

BCO 918

Golder Associates NC, Inc.

4900 Koger Boulevard, Suite 140
Greensboro, NC 27407
Telephone (336) 852-4903
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January 24, 2007

Project No. 053-6620007.100

Department of Environment and Natural Resources
Division of Waste Management
Solid Waste Section
401 Oberlin Road, Suite 150
Raleigh, North Carolina 27605
919-733-4996

Attention: Mr. Ervin Lane
Hydrogeologist

**Re: East Carolina Regional Landfill, Permit No. 08-03
Background Sampling of GW-15 and GW-16**



Dear Mr. Lane:

On behalf of Republic Services of North Carolina, LLC, Golder Associates NC, Inc. is submitting the enclosed results of the first and third background sampling events for monitoring well GW-16 and the third background sampling event for GW-15 at the above-referenced facility. The third background sampling event for GW-15 and GW-16 was performed on October 31, 2006. The monitoring wells were sampled for the North Carolina Appendix I list of constituents in accordance with Title 15A of North Carolina Administrative Code (NCAC) Subchapter 13B Rule .1632. The first background sampling event for GW-16 was performed on June 28, 2006. The results from the first background sampling event for GW-15 were submitted as part of the *Groundwater Monitoring Well & Gas Probe Installation Report, Cell No. 11 Lower End*, dated February 10, 2006. The results from the second background sampling event for GW-15 and GW-16 were submitted as part of the Second Semiannual 2006 Groundwater Monitoring Report dated September 7, 2006.

During the three background sampling events for GW-15 and GW-16 no organic or inorganic constituents were detected at concentrations above their respective laboratory reporting limits. The fourth background sampling event will be performed during the regularly scheduled first 2007 semiannual groundwater sampling event, and the results will be included with the associated report. If you have any questions, please contact the undersigned at 336-852-4903.

Sincerely,
GOLDER ASSOCIATES NC, INC.

David "Dusty" Y. Reedy II, P.G.
Staff Hydrogeologist

Rachel P. Kirkman, P.G.
Senior Project Hydrogeologist

Enclosure

- c: Ray Hoffman, P.E., Area Engineer, Republic Services, 1220 Commerce Street, SW, Hickory, North Carolina, 28613. HoffmanRJ@reprsvnc.com. 828-464-2414.
William Cooksey, General Manager, Republic Services of North Carolina, LLC, 1922 Republican Road, Aulander, North Carolina, 27805. CookseyW@reprsvnc.com. 252-348-3322.

G:\PROJECTS\REPUBLIC\UWHARRIE\GROUNDWATER\BACKGROUND SAMPLING\2ND BACKGROUND SAMPLING EVENT.DOC

Environmental Conservation Laboratories, Inc.

102-A Woodwinds Industrial Court
Cary NC, 27511
Phone: 919.467.3090 FAX: 919.467.3515



www.encolabs.com

Wednesday, July 5, 2006

Golder Associates NC, Inc. (GO007)

Attn: Rachel Kirkman

The Wingate Building 4900 Koger Blvd., Suite 140

Greensboro, NC 27407

RECEIVED JUL 10 2006

**RE: Project Number: 053-6620.202, Project Name/Desc: Republic-East Carolina Landfill
ENCO Workorder: C602117**

Dear Rachel Kirkman,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, June 29, 2006.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

This data has been produced in accordance with NELAC standards (June, 2003). This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Two handwritten signatures are present. The first signature on the left is written in black ink and appears to be "BG". The second signature on the right is also in black ink and is a more stylized, cursive signature that appears to be "C Smith".

Bob George For Chuck Smith
Project Manager

Enclosure(s)



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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: GW-16

Lab ID: C602117-01

Sampled: 06/28/06 11:53

Received: 06/29/06 11:48

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 6010B	12/25/06	06/30/06 13:57	7/3/2006 13:05
EPA 8260B	07/12/06	07/03/06 10:56	7/3/2006 17:06

Client ID: Trip Blank

Lab ID: C602117-02

Sampled: 06/28/06 00:00

Received: 06/29/06 11:48

Parameter	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260B	07/12/06	07/03/06 10:56	7/3/2006 15:47



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ANALYTICAL REPORT

Sample ID: GW-16
Lab #: C602117-01
Prep. Method: EPA 5030B_MS
Analyzed: 07/03/06 By: spf
Anal. Method: EPA 8260B
Anal. Batch:
QC Batch: 6G03003

Project: Republic-East Carolina Landfill
Work Order #: C602117
Matrix: Ground Water
Unit: ug/L
Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MRL	NC RDL	Units
1,1,1,2-Tetrachloroethane	630-20-6	5 U	1.0	5	ug/L
1,1,1-Trichloroethane	71-55-6	5 U	1.0	5	ug/L
1,1,2,2-Tetrachloroethane	79-34-5	5 U	1.0	5	ug/L
1,1,2-Trichloroethane	79-00-5	5 U	1.0	5	ug/L
1,1-Dichloroethane	75-34-3	5 U	1.0	5	ug/L
1,1-Dichloroethene	75-35-4	5 U	1.0	5	ug/L
1,2,3-Trichloropropane	96-18-4	15 U	1.0	15	ug/L
1,2-Dibromo-3-chloropropane	96-12-8	25 U	1.0	25	ug/L
1,2-Dibromoethane	106-93-4	5 U	1.0	5	ug/L
1,2-Dichlorobenzene	95-50-1	5 U	1.0	5	ug/L
1,2-Dichloroethane	107-06-2	5 U	1.0	5	ug/L
1,2-Dichloropropane	78-87-5	5 U	1.0	5	ug/L
1,4-Dichlorobenzene	106-46-7	5 U	1.0	5	ug/L
2-Butanone	78-93-3	100 U	2.0	100	ug/L
2-Hexanone	591-78-6	50 U	2.0	50	ug/L
4-Methyl-2-pentanone	108-10-1	100 U	2.0	100	ug/L
Acetone	67-64-1	100 U	2.0	100	ug/L
Acrylonitrile	107-13-1	200 U	5.0	200	ug/L
Benzene	71-43-2	5 U	1.0	5	ug/L
Bromochloromethane	74-97-5	5 U	1.0	5	ug/L
Bromodichloromethane	75-27-4	5 U	1.0	5	ug/L
Bromoform	75-25-2	5 U	1.0	5	ug/L
Bromomethane	74-83-9	10 U	1.0	10	ug/L
Carbon disulfide	75-15-0	100 U	2.0	100	ug/L
Carbon tetrachloride	56-23-5	10 U	1.0	10	ug/L
Chlorobenzene	108-90-7	5 U	1.0	5	ug/L
Chloroethane	75-00-3	10 U	1.0	10	ug/L
Chloroform	67-66-3	5 U	1.0	5	ug/L
Chloromethane	74-87-3	10 U	1.0	10	ug/L
cis-1,2-Dichloroethene	156-59-2	5 U	1.0	5	ug/L
cis-1,3-Dichloropropene	10061-01-5	10 U	1.0	10	ug/L
Dibromochloromethane	124-48-1	5 U	1.0	5	ug/L
Dibromomethane	74-95-3	10 U	1.0	10	ug/L
Ethylbenzene	100-41-4	5 U	1.0	5	ug/L
Iodomethane	74-88-4	10 U	2.0	10	ug/L
m,p-Xylenes	108-38-3/106-42-3	5 U	2.0	5	ug/L
Methylene chloride	75-09-2	10 U	1.0	10	ug/L
o-Xylene	95-47-6	5 U	1.0	5	ug/L
Styrene	100-42-5	10 U	1.0	10	ug/L
Tetrachloroethene	127-18-4	5 U	1.0	5	ug/L



