

October 19, 2004

Mr. Michael Schmoller
WDNR South Central Region Office
3911 Fish Hatchery Road
Fitchburg, WI 53711

**SUBJECT: Tri-Annual Facility Inspection Report and
Semi-Annual Gas Monitoring Probe Report
Task #1, #2, and #10
Stoughton City Landfill
FID #113005950 - License #133
U.S. EPA ID#WID980901219
WDNR Purchase Order #NME00000028
BT² Project #1764**

Dear Mr. Schmoller:

BT², Inc. has prepared the first of three facility inspection reports and the first semi-annual gas monitoring probe report for the fifth year O&M at the Stoughton City Landfill site. Mr. Steven Smith of BT² inspected the site on September 27, 2004. The attached Inspection Report details the findings on that date. The Passive Gas Vent monitoring results for organic vapors and combustible gases were also completed on September 27, 2004. The monthly summaries of the monitoring of the three gas monitoring probes for June, July, August, and September 2004 are also included. Summaries of the facility inspection are as follows.

September 27, 2004 Inspection

The general site condition is fair and the ground is very dry due to a lack of significant rain recently. The cover grass is approximately 6 inches high and was mowed on September 17, 2004. The main gate and the City of Stoughton-owned areas of the gravel road skirting the landfill to the south and southeast are in good condition with no obvious erosion problems. The access gate to this road is in proper operating condition and the padlock was also in good condition. The Periodic Inspection Report is included as **Attachment A**.

Perimeter Security Fencing: The condition of the perimeter fence and both entrance gates is good. There is no evidence of vandalism at the site. The other fence planks on the site fencing are in good condition. The chain link fencing on both gates is in good working order. Both gate padlocks were cleaned and sprayed with WD-40 lubricant.

Monitoring Wells and Wellhead Covers: There are no evident signs of tampering with any of the site monitoring wells.

Final Cover Vegetation and Slope: The cover grass is approximately 6 inches high and was mowed on September 17, 2004. No evidence of burrowing animals was observed on the cover.

Stormwater Drainage Channels: The storm water drainage channels are in good condition with no debris or blockages evident. There is no evidence of any erosion or drainage problems.

Landfill Gas Venting System: Gas vent pipes were inspected and found to be in good condition except for GV-5. The mowing company called to report that they had accidentally hit the PVC riser as they were turning the mower on September 17, 2004. The PVC riser was snapped in half approximately 16 inches above grade. A 4-inch Schedule 80 PVC coupler will be used to repair the riser at the next monthly site visit scheduled for October 19, 2004.

Twenty of the twenty-one passive gas vents were analyzed for percent LEL (as methane), percent oxygen, carbon dioxide, PID, and gas flow rate. GV-5 will be checked after it has been repaired. The results are summarized on the Passive Gas Vent Report included as **Attachment B**.

Access Gravel Roads: All access roads leading around the south edge of the landfill and to the various well nests are in good condition.

Monthly Gas Monitoring Probe results

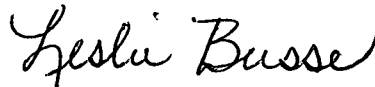
The Gas Monitoring Probe monthly check includes percent LEL (as methane), percent oxygen, percent carbon dioxide, PID, and wellhead pressure. Summaries of these reports are included as **Attachment C**.

A copy of the Facility Site Inspection Report on CD-ROM is also enclosed containing a copy of this report and the attachments as a PDF file. Please call us at (608) 224-2830 if you have any questions.

Sincerely,
BT², Inc.



Steven B. Smith
Environmental Specialist



Leslie A. Busse, P.E.
Project Manager

cc: Mr. Bernard J. Schorle, U.S. EPA Region V Office

Attachments: CD-ROM
A - O&M Periodic Inspection Report
B - Passive Gas Vent Monitoring Report
C - Monthly Gas Monitoring Probe Reports
D - Site Plan

I:\1764\Reports\Facility Reports\Sept.2004\Facility_Report_041015.doc

ATTACHMENT A

O&M Periodic Inspection Report

**Operation and Maintenance Periodic Inspection Report
Stoughton City Landfill
Stoughton, Wisconsin**

Inspector S. Smith
 Company BT², Inc.
 Project Stoughton City LF
 Location Stoughton, WI
 Date/Time 9/27/04 12:00
 Project No. #1764

Weather	Clear	<u>Clear</u>	P. Cloudy	Cloudy	Fog
Temperature	~68°F	High	F	---	---
Wind	Breezy	Calm	Medium	High	---
Precipitation	None	Rain	Light	Moderate	Heavy
		Snow	Light	Moderate	Heavy

Type of Inspection Routine Special

Persons/Equipment Present: S. Smith, BT² GEM2000 Landfill Gas Motor,
Thermo PFD (#2)

General Description of Site Conditions: Very dry conditions due to lack of rain.

