FINAL REPORT

AIR QUALITY AND ODOUR PERFORMANCE VERIFICATION

Visy Pulp and Paper Mill, Tumut

Job No: 3791

26 June 2012

PROJECT TITLE:	**AIR QUALITY AND ODOUR PERFORMANCE VERIFICATION**
JOB NUMBER:	**3791**
PREPARED FOR:	Matt O'Donovan **VISY PULP AND PAPER MILL, TUMUT**
PREPARED BY:	Greer Laing, Damon Roddis
REVIEWED BY:	Damon Roddis
APPROVED FOR RELEASE BY:	Damon Roddis
DISCLAIMER & COPYRIGHT:	This report is subject to the copyright statement located at www.paeholmes.com © Queensland Environment Pty Ltd trading as PAEHolmes ABN 86 127 101 642

DOCUMENT CONTROL

VERSION	DATE	PREPARED BY	REVIEWED BY
Final	26.07.12	Greer Laing, Damon Roddis	Damon Roddis

Queensland Environment Pty Ltd trading as
PAEHolmes ABN 86 127 101 642

BRISBANE:
Level 1, La Melba, 59 Melbourne Street, South Brisbane QLD 4101
PO Box 3306, South Brisbane QLD 4101
Ph: +61 7 3004 6400
Fax: +61 7 3844 5858

SYDNEY:
Suite 203, Level 2, Building D, 240 Beecroft Road
Epping NSW 2121
Ph: +61 2 9870 0900
Fax: +61 2 9870 0999

ADELAIDE:
35 Edward Street, Norwood SA 5067
PO Box 1230, Littlehampton SA 5250
Ph: +61 8 8332 0960
Fax: +61 7 3844 5858

MELBOURNE:
Suite 62, 63 Turner Street, Port Melbourne VIC 3207
PO Box 23293, Docklands VIC 8012
Ph: +61 3 9681 8551
Fax: +61 3 9681 3408

PERTH:
Level 1, Suite 3
34 Queen Street, Perth WA 6000
Ph: +61 8 9481 4961
Fax: +61 7 3844 5858

GLADSTONE:
Suite 2, 36 Herbert Street, Gladstone QLD 4680
Ph: +61 7 4972 7313
Fax: +61 7 3844 5858

Email: info@paeholmes.com
Website: www.paeholmes.com

DISCLAIMER

PAEHolmes acts in all professional matters as a faithful advisor to the Client and exercises all reasonable skill and care in the provision of its professional services.

Reports are commissioned by and prepared for the exclusive use of the Client. They are subject to and issued in accordance with the agreement between the Client and PAEHolmes. PAEHolmes is not responsible for any liability and accepts no responsibility whatsoever arising from the misapplication or misinterpretation by third parties of the contents of its reports.

Except where expressly stated, PAEHolmes does not attempt to verify the accuracy, validity or comprehensiveness of any information supplied to PAEHolmes for its reports.

Reports cannot be copied or reproduced in whole or part for any purpose without the prior written agreement of PAEHolmes.

Where site inspections, testing or fieldwork have taken place, the report is based on the information made available by the client or their nominees during the visit, visual observations and any subsequent discussions with regulatory authorities. The validity and comprehensiveness of supplied information has not been independently verified and, for the purposes of this report, it is assumed that the information provided to PAEHolmes is both complete and accurate. It is further assumed that normal activities were being undertaken at the site on the day of the site visit(s), unless explicitly stated otherwise.

ES1 EXECUTIVE SUMMARY

Visy operates a Kraft Pulp & Paper Mill near Tumut, NSW that underwent expansion in September 2009 to increase operations from 300,000 tonnes per annum (tpa) to 700,000 tpa. The expansion constituted the installation of additional processing equipment and a second stack associated with Phase 1A of the approved expansion. The operation site is characterised by complex terrain and is located in an area of relatively close sensitive receptors.

Condition 3, Environmental Monitoring and Auditing, of the Project Consent for the mill expansion requires Air Quality Performance Verification (condition 3.2 and 3.3) and Odour Performance Verification (condition 3.4 and 3.5).

In response to the above, Visy commissioned PAEHolmes to complete a verification of dispersion modelling of the Air Quality and Odour Impact Assessments conducted for the Environmental Assessment (EA) process. This validation exercise references post-expansion emissions data monitored in accordance with the methods and frequencies outlined in the consent.

The post-expansion monitoring data utilised includes ambient air quality monitoring, periodic stack monitoring, continuous emissions monitoring system (CEMS) and meteorological data. To both provide an estimation of actual operating conditions, and to provide realistic inputs into a subsequent Health Risk Assessment, the verification utilises average emission rates from periodic stack monitoring data, in combination with CEMS data, where available.

The outputs of this modelling exercise have been used to verify the results and conclusions made within the air quality assessment for the EA, completed by Holmes Air Sciences (**2007a;** now PAEHolmes). The verification modelling predicts ground-level concentrations for all pollutants previously modelled including gases, particulates, metals and odour.

Comparisons between emission rates for parameters that show an increase in the mass emission rate compared to the those rates adopted in the previous assessment show that despite increases from one stack, the aggregate of emission rates from both stacks were lower. When the full impact is considered, an increase in emission rates at one stack does not trigger any requirement for remedial measures, as reference in condition 3.3 of the Project Approval.

The results of the modelling using measured concentrations gave dispersion results that are consistent with those modelled prior to the expansion. Only TRS (as H_2S) and H_2SO_4 (as SO_3) predict exceedences within the modelled domain, which included locations within the Visy boundary. No exceedences have been predicted for these pollutants at the nearby residences.

Exceedances in the odour criteria were predicted at two receptors, one of which was also predicted to exceed in the previous assessment (**HAS, 2007c**). Two other sensitive receptors were predicted to be equal with their relevant assessment criterion in worst-case conditions. Analysis of the source contributions to the predicted impacts suggests that the cooling towers are having the largest impact on the predictions.

To comply with condition 3.5 of the Project Approval, it is recommended that any remedial measures therefore be focussed on mitigating the odour associated with the cooling towers.

It is acknowledged however that revised odour modelling relies upon only three odour monitoring campaigns. In view of this, combined with the relatively minor magnitude of the predicted odour impacts, it may be prudent to gather additional odour emission data prior to initiating costly odour mitigation.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1 INTRODUCTION

In response to conditions within Visy Tumut's development consent for its expansion, PAEHolmes has been commissioned to complete a verification (hereafter referred to as 'Verification Report') of the expansion air quality impact assessment. The projected air quality impacts associated with the expansion was previously modelled by Holmes Air Sciences as part of the Environmental Assessment (EA) process (**HAS, 2007a**; now PAEHolmes; hereafter referred to as 'HAS Air Report'). The results of the previous assessment have been validated by modelling the operation using data collected by the air quality monitoring program since the expansion has been commissioned. The projected odour impacts were also assessed in previous reporting by Holmes Air Sciences (**HAS, 2007c**; hereafter referred to as 'HAS Odour Report') and will be used to verify the odour impacts.

1.1 Project Description

The Visy pulp and paper mill is located 8km west of Tumut, NSW. The mill currently produces unbleached Kraft pulp and packaging paper to supply export and domestic markets.

The proposed expansion was approved in May 2007. The project was proposed to be completed in three phases as illustrated in **Table 1** below. The first phase (Phase 1a) has been completed and is the subject of this air quality report.

Commission of the expanded Phase 1a commenced in September 2009. Production levels have progressively increased over the commissioning/production proving period to current nominal production levels of 700,000 t/annum. The components of Phase 1a have been fully completed and normal operations have commenced.

Table 1: Project Component Phasing

Phase	Stack No.	Emission Sources
1a	Stack 1	Ex. Recovery Boiler A
		Ex. Power Boiler
		Ex. Lime Kiln A
		New Lime Kiln B
	Stack 2	New Recover Boiler B
1b	Stack 1	Ex. Recovery Boiler A
		Ex. Power Boiler
		Ex. Lime Kiln A
		New Lime Kiln B
	Stack 2	New Recovery Boiler B
		New Natural Gas Boiler
2	Stack 1	Ex. Recovery Boiler A
		Ex. Power Boiler
		Ex. Lime Kiln A
		New Lime Kiln B
	Stack 2	New Recovery Boiler B
		New Multi Fuel Boiler
	Stack 3	New Gas Turbine

Current operations consist of two stack emission points that discharge to the atmosphere, stack 1 and stack 2, both at 85m height above ground level. Stack 1 currently emits the gaseous combustion products from a power boiler, a recovery boiler and lime kiln (A & B). Stack 2 currently discharges emissions from a recovery boiler. Further details of the anticipated changes in plant configuration are detailed in the amended modelling report (**HAS, 2007c**).

Odour is emitted from a number of potential sources at the facility including: stacks; pump exhausts; vents; cooling towers and cooling ponds.

A map of the site with nearby sensitive receptor locations is shown in **Figure 1**. **Figure 3** shows a pseudo three-dimensional plot of the local terrain, illustrating the location of the site in a valley running form north-west to south-east. The site is considered to be in an area of complex terrain for dispersion modelling purposes. A more detailed map of the site layout with source locations is provided in **Figure 5.**

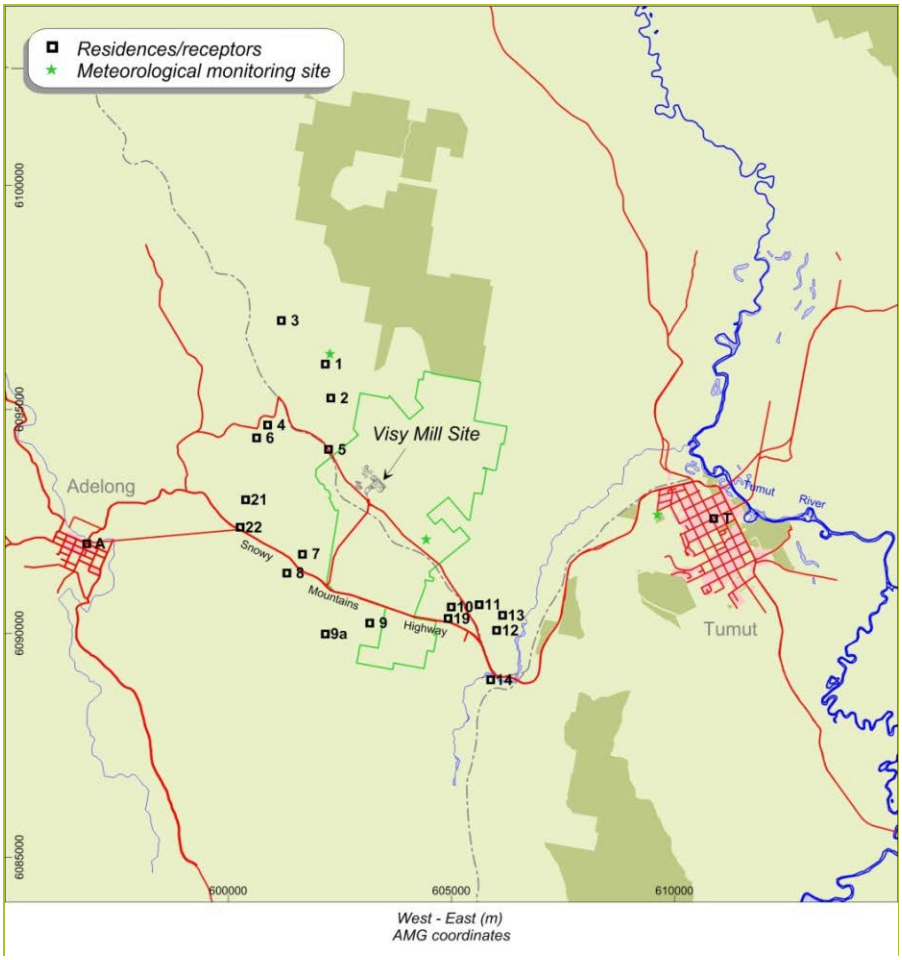


Figure 1: Location of the site with receptor locations and identification labels (consistent with HAS, 2007a)

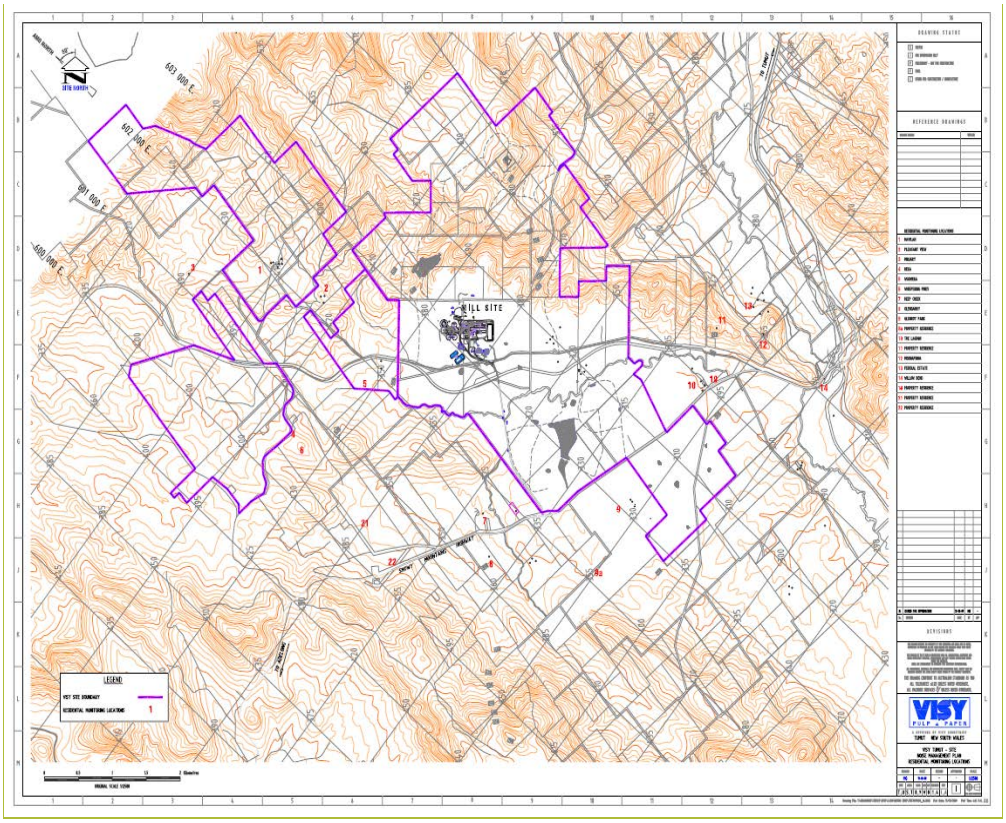


Figure 2: Additional property purchases following the expansion

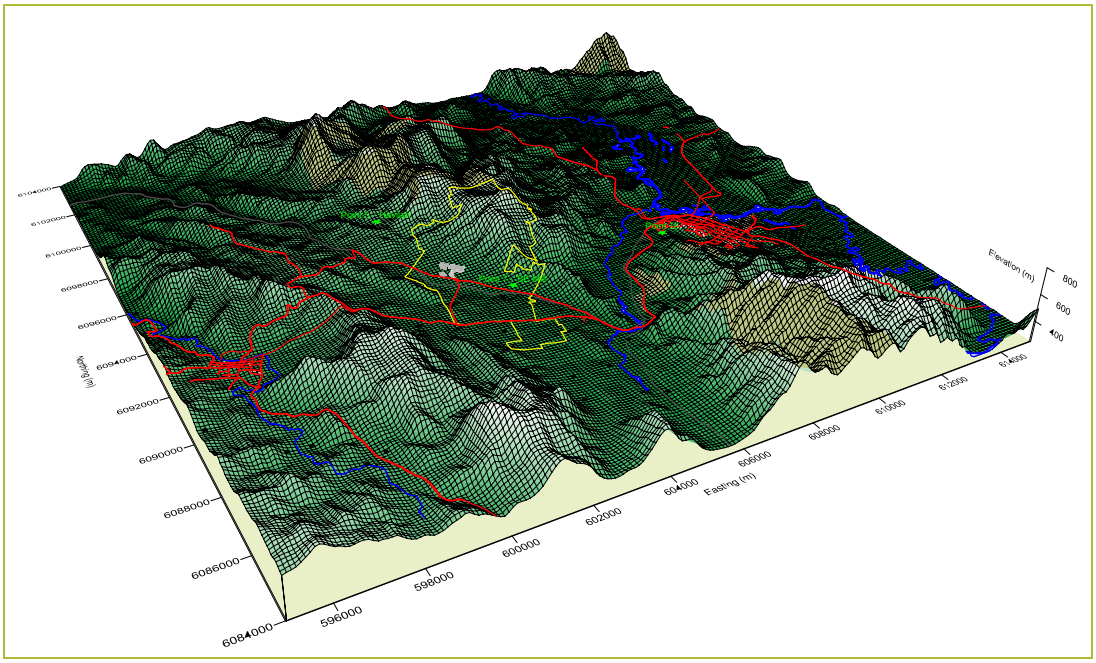


Figure 3: Pseudo 3-dimensional representation of local terrain (HAS, 2007a)

1.2 Project Approval Conditions

A verification of the performance of the air quality monitoring and measured emissions is required as per condition 3.2 of the Project Approval (06_0159; **NSW DoP, 2007**). Conditions for each Verification Report requirement are shown in italics below.

3.2 The program shall include, but not necessarily be limited to:

a) Point source emission sampling and analysis subject to the requirements listed under Condition 3.1;

*b) A comprehensive air quality impact assessment, using actual air emission data collected under a). The assessment shall be undertaken in accordance with the methods outlined in "Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW" (**EPA, 2005**);*

c) A comparison of the results of the air quality impact assessment required under b) above, and the predicted air quality impacts detailed in the documents listed under condition 1.1 of this approval;

*d) A comparison of the result of the air quality impact assessment required under the air quality assessment above, and the impact assessment criteria detailed in "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW" (**EPA, 2007**); and*

e) Details of any entries in the Complaints Register relating to air quality impacts.

The verification must be undertaken during a period in which the project is operating under design loads and normal operating conditions. Condition 2.10 of the Project Approval states the maximum allowable discharge concentration limits set for each discharge point.

3.3 In the event the program undertaken to satisfy 3.2 of this approval indicates that the operation of the project, under design loads and normal operating conditions, will lead to:

a) Greater point source emissions or ground-level concentrations of air pollutants than predicted in the air quality impacts described in the EA; or

b) Greater point source emissions or ground-level concentrations of air pollutants than the impact assessment criteria detailed in "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW" (EPA, 2007).

*Then the Proponent shall provide details of remedial measures to be implemented to reduce point source emissions or ground-level concentrations of air pollutants to no greater than that predicted in the documents listed under condition 1.1 of this approval and to meet the impact assessment criteria detailed in "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW" (**EPA, 2007**).*

A verification of the odour monitoring and measured emissions is required as per Condition 3.4 and 3.5 of the Project Approval.

3.4 The program shall include, but not necessarily be limited to:

a) Point and area source emission sampling and analysis subject to the test methods outlined under Condition 3.1;

*b) A comprehensive odour assessment, using actual air emission data collected under a). The assessment shall be undertaken strictly in accordance with the methods outlined in "Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in New South Wales" (**EPA, 2005**) and "Technical Notes: Assessment and Management of Odour from Stationary Sources in NSW" (**EPA, 2006b**);*

*c) A comparison of the results of the odour assessment required under b) above, and the impact assessment criteria detailed in "Technical Framework: Assessment and Management of Odour from Stationary Sources in NSW" (**EPA, 2006a**) and "Technical Notes: Assessment and Management of Odour from Stationary Sources in NSW" (**EPA, 2006a**); and*

d) Details of any entries in the Complaints Register relating to odour impacts.

3.5 In the event that the program undertaken to satisfy Condition 3.4 of the approval indicates that the operation of the project, under normal design loads and normal operating condition, will lead to greater odour impacts than that predicted under condition 1.1 of this approval, then the Proponent shall provide details of remedial measures to be implemented to reduce odour impacts to levels required by that condition.

1.3 Objectives of the Study

This report has been produced to directly respond to the requirements of conditions 3.2, 3.3, 3.4 and 3.5 of the Project Approval, as summarised in **Section 1.2**.

It utilises dispersion modelling to predict the impact of emissions by using air quality data collected at the site after the expansion. Some of the air quality data used for the modelling was obtained during the commissioning and production providing period and hence would be considered worst case. These results are then compared to the model predictions made within the EA process, and relevant air quality criteria. The following steps were undertaken to complete the assessment:

- All relevant in-stack emissions testing data and odour monitoring data was collated to develop appropriate site-specific emission rates for all measured pollutants.
- A comparison was made between measured emissions data for various air quality parameters and those referenced previously (**HAS, 2007a**).
- A comparison was made between measured odour emissions data and those referenced previously (**HAS, 2007c**).
- Predicted ground level air quality and odour concentrations were compared with previously revised dispersion modelling (**HAS, 2007b**) and original predictions presented in the EA (**HAS, 2007a; 2007c**).
- Predicted ground level air quality and odour concentrations from dispersion modelling were compared with OEH assessment criteria for air pollutants and odour.
- The complaints register relating to air quality and odour was reviewed against the impact predictions.

2 AIR QUALITY CRITERIA

Air quality criteria are used to assess the potential for ambient air quality and odour to give rise to adverse health or nuisance effects.

Table 2 lists the air quality criteria for pollutants relevant to this study (**EPA, 2005**).

Table 2: Relevant Air Quality Criteria

Pollutant	Formula	Averaging Period	Impact Assessment Criteria (mg/m^3)
Nitrogen Dioxide	NO_2	1 Hour	0.246
		Annual	0.062
Sulfur Dioxide	SO_2	10 Minute	712
		1 Hour	570
		24 Hours	228
		Annual	60
Total Suspended Particulates	TSP	Annual	0.09
Cadmium	Cd	1 Hour	0.000018
Chlorine	Cl	1 Hour	0.05
Carbon Monoxide	CO	15 Minute	100
		1 Hour	30
		8 Hours	10
Sulfuric Acid	H_2SO_4	1 Hour	0.018
Hydrogen Chloride	HCl	1 Hour	0.14
Hydrogen Fluoride [a]	HF	90 Days	0.00025
		30 Days	0.0004
		7 Days	0.0008
		24 Hours	0.0015
Mercury [b]	Hg	1 Hour	0.0018
Tetrachlorodibenzodioxin	TCDD	1 Hour	0.000000002
Methanol	CH_4O	1 Hour	3
Lead	Pb	Annual	0.05
Arsenic	As	1 Hour	0.00009
Beryllium	Be	1 Hour	0.000004
Chromium	Cr	1 Hour	0.00009
Copper	Cu	1 Hour	0.0037 [c]
		1 Hour	0.018 [d]
Manganese	Mn	1 Hour	0.018
Nickel	Ni	1 Hour	0.00018
Antimony	Sb	1 Hour	0.009

[a] General land use, which includes all areas other than specialised use
[b] Inorganic
[c] Fumes
[d] Dusts and Mists

Table 3 shows the criteria for complex mixtures of odours. The level of odour permitted is determined by the population of affected community around the source.

Table 3: Impact assessment criteria for complex mixtures of odorous air pollutants (nose-response-time average, 99th percentile) (EPA, 2005)

Population of affected community	Impact assessment criteria for complex mixtures of odourous air pollutants (OU)
Urban (>/= 2000) and/or schools and hospitals	2.0
~500	3.0
~125	4.0
~30	5.0
~10	6.0
Single rural residence (</=~2)	7.0

In this assessment a community of 'urban (>/= 2000)' has been adopted to derive an appropriate odour criterion for the town of Tumut. Other receptor locations have been awarded odour criteria based on the likely population in a given location, with criteria ranging between 3 OU and 7 OU. This is consistent with HAS Air Report and the amended modelling report (**HAS, 2007b**).

