

6

Annual performance report for SITA Kirklees- Permit No.  
BJ6178IX - Year 2006

1. Introduction

<b>Name of Company</b>	SITA (Kirklees)Ltd
<b>Name of Plant</b>	Kirklees EFW. SITA (Kirklees)Ltd
<b>Permit Number</b>	BJ6178IX
<b>Address</b>	Vine Street Huddersfield West YorkshireHD1 6BZ
<b>Phone</b>	01484 448750
<b>Contact name</b>	Mr. David Sowels.
<b>Position</b>	Plant Compliance Manager.
<b>Further information, description of waste types burned and origin.</b>	Municipal household waste from Kirklees Council Households  Commercial and Trade Waste  Rejects from Materials recovery plant

2. Plant description

The main purpose of the activities at the installation is the production of electricity and district heating from the incineration of non-hazardous waste. The incineration is accomplished in a single moving grate furnace with a nominal thermal capacity of 42.5 MWth, the heat from which is used in a boiler to produce superheated steam and subsequently drive an electrical generator. Wastes incinerated is mainly domestic and trade, with some commercial waste and a small amount of reject material from an adjacent materials recovery facility.

Activities associated with the incineration are receipt and storage of municipal waste, production of steam and electricity, abatement of flue gas using SNCR (Selective Non-Catalytic Reduction) and handling of grate and fly ash.

Annual performance report for SITA Kirklees– Permit No.  
BJ6178IX – Year 2006

**3. Summary of plant operation:**

Incoming waste is delivered to the installation by bin wagon, it is checked in, weighed, then delivered into the refuse reception hall and offloaded into a large concrete-lined pit. Mixing of waste occurs as the crane driver sorts the waste looking for unsuitable wastes to be removed, and to improve the homogeneity of the incinerator feedstock. Sufficient quantity of waste is maintained in the pit to ensure the continuous operation of the incinerator. Waste is lifted into the charging hoppers by the crane, from here waste falls into the furnace-charging chute and then onto the grate system for incineration. Heat produced by waste combustion is used to raise steam in the boiler-section. The steam is fed to a turbine for production of electricity for the National Grid.

<b>Plant size including number of lines</b>	136,000 t/yr Single line
<b>Annual waste throughputs</b>	Mixed Municipal Waste  Not to exceed combined total of 150,000 t/yr  Commercial and Trade Waste :  Rejects from Materials recovery plant
<b>Total plant operational hours in the year and reasons for any significant outages (e.g. annual shutdown, abatement plant failure, boiler failure, etc.).</b>	Operating Hours 6,406  Shutdown in March for 14 Days  Boiler Failure 02-09-06 to 06-11-06

Annual performance report for SITA Kirklees– Permit No.  
BJ6178IX – Year 2006

Residues produced	Fly Ash	Bottom ash	Metals
Amount of each residue, including metals (where appropriate) recycled/landfilled	4,131tonnes	22,130tonnes	2,157tonnes
Electricity produced/exported.	Produced 59,929 MWatts Exported 51,436 MWatts  Average power output 8.47 MW/h  District Heating Feasibility Study August 2006.		

**Annual waste throughputs**

Waste Types	EWC code	Tonnes used
Mixed Municipal waste	20 03 01	104474
Commercial & Trade	20 03 02	zero
MRF Reject material	20 01 01	2,147
	20 01 39	682
	20 01 40	700

**4. Summary of plant monitoring:**

Pollutants measured	Continuously	Periodically	% Normal operational time
Particulate matter	Continuous	Bi-annual	100%
Total organic carbon	Continuous	Bi-annual	100%
Hydrogen chloride	Continuous	Bi-annual	100%

Annual performance report for SITA Kirklees- Permit No.  
BJ6178IX – Year 2006

Hydrogen fluoride		Quarterly	100%
Carbon monoxide	Continuous	Bi-annual	100%
Sulphur dioxide	Continuous	Bi-annual	100%
Oxides of nitrogen (NO and NO <sub>2</sub> ) as NO <sub>2</sub>	Continuous	Bi-annual	100%
Cadmium & thallium and their compounds		Quarterly	100%
Mercury and its compounds		Quarterly	100%
Sb, As, Pb, Cr, Co, Cu, Mn, Ni, and V and their compounds		Quarterly	100%
Dioxins/ furans		Bi-annual	100%

**CEMS Data**

The data collected from the CEMS has been represented in graphical form an example of which is shown below. The graphs are in appendix 1 at the end of the document.

