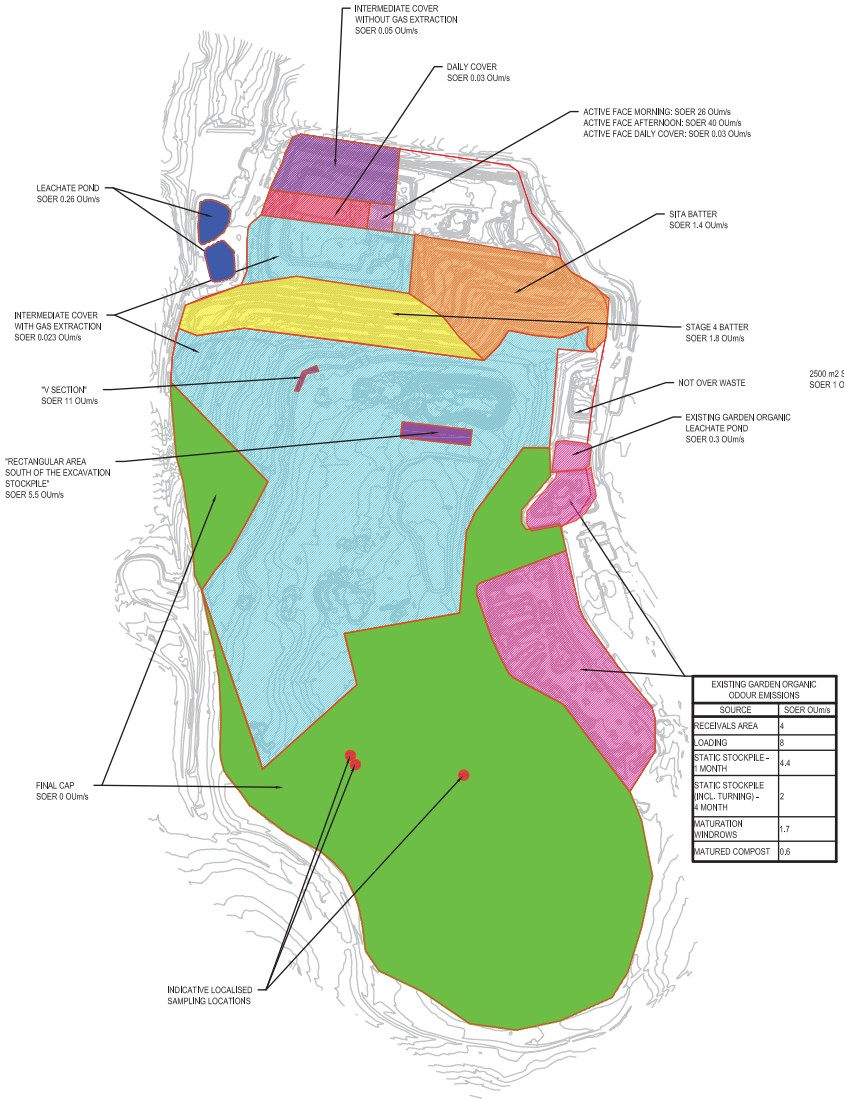
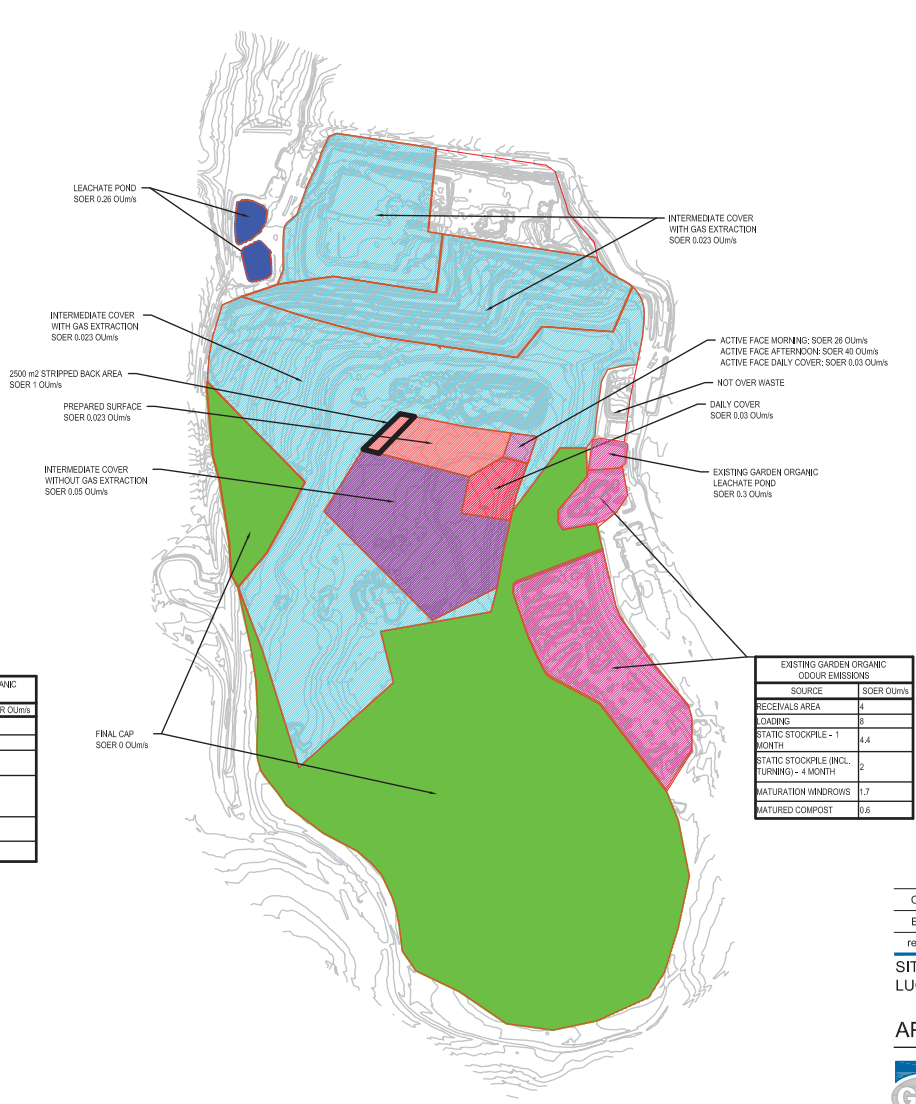
Appendix D – Applied odour emission rates



EXISTING GARDEN ORGANIC ODOUR EMISSIONS	
SOURCE	SOER OUm/s
RECEIVALS AREA	4
LOADING	8
STATIC STOCKPILE - 1 MONTH	4.4
STATIC STOCKPILE (INCL. TURNING) - 4 MONTH	2
MATURATION WINDROWS	1.7
MATURED COMPOST	0.6

EXISTING



EXISTING GARDEN ORGANIC ODOUR EMISSIONS	
SOURCE	SOER OUm/s
RECEIVALS AREA	4
LOADING	8
STATIC STOCKPILE - 1 MONTH	4.4
STATIC STOCKPILE (INCL. TURNING) - 4 MONTH	2
MATURATION WINDROWS	1.7
MATURED COMPOST	0.6

PHASE 1

LEGEND:

- PROPOSED RE-PROFILING BOUNDARY
- ACTIVE CELL
- STRIPPED BACK AREA AND PREPARED SURFACE
- DAILY COVER
- INTERMEDIATE COVER WITHOUT GAS EXTRACTION
- INTERMEDIATE COVER WITH GAS EXTRACTION
- FINAL / EXISTING CAP
- LEACHATE POND
- STAGE 4 BATTER
- SITA BATTER
- EXISTING GARDEN ORGANIC FACILITY
- GARDEN ORGANIC / ARRT FACILITY

N

0 50 100 150 200 250m

SCALE 1:5000 AT ORIGINAL SIZE

PRELIMINARY

rev	description	app'd	date
C	REVISED		08.05.15
B	REVISED		27.04.15

SITA AUSTRALIA
LUCAS HEIGHTS RRP

APPLIED SOERS

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scale | 1:5000 for A1 job no. | 21-23482
date | MAY 2015 rev no. | C

approved (PD) SK017

Plot Date: 14 May 2015 - 5:58 PM Plotted by: Carol Ng Cad File No: G:\21\23482\CADD\Drawings\21-23396-SK017-SK019.dwg

ARRT ODOUR EMISSIONS	
BIOFILTER	86,250 OU/s

GARDEN ORGANIC ODOUR EMISSIONS		
m	SOER OUm/s	COVER
RECEIVALS AREA	4	
LOADING	8	
ACTIVE COMPOSTING - WEEK 1	1.95	0.2
ACTIVE COMPOSTING - WEEK 2	1.12	0.11
ACTIVE COMPOSTING - WEEK 3	0.97	0.10
ACTIVE COMPOSTING - WEEK 4	0.89	0.09
MATURATION	0.7	
FINISHED COMPOST	0.34	
TURNING	1.18	

PHASE 6

LEGEND:

- PROPOSED RE-PROFILING BOUNDARY
- ACTIVE CELL
- STRIPPED BACK AREA AND PREPARED SURFACE
- DAILY COVER
- INTERMEDIATE COVER WITHOUT GAS EXTRACTION
- INTERMEDIATE COVER WITH GAS EXTRACTION
- FINAL / EXISTING CAP
- LEACHATE POND
- STAGE 4 BATTER
- SITA BATTER
- EXISTING GARDEN ORGANIC FACILITY
- GARDEN ORGANIC / ARRT FACILITY

N

0 50 100 150 200 250m

SCALE 1:5000 AT ORIGINAL SIZE

PRELIMINARY

rev	description	app'd	date
C	REVISED		08.05.15
B	REVISED		27.04.15

SITA AUSTRALIA
LUCAS HEIGHTS RRP

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scale | 1:5000 for A1 job no. | 21-23482
date | MAY 2015 rev no. | C

approved (PD) SK018

Plot Date: 14 May 2015 - 5:58 PM Plotted by: Carol Ng Cad File No: G:\21\23482\CADD\Drawings\21-23396-SK017-SK019.dwg

Appendix E – Ektimo Report

Ektimo

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Odour Survey

Lucas Heights Resource Recovery Park

Prepared for:
GHD

May and June 2014

Report No. 140107r

Yours faithfully
Ektimo (formerly Emission Testing Consultants)

Steven Cooper BEng (Env)
Quality Manager

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EXECUTIVE SUMMARY

Tests were performed during May and June 2014 to determine odour emissions to air from various locations within the Lucas Heights Landfill operated by SITA Australia. The purpose of the sampling program was to collect a sufficient number of samples to enable a robust characterisation of the odour emissions from the different areas of the landfill, and thereby taking into account the variability of emissions across the landfill component of the site.

Odour sampling was conducted from several areas on-site using either isolation flux chambers or simultaneous upwind and downwind transects as summarised in the following table and detailed in the sampling methodology section of this report on page 6:

Odour Source	Odour release mechanism	Collection Technique	Number of samples taken
Final capped area	Gas diffusion through surface (inc background sample)	IFC	7
	Gas leakage via fissures (localised emission points)	IFC	3
Intermediate covered area	Gas diffusion through surface (inc background sample)	IFC	7
	Gas leakage via fissures (localised emission points)	IFC	5
		upwind & downwind transect	4
Test Pits	Direct odour emissions from exposed surface	IFC	11
Active landfilling face, daily & intermediate cover	Direct odour emissions from exposed waste material	IFC	3
		upwind & downwind transect	4
Leachate pond	Quiescent surface	IFC	2
	Aeration of leachate	upwind & downwind transect	2
Stage 4 Batter	Gas diffusion through surface	IFC	3
	Gas leakage via fissures (localised emission points)	IFC	3
		upwind & downwind transect	4
SITA Batter	Gas leakage via fissures (localised emission points)	upwind & downwind transect	4
		Total	**62**

Background samples were taken adjacent to the final capped area as well as the intermediate capped area. In addition to this a background test pit was dug and sampled. All background samples were taken from surfaces without landfill beneath them.

The site was carefully traversed and localised emission points were identified and sampled. Where there were larger areas of localised emissions the emission from these areas were sampled using upwind and downwind transects. Two locations of larger localised emission were identified on the existing intermediate covered area which is south of the excavated void. These larger localised emission sources were termed the ‘v section’ and ‘rectangular area south of the excavation stockpile’. The landfill batters leading into the excavated void were larger areas where odour was being emitted and the emissions from these batters were also sampled by applying the upwind and downwind transect method.

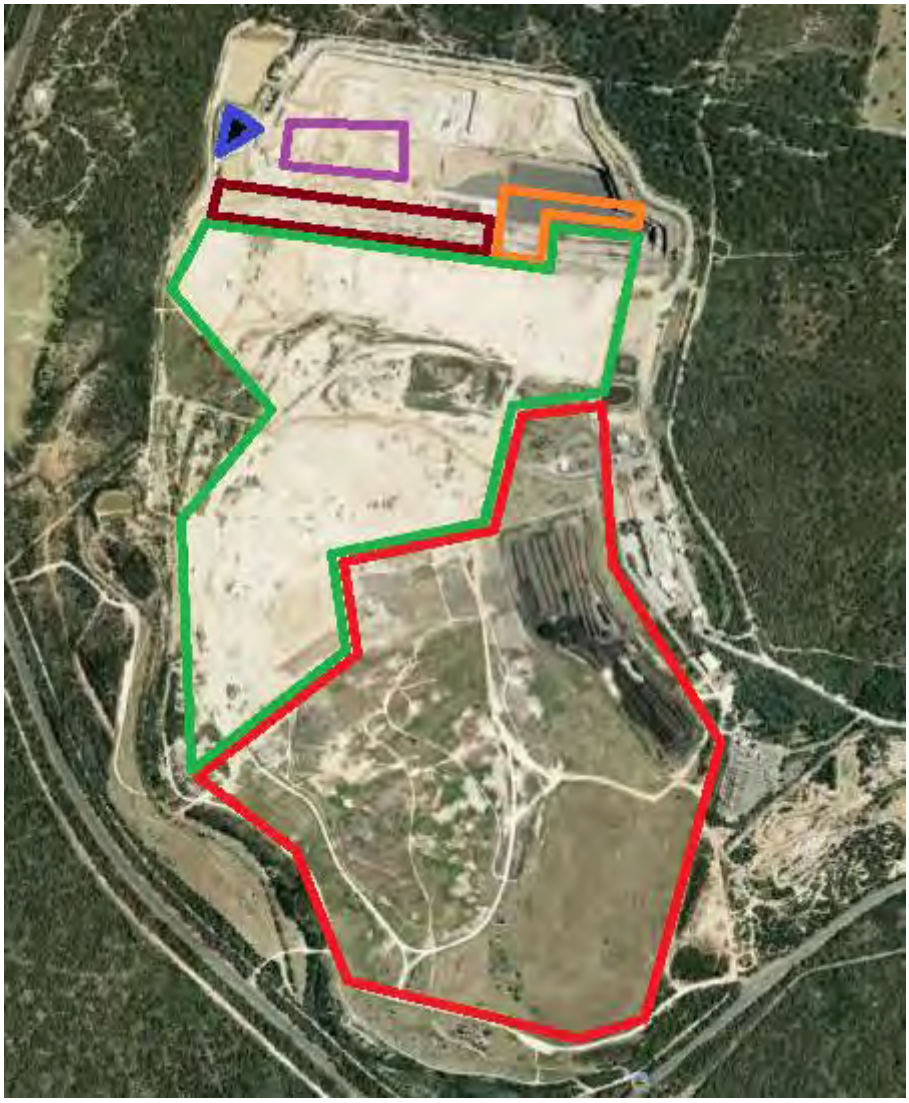
Some points along the stage 4 batter are steep and difficult to access with sampling equipment, however, judging from the surface cracks and staining the localised emission points sampled around the stage 4 batter (west) would be indicative of emission sources from this batter further to the East. At the SITA batter localised emission points were far more evident on the West side than they were on the North side.

GPS coordinates were measured on-site. The device used to take these readings rounded the coordinates to the nearest second. Thus some sampling locations positioned close together may have identical eastings or northings recorded.

Maps illustrating sampling locations and weather station data have been appended in this report

All odour analysis was performed by The Odour Unit Pty Ltd (TOU). Results as received by TOU have also been appended in this report. Please note that in TOU report 20140603_049 sample identifiers 89, 104 and 5 have not been used in this assessment. Additionally in TOU report 20140604_050 sample identifiers 141, 172, 38, 55, 180 and 14 have not been used in this assessment.

SITE MAP



Key

- **Final Capped Area**
- **Intermediate Covered Area**
- **Stage 4 Batter**
- **SITA Batter**
- **Tipface Area (including daily and intermediate covered areas)**
- **Main Leachate Pond**

SAMPLING METHODOLOGY

Gas diffusion through surface – Final and Intermediate capped areas, Stage 4 batter

Given the large areas involved, low diffusion rates through the surface may equate to a significant odour emission. The diffusion rate will be dependent on the integrity of the capping, the material within the landfill and the effectiveness of the active landfill gas extraction system. The diffusion rates may therefore not be uniform across the entire area.

In order to estimate the odour emission rate from the entire surface of the final capped and intermediate covered areas, five isolation flux measurements were taken across each area (located in a grid pattern at the centre of equal areas). At the stage 4 batter, this method of sampling was restricted to the western portion of the batter where one sample was taken from each of the contoured benches.

Two background samples were also collected, for the final capped and intermediate covered areas, on different days. The background sample for the final capped area was taken on an adjacent grassy area. The background sample for the intermediate covered area was taken on a sandstone surface to the west of this area of the site that does not cover any landfilled waste.

Gas leakage via fissures (localised emission sources & areas) - Final and Intermediate capped areas, Stage 4 batter

A 'Walk Over Survey' was conducted of all three areas. Observed odour was traced upwind to it's source with the aid of a portable FID analyser.

Significant odour sources were quantified using isolation flux chambers as no measurable flow was evident from any identified source.

Sources identified usually displayed soil staining, often accompanied by a small fissure. Samples were taken from sources that yielded identifiable FID concentrations that could be detected by field personnel.

Some gas leakage was detected from the gas pipework system, however these concentrations were deemed insignificant when compared to the stains and fissures in the capping. Furthermore the leaks from this pipework could be readily contained by adjustment to the pipework system.

Upwind and Downwind Transects – Intermediate covered area, active tipface, leachate pond and batter (Stage 4 & SITA)

At each of these locations integrated upwind and downwind samples were taken on either side of the identified odour source.

Prior to sampling a hand-held anemometer is used to confirm the wind speed and direction around the identified odour source. This was often different to details recorded by the weather station. For example the wind speed and direction at the tip face was often very different to that indicated by the weather station positioned at the top of the SITA batter.

At each source a smoke flare was released upwind of the odour source to confirm the localised wind direction indicated by the anemometer and to assist in determining the odour plume height. Where possible the release of this flare was filmed. While the flare is activated the person holding it aloft walks perpendicular to the wind direction, ideally for the whole width of the odour source. If smoke is observed crossing the odour source in a consistent manner, odour sampling was then conducted.

Each sample (upwind and downwind) was collected whilst moving perpendicular to the wind direction for the entire observed width of the odour source.

At the leachate pond this method was used when the pond was in an aeration phase.

All samples were taken at approximately 1.5m above ground level.

Other IFC Locations – Daily & Intermediate Cover (in the excavation void) and Leachate Pond

Isolation flux measurements were taken on representative portions of the daily and intermediate covered areas nearby the active landfilling area. Two measurements were also taken on the sandstone daily cover representing sandstone depths of approximately 150mm (12hours in-situ) and 300mm (3-4 days in-situ). These cover measurements were taken at 10m and 30m distances from the active landfilling face respectively.

Two isolation flux measurements were taken on the surface of the main leachate pond during non-aeration. To do this the flux chamber was floated on the pond's surface and secured in place by guide ropes

Test Pits - Final Capped & Intermediate Covered Areas

Six odour testing pits were excavated within the Final Capped Area and 4 within the Intermediate Covered Area. These pits were constructed by removing the surface capping to various depths, as noted below:

Final Capped –	2 pits at 0.5m
	2 pits at 1.0m
	2 pits at 1.3m
Intermediate Covered–	2 pits at 0.15m
	2 pits at 0.45m

Isolation flux measurements were taken at each of the 10 pits within an hour of excavation.

A background test pit adjacent to the final capped area was also taken at a depth of 200mm.

TEST METHODS

The following methods are accredited with the National Association of Testing Authorities (NATA) and are approved for the sampling and analysis of gases unless otherwise stated. Specific details of the methods are available on request.

All sampling and analysis was conducted in accordance with the test methods (TM) prescribed in NSW EPA's *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales,* Jan 2007 and in accordance with the *Protection of the Environment Operations (Clean Air) Regulation* 2010 unless otherwise specified.

All parameters are reported adjusted to dry NTP conditions unless otherwise stated.

Parameter	Sampling			Analysis		
	NATA	NSW TM Method	Sampling Method	NATA	Analytical Laboratory	Analytical Method
Odour	Yes	OM-7	AS4323.3	Yes	The Odour Unit	AS4323.3
Odour character	No	NA	NA	No	The Odour Unit	NA
Odour isolation flux sampling	Yes	OM-8	AS4323.4	Yes	The Odour Unit	AS4323.3

WEATHER OBSERVATIONS

Weather conditions at the time of sampling are appended to this report. Readings were obtained from a weather station that was erected every day prior to sampling.

Refer to appendix three for details.