Total reduced sulfur (TRS) has been modelled as hydrogen sulfide (H_2S), an odorous air pollutant. The criteria of H_2S are again dependent upon the exposed population, and are summarised in **Table 4** below.

Table 4: Impact assessment criteria for hydrogen sulfide (1-second nose-response-time average, 99th percentile)

Population of affected community	Impact assessment criteria (µg/m³)
Urban (>/=~2000)	1.38
~500	2.07
~125	2.76
~30	3.45
~10	4.14
Single residence (</=~2)	4.38

3 FACILITY MONITORING

3.1 Air Quality Monitoring

Emissions data specific to the expansion has been derived by reference to both continuous emissions monitoring system (CEMS) and periodic stack monitoring data.

The facility is configured where the emissions from all processing equipment are vented into a central emission vent and emitted through two 85 m stacks (stack 1 and stack 2). The CEMS measures NO_x, HCl, SO_2 and TRS at each stack at heights of 65 and 45 m height respectively. CO is not measured at the stack but at each component that emits into the stack. Visy confirmed that the atmospheric emissions from Recovery Boiler A, Power Boiler and Lime Kiln A & B report to stack 1. Emissions from Recovery Boiler B report to stack 2. An aggregate of the CO at each component is equivalent to the total CO emission at each stack.

All other air quality parameters were modelled using data from periodic stack testing conducted by Airlabs (**Airlabs, 2009a-e; 2010a-l; 2011a-k; 2012a-i**). Periodic stack monitoring is undertaken annually and quarterly in accordance with the methods and frequencies outlined in the Project Approval. Pollutant concentrations and emission limits at each discharge point have been specified in condition 3 of the Project Approval.

Visy operate air quality monitoring stations at Point 5, Point 6, Point 7 and Point 16. The Point 5 monitoring site measures NO_x and H_2S concentrations continuously. Point 6 and Point 7 measure only PM_{10}, while Point 16 measures only H_2S. Given that the atmospheric dispersion modelling conducted for this study references meteorological data for 2005, it is not possible to make a direct validation between post-expansion ambient monitoring and model predictions.

3.2 Odour Monitoring

Odour monitoring has been conducted on three occasions since commissioning of the project expansion commenced. Additional information and detail on the quantification of odour, including a description of the method used to analyse odour samples (olfactometry) is provided within the HAS Odour Report.

Within the HAS Odour Report the odour from the expansion was predicted to be below existing operations, with the implementation of proposed odour control measures. Start-up, shutdown and process upset conditions for the existing mill expansion scenarios were identified to have the potential to cause adverse odour impacts, depending on the meteorology in the previous assessment. These events were not required to be assessed in this report.

A map of the sources of odour modelled in the HAS Odour Report and the Verification Report is provided in **Figure 5**. For the Verification Report all except sources P10 – P12 (cooling towers 3, 4 and 5) represent measured sources. The physical parameters of these sources are described in **Table 8** and

Table 9.

3.3 Complaints Monitoring

No air quality complaints (excluding odour) have been received for the site during the post-expansion period from 1st September 2009 to 29th March 2012.

The facility's odour complaints register has recorded a total of 184 complaints in the post-expansion period from 1st September 2009 to 29th May 2012. The complaints reviewed referred to sulfur, mercaptan and black liquor in their characterisation of the odour. A transcript of the complaints register is shown in **Appendix A**.

The magnitude of impact predicted within the HAS Odour Report and in the current exercise (refer **Section 5.2**) is relatively minor under normal operating conditions. It is therefore inferred that when odour complaints occur, these are likely associated with start-up, shutdown or process upset conditions, which have not been explicitly evaluated in this exercise.

4 MODELLING METHODOLOGY

This assessment was prepared in accordance with the NSW Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (hereafter, "the Approved Methods", **EPA, 2005**). The approach used to verify the previous modelling is consistent with the HAS Air Report unless stated. The approach uses CALMET wind fields, TAPM upper air data and CALPUFF dispersion modelling. For consistency, an equivalent meteorological input file (calendar year 2005) was used in the current assessment as that described within the HAS Air Report. The modelling approach is outlined below and in greater detail in the previous assessments (**HAS, 2007a; 2007c**).

4.1 Meteorological Modelling

The CALPUFF atmospheric dispersion model makes use of wind fields generated by the CALMET meteorological model. CALMET generates a three-dimensional wind field on an hourly basis by taking observations of winds at selected location and interpolating these to produce information on wind speed and direction at a grid of regularly spaced points covering the area of interest. Modifications that are imposed on this interpolated wind field (by topography and differential heating and differential surface roughness) are then applied to the winds at each grid point to develop a final wind field.

Meteorological observations have been collected from three sites in the area, referred to as Point 5, Point 7 and Point 16. In addition, Visy commissioned Monash University to conduct boundary layer measurements by Monash University during 2005 to further characterise the local meteorology.

The 2005 meteorological dataset was used for this assessment to be consistent with the HAS Air and Odour Report and the amended modelling assessment (**HAS 2007a; 2007b; 2007c**). Further discussion of the CALMET model grid, meteorological station and terrain information can be found in Figure 5 of the HAS Air Report. For further details on the parameters used to create the meteorological field, refer to Table 3 of the previous assessment. Refer to the previous assessment for Annual and seasonal wind roses for Point 5 at the site (Figure 6 to Figure 9), ground-level wind patterns simulated by CALMET (Figure 10), meteorology simulated by CALMET at the surrounding site (Figure 11), wind speed and temperature profiles simulated by CALMET (Figure 12) and a histogram of surface temperature inversion depth as simulated by CALMET (Figure 13).

This CALMET dataset was further validated in a letter report where a comparison is made between 2002 and 2005 meteorological data (**HAS, 2007d**). The assessment concluded that while 2005 has a greater proportion of calms, these were unlikely to be a dominant factor in determining predicted maximum ground-level concentrations.

4.2 Dispersion Modelling

The CALPUFF atmospheric dispersion modelling system is the US EPA's preferred model for assessment of long range pollutant transport and for near field applications with complex meteorology. A domain of 20km by 20km around the facility was used for modelling impacts.

Information to characterise the influence of building downwash were included in the model in the form of building profile information, consistent with the HAS Air and Odour Reports. Only normal operations (normal design loads) have been evaluated in this assessment; start-up, shutdown and process upset conditions have not been quantitatively addressed.

4.3 Emission and Source Characterisation

4.3.1 Stack Monitoring

Stack monitoring data from quarterly and annual monitoring reports were provided by Visy (**Airlabs, 2009a-e; 2010a-l; 2011a-k; 2012a-i**). An average emission rate for all data from the stack monitoring reports was used within the modelling to evaluate impacts of air quality parameters that are not measured via a CEMS system.

The CALPUFF dispersion model requires information on the source location, source height, internal source tip diameter, emission temperature, exit velocity and the mass emission rate of the pollutants to be assessed. **Table 5** summarises the physical characteristics of the modelled sources as used as inputs in CALPUFF. The mass emission rates for the parameters modelled can be found in **Table 6**.

Table 5: Physical Characteristics of Modelled Sources

Physical Characteristics	Stack 1 (HAS Air Report)	Stack 1, physical parameters	Stack 2 (HAS Air Report)	Stack 2, physical parameters
Location (AMG coordinates, m)	603282, 6093442	603282, 6093442	603225, 6093405	603225, 6093405
Stack Height (m)	85.0	85.0	85.0	85.0
Internal Stack Diameter (m)	2.66	2.66	2.66	2.45
Average Temperature (ºC)	179.9	189.1	179.9	172.6
Exit Velocity (m/s)	25.6	25.9	25.6	18.6

The diameter of stack 2 differs between this assessment and the previous assessment. In the HAS Air Report stack 2 was modelled at 2.66 m and an amendment to the modelling (**HAS, 2007c**) quoted a diameter of 2.25 m. The physical diameter of stack 2, as built, measures 2.45 m. This built value was used to model the predictions for this assessment.

In instances where stack testing results indicate a “non-detect” (concentrations are below the limit of detection of the method); half the limit of detection has been used to derive a conservative emission rate estimation.

Metals were measured in-stack in both the gas phase and particulate phase. For these measurements an aggregate of each phase was used for emission estimation.

The average emission rates measured during periodic stack monitoring are shown in **Table 6.** When these measured values are compared to the emission rates used in the HAS Air Report they are more often lower for the measured values. The exceptions are sulfuric acid (H_2SO_4), beryllium (Be) and nickel (Ni) in stack 1 (marked in grey on **Table 6**).

Table 6: Modelled Emission Rate by Stack and Project

Pollutant	Formula	Stack 1 Assessment (HAS, 2007a) Modelled Emission Rate (g/s)	Stack 1 Average Measured Emission Rate (g/s)	Stack 2 Assessment (HAS, 2007a) Modelled Emission Rate (g/s)	Stack 2 Average Measured Emission Rate (g/s)
Total Suspended Particulates	TSP	3.08E+00	1.44E+00	2.19E+00	1.06E+00
Cadmium	Cd	2.74E-04	1.33E-06	9.72E-04	1.00E-06
Chlorine	Cl	1.88E-01	2.42E-02	5.07E+00	1.03E-01
Sulfuric Acid	H_2SO_4	7.88E-01	1.07E+00	1.49E+00	6.30E-01
Hydrogen Fluoride	HF	2.23E-02	8.00E-03	1.13E-01	4.00E-03
Mercury	Hg	3.60E-04	1.63E-05	2.45E-03	5.47E-05
Tetrachlorodibenzodioxin	TCDD	2.23E-09	7.14E-11	5.72E-09	8.80E-11
Methanol	CH_4O	1.04E-01	3.50E-03	1.04E-01	3.17E-03
Lead	Pb	4.47E-03	4.74E-04	1.02E-02	1.87E-04
Arsenic	As	1.71E-03	2.70E-05	3.52E-03	9.63E-06
Beryllium	Be	1.63E-06	1.10E-05	7.57E-05	4.12E-06
Chromium	Cr	1.42E-03	1.29E-04	4.23E-03	1.60E-04
Copper	Cu	1.63E-02	1.03E-04	2.12E-02	5.28E-04
Manganese	Mn	1.14E-02	4.95E-04	1.69E-02	2.90E-04
Nickel	Ni	1.46E-03	1.93E-03	2.10E-03	1.56E-03
Antimony	Sb	1.75E-04	1.69E-05	5.56E-04	4.72E-06

Inspection of **Table 6** indicates that H_2SO_4 and Ni emission rates show between a 30% - 40% increase in the mass emission rates adopted in the original modelling for stack 1. Mass emissions of Be from Stack 1 increase by approximately 600% of those originally adopted.

However, it is instructive to look at the aggregated emission rates for stack 1 and stack 2 (i.e. consider the total emissions from the facility). Considering the above air quality parameters, total (measured) emissions from the facility are 75%, 98% and 20% of the values originally used in the modelling for H_2SO_4, Ni and Be respectively.

Consequently, comparisons between emission rates for these parameters do not trigger any requirement for remedial measures, as referenced in condition 3.3 of the Project Approval.

4.3.2 Continuous Emissions Monitoring

A representative year-long data set was prepared for each pollutant measured by the CEMS system. The CEMS data was 100% complete for the post-expansion period used. These data were deemed to be representative of the emissions for each pollutant and were free of periods of anomalous data. An annual variable emissions file was created for each pollutant from the periods shown in **Table 7**.

Table 7: CEMS Data Input for Variable Emission Modelling

Stack	Pollutant	Monitoring Data Used
1	NO_X, HCl, SO_2, TRS	1 April 2011 – 30 March 2012
	CO	1 April 2010 – 31 March 2011
2	NO_X, HCl, SO_2, TRS	1 April 2011 – 30 March 2012
	CO	5 May 2011 – 3 May 2012

All CEMS concentrations and flow rates were normalised prior to the calculation of mass emission of each air quality parameter. Temperature and exit velocity were modelled as a constant emission rate over the year, while mass emission rate varied by hour. The stack exit parameters were calculated as an average of all monitored data and are listed in **Table 5**.

The values adopted in the HAS Air Report are also shown in **Figure 4**. The graphs represent the median value (middle of the box), the upper quartile (the upper extent of the box), the lower quartile and the maximum and minimum data values. They indicate that all values measured at the stacks are below the constant emission rates used in the HAS Air Report.

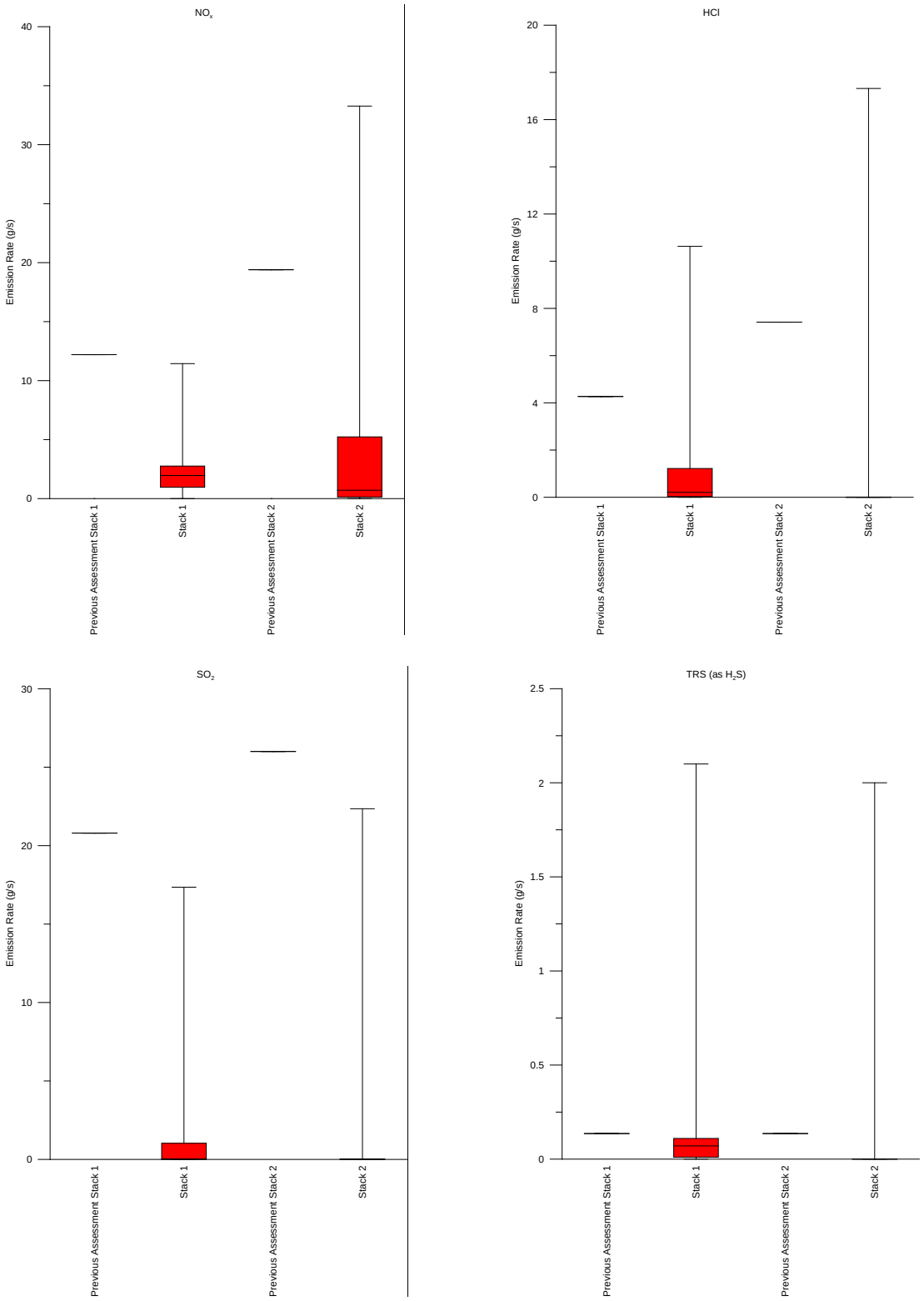


Figure 4: Constant Emission Rate Statistics for Each CEMS Measurement

Figure 4 indicates that the values adopted within the original modelling are conservatively high compared with the variable emission rates provided from the facility's CEMS data.

For NO_2 predictions, it was assumed that 20% of NO_x is NO_2 at the point of maximum ground-level concentration. While this is acknowledged as a potential over-simplification, this approach is consistent with the HAS Air Report and has thus been adopted for comparative purposes.

4.4 Odour Modelling

The facility has historically undergone odour audit exercises, during which two types of odour sources were identified, point sources and area sources.

The relevant information about the point sources modelled in the odour assessment is shown in **Table 8** and the relevant information about the area sources is shown in

Table 9. These data were derived from the odour monitoring reports supplied by Visy.

Table 8: Point source characterisation

ID	Easting (AMG)	Northing (AMG)	Location	Stack Height (m)	Base Elevation (m)	Stack Diameter (m)	Exit Velocity (m/s)	Exit Temp. (°C)
P1	603282	6093442	Main Stack 1	85	359	2.66	25.7	190.5
P2	603387	6093370	Vacuum Pump Exhaust 7	20	360	0.40	20.3	74.3
P3	603365	6093373	Paper Machine Building (Roof Vent NW)	20	360	1.21	15.1	32.9
P4	603407	6093343	Paper Machine Hood Vent Exhaust	20	360	2.63	8.2	68.3
P5	603301	6093316	Cooling Tower (No.1 Paper Machine Side)	18	360	6.80	11.2	28.8
P6	603225	6093405	Main Stack 2	85	356	2.45	19.2	174.0
P7	603348	6093321	Vacuum Pump Exhaust 4	20	360	0.82	5.8	55.0
P8	603355	6093341	Paper Machine Building (Roof Vent SW)	20	360	1.21	13.4	33.3
P9	603280	6093300	Cooling Tower (No.2 Paper Machine Side)	18	360	6.80	12.4	31.5
P10	603399	6093490	Cooling Tower 3	18	360	6.80	11.8	30.2
P11	603409	6093497	Cooling Tower 4	18	360	6.80	11.8	30.2
P12	603426	6093511	Cooling Tower 5	18	360	6.80	11.8	30.2
P13	603352	6093419	Filtrate Tank Vent	10	360	0.4	1.2	38
P14	603352	6093429	Blow Tank Vent	15	360	0.39	2.0	60
P15	603320	6093408	Chip Bin Vent	18	360	0.4	0.25	52
P16	603276	6093496	Slaker Scrubber Vent	25	360	0.4	0.5	12
P17	603307	6093444	Lime Mist Scrubber Vent	15	360	0.4	8	43
P18	603362	6093305	Paper Machine Building Hood Vent	20	360	2.625	5	69.4

Table 9: Area source characterisation

ID	Easting (AMG)	Northing (AMG)	Location	Stack Height (m)	Base Elevation (m)
A1	602867	6093370	Cooling Pond A	0	338
A2	602917	6093358	Cooling Pond B	0	338
A3	602907	6093316	Wastewater Reactor A	0	336
A4	602872	6093329	Wastewater Reactor B	0	336
A5	602970	6093378	Sludge Tank	0	340

The location of the above sources is shown in **Figure 5**.

Figure 5: Map of site layout with monitored odour sources

The emission rates for odour sources were derived from the average of the odour monitoring data. These values are summarised in **Table 10** and compared to the HAS Air Report emission rates. When these measured values are compared to the emission rates used in HAS Air Report they are more often lower for the measured values. The exceptions are the main stacks, the Paper Machine Hood Vent Exhaust and the Paper Machine Building (marked in grey on **Table 10**).

Table 10: Odour Modelled Emission Rates

ID	Location	Source Type	Emission Rate / Flux (HAS Air Report)	Emission Rate / Flux (Verification Report)	Units
P1	Main Stack 1	Point	87,055	162,000	ou.m³/s
P2	Vacuum Pump Exhaust 7	Point	29,696	9,023	ou.m³/s
P3	Paper Machine Building (Roof Vent NW)	Point	2,504	20,300	ou.m³/s
P4	Paper Machine Hood Vent Exhaust	Point	16,668	55,967	ou.m³/s
P5	Cooling Tower (No.1 Paper Machine Side)	Point	471,253	253,333	ou.m³/s
P6	Main Stack 2	Point	87,055	331,000	ou.m³/s
P7	Vacuum Pump Exhaust 4	Point	29,696	8,837	ou.m³/s
P8	Paper Machine Building (Roof Vent SW)	Point	7,514	15,867	ou.m³/s
P9	Cooling Tower (No.2 Paper Machine Side)	Point	353,440	348,333	ou.m³/s
P10	Cooling Tower 3	Point	471,253	300,833	ou.m³/s
P11	Cooling Tower 4	Point	471,253	300,833	ou.m³/s
P12	Cooling Tower 5	Point	353,440	300,833	ou.m³/s
P13	Filtrate Tank Vent	Point	2,012	2,012	ou.m³/s
P14	Blow Tank Vent	Point	4,821	4,821	ou.m³/s
P15	Chip Bin Vent	Point	274	274	ou.m³/s
P16	Slaker Scrubber Vent	Point	84	84	ou.m³/s
P17	Lime Mist Scrubber Vent	Point	2,337	2,337	ou.m³/s
P18	Paper Machine Building Hood Vent	Point	16,668	16,668	ou.m³/s
A1	Cooling Pond 3A	Area	3.59	0.47	ou/m²/s
A2	Cooling Pond 3B	Area	3.59	0.82	ou/m²/s
A3	Wastewater Reactor A	Area	1.04	1.04	ou/m²/s
A4	Wastewater Reactor B	Area	1.04	1.04	ou/m²/s
A5	Sludge Tank	Area	2.68	2.68	ou/m²/s
	Total		**2,391,487**	**2,109,129**	ou.m³/s

Due to their relative insignificance, several sources documented within the HAS Odour Report were not monitored post-expansion. These comprise of: filtrate tank vent; blow tank vent; chip bin vent; slaker scrubber vent; lime mud scrubber vent; wastewater reactor and sludge tank. Collectively these components accounted for 2.3% of the total emissions in the HAS Odour Report. These sources have been characterised within this assessment referencing the values adopted within the HAS Odour Report.

Five cooling towers are operational at the facility. The odour surveys only monitored two cooling towers (cooling tower 1 & 2). The average emission rate for these cooling towers was used to model cooling tower 3, 4 and 5.

While some individual sources have a higher measured odour emission rate than that adopted in the original assessment, the total measured site odour emission inventory is approximately 12% below that used in the original modelling. Consequently, comparisons between emission rates for these parameters do not trigger any requirement for remedial measures, as referenced in condition 3.5 of the Project Approval.

A comparison between the parameters modelled in the HAS Odour Report and measured odour parameters illustrates some differences between what was assumed for exit velocity and temperature and what was measured. These are shown in **Table 11**.

Table 11: Comparison between modelled odour parameters

ID	Location	Exit Velocity (m/s)		Exit Temperature (°C)	
		HAS Odour Report	Verification Report	HAS Odour Report	Verification Report
P1	Main Stack 1	15.4	25.70	180.0	190.5
P2	Vacuum Pump Exhaust 7	23.0	20.30	54.9	74.3
P3	Paper Machine Building (Roof Vent NW)	2.0	15.10	34.8	32.9
P4	Paper Machine Hood Vent Exhaust	5.0	8.22	69.4	68.3
P5	Cooling Tower (No.1 Paper Machine Side)	6.2	11.17	34.9	28.8
P6	Main Stack 2	15.4	19.20	180.0	174.0
P7	Vacuum Pump Exhaust 4	23.0	5.79	54.9	55.0
P8	Paper Machine Building (Roof Vent SW)	2.0	13.43	34.8	33.3
P9	Cooling Tower (No.2 Paper Machine Side)	6.2	12.35	34.9	31.5
P10	Cooling Tower 3	6.2	11.76	34.9	30.2
P11	Cooling Tower 4	6.2	11.76	34.9	30.2
P12	Cooling Tower 5	6.2	11.76	34.9	30.2

Modelled odour parameters have been sourced from an average of the emission values measured at the time of the odour monitoring. Some of these samples were taken during the commission/production proving period and as a result were slightly more elevated.

