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October 27, 2006

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

Received
Solid Waste Section

Re: Watauga County Landfill, Permit #95-02
Assessment Monitoring Program
DAA Job No. 6520-39

Dear Ms. Drummond:

Enclosed are preliminary, un-validated analytical result summary tables and the potentiometric site map for the semiannual Assessment monitoring event conducted at the Watauga County Landfill on September 27-28, 2006. The monitoring event was performed in accordance with The Watauga County Landfill Assessment Monitoring Plan (DAA, September 3, 1993) and subsequent monitoring program revisions as approved by the NCDENR. A summary of organic parameter results for groundwater and surface water is presented in Tables 2A and 2B, and a summary of inorganic groundwater results is presented in Table 2C. The report for this event is currently being prepared and will be forwarded on completion.

Four private wells located near the landfill were also sampled on September 27 (including two residential wells, Hollar and Greene Produce's well, and the former BREMCO well). Consistent with historical data, 1,1-dichloroethane was detected at the former BREMCO well at a low concentration of 1.6 µg/l. No constituents were detected at the other three private wells.

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If you should have any questions or comments concerning the enclosed summary tables or upcoming Assessment activities, please do not hesitate to contact me.

Sincerely,
DRAPER ADEN ASSOCIATES

Jeffrey E. Smith
Project Geologist

Attachments: RESULT TABLES AND POTENTIOMETRIC MAP

cc: Mr. Robert Nelson, Watauga County Manager (with enclosure)
Mr. James Potter, Watauga County Landfill Manager (with enclosure)
Mr. Michael Lawless, C.P.G., Groundwater Project Manager, DAA

Watauga County Landfill
Watauga County, North Carolina
Upgradient Well: MW-1

Table 2A
September 27-28, 2006
Semiannual Monitoring Event
Organic Parameter Analytical Results
Core Groundwater Monitoring Wells

PRELIMINARY, UNVALIDATED DRAFT TABLE
10/27/06

Parameters	MW-1		MW-2		MW-3		MW-8		MW-9		MW-10		MW-11		MW-12		MW-15		MW-17		MW-19		NCS	MCL
Benzene	0.50	U	0.50	U	2.5	U	0.50	U	**1.6**		0.50	U	0.27	J	0.36	J	0.50	U	0.50	U	0.5	U	**1**	**5**
Chlorobenzene	0.50	U	0.50	U	2.5	U	0.50	U	0.25	J	0.50	U	0.34	J	0.35	J	0.50	U	0.50	U	0.5	U	**50**	**100**
1,4-Dichlorobenzene	0.50	U	0.50	U	3.4		0.50	U	0.88		0.50	U	2.6		2.6		0.12	J	0.50	U	0.5	U	**75**	**100**
Chloroethane	0.50	U	0.39	J	8.7		0.50	U	2.9		0.50	U	7.5		4.9		0.50	U	0.71		0.5	U	**2800**	-
Dichlorodifluoromethane	0.50	U	0.50	U	2.5	U	0.50	U	0.44	J	0.50	U	0.50	U	1.6	U	0.50	U	0.50	U	0.5	UJ	**1400**	-
1,1-Dichloroethane	0.50	U	**46**		17		0.50	U	6.3		3.3		21		20		0.50	U	3.2		0.5	U	**70**	-
1,1-Dichloroethene	0.50	U	**75**		2.5	U	0.50	U	0.50	U	5.9		0.45	J	0.36	J	0.27	J	0.50	U	0.5	U	**7**	**7**
1,2-Dichloroethane	0.50	U	0.50	U	**0.80**	J	0.50	U	0.50	U	0.50	U	0.5		**0.85**	J	0.50	U	0.50	U	0.5	UJ	**0.38**	-
1,2-Dichloropropane	0.50	U	0.50	U	0.51	J	0.50	U	0.3	J	0.50	U	0.42	J	0.12	J	0.50	U	0.16	J	0.5	U	**0.51**	**5**
Cis-1,2-Dichloroethene	0.50	U	0.25	J	59		0.50	U	5.3		0.50	U	18		43		0.50	U	11		0.5	U	**70**	**70**
Trans-1,2-Dichloroethene	0.50	U	0.50	U	0.91	J	0.50	U	0.32	J	0.50	U	0.67	J	0.61	J	0.50	U	0.50	U	0.5	U	**100**	**100**
Methylene Chloride	0.50	U	0.43	J	0.68	J	0.50	U	0.31	J	0.50	U	0.39	J	0.53	J	0.50	U	0.50	U	0.5	U	**4.6**	**5**
Tetrachloroethene	0.50	U	**5.6**		**5.4**		0.50	U	**0.85**		**1.5**		**2.7**		**3.1**		0.50	U	**1.6**		0.5	U	**0.7**	**5**
Trichloroethene	0.50	U	0.73		**5.4**		0.39	J	1.2		0.21	J	2.7		**3.1**		0.50	U	1.6		0.5	U	**2.8**	**5**
1,1,1-Trichloroethane	0.50	U	**350**		2.5	U	0.50	U	0.50	U	25		1.2		1.4		0.59		0.50	U	0.5	U	**200**	**200**
Vinyl Chloride	0.50	U	0.48	J	**3.6**		0.50	U	0.76		0.50	U	**2.8**		**2.6**		0.50	U	0.50	U	0.5	UJ	**0.015**	**2**

