

**West's Road RDF & Waste Management  
Community Reference Group  
AOC  
21st Meeting  
Accepted Notes  
15 December 2016  
Conference Rooms A & B**

**Present:**

Cr Henry Barlow	- Mayor, Wyndham City Council
Cr Peter Maynard	- Councillor (Iramoo Ward), Wyndham City Council
Karen Hucker	- Community representative
Harry Van Moorst	- Environment Group representative (WREC)
Julian Menegazzo	- Adjoining landowner representative
Jacqui Scott	- Community representative
Michelle Lee	- Planner, Metropolitan Waste and Resource Recovery Group (MWRRG)
Simon Clay	- Manager Waste Management and Disposal, Wyndham City Council
Bruce Turner	- Independent Chair, Phoenix Facilitation

**Visitors:**

nil

**Apologies/ absent:**

Cr Tony Hooper	- Councillor (Harrison Ward), Wyndham City Council
Cr Walter Villagonzalo	- Councillor (Chaffey Ward), Wyndham City Council
Kimi Pellosis	- Community representative
Peter Haddow	- Community representative
Lindsay Swinden	- Community representative
John Faranda	- Business/Resident Group representative (Werribee South Ratepayers' Association)
Stephen Thorpe	- Director City Operations, Wyndham City Council

The meeting commenced at 5.30 pm. No conflicts of interest were declared

**1. Welcome and Introductions**

Bruce welcomed members to the meeting.

**2. Notes and actions from the previous meeting**

The notes from the 20<sup>th</sup> meeting held on 27 October 2016 were accepted as presented.

Bruce ran through outstanding actions from the previous meetings:

Action M14-2.2	<i>Finalised notes of the previous meeting, including the notes of the CRG workshop conducted by Michelle, to be published on Council's website.</i>	Yet to be completed
Action M15-2.1	<i>Update the CRG page on the WCC web site.</i>	Yet to be completed
Action M15-3.1	<i>WCC to send a letter to each member of the CRG confirming their term and expiry date.</i>	Yet to be completed
Action M15-3.2	<i>Simon to check with WCC Communications Team</i>	Yet to be completed for

	<i>about getting a call for expressions of interest for new nominations in Council's January-February newsletter.</i>	later edition of newsletter
Action M17-3.1	<i>Simon to resolve this (membership) prior to the next meeting</i>	Yet to be completed
Action M17-6.1	<i>Simon to look at including Connie Menegazzo in the survey team and to plot historical complaints and survey results compared to time of delivery and other operating and atmospheric conditions at the landfill</i>	Yet to be completed
Action M17-7.1	<i>Provide data on recycling from the transfer station</i>	Yet to be completed
Action M18-6.1	<i>Calculate the CO2 equivalent of the landfill gas using the carbon tax methodology</i>	Yet to be completed
Action M18-6.2	<i>Circulate the auditor's report on the phytocap trial when it becomes available</i>	Report not yet available
Action M18-6.3	<i>Simon to provide a status update on where things stand with landscaping plans (i.e. consolidate/ review what CRG has seen and where things are at now)</i>	Revised plans were tabled in October but have yet to be considered
Action M19-5.1	<i>Circulate a copy of the Wyndham Vale Buffer Study and ESO to the CRG members</i>	Buffer Study circulated. ESO not available for public circulation
Action M19-7.2	<i>Simon to provide gas and groundwater monitoring data as part of regular meeting agenda, and to look at creation of a secure site for viewing of monitoring results between meetings.</i>	Yet to be fully completed
Action M20-5.1	<i>Simon to ask Elio for a status update and a timeframe for expected outcomes related to strategic land use planning</i>	Yet to be completed
Action M20-7.1	<i>Simon to give priority to installing noise attenuation barriers at the active tip face.</i>	No action taken to date
Action M20-7.2	<i>Simon to investigate whether local air quality monitoring would be of benefit</i>	See item 4
Action M20-7.3	<i>Simon to brief CFA</i>	See item 4 - Completed
Action M20-7.4	<i>Simon to contact EPA to discuss the BTQ Bulla fire</i>	Not yet completed
Action M20-7.5	<i>Simon to schedule a meeting in 3-4 weeks' time for any interested and available CRG members to further discuss the hot spot.</i>	Complete – see separate notes of that meeting (21 November 2016)
Action M20-7.6	<i>Simon to circulate tabulated groundwater data</i>	Not yet completed

### 3. Membership renewal

Simon indicated the actions related to this were on hold until the New Year.

### 4. Hot spot update

Simon tabled an update report on the Cell 4A hotspot (copy attached). A key recent finding on further inspection of the drill cores was that what had initially appeared to be charred remains in the cores, turned out not to be burnt material, but discoloured or degraded organics or an artefact of the drilling process itself.

Simon explained the approach to extinguishing the hotspot – fresh water initially and then leachate if no issues observed, would be injected one well at a time, working in from the outside of the hotspot area.

Harry commented that he thought this was a wise approach, rather than hitting the whole area at once with water. Simon added that leachate would be used following the initial injection of fresh water.

Some of the community representatives were keen to have dioxins monitored. Simon indicated that this was not included in the monitoring.

Simon said he had spoken to the CFA's Dangerous Goods officer about the hot spot (as per Action M20-7.3).

*Action M21-4.1 Simon to provide regular updates on the progress with extinguishing the hot spot.*

There was discussion about the requirement to notify adjacent land owners. Harry advocated informing the immediate neighbours of the landfill about the hot spot.

## **5. Waste management and resource recovery in general**

There was no specific topic discussed for this theme. Later in the meeting, in response to a call from Julian for endorsement of Waste to Energy as the ultimate alternative to landfill, Michelle offered to present to the February 2017 meeting on a collaborative 'residual procurement' initiative that MWRRG was pursuing with a number of Councils.

*Action M21-5.1 Michelle to provide a report on MWRRG's 'residual procurement' initiative to February 2017 meeting.*

## **6. Strategic planning context**

No further update was available for the meeting. Elio will be invited to a future meeting when there has been further progress on developments related to the urban growth boundary.

## **7. Works Approval Application**

Simon advised that the Works Approval application had been accepted by EPA, following the receipt of additional information requested by EPA.