It is common practice to use dispersion models to determine compliance with odour criteria. This introduces a complication because Gaussian dispersion models are only able to directly predict concentrations over an averaging period of 3-minutes or greater. The human nose, however, responds to odours over periods of the order of a second or so. During a 3-minute period, odour levels can fluctuate significantly above and below the mean depending on the nature of the source.

Odour emissions in the dispersion model have been multiplied by the recommended peak-to-mean ratios for different source types to predict odour levels for nose response times. Far-field peak to mean factors (tall point source) have been applied to the stacks based on stability class variability. All other point sources were deemed wake affective points so a value of 2.3 was applied for the peak-to-mean. These values were derived from an assessment undertaken by Katestone Scientific (**1998**) and are summarised in **Table 12**.

Table 12: Recommended factors for estimating peak concentrations for different source types, distance and stabilities

Source Type	Stability	Near Field				Far Field			
		i_{max}	x_{max}	P/M 60	P/M 3	i	P/M 60	P/M 3	P
Area	Neutral, Convective	0.5	500-1000	2.5	1.9	0.4	2.3	1.7	0.15
	Stable	0.5	300-800	2.3	1.7	0.3	1.9	1.4	0.10
Line	Neutral, Convective	1.0	350	6	2.8	0.75	6	2.8	0.25
	Stable	1.0	250	6	2.8	0.65	6	2.8	0.25
Surface Point	Neutral	2.5	200	25	10	1.2	5 – 7	3	0.2
	Stable	2.5	200	25	10	1.2	5 – 7	3	0.2
	Convective	2	1000	12	7	0.6	3 - 4	2.5	0.15
Tall Point	Neutral, Stable	4.5	5 h	35	8	1.0	**6**	1.3	0.5
	Convective	2.3	2.5 h	17	4	0.5	**3**	1.1	0.5
Wake affective point	Neutral, Convective	0.4	-	2.3	1.4	-	2.3	1.4	0.1
Volume	Neutral, Convective	0.4	-	2.3	1.4	-	2.3	1.4	0.1

I_{max} is maximum centreline intensity of concentration
X_{max} is the approximation location of imax in metres
P/M 60 is the peak-to-mean ratio for long averaging times (typically 1 hour), at a probability of 10-3
P/M 3 is the best estimates of the peak-to-mean ratio for 3 minute averages, at probability 10-3
p is the averaging time power law exponent
h is the stack height

Source: **Katestone Scientific (1998)**

5 MODELLING RESULTS

5.1 Maximum Ground Level Air Quality Impacts

Maximum ground level concentrations for each pollutant are displayed in **Table 13** and exceedences are shown in bold. Dependent upon the pollutant and consistent with the Approved Methods (**EPA, 2005**) either the 100th percentile or the 99.9th percentile value is presented for comparison with the relevant criterion. A table of all maximum predicted values across the model domain for each pollutant has been collated and will be provided for input into the Human Health Risk Assessment that is required under the expansion's Project Approval.

Table 13: Maximum predicted ground level concentration (µg/m^3)

Pollutant	Averaging Time	Percentile	Expansion - Phase 2 (HAS Air Report)	Post EA Model Results (HAS, 2007d), Phase 2 750 [a]	Post EA Model Results (HAS, 2007d), Phase 2 900 [b]	Modelled from measured data (Verification Report)	Criteria
CO	1-h Maximum	100	4.28E+02	2.11E+02	2.02E+02	3.78E+03	3.00E+04
NO_X	1-h Maximum	100	3.88E+02	2.21E+00	2.33E+02	8.54E+02	N/A
NO_2	Annual	100	3.23E+00	4.43E+01	4.65E+01	4.05E+00	6.20E+01
	1-h Maximum	100	7.76E+01	3.48E+00	3.52E+00	1.71E+02	2.46E+02
TSP (as PM_{10})	24-hour Maximum	100	4.98E+00	4.79E+00	4.97E+00	9.07E+00	5.00E+01
	Annual	100	4.45E-01	3.98E-01	4.04E-01	8.17E-01	3.00E+01
SO_2	1-h Maximum	100	4.33E+02	1.64E+02	1.56E+02	4.76E+02	5.70E+02
	24-hour Maximum	100	4.05E+01	2.42E+01	2.42E+01	2.37E+01	2.28E+02
	Annual	100	3.55E+00	2.08E+00	2.06E+00	1.58E-01	6.00E+01
HF	24-hour Maximum	100	1.19E-01	1.25E-01	1.21E-01	5.04E-02	1.50E+00
Cd	1-h Maximum	99.9	3.92E-03	3.87E-03	3.69E-03	3.59E-05	1.80E-02
Hg	1-h Maximum	99.9	8.86E-03	9.03E-03	8.32E-03	7.80E-04	1.80E-01
TCDD	1-h Maximum	99.9	2.50E-08	2.45E-08	2.46E-08	2.11E-09	2.00E-06
Cl	1-h Maximum	99.9	1.66E+01	1.71E+01	1.56E+01	1.46E+00	5.00E+01
H_2SO_4 (as SO_3)	1-h Maximum	99.9	7.15E+00	6.87E+00	6.75E+00	1.46E+01	1.80E+01
HCl	1-h Maximum	99.9	3.67E+01	2.91E+01	2.91E+01	5.57E+01	1.40E+02
Pb	1-h Maximum	99.9	1.10E-03	1.07E-03	1.05E-03	1.28E-02	5.00E-01
Sb	Annual	100	2.30E-03	2.26E-03	2.17E-03	8.90E-06	9.00E+00
As	1-h Maximum	99.9	1.64E-02	1.59E-02	1.56E-02	7.28E-04	9.00E-02
Be	1-h Maximum	99.9	2.44E-04	2.54E-04	2.30E-04	5.87E-04	4.00E-03
Cr	1-h Maximum	99.9	1.78E-02	1.75E-02	1.68E-02	3.83E-03	9.00E-02
Cu	1-h Maximum	99.9	1.17E-01	1.11E-01	1.15E-01	7.40E-03	1.80E+01
Mn	1-h Maximum	99.9	8.87E-02	8.41E-02	8.54E-02	1.34E-02	1.80E+01
Ni	1-h Maximum	99.9	1.11E-02	1.06E-02	1.09E-02	5.22E-02	1.80E-01
Methanol	1-h Maximum	99.9	6.53E-01	6.32E-01	6.68E-01	9.45E-02	3.00E+03

a Typical operation of Recovery Boiler 2, flow rate of 750 tds/day
b Recovery boiler operating at lower firing rate thereby increasing firing rate of Recovery Boiler 2, flow rate of 900 tds/day

An exceedance was predicted for H_2SO_4, expressed as SO_3, at 28.9 µg/m^3, more than 10 µg/m^3 above the criterion of 18 µg/m^3. This exceedance is within the Visy site boundary. Predicted impacts above this criterion of 18 µg/m^3 were not found at any of the residences listed in **Table** 15.

The maximum allowable discharge concentration for sulphuric acid mist and sulphur trioxide (as SO_3) is 20 mg/m^3 for stack 2, as required by condition 2.10 of the Project Approval. This limit was not exceeded in any of the stack monitoring data.

It is recognised that the values presented in **Table 13** represent the maximum concentrations across the model domain used in the HAS Air Report, which include points within the Visy site boundary. These locations often exhibit the highest predicted impacts. For this reason the maximum predicted impacts presented, while consistent with the locations adopted in the HAS Air Report, are a conservative over-prediction both of maximum impacts beyond the site boundary, and at the residential receptors documented in **Table 15**.

Table 14 summarises the TRS (as H_2S) model results for both the most affected ground-level location and the most affected ground-level residence.

Table 14: Highest ground level concentration for TRS (as H_2S)

Location	Averaging Time	Percentile	Concentration (µg/m^3) – HAS Air Report	Concentration (µg/m^3) – Verification Report	Criteria
Grid Maxima	1-second (Nose-response)	99	2.30	1.85	1.38 (>2000) 4.83 (~2)
Most Affected Residence	1-second (Nose-response)	99	0.48	0.77	1.38 (>2000) 4.83 (~2)

The highest predicted impact of TRS (as H_2S) was 1.85 µg/m^3 at a location within the facility boundary. The highest concentration at a sensitive receptor was 0.77 µg/m^3 at receptor 5 ('Woomera'). This property was purchased by Visy prior to the project expansion. Both predictions are below those made within the HAS Air Report.

5.2 Maximum Ground Level Odour Impacts

The highest predicted odour impacts at each receptor are shown in **Table 15**. The results are corrected from 1-hour predictions for 1-second nose response times using appropriate peak-to-mean ratios and are shown at the 99th percentile. The modelled odour emissions from the HAS Odour Report assumed that odour control measures would be implemented for the expansion. Maximum predicted odour concentrations from the HAS Air Report suggested that odour could be detectable at most receptor locations on occasion.

Table 15: Predicted odour levels at nearest residences for HAS Odour Report compared to the Verification Report.

ID	Receptor Description	Odour levels at the 99th Percentile		Proposed Odour Criterion (99th Percentile)
		Expansion (HAS, 2007b)	Verification Report	
2	Pleasant View	6	9	5
3	Minjary	3	5	5
4	Reka	4	4	5
6	Whispering Pines	4	5	5
7	Deep Creek	2	3	5
8	Glengarry	3	3	5
9	Glenroy Park	2	2	5
9a	M Bradley	2	2	5
10	The Lagoon	1	1	5
11	B&K Gentle	2	1	5
12	Moonapinna	1	1	5
13	S Bevan	1	1	5
14	Willow Bend	1	1	7
19	R&C Beale	1	1	5
21	J Adams	2	3	5
22	Bradley	4	6	5
26	Adelong Main Street	1	1	3
27	Tumut Main Street	1	1	2

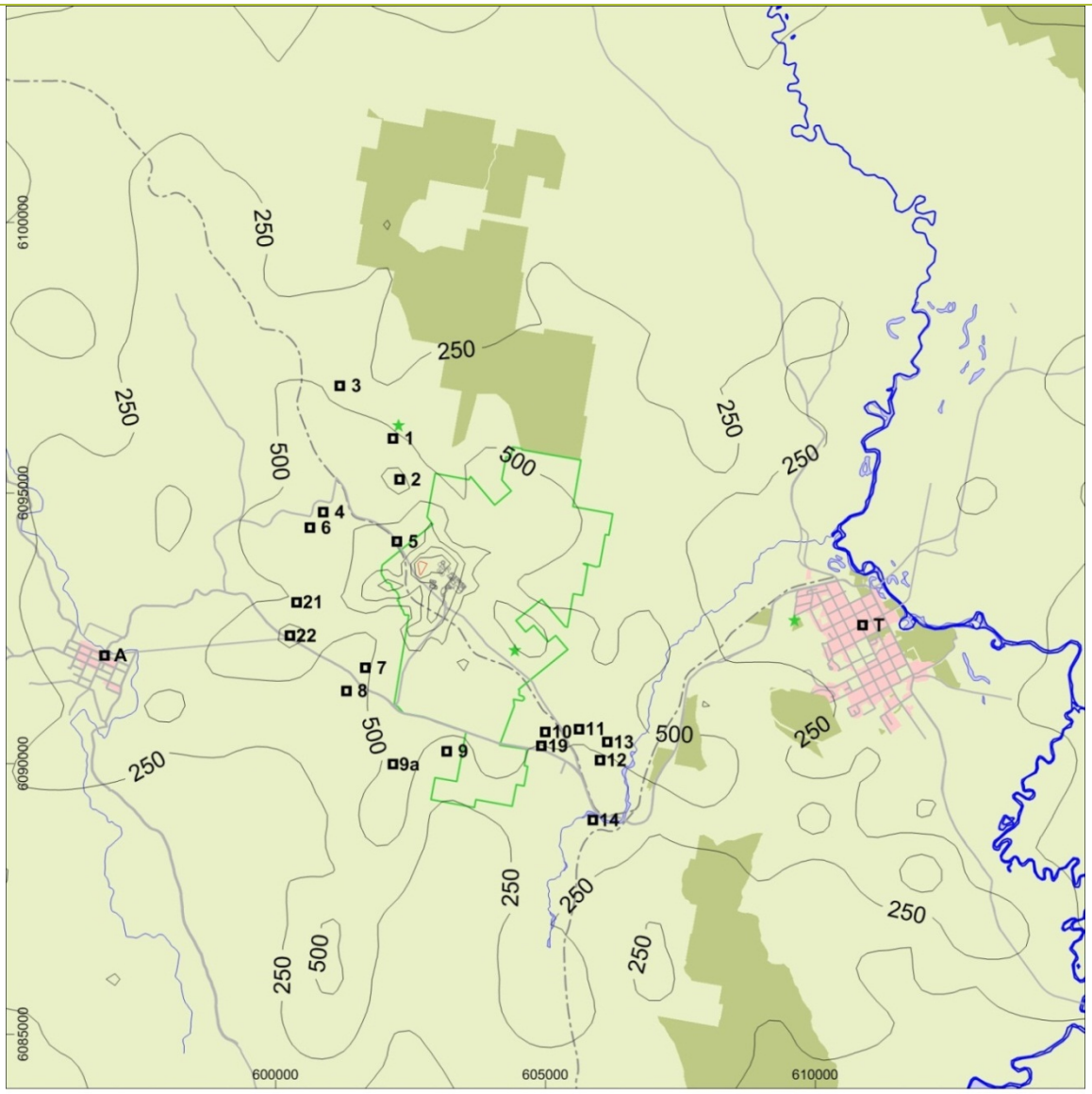
The revised modelling predicts exceedances at two receptors, 'Pleasant View' and 'Bradley & Whiting' (shaded dark grey, **Table 15**). The maximum predicted impacts are equal to the criteria at one other receptor 'Minjay' (shaded light grey, **Table 15**).

Further analysis of the contribution of each source contributing to odour impacts shows that the cooling towers are the principal contributor to ground level odour impacts. For sensitive receptors showing an exceedance the cooling tower contribution to the total odour impacts are: Pleasant View 73%; Bradley 79% and Minjary 80%. The range of contributions of the cooling towers at the receptors was 45% - 80% of the total odour impacts predicted at each individual receptor.

5.3 Maximum Spatial Impacts

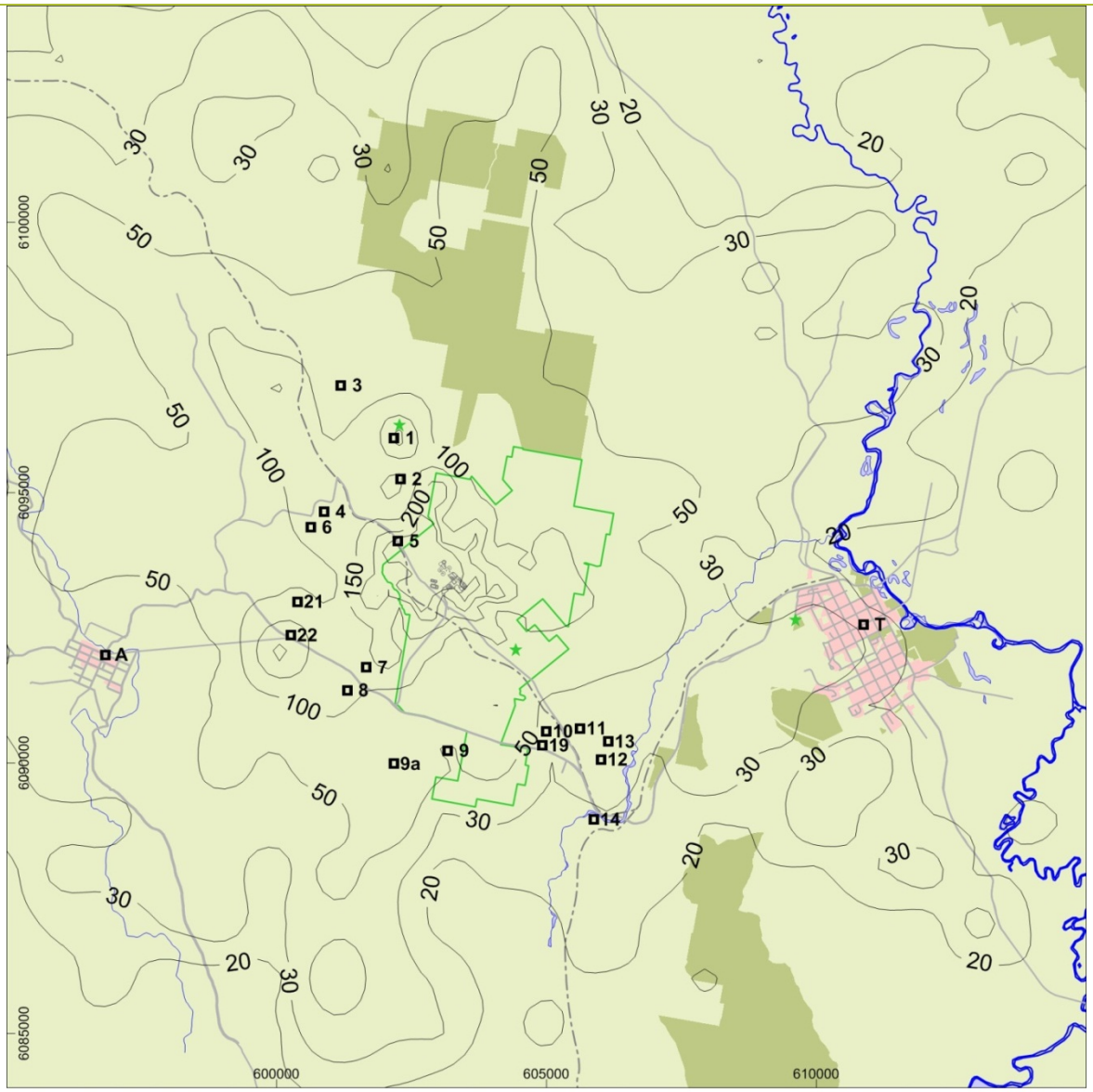
The distribution of pollutants across the modelling domain for maximum ground-level concentrations in worst case conditions are shown in the contour plots **Figure 6, Figure 7, Figure 8, Figure 9, Figure 10** and **Figure 11**. The contours plots present the dispersion patterns in the study area of CO, NO_x, TSP (as PM_{10}), TRS (as H_2S) and odour using the post-expansion monitoring data.

Figure 12, Figure 13, Figure 14, Figure 15, Figure 16 and **Figure 17** show the measured modelling predictions minus the HAS Air and Odour Report predictions. Positive contours (purple) represent greater impacts than previously assessed, while negative contours (blue) represent lesser impacts than previously modelled. The degree of change is represented in the opacity, where a lower transparency represents a larger deviation from the previously modelled impacts.



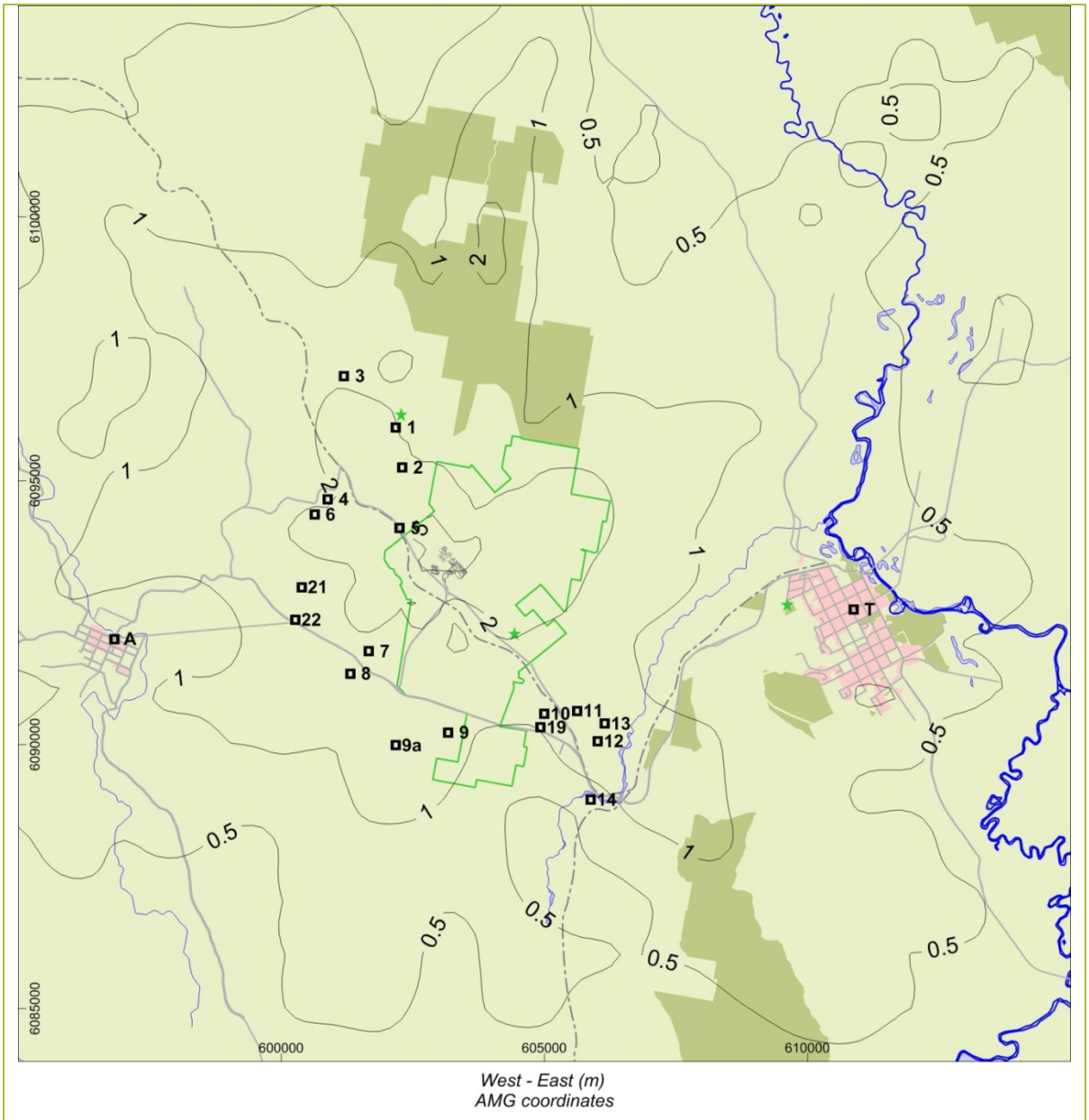
Species:	Location:	Scenario:	Percentile:	Averaging Time:
CO	Tumut	Stage 2	Maximum	1-Hour
Model Used:	**Units:**	**Guideline:**	**Met Data:**	**Plot:**
CALPUFF v6.42	µg/m^3	3000 µg/m^3 (shown as a red line, inside facility boundary)	2005 CALMET-Generated	G Laing

Figure 6: Predicted maximum 1-hour average CO concentrations from measured stack emissions (µg/m^3)