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ANALYTICAL REPORT

Sample ID: GW-16
 Lab #: C602117-01
 Prep. Method: EPA 5030B_MS
 Analyzed: 07/03/06 By: spf
 Anal. Method: EPA 8260B
 Anal. Batch:
 QC Batch: 6G03003

Project: Republic-East Carolina Landfill
 Work Order #: C602117
 Matrix: Ground Water
 Unit: ug/L
 Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MRL	NC RDL	Units
Toluene	108-88-3	5 U	1.0	5	ug/L
trans-1,2-Dichloroethene	156-60-5	5 U	1.0	5	ug/L
trans-1,3-Dichloropropene	10061-02-6	10 U	1.0	10	ug/L
trans-1,4-Dichloro-2-butene	110-57-6	100 U	1.0	100	ug/L
Trichloroethene	79-01-6	5 U	1.0	5	ug/L
Trichlorofluoromethane	75-69-4	5 U	1.0	5	ug/L
Vinyl acetate	108-05-4	50 U	2.0	50	ug/L
Vinyl chloride	75-01-4	10 U	1.0	10	ug/L

Surrogate Recovery		Result	Spike Level	% Recovery	% Recovery Limits
4-Bromofluorobenzene	460-00-4	46.7	50.0	93 %	70-130
Dibromofluoromethane	1868-53-7	54.0	50.0	108 %	73-138
Toluene-d8	2037-26-5	48.8	50.0	98 %	77-118



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ANALYTICAL REPORT

Sample ID: GW-16
Lab #: C602117-01

Project: Republic-East Carolina Landfill
Work Order #: C602117
Matrix: Ground Water

Metals by EPA 6000/7000 Series Methods

Parameter	CAS Number	Analytical Results	MRL	NC RDL	Units	Analysis Method	Prep Method	Analytical Batch
Antimony	7440-36-0	30 U	10.0	30	ug/L	EPA 6010B	EPA 3005A	6F30016
Arsenic	7440-38-2	10 U	10.0	10	ug/L	EPA 6010B	EPA 3005A	6F30016
Barium	7440-39-3	500 U	20.0	500	ug/L	EPA 6010B	EPA 3005A	6F30016
Beryllium	7440-41-7	2 U	1.00	2	ug/L	EPA 6010B	EPA 3005A	6F30016
Cadmium	7440-43-9	1 U	1.00	1	ug/L	EPA 6010B	EPA 3005A	6F30016
Chromium	7440-47-3	10 U	10.0	10	ug/L	EPA 6010B	EPA 3005A	6F30016
Cobalt	7440-48-4	10 U	10.0	10	ug/L	EPA 6010B	EPA 3005A	6F30016
Copper	7440-50-8	200 U	10.0	200	ug/L	EPA 6010B	EPA 3005A	6F30016
Lead	7439-92-1	10 U	10.0	10	ug/L	EPA 6010B	EPA 3005A	6F30016
Nickel	7440-02-0	50 U	50.0	50	ug/L	EPA 6010B	EPA 3005A	6F30016
Selenium	7782-49-2	20 U	10.0	20	ug/L	EPA 6010B	EPA 3005A	6F30016
Silver	7440-22-4	10 U	10.0	10	ug/L	EPA 6010B	EPA 3005A	6F30016
Thallium	7440-28-0	10 U	10.0	10	ug/L	EPA 6010B	EPA 3005A	6F30016
Vanadium	7440-62-2	40 U	10.0	40	ug/L	EPA 6010B	EPA 3005A	6F30016
Zinc	7440-66-6	50 U	10.0	50	ug/L	EPA 6010B	EPA 3005A	6F30016



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ANALYTICAL REPORT

Sample ID: Trip Blank
Lab #: C602117-02
Prep. Method: EPA 5030B_MS
Analyzed: 07/03/06 By: spf
Anal. Method: EPA 8260B
Anal. Batch:
QC Batch: 6G03003