DEFINITIONS

The following symbols and abbreviations are used in this test report:

Odour unit	One odour unit (ou) is that concentration of odorant(s) at standard concentrations that elicits a physiological response from a panel (detection threshold) equivalent to that elicited by one Reference Odour Mass (ROM), evaporated in one cubic metre of neutral gas at standard conditions.
NTP	Normal temperature and pressure. Gas volumes and concentrations are expressed on a dry basis at 0°C, at discharge oxygen concentration and an absolute pressure of 101.325 kPa, unless otherwise specified.
<	Less than the minimum limit of detection using the specified method.
NA	Not applicable

RESULTS

Final Cap
Localised Emission Spots
26 May 2014

Location 140107 1	Final Cap Localised Emission Spot - Crack
GPS co-ordinates	34°2'51"S, 150°58'1"E
Date tested	26/05/2014
Location Description	Final capped area - localised emission spot
Surface Description	Crack in bare ground
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	1221 - 1245
Sample ID	47
Dilution ratio	1
Sampling time, hrs	1245 - 1255
Odour concentration, ou	**290**
Odour flux rate, ou/m²/min	**10**
Sweep Rate, L/min	4.57
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Rotten, Pineapple, Fermented Fruit
Ambient temperature (°C)	25

Final Cap
Localised Emission Spots
26 May 2014

Location 140107 2	Final Cap Localised Emission Spot - Stain
GPS co-ordinates	34°2'51"S, 150°58'1"E
Date tested	26/05/2014
Location Description	Final capped area - localised emission spot
Surface Description	Staining on bare ground
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	1250 - 1314
Sample ID	180
Dilution ratio	1
Sampling time, hrs	1314 - 1324
Odour concentration, ou	**1300**
Odour flux rate, ou/m²/min	**44**
Sweep Rate, L/min	4.57
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Rotten, Pineapple, Fermented Fruit
Ambient temperature (°C)	25

Final Cap
Localised Emission Spots
27 May 2014

Location 140107 3	Final Cap Localised Emission Spot - Crack
GPS co-ordinates	34°2'53"S, 150°58'8"E
Date tested	27/05/2014
Location Description	Final capped area - localised emission spot
Surface Description	Crack in bare ground
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	1139 - 1203
Sample ID	117
Dilution ratio	1
Sampling time, hrs	1203 - 1213
Odour concentration, ou	**< 20**
Odour flux rate, ou/m²/min	**< 1**
Sweep Rate, L/min	4.56
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty
Ambient temperature (°C)	23

Final Cap
Gas Diffusion Through Surface
27 May 2014

Location 140107 4	**Final Cap Grid - NE Corner**
GPS co-ordinates	34°2'52"S, 150°58'14"E
Date tested	27/05/2014
Location Description	Final capped area - Gas diffusion through surface
Surface Description	Well vegetated - dewey
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0824 - 0850
Sample ID	132
Dilution ratio	1
Sampling time, hrs	0850 - 0900
Odour concentration, ou	**27**
Odour flux rate, ou/m²/min	**1**
Sweep Rate, L/min	4.79
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty, Soil
Ambient temperature (°C)	16

Final Cap
Gas Diffusion Through Surface
27 May 2014

Location 140107 5	**Final Cap Grid - E Corner**
GPS co-ordinates	34°2'57"S, 150°58'31"E
Date tested	27/05/2014
Location Description	Final capped area - Gas diffusion through surface - Bike club
Surface Description	Well vegetated - dewey
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0842 - 0906
Sample ID	115
Dilution ratio	1
Sampling time, hrs	0906 - 0916
Odour concentration, ou	**23**
Odour flux rate, ou/m²/min	**0.8**
Sweep Rate, L/min	4.65
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty, Soil
Ambient temperature (°C)	16

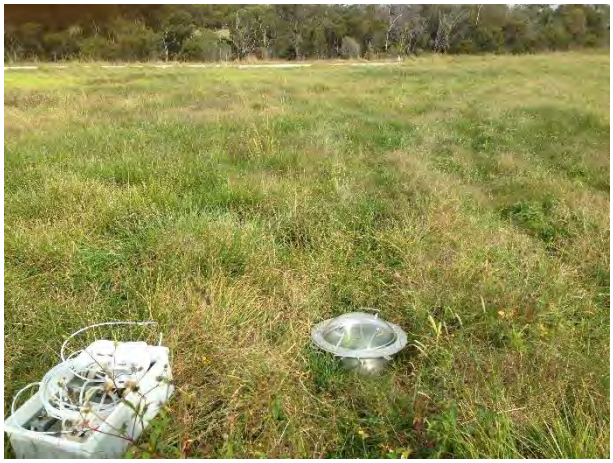
Final Cap
Gas Diffusion Through Surface
27 May 2014

Location 140107 6	**Final Cap Grid - N Corner**
GPS co-ordinates	34°2'47"S, 150°58'5"E
Date tested	27/05/2014
Location Description	Final capped area - Gas diffusion through surface
Surface Description	Well vegetated
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0927 - 0951
Sample ID	16
Dilution ratio	1
Sampling time, hrs	0951 - 1001
Odour concentration, ou	**120**
Odour flux rate, ou/m²/min	**4.3**
Sweep Rate, L/min	4.71
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Dirt, Oily, Slight Petrol
Ambient temperature (°C)	18

Final Cap
Gas Diffusion Through Surface
27 May 2014

Location 140107 7	**Final Cap Grid - S Corner**
GPS co-ordinates	34°3'1"S, 150°58'7"E
Date tested	27/05/2014
Location Description	Final capped area - Gas diffusion through surface
Surface Description	Well vegetated
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0942 - 1006
Sample ID	60
Dilution ratio	1
Sampling time, hrs	1006 - 1016
Odour concentration, ou	**16**
Odour flux rate, ou/m²/min	**0.6**
Sweep Rate, L/min	4.70
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty
Ambient temperature (°C)	18

Final Cap
Gas Diffusion Through Surface
27 May 2014



Location 140107 8	**Final Cap Grid - W Corner**
GPS co-ordinates	34°2'54"S, 150°57'58"E
Date tested	27/05/2014
Location Description	Final capped area - Gas diffusion through surface
Surface Description	Well vegetated
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	1025 - 1049
Sample ID	57
Dilution ratio	1
Sampling time, hrs	1049 - 1059
Odour concentration, ou	**27**
Odour flux rate, ou/m²/min	**1**
Sweep Rate, L/min	4.60
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty
Ambient temperature (°C)	21

Final Cap
Gas Diffusion Through Surface
27 May 2014

Location 140107 9	**Final Cap Background**
GPS co-ordinates	34°3'1"S, 150°57'56"E
Date tested	27/05/2014
Location Description	Grassy area adjacent to final capped area
Surface Description	Well vegetated
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	1035 - 1059
Sample ID	3
Dilution ratio	1
Sampling time, hrs	1059 - 1109
Odour concentration, ou	**19**
Odour flux rate, ou/m²/min	**0.7**
Sweep Rate, L/min	4.56
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty
Ambient temperature (°C)	21

Final Cap
Gas Diffusion Through Surface
29 May 2014

Location 140107 10	Final Cap Background
GPS co-ordinates	34°3'1"S, 150°57'56"E
Date tested	29/05/2014
Location Description	Grassy area adjacent to final capped area
Surface Description	Well vegetated - dewy
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0828 - 0852
Sample ID	176
Dilution ratio	1
Sampling time, hrs	0852 - 0902
Odour concentration, ou	**38**
Odour flux rate, ou/m²/min	**1.3**
Sweep Rate, L/min	4.61
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty
Ambient temperature (°C)	17

Final Cap
Test Pits
28 May 2014

Location 140107 1	**Final Cap - Pit 1**
GPS co-ordinates	34°2'55"S, 150°58'10"E
Date tested	28/05/2014
Location Description	500mm pit dug in final cap area
Surface Description	Bare sandstone at base of pit
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0757 - 0830
Sample ID	98
Dilution ratio	1
Sampling time, hrs	0830 - 0840
Odour concentration, ou	**150**
Odour flux rate, ou/m²/min	**5.4**
Sweep Rate, L/min	4.64
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Dirt, Soil
Ambient temperature (°C)	18

Final Cap
Test Pits
28 May 2014

Location 140107 2	**Final Cap - Pit 2**
GPS co-ordinates	34°2'55"S, 150°58'9"E
Date tested	28/05/2014
Location Description	1000mm pit dug in final cap area
Surface Description	Bare sandstone at base of pit
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0814 - 0838
Sample ID	55
Dilution ratio	1
Sampling time, hrs	0838 - 0848
Odour concentration, ou	**360**
Odour flux rate, ou/m²/min	**13**
Sweep Rate, L/min	4.59
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Green Waste, Pine, Eucalyptus
Ambient temperature (°C)	18

Final Cap
Test Pits
28 May 2014

Location 140107 3	**Final Cap - Pit 3**
GPS co-ordinates	34°2'56"S, 150°58'9"E
Date tested	28/05/2014
Location Description	1300mm pit dug in final cap area
Surface Description	Bare sandstone at base of pit
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0851 - 0915
Sample ID	15
Dilution ratio	1
Sampling time, hrs	0915 - 0925
Odour concentration, ou	**59**
Odour flux rate, ou/m²/min	**2.2**
Sweep Rate, L/min	4.76
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty, Grassy
Ambient temperature (°C)	19

Final Cap
Test Pits
28 May 2014

Location 140107 4	**Final Cap - Pit 4**
GPS co-ordinates	34°2'57"S, 150°58'4"E
Date tested	28/05/2014
Location Description	500mm pit dug in final cap area
Surface Description	Bare sandstone at base of pit
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0942 - 1006
Sample ID	73
Dilution ratio	1
Sampling time, hrs	1006 - 1016
Odour concentration, ou	**510**
Odour flux rate, ou/m²/min	**18**
Sweep Rate, L/min	4.60
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Mould, Stale
Ambient temperature (°C)	21

Final Cap
Test Pits
28 May 2014

Location 140107 5	**Final Cap - Pit 5**
GPS co-ordinates	34°2'57"S, 150°58'4"E
Date tested	28/05/2014
Location Description	1000mm pit dug in final cap area
Surface Description	Bare sandstone at base of pit
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0946 - 1010
Sample ID	123
Dilution ratio	1
Sampling time, hrs	1010 - 1020
Odour concentration, ou	**360**
Odour flux rate, ou/m²/min	**13**
Sweep Rate, L/min	4.64
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty, Stale, Mould
Ambient temperature (°C)	21

Final Cap
Test Pits
28 May 2014

Location 140107 6	**Final Cap - Pit 6**
GPS co-ordinates	34°2'56"S, 150°58'4"E
Date tested	28/05/2014
Location Description	1300mm pit dug in final cap area
Surface Description	Bare sandstone at base of pit
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	1018 - 1042
Sample ID	56
Dilution ratio	1
Sampling time, hrs	1042 - 1052
Odour concentration, ou	**200**
Odour flux rate, ou/m²/min	**6.9**
Sweep Rate, L/min	4.55
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Mould, Stale
Ambient temperature (°C)	21

Final Cap
Test Pit
28 May 2014

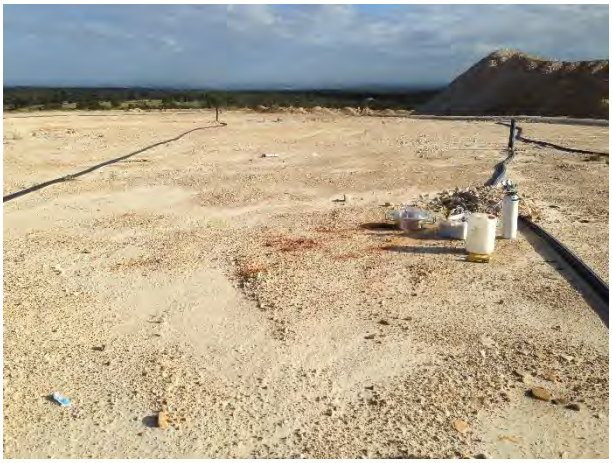
Location 140107 7	**Final Cap - Pit 7 - Background**
GPS co-ordinates	34°3'3"S, 150°57'57"E
Date tested	28/05/2014
Location Description	200mm pit dug adjacent to final cap area
Surface Description	Bare sandstone at base of pit
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	1101 - 1125
Sample ID	32
Dilution ratio	1
Sampling time, hrs	1125 - 1135
Odour concentration, ou	**180**
Odour flux rate, ou/m²/min	**6.5**
Sweep Rate, L/min	4.63
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Mould, Stale
Ambient temperature (°C)	22

Intermediate Cap
Localised Emission Spots

30 May 2014

Location 140107 5	Intermediate Cap - Localised Emission Spot - Crack & Stain
GPS co-ordinates	34°2'33"S, 150°58'2"E
Date tested	30/05/2014
Location Description	Intermediate capped area - localised emission spot
Surface Description	Crack and stain on bare ground
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0903 - 0927
Sample ID	76
Dilution ratio	1
Sampling time, hrs	0927 - 0937
Odour concentration, ou	**30000**
Odour flux rate, ou/m²/min	**1100**
Sweep Rate, L/min	4.70
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Rotten Pineapple, Garbage, Landfill Gas
Ambient temperature (°C)	18

Intermediate Cap
Localised Emission Spots
30 May 2014



Location 140107 6	Intermediate Cap - Localised Emission Spot - Stain
GPS co-ordinates	34°2'31"S, 150°58'5"E
Date tested	30/05/2014
Location Description	Intermediate capped area - localised emission spot
Surface Description	Stain on bare ground
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0920 - 0944
Sample ID	33
Dilution ratio	1
Sampling time, hrs	0944 - 0954
Odour concentration, ou	**20000**
Odour flux rate, ou/m²/min	**700**
Sweep Rate, L/min	4.66
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Rotten Pineapple, Garbage, Landfill Gas
Ambient temperature (°C)	18

Intermediate Cap
Localised Emission Spots
30 May 2014

Location 140107 7	Intermediate Cap - Localised Emission Spot - Crack & Stain
GPS co-ordinates	34°2'29"S, 150°57'56"E
Date tested	30/05/2014
Location Description	Intermediate capped area - localised emission spot
Surface Description	Crack and stain on bare ground
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	1050 - 1114
Sample ID	27
Dilution ratio	1
Sampling time, hrs	1114 - 1124
Odour concentration, ou	**93000**
Odour flux rate, ou/m²/min	**3400**
Sweep Rate, L/min	4.83
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Rotten Pineapple, Garbage, Landfill Gas
Ambient temperature (°C)	19

Intermediate Cap
Localised Emission Spots
30 May 2014

Location 140107 8	Intermediate Cap - Localised Emission Spot - Stain
GPS co-ordinates	34°2'32"S, 150°57'54"E
Date tested	30/05/2014
Location Description	Intermediate capped area - localised emission spot
Surface Description	Yellow stain on bare ground
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	1142 - 1206
Sample ID	70
Dilution ratio	1
Sampling time, hrs	1206 - 1216
Odour concentration, ou	**18000**
Odour flux rate, ou/m²/min	**640**
Sweep Rate, L/min	4.67
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Rotten Pineapple, Garbage, Landfill Gas, Diesel
Ambient temperature (°C)	20

Intermediate Cap
Localised Emission Spots
30 May 2014

Location 140107 9	Intermediate Cap - Localised Emission Spot - Crack & Stain
GPS co-ordinates	34°2'31"S, 150°58'10"E
Date tested	30/05/2014
Location Description	Intermediate capped area - localised emission spot
Surface Description	Crack and stain on bare ground
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	1245 - 1309
Sample ID	22
Dilution ratio	1
Sampling time, hrs	1309 - 1319
Odour concentration, ou	**66000**
Odour flux rate, ou/m²/min	**2400**
Sweep Rate, L/min	4.75
Penetration Depth, mm	10
Hedonic tone	
Odour character	Rotten Pineapple, Garbage, Landfill Gas, Diesel
Ambient temperature (°C)	20

Intermediate Cap
Gas Diffusion Through Surface

29 May 2014

140107 3

Location	Intermediate Cap Grid - S Corner
GPS co-ordinates	32°2'41"S, 150°58'18"E
Date tested	29/05/2014
Location Description	Intermediate capped area - Gas diffusion through surface
Surface Description	Bare sandstone/soil
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0917 - 0941
Sample ID	45
Dilution ratio	1
Sampling time, hrs	0941 - 0951
Odour concentration, ou	**25**
Odour flux rate, ou/m²/min	**0.9**
Sweep Rate, L/min	4.72
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty
Ambient temperature (°C)	19

Intermediate Cap
Gas Diffusion Through Surface

29 May 2014

Location 140107 4	**Intermediate Cap Grid - E Corner**
GPS co-ordinates	34°2'37"S, 150°58'3"E
Date tested	29/05/2014
Location Description	Intermediate capped area - Gas diffusion through surface
Surface Description	Bare sandstone/soil
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0937 - 1006
Sample ID	14
Dilution ratio	1
Sampling time, hrs	1006 - 1016
Odour concentration, ou	**38**
Odour flux rate, ou/m²/min	**1.4**
Sweep Rate, L/min	4.67
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty
Ambient temperature (°C)	19

Intermediate Cap
Gas Diffusion Through Surface

29 May 2014

Location 140107 5	**Intermediate Cap Grid - W Corner**
GPS co-ordinates	34°2'41"S, 150°57'56"E
Date tested	29/05/2014
Location Description	Intermediate capped area - Gas diffusion through surface
Surface Description	Bare sandstone/soil
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0957 - 1024
Sample ID	172
Dilution ratio	1
Sampling time, hrs	1024 - 1034
Odour concentration, ou	**45**
Odour flux rate, ou/m²/min	**1.6**
Sweep Rate, L/min	4.74
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty, Stale Water
Ambient temperature (°C)	18

Intermediate Cap
Gas Diffusion Through Surface

29 May 2014

Location 140107 6	**Intermediate Cap Grid - Central Location**
GPS co-ordinates	34°2'28"S, 150°57'43"E
Date tested	29/05/2014
Location Description	Intermediate capped area - Gas diffusion through surface
Surface Description	Bare sandstone/soil
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	1046 - 1110
Sample ID	25
Dilution ratio	1
Sampling time, hrs	1110 - 1120
Odour concentration, ou	**91**
Odour flux rate, ou/m²/min	**3.3**
Sweep Rate, L/min	4.67
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Garbage, Rotten Fruit
Ambient temperature (°C)	19

Intermediate Cap
Gas Diffusion Through Surface

29 May 2014

Location 140107 7	Intermediate Cap Grid - N Corner
GPS co-ordinates	34°2'48"S, 150°58'12"E
Date tested	29/05/2014
Location Description	Intermediate capped area - Gas diffusion through surface
Surface Description	Bare sandstone/soil
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	1054 - 1118
Sample ID	58
Dilution ratio	1
Sampling time, hrs	1118 - 1128
Odour concentration, ou	**17**
Odour flux rate, ou/m²/min	**0.6**
Sweep Rate, L/min	4.63
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty
Ambient temperature (°C)	19

Intermediate Cap
Gas Diffusion Through Surface
29 May 2014

Location 140107 2	Intermediate Cap Background
GPS co-ordinates	34°2'56"S, 150°56'1"E
Date tested	29/05/2014
Location Description	Rocky area adjacent to intermediate capped area
Surface Description	Bare sandstone
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0815 - 0842
Sample ID	5
Dilution ratio	1
Sampling time, hrs	0842 - 0852
Odour concentration, ou	**41**
Odour flux rate, ou/m²/min	**1.5**
Sweep Rate, L/min	4.67
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty
Ambient temperature (°C)	16

Intermediate Cap
Gas Diffusion Through Surface
27 May 2014

Location 140107 1	Intermediate Cap Background
GPS co-ordinates	34°2'56"S, 150°56'1"E
Date tested	27/05/2014
Location Description	Rocky area adjacent to intermediate capped area
Surface Description	Bare sandstone
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	1118 - 1145
Sample ID	140
Dilution ratio	1
Sampling time, hrs	1145 - 1155
Odour concentration, ou	**< 20**
Odour flux rate, ou/m²/min	**< 1**
Sweep Rate, L/min	4.57
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty
Ambient temperature (°C)	23

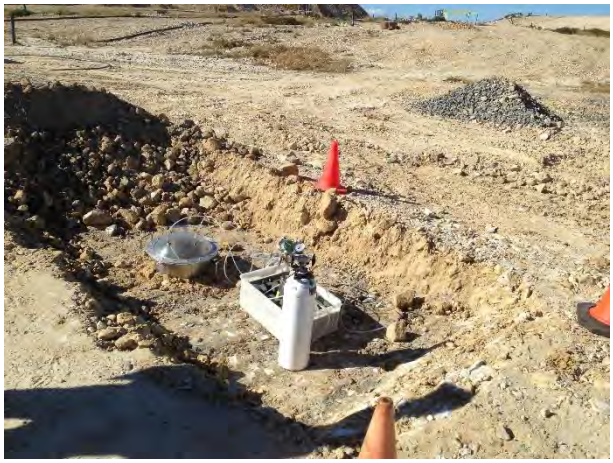
Intermediate Cap
Test Pits
28 May 2014

Location 140107 1	**Intermediate Cap - Pit 1**
GPS co-ordinates	34°2'32"S, 150°58'1"E
Date tested	28/05/2014
Location Description	450mm pit dug in intermediate cap area
Surface Description	Bare sandstone at base of pit
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	1205 - 1229
Sample ID	89
Dilution ratio	1
Sampling time, hrs	1229 - 1239
Odour concentration, ou	**610**
Odour flux rate, ou/m²/min	**21**
Sweep Rate, L/min	4.58
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Ammonia, Pine, Green Waste
Ambient temperature (°C)	22

Intermediate Cap
Test Pits
28 May 2014

Location 140107 2	**Intermediate Cap - Pit 2**
GPS co-ordinates	34°2'32"S, 150°58'1"E
Date tested	28/05/2014
Location Description	150mm pit dug in intermediate cap area
Surface Description	Bare sandstone at base of pit
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	1208 - 1232
Sample ID	150
Dilution ratio	1
Sampling time, hrs	1232 - 1242
Odour concentration, ou	**240**
Odour flux rate, ou/m²/min	**8.4**
Sweep Rate, L/min	4.62
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Mould, Stale
Ambient temperature (°C)	22

Intermediate Cap
Test Pits
28 May 2014



Location 140107 3	**Intermediate Cap - Pit 3**
GPS co-ordinates	34°2'32"S, 150°57'59"E
Date tested	28/05/2014
Location Description	150mm pit dug in intermediate cap area
Surface Description	Bare sandstone at base of pit
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	1251 - 1315
Sample ID	43
Dilution ratio	1
Sampling time, hrs	1315 - 1325
Odour concentration, ou	**180**
Odour flux rate, ou/m²/min	**6.3**
Sweep Rate, L/min	4.51
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Mould, Stale
Ambient temperature (°C)	23

