

**ATTACHMENT E:  
EMISSIONS**

Tables and text in the following attachments record the existing emissions from the plant and those proposed for the future.

**ATTACHMENT E.1: EMISSIONS TO ATMOSPHERE**

**ATTACHMENT E.2: EMISSIONS TO SURFACE WATERS**

**ATTACHMENT E.3: EMISSIONS TO SEWER**

**ATTACHMENT E.4: EMISSIONS TO GROUNDWATER**

**ATTACHMENT E.5: NOISE EMISSIONS**

**ATTACHMENT E.6: NUISANCES**

*For inspection purposes only.  
Consent of copyright owner required for any other use.*

**ATTACHMENT E.1: EMISSIONS TO ATMOSPHERE**

**TABLE E.1(ii) MAIN EMISSIONS TO ATMOSPHERE** (1 Page for each emission point)

Emission Point Ref. N <sup>o</sup> :	AGS-1
Source of Emission:	Stack from Acid Gas Scrubber
Location :	BUND H
Grid Ref. (12 digit, 6E,6N):	181432E, 95150N
Vent Details	
Diameter:	120 mm
Height above Ground (m):	3 m
Date of commencement:	2001

**Characteristics of Emission:**

(i) Volume to be emitted:			
Average/day	300 m <sup>3</sup> /d	Maximum/day	800 m <sup>3</sup> /d
Maximum rate/hour	120 m <sup>3</sup> /h	Min efflux velocity	0.5 m.sec <sup>-1</sup>
(ii) Other factors			
Temperature	25 °C(max)	0 °C(min)	Ambient
For Combustion Sources:			
Volume terms expressed as:	<input type="checkbox"/> wet.	<input type="checkbox"/> dry.	_____ %O <sub>2</sub>

(iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	<u>60</u> min/hr <u>24</u> hr/day <u>365</u> day/yr
---------------------------	---

**TABLE E.1(iii): MAIN EMISSIONS TO ATMOSPHERE - Chemical characteristics of the emission** (1 table per emission point)

*Emission Point Reference Number:* AGS1

Parameter	Prior to treatment <sup>(1)</sup>				Brief description of treatment	As discharged <sup>(1)</sup>					
	mg/Nm <sup>3</sup>		kg/h			mg/Nm <sup>3</sup>		kg/h.		kg/year	
	Avg	Max	Avg	Max		Avg	Max	Avg	Max	Avg	Max
Hydrogen Chloride	<u>Not known</u>	<u>Not known</u>	<u>Not known</u>	<u>Not known</u>	Water scrubber	<u>&lt;0.01</u>	<u>&lt;0.01</u>	<u>n.d.</u>	<u>n.d.</u>		

For inspection purposes only.  
Consent of copyright owner required for any other use.

1. Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0°C, 101.3kPa). Wet/dry should be the same as given in Table E.1(ii) unless clearly stated otherwise.

**TABLE E.1(ii) MAIN EMISSIONS TO ATMOSPHERE** (1 Page for each emission point)

Emission Point Ref. N <sup>o</sup> :	WSCF1
Source of Emission:	Vents from phase separation and decant room
Location :	BUND D
Grid Ref. (12 digit, 6E,6N):	181369E, 95278N
Vent Details	
Diameter:	120 mm
Height above Ground(m):	6 m
Date of commencement:	

**Characteristics of Emission:**

(i) Volume to be emitted:			
Average/day	36 m <sup>3</sup> /hr when operational	Maximum/day	200 m <sup>3</sup> /d
Maximum rate/hour	120 m <sup>3</sup> /h	Min efflux velocity	0.9 m.sec <sup>1</sup> when operational
(ii) Other factors			
Temperature	25 °C(max)	0 °C(min)	Ambient
For Combustion Sources:			
Volume terms expressed as : <input type="checkbox"/> wet. <input type="checkbox"/> dry.        _____%O <sub>2</sub>			

(iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	_____ 60 min/hr    3 hr/day    250 day/yr
---------------------------	---

**TABLE E.1(iii): MAIN EMISSIONS TO ATMOSPHERE - Chemical characteristics of the emission** (1 table per emission point)

*Emission Point Reference Number:* WSCF-1

Parameter	Prior to treatment <sup>(1)</sup>				Brief description of treatment	As discharged <sup>(1)</sup>					
	mg/Nm <sup>3</sup>		kg/h			mg/Nm <sup>3</sup>		kg/h.		kg/year	
	Avg	Max	Avg	Max		Avg	Max	Avg	Max	Avg	Max
Hydrogen Chloride	<u>Not known</u>	<u>Not known</u>	<u>Not known</u>	<u>Not known</u>	Water scrubber backed by carbon absorber	<u>&lt;0.01</u>	<u>&lt;0.01</u>	<u>n.d.</u>	<u>n.d.</u>		
VOCs	<u>Not known</u>	<u>Not known</u>	<u>Not known</u>	<u>Not known</u>	Water scrubber backed by carbon absorber			<u>0.0002</u>	<u>0.0009</u>		

1. Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0°C,101.3kPa). Wet/dry should be the same as given in Table E.1(ii) unless clearly stated otherwise.

**TABLE E.1(ii) MAIN EMISSIONS TO ATMOSPHERE** (1 Page for each emission point)

Emission Point Ref. N <sup>o</sup> :	WSCF-2 (PROPOSED)
Source of Emission:	Stack from Wet Scrubber Carbon Filter
Location :	BUND R
Grid Ref. (12 digit, 6E,6N):	To be decided
Vent Details Diameter:	200 mm
Height above Ground(m):	5 m
Date of commencement:	To be constructed

**Characteristics of Emission:**

(i) Volume to be emitted:			
Average/day	36 m <sup>3</sup> /hr	Maximum/day	m <sup>3</sup> /d
Maximum rate/hour	120 m <sup>3</sup> /h	Min efflux velocity	0.9 m.sec <sup>-1</sup>
(ii) Other factors			
Temperature	25 °C(max)	0 °C(min)	Ambient
For Combustion Sources: Not Applicable			
Volume terms expressed as: <input type="checkbox"/> wet. <input type="checkbox"/> dry. _____%O <sub>2</sub>			

(iii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	<u>60</u> min/hr <u>24</u> hr/day <u>365</u> day/yr
---------------------------	---

**TABLE E.1(iii): MAIN EMISSIONS TO ATMOSPHERE - Chemical characteristics of the emission** (1 table per emission point)

*Emission Point Reference Number:* WSCF-2

Parameter	Prior to treatment <sup>(1)</sup>				Brief description of treatment	As discharged <sup>(1)</sup>					
	mg/Nm <sup>3</sup>		kg/h			mg/Nm <sup>3</sup>		kg/h.		kg/year	
	Avg	Max	Avg	Max		Avg	Max	Avg	Max	Avg	Max
VOCs	<u>Not known</u>	<u>Not known</u>	<u>Not known</u>	<u>Not known</u>	<u>Water Scrubber and a carbon absorber</u>	<u>Not in service</u>	<u>Not in service</u>	<u>Not in service</u>	<u>Not in service</u>	<u>Not in service</u>	<u>Not in service</u>
					<u>PROPOSED LIMIT</u>				<u>&lt; 0.01</u>		

1. Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0°C, 101.3kPa). Wet/dry should be the same as given in Table E.1(ii) unless clearly stated otherwise.