Project: Republic-East Carolina Landfill
Work Order #: C602117
Matrix: Water
Unit: ug/L
Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MRL	NC RDL	Units
1,1,1,2-Tetrachloroethane	630-20-6	5 U	1.0	5	ug/L
1,1,1-Trichloroethane	71-55-6	5 U	1.0	5	ug/L
1,1,2,2-Tetrachloroethane	79-34-5	5 U	1.0	5	ug/L
1,1,2-Trichloroethane	79-00-5	5 U	1.0	5	ug/L
1,1-Dichloroethane	75-34-3	5 U	1.0	5	ug/L
1,1-Dichloroethene	75-35-4	5 U	1.0	5	ug/L
1,2,3-Trichloropropane	96-18-4	15 U	1.0	15	ug/L
1,2-Dibromo-3-chloropropane	96-12-8	25 U	1.0	25	ug/L
1,2-Dibromoethane	106-93-4	5 U	1.0	5	ug/L
1,2-Dichlorobenzene	95-50-1	5 U	1.0	5	ug/L
1,2-Dichloroethane	107-06-2	5 U	1.0	5	ug/L
1,2-Dichloropropane	78-87-5	5 U	1.0	5	ug/L
1,4-Dichlorobenzene	106-46-7	5 U	1.0	5	ug/L
2-Butanone	78-93-3	100 U	2.0	100	ug/L
2-Hexanone	591-78-6	50 U	2.0	50	ug/L
4-Methyl-2-pentanone	108-10-1	100 U	2.0	100	ug/L
Acetone	67-64-1	100 U	2.0	100	ug/L
Acrylonitrile	107-13-1	200 U	5.0	200	ug/L
Benzene	71-43-2	5 U	1.0	5	ug/L
Bromochloromethane	74-97-5	5 U	1.0	5	ug/L
Bromodichloromethane	75-27-4	5 U	1.0	5	ug/L
Bromoform	75-25-2	5 U	1.0	5	ug/L
Bromomethane	74-83-9	10 U	1.0	10	ug/L
Carbon disulfide	75-15-0	100 U	2.0	100	ug/L
Carbon tetrachloride	56-23-5	10 U	1.0	10	ug/L
Chlorobenzene	108-90-7	5 U	1.0	5	ug/L
Chloroethane	75-00-3	10 U	1.0	10	ug/L
Chloroform	67-66-3	5 U	1.0	5	ug/L
Chloromethane	74-87-3	10 U	1.0	10	ug/L
cis-1,2-Dichloroethene	156-59-2	5 U	1.0	5	ug/L
cis-1,3-Dichloropropene	10061-01-5	10 U	1.0	10	ug/L
Dibromochloromethane	124-48-1	5 U	1.0	5	ug/L
Dibromomethane	74-95-3	10 U	1.0	10	ug/L
Ethylbenzene	100-41-4	5 U	1.0	5	ug/L
Iodomethane	74-88-4	10 U	2.0	10	ug/L
m,p-Xylenes	108-38-3/106-42-3	5 U	2.0	5	ug/L
Methylene chloride	75-09-2	10 U	1.0	10	ug/L
o-Xylene	95-47-6	5 U	1.0	5	ug/L
Styrene	100-42-5	10 U	1.0	10	ug/L
Tetrachloroethene	127-18-4	5 U	1.0	5	ug/L



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ANALYTICAL REPORT

Sample ID: Trip Blank
Lab #: C602117-02
Prep. Method: EPA 5030B_MS
Analyzed: 07/03/06 By: spf
Anal. Method: EPA 8260B
Anal. Batch:
QC Batch: 6G03003

Project: Republic-East Carolina Landfill
Work Order #: C602117
Matrix: Water
Unit: ug/L
Dilution Factor: 1

Volatile Organic Compounds by GCMS

Parameter	CAS Number	Analytical Results	MRL	NC RDL	Units
Toluene	108-88-3	5 U	1.0	5	ug/L
trans-1,2-Dichloroethene	156-60-5	5 U	1.0	5	ug/L
trans-1,3-Dichloropropene	10061-02-6	10 U	1.0	10	ug/L
trans-1,4-Dichloro-2-butene	110-57-6	100 U	1.0	100	ug/L
Trichloroethene	79-01-6	5 U	1.0	5	ug/L
Trichlorofluoromethane	75-69-4	5 U	1.0	5	ug/L
Vinyl acetate	108-05-4	50 U	2.0	50	ug/L
Vinyl chloride	75-01-4	10 U	1.0	10	ug/L

Surrogate Recovery	Result	Spike Level	% Recovery	% Recovery Limits
4-Bromofluorobenzene	48.0	50.0	96 %	70-130
Dibromofluoromethane	55.0	50.0	110 %	73-138
Toluene-d8	48.4	50.0	97 %	77-118



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QUALITY CONTROL

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Volatile Organic Compounds by GCMS - Quality Control

Batch 6G03003 - EPA 5030B_MS

Prepared: 07/03/2006 10:56 Analyzed: 07/03/2006 12:44

Blank (6G03003-BLK1)

Acetone	2.0 U	2.0	ug/L							
Acrylonitrile	5.0 U	5.0	ug/L							
Benzene	1.0 U	1.0	ug/L							
2-Butanone	2.0 U	2.0	ug/L							
2-Hexanone	2.0 U	2.0	ug/L							
Iodomethane	2.0 U	2.0	ug/L							
Tetrachloroethene	1.0 U	1.0	ug/L							
4-Methyl-2-pentanone	2.0 U	2.0	ug/L							
Bromochloromethane	1.0 U	1.0	ug/L							
Trichloroethene	1.0 U	1.0	ug/L							
Bromodichloromethane	1.0 U	1.0	ug/L							
Bromoform	1.0 U	1.0	ug/L							
Bromomethane	1.0 U	1.0	ug/L							
Carbon disulfide	2.0 U	2.0	ug/L							
Carbon tetrachloride	1.0 U	1.0	ug/L							
Chlorobenzene	1.0 U	1.0	ug/L							
Chloroethane	1.0 U	1.0	ug/L							
Chloroform	1.0 U	1.0	ug/L							
Chloromethane	1.0 U	1.0	ug/L							
Dibromochloromethane	1.0 U	1.0	ug/L							
1,2-Dibromo-3-chloropropane	1.0 U	1.0	ug/L							
1,2-Dibromoethane	1.0 U	1.0	ug/L							
Dibromomethane	1.0 U	1.0	ug/L							
1,2-Dichlorobenzene	1.0 U	1.0	ug/L							
1,4-Dichlorobenzene	1.0 U	1.0	ug/L							
trans-1,4-Dichloro-2-butene	1.0 U	1.0	ug/L							
1,1-Dichloroethane	1.0 U	1.0	ug/L							
1,2-Dichloroethane	1.0 U	1.0	ug/L							
1,1-Dichloroethene	1.0 U	1.0	ug/L							
cis-1,2-Dichloroethene	1.0 U	1.0	ug/L							
trans-1,2-Dichloroethene	1.0 U	1.0	ug/L							
1,2-Dichloropropane	1.0 U	1.0	ug/L							
cis-1,3-Dichloropropene	1.0 U	1.0	ug/L							
trans-1,3-Dichloropropene	1.0 U	1.0	ug/L							
Ethylbenzene	1.0 U	1.0	ug/L							
Methylene chloride	1.0 U	1.0	ug/L							
Styrene	1.0 U	1.0	ug/L							
1,1,1,2-Tetrachloroethane	1.0 U	1.0	ug/L							
1,1,2,2-Tetrachloroethane	1.0 U	1.0	ug/L							
Toluene	1.0 U	1.0	ug/L							



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QUALITY CONTROL

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Volatile Organic Compounds by GCMS - Quality Control

