Prepared for:

Granville County
Solid Waste Department
P. O. Box 906
Oxford, NC 27565

JEI Project Number 660.06, Task 03

REPORT OF SAMPLING AND STATISTICAL ANALYSIS
FIRST SEMIANNUAL SAMPLING EVENT OF 2007

CLOSED BUTNER LANDFILL
PERMIT NO. 39-02
GRANVILLE COUNTY, NORTH CAROLINA

November 2007

Prepared by:

2211 West Meadowview Road, Suite 101
Greensboro, North Carolina 27407
(336) 323-0092

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JOYCE ENGINEERING, INC.

2211 West Meadowview Road, Suite 101
Greensboro, North Carolina 27407

NORTH CAROLINA LICENSED SEAL 1349 GEOLOGIST G. VAN NESS BURBACH

Prepared by: _____

G. Van Ness Burbach, Ph.D., P.G.
NC License # 1349

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NC DENR
Division of Waste Management - Solid Waste

Environmental Monitoring Reporting Form

Notice: This form and any information attached to it are "Public Records" as defined in NC General Statute 132-1. As such, these documents are available for inspection and examination by any person upon request (NC General Statute 132-6).

Instructions:

- **Prepare one form for each individually monitored unit.**
- **Please type or print legibly.**
- Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.).
- Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
- Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i).
- Send the original signed and sealed form, any tables, and Electronic Data Deliverable to: Compliance Unit, NCDENR-DWM, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.

Solid Waste Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

Joyce Engineering, Inc.

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: G. Van Ness Burbach, Ph.D., P.G. Phone: (336) 323-0092

E-mail: vburbach@joyceengineering.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Oxford Landfill	State Road 1473 Kinton Fork, NC	39-01	.1600	July 11-12, 2007

Environmental Status: (Check all that apply)

☐ Initial/Background Monitoring ☐ Detection Monitoring ☒ Assessment Monitoring ☒ Corrective Action

Type of data submitted: (Check all that apply)

☒ Groundwater monitoring data from monitoring wells
☐ Groundwater monitoring data from private water supply wells
☐ Leachate monitoring data
☒ Surface water monitoring data
☐ Methane gas monitoring data
☐ Corrective action data (specify) _____
☐ Other(specify)

Notification attached?

☐ No. No groundwater or surface water standards or explosive methane gas limits were exceeded.
☒ Yes, a notification of values exceeding a groundwater or surface water standard is attached. It includes a list of groundwater and surface water monitoring points, dates, analytical values, NC 2L groundwater standard, NC 2B surface water standard or NC Solid Waste GWPS and preliminary analysis of the cause and significance of any concentration.
☐ Yes, a notification of values exceeding an explosive methane gas limit is attached. It includes the methane monitoring points, dates, sample values and explosive methane gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of a fine and imprisonment.

G. Van Ness Burbach, Ph.D., P.G. — Facility Representative Name (Print)
Sr. Project Consultant — Title
(336) 323-0092 — (Area Code) Telephone Number

Signature: [signature] Date: 9/19/07

Affix NC Licensed/ Professional Geologist Seal

NORTH CAROLINA LICENSED SEAL 1349 GEOLOGIST G. VAN NESS BURBACH

Revised 10/2006

Closed Butner Landfill – Permit No. 39-02
Report of Sampling and Statistical Analysis
First Semiannual Sampling Event of 2007

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Closed Butner Landfill – Permit No. 39-02
Report of Sampling and Statistical Analysis
First Semiannual Sampling Event of 2007

1.0 INTRODUCTION

1.1 Site Information

The Butner Landfill is a closed municipal solid waste (MSW) landfill located off Route 1004 near the town of Butner, in Granville County, North Carolina (*Figure No. 1*). The site is currently in an Assessment Monitoring Program and a Nature and Extent Study and an Assessment of Corrective Measures have been initiated. The facility has been closed since August 1998.

The Butner Landfill lies within the Piedmont physiographic province. The topography of the area consists of rolling hills that support farmland and forest. Drainage from in the area is generally to the south towards a tributary of Picture Creek, which flows into Lake Butner and eventually into the Neuse River. The majority of the landfill area is underlain by Carolina Slate Belt felsic volcanic rocks, which have been metamorphosed into greenish grey foliated tuffs. The southeastern portion of the site is underlain by Triassic Sanford Formation, which unconformably overlies the Carolina Slate Belt felsic volcanic rocks. There is no exposure of the Sanford Formation at the site; however, float material consisting of grey, coarse-grained sandstone with quartz pebbles was observed. Geologic descriptions were taken from GAI Consultants-NC, Inc. December 1993 *Groundwater and Surface Water Monitoring System* report.

1.2 Monitoring Programs

Groundwater and surface water monitoring at the Butner Landfill is completed in accordance with NCSWMR §1634 (Assessment Monitoring Program) and the Transition Plan for this facility. Groundwater samples are collected semiannually and analyzed for all constituents listed in NCSWMR Appendix I plus detected Appendix II constituents during the fall event, and all NCSWMR Appendix II constituents during the spring event. Surface water samples are collected and sampled for Appendix I constituents during each sampling event.

The groundwater monitoring network at the site consists of one upgradient well (MW-1R) and five downgradient monitoring wells (MW-2R, MW-3R, MW-4, MW-5, and MW-6) as shown on *Drawing No. 1*. In addition, two surface water samples have been collected semiannually since September 1994. The points SW-1 and SW-2 are located upstream and downstream of the facility respectively, along an unnamed tributary of Picture Creek.

1.3 Summary of Sampling Event and Results

Groundwater and surface water samples were collected from the Butner Landfill, as required by the NCSWMR, on July 11-12, 2007. No samples were collected from surface point SW-2 due to dry conditions.

The results of organic analyses for samples collected from the groundwater monitoring network at the Butner Landfill in July 2007 indicated benzene, chlorobenzene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,1-dichloroethane, and xylenes were detected at concentrations above the method detection limit in one or more of the down-gradient monitoring wells; however, only benzene, chlorobenzene, and 1,4-dichlorobenzene were reported above the North Carolina Solid Waste Section Limits (SWSL). Benzene in MW-2R and 1,4-dichlorobenzene in MW-2R and MW-3R were reported at concentrations above the NC 2L Groundwater Standards.

The results of inorganic analyses for samples collected from the groundwater monitoring network at the Butner Landfill in July 2007 were statistically compared to background data collected for the facility. Inorganic constituents detected during the July 2007 event include barium, cobalt, copper, nickel, silver, tin, vanadium, and zinc; however, only barium, cobalt, copper, and nickel were detected above the SWSL. None of these detections were considered to represent statistically significant increases (SSI's) over background. None of these inorganic constituents were detected at concentrations above NC 2L Standards.

2.0 SITE HYDROGEOLOGY

Depth to groundwater was measured in all the wells at the site prior to sampling. The groundwater elevation at each well was calculated relative to the surveyed measuring point (top of casing) for each monitoring well. The groundwater elevation data are summarized in *Table 1*. Groundwater elevation contours were interpreted from the December 2006 water level measurements. Groundwater flow beneath the landfill is predominantly to the south and southeast towards the unnamed tributary of Picture Creek as shown on *Drawing No. 1*.

Linear groundwater flow velocities for wells screened in saprolite were computed using the following modified Darcy equation: $\mathbf{V = Ki/n}$, where **V** = average linear velocity (feet per year), **K** = hydraulic conductivity (feet/day), **i** = horizontal hydraulic gradient, and **n** = effective porosity. Average hydraulic conductivities (**K**) for each slug-tested well were used to estimate average linear groundwater flow velocities. Horizontal groundwater gradients (**i**) were estimated from the July 2007 groundwater levels and are summarized in *Table 2*. The horizontal gradients calculated are on average approximately 0.05 ft/ft, which is consistent with previous estimates. An estimated effective porosity (**n**) of 30% (0.30) representing regolith was assumed for these calculations.

The linear groundwater flow velocity estimates are generally consistent across the site and range from 3 to 4 feet/year (*Table 2*). The linear velocity equation and resultant rates make the simplified assumptions of a homogeneous and isotropic aquifer. This equation can overestimate velocity when applied to heterogeneous and/or anisotropic conditions. The regolith and fractured bedrock common to Piedmont terrane characteristically are heterogeneous and locally anisotropic. The regolith and bedrock are hydraulically connected, but effective porosity typically declines markedly downward into underlying fractured bedrock.

3.0 RESULTS OF LABORATORY ANALYSES

Joyce Engineering, Inc. collected groundwater samples at the Butner Landfill on July 11-12, 2007. The samples were sent to Environmental Conservation Laboratories, where they were analyzed for constituents listed in NCSWMR Appendix I list of constituents plus detected Appendix II constituents, as described in Section 1.2.

The detected constituents from this event are summarized in *Table 3*. Historical data tables for inorganic and organic constituents are included as *Tables 4* and *5*, respectively. The analytical results of the July 2007 sampling event as reported by the laboratory plus field data forms for the sampling event are included in the *Laboratory Reports and Field Data* section.

4.0 STATISTICAL PROCEDURES

The following sections discuss the background data and statistical procedures used for the analysis of groundwater monitoring data collected at the Butner Landfill.

4.1 Background Data

Monitoring well MW-1R is designated as the background well for the facility. Facility background data used to evaluate the July 2007 groundwater monitoring data include all data collected for well MW-1R from September 1994 through this event.

4.2 Statistical Methods

The data were evaluated through the use of the Shapiro-Wilk Test, Parametric Prediction Limits, Parametric Tolerance Intervals, Aitchison's Adjustment, Non-parametric Prediction Limits, and Poisson Prediction Limits, as appropriate. The results of the statistical analyses as discussed in Section 5.0 are summarized in the *Statistical Analyses* section of this report. Individual tests are presented on each page to clearly document these tests. Background data, tests for normality, outliers, Aitchison's adjustment, or parametric tolerance interval follow, as appropriate, based on the background data. For each set of data, all of the parameters used to calculate the test statistic are presented

beneath the raw data. The result of the test and any comments relating to quality assurance are presented at the bottom of the page.

The statistical test by which downgradient data are compared to facility background data is based upon the nature of the data and the number of data values that were less than the laboratory limit of detection. All statistical tests are evaluated at the 0.05 level of significance, 95% confidence level, and are conducted as one-tailed tests. These methods and the criteria for their use are discussed below.

4.2.1 Treatment of Censored Data

Generally, the laboratory reporting limits are known and background data are censored as follows. When less than or equal to 15% of the background data values are less than the laboratory reporting limit (RL), any data reported less than the RL will be treated as one-half the RL.

4.2.2 Assumption of Normality

Prior to conducting the statistical tests that are based on the assumption of normally distributed data, normality of the background data is evaluated using the Shapiro-Wilk statistic (W). Normality is assessed at the 95% confidence level. In the event that the raw data fail to follow a normal distribution, the data are transformed using a base-10 logarithm. The transformed data are then tested for normality using the Shapiro-Wilk statistic. In the event that the log-transformed data also fail to follow a normal distribution, a nonparametric approach is applied.

4.2.3 Parametric Upper Tolerance Limit

In those cases where the background data consist of a minimum of eight independent data values and less than or equal to 15% of the background data values are less than the RL for a given analyte, then the downgradient values are compared to the parametric upper tolerance limit. This is done in accordance with the procedure summarized in the USEPA guidance documents, *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Interim Final Guidance* (April 1989) and *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Addendum to Interim Final Guidance* (July 1992).