Specific Inspection Items	Potential Problem Areas	Status*	Notes
Perimeter Security Fencing	Broken boards/vandalism	1	Fence in good shape
Entrance Gate and Locking Mechanism	Lock broken/missing, mechanism inoperative	1	Locks OK; sprayed with WD-40
Monitoring Wells and Wellhead Covers	Signs of tampering, casing damaged, lock missing or damaged	2 1	GV-5 was hit by mower and broken - need repair 5/5/27/04
Final Cover Vegetation	Bare spots, stressed vegetation, deep-rooted vegetation	1	Recently mowed (9/16/04). Good condition
Final Cover Slope (explain below)	Gullies, lack of vegetation, subsidence, ponding	1	Good condition
Evidence of Burrowing Animals	Damage to final cover, evidence of waste	1	None
Stormwater Drainage Channels	Gullies, erosion, debris, culvert blocked	1	Good condition
Landfill Gas Venting System	Damaged vent risers, stressed vegetation	2	GV-5 was hit by mower and needs repair. All others are OK
Access Road	Ponding, rutting, erosion	1	Good condition

* (1) Acceptable - No Maintenance Required. (2) Not Acceptable - Identify Required Maintenance.

Summary of Deficiencies and/or Corrective Actions: S. Smith will repair GV-5 at the October site visit.

Signature of Inspector Steve Smith
 Date 9/27/04

ATTACHMENT B

Passive Gas Vent Monitoring Report

Operation and Maintenance Report
Passive Gas Vent Monitoring
Stoughton City Landfill / BT² Project #1764

Probe	% LEL	% Oxygen	PID (ppm)	Gas Flow (m ³ /hr) ~ H ₂ O	Other Gasses
GV-1	0.2	19.1	0.9	0.0	CO ₂ =0.3%
GV-2	0.0	20.8	0.0	-0.013	
GV-3	0.0	20.9	0.4	+0.002	
GV-4	0.0	20.8	0.0	0.0	
GV-5					Broken; see field notes
GV-6	0.4	20.5	0.9	0.0	
GV-7	0.4	20.6	0.5	0.0	
GV-8	3.0	15.5	5.1	+0.005	
GV-9	0.4	20.0	0.9	+0.009	CO ₂ =0.7%
GV-10	0.2	21.0	0.0	+0.011	
GV-11	1.0	19.9	3.5	0.0	
GV-12	0.0	20.1	0.0	0.0	
GV-13	20.2	0.2	15.1	+0.103	CO ₂ =15.2%
GV-14	15.5	3.3	8.9	+0.003	CO ₂ =13.5%
GV-15	16.9	0.1	11.3	+0.009	CO ₂ =15.8%
GV-16	17.7	4.4	17.1	+0.013	CO ₂ =15.3%
GV-17	1.8	8.5	9.2 3.3	0.004	CO ₂ =9.2% LEL (CH ₄)=36%
GV-18	16.2	0.1%	10.1	0.007	CO ₂ =19.0%
GV-19	0.4	19.2%	0.4	0.010	CO ₂ =0.8% LEL (CH ₄)=0.9%
GV-20	7.0	0.9	6.8	0.0	CO ₂ =15.7%
GV-21	0.3	19.2	0.8	0.0	LEL (CH ₄)=0.1% CO ₂ =3.9%

PID Thermo (#2) Operator: S. Smith, RT²

Barometric Pressure: met = 29.10" Hg - weather → 30.10" Hg.

Temperature: 73°F

Ground Surface: Very dry

Date: 9/27/04

Weather: Clear

- Notes:
1. % LEL as measured as Methane.
 2. Other gases - detected gases other than % O₂ and % LEL as Methane.

ATTACHMENT C

Monthly Gas Monitoring Probe Reports

**Monthly Report
Gas Monitoring Probes
Stoughton City Landfill
BT² Project #1764**

Probe	% LEL (as Methane)	% Oxygen	% CO ₂	PID (ppm)	Pressure (inches H ₂ O)
GMP-1	0.3	20.5	0.0	0.8	0.0
GMP-2	0.4	20.5	0.1	1.1	0.0
GMP-3	0.4	20.6	0.0	0.5	0.0

Instruments Used: Lundtec GEM 2000 LFG Analyzer, Thermo PIA (#1)

Operator: S. Smith Date: 6/28/04 (11am)

Weather Data

Barometric Pressure: 30.16" Hg Temperature: 66°F

Humidity: 68% Dewpoint: 54.0°F Wind: NW at 6.9 mph

Ground Surface: Dry Conditions: Scattered clouds

Monthly Report
Gas Monitoring Probes
Stoughton City Landfill
BT² Project #1764

Probe	% LEL (as Methane)	% Oxygen	% CO ₂	PID (ppm)	SLP Pressure (inches H ₂ O)
GMP-1	0.2	20.2	0.0	0.4	+0.1
GMP-2	0.6	20.2	0.0	1.0	+0.1
GMP-3	0.4	20.2	0.0	0.9	+0.1

Instruments Used: GEM 2000 LFG Meter, Thermo PID (P1)
 Operator: S. Smith Date: 7/20/09

Weather Data

Barometric Pressure: 29.86" Hg Temperature: 81.0°F
 Humidity: 72% Dewpoint: 71.1°F Wind: ESE at 5.8 mph
 Ground Surface: Dry Conditions: Scattered clouds

(Field barometric pressure = 28.94" Hg)

**Monthly Report
Gas Monitoring Probes
Stoughton City Landfill
BT² Project #1764**

Probe	% LEL (as Methane)	% Oxygen	% CO ₂	PID (ppm)	Pressure (inches H ₂ O)
GMP-1	0.4	20.6	0.0	0.3	0.0
GMP-2	0.9	20.2	0.2	0.8	0.0
GMP-3	0.3	20.7	0.0	0.5	0.0