The Works Approval Application and other relevant documents can be found on the EPA website at [www.epa.vic.gov.au/our-work/licences-and-approvals/public-participation/featured-applications/wyndham-landfill](http://www.epa.vic.gov.au/our-work/licences-and-approvals/public-participation/featured-applications/wyndham-landfill)

## **8. RDF Update**

### *8a Performance Dashboard*

Simon indicated he had not had time to do more on the dashboard.

Julian requested 'machinery noise at night' be added as an issue for further consideration.

### *8b Landscaping*

Consideration of the landscape plans (tabled at the October meeting) was held over until the December meeting. However, there was not sufficient time to discuss them so they were held over until February.

### *8c Operational update*

Simon provided a general update on the operations of the RDF.

### *8d Landfill gas management update*

Simon reported on progress with re-profiling Cell 4A to address an older EPA PAN (that had led to the discovery of the hot spot). A report was provided to EPA at end of November.

*8e Leachate management and groundwater monitoring*

Simon indicated a new PAN had been issued to formalise the construction of the new leachate pond.

*Action M21-8.1 Simon to circulate a copy of the PAN (copy attached).*

*8f Rehabilitation*

No update was available at the meeting.

## **9. Members report back and Questions**

See item 5 above for record of the suggestion made by Julian concerning Waste to Energy.

## **10. Communications**

There was discussion of the need to setup a file sharing arrangement for the CRG members. It appears Dropbox is problematic. Harry undertook to put the documents that are currently in Dropbox onto a USB for Simon to setup new, Council-endorsed arrangements for file sharing.

*Action M21-10.1 Simon to setup file-sharing for the CRG.*

## **11. Other business**

There was no other business.

## **12. Next meeting**

The next meeting was scheduled for 4.30 to 7pm on Thursday 16 February 2017.

The meeting closed at 7:30 pm

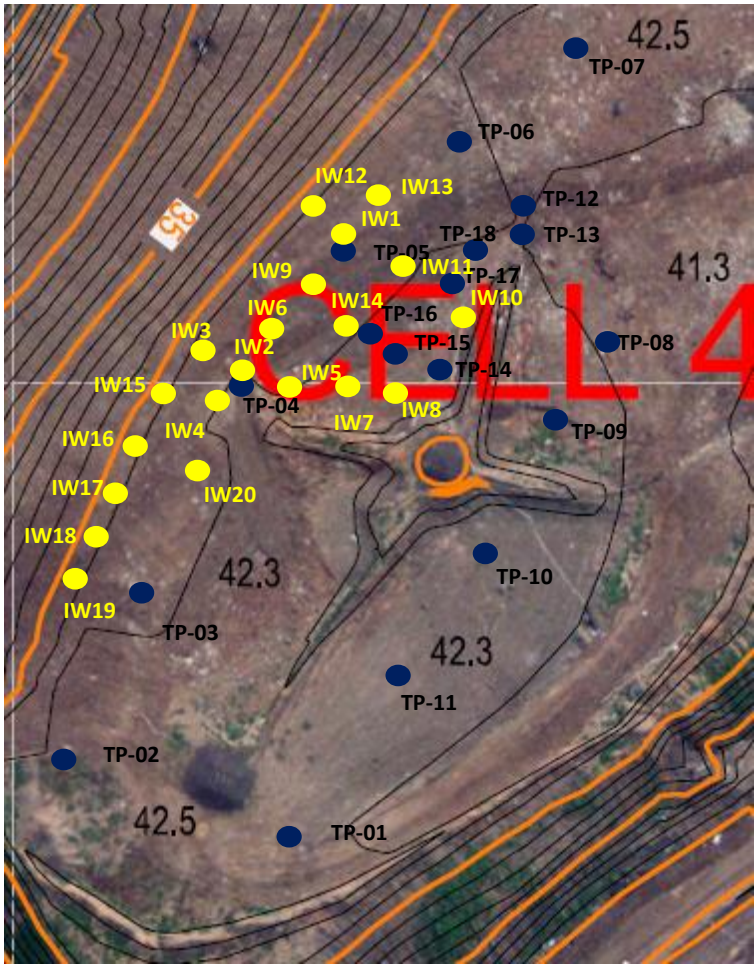
**RDF Community Reference Group**  
**Update report on Cell 4A Hotspot – 15 December 2016**

Further to the update provided to the CRG for its meeting on 21 November 2016 the following additional works have been completed:

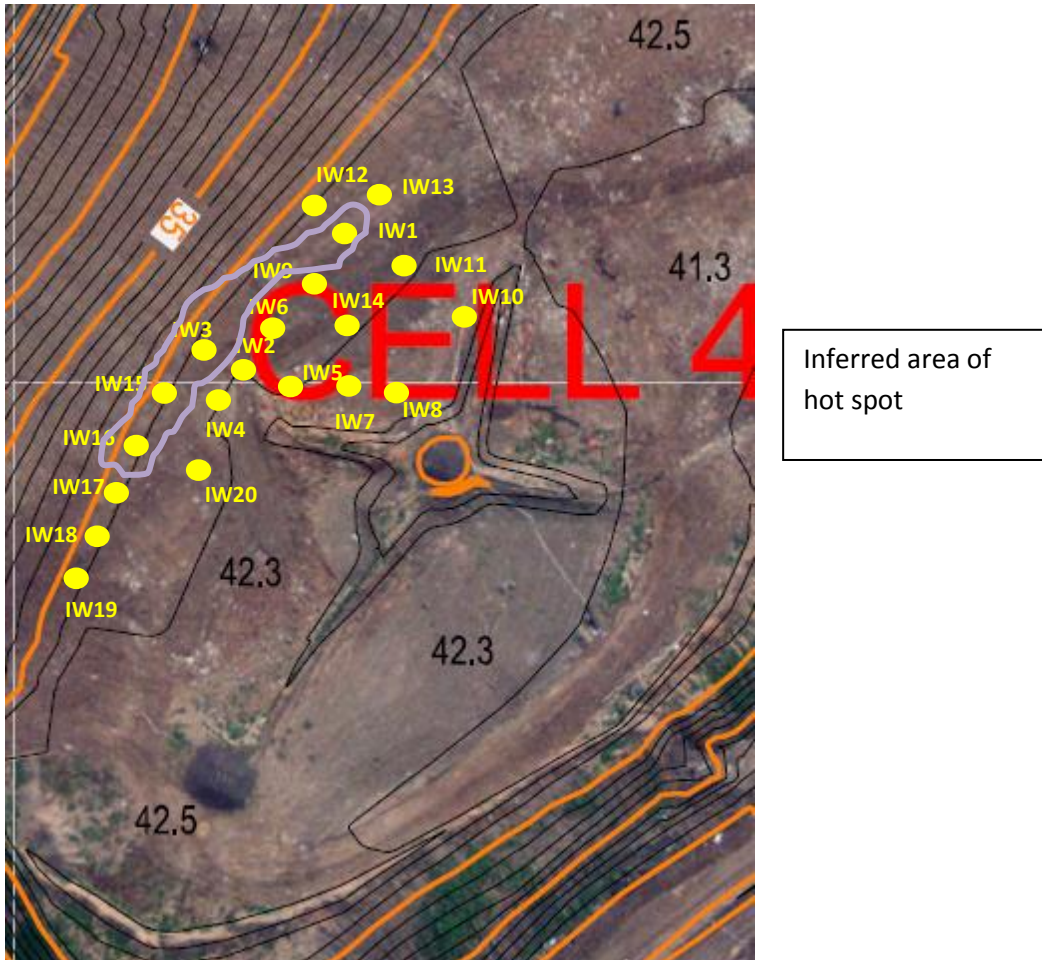
- Drilling of an additional 10 injection wells, bringing the total number of injection wells drilled to 20
- Installation of 2 x 20,000 L tanks for storage
- Installation of a pump and associated pipework to enable liquid to be pumped to each injection well
- Commencement of pumping with water and monitoring of surface gas conditions (Wed 14/12/16)