Notes:

All concentrations are in ug/l.

U Denotes not detected (the associated numerical value is the Limit of Quantitation).

J Denotes an estimated value.

Shading denotes parameter results that exceed U.S. EPA MCLs.

Bold denotes parameter results that exceed NC Groundwater Quality '2L' Standard.

Organic parameters were analyzed in accordance with EPA SW-846 Method 8260 (25 ml purge).

NCS Denotes North Carolina Groundwater Quality Standard (T15A: 02L .0200)

MCL Denotes EPA Maximum Contaminant Level (EPA 822-R-94-001)

- Denotes Not Established.

P:\06\500\06520\06520-39\Reports\2006 tables\[XLS - 06 1020 - NCDENR - TABLE2AB - JES.xls]Core Wells

Watauga County Landfill
Watauga County, North Carolina

Table 2B
September 27-28, 2006

PRELIMINARY, UNVALIDATED DRAFT TABLE
10/27/06

Semiannual Monitoring Event
Organic Parameter Analytical Results
Surface Water Monitoring Locations

Parameters	Results ug/L(ppb)												WQS (ug/L)	MCL (ug/L)
	S-1		S-2		S-3		S-4		S-5		S-6			
Benzene	10	U	2	J	10	U	10	U	10	U	10	U	71.4	5
Chloroethane	10	U	10	U	10	U	10	U	3	J	10	U	860	-
Dichlorodifluoromethane	10	U	10	U	10	U	10	U	4	J	10	U	570000	-
1,1-Dichloroethane	10	U	6	J	10	U	2	J	10	U	10	U	42	-
1,1-Dichloroethene	10	U	10	U	10	U	10	U	10	U	10	U	3.2	7
Cis-1,2-Dichloroethene	10	U	1	J	10	U	6	J	10	U	10	U	140000	70
Trans-1,2-Dichloroethene	10	U	10	U	10	U	10	U	10	U	10	U	-	100
Methylene Chloride	2	J	2	J	1	J	10	U	10	U	10	U	1600	5
Tetrachloroethene	10	U	10	U	10	U	10	U	10	U	10	U	8.84	5
Trichloroethene	10	U	10	U	10	U	10	U	10	U	10	U	92.4	5
1,1,1-Trichloroethane	10	U	10	U	10	U	10	U	10	U	10	U	555	200
Vinyl Chloride	10	U	10	U	10	U	10	U	10	U	10	U	525	2

Notes:

WQS Denotes North Carolina Class WS-1 Surface Water Quality Standard (T15A: 02B .0200)

MCL Denotes EPA Maximum Contaminant Level (EPA 822-R-94-001)

U Denotes not detected (the associated numerical value is the Contract Required Quantitation Limit).

