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March 29, 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

RECEIVED
MAR 31 2011
SOLID WASTE SECTION

RE: Notification of NC-2L Groundwater Standard Exceedances
Second Semiannual Sampling Event of 2010
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 second semiannual sampling event of 2010 at the Butner Landfill took place on December 13, 2010. The samples were sent to Pace Analytical Services, Inc., where the groundwater samples were analyzed for NCSWMR Appendix I constituents plus Appendix II detects.

Organic compounds 1,4-dichlorobenzene, benzene, chlorobenzene, and total xylenes were detected in one or more monitoring wells at quantifiable concentrations above the NC SWSL during the Second Semi-annual event of 2010. Inorganic constituents detected at quantifiable concentrations during the event include barium, cobalt, copper, nickel and thallium. The results indicated an exceedance of the NC 2L standard for benzene in MW-2R, cobalt in MW-2R and MW-5 as well as thallium in MW-3R. The attached tables summarize the detected constituents and preliminary statistical evaluation.

A resampling event conducted on February 8, 2011, confirmed the exceedence of the NC 2L standard for benzene in MW-2R, consistent with historical data. The cobalt detections in MW-2R and MW-5 were above the Groundwater Protection Standard (GWPS), which became effective October 1, 2010, but were consistent with historical data. The cobalt reported did not represent a statistically significant increase (SSI) over background. Thallium in MW-3R was also above the GWPS but was consistent with historical data and did not represent an SSI.

The results of the second semiannual sampling event of 2010 are generally consistent with previous results for this facility. A complete groundwater monitoring and statistical analysis report will follow. 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: Table of Detected Constituents
Summary of Statistical Analysis