4.2.4 Aitchison's Adjusted Parametric Upper Tolerance Limit

In those cases where the background data consist of a minimum of eight independent data values and more than 15%, but less than or equal to 50%, of the background data values are less than the RL for a given analyte, then the mean and standard deviation are adjusted. The adjustments are made in accordance with the procedure described by Aitchison (1955) and summarized in the USEPA guidance document, *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Addendum to Interim Final Guidance* (July 1992). After the adjustments are made, the downgradient values are

compared to the Aitchison's adjusted parametric upper tolerance limit in accordance with the procedures summarized in the USEPA guidance documents, *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Interim Final Guidance* (April 1989) and *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Addendum to Interim Final Guidance* (July 1992).

4.2.5 Non-parametric Upper Tolerance Limit

In those cases where more than 50% but less than or equal to 90% of the background data values are RL for a given analyte or the background data fail to follow a normal or log-normal distribution, downgradient values are compared to the non-parametric upper tolerance limit. This is done in accordance with the procedures summarized in the USEPA guidance documents, *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Interim Final Guidance* (April 1989) and *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Addendum to Interim Final Guidance* (July 1992).

4.2.6 Poisson Upper Prediction Limit

In those cases where more than 90% of the background data values are less than the RL for a given analyte, then the downgradient values are compared to the Poisson upper prediction limit in accordance with the procedure summarized in the USEPA guidance document, *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, Addendum to Interim Final Guidance* (July 1992).

5.0 RESULTS OF STATISTICAL ANALYSES

The following statistical analysis of groundwater and surface water monitoring data has been prepared for the second semiannual sampling event at the Closed Butner Landfill, which occurred on July 11-12, 2006, as required by Rule .1634 of the North Carolina Solid Waste Management Regulations (NCSWMR). The results of statistical analyses for the July 2007 sampling event are summarized in *Table 6*, and detailed statistical analysis worksheets are included in the *Statistical Analyses* section of this report. The background concentrations have been updated using data from the July 2007 sampling event. Results of the statistical analyses are also discussed below.

5.1 Organic Constituents

No organic constituents have been detected in any of the groundwater samples collected from the upgradient well (MW-1R) during background sampling events for purposes of completing the statistical evaluation of downgradient monitoring data. Downgradient constituent concentrations were compared directly to the method detection limits, method quantitation limits, and/or North Carolina Department of Environment and Natural Resources (DENR) Solid Waste Section Reporting Limits (SWSL).

Detected Organic Constituents

Parameter	SWSL	NC-2L	MW1R	MW2R	MW3R	MW4	MW5	MW6	SW1	Blank
1,1-Dichloroethane	5	70	ND	ND	0.36 J	0.52 J	ND	ND	ND	ND
1,2-Dichlorobenzene	5	24	ND	1.4 J	1.7 J	0.31 J	ND	ND	ND	ND
1,4-Dichlorobenzene	1	1.4	ND	**3.3**	**2.9**	0.31 J	ND	ND	ND	ND
Benzene	1	1.0	ND	**1.9**	ND	ND	ND	ND	ND	ND
Chlorobenzene	3	50	ND	17	16	ND	ND	ND	ND	ND
Toluene	1	1000	ND	0.49 B	ND	ND	ND	ND	ND	0.34 J
Xylenes (Total)	4	530	ND	1.2 J	ND	ND	ND	ND	ND	ND

All values in µg/L. J = Estimated concentration below the SWSL.

Organic constituents detected above the method detection limit in one or more downgradient monitoring wells during the July 2007 sampling event include: benzene, chlorobenzene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, 1,1-dichloroethane, and xylenes; however, only benzene, chlorobenzene, and 1, 4-dichlorobenzene were reported above the SWSL. Benzene in MW-2R and 1, 4-dichlorobenzene in MW-2R and MW-3R were reported at concentrations above the NC 2L Groundwater Standards. No organic constituents were detected in surface water sample SW-1 above the method detection limits.

5.2 Inorganic Constituents

The background concentrations for inorganic constituents were determined using the statistical procedures discussed in Section 4.0. The downgradient values were compared to background as summarized Table 6 and in the *Statistical Analyses* section.

Detected Inorganic Constituents

Parameter	SWSL	NC-2L	MW1R	MW2R	MW3R	MW4	MW5	MW6	SW1	Blank
Barium	100	2000	2.50 J	129	65.7 J	1.10 J	77.0 J	1.30 J	33.3 J	ND
Cobalt	10	-	ND	11.8	ND	2.7 J	58.4	ND	ND	ND
Copper	10	1000	ND	ND	13.4	7.90 J	2.60 J	ND	ND	ND
Nickel	50	100	ND	99.0	30.6 J	13.9 J	13.7 J	ND	3.8 J	ND
Silver	10	17.5	ND	ND	ND	ND	ND	ND	2.2 J	ND
Tin	100	-	ND	35.2	13.9 J	5.2 J	ND	ND	-	ND
Vanadium	25	-	ND	ND	ND	19.4 J	ND	ND	4.6 J	ND
Zinc	10	1050	9.6 J	ND	ND	ND	ND	ND	ND	ND

All values in µg/L. J = Estimated concentration below the SWSL.

Inorganic constituents detected in one or more monitoring well or surface water sample during the July 2007 event include barium, cobalt, copper, nickel, silver, tin, vanadium, and zinc, but only barium, cobalt, copper, and nickel were detected above the SWSL. None of these detections were considered to represent statistically significant increases (SSI's) over background. None of these inorganic constituents were detected at concentrations above NC 2L Standards.

6.0 CONCLUSIONS

During the July 2007 sampling event, six organic and eight inorganic constituents were detected in one or more of the downgradient compliance wells at concentrations above the method detection limit. Benzene and 1,4-dichlorobenzene were reported at concentrations above the NC 2L Groundwater Standards. None of the inorganic detections were considered to be SSI's. No organic constituents were detected in surface water sample SW-1, nor were any inorganic constituents detected at quantified concentrations above the SWSL. Surface water sampling point SW-2 was not sampled due to dry conditions. The next sampling event is scheduled for December 2007.

Tables

TABLE 1
Summary of Groundwater Elevation Data
Granville County, Butner Landfill

	WATER LEVEL ELEVATION (FEET ABOVE MEAN SEA LEVEL)					
Well ID:	**MW-1R**	**MW-2R**	**MW-3R**	**MW-4**	**MW-5**	**MW-6**
TOC:	482.33	350.87	350.76	360.69	363.53	381.75
8/21/1999	440.50	348.40	347.86	350.39	350.48	371.32
11/16/1999	441.57	344.65	344.31	351.42	353.98	372.19
5/10/2000	446.35	348.87	348.63	354.04	354.14	374.94
10/26/2000	441.03	348.53	347.95	351.22	350.59	372.00
4/18/2001	440.58	348.69	348.43	353.46	354.01	373.44
10/26/2001	434.35	348.31	347.74	350.46	349.88	370.14
6/13/2002	435.52	347.65	347.21	350.10	349.94	370.26
11/19/2002	435.22	348.52	348.15	351.46	356.82	370.16
6/27/2003	445.43	348.84	348.73	354.13	353.64	374.43
12/29/2003	442.05	348.97	348.91	354.38	354.43	374.14
6/30/2004	440.63	348.65	348.28	352.15	351.04	372.32
12/28/2004	439.84	348.77	348.71	353.34	353.79	374.36
6/29/2005	440.63	348.37	349.06	351.51	350.55	371.98
12/29/2005	435.20	348.56	348.51	352.67	353.92	370.74
6/27/2006	436.57	348.44	348.20	352.07	353.21	372.65
12/28/2006	437.36	348.67	348.66	353.46	354.89	373.24
7/12/2007	438.64	347.96	347.77	351.20	350.17	371.52

Notes:
1. TOC = top of casing
2. - = data not available
3. Water levels are measured from TOC.

TABLE 2
ESTIMATED HYDRAULIC GRADIENTS AND AVERAGE LINEAR VELOCITIES
Granville County, NC - Butner Landfill

			July 11, 2007				
GRADIENT CALCULATION SEGMENT	FLOW LINE LENGTH (feet)	FLOW DIRECTION	GROUND-WATER ELEVATION (feet)	HORIZ. GRADIENT, **i** (ft/ft)	HYDRAULIC CONDUCTIVITY, **K** (ft/day)	EFFECTIVE POROSITY **n**	LINEAR VELOCITY, **V** (ft/year)
i_1	1263	SE	440 370	0.0554	5.60E-02	0.30	3.78
i_2	1326	SE	420 360	0.0453	5.60E-02	0.30	3.09
i_3	1486	SSE	440 350	0.0606	5.60E-02	0.30	4.13
			Average i:	**0.0537**		**Average V:**	**3.66**

Notes:
1. Hydraulic conductivity (K) value is representative of a geometric mean of individual aquifer test values taken from GAI's April 1995 report.
2. Linear flow velocity = Ki/n, with an effective porosity (n) of 0.3 for regolith.
3. Refer to Drawling No. 1 for gradient calculation segments.

TABLE 3: Detected Constituents - First Semiannual Sampling Event of 2007
Butner Landfill, Granville County - Permit # 39-02

		Sample Date:	07/12/2007		07/12/2007		07/12/2007		07/12/2007		07/12/2007		07/12/2007		07/11/2007		07/12/2007		07/11/2007	
Parameter	**SWSL**	**NC-2L**	**3902-MW1R**		**3902-MW2R**		**3902-MW3R**		**3902-MW4**		**3902-MW5**		**3902-MW6**		**3902-SW1**		**Field Blank**		**Trip Blank**	
Barium	100	2000	2.50	J	129		65.7	J	1.10	J	77.0	J	1.30	J	33.3	J	ND		-	
Cobalt	10	-	ND		11.8		ND		2.7	J	58.4		ND		ND		ND		-	
Copper	10	1000	ND		ND		13.4		7.90	J	2.60	J	ND		ND		ND		-	
Nickel	50	100	ND		99.0		30.6	J	13.9	J	13.7	J	ND		3.8	J	ND		-	
Silver	10	17.5	ND		ND		ND		ND		ND		ND		2.2	J	ND		-	
Tin	100	-	ND		35.2	J	13.9	J	5.2	J	ND		ND		-		ND		-	
Vanadium	25	-	ND		ND		ND		19.4	J	ND		ND		4.6	J	ND		-	
Zinc	10	1050	9.6	J	ND		ND		ND		ND		ND		ND		ND		-	
1,1-Dichloroethane	5	70	ND		ND		0.36	J	0.52	J	ND		ND		ND		ND		ND	
1,2-Dichlorobenzene	5	24	ND		1.4	J	1.7	J	0.31	J	ND		ND		ND		ND		ND	
1,4-Dichlorobenzene	1	1.4	ND		**3.3**		**2.9**		0.31	J	ND		ND		ND		ND		ND	
Benzene	1	1.0	ND		**1.9**		ND		ND		ND		ND		ND		ND		ND	
Chlorobenzene	3	50	ND		17		16		ND		ND		ND		ND		ND		ND	
Toluene	1	1000	ND		0.49	B	ND		ND		ND		ND		ND		ND		0.34	J
Xylenes (Total)	4	530	ND		1.2	J	ND		ND		ND		ND		ND		ND		ND	

All results in µg/L (ppb).
SWSL = NC Solid Waste Section Reporting Limit
NC-2L = North Carolina Groundwater Standard (15A-NCAC-2L).
ND = Not detected above the laboratory detection limit.
J = Estimated concentration above the laboratory deection limit but below the SWSL.
B = Blank-qualified detection.
Shadded & Bold values are above the NC-2L.

