream site (WSP3) has shown a definite improvement in quality from Q2-3 in 2007 to Q3-4 in 2008. While WSP1 has deteriorated slightly in the interim from Q3-4 to Q3.

WSP	Q3-4 2008	Q3-4 2007	Q2-3 2007
WSP1	1	2	3
WSP2	1	2	3
WSP3	1	2	3
WSP4	1	2	3
WSP5	1	2	3
WSP6	1	2	3
WSP7	1	2	3
WSP8	1	2	3
WSP9	1	2	3
WSP10	1	2	3
WSP11	1	2	3
WSP12	1	2	3
WSP13	1	2	3
WSP14	1	2	3
WSP15	1	2	3
WSP16	1	2	3
WSP17	1	2	3
WSP18	1	2	3
WSP19	1	2	3
WSP20	1	2	3
WSP21	1	2	3
WSP22	1	2	3
WSP23	1	2	3
WSP24	1	2	3
WSP25	1	2	3
WSP26	1	2	3
WSP27	1	2	3
WSP28	1	2	3
WSP29	1	2	3
WSP30	1	2	3

Appendix 4:

Air Monitoring Report

Air emissions monitoring:

Acid gas scrubber HCl emissions (AGS1)

Date	Results Range
24/02/08	< 1ppm
02/02/08	< 1ppm
30/09/08	< 1ppm
30/12/08	< 1ppm

Wet scrubber/carbon filter HCl emissions (WCF1)

Date	Results Range
24/02/08	< 1ppm
02/02/08	< 1ppm
30/09/08	< 1ppm
30/12/08	< 1ppm

Wet scrubber/carbon filter VOC emissions (WCF1)

Date	Results Range
02/02/2008	0.08ppm
24/02/2008	0.02 ppm
30/09/08	0.007 ppm
30/12/2008	0.02 ppm

Wet scrubber/carbon filter VOC emissions (WCF2)

Date	Results Range
24/02/2008	7.5ppm
02/02/2008	0.22 ppm
30/09/08	5.0 ppm
30/12/2008	11.0 ppm

Wet scrubber/carbon filter VOC emissions (AGS2)

Date	Results Range
30/08/2008	0.9ppm
30/12/2008	1.1 ppm

Air emissions monitoring:

Acid gas scrubber HCL emissions (AGS1)

Date	24/01/08	06/05/08	30/09/08	30/12/08
Results Range 1-20 ppm	< 1ppm	< 1ppm	<1 ppm	< 1ppm

Wet scrubber/carbon filter HCL emissions (WSCF1)

Date	24/01/08	06/05/08	30/09/08	30/12/08
Results Range 1-20 ppm	< 1ppm	< 1ppm	<1 ppm	< 1ppm

Wet scrubber/carbon filter VOC emissions (WSCF1)

Date	05/03/2008	09/06/2008	30/09/08	30/12/2008
Results Range 0-7000mg/m3	0.08g/hr	0.65 g/hr	0.007 g/hr	0.09 g/hr

Wet scrubber/carbon filter VOC emissions (WSCF2)

Date	21/03/2008	09/06/2008	30/09/08	30/12/2008
Results Range 0-7000mg/m3	7.9g/hr	0.25 g/hr	2.0 g/hr	4.0 g/hr

Wet scrubber/carbon filter VOC emissions (AGS1)

Date	30/09/2008	30/12/2008
Results Range 0-7000mg/m3	0.9g/hr	1.1 g/hr

Appendix 5:

Noise Monitoring Report

RELEVANT LOCATIONS

The locations of the noise monitoring stations are shown in the following table. The locations are shown in relation to the proposed development and the surrounding area.

RELEVANT EXCLUSIONS

The following table lists the locations of the noise monitoring stations that have been excluded from the noise monitoring report. The locations are shown in relation to the proposed development and the surrounding area.

The noise monitoring stations are located at the following locations: [illegible text]

3 SURVEY LOCATIONS

- 3.1 MP 1 (CORNER OF VEOLIA CARPARK)
- MP 2 (OUTSIDE MAIN OFFICE DOOR)
- MP 3 (CORNER OF SITE BEYOND WEATHER STATION)
- MP 4 (BACK OF SITE BEHIND BLENDING PLANT)
- MP 5 (NEAREST RESIDENCE ON GOLF COURSE ROAD)

4 RESULTS/CONCLUSIONS

MP 1	Leq 58.4	L90 45.4	L10 61.8	L Min 38.8	Laf Max 79.6
MP 2	Leq 67.9	L90 51.8	L10 72.3	L Min 46.5	Laf Max 82.4
MP 3	Leq 60.7	L90 51.8	L10 63.4	L Min 43.9	Laf Max 78.3
MP 4	Leq 58.3	L90 50.7	L10 61.6	L Min 44.6	Laf Max 76.9
MP 5	Leq 63.3	L90 56.3	L10 66.4	L Min 47.3	Laf Max 72.6

(all results dBA)

Conclusions

VERY LITTLE CHANGE FROM 2007,

All sample points influenced by road traffic on M 8 and N 8. If one was to take the effect of the traffic noise out of the calculations it is clear from the L90 figures that the noise levels at the boundary positions of this premises would meet the normal criteria set down for this type of operation ie 55dBA by day and 45dBA by night.

Appendix 6:

Environmental Management Programme 2009/ Review of EMP 2008

Program Reference: Env 01

Program Title: Water usage

Objectives: To reduce water use on site by 5%, where applicable

Targets: Eliminate unnecessary consumption of water on site.

Method of Implementation:

Review water consumption on site and identify opportunities for reduction in consumption

Responsibility:

Laboratory/Compliance Manager/ Operation Manager

Timescale:

End December 2009

Potential savings:

Reduce cost of water supply.

Environmental /other benefits:

Reduction of resource usage.

Programme Reference: Env 02

Programme Title: Electricity usage

Objectives: To reduce electricity use on site by 5%, where applicable

Targets: Reduce consumption of electricity on site.

Method of Implementation:

Review electricity used on site and identify opportunities for reduction in consumption

Responsibility:

Laboratory/Compliance Manager/ Operation Manager

Timescale:

End December 2009

Potential savings:

Reduce cost of electricity supply.

Environmental /other benefits:

Reduction of resource usage.

Reduction in CO2 emissions

Programme Reference: Env 03

Programme Title: Fugitive Emissions

Objectives: Limit fugitive emissions

Targets: To have minimal fugitive emissions

Method of Implementation:

Review potential fugitive emission points

Review fugitive emission data

Identify procedural improvements to limit fugitive emissions

Responsibility:

Compliance Manager

Operations Manager

Timescale:

End December 2009

Potential savings:

Not applicable

Environmental /other benefits:

Low fugitive emissions ensure licence compliance.

Programme Reference: Env 04

Programme Title: Training

Objectives: Provide training to all Fermoy based staff on requirements of ISO 14001

Targets: All Fermoy based staff to be trained on requirements of ISO 14001

Method of Implementation:

Create training programme for all staff.

Train staff on programme

Responsibility:

Compliance Manager

Timescale:

End December 2009

Potential savings:

Not applicable

Environmental /other benefits:

Enhance compliance with ISO 14001

Programme Reference: Env 05

Programme Title: Long term rehabilitation of pipelines

Objectives: Rehabilitate pipelines, where necessary, to maintain integrity

Targets: Identify areas for remediation and repair where necessary,

Method of Implementation: Identify subcontractor to carry out repairs required.

Responsibility:

Compliance Manager

Operations Manager

Timescale:

End December 2011

Potential savings:

N/A

Environmental /other benefits:

Protection of local aquifer.

Programme Reference: Env 06

Programme Title: Waste licence/ ISO 14000 compliance

Objectives: Reduce non compliances received from the EPA/NSAI

Targets: Reduce non compliances by 50%.

Method of Implementation:

Review non compliances to date.

Identify recurring issues/ non conformances

Close out non conformances within 30 days.

Responsibility:

Compliance Manager

Operations Manager

Timescale:

December 2009

Potential savings:

Not applicable

Environmental /other benefits:

Positive licence compliance assures customer confidence.

Positive licence compliance assures good public relations

Review of 2008 EMP:
Programme reference: Env 01
Status: Ongoing

Programme reference: Env 02
Status: Complete

Programme reference: Env 03
Status: Ongoing

Programme reference: Env 04
Status: Ongoing

Programme reference: Env 05

Appendix 7:

ELRA/CRAMP

ENVIRONMENTAL LIABILITY RISK ASSESSMENT

PREPARED FOR

AVR Safety Ltd
CORBIN
FERMOY
CO. CORK

BY

THIRD DOOR CONSULTING
(DR. NICK VERRON)
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18 July 2025

ENVIRONMENTAL LIABILITY RISK
ASSESSMENT

PREPARED FOR

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1. INTRODUCTION

Condition 12 of AVR Safeway Ltd's Waste Licence (W0050-2) contains the following clause:

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

This report details the risk assessment process and results. Attached, as Appendix 1, is the revised Closure, Restoration, and Aftercare Management Plan (CRAMP) for the facility. The tasks carried out were:

Chapter	
2	Initial Screening and Operational Risk Assessment
3	Risk Identification
4	Assessment Of Identified Risks
5	Identification and Assessment of Risk Mitigation
6	Development of A Risk Management Programme
7	Assessment of Unknown Environmental Liabilities
8	Financial Provisions

This assessment is based on the scenario of an accident occurring that forces the part or full closure of the facility and the environmental remediation measures required to restore the area to a safe, clean condition. It does not consider the costs of reconstruction of the facility so that operations can continue. The CRAMP details and costs the steps required to render the facility safe and clean following closure for reasons not related to an environmental incident, for example as a result of commercial considerations.

The Veolia Environmental Services Ltd facility is a Hazardous Waste Transfer Station, occupying 3.8 Ha at Corrin, Fermoy, Co. Cork. The activities carried out on site are listed in Table 1. The principal activity is marked P.

Table 1: ACTIVITIES CARRIED OUT AS LISTED IN THE THIRD AND FOURTH SCHEDULES OF THE WASTE MANAGEMENT ACTS 1996 TO 2003

THIRD SCHEDULE Waste Disposal Activities	FOURTH SCHEDULE Waste Recovery Activities	
7. Physico-chemical treatment not referred to elsewhere in this Schedule which results in final compounds or mixtures which are disposed of by means of any activity referred to in paragraphs 1 to 5 or paragraphs 8 to 10 of this Schedule (including blending or mixture prior to submission to any activity referred to in a preceding paragraph of this Schedule.	1. Solvent reclamation or regeneration.	
11. Evaporation, drying and reclamation.	2. Recycling or reclamation of organic substances which are not used as solvents (including composting and other biological processes).	
12. Repackaging prior to submission to any activity referred to in a preceding paragraph of this Schedule.	3. Recycling or reclamation of metals and metal compounds.	
13. Storage prior to submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where the waste concerned is produced.	4. Recycling or reclamation of other inorganic materials.	
	8. Oil re-refining or other re-uses of oil.	
	12. Exchange of waste for submission to any activity referred to in a preceding paragraph of this Schedule.	
	13. Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced.	P

The facility consists of the following:

- Warehouse containing 2 store rooms, decant room, 2 loading bays
- On-site lab
- 3 Storage containers for segregated waste storage
- Wash bay used for bulking WWT sludge and aluminium oxide (AlOx), and washing tanks and drums, including a water heating boiler
- Drum crushing and shredding machines
- Storage tank for acid prime water treatment chemicals (Bund H)
- Contaminated water storage tank (Bund H)
- Wash water storage tanks (3) (Bund H)
- Diesel and gas oil storage tanks (Bund K)
- Fuel blending facility (Bund R) and loading/unloading bay (Bund M)
- Storage for full containers lifted off skellys (Bunds A & B)
- Space for storage of clean empty containers and tanks
- Spaces for storage of full tanks and containers on skellys (Bunds C, E, F, P)
- Mobile container crane

2. INITIAL SCREENING AND OPERATIONAL RISK ASSESSMENT

The procedure of Chapter 2 of the Guidance Notes was carried out and the results are recorded in Table 2.

TABLE 2 AVR Safeway Ltd - INITIAL SCREENING AND OPERATIONAL RISK ASSESSMENT		
COMPLEXITY		SCORE
Licensed Activity: Schedule 4.13. Storage of waste intended for submission to any activity referred to in a preceding paragraph of this Schedule, other than temporary storage, pending collection, on the premises where such waste is produced. (Throughput > 10,000 tpa)	G-5	5
ENVIRONMENTAL SENSITIVITY	SCORE	
Human Occupation - 50 – 250 m	2	
Groundwater - Overlying locally important aquifer	1	
- Groundwater vulnerability	1	
Sensitivity of Receiving Water - Class A	3	
Protected Ecological Sites > 1 km from protected site	0	
Air Quality and Topography - Intermediate terrain	1	
Sensitive Agricultural Receptors > 150 m from site	0	
TOTAL ENVIRONMENTAL SENSITIVITY	8	2
COMPLIANCE RECORD –		1
- Good – no known contamination		
OVERALL RISK SCORE		10
RISK CATEGORY		Category 2

The overall risk score was 10 indicating that the risk, as determined by this methodology is moderate, falling into Category 2. However because of clause 12.2.2 of the license W0050-2 an Environmental Liability Risk Assessment has been prepared.

3. RISK IDENTIFICATION

All operational processes at Veolia Environmental Services Ltd were listed and the potential hazards associated with each were recorded in Table 3.

TABLE 3 ENVIRONMENTAL RISKS IDENTIFIED		
RISK NO.	PROCESS	POTENTIAL HAZARDS
1	Storage in Warehouse	Fire
2	Storage in Warehouse	Spill
3	Tanker Storage in Yard	Fire
4	Tanker Storage in Yard	Major Spill
5	Drum Washing Crushing & Shredding	Small scale spills etc.
6	AIOx Bulking	Spill of AIOx
7	Sludge Bulking	Spill of Sludge
8	Mixing and Blending	Fire
9	Mixing and Blending	Major Spill
10	Mixing and Blending	Explosion
11	Tank storage	Leak of tank without fire
12	DCM Transfer	Major Spill

4. ASSESSMENT OF IDENTIFIED RISKS

The various risk identified in Chapter 2 were further analysed to determine both the likelihood of occurrence and the potential severity of such an even occurring. The risks were assessed using the classifications recorded in Tables 4.1 and 4.2 in the Guidance Notes. These tables are reproduced as Tables 4.1 and 4.2 below. In Table 4.2 numerical amounts for the cost of the environmental remediation for each class of risk have been defined.