Batch 6G03003 - EPA 5030B_MS

Blank (6G03003-BLK1) Continued

Prepared: 07/03/2006 10:56 Analyzed: 07/03/2006 12:44

1,1,1-Trichloroethane	1.0 U	1.0	ug/L							
1,1,2-Trichloroethane	1.0 U	1.0	ug/L							
Trichlorofluoromethane	1.0 U	1.0	ug/L							
1,2,3-Trichloropropane	1.0 U	1.0	ug/L							
Vinyl acetate	2.0 U	2.0	ug/L							
Vinyl chloride	1.0 U	1.0	ug/L							
m,p-Xylenes	2.0 U	2.0	ug/L							
o-Xylene	1.0 U	1.0	ug/L							

LCS (6G03003-BS1)

Prepared: 07/03/2006 10:56 Analyzed: 07/03/2006 20:35

Benzene	20.2	1.0	ug/L	20.0	101	69-115	200			
Trichloroethene	19.2	1.0	ug/L	20.0	96	74-118	200			
Chlorobenzene	21.5	1.0	ug/L	20.0	108	76-118	200			
1,1-Dichloroethene	20.3	1.0	ug/L	20.0	102	64-139	200			
Toluene	22.6	1.0	ug/L	20.0	113	77-117	200			

Matrix Spike (6G03003-MS1)

Prepared: 07/03/2006 10:56 Analyzed: 07/03/2006 21:02

Benzene	19.9	1.0	ug/L	20.0	100	53-150	23			
Trichloroethene	19.0	1.0	ug/L	20.0	95	64-124	25			
Chlorobenzene	24.7	1.0	ug/L	20.0	124	44-128	22			
1,1-Dichloroethene	19.0	1.0	ug/L	20.0	95	36-177	30			
Toluene	22.9	1.0	ug/L	20.0	114	40-161	23			

Matrix Spike Dup (6G03003-MSD1)

Prepared: 07/03/2006 10:56 Analyzed: 07/03/2006 21:28

Benzene	19.5	1.0	ug/L	20.0	98	53-150	2	23		
Trichloroethene	20.0	1.0	ug/L	20.0	100	64-124	5	25		
Chlorobenzene	19.6 QR-02	1.0	ug/L	20.0	98	44-128	23	22	QR-02	
1,1-Dichloroethene	18.8	1.0	ug/L	20.0	94	36-177	1	30		
Toluene	21.4	1.0	ug/L	20.0	107	40-161	7	23		

Metals by EPA 6000/7000 Series Methods - Quality Control

Batch 6F30016 - EPA 3005A

Blank (6F30016-BLK1)

Prepared: 06/30/2006 13:57 Analyzed: 07/03/2006 12:48

Antimony	10.0 U	10.0	ug/L							
Arsenic	10.0 U	10.0	ug/L							
Barium	20.0 U	20.0	ug/L							
Beryllium	1.00 U	1.00	ug/L							
Cadmium	1.00 U	1.00	ug/L							
Chromium	10.0 U	10.0	ug/L							
Cobalt	10.0 U	10.0	ug/L							
Copper	10.0 U	10.0	ug/L							
Lead	10.0 U	10.0	ug/L							
Nickel	50.0 U	50.0	ug/L							



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QUALITY CONTROL

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Metals by EPA 6000/7000 Series Methods - Quality Control

Batch 6F30016 - EPA 3005A

Blank (6F30016-BLK1) Continued

Prepared: 06/30/2006 13:57 Analyzed: 07/03/2006 12:48

Selenium	10.0 U	10.0	ug/L
Silver	10.0 U	10.0	ug/L
Thallium	10.0 U	10.0	ug/L
Vanadium	10.0 U	10.0	ug/L
Zinc	10.0 U	10.0	ug/L

LCS (6F30016-BS1)

Prepared: 06/30/2006 13:57 Analyzed: 07/03/2006 12:57

Antimony	502	10.0	ug/L	500	100	82-119	200
Arsenic	991	10.0	ug/L	1000	99	82-117	200
Barium	1000	20.0	ug/L	1000	100	72-125	200
Beryllium	509	1.00	ug/L	500	102	75-121	200
Cadmium	507	1.00	ug/L	500	101	72-120	200
Chromium	988	10.0	ug/L	1000	99	78-119	200
Cobalt	969	10.0	ug/L	1000	97	76-117	200
Copper	486	10.0	ug/L	500	97	80-117	200
Lead	974	10.0	ug/L	1000	97	72-121	200
Nickel	994	50.0	ug/L	1000	99	78-116	200
Selenium	1020	10.0	ug/L	1000	102	82-127	200
Silver	95.8	10.0	ug/L	100	96	80-128	200
Thallium	496	10.0	ug/L	500	99	79-118	200
Vanadium	487	10.0	ug/L	500	97	85-115	200
Zinc	977	10.0	ug/L	1000	98	80-120	200

Matrix Spike (6F30016-MS1)

Source: C602117-01

Prepared: 06/30/2006 13:57 Analyzed: 07/03/2006 13:12

Antimony	504	10.0	ug/L	500	10.0 U	101	38-138	30
Arsenic	955	10.0	ug/L	1000	10.0 U	96	64-126	12
Barium	1000	20.0	ug/L	1000	25.4	97	74-119	11
Beryllium	495	1.00	ug/L	500	1.00 U	99	70-131	21
Cadmium	491	1.00	ug/L	500	1.00 U	98	68-121	12
Chromium	962	10.0	ug/L	1000	10.0 U	96	73-120	10
Cobalt	943	10.0	ug/L	1000	10.0 U	94	76-120	17
Copper	473	10.0	ug/L	500	10.0 U	95	75-123	16
Lead	956	10.0	ug/L	1000	5.30	95	68-126	19
Nickel	968	50.0	ug/L	1000	50.0 U	97	64-126	12
Selenium	992	10.0	ug/L	1000	10.0 U	99	65-129	10
Silver	98.8	10.0	ug/L	100	10.0 U	99	69-121	12
Thallium	484	10.0	ug/L	500	4.40	96	67-135	13
Vanadium	472	10.0	ug/L	500	10.0 U	94	71-130	16
Zinc	950	10.0	ug/L	1000	10.0 U	95	63-131	24

Matrix Spike Dup (6F30016-MSD1)

Source: C602117-01

Prepared: 06/30/2006 13:57 Analyzed: 07/03/2006 13:19

Antimony	491	10.0	ug/L	500	10.0 U	98	38-138	3	30
Arsenic	981	10.0	ug/L	1000	10.0 U	98	64-126	3	12