Instruments Used: GEM 2000 Landfill Gas Meter, Thermo PID (#1)
 Operator: S. Smith, BT² Date: 8/25/04 (1am)

Weather Data

Barometric Pressure: 29.85" Hg Temperature: 70° F
 Humidity: 90% Dewpoint: 66.9°F Wind: 6.9 mph from SSE
 Ground Surface: Damp, heavy rain last night Conditions: Overcast - fog

**Monthly Report
Gas Monitoring Probes
Stoughton City Landfill
BT² Project #1764**

Probe	% LEL (as Methane)	% Oxygen	% CO ₂	PID (ppm)	Pressure (inches H ₂ O)
GMP-1	0.3	19.3	0.1	0.8	+0.013
GMP-2	0.4	19.5	0.2	1.1	+0.009
GMP-3	0.3	19.5	0.2	0.3	+0.007

Instruments Used: GEM2000 LFG Meter, Thermo PID (#2)
 Operator: S. Smith, BT² Date: 9/27/04

Weather Data

Barometric Pressure: 30.10" Hg Temperature: 73°F
 Humidity: 50% Dewpoint: 48.0°F Wind: SSW at 6.9 mph
 Ground Surface: Dry Conditions: Clear

ATTACHMENT D

Site Plan

MW-12 CLUSTER LOCATED APPROXIMATELY 1,000' EAST

LEGEND

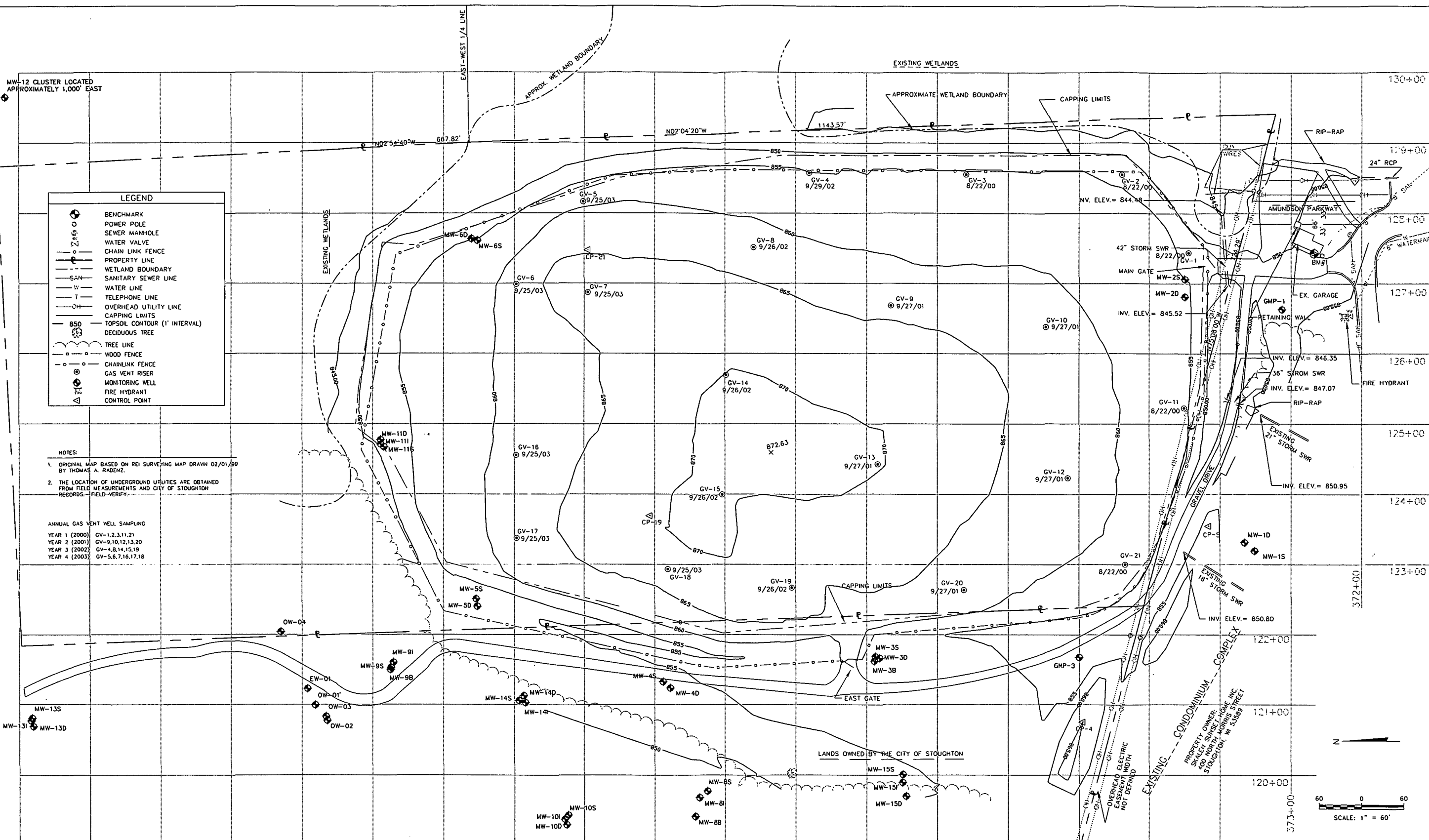
- BENCHMARK
- POWER POLE
- SEWER MANHOLE
- WATER VALVE
- CHAIN LINK FENCE
- PROPERTY LINE
- WETLAND BOUNDARY
- SANITARY SEWER LINE
- WATER LINE
- TELEPHONE LINE
- OVERHEAD UTILITY LINE
- CAPPING LIMITS
- TOPSOIL CONTOUR (1' INTERVAL)
- DECIDUOUS TREE
- TREE LINE
- WOOD FENCE
- CHAINLINK FENCE
- GAS VENT RISER
- MONITORING WELL
- FIRE HYDRANT
- CONTROL POINT