TABLE 4.1 RISK CLASSIFICATION TABLE - OCCURRENCE			
RATING	CATEGORY	DESCRIPTION	LIKELIHOOD OF OCCURANCE
1	Very Low	Very low chance of hazard occurring in 30 year period	0 - 5 %
2	Low	Low chance of hazard occurring in 30 year period	5 - 10 %
3	Medium	Medium chance of hazard occurring in 30 year period	10 - 20 %
4	High	High chance of hazard occurring in 30 year period	20 - 50 %
5	Very High	More than 50% chance of hazard occurring in 30 year period	> 50 %

TABLE 4.2 RISK CLASSIFICATION TABLE - SEVERITY			
RATING	CATEGORY	DESCRIPTION	COST OF REMEDIATION
1	Trivial	No damage or negligible change to the environment	< €1,000
2	Minor	Minor Impact/ localised or nuisance	< €10,000
3	Moderate	Moderate damage to environment	< €50,000
4	Major	Severe damage to local environment	> €100,000
5	Massive	Massive damage to large area, irreversible in medium term	> \$1,000,000

The remediation costs only involve the cost of environmental remediation, including the demolition of damaged structures. It does not include the cost of reconstruction of any damaged facilities.

The results of the assessment are recorded in Table 4.3, summarised in Table 4.4 and in matrix form in Figure 4.5.

TABLE 4.3 Veolia Environmental Services Ltd - RISK ASSESSMENT FORM									
RISK NO.	PROCESS	POTENTIAL HAZARDS	ENVIRONMENTAL EFFECT	SEVERITY RATING	BASIS OF SEVERITY	OCCURRENCE RATING	BASIS OF OCCURRENCE	RISK SCORE	
1	Storage in Warehouse	Fire	Emissions to air and water	4	Major Impact on the environment	2		8	
2	Storage in Warehouse	Spill	Emissions to air and water	1	Small scale < 1 m3 - Easily contained Double containment	3	Many handling steps	3	
3	Tanker Storage in Yard	Fire	Emissions to air and water	4	Major Impact on the environment	2		8	
4	Tanker Storage in Yard	Major Spill	Emissions to air and water	3	Each load < 30 m3	2	Requires rupture of tank	6	
5	Drum Washing Crushing & Shredding	Small scales spill etc.	Emissions to air and water	1	Nuisance - Odour	2	Infrequent operation Requires many levels of failure	2	
6	AIOx Bulking	Spill of aluminium oxide	Solids spill	1	Indoors - solid easily contained	2	Max spill = 6 tonnes	2	
7	Sludge Bulking	Spill of Sludge	Solids spill	1	Indoors - solid easily contained	2	Max spill = 6 tonnes	2	
8	Mixing and Blending	Fire	Emissions to air and water	4	Major	2	All tanks regularly inspected	8	
9	Mixing and Blending	Major Spill	Emissions to air and water	3	Potential for ground contamination	2	All tanks regularly inspected	6	
10	Mixing and Blending	Explosion	Emissions to air, land and water	4	Major	1	Designed to highest safety standards	4	
11	Tank storage	Leak of tank without fire	Emissions to air and water	3	Potential for ground contamination	2	All tanks regularly inspected	6	
112	DCM Transfer	Major Spill	Emissions to air and water	3	In bund No fire risk Each load < 30 m3	2	All tanks regularly inspected	6	

TABLE 4.4		RISK ASSESSMENT REGISTER				
RISK NO.	PROCESS	POTENTIAL HAZARDS	ENVIRONMENTAL EFFECT	SEVERITY RATING	OCCURANCE RATING	RISK SCORE
1	Storage in Warehouse	Fire	Emissions to air and water	4	2	8
3	Tanker Storage in Yard	Fire	Emissions to air and water	4	2	8
8	Mixing and Blending	Fire and or Explosion	Emissions to air and water	4	2	8
4	Tanker Storage in Yard	Major Spill	Emissions to air and water	3	2	6
9	Mixing and Blending	Major Spill	Emissions to air and water	3	2	6
11	Tank storage	Leak of tank without fire	Emissions to air and water	3	2	6
12	DCM Transfer	Major Spill	Emissions to air and water	3	2	6
10	Mixing and Blending	Explosion	Emissions to air, land and water	4	1	4
2	Storage in Warehouse	Spill	Emissions to air and water	1	3	3
5	Drum Washing Crushing & Shredding	Small scale spills etc.	Emissions to air and water	1	2	2
6	AIOx Bulking	Spill of AIOx	Solids spill	1	2	2
7	Sludge Bulking	Spill of Sludge	Solids spill	1	2	2

In the matrix the risks are graded by colour, red the most serious, pale blue the least. All the risks in Table 4.3 are located in the pale green (low risk) regions except the fire risks (1, 3 and 8).

The principal risks of concern are fires. A considerable amount of flammable material is stored on site.

5. IDENTIFICATION AND ASSESSMENT OF RISK MITIGATION

Each risk has been examined to see what mitigation methods have been implemented. These are listed in Table 5.

TABLE 5 Veolia Environmental Services Ltd - MITIGATION MEASURES IN PLACE			
RISK	RECEPTORS	ROUTE OF CONTAMINATION	MITIGATION
FIRE			
	Air Surface waters Groundwater	Smoke and toxic etc vapours Run off of contaminated fire water Seepage of contaminated fire water	Removal of ignition sources Fire suppression systems Fire water containment Effective fire detection equipment On site fire fighting equipment All operations carried out in bunds
EXPLOSION			
	Air Surface waters Groundwater	Smoke and toxic etc vapours Run off of contaminated water Seepage of contaminated water	Removal of ignition sources Inert atmosphere in tanks All equipment ATEX rated Designed to latest standards
SPILL			
	Ground water Surface waters Air	Seepage to ground Run-off to stream Evaporation of spilled material	All operations carried out in bunds Containment via oil/grit interceptors All site areas paved and curbed Detailed procedures and training
ON-SITE VEHICLE ACCIDENT			
Spill Fire	Ground water Surface waters Air	See above See above See above	Enforced speed limit Reversing/movement sirens Traffic management

No other mitigation methods have been identified as being necessary to significantly reduce the risk of an incident occurring or to reduce the remediation costs following such an incident.

NOTE ON THE FUEL BLENDING FACILITY: The facility was designed in 2006 to comply with the latest ATEX regulations. A full Hazard and Operations Analysis was carried out. In each scenario 3 levels of safety protection were installed. For example, to prevent explosions care was taken to minimise the risk of ignition through careful design (top loading via dip pipes, electrical continuity, all ATEX approved equipment etc), removing oxygen through the use of an inert (nitrogen) atmosphere, and the installation of explosion vents.

6. DEVELOPMENT OF A RISK MANAGEMENT PROGRAMME

Veolia Environmental Services Ltd has a risk management programme in operation. It includes the following points:

- A risk assessment is carried out on each activity carried out on site.
- Each piece of equipment or area of the site is assigned to a manager and to an "Area Owner", who are responsible for all operations and maintenance related to it.
- Regular tests of emergency response procedures and equipment are carried out.

AREA	AREA OWNER	MANAGER
Offices	Operations Coordinator	Financial Controller
Reception	Receptionist	Financial Controller
Car park	Receptionist	Financial Controller
Warehouse	Site Forman	Operations Manager
Weighbridge	Site Forman	Operations Manager
Forklifts and hut	Site Forman	Operations Manager
Bunds M & R Fuel Blending	Lead Operator - FB	Operations Controller
Bund H Water Tank	Lead Operator	Operations Controller
Crane	Lead Operator	Fleet Manager
Wash bay	Site Forman	Operations Manager
Holding tanks etc.	Lab Manager	Lab Manager
Shredder and Compactor	Site Forman	Operations Manager
Diesel tanks and Pumps	Fleet Manager	Fleet Manager
Emergency Equipment	Safety Officer	Operations Manager
Back Up generator	Foreman SCT	Fleet Manager
Air Compressor	Foreman SCT	Fleet Manager
Steam Generator	Foreman SCT	Fleet Manager
Diesel fire pump	Foreman SCT	Fleet Manager
Maintenance Shop	Foreman SCT	Fleet Manager
Rest of Site	Site Forman	Operations Manager

2. QUANTIFICATION OF UNKNOWN ENVIRONMENTAL LIABILITIES

The known liabilities for the facility have been calculated and are recorded in Appendix 1, the CRAMP. This section deals with the unknown liabilities.

A Median Probability financial model has been employed. Each potential risk has two characteristics, the probability of it occurring and the financial implication (cost of remediation) if it occurred (See Tables 4.1 and 4.2). By multiplying these together one obtains the cost of addressing the unknown liability. However each probability and clean-up cost can only be estimated as a range. To obtain a reasonable cost a Median Probability Financial Model has been employed, for this ELRA. The median probability and median clean up cost are calculated for each risk and, when multiplied together give the most likely cost of addressing the unknown liabilities. The results are given in Table 7.1. The estimated cost of the unknown liabilities on this basis is €154,188.

For comparison the best median and lowest casts are recorded in Table 7.2. The worst case scenario (by multiplying the highest probability by highest remediation cost) would give a cost of €440,500, whilst the best case scenario (by multiplying the lowest probability by lowest remediation cost) would be €22,000.

MOST LIKELY SCENARIO FINANCIAL MODEL										
RISK NO.	PROCESS	OCCURANCE RATING	OCCURANCE RANGE	SEVERITY RATING	COST RANGE		MEDIAN PROBABILITY	MEDIAN SEVERITY	MEDIAN RISK SCORE	
					MIN	MAX				
1	Storage in Warehouse	2	5 - 10 %	4	€100,000	€1,000,000	7.5%	€550,000	€41,250	
3	Tanker Storage in Yard	2	5 - 10 %	4	€100,000	€1,000,000	7.5%	€550,000	€41,250	
8	Mixing and Blending	2	5 - 10 %	4	€100,000	€1,000,000	7.5%	€550,000	€41,250	
10	Mixing and Blending	1	0 - 5 %	4	€100,000	€1,000,000	2.5%	€550,000	€13,750	
4	Tanker Storage in Yard	2	5 - 10 %	3	€10,000	€100,000	7.5%	€55,000	€4,125	
9	Mixing and Blending	2	5 - 10 %	3	€10,000	€100,000	7.5%	€55,000	€4,125	
11	Tank storage	2	5 - 10 %	3	€10,000	€100,000	7.5%	€55,000	€4,125	
12	DCM Transfer	2	5 - 10 %	3	€10,000	€100,000	7.5%	€55,000	€4,125	
2	Storage in Warehouse	3	10 - 20 %	1	€0	€1,000	15.0%	€500	€75	
5	Drum Washing Crushing & Shredding	2	5 - 10 %	1	€0	€1,000	7.5%	€500	€38	
6	AlOx Bulking	2	5 - 10 %	1	€0	€1,000	7.5%	€500	€38	
7	Sludge Bulking	2	5 - 10 %	1	€0	€1,000	7.5%	€500	€38	
TOTAL									€154,188	

RISK NO.	PROCESS	HIGHEST RISK SCORE	MEDIAN RISK SCORE	LOWEST RISK SCORE
1	Storage in Warehouse	€100,000	€41,250	€5,000
3	Tanker Storage in Yard	€100,000	€41,250	€5,000
8	Mixing and Blending	€100,000	€41,250	€5,000
10	Mixing and Blending	€100,000	€13,750	€5,000
4	Tanker Storage in Yard	€10,000	€4,125	€500
9	Mixing and Blending	€10,000	€4,125	€500
10	Tank storage	€10,000	€4,125	€500
11	DCM Transfer	€10,000	€4,125	€500
2	Storage in Warehouse	€200	€75	€0
5	Drum Washing Crushing & Shredding	€100	€38	€0
6	AlOx Bulking	€100	€38	€0
7	Sludge Bulking	€100	€38	€0
	TOTAL	€440,500	€154,188	€22,000

3. FINANCIAL PROVISIONS

Veolia Environmental Services Ltd carries the following insurance:

INSURANCE	COVER
Employers liability	€13 million
Public Liability - Bodily Injury	€13 million
Public Liability – Property Damage	€13 million
Marine Liability (Waste in Transit)	€13 million
Automobile Liability - Bodily Injury	Unlimited each occurrence
Environmental/Pollution Liability	€13 million

To cover the unknown liabilities, a financial bond has been set up by Veolia Environmental Services Ltd. to cover any costs associated with the decommissioning and aftercare of the Waste Transfer Station. This is re-negotiated annually and the final wording and amount are approved by the Environmental Protection Agency. The terms of the bond are confidential. Details of the bond are furnished to the Agency annually.

CLOSURE, RESTORATION AND AFTER-CARE MANAGEMENT PLAN

PREPARED FOR

AVR Safeway Ltd
CORRIN
FERMOY
CO. CORK

BY
THISILDIOUS CONSULTING
(DR. NICK VERNON)
FAIRHOPE
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1. INTRODUCTION

Thisilicious Consulting was retained by Veolia Environmental Services Ltd. to prepare an Environmental Liabilities Risk Assessment (ELRA) for their facility at Corrin, Fermoy, Co Cork, in accordance with Condition 12.12.2 of their Environmental protection Agency Waste License (W0050-2). This Closure, Restoration and After-care Management Plan (CRAMP) for the facility has been prepared in accordance with Condition 10 of their Environmental protection Agency Waste License (W0050-2).

The relevant conditions of said license are:

10.1 Following termination, or planned cessation for a period greater than six months, of use or involvement of all or part of the site in the licensed activity, the licensee shall, to the satisfaction of the Agency, decommission, render safe or remove for disposal/recovery, any soil, sub-soils, buildings, plant or equipment, or any waste, materials or substances or other matter contained therein or thereon, that may result in environmental pollution.

10.2 Residuals Management Plan:

10.2.1 The licensee shall revise, to the satisfaction of the Agency, its detailed and costed plan for the decommissioning or closure of the site or part thereof. This plan shall be submitted to the Agency for agreement within six months of the date of grant of this licence.

10.2.2 The plan shall be reviewed annually and proposed amendments thereto notified to the Agency for agreement as part of the AER. No amendments may be implemented without the agreement of the Agency.

10.3 The Residuals Management Plan shall include as a minimum, the following:-

10.3.1 A scope statement for the plan.

10.3.2 The criteria, which define the successful decommissioning of the activity or part thereof, which ensures minimum impact on the environment.

10.3.3 A programme to achieve the stated criteria.

10.3.4 Where relevant, a test-programme to demonstrate the successful implementation of the decommissioning plans.

10.3.5 Details of costing for the plan and the financial provisions to underwrite those costs.

10.4 A final validation report to include a certificate of completion for the residuals management plan, for all or part of the site as necessary shall be submitted to the Agency within three months of execution of the plan. The licensee shall carry out such tests, investigations or submit certification, as requested by the Agency, to confirm that there is no continuing risk to the environment.