The additional injection wells and inspection of cores from each well has now fully defined the extent of the hot spot. The report of 21 November highlighted that a conservative approach had been taken to the interpretation of possible charred material in the cores. A subsequent thorough investigation of the cores showed that many of the areas of suspected charring were in fact discoloured or degraded organics material or an artefact from the drilling process. The core logs have been revised accordingly and the results are summarised in the table below:

Injection Well	Drilling Depth, metres	Charring/Burnt material present	Depth of charring/burnt material
IW 1	15	Present	4.0-4.5 m
IW 2	13	Absent (sample lost between 7-9 metres)	N/A
IW 3	14	Present	6.0-6.3 m
IW 4	14	Absent	N/A
IW 5	23	Absent	N/A
IW 6	25	Absent	N/A
IW 7	25	Potentially present	20.6-20.8 m 22.0-22.2 m
IW 8	25	Potentially present	17.2-17.4 m
IW 9	23	Present	4.0-4.3 m
IW 10	23	Absent	N/A
IW 11	26	Absent	N/A
IW 12	25	Absent	N/A
IW 13	23	Absent (sample lost between 11-13 metres)	N/A
IW 14	25	Absent	N/A
IW 15	17	Present (sample lost between 7-10 m)	5.5-5.7 m
IW 16	11	Present	6.0-6.3 m
IW 17	11	Absent	N/A
IW 18	11	Absent	N/A
IW 19	11	Absent	N/A
IW 20	11	Absent	N/A



Location of Temperature Probes and Injection Wells



Temperature monitoring of the injection wells has shown temperatures only in the range 45-55°C. This is consistent with the observations made during drilling and inspection of the cores. No elevated temperatures, even in the zone where charring was evident, were noted and no active combustion of any type or form was observed.

Injection of water commenced on Wed 14/12 in wells IW 8, 10, 11 and 13. There were no visible changes at the surface and gas monitoring for methane, carbon monoxide and hydrogen sulphide indicated no emissions at the surface.



## POLLUTION ABATEMENT NOTICE

Mr. Simon Clay  
WYNDHAM CITY COUNCIL  
45 PRINCES HWY  
WERRIBEE VIC 3030

TO: WYNDHAM CITY COUNCIL

ADDRESS: 45 PRINCES HWY, WERRIBEE VIC 3030

PREMISES: Werribee Landfill, 420 Wests RD, WERRIBEE VIC 3030

LEGAL REFERENCE: EP Act 1970 s.31A(1) Remedial notice required to address current or likely pollution, environmental hazard, or non-compliance

**Who we are:** Environment Protection Authority (EPA) Victoria is an independent statutory authority established under the *Environment Protection Act 1970* (the EP Act). Our purpose is to protect and improve our environment by preventing harm to the environment and human health.

**Why we serve remedial notices:** Remedial notices are served to prevent or remedy actual or likely pollution, environmental hazards and a range of non-compliances with the EP Act.

**What you are required to do:** Section 31A(2) of the EP Act requires you to comply with the requirements in this notice with one or more actions to prevent or remedy an actual or likely non-compliance. Under section 60A(1), if someone plans to take control of your premises, you must notify them of this notice and your progress towards compliance.

**When you are required to act:** 30 days from the date below.

**If you want compliance dates extended:** An application to extend a compliance date listed in Section 3 of this notice must be received *at least 10 working days prior to the compliance date*. Application forms, available at [www.epa.vic.gov.au/business-and-industry/forms](http://www.epa.vic.gov.au/business-and-industry/forms) must be addressed to the Manager of the EPA office listed on this notice with the subject line: "Notice amendment application". Your served notice remains legally binding until EPA advises of any change. Refer to the Remedial notices policy (publication 1418) for further information on amendment applications.

**What happens if you do not comply:** If found guilty of contravening a requirement of this notice, you may be ordered to pay a fine of up to 2400 penalty units (\$373,104) and an additional penalty of up to 1200 penalty units for each day the offence continues (\$186,552 a day).

**What your review rights are:** An application for review of this notice can be made to EPA and/or the Victorian Civil Administrative Tribunal (VCAT). Applications for an EPA review must be made within 7 calendar days from the notice issue date (below). VCAT applications must be made within 21 days of the notice issue date. Application forms for an EPA review are available at [www.epa.vic.gov.au/business-and-industry/forms](http://www.epa.vic.gov.au/business-and-industry/forms), or from our offices. For more information on your review rights, refer to the Remedial notice review policy (publication 1531) or contact us on 1300 EPA VIC (1300 372 842).