NOTES:

- ORIGINAL MAP BASED ON REI SURVEYING MAP DRAWN 02/01/99 BY THOMAS A. RADENZ.
- THE LOCATION OF UNDERGROUND UTILITIES ARE OBTAINED FROM FIELD MEASUREMENTS AND CITY OF STOUGHTON RECORDS. FIELD-VERIFY.

ANNUAL GAS VENT WELL SAMPLING

YEAR 1 (2000)	GV-1,2,3,11,21
YEAR 2 (2001)	GV-9,10,12,13,20
YEAR 3 (2002)	GV-4,8,14,15,19
YEAR 4 (2003)	GV-5,6,7,16,17,18



SITE PLAN

STOUGHTON CITY LANDFILL
STOUGHTON, WISCONSIN

PROJECT NO. 1764
DRAWN BY: KP/JS
CHECKED BY: SS
DRAWN: 05/05/00 REVISED: 11/11/03
J:\1764\SITE1.DWG

Scale: 1" = 60'

Sheet: 1 of 1



February 2, 2005

Mr. Gary Edelstein
Wisconsin Department of Natural Resources
Bureau for Remediation and Redevelopment – RR/3
P.O. Box 7921
Madison, WI 53707



**SUBJECT: Tri-Annual Facility Inspection Report and
Semi-Annual Gas Monitoring Probe Report
Task #1, #2, and #10
Stoughton City Landfill
FID #113005950 - License #133
U.S. EPA ID#WID980901219
WDNR Purchase Order #NME0000028
BT² Project #1764**

Dear Mr. Edelstein:

BT², Inc. has prepared the second of three facility inspection reports and the second semi-annual gas monitoring probe report for the fifth year O&M at the Stoughton City Landfill site. Mr. Steven Smith of BT² inspected the site on January 31, 2005. The attached Inspection Report details the findings on that date. The Passive Gas Vent monitoring results for organic vapors and combustible gases were also completed on January 31, 2005. The monthly summaries of the monitoring of the three gas monitoring probes for October, November, December 2004, and January 2005 are also included. Summaries of the facility inspection are as follows.

January 31, 2005 Inspection

The general site condition is fair and the ground is covered with approximately 10 inches of snow. The main gate and the City of Stoughton-owned areas of the gravel road skirting the landfill to the south and southeast are snow covered with no obvious erosion problems. The access gate to this road is in proper operating condition and the padlock was also in good condition. The Periodic Inspection Report is included as **Attachment A**.

Perimeter Security Fencing: The condition of the perimeter fence and both entrance gates is good. There is no evidence of vandalism at the site. The other fence planks on the site fencing are in good condition. The chain link fencing on both gates is in good working order. Both gate padlocks were cleaned and sprayed with WD-40 lubricant.

Monitoring Wells and Wellhead Covers: There are no evident signs of tampering with any of the site monitoring wells.

Final Cover Vegetation and Slope: The cover grass is under approximately 10 inches of snow. Evidence of burrowing animals was observed on the cover slope near the MW5 well nest. The burrow will be dealt with in the spring.

Mr. Gary Edelstein
February 2, 2005
Page 2

Stormwater Drainage Channels: The storm water drainage channels are in good condition with no debris or blockages evident. There is no evidence of any erosion or drainage problems.

Landfill Gas Venting System: Gas vent pipes were inspected and found to be in good condition. Gas vent pipe GV-5 was repaired on October 19, 2004 with a 4-inch Schedule 80 PVC coupler.

The twenty-one passive gas vents were analyzed for percent LEL (as methane), percent oxygen, carbon dioxide, PID, and gas flow rate. The results are summarized on the Passive Gas Vent Reports included as **Attachment B**. The locations of the 21 passive gas vents are shown on the Site Plan (**Attachment D**).

Access Gravel Roads: All access roads leading around the south edge of the landfill and to the various well nests are in good condition.

Monthly Gas Monitoring Probe results

The Gas Monitoring Probe monthly check includes percent LEL (as methane), percent oxygen, percent carbon dioxide, PID, and wellhead pressure. Summaries of these reports are included as **Attachment C**.

A copy of the Facility Site Inspection Report on CD-ROM is also enclosed containing a copy of this report and the attachments as a PDF file. Please call us at (608) 224-2830 if you have any questions.

Sincerely,
BT², Inc.