The Veolia Environmental Services Ltd Facility

The Veolia Environmental Services Ltd facility consists of a 3.8 Ha site. It is completely paved and is enclosed with a 2 m high wall or fence. The site consists of offices and associated car park, a tanker washing facility, areas for drum crushing and shredding, a warehouse containing 2 stores, two loading bays and a decant area, a weighbridge and associated hut, bunded areas for storing tanks or boxes mounted on skellys, bunded areas for storing tanks lifted off skellys, a bunded fuel blending facility comprising 7 tanks and associated pumps piping etc. and a separate bunded loading/unloading area, and bunded tanks for the storage of contaminated water, and run-off water. The site is completely paved with 35 Newton reinforced concrete with an integral lip to retain fire water of spills. All runoff passes through oil/grit interceptors and collected in retention tanks for testing before being emitted to the nearby stream. A plan of the facility is attached as Appendix 1.

Veolia Environmental Services Ltd also owns a number of specialised containers for the transport of asbestos, aluminium oxide (AlOx) and waste water treatment sludge.

Scope of the CRAMP

For the purpose of this CRAMP it is assumed that the site is to be cleared of all hazardous materials, decontaminated if necessary and specialised equipment removed. Above-ground bunds would be demolished, but the buildings, weighbridge, fencing etc. would be left intact for reuse by another entity, for example by a logistics provider. It is not proposed to fill the sloped bunds or the retention tanks. The oil and grit interceptors would be emptied and cleaned.

The areas of the site occupied by Southcoast Transport Ltd. are not covered in this CRAMP. In particular this does not include the workshop area.

Criteria of Successful Completion

The successful completion of the CRAMP will be the removal of all sources of potential pollution from the site. A detailed inspection of the site will be made as part of the preparation of the validation report.

In addition ground and surface water runoff will be analysed for pollutants.

2. RESIDUALS MANAGEMENT PLAN

The Residuals Management Plan will cover the following activities:

A. REMOVAL OF HAZARDOUS MATERIALS

Table 2.A.1 lists the various locations of materials stored on site and the possible UN classes. Table 2.A.2 lists the maximum amounts of materials on site at any one time, proposed disposal/recovery sites and the costs of transport to and disposal/recovery at those sites. Table 2.A.2 also includes estimates for non-hazardous wastes, the cost of administering, packing and loading the wastes.

The packed waste listed in Table 2.A.2 includes all laboratory chemicals which will be removed, packed and sent for disposal to SAVA. The contents of the oil and grit interceptors are also included. Disposal/Recovery sites are listed in Table 2.A.3.

TABLE 2.A.1		Veolia Environmental Services Ltd - HAZARDOUS MATERIALS STORAGE PLAN				
	STORAGE AREA	HAZARDOUS MATERIAL CLASSES				
INDOOR	Store 1	3	6	8	4.1	2.2
	Store 2	6	8	5.1	4.3	
	Self contained storage	4.2				
	Self contained storage	5.2				
	Self contained storage	Not specified - Isolation				
OUTDOOR	Tanks	3	6	8	4.1	2.2
	Tanks	6	8	4.3	5.1	
	Bund M - Fuel Blending	3	6			
	Bund R - Fuel Blending	3	6			
	Bund K - Diesel & Gas Oil	3				
	Bund G - Washings	3	Water with trace organics			
	Bund N - Gas Oil	3				
	Bund P - Tanker or box parking	Not specified - special loads				
	Bund F - Tanker or box parking	3	6	8	4.1	2.2
	Bund E - Tanker or box parking	6	8	4.3	5.1	
	Bund L - Asbestos boxes	9				
	Bund D - Tanker parking	Not specified - Decanting etc.				
	Bund C - Tanker parking	3	6	4.1	2.2	

The material stored on site in tanks comprises all the liquid waste that is not used for fuel blending. This material is either too good, being of a sufficient quality for

recovery, or too bad, containing high levels of water or halogens. Generally about 80% of the material is for recovery (R-2), the rest being for disposal (D10) or physico chemical treatment (D-9).

Material for recovery is generally sold for a credit, whilst material for disposal can be very expensive. An analysis of the various streams stored at various times indicates that the average cost of disposal or recovery is about €80/tonne.

TABLE 2.A.2		DISPOSAL OF MATERIALS					
	FROM	LOADS	WT. (tonnes)	FACILITY Table 2.A.3	FREIGHT (€/load)	DISP (€/tonne)	TOTAL (€)
HAZARDOUS							
BULK LOADS							
WATER	BUND H	4	100	AVR	€1,400	€100	€15,600
M&B	BUND R	19	435	Geocycle	€1,700	€0	€32,300
TANKS (See Text)	BUNDS	35	630	Various	€2,000	€80	€120,400
ASBESTOS	BUND L	4	60	AGR	€1,400	€100	€11,600
ALOX SLUDGE	BUND P	2	50	Holcim	€1,800	€39	€5,550
WASH WATERS	HAZ	3	50	AVR	€1,400	€100	€9,200
PACKED WASTE							
WAREHOUSE	STORE 1	8	180	SAVA	€2,000	€230	€57,400
BOXES	YARD	5	40	SAVA	€2,000	€200	€18,000
OTHERS							
BATTERIES		1	3	ReturnBatt	€500	€200	€1,100
OIL		1	2	Atlas	€300	€50	€400
WEE		1	15	Various	€1,800	€200	€4,800
FLUORESCENT TUBES	(Each)	1	1000	Antwerp	INC.	€1.10	€1,100
NON-HAZARDOUS							
WASH WATERS	NON-HAZ	4	75	Fermoy UDC	€200	€20	€2,300
WWT SLUDGE	BUND P	1	20	Remondis	€1,500	€60	€2,700
PAPER, ETC	OFFICES	3	20	Contractor	€300	€50	€1,900
DOMESTIC	CANTEENS	5		Countryclean	€75	Inc.	€375
TOTAL		80	1545				€284,725
PACKING, LOADING, ETC.		4	MEN FOR	10	DAYS @	€110	€4,400
ADMINISTRATION, TFS, ETC		1	MAN FOR	30	DAYS @	€250	€7,500
TOTAL COST OF REMOVING ALL MATERIALS FROM SITE							€296,625

TABLE 2.A.3 DISPOSAL/RECOVERY FACILITIES				
FACILITY (TABLE 2.A.2)	FACILITY NAME	ADDRESS	LICENSE	WASTES RECEIVED
AGR	AGR Zentral Deponie	Wiedehopfstr. 30	E17016018	Asbestos and other hazardous solids (D1)
	Emscherbruch	DE-45892 Geslensdorf		
AVR	NV Afvalwerkring	Prof. Gerbrandjweg 10	340618/	Contaminated water (D10)
	Rijnmond (AVR)	NL-3197 BJ Rotterdam-Botlek	20176136	
SAVA	SAVA GmbH & Co (Remondis)	Osterweute 1	A51V00605/	Solid and liquid wastes
		DE-25541 Brunsbüttel	A51G00508	
Holcim	Holcim Obourg	Rue des Frabriques 2	REC 92-014	AlOx sludge
		BE-7034 Obourg		
Geocycle	Geocycle	Rue de Courriere 49, ZIB de Feluy	38.152/BP	Solvents (R1)
		BE-7181 Seneffe		
Various	AkzoNobelBase	Welplaatsweg 12	2001144952/	Dichloromethane (R6)
		NL-3167 HK Rotterdam-Botlek	20075068	
	SITA (Leto)	Bedrijvanpark Twente 243	EMT/2001/3519	Acids & bases (R2 & D9)
		NL-7600 AH Almelo		
	Pyros Environmental Limited (Fawley)	Carlson Rd., Hardley, Southampton UK SO 45 3ZA	ZP3632SR	Solvents etc (D10)
SES	Shannon Environmental Services	Smithstown Ind. Estate Shannon Co. clare	W0040-01	Acids and bases
Remondis	Remondis Industry Service, NL Bramsche	An Kanal 8 DE 49565 Bramsche	C7D000000	WWTP Sludge and Solvents (R1, D10)
Returnbatt	Returnbatt Ltd	Unit 35, Kildare Enterprise Centre, Kildare	W0105-01	Batteries
Indavar	Indavar Relight	Haven 1940-Molenweg BE-9130 Doel-Beveren	46003/44/a/1 - 46003/233/11/1	Fluorescent tubes
Atlas	Atlas Environmental	Clonminan Ind. Estate Portlaoise Co. Laois	W0184-01	Oils
Fermoy UDC	Cork Co Council	Waste Water Treatment Plant Fermoy Co. Cork		Wash waters
AVR-ES	AVR-Environmental Solutions	Foxhole IE-Youghal Co. Cork	W0211-01	Sludges, cardboard, paper, plastic
Cork CC	Country Clean	Shanballymore, Mallow, Co. Cork	CKWMC 22/01	Canteen etc.
Cork Metal	Cork Metal	Dublin Hill, Cork	CKWMC 26/01	Scrap metal

B. CLEANING & DECONTAMINATION

The cleaning and decontamination plan is recorded in Table 2.B. Each area is listed, the actions required are summarised and the costs recorded.

TABLE 3.B CLEANING AND DECONTAMINATION PLAN		NET COST
1	INTERIOR OF BUILDINGS All liquids will be cleaned up using absorbent where appropriate and the materials will be disposed of as hazardous waste. All dust and other solids will be removed from interiors of the warehouse and the storage boxes, collected in FIBCs. Samples will be tested for hazardous components and disposed of accordingly. Where appropriate areas will be pressure washed to remove adhering materials. The washings will be collected and pumped to a tanker for disposal.	€2,000 €1,000
2	BUNDS M & R - FUEL BLENDING All tanks, pumps and lines will be flushed 3 times with water and inspected for contamination. All solids will be removed by pressure washing. All flushings and washings will be pumped into a tanker for disposal off site by incineration - AVR.	€10,000
3	TANKS IN BUNDS GAND K The tanks will be flushed with water as above. The washings will be disposed of either to Fermoy UDC or to AVR, depending on their nature.	€2,000
3	OTHER BUNDS All bunds tested for hazardous components and be emptied. If uncontaminated it will be pumped to the oil/grit interceptors. If not, the material will be pumped into IBCs for appropriate disposal. Any solid material, mud, etc, will be collected into drums for testing and disposal as above.	€3,000
4	WASHBAY AND ASSOCIATED STRUCTURES All equipment will be cleaned and removed for resale or disposal. If equipment is not sold it will be decontaminated by draining and cleaning out gear boxes etc. and sent for scrap. After the equipment has been removed the sumps will be pumped out and the washings sent for disposal as appropriate. The wash bay and ancillary structures will then be cleaned as described above under interior of buildings.	€1,000 €500 €2,000
5	YARD The yard will be washed down with water and the water retained in the holding tanks for testing, before discharge to the stream. No treatment other than pH adjustment will take place. If contaminated, the water will be pumped into tanks and sent for disposal.	€1,000
6	OIL AND GRIT INTERCEPTORS AND RETENTION TANKS The oil and grit interceptors will be pumped out and cleaned. The oil will be decanted and sent to ENVA and the remaining water sent to AVR. The retention tanks will be drained and cleaned. Any sediment will be collected in FIBCs and tested for contamination before suitable disposal.	€3,000
7	WEIGHBRIDGE AND FORK LIFT CHARGING HUT The sump of the weighbridge will be pumped out and cleaned if necessary. The forklift hut will be decontaminated and cleaned.	€1,000
8	FIRE WATER TANKS The fire water tanks will be emptied. The water will be inspected and tested. As it is primarily well water it is expected to be sent through the oil/grit interceptors and discharged to surface water. If it is contaminated it will be disposed of to a waste water treatment plant.	€1,000
9	ASBESTOS CONTAINERS Asbestos containers will be cleaned and certified by a specialist contractor in Germany, after being tipped.	€1,500
10	AIOx, SLUDGE AND OTHER CONTAINERS Sludge containers will be cleaned after tipping the final loads or, if empty on site will be cleaned on site.	€1,000
11	OTHER BUILDINGS - OFFICES ETC. All papers will be sent for shredding and recovery. Plastics and cardboard will be recycled. All WEE will be sent for recovery unless sold for reuse.	€2,000

C. EQUIPMENT DISPOSAL

All equipment will be dismantled and removed. Some will be sold for a credit. The Table 2.C details the equipment and provides an estimate of the costs of dismantling and removal.

All equipment will be dismantled and removed. Some will be sold for a credit. The table below details the equipment and provides an estimate of the cost of dismantling and removal.

3. VALIDATION

The proposed validation plan is recorded in Table 3.

The validation would be carried out by an independent consultant appointed in consultation with the EPA.

4. AFTERCARE MANAGEMENT

It is not envisaged that once the validation is complete there will be any need for after care. The potential of environmental contamination of a waste transfer facility is confined to the materials stored therein. Once all such materials have been removed and the facility has been cleaned and decontaminated, no possibility of future pollution exists.

That said it is considered prudent to monitor the ground water and the receiving water and sediment for a further two years. The cost of this (€14,000) is included in the cost estimate.

It is assumed for the purposes of the CRAMP, that no signs of pollution are found. The possibility of there being existing pollution, which is not detected at the time of the closure validation, is covered in the environmental liabilities risk assessment (ELRA).

5. COST OF THE CLOSURE RESTORATION AND AFTERCARE MANAGEMENT PLAN

The costs of each part of the CRAMP are listed in the appropriate tables and summarised in Table 5.

4. AFTERCARE MANAGEMENT

It is not envisaged that once the validation is complete there will be any need for after care. The potential of environmental contamination of a waste transfer facility is limited to the material that has been removed and the facility has been closed. The possibility of future pollution exists.

Appendix 8:

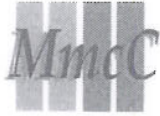
Bund and pipeline test reports and location map.

The bund is located to the north of the site and the receiving water and adjacent to a further two years. The cost of the (£1,200) is included in the cost estimate.

It is assumed for the purpose of the GRAMP, that no signs of pollution are found. The possibility of there being existing pollution, which is not detected at the time of the closure validation, is covered in the environmental impact risk assessment (EIRA).

5. COST OF THE CLOSURE RESTORATION AND AFTERCARE MANAGEMENT PLAN

The cost of each part of the GRAMP are listed in the appropriate tables and summarised in Table 7.



Murphy McCarthy Consulting Engineers Ltd.

Unit D, Marina Commercial Park, Centre Park Road, Cork.
Telephone: 021-4317992 Fax: 021-4311410 Email: murrmac@iol.ie

• Consulting Engineers • Project Management • Cost Control • Environmental Consultants

AVR-SAFEWAY WAREHOUSING LIMITED

CORRIN

FERMOY


CO CORK

TO WHOM IT MAY CONCERN

I confirm that I tested Store No. 1 at the Transfer Station on January 8, 2009 and I certify that it passed the test for liquid retention on January 9, 2009 after twenty four hours.