**RELEASES INTO AIR  
ANNUAL MONITORING SUMMARY**

Operator:

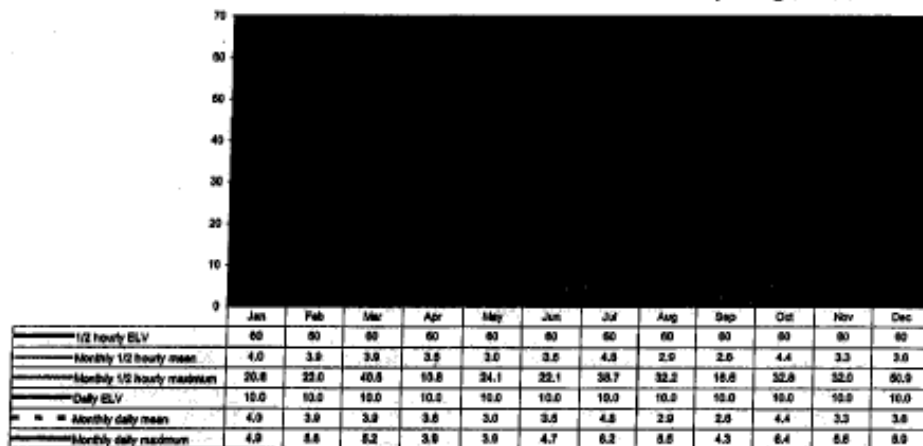
Licence No:

Release Point:

Location:

Parameter: HCl

Reporting Period:



The data for each parameter monitored is represented in an individual chart.

Annual performance report for SITA Kirklees– Permit No.  
BJ6178IX – Year 2006

Data represented is:

***½ Hourly ELV-*** shows the ½ hourly emission limit value.

***Monthly ½ Hourly mean-*** shows the average values for ½ hourly continuous monitoring over the month.

***Monthly ½ Hourly maximum-*** shows the maximum value for ½ hourly continuous monitoring over the month.

***Daily ELV-*** shows the daily emission limit value.

***Monthly Daily mean-*** shows the average values for daily continuous monitoring over the month.

***Monthly Daily maximum*** shows the maximum value for daily continuous monitoring over the month.

Annual performance report for SITA Kirklees– Permit No.  
BJ6178IX – Year 2006

**Table showing the annual emissions of monitored pollutants.**

Data taken From PIEDC Pollution Inventory EDC reporting Form.

Pollutant	Reporting Threshold	brt (below recorded threshold) or releases	Notifiable releases
Carbon Dioxide	10,000,000kg	brt	
Antimony Sb	1kg	brt	
Arsenic As	1kg	brt	
Cadmium	1kg	brt	
Chromium Cr	10kg	brt	
Copper Cu	10kg	brt	
Lead Pb	100kg	brt	
Manganese Mn	10kg	brt	
Mercury	1kg	brt	
Nickel Ni	10kg	brt	
Vanadium V	10kg	N/a	
Sb, As, Cr, Co, Cu, Mn, Ni, and V and their compounds		N/a	
Chlorine and Inorganic chlorine compounds - as HCl	10,000kg	brt	860.9mg
Dioxins and furans (PCDDs/PCDFs)	0.00001kg	N/a	
Fluorine and Inorganic fluorine compounds -as HF	1,000kg	N/a	
Nitrogen oxides (NO and NO <sub>2</sub> ) as NO <sub>2</sub>	100,000kg	105910kg	
Non-methane volatile organic compounds	10,000kg	N/a	
Particulate matter	10,000kg	N/a	
Polychlorinated biphenyls (PCBs)	0.00001kg	N/a	
Sulphur oxides (SO <sub>2</sub> and SO <sub>3</sub> ) as SO <sub>2</sub>	100,000kg	brt	2942mg

Annual performance report for SITA Kirklees– Permit No.  
BJ6178IX – Year 2006

5. Summary of plant compliance:

(a) Table showing percentage of the operating time the plant was in compliance with the permit conditions (e.g. the plant met its SO<sub>2</sub> emission limits 100 % of the time and particulates limits 99.98% of the time etc)