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QUALITY CONTROL

Analyte	Result	MRL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
---------	--------	-----	-------	-------------	---------------	------	-------------	-----	-----------	-------

Metals by EPA 6000/7000 Series Methods - Quality Control

Batch 6F30016 - EPA 3005A

Matrix Spike Dup (6F30016-MSD1) Continued Source: C602117-01 Prepared: 06/30/2006 13:57 Analyzed: 07/03/2006 13:19

Barium	1020	20.0	ug/L	1000	25.4	99	74-119	2	11	
Beryllium	502	1.00	ug/L	500	1.00 U	100	70-131	1	21	
Cadmium	498	1.00	ug/L	500	1.00 U	100	68-121	1	12	
Chromium	970	10.0	ug/L	1000	10.0 U	97	73-120	0.8	10	
Cobalt	960	10.0	ug/L	1000	10.0 U	96	76-120	2	17	
Copper	481	10.0	ug/L	500	10.0 U	96	75-123	2	16	
Lead	951	10.0	ug/L	1000	5.30	95	68-126	0.5	19	
Nickel	990	50.0	ug/L	1000	50.0 U	99	64-126	2	12	
Selenium	990	10.0	ug/L	1000	10.0 U	99	65-129	0.2	10	
Silver	91.0	10.0	ug/L	100	10.0 U	91	69-121	8	12	
Thallium	487	10.0	ug/L	500	4.40	97	67-135	0.6	13	
Vanadium	476	10.0	ug/L	500	10.0 U	95	71-130	0.8	16	
Zinc	966	10.0	ug/L	1000	10.0 U	97	63-131	2	24	

NOTES AND DEFINITIONS

- QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
- U Analyte included in the analysis, but not detected

ENVIRONMENTAL CONSERVATION LABORATORIES

1015 Passport Way
Cary, North Carolina 27513
Ph. (919) 677-1669 • Fax (919) 677-9846

10207 General Drive
Orlando, Florida 32824-8529
Ph. (407) 826-5314 • Fax (407) 850-6945

4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
Ph. (904) 296-3007 • Fax (904) 296-6210

CHAIN OF CUSTODY RECORD

ENCO CompQAP No.: 960038G/0



PROJECT REFERENCE	PROJECT NO.	P.O. NUMBER	MATRIX TYPE	REQUIRED ANALYSIS	PAGE	OF			
First Carolina Golden Associates 80 LF	053-6420.202	852-4903	SURFACE WATER	NC App. I	1	1			
NC	Bow Deaper	(336) 852-4904	GROUND WATER	NC App. I					
CLIENT NAME	CLIENT PROJECT MANAGER		WASTEWATER	NC App. I					
Goldlee Associates	Rachel Kirkman		DRINKING WATER	NC App. I					
CLIENT ADDRESS (CITY, STATE, ZIP)	GREENSBORO, NC 27407		NONAQUEOUS LIQUID (oil, solvent, etc.)	NC App. I					
4900 Koger Blvd. Suite 140			SLUDGE	NC App. I					
			OTHER	NC App. I					
STATION	DATE	TIME	GRAB	COMP	SAMPLE IDENTIFICATION	NUMBER OF CONTAINERS SUBMITTED	PRESERVATIVE	REMARKS	
1	6-28-06	11:53	X		Gw-16	X		NC App. I	
2	6-28-06				Trip	X		NC App. I VOCs	
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
SAMPLE KIT PREPARED BY:		DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
CLACKSONVILLE		ORLANDO							
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
		6-28-06	20:30						
RECEIVED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
RECEIVED FOR LABORATORY BY: (SIGNATURE)		DATE	TIME	CUSTODY INTACT	ENCO LOG NO.	REMARKS			
S. Lantier		6/29/06	10:30	<input type="checkbox"/> YES <input type="checkbox"/> NO		30			
<input type="checkbox"/> Jacksonville <input type="checkbox"/> Orlando									

C602117

ENCO Cary

Sample Receipt Conditions

Client: Golder Associates NC, Inc. (GO007)	Lab Project Mgr: Chuck Smith
Project: Republic-East Carolina Landfill	Project Number: 053-6620.202
PO #:	

Report To:
 Golder Associates NC, Inc. (GO007)
 Rachel Kirkman
 The Wingate Building 4900 Koger Blvd., Suite 140
 Greensboro, NC 27407
 Phone: (336) 852-4903
 Fax: () -

Invoice To:
 Golder Associates NC, Inc. (GO007)
 Rachel Kirkman
 The Wingate Building 4900 Koger Blvd., Suite 140
 Greensboro, NC 27407
 Phone : (336) 852-4903
 Fax: () -

Received By: John W. Lowther	Date Received: 29-Jun-06 11:48
Logged In By: John W. Lowther	Date Logged In: 29-Jun-06 11:48

Work Order Comments:

Default Cooler received at 3.0°C

Containers Intact	Y	Containers Properly Preserved	Y	Proper Containers Received	Y	All Samples in PreLog Received	N	COC/Labels Agree	Y
Custody Seals Intact	Y	Volatile Containers Preserved	Y	Volatile Containers Headspace Free	Y	Aqueous Samples Checked for Residual Cl	N		

**GOLDER ASSOCIATES INC.
QUALITY ASSURANCE & QUALITY CONTROL
LABORATORY DATA REVIEW**



Project Name: East Carolina Regional Landfill

Project Reference Number: 053-6620.202

Sampling Event Date: June 29, 2006

Review Date: July 13, 2006

Initials: BSD

Person(s) performing the review are to initial each item on this form as acknowledgement of data acceptance, or as acknowledgement of a review issue. In the case of the latter, a brief explanation should follow the applicable item.

Golder Associates Inc. has reviewed the laboratory certificates of analysis, chain-of-custody form, and laboratory provided sample group quality assurance and quality control data for the above referenced sample group to identify potential bias or inaccuracy, in general accordance with the following United States Environmental Protection Agency documents:

- Region III Modifications to Functional Guidelines for Organic Data Review Multi-Media, Multi-Concentration, September 1994;
- Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses, April 1993; and
- Laboratory Data Validation Functional Guidelines for Evaluation Inorganic Analyses, July 1988.

COMPLIANCE ANALYTE LIST(S) (check all that apply)

- Phase I Construction and Demolition Debris or Industrial
- NC Appendix I
- NC Appendix I + Detects (List): _____
- NC Appendix II
- Site Specific Leachate (List): _____
- Other: _____

Note: _____

1.0 CHAIN OF CUSTODY (COC) REVIEW

BD COC was properly signed by all parties.