Intermediate Cap
Test Pits
28 May 2014

Location 140107 4	**Intermediate Cap - Pit 4**
GPS co-ordinates	34°2'32"S, 150°57'59"E
Date tested	28/05/2014
Location Description	450mm pit dug in intermediate cap area
Surface Description	Bare sandstone at base of pit
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	1301 - 1325
Sample ID	38
Dilution ratio	1
Sampling time, hrs	1325 - 1335
Odour concentration, ou	**2700**
Odour flux rate, ou/m²/min	**94**
Sweep Rate, L/min	4.61
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Dirt, Fertilizer, Manure
Ambient temperature (°C)	23

Intermediate Cap

Localised Emission Area – "V section" - Upwind & Downwind Transect

12 June 2014

Apparent width of odour source (m)	10
Approximate height of odour source (m)	5
Approximate surface area of odour source (m^2)	50
Upwind distance from odour source (m)	20
Downwind distance from odour source (m)	10
Average wind speed from weather station (m/s)	1.7
Average wind speed from anemometer downwind (m/s)	1.3 - 2.2
Wind direction (weather station)	SSW - SW
Smoke flare observations	Steady horizontal with minimal spread in any plane
Sampling time	0825-0845
Upwind concentration (OU)	**38**
Downwind concentration (OU)	**70**
Ambient temperature (°C)	12.8
Upwind character	Musty
Downwind character	Garbage
Upwind GPS estimate	34°2'37"S, 150°57'55"E
Downwind GPS estimate	134°2'29"S, 150°57'56"E
Upwind Sample ID	60
Downwind Sample ID	98

Intermediate Cap

Localised Emission Area – "Rectangular Area South of Excavation Stockpile" - Upwind & Downwind Transect

12 June 2014

Apparent width of odour source (m)	40
Approximate height of odour source (m)	15
Approximate surface area of odour source (m^2)	7,000
Upwind distance from odour source (m)	5
Downwind distance from odour source (m)	10
Average wind speed from weather station (m/s)	1.9
Average wind speed from anemometer downwind (m/s)	1.8 - 2.5
Wind direction (weather station)	SWW - W
Smoke flare observations	Horizontal with discernable plume rise and spread in both horizontal and vertical plane
Sampling time	0958-1015
Upwind concentration (OU)	**32**
Downwind concentration (OU)	**152**
Ambient temperature (°C)	15.3
Upwind character	Musty
Downwind character	Garbage
Upwind GPS estimate	34°2'28"S, 150°57'43"E
Downwind GPS estimate	34°2'31"S, 150°58'10"E
Upwind Sample ID	56
Downwind Sample ID	150

Stage 4 Batter
Upwind & Downwind Transect
16 June 2014

Apparent width of odour source (m)	40
Approximate height of odour source (m)	5
Approximate surface area of odour source (m^2)	18,000
Upwind distance from odour source (m)	10
Downwind distance from odour source (m)	15
Average wind speed from weather station (m/s)	4.8
Average wind speed from anemometer downwind (m/s)	4.2 - 5
Wind direction (weather station)	W
Smoke flare observations	Horizontal with little plume rise or spread with intermittent sudden break-up
Sampling time	1100-1120
Upwind concentration (OU)	**29**
Downwind concentration (OU)	**91**
Ambient temperature (°C)	15.1
Upwind character	Stale Water
Downwind character	Fruity, Onion
Upwind GPS estimate	34°2'23"S, 150°57'53"E
Downwind GPS estimate	34°2'23"S, 150°58'08"E
Upwind Sample ID	132
Downwind Sample ID	15

Stage 4 Batter (West)
Localised Emission Spots
2 June 2014

Location 140107 4	**Stage 4 Batter Western Section - Localised Emission Spot - Stain**
GPS co-ordinates	34°2'22"S, 150°57'51"E
Date tested	2/06/2014
Location Description	Stage 4 batter western section lowest slope - localised emission spot
Surface Description	Stain on bare ground
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	1020 - 1044
Sample ID	123
Dilution ratio	1
Sampling time, hrs	1044 - 1054
Odour concentration, ou	**790**
Odour flux rate, ou/m²/min	**28**
Sweep Rate, L/min	4.68
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Garbage, Rotten Pineapple
Ambient temperature (°C)	14

Stage 4 Batter (West)
Localised Emission Spots
2 June 2014

Location 140107 5	Stage 4 Batter Western Section - Localised Emission Spot - Crack & Stain
GPS co-ordinates	34°2'22"S, 150°57'52"E
Date tested	2/06/2014
Location Description	Stage 4 batter western section lowest slope - localised emission spot
Surface Description	Crack & stain on bare ground
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	1056 - 1120
Sample ID	67
Dilution ratio	1
Sampling time, hrs	1120 - 1130
Odour concentration, ou	**23000**
Odour flux rate, ou/m²/min	**850**
Sweep Rate, L/min	4.75
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Burnt Rubber, Oil, Diesel
Ambient temperature (°C)	15

Stage 4 Batter (West)
Localised Emission Spots
2 June 2014

Location 140107 6	**Stage 4 Batter Western Section - Localised Emission Spot - Stain**
GPS co-ordinates	34°2'23"S, 150°57'53"E
Date tested	2/06/2014
Location Description	Stage 4 batter western section middle slope - localised emission spot
Surface Description	Stain on bare ground
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	1115 - 1139
Sample ID	144
Dilution ratio	1
Sampling time, hrs	1139 - 1149
Odour concentration, ou	**33000**
Odour flux rate, ou/m²/min	**1200**
Sweep Rate, L/min	4.71
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Rotten Pineapple, Garbage, Landfill Gas
Ambient temperature (°C)	17

Stage 4 Batter (West)
Gas Diffusion Through Surface
2 June 2014

Location 140107 1	**Stage 4 Batter - Western Section Grid - Top Bench**
GPS co-ordinates	34°2'23"S, 150°57'54"E
Date tested	2/06/2014
Location Description	Stage 4 batter western section - Gas diffusion through surface
Surface Description	Bare sandstone/soil
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0840 - 0904
Sample ID	47
Dilution ratio	1
Sampling time, hrs	0904 - 0914
Odour concentration, ou	**150**
Odour flux rate, ou/m²/min	**5.6**
Sweep Rate, L/min	4.80
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty, Slight Garbage
Ambient temperature (°C)	12

Stage 4 Batter (West)
Gas Diffusion Through Surface
2 June 2014

Location	140107 2 Stage 4 Batter - Western Section Grid - Middle Bench
GPS co-ordinates	34°2'22"S, 150°57'53"E
Date tested	2/06/2014
Location Description	Stage 4 batter western section - Gas diffusion through surface
Surface Description	Bare sandstone/soil
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0855 - 0919
Sample ID	73
Dilution ratio	1
Sampling time, hrs	0919 - 0929
Odour concentration, ou	**150**
Odour flux rate, ou/m²/min	**5.5**
Sweep Rate, L/min	4.69
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty, Slight Garbage
Ambient temperature (°C)	13

Stage 4 Batter (West)
Gas Diffusion Through Surface
2 June 2014

Location 140107 3	Stage 4 Batter - Western Section Grid - Lower Bench
GPS co-ordinates	34°2'23"S, 150°57'53"E
Date tested	2/06/2014
Location Description	Stage 4 batter western section - Gas diffusion through surface
Surface Description	Bare sandstone/soil
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0935 - 0959
Sample ID	140
Dilution ratio	1
Sampling time, hrs	0959 - 1009
Odour concentration, ou	**140**
Odour flux rate, ou/m²/min	**5.2**
Sweep Rate, L/min	4.79
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty, Slight Garbage
Ambient temperature (°C)	13

Stage 4 Batter (West)
Upwind & Downwind Transect

19 June 2014

Apparent width of odour source (m)	50
Approximate height of odour source (m)	5
Approximate surface area of odour source (m^2)	2,000
Upwind distance from odour source (m)	15
Downwind distance from odour source (m)	5
Average wind speed from weather station (m/s)	3.3
Average wind speed from anemometer downwind (m/s)	2.4 - 2.8 (NB observed direction NW-NNW)
Wind direction (weather station)	W-NW
Smoke flare observations	Horizontal with discernable plume rise and spread in both horizontal and vertical plane
Sampling time	1310-1330
Upwind concentration (OU)	**23**
Downwind concentration (OU)	**17**
Ambient temperature (°C)	17.9
Upwind character	Stale Water
Downwind character	Stale Water
Upwind GPS estimate	34°2'21"S, 150°57'51"E
Downwind GPS estimate	34°2'24"S, 150°57'54"E
Upwind Sample ID	25
Downwind Sample ID	172

SITA Batter (West)
Upwind & Downwind Transect
13 June 2014

Apparent width of odour source (m)	90
Approximate height of odour source (m)	5
Approximate surface area of odour source (m^2)	4,500
Upwind distance from odour source (m)	5
Downwind distance from odour source (m)	5
Average wind speed from weather station (m/s)	2.6
Average wind speed from anemometer downwind (m/s)	NA (used weather station)
Wind direction (weather station)	W
Smoke flare observations	Horizontal with discernable plume rise and spread in both horizontal and vertical plane
Sampling time	1130-1150
Upwind concentration (OU)	**45**
Downwind concentration (OU)	**118**
Ambient temperature (°C)	13.2
Upwind character	Musty, Stale
Downwind character	Garbage
Upwind GPS estimate	34°2'23"S, 150°58'08"E
Downwind GPS estimate	34°2'25"S, 150°58'13"E
Upwind Sample ID	73
Downwind Sample ID	58

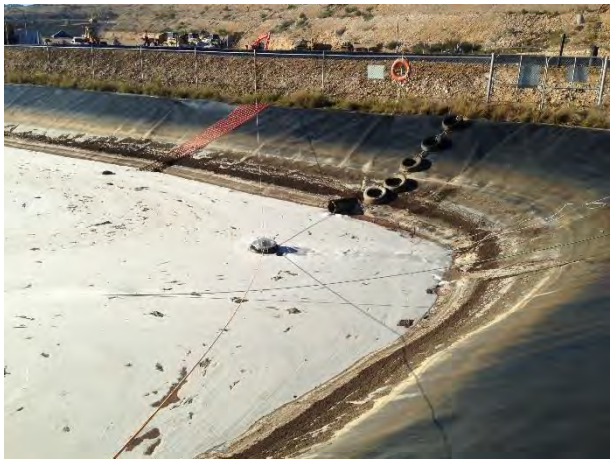
SITA Batter (North)
Upwind & Downwind Transect
19 June 2014

Apparent width of odour source (m)	120
Approximate height of odour source (m)	5
Approximate surface area of odour source (m^2)	3,600
Upwind distance from odour source (m)	5
Downwind distance from odour source (m)	5
Average wind speed from weather station (m/s)	3.8
Average wind speed from anemometer downwind (m/s)	3.5 - 4.0
Wind direction (weather station)	W-NW
Smoke flare observations	Horizontal with discernable plume rise and spread in both horizontal and vertical plane
Sampling time	1230-1250
Upwind concentration (OU)	**32**
Downwind concentration (OU)	**30**
Ambient temperature (°C)	17.6
Upwind character	Fruity
Downwind character	Stale Water
Upwind GPS estimate	Not specified
Downwind GPS estimate	Not specified
Upwind Sample ID	3
Downwind Sample ID	98

Main Leachate Pond
Non Aeration
3 June 2014

Location 140107 7	**Main Leachate Pond**
GPS co-ordinates	34°2'20"S, 150°57'50"E
Date tested	3/06/2014
Location Description	SW corner of leachate pond - Aeration Off
Surface Description	Foamy liquid
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0843 - 0907
Sample ID	32
Dilution ratio	1
Sampling time, hrs	0907 - 0917
Odour concentration, ou	**280**
Odour flux rate, ou/m²/min	**10**
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty
Ambient temperature (°C)	14

Main Leachate Pond
Non Aeration
3 June 2014



Location	Main Leachate Pond
GPS co-ordinates	34°2'20"S, 150°57'50"E
Date tested	3/06/2014
Location Description	SW corner of leachate pond - Aeration Off
Surface Description	Foamy liquid
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0920 - 0944
Sample ID	132
Dilution ratio	1
Sampling time, hrs	0944 - 0954
Odour concentration, ou	**560**
Odour flux rate, ou/m²/min	**21**
Sweep Rate, L/min	4.79
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty, Stale Water
Ambient temperature (°C)	15

Main Leachate Pond
Aeration - Upwind & Downwind Transect
13 June 2014

Apparent width of odour source (m)	45
Approximate height of odour source (m)	10
Approximate surface area of odour source (m^2)	2,750
Upwind distance from odour source (m)	15
Downwind distance from odour source (m)	10
Average wind speed from weather station (m/s)	2.1
Average wind speed from anemometer downwind (m/s)	1.2 - 1.5 (obsevred direction W - WNW)
Wind direction (weather station)	W
Smoke flare observations	Steady horizontal with minimal spread in any plane
Sampling time	1230-1245
Upwind concentration (OU)	**< 16**
Downwind concentration (OU)	**41**
Ambient temperature (°C)	15.8
Upwind character	Musty
Downwind character	Musty
Upwind GPS estimate	34°2'16-18"S, 150°57'48"E
Downwind GPS estimate	34°2'20"S, 150°57'51"E
Upwind Sample ID	45
Downwind Sample ID	43

Active Tipping Face
Daily Cover
4 June 2014

Location 140107 8	**Tipface - Sandstone daily cover**
GPS co-ordinates	34°2'21"S, 150°57'59"E
Date tested	4/06/2014
Location Description	Adjacent to active tipface. 150mm sandstone cover
Surface Description	Bare sandstone/soil
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0620 - 0650
Sample ID	115
Dilution ratio	1
Sampling time, hrs	0650 - 0700
Odour concentration, ou	**54**
Odour flux rate, ou/m²/min	**2**
Sweep Rate, L/min	4.86
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Stale Water
Ambient temperature (°C)	12

Active Tipping Face
Daily Cover
4 June 2014

Location 140107 9	**Tipface - Sandstone daily cover**
GPS co-ordinates	34°2'21"S, 150°58'1"E
Date tested	4/06/2014
Location Description	Approx 30m from active tipface. 300-400mm sandstone cover
Surface Description	Bare sandstone/soil
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0628 - 0652
Sample ID	117
Dilution ratio	1
Sampling time, hrs	0652 - 0702
Odour concentration, ou	**83**
Odour flux rate, ou/m²/min	**3.1**
Sweep Rate, L/min	4.86
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Musty Garbage
Ambient temperature (°C)	12

Active Tipping Face
Rubbish
4 June 2014

Location 140107 10	**Active Tipface**
GPS co-ordinates	34°2'20"S, 150°57'58"E
Date tested	4/06/2014
Location Description	Rubbish
Surface Description	Slightly compacted rubbish
Area Classification	Rural
Sampling Method	Isolation Flux
Equilibration time, hrs	0714 - 0738
Sample ID	176
Dilution ratio	1
Sampling time, hrs	0738 - 0748
Odour concentration, ou	**4900**
Odour flux rate, ou/m²/min	**180**
Sweep Rate, L/min	4.80
Penetration Depth, mm	10
Static Pressure, Pa	1
Odour character	Fresh Garbage
Ambient temperature (°C)	13

Active Tipping Face
Upwind & Downwind Transect

16 June 2014

	Morning
Apparent width of odour source (m)	30
Approximate height of odour source (m)	10
Approximate surface area of odour source (m^2)	900
Upwind distance from odour source (m)	30
Downwind distance from odour source (m)	15
Average wind speed from weather station (m/s)	2.9
Average wind speed from anemometer downwind (m/s)	1.6 - 2.2 (obsevred direction W - WNW)
Wind direction (weather station)	W
Smoke flare observations	Horizontal with discernable plume rise and spread in both horizontal and vertical plane
Sampling time	0940-1000
Upwind concentration (OU)	**19**
Downwind concentration (OU)	**91**
Ambient temperature (°C)	13.1
Upwind character	Stale Water
Downwind character	Fruity
Upwind GPS estimate	34°2'21"S, 150°58'01"E
Downwind GPS estimate	34°2'21"S, 150°57'58"E
Upwind Sample ID	5
Downwind Sample ID	27

	Afternoon
Apparent width of odour source (m)	30
Approximate height of odour source (m)	10
Approximate surface area of odour source (m^2)	900
Upwind distance from odour source (m)	30
Downwind distance from odour source (m)	15
Average wind speed from weather station (m/s)	4.3
Average wind speed from anemometer downwind (m/s)	2.5 - 3 (obsevred direction W - WNW)
Wind direction (weather station)	W-SWW
Smoke flare observations	Horizontal with discernable plume rise and spread in both horizontal and vertical plane
Sampling time	1310-1330
Upwind concentration (OU)	**19**
Downwind concentration (OU)	**41**
Ambient temperature (°C)	18.0
Upwind character	Stale Water
Downwind character	Garbage
Upwind GPS estimate	34°2'21"S, 150°58'01"E
Downwind GPS estimate	34°2'21"S, 150°57'58"E
Upwind Sample ID	32
Downwind Sample ID	57

APPENDIX ONE: SUMMARY OF RESULTS

Note: The results in the following tables are unrounded. Due to the large number of odour samples required to complete this project some sampling barrels used at the beginning of the project were re-used later. The barrels contain an odour bag that is removed and replaced once analysis is completed. Odour bags are not re-used at any time, just the barrel used to house them. Hence the same barrel or sample ID may appear at multiple locations sampled.

Sample date: 26 May 2014 – 30 May 2014

Date Sampled	Barrel ID	Sampling Time	Analysis Time	Odour Result (OU)	Location	Comments
26/05/14	47	1245-1255	1618	**294**	Final Cap - localised emission point	IFC on crack
	180	1314-1324	1657	**1260**	Final Cap - localised emission point	IFC on stain
27/05/14	132	0850-0900	1358	**27**	Final Cap - Gas diffusion through surface	IFC - NE corner
	115	0906-0916	1418	**23**	Final Cap - Gas diffusion through surface	IFC - Bike club - SE area
	16	0951-1001	1451	**118**	Final Cap - Gas diffusion through surface	IFC - N corner
	60	1006-1016	1513	**16**	Final Cap - Gas diffusion through surface	IFC - S corner
	57	1049-1059	1605	**27**	Final Cap - Gas diffusion through surface	IFC - W corner
	3	1059-1109	1530	**19**	Final Cap - Background	IFC on grassy area
	140	1145-1155	1624	**< 16**	Intermediate Cap - Background	IFC on Sandstone area
	117	1203-1213	1642	**< 16**	Final Cap - localised emission point	IFC on crack
28/05/14	98	0832-0842	1204	**152**	Final Cap - Pit 1 - 500mm	
	55	0838-0848	1234	**362**	Final Cap - Pit 2 - 1000mm	
	15	0918-0928	1252	**59**	Final Cap - Pit 3 - 1300mm	
	73	1006-1016	1318	**512**	Final Cap - Pit 4 - 500mm	
	123	1010-1020	1354	**362**	Final Cap - Pit 5 - 1000mm	
	56	1042-1052	1537	**197**	Final Cap - Pit 6 - 1300mm	
	32	1125-1135	1607	**181**	Final Cap - Pit 7 - 200mm	Background pit - dug in grassy area
	89	1245-1255	1639	**609**	Intermediate Cap - Pit 1 - 450mm	
	150	1232-1242	1703	**235**	Intermediate Cap - Pit 2 - 150mm	
	43	1315-1325	1732	**181**	Intermediate Cap - Pit 3 - 150mm	
	38	1325-1335	1806	**2660**	Intermediate Cap - Pit 4 - 450mm	
29/05/14	5	0842-0852	1332	**41**	Intermediate Cap - Background	IFC on Sandstone area
	176	0852-0902	1356	**38**	Final Cap - Background	IFC on grassy area
	45	0941-0951	1422	**25**	Intermediate Cap - Gas diffusion through surface	IFC - S corner
	14	1006-1016	1458	**38**	Intermediate Cap - Gas diffusion through surface	IFC - E corner
	172	1024-1034	1522	**45**	Intermediate Cap - Gas diffusion through surface	IFC - W corner
	25	1110-1120	1605	**91**	Intermediate Cap - Gas diffusion through surface	IFC - central area (within Rectangular area south of the excavation stockpile)
	58	1118-1128	1640	**17**	Intermediate Cap - Gas diffusion through surface	IFC - N corner
30/05/14	76	0927-0937	1507	**30000**	Intermediate Cap - localised emission point	IFC on crack & stain (Rectangular area south of the excavation stockpile)
	33	0944-0954	1541	**19500**	Intermediate Cap - localised emission point	IFC on stain (Rectangular area south of the excavation stockpile)
	27	1114-1124	1611	**92700**	Intermediate Cap - localised emission point	IFC on crack & stain (V section)
	70	1206-1216	1642	**17900**	Intermediate Cap - localised emission point	IFC on yellow stain
	22	1309-1319	1710	**65500**	Intermediate Cap - localised emission point	IFC on crack & stain (top of Rectangular area south of the excavation stockpile)

Sample date: 2 June 2014 – 19 June 2014

Date Sampled	Barrel ID	Sampling Time	Analysis Time	Odour Result (OU)	Location	Comments
2/06/14	47	0904-0914	1410	**152**	Stage 4 Batter (west) - Gas diffusion through surface	IFC on top bench
	73	0919-0929	1437	**152**	Stage 4 Batter (west) - Gas diffusion through surface	IFC on middle bench
	140	0959-1009	1505	**140**	Stage 4 Batter (west) - Gas diffusion through surface	IFC on lower bench
	123	1044-1054	1537	**790**	Stage 4 Batter (west) - localised emission point	IFC on stain - lowest slope
	67	1120-1130	1637	**23200**	Stage 4 Batter (west) - localised emission point	IFC on crack & stain - lower slope
	144	1139-1149	1714	**32800**	Stage 4 Batter (west)- localised emission point	IFC on stain - middle slope
3/06/14	32	0907-0917	1334	**279**	Leachate Pond	Non Aeration - IFC
	132	0919-0929	1411	**559**	Leachate Pond	Non Aeration - IFC
4/06/14	115	0650-0700	1253	**54**	Daily Sandstone cover	IFC - cover approx 24Hrs old & 150mm thick
	117	0652-0702	1327	**83**	Intermediate Sandstone cover	IFC - cover approx 3-4days old & 300mm thick
	176	0738-0748	1359	**4870**	Tipface	IFC - directly on rubbish
12/06/14	60	0825-0845	1521	**38**	Intermediate Cap - "V section" upwind	Traverse 10-20m along South side. 20-30m upwind.
	98	0825-0845	1644	**70**	Intermediate Cap - "V section" downwind	Traverse 10-20m along North side. 10m downwind
	56	0958-1015	1551	**32**	Intermediate Cap - "Rectangular area south of excavation stockpile" upwind	Traverse approx 40m along West side
	150	0958-1015	1614	**152**	Intermediate Cap - "Rectangular area south of excavation stockpile" downwind	Traverse approx 40m along East side
13/06/14	73	1130-1150	1502	**45**	Sita Batter West Face - upwind	Traverse where possible at roadway at base of batter - West side
	58	1130-1150	1602	**118**	Sita Batter West Face - downwind	Traverse 30-40m across at top of batter
	45	1230-1245	1532	**< 16**	Leachate Pond - upwind	Aeration - traverse approx 20m along NW side - Incorrect barrel ID (43) supplied to TOU
	43	1230-1245	1655	**41**	Leachate Pond - downwind	Aeration - traverse approx 20m along SE side - Incorrect barrel ID (45) supplied to TOU
16/06/14	5	0940-1000	1606	**19**	Tipface - upwind	Traversed approx 30m - approx 30m from Tipface
	27	0940-1000	1714	**91**	Tipface - downwind	Traverse 30m across approx 10-15m from Tipface
	132	1100-1120	1508	**29**	Stage 4 batter - upwind	Traverse approx 20m, 10m upwind from Western edge of batter
	15	1100-1120	1642	**91**	Stage 4 batter - downwind	Traverse approx 30m across Sita Batter - East edge of main batter
	32	1310-1330	1534	**19**	Tipface - upwind	Traversed approx 30m - approx 30m from Tipface
	57	1310-1330	1742	**41**	Tipface - downwind	Traverse 30m across approx 10m from Tipface
19/06/14	3	1230-1250	1530	**32**	Sita Batter Nth - upwind	Taken from roadway on Nth side of excavation
	98	1230-1250	1707	**30**	Sita Batter Nth - downwind	Traverse along the top of Sita batter
	25	1310-1330	1602	**23**	Stage 4 batter (west) - upwind	traverse upwind of batter - leachate pond aeration turned off
	172	1310-1330	1635	**17**	Stage 4 batter (west) - downwind	traverse along top of batter

APPENDIX TWO: Site Maps

Final Capped Area

Key

WS	Weather Station Location
1	Gas diffusion through surface sampling locations
HS	Localised Emission Spot Sampling Locations
1	Test Pits
BG	Background sampling locations.