Site Map attached.

Signed: _____


Barry Gould
Murphy McCarthy Limited

January 9, 2009

Tim Murphy, BE C. Eng. F.I.E.I. John McCarthy, BE C. Eng. F.I.E.I.



Murphy McCarthy Consulting Engineers Ltd.

Unit D, Marina Commercial Park, Centre Park Road, Cork.
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CORRIN

FERMOY

CO CORK

TO WHOM IT MAY CONCERN

I confirm that I tested Bund D, Store No. 2 and lorry wash bays at the Transfer Station on November 28, 2008 and I certify that they passed the test for liquid retention on December 1, 2008 after sixty four hours.

Site Map attached.

Signed: _____

Barry Gould
Murphy McCarthy Limited

December 2, 2008

Tim Murphy, BE C. Eng. F.I.E.I. John McCarthy, BE C. Eng. F.I.E.I.



Murphy McCarthy Consulting Engineers Ltd.

Unit D, Marina Commercial Park, Centre Park Road, Cork.
Telephone: 021-4317992 Fax: 021-4311410 Email: murmac@iol.ie

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CORRIN

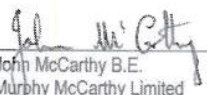
FERMOY

CO CORK

TO WHOM IT MAY CONCERN

I confirm that I tested Bund A at the Transfer Station on August 18, 2008 and I certify that it passed the test for liquid retention on August 19, 2008 after twenty four hours.

Site Map attached.

Signed: 
John McCarthy B.E.
Murphy McCarthy Limited

August 20, 2008

Tim Murphy BE C. Eng. F.I.E.I. John McCarthy, BE C. Eng. F.I.E.I.



Murphy McCarthy Consulting Engineers Ltd.

Unit D, Marina Commercial Park, Centre Park Road, Cork.
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FERMOY


CO CORK

TO WHOM IT MAY CONCERN

I confirm that I tested Bunds B and C at the Transfer Station on August 25, 2008 and I certify that they passed the test for liquid retention on August 26, 2008 after twenty four hours.

Site Map attached.

Signed: _____


Barry Gould
Murphy McCarthy Limited

August 26, 2008

Tim Murphy, BE C, Eng, F.I.E.I. John McCarthy, BE C, Eng, F.I.E.I.



Murphy McCarthy Consulting Engineers Ltd.

Unit D, Marina Commercial Park, Centre Park Road, Cork.
Telephone: 021-4317992 Fax: 021-4311410 Email: murmac@iol.ie

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AVR-SAFEWAY WAREHOUSING LIMITED

CORRIN

FERMOY

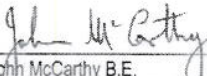
CO CORK

TO WHOM IT MAY CONCERN

I confirm that I tested Bund E and Bund F at the Transfer Station on July 22, 2008 and I certify that they passed the test for liquid retention on July 23, 2008 after twenty four hours.

Reference Drawing No. 97037-01, Revision F.

Signed:


John McCarthy B.E.
Murphy McCarthy Limited

July 24, 2008

Tim Murphy, BE C. Eng, F.I.E.I. John McCarthy, BE C. Eng, F.I.E.I.



Murphy McCarthy Consulting Engineers Ltd.

Unit D, Marina Commercial Park, Centre Park Road, Cork.
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CO CORK

TO WHOM IT MAY CONCERN

I confirm that I tested Bund L at the Transfer Station and I certify that the bund passed the test for liquid retention on the following day:-

Bund L June 14, 2008

Reference Drawing No. 97037-01, Revision F.

Signed:


John McCarthy B.E.
Murphy McCarthy Limited

June 16, 2008

Tim Murphy, BE C, Eng. F.I.E.I. John McCarthy, BE C, Eng. F.I.E.I.



Murphy McCarthy Consulting Engineers Ltd.

Unit D, Marina Commercial Park, Centre Park Road, Cork.
Telephone: 021-4317992 Fax: 021-4311410 Email: murmac@iol.ie

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Mr Stephen Linehan
AVR-Safeway Warehousing Limited
Carrin
Fermoy
Co Cork

June 16, 2008

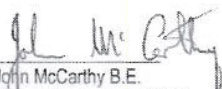
Re: Testing of Bund L

Dear Stephen,

I enclose Certificate that Bund L passed the liquid test for retention after eighteen hours of testing.

Hoping this will meet with your requirements.

Yours sincerely,


John McCarthy B.E.
Murphy McCarthy Limited

Encl.

Tim Murphy, BE C. Eng. F.I.E.I. John McCarthy, BE C. Eng. F.I.E.I.



Murphy McCarthy Consulting Engineers Ltd.

Unit D, Marina Commercial Park, Centre Park Road, Cork.
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CORRIN

FERMOY


CO CORK

TO WHOM IT MAY CONCERN

I confirm that I tested the following bunds at the Transfer Station and I certify that the bunds passed the test for liquid retention on the following dates:-

Bund K April 15, 2008
Bund N April 15, 2008

Reference Drawing No. 97037-01, Revision F.

Signed: 
John McCarthy B.E.
Murphy McCarthy Limited

April 15, 2008

Tim Murphy, BE C. Eng. F.I.E.I. John McCarthy, BE C. Eng. F.I.E.I.



Murphy McCarthy Consulting Engineers Ltd.

Unit D, Marina Commercial Park, Centre Park Road, Cork.
Telephone: 021-4317992 Fax: 021-4311410 Email: murmac@iol.ie

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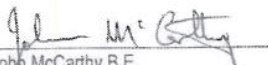
CO CORK

TO WHOM IT MAY CONCERN

I confirm that I tested Retention Tank A and Retention Tank B at the Transfer Station on July 14, 2008 and I certify that they passed the test for liquid retention on July 15, 2008 after twenty four hours.

Reference Drawing No. 97037-01, Revision F.

Signed:


John McCarthy B.E.
Murphy McCarthy Limited

July 16, 2008

Tim Murphy, BE C, Eng, F.I.E.I. John McCarthy, BE C, Eng, F.I.E.I.



Murphy McCarthy Consulting Engineers Ltd.

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FERMOY

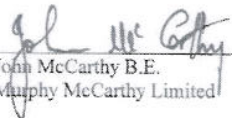
CO CORK

TO WHOM IT MAY CONCERN

I confirm that I tested the following bunds at the Transfer Station and I certify that the bunds passed the test for liquid retention on the following dates:-

Bund R September 7, 2006
Bund M September 7, 2006

Reference Drawing No. 97037-01, Revision E

Signed: 
John McCarthy B.E.
Murphy McCarthy Limited

October 3, 2006

Tim Murphy, BE C. Eng. F.I.E.I. John McCarthy, BE C. Eng. F.I.E.I.



Murphy McCarthy Consulting Engineers Ltd.

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CO CORK

TO WHOM IT MAY CONCERN

I confirm that I tested the newly constructed extension to Bund M at the Transfer Station and I certify that the bund passed the test for liquid retention on February 8, 2008.

Reference Drawing No. 97037-01, Revision F.

Signed: 
John McCarthy B.E.
Murphy McCarthy Limited

February 12, 2008

Tim Murphy, BE C, Eng, F.I.E.I. John McCarthy, BE C, Eng, F.I.E.I.



Murphy McCarthy Consulting Engineers Ltd.

Unit D, Marina Commercial Park, Centre Park Road, Cork.
Telephone: 021-4317992 Fax: 021-4311410 Email: murrnac@iol.ie

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AVR Safeway Warehousing
Corrin
Fermoy
Co Cork

January 8, 2008

Attn: Mr Noel Coleman

Re: **Bund Testing**

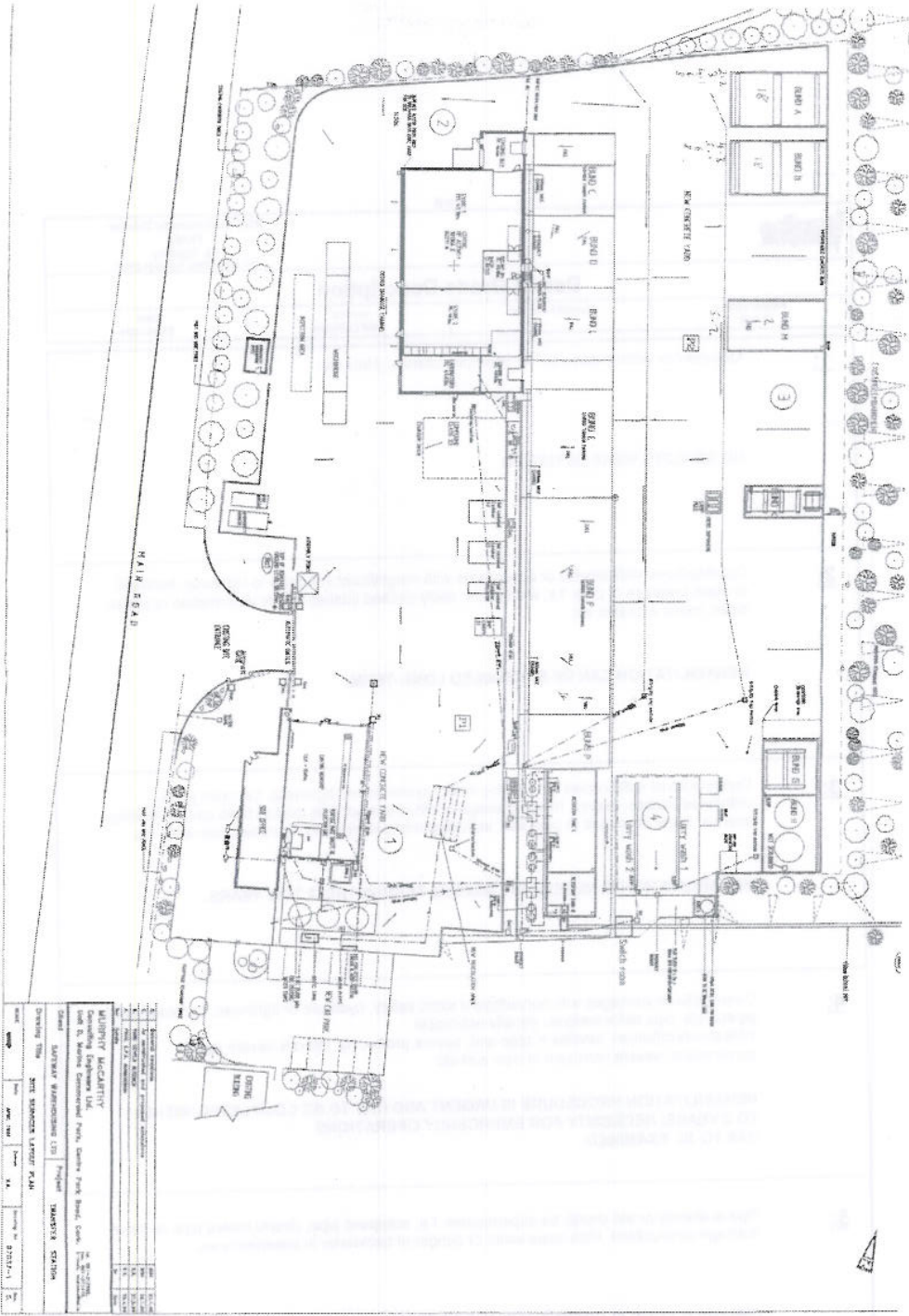
Dear Sir,

As you requested, I can confirm that all testing and inspection of bunds, bunded floors, pits, etc., is carried out in compliance with BS8007 1987 Section 9.

Yours faithfully,

Barry Gould
Murphy McCarthy Limited

Tim Murphy, BE, C. Eng, F.I.E.E. John McCarthy, BE, C. Eng, F.I.E.E.



NO.	REVISION	DATE	BY	CHKD.	APP'D.
1	ISSUED FOR PERMIT	10/10/11
2
3
4
5

CLIENT INFORMATION

CLIENT: **MINISTRY OF EDUCATION**
 PROJECT: **Building Expansion for ...**
 ADDRESS: **...**

DESIGNER INFORMATION

DESIGNER: **SAHARAH ENGINEERING LTD**
 PROJECT: **SAHARAH ENGINEERING**
 ADDRESS: **...**

DATE: 10/10/11



Defect Grade Description

Project name:
AVR

Contract number:

Contact:
Noel Coleman

Date:
09/01/2008

1: Occurrences without damage: for example, laterals, joints etc.

NO DEFECTS WERE DETECTED.

2: Constructional deficiencies or occurrences with insignificant influence to tightness, hydraulic or static pressure of pipe: f.e. wide joints, badly torched intakes, minor deformation of plastic pipes, minor erosions etc.

REHABILITATION CAN BE SCHEDULED LONG-TERM.

3: Constructional deficiencies diminishing static, hydraulic and tightness: f.e. open joints, untorched intakes, cracks, minor drainage obstructions such as calcide build ups, protruding laterals, minor damages to pipe wall, individual root penetrations, corroded pipe walls etc.

REHABILITATION IS NECESSARY MEDIUM-TERM WITHIN 3 TO 5 YEARS.

4: Constructional damages with nonsufficient static safety, hydraulic or tightness: f.e. axial/radial pipebursts, pipe deformations, visually noticeable infiltration/exfiltration, cavities in pipe-wall, severe protruding, laterals severe root penetrations, severe corrosion of pipe wall etc.

REHABILITATION PROCEDURE IS URGENT AND HAS TO BE COMPLETED WITHIN 1 TO 2 YEARS. NECESSITY FOR EMERGENCY OPERATIONS HAS TO BE EXAMINED.

5: Pipe is already or will shortly be impermeable: f.e. collapsed pipe, deeply rooted pipe or other drainage obstructions. Pipe loses water or danger of backwater in basements etc.

REHABILITATION IS URGENT AND SHORT-TERM. IN ORDER TO PREVENT FURTHER DAMAGE, NECESSARY TEMPORARY SPOT REPAIR HAS TO BE CONDUCTED ON EMERGENCY LEVEL.