J Denotes an estimated value.

\- Denotes Not Established.

NS Denotes Not Sampled.

Organic parameters were analyzed in accordance with EPA CLP Statement of Work OLMO3.2.

Watauga County Landfill
Watauga County, North Carolina

PRELIMINARY, UNVALIDATED DRAFT TABLE

Table 3
September 27-28, 2006
Semi-Annual Assessment Monitoring Event
Detected Non-Target Organic Parameters

Parameter	MW-3		MW-9		MW-11		MW-12		MW-17		MW-19	
Chloroform							0.92	J				
Chlorodifluoromethane			1.4	NJ			1.6	NJ				
Dichlorofluoromethane			2.1	NJ	1.4	NJ	3.4	NJ				
Dimethylsulfide											6.5	NJ
Ethyl Ether	35	NJ	1.7	NJ	5.8	NJ						
Ethyloxyethene							21	NJ				
Iodomethane							21	NJ	0.48	J		

Notes:

All concentrations are in ug/l.

J Denotes an estimated value.

N Denotes tenatively identified.

U Denotes not detected (the associated numerical value is the Limit of Quantitation).

\- Denotes Not Established.

Organic parameters were analyzed in accordance with EPA SW-846 Method 8260 (25 ml purge).

Watauga County Landfill
Watauga County, North Carolina
Upgradient Well: MW-1

TABLE 4
GROUNDWATER LEVEL DATA
MONITORING WELLS

27-Oct-06

	REFERENCE ELEVATION									
	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10
GROUND	3339.03	3151.24	3182.25	3150.06	3263.81	3262.55	3270.56	3235.39	3356.65	3202.18
MEASURING POINT	3341.80	3152.94	3183.12	3152.52	3267.69	3266.04	3273.53	3239.77	3359.23	3203.87
DATE	STATIC WATER LEVEL									
6/20/94	38.00	7.88	18.43	13.48	NM	44.12	23.03	17.68	59.35	8.18
9/27/94	39.69	7.51	17.42	10.45	NM	43.99	30.73	17.38	57.79	8.09
2/6/95	37.57	5.58	16.20	8.18	50.39	42.85	45.88	15.41	59.54	7.73
4/11/95	37.94	6.46	16.85	9.22	48.95	42.81	49.11	16.05	59.30	7.90
7/10/95	41.20	6.60	17.43	8.94	50.29	43.73	48.98	17.42	80.17	7.91
4/9/96	38.71	5.85	7.01	8.40	49.87	42.87	44.32	16.80	61.28	7.67
4/8/97	38.30	5.59	16.35	NM	NM	ABANDON	40.50	17.43	62.47	7.67
1/13/98	43.71	7.00	17.51	8.54	55.46	ABANDON	44.18	20.32	63.56	8.25
6/23/98	36.84	5.94	14.01	7.98	46.82	ABANDON	43.07	16.92	62.15	7.32
1/11/99	44.56	7.66	18.87	8.85	55.11	ABANDON	37.89	22.83	64.39	8.68
7/12/99	42.87	6.78	15.16	8.18	53.26	ABANDON	45.79	19.92	64.05	8.25
2/1/00	44.10	7.62	17.05	9.12	56.08	ABANDON	41.25	21.40	64.41	8.41
8/8/00	42.37	7.42	17.28	9.02	52.96	ABANDON	45.65	21.25	63.70	8.54
2/12/01	46.80	8.05	18.92	9.10	58.67	ABANDON	42.72	24.27	64.60	9.13
8/7/01	NM	7.16	14.65	NM	NM	ABANDON	NM	19.53	63.94	NM
2/11/02	44.79	6.92	16.25	8.00	58.41	ABANDON	44.11	22.75	63.99	8.65
8/12/02	44.66	9.14	18.63	10.99	57.04	ABANDON	47.34	bent	64.24	9.36
1/21/03	NM	6.72	14.60	NM	NM	ABANDON	ABANDON	bent	64.24	NM