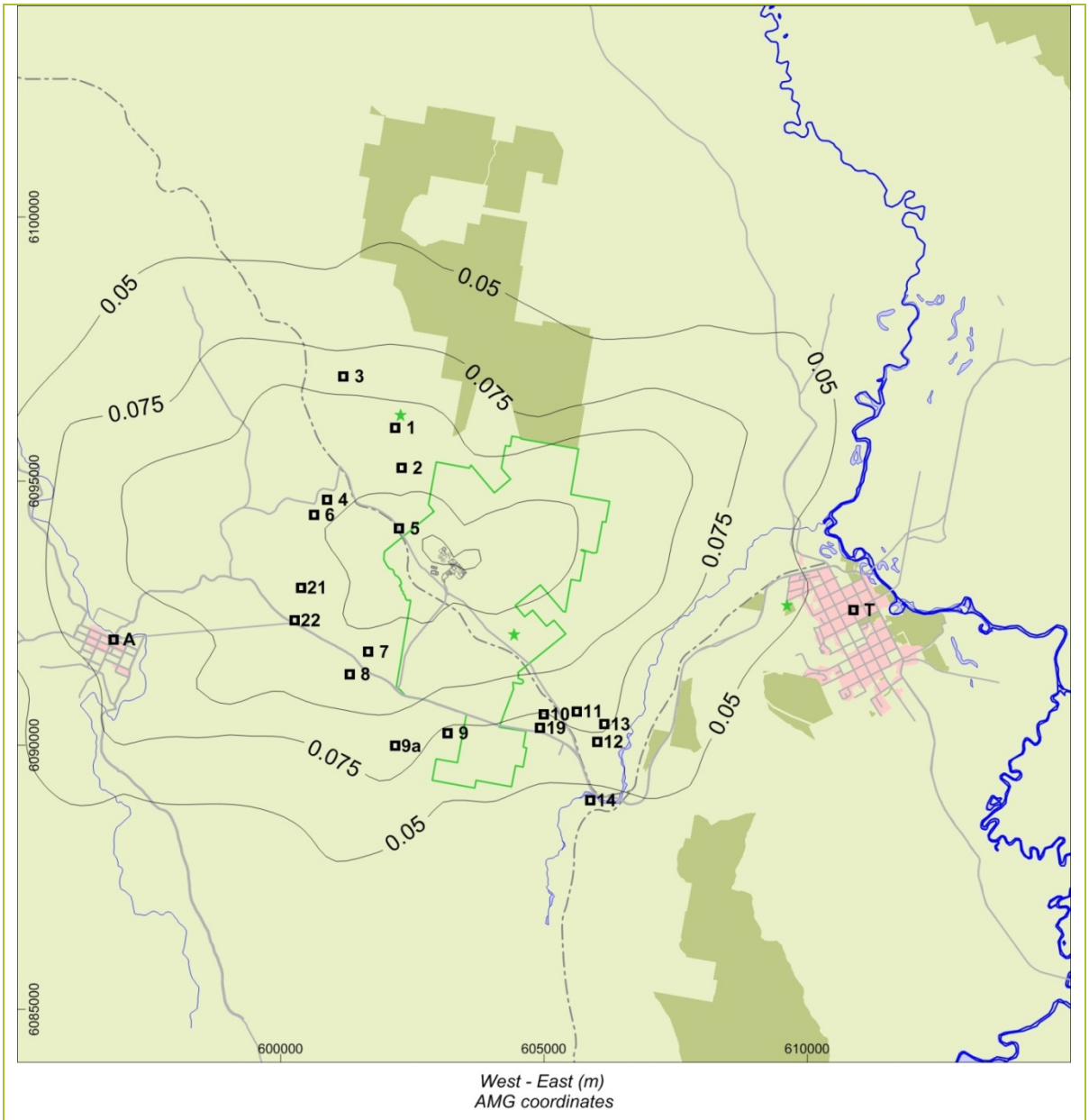
Species:	Location:	Scenario:	Percentile:	Averaging Time:
NOx	Tumut	Stage 2	Maximum	1-Hour
Model Used:	**Units:**	**Guideline:**	**Met Data:**	**Plot:**
CALPUFF v6.42	µg/m^3	N/A	2005 CALMET-Generated	G Laing

Figure 7: Predicted maximum 1-hour average NOx concentrations from measured stack emissions (µg/m^3)



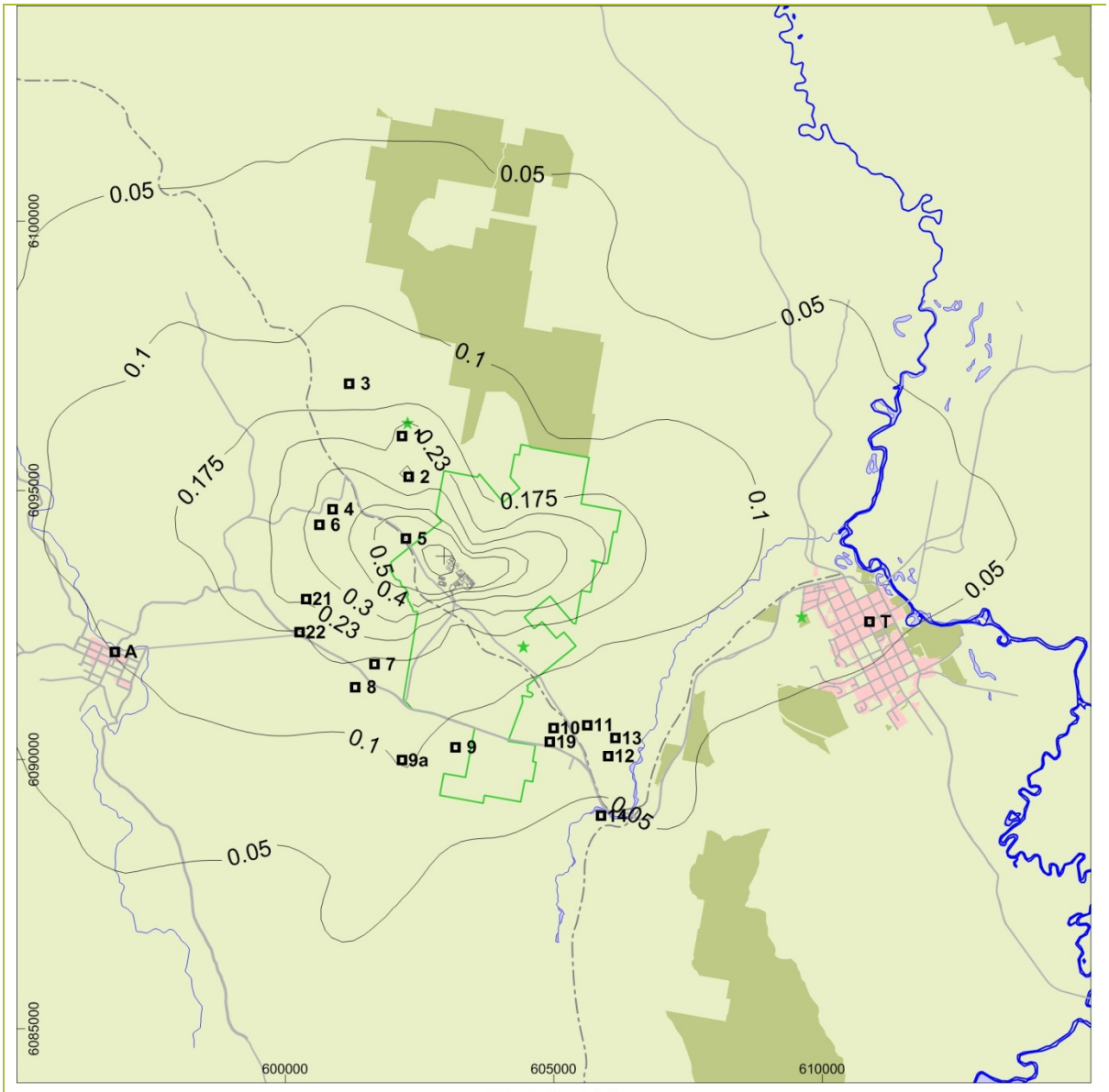
Species:	Location:	Scenario:	Percentile:	Averaging Time:
TSP (as PM_{10})	Tumut	Stage 2	Maximum	24-Hour
Model Used:	**Units:**	**Guideline:**	**Met Data:**	**Plot:**
CALPUFF v6.42	µg/m^3	50 µg/m^3 (not predicted in modelling domain)	2005 CALMET-Generated	G Laing

Figure 8: Predicted maximum 24-hour average TSP concentrations from measured stack emissions (µg/m^3)



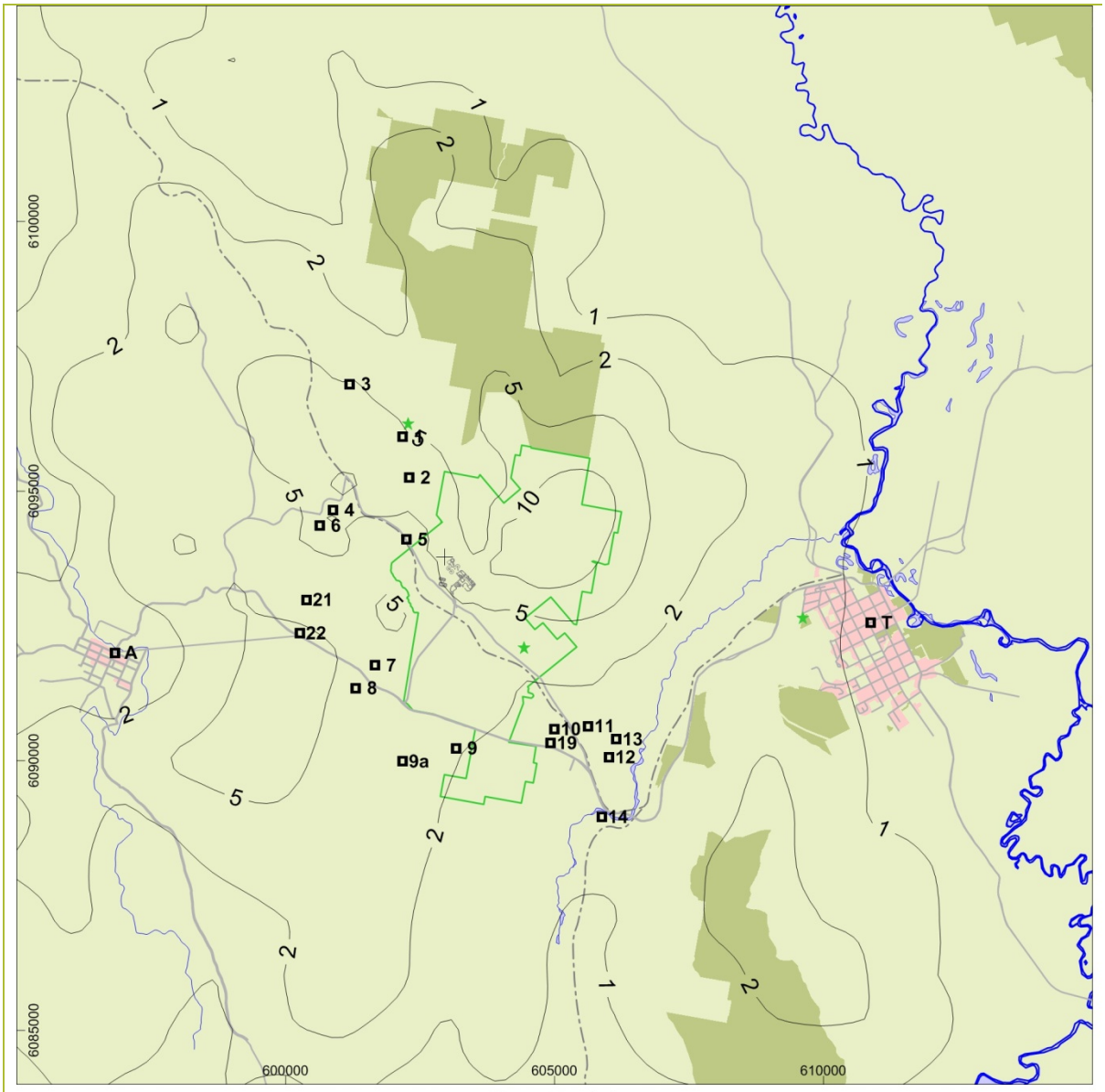
Species:	Location:	Scenario:	Percentile:	Averaging Time:
TSP (as PM_{10})	Tumut	Stage 2	Maximum	Annual
Model Used:	**Units:**	**Guideline:**	**Met Data:**	**Plot:**
CALPUFF v6.42	µg/m^3	30 µg/m^3 (not predicted in modelling domain)	2005 CALMET-Generated	G Laing

Figure 9: Predicted maximum annual average TSP concentrations from measured stack emissions (µg/m^3)



Species:	Location:	Scenario:	Percentile:	Averaging Time:
TRS (as H_2S)	Tumut	Stage 2	99%	1-Hour
Model Used:	**Units:**	**Guideline:**	**Met Data:**	**Plot:**
CALPUFF v6.42	µg/m^3	Population dependant, 1.38 (>2000), 4.83 (~2)	2005 CALMET-Generated	G Laing

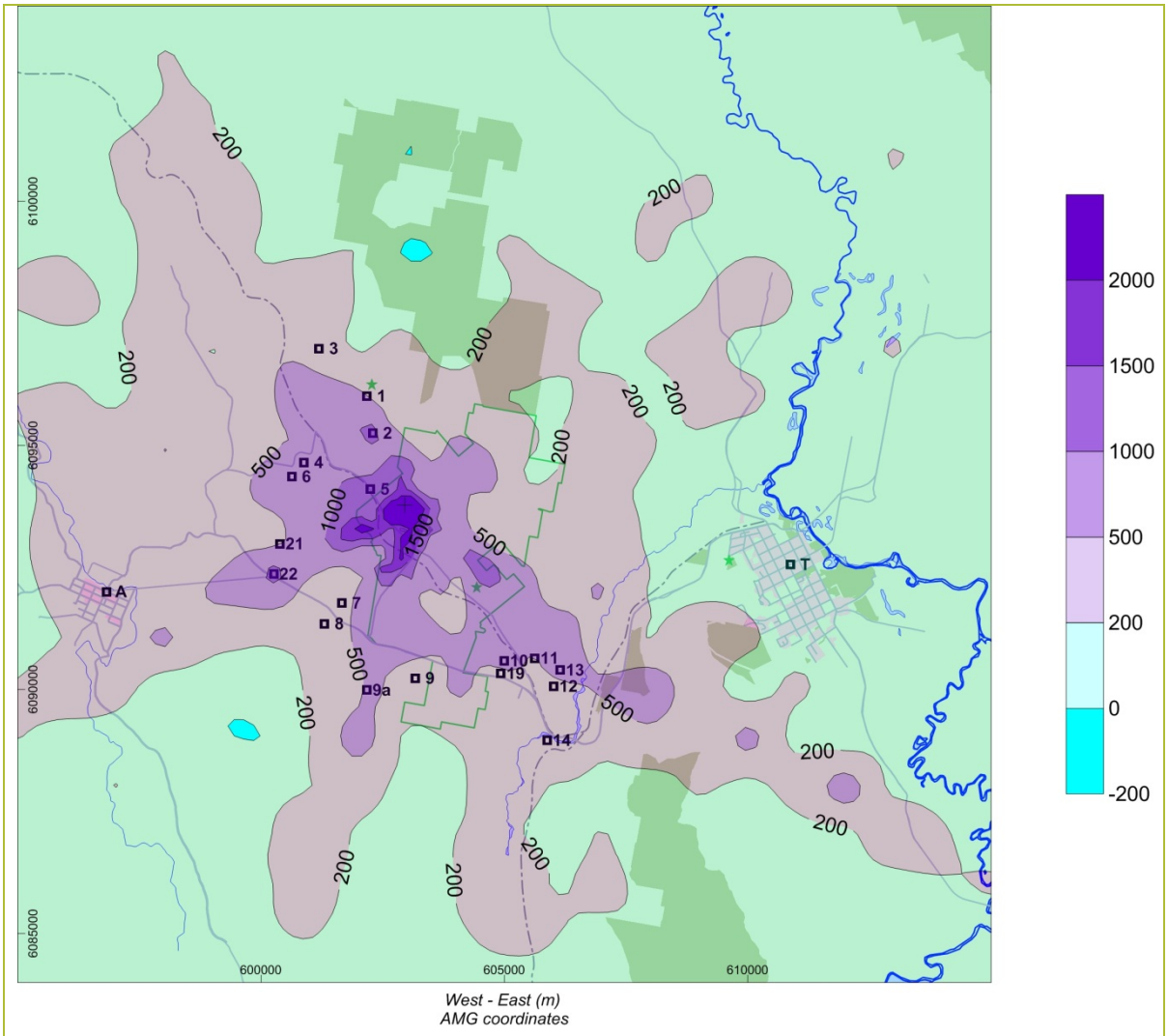
Figure 10: Predicted maximum TRS (as H_2S) 1-hour average concentrations from measured stack emissions (OU)



Species:	Location:	Scenario:	Percentile:	Averaging Time:
Odour	Tumut	Stage 2	99%	1-Hour
Model Used:	**Units:**	**Guideline:**	**Met Data:**	**Plot:**
CALPUFF v6.42	OU	2 - 7 OU (population dependant)	2005 CALMET-Generated	G Laing

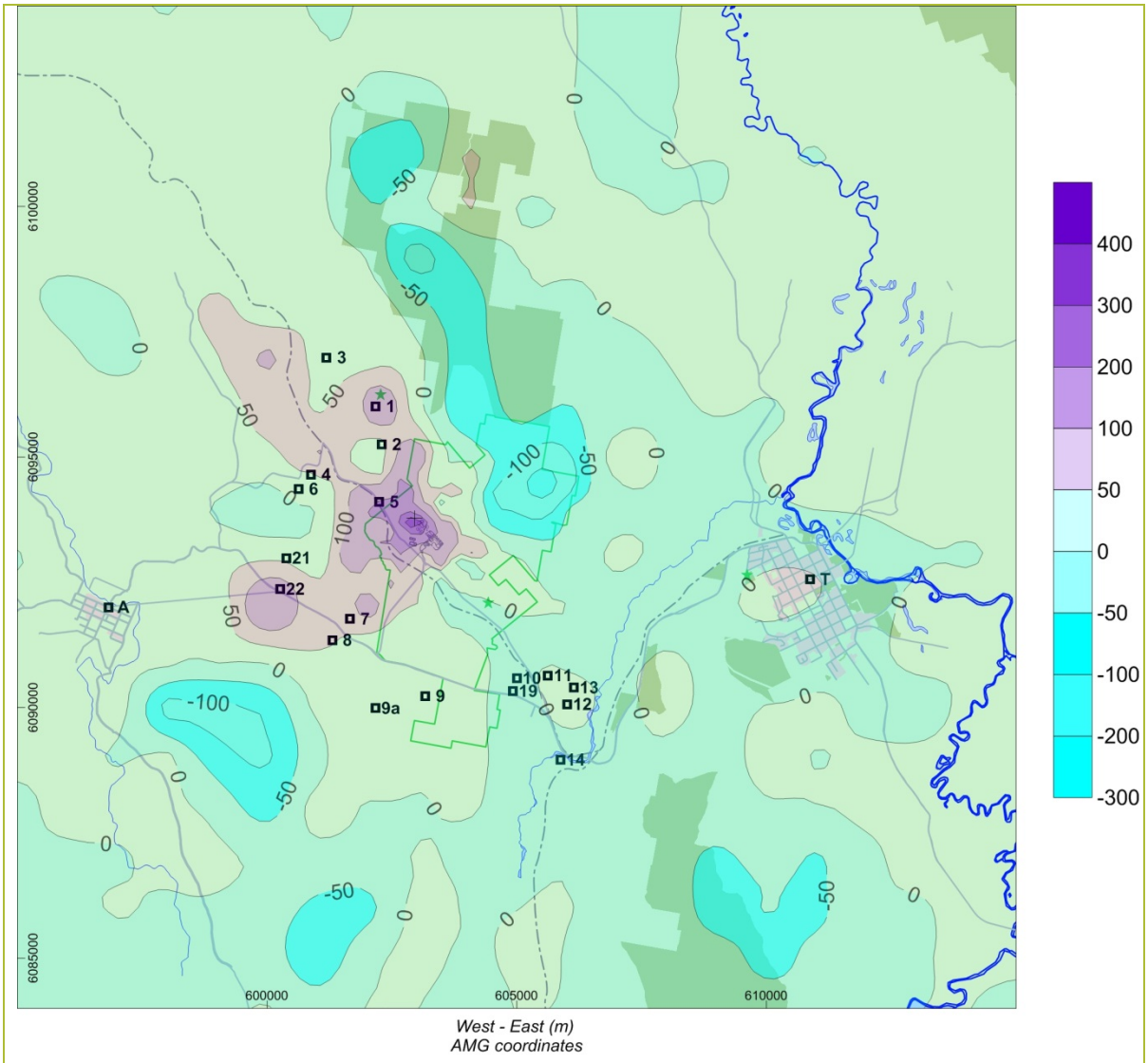
Figure 11: Predicted maximum 99% average odour concentrations from modelled using odour monitoring measurements (OU)

The predicted impacts for CO illustrate that the criteria will only be exceeded within the project boundary. No exceedances of NO_x or TSP were predicted within the modelling domain. The predicted odour impacts show exceedances at two residences as discussed above.