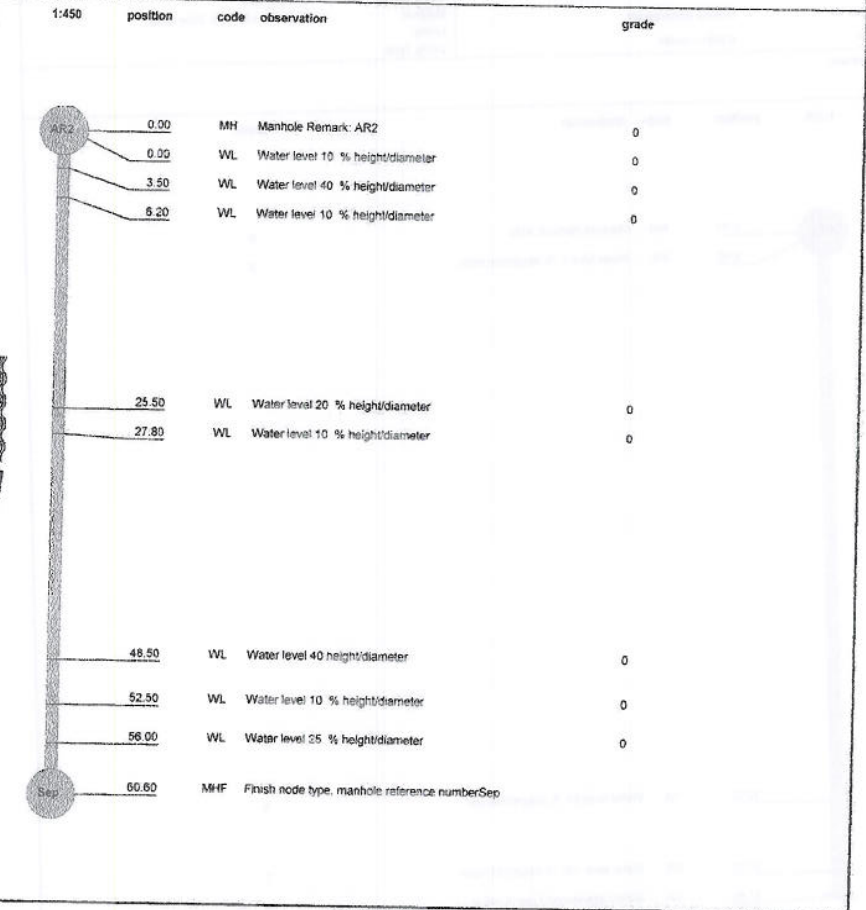
AVR

		AQS Environmental Solution Thurles Co. Tipperary Tel: 0504 57800, Fax: 0504 57801			
Inspection report					
Date: 09/01/2008	Job N°:	Weather: Rain	Operator: Colin	section number: 1	PLR: AR2 X
Insp. Method: CCTV	Flow Ctrl: No flow control	Temperature: above freezing	Year laid:	Cleaned: Yes	Strat. Drain:

Road: Fermoy	Div/Dist:	start MH: AR2
Place: AVR	Drain Area:	end MH: Sep
Location: Property with buildings	Standard: BS EN 13508-2:2003	Total length: 60.6 m

Purpose: Routine inspection of condition	Size/Shape: Circular 225
Type: Gravity drain/sewer	Material: Polyvinyl chloride Pipe length.
Use: Surface water	Lining: Lining Type:

Comment:





AVR

AQS Environmental Solution
Thurles
Co. Tipperary
Tel: 0504 57900, Fax: 0504 57801

Inspection report

Date: 09/01/2008	Job N°:	Weather: Rain	Operator: Colin	section number: 2	PLR: AR3 X
insp. Method: CCTV	Flow Cnt: No flow control	Temperature: above freezing	Year laid:	Cleared:	Strat. Drain:

Road: Fermoy	Div/Dist.:	start MH: AR3
Place: AVR	Drain. Area:	end MH: Sep
Location: Property with buildings	Standard: BS EN 13808-2:2003	Total length: 37.4 m

Purpose: Routine inspection of condition	Size/Shape: Circular 225
Type: Gravity drain/sewer	Material: Polyvinyl chloride
Use: Surface water	Lining Type: Pipe length

Comment:

1:275	position	code	observation	grade
	0.00	MH	Manhole Remark: AR3	0
	0.00	WL	Water level 5 % height/diameter	0
	32.00	WL	Water level 25 % height/diameter	0
	36.00	WL	Water level 100 % height/diameter	0
	37.40	SA	Survey abandoned Loss of vision	0

AVR



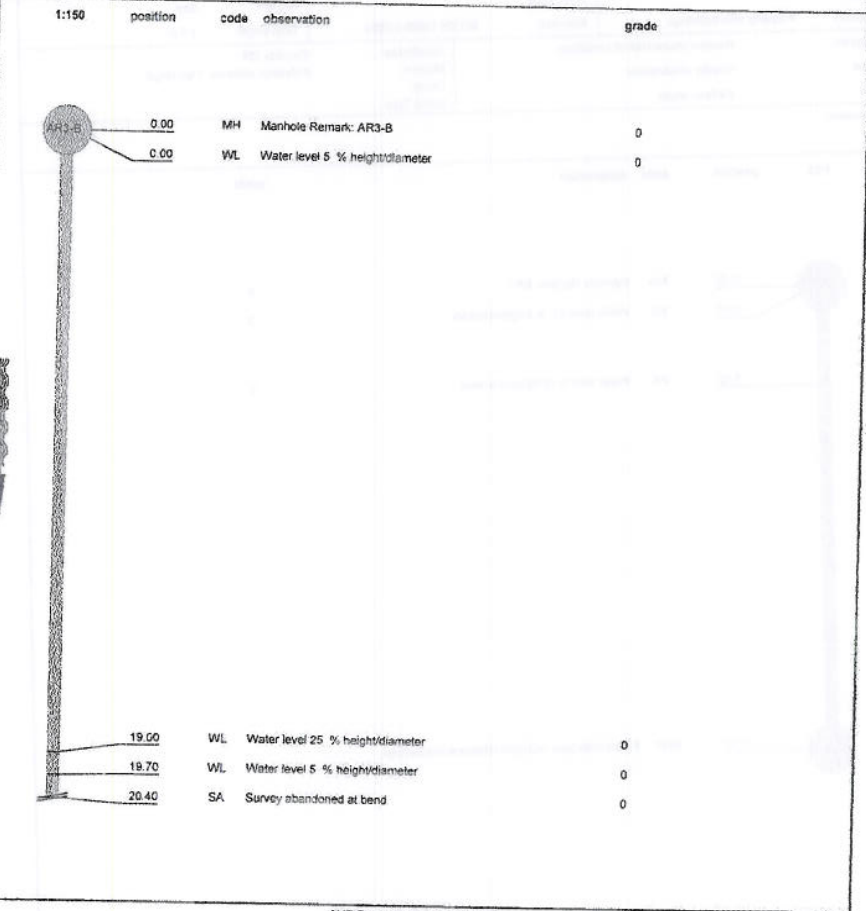
AQS Environmental Solution
Thurles
Co. Tipperary
Tel: 0504 57800, Fax: 0504 57801

Inspection report

Date: 09/01/2008	Job N°:	Weather: Rain	Operator: Collin	section number: 3	PLR: AR3-B X
Insp. Method: CCTV	Flow Crt: No flow control	Temperature: above freezing	Year laid:	Cleaned:	Strat. Drain:

Road: Fermoy	Div/Dist:	start MH: AR3-B
Place: AVR	Drain. Area:	end MH: Sep
Location: Property with buildings	Standard: BS EN 13508-2:2003	Total length: 20.4 m
Purpose: Routine inspection of condition	Size/Shape: Circular 225	
Type: Gravity drain/sewer	Material: Polyvinyl chloride	Pipe length:
Use: Surface water	Lining: Lining Type:	

Comment:

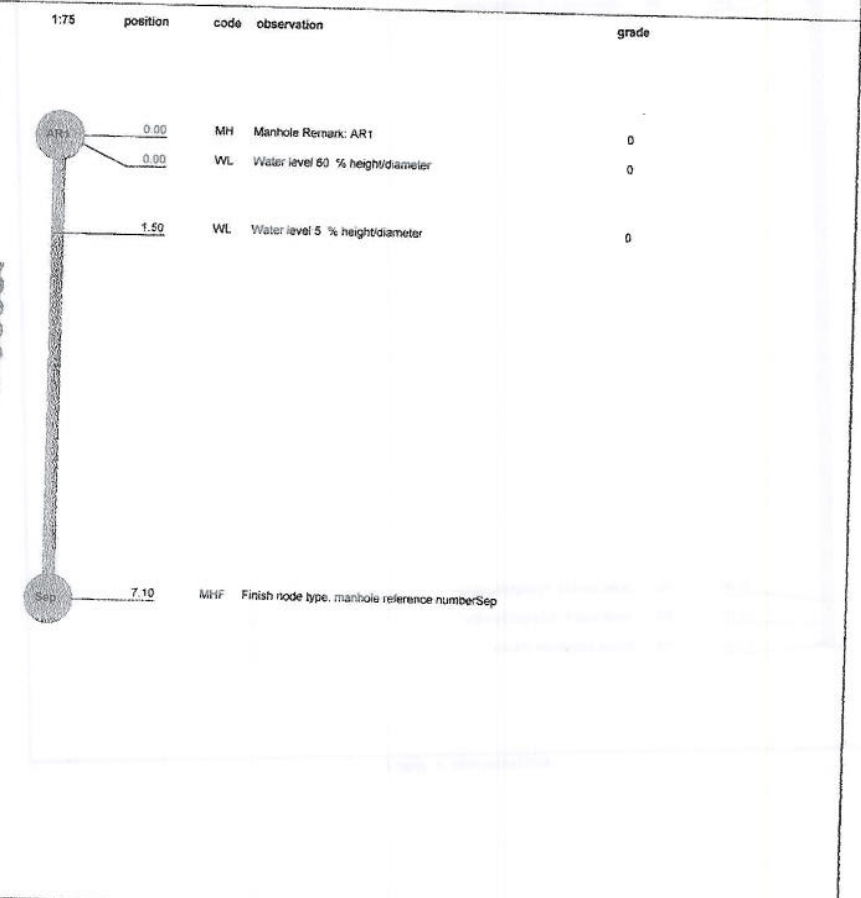


AVR Fermoy.mdb // page: 5

AVR

Waco		AQS Environmental Solution Thurles Co. Tipperary Tel: 0504 57800 Fax: 0504 57801			
Inspection report					
Date: 09/01/2008	Job N°:	Weather: Rain	Operator: Cofin	section number: 4	PLR: AR1 X
Insp. Method: CCTV	Flow Cbt: No flow control	Temperature: above freezing	Year laid:	Cleaned:	Strat. Drain:

Road: Place: Location:	Fermoy AVR Property with buildings	Div/Dist: Drain Area: Standard:	AR1 Sep BS EN 13508-2:2003	start MH: end MH: Total length:	AR1 Sep 7.1 m
Purpose: Type: Use:	Routine inspection of condition Gravity drain/sewer Surface water	Size/Shape: Material: Lining: Lining Type:	Circular 225 Polyvinyl chloride Pipe length:		
Comment:					



AVR Fermoy.mdb // page: 6



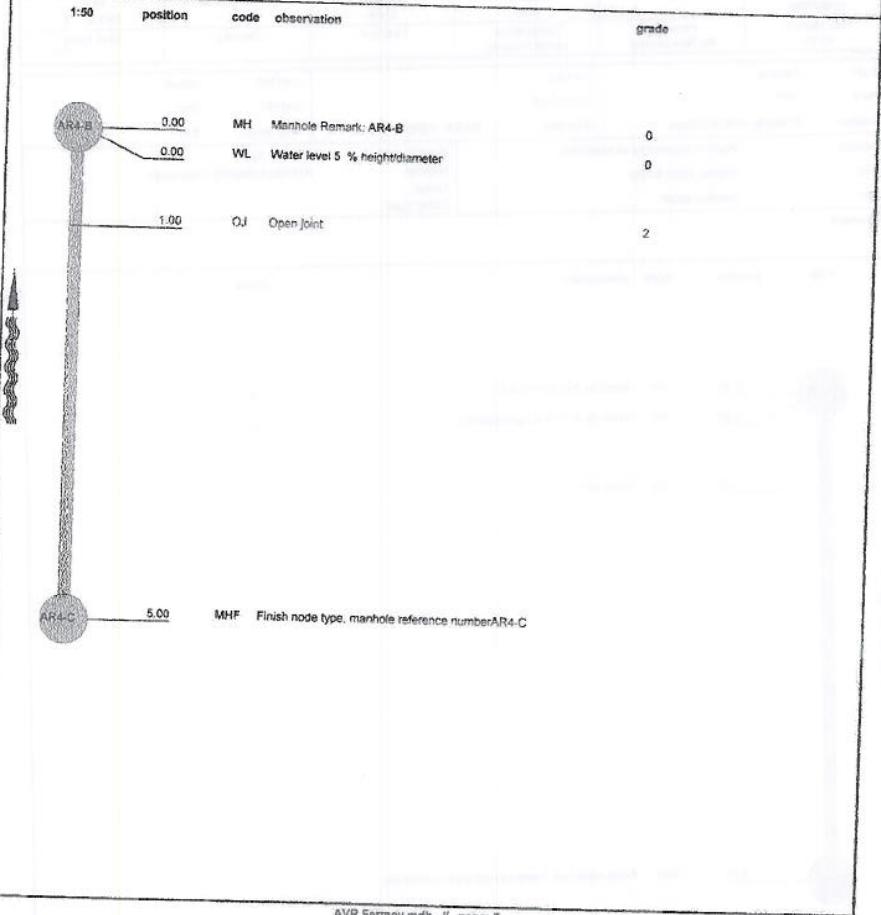
AQS Environmental Solution
 Thurles
 Co. Tipperary
 Tel: 0504 57800, Fax: 0504 57801

Inspection report

Date: 09/01/2008	Job N°:	Weather: Rain	Operator: Collin	section number: 5	PLR: AR4-C X
Insp. Method: CCTV	Flow Cnt: No flow control	Temperature: above freezing	Year laid:	Cleaned:	Strat. Drain:

Road: Fermoy	Div/Dist:	start MH: AR4-B
Place: AVR	Drain. Area:	end MH: AR4-C
Location: Property with buildings	Standard: BS EN 13508-2:2003	Total length: 5 m
Purpose: Routine inspection of condition	Size/Shape: Circular 225	Pipe length:
Type: Gravity drain/sewer	Material: Polyvinyl chloride	
Use: Surface water	Lining: Lining Type:	

Comment:



AVR

WATER **AQS Environmental Solution**
Thurles
Co. Tipperary
Tel: 0504 97800, Fax: 0504 57801