*For the purpose of this notice 'You' means the recipient of this notice or your authorised representative and 'Premises' means the site at the premises address, as identified above.*



Nick Simmons

DELEGATE OF THE ENVIRONMENT PROTECTION AUTHORITY

DATE OF ISSUE: 07/11/2016



# NOTICE STRUCTURE

## 1 EPA OBSERVATIONS

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This section details what was observed during the inspection.

## 2 REASONS FOR VIEW FORMED

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This section interprets the observations and articulates why the authorised officer believes a pollution abatement notice should be issued in accordance with section 31A of the EP Act.

## 3 REQUIREMENTS - WHAT OUTCOMES ARE REQUIRED TO COMPLY?

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Considering the view that has been formed, this section lists the requirements or actions to address the environmental risk(s) or impact(s).

## 4 AN EXAMPLE OF HOW YOU CAN COMPLY

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This section provides an example of how you may achieve compliance with the requirements of this notice.

## 1 EPA OBSERVATIONS

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1.1 On 15.08.2015 at 10:00 EPA Officers inspected the landfill at 420 Wests Road, Werribee operated by Wyndham City Council ('Council'). The purpose of the inspection was to assess progress towards compliance with notice 90006742. The officers:

1.2 requested the latest leachate level data from Council during the inspection.

1.3 were supplied with leachate level data by email on 19.08.2016 showing that leachate levels in cells 1B, 2A, 2B, 3, 4A and 4B exceeded 300mm in depth, that leachate levels in cell 4C were below 300mm in depth and that leachate levels in cell 1A were below the maximum levels in mAHD set in the 2014 hydrogeological assessment and addendum.

1.4 on 13.10.2016 EPA received (by email) a notification from Council of non-compliance with licence condition LI\_L4.1. The notification stated that leachate levels in cell 4A and cell 4B exceeded 300mm in depth.

## 2 REASONS FOR VIEW FORMED

2.1 Leachate levels in cells 4A and 4B exceed the 300mm maximum depth required by condition LI\_L4.1 of licence 12483.

2.2 Council informed EPA that no additional volume of leachate can be extracted from the waste mass as the existing storage/evaporation lagoons are at capacity.

2.3 In order to meet compliance with condition LI\_L4.1 of licence 12483 additional lagoon capacity is required to be constructed.

2.4 the non-compliance with licence condition LI\_L4.1 is a breach of Section 27(2) of the Environment Protection Act 1970.

On this basis, and considering the observations previously stated, I have formed a view and I am satisfied that:

- a use of the premises

is likely to cause or has caused pollution, as per section 31A(1)(a) of the EP Act.

In order to address this, you must meet the requirements listed in this notice.



Nick Simmons  
AUTHORISED OFFICER  
Specialist Operational Services  
**EPA Victoria**  
**DATE OF ISSUE:** 07/11/2016

**3****REQUIREMENTS - WHAT OUTCOMES ARE REQUIRED TO COMPLY?**

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**General Requirements**

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3.1 By 30 June 2017 you must construct a new leachate storage/evaporation pond at the premises of sufficient capacity to enable extraction of leachate from all cells to meet the maximum allowable depth required by EPA licence 12483.

**Reporting Requirements**

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This notice does not have any reporting requirements.

**4****AN EXAMPLE OF HOW YOU CAN COMPLY**

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One way of achieving compliance with this notice would be to:

4.1 Undertake water balance calculations to size the leachate lagoon so that its capacity combined with the existing lagoon is sufficient to allow compliance with leachate level licence conditions in cells at the site, including future cells.

4.2 Follow the design and construction approval process in EPA Publication 1323.3 (September 2016), 'the Landfill Licensing Guidelines'.

4.3 Account for the updated leachate level conditions in the forthcoming amendment to licence 12483 when undertaking water balance calculations for the new leachate lagoon.

# **Wyndham City Council – Refuse Disposal Facility**

## **Report to EPA – Compliance with Pollution Abatement Notice**

### **90006742**

#### **Introduction**

EPA issued Pollution Abatement Notice (PAN) 90006742 on 11 March 2016 requiring the following actions to achieve compliance with surface gas emissions from Cell 4A at the Refuse Disposal Facility. The notice was amended and reissued on 29/6/2016 to allow additional time to comply with the requirements of the PAN. The revised PAN required the following:

- By 30 September 2016:
  - Change the profile of Cell 4A so that all batters have a slope of 1V:3H
  - Modify the cover material across the entire surface of Cell 4A so that it is comprised of a minimum of 500 mm of compacted clay
  - Install new gas wells within Cell 4A and connect these to the gas extraction system
- By 15 November 2016 control the landfill gas in Cell 4A such that surface emissions of methane do not exceed an average of 200 ppm with no individual emissions exceeding 500 ppm

The PAN required council to submit a report by 30 November that:

- Contains evidence of the reprofiling of Cell 4A
- Contains evidence of the placement of intermediate cover on Cell 4A
- Documents the location and number of new gas wells installed in Cell 4A
- Documents the connection to the gas extraction system and the performance of the new wells
- Contains gas well field balancing records for Cell 4A for new and existing wells undertaken after reprofiling and installation of intermediate cover
- Contains methane surface emission results for Cell 4A obtained after all works to meet the 200 ppm methane gas action level have been completed
- Is signed by your managing director, most senior executive, or a person authorised to speak on behalf of the notice recipient.

#### **Compliance with the PAN Requirements**

##### **Reporting requirement 3.5 (a) – Evidence that reprofiling has occurred**

Reprofiling of Cell 4A has been completed through the placement of waste into the void spaces of the three haul roads that were present on Cell 4A (West – upper, West – lower and East). The filling of all three haul roads has been completed as shown in photographs 1-4.

A comparison of the aerial photos from April 2016 and October 2016 shows the change in batter slope on the upper batters of Cell 4A (refer to Figures 1 and 2).

Location	H:V ratio – April 2016	H:V ratio – October 2016
1	4.2:1	4.2:1
2	3.2:1	3:1
3	2.1:1	3.5:1
4	1.5:1	1.7:1
5	3:1	3:1

Location	H:V ratio – April 2016	H:V ratio – October 2016
6	2:1	3.3:1
7	3.5:1	3.2:1
8 (lower batter – east)	1.8:1	1.8:1
9 (lower batter – west)	1.9:1	1.9:1

The values shown in the table above indicate that the upper batter slopes are now compliant with the 3:1 H:V requirement except for location 4, which still requires some reprofiling as discussed below.