TABLE 4
Granville County Butner Landfill
Summary of Detected Inorganic Constituents

Constituent		Concentration (µg/L)									
NC 2L Standard (µg/L)	Date	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	SW-1	SW-2	Blanks
Antimony	9/8/1994	30	ND	ND	ND	ND	ND	ND	ND	ND	-
[---]	12/1/1994	30	ND	ND	ND	ND	ND	ND	ND	ND	-
	2/9/1995	30	ND	ND	ND	ND	ND	ND	ND	ND	-
	3/2/1995	30	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/15/1995	30	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/28/1996	30	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	30	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/17/1997	30	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/1/1997	30	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/20/1998	30	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/19/1998	30	ND	ND	ND	ND	ND	ND	ND	ND	-
	7/21/1999	30	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	30	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	30	ND	80.0	38.0	32.0	33.0	31.0	ND	ND	-
	10/26/2000	30	30.0	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	30	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/27/2001	30	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	30	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	30	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	30	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	30	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	30	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	30	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	30	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	30	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	30	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	6	ND	ND	ND	ND	ND	ND	ND	ND	ND
	7/12/2007	6	ND	ND	ND	ND	ND	ND	ND	-	ND
Arsenic	9/8/1994	10	ND	ND	ND	ND	ND	ND	ND	ND	-
[50]	12/1/1994	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	2/9/1995	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	3/2/1995	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/15/1995	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/28/1996	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/17/1997	10	6.0	15.0	ND	ND	ND	ND	ND	ND	-
	12/1/1997	10	ND	5.0	ND	ND	ND	ND	ND	ND	-
	5/20/1998	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/19/1998	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	7/21/1999	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/27/2001	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	10	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	10	2.0 J	ND	ND	ND	ND	ND	ND	ND	ND
	7/12/2007	10	ND	ND	ND	ND	ND	ND	ND	-	ND
Barium	9/8/1994	500	ND	270	ND	ND	830	860	ND	ND	-
[2000]	12/1/1994	500	ND	ND	ND	ND	ND	ND	ND	ND	-
	2/9/1995	500	ND	ND	ND	ND	510	ND	ND	ND	-
	3/2/1995	500	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/15/1995	500	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/28/1996	500	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	500	ND	82.0	30.0	ND	15.0	ND	37.0	37.0	-
	6/17/1997	500	200	320	37.0	17.0	210	31.0	37.0	62.0	-
	12/1/1997	500	61.0	180	43.0	46.0	220	33.0	53.0	45.0	-
	5/20/1998	500	30.0	150	45.0	13.0	180	22.0	24.0	69.0	-
	11/19/1998	500	48.0	120	42.0	ND	380	12.0	ND	100	-
	7/21/1999	500	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	500	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	500	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	500	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	500	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/27/2001	500	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	500	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	500	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	500	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	500	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	500	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	500	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	500	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	500	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	500	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	500	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	100	5.2 J	120	64.9	1.5 J	64.1	1.8 J	37.5	40.6	0.20 J
	7/12/2007	100	2.5 J	129	65.7 J	1.1 J	77.0 J	1.3 J	33.3 J	-	ND
Beryllium	9/8/1994	2	ND	ND	ND	ND	ND	ND	ND	ND	-
[---]	12/1/1994	2	ND	ND	ND	ND	4.0	ND	ND	ND	-
	2/9/1995	2	ND	ND	ND	ND	ND	ND	ND	ND	-
	3/2/1995	2	ND	ND	ND	ND	2.0	ND	ND	ND	-
	11/15/1995	2	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/28/1996	2	ND	ND	ND	ND	6.0	ND	ND	ND	-
	11/22/1996	2	ND	ND	ND	ND	3.0	ND	ND	ND	-
	6/17/1997	2	2.0	3.0	ND	ND	1.0	ND	ND	ND	-
	12/1/1997	2	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/20/1998	2	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/19/1998	2	ND	ND	ND	ND	2.0	ND	ND	ND	-
	7/21/1999	2	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	2	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	2	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	2	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	2	ND	12.0	ND	ND	ND	ND	ND	ND	-
	10/27/2001	2	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	2	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	2	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	2	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	2	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	2	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	2	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	2	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	2	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	2	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	2	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
	7/12/2007	1	ND	ND	ND	ND	ND	ND	ND	-	ND

TABLE 4
Granville County Butner Landfill
Summary of Detected Inorganic Constituents

Constituent		Concentration (µg/L)									
NC 2L Standard (µg/L)	Date	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	SW-1	SW-2	Blanks
Cadmium	9/8/1994	1	ND	ND	ND	ND	ND	4.0	ND	ND	-
[1.75]	12/1/1994	1	ND	ND	ND	ND	ND	ND	ND	ND	-
	2/9/1995	1	ND	ND	ND	ND	ND	ND	ND	ND	-
	3/2/1995	1	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/15/1995	1	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/28/1996	1	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	1	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/17/1997	1	ND	3.0	1.0	ND	ND	ND	ND	ND	-
	12/1/1997	1	ND	2.0	ND	ND	ND	ND	ND	ND	-
	5/20/1998	1	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/19/1998	1	ND	ND	ND	ND	ND	ND	ND	ND	-
	7/21/1999	1	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	1	ND	3.0	3.0	ND	2.0	ND	ND	ND	-
	5/10/2000	1	5.0	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	1	ND	2.0	ND	ND	ND	ND	ND	ND	-
	4/18/2001	1	ND	11.0	ND	ND	ND	ND	ND	ND	-
	10/27/2001	1	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	1	ND	2.0	ND	ND	ND	ND	-	-	-
	11/19/2002	1	2.0	2.0	ND	ND	2.0	ND	ND	ND	-
	6/27/2003	1	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	1	ND	1.0	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	1	ND	ND	ND	ND	ND	ND	ND	ND	ND
	7/12/2007	1	ND	ND	ND	ND	ND	ND	ND	-	ND
Chromium	9/8/1994	10	8.0	44.0	ND	6.0	48.0	80.0	ND	ND	-
[50]	12/1/1994	10	14.0	ND	ND	ND	18.0	ND	ND	ND	-
	2/9/1995	10	14.0	ND	ND	10.0	ND	ND	ND	ND	-
	3/2/1995	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/15/1995	10	13.0	13.0	ND	ND	ND	ND	ND	ND	-
	5/28/1996	10	33.0	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	10	3.0	ND	ND	ND	ND	3.0	ND	ND	-
	6/17/1997	10	57.0	43.0	ND	3.0	2.0	6.0	ND	3.0	-
	12/1/1997	10	29.0	ND	ND	ND	ND	ND	ND	ND	-
	5/20/1998	10	10.0	3.0	ND	ND	12.0	ND	ND	ND	-
	11/19/1998	10	17.0	3.0	ND	ND	5.0	ND	ND	ND	-
	7/21/1999	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	10	ND	12.0	ND	ND	ND	ND	ND	ND	-
	10/27/2001	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	10	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	7/12/2007	10	ND	ND	ND	ND	ND	ND	ND	-	ND
Cobalt	9/8/1994	10	ND	ND	ND	ND	ND	ND	ND	ND	-
[---]	12/1/1994	10	11.0	ND	13.0	16.0	22.0	ND	ND	ND	-
	2/9/1995	10	20.0	14.0	ND	48.0	39.0	ND	ND	ND	-
	3/2/1995	10	16.0	21.0	ND	29.0	121.0	ND	ND	ND	-
	11/15/1995	10	20.0	21.0	ND	ND	27.0	ND	ND	ND	-
	5/28/1996	10	30.0	16.0	ND	ND	122	ND	ND	ND	-
	11/22/1996	10	6.0	13.0	ND	4.7	93.0	ND	ND	ND	-
	6/17/1997	10	130	38.0	ND	6.0	45.0	3.0	ND	ND	-
	12/1/1997	10	32.0	21.0	ND	12.0	36.0	4.0	ND	ND	-
	5/20/1998	10	15.0	16.0	2.0	9.0	100	3.0	2.0	2.0	-
	11/19/1998	10	21.0	16.0	2.0	7.0	180	3.0	ND	3.0	-
	7/21/1999	10	ND	16.0	ND	ND	100	ND	ND	ND	-
	11/16/1999	10	ND	15.0	ND	ND	38.0	ND	ND	ND	-
	5/10/2000	10	ND	17.0	ND	ND	61.0	ND	ND	ND	-
	10/26/2000	10	ND	15.0	ND	ND	ND	ND	ND	ND	-
	4/18/2001	10	ND	27.0	ND	ND	74.0	ND	ND	ND	-
	10/27/2001	10	ND	12.0	ND	ND	47.0	ND	ND	22.0	-
	6/13/2002	10	ND	14.0	ND	ND	251	ND	-	-	-
	11/19/2002	10	ND	10.0	ND	ND	57.0	ND	ND	ND	-
	6/27/2003	10	ND	15.0	ND	ND	75.0	ND	ND	10.0	-
	12/30/2003	10	ND	17.0	ND	ND	52.0	ND	ND	ND	ND
	6/30/2004	10	ND	16.0	ND	ND	31.0	ND	ND	ND	ND
	12/29/2004	10	ND	11.0	ND	ND	46.0	ND	ND	ND	ND
	6/29/2005	10	ND	11.0	ND	ND	43.0	ND	ND	ND	ND
	12/29/2005	10	ND	12.0	ND	ND	30.0	ND	ND	ND	ND
	6/28/2006	10	ND	ND	ND	ND	72.5	ND	ND	ND	ND
	12/29/2006	10	ND	11.4	ND	ND	37.5	ND	ND	ND	ND
	7/12/2007	10	ND	11.8	ND	2.7	58.4	ND	ND	-	ND
Copper	9/8/1994	200	ND	ND	ND	ND	ND	660	ND	ND	-
[1000]	12/1/1994	200	ND	ND	ND	ND	ND	ND	ND	ND	-
	2/9/1995	200	ND	ND	ND	ND	ND	ND	ND	ND	-
	3/2/1995	200	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/15/1995	200	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/28/1996	200	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	200	ND	ND	32.0	13.0	100	ND	ND	ND	-
	6/17/1997	200	34.0	350	13.0	37.0	28.0	77.0	ND	ND	-
	12/1/1997	200	19.0	72.0	14.0	88.0	15.0	34.0	ND	ND	-
	5/20/1998	200	12.0	48.0	380	41.0	53.0	28.0	ND	ND	-
	11/19/1998	200	10.0	ND	410	28.0	53.0	14.0	ND	ND	-
	7/21/1999	200	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	200	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	200	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	200	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	200	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/27/2001	200	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	200	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	200	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	200	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	200	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	200	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	200	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	200	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	200	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	200	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	10	ND	ND	11.3	5.50 J	10.4	1.90 B	1.30 B	1.10 B	0.60 J
	7/12/2007	10	ND	ND	13.4	7.90	2.6 J	ND	ND	-	ND

TABLE 4
Granville County Butner Landfill
Summary of Detected Inorganic Constituents