<i>Pollutants measured</i>	<i>% of operational time plant was in compliance</i>
Particulates	100%
Oxides of Nitrogen	99.98%
Sulphur Dioxide	99.94%
Carbon Monoxide	99.93%
Total Organic Carbon	100%
Hydrogen Chloride	99.96%
Mercury	100%
Cadmium and Thallium	100%
Sb, As, Pb, Cr, Co, Cu, Mn, Ni and V and their compounds	100%
PCDD and PCDF	100%
Hydrogen Fluoride	100%

(b) Table showing non-compliances notified to the Agency.

Date	Parameter	Reason	Action
30-May-06	CO	Air fluctuation in auto	Op in manual then auto
20-Jun-06	CO	ID fan limit defect	Limit adjusted
09-Jul-06	CO	Grate seize	Grate cleared
14-Jul-06	SO <sub>2</sub>	High concentration Of plastic in furnace	Improve tip-hall Inspection/segregation
08-Aug-06	CO	Boiler tube leak	Tubes repaired
02-Sep-06	CO	Boiler tube leak	Tubes repaired

note: CO = Carbon Monoxide                      SO<sub>2</sub> = Sulphur Dioxide

Annual performance report for SITA Kirklees– Permit No.  
BJ6178IX – Year 2006

(c) Any formal enforcement actions (i.e. Notices or prosecution).

2 September 2006: Enforcement Notice for failure to maintain boiler tubes.

**6. Summary of plant improvements:**

Tube leaks in radiant section, hence Carbon Monoxide problems

Re-furbishment of waterwall tubes + Inconel overlay & complete new refractory lining

IC1	<p>The Operator shall submit a proposal to the Agency to carry out tests to determine the size distribution of the particulate matter in the exhaust gas emissions to air from emission point A1, identifying the fractions within the PM<sub>10</sub>, PM<sub>2.5</sub> and PM<sub>1.0</sub> ranges. The proposal shall include a timetable to carry out such tests and produce a report on the results. On receipt of written agreement by the Agency to the proposal and the timetable, the Operator shall carry out the tests and submit to the Agency a report on the results.</p> <p>Proposal submitted to EA. Tests completed. Results from test-house awaited by SITA</p>
-----	---



Annual performance report for SITA Kirklees- Permit No.  
BJ6178IX - Year 2006

<b>IC2</b>	<p>The Operator shall calibrate and verify the performance of Continuous Emission Monitors for release points and parameters as specified in Table 6.1.2 to BS EN 14181 and submit a summary report to the Environment Agency as evidence of compliance with the requirements of BS EN 14181</p> <p>Due to unavailability of sufficient testing time-slots at test-houses because of heavy demand, the deadline for submission of this IC report has been moved to 1 July 2007</p>
------------	--

Annual performance report for SITA Kirklees– Permit No.  
BJ6178IX – Year 2006

**7. Further information available at**

[www.sita.co.uk](http://www.sita.co.uk)