Steven B. Smith
Environmental Specialist



Leslie A. Busse, P.E.
Project Manager

cc: Mr. Bernard J. Schorle, U.S. EPA Region V Office
Ms. Wendy Weihemuller, WDNR South Central Region Office

Attachments: CD-ROM
A - O&M Periodic Inspection Report
B - Passive Gas Vent Monitoring Report
C - Monthly Gas Monitoring Probe Reports
D - Site Plan

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ATTACHMENT A

O&M Periodic Inspection Report

**Operation and Maintenance Periodic Inspection Report
Stoughton City Landfill
Stoughton, Wisconsin**

Inspector S. Smith
 Company BT², Inc.
 Project Stoughton City LF
 Location Stoughton, WI
 Date/Time 1/31/05 10:00am
 Project No. #1764

Weather	<u>overcast, Lt. snow</u>	Clear	P: Cloudy	<u>Cloudy</u>	Fog
Temperature	<u>30°F</u>	High	F	---	---
Wind	<u>Calm</u>	<u>Calm</u>	Medium	High	---
Precipitation	<u>Lt. snow</u>	Rain	<u>Light</u>	Moderate	Heavy
		Snow	Light	Moderate	Heavy

Type of Inspection Routine Special

Persons/Equipment Present: S. Smith, BT² GEM2000 LFG Meter Turner PID (#2)

General Description of Site Conditions: A Snow cover ~ 10" deep. Some drifts.

Specific Inspection Items	Potential Problem Areas	Status*	Notes
Perimeter Security Fencing	Broken boards/vandalism	1	NO visible vandalism, boards OK
Entrance Gate and Locking Mechanism	Lock broken/missing, mechanism inoperative	1	Locks, gate OK
Monitoring Wells and Wellhead Covers	Signs of tampering, casing damaged, lock missing or damaged	1	NO signs of tampering, no damage.
Final Cover Vegetation	Bare spots, stressed vegetation, deep-rooted vegetation	1	Snow covered
Final Cover Slope (explain below)	Gullies, lack of vegetation, subsidence, ponding	1	NO gullies, no damage
Evidence of Burrowing Animals	Damage to final cover, evidence of waste	(2)	Probably SKUNK burrow on hillside near MWS rest
Stormwater Drainage Channels	Gullies, erosion, debris, culvert blocked	1	None
Landfill Gas Venting System	Damaged vent risers, stressed vegetation	1	NO damage
Access Road	Ponding, rutting, erosion	1	Heavy snow cover.

*(1) Acceptable - No Maintenance Required. (2) Not Acceptable - Identify Required Maintenance.

Summary of Deficiencies and/or Corrective Actions: (2) will perform maintenance and attempt to deal with SKUNK burrow in the spring.

Signature of Inspector Admiral

Date 1/31/05

ATTACHMENT B

Passive Gas Vent Monitoring Reports

Operation and Maintenance Report
 Passive Gas Vent Monitoring
 Stoughton City Landfill / BT² Project #1764

Probe	% LEL	% Oxygen	PID (ppm)	Gas Flow (m ³ /hr)	Other Gasses
GV-1					
GV-2					
GV-3					
GV-4					
GV-5	0.0	20.6	0.7	0.0	
GV-6					
GV-7					
GV-8					
GV-9					
GV-10					
GV-11					
GV-12					
GV-13					
GV-14					
GV-15					
GV-16					
GV-17					
GV-18					
GV-19					
GV-20					
GV-21					

PID Thermo #1, Lantec GEM2000 LFG Meter Operator: S. Smith
 Barometric Pressure: 29.98" Hg
 Temperature: 50°F
 Ground Surface: Damp from recent rain
 Date: 10/19/04
 Weather: Overcast

es:
 % LEL as measured as Methane.
 other gases - detected gases other than % O₂ and % LEL as Methane.

Operation and Maintenance Report
Passive Gas Vent Monitoring
Stoughton City Landfill / BT² Project #1764

Probe	% LEL	% Oxygen	PID (ppm)	Gas Flow (m ³ /hr)	Other Gasses
GV-1	0.0	21.0	0.3	+ 0.08	
GV-2	0.0	21.0	0.2	0.0	
GV-3	0.0	21.0	0.4	0.0	
GV-4	0.0	20.8	0.2	0.0	CO ₂ = 0.1%
GV-5	0.4	20.3	0.6	0.0	
GV-6	0.1	18.0	0.6	0.0	CO ₂ = 2.2%
GV-7	0.2	18.6	0.2	+ 0.1	CO ₂ = 1.6%
GV-8	0.4	15.5	0.0	+0.1	CO ₂ = 2.5%
GV-9	0.0	20.8	1.0	0.0	
GV-10	0.0	20.8	0.2	+0.1	CO ₂ = 0.2%
GV-11	0.0	20.7	0.2	+0.1	
GV-12	0.2	16.5	0.8	+0.1	CO ₂ = 2.5%
GV-13	12.1	0.8	3.0	+0.1	CO ₂ = 15.4%
GV-14	15.6	0.6	2.2	+0.2	CO ₂ = 18.3%
GV-15	0.0	20.7	0.4	+0.1	
GV-16	0.0	21.0	0.0	+0.1	
GV-17	2.8	14.6	0.9	+0.1	CO ₂ = 3.8%
GV-18	0.1	20.6	0.4	+0.0 0.0	CO ₂ = 0.3%
GV-19	0.8	16.5	1.1	+0.1	CO ₂ = 2.2%
GV-20	0.0	20.7	0.2	+0.1	CO ₂ = 0.1%
GV-21	0.0	20.8	0.2	+0.1	

Field Meters: Leaktec GEM2000 LFG Meter, Thermo PID (#) Operator: S. Smith

Barometric Pressure: 30.32 inches mercury (29.40" Hg by GEM2000)