Constituent		Concentration (µg/L)									
NC 2L Standard (µg/L)	Date	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	SW-1	SW-2	Blanks
Lead	9/8/1994	10	ND	13.0	ND	ND	30.0	36.0	ND	ND	-
[15]	12/1/1994	10	11.0	ND	ND	ND	36.0	ND	ND	ND	-
	2/9/1995	10	ND	ND	ND	10.0	37.0	ND	ND	ND	-
	3/2/1995	10	ND	ND	ND	ND	44.0	ND	ND	ND	-
	11/15/1995	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/28/1996	10	ND	ND	ND	ND	42.0	ND	ND	ND	-
	11/22/1996	10	ND	ND	ND	ND	13.0	ND	ND	ND	-
	6/17/1997	10	20.0	29.0	ND	ND	13.0	ND	ND	ND	-
	12/1/1997	10	8.0	14.0	ND	5.0	14.0	ND	ND	ND	-
	5/20/1998	10	ND	6.0	ND	6.0	21.0	ND	ND	8	-
	11/19/1998	10	5.0	ND	ND	ND	58.0	ND	ND	ND	-
	7/21/1999	10	ND	12.0	14.0	ND	ND	ND	ND	10	-
	11/16/1999	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/27/2001	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	10	11.0	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	10	ND	ND	ND	ND	12.0	ND	ND	ND	-
	6/27/2003	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	10	ND	ND	ND	ND	ND	2.1 J	ND	ND	ND
	7/12/2007	10	ND	ND	ND	ND	ND	ND	ND	-	ND
Mercury	12/1/1997	0.5	ND	ND	ND	ND	ND	ND	ND	ND	-
[1.05]	11/19/1998	0.5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	0.5	ND	0.59	0.65	0.65	0.76	ND	-	-	-
	5/10/2000	0.5	-	ND	ND	ND	ND	-	-	-	-
	10/26/2000	0.5	-	ND	ND	ND	ND	-	-	-	-
	4/18/2001	0.5	-	ND	ND	ND	ND	-	-	-	-
	6/13/2002	0.5	-	ND	ND	ND	ND	-	-	-	-
	6/27/2003	0.5	-	ND	ND	ND	ND	-	-	-	-
	12/30/2003	0.5	-	-	-	-	-	-	-	-	-
	6/30/2004	0.5	ND	ND	ND	ND	ND	ND	-	-	ND
	12/29/2004	-	-	-	-	-	-	-	-	-	-
	6/29/2005	0.5	ND	ND	ND	ND	ND	ND	-	-	ND
	12/29/2005	-	-	-	-	-	-	-	-	-	-
	6/28/2006	2	ND	ND	ND	ND	ND	ND	-	-	ND
	12/29/2006	-	-	-	-	-	-	-	-	-	-
	7/12/2007	0.2	ND	ND	ND	ND	ND	ND	ND	-	ND
Nickel	9/8/1994	50	ND	ND	ND	ND	ND	ND	ND	ND	-
[100]	12/1/1994	50	ND	ND	ND	ND	ND	ND	ND	ND	-
	2/9/1995	50	ND	72	ND	ND	ND	ND	ND	ND	-
	3/2/1995	50	ND	100	ND	ND	ND	ND	ND	ND	-
	11/15/1995	50	ND	61.0	ND	ND	ND	ND	ND	ND	-
	5/28/1996	50	ND	85.0	ND	ND	ND	ND	ND	ND	-
	11/22/1996	50	ND	72.0	ND	ND	ND	ND	ND	ND	-
	6/17/1997	50	75	98.0	ND	ND	ND	ND	ND	ND	-
	12/1/1997	50	ND	89.0	ND	ND	ND	ND	ND	ND	-
	5/20/1998	50	ND	91.0	ND	ND	ND	ND	ND	ND	-
	11/19/1998	50	ND	83.0	ND	ND	ND	ND	ND	ND	-
	7/21/1999	50	ND	109	ND	ND	ND	ND	ND	ND	-
	11/16/1999	50	ND	122	ND	ND	ND	ND	ND	ND	-
	5/10/2000	50	ND	104	ND	ND	ND	ND	ND	ND	-
	10/26/2000	50	ND	93.0	ND	ND	ND	ND	ND	ND	-
	4/18/2001	50	ND	107	ND	ND	ND	ND	ND	ND	-
	10/27/2001	50	ND	92.0	ND	ND	ND	ND	ND	ND	-
	6/13/2002	50	ND	98.0	ND	ND	ND	ND	-	-	-
	11/19/2002	50	ND	74.0	ND	ND	ND	ND	ND	ND	-
	6/27/2003	50	ND	85.0	ND	ND	ND	ND	ND	ND	-
	12/30/2003	50	ND	100	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	50	ND	120 (81.0)	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	50	ND	100	ND	ND	ND	ND	ND	50.0 (ND)	ND
	6/29/2005	50	ND	150 (92.0)	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	50	ND	96.0	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	50	ND	88.7	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	50	ND	94.7	30.1	14.2	8.9 J	ND	ND	2.9 J	ND
	7/12/2007	50	ND	99.0	30.6 J	13.9 J	13.7 J	ND	3.8 J	-	ND
Selenium	9/8/1994	20	ND	ND	ND	ND	ND	ND	ND	ND	-
[50]	12/1/1994	20	ND	ND	ND	ND	ND	ND	ND	ND	-
	2/9/1995	20	ND	ND	ND	ND	ND	ND	ND	ND	-
	3/2/1995	20	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/15/1995	20	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/28/1996	20	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	20	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/17/1997	20	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/1/1997	20	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/20/1998	20	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/19/1998	20	ND	ND	ND	ND	ND	ND	ND	ND	-
	7/21/1999	20	ND	ND	ND	ND	36.0	ND	ND	ND	-
	11/16/1999	20	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	20	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	20	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	20	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/27/2001	20	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	20	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	20	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	20	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	20	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	7/12/2007	10	ND	ND	ND	ND	ND	ND	ND	-	ND

TABLE 4
Granville County Butner Landfill
Summary of Detected Inorganic Constituents

Constituent		Concentration (µg/L)									
NC 2L Standard (µg/L)	Date	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	SW-1	SW-2	Blanks
Silver	9/8/1994	10	ND	ND	ND	ND	ND	ND	ND	ND	-
[17.5]	12/1/1994	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	2/9/1995	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	3/2/1995	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/15/1995	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/28/1996	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/17/1997	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/1/1997	10	ND	8.0	ND	ND	ND	3	ND	ND	-
	5/20/1998	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/19/1998	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	7/21/1999	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	10	ND	15.0	ND	ND	ND	ND	ND	ND	-
	10/27/2001	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	10	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	7/12/2007	10	ND	ND	ND	ND	ND	ND	2.2 J	-	ND
Thallium	9/8/1994	10	ND	ND	ND	ND	ND	ND	ND	ND	-
[-]	12/1/1994	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	2/9/1995	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	3/2/1995	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/15/1995	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/28/1996	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/17/1997	10	ND	3.0	ND	ND	ND	ND	ND	ND	-
	12/1/1997	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/20/1998	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/19/1998	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	7/21/1999	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/27/2001	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	10	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	10	ND	10 J (ND)	ND	ND	ND	ND	ND	10.0 (ND)	ND
	6/29/2005	10	ND	22.0 (30.0)	13.0 (24.0)	ND	ND	ND	ND	ND	ND
	12/29/2005	10	ND	23.0	20.0	ND	ND	ND	ND	ND	ND
	6/28/2006	10	ND	25.7	12.6	ND	ND	ND	ND	ND	ND
	12/29/2006	6	ND	ND	ND	ND	ND	ND	ND	ND	ND
	7/12/2007	5.5	ND	ND	ND	ND	ND	ND	ND	-	ND
Tin	12/1/1997	100	ND	ND	ND	ND	ND	ND	ND	ND	-
[-]	11/19/1998	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	100	ND	ND	ND	ND	ND	ND	-	-	-
	10/26/2000	100	-	ND	ND	ND	ND	-	-	-	-
	4/18/2001	100	-	ND	ND	ND	ND	-	-	-	-
	10/27/2001	100	-	-	-	-	-	-	-	-	-
	6/13/2002	100	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	100	-	-	-	-	-	-	-	-	-
	6/27/2003	100	ND	149	127	ND	ND	ND	ND	ND	-
	12/30/2003	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	100	ND	ND	ND	ND	ND	ND	-	-	ND
	12/29/2004	100	ND	ND	ND	ND	ND	ND	-	-	ND
	6/29/2005	100	ND	ND	ND	ND	ND	ND	-	-	ND
	12/29/2005	100	ND	ND	ND	ND	ND	ND	NR	NR	ND
	6/28/2006	100	ND	ND	ND	ND	ND	ND	-	-	ND
	12/29/2006	100	ND	41.1	14.4	3.2 J	ND	ND	-	-	ND
	7/12/2007	100	ND	35.2 J	13.9 J	5.2 J	ND	ND	ND	-	ND
Vanadium	9/8/1994	40	ND	ND	ND	ND	ND	130	ND	ND	-
[-]	12/1/1994	40	63.0	ND	ND	45.0	ND	ND	ND	ND	-
	2/9/1995	40	ND	ND	ND	ND	ND	ND	ND	ND	-
	3/2/1995	40	41.0	ND	ND	45.0	ND	ND	ND	ND	-
	11/15/1995	40	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/28/1996	40	83.0	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	40	7.0	17	ND	21.0	ND	ND	ND	ND	-
	6/17/1997	40	450	560	ND	19.0	ND	ND	ND	ND	-
	12/1/1997	40	62.0	88.0	ND	41.0	ND	10.0	ND	ND	-
	5/20/1998	40	25.0	15.0	ND	10.0	5.0	ND	ND	ND	-
	11/19/1998	40	33.0	29.0	5.0	16.0	9.0	5.0	ND	ND	-
	7/21/1999	40	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	40	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	40	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	40	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	40	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/27/2001	40	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	40	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	40	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	40	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	40	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	40	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	40	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	40	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	40	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	40	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	25	2.7 J	ND	ND	14.5	ND	1.0 J	1.6 J	2.0 J	ND
	7/12/2007	25	ND	ND	ND	19.4 J	ND	ND	4.6 J	-	ND

TABLE 4
Granville County Butner Landfill
Summary of Detected Inorganic Constituents

Constituent		Concentration (µg/L)									
NC 2L Standard (µg/L)	Date	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	SW-1	SW-2	Blanks
Zinc	9/8/1994	50	110	160	ND	ND	320	430	ND	ND	-
[1050]	12/1/1994	50	132	ND	ND	70	164	ND	ND	ND	-
	2/9/1995	50	144	89	ND	91	79	74	ND	ND	-
	3/2/1995	50	67	ND	ND	ND	111	ND	ND	ND	-
	11/15/1995	50	ND	50	ND	ND	ND	ND	ND	ND	-
	5/28/1996	50	136	ND	ND	ND	122	ND	ND	ND	-
	11/22/1996	50	79.0	48.0	28.0	ND	38.0	ND	11.0	ND	-
	6/17/1997	50	370	410	33.0	39.0	36.0	69.0	ND	ND	-
	12/1/1997	50	140	110	11.0	45.0	34.0	30.0	20.0	ND	-
	5/20/1998	50	70.0	63.0	23.0	31.0	47.0	34.0	20.0	28.0	-
	11/19/1998	50	61.0	33.0	21.0	17.0	53.0	10.0	ND	ND	-
	7/21/1999	50	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	50	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	50	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	50	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	50	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/27/2001	50	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	50	ND	ND	ND	ND	382	ND	-	-	-
	11/19/2002	50	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	50	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	50	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	50	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	50	ND	ND	ND	66.0	ND	ND	ND	ND	ND
	6/29/2005	50	ND	54.0	56.0	ND	ND	ND	ND	ND	ND
	12/29/2005	50	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	50	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	50	8.0 J	ND	ND	4.1 J	4.3 J	4.1 J	ND	ND	ND
	7/12/2007	10	9.6 J	ND	ND	ND	ND	ND	ND	-	ND

Notes:
1. RL = Reporting Limit (Laboratory Quantitation Limit for 09/08/94 - 06/27/03; NC PQL for 12/30/03 - 6/28/06; SWSL for 12/29/06 - present).
2. J = Estimated concentration below the RL.
3. B = Blank-qualified data.
4. ND = not detected above method detection limit (after 12/29/06) or RL (prior to 12/29/06).
5. - = no sample for that date or data not available.
6. All concentrations are reported in micrograms per liter (µg/L) = parts per billion.
7. Shaded values are above the NC2L Groundwater Standards.
8. NC 2L = 15A NCAC 2L Groundwater Standards, updated for amended standards effective April 1, 2005
9. [---] = no NC 2L Standard listed for this constituent.
10. Results in parentheses represent results from a resampling event.
11. No sample was collected from surface point SW-2 during the July 2007 event due to dry conditions.