The lower batters remain steeper than 1:3 due to the constraints of the current haul road (east side), the quarry haul road (west side) and the time taken to complete all the works to date.

#### **Reporting requirement 3.5 (b) – evidence that intermediate cover of 500 mm has been placed**

Intermediate cover has been applied to all of Cell 4A except the lower batters. Further work is required to complete the reprofiling around locations 4, 5, and 6 as shown on the April 2016 contour photograph (Figure 1). This will be done in the coming weeks by placement of additional cover and knocking down the bund walls that are currently around the edge of the top of Cell 4A.

Confirmation that the intermediate cover is at least 500 mm in thickness is still to be undertaken. This will be undertaken using a hand auger or similar at a number of locations across Cell 4A (grid pattern).

Placement of the intermediate cover is shown in the photographs 5-11.

#### **Reporting requirement 3.5 (c) – installation of new gas wells**

Thirteen additional gas wells were installed on Cell 4A by LMS in September 2016, with gas extraction commencing in October 2016.

The location of the new wells is shown on Figure 3.

#### **Reporting requirement 3.5 (d) – connection of new wells to the gas extraction system**

A visual inspection of the new gas well installation on 9 November showed all the new wells were open and connected to the gas system with the exception of well 102. The gas well data (refer attachment) shows the gas well data (flow and composition) for all the new wells.

#### **Reporting requirement 3.5 (e) – gas well field balancing records for Cell 4A**

The optimisation of the existing and new gas wells on cell 4A has been complicated by the existence of a hot spot in the vicinity of gas wells 74, 75, 80 and 81. As part of the response to managing and extinguishing this hot spot a number of the wells have been closed and will remain closed until the hot spot is deemed to be extinguished. The current status of the hot spot has been reported separately to EPA, including a report provided to a special meeting of the Community Reference Group on 21 November 2016. Works completed to date to manage the hot spot include mapping



the hot spot using a temperature probe (August 2016) and drilling 10 injection wells to inject leachate into the hot spot zone. Drilling of further injection wells commenced on 1 December 2016 with pumping of liquid to cool the hot spot starting as soon as all the required plumbing works are completed. Photo 12 shows the installation of 2 storage tanks to assist with pumping.

The gas well data is shown in Table 1 (attached). A number of gas wells have been throttled back or closed due to high balance gas or proximity to the hot spot. Extraction from the closed wells will recommence once the hot spot is extinguished.

### **Reporting requirement 3.5 (f) – methane surface emission measurements**

Measurement of methane surface emissions across Cell 4A was undertaken on 23 November 2016. A total of 123 readings were taken along 25 metre transects running north-south and east-west across the cell. This is consistent with previous surface emissions monitoring.

The average methane concentration recorded was 159.5 ppm, with seven readings above 500 ppm being recorded. The average of the readings greater than 500 ppm was 1775 ppm and the median was 1036 ppm. The maximum recorded surface reading was 6848 ppm.

Comparison with the previous surface emission monitoring results from January and July 2016 show a significant reduction in the number of readings greater than 200 ppm and a reduction in the peak readings. Further details are provided in the attached report from Compass Environmental. Figures showing the location of elevated readings across Cell 4A from both the November monitoring and historical monitoring are included in this report.

### **Further Steps**

The work undertaken by Wyndham City Council has, in my opinion, resulted in a reduction in surface gas emissions from Cell 4A. However, as the monitoring data has shown, emissions are still not fully compliant with EPA requirements detailed in the PAN, particularly related to the maximum emission of 500 ppm.

The following further work is to be completed by council:

1. Measurement to confirm placed intermediate cover is at least 500 mm
2. Extinguish the hot spot on Cell 4A
3. Recommence extraction from the existing gas wells on Cell 4A in a gradual and progressive manner
4. Regular (daily initially) monitoring of gas composition from each individual well upon recommencement of extraction
5. Completion of reprofiling of the southern slope of Cell 4A (Location 4 on Figure 1)

The timing for completion of these further works is dependent on the time required to extinguish the hot spot. Commencement of the pumping to cool the hotspot is currently awaiting completion of plumbing works and is expected to commence in the next 1-2 weeks.