Temperature: 30 °F

Ground Surface: Snow covered

Date: 1/31/05

Weather: Overcast, Lt snow

% LEL as measured as Methane.
 Other gases - detected gases other than % O₂ and % LEL as Methane.
 Files-General\PassGasMonfrm.wpd

ATTACHMENT C

Monthly Gas Monitoring Probe Reports

**Monthly Report
Gas Monitoring Probes
Stoughton City Landfill
BT² Project #1764**

Probe	% LEL (as Methane)	% Oxygen	% CO ₂	PID (ppm)	Pressure (inches H ₂ O)
GMP-1	0.6	20.1	2.1	0.9	+0.1
GMP-2	0.2	20.8	0.1	0.3	0.0
GMP-3	0.2	20.8	0.2	0.3	+0.1

Instruments Used: GEM 2000 LFG Meter, Thermo PID (#2)
 Operator: S. Smith, BT² Date: 1/31/05

Weather Data

Barometric Pressure: 30.32" Hg Temperature: 30° F
 Humidity: 76% Dewpoint: 26° F Wind: Caln
 Ground Surface: Snow covered Conditions: Overcast Lt snow

**Monthly Report
Gas Monitoring Probes
Stoughton City Landfill
BT² Project #1764**

Probe	% LEL (as Methane)	% Oxygen	% CO ₂	PID (ppm)	Pressure (inches H ₂ O)
GMP-1	0.4	20.2	0.1	7.1	0.0
GMP-2	0.9	20.0	0.3	3.9	0.0
GMP-3	0.6	20.3	0.0	2.7	0.0

Instruments Used: LMS_x Landfill Gas Meter, Thermo PID (#1)
 Operator: S. Smith, BT² Inc. Date: 12/23/04

Weather Data

Barometric Pressure: 30.34" Hg Temperature: 5.0° F
 Humidity: 60% Dewpoint: -5.8° F Wind: Calm
 Ground Surface: Clear - no snow Conditions: Clear - very cold

**Monthly Report
Gas Monitoring Probes
Stoughton City Landfill
BT² Project #1764**

Probe	% LEL (as Methane)	% Oxygen	% CO ₂	PID (ppm)	Pressure (inches H ₂ O)
GMP-1	0.4	20.6	0.0	4.9	0.0
GMP-2	0.7	20.0	0.0	1.0	0.0
GMP-3	0.2	20.8	0.0	0.9	0.0

Instruments Used: LMSix Landfill Gas Meter, Terra PID
 Operator: S. Smith, BT² Inc. Date: 11/30/04 2:30pm

Weather Data

Barometric Pressure: 30.13" Hg Temperature: 32.0°F
 Humidity: 75% Dewpoint: 25.0°F Wind: NNW at 4.6 mph
 Ground Surface: Clear Conditions: overcast

**Monthly Report
Gas Monitoring Probes
Stoughton City Landfill
BT² Project #1764**

Probe	% LEL (as Methane)	% Oxygen	% CO ₂	PID (ppm)	Pressure (inches H ₂ O)
GMP-1	0.4	19.9	0.3	0.7	0.0
GMP-2	0.4	20.0	0.2	1.0	0.0
GMP-3	0.2	19.9	0.2	0.9	0.0

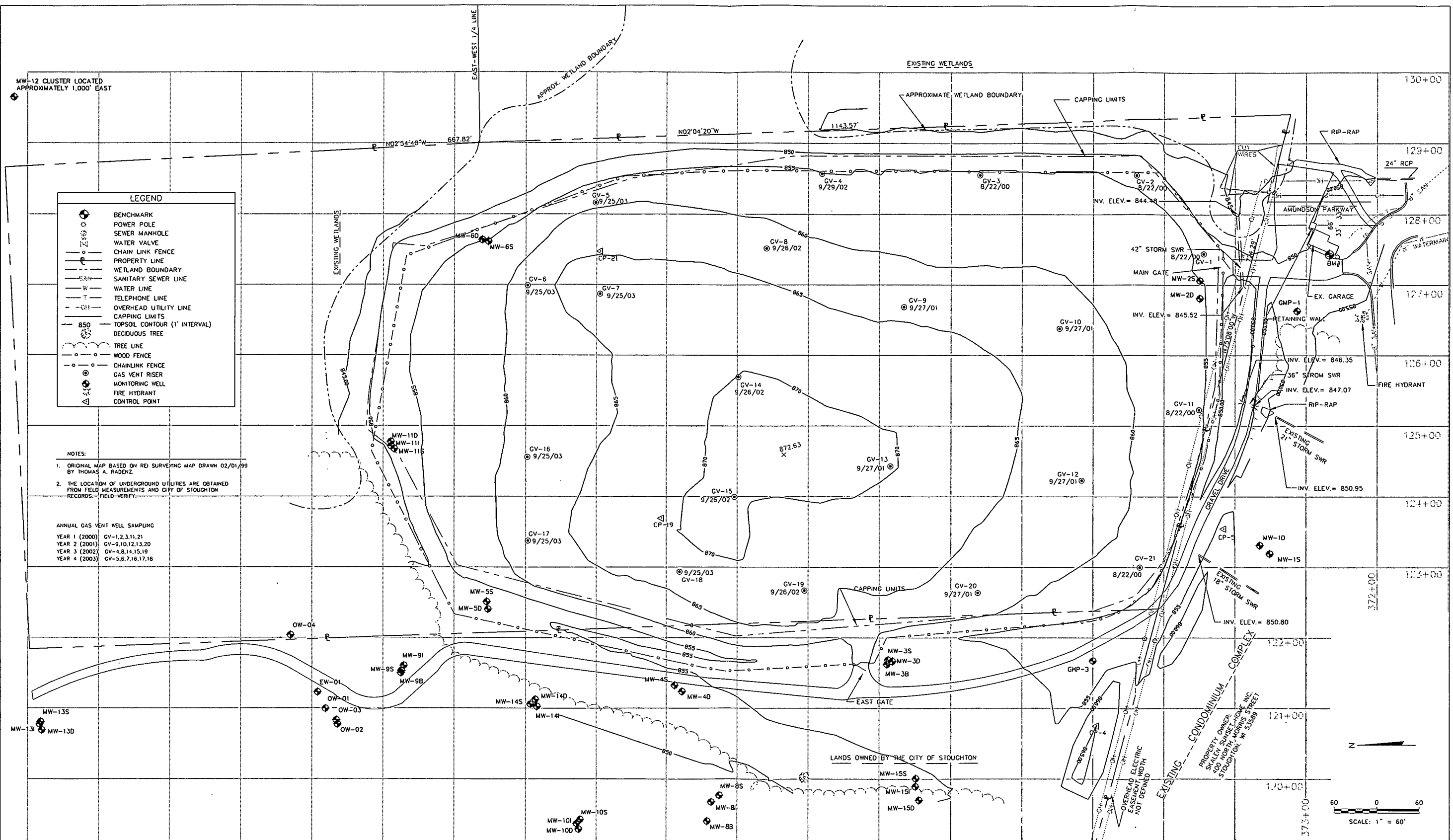
Instruments Used: LMSx Landfill Gas Meter, Thermo PID #1
 Operator: S. Smith Date: 10/19/04 (13:00)