**TABLE E.1(iv): EMISSIONS TO ATMOSPHERE - Minor /Fugitive**

Emission point  Reference Numbers	Description	Emission details <sup>1</sup>				Abatement system employed
		material	mg/Nm <sup>3(2)</sup>	kg/h.	kg/year	
CONNECTION AND DISCONNECTIONS OF HOSES	When connections and disconnections are made there is a possibility of small emissions of liquids and vapours.	VOCs			10	None
ISOTANK BREATHING	The same instrument will be used to monitor fugitive emissions from the new mixing/blending facility	VOCs			10	None

1 The maximum emission should be stated for each material emitted, the concentration should be based on the maximum 30 minute mean.  
 2 Concentrations should be based on Normal conditions of temperature and pressure, (i.e. 0°C/101.3kPa). Wet/dry should be clearly stated. Include reference oxygen conditions for combustion sources.



**ATTACHMENT E.2: EMISSIONS TO SURFACE WATERS**

**TABLE E.2(i): EMISSIONS TO SURFACE WATERS**  
(One page for each emission)

**Emission Point:**

Emission Point Ref. N <sup>o</sup> :	SWD1
Source of Emission:	Yard runoff water from oil interceptors etc.
Location :	See attached map
Grid Ref. (10 digit, 5E,5N):	181696E , 95285N
Name of receiving waters:	Shanowenadrimina Stream
Flow rate in receiving waters:	<u>0.0028</u> m <sup>3</sup> .sec <sup>-1</sup> Dry Weather Flow <u>0.0056</u> m <sup>3</sup> .sec <sup>-1</sup> 95%ile flow
Available waste assimilative capacity:	1.45 kg BOD/day

**Emission Details:**

(i) Volume to be emitted			
Normal/day	0 – 595 m <sup>3</sup> dependent on rainfall	Maximum/day	595 m <sup>3</sup>
Maximum rate/hour	150 m <sup>3</sup>		

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	<u>60</u> min/hr <u>24</u> hr/day <u>365</u> day/yr Intermittent - Dependent on rainfall and activities on site
---------------------------	--

The flow from SWD-1 is continuously recorded to enable calculation of the annual emissions.

**TABLE E.2(ii): EMISSIONS TO SURFACE WATERS - Characteristics of the emission** (1 table per emission point)

**Emission point reference number : SWD1 (OUTFALL TO STREAM)**

Measured at outfall valve

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. Limit (mg/l)	Min Limit (mg/l) (If Applicable)	kg/day	kg/year	
pH	<u>Not applicable</u>				<u>8.4</u>	<u>6.5</u>			Not applicable
TOC	<u>Not applicable</u>				<u>54 ppm</u>	<u>Not applicable</u>			Not applicable
Conductivity	<u>Not applicable</u>				<u>584 µS</u>	<u>Not applicable</u>			Not applicable

**ATTACHMENT E.3: EMISSIONS TO SEWER**

**TABLE E.3(i): EMISSIONS TO SEWER**(One page for each emission)

**Emission Point:**

Emission Point Ref. N <sup>o</sup> :	SEW1
Location of connection to sewer :	Not Known - to be agreed with Agency
Grid Ref. (10 digit, 5E,5N):	Not Known - to be agreed with Agency
Name of sewage undertaker:	Cork County Council, Fermoy Waste Water Treatment Plant

**Process water (washings) is currently trucked off-site to Fermoy WWTP. Foul water is treated on-site in 2 septic tank systems. It is proposed to bring the mains sewer to the site. If this occurs it is planned to sewer the washings and foul water if acceptable to Cork County Council. Sewer emission details are estimated based on current washings trucked off site and the domestic load of employees at the facility.**

**Emission Details:**

(i) Volume to be emitted			
Normal/day	30 m <sup>3</sup>	Maximum/day	50 m <sup>3</sup>
Maximum rate/hour	3.0 m <sup>3</sup>		

(ii) Period or periods during which emissions are made, or are to be made, including daily or seasonal variations (*start-up /shutdown to be included*):

Periods of Emission (avg)	<u>60</u> min/hr <u>24</u> hr/day <u>365</u> day/yr Intermittent – depending on use
---------------------------	--