TABLE 5
Granville County Butner Landfill
Summary of Detected Organic Constituents

Constituent		Concentration (µg/L)									
NC 2L Standard (µg/L)	Date	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	SW-1	SW-2	Blanks
Acetone	9/8/1994	100	ND	ND	ND	ND	ND	ND	ND	ND	-
[700]	12/1/1994	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	2/9/1995	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	3/2/1995	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/15/1995	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/28/1996	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/17/1997	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/1/1997	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/20/1998	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/19/1998	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	7/21/1999	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/27/2001	100	244 B	109 B	ND	130 B	128 B	476 B	168 B	337 B	479
	6/13/2002	100	ND	ND	ND	ND	ND	ND	-	-	-
	6/13/2002	100	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	7/12/2007	100	ND	ND	ND	ND	ND	ND	ND	-	ND
Benzene	9/8/1994	5	ND	ND	ND	ND	ND	ND	ND	ND	-
[1]	12/1/1994	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	2/9/1995	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	3/2/1995	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/15/1995	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/28/1996	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/17/1997	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/1/1997	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/20/1998	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/19/1998	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	7/21/1999	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/27/2001	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	5	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	3	ND	1.5	ND	ND	ND	ND	ND	ND	ND
Resample:	2/23/2007	3	-	1.2	-	-	-	-	-	-	ND
	7/12/2007	1	ND	1.9	ND	ND	ND	ND	ND	-	ND
Carbon Disulfide	9/8/1994	100	ND	ND	ND	ND	ND	ND	ND	ND	-
[700]	12/1/1994	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	2/9/1995	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	3/2/1995	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/15/1995	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/28/1996	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/17/1997	100	ND	64.0	ND	ND	ND	ND	ND	ND	-
	12/1/1997	100	ND	5.0	8.0	ND	ND	ND	ND	ND	-
	5/20/1998	100	ND	7.5	6.2	ND	ND	ND	ND	ND	-
	11/19/1998	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	7/21/1999	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/27/2001	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	5	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	7/12/2007	100	ND	ND	ND	ND	ND	ND	ND	-	ND
Chlorobenzene	9/8/1994	5	ND	10.0	7.0	ND	ND	ND	ND	ND	-
[50]	12/1/1994	5	ND	ND	7.0	ND	ND	ND	ND	ND	-
	2/9/1995	5	ND	13.0	8.0	6.0	ND	ND	ND	ND	-
	3/2/1995	5	ND	12.0	9.0	ND	ND	ND	ND	ND	-
	11/15/1995	5	ND	14.0	8.0	9.0	ND	ND	ND	ND	-
	5/28/1996	5	ND	15.0	9.0	10.0	ND	ND	ND	ND	-
	11/22/1996	5	ND	15.0	ND	11.0	ND	ND	ND	ND	-
	6/17/1997	5	ND	19.0	11.0	14.0	ND	ND	ND	ND	-
	12/1/1997	5	ND	17.0	9.0	14.0	ND	ND	ND	ND	-
	5/20/1998	5	ND	20.0	8.6	12.0	ND	ND	ND	ND	-
	11/19/1998	5	ND	17.2	9.2	10.0	ND	ND	ND	ND	-
	7/21/1999	5	ND	14.0	10.0	11.0	ND	ND	ND	ND	-
	11/16/1999	5	ND	16.0	10.0	8.0	ND	ND	ND	ND	-
	5/10/2000	5	ND	17.0	11.0	10.0	ND	ND	ND	ND	-
	10/26/2000	5	ND	16.0	12.0	9.0	ND	ND	ND	ND	-
	4/18/2001	5	ND	16.0	13.0	6.0	ND	ND	ND	ND	-
	10/27/2001	0.5	ND	17.0	12.0	9.0	ND	ND	ND	ND	-
	6/13/2002	0.5	ND	16.0	11.0	8.0	ND	ND	-	-	-
	11/19/2002	0.5	ND	18.0	15.0	9.0	ND	ND	ND	ND	-
	6/27/2003	0.5	ND	17.7	13.3	7.4	ND	ND	ND	7.2	ND
	12/30/2003	5	ND	20.0	15.0	6.1	ND	ND	ND	ND	ND
	6/30/2004	5	ND	18.0	15.0	9.9	ND	ND	ND	ND	ND
	12/29/2004	5	ND	19.0	16.0	9.4	ND	ND	ND	ND	ND
	6/29/2005	5	ND	15.0	13.0	8.0	ND	ND	ND	ND	ND
	12/29/2005	5	ND	18.0	16.0	5.0	ND	ND	ND	ND	ND
	6/28/2006	5	ND	16.5	10.8	7.8	ND	ND	ND	ND	ND
	12/29/2006	3	ND	17.0	17.0	4.2	ND	ND	ND	ND	ND
	7/12/2007	3	ND	17.0	16.0	ND	ND	ND	ND	-	ND

TABLE 5
Granville County Butner Landfill
Summary of Detected Organic Constituents

Constituent		Concentration (µg/L)									
NC 2L Standard (µg/L)	Date	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	SW-1	SW-2	Blanks
Chloroethane	9/8/1994	10	ND	ND	ND	ND	ND	ND	ND	ND	-
[2800]	12/1/1994	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	2/9/1995	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	3/2/1995	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/15/1995	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/28/1996	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/17/1997	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/1/1997	10	ND	5.0	2.0	2.0	ND	ND	ND	ND	-
	5/20/1998	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/19/1998	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	7/21/1999	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/27/2001	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	10	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	10	ND	2.2	1.9	ND	ND	ND	ND	ND	ND
	7/12/2007	10	ND	ND	ND	ND	ND	ND	ND	-	ND
1,2-Dichlorobenzene	9/8/1994	5	ND	ND	ND	ND	ND	ND	ND	ND	-
[24]	12/1/1994	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	2/9/1995	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	3/2/1995	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/15/1995	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/28/1996	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/17/1997	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/1/1997	5	ND	3.0	2.0	1.0	ND	ND	ND	ND	-
	5/20/1998	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/19/1998	5	ND	2.4	2.3	ND	ND	ND	ND	ND	-
	7/21/1999	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/27/2001	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	5	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	5	ND	1.5	2.3	ND	ND	ND	ND	ND	ND
	7/12/2007	5	ND	1.4 J	1.7 J	0.31 J	ND	ND	ND	-	ND
1,4-Dichlorobenzene	9/8/1994	5	ND	ND	5.0	ND	ND	ND	ND	ND	-
[1.4]	12/1/1994	5	ND	ND	5.0	ND	ND	ND	ND	ND	-
	2/9/1995	5	ND	8.0	6.0	ND	ND	ND	ND	ND	-
	3/2/1995	5	ND	7.0	6.0	ND	ND	ND	ND	ND	-
	11/15/1995	5	ND	7.0	6.0	ND	ND	ND	ND	ND	-
	5/28/1996	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/17/1997	5	ND	7.6	6.2	ND	ND	ND	ND	ND	-
	12/1/1997	5	ND	6.0	5.0	4.0	ND	ND	ND	ND	-
	5/20/1998	5	ND	7.6	ND	ND	ND	ND	ND	ND	-
	11/19/1998	5	ND	3.7	2.8	ND	ND	ND	ND	ND	-
	7/21/1999	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	5	ND	5.0	6.0	ND	ND	ND	ND	ND	-
	4/18/2001	5	ND	ND	5.0	6.0	ND	ND	ND	ND	-
	10/27/2001	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	5	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	3	ND	3.0	3.3	ND	ND	ND	ND	ND	ND
Resample:	2/23/2007	3	-	3.2	3.3	-	-	-	-	-	ND
	7/12/2007	1	ND	3.3	2.9	0.31 J	ND	ND	ND	-	ND
trans-1,4-Dichloro-2-Butene	9/8/1994	100	ND	ND	ND	ND	ND	ND	ND	ND	-
[---]	12/1/1994	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	2/9/1995	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	3/2/1995	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/15/1995	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/28/1996	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/17/1997	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/1/1997	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/20/1998	100	ND	ND	5.1	ND	ND	ND	ND	ND	-
	11/19/1998	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	7/21/1999	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/27/2001	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/19/2002	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	100	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	100	ND	ND	ND	ND	ND	ND	ND	ND	ND
	7/12/2007	100	ND	ND	ND	ND	ND	ND	ND	-	ND

TABLE 5
Granville County Butner Landfill
Summary of Detected Organic Constituents

Constituent		Concentration (µg/L)									
NC 2L Standard (µg/L)	Date	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	SW-1	SW-2	Blanks
1,1-Dichloroethane	9/8/1994	5	ND	ND	ND	ND	ND	ND	ND	ND	-
[70]	12/1/1994	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	2/9/1995	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	3/2/1995	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/15/1995	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/28/1996	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/17/1997	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/1/1997	5	ND	ND	1.0	ND	ND	ND	ND	ND	-
	5/20/1998	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/19/1998	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	7/21/1999	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/27/2001	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	5	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	7/12/2007	5	ND	ND	0.36 J	0.52 J	ND	ND	ND	ND	ND
Toluene	9/8/1994	5	ND	ND	ND	ND	ND	ND	ND	ND	-
[1000]	12/1/1994	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	2/9/1995	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	3/2/1995	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/15/1995	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/28/1996	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/17/1997	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/1/1997	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/20/1998	5	ND	ND	8.1	ND	ND	ND	ND	ND	-
	11/19/1998	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	7/21/1999	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/27/2001	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	5	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	7/12/2007	1	ND	0.49 B	ND	ND	ND	ND	ND	-	0.34 J
Vinyl chloride	9/8/1994	10	ND	ND	12.0	ND	ND	ND	ND	ND	-
[0.015]	12/1/1994	10	ND	ND	13.0	ND	ND	ND	ND	ND	-
	2/9/1995	10	ND	ND	15.0	ND	ND	ND	ND	ND	-
	3/2/1995	10	ND	ND	14.0	ND	ND	ND	ND	ND	-
	11/15/1995	10	ND	ND	11.0	ND	ND	ND	ND	ND	-
	5/28/1996	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/17/1997	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/1/1997	10	ND	ND	7.0	4.0	ND	ND	ND	ND	-
	5/20/1998	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/19/1998	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	7/21/1999	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/27/2001	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	10	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	10	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	5.5	ND	ND	0.98 J	ND	ND	ND	ND	ND	ND
Resample:	2/23/2007	5.5	-	-	1.0	-	-	-	-	-	ND
	7/12/2007	1.0	ND	ND	ND	ND	ND	ND	ND	-	ND
Xylenes	9/8/1994	5	ND	ND	ND	ND	ND	ND	ND	ND	-
[530]	12/1/1994	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	2/9/1995	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	3/2/1995	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/15/1995	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/28/1996	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/22/1996	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/17/1997	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/1/1997	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/20/1998	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/19/1998	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	7/21/1999	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	5/10/2000	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/26/2000	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	4/18/2001	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	10/27/2001	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/13/2002	5	ND	ND	ND	ND	ND	ND	-	-	-
	6/13/2002	5	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	12/30/2003	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2004	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/29/2005	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2005	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/28/2006	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	12/29/2006	5	ND	1.4	ND	ND	ND	ND	ND	ND	ND
	7/12/2007	4	ND	1.2 J	ND	ND	ND	ND	ND	-	ND

