Countywide Recycling & Disposal Facility
Division of Republic Waste Services of Ohio
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January 10, 2008

Ohio Environmental Protection Agency, Central Office
Division of Solid and Infectious Waste Management
Attn: Mr. Ed Gortner
PO Box 1049
Columbus, Ohio 43216-1049

RE: WRITTEN DEMONSTRATION FOR GAS WELLS WITH OXYGEN EXCEEDANCES
INITIAL EXCEEDANCE PERIOD WEEK OF DECEMBER 24, 2007
ORDER 4.B.2, DIRECTOR'S FINAL FINDINGS AND ORDERS OF MARCH 28, 2007
COUNTYWIDE RECYCLING AND DISPOSAL FACILITY

Dear Mr. Gortner:

On December 27, 2007, one (1) landfill gas (LFG) extraction well had an initial oxygen exceedance over 1.5% which was not able to be brought into the target range within 14 days. Therefore, Countywide hereby submits this written demonstration for landfill gas extraction well exceedances as required by Order 4.B.2, which states:

> *"If corrective measures undertaken by Respondent fail to lower the oxygen levels within the gas extraction well to 1.5% oxygen by volume, Respondent shall submit a written demonstration to Ohio EPA not later than 14 days after Respondent's initial discovery of the landfill gas extraction well exceedance which explains why a given landfill gas extraction well or wells cannot meet the 1.5% oxygen by volume target goal. The demonstration shall further document in detail all of the corrective measures undertaken by Respondent to achieve the 1.5% by volume level since the exceedance. Respondent's written demonstration may further request an alternative oxygen concentration."*

The one LFG well identified during this time period is noted in Table 1, below.

Table 1
LFG Wells with Greater than 1.5% Oxygen On December 27, 2007
For Which Written Demonstration is Required

Well ID	Date of Initial Exceedance	Initial Oxygen Content	Oxygen Content As Of December 14, 2007
PW-136	12/27/2007	16.9%	20.5%

Required corrective actions were taken as described in Table 2, however this LFG well is still exhibiting oxygen concentrations above 1.5% by volume.

Please note that if Countywide is not able to achieve the required 1.5% oxygen concentration as a result of additional corrective actions within the timelines requested in Table 3, Countywide may request higher operating parameters for this LFG well, if necessary. Countywide believes this request is in accordance with the federal NSPS regulations and our Title V operating permit. In addition Countywide will continue to monitor this LFG well as required and continue working to achieve 1.5% or less oxygen concentration for this LFG well.

Please feel free to call me should you have any questions.

Tim Vandersall, P.E.
General Manager

Attachments:

Attachment A - Well Assessment and Repair Logs
Attachment B – Chronological Oxygen Content Readings

cc: Bill Skowronski, OEPA-NEDO
Kirk Norris, SCHD
Dan Aleman, CHD
Todd Hamilton, CWRDF
Kyle Nay, Cornerstone
Mike Michels, Cornerstone
Mike Contestabile, Cornerstone
Jason Perdion, B&H
Jim Walsh, SCS Engineers

Attachment A
Historical Record of Corrective Actions

American Environmental Group Ltd.
Landfill Gas Collection and Control System Repair Documentation Report
this form documents corrective actions taken to achieve less than 1.5% O2
in vertical landfill gas well locations for:
Republic Services of Ohio II, LLC. dba Countywide Recycling and Disposal Facility
Order 4, 4A and 4B

American Environmental Group Ltd.

PRIORITY RESPONSE TO > 1.5% O2 LFG WELL READING

Initial Discovery

Well Identification: DW-136

☐ **Date:** 12-27 **Time:** 9419 **of initial discovery of > 1.5% oxygen**

Technician: Tom Philips 15.0 % O2 non-compliant reading

Possible issue(s):

Yes	No	N/A	
☐	☐	☐	Nominal vacuum adjustments "appropriate and reasonable reductions in vacuum"

Complete within 1-day of initial discovery

Date: 12-27 **of AEGL O&M Well Integrity Assessment (below)**

Technician: Tom Philips

Yes	No	N/A		Yes	No	N/A	
☒	☐	☐	Is well labeled?	☒	☐	☐	Is well lateral / header in good condition?
☒	☐	☐	Is well head remote?	☒	☐	☐	Is lateral or header line surging?
☒	☐	☐	Is well hard piped?	☐	☐	☐	Is the well surging?
☒	☐	☐	Are all sample ports in good condition?				
☒	☐	☐	Are all flanges in good condition?	☒	☐	☐	Is well boot (liner) in good condition?
☒	☐	☐	Are all other connections in good condition?	☐	☐	☒	Is well bore (soil) in good condition?
☒	☐	☐	Is well valve in good condition?	Yes	No	N/A	
☐	☐	☒	Is the well kanaflex in good condition?	☐	☒	☐	Compliance achieved?
☐	☒	☐	Is there a pump in the well?				_____ Date compliance achieved?
☐	☐	☒	Does pump require service?				_____ % O2 compliant reading
☒	☐	☐	Is well casing in good condition?				
☐	☐	☒	Miscellaneous - please describe				
☒	☐	☐	Nominal vacuum adjustments "appropriate and reasonable reductions in vacuum"				