**TABLE E.3(ii): EMISSIONS TO SEWER - Characteristics of the emission** (1 table per emission point)

*Emission point reference number : SEW-1*

Parameter	Prior to treatment				As discharged				% Efficiency
	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	Max. hourly average (mg/l)	Max. daily average (mg/l)	kg/day	kg/year	
pH	Variable (a)				<b>PROPOSED TO SANITARY AUTHORITY (CORK COUNTY COUNCIL)</b>				
BOD					3000				
COD					3000				
Total Suspended Solids					2000				
Total Nitrogen (as N)					50				
Total Phosphorus(as P)					50				
Chloride					500				
Total Heavy Metals					1				

(a) The pH of the rinse waters (currently trucked to Fermoy WWTP is and will be adjusted before discharge if necessary).

## ATTACHMENT E.4: EMISSIONS TO GROUNDWATER AND GROUNDWATER PROTECTION

There will be no emissions to groundwater from the site.

The following measures are taken to protect groundwater.

Bunds	<p>All waste storage takes place in bunds. The warehouse is a bund, having an impervious sill surrounding it. Likewise the wash bay. Any water that collects in bunds is tested. If these parameters meet the specification for discharge to surface waters the bunds are pumped to the Class 1 oil/grit interceptors. If not they are collected and shipped out as waste, depending on the content.</p> <p>All waste handling takes place (will take place) in bunds, the warehouse, Bund D (dichloromethane separation), the washbay (aluminium oxide and sludge bulking), and Bund R (mixing and blending).</p> <p>All bunds are hydraulically tested every 3 years for water.</p>
Paving	<p>The entire site is paved with impervious concrete. There is a 150 mm high impervious curb surrounding the site, making it in effect a bund. Any visible cracks or other deficiencies in the concrete or curb are monitored and repaired where necessary.</p>
Procedural	<p>Any spills are immediately collected and cleaned up following the Spillage Procedure (SW 3-3), agreed with the agency.</p>

## **ATTACHMENT E 5: NOISE EMISSIONS**

No fixed onsite noise source (e.g. pumps, fans etc.) will exceed 55 dBA at 1m. If necessary, noise abatement measures will be taken to maintain this limit.

The principle sources of onsite noise will be onsite vehicle movements, both engine noise and reversing sirens. The latter are essential to maintain a safe working environment. The major noise source in the vicinity of the site is vehicle noise from the adjacent N8 Cork Dublin Road.

See Attachment I: Summary of Environmental Monitoring 2001 – 2004, Section 2c for an analysis of the noise in the vicinity of the Corrin site during the above period.

*For inspection purposes only.  
Consent of copyright owner required for any other use.*

**ATTACHMENT E.6:  
NUISANCE PREVENTION AND MINIMISATION**

NUISANCE	PREVENTION/MINIMISATION
Bird Control	Not Applicable
Dust Control	Any potential for dust is mitigated at source. No dust from dry powders or dry materials is allowed to enter the atmosphere. The aluminium oxide bulking equipment is fitted with a dust filter. ASBESTOS: Special precautions are taken with the handling of asbestos which occurs in Bund L. No unwrapped asbestos is accepted on-site and routine monitoring is carried out. See Attachments D.1 and D-2 for details
Fire Control	A fire monitoring and fighting system is installed and regularly tested. See Attachments D-1 and D-2 for details. Regular consultation takes place with Cork County Council Fire Officers with regard to the facility. The proposed tank farm will form part of firefighting procedures and scheduled fire drills. See <b>Attachment K</b> .
Litter Control	Litter is routinely collected when observed and daily inspections are undertaken in accordance with License 50-1
Traffic Control	Traffic Control Measures are controlled by signage and a site speed limit of 5 mph (8 kph). Reversing sirens are used at all times when reversing. A siren indicates whenever the crane is in motion. Parking is in designated spaces only. Two visitors' parking spaces are provided.
Vermin Control	A licensed Pest Control Contractor is employed for the control of vermin. Baits are provided at key locations and monitored regularly. No issues with vermin have been recorded.
Road Cleansing	Not applicable. The site is fully paved.