TABLE 5
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Summary of Detected Organic Constituents

Constituent		Concentration (µg/L)									
NC 2L Standard (µg/L)	Date	RL	MW-1R	MW-2R	MW-3R	MW-4	MW-5	MW-6	SW-1	SW-2	Blanks
Phorate	12/1/1997	10	ND	ND	ND	ND	ND	ND	ND	ND	-
[1.4]	11/19/1998	10	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	10	ND	ND	ND	ND	ND	ND	-	-	-
	10/26/2000	10	-	ND	ND	ND	ND	-	-	-	-
	4/18/2001	10	-	3.2	ND	ND	ND	-	-	-	-
	10/27/2001	5	ND	8.1	ND	ND	ND	ND	ND	ND	-
	10/27/2001	0.5	-	8.1	1.3	ND	ND	-	-	-	-
	6/13/2002	5	ND	ND	ND	ND	ND	ND	-	-	-
	6/13/2002	0.5	-	ND	ND	ND	ND	-	-	-	-
	11/19/2002	5	ND	ND	ND	ND	ND	ND	ND	ND	-
	6/27/2003	5	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/30/2004	10	ND	ND	ND	ND	ND	ND	-	-	ND
	6/29/2005	10	ND	ND	ND	ND	ND	ND	-	-	ND
	12/29/2005	-	-	-	-	-	-	-	-	-	-
	6/28/2006	10	ND	ND	ND	ND	ND	ND	-	-	ND
	12/29/2006	-	-	-	-	-	-	-	-	-	-
	7/12/2007	10	ND	ND	ND	ND	ND	ND	ND	-	ND
Gamma-BHC	12/1/1997	0.05	ND	ND	ND	ND	ND	ND	ND	ND	-
[0.2]	11/19/1998	0.05	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	0.05	ND	ND	ND	ND	ND	ND	-	-	-
	10/26/2000	0.05	-	ND	ND	ND	ND	-	-	-	-
	4/18/2001	0.05	-	ND	ND	ND	ND	-	-	-	-
	10/27/2001	-	-	-	-	-	-	-	-	-	-
	6/13/2002	0.05	ND	ND	ND	ND	ND	ND	-	-	-
	6/13/2002	0.05	-	ND	ND	ND	ND	-	-	-	-
	6/13/2002	0.5	-	ND	ND	ND	ND	-	-	-	-
	11/19/2002	-	-	-	-	-	-	-	-	-	-
	6/27/2003	1.05	ND	0.085	ND	ND	ND	ND	-	-	ND
	12/30/2003	0.05	ND	ND	ND	ND	ND	ND	-	-	ND
	6/30/2004	0.05	ND	ND	ND	ND	ND	ND	-	-	ND
	12/29/2004	0.05	ND	ND	ND	ND	ND	ND	NR	NR	ND
	6/29/2005	0.05	ND	ND	ND	ND	ND	ND	-	-	ND
	12/29/2005	0.05	ND	ND	ND	ND	ND	ND	NR	NR	ND
	6/28/2006	0.05	ND	ND	ND	ND	ND	ND	-	-	ND
	12/29/2006	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND
	7/12/2007	0.05	ND	ND	ND	ND	ND	ND	ND	-	ND
Heptachlor	12/1/1997	0.05	ND	ND	ND	ND	ND	ND	ND	ND	-
[0.0078]	11/19/1998	0.05	ND	ND	ND	ND	ND	ND	ND	ND	-
	11/16/1999	0.05	ND	ND	ND	ND	ND	ND	-	-	-
	10/26/2000	0.05	-	ND	ND	ND	ND	-	-	-	-
	4/18/2001	0.05	-	ND	ND	ND	ND	-	-	-	-
	10/27/2001	-	-	-	-	-	-	-	-	-	-
	6/13/2002	1.05	ND	ND	ND	ND	ND	ND	-	-	-
	11/19/2002	-	-	-	-	-	-	-	-	-	-
	6/27/2003	1.05	ND	0.03	0.17	ND	ND	ND	-	-	ND
	12/30/2003	0.05	ND	ND	ND	ND	ND	ND	-	-	ND
	6/30/2004	0.05	ND	ND	ND	ND	ND	ND	-	-	ND
	12/29/2004	0.05	ND	ND	ND	ND	ND	ND	-	-	ND
	6/29/2005	0.05	ND	ND	ND	ND	ND	ND	-	-	ND
	12/29/2005	0.05	ND	ND	ND	ND	ND	ND	NR	NR	ND
	6/28/2006	0.05	ND	ND	ND	ND	ND	ND	-	-	ND
	12/29/2006	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND
	7/12/2007	0.05	ND	ND	ND	ND	ND	ND	ND	-	ND

Notes:
1. RL = Reporting Limit (Laboratory Quantitation Limit for 09/08/94 - 06/27/03; NC PQL for 12/30/03 - 6/28/06; SWSL for 12/29/06 - present).
2. J = Estimated concentration below the RL.
3. B = Blank-qualified data.
4. ND = not detected above method detection limit (after 12/29/06) or RL (prior to 12/29/06).
5. - = no sample for that date or data not available.
6. All concentrations are reported in micrograms per liter (µg/L) = parts per billion.
7. Shaded values are above the NC2L Groundwater Standards.
8. NC 2L = 15A NCAC 2L Groundwater Standards, updated for amended standards effective April 1, 2005
9. [---] = no NC 2L Standard listed for this constituent.
10. Results in parentheses represent results from a resampling event.
11. No sample was collected from surface point SW-2 during the July 2007 event due to dry conditions.

TABLE 6
Summary of Statistical Analyses
July 2007 Sampling Event

Analyte	Data Distribution	Statistical Method used to Establish Background	Background (µg/L)	NC 2L (µg/L)	SSI above Background	Above NC 2L Standard
Barium	79% Truncated	Nonparametric Prediction Limit	200	2000	None	None
Cobalt	64% Truncated	Nonparametric Prediction Limit	130	n/e	None	None
Copper	86% Truncated	Nonparametric Prediction Limit	34	1000	None	None
Nickel	96% Truncated	Upper Poisson Prediction Limit	195.78	100	None	None
Silver	* n/a	* n/a	* n/a	17.5	None	None
Tin	* n/a	* n/a	* n/a	n/e	None	None
Vanadium	* n/a	* n/a	* n/a	n/e	None	None
Zinc	* n/a	* n/a	* n/a	1050	None	None
Benzene	n/a	Compare Directly to SWSL	1	1	MW-2R	MW-2R
Chlorobenzene	n/a	Compare Directly to SWSL	3	50	MW-2R, MW-3R	None
1,4-Dichlorobenzene	n/a	Compare Directly to SWSL	1	1	MW-2R, MW-3R	MW-2R, MW-3R
1,2-Dichlorobenzene	n/a	Compare Directly to SWSL	5	24	None	None
1,1-Dichloroethane	n/a	Compare Directly to SWSL	5	70	MW-2R, MW-3R	None
Xylenes	n/a	Compare Directly to SWSL	4	530	None	None

Notes:
SSI = Statistically Significant Increase
NC 2L = 15A NCAC 2L Groundwater Standard
n/a = not applicable
n/e = not established
µg/L = micrograms per liter = parts per billion
* Statistical analyses not required for constituents with no quantified down-gradient detections.

Figure

Drawing

Statistical Analyses

JEI Project: **Granville County Butner Landfill**
Project No: **660.06.03**
Sample Date: **12-Jul-07**

Analyte: **Barium**

Sample No.	Sample Date	Location	Concentration (µg/L)	Qualifier	Sorted Conc.
1	9/8/1994	MW-1R	ND		200.0
2	12/1/1994	MW-1R	ND		61.0
3	2/9/1995	MW-1R	ND		48.0
4	3/2/1995	MW-1R	ND		30.0
5	11/15/1995	MW-1R	ND		5.2
6	5/28/1996	MW-1R	ND		2.5
7	11/22/1996	MW-1R	ND		
8	6/17/1997	MW-1R	200		
9	12/1/1997	MW-1R	61		
10	5/20/1998	MW-1R	30		
11	11/19/1998	MW-1R	48		
12	7/21/1999	MW-1R	ND		
13	11/16/1999	MW-1R	ND		
14	5/10/2000	MW-1R	ND		
15	10/26/2000	MW-1R	ND		
16	4/18/2001	MW-1R	ND		
17	10/27/2001	MW-1R	ND		
18	6/13/2002	MW-1R	ND		
19	11/19/2002	MW-1R	ND		
20	6/27/2003	MW-1R	ND		
21	12/30/2003	MW-1R	ND		
22	6/30/2004	MW-1R	ND		
23	12/29/2004	MW-1R	ND		
24	6/29/2005	MW-1R	ND		
25	12/29/2005	MW-1R	ND		
26	6/28/2006	MW-1R	ND		
27	12/29/2006	MW-1R	5.2	J	
28	7/12/2007	MW-1R	2.5	J	

Notes:
- All concentrations in micrograms per liter.
- Blank qualified data not used in statistical calculations.

Number of Samples:	28
Number of truncated data (ND):	22
Percent Truncated:	79%

Nonparametric Prediction Limit: 200 µg/L

JEI Project: **Granville County Butner Landfill**
Project No: **660.06.03**
Sample Date: **12-Jul-07**

Analyte: **Cobalt**

Sample No.	Sample Date	Location	Concentration (µg/L)	Qualifier	Sorted Conc.
1	9/8/1994	MW-1R	ND		130.0
2	12/1/1994	MW-1R	11		32.0
3	2/9/1995	MW-1R	20		30.0
4	3/2/1995	MW-1R	16		21.0
5	11/15/1995	MW-1R	20		20.0
6	5/28/1996	MW-1R	30		20.0
7	11/22/1996	MW-1R	6		16.0
8	6/17/1997	MW-1R	130		15.0
9	12/1/1997	MW-1R	32		11.0
10	5/20/1998	MW-1R	15		6.0
11	11/19/1998	MW-1R	21		
12	7/21/1999	MW-1R	ND		
13	11/16/1999	MW-1R	ND		
14	5/10/2000	MW-1R	ND		
15	10/26/2000	MW-1R	ND		
16	4/18/2001	MW-1R	ND		
17	10/27/2001	MW-1R	ND		
18	6/13/2002	MW-1R	ND		
19	11/19/2002	MW-1R	ND		
20	6/27/2003	MW-1R	ND		
21	12/30/2003	MW-1R	ND		
22	6/30/2004	MW-1R	ND		
23	12/29/2004	MW-1R	ND		
24	6/29/2005	MW-1R	ND		
25	12/29/2005	MW-1R	ND		
26	6/28/2006	MW-1R	ND		
27	12/29/2006	MW-1R	ND		
28	7/12/2007	MW-1R	ND		

Notes:
- All concentrations in micrograms per liter.
- Blank qualified data not used in statistical calculations.