BD Correct project name and number are on the form.

BD Sample receipt condition at laboratory was acceptable.

BD Each sample and blank submitted for analysis appears in the data report.

**GOLDER ASSOCIATES INC.
QUALITY ASSURANCE & QUALITY CONTROL
LABORATORY DATA REVIEW**

Notes: _____

2.0 SAMPLE HOLDING TIMES

BD Holding times for extraction *and/or* analysis were met for each analytical method.

Review Criteria		
Method	Analytes	Holding Time
SW-846 Method 8260 and 8011	VOCs	14 days
SW-846 Method 8270, 8080, 8081, 8082, 8151	SVOCs, PCBs pesticides, herbicides	7 days for extraction, 40 days from extraction for analysis
SW-846 Methods 6000 and 7000 Series	metals, except mercury	6 months
SW-846 Method 7470	Mercury	28 days
SW-846 Method 9030	Sulfide	7 days
SW-846 Method 9010	Cyanide	14 days
EPA Method 300	Nitrate/Sulfate	48 hrs./ 28 days
EPA Method 405.1	BOD	48 hrs.
EPA Method 410.4	COD	28 days
EPA Method 365.4	Phosphorus	28 days

Notes: _____

3.0 LABORATORY QUALITY CONTROL REVIEW

BD Laboratory analyzed at least one internal blank for each method, where applicable.

BD Laboratory blank is interference free.

Notes: _____

BD Surrogate recoveries are provided for each analytical method, where applicable.

BD Surrogate recoveries for each method are within the acceptable limits.

Notes: _____

BD MS/MSD/LCS data results are provided for each analytical method.

See note MS/MSD/LCS recoveries for each method are within the acceptable limits.

Notes: The RPD limit was exceeded for chlorobenzene for the matrix spike duplicate sample.
The MS/MSD/LCS were all within acceptable ranges.

**GOLDER ASSOCIATES INC.
QUALITY ASSURANCE & QUALITY CONTROL
LABORATORY DATA REVIEW**

4.0 ANALYTE LISTS/METHODS

BD The proper number of constituents are present for each analyte list as identified above (including detects where applicable).

BD Proper EPA SW-846 analytical methods were used for analysis.

Notes: _____

5.0 DATA REPORTING

BD All analytical reporting associated with the event was performed by the contracted lab.

BD Trip; field and/or equipment; and laboratory blank results have all been reported. All detects for blanks are listed below by constituent. All laboratory method blanks, if any, have been 'flagged' with a 'B' where detected in other samples and a laboratory narrative was provided. If the sample was flagged by the laboratory and is not within 5x of the concentration in the blank (or 10x for commonly detected laboratory contaminants – acetone, methylene chloride, and phthalates), list below with explanation if flags should be removed. If flags need to be added for samples, also list below.

Notes: _____

BD It is clear from the laboratory report that samples have or have not been diluted during analysis, and if the samples have been diluted, the result is reported as a multiple of the dilution (e.g., a sample diluted 10x resulting in an analytical detection of 1.0 should be reported as 10). Those that have been diluted are listed below with the dilution factor.

Notes: _____

BD The report provides the reporting limit for each constituent.

BD The results were reported at or below their proper reporting limits (eg., NC Solid Waste approved PQLs). Those that are not reported correctly are listed below (by constituent) with the proper reporting limits listed beside them. State if the reporting limit error is due to dilutions.

Notes: _____

BD No inorganic and organic constituents were reported above their respective NC 2L Drinking Water Standards in wells, surface water points, or field/equipment/trip blanks.

Notes: _____

**GOLDER ASSOCIATES INC.
QUALITY ASSURANCE & QUALITY CONTROL
LABORATORY DATA REVIEW**

NA No inorganic and organic constituents were detected in a well or surface water point at concentrations outside of their historical range (more than 5x previous concentrations or first-time detections).

Notes: _____

BD Other report issues/communications with laboratory/etc.:

Notes: _____

g:\projects\republic\background sampling gw-16\data review (1 person).doc



Report #: C604169
Submitted: 11/03/2006
Reported: 11/17/2006
Reference: 053-6620.202
Page 1 of 12

RECEIVED NOV 27 2006

Environmental Conservation Laboratories, Inc.
102-A Woodwinds Industrial Court
Cary, NC 27511
(919) 467-3090

Login #: C604169
Account #: G0007
Client: Golder Associates, Inc. (G0007)
Attention: Rachel Kirkman
Address: The Wingate Building 4900 Koger Blvd., Suite 140
Greensboro, NC 27407

Date Received: 11/03/2006
Date Invoiced:
Project Number: 053-6620.202
Project Desc: Republic-East Carolina Landfill
Project Loc: North Carolina

CERTIFICATIONS

Local Laboratory
Certification: NCDENR:591

ABBREVIATIONS

- Analysis not requested for this sample.
ND Compound was analyzed for but not detected to the level shown.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. This data has been produced in accordance with NELAC Standards (July, 2002).

This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

Bob George For Chuck Smith



Lab Sample ID	Client ID	Collection Date
C604169-01	GW-15	10/31/2006
C604169-02	GW-16	10/31/2006
C604169-03	Trip Blank	10/31/2006

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. This data has been produced in accordance with NELAC Standards (July, 2002).

This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

Bob George For Chuck Smith



Report #: C604169
Submitted: 11/03/2006
Reported: 11/17/2006
Reference: 053-6620.202
Page 3 of 12

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID:	GW-15	Lab ID:	C604169-01	
Sampled:	10/31/2006 15:45	Received:	11/03/2006 11:15	
Parameter	Hold/Exp Date 1	Hold/Exp Date 2	Prep Date	Analysis Date
EPA 6010B	04/29/2007 00:00		11/06/2006 12:01	11/07/2006 12:52
EPA 8260B	11/14/2006 00:00		11/10/2006 12:45	11/11/2006 01:57

Client ID:	GW-16	Lab ID:	C604169-02	
Sampled:	10/31/2006 14:51	Received:	11/03/2006 11:15	
Parameter	Hold/Exp Date 1	Hold/Exp Date 2	Prep Date	Analysis Date
EPA 6010B	04/29/2007 00:00		11/06/2006 12:01	11/07/2006 12:58
EPA 8260B	11/14/2006 00:00		11/10/2006 12:45	11/11/2006 02:23

Client ID:	Trip Blank	Lab ID:	C604169-03	
Sampled:	10/31/2006 00:00	Received:	11/03/2006 11:15	
Parameter	Hold/Exp Date 1	Hold/Exp Date 2	Prep Date	Analysis Date
EPA 8260B	11/14/2006 00:00		11/10/2006 12:45	11/11/2006 02:48



Report #: C604169
Submitted: 11/03/2006
Reported: 11/17/2006
Reference: 053-6620.202
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Overview

None

Quality Control Samples

None

Other Comments

None

The analytical data presented in this report are consistent with the methods as referenced in the analytical report. Any exceptions or deviations are noted in the QC remarks section of this narrative. Should there be any questions regarding this package.