Copy: Jason Falls, Granville County

Table of Detected Constituents - Butner Landfill

December 2010

WELL ID	PARAMETER	RESULT	Q	UNITS	METHOD	MDL	MRL	SWSL	COLLECT DATE
3902-MW-3R	Antimony	3	J	ug/L	EPA 6010	2.6	6	6	12/13/2010
3902-MW-5	Antimony	2.8	J	ug/L	EPA 6010	2.6	6	6	12/13/2010
3902-MW-2R	Arsenic	4.9	J	ug/L	EPA 6010	2.7	10	10	12/13/2010
3902-MW-3R	Arsenic	2.7	J	ug/L	EPA 6010	2.7	10	10	12/13/2010
3902-MW-4	Arsenic	5.4	J	ug/L	EPA 6010	2.7	10	10	12/13/2010
3902-MW-1R	Barium	4.3	J	ug/L	EPA 6010	0.2	100	100	12/13/2010
3902-MW-2R	Barium	**122**		ug/L	EPA 6010	0.2	100	100	12/13/2010
3902-MW-3R	Barium	67.9	J	ug/L	EPA 6010	0.2	100	100	12/13/2010
3902-MW-4	Barium	1.3	J	ug/L	EPA 6010	0.2	100	100	12/13/2010
3902-MW-5	Barium	90.6	J	ug/L	EPA 6010	0.2	100	100	12/13/2010
3902-MW-6	Barium	1.5	J	ug/L	EPA 6010	0.2	100	100	12/13/2010
3902-SW-1	Barium	36.1	J	ug/L	EPA 6010	0.2	100	100	12/13/2010
3902-SW-2	Barium	91	J	ug/L	EPA 6010	0.2	100	100	12/13/2010
3902-MW-1R	Chromium	2.5	J	ug/L	EPA 6010	0.4	10	10	12/13/2010
3902-MW-2R	Chromium	1.3	J	ug/L	EPA 6010	0.4	10	10	12/13/2010
3902-MW-3R	Chromium	1.8	J	ug/L	EPA 6010	0.4	10	10	12/13/2010
3902-MW-4	Chromium	0.69	J	ug/L	EPA 6010	0.4	10	10	12/13/2010
3902-MW-5	Chromium	0.57	J	ug/L	EPA 6010	0.4	10	10	12/13/2010
3902-MW-6	Chromium	1.2	J	ug/L	EPA 6010	0.4	10	10	12/13/2010
3902-SW-1	Chromium	1.4	J	ug/L	EPA 6010	0.4	10	10	12/13/2010
3902-SW-2	Chromium	1.5	J	ug/L	EPA 6010	0.4	10	10	12/13/2010
3902-MW-1R	Cobalt	2.5	J	ug/L	EPA 6010	0.6	10	10	12/13/2010
3902-MW-2R	Cobalt	**15.5**		ug/L	EPA 6010	0.6	10	10	12/13/2010
3902-MW-5	Cobalt	**129**		ug/L	EPA 6010	0.6	10	10	12/13/2010
3902-SW-1	Cobalt	4.4	J	ug/L	EPA 6010	0.6	10	10	12/13/2010
3902-MW-1R	Copper	1.1	J	ug/L	EPA 6010	0.3	10	10	12/13/2010
3902-MW-3R	Copper	**13.6**		ug/L	EPA 6010	0.3	10	10	12/13/2010
3902-MW-4	Copper	5.8	J	ug/L	EPA 6010	0.3	10	10	12/13/2010
3902-MW-5	Copper	5.6	J	ug/L	EPA 6010	0.3	10	10	12/13/2010
3902-MW-6	Copper	0.59	J	ug/L	EPA 6010	0.3	10	10	12/13/2010
3902-SW-1	Copper	0.31	J	ug/L	EPA 6010	0.3	10	10	12/13/2010
3902-MW-2R	Nickel	**83**		ug/L	EPA 6010	1.7	50	50	12/13/2010
3902-MW-3R	Nickel	23.5	J	ug/L	EPA 6010	1.7	50	50	12/13/2010
3902-MW-4	Nickel	6.8	J	ug/L	EPA 6010	1.7	50	50	12/13/2010
3902-MW-5	Nickel	20.7	J	ug/L	EPA 6010	1.7	50	50	12/13/2010
3902-SW-2	Nickel	14.2	J	ug/L	EPA 6010	1.7	50	50	12/13/2010
3902-MW-1R	Silver	0.15	J	ug/L	EPA 6010	0.1	10	10	12/13/2010
3902-MW-2R	Silver	1.3	J	ug/L	EPA 6010	0.1	10	10	12/13/2010
3902-MW-3R	Silver	0.99	J	ug/L	EPA 6010	0.1	10	10	12/13/2010
3902-MW-4	Silver	0.45	J	ug/L	EPA 6010	0.1	10	10	12/13/2010
3902-SW-2	Silver	0.28	J	ug/L	EPA 6010	0.1	10	10	12/13/2010
3902-MW-3R	Thallium	**7.7**		ug/L	EPA 6010	3	5.5	5.5	12/13/2010
3902-SW-1	Thallium	3.8	J	ug/L	EPA 6010	3	5.5	5.5	12/13/2010
3902-MW-2R	Tin	30.3	J	ug/L	EPA 6010	1.8	100	100	12/13/2010
3902-MW-3R	Tin	12.1	J	ug/L	EPA 6010	1.8	100	100	12/13/2010
3902-MW-4	Tin	5.8	J	ug/L	EPA 6010	1.8	100	100	12/13/2010
3902-MW-1R	Vanadium	3.2	J	ug/L	EPA 6010	0.2	25	25	12/13/2010
3902-MW-2R	Vanadium	3.6	J	ug/L	EPA 6010	0.2	25	25	12/13/2010
3902-MW-3R	Vanadium	0.35	J	ug/L	EPA 6010	0.2	25	25	12/13/2010
3902-MW-4	Vanadium	16.6	J	ug/L	EPA 6010	0.2	25	25	12/13/2010
3902-MW-5	Vanadium	1.8	J	ug/L	EPA 6010	0.2	25	25	12/13/2010
3902-MW-6	Vanadium	1	J	ug/L	EPA 6010	0.2	25	25	12/13/2010
3902-SW-1	Vanadium	1.6	J	ug/L	EPA 6010	0.2	25	25	12/13/2010
3902-SW-2	Vanadium	0.67	J	ug/L	EPA 6010	0.2	25	25	12/13/2010
3902-MW-1R	Zinc	4.5	J	ug/L	EPA 6010	0.4	10	10	12/13/2010
3902-SW-2	Zinc	9.8	J	ug/L	EPA 6010	0.4	10	10	12/13/2010

Summary of Statistical Analyses
Butner Landfill - December 2010 Sampling Event

Analyte	Data Distribution	Statistical Method used to Establish Background	Background (µg/L)	NC 2L (*GWPS) (µg/L)	SSI above Background	Above NC 2L or GWPS
Barium	63% Truncated	Nonparametric Prediction Limit	200	700	None	None
Cobalt	71% Truncated	Nonparametric Prediction Limit	130	1 *	None	MW-2R, MW-5
Copper	81% Truncated	Nonparametric Prediction Limit	34	1000	None	None
Nickel	94% Truncated	Upper Poisson Prediction Limit	138	100	None	None
Thallium	100% Truncated	Upper Poisson Prediction Limit	10	0.2 *	None	MW-3R
1,4-dichlorobenzene	100% Truncated	Upper Poisson Prediction Limit	13.8	6	None	None
Benzene	100% Truncated	Upper Poisson Prediction Limit	14.2	1	None	MW-2R
Chlorobenzene	100% Truncated	Upper Poisson Prediction Limit	12.83	50	MW-2R, MW-3R	None
Xylenes, Total	94% Truncated	Upper Poisson Prediction Limit	13.2	500	None	None

Notes:
SSI = Statistically Significant Increase above background
NC2L = 15A NCAC 2L Groundwater Standard
GWPS = Groundwater Protection Standard (indicated by * for constituents with no NC 2L)
µg/L = micrograms per liter = parts per billion
Only constituents with quantified detections above the SWSL in one or more down-gradient moniotoring wells are included.
Constituents with only blank-qualified and/or estimated concentrations are not included.