



*Waste Industry Experts*

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August 18, 2011

Ms. Jackie Drummond  
North Carolina Department of Environment and Natural Resources  
Division of Waste Management, Solid Waste Section  
1646 Mail Service Center  
Raleigh, North Carolina 27699-1646



**RE: Notification of NC-2L Exceedances  
First Semiannual Sampling Event of 2011  
Granville County – Closed Butner Landfill  
Permit No. 39-02  
JEI Project No. 00660.1001.11, Task 06**

Dear Ms. Drummond:

On behalf of Granville County, Joyce Engineering, Inc. is submitting this notification of exceedances of 15A-NCAC-2L (NC-2L) groundwater standards at the Granville County – Butner Landfill, Permit No. 39-02 in accordance with Title 15A, Chapter 13, Subchapter 13B, Section .1634 (g) of the North Carolina Solid Waste Management Regulations. The first semiannual sampling event of 2011 at the Butner Landfill took place on June 20, 2011. The samples were sent to Pace Analytical Services, Inc., where the groundwater samples were analyzed for NCSWMR Appendix I and Appendix II constituents.

The Attachment summarizes all inorganic and organic constituents detected and reported in the laboratory analytical report for the June 20, 2011, sampling event at the Butner Landfill facility. Of the detected inorganic constituents, antimony in MW-5 and cobalt in MW-2R and MW-5 were reported at quantified concentrations above their respective Groundwater Protection Standards (GWPS). The cobalt detections in MW-2R and MW-5 were above the GWPS, which became effective October 1, 2010, are consistent with historical data. Preliminary statistical analysis does not indicate that the antimony or cobalt detections represent statistically significant increases over background concentrations (SSI).

Benzene was detected in MW-2R at a quantified concentration above the NC 2L water quality standard, but at a concentration consistent with historical results that does not appear to represent an SSI. Gamma-BHC was reported in MW-3R at a concentration above the NC 2L standard. Verification sampling was performed for Gamma-BHC in MW-3R on July 28, 2011. The results of the verification sampling did not confirm the detection or NC 2L exceedance for

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Gamma-BHC in MW-3R. The results of the first semiannual sampling event of 2011 are generally consistent with previous results for this facility.

Attached are summaries of detected constituents from the June 2011 sampling event and the July 2011 verification sampling event. The laboratory data have not yet been fully validated and only a preliminary statistical analysis of these results has been completed, so these results are considered preliminary. A Semiannual Groundwater Monitoring Report will be submitted as soon as the data validation and statistics are finalized. If you have any questions or need additional information, please feel free to contact me at (336) 323-0092.

Sincerely,  
**JOYCE ENGINEERING, INC.**



Van Burbach, Ph.D., P.G.  
Technical Consultant

Attachment

Copy: Jason Falls, Granville County



Pace Analytical Services, Inc.  
 205 East Meadow Road - Suite A  
 Eden, NC 27288  
 (336)623-8921

Pace Analytical Services, Inc.  
 2225 Riverside Dr.  
 Asheville, NC 28804  
 (828)254-7176

Pace Analytical Services, Inc.  
 9800 Kinney Ave. Suite 100  
 Huntersville, NC 28078  
 (704)875-9092