News information at [www.news@sitaco.uk](mailto:www.news@sitaco.uk) |

Annual performance report for SITA Kirklees- Permit No. BJ61781X - Year 2006

RELEASES INTO AIR  
ANNUAL MONITORING SUMMARY

Operator: SITA Kirklees Limited

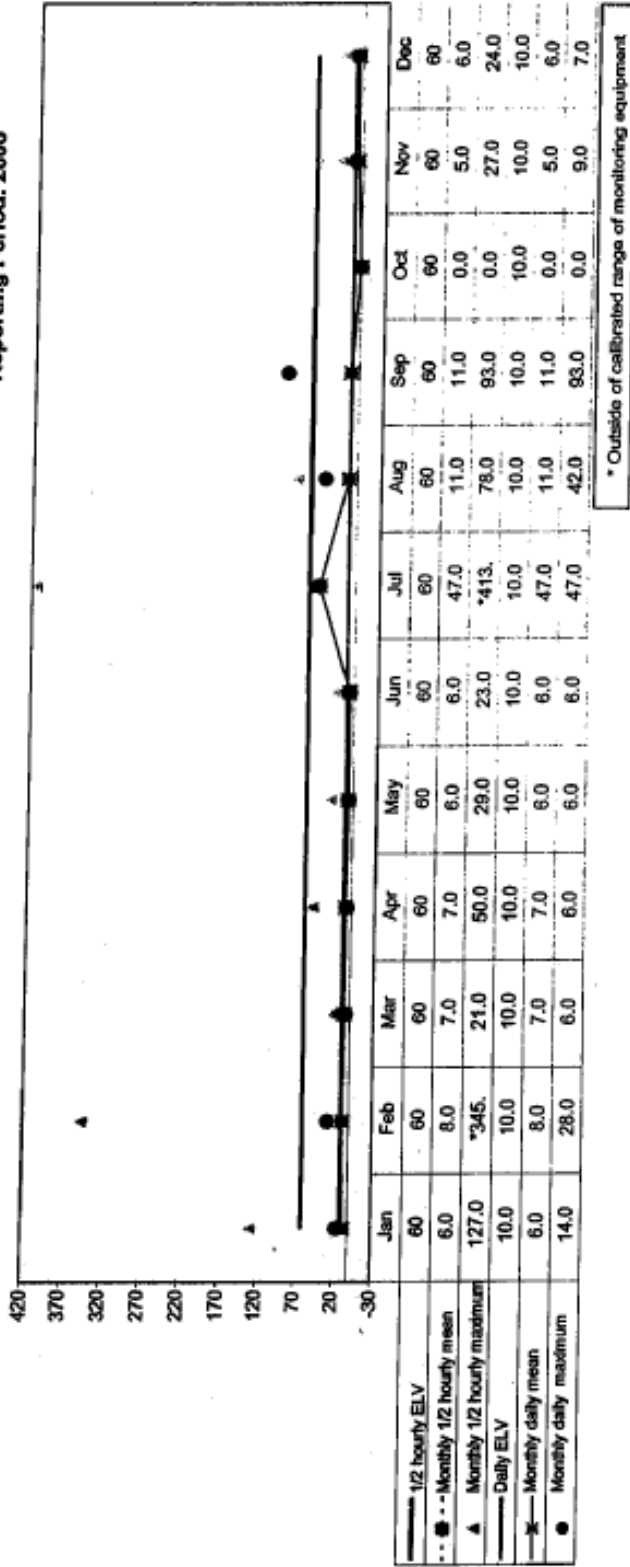
Licence No: BJ61781X

Release Point: A1

Location: Kirklees Energy from Waste Plant

Parameter: HCl

Reporting Period: 2006



Annual performance report for SITA Kirklees- Permit No. BJ61781X - Year 2006