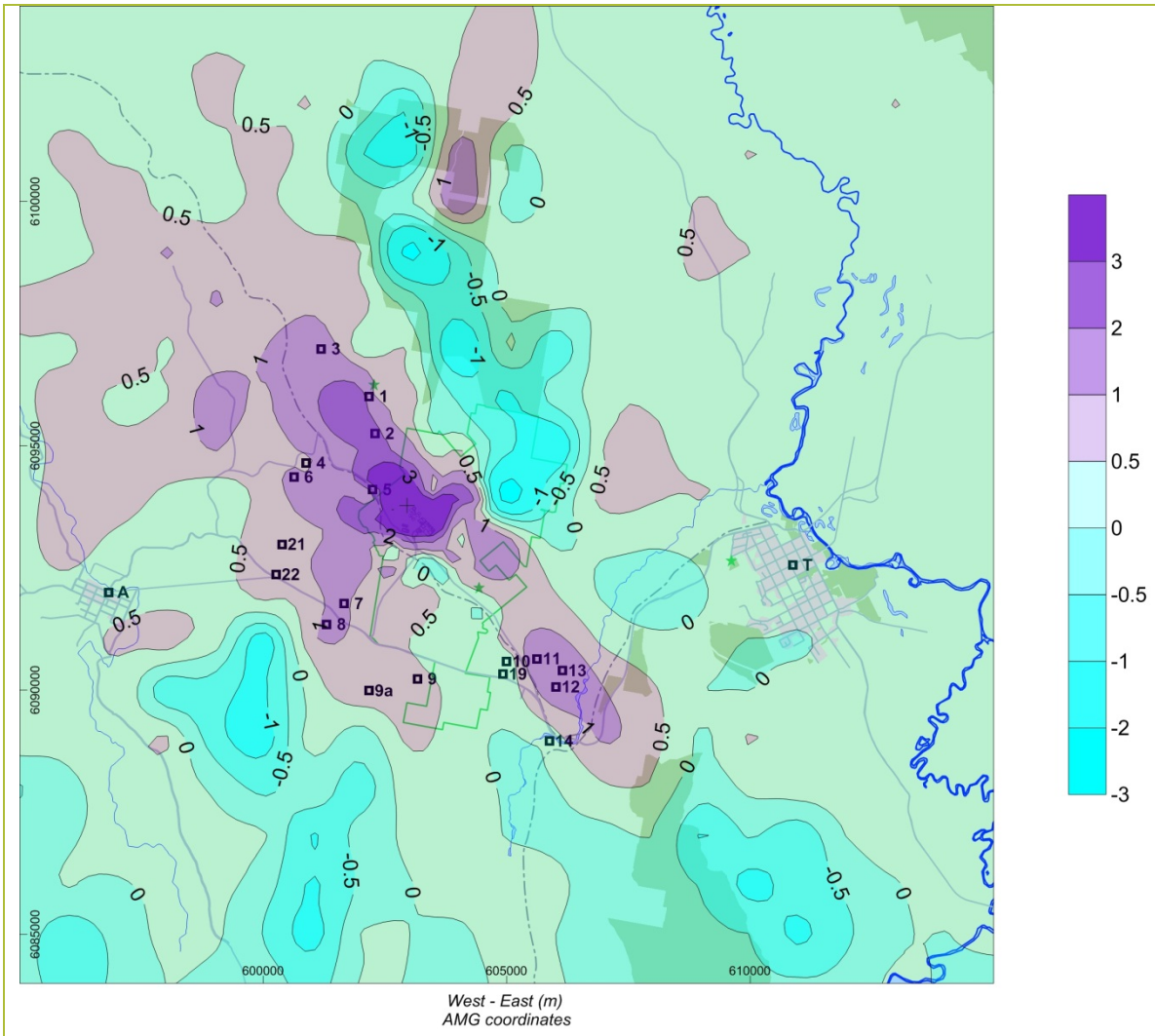
Species:	Location:	Scenario:	Percentile:	Averaging Time:
CO	Tumut	Stage 2	Maximum	1-Hour
Model Used:	**Units:**	**Guideline:**	**Met Data:**	**Plot:**
CALPUFF v6.42	µg/m^3	3000 µg/m^3	2005 CALMET-Generated	G Laing

Figure 12: Predicted maximum difference in CO 1-hour average concentrations from initial assessment minus verification modelling (µg/m^3)



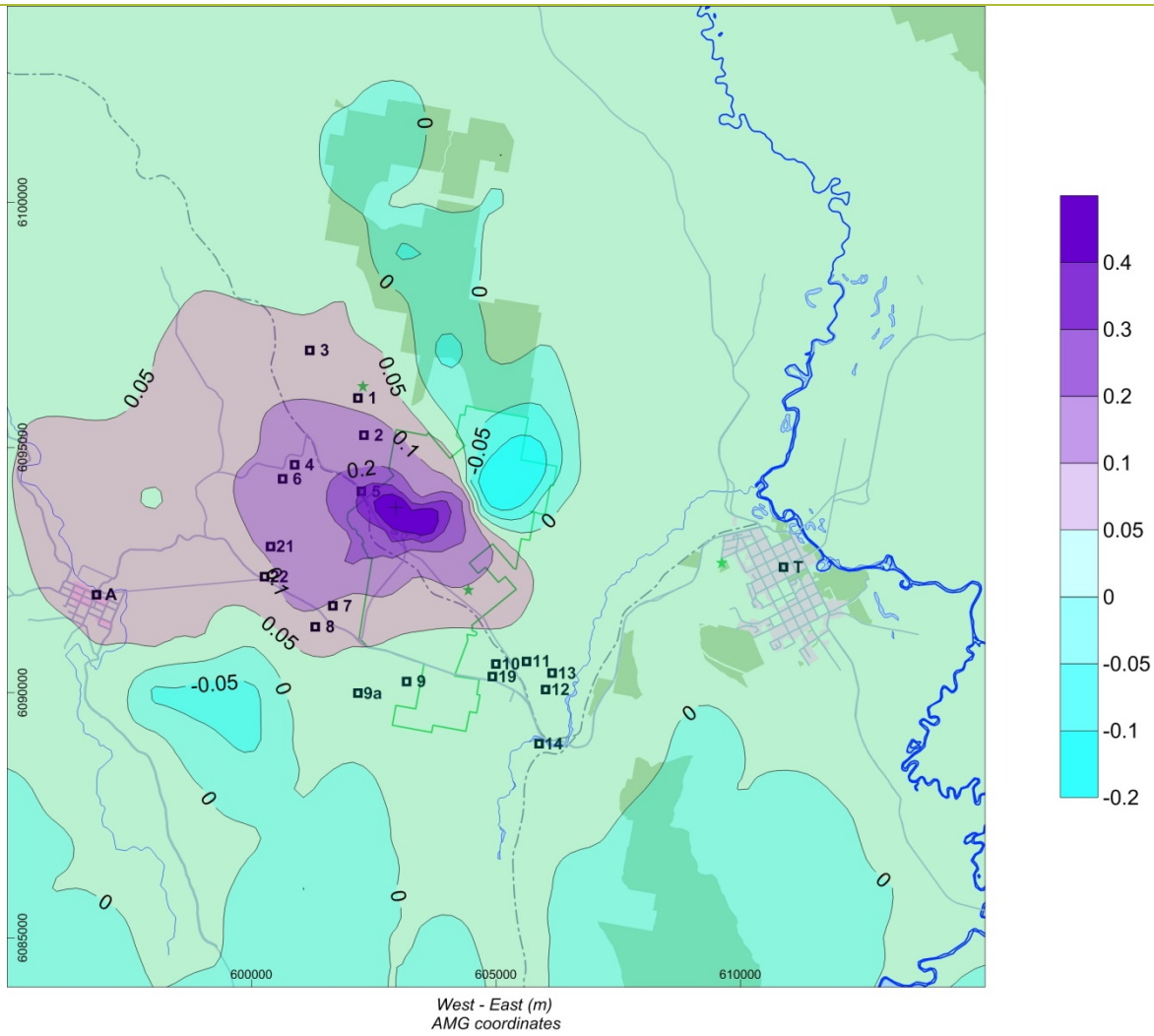
Species:	Location:	Scenario:	Percentile:	Averaging Time:
NOx	Tumut	Stage 2	Maximum	1-Hour
Model Used:	**Units:**	**Guideline:**	**Met Data:**	**Plot:**
CALPUFF v6.42	mg/m^3	N/A	2005 CALMET-Generated	G Laing

Figure 13: Predicted maximum difference in NOx 1-hour average concentrations from initial assessment minus verification modelling (µg/m^3)



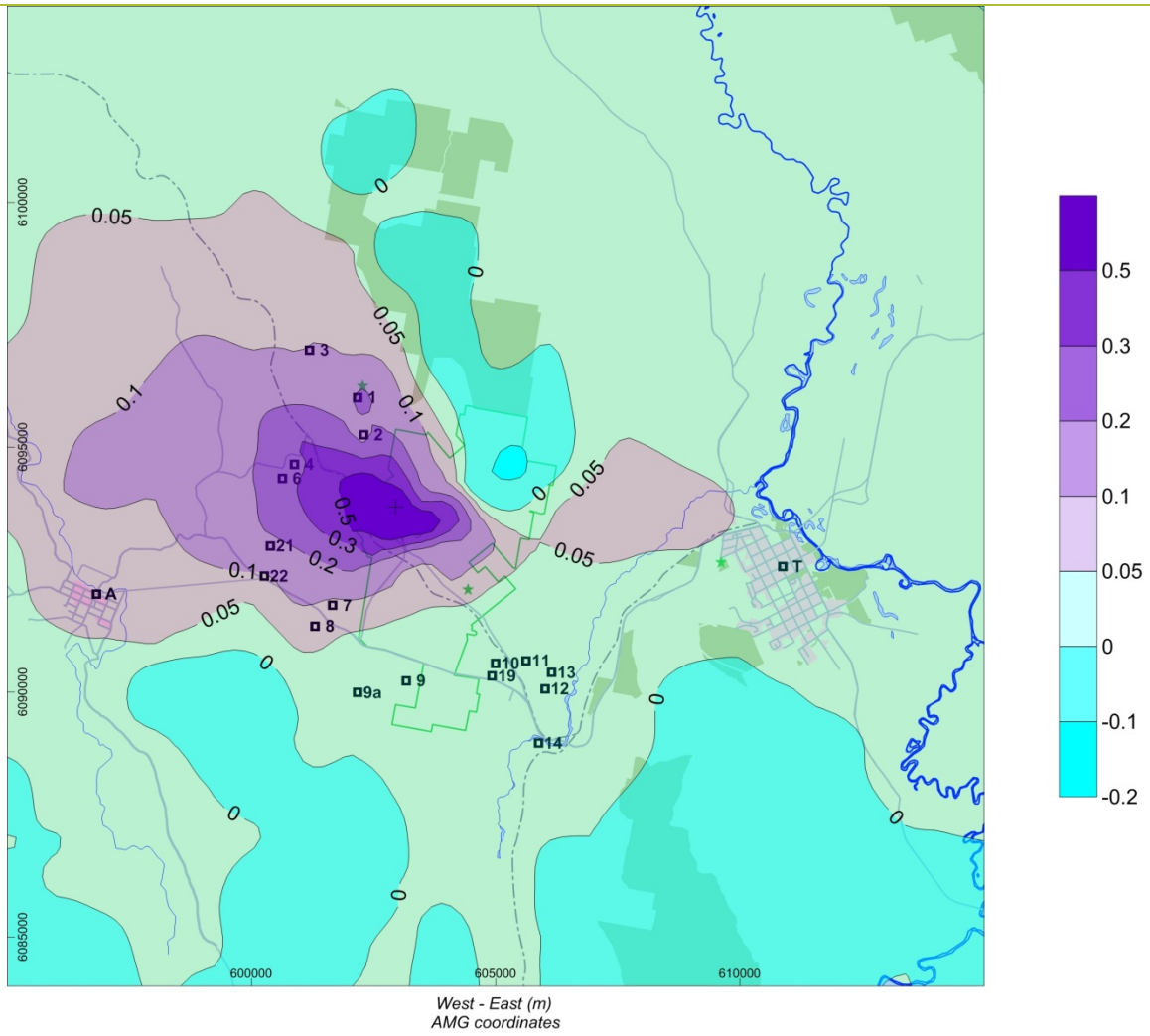
Species:	Location:	Scenario:	Percentile:	Averaging Time:
TSP (as PM_{10})	Tumut	Stage 2	Maximum	24-hour
Model Used:	**Units:**	**Guideline:**	**Met Data:**	**Plot:**
CALPUFF v6.42	mg/m^3	50 $\mu g/m^3$	2005 CALMET-Generated	G Laing

Figure 14: Predicted maximum difference in TSP 24-hour average concentrations from initial assessment minus verification modelling ($\mu g/m^3$)



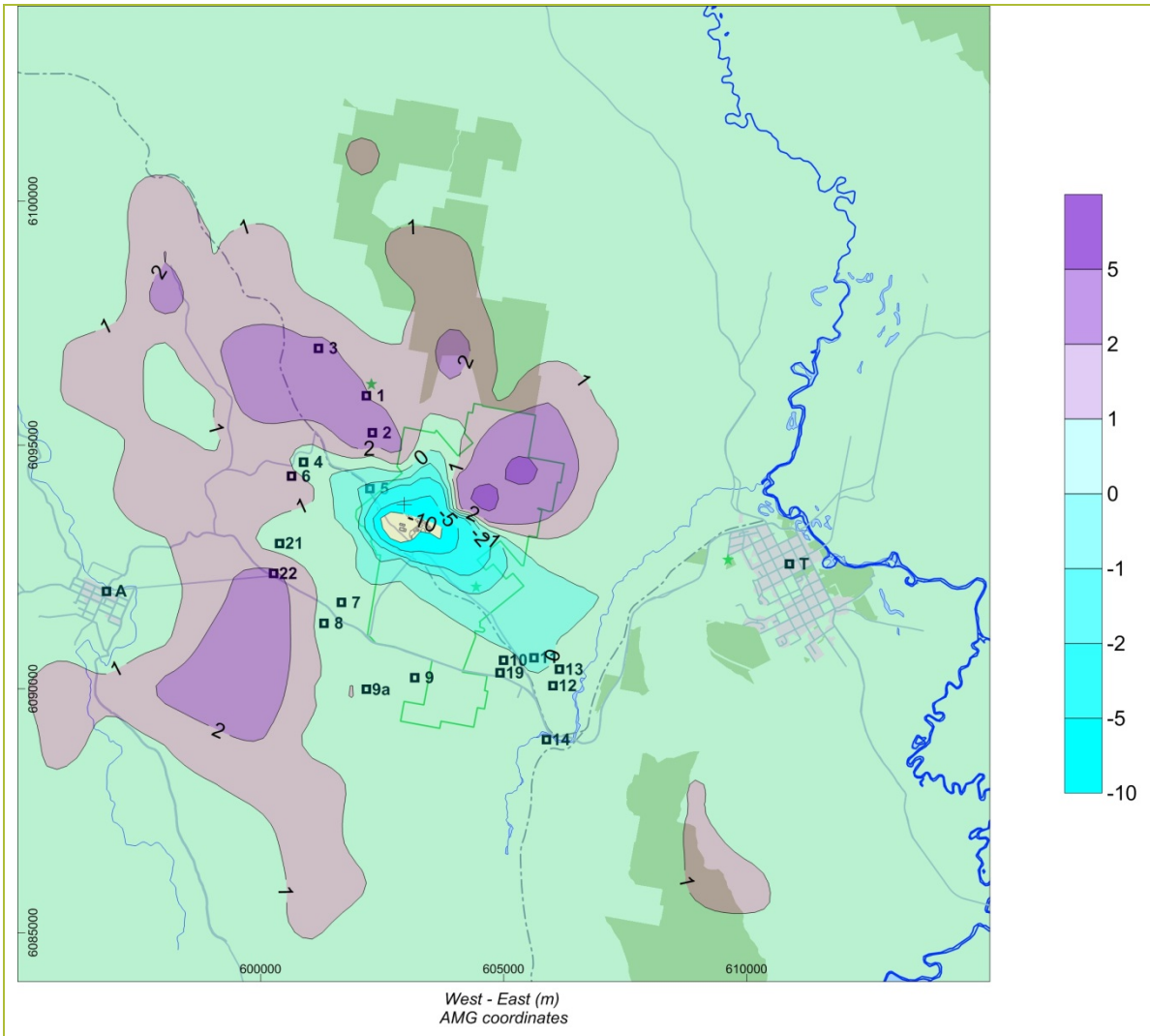
Species:	Location:	Scenario:	Percentile:	Averaging Time:
TSP (as PM_{10})	Tumut	Stage 2	Maximum	Annual
Model Used:	**Units:**	**Guideline:**	**Met Data:**	**Plot:**
CALPUFF v6.42	mg/m^3	30 $\mu g/m^3$	2005 CALMET-Generated	G Laing

Figure 15: Predicted maximum difference in TSP annual average concentrations from initial assessment minus verification modelling ($\mu g/m^3$)



Species:	Location:	Scenario:	Percentile:	Averaging Time:
TRS (as H_2S)	Tumut	Stage 2	99%	1-Hour
Model Used:	**Units:**	**Guideline:**	**Met Data:**	**Plot:**
CALPUFF v6.42	µg/m^3	Population dependant, 1.38 (>2000), 4.83 (~2)	2005 CALMET-Generated	G Laing

Figure 16: Predicted maximum difference in TRS (as H_2S) 1-hour average concentrations from initial assessment minus verification modelling (OU)



Species:	Location:	Scenario:	Percentile:	Averaging Time:
Odour	Tumut	Stage 2	99%	1-Hour
Model Used:	**Units:**	**Guideline:**	**Met Data:**	**Plot:**
CALPUFF v6.42	OU	2 - 7 OU (population dependant)	2005 CALMET-Generated	G Laing

Figure 17: Predicted maximum difference in odour 1-hour average concentrations from initial assessment minus verification modelling (OU)

The difference between the impacts assessed in this study compared to the impacts predicted in the HAS Air and Odour Reports show higher predicted concentrations to the north-west of the project site for all pollutants.

Predictions in and around the town of Tumut are generally equivalent to, or below, those presented within the HAS Air and Odour Reports.

6 CONCLUSIONS

This report has been produced to directly respond to the requirements of conditions 3.2, 3.3, 3.4 and 3.5 of the Project Approval. Air quality data collected at the site after the project expansion, under normal operation conditions were used to model maximum predicted impacts of the project. These impacts were compared to the previous modelling assessments and to the criteria for each pollutant.

Dispersion modelling was used to predict ground-level pollutant concentrations from emission data collected from periodic stack monitoring. Compliance was found for all pollutants except TRS (as H_2S) but no exceedances were found at nearby sensitive receptors for this pollutant.

Comparisons between emission rates for parameters that show an increase in the mass emission rate compared to the those rates adopted in the HAS Air and Odour Reports show that despite increases from one stack, the aggregate of emission rates from both stacks were lower. When the full impact is considered, an increase in emission rates at one stack does not trigger any requirement for remedial measures, as reference in condition 3.3 of the Project Approval.

Exceedances in the odour criteria were predicted at two receptors, one of which was also predicted to exceed in the HAS Air Report. Two further receptors were predicted to be equal with the criteria in worst-case conditions. Analysis of the source contributions to the predicted impacts suggests that the cooling towers are having the most significant impact on the odour impacts.

To comply with condition 3.5 of the Project Approval, it is recommended that any remedial measures therefore be focussed on mitigating the odour associated with the cooling towers.

It is acknowledged however that revised odour modelling relies upon only three odour monitoring campaigns. In view of this, combined with the relatively minor magnitude of the predicted odour impacts, it may be prudent to gather additional odour emission data prior to initiating costly odour mitigation.

7 REFERENCES

Airlabs (2009b)
Test report no. DEC09174. Quarterly monitoring conducted on the main stack at Visy pulp & paper in Tumut. Date of testing: 8th December, 2009.

Airlabs (2009c)
Test report no. DEC09174a. Quarterly monitoring conducted on the power boiler exhaust for Visy pulp & paper in Tumut. Date of testing: 8th & 9th December, 2009.

Airlabs (2009d)
Test report no. OCT09158. Quarterly monitoring conducted on the main stack, power boiler, recovery boiler and lime kiln exhausts for Visy pulp & paper in Tumut. Date of testing: 27th – 28th October 2009.

Airlabs (2009e)
Test report no. OCT11150a. Quarterly monitoring conducted at Visy pulp & paper in Tumut. Date of testing: 18th – 19th October, 2011.

Airlabs (2010a)
Test Report No. APR10047A. Annual monitoring conducted on the main stack 2 exhaust at Visy Pulp & Paper in Tumut. Date of testing: 20th – 21st April, 2010.

Airlabs (2010b)
Test Report No. APR10047B. Quarterly monitoring conducted on the power boiler and lime kiln 2 exhausts at Visy Pulp & Paper in Tumut. Date of testing: 22nd April, 2010.

Airlabs (2010c)
Test Report No. APR10047C. TRS Monitoring conducted on the main stack 1 exhaust at Visy Pulp & Paper in Tumut. Date of testing: 22nd April, 2010.

Airlabs (2010d)
Test Report No. APR10047. Annual Monitoring conducted on the main stack 1 exhaust at Visy Pulp & Paper in Tumut. Date of testing: 20th & 21st April, 2010.

Airlabs (2010e)
Test report no. DEC10176a.2. Quarterly monitoring conducted on the lime kiln 1, lime kiln 2 & recovery boiler exhausts for Visy pulp & paper in Tumut**.** date of testing: 15th - 16th December 2010.

Airlabs (2010f)
Test report no. DEC10176a. Quarterly monitoring conducted on the lime kiln 1, lime kiln 2 & power boiler exhausts for Visy pulp & paper in Tumut. Date of testing: 15th - 16th December 2010.

Airlabs (2010g)
Test report no. DEC10176a.2. Quarterly monitoring conducted on the lime kiln 1, lime kiln 2 & recovery boiler exhausts for Visy pulp & paper in Tumut. date of testing: 15th - 16th December 2010.

Airlabs (2010h)
Test report no. DEC10176b. Annual monitoring conducted on the main stack 1 exhaust at Visy pulp & paper in Tumut. Date of testing: 14th & 15th December, 2010.

Airlabs (2010i)
Test report no. DEC10176c. Annual monitoring conducted on the main stack 2 exhaust at Visy pulp & paper in Tumut. Date of testing: 14th & 15th December, 2010.

Airlabs (2010j)
Test report no. DEC10176d. Quarterly monitoring conducted on the power boiler exhaust for Visy pulp & paper in Tumut. Date of testing: 15th & 16th December, 2010.

Airlabs (2010)
Test report no. FEB10025. Quarterly monitoring conducted on the main stack, recovery boiler and lime kiln exhausts at Visy pulp & paper in Tumut. Date of testing: 23rd & 24th February, 2010.

Airlabs (2010k)
Test report no. FEB10025a. Quarterly monitoring conducted on the power boiler exhaust for Visy pulp & paper in Tumut. Date of testing: 23rd & 24th February, 2010.

Airlabs (2010l)
Test report no. AUG10079a. Odour survey conducted at Visy pulp & paper in Tumut. Date of sampling: 30th June, 2010.

Airlabs (2011a)
Test report no. DEC11186a. Quarterly monitoring conducted at Visy pulp & paper in Tumut. Date of testing: 20th & 21st December, 2011.

Airlabs (2011b)
Test report no. DEC11186b. HCl monitoring conducted on the power boiler exhaust at Visy pulp & paper in Tumut. Date of testing: 20th December, 2011.

Airlabs (2011c)
Test report no. DEC11186c. Methanol monitoring conducted on the recovery boiler a exhaust at Visy pulp & paper in Tumut. Date of testing: 20th December, 2011.

Airlabs (2011d)
Test report no. JUL11098a. Quarterly monitoring conducted at Visy pulp & paper in Tumut. Date of testing: 19th - 21st July, 2011

Airlabs (2011e)
Test report no. JUL11098b. Quarterly monitoring conducted on the power boiler exhaust for Visy pulp & paper in Tumut. Date of testing: 19th – 20th July, 2011.

Airlabs (2011f)
Test report no. JUL11098d. Chemical speciation of odour samples for reduced sulfur and volatile organic compounds. Date of sampling: 21st July, 2011.

Airlabs (2011g)
Test report no. JUL11098e. TRS monitoring conducted on the main stack 1 exhaust at Visy pulp & paper in Tumut. Date of tests: 19th July, 2011

Airlabs (2011h)
Test report no. MAR11037a. Quarterly monitoring conducted at Visy pulp & paper in Tumut. Date of testing: 30th – 31st March, 2011.

Airlabs (2011i)
Test report no. MAR11037a. Quarterly monitoring conducted at Visy pulp & paper in Tumut. Date of testing: 30th - 31st March, 2011.

Airlabs (2011j)
Test report no. OCT11150b.v2. Quarterly monitoring conducted on the power boiler exhaust for Visy pulp & paper in Tumut. Date of testing: 18th – 19th October, 2011.

Airlabs (2011k)
Test report no. OCT11150d.v2. Chemical speciation of odour samples for reduced sulfur and volatile organic compounds. Date of sampling: 20th October, 2011 & 9th February, 2012.

Airlabs (2012a)
Test report no. FEB12017a. Quarterly monitoring conducted at Visy pulp & paper in Tumut. Date of testing: 7th – 9th February 2012.

Airlabs (2012b)
Test report no. FEB12017b. Annual monitoring conducted on the main stack 1 exhaust at Visy pulp & paper in Tumut. Date of testing: 7th & 8th February, 2012.

Airlabs (2012c)
Test report no. FEB12017c. Quarterly monitoring conducted on the power boiler exhaust for Visy pulp & paper in Tumut. Date of testing: 8th – 9th February 2012.

Airlabs (2012d)
Test report no. FEB12017d. TRS monitoring conducted on the main stack 1 exhaust at Visy pulp & paper in Tumut. Date of tests: 7th February 2012.

Airlabs (2012e)
Test report no. FEB12017e. Chromium monitoring conducted on the main stack 2 exhaust at Visy pulp & paper in Tumut. Date of testing: 8th February, 2012.