Intermediate Capped Area

Key

WS	Weather Station Location
1	Gas diffusion through surface sampling locations
HS	Localised Emission Spot Sampling Locations
1	Test Pits
BG	Background sampling location.

Stage 4 Batter (West)

Key

1	Gas diffusion through surface sampling locations
HS	Localised Emission Spot Sampling Locations

Intermediate Capped Area: Upwind & Downwind Transects

Key

Areas Transected

Upwind Transect

Downwind Transect

Stage 4 Batter: Upwind & Downwind Transects

Key

Area Transected

Upwind Transect

Downwind Transect

Stage 4 Batter (West) & SITA Batter (West): Upwind & Downwind Transects

Key

Area Transected

Upwind Transect

Downwind Transect

SITA Batter (North) & Leachate Pond: Upwind & Downwind Transects

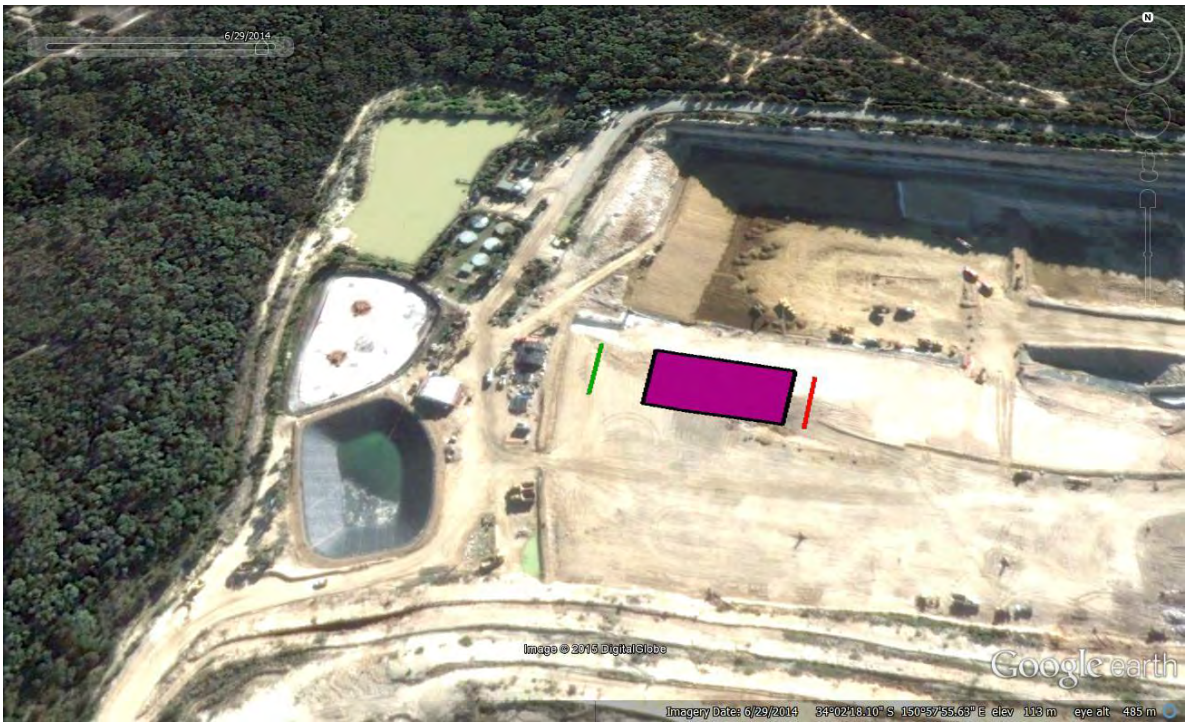
Key

Area Transected

Upwind Transect

Downwind Transect

Active Tipface: Upwind & Downwind Transects



Key

Area Transected

Upwind Transect

Downwind Transect

APPENDIX THREE: Weather Station Data

Sample date: 26 May 2014

Weather station located centrally in the final capped area 34°2'53"S and 150°58'12"E.

Time/date	Humidity (%)	Temperature (°C)	Barometric Pressure (hpa)	Wind (km/h)	Gusts (km/h)	Direction
26/05/2014 10:14	57	22.3	1002.4	7.2	11.2	SW
26/05/2014 10:19	61	21.2	1002.6	7.2	11.2	W
26/05/2014 10:24	64	20.6	1002.5	7.2	11.2	W
26/05/2014 10:29	67	20.2	1002.5	7.2	12.2	W
26/05/2014 10:34	66	20.5	1002.3	5	7.2	W
26/05/2014 10:39	64	20.8	1002.3	7.2	9.7	W
26/05/2014 10:44	63	20.9	1002.2	6.1	9.7	W
26/05/2014 10:49	62	21.3	1002.1	5	7.2	W
26/05/2014 10:54	61	21.7	1002.1	7.2	9.7	W
26/05/2014 10:59	61	21.8	1002	5	9.7	NW
26/05/2014 11:04	60	21.8	1002	6.1	11.2	W
26/05/2014 11:09	59	22	1002	7.2	15.8	W
26/05/2014 11:14	57	22.2	1002.1	7.2	9.7	W
26/05/2014 11:19	57	22.2	1002.1	7.2	12.2	NW
26/05/2014 11:24	58	22.3	1002	6.1	11.2	W
26/05/2014 11:29	57	22.5	1001.8	6.1	8.6	NW
26/05/2014 11:34	56	22.9	1001.7	6.1	9.7	W
26/05/2014 11:39	56	22.8	1001.5	5	9.7	W
26/05/2014 11:44	56	22.9	1001.5	6.1	11.2	W
26/05/2014 11:49	56	22.8	1001.3	5	7.2	NW
26/05/2014 11:54	55	23.5	1001.3	2.5	8.6	NW
26/05/2014 11:59	53	24	1001.1	5	8.6	NW
26/05/2014 12:04	52	24.3	1001	1.1	5	NW
26/05/2014 12:09	51	24.4	1000.8	5	7.2	NW
26/05/2014 12:14	50	24.8	1000.8	5	8.6	N
26/05/2014 12:19	52	24.2	1000.7	7.2	11.2	NW
26/05/2014 12:24	53	23.8	1000.6	7.2	11.2	N
26/05/2014 12:29	54	23.8	1000.5	6.1	9.7	NW
26/05/2014 12:34	52	24.1	1000.5	3.6	7.2	N
26/05/2014 12:39	52	24	1000.4	5	7.2	NW
26/05/2014 12:44	53	24.2	1000.4	6.1	9.7	N
26/05/2014 12:49	52	24.4	1000.2	6.1	9.7	N
26/05/2014 12:54	51	24.6	1000.4	7.2	9.7	NW
26/05/2014 12:59	51	24.8	1000.2	6.1	8.6	NNW
26/05/2014 13:04	51	25	1000.4	7.2	9.7	N
26/05/2014 13:09	48	25.2	1000.4	7.2	9.7	NNW
26/05/2014 13:14	48	25.3	1000.2	6.1	8.6	N
26/05/2014 13:19	45	25.5	1000.3	6.1	8.6	NW
26/05/2014 13:24	49	25.3	1000.2	3.6	8.6	NNW
26/05/2014 13:29	48	25.4	1000	6.1	8.6	N

Sample date: 27 May 2014

Weather station located centrally in the final capped area 34°2'53"S and 150°58'12"E.

Time/date	Humidity (%)	Temperature (°C)	Barometric Pressure (hpa)	Wind (km/h)	Gusts (km/h)	Direction
27/05/2014 8:19	78	18.1	997.5	7.2	11.2	NW
27/05/2014 8:24	84	17.2	997.4	8.6	12.2	NNW
27/05/2014 8:29	86	17	997.5	7.2	11.2	N
27/05/2014 8:34	86	16.8	997.5	8.6	12.2	N
27/05/2014 8:39	86	16.7	997.4	9.7	18.4	NW
27/05/2014 8:44	88	16.3	997.5	9.7	13.3	NW
27/05/2014 8:49	89	16.1	997.4	12.2	17.3	NW
27/05/2014 8:54	89	15.9	997.3	11.2	13.3	N
27/05/2014 8:59	89	15.9	997.3	8.6	12.2	NW
27/05/2014 9:04	89	15.9	997.3	11.2	14.8	NW
27/05/2014 9:09	87	16.2	997.2	12.2	17.3	NW
27/05/2014 9:14	86	16.5	997.3	7.2	11.2	NW
27/05/2014 9:19	84	17	997.1	13.3	17.3	NW
27/05/2014 9:24	80	17.3	996.8	13.3	17.3	NW
27/05/2014 9:29	80	17.6	997	11.2	13.3	NW
27/05/2014 9:34	80	18.1	996.8	8.6	13.3	NW
27/05/2014 9:39	76	18.6	996.7	11.2	15.8	NW
27/05/2014 9:44	77	18.6	996.6	6.1	12.2	NW
27/05/2014 9:49	76	18.4	996.8	12.2	20.9	NW
27/05/2014 9:54	76	18.4	996.6	11.2	17.3	NW
27/05/2014 9:59	74	18.6	996.4	13.3	18.4	NW
27/05/2014 10:04	75	18.4	996.4	9.7	13.3	NW
27/05/2014 10:09	74	18.6	996.2	14.8	18.4	NNW
27/05/2014 10:14	73	18.9	996.2	13.3	17.3	N
27/05/2014 10:19	74	18.9	996	9.7	14.8	N
27/05/2014 10:24	72	19.3	996	11.2	17.3	NW
27/05/2014 10:29	71	19.7	996	12.2	15.8	N
27/05/2014 10:34	68	20.1	995.7	15.8	23.4	N
27/05/2014 10:39	67	20.3	995.5	12.2	18.4	N
27/05/2014 10:44	66	20.6	995.4	11.2	17.3	N
27/05/2014 10:49	64	20.8	995.3	12.2	17.3	N
27/05/2014 10:54	61	20.8	995.2	19.4	23.4	N
27/05/2014 10:59	61	21	995	14.8	19.4	NW
27/05/2014 11:04	60	21.4	995	15.8	19.4	N
27/05/2014 11:09	59	21.6	994.9	11.2	15.8	N
27/05/2014 11:14	56	21.7	994.6	14.8	19.4	N
27/05/2014 11:19	57	21.8	994.5	12.2	15.8	NNW
27/05/2014 11:24	56	22.1	994.3	11.2	15.8	N
27/05/2014 11:29	53	22.2	994.4	18.4	23.4	NW
27/05/2014 11:34	52	22.3	994.2	17.3	22	N
27/05/2014 11:39	50	22.4	994	22	29.5	N
27/05/2014 11:44	50	22.6	993.9	13.3	24.5	NW
27/05/2014 11:49	50	22.6	993.8	23.4	31.7	N
27/05/2014 11:54	50	22.7	993.5	17.3	23.4	N
27/05/2014 11:59	51	22.7	993.4	18.4	23.4	NW
27/05/2014 12:04	49	22.8	993.2	22	29.5	NW
27/05/2014 12:09	49	22.8	993.2	20.9	27	N
27/05/2014 12:14	48	22.9	993	19.4	24.5	NW
27/05/2014 12:19	48	23	993	20.9	25.6	N
27/05/2014 12:24	49	22.9	992.8	17.3	22	NW
27/05/2014 12:29	49	22.7	992.5	18.4	28.1	NW

Sample date: 28 May 2014

Weather station located centrally in the final capped area 34°2'53"S and 150°58'12"E.

Time/date	Humidity (%)	Temperature (°C)	Barometric Pressure (hpa)	Wind (km/h)	Gusts (km/h)	Direction
28/05/2014 8:29	64	17.8	992.4	8.6	11.2	W
28/05/2014 8:34	63	17.9	992.5	8.6	11.2	NW
28/05/2014 8:39	63	18.1	992.4	8.6	11.2	NW
28/05/2014 8:44	62	18.2	992.4	9.7	12.2	NW
28/05/2014 8:49	61	18.4	992.5	9.7	13.3	W
28/05/2014 8:54	61	18.5	992.5	11.2	14.8	W
28/05/2014 8:59	59	18.7	992.6	12.2	18.4	NW
28/05/2014 9:04	59	18.9	992.5	11.2	15.8	NW
28/05/2014 9:09	57	19.1	992.6	13.3	19.4	W
28/05/2014 9:14	55	19.2	992.7	17.3	23.4	W
28/05/2014 9:19	55	19.4	992.7	13.3	18.4	W
28/05/2014 9:24	53	19.5	992.9	13.3	19.4	NW
28/05/2014 9:29	52	19.7	993	13.3	17.3	W
28/05/2014 9:34	51	20	993.1	11.2	18.4	NW
28/05/2014 9:39	51	19.9	993.1	12.2	15.8	NW
28/05/2014 9:44	50	20.2	993.3	11.2	17.3	NW
28/05/2014 9:49	50	20.3	993.3	11.2	18.4	NNW
28/05/2014 9:54	49	20.2	993.5	15.8	19.4	W
28/05/2014 9:59	47	20.3	993.3	11.2	20.9	W
28/05/2014 10:04	47	20.5	993.4	11.2	15.8	NW
28/05/2014 10:09	46	20.5	993.3	17.3	27	W
28/05/2014 10:14	47	20.6	993.2	12.2	14.8	W
28/05/2014 10:19	47	21	993.3	13.3	18.4	NW
28/05/2014 10:24	44	21.1	993.2	15.8	23.4	W
28/05/2014 10:29	46	20.9	993.3	15.8	22	W
28/05/2014 10:34	44	20.9	993.2	12.2	15.8	W
28/05/2014 10:39	45	21	993.2	17.3	23.4	W
28/05/2014 10:44	44	21.3	993.2	12.2	17.3	SW
28/05/2014 10:49	43	21.2	993	19.4	25.6	NW
28/05/2014 10:54	43	21.1	993	22	28.1	W
28/05/2014 10:59	43	21.3	993.1	22	30.6	SW
28/05/2014 11:04	43	21.6	993	15.8	22	SW
28/05/2014 11:09	41	21.7	993	23.4	27	NW
28/05/2014 11:14	42	21.8	992.8	20.9	30.6	W
28/05/2014 11:19	42	21.8	992.7	13.3	24.5	NW
28/05/2014 11:24	41	21.8	992.5	19.4	25.6	W
28/05/2014 11:29	40	22.1	992.5	22	33.1	SW
28/05/2014 11:34	40	21.8	992.3	17.3	24.5	W
28/05/2014 11:39	41	21.9	992.4	19.4	28.1	NW
28/05/2014 11:44	40	22.1	992.3	23.4	34.2	SW
28/05/2014 11:49	41	21.9	992.5	20.9	27	NW
28/05/2014 11:54	41	22.2	992.5	17.3	22	W
28/05/2014 11:59	40	22.3	992.2	13.3	20.9	W
28/05/2014 12:04	39	22.3	992	18.4	25.6	W
28/05/2014 12:09	38	22.5	992	20.9	28.1	W
28/05/2014 12:14	39	22.6	992	15.8	23.4	W
28/05/2014 12:19	39	22.3	991.9	19.4	27	SW
28/05/2014 12:24	39	22.3	992.1	19.4	23.4	W
28/05/2014 12:29	38	22.4	991.9	22	30.6	NW
28/05/2014 12:34	38	22.4	991.9	15.8	19.4	NW
28/05/2014 12:39	39	22.4	991.8	24.5	29.5	W
28/05/2014 12:44	38	22.7	991.8	19.4	24.5	W
28/05/2014 12:49	38	22.5	991.9	20.9	27	W
28/05/2014 12:54	37	22.5	991.8	15.8	20.9	W
28/05/2014 12:59	37	22.5	991.7	23.4	29.5	W
28/05/2014 13:04	39	22.4	991.8	15.8	23.4	W
28/05/2014 13:09	37	22.7	991.8	18.4	28.1	W
28/05/2014 13:14	36	23.1	991.7	18.4	25.6	SW
28/05/2014 13:19	37	22.6	991.5	18.4	27	NW
28/05/2014 13:24	35	22.8	991.6	20.9	29.5	W
28/05/2014 13:29	36	22.6	991.7	20.9	27	W
28/05/2014 13:34	36	22.4	991.9	25.6	31.7	W
28/05/2014 13:39	36	22.6	991.9	28.1	36.7	W
28/05/2014 13:44	36	22.4	991.9	23.4	30.6	W

Sample date: 29 May 2014

Weather station located centrally in the final capped area 34°2'53"S and 150°58'12"E.

Time/date	Humidity (%)	Temperature (°C)	Barometric Pressure (hpa)	Wind (km/h)	Gusts (km/h)	Direction
29/05/2014 7:44	58	15.8	1001.4	7.2	12.2	NE
29/05/2014 7:49	62	14.6	1001.5	9.7	14.8	SW
29/05/2014 7:54	65	14.2	1001.5	9.7	15.8	SW
29/05/2014 7:59	64	14.3	1001.5	11.2	14.8	SW
29/05/2014 8:04	64	14.4	1001.6	9.7	13.3	SW
29/05/2014 8:09	64	14.5	1001.8	13.3	17.3	SW
29/05/2014 8:14	64	14.7	1001.8	8.6	13.3	SW
29/05/2014 8:19	63	15	1001.8	8.6	13.3	SW
29/05/2014 8:24	63	15	1001.9	9.7	13.3	SW
29/05/2014 8:29	62	15.3	1002	14.8	18.4	SW
29/05/2014 8:34	61	15.3	1001.9	14.8	19.4	SW
29/05/2014 8:39	62	15.6	1002.2	7.2	13.3	SW
29/05/2014 8:44	60	15.9	1002	11.2	14.8	SSW
29/05/2014 8:49	60	16.2	1002.1	8.6	11.2	SW
29/05/2014 8:54	60	16.6	1002.3	8.6	14.8	SW
29/05/2014 8:59	59	16.7	1002.2	9.7	13.3	SW
29/05/2014 9:04	58	16.9	1002.2	8.6	12.2	SW
29/05/2014 9:09	58	16.9	1002.3	9.7	13.3	SSW
29/05/2014 9:14	57	17.2	1002.1	9.7	12.2	SW
29/05/2014 9:19	58	17.2	1002.2	7.2	13.3	S
29/05/2014 9:24	57	17.4	1002.4	9.7	13.3	SW
29/05/2014 9:29	58	17.8	1002.4	6.1	9.7	SW
29/05/2014 9:34	57	17.9	1002.5	7.2	13.3	SW
29/05/2014 9:39	57	18.3	1002.4	8.6	11.2	SW
29/05/2014 9:44	57	18.6	1002.5	3.6	7.2	SW
29/05/2014 9:49	56	18.9	1002.6	7.2	11.2	SW
29/05/2014 9:54	56	18.9	1002.4	5	9.7	W
29/05/2014 9:59	57	18.9	1002.4	6.1	9.7	S
29/05/2014 10:04	60	19.5	1002.5	7.2	9.7	SSE
29/05/2014 10:09	60	19.1	1002.4	8.6	14.8	E
29/05/2014 10:14	61	18.7	1002.6	11.2	18.4	SE
29/05/2014 10:19	63	18.2	1002.7	13.3	22	SE
29/05/2014 10:24	64	17.9	1002.6	11.2	14.8	SE
29/05/2014 10:29	65	18.4	1002.5	6.1	13.3	S
29/05/2014 10:34	63	18.6	1002.6	12.2	18.4	SE
29/05/2014 10:39	64	18.4	1002.7	11.2	23.4	SE
29/05/2014 10:44	65	18.2	1002.7	8.6	13.3	SE
29/05/2014 10:49	66	18.2	1002.8	8.6	12.2	E
29/05/2014 10:54	64	19	1002.8	13.3	20.9	SE
29/05/2014 10:59	63	19.3	1002.6	11.2	19.4	SE
29/05/2014 11:04	64	18.6	1002.7	12.2	18.4	SE
29/05/2014 11:09	65	18.5	1002.8	6.1	11.2	SE
29/05/2014 11:14	65	18.5	1002.6	8.6	12.2	E
29/05/2014 11:19	65	18.6	1002.6	12.2	17.3	SE
29/05/2014 11:24	64	19.5	1002.5	7.2	12.2	SE
29/05/2014 11:29	60	20.2	1002.5	8.6	12.2	S
29/05/2014 11:34	61	19.2	1002.5	11.2	17.3	SE
29/05/2014 11:39	64	18.8	1002.4	13.3	19.4	S
29/05/2014 11:44	65	18.8	1002.4	8.6	14.8	S
29/05/2014 11:49	64	19	1002.3	3.6	8.6	E
29/05/2014 11:54	63	19.1	1002.3	9.7	14.8	SE

Sample date: 30 May 2014

Weather station located centrally in the final capped area 34°2'53"S and 150°58'12"E.