Released By:

Environmental Conservation Laboratories, Inc.
Bob George For Chuck Smith



Report #: C604169
Submitted: 11/03/2006
Reported: 11/17/2006
Reference: 053-6620.202
Page 5 of 12

Parameter	RDL	Units	GW-15	GW-16	Trip Blank
Antimony	30	ug/L	ND	ND	-
Arsenic	10	ug/L	ND	ND	-
Barium	500	ug/L	ND	ND	-
Beryllium	2	ug/L	ND	ND	-
Cadmium	1	ug/L	ND	ND	-
Chromium	10	ug/L	ND	ND	-
Cobalt	10	ug/L	ND	ND	-
Copper	200	ug/L	ND	ND	-
Lead	10	ug/L	ND	ND	-
Nickel	50	ug/L	ND	ND	-
Selenium	20	ug/L	ND	ND	-
Silver	10	ug/L	ND	ND	-
Thallium	10	ug/L	ND	ND	-
Vanadium	40	ug/L	ND	ND	-
Zinc	50	ug/L	ND	ND	-



Parameter	RDL	Units	GW-15	GW-16	Trip Blank
Acetone	100	ug/L	ND	ND	ND
Acrylonitrile	200	ug/L	ND	ND	ND
Benzene	5	ug/L	ND	ND	ND
Bromochloromethane	5	ug/L	ND	ND	ND
Bromodichloromethane	5	ug/L	ND	ND	ND
Bromoform	5	ug/L	ND	ND	ND
Carbon disulfide	100	ug/L	ND	ND	ND
Carbon tetrachloride	10	ug/L	ND	ND	ND
Chlorobenzene	5	ug/L	ND	ND	ND
Chloroethane	10	ug/L	ND	ND	ND
Chloroform	5	ug/L	ND	ND	ND
Dibromochloromethane	5	ug/L	ND	ND	ND
1,2-Dibromo-3-chloropropane	25	ug/L	ND	ND	ND
1,2-Dibromoethane	5	ug/L	ND	ND	ND
1,2-Dichlorobenzene	5	ug/L	ND	ND	ND
1,4-Dichlorobenzene	5	ug/L	ND	ND	ND
trans-1,4-Dichloro-2-butene	100	ug/L	ND	ND	ND
1,1-Dichloroethane	5	ug/L	ND	ND	ND
1,2-Dichloroethane	5	ug/L	ND	ND	ND
1,1-Dichloroethene	5	ug/L	ND	ND	ND
cis-1,2-Dichloroethene	5	ug/L	ND	ND	ND
trans-1,2-Dichloroethene	5	ug/L	ND	ND	ND
1,2-Dichloropropane	5	ug/L	ND	ND	ND
cis-1,3-Dichloropropene	10	ug/L	ND	ND	ND
trans-1,3-Dichloropropene	10	ug/L	ND	ND	ND
Ethylbenzene	5	ug/L	ND	ND	ND
2-Hexanone	50	ug/L	ND	ND	ND
Bromomethane	10	ug/L	ND	ND	ND
Chloromethane	10	ug/L	ND	ND	ND
Dibromomethane	10	ug/L	ND	ND	ND
Methylene chloride	10	ug/L	ND	ND	ND
2-Butanone	100	ug/L	ND	ND	ND
Iodomethane	10	ug/L	ND	ND	ND
4-Methyl-2-pentanone	100	ug/L	ND	ND	ND
Styrene	10	ug/L	ND	ND	ND
1,1,1,2-Tetrachloroethane	5	ug/L	ND	ND	ND
1,1,2,2-Tetrachloroethane	5	ug/L	ND	ND	ND
Tetrachloroethene	5	ug/L	ND	ND	ND
Toluene	5	ug/L	ND	ND	ND
1,1,1-Trichloroethane	5	ug/L	ND	ND	ND
Trichloroethene	5	ug/L	ND	ND	ND
1,1,2-Trichloroethane	5	ug/L	ND	ND	ND
Trichlorofluoromethane	5	ug/L	ND	ND	ND
1,2,3-Trichloropropane	15	ug/L	ND	ND	ND



Report #: C604169
Submitted: 11/03/2006
Reported: 11/17/2006
Reference: 053-6620.202
Page 7 of 12

Parameter	RDL	Units	GW-15	GW-16	Trip Blank
Vinyl acetate	50	ug/L	ND	ND	ND
Vinyl chloride	10	ug/L	ND	ND	ND
o-Xylene	5	ug/L	ND	ND	ND
m,p-Xylenes	5	ug/L	ND	ND	ND



Parameter	% RECOVERY LCS/MS/MSD	LCS LIMITS	MS/MSD LIMITS	RPD MS/MSD	RPD LIMITS	BATCH
Metals by EPA 6000/7000 Series Methods						
Antimony	106/108/107	82-119	38-138	0.9	30	6K06010
Arsenic	106/107/106	82-117	64-126	0.5	12	6K06010
Barium	104/104/104	72-125	74-119	0.3	11	6K06010
Beryllium	107/108/108	75-121	70-131	0.07	21	6K06010
Cadmium	106/107/107	72-120	68-121	0.04	12	6K06010
Chromium	104/104/104	78-119	73-120	0.1	10	6K06010
Cobalt	104/105/104	76-117	76-120	0.3	17	6K06010
Copper	104/105/105	80-117	75-123	0.08	16	6K06010
Lead	104/105/105	72-121	68-126	0.1	19	6K06010
Nickel	105/106/106	78-116	64-126	0.2	12	6K06010
Selenium	107/108/107	82-127	65-129	1	10	6K06010
Silver	102/103/102	80-128	69-121	0.7	12	6K06010
Thallium	106/107/107	79-118	67-135	0.4	13	6K06010
Vanadium	102/102/103	78-117	71-130	0.1	16	6K06010
Zinc	105/105/105	80-120	63-131	0.2	24	6K06010
Volatile Organic Compounds by GCMS						
1,1-Dichloroethene	110/94/90	64-139	36-177	4	30	6K10014
Benzene	99/92/83	69-115	53-150	10	23	6K10014
Chlorobenzene	93/81/76	76-118	44-128	6	22	6K10014
Toluene	93/83/84	77-117	40-161	0.8	23	6K10014
Trichloroethene	95/86/80	74-118	64-124	7	25	6K10014