Airlabs (2012f)
Test report no. JAN12001a. Annual monitoring conducted on the main stack 2 exhaust at Visy pulp & paper in Tumut. Date of testing: 10th & 11th January, 2012.

Airlabs (2012g)
Test report no. JAN12001b. Quarterly monitoring conducted on the power boiler exhaust for Visy pulp & paper in Tumut. Date of testing: 11th & 12th January, 2012.

Airlabs (2012h)
Test report no. JAN12001c. HCl monitoring conducted on the power boiler exhaust at Visy pulp & paper in Tumut. Date of testing: 12th January, 2012.

Airlabs (2012i)
Test report no. OCT11150c.v2. Odour survey conducted at Visy pulp & paper in Tumut. Date of sampling: 20th October, 2011 & 9th February, 2012.

EPA (2005)
"Approved Methods and Guidance for the Modelling and Assessment of Air Pollutions in NSW", August 2005.

EPA (2006a)
"Technical Framework: Assessment and Management of Odour from Stationary Sources in NSW:

EPA (2006b)
"Technical Notes: Assessment and Management of Odour from Stationary Sources in NSW"

EPA (2007)
"Approved Methods for the Sampling and Analysis of Air Pollutants in NSW"

Holmes Air Sciences (2007a)
"Air Quality impact assessment Expansion of Visy Pulp and Paper Mill, Tumut, NSW". Report dated 24 January 2007.

Holmes Air Sciences (2007b)
"Additional air dispersion modelling for proposed Visy Stage 2 operations". 19 June 2007.

Holmes Air Sciences (2007c)
"Odour Impact Assessment: Expansion of Visy pulp and paper mill, Tumut, NSW", 23 January, 2007.

Holmes Air Sciences (2007d)
"Air Quality Impact Assessment for Proposed Expansion of Visy Pulp and Paper Mill, Tumut, Letter Report. Dated 9 January, 2007.

Katestone Scientific (1998)
"Report from Katestone Scientific to Environment Protection Authority of NSW, Peak to Mean Ratios for Odour Assessments"

NSW Office of Environment and Heritage (2010)
"Protection of the Environment Operations (Clean Air) Regulation 2010. Protection of the Environment Operations Act 1997.

NSW Department of Planning (2007)
"Project Approval – 06_0159, Visy Pulp and Paper Pty Ltd"

Appendix A: Complaints Monitoring

Complaint ID	Date of Occurr-ence	Time of Occurr-ence	Issue Raised By	Reported To	Address Location	Duration (Mins)	Summary of Complaint	Interim Preventative Action	Resolution/Root Cause	Resolution Corrective /Preventative Action	Wind direct-ion & speed	HVLC	HCLV	Ecotech TRS (ppm)	Clean Conden-sate COD (mg/l)
58722	3/09/2009	9:30	Tom Arrogan	Paul Schubert	Minjary Springs	Ongoing	Complained about a sulphur like smell at their residence, has been going on the whole day.	Checked the odour control system and found no problems. The condensate was found to have a bad smell	Red oil contamination in condensate	Methanol plant shutdown to stop red oil production. Red oil sample sent away for testing at prospective customers.	Still	OK	OK	2.83	500
	10/09/2009	10:33		Initially Gwen Percival	Near CHH Gilmore mill		Terrible smell.		Note this call was transferred to an operator in the control room, however no complaint report has been raised for this complaint and therefore no further information is able to be provided. It is noted as a non compliance against the Complaints procedure.						
58951	13/09/2009	7:30	Andrea Arrogan	Aaron Sumner	Minjary Springs	60	Sulphur smell from about 6:30am at residence	The mill is in very unstable condition after the start up of Recovery Boiler B. Running to low to burn Non condensable gases.	Recovery boiler B start up (Heavy black liquor firing).	Ramp up on Recovery Boiler B. Mill over all liquor balance upset due to breakdowns and process problems. Plans are in place for steady state operation.	0km/hr	Going to Power boiler	Venting	11.2	389
59002	13/09/2009	17:55	Rosemary de Martin	Aaron Sumner	Moona-pinna	20	Odour complaint of Sulphur odour at home	At the time the boiler was on low firing and the HVLC gases were going to the vent.	Recovery boiler B start up (Heavy black liquor firing).	Ramp up on Recovery Boiler B. Mill over all liquor balance upset due to breakdowns and process problems. Plans are in place for steady state operation.	8km/hour	Normal	Venting	29.6	389
59003	13/09/2009	19:00	Graham Barlow	Stuart Hetherington	Moona-pinna	120	Evaporator type smell at his house, which has been ongoing since 17:00	At that time the Recovery Boiler A was off line and HVLC gases were going to the vent.	Recovery boiler B start up (Heavy black liquor firing).	Ramp up on Recovery Boiler B. Mill over all liquor balance upset due to	West	OK	Venting to atmosphere	350	346

							hours.			breakdowns and process problems. Plans are in place for steady state operation.					
59907	18/10/2009	13:40	Rosemary de Martin	Stuart Tozer	Moonapinna	40	Odour complaint - could smell an Evaporator smell in her back garden.	Checks done for odour emissions	Most likely cause can be attributed to upset in the mill process over the last week and odours from the 6ML Dam.	Stored wastewater in the 6ML dam is being processed through Evaporators. This water is transferred to evaporators in batches and further processed.	SE 0km/hr	OK	OK	6.87	445
60039	22/10/2009	9:15	Louise Halsey	Gerrie de Wet	Adelong Falls	45	Reported sewage type smell at Adelong Falls	Going through systems to check if indeed from Visy	Suspected 6ML dam.	Stored wastewater in the 6ML dam is being processed through Evaporators. This water is transferred to evaporators in batches and further processed.	NE 11.3km/hr	Checked	Checked	4.17	612
60099	23/10/2009	10:00	David Bristow	Gerrie de Wet	Gilmore	Onwards from 10am	Strong odour of stripper gas, first time that he had called - only called due to the severity of the odour.	As the mill operating conditions were upset due to digester issues there were a number of issues relating to venting etc. These will be rectified as soon as possible.	Cause was due to upset mill conditions due to digester outage. Stripper and NCG gases were being burnt in the Power boiler. HVLC gases were vented to atmosphere due to low liquor firing.	Digester operations stabilized and venting stopped.	WNW 6.4km/hr	In Power boiler	Venting	3.08	Unsteady conditions
60100	24/10/2009	8:15	Tom Arrogan	Kane Archer	Minjary Springs	Last 24 hours	Indicated that he could smell a strong sulphur odour, but not as bad as yesterday.	Mill stabilizing and gases are back in the Recovery Boiler.	Most likely cause was due to upset mill conditions. Stripper, NCG, HVLC	Mill operations stabilised.	SE 0km/hr	OK	Ok	0.58	681
60153	26/10/2009	20:45	Rod Lucas	Kane Archer	East of Adelong	Last 165 minutes and previous 3 weeks	Indicated that there has been a strong smell at his property for the last three weeks whenever there is an easterly wind.	Working to stabilize mill operations	Digestor upset condition resulted in upset of operations	Mill operations stabilised.	E @ 8km/hr	OK	OK	0.7	339

60366	28/10/2009	7:10	Kerry Gentle	Andre Le Roux	Gadara Road	Current	Odour complaint - when Kerry had gone for a run on Gadara Road there was a very bad smell coming from mill. She said they have lived on the hill for 8 years and that the smell has never been this bad.	The Methanol plant was off line and the tank overflowed during the night, was back on line and normal at the time of the call.	Methanol plant	Stopped overflow and stabilized plant.	South @ 3.2km/hr	OK	OK	1.67	516
60442	31/10/2009	3:00	Tom Arrogan	Stuart Hetherington	Minjary Springs	240	Sulphur type odour at residence since early morning.	Checked all gaseous systems	Suspect either Methanol plant or Cooling towers as some issues have been experienced causing odour working on both to resolve issues.	Working on Methanol plant stabilisation.	ESE @ 0km/hr	Checked	Checked	2.2	1602
60443	4/11/2009	1:50	Pat Whatman	Paul Calonne	Pleasant View	20	Noticed an Odour unfamiliar to the normal types for about 20mins, could not however identify.	Checked all systems	Condensate makeup	Adjusted the condensate and mill water balance and restarted recycle water make up to Cooling Towers	ESE 11km/hr	Checked	Checked	1.87	603
60720	15/11/2009	7:30	Andrea Arrogan	Aaron Day	Minjary Springs	Immediate	Complained of sulphur smell	Checked all emission systems and process	Suspected the HVLC gases diverted to atmosphere	HVLC gases diverted back to Recovery Boiler A	SW	Normal	Diverted to atmosphere	2.4	616
61254	2/12/2009	9:15	Jervis Hayes	Andy Taylor	Not provided - query Adelong	60	Complained about a bad smell(Mercaptan / sulphur mix).When wind increased the smell went away, he was very annoyed.	Checked all systems.	Possible causes are the Methanol column seal pot pressurized and blowing to atmosphere or high COD on clean condensate going to cooling towers.	Adjusted the Methanol ejector system to depressurize the seal pot and improve the COD on the clean condensate.	8km/hr	OK	OK	2.6	1066
61330	4/12/2009	9:00	Catherine Kelly	Nathan Epp	5740 Batlow Rd	10 to 15	Complained about a Visy Sulphur smell at their house on the Batlow road. She said that they could smell the mill occasionally but that today it was very bad. Typical Visy Sulphur smell	Checked the HVCL and HCLV and the NCG systems.	Condensate COD high. Methanol plant not running due to high red oil inventory	Adjusted the condensate and mill water balance and restarted recycle water makeup to Cooling Towers. Red oil burning in Recovery boilers modification being finalized with Andritz.	SSE still	OK	OK	3.42	734

61331	4/12/2009	10:30	Rosemary de Martin	Aaron Somner	Moonapinna	30	Complained about a gas smell at their residence for the last 30 min	Checked the HVCL and HCLV systems.	Condensate COD high. Methanol plant not running due to high red oil inventory	Adjusted the condensate and mill water balance and restarted recycle water makeup to Cooling Towers. Red oil burning in Recovery boilers modification being finalized with Andritz.		OK	OK	3.5	734
61890	7/12/2009	1:00	Tom Arrogan		Minjary Springs		Bad smell, Worst from start up	Checked odour systems. OK	Condensate COD high. Methanol plant not running due to high red oil inventory	Adjusted the condensate and mill water balance and restarted recycle water makeup to Cooling Towers. Red oil burning in Recovery boilers modification being finalized with Andritz.					533
61453	9/12/2009	22:40	Rosemary de Martin	Paul Bartlett	Moonapinna	Ongoing	Mercaptan type of odour at her residence.	Checked all likely causes.	Condensate COD high. Methanol plant not running due to high red oil inventory	Adjusted the condensate and mill water balance and restarted recycle water makeup to Cooling Towers. Red oil burning in Recovery boilers modification being finalized with Andritz.	ESE 2km/hr	Yes	Yes	0.32	528
61577	15/12/2009	22:35	Andrea Arrogan	Andy Taylor	Minjary Springs	Ongoing	Strong sulphur smell at her residence.	All emissions systems checked. No process upsets to justify the complaint.	Suspected the high COD on condensate and the makeup on Cooling towers is on clean condensate at the moment	Changing to recycle water the makeup on cooling towers.	ESE 6.4km/hr	OK	OK	0.58	920
61666	18/12/2009	21:33	Rosemary de Martin	Paul Colonne	Moonapinna	20	Rubber type of odour at her residence.	Plant area checked - source not identified	Condensate COD high. Methanol plant not running due to high red oil inventory	Adjusted the condensate and mill water balance and restarted recycle water makeup to Cooling Towers. Red oil burning in Recovery boilers modification being finalized with Andritz.	NW 4km/hr	Yes	Yes	3.5	1053

61667	19/12/2009	20:30	Rosemary de Martin	Paul Bartlett	Moonapinna	Ongoing	Condensate - Methanol type of odour at her residence.	Plant area inspected - was a faint odour coming off the Methanol plant, ensured all parameters were in control.	Condensate COD high. Methanol plant not running due to high red oil inventory	Adjusted the condensate and mill water balance and restarted recycle water makeup to Cooling Towers. Red oil burning in Recovery boilers modification being finalized with Andritz.	NW 8km/hr	Yes	Yes	3.6	694
61808	23/12/2009	8:35	Margaret Hayes	Aaron Somner	Adelong	5	Complained about a Visy Smell	Checked the odour control systems and could not find any problems	Condensate COD high. Methanol plant not running due to high red oil inventory	Adjusted the condensate and mill water balance and restarted recycle water makeup to Cooling Towers. Red oil burning in Recovery boilers modification being finalized with Andritz.		OK	OK	4.4	756
61806	24/12/2009	16:05	Graham Barlow	Message bank	Moonapinna	45	Complained about a terrible smell, he said that it smells like the Cooling ponds.	Checked the HCLV and HVLC systems but could find no problems	Condensate COD high. Methanol plant not running due to high red oil inventory	Adjusted the condensate and mill water balance and restarted recycle water makeup to Cooling Towers. Red oil burning in Recovery boilers modification being finalized with Andritz.	NW 32.2km/hr	Ok	OK	3.85	1650
61807	25/12/2009	22:10	Pat Whatman	Aaron Sumner	Pleasant View	5	Complained about a Sulphur smell at their property. She said that it is a horrible smell	Checked the Odour control systems and could not find a problems	Methanol seal pot pressure high due to reduced VCE production rate	Detailed investigation is being undertaken with the help of Andritz. Keep VCE production rate as high as possible.		OK	OK	2.3	506
61810	27/12/2009	21:00	Paul McLennan	Nathan Epp	Smarts Road	2 days	Pungent odour at his place along the Gocup Road for the last 2 days. He said that it was really bad this afternoon. He also said that he was planning to	Checked the odour control systems and could not find anything wrong. Did find that the boiler fuel pile has a very bad smell and the wind was blowing in that direction today.	Condensate COD high. Methanol plant not running due to high red oil inventory	Adjusted the condensate and mill water balance and restarted recycle water makeup to Cooling Towers. Red oil burning in Recovery boilers	NNW 14km/hr	OK	OK	8	1120

							phone the EPA.			modification being finalized with Andritz.					
61811	27/12/2009	21:30	Graham Barlow	Aaron Somner	Moonapinna	60	Complained about a smell similar to old stagnant water / gumboot smell. He said that it had been going for about an hour.	Checked the odour control systems but could not find any problem. We were having some problems with high SO2 emissions from the main stack and working to get it down.	Condensate COD high. Methanol plant not running due to high red oil inventory	Adjusted the condensate and mill water balance and restarted recycle water makeup to Cooling Towers. Red oil burning in Recovery boilers modification being finalized with Andritz.	NNW 8km/hr	OK	OK	6.85	1120
61834	30/12/2009	9:00	James Hayes	Loise Stacy	Adelong Gap		Called to complain about a bad smell early in the morning and last night	Checked all systems no process upsets found.	Suspected cause is failed foul condensate pump.	Used back up air pump, awaiting new pump to be installed.					697
61883	31/12/2009	14:20	Rosemary de Martin	Andy Taylor	Moonapinna		Called to complain about a Visy smell.	Checked all emission systems .	Methanol seal pot pressure high due to reduced VCE production rate	Detailed investigation is being undertaken with the help of Andritz. Keep VCE production rate as high as possible.	14.5km /hr	OK	OK	5.2	362
61886	1/01/2010	3:32	Rosemary de Martin	Craig Baldwin	Moonapinna	Ongoing	Rosemary is disgusted at the stink coming from the mill, I told Rosemary that we have had some upset condition and she said that she is one of them, we have stunk out her house and the entire valley, she will be in touch with Tony Gray and requested I have one of my primary managers contact her before midday then slammed down the phone.	Checked odour systems, no problems found. Condensate pump tank air pump switched off and drain open to floor, closed drain and restarted air pump.	Condensate COD high. Methanol plant not running due to high red oil inventory	Adjusted the condensate and mill water balance and restarted recycle water makeup to Cooling Towers. Red oil burning in Recovery boilers modification being finalized with Andritz.	NWW	OK	OK	1.87	687

61889	1/01/2010	11:25	Rosemary de Martin	Aaron Somner	Moonapinna	9.5hours	Bad Visy smell on property	Checked odour controls system - OK. Condensate pump tank switched off and drain open, air pump turned back on and drain closed.	Condensate COD high. Methanol plant not running due to high red oil inventory	Adjusted the condensate and mill water balance and restarted recycle water makeup to Cooling Towers. Red oil burning in Recovery boilers modification being finalized with Andritz.	NWW	OK	OK	2.2	687
61898	3/01/2010	1:00	Graham Barlow	Stuart Tozer	Moonapinna	3 days	Complaint about a strong Mercaptan smell, bug water, requesting that Johan Stolz call him, it has been going on for 3 days and he has had enough.	Checked all emission systems .	Suspected the clean condensate contaminated with full condensate due to stripping column running with gas temperature low (45 degrees)	Adjusted the stripping column to get more temperature on stripped gases.	4.8km	OK	OK	2.5	1428
62053	7/01/2010	21:20	James Hayes		Adelong Gap	30	Visy odour that had been present at his residence for about 30 minutes		Condensate COD high. Methanol plant not running due to high red oil inventory	Adjusted the condensate and mill water balance and restarted recycle water makeup to Cooling Towers. Red oil burning in Recovery boilers modification being finalized with Andritz.	E 4.8km			9.8	1460
62055	12/01/2010	4:30 - 21:00	David Bristow	Aaron Day	66 Mill Road Gilmore	All day	Called about a stinking smell at his residence.		Planned shutdown. Methanol seal pot pressure high due to reduced VCE production rate	Complete mill outage. Detailed investigation is being undertaken with the help of Andritz. Keep VCE production rate as high as possible.	NW		To atmosphere	2.9	888
62086	12/01/2010	0:00	Rosemary de Martin	Aaron Day	Moonapinna	All night	Strong Visy smell at her property last night	Clean condensate COD extremely high. Change in Evaporators primary condenser temperature and wash boiler. Due the Recovery Boiler A shut all gases had to be burnt in Power Boiler overloading even	Planned shutdown. Methanol seal pot pressure high due to reduced VCE production rate	Complete mill outage. Detailed investigation is being undertaken with the help of Andritz. Keep VCE production rate as high as possible.					888

								further the NCG system.							
62057	12/01/2020	8:38	Pat Whatman	Aaron Day	Pleasant View	Ongoing	Called to complain about an odour around her property		Planned shutdown. Methanol seal pot pressure high due to reduced VCE production rate	Complete mill outage. Detailed investigation is being undertaken with the help of Andritz. Keep VCE production rate as high as possible.	SE				888
62058	12/01/2010	8:40	Andrea Arrogan	Aaron Day	Minjary Springs	Ongoing	Called to complain about an odour at her residence		Planned shutdown. Methanol seal pot pressure high due to reduced VCE production rate	Complete mill outage. Detailed investigation is being undertaken with the help of Andritz. Keep VCE production rate as high as possible.	SE	OK	OK	29	888
62145	16/01/2010	11:10	Rosemary de Martin	Craig Baldwin	Moonapinna	Ongoing	Odour complaint - indicated that she could smell Mercaptans	Systems checked for normal operations	Higher than normal COD levels in the Cooling towers over the last few days may have contributed to the odour	Steps to improve evaporator performance already undertaken	NW 11.3km/hr	OK	OK	unavailable	723
62314	25/01/2010	0:00	Rosemary de Martin	Mark Hannig	Moonapinna	3 - 4 days	Evaporator - black liquor type odour at her property for the last 3 - 4 days and that is was particularly strong at the time of calling.	Checks done on system	Methanol seal pot pressure high due to reduced VCE production rate. 6ML pond is emitting odour	Detailed investigation is being undertaken with the help of Andritz. Keep VCE production rate as high as possible. Cleaning plan for 6ML pond approved.	NWW 8km/hr	OK	OK		1298
62315	26/01/2010	1:30	Andrea Arrogan	Craig Baldwin	Minjary Springs	6.5 hours	Terrible Visy smell at her property since 1:30am to when rung at 8:05am	System checks done	6ML pond is emitting odour	Cleaning plan for 6ML pond approved.	ESE 0km/hr	OK	OK		1650
62318	20/01/2010	9:00	Lyn Randall	Nathan Epp	Adelong	9 hours	Indicated that she had been meaning to call for a long time as she has been experiencing a pungent Visy	System checks done	Condensate COD high. Methanol plant not running due to high red oil inventory	Adjusted the condensate and mill water balance and restarted recycle water makeup to Cooling Towers.	NW	OK	OK	2.33	421

							smell off and on for the last few weeks			Red oil burning in Recovery boilers modification being finalized with Andritz.					
62323	22/01/2010	17:00	David Bristow	Gwen Percival	Gilmore		Message given to VPP9 receptionist of a really bad smell at their house when they arrived home at approximately 17:00 hours. He also commented that there was a very unpleasant odour for the last week, mentioned the Visy shutdown but could not pinpoint the exact days.	Notified Mill manager and site Environmental Engineer	Methanol seal pot pressure high due to reduced VCE production rate	Detailed investigation is being undertaken with the help of Andritz. Keep VCE production rate as high as possible.					1336
62362	22/01/2010	12:00	Rosemary de Martin	Mark Hannig	Moonapinna	4 hours	Reported that she had experienced an odour for most of the afternoon. She described it as an "evaps type of odour"	System checks done	Methanol seal pot pressure high due to reduced VCE production rate	Detailed investigation is being undertaken with the help of Andritz. Keep VCE production rate as high as possible.	NW 17km/hr	OK	OK		1336
62362	22/01/2010	23:30	Rosemary de Martin	Aaron Somner	Moonapinna	10.5 hours	Further odour complaint to above - complained of persistent odour since 1pm - second call	System checks done	Methanol seal pot pressure high due to reduced VCE production rate	Detailed investigation is being undertaken with the help of Andritz. Keep VCE production rate as high as possible.		OK	OK	5	1336
62364	22/01/2010	17:00	David Bristow	Mark Hannig	Gilmore	Immediate	Reported a strong Visy smell as he arrived home	System checks done	Methanol seal pot pressure high due to reduced VCE production rate	Detailed investigation is being undertaken with the help of Andritz. Keep VCE production rate as high as possible.	NW 12km/hr	OK	OK	5.19	1336
62400	22/01/2010	8:00	Rosemary de Martin	Paul Schubert	Moonapinna	40 hours	Indicated that she could smell a black liquor smell.	System checks done	Methanol seal pot pressure high due to reduced VCE production rate	Detailed investigation is being undertaken with the help of Andritz. Keep	NNW	OK	OK		1336