Time/date	Humidity (%)	Temperature (°C)	Barometric Pressure (hpa)	Wind (km/h)	Gusts (km/h)	Direction
30/05/2014 9:19	71	18	1005.8	12.2	17.3	SE
30/05/2014 9:24	71	18.2	1005.8	11.2	20.9	S
30/05/2014 9:29	71	17.9	1006.1	12.2	19.4	SSE
30/05/2014 9:34	71	17.9	1006	11.2	22	S
30/05/2014 9:39	72	17.4	1006	12.2	18.4	SE
30/05/2014 9:44	73	17.7	1006	12.2	17.3	S
30/05/2014 9:49	72	17.6	1006.1	9.7	14.8	S
30/05/2014 9:54	72	17.8	1006.1	8.6	15.8	SE
30/05/2014 9:59	71	18.3	1006.2	8.6	15.8	S
30/05/2014 10:04	70	18.5	1006.1	8.6	12.2	S
30/05/2014 10:09	69	18.5	1006.2	7.2	11.2	SE
30/05/2014 10:14	71	17.9	1006.2	8.6	13.3	S
30/05/2014 10:19	72	18	1006	7.2	12.2	SE
30/05/2014 10:24	69	18.8	1006	8.6	12.2	SSE
30/05/2014 10:29	68	18.5	1006	11.2	17.3	SE
30/05/2014 10:34	68	18.7	1006	11.2	20.9	S
30/05/2014 10:39	70	18	1005.9	8.6	13.3	S
30/05/2014 10:44	71	18	1005.7	6.1	11.2	SE
30/05/2014 10:49	71	17.9	1005.8	9.7	14.8	S
30/05/2014 10:54	71	17.8	1005.8	12.2	15.8	S
30/05/2014 10:59	72	17.8	1005.8	11.2	13.3	SE
30/05/2014 11:04	72	18	1005.7	6.1	11.2	SE
30/05/2014 11:09	71	18.2	1005.6	9.7	13.3	SE
30/05/2014 11:14	72	18.1	1005.6	11.2	17.3	SE
30/05/2014 11:19	71	18.9	1005.6	7.2	18.4	S
30/05/2014 11:24	70	18.7	1005.6	7.2	14.8	E
30/05/2014 11:29	72	18.4	1005.6	9.7	17.3	SE
30/05/2014 11:34	71	18.4	1005.6	9.7	14.8	SE
30/05/2014 11:39	72	18.3	1005.5	8.6	12.2	SSE
30/05/2014 11:44	72	18.1	1005.5	8.6	13.3	S
30/05/2014 11:49	72	18.4	1005.4	3.6	8.6	SE
30/05/2014 11:54	72	18.8	1005.2	6.1	12.2	SE
30/05/2014 11:59	71	18.6	1005.3	9.7	17.3	S
30/05/2014 12:04	70	18.7	1005.2	13.3	19.4	S
30/05/2014 12:09	69	19.8	1005.1	8.6	13.3	E
30/05/2014 12:14	68	19.7	1005	7.2	12.2	S
30/05/2014 12:19	70	18.9	1004.9	8.6	12.2	S
30/05/2014 12:24	70	19	1005	11.2	13.3	SE
30/05/2014 12:29	71	19.3	1005	7.2	12.2	SE
30/05/2014 12:34	69	19.5	1004.9	9.7	12.2	S
30/05/2014 12:39	71	18.8	1004.8	9.7	14.8	SE
30/05/2014 12:44	71	19.7	1004.8	7.2	11.2	SE
30/05/2014 12:49	67	20.2	1004.7	12.2	18.4	SE
30/05/2014 12:54	67	20.1	1004.5	11.2	17.3	SE
30/05/2014 12:59	65	20.5	1004.5	9.7	13.3	SE
30/05/2014 13:04	65	19.8	1004.3	13.3	18.4	SSE
30/05/2014 13:09	67	20	1004.2	12.2	17.3	E
30/05/2014 13:14	69	19.5	1004.3	11.2	14.8	S
30/05/2014 13:19	71	19.3	1004.3	12.2	19.4	S
30/05/2014 13:24	68	19.7	1004.3	15.8	20.9	S
30/05/2014 13:29	69	19.5	1004.2	14.8	19.4	S

Sample date: 2 June 2014

Weather station located centrally in the final capped area 34°2'53"S and 150°58'12"E.

Time/date	Humidity (%)	Temperature (°C)	Barometric Pressure (hpa)	Wind (km/h)	Gusts (km/h)	Direction
2/06/2014 7:54	77	14.7	996.2	6.1	8.6	NW
2/06/2014 7:59	88	12.9	996.1	6.1	8.6	W
2/06/2014 8:04	92	12.4	996	6.1	8.6	W
2/06/2014 8:09	93	12.2	996.2	6.1	9.7	SWW
2/06/2014 8:14	94	12.1	996.1	5	7.2	W
2/06/2014 8:19	95	12.1	996	8.6	11.2	SWW
2/06/2014 8:24	96	12.1	996	5	7.2	SW
2/06/2014 8:29	96	12.1	995.8	6.1	8.6	SW
2/06/2014 8:34	96	12.1	995.8	8.6	12.2	SW
2/06/2014 8:39	97	12.1	996	8.6	9.7	SW
2/06/2014 8:44	97	12.1	995.8	7.2	9.7	SW
2/06/2014 8:49	97	12.1	995.8	8.6	11.2	SW
2/06/2014 8:54	97	12.2	995.9	6.1	8.6	SW
2/06/2014 8:59	97	12.2	996	6.1	8.6	SW
2/06/2014 9:04	97	12.3	995.9	7.2	9.7	W
2/06/2014 9:09	97	12.3	995.9	6.1	8.6	SW
2/06/2014 9:14	98	12.4	995.8	6.1	9.7	W
2/06/2014 9:19	98	12.5	996.1	8.6	11.2	NWW
2/06/2014 9:24	98	12.6	996.1	6.1	9.7	SW
2/06/2014 9:29	98	12.7	996.1	7.2	11.2	W
2/06/2014 9:34	98	12.7	996	8.6	12.2	W
2/06/2014 9:39	98	12.5	996.2	9.7	12.2	SW
2/06/2014 9:44	98	12.5	996.2	8.6	12.2	SW
2/06/2014 9:49	98	12.5	996.1	9.7	13.3	SW
2/06/2014 9:54	98	12.5	996.1	8.6	12.2	SW
2/06/2014 9:59	98	12.6	996.1	9.7	13.3	SW
2/06/2014 10:04	98	12.6	996	6.1	8.6	SW
2/06/2014 10:09	98	12.7	996	6.1	7.2	W
2/06/2014 10:14	98	12.9	996.1	6.1	7.2	SWW
2/06/2014 10:19	98	13	996	5	7.2	SW
2/06/2014 10:24	98	13.1	996	5	7.2	W
2/06/2014 10:29	98	13.2	996	6.1	8.6	SW
2/06/2014 10:34	98	13.4	995.9	3.6	6.1	W
2/06/2014 10:39	98	13.6	996	6.1	8.6	W
2/06/2014 10:44	97	13.6	995.8	6.1	8.6	W
2/06/2014 10:49	97	13.7	995.8	6.1	9.7	W
2/06/2014 10:54	97	13.9	995.7	3.6	6.1	W
2/06/2014 10:59	97	14	995.7	5	6.1	W
2/06/2014 11:04	96	14.2	995.5	2.5	7.2	SW
2/06/2014 11:09	95	14.2	995.6	1.1	5	NW
2/06/2014 11:14	94	14.4	995.4	2.5	5	SW
2/06/2014 11:19	94	14.6	995.4	3.6	5	W
2/06/2014 11:24	92	14.8	995.4	5	8.6	W
2/06/2014 11:29	91	15.3	995.4	6.1	9.7	NW
2/06/2014 11:34	88	16.2	995.3	5	8.6	W
2/06/2014 11:39	83	16.3	995.1	6.1	8.6	NW
2/06/2014 11:44	85	16.6	995.1	9.7	15.8	W
2/06/2014 11:49	82	16.9	995.1	8.6	12.2	NW
2/06/2014 11:54	82	16.6	995	6.1	9.7	W
2/06/2014 11:59	82	16.9	994.9	9.7	13.3	W

Sample date: 3 June 2014

Weather station located adjacent to the Main Leachate Pond 34°2'20"S and 150°57'50"E.

Time/date	Humidity (%)	Temperature (°C)	Barometric Pressure (hpa)	Wind (km/h)	Gusts (km/h)	Direction
3/06/2014 8:19	62	15	1004.1	2.5	3.6	NW
3/06/2014 8:24	71	13.3	1004.1	0	3.6	NW
3/06/2014 8:29	75	12.5	1004.1	3.6	6.1	NW
3/06/2014 8:34	80	11.8	1004.1	3.6	6.1	NW
3/06/2014 8:39	82	11.7	1004.1	3.6	6.1	NW
3/06/2014 8:44	81	11.8	1004.1	3.6	6.1	NW
3/06/2014 8:49	81	12	1004.2	3.6	7.2	NW
3/06/2014 8:54	79	12.2	1004.1	3.6	6.1	NW
3/06/2014 8:59	78	12.6	1004	3.6	6.1	W
3/06/2014 9:04	77	13.1	1004	3.6	5	NW
3/06/2014 9:09	73	13.7	1004.1	5	7.2	NW
3/06/2014 9:14	73	13.7	1004	5	7.2	NW
3/06/2014 9:19	73	14	1004.2	2.5	6.1	NW
3/06/2014 9:24	71	14.1	1004.3	7.2	9.7	NW
3/06/2014 9:29	71	14.1	1004.3	6.1	9.7	NW
3/06/2014 9:34	71	14.4	1004.3	3.6	8.6	N
3/06/2014 9:39	69	14.7	1004.3	6.1	8.6	NW
3/06/2014 9:44	69	14.7	1004.3	7.2	9.7	NW
3/06/2014 9:49	70	14.9	1004.3	7.2	11.2	NW
3/06/2014 9:54	69	15.2	1004.4	5	8.6	W
3/06/2014 9:59	69	15.7	1004.3	1.1	3.6	NW
3/06/2014 10:04	64	16.2	1004.4	5	11.2	NW
3/06/2014 10:09	65	16.3	1004.3	5	7.2	NW
3/06/2014 10:14	63	16.7	1004.4	5	8.6	NW
3/06/2014 10:19	66	16.5	1004.4	5	7.2	NW
3/06/2014 10:24	64	16.7	1004.3	5	8.6	W
3/06/2014 10:29	61	17.1	1004.3	6.1	11.2	W
3/06/2014 10:34	59	17.6	1004.3	5	11.2	NW
3/06/2014 10:39	56	17.7	1004.2	6.1	12.2	NW
3/06/2014 10:44	57	18.3	1004.2	2.5	5	N
3/06/2014 10:49	53	18.5	1004.2	5	8.6	NW
3/06/2014 10:54	54	18.1	1004.2	3.6	7.2	N
3/06/2014 10:59	52	18.7	1004.2	3.6	8.6	SW
3/06/2014 11:04	52	18.8	1004.2	3.6	8.6	SE
3/06/2014 11:09	53	18.9	1004.2	3.6	7.2	NW
3/06/2014 11:14	51	19.3	1003.9	1.1	3.6	E
3/06/2014 11:19	48	19.8	1003.8	5	8.6	NWW
3/06/2014 11:24	49	19.9	1003.8	1.1	6.1	S
3/06/2014 11:29	50	19.8	1003.8	2.5	6.1	N
3/06/2014 11:34	52	19.1	1003.6	5	9.7	NW
3/06/2014 11:39	50	19.4	1003.6	6.1	13.3	NW
3/06/2014 11:44	53	18.5	1003.3	0	0	E
3/06/2014 11:49	54	19	998.2	0	0	E
3/06/2014 11:54	49	21.2	997.9	0	0	E
3/06/2014 11:59	44	23.3	997.7	0	0	E

Sample date: 4 June 2014

Weather station located centrally on tipface level, 34°2'21"S and 150°57'59"E.

Time/date	Humidity (%)	Temperature (°C)	Barometric Pressure (hpa)	Wind (km/h)	Gusts (km/h)	Direction
4/06/2014 6:44	69	13.2	1008.4	3.6	7.2	E
4/06/2014 6:49	74	12.5	1008.4	7.2	9.7	W
4/06/2014 6:54	75	12	1008.5	2.5	5	SW
4/06/2014 6:59	77	11.7	1008.6	5	7.2	SSW
4/06/2014 7:04	77	11.6	1008.6	0	2.5	SW
4/06/2014 7:09	77	11.6	1008.6	2.5	3.6	SW
4/06/2014 7:14	77	11.4	1008.8	0	0	SW
4/06/2014 7:19	79	11.3	1008.8	5	7.2	SW
4/06/2014 7:24	79	11.5	1008.9	3.6	6.1	SW
4/06/2014 7:29	78	11.8	1008.9	7.2	11.2	SW
4/06/2014 7:34	76	12.5	1009	9.7	14.8	SW
4/06/2014 7:39	75	12.7	1008.9	8.6	12.2	SW
4/06/2014 7:44	74	13	1009	7.2	11.2	SW
4/06/2014 7:49	73	13.2	1009	6.1	9.7	SW
4/06/2014 7:54	72	13.5	1009.2	7.2	9.7	SW
4/06/2014 7:59	72	13.6	1009.3	8.6	12.2	SW
4/06/2014 8:04	71	13.8	1009.4	7.2	11.2	SW
4/06/2014 8:09	71	14	1009.5	8.6	13.3	SW
4/06/2014 8:14	70	14.2	1009.7	7.2	11.2	SW
4/06/2014 8:19	70	14.4	1009.6	8.6	11.2	SW
4/06/2014 8:24	69	14.6	1009.7	7.2	9.7	SW
4/06/2014 8:29	69	14.9	1009.8	7.2	11.2	SW
4/06/2014 8:34	68	15.1	1009.7	7.2	11.2	SW
4/06/2014 8:39	68	15.2	1009.9	7.2	11.2	SW
4/06/2014 8:44	67	15.3	1009.9	11.2	17.3	SW

Sample date: 12 June 2014

Weather station located centrally in the Intermediate capped area, 34°2'20"S and 150°57'59"E.

Time/date	Humidity (%)	Temperature (°C)	Barometric Pressure (hpa)	Wind (km/h)	Gusts (km/h)	Direction
12/06/2014 7:41	59	16.8	1001.9	0	0	E
12/06/2014 7:46	61	16.4	1002	0	0	E
12/06/2014 7:51	62	16.1	1000.5	0	0	E
12/06/2014 7:56	64	15.8	1001.7	0	8.6	E
12/06/2014 8:01	72	14.1	1002	6.1	8.6	SE
12/06/2014 8:06	77	13.2	1001.9	5	7.2	SSW
12/06/2014 8:11	80	12.8	1002	6.1	8.6	S
12/06/2014 8:16	80	12.8	1002.1	5	7.2	SW
12/06/2014 8:21	80	12.7	1002.2	7.2	9.7	S
12/06/2014 8:26	80	12.7	1002	7.2	9.7	SSW
12/06/2014 8:31	80	12.7	1002.1	6.1	8.6	S
12/06/2014 8:36	80	12.8	1002.1	7.2	12.2	SW
12/06/2014 8:41	80	12.9	1002	5	8.6	SW
12/06/2014 8:46	80	13.1	1002	5	6.1	SW
12/06/2014 8:51	79	13.6	1002	5	7.2	SW
12/06/2014 8:56	78	13.5	1001.9	6.1	9.7	SW
12/06/2014 9:01	78	13.4	1002	7.2	11.2	SW
12/06/2014 9:06	79	13.7	1001.9	6.1	8.6	SW
12/06/2014 9:11	77	14.1	1002	5	7.2	SW
12/06/2014 9:16	76	14.6	1002	7.2	11.2	SW
12/06/2014 9:21	75	14.4	1001.8	6.1	9.7	SW
12/06/2014 9:26	76	14.4	1001.9	5	7.2	SW
12/06/2014 9:31	75	14.7	1002	3.6	7.2	SW
12/06/2014 9:36	74	14.8	1002	5	7.2	SW
12/06/2014 9:41	74	15.2	1002	5	7.2	W
12/06/2014 9:46	72	15.4	1002.1	3.6	7.2	SW
12/06/2014 9:51	70	15.4	1002	6.1	8.6	W
12/06/2014 9:56	68	15.5	1002.1	7.2	11.2	SWW
12/06/2014 10:01	69	15.4	1002	7.2	9.7	W
12/06/2014 10:06	68	15.3	1001.9	7.2	9.7	W
12/06/2014 10:11	70	15.2	1002	6.1	9.7	W
12/06/2014 10:16	71	15.3	1002.1	7.2	9.7	W
12/06/2014 10:21	70	15.6	1002	7.2	9.7	W
12/06/2014 10:26	71	15.5	1001.8	6.1	8.6	W
12/06/2014 10:31	72	15.2	1001.9	5	7.2	NW
12/06/2014 10:36	70	15	1001.7	11.2	13.3	NWW
12/06/2014 10:41	73	15	1001.6	5	8.6	W
12/06/2014 10:46	72	15.2	1001.5	8.6	12.2	W
12/06/2014 10:51	69	15.4	1001.6	8.6	12.2	W
12/06/2014 10:56	69	15.4	1001.6	9.7	13.3	W

Sample date: 13 June 2014

Weather station located at the top of the SITA batter, 34°2'25"S and 150°58'13"E.

Time/date	Humidity (%)	Temperature (°C)	Barometric Pressure (hpa)	Wind (km/h)	Gusts (km/h)	Direction
13/06/2014 9:21	85	12.8	999.8	0	1.1	W
13/06/2014 9:26	84	12.9	1000	3.6	5	W
13/06/2014 9:31	86	12.4	1000	5	7.2	W
13/06/2014 9:36	88	12.2	1000	5	6.1	W
13/06/2014 9:41	89	12.3	1000	6.1	8.6	W
13/06/2014 9:46	89	12.2	999.9	5	7.2	W
13/06/2014 9:51	89	12.1	999.9	5	7.2	W
13/06/2014 9:56	89	12.1	999.9	5	7.2	W
13/06/2014 10:01	89	12.1	999.6	5	7.2	W
13/06/2014 10:06	89	12.2	999.5	5	6.1	W
13/06/2014 10:11	89	12.2	999.5	7.2	8.6	W
13/06/2014 10:16	90	12.3	999.6	7.2	9.7	W
13/06/2014 10:21	89	12.3	999.5	6.1	8.6	W
13/06/2014 10:26	89	12.4	999.5	5	7.2	W
13/06/2014 10:31	89	12.4	999.4	7.2	8.6	W
13/06/2014 10:36	89	12.5	999.4	8.6	9.7	W
13/06/2014 10:41	89	12.5	999.4	9.7	11.2	W
13/06/2014 10:46	90	12.2	999.5	12.2	14.8	W
13/06/2014 10:51	91	12.3	999.3	7.2	9.7	W
13/06/2014 10:56	90	12.3	999.3	11.2	13.3	W
13/06/2014 11:01	90	12.3	999.2	15.8	19.4	W
13/06/2014 11:06	91	12.2	999.3	14.8	15.8	W
13/06/2014 11:11	90	12.3	999.2	11.2	14.8	W
13/06/2014 11:16	89	12.5	999.2	12.2	14.8	W
13/06/2014 11:21	87	12.6	999.2	12.2	14.8	W
13/06/2014 11:26	86	12.7	999.1	11.2	14.8	W
13/06/2014 11:31	85	12.7	999.1	12.2	15.8	W
13/06/2014 11:36	84	13	998.9	8.6	11.2	W
13/06/2014 11:41	84	13.2	998.9	8.6	9.7	W
13/06/2014 11:46	82	13.3	998.7	8.6	9.7	SWW
13/06/2014 11:51	82	13.6	998.8	8.6	13.3	W
13/06/2014 11:56	80	14.2	998.6	7.2	8.6	W
13/06/2014 12:01	79	14.5	998.5	6.1	7.2	W
13/06/2014 12:06	76	15	998.4	6.1	8.6	W
13/06/2014 12:11	75	15.2	998.1	5	6.1	W
13/06/2014 12:16	75	15.3	998	6.1	8.6	W
13/06/2014 12:21	75	15.3	997.8	7.2	9.7	W
13/06/2014 12:26	74	15.2	997.7	6.1	7.2	W
13/06/2014 12:31	73	15.8	997.6	6.1	9.7	W
13/06/2014 12:36	72	15.6	997.6	6.1	7.2	W
13/06/2014 12:41	69	16.1	997.4	9.7	13.3	W
13/06/2014 12:46	70	16.1	997.2	9.7	13.3	W
13/06/2014 12:51	71	16	997.1	5	7.2	W
13/06/2014 12:56	71	15.8	997.3	5	7.2	W

Sample date: 16 June 2014

Weather station located at the top of the SITA batter, 34°2'25"S and 150°58'13"E.