Simon Clay  
Manager – Waste Management & Disposal  
Wyndham City Council

## Photographs and Figures



Photograph 1: Commencement of filling the West – upper haul road, April 2016



Photograph 2: Further filling the West – upper haul road, May 2016

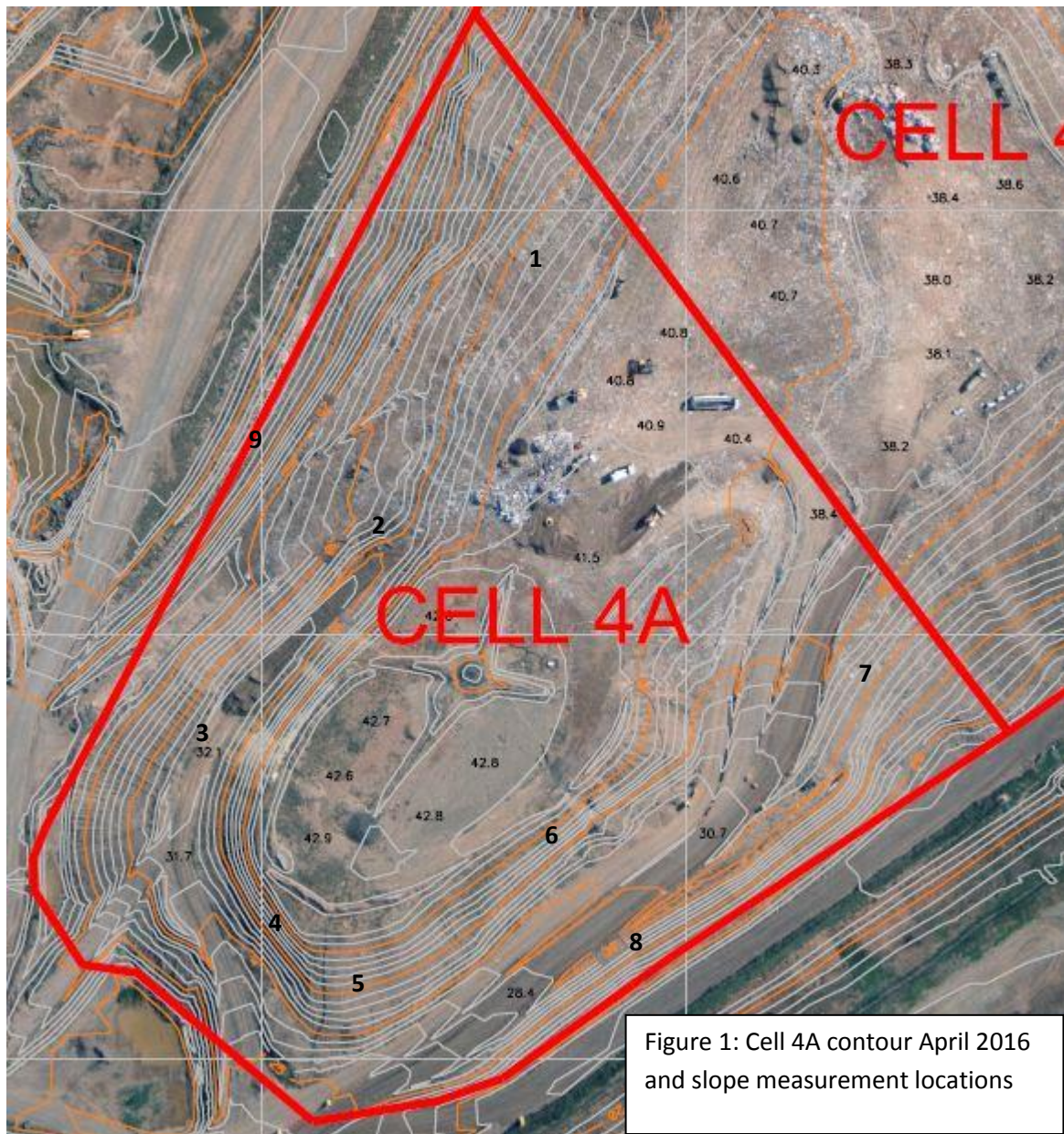


Photograph 3: Filled haul road void space- western batter slope Cell 4A, May 2016

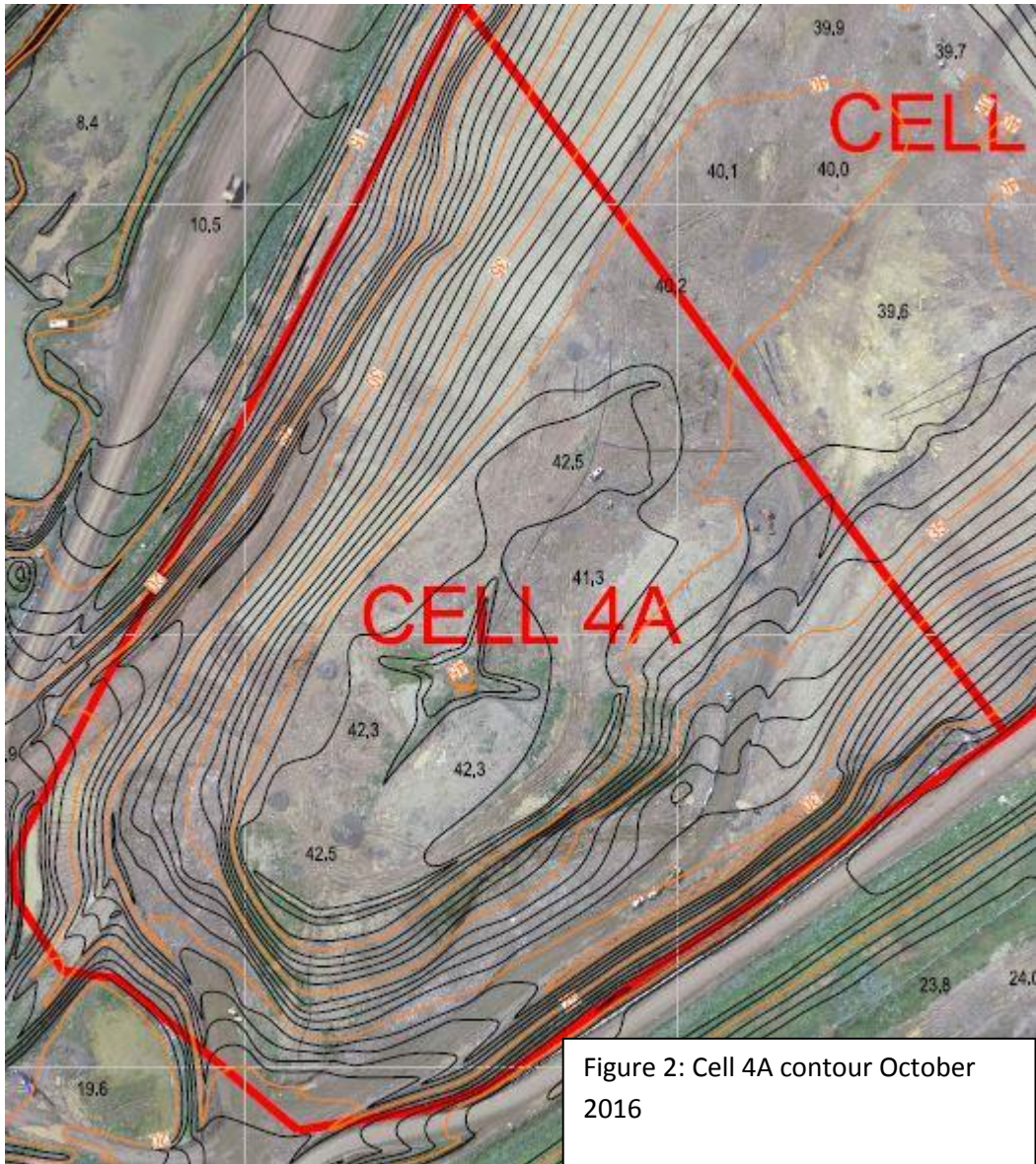


Photograph 4: Filling the East haul road void space- July 2016











Photograph 5: Placement of intermediate cover, western batters, May 2016



Photograph 6: Completion of intermediate cover, western batters, May 2016





Photograph 7: Completion of intermediate cover, top of Cell 4A, November 2016



Photograph 8: Completion of intermediate cover, top of Cell 4A, November 2016 (new gas wells on Cell 4B can be seen in the background)