Weather Data

Barometric Pressure: 29.98" Hg Temperature: 50°F
 Humidity: 83% Dewpoint: 45°F Wind: 9.2 mph ENE
 Ground Surface: Damp from recent rain Conditions: Overcast

ATTACHMENT D

Site Plan



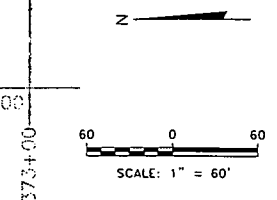
LEGEND	
	BENCHMARK
	POWER POLE
	SEWER MANHOLE
	WATER VALVE
	CHAIN LINK FENCE
	PROPERTY LINE
	WETLAND BOUNDARY
	SANITARY SEWER LINE
	WATER LINE
	TELEPHONE LINE
	OVERHEAD UTILITY LINE
	CAPPING LIMITS
	TOPSOIL CONTOUR (1' INTERVAL)
	DECIDUOUS TREE
	TREE LINE
	WOOD FENCE
	CHAINLINK FENCE
	GAS VENT RISER
	MONITORING WELL
	FIRE HYDRANT
	CONTROL POINT

NOTES:

1. ORIGINAL MAP BASED ON REI SURVEYING MAP DRAWN 02/01/99 BY THOMAS A. RADENZ.
2. THE LOCATION OF UNDERGROUND UTILITIES ARE OBTAINED FROM FIELD MEASUREMENTS AND CITY OF STOUGHTON RECORDS. FIELD-VERIFY.

ANNUAL GAS VENT WELL SAMPLING

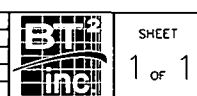
YEAR 1 (2000)	GV-1,2,3,11,21
YEAR 2 (2001)	GV-9,10,12,13,20
YEAR 3 (2002)	GV-4,8,14,15,19
YEAR 4 (2003)	GV-5,6,7,16,17,18



SITE PLAN

STOUGHTON CITY LANDFILL
STOUGHTON, WISCONSIN

PROJECT NO. 1784
DRAWN BY: KP/ES
CHECKED BY: SS
DRAWN: 06/06/00 REVISED: 11/11/03
E:\1784\SITE.DWG



MW-12 CLUSTER LOCATED APPROXIMATELY 1,000' EAST

PROPERTY OWNER:
SMALLEY SUBSETT, INC.
400 NORTH MORRIS STREET
STOUGHTON, WI 53589

LANDS OWNED BY THE CITY OF STOUGHTON

OVERHEAD ELECTRIC EASEMENT WIDTH NOT DEFINED

EXISTING CONDOMINIUM COMPLEX

EXISTING 18" STORM SWR
INV. ELEV. = 850.80

EXISTING 21" STORM SWR
INV. ELEV. = 850.95

RETAINING WALL
INV. ELEV. = 846.35

EX. GARAGE
INV. ELEV. = 847.07

AMUNDSON PARKWAY
24" RCP

RIE-RAP
INV. ELEV. = 844.98

CAPPING LIMITS

EXISTING WETLANDS

APPROXIMATE WETLAND BOUNDARY

EAST-WEST 1/4 LINE

APPROX. WETLAND BOUNDARY

1143.57'