RELEASES INTO AIR  
ANNUAL MONITORING SUMMARY

Operator: SITA Kirklees Limited

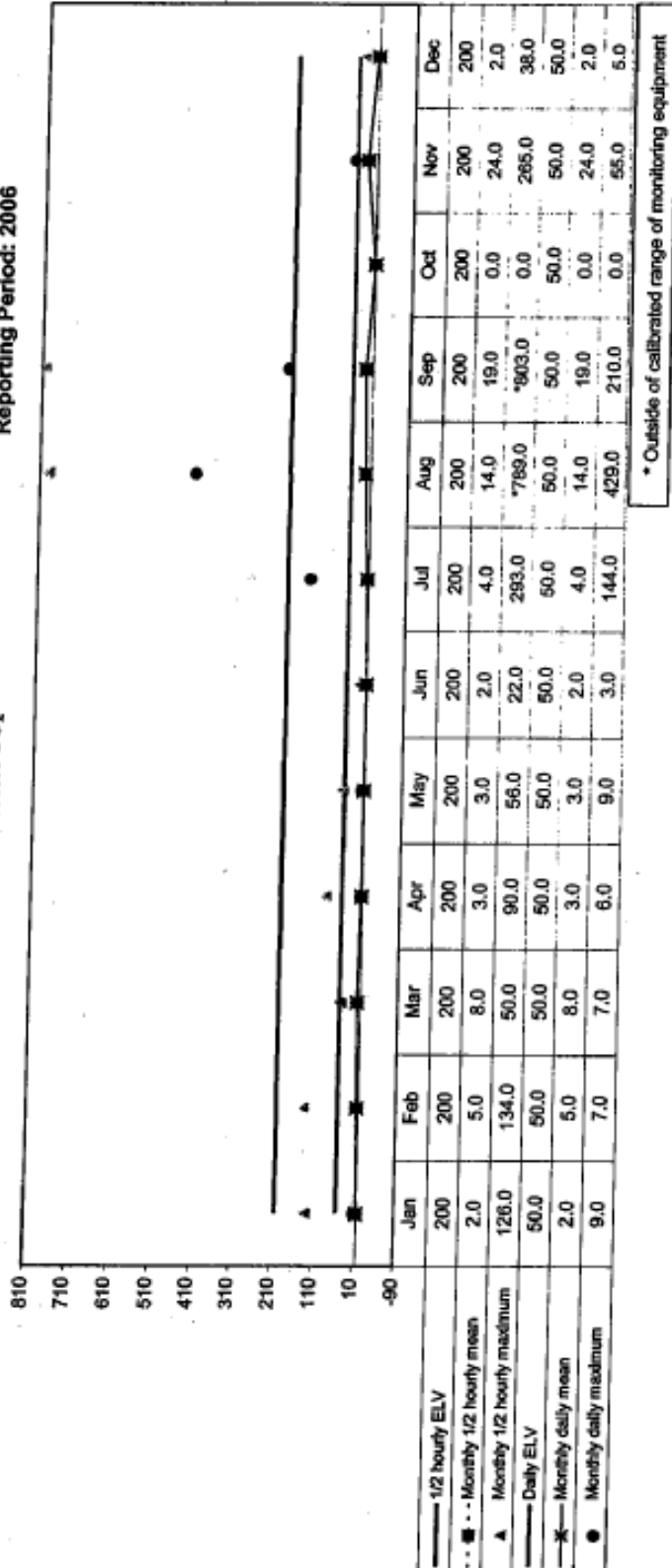
Licence No: BJ61781X

Release Point: A1

Location: Kirklees Energy from Waste Plant

Parameter: SO<sub>2</sub>

Reporting Period: 2006



Annual performance report for SITA Kirklees- Permit No. BJ6178IX - Year 2006

RELEASES INTO AIR  
ANNUAL MONITORING SUMMARY

Operator: SITA Kirklees Limited

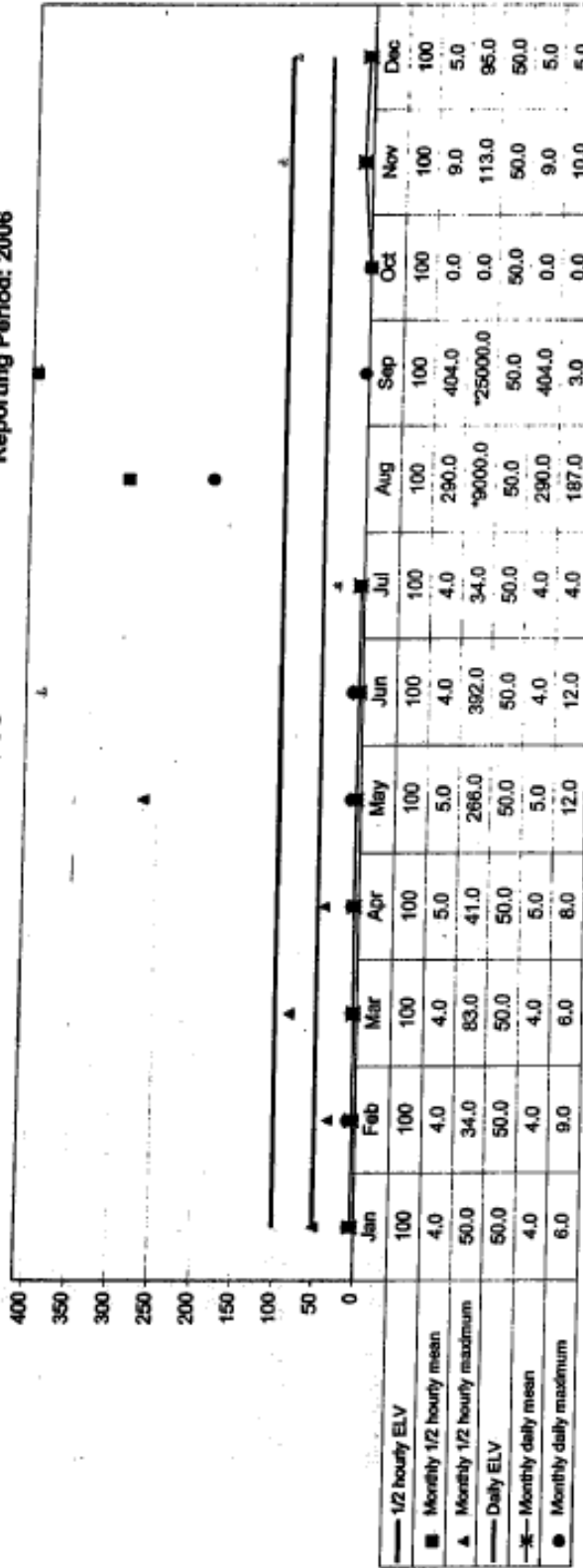
Licence No: BJ6178IX

Release Point: A1