Photograph 9: Placement of intermediate cover around leachate sump on the former Haul Rd - East, November 2016



Photograph 10: Placement of intermediate cover around start of the former Haul Rd - West, November 2016 (the areas where additional fill material needs to be placed to achieve 3:1 slope can be clearly seen)





Photograph 11: Placement of intermediate cover around start of the former Haul Rd - West, November 2016



Photograph 12: Injection wells and storage tanks for pumping into the hot spot.

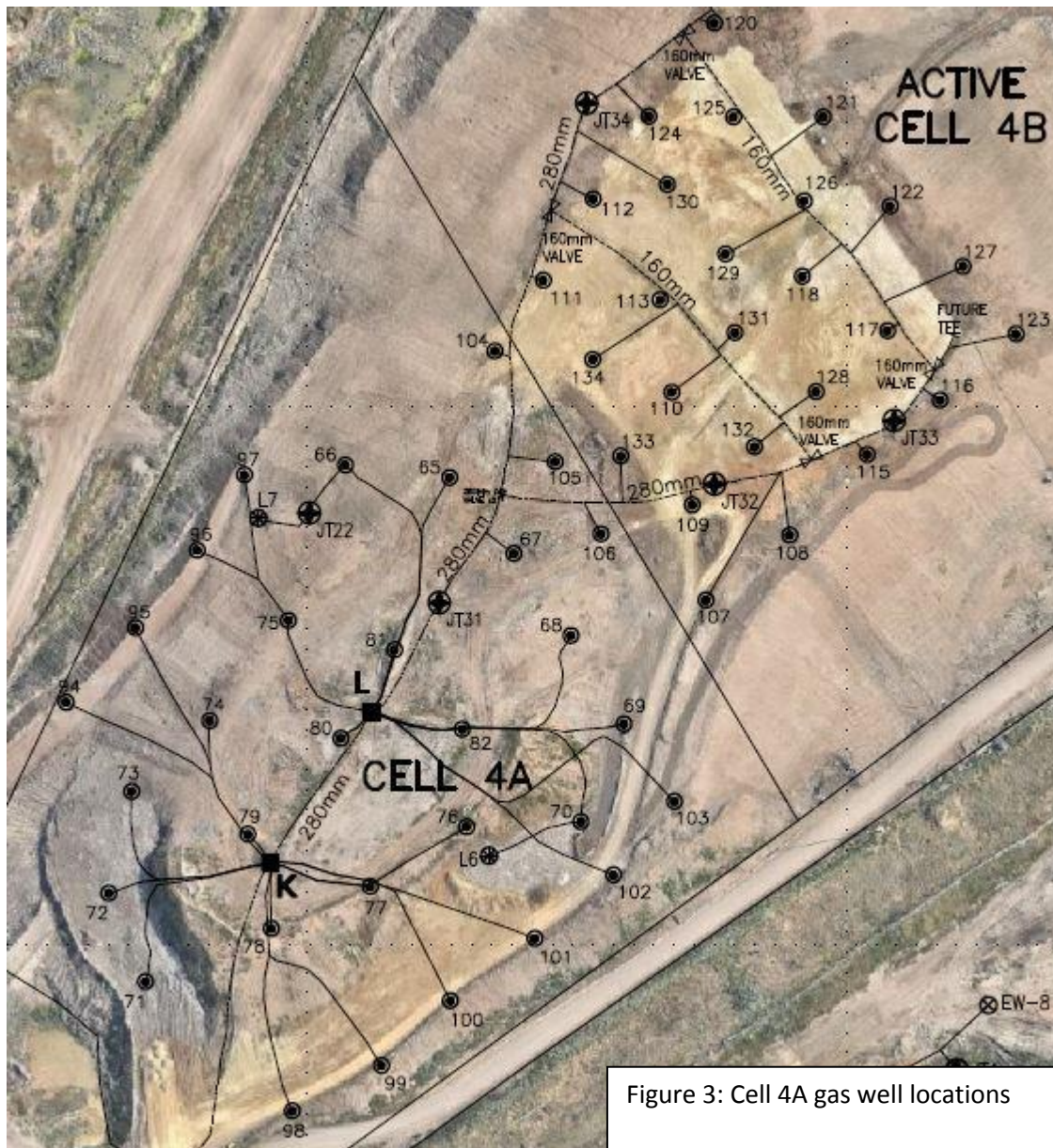


Figure 3: Cell 4A gas well locations



Gas Well	Date	Status	Pressure	Flow initial, m3/hr	Flow adjusted, m3/hr	CH4, %	CO2 %	O2 %	H2 ppm	CO ppm	Balance %	CH4/CO2	O2/N2	Comments
65	14/11/2016	open	-	-		60.4	39.7	0.1	>1000	0	0	1.52	-	
	28/11/2016	open	-	-		58.5	40.2	0	415	0	1.3	1.46	0	
66/L7	6/10/2016	open	500	20		50	33	1.0	-	-	16.0	1.52	0.0625	
	4/11/2016	open	20	11		51	32	0.0	-		17.0	1.59	0	
	14/11/2016	open	-	-		32.3	21.5	9.5	22	1	36.7	1.50	0.258856	Indicates air leak possibly via the leachate sump
	28/11/2016	open	-	-		57.8	39.7	0.1	127	0	2.4	1.46	0.041667	Air leak on sump found and fixed
67	6/10/2016	closed	-	-										
	4/11/2016	open	140	32	29	48	36	1.0	-	-	15.0	1.33	0.066667	
	10/11/2016	open	-	-		49.8	38.7	2.1	771	11	9.4	1.29	0.223404	
68	6/10/2016	open	4100	6		55	39	0.0	-	-	6.0	1.41	0	
	14/11/2016	open	-	-		31.8	33.5	1.9	167	1	32.8	0.95	0.057927	Valve throttled back
	28/11/2016	open	-	-		52	43.4	0.1	50	3	4.5	1.20	0.022222	
69		closed												
70/L6		closed												
71		closed												
72		closed												
73		closed												
74		closed												
75		closed												
76		closed												
77		closed												