Time/date	Humidity (%)	Temperature (°C)	Barometric Pressure (hpa)	Wind (km/h)	Gusts (km/h)	Direction
16/06/2014 9:36	68	12.5	1001.7	9.7	13.3	W
16/06/2014 9:41	68	12.7	1001.8	8.6	12.2	W
16/06/2014 9:46	66	13	1001.8	8.6	12.2	W
16/06/2014 9:51	66	13.1	1001.8	9.7	13.3	W
16/06/2014 9:56	66	13.3	1001.7	8.6	11.2	W
16/06/2014 10:01	64	13.4	1001.5	15.8	19.4	W
16/06/2014 10:06	62	13.6	1001.6	17.3	20.9	W
16/06/2014 10:11	62	13.8	1001.8	15.8	22	SWW
16/06/2014 10:16	61	13.9	1001.8	17.3	22	SWW
16/06/2014 10:21	61	13.9	1001.7	18.4	23.4	W
16/06/2014 10:26	60	14.1	1001.7	18.4	24.5	W
16/06/2014 10:31	61	13.9	1001.8	18.4	23.4	W
16/06/2014 10:36	60	14.1	1001.9	17.3	20.9	W
16/06/2014 10:41	59	14.3	1001.9	18.4	27	W
16/06/2014 10:46	61	14.3	1001.9	13.3	20.9	W
16/06/2014 10:51	60	14.3	1001.9	15.8	23.4	W
16/06/2014 10:56	61	14.5	1001.8	15.8	23.4	W
16/06/2014 11:01	60	14.5	1001.8	15.8	22	W
16/06/2014 11:06	60	14.9	1001.8	11.2	18.4	W
16/06/2014 11:11	56	15.2	1001.6	14.8	23.4	SW
16/06/2014 11:16	57	15.4	1001.5	18.4	22	W
16/06/2014 11:21	55	15.4	1001.5	25.6	31.7	W
16/06/2014 11:26	55	15.5	1001.5	18.4	23.4	W
16/06/2014 11:31	54	15.8	1001.5	11.2	17.3	W
16/06/2014 11:36	54	16	1001.5	15.8	24.5	W
16/06/2014 11:41	53	16.2	1001.3	22	29.5	W
16/06/2014 11:46	54	16.3	1001.4	17.3	20.9	W
16/06/2014 11:51	54	16.2	1001.2	18.4	22	W
16/06/2014 11:56	52	16.3	1001.1	23.4	29.5	W
16/06/2014 12:01	52	16.3	1000.8	20.9	27	W
16/06/2014 12:06	52	16.2	1000.8	25.6	33.1	W
16/06/2014 12:11	53	16.3	1000.9	17.3	24.5	SWW
16/06/2014 12:16	50	16.4	1000.9	23.4	29.5	W
16/06/2014 12:21	52	16.5	1000.7	20.9	30.6	N
16/06/2014 12:26	51	16.7	1000.6	19.4	24.5	W
16/06/2014 12:31	52	17	1000.6	9.7	13.3	W
16/06/2014 12:36	51	17.3	1000.7	12.2	22	W
16/06/2014 12:41	50	17.2	1000.5	14.8	22	NW
16/06/2014 12:46	50	17.4	1000.4	17.3	22	W
16/06/2014 12:51	49	17.6	1000.2	19.4	24.5	W
16/06/2014 12:56	48	17.5	1000.2	18.4	22	W
16/06/2014 13:01	49	17.7	1000.1	17.3	23.4	NW
16/06/2014 13:06	46	17.8	1000.1	14.8	20.9	W
16/06/2014 13:11	47	17.8	1000.1	12.2	18.4	SW
16/06/2014 13:16	47	18.2	1000.2	13.3	18.4	W
16/06/2014 13:21	45	18.1	1000	18.4	22	SW
16/06/2014 13:26	44	18	999.9	19.4	22	SWW

Sample date: 19 June 2014

Weather station located at the top of the SITA batter, 34°2'25"S and 150°58'13"E.

Time/date	Humidity (%)	Temperature (°C)	Barometric Pressure (hpa)	Wind (km/h)	Gusts (km/h)	Direction
19/06/2014 9:46	58	17.6	1008.3	9.7	13.3	NW
19/06/2014 9:51	71	14.8	1008.1	12.2	14.8	W
19/06/2014 9:56	74	14.3	1008.1	9.7	14.8	NW
19/06/2014 10:01	76	13.9	1008.2	13.3	17.3	W
19/06/2014 10:06	75	14.1	1008.2	12.2	14.8	W
19/06/2014 10:11	75	14.3	1008.1	12.2	15.8	W
19/06/2014 10:16	76	14.1	1008	13.3	18.4	W
19/06/2014 10:21	76	14.2	1008.1	11.2	13.3	W
19/06/2014 10:26	75	14.4	1008.1	12.2	17.3	W
19/06/2014 10:31	74	14.9	1008	11.2	14.8	W
19/06/2014 10:36	75	14.7	1007.9	17.3	20.9	W
19/06/2014 10:41	75	14.7	1008	18.4	23.4	NW
19/06/2014 10:46	74	14.9	1007.8	17.3	23.4	NW
19/06/2014 10:51	74	15.1	1007.9	14.8	19.4	W
19/06/2014 10:56	74	15.1	1007.8	15.8	20.9	W
19/06/2014 11:01	74	15.4	1007.7	13.3	19.4	W
19/06/2014 11:06	74	15.6	1007.6	9.7	12.2	NW
19/06/2014 11:11	73	15.6	1007.6	14.8	22	W
19/06/2014 11:16	73	15.8	1007.5	12.2	14.8	NW
19/06/2014 11:21	71	16	1007.4	14.8	22	W
19/06/2014 11:26	71	16.2	1007.5	8.6	12.2	W
19/06/2014 11:31	72	15.8	1007.2	14.8	20.9	W
19/06/2014 11:36	71	15.9	1007.2	17.3	22	NW
19/06/2014 11:41	71	15.9	1007.2	12.2	18.4	NW
19/06/2014 11:46	71	16.1	1007	9.7	12.2	NWW
19/06/2014 11:51	69	16.4	1006.8	17.3	20.9	W
19/06/2014 11:56	70	16.2	1006.7	20.9	25.6	W
19/06/2014 12:01	69	16.3	1006.7	13.3	19.4	NW
19/06/2014 12:06	70	16.4	1006.7	19.4	23.4	W
19/06/2014 12:11	70	16.5	1006.5	14.8	20.9	W
19/06/2014 12:16	70	16.8	1006.4	15.8	20.9	W
19/06/2014 12:21	67	17.1	1006.5	18.4	22	NW
19/06/2014 12:26	68	16.8	1006.1	24.5	28.1	NW
19/06/2014 12:31	69	17	1006.1	14.8	22	W
19/06/2014 12:36	66	17.4	1006	17.3	22	NW
19/06/2014 12:41	65	17.7	1006	13.3	17.3	NW
19/06/2014 12:46	66	17.8	1005.9	11.2	17.3	N
19/06/2014 12:51	64	18.1	1005.9	11.2	14.8	NW
19/06/2014 12:56	65	17.9	1005.4	18.4	20.9	NW
19/06/2014 13:01	63	18.3	1005.4	11.2	14.8	NW
19/06/2014 13:06	65	17.7	1005.4	12.2	17.3	N
19/06/2014 13:11	66	17.3	1005.3	14.8	18.4	W
19/06/2014 13:16	66	17.7	1005.2	7.2	12.2	NW
19/06/2014 13:21	65	17.8	1005.1	15.8	18.4	NW
19/06/2014 13:26	65	18	1004.9	12.2	17.3	NW
19/06/2014 13:31	64	18.5	1004.8	8.6	12.2	NW
19/06/2014 13:36	61	19.3	1004.6	3.6	6.1	NW
19/06/2014 13:41	57	20.1	1004.6	6.1	9.7	N

APPENDIX FOUR: Reports from The Odour Unit

THE ODOUR UNIT

Aust. Technology Park
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Suite 16012
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Eveleigh NSW 2015

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Facsimile: +61 2 9209 4421
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Internet: www.odourunit.com.au
ABN: 53 091 165 061

Accreditation Number: 14974

Odour Concentration Measurement Results

The measurement was commissioned by:

Organisation	Emission Testing Consultants	Telephone	(03) 9870 2644
Contact	Aaron Davis	Facsimile	(03) 9870 4055
Sampling Site	Undisclosed	Email	ad@emission.com.au
Sampling Method	Undisclosed	Sampling Team	ETC

Order details:

Order requested by	A. Davis	Order accepted by	J. Schulz
Date of order	16/05/2014	TOU Project #	N1886R.03
Order number	7993	Project Manager	J. Schulz
Signed by	A. Davis	Testing operator	J. Schulz

Investigated Item	Odour concentration in odour units 'ou', determined by sensory odour concentration measurements, of an odour sample supplied in a sampling bag.
Identification	The odour sample bags were labelled individually. Each label recorded the testing laboratory, sample number, sampling location (or Identification), sampling date and time, dilution ratio (if dilution was used) and whether further chemical analysis was required.
Method	The odour concentration measurements were performed using dynamic olfactometry according to the Australian Standard 'Determination of Odour Concentration by Dynamic Olfactometry AS/NZS4323.3:2001. NATA accredited for compliance with ISO/IEC 17025 Any deviation from the Australian standard is recorded in the 'Comments' section of this report.
Measuring Range	The measuring range of the olfactometer is $2^2 \leq \chi \leq 2^{18}$ ou. If the measuring range was insufficient the odour samples will have been pre-diluted. The machine is not calibrated beyond dilution setting 2^{17}. This is specifically mentioned with the results.
Environment	The measurements were performed in an air- and odour-conditioned room. The room temperature is maintained between 22°C and 25°C.
Measuring Dates	The date of each measurement is specified with the results.
Instrument Used	The olfactometer used during this testing session was: ODORMAT SERIES V01
Instrumental Precision	The precision of this instrument (expressed as repeatability) for a sensory calibration must be $r \leq 0.477$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $r = 0.1775$ (October 2013) Compliance – Yes
Instrumental Accuracy	The accuracy of this instrument for a sensory calibration must be $A \leq 0.217$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $A = 0.2106$ (October 2013) Compliance – Yes
Lower Detection Limit (LDL)	The LDL for the olfactometer has been determined to be 16 ou (4 times the lowest dilution setting)
Traceability	The measurements have been performed using standards for which the traceability to the national standard has been demonstrated. The assessors are individually selected to comply with fixed criteria and are monitored in time to keep within the limits of the standard. The results from the assessors are traceable to primary standards of n-butanol in nitrogen.

Date: Monday, 26 May 2014

Panel Roster Number: SYD20140526_043

J. Schulz
NSW Laboratory Coordinator

A. Schulz
Authorised Signatory

Odour Sample Measurement Results
Panel Roster Number: SYD20140526_043

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)	Specific Odour Emission Rate (ou.$m^3/m^2/s$)
Sample ID #180-Final Cap Area Stain	SC14310	26/05/2014 1324hrs	26/05/2014 1618hrs	5	10	-	-	1,260	1,260	N/A
Sample ID #47-Final Cap Hotspot Crack	SC14311	26/05/2014 1255hrs	26/05/2014 1657hrs	5	10	-	-	294	294	N/A

Note: The following are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd:
1. The collection of Isolation Flux Hood (IFH) samples and the calculation of the Specific Odour Emission Rate (SOER).
2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd. have performed the dilution of samples.

Odour Panel Calibration Results

Reference Odorant	Reference Odorant Panel Roster Number	Concentration of Reference gas (ppb)	Panel Target Range for n-butanol (ppb)	Measured Concentration (ou)	Measured Panel Threshold (ppb)	Does this panel calibration measurement comply with AS/NZS4323.3:2001 (Yes / No)
n-butanol	SYD20140526_043	50,000	$20 \leq \chi \leq 80$	956	52	Yes

Comments None.

Disclaimer Parties, other than TOU, responsible for collecting odour samples hereby certify that they have voluntarily furnished these odour samples, appropriately collected and labelled, to The Odour Unit Pty Ltd for the purpose of odour testing. The collection of odour samples by parties other than The Odour Unit Pty Ltd relinquishes The Odour Unit Pty Ltd from all responsibility for the sample collection and any effects or actions that the results from the test(s) may have.

Note This report shall not be reproduced, except in full, without written approval of The Odour Unit Pty Ltd. Any attachments to this Report are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd.

END OF DOCUMENT

THE ODOUR UNIT

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Internet: www.odourunit.com.au
ABN: 53 091 165 061

Accreditation Number: 14974

Odour Concentration Measurement Results

The measurement was commissioned by:

Organisation	Emission Testing Consultants	Telephone	(03) 9870 2644
Contact	Aaron Davis	Facsimile	(03) 9870 4055
Sampling Site	Undisclosed	Email	ad@emission.com.au
Sampling Method	Undisclosed	Sampling Team	ETC

Order details:

Order requested by	A. Davis	Order accepted by	J. Schulz
Date of order	16/05/2014	TOU Project #	N1886R.03
Order number	7993	Project Manager	J. Schulz
Signed by	A. Davis	Testing operator	J. Schulz

Investigated Item	Odour concentration in odour units 'ou', determined by sensory odour concentration measurements, of an odour sample supplied in a sampling bag.
Identification	The odour sample bags were labelled individually. Each label recorded the testing laboratory, sample number, sampling location (or Identification), sampling date and time, dilution ratio (if dilution was used) and whether further chemical analysis was required.
Method	The odour concentration measurements were performed using dynamic olfactometry according to the Australian Standard 'Determination of Odour Concentration by Dynamic Olfactometry AS/NZS4323.3:2001. NATA accredited for compliance with ISO/IEC 17025 Any deviation from the Australian standard is recorded in the 'Comments' section of this report.
Measuring Range	The measuring range of the olfactometer is $2^2 \leq \chi \leq 2^{18}$ ou. If the measuring range was insufficient the odour samples will have been pre-diluted. The machine is not calibrated beyond dilution setting 2^{17}. This is specifically mentioned with the results.
Environment	The measurements were performed in an air- and odour-conditioned room. The room temperature is maintained between 22°C and 25°C.
Measuring Dates	The date of each measurement is specified with the results.
Instrument Used	The olfactometer used during this testing session was: ODORMAT SERIES V01
Instrumental Precision	The precision of this instrument (expressed as repeatability) for a sensory calibration must be $r \leq 0.477$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $r = 0.1775$ (October 2013) Compliance – Yes
Instrumental Accuracy	The accuracy of this instrument for a sensory calibration must be $A \leq 0.217$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $A = 0.2106$ (October 2013) Compliance – Yes
Lower Detection Limit (LDL)	The LDL for the olfactometer has been determined to be 16 ou (4 times the lowest dilution setting)
Traceability	The measurements have been performed using standards for which the traceability to the national standard has been demonstrated. The assessors are individually selected to comply with fixed criteria and are monitored in time to keep within the limits of the standard. The results from the assessors are traceable to primary standards of n-butanol in nitrogen.

Date: Tuesday, 27 May 2014

Panel Roster Number: SYD20140527_044

J. Schulz
NSW Laboratory Coordinator

A. Schulz
Authorised Signatory

THE ODOUR UNIT PTY LIMITED

Accreditation Number: 14974

Odour Sample Measurement Results
Panel Roster Number: SYD20140527_044

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)	Specific Odour Emission Rate (ou.$m^3/m^2/s$)
Sample ID #132 - Final Cap #1	SC14312	27/05/2014 0900hrs	27/05/2014 1358hrs	4	8	-	-	27	27	N/A
Sample ID #115 - Final Cap #2	SC14313	27/05/2014 0916hrs	27/05/2014 1418hrs	4	4	-	-	23*	23*	N/A
Sample ID #16 - Final Cap #3	SC14314	27/05/2014 1001hrs	27/05/2014 1451hrs	4	8	-	-	118	118	N/A
Sample ID #60 - Final Cap #4	SC14315	27/05/2014 1016hrs	27/05/2014 1513hrs	4	4	-	-	16*	16*	N/A

Note: *Insufficient sample volume. Results indicate round 2 figures only.

The following are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd:

1. The collection of Isolation Flux Hood (IFH) samples and the calculation of the Specific Odour Emission Rate (SOER).
2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd. have performed the dilution of samples.

THE ODOUR UNIT PTY LIMITED

Accreditation Number: 14974

Odour Sample Measurement Results
Panel Roster Number: SYD20140527_044

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)	Specific Odour Emission Rate ($ou.m^3/m^2/s$)
Sample ID #3 - Final Cap Background	SC14316	27/05/2014 1109hrs	27/05/2014 1530hrs	4	4	-	-	19*	19*	N/A
Sample ID #57 - Final Cap #5	SC14317	27/05/2014 1059hrs	27/05/2014 1605hrs	4	4	-	-	27*	21*	N/A
Sample ID #140 - Intermediate Cap Background	SC14318	27/05/2014 1155hrs	27/05/2014 1624hrs	4	4	-	-	<16*	<16*	N/A
Sample ID #117 - Final Cap HotSpot	SC14319	27/05/2014 1213hrs	27/05/2014 1642hrs	4	4	-	-	<16*	<16*	N/A

Note: *Insufficient sample volume. Results indicate round 2 figures only.

The following are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd:

1. The collection of Isolation Flux Hood (IFH) samples and the calculation of the Specific Odour Emission Rate (SOER).
2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd. have performed the dilution of samples.

Odour Panel Calibration Results

Reference Odorant	Reference Odorant Panel Roster Number	Concentration of Reference gas (ppb)	Panel Target Range for n-butanol (ppb)	Measured Concentration (ou)	Measured Panel Threshold (ppb)	Does this panel calibration measurement comply with AS/NZS4323.3:2001 (Yes / No)
n-butanol	SYD20140527_044	50,000	$20 \leq \chi \leq 80$	724	69	Yes

Comments None.

Disclaimer Parties, other than TOU, responsible for collecting odour samples hereby certify that they have voluntarily furnished these odour samples, appropriately collected and labelled, to The Odour Unit Pty Ltd for the purpose of odour testing. The collection of odour samples by parties other than The Odour Unit Pty Ltd relinquishes The Odour Unit Pty Ltd from all responsibility for the sample collection and any effects or actions that the results from the test(s) may have.

Note This report shall not be reproduced, except in full, without written approval of The Odour Unit Pty Ltd. Any attachments to this Report are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd.

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Email: info@odourunit.com.au
Internet: www.odourunit.com.au
ABN: 53 091 165 061

Accreditation Number: 14974

Odour Concentration Measurement Results

The measurement was commissioned by:

Organisation	Emission Testing Consultants	Telephone	(03) 9870 2644
Contact	Aaron Davis	Facsimile	(03) 9870 4055
Sampling Site	Undisclosed	Email	ad@emission.com.au
Sampling Method	Undisclosed	Sampling Team	ETC

Order details:

Order requested by	A. Davis	Order accepted by	J. Schulz
Date of order	16/05/2014	TOU Project #	N1886R.03
Order number	7993	Project Manager	J. Schulz
Signed by	A. Davis	Testing operator	J. Schulz

Investigated Item	Odour concentration in odour units 'ou', determined by sensory odour concentration measurements, of an odour sample supplied in a sampling bag.
Identification	The odour sample bags were labelled individually. Each label recorded the testing laboratory, sample number, sampling location (or Identification), sampling date and time, dilution ratio (if dilution was used) and whether further chemical analysis was required.
Method	The odour concentration measurements were performed using dynamic olfactometry according to the Australian Standard 'Determination of Odour Concentration by Dynamic Olfactometry AS/NZS4323.3:2001. NATA accredited for compliance with ISO/IEC 17025 Any deviation from the Australian standard is recorded in the 'Comments' section of this report.
Measuring Range	The measuring range of the olfactometer is $2^2 \leq \chi \leq 2^{18}$ ou. If the measuring range was insufficient the odour samples will have been pre-diluted. The machine is not calibrated beyond dilution setting 2^{17}. This is specifically mentioned with the results.
Environment	The measurements were performed in an air- and odour-conditioned room. The room temperature is maintained between 22°C and 25°C.
Measuring Dates	The date of each measurement is specified with the results.
Instrument Used	The olfactometer used during this testing session was: ODORMAT SERIES V01
Instrumental Precision	The precision of this instrument (expressed as repeatability) for a sensory calibration must be $r \leq 0.477$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $r = 0.1775$ (October 2013) Compliance – Yes
Instrumental Accuracy	The accuracy of this instrument for a sensory calibration must be $A \leq 0.217$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $A = 0.2106$ (October 2013) Compliance – Yes
Lower Detection Limit (LDL)	The LDL for the olfactometer has been determined to be 16 ou (4 times the lowest dilution setting)
Traceability	The measurements have been performed using standards for which the traceability to the national standard has been demonstrated. The assessors are individually selected to comply with fixed criteria and are monitored in time to keep within the limits of the standard. The results from the assessors are traceable to primary standards of n-butanol in nitrogen.

Date: Wednesday, 28 May 2014

Panel Roster Number: SYD20140528_045

J. Schulz
NSW Laboratory Coordinator

A. Schulz
Authorised Signatory

THE ODOUR UNIT PTY LIMITED

Accreditation Number: 14974

Odour Sample Measurement Results
Panel Roster Number: SYD20140528_045

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)	Specific Odour Emission Rate ($ou.m^3/m^2/s$)
Sample ID #98-Pitt #1 500mm	SC14320	28/05/2014 0842hrs	28/05/2014 1204hrs	4	8	-	-	152	152	N/A
Sample ID #55-Pitt #2 1000mm	SC14321	28/05/2014 0848hrs	28/05/2014 1234hrs	4	8	-	-	362	362	N/A
Sample ID #15-Pitt #3 1300mm	SC14322	28/05/2014 0928hrs	28/05/2014 1252hrs	4	8	-	-	59	59	N/A
Sample ID #73-Pitt #4 500mm	SC14323	28/05/2014 1016hrs	28/05/2014 1318hrs	4	8	-	-	512	512	N/A
Sample ID #123-Pitt #5 1000mm	SC14324	28/05/2014 1020hrs	28/05/2014 1354hrs	4	8	-	-	362	362	N/A
Sample ID #56-Pitt #6 1300mm	SC14325	28/05/2014 1052hrs	28/05/2014 1537hrs	4	8	-	-	197	197	N/A

Note: The following are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd:
1. The collection of Isolation Flux Hood (IFH) samples and the calculation of the Specific Odour Emission Rate (SOER).
2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd. have performed the dilution of samples.