Location: Kirklees Energy from Waste Plant

Parameter: CO

Reporting Period: 2006



\* Outside of calibrated range of monitoring equipment

Annual performance report for SITA Kirklees- Permit No. BJ6178IX - Year 2006

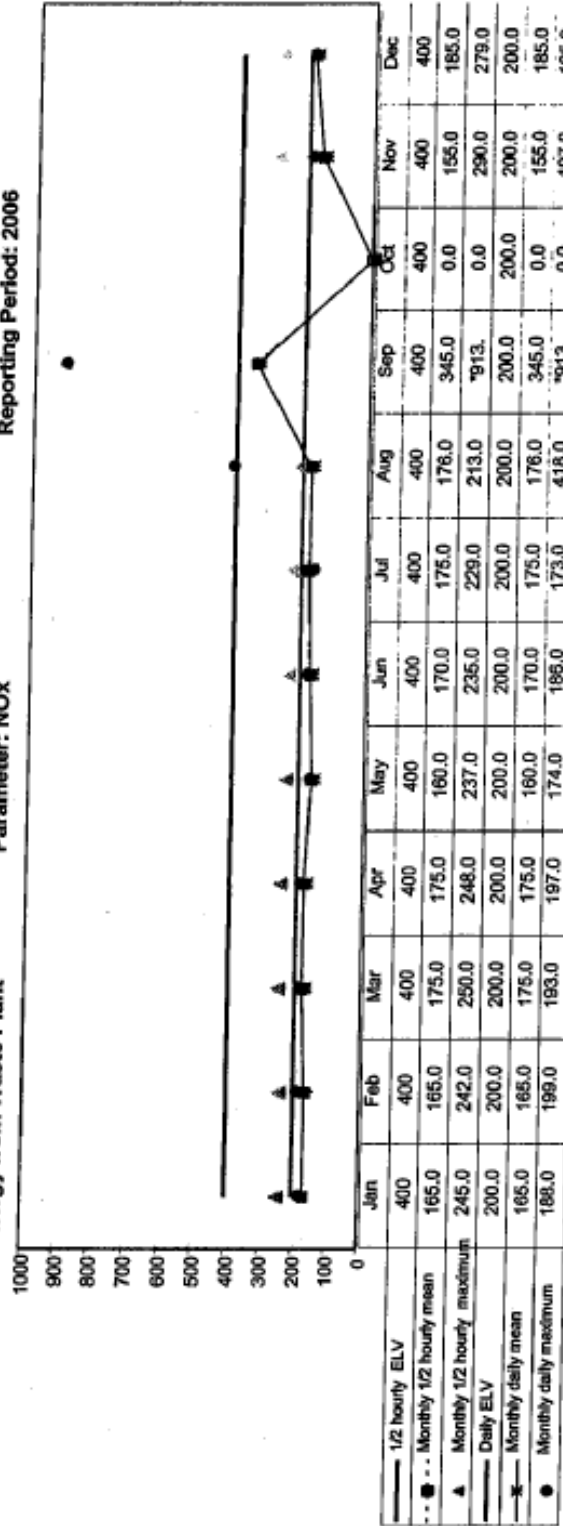
RELEASES INTO AIR  
ANNUAL MONITORING SUMMARY

Operator: SITA Kirklees Limited

Licence No: BJ6178IX

Release Point: A1

Location: Kirklees Energy from Waste Plant      Parameter: NOx      Reporting Period: 2006