										VCE production rate as high as possible.					
62401	22/01/2010	21:00	Graham Barlow	Aaron Somner	Moonapinna	9 hours	Indicated that he could smell a "cooling tower/evaporator" smell on his property	System checks done	Methanol seal pot pressure high due to reduced VCE production rate	Detailed investigation is being undertaken with the help of Andritz. Keep VCE production rate as high as possible.	WNW 24km/hr	OK	OK		1336
62402	23/01/2010	5:45	David Bristow	Aaron Somner	Gilmore	40 mins and continuing	Indicated that he could smell a "foul smell" at his property	System checks done	Methanol seal pot pressure high due to reduced VCE production rate	Detailed investigation is being undertaken with the help of Andritz. Keep VCE production rate as high as possible.	WNW	OK	OK		1285
62996	21/02/2010	12:30	Rosemary de Martin	Paul Barlett	Moonapinna	45	Complained that she had an odour at her residence that smells like the wet end of the paper machine	Odour checklist undertaken	Suspect 6MG dam	Cleaning of dam planned. Dam cleaning undertaken from mid April through to early June.	WNW 17km/hr	Checked	Checked	2.77	386
63106	26/02/2010	18:24	Katherine Kelly	Paul Schubert	Gilmore Road	Unknown	Complained of sulphur smell at residence on Gilmore Road.	All emission system checked. No issues or process upsets during the time of the complaint or before.	Suspect 6MG dam.	Cleaning of dam planned. Dam cleaning undertaken from mid April through to early June.	SE	OK	OK	2.52	560
63107	26/02/2010	21:25	Rosemary de Martin	Andy Taylor	Moonapinna	45	Complained of bad smell like old gum boots at her residence for about 45 minutes	Checked all emission systems. No process upsets or issues to justify the complaint	Suspect 6MG dam.	Cleaning of dam planned. Dam cleaning undertaken from mid April through to early June.	4.8km/hr	OK	OK	2.2	580
63205	28/02/2010	24:00	Kerry Gentle	Andy Taylor	Gadara Road	60	Indicated that she had a sulphur smell on the property	Odour checklist completed	Suspect 6MG dam.	Cleaning of dam planned. Dam cleaning undertaken from mid April through to early June.	NSW 5km/hr	OK	OK	2.89	1172
63196	2/03/2010	17:00	Rosemary de Martin	Gerrie de Wit	Moonapinna	Intermittent but ongoing	Complained of a strong wet end smell at her property and indicated that it was a stinking really bad.	Systems checked	Suspect 6MG dam.	Cleaning of dam planned. Dam cleaning undertaken from mid April through to early June.	NW 3.2km/hr	OK	OK	1.85	364

63257	7/03/2010	14:25	Jerry Smith	Andy Taylor	Adelong	All day	Sulphur smell all day have been smelling Visy now since the start of the second stage. It is making him ill and will have to take an aspiring to go to bed.	All emission systems checked.	Issues with Methanol plant	Discussions with suppliers Andritz in relation to issues	ESE 9.7km/hr	OK	OK	3.7	478
63270	8/03/2010	12:00	Sue Roche	Aaron Sumner	Ellerslie	48 hours	Complained about an odour at her residence that has been happening for 48 hours	Operators checked the emissions system	Methanol Seal pot - some venting of NCG's on high pressure	Stabilisation of plant to improve pressure and discussions continuing with suppliers.	not recorded	OK	OK	1.5	483
63271	8/03/2010	15:20	Rosemary de Martin	Aaron Sumner	Moonapinna	20	Complaint about odour at residence that has been there for 20 minutes	Checked all emission systems	Methanol Seal pot - some venting of NCG's on high pressure	Stabilisation of plant to improve pressure and discussions continuing with suppliers.	not recorded	OK	OK		483
63272	8/03/2010	17:00	Kerry Gentle	Aaron Sumner	Gadara Road	60	Called to complain about an odour similar to rotten eggs at residence	Checked all emission systems	Methanol Seal pot - some venting of NCG's on high pressure	Stabilisation of plant to improve pressure and discussions continuing with suppliers.	not recorded	OK	OK	1.4	763
63277	8/03/2010	21:33	Rosemary de Martin	Andy Taylor	Moonapinna	All day	Complained about a strong smell all day at her residence	All systems checked. Had upsets during the day that caused bad run on stripping column with low temperatures	Stem from upsets mentioned above. Also had high CODs in condensate	Adjustments made to plant to improve process	NNM 10km/hr	OK	OK	3.4	1081
63381	10/03/2010	18:30	Rosemary de Martin	Gerrie de Wit	Moonapinna	Whole day	Called to complain about an Evaporator and Wet end smell at home for the whole day	Checked plant operation	Stem from upsets mentioned above. Also had high CODs in condensate	Started to use recycled water to reduce condensate use in Cooling towers	NW 6.4km/hr	Checked	Checked	3.13	444
63385	14/03/2010	12:00	Rosemary de Martin	Paul Barlett	Moonapinna	8 hours and ongoing	Complaint about Visy smell at her residence that is ongoing.	Increasing process volumes through Evaporators and VCE	Low process rates on Evaporators and VCE	Waiting for inventories to increase and increase process running rates	NNE 3.2km/hr	Checked	Checked	2.05	567
64130	22/03/2010	9:00	Judy Bradley	Kane Archer	Snowy Mountains Highway	Ongoing	Strong chemical smell present, same smell as always, worse since Stage 2, also noise has increased since Stage 2. Reported houses of people she knows are vibrating due to	System was checked	Post commissioning issues and some late night chipping	Achieving stability of plant.	SW 6.4km/hr	Checked	Checked	3	814

							Visy mill.								
63716	28/03/2010	20:35	Rosemary de Martin	Andy Taylor	Moonapinna	Ongoing	Called to complain about an evaporator smell at her place	Checked all emission systems, found a problem on the evaporation plant to justify the complaint	Condensate pump tank overflowing foul condensate to the ground all afternoon due to low efficiency of the pump A54MP533A causing the odour around the evaporation plant	Cleaned out the ground and the sump that was full with Red oil and foul condensate, cooling down the pump to get level control and the condensate pump tank.	NNW 0km/hr	OK	OK	3.4	661
64129	31/03/2010	17:00	Col Locke	Kane Archer	Woolworths Tumut	30	Reported a Visy smell outside Woolworths at approximately 16:30	All system checks were carried out.	Suspect Methanol plant	Working with Andritz to resolve issues	WNW 3.2km/hr	Checked	Checked	3.58	608
63856	2/04/2010	7:50	Andrea Arrogan	Andrew Taylor	Minjary Springs	60	Called to complain about a sulphur smell started last hour	Checked all emission systems	Suspect 6MG dam.	Cleaning of dam planned. Dam cleaning being undertaken in early June.	S 1.6km/hr	OK	OK	3.7	600
64084	9/04/2010	5:45	Pat Whatman		Pleasant Springs	45	Reported a foul smell on her property	All systems checked	Had an early morning failure on line to 6MG dam	Odour suspected from repairs under way		Checked	Checked	1.92	574
64085	12/04/2010	14:00	Garry McCormick	Uday Bhagwat	Gocup Road Tumut	75	Complaint about sulphur smell at his residence on Gocup Road Tumut, causing him a headache	All systems checked, there were some issues in the plant that could have justified the complaint	Possible because is an air pump pumping foul condensate with a leaking hose, the high COD in the clean condensate and also a blown seal in the Methanol plant could have been contributing factors	1. Foul condensate leaking hose repaired. 2. Clean condensate quality improved, it dropped from 800 to 600 COD. 3. Methanol plant stabilised after a wash that was done on the second effect in the evaporators.		Checked	Checked	3	800
64092	15/04/2010	19:30	Andrea Arrogan	Andy Taylor	Minjary Springs	150	Called to complain about a bad sulphur smell at her residence	Checked all emission systems on site, found an upset to justify the complaint	Raw condensate tank was overflowing on shift change and smelling of turpentine badly	Adjusted the condensate system to stop the tank overflow and asked Paper machine to take more condensate to get inventories under control.	E 1.6km/hr	OK	OK	0.52	617

64112	16/04/2010	16:23	Louise Halsey	Mark Hannig		Intermit-tent	Called and said that she smelt sulphur/burnt rubber odour. Odour was wafting past but not there all the time. Louise also mentioned that she noticed a Visy smell in Tumut at 4pm on 9/4/2010	Full odour walk down and completed checklist.	Suspect 6MG dam.	Cleaning of dam planned. Dam cleaning undertaken from mid April through to early June.		OK	OK	2.5	458
64131	18/04/2010	6:00	Pat Whatman	Mark Hannig	Pleasant Springs	Ongoing	Indicated that she had a "horrible" smell at her residence	Odour checklist completed	Suspect 6MG dam.	Cleaning of dam planned. Dam cleaning undertaken from mid April through to early June.	0km/hr	OK	OK	3.34	528
64132	18/04/2010	10:00	Margaret Hayes	Mark Hannig	Adelong	3- 4 hours	Indicated that she could smell a "Mercaptan" type odour along with other characteristics that she could not identify. She indicated that the odour was initially strong but had faded by the time she had called.	Odour checklist completed	Suspect 6MG dam.	Cleaning of dam planned. Dam cleaning being undertaken in early June.	W 4.6km/hr	OK	OK	3.11	536
64216	23/04/2010	6:00	Pat Whatman	Craig Baldwin	Pleasant Springs		Complained of a very bad Methanol smell	Problems with methanol seal pot rectified	Problems with the Methanol seal pot pressurizing and venting in the previous hour	Problems rectified by time of call	WSW 0km/hr	OK	OK	2.5	472
64382	2/05/2010	11:33	Rosemary de Martin	Andy Taylor	Moona-pinna	Ongoing	Indicated that she could smell a digester smell and that it was coming and going	Monitoring dam level	Most likely cause is the 6MG dam as we are lowering the levels and exposing material on the bottom.	None taken plan in place to clean out the dam this month.	4.8km/hr WNW	OK	OK	0.84	472
64466	4/05/2010	17:30	Pat Whatman	James Eade	Pleasant View		Complained about a normal Visy smell at residence	Check plant operations	Most likely cause is the 6MG dam as we are lowering the levels and exposing material on the bottom.	Planned clean in progress		OK	OK	0.85	520
64582	13/05/2010	11:09	Kylie Whatman	Andy Taylor	Pleasant View		Complained about a bad smell.	System checked.	Faulty pressure transmitter on steam stripper was giving wrong indication, transmitter was fixed and steam stripper adjusted to reduce COD on stripper condensate.	Calibrated and adjusted transmitter.	SE 1.6km/hr	OK	OK	0.82	4616

64603	15/05/2010	12:00	Rosemary de Martin	Mark Hannig	Moona-pinna	Ongoing	Called to report a smell of evaporator or digester that is some times mild to strong at her residence.	System checked.	Repaired air pump on foul condensate system that was not working	Pump repaired	6.4km/hr NNW	Checked	Checked	1.86	471
64604	16/05/2010	15:00	Colin Locke	Paul Calonne	Gilmore Valley	Ongoing	Pond like smell that is coming from the mill. Possibly the effluent ponds. He stated that he lives 8km from the mill and the smell is ongoing for about 1 hour.	Check sheets done	Suspect 6MG dam	Cleaning 6MG dam, lots of waste exposed	6.4km/hr S	Checked	Checked	2.69	554
64671	18/05/2010	7:30	Bill Dean		Mt Horeb		Descried odour as smelling like cat urine at Mt Horeb.	System checks was completed and no upset conditions stood out.	Suspect due to cleaning of 6MG dam	Cleaning 6MG dam, lots of waste exposed		Checked	Checked	2.28	625
64673	18/05/2010	6:45	Pat Whatman		Pleasant View		Complainant had a very strong Visy smell at her residence	All systems checked	Suspect due to cleaning of 6MG dam	Clean 6MG dam to remove material		Checked	Checked	2.28	625
64696	19/05/2010	0:00	Louise Brown				Very strong ammonia/natural gas smell. Complaint about illness from it.	Filled in odour complaint check sheets. Notified Environmental Engineer	Suspect due to cleaning of 6MG dam	Clean 6MG dam to remove material					
64898	28/05/2010	7:00	Pat Whatman	Andy Taylor	Pleasant View		A bad smell - not the normal Visy smell	Completed odour system checklists no out of the normal problems found	6MG dam	Clean 6MG dam to remove material	0km/hr SE	Checked	Checked	0.44	532
64967	31/05/2010	15:39	NSW DECCW	Ben Casauria	Tumut		Received an email from Mark Enright, DECCW, at 2.58pm on 31st May, to say that they had received an odour complaint on 31st May at 01:00 hours. The complainants location was reported as Tumut and description was "Odour in the air which smells like a chemical or treatment plant odour from Visy Pulp and Paper Mill". No further details including	Investigation had identified high pressure on Methanol seal pot from around midnight. The cause of the high pressure is due to steam purge causing back pressure on the NCG steam ejector.	High pressure on Methanol pot causing venting	Working towards a solution to prevent these pressure fluctuations		OK	OK	0.61	572

							contact details have been provided.								
65030	3/06/2010	9:30	Pat Whatman	Mark Hannig	Pleasant View	60	Called in reporting a strong odour which had been present for approximately 1 hour prior to calling. The odour was described as smelling sour and similar to rotting milk.	Check lists done. Suspect the CNCG seal was puffing. Took Methanol column off line to stabilize system.	Methanol column was unstable. Pressure swinging up and down	Plant taken off line and brought back in controlled condition.	1km/hr SE	Checked	Checked	1.59	423
65194	13/06/2010	10:10	Kylie	Mark Hannig	Pleasant View	60	Indicated that she was at the Whatman farm and had noticed an odour for approximately 1 hour prior to calling. Her description of the odour was "not like dog vomit". No other information was given.	Suspected cause was turbine on 12th June at 23:30 hours causing MP steam pressure to go low and steam to NCG ejector for CNCG seal closed, this caused CNCG seal to pressurize and blow the seal.	Low steam pressure caused by upsets on Turbine	Steam pressure stabilised and gas pressure normalised	3km/hr SSE	Checked	Checked	1.88	400
65198	14/06/2010	12:30	Margaret Hayes	Kane Archer	Adelong	Ongoing	Odour complaint - Mrs Hayes said she could smell "horrible smell of Visy" in Adelong.	Odour checks done. Checklists completed. No abnormalities found.	Possibility of odour being trapped below an inversion layer, although at the time of the call the wind was blowing away from Adelong.	None taken as no issues were found with the mill operation.	4.8km/hr SE	Checked	Checked	2.41	470
65216	16/06/2010	7:35	Pat Whatman	Aaron Day	Pleasant View		Odour complaint of Mercaptan smell	System checked	NCG's diverted to Power boiler	Gases diverted to Recovery boiler A	1.6km/hr	Checked	Checked	2.6	401
65348	23/06/2010	7:30	Pat Whatman	Kane Archer	Pleasant View	30	Odour complaint, strong Methanol type smell.	Action already underway to rectify problem at time of call. No odour checks done as root cause already known.	Actuation on steam valve to stripper gas line failed open causing line to back pressure to Methanol system and causing a loss of the water seal allowing	Operator isolated steam valve to bring pressure back down and re-establish seal. Actuator changed out to	4.8km/hr SE	Checked	Checked	2.68	450

									Methanol vapour to atmosphere	prevent reoccurrence.					
65592	9/07/2010	8:45	Pat Whatman	Gerrie de Witt	Pleasant View	60	Reported a strong odour on her property at approximately 8:10am. She noted a release of vapour from the Main stack that this time shortly followed by a strong smell	Interim preventative action taken was to shutdown VPP9 paper machine to reduce steam demand.	See Resolution/root cause Complaint 65609 below	Recovery boiler B started back up and gasese were diverted to Recovery boiler A as soon as steam flow was re-established.	NNE 9.7km/hr	Checked	Checked	1.68	515
65593	9/07/2010	9:00	Andrea Arrogan		Minjary Springs	60	Reported a strong sulphur smell at her property for approximately 1 hour prior to calling and that additionally the odour was a 4 out of 4 rating	Interim preventative action taken was to shutdown VPP9 paper machine to reduce steam demand.	See Resolution/root cause Complaint 65609 below	As above	NNE 9.7km/hr	Checked	Checked	1.68	515
65609	9/07/2010	8:00	NSW DECCW	Ben Casauria	Tumblong		Odour complaint received on EPA complaints hotline. Mark Enright from the NSW DECCW rang to report a complaint that the DECCW had received on the EPA Complaints Hotline number (the call from the DECCW was received by Ben Casauria). The complainant is located in Tumbalong and reported a strong odour at the time of the call to the EPA. Mark Enright requested Visy to investigate and respond to eh DECCW in writing on the likely cause of the	Interim preventative action taken was to shutdown VPP9 paper machine to reduce steam demand.	The event that occurred at around the time of the odour incident which may have led to the impact was the unplanned emergency shutdown of Recovery Boiler B due to equipment malfunction. The heavy Black liquor pump unexpectedly tripped resulting in the shutdown of the boiler. The abrupt shutdown of the boiler resulted in loss in steam pressure affecting the ability of non-condensable gases to be transferred across to Recovery Boiler A. This resulted in over pressure of the Non condensable gases (NCG) seal pot in the Methanol plant causing extremely odorous NCG gases to be vented to atmosphere.	As above	W 3.2km/hr	Checked	Checked	1.68	575

							odour incident.									
65597	11/07/2010	10:48	Rosemary de Martin	Mark Hannig	Moonapinna	30	Contacted control room to complain about an odour that smells like old washing and cabbage and that the smell had just started	Investigate possible causes	Suspected cause was stripper gases switched to Power boiler on low steam pressure but tried to go to Torch but flame tripped out and stripper gases ended up venting to atmosphere until torch restarted.	Torch restarted and gases diverted back to Torch and then Recovery boiler	W 3.2km/hr	Checked	Checked	1.85	1201
65646	14/07/2010	0:00	Rosemary de Martin	Andy Taylor	Moonapinna	10	Odour complaint of evaporator condensate smell.	Inspection of process			NW 16.1	Checked	Checked	2.16	361+/-
65655	20/07/2010	8:30	Rosemary de Martin	Gerrie de Witt	Moonapinna	6 hours	Odour complaint of smell like something gassy but it did smell like waste water earlier on. It has been going all day - called at 14:30 hours.	Completed checklists and process operations in the mill	Could be cleaning of Cooling towers	Cooling towers were off for cleaning most of the day - back on in afternoon		OK	OK	2	407
65712	1/08/2010	11:00	Rosemary de Martin	Craig Baldwin	Moonapinna	90	Complainant indicated that she could smell a gassy Visy smell and that she had noticed it for the last 1.5 hours.	Odour checks done, no abnormalities found.	No root cause could be found. System operating normally	None taken	WNW 13km/hr	OK	OK	2.17	799
65750	7/08/2010	10:00	Kylie Whatman	Mark Hannig	Pleasant View	40	Reported a sulphur odour at the Whatman property that had been present for approximately 40 minutes prior to calling.	Check lists completed.	Found Mercaptan storage tank overflow seal pot had some turpentine floating on top of it.	Washed up area and spread some sodium bicarbonate on area to absorb some of the odour	S @ 4.8km/hr	OK	OK	2.44	432

65751	8/08/2010	20:55	Kylie Whatman	Mick Halloran	Pleasant View	10	Called to complain about a sulphur smell at Whitman's residence	Odour check list done, no incidents or process upsets at time of call	Suspected cause of the odour from 6MG dam which is filled with condensate from evaporation pond.	The 6MG dam has been pumped back to evaporation plant to spill tank and should be empty by Sunday 15th.	not recorded	OK	OK	2.1 Main Stack 1 11.97 Main Stack 2	
65863	7/09/2010	16:30	Not provided	Rob Moore	Not provided	Not provided	Message left on Control room phone of a very strong sulphur odour, no contact details provided	None taken at the time because odour complaint was only received today.	Unknown as no big process upsets noticed on Tuesday, complaint received later than actual day.	Did not notice any particular issues in any monitoring					
65884	15/09/2010	11:00	Colin Locke	Andy Gibson	Gilmore Valley	Ongoing	Sulphur - paper odour	Field checks done	None found	None taken	W @ 9.7km/ hr	OK	OK	0.47	562
65895	19/09/2010	7:12	Rosemary de Martin	Craig Baldwin	Moonapinna	Ongoing	Odour complaint about a smell all morning like the evaporators	Checked plant process and equipment	None found	None taken					
65905	27/09/2010	21:00	Roberta Smith	Andy Taylor			Strong smell of pine causing eye, nose, and lips irritation.	Checked areas for any issues							
65961	19/10/2010	9:05	Pat Whatman	Jamie Osgood	Pleasant View	Immediate	Odour complaint received that had just noticed the mills usual terrible smell and is not happy because nobody notified her of the shut down today. She said if she had known she would not have hung out her washing		Letters notifying of shutdown were mailed out on Wednesday prior to the shutdown. Letter was not received by resident. The complainant commented to the effect that she had not collected her mails since last Thursday as she hasn't been to town and due to floods in Adelong on the Friday.	Future notifications will be sent via email					
66004	20/10/2010	18:05	Rosemary de Martin	Ben Casauria	Moonapinna	Ongoing	Odour complaint received from Moonapinna located south east of site	Odour checks completed.	Likely cause is high COD of clean condensate after the planned shut down which is being used in the Cooling Towers.	Working on diluting with process water	NW 3km/ hr	OK	OK	0.15	962
66011	2/11/2010	10:30	Rosemary de Martin	Not recorded	Moonapinna	30 min	Odour complaint of odour that had started at residence in last 30 minutes	Checks done for abnormal odour but nothing found	Nothing found at this time	None taken		OK	OK		368
66087	24/11/2010	10:10	Kerry Gentle	Nathan Epp	Gadara Road	1 - 2 hrs	Noticed smell while jogging along Gadara Road in the mornings, particularly bad down in the	Checked mill system and monitor	Nothing found	None taken		OK	OK	1.25	233

							gully. Will call every time that she smells the mill from now on								
66120	3/12/2010	5:00	Garry McCormick	Ben Casauria	Gocup Road	Ongoing	Gary lives on Gocup Road approximately 1km from Smarts Road , north east from the site. He noticed the odour at 5am this morning while tending to things on his property , he commented that he has been getting odours for years and wanted to know if it is ever going to get better.	Will follow up with investigation and will visit complainant next week							
66121	5/12/2010	21:00	James Hayes	Aaron Day	The Gap	Un-specified	Not overly offensive but could smell something for a short time	Check list completed, no problems found	Nothing found	None taken	20.9km / hr	Checked	Checked	3.1	413
66149	11/12/2010	10:00	Kerry Gentle	Nathan Epp	Gadara Road	Over weekend	Odour coming from mill site smelling of SO_2 during Saturday and Sunday, but only reported on Monday.	Check mill systems As after event TRS and COD not recorded	Nothing found	None taken,	See COD	See COD	see COD	see COD	Complaint after event
66164	14/12/2010	6:30	Kerry Gentle	Allan Stallworthy	Gadara Road	Un-specified	Mrs Gentle complained that she had been smelling a sulphur smell occasionally on her way to work in the morning. This week it was noticeable on Tuesday and again today	Some checks done but as time between incident and complaint was significant no action was taken	No root cause found	None taken	NW @ 16.1km /hr	OK	OK	1.68	333
66188	30/12/2010	7:45	Pat Whatman	Aaron Day	Pleasant View	not recorded	Odour complaint	Completed checklist	Nothing found	None taken	3km/hr	Checked	Checked	1.13	325
66190	1/01/2011	11:30	Kerry Gentle	Mick Halloran	Gadara Road	30	Sulphur smell from mill	Checked all area systems	Nothing found	None taken	not recorded	see COD	see COD	see COD	not recorded