THE ODOUR UNIT PTY LIMITED

Accreditation Number: 14974

Odour Sample Measurement Results
Panel Roster Number: SYD20140528_045

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)	Specific Odour Emission Rate ($ou.m^3/m^2/s$)
Sample ID #32-Pitt #7 200mm	SC14326	28/05/2014 1135hrs	28/05/2014 1607hrs	4	8	-	-	181	181	N/A
Sample ID #89-Pitt #1 Intermediate 450mm	SC14327	28/05/2014 1255hrs	28/05/2014 1639hrs	4	8	-	-	609	609	N/A
Sample ID #150-Pitt #2 Intermediate 150mm	SC14328	28/05/2014 1242hrs	28/05/2014 1703hrs	4	8	-	-	235	235	N/A
Sample ID #43-Pitt #3 Intermediate 450mm	SC14329	28/05/2014 1325hrs	28/05/2014 1732hrs	4	8	-	-	181	181	N/A
Sample ID #38-Pitt #4 Intermediate 150mm	SC14330	28/05/2014 1335hrs	28/05/2014 1806hrs	4	8	-	-	2,660	2,660	N/A

Note: The following are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd:
1. The collection of Isolation Flux Hood (IFH) samples and the calculation of the Specific Odour Emission Rate (SOER).
2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd. have performed the dilution of samples.

Odour Panel Calibration Results

Reference Odorant	Reference Odorant Panel Roster Number	Concentration of Reference gas (ppb)	Panel Target Range for n-butanol (ppb)	Measured Concentration (ou)	Measured Panel Threshold (ppb)	Does this panel calibration measurement comply with AS/NZS4323.3:2001 (Yes / No)
n-butanol	SYD20140528_045	50,000	$20 \leq \chi \leq 80$	1,024	49	Yes

Comments None.

Disclaimer Parties, other than TOU, responsible for collecting odour samples hereby certify that they have voluntarily furnished these odour samples, appropriately collected and labelled, to The Odour Unit Pty Ltd for the purpose of odour testing. The collection of odour samples by parties other than The Odour Unit Pty Ltd relinquishes The Odour Unit Pty Ltd from all responsibility for the sample collection and any effects or actions that the results from the test(s) may have.

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Internet: www.odourunit.com.au
ABN: 53 091 165 061

Accreditation Number: 14974

Odour Concentration Measurement Results

The measurement was commissioned by:

Organisation	Emission Testing Consultants	Telephone	(03) 9870 2644
Contact	Aaron Davis	Facsimile	(03) 9870 4055
Sampling Site	Undisclosed	Email	ad@emission.com.au
Sampling Method	Undisclosed	Sampling Team	ETC

Order details:

Order requested by	A. Davis	Order accepted by	J. Schulz
Date of order	16/05/2014	TOU Project #	N1886R.03
Order number	7993	Project Manager	J. Schulz
Signed by	A. Davis	Testing operator	J. Schulz

Investigated Item	Odour concentration in odour units 'ou', determined by sensory odour concentration measurements, of an odour sample supplied in a sampling bag.
Identification	The odour sample bags were labelled individually. Each label recorded the testing laboratory, sample number, sampling location (or Identification), sampling date and time, dilution ratio (if dilution was used) and whether further chemical analysis was required.
Method	The odour concentration measurements were performed using dynamic olfactometry according to the Australian Standard 'Determination of Odour Concentration by Dynamic Olfactometry AS/NZS4323.3:2001. NATA accredited for compliance with ISO/IEC 17025 Any deviation from the Australian standard is recorded in the 'Comments' section of this report.
Measuring Range	The measuring range of the olfactometer is $2^2 \leq \chi \leq 2^{18}$ ou. If the measuring range was insufficient the odour samples will have been pre-diluted. The machine is not calibrated beyond dilution setting 2^{17}. This is specifically mentioned with the results.
Environment	The measurements were performed in an air- and odour-conditioned room. The room temperature is maintained between 22°C and 25°C.
Measuring Dates	The date of each measurement is specified with the results.
Instrument Used	The olfactometer used during this testing session was: ODORMAT SERIES V01
Instrumental Precision	The precision of this instrument (expressed as repeatability) for a sensory calibration must be $r \leq 0.477$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $r = 0.1775$ (October 2013) Compliance – Yes
Instrumental Accuracy	The accuracy of this instrument for a sensory calibration must be $A \leq 0.217$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $A = 0.2106$ (October 2013) Compliance – Yes
Lower Detection Limit (LDL)	The LDL for the olfactometer has been determined to be 16 ou (4 times the lowest dilution setting)
Traceability	The measurements have been performed using standards for which the traceability to the national standard has been demonstrated. The assessors are individually selected to comply with fixed criteria and are monitored in time to keep within the limits of the standard. The results from the assessors are traceable to primary standards of n-butanol in nitrogen.

Date: Thursday, 29 May 2014

Panel Roster Number: SYD20140529_046

J. Schulz
NSW Laboratory Coordinator

A. Schulz
Authorised Signatory

THE ODOUR UNIT PTY LIMITED

Accreditation Number: 14974

Odour Sample Measurement Results
Panel Roster Number: SYD20140529_046

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)	Specific Odour Emission Rate ($ou.m^3/m^2/s$)
Sample ID #5-Intermediate Background	SC14333	29/05/2014 0852hrs	29/05/2014 1332hrs	4	8	-	-	41	41	N/A
Sample ID #176-Final Background	SC14334	29/05/2014 0902hrs	29/05/2014 1356hrs	4	8	-	-	38	38	N/A
Sample ID #45-Intermediate #1 South	SC14335	29/05/2014 0951hrs	29/05/2014 1422hrs	4	8	-	-	25	25	N/A
Sample ID #14-Intermediate #2 East	SC14336	29/05/2014 1016hrs	29/05/2014 1458hrs	4	8	-	-	38	38	N/A
Sample ID #172-Intermediate #3 West	SC14337	29/05/2014 1034hrs	29/05/2014 1522hrs	4	8	-	-	45	45	N/A
Sample ID #25-Intermediate #4 Central	SC14338	29/05/2014 1120hrs	29/05/2014 1605hrs	4	8	-	-	91	91	N/A
Sample ID #58-Intermediate #5 North	SC14339	29/05/2014 1128hrs	29/05/2014 1640hrs	4	8	-	-	17	17	N/A

Note: The following are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd:

1. The collection of Isolation Flux Hood (IFH) samples and the calculation of the Specific Odour Emission Rate (SOER).
2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd. have performed the dilution of samples.

Odour Panel Calibration Results

Reference Odorant	Reference Odorant Panel Roster Number	Concentration of Reference gas (ppb)	Panel Target Range for n-butanol (ppb)	Measured Concentration (ou)	Measured Panel Threshold (ppb)	Does this panel calibration measurement comply with AS/NZS4323.3:2001 (Yes / No)
n-butanol	SYD20140529_046	50,000	$20 \leq \chi \leq 80$	724	69	Yes

Comments None.

Disclaimer Parties, other than TOU, responsible for collecting odour samples hereby certify that they have voluntarily furnished these odour samples, appropriately collected and labelled, to The Odour Unit Pty Ltd for the purpose of odour testing. The collection of odour samples by parties other than The Odour Unit Pty Ltd relinquishes The Odour Unit Pty Ltd from all responsibility for the sample collection and any effects or actions that the results from the test(s) may have.

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ABN: 53 091 165 061

Accreditation Number: 14974

Odour Concentration Measurement Results

The measurement was commissioned by:

Organisation	Emission Testing Consultants	Telephone	(03) 9870 2644
Contact	Aaron Davis	Facsimile	(03) 9870 4055
Sampling Site	Undisclosed	Email	ad@emission.com.au
Sampling Method	Undisclosed	Sampling Team	ETC

Order details:

Order requested by	A. Davis	Order accepted by	J. Schulz
Date of order	16/05/2014	TOU Project #	N1886R.03
Order number	7993	Project Manager	J. Schulz
Signed by	A. Davis	Testing operator	J. Schulz

Investigated Item	Odour concentration in odour units 'ou', determined by sensory odour concentration measurements, of an odour sample supplied in a sampling bag.
Identification	The odour sample bags were labelled individually. Each label recorded the testing laboratory, sample number, sampling location (or Identification), sampling date and time, dilution ratio (if dilution was used) and whether further chemical analysis was required.
Method	The odour concentration measurements were performed using dynamic olfactometry according to the Australian Standard 'Determination of Odour Concentration by Dynamic Olfactometry AS/NZS4323.3:2001. NATA accredited for compliance with ISO/IEC 17025 Any deviation from the Australian standard is recorded in the 'Comments' section of this report.
Measuring Range	The measuring range of the olfactometer is $2^2 \leq \chi \leq 2^{18}$ ou. If the measuring range was insufficient the odour samples will have been pre-diluted. The machine is not calibrated beyond dilution setting 2^{17}. This is specifically mentioned with the results.
Environment	The measurements were performed in an air- and odour-conditioned room. The room temperature is maintained between 22°C and 25°C.
Measuring Dates	The date of each measurement is specified with the results.
Instrument Used	The olfactometer used during this testing session was: ODORMAT SERIES V01
Instrumental Precision	The precision of this instrument (expressed as repeatability) for a sensory calibration must be $r \leq 0.477$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $r = 0.1775$ (October 2013) Compliance – Yes
Instrumental Accuracy	The accuracy of this instrument for a sensory calibration must be $A \leq 0.217$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $A = 0.2106$ (October 2013) Compliance – Yes
Lower Detection Limit (LDL)	The LDL for the olfactometer has been determined to be 16 ou (4 times the lowest dilution setting)
Traceability	The measurements have been performed using standards for which the traceability to the national standard has been demonstrated. The assessors are individually selected to comply with fixed criteria and are monitored in time to keep within the limits of the standard. The results from the assessors are traceable to primary standards of n-butanol in nitrogen.

Date: Friday, 30 May 2014

Panel Roster Number: SYD20140530_047

J. Schulz
NSW Laboratory Coordinator

A. Schulz
Authorised Signatory

Odour Sample Measurement Results
Panel Roster Number: SYD20140530_047

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)	Specific Odour Emission Rate ($ou.m^3/m^2/s$)
Sample ID #76-Hot Spot #1 Crack/Stain	SC14340	30/05/2014 0937hrs	30/05/2014 1507hrs	4	8	-	-	30,000	30,000	N/A
Sample ID #33-Hot Spot #2 Stain	SC14341	30/05/2014 0954hrs	30/05/2014 1541hrs	4	8	-	-	19,500	19,500	N/A
Sample ID #27-Hot Spot #3 Crack/Stain	SC14342	30/05/2014 1124hrs	30/05/2014 1611hrs	4	8	-	-	92,700	92,700	N/A
Sample ID #70-Hot Spot #4 Yellow Stain	SC14343	30/05/2014 1216hrs	30/05/2014 1642hrs	4	8	-	-	17,900	17,900	N/A
Sample ID #22-Hot Spot #5 Crack/Stain	SC14344	30/05/2014 1319hrs	30/05/2014 1710hrs	4	8	-	-	65,500	65,500	N/A

Note: The following are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd:
1. The collection of Isolation Flux Hood (IFH) samples and the calculation of the Specific Odour Emission Rate (SOER).
2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd. have performed the dilution of samples.

Odour Panel Calibration Results

Reference Odorant	Reference Odorant Panel Roster Number	Concentration of Reference gas (ppb)	Panel Target Range for n-butanol (ppb)	Measured Concentration (ou)	Measured Panel Threshold (ppb)	Does this panel calibration measurement comply with AS/NZS4323.3:2001 (Yes / No)
n-butanol	SYD20140530_047	50,000	$20 \leq \chi \leq 80$	724	69	Yes

Comments None.

Disclaimer Parties, other than TOU, responsible for collecting odour samples hereby certify that they have voluntarily furnished these odour samples, appropriately collected and labelled, to The Odour Unit Pty Ltd for the purpose of odour testing. The collection of odour samples by parties other than The Odour Unit Pty Ltd relinquishes The Odour Unit Pty Ltd from all responsibility for the sample collection and any effects or actions that the results from the test(s) may have.

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Internet: www.odourunit.com.au
ABN: 53 091 165 061

Accreditation Number: 14974

Odour Concentration Measurement Results

The measurement was commissioned by:

Organisation	Emission Testing Consultants	Telephone	(03) 9870 2644
Contact	Aaron Davis	Facsimile	(03) 9870 4055
Sampling Site	Undisclosed	Email	ad@emission.com.au
Sampling Method	Undisclosed	Sampling Team	ETC

Order details:

Order requested by	A. Davis	Order accepted by	J. Schulz
Date of order	16/05/2014	TOU Project #	N1886R.03
Order number	7993	Project Manager	J. Schulz
Signed by	A. Davis	Testing operator	J. Schulz

Investigated Item	Odour concentration in odour units 'ou', determined by sensory odour concentration measurements, of an odour sample supplied in a sampling bag.
Identification	The odour sample bags were labelled individually. Each label recorded the testing laboratory, sample number, sampling location (or Identification), sampling date and time, dilution ratio (if dilution was used) and whether further chemical analysis was required.
Method	The odour concentration measurements were performed using dynamic olfactometry according to the Australian Standard 'Determination of Odour Concentration by Dynamic Olfactometry AS/NZS4323.3:2001. NATA accredited for compliance with ISO/IEC 17025 Any deviation from the Australian standard is recorded in the 'Comments' section of this report.
Measuring Range	The measuring range of the olfactometer is $2^2 \leq \chi \leq 2^{18}$ ou. If the measuring range was insufficient the odour samples will have been pre-diluted. The machine is not calibrated beyond dilution setting 2^{17}. This is specifically mentioned with the results.
Environment	The measurements were performed in an air- and odour-conditioned room. The room temperature is maintained between 22°C and 25°C.
Measuring Dates	The date of each measurement is specified with the results.
Instrument Used	The olfactometer used during this testing session was: ODORMAT SERIES V01
Instrumental Precision	The precision of this instrument (expressed as repeatability) for a sensory calibration must be $r \leq 0.477$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $r = 0.1775$ (October 2013) Compliance – Yes
Instrumental Accuracy	The accuracy of this instrument for a sensory calibration must be $A \leq 0.217$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $A = 0.2106$ (October 2013) Compliance – Yes
Lower Detection Limit (LDL)	The LDL for the olfactometer has been determined to be 16 ou (4 times the lowest dilution setting)
Traceability	The measurements have been performed using standards for which the traceability to the national standard has been demonstrated. The assessors are individually selected to comply with fixed criteria and are monitored in time to keep within the limits of the standard. The results from the assessors are traceable to primary standards of n-butanol in nitrogen.

Date: Monday, 02 June 2014

Panel Roster Number: SYD20140602_048

J. Schulz
NSW Laboratory Coordinator

A. Schulz
Authorised Signatory

THE ODOUR UNIT PTY LIMITED

Accreditation Number: 14974

Odour Sample Measurement Results
Panel Roster Number: SYD20140602_048

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)	Specific Odour Emission Rate ($ou.m^3/m^2/s$)
Sample ID #47-Batter Top Bench	SC14345	02/06/2014 0914hrs	02/06/2014 1410hrs	4	8	-	-	152	152	N/A
Sample ID #73-Batter Middle Bench	SC14346	02/06/2014 0929hrs	02/06/2014 1437hrs	4	8	-	-	152	152	N/A
Sample ID #140-Batter Lower Bench	SC14347	02/06/2014 1009hrs	02/06/2014 1505hrs	4	8	-	-	140	140	N/A
Sample ID #123-Batter Hot Spot Lower	SC14348	02/06/2014 1054hrs	02/06/2014 1537hrs	4	8	-	-	790	790	N/A
Sample ID #67-Batter Hot Spot Lower 2	SC14349	02/06/2014 1130hrs	02/06/2014 1637hrs	4	8	-	-	23,200	23,200	N/A
Sample ID #144-Batter Hot Spot Middle	SC14350	02/06/2014 1149hrs	02/06/2014 1714hrs	4	8	-	-	32,800	32,800	N/A

Note: The following are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd:
1. The collection of Isolation Flux Hood (IFH) samples and the calculation of the Specific Odour Emission Rate (SOER).
2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd. have performed the dilution of samples.

Odour Panel Calibration Results

Reference Odorant	Reference Odorant Panel Roster Number	Concentration of Reference gas (ppb)	Panel Target Range for n-butanol (ppb)	Measured Concentration (ou)	Measured Panel Threshold (ppb)	Does this panel calibration measurement comply with AS/NZS4323.3:2001 (Yes / No)
n-butanol	SYD20140602_048	50,000	$20 \leq \chi \leq 80$	1,024	49	Yes

Comments None.

Disclaimer Parties, other than TOU, responsible for collecting odour samples hereby certify that they have voluntarily furnished these odour samples, appropriately collected and labelled, to The Odour Unit Pty Ltd for the purpose of odour testing. The collection of odour samples by parties other than The Odour Unit Pty Ltd relinquishes The Odour Unit Pty Ltd from all responsibility for the sample collection and any effects or actions that the results from the test(s) may have.

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Internet: www.odourunit.com.au
ABN: 53 091 165 061

Accreditation Number: 14974

Odour Concentration Measurement Results

The measurement was commissioned by:

Organisation	Emission Testing Consultants	Telephone	(02) 4244 2933
Contact	Aaron Davis	Facsimile	(03) 9870 4055
Sampling Site	Undisclosed	Email	ad@emission.com.au
Sampling Method	Undisclosed	Sampling Team	ETC

Order details:

Order requested by	A. Davis	Order accepted by	J. Schulz
Date of order	16/05/2014	TOU Project #	N1886R.03
Order number	7993	Project Manager	J. Schulz
Signed by	A. Davis	Testing operator	D. Hepple

Investigated Item	Odour concentration in odour units 'ou', determined by sensory odour concentration measurements, of an odour sample supplied in a sampling bag.
Identification	The odour sample bags were labelled individually. Each label recorded the testing laboratory, sample number, sampling location (or Identification), sampling date and time, dilution ratio (if dilution was used) and whether further chemical analysis was required.
Method	The odour concentration measurements were performed using dynamic olfactometry according to the Australian Standard 'Determination of Odour Concentration by Dynamic Olfactometry AS/NZS4323.3:2001. NATA accredited for compliance with ISO/IEC 17025 Any deviation from the Australian standard is recorded in the 'Comments' section of this report.
Measuring Range	The measuring range of the olfactometer is $2^2 \leq \chi \leq 2^{18}$ ou. If the measuring range was insufficient the odour samples will have been pre-diluted. The machine is not calibrated beyond dilution setting 2^{17}. This is specifically mentioned with the results.
Environment	The measurements were performed in an air- and odour-conditioned room. The room temperature is maintained between 22°C and 25°C.
Measuring Dates	The date of each measurement is specified with the results.
Instrument Used	The olfactometer used during this testing session was: ODORMAT SERIES V01
Instrumental Precision	The precision of this instrument (expressed as repeatability) for a sensory calibration must be $r \leq 0.477$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $r = 0.1775$ (October 2013) Compliance – Yes
Instrumental Accuracy	The accuracy of this instrument for a sensory calibration must be $A \leq 0.217$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $A = 0.2106$ (October 2013) Compliance – Yes
Lower Detection Limit (LDL)	The LDL for the olfactometer has been determined to be 16 ou (4 times the lowest dilution setting)
Traceability	The measurements have been performed using standards for which the traceability to the national standard has been demonstrated. The assessors are individually selected to comply with fixed criteria and are monitored in time to keep within the limits of the standard. The results from the assessors are traceable to primary standards of n-butanol in nitrogen.

Date: Tuesday, 3 June 2014

Panel Roster Number: SYD20140603_049

J. Schulz
NSW Laboratory Coordinator

D. Hepple
Authorised Signatory

THE ODOUR UNIT PTY LIMITED

Accreditation Number: 14974

Odour Sample Measurement Results
Panel Roster Number: SYD20140603_049

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)	Specific Odour Emission Rate ($ou.m^3/m^2/s$)
Sample ID #32 Leachate Pond, Flux, Non-Aerating	SC14351	03/06/2014 0917hrs	03/06/2014 1334 hrs	4	8	-	-	279	279	N/A
Sample ID #132 Leachate Pond, Flux, Non-Aerating	SC14352	03/06/2014 0929hrs	03/06/2014 1411 hrs	4	8	-	-	559	559	N/A
Sample ID #89 Leachate Pond, Upwind, West	SC14353	03/06/2014 1110hrs	03/06/2014 1501 hrs	4	8	-	-	139	139	N/A
Sample ID #104 Leachate Pond, Downwind, East	SC14354	03/06/2014 1110hrs	03/06/2014 1534 hrs	4	8	-	-	108	108	N/A
Sample ID #5 Leachate Pond, Downwind, South East	SC14355	03/06/2014 1110hrs	03/06/2014 1606hrs	4	8	-	-	45	45	N/A

Note: The following are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd:
1. The collection of Isolation Flux Hood (IFH) samples and the calculation of the Specific Odour Emission Rate (SOER).
2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd. have performed the dilution of samples.

Odour Panel Calibration Results

Reference Odorant	Reference Odorant Panel Roster Number	Concentration of Reference gas (ppb)	Panel Target Range for n-butanol (ppb)	Measured Concentration (ou)	Measured Panel Threshold (ppb)	Does this panel calibration measurement comply with AS/NZS4323.3:2001 (Yes / No)
n-butanol	SYD20140603_049	50,000	$20 \leq \chi \leq 80$	724	69	Yes

Comments

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ABN: 53 091 165 061

Accreditation Number: 14974

Odour Concentration Measurement Results

The measurement was commissioned by:

Organisation	Emission Testing Consultants	Telephone	(02) 4244 2933
Contact	Aaron Davis	Facsimile	(03) 9870 4055
Sampling Site	Undisclosed	Email	ad@emission.com.au
Sampling Method	Undisclosed	Sampling Team	ETC

Order details:

Order requested by	A. Davis	Order accepted by	J. Schulz
Date of order	16/05/2014	TOU Project #	N1886R.03
Order number	7993	Project Manager	J. Schulz
Signed by	A. Davis	Testing operator	D. Hepple

Investigated Item	Odour concentration in odour units 'ou', determined by sensory odour concentration measurements, of an odour sample supplied in a sampling bag.
Identification	The odour sample bags were labelled individually. Each label recorded the testing laboratory, sample number, sampling location (or Identification), sampling date and time, dilution ratio (if dilution was used) and whether further chemical analysis was required.
Method	The odour concentration measurements were performed using dynamic olfactometry according to the Australian Standard 'Determination of Odour Concentration by Dynamic Olfactometry AS/NZS4323.3:2001. NATA accredited for compliance with ISO/IEC 17025 Any deviation from the Australian standard is recorded in the 'Comments' section of this report.
Measuring Range	The measuring range of the olfactometer is $2^2 \leq \chi \leq 2^{18}$ ou. If the measuring range was insufficient the odour samples will have been pre-diluted. The machine is not calibrated beyond dilution setting 2^{17}. This is specifically mentioned with the results.
Environment	The measurements were performed in an air- and odour-conditioned room. The room temperature is maintained between 22°C and 25°C.
Measuring Dates	The date of each measurement is specified with the results.
Instrument Used	The olfactometer used during this testing session was: ODORMAT SERIES V01
Instrumental Precision	The precision of this instrument (expressed as repeatability) for a sensory calibration must be $r \leq 0.477$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $r = 0.1775$ (October 2013) Compliance – Yes
Instrumental Accuracy	The accuracy of this instrument for a sensory calibration must be $A \leq 0.217$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $A = 0.2106$ (October 2013) Compliance – Yes
Lower Detection Limit (LDL)	The LDL for the olfactometer has been determined to be 16 ou (4 times the lowest dilution setting)
Traceability	The measurements have been performed using standards for which the traceability to the national standard has been demonstrated. The assessors are individually selected to comply with fixed criteria and are monitored in time to keep within the limits of the standard. The results from the assessors are traceable to primary standards of n-butanol in nitrogen.