WORK ORDER

Printed: 11/17/2006 2:18:52PM

C604169

ENCO Cary

Sample Receipt Conditions

Client: Golder Associates, Inc. (GO007)	Lab Project Mgr: Chuck Smith
Project: Republic-East Carolina Landfill	Project Number: 053-6620.202
PO #:	

Report To:

Golder Associates, Inc. (GO007)
 Rachel Kirkman
 The Wingate Building 4900 Koger Blvd., Suite 140
 Greensboro, NC 27407
 Phone: (336) 852-4903
 Fax: (336) 852-4904

Invoice To:

Golder Associates, Inc. (GO007)
 Rachel Kirkman
 The Wingate Building 4900 Koger Blvd., Suite 140
 Greensboro, NC 27407
 Phone : (336) 852-4903
 Fax: (336) 852-4904

Received By: **Derek Williams**
 Logged In By: **Derek Williams**

Date Received: **03-Nov-06 11:15**
 Date Logged In: **03-Nov-06 11:21**

Work Order Comments:

Default Cooler received at 2.9°C

Containers Intact	Y	Containers Properly Preserved	Y	Proper Containers Received	Y	All Samples in PreLog Received	N	COC/Labels Agree	Y
Custody Seals Intact	Y	Volatile Containers Preserved	Y	Volatile Containers Headspace Free	Y	Aqueous Samples Checked for Residual Cl	N	Received On Ice	Y

**GOLDER ASSOCIATES INC.
QUALITY ASSURANCE & QUALITY CONTROL
LABORATORY DATA REVIEW**



Project Name: East Carolina Regional Landfill

Project Reference Number: 053-6620.202

Sampling Event Date: October 31, 2006

Review Date: January 23, 2007

Initials: DR

Person(s) performing the review are to initial each item on this form as acknowledgement of data acceptance, or as acknowledgement of a review issue. In the case of the latter, a brief explanation should follow the applicable item.

Golder Associates Inc. has reviewed the laboratory certificates of analysis, chain-of-custody form, and laboratory provided sample group quality assurance and quality control data for the above referenced sample group to identify potential bias or inaccuracy, in general accordance with the following United States Environmental Protection Agency documents:

- Region III Modifications to Functional Guidelines for Organic Data Review Multi-Media, Multi-Concentration, September 1994;
- Region III Modifications to the Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analyses, April 1993; and
- Laboratory Data Validation Functional Guidelines for Evaluation Inorganic Analyses, July 1988.

COMPLIANCE ANALYTE LIST(S) (check all that apply)

- Phase I Construction and Demolition Debris or Industrial
- NC Appendix I
- NC Appendix I + Detects (List): _____
- NC Appendix II
- Site Specific Leachate (List): _____
- Other: _____

Note: _____

1.0 CHAIN OF CUSTODY (COC) REVIEW

- DR COC was properly signed by all parties.
- DR Correct project name and number are on the form.
- DR Sample receipt condition at laboratory was acceptable.
- DR Each sample and blank submitted for analysis appears in the data report.

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Notes: _____

2.0 SAMPLE HOLDING TIMES

DR Holding times for extraction *and/or* analysis were met for each analytical method.

Review Criteria		
Method	Analytes	Holding Time
SW-846 Method 8260 and 8011	VOCs	14 days
SW-846 Method 8270, 8080, 8081, 8082 8151	SVOCs, PCBs pesticides, herbicides	7 days for extraction, 40 days from extraction for analysis
SW-846 Methods 6000 and 7000 Series	metals, except mercury	6 months
SW-846 Method 7470	Mercury	28 days
SW-846 Method 9030	Sulfide	7 days
SW-846 Method 9010	Cyanide	14 days
EPA Method 300	Nitrate/Sulfate	48 hrs./ 28 days
EPA Method 405.1	BOD	48 hrs.
EPA Method 410.4	COD	28 days
EPA Method 365.4	Phosphorus	28 days

Notes: _____

3.0 LABORATORY QUALITY CONTROL REVIEW

DR Laboratory analyzed at least one internal blank for each method, where applicable.

DR Laboratory blank is interference free.

Notes: _____

DR Surrogate recoveries are provided for each analytical method, where applicable.

DR Surrogate recoveries for each method are within the acceptable limits.

Notes: _____

DR MS/MSD/LCS data results are provided for each analytical method.

DR MS/MSD/LCS recoveries for each method are within the acceptable limits.

Notes:

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4.0 ANALYTE LISTS/METHODS

DR The proper number of constituents are present for each analyte list as identified above (including detects where applicable).

DR Proper EPA SW-846 analytical methods were used for analysis.

Notes: _____

5.0 DATA REPORTING

DR All analytical reporting associated with the event was performed by the contracted lab.

DR Trip; field and/or equipment; and laboratory blank results have all been reported. All detects for blanks are listed below by constituent. All laboratory method blanks, if any, have been 'flagged' with a 'B' where detected in other samples and a laboratory narrative was provided. If the sample was flagged by the laboratory and is not within 5x of the concentration in the blank (or 10x for commonly detected laboratory contaminants – acetone, methylene chloride, and phthalates), list below with explanation if flags should be removed. If flags need to be added for samples, also list below.

Notes: _____

DR It is clear from the laboratory report that samples have or have not been diluted during analysis, and if the samples have been diluted, the result is reported as a multiple of the dilution (e.g., a sample diluted 10x resulting in an analytical detection of 1.0 should be reported as 10). Those that have been diluted are listed below with the dilution factor.

Notes: _____

DR The report provides the reporting limit for each constituent.

DR The results were reported at or below their proper reporting limits (eg., NC Solid Waste approved PQLs). Those that are not reported correctly are listed below (by constituent) with the proper reporting limits listed beside them. State if the reporting limit error is due to dilutions.

Notes: _____

DR No inorganic and organic constituents were reported above their respective NC 2L Drinking Water Standards in wells, surface water points, or field/equipment/trip blanks.

Notes: _____

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NA No inorganic and organic constituents were detected in a well or surface water point at concentrations outside of their historical range (more than 5x previous concentrations or first-time detections).

Notes: _____

DR Other report issues/communications with laboratory/etc.:

Notes: _____

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