\* Outside of calibrated range of monitoring equipment

Annual performance report for SITA Kirklees- Permit No. BJ61781X - Year 2006

RELEASES INTO AIR  
ANNUAL MONITORING SUMMARY

Operator: SITA Kirklees Limited

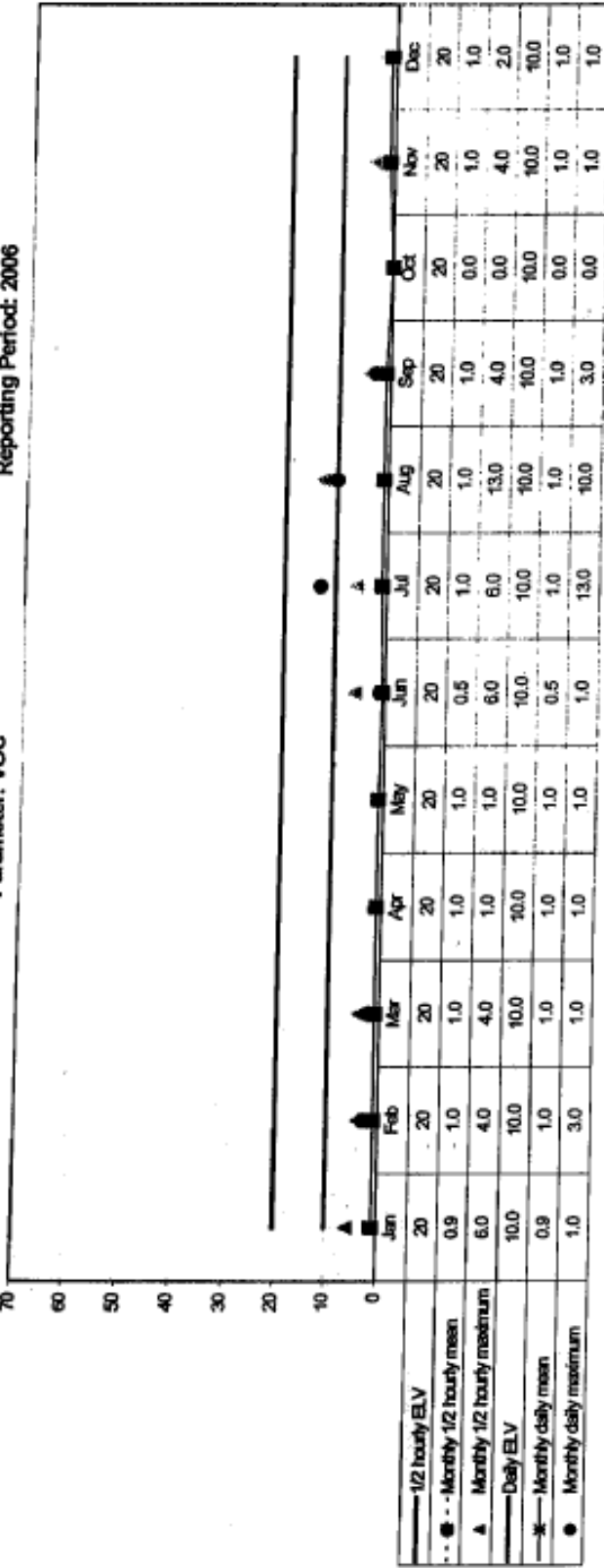
Licence No: BJ61781X

Release Point: A1

Location: Kirklees Energy from Waste Plant

Parameter: VOC

Reporting Period: 2006



Annual performance report for SITA Kirklees- Permit No. BJ6178IX - Year 2006

RELEASES INTO AIR  
ANNUAL MONITORING SUMMARY

Operator: SITA Kirklees Limited Licence No: BJ6178IX Release Point: A1

Location: Kirklees Energy from Waste Plant Parameter: Particulates Reporting Period: 2006