Complete within 2 days of initial discovery

Date: 1-08-08 **of AEGL O&M Well Integrity Repairs & Investigation**

Technician: Thomas Philips

Description on noted issue(s):

Repair Summary:

Yes	No	N/A	
☐	☒	☐	Wellhead ports / fittings / connections repaired/replaced?
☐	☐	☒	Wellhead Kanaflex repaired or replaced?
☐	☐	☐	Reviewed 3-months monitoring data for O2 trends (attach copy)
☐	☐	☒	Well casing integrity checked with dummy?
☐	☒	☐	Wellhead valve replaced or repair?
☐	☐	☒	Miscellaneous repaired or replaced? - please describe
☒	☐	☐	Nominal vacuum adjustments "appropriate and reasonable reductions in vacuum"
☐	☐	☐	Review logs for original pipe lengths installed?

Solid — ft.
Perforation — ft.
DTB — ft.
DTF — ft.

Yes	No	N/A	
☐	☒	☐	Compliance achieved?

_____ Date compliance achieved?

_____ % O2 compliant reading

Noted integrity issues.

Additional Comments: 1-7-08 Tom Denver attempted to bring well lateral to grade. Can not do any more repairs until liner crew is on Site.

American Environmental Group Ltd.

Landfill Gas Collection and Control System Repair Documentation Report

this form documents corrective actions taken to achieve less than 1.5% O2 in vertical landfill gas well locations for:

Republic Services of Ohio II, LLC. dba Countywide Recycling and Disposal Facility

Order 4, 4A and 4B

American Environmental Group Ltd.

PRIORITY RESPONSE TO > 1.5% O2 LFG WELL READING

Initiate within 3 days of discovery

Date: N/A of AEGL Pump Repairs

Technician: N/A

Description on noted issue(s): N/A

Repair Summary:

Yes	No	N/A	
☐	☐	☐	Well pump repairs completed?

Yes	No	N/A	
☐	☐	☐	Compliance achieved?

Date compliance achieved? _____

_____ % O2 compliant reading

Noted integrity issues: _____

Initiate within 3 days of discovery

Date: 1-7-08 of AEGL Field Repairs

Technician: Tom Denver

Description on noted issue(s): _____

Repair Summary:

Yes	No	N/A	
☒	☐	☐	Lateral or header piping adjustment or repair?
☐	☒	☐	Well boot liner repair? "additional placement of membrane, repair of gas extraction boot"
☐	☒	☐	Well bore seal repairs?(earthwork/bentonite seal) "placement of low permeability soils"
☐	☒	☐	Well casing investigation performed? (camera)
☐	☒	☐	Well casing repairs performed?

Yes	No	N/A	
☐	☒	☐	Compliance achieved?

Date compliance achieved? _____

_____ % O2 compliant reading

Noted issues: _____

☐ Date: N/A compliance of < 1.5% achieved within _____ days

☒ Date: 1-08-08 compliance not achieved - proposed alternate timeline and/or operating value

Additional Comments:

Attachment B
Chronological Oxygen Content Readings

Attachment B
Chronological Oxygen Content Readings

GEM ID	As-built ID	Date Time	O2 %
CTYPW136	PW-136	12/27/2007 9:49	15
CTYPW136	PW-136	12/27/2007 9:53	16.9
CTYPW136	PW-136	12/31/2007 9:34	13.3
CTYPW136	PW-136	12/31/2007 9:36	16.7
CTYPW136	PW-136	1/8/2008 10:00	20.7
CTYPW136	PW-136	1/8/2008 10:08	20.5

Table 2
Corrective Actions Taken During the Week of December 24, 2007
and Reason Mandated Oxygen Content Not Achieved

Well ID	Corrective Actions Taken	*Reason 1.5%* Level Not Achieved
PW-136	Nominal vacuum adjustments, assessed well integrity and made repairs as appropriate, attempted to regrade vacuum lateral.	Well integrity investigation showed no apparent integrity issues with the well casing or wellhead. This well has a remote wellhead and vacuum lateral pipe. The lateral has settled and is full of liquid. The lateral is located below grade under existing geomembrane cap therefore additional required repairs can not be completed until a liner crew is on site to complete cap repairs which would be required to expose the lateral.

A complete historical record of the corrective actions taken by Countywide for this LFG well is provided in Attachment A. Chronological listing of oxygen content readings taken on this LFG well is provided in Attachment B.

Countywide proposes a timeline to correct the oxygen exceedance at this LFG well as shown in Table 3.

Table 3
Proposed Timeline to Achieve 1.5% Oxygen Content

Well ID	Requested Timeline for Correction
PW-136	April 25, 2008 (120 days from initial exceedance) to schedule a liner crew and repair settled lateral or re-drill the well if lateral repair does not correct the problem.

Countywide does not believe that the source of oxygen for this LFG well is a result of over pull, nor is the oxygen being introduced into the waste mass. Instead we believe the air is vapor locked in the well casing due to the watered out lateral. In addition, review of the recent wellhead temperature data shows near ambient air temperatures suggesting that the gas from the well is blocked from the watered out lateral, and this well has not historically had oxygen issues.