7/14/03	39.41	5.25	13.89	6.78	47.93	ABANDON	ABANDON	bent	62.39	7.47
3/16/04	40.57	4.66	15.01	6.04	51.37	ABANDON	ABANDON	bent	63.04	7.66
9/30/04	39.75	3.11	13.50	NM	NM	ABANDON	ABANDON	bent	62.44	7.49
3/30/05	39.74	3.85	14.23	5.35	50.10	ABANDON	ABANDON	bent	62.99	7.30
10/03/05	NM	6.13	17.81	NM	NM	ABANDON	ABANDON	bent	64.49	7.85
4/3/06	NM	5.20	16.80	6.36	NM	ABANDON	ABANDON	bent	64.13	7.69
9/27/06	41.13	5.45	15.60	NM	NM	ABANDON	ABANDON	bent	64.38	8.02
DATE	GROUNDWATER ELEVATION									
6/20/94	3303.80	3145.06	3164.69	3139.04	NM	3221.92	3250.50	3222.09	3299.88	3195.69
9/27/94	3302.11	3145.43	3165.70	3142.07	NM	3222.05	3242.80	3222.39	3301.44	3195.78
2/6/95	3304.23	3147.36	3166.92	3144.34	3217.30	3223.19	3227.65	3224.36	3299.69	3196.14
4/11/95	3303.86	3146.48	3166.27	3143.30	3218.74	3223.23	3224.42	3223.72	3299.93	3195.97
7/10/95	3300.60	3146.34	3165.69	3143.58	3217.40	3222.31	3224.55	3222.35	3279.06	3195.96
4/9/96	3303.09	3147.09	3176.11	3144.12	3217.82	3223.17	3229.21	3222.97	3297.95	3196.20
4/8/97	3303.50	3147.35	3166.77	NM	NM	ABANDON	3233.03	3222.34	3296.76	3196.20
1/13/98	3298.09	3145.94	3165.61	3143.98	3212.23	ABANDON	3229.35	3219.45	3295.67	3195.62
6/23/98	3304.96	3147.00	3169.11	3144.54	3220.87	ABANDON	3230.46	3222.85	3297.08	3196.55
1/11/99	3297.24	3145.28	3164.25	3143.67	3212.58	ABANDON	3235.64	3216.94	3294.84	3195.19
7/12/99	3298.93	3146.16	3167.96	3144.34	3214.43	ABANDON	3227.74	3219.85	3295.18	3195.62
2/1/00	3297.70	3145.32	3166.07	3143.40	3211.61	ABANDON	3232.28	3218.37	3294.82	3195.46
8/8/00	3299.43	3145.52	3165.84	3143.50	3214.73	ABANDON	3227.88	3218.52	3295.53	3195.33
2/12/01	3295.00	3144.89	3164.20	3143.42	3209.02	ABANDON	3230.81	3215.50	3294.63	3194.74
8/7/01	NM	3145.78	3168.47	NM	NM	ABANDON	NM	3220.24	3295.29	NM
2/11/02	3297.01	3146.02	3166.87	3144.52	3209.28	ABANDON	3229.42	3217.02	3295.24	3195.22
8/12/02	3297.14	3143.80	3164.49	3141.53	3210.65	ABANDON	3226.19	bent	3294.99	3194.51
1/21/03	NM	3146.22	3168.52	NM	NM	ABANDON	ABANDON	bent	3294.99	NM
7/14/03	3302.39	3147.69	3169.23	3145.74	3219.76	ABANDON	ABANDON	bent	3296.84	3196.40
3/16/04	3301.23	3148.28	3168.11	3146.48	3216.32	ABANDON	ABANDON	bent	3296.19	3196.21
9/30/04	3302.05	3149.83	3169.62	NM	NM	ABANDON	ABANDON	bent	3296.79	3194.52
3/30/05	3302.06	3149.09	3168.89	3147.17	3217.59	ABANDON	ABANDON	bent	3296.24	3196.57
10/03/05	NM	3146.81	3165.31	NM	NM	ABANDON	ABANDON	bent	3294.74	3196.02
4/3/06	NM	3147.74	3166.32	3146.16	NM	ABANDON	ABANDON	bent	3295.10	3196.18
9/27/06	3300.67	3147.49	3167.52	NM	NM	ABANDON	ABANDON	bent	3294.85	3195.85