66192	3/01/2011	8:30	Susan Roche	Kane Archer	Adelong	Today & over Xmas	Rang Control room and said she had an odour at her residence (Wagga Wagga side of Adelong) that smells like Visy. It was happening at the time she called and over the Christmas period	Area check done - could not find a cause	Nothing found	None taken		Checked	Checked	4.13	363
66241	24/01/2011	11:30	Rosemary de Martin	Andy Gibson	Moonapinna	Ongoing	Odour complaint, Rosemary indicated that she had a mercaptan smell at her property so bad that she had to close the windows	Odour checks done	No root cause could be determined. Odour checks done but nothing abnormal could be found. No incidents prior to the complaint	None taken	NW @ 3.2km/hr	OK	OK	1.8	377
66254	29/01/2011	8:40	Susan Roche	Nathan Epp	Ellerslie	Immediate	A Visy smell as soon as Susan went outside her house this morning	Cooling tower deluge system activated, now isolated and off.	Unknown	Deluge system on Cooling towers isolated	NE	Checked	Checked	1.24	366
21364	10/02/2011	08:52:00	Susan Roche	ARCHER, KANE	Adelong		Susan called into control room to lodge an odour complaint. She said that is smells like Visy at her residence, and it comes and goes	Could not find a source for the smell	None taken	ESE @ 6.4km/hr	OK	OK	391	1.69	0.27
21399	12/02/2011	14:00:00	Rosemary Demartin	BARTLETT, PAUL	Moonapinna		Odour complaint from Rosemary DeMartin. Rosemary complained of an "evaporator smell" that had been ongoing for most of the day.	Odour checklists done - nothing abnormal noted. Evaporators at reduced rates due to fibreline problems.	None taken	NNW @ 6.4km/hr	OK	OK	367	1.1	0.07
21469	16/02/2011	10:15:00	Susan Roche	ALLEN, WARWICK	Adelong		Susan Roche from Adelond called at 10:15am to complain about typical Visy smell on & off for a number of weeks. She had put in previous complaints.	Odour checklists done - nothing abnormal noted.	Arrange meeting with Susan Roche to identify location of property, description of odour and frequency of events. Meeting held with Susan 28th February to discuss issues and establish contact.	E @ 8 km/h	OK	OK	460	0.52	0.06

21561	21/02/2011	10:00:00	Rosemary Demartin	TREVASKIS, CHRISTOPHER	Moonapinna		Rosemary DeMartin complained of a sulphur smell that seems to be persistent.	No incidents prior to complaint. Odour checks done - nothing abnormal found. Clean condensate COD was elevated over the weekend due to the tripping of the evaporator plant with some subsequent contamination of the condensates	None taken	NW @ 8.4km/hr	OK	OK	459	1.15	0
21683	26/02/2011	7:25:00	Kylie Whatman	CROOKS, DAVID			Kylie Whatman called at 07:25 complaining about a strong smell from Visy. No more details were registered due just get a message on DCS phone .	Lost seal pot on methanol plant CNCG system due to steam ejector shutdown for low steam pressure caused by an upset on MP	After this incident we left the manual valve open and instruct all operations.	Not recorded	OK	OK	401	1.37	0
21854	07/03/2011	08:30:00	Jenny Toole	OSGOOD, JAMIE Adam	511 Ellerslie Rd Adelong		Can smell a pungent/sulphurous odour when easterly wind blows.Is having an effect on allergies.	Plant stable	Checked systems	SE @ 3.2km/h	Ok	Ok	403	1.66	0
21882	08/03/2011	08:43:00	Andrea Arragon	OSGOOD, JAMIE Adam	Minjary		Andrea rang at 8:43 with odour complaint. "Andrea says she has a real sulphury smell which has been on and off for the last hour and a half".	Plant Stable	Checked systems	SE @ 3.2km/h	Ok	Ok	403	1.75	0.27
21907	08/03/2011	21:00:00	Andrea Arragon	TOZER, STUART	Minjary		Andrea Arogon reported a strong smell of sulfour. Recovery boiler B tripped at the same time.	Recovery Boiler B Trip indentified as problem of the logic on BMS code.	MCR created to fix logic on BMS code.	SE at 4-8 km/hr	Ok	Ok	452	2.26	0.07
21917	07/03/2011	10:35:00	Brian Wild (via EPA hotline)	Ben Casauria	Miscellaneous		Contacted via email by Brian Wild of DECCW Albury. Incident report lodged on EPA Hotline alleging odour from Visy. The complainant stated "Strong chemical toxic	Plant stable	Checked systems	SE @ 3.2km/h	Ok	Ok	403	1.46	0.31

							smell coming from Visy, Tumut." Caller says "odour leaves a funny taste in the mouth and fuzzy								
22400	02/04/2011	10:15:00	Tony Butler	TOZER, STUART	Intersection Snowy Mountains Highway and Batlow Rd.		Person reported a strong sulfer smell.	Washing of effect 1/2 but that should cause no issues on the gas systems. The gas torch was not operational on the roof but this should have no impact on the odour as at the time the gas was steady and burning in the recovery boiler.	Other systems checked but no source found.	NW @ 4.2 km/h	OK	OK	400	2.41	0.07
22403	02/04/2011	11:30:00	Rosemary Demartin	TAYLOR, ANDREW	Moonapinna		Person reported a odour complaint, extreme annoyance. She will be closing up the house due to the strong smell.	Washing of effect 1/2 but that should cause no issues on the gas systems. The gas torch was not operational on the roof but this should have no impact on the odour as at the time the gas was steady and burning in the recovery boiler.	Other systems checked but no source found.	NW @ 4.2 km/h	OK	OK	400	2.3	0.14
22416	04/04/2011	11:30:00	Rosemary Demartin	HALLORAN, MICHAEL	Moonapinna		Rosemary DeMartin rang to complain about gaseous odours coming and going.11:30am for 1hr	Repairing NCG burner torch. All systems OK.	Repairing NCG burner torch	Not recorded	Ok	Ok	443	2.7	0.08
22921	5/05/2011	08:35:00	Andrea Aragon	LUIKEN, LAWRENCE	Minjary		Andrea Aragon called into control to register an odour complaint	No source found	Checked systems	WSW, 0 km/hr	OK	OK			
22959	9/05/2011	17:15:00	Pat Whatman.	TAYLOR, ANDREW	Pleasant View		Person complaint about a bad smell at home. (chemical odour)	No source found	Checked systems	E, 6.4 km/hr	OK	OK			

23069	16/05/2011	14:25:00	Rosemary DeMartin	STALLWORTHY, ALAN	Moonapina		Odour complaint from Rosemary DeMartin. She indicated that she had a gas smell at her property	Nothing abnormal reported. Air strippers were off line prior to this for inspection and may have contributed to the odour leaving the site.	Checked systems	W, 8 km/hr	OK	OK			
23127	19/05/2011	10:20:00	Whatman, Pat	CROOKS, DAVID	Pleasant View		Complaint about a sour smell. Her husband thinks its coming from the effluent plant.	We are cleaning the 6 meg dam at the moment and dumping the slude near the VCE fan.	Checked systems	SE, 0 km/hr	OK	OK			
23192	23/05/2011	14:00:00	Rosemary DeMartin	ARCHER, KANE	Moonapina		Rosemary DeMartin called into control room to complain of a strong visy smell for the last couple of hours at her residence	All systems were running well. Wind was blowing to her house and main possible cause was stack plume without proper dispersion.	Checked systems	NNW, 9.7 km/h	OK	OK			
23338	30/05/2011	12:15:00	Whatman, Pat	SOMNER, AARON	Recovery /Evaporation plant area		Pat Whatman called to complain about general mill smell.	The most possible cause of the odour was the HBL steam flushing done to unplug Heavy black liquor line resturn from Recovery boiler A causing odour in the evaporation plant. It was done between 9-11:00am of 30/05, due the line was blocked.	Checked systems	SE, 0 km/hr	OK	OK			
23348	30/05/2011	18:30:00	Whatman, Pat	TAYLOR, ANDREW	Pleasant view.		Person reported a bad odour, smells like foul condensate or burning chemicals.	Strong smell coming from cooling towers due to problems with clean condensate odour during day shift. Contamination was caused by excessive reflux condensation at vapour stripper.	Procedure to avoid excessive condensation at reflux condenser.	NW, 0 km/hr	OK	OK			
24248	28/07/2011	02:00:00	Rosemary de Martin	BARROS, FRANCISCO	Moonapina	3 hrs	Rosemary de Martin called at 14:00hr to complain about a gassy smells at her residence for about 3 hrs.	Possible cause of the complain evaporators storage tanks venting and a smell coming from methanol plant.	Checked systems	NW, 3.2km/h	OK	OK			

24248	28/07/2011		Rosemary De Martin	BARROS, FRANCISCO	Moonapinna	3 hrs	Rosemary de Martin called at 14:00hr to complai about an gassy smells at her residence for about 3 hrs.	Possible cause of the complain evaps storage tanks venting and a smell coming from methanol plant.	HVLC and HCLV system running ok.	Wind direction-3.2km/h			CCondensate COD-368	H2S stack-0.53mg/Nm3	
24729	25/08/2011		Arragon, Andrea	MANIAS, EDUARDO	Minjary	4 days	Person complaint about odour for the last 4 days.								
24754	25/08/2011		Dean, Bill		Mt Horob	6 hrs	Bill Dean rang the control room to complain about a bad smell "smells like cat piss" at his residence in Mt Horob. it had been ongoing for about 6 hrs. odour probable coming from the evaps or 6meg because of MSD								
24756	25/08/2011		2.Patwhatman	1.CASAURIA, BENITO	Pleasant View	6 hrs	Complained of odour at residence for most of Thursday 25 Aug from 3:45am to time of complaint 9:30pm. Complainant indicated odour as extremely bad and inside the house. Complainant is aware of shutdown and risk of odour due to activities. Complainant reported odour incident to the EPA hotline. Email was received from the EPA on Friday 26 August notifying Visy of the complaint. Verbal and written communication was made with the EPA over the incident. No								

							further action from the incident was requested by the EPA.									
25101	17/09/2011		2.Pat Whatman	1.MOORE, ROBERT	Pleasant View		Pat reported that she had a drifting smell on her property. It was present in some areas but not in others. She described the smell as a sweet licorice type of smell.									
25105	18/09/2011		1.Gentle, Kerry	2.MOORE, ROBERT	Gadara rd Gilmore		Kerry phoned and complained of a strong sulphur smell on her property									
25107	19/09/2011		1.Whatman, Pat		Pleasant View		Pat Whatman called 06:20 to complain about a Mercaptan smell at her residence since 03:40 am	No incidents or process up sets on shift to justify the com plain		wind direction - ESE			COD on Condensate-459	H2S 1.10 mg/nm3	TRS 1.65 mg/Nm3
25232	23/09/2011	Time raised-12:28	2.De Martin, Rosemary	Reported to - Charles Armstrong	Moonapinna		Rosemary De Martim called to report a strong Paper Machine wet end smell at her residence			Wind direction - W			Clean condensate COD-457	H2S-0,61mg/nm3	TRS-2.07mg/nm3
25281	28/09/2011	10:14am	2.Kedzia, Andy	1.OSGOOD, JAMIE Adam			"terrible Visy smell that seems to be 3 times worse than usual and is almost taking his breath away". When complaint was received for first time at reception he indicated that it was a sewage like odour.									

25350	4/10/2011		2.Margareth Hayes	Reported to- Gwynet Percival	Adelong		Margareth called to complain about a very strong odour at her residence.Very acrid type odour when she went outside the house	Possible causes- N/A. all emissions systems working properly and was no upsets to jutify the complain.Cooling towers running on recycle water.		Wind and speed direction-No data due complain was informed 3 hours after the call			COD on clean conden sate- 271		TRS- 1,3mg/nm3
25630	24/10/2011		1.De Martin, Rosemary	2.TOZER, STUART	Moonapinna.		Person complaint about a strong condensate smell, came with wind increase. Moved inside house and closed house up. Completed checklists. Wind direction from the west.									
25689	27/10/2011			1.MOORE, ROBERT			Susan Roche phoned to say that she had a "smell" on her property.	At the time of the incident the mill was upset due to an unscheduled digester outage but all NCG systems were operating normally.								
25747	1/11/2011	08:00am	1.Roche, Sue		location- at her residence 233 Yaven Creek Adelong		Sue Roche called to complain about an strong odour at the moment she opened the door and described as a visy type odour	Possible cause- Methanol tank seal pot full of methanol tdue incident of the tank overflow during the night shift due level transmitter issues.	Action taken- Flushed the seal pot with condensate and eliminated the odour on methanol plant area!	Wind direction and speed- SE 1.6km/h			Clean conden sate COD- 234	Main stacl H2S- 2.9mg/nm3	Main stack TRS- 2.2mg/Nm3
25802	4/11/2011	11:10am	Rosemary De Martin	2.OSGOOD, JAMIE Adam	Moonapinna		"Mercaptan smell from wet end of paper machine".	Pulpmill stable		Wind speed & direction N/W 1kph			Clean conden sate COD 365		TRS 2.10mg/m3
26202	26/11/2011		1.De Martin, Rosemary	2.ARCHER, KANE	Moonapinna		Rosemary De Martin rang up the control room to complain about a strong visy smell at her residence that has been happening on and off for several hours.	No definite cause could be found, suspect cooling ponds or tank venting causing the odour		Could not get wind speed and direction because it is not installed on our new computers			Clean Condensate COD was 269 ppm		Main stack TRS was 1.87 ppm
26472	14/12/2012		1.Roche, Sue		Yaven creek		Susan Roche called rang the control room to complain of a strong visy smell	Suspect cause was foul condensate draining to the floor at condensate pump tank, closed up	HCLV and HVLC check done,	No wind speed at the time			Clean Condensate COD was		TRS was 2.38,

							for the last few days and this morning at her Redidance at Yaven Creek	valve when it was found					525		
26529	18/12/2011		2.Margareth Hayes	1.LUIKEN, LAWRENCE			Odour complaint from Jervis Hayes.	Odour checklists done - nothing abnormal found.							
26588	24/12/2011	11:35am	2.Rosemary De Martin		Moonapinna		Sumary of incident-Shocking Visy smell and merry Christmas.			Wind/speed-9km/h NE			Clean condensate COD – 427		Main stack ecotech H2S-2.83mg/nm3
26886	18/01/2012		2.Mark Enright (via EPA Hotline)	1.OLIVIER, STEPHANIE	Adelong		Odour had been a problem in early 2010, and this was resolved. However it has now returned, particularly since the time of the official opening. The odour is a horrible sulphide smell - rotten eggs smell. It makes her feel ill and gives her a headache. It occurs every day but at no particular time. She has discussed with other residents and they are also experiencing the odour, with some are as far away as Yaven Creek Road.								
26901	23/01/2012		1.Hayes, Margareth		Adelong		Margrate Hayes rang up the control room to complain about at visy semll at her residence. She reported that it smelled like H2S and mercapitians								
26922	23/01/2012	8:00pm	2.Mark Enright (via EPA Hotline	1.OLIVIER, STEPHANIE	Adelong		Odour coming from the Visy Pulp & Paper Mill. Caller was advised by Visy								

			)				that it was to do with the steam turbine and power boiler having to burn off into the air.								
26923	24/01/2012	3:00pm	2.Mark Enright (via EPA Hotline)	1.OLIVIER, STEPHANIE			Caller reporting odour problem from Visy which was first evident at approximately 15:00hrs and was noticeable up until 19:00. Odour was not evident when iside the home so not sure if or when the odour actually dispersed. Odour this morning at 8:30 is extremely strong.								
26952	25/01/2012		2.Mark Enright (via EPA Hotline)	1.OLIVIER, STEPHANIE	Darlow		Complainant description: "Bad distinctive odour, sulphur in nature. The smell woke caller from sleep & it was potent for an hour. Caller is 15 k from the site"								
26982	30/01/2012		2.Rosemary De Martin		Moonapinna		Rosemary De Martin rang up the control room to complain about a mercaptan smell at her residence. Not duration or start time was given	Suspected source is Recovery Boiler B vent gas to atmosphere	Check Sheets done, no abnormal conditions found	Wind speed NW 31 km/hr			Clean Condensate COD 418	H2S 2.11 ppm	TRS 2.12 ppm
26999	27/01/2012		2.Mark Enright (via EPA Hotline)	1.OLIVIER, STEPHANIE	Gadara rd		EPA lodged an complaint on the 30th of January that was reported to the EPA on friday the 27th of January.Caller reports an extremely bad smell coming from Visy Pulp and Paper mill, Gadara Rd Tumut on 27/01/2012 at								

							20:00. Caller advised this is the worst it has been.									
27062	3/02/2012		1.De Martin, Rosemary		Moonapinna		Person complaint about a odour that smellt like rotten cabbage.									
27063	5/02/2012	5:55pm	1.De Martin, Rosemary		Moonapinna		Person complaining about a "wet paper smell"	Duration 2 hrs.								
27100	7/02/2012	10:44am	1.De Martin, Rosemary	1.SOMNER, AARON	Moonapinna		"Wet end paper smell"	Duration 1 hrs.		Wind N/NE 0.9km/h			COD 485	H2S 1.86mg/Nm3	TRS 0mg/Nm3
27101	7/02/2012	8:15 PM	1.De Martin, Rosemary		Moonapinna		Person complaint about a "Wet end paper machine odour" had to shut house up smell very bad. Informed paper machine Senior to investigate.	Duration : Last 15 min.								
27339	22/02/2012		1.De Martin, Rosemary	2	Moonapinna		Person complaint about a strong chemical smell.									
27553	6/03/2012	8:00am.	Pat Whatman	2.SOMNER, AARON	Pleasant View	40 min	"Usual Visy smell" for forty minutes	All systems checked,PSD started								
27555	6/03/2012			1.OSGOOD, JAMIE Adam	Boiler Room											
27556	6/03/2012	10:00am	1.De Martin, Rosemary	2.SOMNER, AARON	Moonapinna	3 hrs	"condensate smell" for 3 hrs	Plant systems checked,PSD started in morning								
27557	6/03/2012	9:30am	Darren	2.HALLORAN, MICHAEL	Adelong		"burning nose Visy smell"	Plant systems checked,PSD underway								

27562	6/03/2012		2.Mark Enright (via EPA Hotline)	1.O'DONOVAN, MATTHEW	Adelong		1. Dreadful odour, quite pungent, from licenced site for about the last two (2) hours. It's hard to breathe and "can't be good for our health". It is affecting quite a large area - noticeable at caller's home and at his daughter's preschool (Lockart St) and the local public school (Adelong Public). Really awful yet caller is quite a distance from the factory site.2. About two months ago caller saw a black sludge running from the premises into a culvert in Gilmore Rd near the bottom of their driveway. Later noticed it had been covered with green mesh but not cleaned up.								
27657	13/03/2012		1.Whatman, Pat	2.STALLWORTHY, ALAN	Pleasant View		Mrs Whatman phoned and indicated that she had a bad smell at her property. She indicated that it was not the normal smells from the mill.								
27790	17/03/2012		2.Gentle, Kerry	1.CALONNE, PAUL	Residence along Gadara Rd		Kerry Contacted the control room complaining about sulphur type smell at her residence on the top of gadara road	HVLC and HCLV checks done and no problems noted- washing vent gas heated on recovery boiler "A" at the time so vent gas going to atmosphere- Recovery boiler "B"		Wind Speed and Direction SSW at 7km/hr			Clean Condensate COD 566		Stack TRS 1.89

								vent gas to atmosphere							
27793	17/03/2012	11:15	2.De Martin, Rosemary	1.CALONNE, PAUL	Moonapinna		Rosemary contacted control room around 11:15 complaining about a sulphur like smell at her residence. Said it made her feel sick and she had to close up all windows and doors	Suspected cause - Washing vent gas heater on recovery boiler A at that time so vent gases going to atmosphere	HVLC and HCLV check done	Wind speed and direction SSW 7 km/hr			Clean Condensate COD 566		Stack TRS 1.89
27928	21/03/2012		1.De Martin, Rosemary		Moonapinna		Ms. DeMartin phoned to report a "gassy Visy" smell at her residence. She noted that the wind had picked up a short time prior.								
27985	24/03/2012		Carmen Cribb	2.ARMSTRONG, CHARLES	58 A Selwyn street. Adelong		Carmen Cribb from Adelong complaint about a strong sewarage smell duration most of day	Suspect cause: Strong odour coming from 6meg dam.	Check lists completed.	Wind direction/speed: SW at 16.4 km/hr			Clean condensate COD: 440	H2S: 2.41	
28188	2/04/2012	2:00pm	Rosemary De Martin	2.BALDWIN, CRAIG	Moonapinna		Noticed a sulphury gasey smell for approx 1hr.		All systems checked and Ok				Clean cond. COD 385		MS TRS 2.85mg/m3
28229	3/04/2012		1.Arragon, Andrea		Minjary		Andrea rang and complained of a strong sulphur smell. She indicated that it had been around for a couple of hours.								
28594	29/04/2012	8:30am	2.Mark Enright (via EPA Hotline)	2.O'DONOVAN, MATTHEW	Adelong		Bad odour from about 8.30am yesterday morning (29/4/12) - strong at caller's house and even stronger in Adelong township. Also								

							strong last night and again this morning at caller's house.								
28629	29/04/2012		1.McCormick, Gary	2.O'DONOVAN, MATTHEW	Gocup rd near Smarts rd		Gary called at 5.00pm Tuesday 1 May (left message). Called Gary back at 8.50am Wednesday 2 May, said that there has been a bad odour at his property which was first noticed on Sunday 29 May and could still be detected yesterday.								
28630	3/05/2012		Matt Black	2.MOORE, ROBERT	Gilmore Valley		Matt Black phoned to indicate that he had a really bad smell coming from Visy that made it impossible to sleep. The first call was handled by the panel operator as per normal. Mr. Black phoned a second time at which time the call was transferred to Robert Moore (shift supervisor) due to his aggressive nature. The situation was calmly explained to him and apologies were offered. The caller became quite aggressive and abusive. His wife then got on the phone to express her disappointment and indicated that he was very	After approx 30min on the phone it was agreed that someone from Visy management would call him the next day at 1230 for a further explanation. Approx 10 mins later he called again and was very abusive at which time the panel operator politely said he could no longer discuss the matter with him if he was going to so abusive and hung up. The shift supervisor then called Matt o"Donovan to see if he could talk to the man. Matt tried to call but there was no answer.Mr. Black lives in the Gilmore Valley near the Batlow turnoff. The mobile contact numer that was given was 0448673644							

							drunk.									
28631	3/05/2012		1.Bradley, Mike	2.MOORE, ROBERT	Snowy Mtn Hwy		Mr. Bradley phoned to indicate that he had a very offensive stagnant smell at his property									
28632	3/05/2012		1.De Martin, Rosemary	2.MOORE, ROBERT	Moonapinna		Rosemary indicated that she had a strong NCG type smell at her property and that it had been going on for at least an hour									
28687	7/05/2012		1.Boyd, Claire	2.BARTLETT, PAUL			Claire Boyd called to complain about a strong burn smell, like bush fire. Strong smokey smell like "burnt KFC"	Suspect cause of the complain is the burning paper on the back of reel store building.		Wind dir & Speed - SW / 9km/h			Clean condensate COD-296	Stack H2S - 2mg/Nm3	Stack TRS-0,18 mg/Nm3
28764	10/05/2012		Belinda Banwell	2.LE ROUX, ANDRE	Snowy mountains highway.		Duration 10 min.									
28765	10/05/2012		2.Aragon, Andrea	1.LE ROUX, ANDRE			Strong sulfer smell.Duration 2 hrs.									
28899	19/05/2012		Trina Thompson	1.HETHERINGTON, STUART	Snowy Mountains highway.		Person was driving past mill and noticed a bad odour.			Wind speed:1.6 km/hr			Clean condensate COD: 441		TRS: 2.23
28978	26/05/2012	1:00am	Dell Jenson	2.BARROS, FRANCISCO			Dell Jensen called 1am to compalin about a rotten egg smell, did not give his adress ar home	Half of the mill was running due RBoiler B sdown, no process upsets to justify the complain.					CCondensate COD - 256		TRS - 2.04

							number, voice was very hard to understand								
29026	29/05/2012		Michelle Baker	2.TOZER, STUART	Batlow turn off Snowy mountain highway.		Michelle Baker reported a odour smelling like LPG gas.Contact number: 0448673644.	Possible odour coming from cooling ponds or 6 meg dam.Plant stable no process upsets.	Completed odour system checklists.	Wind speed 1.6 km/hr.			Clean condensate COD = 409	Stack 1 TRS 2.70	Stack 2 TRS 0.03