Gas Well	Date	Status	Pressure	Flow initial, m3/hr	Flow adjusted, m3/hr	CH4, %	CO2 %	O2 %	H2 ppm	CO ppm	Balance %	CH4/CO2	O2/N2	Comments
78	closed													
79	closed													
80	6/10/2016	open	130	36		50	37	0.0	-	-	13.0	1.35	0	
	4/11/2016	open	40	21		50	37	0.0	-	-	13.0	1.35	0	
	10/11/2016	open	-	-		49.3	38.7	0.6	>1000	35	11.4	1.27	0.052632	Closed due to low CH4/CO2 and proximity to hot spot
	14/11/2016	closed	-	-		55.5	41.3	0	276	21	3.2	1.34	0	
81	6/10/2016	open	30	15		46	35	1.0	-	-	18.0	1.31	0.055556	
	4/11/2016	open	10	9		47	36	0.0	-	-	17.0	1.31	0	
	10/11/2016	open	-	-		39.1	35	2	>1000	76	23.9	1.12	0.083682	Closed due to low CH4/CO2 and proximity to hot spot
	14/11/2016	closed	-	-		58.6	31.7	0.3	>1000	198	9.4	1.85	0.031915	
82	6/10/2016	open	840	36		50	34	0.0	-	-	16.0	1.47	0	
	4/11/2016	open	470	29		46	35	0.0	-	-	19.0	1.31	0	
	14/11/2016	open	-	-		47.2	33.3	2.5	>1000	19	17	1.42	0.147059	
	28/11/2016	open	-	-		51	36.6	1.4	>1000	29	11	1.39	0.127273	
94	4/11/2016	open	140	4		19	17	8.0	-	-	56.0	1.12	0.142857	
	14/11/2016	open	-	-		16.4	15.8	12.1	499	2	55.7	1.04	0.217235	
	28/11/2016	open	-	-		20.4	21.7	8.1	344	4	49.8	0.94	0.162651	Gas low and balance high - close until reprofiling finished
95	4/11/2016	open	110	6		29	24	4.0	-	-	43.0	1.21	0.093023	
	14/11/2016	open	-	-		37.8	29.3	4	235	2	28.9	1.29	0.138408	

Gas Well	Date	Status	Pressure	Flow initial, m3/hr	Flow adjusted, m3/hr	CH4, %	CO2 %	O2 %	H2 ppm	CO ppm	Balance %	CH4/CO2	O2/N2	Comments
	28/11/2016	open	-	-		55.4	33.2	0.1	93	2	11.3	1.67	0.00885	
96	4/11/2016	open	10	6		14	13	12.0	-	-	61.0	1.08	0.196721	
	14/11/2016	open	-	-		17.7	17.7	9.5	114	0	55.1	1.00	0.172414	
	28/11/2016	open	-	-		33.8	32.5	0.1	134	1	33.6	1.04	0.002976	Improving but watch
97	4/11/2016	open	20	18		44	30	1.0	-	-	25.0	1.47	0.04	
	14/11/2016	open	-	-		37.4	26.6	6.1	456	4	29.9	1.41	0.204013	Valve throttled back
	28/11/2016	open	-	-		58.3	40.3	0	320	4	1.4	1.45	0	OK
98	6/10/2016	open	1400	9	6	4	6	14.0	-	-	76.0	0.67	0.184211	
	4/11/2016	open	130	6		11	10	7.0	-	-	72.0	1.10	0.097222	
	14/11/2016	open	-	-		2.4	7.3	16.6	>1000	0	73.7	0.33	0.225237	
	28/11/2016	open	-	-		3.1	10.6	10.7	53	1	75.6	0.29	0.141534	Gas low and balance high - close until reprofiling finished
99	6/10/2016	open	160	3		25	25	1.0	-	-	49.0	1.00	0.020408	
	4/11/2016	open	250	6		21	21	2.0	-	-	56.0	1.00	0.035714	
	14/11/2016	open	-	-		18.3	16.3	6.5	>1000	10	58.9	1.12	0.110357	
	28/11/2016	open	-	-		21.7	21.8	3.7	168	12	52.8	1.00	0.070076	Gas low and balance high - close until reprofiling finished
100	6/10/2016	closed												
	4/11/2016	open	50	15		44	32	0.0	-	-	24.0	1.38	0	
	14/11/2016	open	-	-		44.1	35	0.4	303	4	20.5	1.26	0.019512	Valve throttled back
	28/11/2016	open	-	-		55.9	38.5	0	236	4	5.6	1.45	0	OK
101	6/10/2016	open	400	25	32	56	40	0.0	-	-	4.0	1.40	0	
	4/11/2016	open	470	29		50	36	0.0	-	-	14.0	1.39	0	
	14/11/2016	open	-	-		50.3	37.4	0.1	>1000	0	12.2	1.34	0.008197	

Gas Well	Date	Status	Pressure	Flow initial, m3/hr	Flow adjusted, m3/hr	CH4, %	CO2 %	O2 %	H2 ppm	CO ppm	Balance %	CH4/CO2	O2/N2	Comments
	28/11/2016	open	-	-		55.6	39.4	0	179	3	5.1	1.41	0	
102	6/10/2016	closed												
103	6/10/2016	open	100	18	21	54	38	0.0	-	-	8.0	1.42	0	
	4/11/2016	open	40	18		50	35	0.0	-	-	15.0	1.43	0	
	14/11/2016	open	-	-		40.6	29	5.7	223	4	24.7	1.40	0.230769	
	28/11/2016	open	-	-		57.3	39.4	0.3	210	4	3	1.45	0.1	
104	4/11/2016	open	160	36	32	45	36	0.0	-	-	19.0	1.25	0	
105	4/11/2016	open	380	29	18	37	30	3.0	-	-	30.0	1.23	0.1	
106	4/11/2016	open	500	50	44	47	35	2.0	-	-	16.0	1.34	0.125	