Number of Samples:	28
Number of truncated data (ND):	18
Percent Truncated:	64%

Nonparametric Prediction Limit: 130 µg/L

JEI Project: **Granville County Butner Landfill**
Project No: **660.06.03**
Sample Date: **12-Jul-07**

Analyte: **Copper**

Sample No.	Sample Date	Location	Concentration (µg/L)	Qualifier	Sorted Conc.
1	9/8/1994	MW-1R	ND		34.0
2	12/1/1994	MW-1R	ND		19.0
3	2/9/1995	MW-1R	ND		12.0
4	3/2/1995	MW-1R	ND		10.0
5	11/15/1995	MW-1R	ND		
6	5/28/1996	MW-1R	ND		
7	11/22/1996	MW-1R	ND		
8	6/17/1997	MW-1R	34		
9	12/1/1997	MW-1R	19		
10	5/20/1998	MW-1R	12		
11	11/19/1998	MW-1R	10		
12	7/21/1999	MW-1R	ND		
13	11/16/1999	MW-1R	ND		
14	5/10/2000	MW-1R	ND		
15	10/26/2000	MW-1R	ND		
16	4/18/2001	MW-1R	ND		
17	10/27/2001	MW-1R	ND		
18	6/13/2002	MW-1R	ND		
19	11/19/2002	MW-1R	ND		
20	6/27/2003	MW-1R	ND		
21	12/30/2003	MW-1R	ND		
22	6/30/2004	MW-1R	ND		
23	12/29/2004	MW-1R	ND		
24	6/29/2005	MW-1R	ND		
25	12/29/2005	MW-1R	ND		
26	6/28/2006	MW-1R	ND		
27	12/29/2006	MW-1R	ND		
28	7/12/2007	MW-1R	ND		

Notes:
- All concentrations in micrograms per liter.
- Blank qualified data not used in statistical calculations.

Number of Samples:	28
Number of truncated data (ND):	24
Percent Truncated:	86%

Nonparametric Prediction Limit: 34 µg/L

JEI Project: **Granville County Butner Landfill**
Project No: **660.06.03**
Sample Date: **12-Jul-07**

Analyte: **Nickel**

Sample No.	Sample Date	Location	Concentration (µg/L)	Qualifier	Sorted Conc.
1	9/8/1994	MW-1R	ND		75.0
2	12/1/1994	MW-1R	ND		
3	2/9/1995	MW-1R	ND		
4	3/2/1995	MW-1R	ND		
5	11/15/1995	MW-1R	ND		
6	5/28/1996	MW-1R	ND		
7	11/22/1996	MW-1R	ND		
8	6/17/1997	MW-1R	75		
9	12/1/1997	MW-1R	ND		
10	5/20/1998	MW-1R	ND		
11	11/19/1998	MW-1R	ND		
12	7/21/1999	MW-1R	ND		
13	11/16/1999	MW-1R	ND		
14	5/10/2000	MW-1R	ND		
15	10/26/2000	MW-1R	ND		
16	4/18/2001	MW-1R	ND		
17	10/27/2001	MW-1R	ND		
18	6/13/2002	MW-1R	ND		
19	11/19/2002	MW-1R	ND		
20	6/27/2003	MW-1R	ND		
21	12/30/2003	MW-1R	ND		
22	6/30/2004	MW-1R	ND		
23	12/29/2004	MW-1R	ND		
24	6/29/2005	MW-1R	ND		
25	12/29/2005	MW-1R	ND		
26	6/28/2006	MW-1R	ND		
27	12/29/2006	MW-1R	ND		
28	7/12/2007	MW-1R	ND		

Notes:
- All concentrations in micrograms per liter.
- Blank qualified data not used in statistical calculations.

Number of Samples:	28
Number of truncated data (ND):	27
Percent Truncated:	96%

Poisson Prediction Interval: 195.78 µg/L

JEI Project: **Granville County Butner Landfill**
Project No: **660.06.03**
Date: **12-Jul-07**

Upper Poisson Prediction Limit

Analyte: **Nickel**

Background Data

Sample	Date	Location	Concentration (µg/L)	Reporting Limit	Half RL or Concent.	Discrete Poisson Count
1	9/8/1994	MW-1R	ND	50	25	250
2	12/1/1994	MW-1R	ND	50	25	250
3	2/9/1995	MW-1R	ND	50	25	250
4	3/2/1995	MW-1R	ND	50	25	250
5	11/15/1995	MW-1R	ND	50	25	250
6	5/28/1996	MW-1R	ND	50	25	250
7	11/22/1996	MW-1R	ND	50	25	250
8	6/17/1997	MW-1R	75	50	75	750
9	12/1/1997	MW-1R	ND	50	25	250
10	5/20/1998	MW-1R	ND	50	25	250
11	11/19/1998	MW-1R	ND	50	25	250
12	7/21/1999	MW-1R	ND	50	25	250
13	11/16/1999	MW-1R	ND	50	25	250
14	5/10/2000	MW-1R	ND	50	25	250
15	10/26/2000	MW-1R	ND	50	25	250
16	4/18/2001	MW-1R	ND	50	25	250
17	10/27/2001	MW-1R	ND	50	25	250
18	6/13/2002	MW-1R	ND	50	25	250
19	11/19/2002	MW-1R	ND	50	25	250
20	6/27/2003	MW-1R	ND	50	25	250
21	12/30/2003	MW-1R	ND	50	25	250
22	6/30/2004	MW-1R	ND	50	25	250
23	12/29/2004	MW-1R	ND	50	25	250
24	6/29/2005	MW-1R	ND	50	25	250
25	12/29/2005	MW-1R	ND	50	25	250
26	6/28/2006	MW-1R	ND	50	25	250
27	12/29/2006	MW-1R	ND	50	25	250
28	7/12/2007	MW-1R	ND	50	25	250

Poisson Discrete Distribution Ajustment Factor = 10

Note: All sample concentrations are micrograms per liter

Using the background data, the upper Poisson Prediction Limit, y*, is determined by:

$$y^* = c\,y + [(t^2)\,c / 2] + t\,c\,[y\,(1 + (1/c)) + ((t^2) / 4)]^{0.5}$$

where:
- c = k / n
- y = Poisson count
- t = t(n-1, 0.95), Student's t-distribution
- n-1 = degrees of freedom (number of samples - 1)
- k = number of downgradient samples per event (6)
- .95 = confidence interval
- n = number of background samples

For:
- c = 0.250
- y = 7500.00
- t = 1.703
- n = 28

y* = 1957.81
Adjusted y* = 195.78 µg/L

Laboratory Reports and Field Data

DATE: 7-11-07

ENGINEERING, INC.

GROUND WATER SAMPLING LOG

Project Name: BUTNER, Granville Co. **Project No./Task No.:** 660.06.03

Well ID: MW-1R **Sampler(s):** S. Kelly D. Gardner

Well Location: North of the entrance at the treeline under the tower

Well Diameter: 2 inches

Initial Depth to Water (DTW): 43.69 feet

Depth to Bottom (DTB): 56.00 feet

Water Column Thickness (WCT): 12.31 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 2.01 gallons

For 4" Well: WCT X 0.653 = — gallons

For THREE Well Volumes: WV X 3 = 6.03 gallons

Actual Amount Purged/Bailed : 6.03 gallons

Purged with: disposable bailer

Sampled with: disposable bailer

Depth to Water before Sampling : 43.83 feet

Gallons	Time	pH	Temp. °C	Cond. m.s.	Dis. O_2 mg/l	Turb. ntu	ORP R, mv	Initials
0	1408	7.91	17.1	76.0	—	9.46	—	DGK
2.01	1415	6.33	16.3	78.4	—	310	—	DGK
4.02	1422	6.38	16.2	87.9	—	355	—	DGK
6.03	1431	6.36	16.2	103.0	—	789	—	DGK
Before Sampling	7-12-07 12:00	7.15	19.6	100.5	6.79	14.53	276	DG

Comments (weather conditions, odor, color, silt, etc.):

7-11-07: Partly cloudy, Breezy, 80's °F, well inner & outer casing still broke/bent

7-12-07: MOSTLY SUNNY, high 70s → organics/Insects in well

Fe2+: 0.2 mg/L **CO2:** 25 mg/L

Signature: Daniel A Gardner **Date:** 7-12-07

QA/QC Sign Off: [signature] **Date:** 9-19-07

DATE: 7-11-07

ENGINEERING, INC.

GROUND WATER SAMPLING LOG

Project Name: BUTNER, Granville Co. **Project No./Task No.:** 660.06.03

Well ID: MW-2R **Sampler(s):** DAN GIRDNER / JEREMEY KERLY

Well Location: South side of fill, inside tree line and next to MW-3R

Well Diameter: 2 inches

Initial Depth to Water (DTW): 2.91 feet

Depth to Bottom (DTB): 18.85 feet

Water Column Thickness (WCT): 15.94 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 2.60 gallons

For 4" Well: WCT X 0.653 = — gallons

For THREE Well Volumes: WV X 3 = 7.80 gallons

Actual Amount Purged/Bailed : 5.20 gallons

Purged with: disposable bailer

Sampled with: disposable bailer

Depth to Water before Sampling : 2.85 feet

Gallons	Time	pH	Temp. °C	Cond. m.s.	Dis. O_2 mg/l	Turb. ntu	ORP R, mv	Initials
0	16:58	6.45	18.2	2.52	—	9.22	—	DG
2.60	16:56	6.56	15.9	2.47	—	108	—	DG
5.20	16:59	6.69	15.8	2.44	—	127	—	DG
Before Sampling	15:05	6.63	16.7	2.30	0.83	4.52	27	

Comments (weather conditions, odor, color, silt, etc.): ODOR

7/11: INCREASINGLY CLOUDY, 80's+ / IMPENDING STORMS

7/12: MOSTLY SUNNY FIELD BLANK 15:50

Fe2+: 7.9 mg/L **CO2:** 290 mg/L

Signature: Daniel A. Gardner **Date:** 7-12-07

QA/QC Sign Off: [signature] **Date:** 9-19-07

DATE: 7-11-07

JOYCE ENGINEERING, INC.

GROUND WATER SAMPLING LOG

Project Name: BUTNER, Granville Co. **Project No./Task No.:** 660.06.03

Well ID: MW-3R **Sampler(s):** DAN GIRDNER / JEREMEY KERLY

Well Location: Next to MW-2R, inside tree line

Well Diameter: 2 inches

Initial Depth to Water (DTW): 2.99 feet

Depth to Bottom (DTB): 35.83 feet

Water Column Thickness (WCT): 32.84 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 5.36 gallons

For 4" Well: WCT X 0.653 = — gallons

For THREE Well Volumes: WV X 3 = 16.08 gallons

Actual Amount Purged/Bailed : 8.40 gallons

Purged with: disposable bailer

Sampled with: disposable bailer

Depth to Water before Sampling : 2.89 feet

Gallons	Time	pH	Temp. °C	Cond. µS ~~m.s.~~	Dis. O_2 mg/l	Turb. ntu	ORP mv	Initials
0	16:33	7.27	19.4	1448		3.19		DG
5.36	16:43	6.78	16.2	1620		7.17		DG
DRY @ 8.4	GALS							DG
Before Sampling	7-12-07 14:30	7.06	17.0	1704	2.45	4.65	245	DZ

Comments (weather conditions, odor, color, silt, etc.):

7/11: INCREASING CLOUDINESS

7/12 MOSTLY SUNNY, 80s

Fe2+: 0 mg/L **CO2:** 165 mg/L

Signature: Daniel A. Girdner **Date:** 7/12/07

QA/QC Sign Off: [signature] **Date:** 9/19/07

DATE: 7-11-07

ENGINEERING, INC.