**HITS ONLY**

Project: GRANVILLE CO-BUTNER  
 Pace Project No.: 9296869

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
<b>9296869002</b>	<b>3902-MW2R (MS/MSD)</b>					
EPA 6010	Barium	108	ug/L	100	07/05/11 18:36	
EPA 6010	Cobalt	14.2	ug/L	10.0	07/05/11 18:36	
EPA 6010	Nickel	78.8	ug/L	50.0	07/05/11 18:36	
EPA 6010	Tin	26.8J	ug/L	100	07/05/11 18:36	
EPA 8270	Naphthalene	1.7J	ug/L	10.0	06/27/11 15:52	
EPA 8260	Benzene	1.7	ug/L	1.0	06/25/11 22:05	
EPA 8260	Chlorobenzene	16.3	ug/L	3.0	06/25/11 22:05	
EPA 8260	Chloroethane	1.2J	ug/L	10.0	06/25/11 22:05	
EPA 8260	1,2-Dichlorobenzene	1.5J	ug/L	5.0	06/25/11 22:05	
EPA 8260	1,4-Dichlorobenzene	2.7	ug/L	1.0	06/25/11 22:05	
EPA 8260	Isobutanol	39.5J	ug/L	100	06/25/11 22:05	
EPA 8260	Naphthalene	4.6J	ug/L	10.0	06/25/11 22:05	
EPA 8260	Toluene	0.34J	ug/L	1.0	06/25/11 22:05	
EPA 8260	Xylene (Total)	1.4J	ug/L	2.0	06/25/11 22:05	
EPA 8260	m&p-Xylene	1.2J	ug/L	2.0	06/25/11 22:05	
EPA 8260	o-Xylene	0.28J	ug/L	1.0	06/25/11 22:05	
<b>9296869003</b>	<b>3902-MW3R</b>					
EPA 8081	gamma-BHC (Lindane)	0.066	ug/L	0.050	06/28/11 02:45	
EPA 6010	Barium	70.7J	ug/L	100	06/30/11 14:45	
EPA 6010	Copper	15.3	ug/L	10.0	06/30/11 14:45	
EPA 6010	Nickel	30.1J	ug/L	50.0	06/30/11 14:45	
EPA 6010	Tin	13.8J	ug/L	100	06/30/11 14:45	
EPA 8260	Benzene	0.60J	ug/L	1.0	06/25/11 22:30	
EPA 8260	Chlorobenzene	17.2	ug/L	3.0	06/25/11 22:30	
EPA 8260	Chloroethane	2.2J	ug/L	10.0	06/25/11 22:30	
EPA 8260	1,2-Dichlorobenzene	1.7J	ug/L	5.0	06/25/11 22:30	
EPA 8260	1,4-Dichlorobenzene	1.6	ug/L	1.0	06/25/11 22:30	
<b>9296869004</b>	<b>3902-MW4</b>					
EPA 6010	Copper	8.1J	ug/L	10.0	06/30/11 14:48	
EPA 6010	Nickel	11.2J	ug/L	50.0	06/30/11 14:48	
EPA 6010	Vanadium	14.5J	ug/L	25.0	06/30/11 14:48	
EPA 8260	Benzene	0.39J	ug/L	1.0	06/25/11 22:54	
EPA 8260	Chlorobenzene	6.7	ug/L	3.0	06/25/11 22:54	
EPA 8260	Chloroethane	2.0J	ug/L	10.0	06/25/11 22:54	
EPA 8260	1,2-Dichlorobenzene	0.37J	ug/L	5.0	06/25/11 22:54	
EPA 8260	1,1-Dichloroethane	0.63J	ug/L	5.0	06/25/11 22:54	
<b>9296869005</b>	<b>3902-MW5</b>					
EPA 6010	Antimony	6.0	ug/L	6.0	06/30/11 14:51	
EPA 6010	Barium	84.7J	ug/L	100	06/30/11 14:51	
EPA 6010	Cobalt	81.8	ug/L	10.0	06/30/11 14:51	
EPA 6010	Copper	8.7J	ug/L	10.0	06/30/11 14:51	
EPA 6010	Nickel	15.3J	ug/L	50.0	06/30/11 14:51	
<b>9296869006</b>	<b>3902-MW6</b>					
EPA 8270	Benzo(g,h,i)perylene	1.4J	ug/L	10.0	07/05/11 18:22	
EPA 8270	Dibenz(a,h)anthracene	1.5J	ug/L	10.0	07/05/11 18:22	

**REPORT OF LABORATORY ANALYSIS**

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Project: GRANVILLE CO-BUTNER  
 Pace Project No.: 9296869

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>9296869006</b>	<b>3902-MW6</b>					
EPA 8270	Indeno(1,2,3-cd)pyrene	1.3J	ug/L	10.0	07/05/11 18:22	
EPA 8260	Acetone	2.4J	ug/L	100	06/25/11 23:43	
<b>9296869007</b>	<b>3902-SW1</b>					
EPA 6010	Barium	40.3J	ug/L	100	06/30/11 14:58	
<b>9296869008</b>	<b>3902-SW2</b>					
EPA 6010	Barium	93.0J	ug/L	100	06/30/11 15:01	
EPA 6010	Nickel	7.8J	ug/L	50.0	06/30/11 15:01	
EPA 8260	Acetone	3.8J	ug/L	100	06/26/11 00:31	

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### ANALYTICAL RESULTS

Project: GRANVILLE/BUTNER RESAMPLE  
 Pace Project No.: 9299327

Sample: 3902-MW3R Lab ID: 9299327001 Collected: 07/28/11 11:10 Received: 07/29/11 15:00 Matrix: Water

Parameters	Results	Units	Report			Prepared	Analyzed	CAS No.	Qual
			Limit	MDL	DF				
<b>8081 GCS Pesticides</b>		Analytical Method: EPA 8081							
gamma-BHC (Lindane)	ND	ug/L	0.050	0.00020	1	08/02/11 17:22	08/05/11 18:57	58-89-9	
Tetrachloro-m-xylene (S)	95 %		66.5-120.3		1	08/02/11 17:22	08/05/11 18:57	877-09-8	
Decachlorobiphenyl (S)	90 %		41.7-109.1		1	08/02/11 17:22	08/05/11 18:57	2051-24-3	