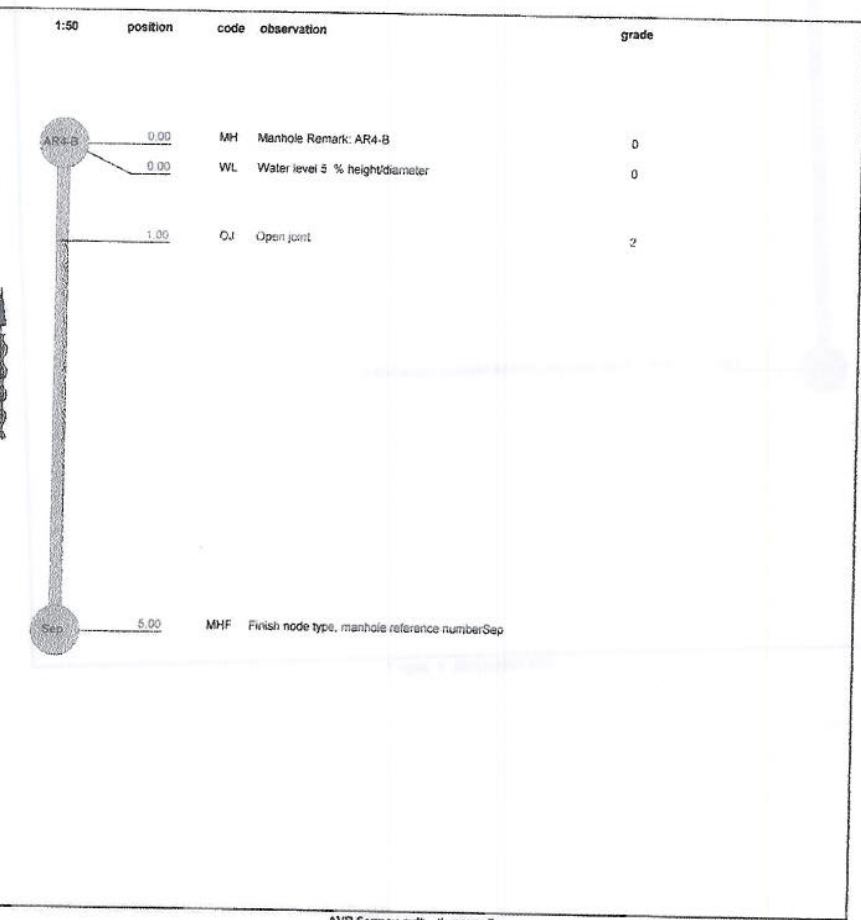
Inspection report

Date: 09/01/2008	Job N°:	Weather: Rain	Operator: Colin	section number: 5	PLR: AR4-B X
Insp. Method: CCTV	Flow Cnt: No flow control	Temperature: above freezing	Year laid:	Cleaned:	Strat. Drain:

Road: Fermoy	Div/Dist:	start MH: AR4-B
Place: AVR	Drain Area:	end MH: Sep
Location: Property with buildings	Standard: BS EN 13508-2:2003	Total length: 5 m

Purpose: Routine inspection of condition	Size/Shape: Circular 225
Type: Gravity drain/sewer	Material: Polyvinyl chloride
Use: Surface water	Lining: Pipe length:
	Lining Type:

Comment:



AVR Fermoy.mdb // page: 7

AVR

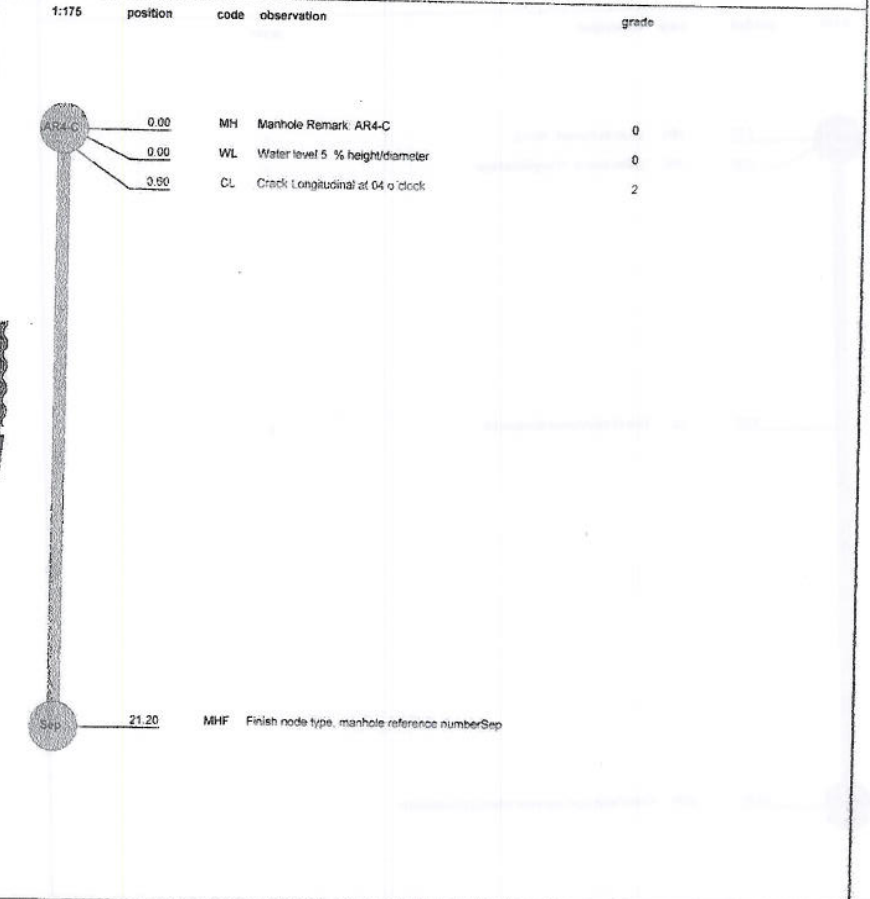
Inspection report














Date: 09/01/2008	Job N°:	Weather: Rain	Operator: Colin	section number: 6	PLR: AR4-C X
Insp. Method: CCTV	Flow Ctrl: No flow control	Temperature: above freezing	Year laid:	Cleaned:	Strat. Drain:

Road: Fermoy	Div/Dist:	start MH: AR4-C
Place: AVR	Drain Area:	end MH: Sep
Location: Property with buildings	Standard: BS EN 13508-2:2003	Total length: 21.2 m

Purpose: Routine inspection of condition	Size/Shape: Circular 225
Type: Gravity drain/sewer	Material: Polyvinyl chloride
Use: Surface water	Lining Type: Pipe length:

Comment:



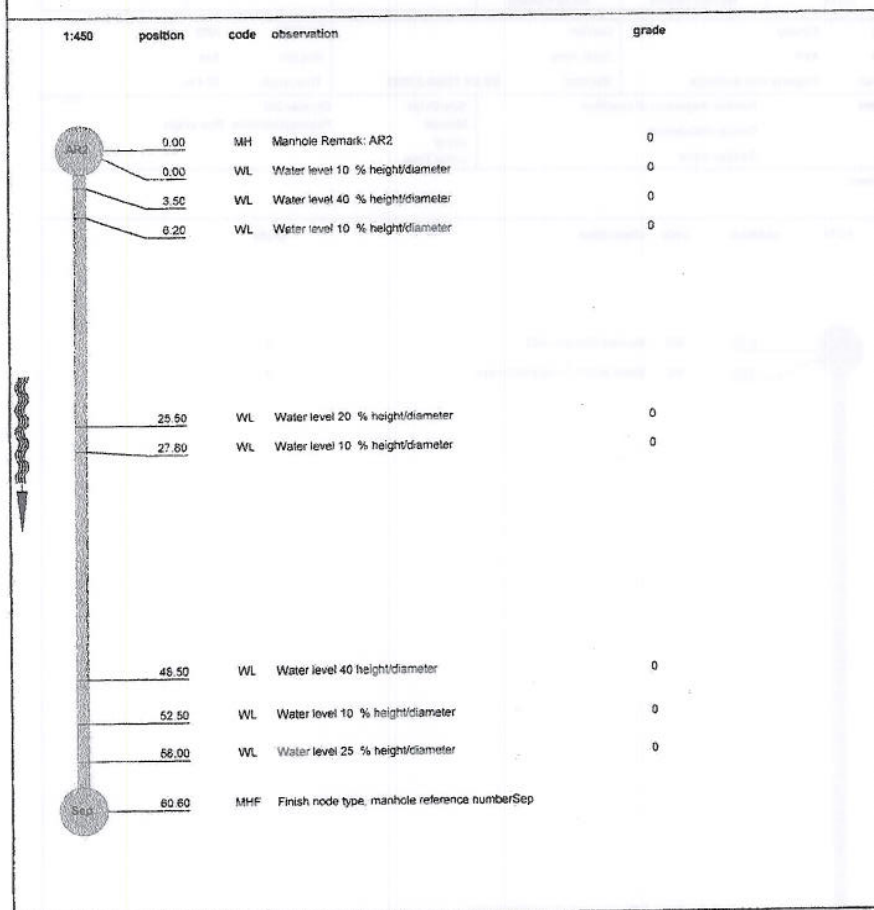
		AQS Environmental Solution Thurles Co. Tipperary Tel: 0524 57800, Fax: 0524 57801																												
Inspection report																														
Date: 09/01/2008	Job N°:	Weather: Rain	Operator: Cofin	section number: 7	PLR: AR4-B X																									
Ins. Method: CCTV	Flow Ctrl: No flow control	Temperature: above freezing	Year laid:	Cleaned:	Strat. Drain:																									
Road: Fermoy	Div/Dist:	start MH: AR4-B																												
Place: AVR	Drain. Area:	end MH: AR4																												
Location: Property with buildings	Standard: BS EN 13508-2:2003	Total length: 20.5 m																												
Purpose: Routine inspection of condition	Size/Shape: Circular 225	Material: Polyvinyl chloride Pipe length																												
Type: Gravity drain/sewer	Lining: Lining Type:																													
Use: Surface water																														
Comment:																														
<table border="1"> <thead> <tr> <th>1:150</th> <th>position</th> <th>code</th> <th>observation</th> <th>grade</th> </tr> </thead> <tbody> <tr> <td></td> <td>0.00</td> <td>MH</td> <td>Manhole Remark: AR4-B</td> <td>0</td> </tr> <tr> <td></td> <td>0.00</td> <td>WL</td> <td>Water level 5 % height/diameter</td> <td>0</td> </tr> <tr> <td></td> <td>8.00</td> <td>LL</td> <td>Line of drain/sewer deviates left</td> <td>0</td> </tr> <tr> <td></td> <td>20.50</td> <td>MHF</td> <td>Finish node type, manhole reference number AR4</td> <td></td> </tr> </tbody> </table>						1:150	position	code	observation	grade		0.00	MH	Manhole Remark: AR4-B	0		0.00	WL	Water level 5 % height/diameter	0		8.00	LL	Line of drain/sewer deviates left	0		20.50	MHF	Finish node type, manhole reference number AR4	
1:150	position	code	observation	grade																										
	0.00	MH	Manhole Remark: AR4-B	0																										
	0.00	WL	Water level 5 % height/diameter	0																										
	8.00	LL	Line of drain/sewer deviates left	0																										
	20.50	MHF	Finish node type, manhole reference number AR4																											

Inspection report

Date: 09/11/2008	Job N°:	Weather: Rain	Operator: Collin	section number: 1	PLR: AR2 X
insp. Method: CCTV	Flow Ctrl: No flow control	Temperature: above freezing	Year laid:	Cleaned: Yes	Stral. Drain:


Road: Fermoy	Div/Dist:	start MH: AR2
Place: AVR	Drain Area:	end MH: Sep
Location: Property with buildings	Standard: BS EN 13508-2:2003	Total length: 60.6 m
Purpose: Routine inspection of condition	Size/Shape: Circular 225	
Type: Gravity drain/sewer	Material: Polyvinyl chloride	Pipe length:
Use: Surface water	Lining: Lining Type:	

Comment:



AVR Fermoy.mdb // page: 3

AVR

	AQS Environmental Solution Thurles Co. Tipperary Tel: 0504 57800, Fax: 0504 57801
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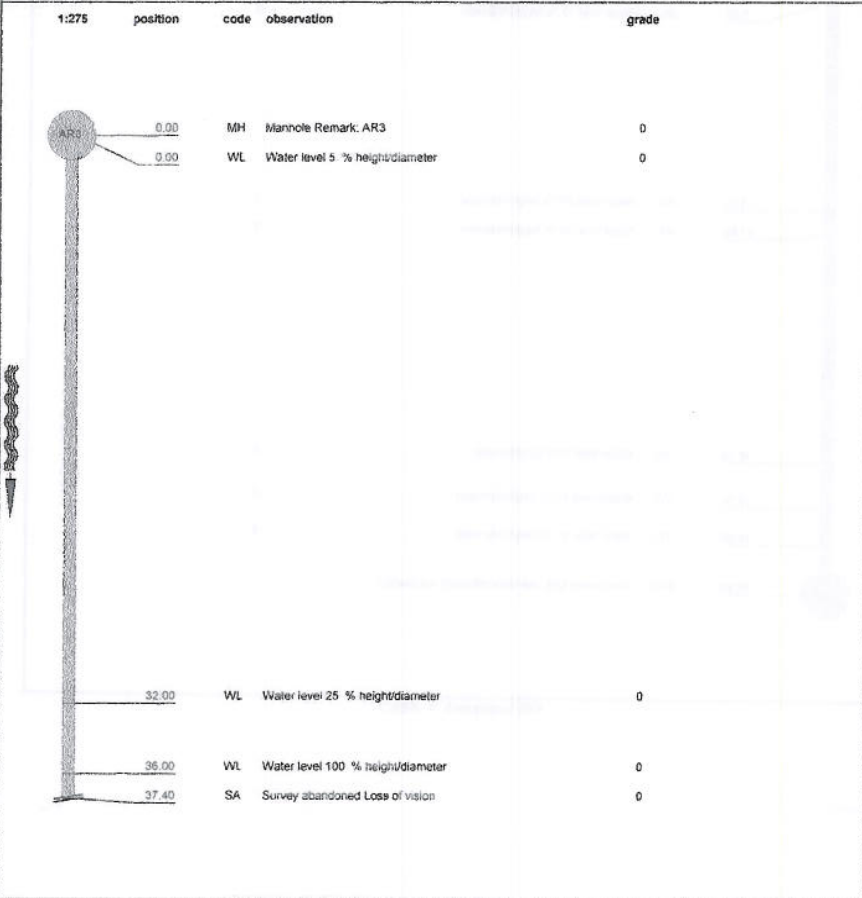
Inspection report

Date: 09/01/2008	Job N°:	Weather: Rain	Operator: Colin	section number: 2	PLR: AR3 X
Insp. Method: CCTV	Flow Cbt: No flow control	Temperature: above freezing	Year laid:	Cleaned:	Strat. Drain:

Road: Fermoy	Div/Dist:	start MH: AR3
Place: AVR	Drain. Area:	end MH: Sep
Location: Property with buildings	Standard: BS EN 13508-2:2003	Total length: 37.4 m

Purpose: Routine inspection of condition	Size/Shape: Circular 225
Type: Gravity drain/sewer	Material: Polyvinyl chloride
Use: Surface water	Lining Type:

Comment:



AVR

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 Thurles
 Co. Tipperary
 Tel: 0504 57803 Fax: 0504 57801



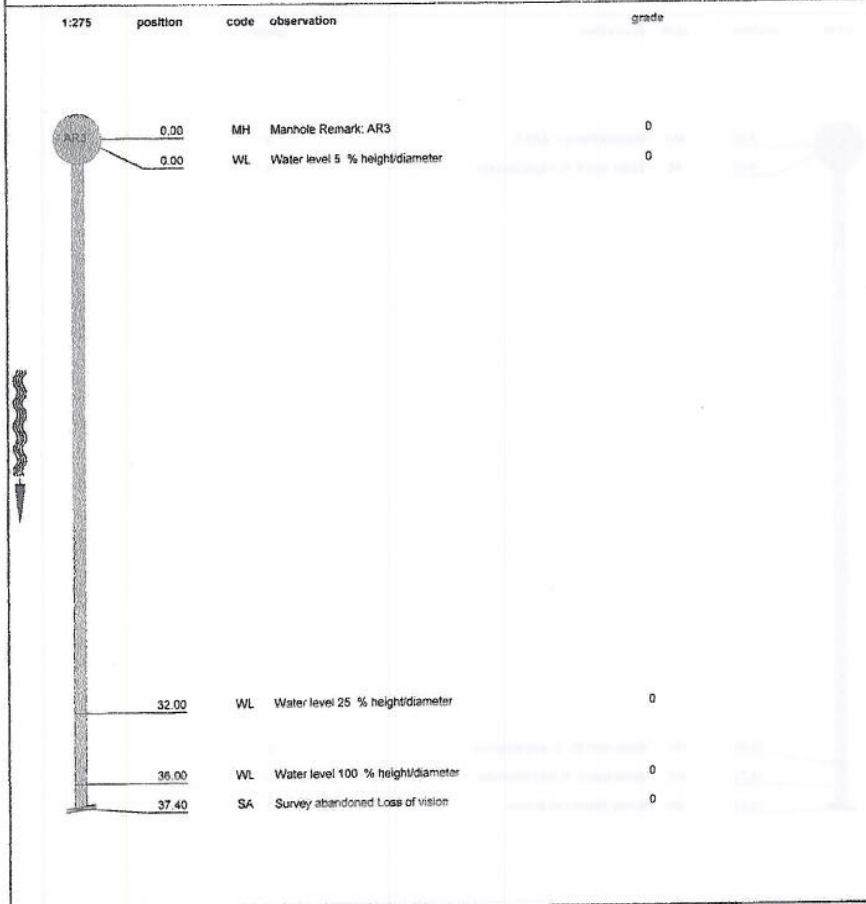
Inspection report

Date: 09/01/2008	Job N°:	Weather: Rain	Operator: Collin	section number: 2	PLR: AR3 X
Insp. Method: CCTV	Flow Cbr: No flow control	Temperature: above freezing	Year laid:	Cleaned:	Strat. Drain:


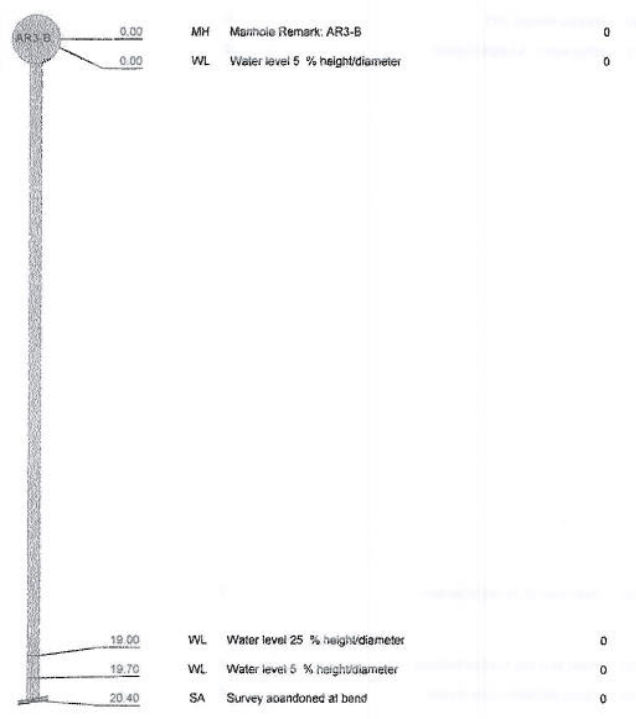
Road: Fermoy	Div/Diet:	start MH: AR3
Place: AVR	Drain Area:	end MH: Sep
Location: Property with buildings	Standard: BS EN 13508-2:2003	Total length: 37.4 m


Purpose: Routine inspection of condition	Size/Shape: Circular 225
Type: Gravity drain/sewer	Material: Polyvinyl chloride
Use: Surface water	Lining Type: Pipe length:

Comment:




AVR Fermoy.mdb // page: 4

		AQS Environmental Solution Thurles Co. Tipperary Tel: 0504 57800, Fax: 0504 57801																																	
Inspection report																																			
Date: 09/01/2008	Job N°:	Weather: Rain	Operator: Collin	section number: 3	PLR: AR3-B X																														
Insp. Method: CCTV	Flow Ctrl: No flow control	Temperature: above freezing	Year laid:	Cleaned	Strat. Drain:																														
Road: Place: Location:	Fermoy AVR Property with buildings	Div/Dist: Drain Area: Standard:		start MH: end MH: Total length:	AR3-B Sep 20.4 m																														
Purpose: Type: Use:	Routine inspection of condition Gravity drain/sewer Surface water	Size/Shape: Material: Lining: Lining Type:		Circular 225 Polyvinyl chloride Pipe length																															
Comment																																			
<table border="1"> <thead> <tr> <th>1:150</th> <th>position</th> <th>code</th> <th>observation</th> <th>grade</th> </tr> </thead> <tbody> <tr> <td></td> <td>0.00</td> <td>MH</td> <td>Manhole Remark: AR3-B</td> <td>0</td> </tr> <tr> <td></td> <td>0.00</td> <td>WL</td> <td>Water level 5 % height/diameter</td> <td>0</td> </tr> <tr> <td></td> <td>19.00</td> <td>WL</td> <td>Water level 25 % height/diameter</td> <td>0</td> </tr> <tr> <td></td> <td>19.70</td> <td>WL</td> <td>Water level 5 % height/diameter</td> <td>0</td> </tr> <tr> <td></td> <td>20.40</td> <td>SA</td> <td>Survey abandoned at bend</td> <td>0</td> </tr> </tbody> </table> 						1:150	position	code	observation	grade		0.00	MH	Manhole Remark: AR3-B	0		0.00	WL	Water level 5 % height/diameter	0		19.00	WL	Water level 25 % height/diameter	0		19.70	WL	Water level 5 % height/diameter	0		20.40	SA	Survey abandoned at bend	0
1:150	position	code	observation	grade																															
	0.00	MH	Manhole Remark: AR3-B	0																															
	0.00	WL	Water level 5 % height/diameter	0																															
	19.00	WL	Water level 25 % height/diameter	0																															
	19.70	WL	Water level 5 % height/diameter	0																															
	20.40	SA	Survey abandoned at bend	0																															

		AQS Environmental Solution Thurles Co. Tipperary Tel: 0504 57900, Fax: 0504 57901																												
Inspection report																														
Date: 08/01/2008	Job N°:	Weather: Rain	Operator: Colin	section number: 4	PLR: AR1 <input checked="" type="checkbox"/>																									
Insp. Method: CCTV	Flow Ctrl: No flow control	Temperature: above freezing	Year laid:	Cleaned:	Strat. Drain:																									
Road: Fermoy	Div/Dist: Drain. Area.	start MH: AR1																												
Place: AVR	Standard: BS EN 13508-2:2003	end MH: Sep																												
Location: Property with buildings	Total length: 7.1 m																													
Purpose: Routine inspection of condition	Size/Shape: Circular 225																													
Type: Gravity drain/sewer	Material: Polyvinyl chloride	Pipe length.																												
Use: Surface water	Lining Type:																													
Comment:																														
<table border="1"> <thead> <tr> <th>1:75</th> <th>position</th> <th>code</th> <th>observation</th> <th>grade</th> </tr> </thead> <tbody> <tr> <td></td> <td>0.00</td> <td>MH</td> <td>Manhole Remark: AR1</td> <td>0</td> </tr> <tr> <td></td> <td>0.00</td> <td>WL</td> <td>Water level 60 % height/diameter</td> <td>0</td> </tr> <tr> <td></td> <td>1.50</td> <td>WL</td> <td>Water level 5 % height/diameter</td> <td>0</td> </tr> <tr> <td></td> <td>7.10</td> <td>MHF</td> <td>Finish node type, manhole reference numberSep</td> <td></td> </tr> </tbody> </table>						1:75	position	code	observation	grade		0.00	MH	Manhole Remark: AR1	0		0.00	WL	Water level 60 % height/diameter	0		1.50	WL	Water level 5 % height/diameter	0		7.10	MHF	Finish node type, manhole reference numberSep	
1:75	position	code	observation	grade																										
	0.00	MH	Manhole Remark: AR1	0																										
	0.00	WL	Water level 60 % height/diameter	0																										
	1.50	WL	Water level 5 % height/diameter	0																										
	7.10	MHF	Finish node type, manhole reference numberSep																											

AVR



AQS Environmental Solution
 Thurles
 Co. Tipperary
 Tel: 0504 57800, Fax: 0504 57801

Inspection report

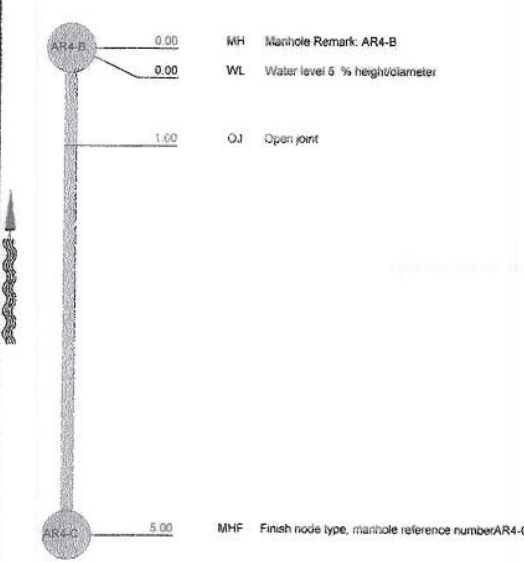
Date: 09/01/2008	Job N°	Weather: Rain	Operator: Collin	section number: 5	PLR: AR4-C X
Insp. Method: CCTV	Flow Ctr: No flow control	Temperature: above freezing	Year laid:	Cleaned:	Strat. Drain:

Road: Fermoy	Div/Dist:	start MH: AR4-B
Place: AVR	Drain. Area:	end MH: AR4-C
Location: Property with buildings	Standard: BS EN 13508-2:2003	Total length: 5 m

Purpose: Routine inspection of condition	Size/Shape: Circular 225
Type: Gravity drain/sewer	Material: Polyvinyl chloride Pipe length:
Use: Surface water	Lining Lining Type:

Comment:

1:50	position	code	observation	grade
	0.00	MH	Manhole Remark: AR4-B	0
	0.00	WL	Water level 5 % height/diameter	0
	1.00	OJ	Open joint	2
	5.00	MHF	Finish node type, manhole reference number AR4-C	



AVR Fermoy.mdb // page: 7

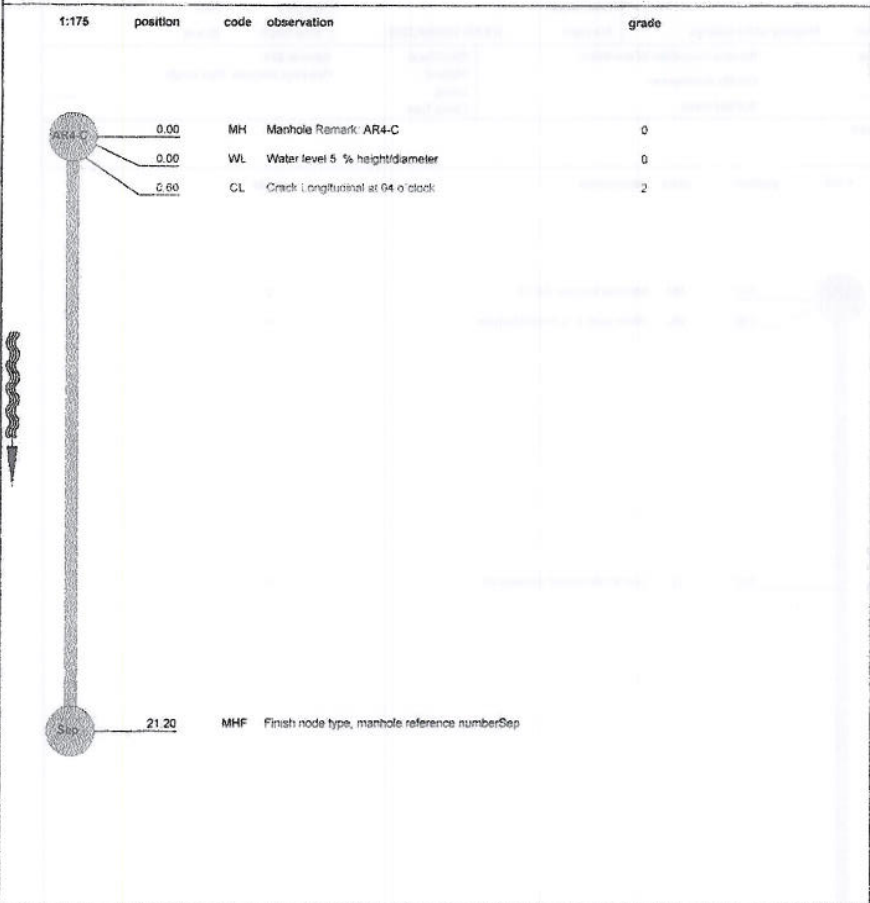
Inspection report

Date: 09/01/2008	Job N°:	Weather: Rain	Operator: Colin	section number: 6	PLR: AR4-C X
Insp. Method: CCTV	Flow Ctrl: No flow control	Temperature: above freezing	Year laid:	Cleaned:	Strat. Drain:














Road: Farmoy	Div/Dist:	start MH: AR4-C
Place: AVR	Drain Area:	end MH: Sep
Location: Property with buildings	Standard: BS EN 13508-2:2003	Total length: 21.2 m

Purpose: Routine inspection of condition	Size/Shape: Circular 225
Type: Gravity drain/sewer	Material: Polyvinyl chloride
Use: Surface water	Lining: Pipe length:
	Lining Type:

Comment:



AVR

		AQS Environmental Solution Thurles Co. Tipperary Tel: 0504 57830, Fax: 0504 57801																												
Inspection report																														
Date: 09/01/2008	Job N°:	Weather: Rain	Operator: Colin	section number: 7	PLR: AR4-B X																									
Insp. Method: CCTV	Flow Ctr: No flow control	Temperature: above freezing	Year laid:	Cleaned:	Strat. Drain:																									
Road: Place: Location:	Fermoy AVR Property with buildings	Div/Dist: Drain Area: Standard:	start MH: AR4-B end MH: AR4 Total length: 20.5 m																											
Purpose: Type: Use:	Routine inspection of condition Gravity drain/sewer Surface water	Size/Shape: Material: Lining: Lining Type:	Circular 225 Polyvinyl chloride Pipe length:																											
Comment:																														
<table border="1"> <thead> <tr> <th>1:150</th> <th>position</th> <th>code</th> <th>observation</th> <th>grade</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>MH</td> <td>Manhole Remark: AR4-B</td> <td>0</td> </tr> <tr> <td></td> <td></td> <td>WL</td> <td>Water level 5 % height/diameter</td> <td>0</td> </tr> <tr> <td></td> <td></td> <td>LL</td> <td>Line of drain/sewer deviates left</td> <td>0</td> </tr> <tr> <td></td> <td></td> <td>MHF</td> <td>Finish node type, manhole reference number AR4</td> <td></td> </tr> </tbody> </table>						1:150	position	code	observation	grade			MH	Manhole Remark: AR4-B	0			WL	Water level 5 % height/diameter	0			LL	Line of drain/sewer deviates left	0			MHF	Finish node type, manhole reference number AR4	
1:150	position	code	observation	grade																										
		MH	Manhole Remark: AR4-B	0																										
		WL	Water level 5 % height/diameter	0																										
		LL	Line of drain/sewer deviates left	0																										
		MHF	Finish node type, manhole reference number AR4																											

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Appendix 9:

Pollution emissions register report 2008

Below are the

Emission Point	Parameter	Emission Limit Value
WCF-1	VOC	10 g/hr
WCF-2	VOC	10 g/hr
WCF-1	HCl	NA
AGS-1	HCl	NA

Below are emissions for listed parameters:

Emission Point	Parameter	Method	Emission/Year
WCF-1	VOC	Calculated	1.514 kg
WCF-2	VOC	Calculated	0.186 kg
WCF-1	HCl	Calculated	Not detected
AGS-1	HCl	Calculated	Not detected

Proposed for 2008:

Emission Point	Parameter	Method	Emission/Year
WCF-1	VOC	Calculated	± 85.4 kg
WCF-2	VOC	Calculated	± 52.4 kg
WCF-1	HCl	Calculated	± 0.01kg
AGS-1	HCl	Calculated	± 0.01 kg

Below are the licensed parameters for all emissions:

Emission Point	Parameter	Emission Limit Value
WSCF-1	VOC	10 g/hr
WSCF-2	VOC	10 g/hr
WSCF-1	HCL	N/A
AGS-1	HCL	N/A

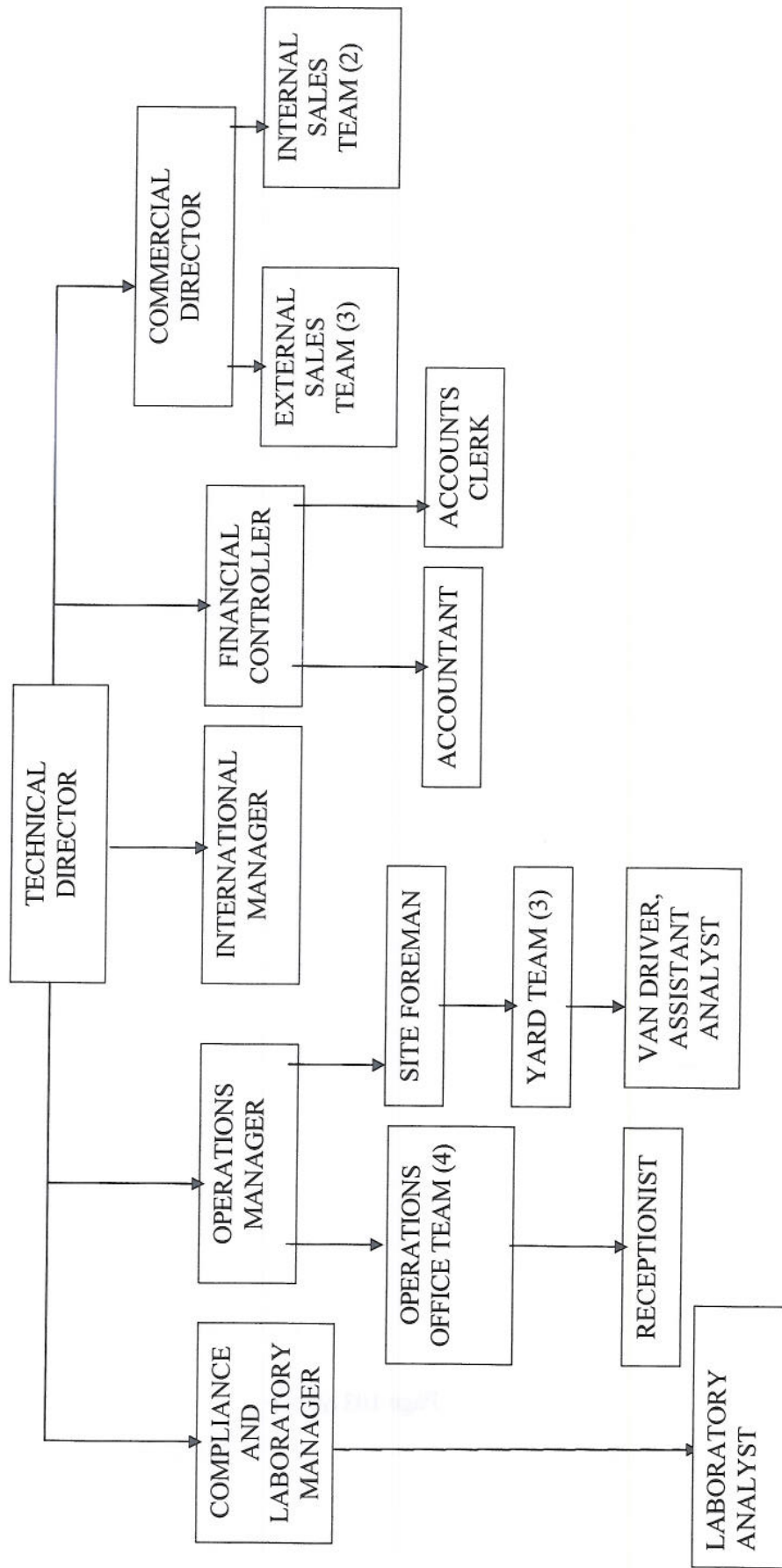
Below are emissions for licensed parameters:

Emission Point	Parameter	Method	Emission/year
WSCF-1	VOC	Calculated	1.514 kg
WSCF-2	VOC	Calculated	0.186 kg
WSCF-1	HCL	Calculated	Not detected
AGS-1	HCL	Calculated	Not detected

Proposal for 2008:

Emission Point	Parameter	Method	Emission/year
WSCF-1	VOC	Calculated	≤ 62.4 kg
WSCF-2	VOC	Calculated	≤ 62.4 kg
WSCF-1	HCL	Calculated	≤ 0.01kg
AGS-1	HCL	Calculated	≤ 0.01 kg

■ The Management Structure



Appendix 11:
Energy efficiency audit.

ENERGY EFFICIENCY AUDIT

PREPARED FOR

AVR-SAFEWAY LTD
CORRIN
PERROY
CO. CORK

BY

THEIR DONS CONSULTING
FAIRHOPÉ
BARNA CLOSE
CROSSHAVEN
CORK
051 483513
087 270222 (Mobile)
their.dons@eircom.net

Summary Report

Issue 18, 2017

ENERGY EFFICIENCY AUDIT

PREPARED FOR

**AVR-SAFEWAY LTD
CORRIN
FERMOY
CO. CORK**

BY

**THISILDOUS CONSULTING
FAIRHOPE
SARNIA CLOSE
CROSSHAVEN
CORK
021 4833628
087 2779362 (Mobile)
thisildous@eircom.net**

Summary Report

June 18th, 2007

ENERGY CONSUMPTION IN 2006

Energy consumed by AVR-Safeway in 2006 is recorded in Table 1. The operation of the new fuel blending facility has significantly increased electricity consumption since its start-up in early 2007.

ENERGY MANAGEMENT

There does not appear to be any emphasis on energy management at AVR-Safety Ltd. The purchase of energy is only a relatively small contributor to the cost of doing business and thus energy efficiency awareness is low. Certain individuals make an effort to save energy by turning off lights, heating etc. However there is no written formal energy policy, no formal delegation of responsibility for energy management, specific monitoring or examination of energy consumption, little promotion of energy efficiency and energy efficiency is a very minor factor when considering new investments. Thus AVR-Safeway is at level 0+ on the Sustainable Energy Ireland's Energy Management Matrix.

INTRODUCTION OF SEI MAP APPROACH TO ENERGY MANAGEMENT

It is proposed that the SEI MAP approach to energy management is adopted by AVR-Safeway.

RECOMMENDATIONS

Seven opportunities for energy saving that could lead to short-term reductions and cost savings are listed in Table 2.

Table 1 - Site Energy Usage			Period - Year 2006
Energy Stream	Annual Quantity	Units	Comments
Electricity Consumed Onsite	213,150	kWh	
Electricity Imported	213,150	kWh	
Electricity Generated Onsite (CHP sites only)	None	kWh	
Natural Gas Total	None	kWh (Gross CV)	
Natural Gas for CHP	None	kWh (Gross CV)	
Gas oil & Diesel	6,260	litre	
LPG	None	litre	
Light Fuel Oil	None	litre	
Medium Fuel Oil	None	litre	
Heavy Fuel Oil	None	litre	
Other – please specify	None		
Table 1 - Site Energy Usage			Period - Year 2006
Energy Stream	Annual Quantity	Units	Comments
Electricity Consumed Onsite	213,150	kWh	
Electricity Imported	213,150	kWh	
Electricity Generated Onsite (CHP sites only)	None	kWh	
Natural Gas Total	None	kWh (Gross CV)	
Natural Gas for CHP	None	kWh (Gross CV)	
Gas oil & Diesel	6,260	litre	
LPG	None	litre	
Light Fuel Oil	None	litre	
Medium Fuel Oil	None	litre	
Heavy Fuel Oil	None	litre	
Other – please specify	None		

Table 2 - Energy Audit Recommendations

Ref	Recommendation	Investment	Predicted Annual Energy Savings		Annual CO2 Emissions Savings [Tonne]	Target Date	Responsibility	Comments
			[kWh]	[€]				
1	Audit site compressed system and renew if viable	High if need to replace compressor	35,000	€3,800	15.6	Oct-07	N. O'Flynn	Depends on findings - Assumes 20% saving
2	Review control of space heating	Nil	10,000	€1,100	4.5	Dec-07	G. Bogue	Assumes 20% saving
3	Lighting efficiency	Medium	22,000	€2,500	9.8	Dec-07	G. Bogue	Assumes a 32% saving
4	Lighting survey	Low	4,600	€500	2.1	Sep-07	G. Bogue	Assumes 10% saving
5	Fit light sensors	Low	2,250	€250	1.0	Jul-07	N. O'Flynn	K. Goggin
6	Gas oil and diesel monitoring programme	Low	6,500	€400	2.9	Dec-07	N. O'Flynn	Assumes 10% saving
7	Install capacitors on 3 phase supply	Low	0	€2,000	0.0	Sep-07	N. O'Flynn	Use S McCarthy

Appendix 12: Complaints.

Year	Complaints received on the complaint handling system	Year	Value	Value	Value	Value	Value	Value	Value	Value
1	Complaints received on the complaint handling system	2015	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
2	Complaints received on the complaint handling system	2016	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000
3	Complaints received on the complaint handling system	2017	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000
4	Complaints received on the complaint handling system	2018	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000
5	Complaints received on the complaint handling system	2019	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000
6	Complaints received on the complaint handling system	2020	22,000	22,000	22,000	22,000	22,000	22,000	22,000	22,000
7	Complaints received on the complaint handling system	2021	25,000	25,000	25,000	25,000	25,000	25,000	25,000	25,000
8	Complaints received on the complaint handling system	2022	28,000	28,000	28,000	28,000	28,000	28,000	28,000	28,000
9	Complaints received on the complaint handling system	2023	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
10	Complaints received on the complaint handling system	2024	32,000	32,000	32,000	32,000	32,000	32,000	32,000	32,000

Table 1 - Complaints received on the complaint handling system

Mr Jim Owers
Corrin Cottage
Corrin Fermoy

23/05/2008

ref230508 JO

Dear Mr. Owers

With regard to the telephone complaint dated 11th February 2008 from you to Peter Cunningham, EPA sent to us on the 14th of May 2008 relating to an odour detected, I have reviewed our fugitive emissions monitoring reports from the 11th of Feb. The monitoring was carried out between 14.08 and 17.19 and nothing unusual was detected. Monitoring was not being carried out between 12.20 and 14.08 however I have consulted with our Operations Dept. and they inform me that the site was operating as normal.

Regarding the high pitched noise, this can be attributed to the pressure testing of tankers by SouthCoast transport Ltd who carries out this work on the AVR-Safeway site. The test involves pumping air into a clean tanker up to a given pressure and once the tank is shown to be able to withstand the given pressure for a period of time the air, under pressure, is released to the atmosphere through a valve on the tank. This creates the sound you heard. As South Coast Transport has seen an increase in business the frequency of pressure tests has also increased. This testing only occurs between 8 am and 6 pm; however there is an air compressor on site that operates 24 hours a day and intermittently releases compressed air from a pressure relief valve so this may explain the noise you heard between 5 am and 8 am.

AVR-Safeway carries out noise monitoring on an annual basis as required under condition 6.13 of waste licence W0050-02, which is reported to the EPA as part of our annual environmental report.

I hope these answer your concerns and if you have any further questions feel free to contact me at 025 42944.

Regards

Mike Powell
Environmental/Laboratory manager