1) ALL MEASUREMENTS IN FEET.
2) ALL ELEVATIONS REFERENCE MEAN SEA LEVEL.
3) MEASURING POINT (M.P.) IS FROM THE TOP OF WELL CASING.
4) NM - NOT MEASURED

Watauga County Landfill
Watauga County, North Carolina
Upgradient Well: MW-1

TABLE 4
GROUNDWATER LEVEL DATA
MONITORING WELLS

27-Oct-06

	REFERENCE ELEVATION								
	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19
GROUND	3156.44	3156.82	3117.39	3117	3117.15	3141.42	3181.14	3117.12	3125
MEASURING POINT	3159.6	3159.15	3119.72	3120	3120.65	3142.72	3183.62	3119.63	3140
DATE	STATIC WATER LEVEL								
6/20/94	13.35	11.04	19.66	7.94	11.92	5.32	17.93	17.93	-
9/27/94	13.22	10.78	19.57	7.89	11.82	5.68	17.83	17.86	-
2/6/95	13.22	10.61	19.39	7.52	11.55	4.61	17.05	17.58	-
4/11/95	13.00	10.58	19.53	7.75	11.87	5.11	17.48	17.65	-
7/10/95	12.53	10.48	19.62	7.74	11.96	4.54	18.11	17.94	-
4/9/96	12.73	10.38	19.56	7.59	11.85	4.67	17.78	17.81	-
4/8/97	12.28	9.48	NM	NM	11.91	ABANDON	17.17	NM	4.85
1/13/98	12.48	9.65	19.75	7.44	11.74	ABANDON	18.60	18.32	10.21
6/23/98	11.82	9.11	NM	7.49	11.79	ABANDON	14.83	17.53	2.67
1/11/99	12.41	9.46	20.05	7.19	11.79	ABANDON	19.84	18.56	9.34
7/12/99	11.37	8.75	19.64	NM	NM	ABANDON	17.08	18.10	9.75
2/1/00	12.38	9.18	20.31	7.72	12.18	ABANDON	17.77	18.77	11.90
8/8/00	11.79	8.94	20.60	7.45	11.9	ABANDON	17.86	17.63	NM
2/12/01	12.40	9.23	20.03	7.68	12.09	ABANDON	19.21	18.23	24.45
8/7/01	NM	8.77	NM	NM	NM	ABANDON	15.47	NM	NM
2/11/02	12.03	8.86	19.81	7.42	11.85	ABANDON	17.10	18.05	24.65
8/12/02	12.16	9.17	20.11	8.23	12.54	ABANDON	20.04	18.27	25.09
1/21/03	NM	8.65	NM	NM	NM	ABANDON	15.44	NM	NM
7/14/03	11.09	8.27	18.85	7.24	11.41	ABANDON	14.86	16.96	16.98
3/16/04	12.82	9.24	19.28	7.16	11.43	ABANDON	15.79	17.29	NM
9/30/04	12.06	8.65	NM	NM	10.79	ABANDON	15.27	NM	NM
3/30/05	13.22	10.02	NM	6.51	11.01	ABANDON	15.12	NM	NM
10/03/05	14.51	10.94	NM	NM	11.95	ABANDON	18.53	NM	13.37
4/4/06	14.01	10.65	NM	NM	11.84	ABANDON	17.55	NM	14.42
9/27/06	13.83	10.54	NM	NM	11.54	ABANDON	16.41	NM	15.21
DATE	GROUNDWATER ELEVATION								