GROUND WATER SAMPLING LOG

Project Name: BUTNER, Granville Co. **Project No./Task No.:** 660.06.03

Well ID: MW-4 **Sampler(s):** DAN GIRDNER / JEREMEY KERLY

Well Location: south of fill, just inside tree line

Well Diameter: 2 inches

Initial Depth to Water (DTW): 9.49 feet

Depth to Bottom (DTB): 31.43 feet

Water Column Thickness (WCT): 21.94 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 3.58 gallons

For 4" Well: WCT X 0.653 = — gallons

For THREE Well Volumes: WV X 3 = 10.73 gallons

Actual Amount Purged/Bailed : 3.58 gallons

Purged with: disposable bailer

Sampled with: disposable bailer

Depth to Water before Sampling : 10.20 feet

Gallons	Time	pH	Temp. °C	Cond. ~~m.s.~~ uS	Dis. O_2 mg/l	Turb. ntu	ORP R.mv	Initials
0	16:08	7.05	18.5	1292		5.02		DG
3.58	16:12	7.02	15.9	1339		70.0		DG
DRY	after	3.58 gals						DG
Before Sampling	7-12-07 1340	7.08	19.5	1318	2.38	5.89	268	DG

Comments (weather conditions, odor, color, silt, etc.):

7/11 : INCREASINGLY CLOUDY, HIGH 80's

7/12 : MOSTLY CLOUDY, 80's

Fe2+: 0 mg/L **CO2:** 160 mg/L

Signature: Daniel Girdner **Date:** 7-12-07

QA/QC Sign Off: [signature] **Date:** 9-19-07

DATE: 7-11-07

ENGINEERING, INC.

GROUND WATER SAMPLING LOG

Project Name: BUTNER, Granville Co. **Project No./Task No.:** 660.06.03

Well ID: MW-5 **Sampler(s):** S. Kelly D. Gardner

Well Location: east/south east of fill, back into woods

Well Diameter: 2 inches

Initial Depth to Water (DTW): 13.36 feet

Depth to Bottom (DTB): 23.52 feet

Water Column Thickness (WCT): 10.16 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 1.66 gallons

For 4" Well: WCT X 0.653 = — gallons

For THREE Well Volumes: WV X 3 = 4.98 gallons

Actual Amount Purged/Bailed : 4.00 gallons

Purged with: disposable bailer

Sampled with: disposable bailer

Depth to Water before Sampling : 14.27 feet

Gallons	Time	pH	Temp. °C	Cond. µS ~~m.s.~~	Dis. O_2 mg/l	Turb. ntu	ORP R mv	Initials
0	1526	7.52	16.7	514	—	16.71	—	99K
1.66	1529	7.41	15.2	482	—	94.0	—	99K
3.32	1531	7.43	15.0	482	—	825	—	99K
			Dry @ 4.00 gal					
Before Sampling	7-12-07 13:10	7.65	18.8	406	6.57	5.27	266	DG

Comments (weather conditions, odor, color, silt, etc.):

7-11-07: Sunny, 80's °F, Breezy

7-12-07 MOSTLY SUNNY, 80's

Signature: David J Gardner **Date:** 7-12-07

QA/QC Sign Off: [illegible] **Date:** 9-19-07

DATE: 7-11-07

JOYCE ENGINEERING, INC.

GROUND WATER SAMPLING LOG

Project Name: BUTNER, Granville Co. **Project No./Task No.:** 660.06.03

Well ID: MW-6 **Sampler(s):** DAN GARDNER / JEREMEY KERLY

Well Location: north/north east of fill, back into woods beside mulch piles

Well Diameter: 2 inches

Initial Depth to Water (DTW): 10.23 feet

Depth to Bottom (DTB): 32.63 feet

Water Column Thickness (WCT): 22.40 feet [DTB-DTW]

Calculation for One Well Volume (WV):

For 2" Well: WCT X 0.163 = 3.65 gallons

For 4" Well: WCT X 0.653 = — gallons

For THREE Well Volumes: WV X 3 = 10.95 gallons

Actual Amount Purged/Bailed : 5.75 gallons

Purged with: disposable bailer

Sampled with: disposable bailer

Depth to Water before Sampling : 10.90 feet

Gallons	Time	pH	Temp. °C	Cond. µ ~~m.s.~~	Dis. O_2 mg/l	Turb. ntu	ORP mv	Initials
0	14:45	6.97	17.9	741		6.52		DG
3.65	14:48	7.15	16.1	726		87.1		DG
DRY@	5.75	—	—	—	—	—	—	DG
Before Sampling	7-12-07 1245	7.12	20.1	724	4.41	6.26	275	DG

Comments (weather conditions, odor, color, silt, etc.):

7/11: SUNNY, SCATTERED CLOUDS, HIGH 80S

7/12: SUNNY, 80's

Signature: Daniel J Butner **Date:** 7-12-07

QA/QC Sign Off: [illegible] **Date:** 9-19-07

DATE: 7-11-07

ENGINEERING, INC.

SURFACE WATER MONITORING LOG

Project Name: BUTNER, Granville Co. **Project/Task No.:** 660.06.03

Surface Point ID: SW-1 **Sampler(s):** J. Kiely D. Gidner

Location: Near Sed. pond, Basin

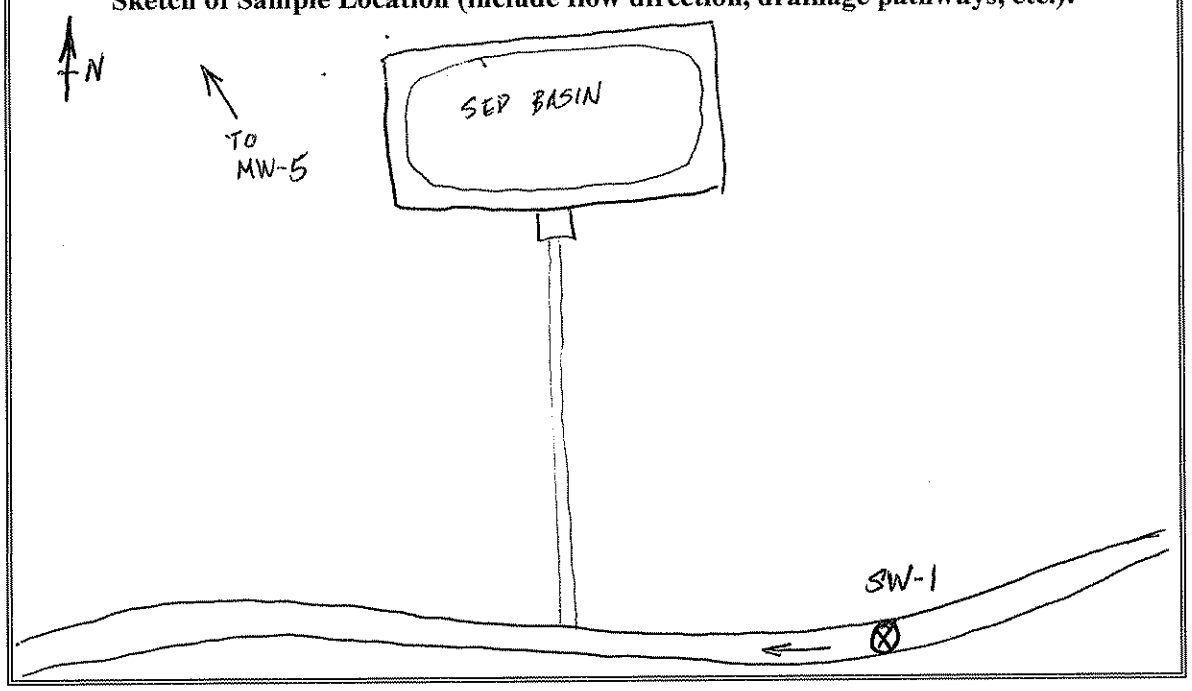
Field Parameters:

Time of Sampling:	1540	
pH:	7.59	
Temperature :	23.8	(°C)
Conductivity :	377	(µS)
Turbidity :	17.42	(ntu)

Comments/Sample Description(weather conditions, odor, color, silt, etc.):

Sunny, Breezy, 80.5°F

Sketch of Sample Location (include flow direction, drainage pathways, etc.):



Signature: **Date:** 7-11-07

QA/QC Sign Off: **Date:** 9-19-07

DATE:_____

JOYCE ENGINEERING, INC.

SURFACE WATER MONITORING LOG

Project Name: BUTNER, Granville Co. **Project/Task No.:** 660.06.03

Surface Point ID: SW-2 **Sampler(s):** DAN GIRDNER / JEREMEY KERLY

Location: Down from MW-2R & MW-3R

Field Parameters:

Time of Sampling: 17:05

pH: _____

Temperature : _____(°C)

Conductivity : _____(µS)

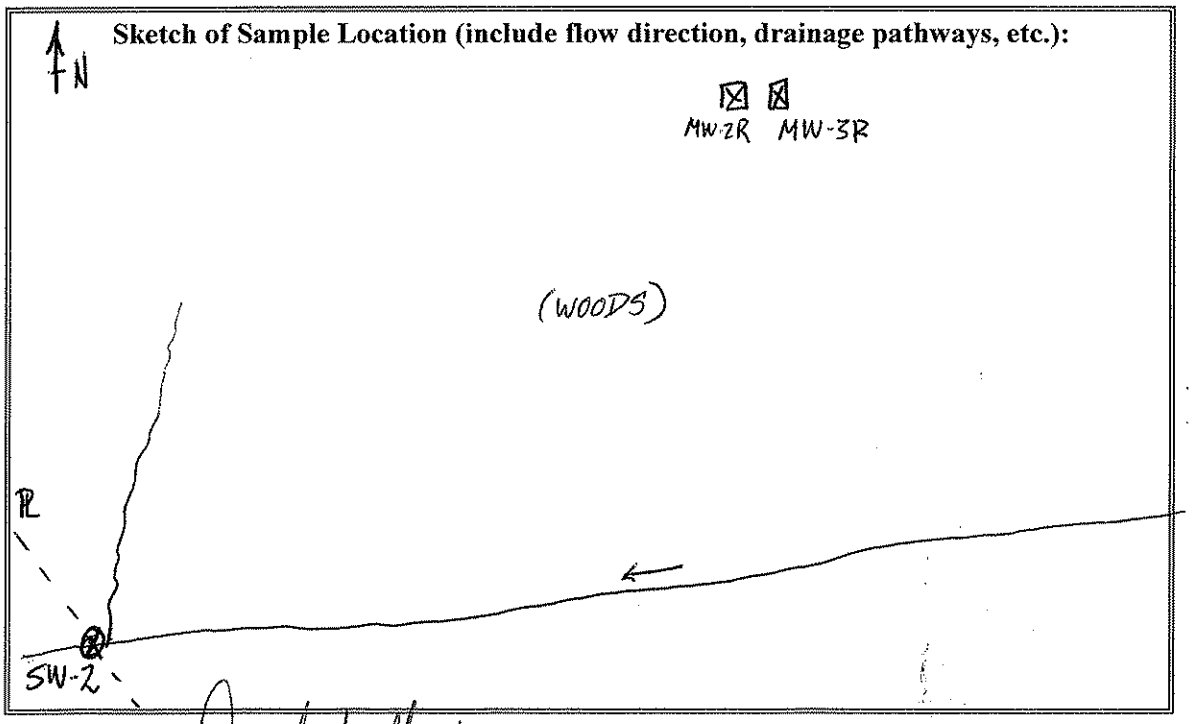
Turbidity : _____(ntu)

Comments/Sample Description(weather conditions, odor, color, silt, etc.):

7/11: RAIN COMING

Dry!

Sketch of Sample Location (include flow direction, drainage pathways, etc.):



Signature: Daniel A. Gardner **Date:** 9-11-07

QA/QC Sign Off: [illegible] **Date:** 9-19-07