Date: Wednesday, 4 June 2014

Panel Roster Number: SYD20140604_050

J. Schulz
NSW Laboratory Coordinator

D. Hepple
Authorised Signatory

THE ODOUR UNIT PTY LIMITED

Accreditation Number: 14974

Odour Sample Measurement Results
Panel Roster Number: SYD20140604_050

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)	Specific Odour Emission Rate ($ou.m^3/m^2/s$)
Sample ID #115 Daily Cover, Flux, 1 Day	SC14356	04/06/2014 0700hrs	04/06/2014 1253hrs	4	8	-	-	54	54	N/A
Sample ID #117 Daily Cover, Flux, 3-4 Days	SC14357	04/06/2014 0702hrs	04/06/2014 1327hrs	4	8	-	-	83	83	N/A
Sample ID #176 Tip Face, Flux, Fresh	SC14358	04/06/2014 0748hrs	04/06/2014 1359hrs	4	8	-	-	4,870	4,870	N/A
Sample ID #141 Tip Face, Upwind	SC14359	04/06/2014 0824hrs	04/06/2014 1428hrs	4	8	-	-	304	304	N/A
Sample ID #172 Tip Face, Downwind	SC14360	04/06/2014 0824hrs	04/06/2014 1502hrs	4	8	-	-	166	166	N/A
Sample ID #38 SITA Batter, Upwind	SC14361	04/06/2014 0933hrs	04/06/2014 1603hrs	4	8	-	-	83	83	N/A

Note: The following are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd:
1. The collection of Isolation Flux Hood (IFH) samples and the calculation of the Specific Odour Emission Rate (SOER).
2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd. have performed the dilution of samples.

THE ODOUR UNIT PTY LIMITED

Accreditation Number: 14974

Odour Sample Measurement Results
Panel Roster Number: SYD20140604_050

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)	Specific Odour Emission Rate ($ou.m^3/m^2/s$)
Sample ID #55 SITA Batter, Downwind	SC14362	04/06/2014 0933hrs	04/06/2014 1634hrs	4	8	-	-	118	118	N/A
Sample ID #180 Leg of Lamb, Upwind	SC14363	04/06/2014 1011hrs	04/06/2014 1509hrs	4	8	-	-	91	91	N/A
Sample ID #14 Leg of Lamb, Downwind	SC14364	04/06/2014 1011hrs	04/06/2014 1536hrs	4	8	-	-	41	41	N/A

Note: The following are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd:
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2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd. have performed the dilution of samples.

Odour Panel Calibration Results

Reference Odorant	Reference Odorant Panel Roster Number	Concentration of Reference gas (ppb)	Panel Target Range for n-butanol (ppb)	Measured Concentration (ou)	Measured Panel Threshold (ppb)	Does this panel calibration measurement comply with AS/NZS4323.3:2001 (Yes / No)
n-butanol	SYD20140604_050	50,000	$20 \leq \chi \leq 80$	724	69	Yes

Comments

Disclaimer

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Accreditation Number: 14974

Odour Concentration Measurement Results

The measurement was commissioned by:

Organisation	Emission Testing Consultants	Telephone	(02) 4244 2933
Contact	Aaron Davis	Facsimile	(03) 9870 4055
Sampling Site	Undisclosed	Email	ad@emission.com.au
Sampling Method	Undisclosed	Sampling Team	ETC

Order details:

Order requested by	A. Davis	Order accepted by	J. Schulz
Date of order	16/05/2014	TOU Project #	N1886R.03
Order number	7993	Project Manager	J. Schulz
Signed by	A. Davis	Testing operator	D. Hepple

Investigated Item	Odour concentration in odour units 'ou', determined by sensory odour concentration measurements, of an odour sample supplied in a sampling bag.
Identification	The odour sample bags were labelled individually. Each label recorded the testing laboratory, sample number, sampling location (or Identification), sampling date and time, dilution ratio (if dilution was used) and whether further chemical analysis was required.
Method	The odour concentration measurements were performed using dynamic olfactometry according to the Australian Standard 'Determination of Odour Concentration by Dynamic Olfactometry AS/NZS4323.3:2001. NATA accredited for compliance with ISO/IEC 17025 Any deviation from the Australian standard is recorded in the 'Comments' section of this report.
Measuring Range	The measuring range of the olfactometer is $2^2 \leq \chi \leq 2^{18}$ ou. If the measuring range was insufficient the odour samples will have been pre-diluted. The machine is not calibrated beyond dilution setting 2^{17}. This is specifically mentioned with the results.
Environment	The measurements were performed in an air- and odour-conditioned room. The room temperature is maintained between 22°C and 25°C.
Measuring Dates	The date of each measurement is specified with the results.
Instrument Used	The olfactometer used during this testing session was: ODORMAT SERIES V01
Instrumental Precision	The precision of this instrument (expressed as repeatability) for a sensory calibration must be $r \leq 0.477$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $r = 0.1775$ (October 2013) Compliance – Yes
Instrumental Accuracy	The accuracy of this instrument for a sensory calibration must be $A \leq 0.217$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $A = 0.2106$ (October 2013) Compliance – Yes
Lower Detection Limit (LDL)	The LDL for the olfactometer has been determined to be 16 ou (4 times the lowest dilution setting)
Traceability	The measurements have been performed using standards for which the traceability to the national standard has been demonstrated. The assessors are individually selected to comply with fixed criteria and are monitored in time to keep within the limits of the standard. The results from the assessors are traceable to primary standards of n-butanol in nitrogen.

Date: Thursday, 12 June 2014

Panel Roster Number: SYD20140612_053

J. Schulz
NSW Laboratory Coordinator

D. Hepple
Authorised Signatory

THE ODOUR UNIT PTY LIMITED

Accreditation Number: 14974

Odour Sample Measurement Results
Panel Roster Number: SYD20140612_053

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)	Specific Odour Emission Rate ($ou.m^3/m^2/s$)
Sample ID #60 – Ambient #1	SC14388	12/06/2014 0825hrs	12/06/2014 1521hrs	4	8	-	-	38	38	N/A
Sample ID #56 – Ambient #2	SC14389	12/06/2014 0958hrs	12/06/2014 1551hrs	4	8	-	-	32	32	N/A
Sample ID #150 – Ambient #3	SC14390	12/06/2014 0958hrs	12/06/2014 1614hrs	4	8	-	-	152	152	N/A
Sample ID #98 – Ambient #4	SC14391	12/06/2014 0825hrs	12/06/2014 1644hrs	4	8	-	-	70	70	N/A

Note: The following are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd:
1. The collection of Isolation Flux Hood (IFH) samples and the calculation of the Specific Odour Emission Rate (SOER).
2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd. have performed the dilution of samples.

Odour Panel Calibration Results

Reference Odorant	Reference Odorant Panel Roster Number	Concentration of Reference gas (ppb)	Panel Target Range for n-butanol (ppb)	Measured Concentration (ou)	Measured Panel Threshold (ppb)	Does this panel calibration measurement comply with AS/NZS4323.3:2001 (Yes / No)
n-butanol	SYD20140612_053	50,000	$20 \leq \chi \leq 80$	861	58	Yes

Comments

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Accreditation Number: 14974

Odour Concentration Measurement Results

The measurement was commissioned by:

Organisation	Emission Testing Consultants	Telephone	(02) 4244 2933
Contact	Aaron Davis	Facsimile	(03) 9870 4055
Sampling Site	Undisclosed	Email	ad@emission.com.au
Sampling Method	Undisclosed	Sampling Team	ETC

Order details:

Order requested by	A. Davis	Order accepted by	J. Schulz
Date of order	16/05/2014	TOU Project #	N1886R.03
Order number	7993	Project Manager	J. Schulz
Signed by	A. Davis	Testing operator	A. Schulz

Investigated Item	Odour concentration in odour units 'ou', determined by sensory odour concentration measurements, of an odour sample supplied in a sampling bag.
Identification	The odour sample bags were labelled individually. Each label recorded the testing laboratory, sample number, sampling location (or Identification), sampling date and time, dilution ratio (if dilution was used) and whether further chemical analysis was required.
Method	The odour concentration measurements were performed using dynamic olfactometry according to the Australian Standard 'Determination of Odour Concentration by Dynamic Olfactometry AS/NZS4323.3:2001. NATA accredited for compliance with ISO/IEC 17025 Any deviation from the Australian standard is recorded in the 'Comments' section of this report.
Measuring Range	The measuring range of the olfactometer is $2^2 \leq \chi \leq 2^{18}$ ou. If the measuring range was insufficient the odour samples will have been pre-diluted. The machine is not calibrated beyond dilution setting 2^{17}. This is specifically mentioned with the results.
Environment	The measurements were performed in an air- and odour-conditioned room. The room temperature is maintained between 22°C and 25°C.
Measuring Dates	The date of each measurement is specified with the results.
Instrument Used	The olfactometer used during this testing session was: ODORMAT SERIES V01
Instrumental Precision	The precision of this instrument (expressed as repeatability) for a sensory calibration must be $r \leq 0.477$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $r = 0.1775$ (October 2013) Compliance – Yes
Instrumental Accuracy	The accuracy of this instrument for a sensory calibration must be $A \leq 0.217$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $A = 0.2106$ (October 2013) Compliance – Yes
Lower Detection Limit (LDL)	The LDL for the olfactometer has been determined to be 16 ou (4 times the lowest dilution setting)
Traceability	The measurements have been performed using standards for which the traceability to the national standard has been demonstrated. The assessors are individually selected to comply with fixed criteria and are monitored in time to keep within the limits of the standard. The results from the assessors are traceable to primary standards of n-butanol in nitrogen.

Date: Thursday, 13 June 2014

Panel Roster Number: SYD20140613_054

J. Schulz
NSW Laboratory Coordinator

A. Schulz
Authorised Signatory

Odour Sample Measurement Results
Panel Roster Number: SYD20140613_054

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)	Specific Odour Emission Rate ($ou.m^3/m^2/s$)
Sample ID # 73– Ambient #1	SC14394	13/06/2014 1130hrs	13/06/2014 1502hrs	4	8	-	-	45	45	N/A
Sample ID # 45– Ambient #2	SC14395	13/06/2014 1230hrs	13/06/2014 1532hrs	4	8	-	-	41	41	N/A
Sample ID # 58– Ambient #3	SC14396	13/06/2014 1130hrs	13/06/2014 1602hrs	4	8	-	-	118	118	N/A
Sample ID # 43– Ambient #4	SC14397	13/06/2014 1230hrs	13/06/2014 1655hrs	4	8	-	-	<16	<16	N/A

Note: The following are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd:

1. The collection of Isolation Flux Hood (IFH) samples and the calculation of the Specific Odour Emission Rate (SOER).
2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd. have performed the dilution of samples.

Odour Panel Calibration Results

Reference Odorant	Reference Odorant Panel Roster Number	Concentration of Reference gas (ppb)	Panel Target Range for n-butanol (ppb)	Measured Concentration (ou)	Measured Panel Threshold (ppb)	Does this panel calibration measurement comply with AS/NZS4323.3:2001 (Yes / No)
n-butanol	SYD20140613_054	50,000	$20 \leq \chi \leq 80$	1,024	49	Yes

Comments

Disclaimer

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Accreditation Number: 14974

Odour Concentration Measurement Results

The measurement was commissioned by:

Organisation	Emission Testing Consultants	Telephone	(02) 4244 2933
Contact	Aaron Davis	Facsimile	(03) 9870 4055
Sampling Site	Undisclosed	Email	ad@emission.com.au
Sampling Method	Undisclosed	Sampling Team	ETC

Order details:

Order requested by	A. Davis	Order accepted by	J. Schulz
Date of order	16/05/2014	TOU Project #	N1886R.03
Order number	7993	Project Manager	J. Schulz
Signed by	A. Davis	Testing operator	D. Hepple

Investigated Item	Odour concentration in odour units 'ou', determined by sensory odour concentration measurements, of an odour sample supplied in a sampling bag.
Identification	The odour sample bags were labelled individually. Each label recorded the testing laboratory, sample number, sampling location (or Identification), sampling date and time, dilution ratio (if dilution was used) and whether further chemical analysis was required.
Method	The odour concentration measurements were performed using dynamic olfactometry according to the Australian Standard 'Determination of Odour Concentration by Dynamic Olfactometry AS/NZS4323.3:2001. NATA accredited for compliance with ISO/IEC 17025 Any deviation from the Australian standard is recorded in the 'Comments' section of this report.
Measuring Range	The measuring range of the olfactometer is $2^2 \leq \chi \leq 2^{18}$ ou. If the measuring range was insufficient the odour samples will have been pre-diluted. The machine is not calibrated beyond dilution setting 2^{17}. This is specifically mentioned with the results.
Environment	The measurements were performed in an air- and odour-conditioned room. The room temperature is maintained between 22°C and 25°C.
Measuring Dates	The date of each measurement is specified with the results.
Instrument Used	The olfactometer used during this testing session was: ODORMAT SERIES V01
Instrumental Precision	The precision of this instrument (expressed as repeatability) for a sensory calibration must be $r \leq 0.477$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $r = 0.1775$ (October 2013) Compliance – Yes
Instrumental Accuracy	The accuracy of this instrument for a sensory calibration must be $A \leq 0.217$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $A = 0.2106$ (October 2013) Compliance – Yes
Lower Detection Limit (LDL)	The LDL for the olfactometer has been determined to be 16 ou (4 times the lowest dilution setting)
Traceability	The measurements have been performed using standards for which the traceability to the national standard has been demonstrated. The assessors are individually selected to comply with fixed criteria and are monitored in time to keep within the limits of the standard. The results from the assessors are traceable to primary standards of n-butanol in nitrogen.

Date: Monday, 16 June 2014

Panel Roster Number: SYD20140616_055

J. Schulz
NSW Laboratory Coordinator

D. Hepple
Authorised Signatory

THE ODOUR UNIT PTY LIMITED

Accreditation Number: 14974

Odour Sample Measurement Results
Panel Roster Number: SYD20140616_055

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)	Specific Odour Emission Rate ($ou.m^3/m^2/s$)
Sample ID # 132	SC14398	16/06/2014 1100hrs	16/06/2014 1508hrs	4	8	-	-	29	29	N/A
Sample ID # 32	SC14399	16/06/2014 1310hrs	16/06/2014 1534hrs	4	4	-	-	19**	19**	N/A
Sample ID # 5	SC14400	16/06/2014 0940hrs	16/06/2014 1606hrs	4	8	-	-	19	19	N/A
Sample ID # 15	SC14401	16/06/2014 1100hrs	16/06/2014 1642hrs	4	8	-	-	91	91	N/A
Sample ID # 27	SC14402	16/06/2014 0940hrs	16/06/2014 1714hrs	4	8	-	-	91	91	N/A
Sample ID # 57	SC14403	16/06/2014 1310hrs	16/06/2014 1742hrs	4	8	-	-	41	41	N/A

Note: The following are not covered by the NATA Accreditation issued to The Odour Unit Pty Ltd:
1. The collection of Isolation Flux Hood (IFH) samples and the calculation of the Specific Odour Emission Rate (SOER).
2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd. have performed the dilution of samples.

THE ODOUR UNIT PTY LIMITED

Accreditation Number: 14974

Odour Panel Calibration Results

Reference Odorant	Reference Odorant Panel Roster Number	Concentration of Reference gas (ppb)	Panel Target Range for n-butanol (ppb)	Measured Concentration (ou)	Measured Panel Threshold (ppb)	Does this panel calibration measurement comply with AS/NZS4323.3:2001 (Yes / No)
n-butanol	SYD20140616_055	50,000	$20 \leq \chi \leq 80$	861	58	Yes

Comments ** SC14399 – Only one valid round. Insufficient sample volume.

Disclaimer Parties, other than TOU, responsible for collecting odour samples hereby certify that they have voluntarily furnished these odour samples, appropriately collected and labelled, to The Odour Unit Pty Ltd for the purpose of odour testing. The collection of odour samples by parties other than The Odour Unit Pty Ltd relinquishes The Odour Unit Pty Ltd from all responsibility for the sample collection and any effects or actions that the results from the test(s) may have.

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THE ODOUR UNIT

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Internet: www.odourunit.com.au
ABN: 53 091 165 061

Accreditation Number: 14974

Odour Concentration Measurement Results

The measurement was commissioned by:

Organisation	Emission Testing Consultants	Telephone	(02) 4244 2933
Contact	Aaron Davis	Facsimile	(03) 9870 4055
Sampling Site	Undisclosed	Email	ad@emission.com.au
Sampling Method	Undisclosed	Sampling Team	ETC

Order details:

Order requested by	A. Davis	Order accepted by	J. Schulz
Date of order	16/05/2014	TOU Project #	N1886R.03
Order number	7993	Project Manager	J. Schulz
Signed by	A. Davis	Testing operator	D. Hepple

Investigated Item	Odour concentration in odour units 'ou', determined by sensory odour concentration measurements, of an odour sample supplied in a sampling bag.
Identification	The odour sample bags were labelled individually. Each label recorded the testing laboratory, sample number, sampling location (or Identification), sampling date and time, dilution ratio (if dilution was used) and whether further chemical analysis was required.
Method	The odour concentration measurements were performed using dynamic olfactometry according to the Australian Standard 'Determination of Odour Concentration by Dynamic Olfactometry AS/NZS4323.3:2001. NATA accredited for compliance with ISO/IEC 17025 Any deviation from the Australian standard is recorded in the 'Comments' section of this report.
Measuring Range	The measuring range of the olfactometer is $2^2 \leq \chi \leq 2^{18}$ ou. If the measuring range was insufficient the odour samples will have been pre-diluted. The machine is not calibrated beyond dilution setting 2^{17}. This is specifically mentioned with the results.
Environment	The measurements were performed in an air- and odour-conditioned room. The room temperature is maintained between 22°C and 25°C.
Measuring Dates	The date of each measurement is specified with the results.
Instrument Used	The olfactometer used during this testing session was: ODORMAT SERIES V01
Instrumental Precision	The precision of this instrument (expressed as repeatability) for a sensory calibration must be $r \leq 0.477$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $r = 0.1775$ (October 2013) Compliance – Yes
Instrumental Accuracy	The accuracy of this instrument for a sensory calibration must be $A \leq 0.217$ in accordance with the Australian Standard AS/NZS4323.3:2001. ODORMAT SERIES V01: $A = 0.2106$ (October 2013) Compliance – Yes
Lower Detection Limit (LDL)	The LDL for the olfactometer has been determined to be 16 ou (4 times the lowest dilution setting)
Traceability	The measurements have been performed using standards for which the traceability to the national standard has been demonstrated. The assessors are individually selected to comply with fixed criteria and are monitored in time to keep within the limits of the standard. The results from the assessors are traceable to primary standards of n-butanol in nitrogen.

Date: Friday, 19 June 2014

Panel Roster Number: SYD20140619_056

J. Schulz
NSW Laboratory Coordinator

D. Hepple
Authorised Signatory

THE ODOUR UNIT PTY LIMITED

Accreditation Number: 14974

Odour Sample Measurement Results
Panel Roster Number: SYD20140619_056

Sample Location	TOU Sample ID	Sampling Date & Time	Analysis Date & Time	Panel Size	Valid ITEs	Nominal Sample Dilution	Actual Sample Dilution (Adjusted for Temperature)	Sample Odour Concentration (as received, in the bag) (ou)	Sample Odour Concentration (Final, allowing for dilution) (ou)	Specific Odour Emission Rate ($ou.m^3/m^2/s$)
Sample ID # 3	SC14404	19/06/2014 1230 hrs	19/06/2014 1530 hrs	4	8	-	-	32	32	N/A
Sample ID # 25	SC14405	19/06/2014 1310 hrs	19/06/2014 1602 hrs	4	8	-	-	23	23	N/A
Sample ID # 172	SC14406	19/06/2014 1310 hrs	19/06/2014 1635 hrs	4	8	-	-	17	17	N/A
Sample ID # 98	SC14407	19/06/2014 1230 hrs	19/06/2014 1707 hrs	4	8	-	-	30	30	N/A

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2. Final results that have been modified by the dilution factors where parties other than The Odour Unit Pty Ltd. have performed the dilution of samples.

Odour Panel Calibration Results

Reference Odorant	Reference Odorant Panel Roster Number	Concentration of Reference gas (ppb)	Panel Target Range for n-butanol (ppb)	Measured Concentration (ou)	Measured Panel Threshold (ppb)	Does this panel calibration measurement comply with AS/NZS4323.3:2001 (Yes / No)
n-butanol	SYD20140619_056	50,000	$20 \leq \chi \leq 80$	861	58	Yes

Comments None.

Disclaimer Parties, other than TOU, responsible for collecting odour samples hereby certify that they have voluntarily furnished these odour samples, appropriately collected and labelled, to The Odour Unit Pty Ltd for the purpose of odour testing. The collection of odour samples by parties other than The Odour Unit Pty Ltd relinquishes The Odour Unit Pty Ltd from all responsibility for the sample collection and any effects or actions that the results from the test(s) may have.

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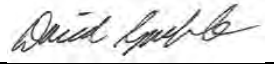
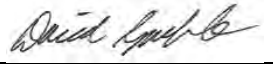
5	E Smith	D Gamble		D Gamble		21/08/2015

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