6/20/94	3146.25	3148.11	3100.06	3112.06	3108.73	3137.40	3165.69	3101.70	-
9/27/94	3146.38	3148.37	3100.15	3112.11	3108.83	3137.04	3165.79	3101.77	-
2/6/95	3146.38	3148.54	3100.33	3112.48	3109.10	3138.11	3166.57	3102.05	-
4/11/95	3146.60	3148.57	3100.19	3112.25	3108.78	3137.61	3166.14	3101.98	-
7/10/95	3147.07	3148.67	3100.10	3112.26	3108.69	3138.18	3165.51	3101.69	-
4/9/96	3146.87	3148.77	3100.16	3112.41	3108.80	3138.05	3165.84	3101.82	-
4/8/97	3147.32	3149.67	NM	NM	3108.74	ABANDON	3166.45	NM	3120.15
1/13/98	3147.12	3149.50	3099.97	3112.56	3108.91	ABANDON	3165.02	3101.31	3114.79
6/23/98	3147.78	3150.04	NM	3112.51	3108.86	ABANDON	3168.79	3102.10	3122.33
1/11/99	3147.19	3149.69	3099.67	3112.81	3108.86	ABANDON	3163.78	3101.07	3115.66
7/12/99	3148.23	3150.40	3100.08	NM	NM	ABANDON	3166.54	3101.53	3115.25
2/1/00	3147.22	3149.97	3099.41	3112.28	3108.47	ABANDON	3165.85	3100.86	3113.10
8/8/00	3147.81	3150.21	3099.12	3112.55	3108.75	ABANDON	3165.76	3102.00	NM
2/12/01	3147.20	3149.92	3099.69	3112.32	3108.56	ABANDON	3164.41	3101.40	3115.55
8/7/01	NM	3150.38	NM	NM	NM	ABANDON	3168.15	NM	NM
2/11/02	3147.57	3150.29	3099.91	3112.58	3108.80	ABANDON	3166.52	3101.58	3115.35
8/12/02	3147.44	3149.98	3099.61	3111.77	3108.11	ABANDON	3163.58	3101.36	3114.91
1/21/03	NM,	3150.50	NM	NM	NM	ABANDON	3168.18	NM	NM
7/14/03	3148.51	3150.88	3100.87	3112.76	3109.24	ABANDON	3168.76	3102.67	3123.02
3/16/04	3146.78	3149.91	3100.44	3112.84	3109.22	ABANDON	3167.83	3102.34	NM
9/30/04	3147.54	3150.50	NM	NM	3109.86	ABANDON	3168.35	NM	NM
3/30/05	3146.38	3149.13	NM	3113.49	3109.64	ABANDON	3168.50	NM	NM
10/03/05	3145.09	3148.21	NM	NM	3108.70	ABANDON	3165.09	NM	3126.63
4/4/06	3145.59	3148.50	NM	NM	3108.81	ABANDON	3166.07	NM	3125.58
9/27/06	3145.77	3148.61	NM	NM	3109.11	ABANDON	3167.21	NM	3124.79

1) ALL MEASUREMENTS IN FEET.
2) ALL ELEVATIONS REFERENCE MEAN SEA LEVEL.
3) MEASURING POINT (M.P.) IS FROM THE TOP OF WELL CASING.
4) NM - NOT MEASURED

P:\06\500\06520\06520-39\Reports\2006 tables\[XLS - 06 1004 - NCDENR - TABLE4 - JES.xls]TABLE4