N02°04'20"W

N02°54'48"W

EXISTING WETLANDS

EXISTING WETLANDS

MW-110
MW-111
MW-115

CV-16
9/25/03

CV-17
9/25/03

CV-18
9/25/03

CV-19
9/26/02

CV-20
9/27/01

CV-21
8/22/00

CV-12
9/27/01

CV-10
9/27/01

CV-9
9/27/01

CV-8
9/26/02

CV-7
9/25/03

CV-6
9/25/03

CV-5
9/25/03

CV-4
9/29/02

CV-3
8/22/00

CV-2
8/22/00

CV-1
8/22/00

CV-14
9/26/02

CV-13
9/27/01

CV-15
9/26/02

CV-11
8/22/00

CV-10
9/27/01

CV-9
9/27/01

CV-8
9/26/02

CV-7
9/25/03

CV-6
9/25/03

CV-5
9/25/03

CV-4
9/29/02

CV-3
8/22/00

CV-2
8/22/00

CV-1
8/22/00

MW-131
MW-13D

MW-13S

OW-01
OW-02
OW-03

EW-01

MW-95
MW-98

MW-91

MW-5D
MW-55

MW-14S
MW-14D

MW-14

MW-4S
MW-4D

MW-3S
MW-3D

MW-3B

MW-15S

MW-15I

MW-15D

MW-8S
MW-8I
MW-8D

MW-10I
MW-10D

MW-10S

MW-7S
MW-7B
MW-7I

MW-7D

MW-100
MW-101

MW-105

MW-8B

MW-8I

MW-150

MW-151

MW-155

MW-38

MW-35

MW-10

MW-15

MW-10

MW-25

MW-20

MW-25

MW-60

MW-65

MW-60

MW-110

MW-111

MW-115

MW-110

MW-110

MW-111

MW-115

MW-110

MW-111

MW-115

MW-110

MW-111

MW-115



June 22, 2005

Mr. Gary Edelstein
Wisconsin Department of Natural Resources
Bureau for Remediation and Redevelopment – RR/3
P.O. Box 7921
Madison, WI 53707

Received

JUN 24 2005

**REMEDICATION &
REDEVELOPMENT**

**SUBJECT: Tri-Annual Facility Inspection Report and
Semi-Annual Gas Monitoring Probe Report
Task #1, #2, and #10
Stoughton City Landfill
FID #113005950 - License #133
U.S. EPA ID#WID980901219
WDNR Purchase Order #NME00000028
BT² Project #1764**

Dear Mr. Edelstein:

BT², Inc. has prepared the third of three facility inspection reports and the second semi-annual gas monitoring probe report for the fifth year O&M services at the Stoughton City Landfill site. Mr. Steven Smith of BT² inspected the site on May 25, 2005. The attached Inspection Report details the findings on that date. The Passive Gas Vent monitoring results for organic vapors and combustible gases were also completed on May 25, 2005. The monthly summaries for the three gas monitoring probes for February, March, April, and May 2005 are also included. Summaries of the facility inspection are as follows.

May 25, 2005 Inspection

The general site condition is good and the cover grass is approximately 8-12 inches tall. The main gate and the City of Stoughton-owned areas of the gravel road skirting the landfill to the south and southeast are in good condition with no obvious erosion problems. The access gate to this road is in proper operating condition and the padlock was also in good condition. The Periodic Inspection Report is included as **Attachment A**.

Perimeter Security Fencing: The condition of the perimeter fence and both entrance gates is good. There is no evidence of vandalism at the site. The other fence planks on the site fencing are in good condition. The chain link fencing on both gates is in good working order. Both gate padlocks were cleaned and sprayed with WD-40 lubricant.

Monitoring Wells and Wellhead Covers: There are no evident signs of tampering with any of the site monitoring wells.

Final Cover Vegetation and Slope: The cover grass is approximately 8-12 inches tall and is nearly ready for a mowing. Evidence of burrowing animals was observed on the cover slope near the MW5 well nest. The burrow was filled in and packed down.

Mr. Gary Edelstein
June 22, 2005
Page 2

Stormwater Drainage Channels: The storm water drainage channels are in good condition with no debris or blockages evident. There is no evidence of any erosion or drainage problems.

Landfill Gas Venting System: Gas vent pipes were inspected and found to be in good condition. The twenty-one passive gas vents were analyzed for percent LEL (as methane), percent oxygen, carbon dioxide, PID, and gas flow rate. The results are summarized on the Passive Gas Vent Reports included as **Attachment B**. The locations of the 21 passive gas vents are shown on the Site Plan (**Attachment D**).

Access Gravel Roads: All access roads leading around the south edge of the landfill and to the various well nests are in good condition.

Monthly Gas Monitoring Probe results

The Gas Monitoring Probe monthly check includes percent LEL (as methane), percent oxygen, percent carbon dioxide, PID, and wellhead pressure. Summaries of these reports are included as **Attachment C**.

A copy of the Facility Site Inspection Report on CD-ROM is also enclosed, which contains this report and attachments in a PDF format. Please call us at (608) 224-2830 if you have any questions.

Sincerely,
BT², Inc.



Steven B. Smith
Environmental Specialist



Leslie A. Busse, P.E.
Project Manager

cc: Mr. Bernard J. Schorle, U.S. EPA Region V Office
Ms. Wendy Weihemuller, WDNR South Central Region Office

Attachments: CD-ROM
A - O&M Periodic Inspection Report
B - Passive Gas Vent Monitoring Report
C - Monthly Gas Monitoring Probe Reports
D - Site Plan

I:\1764\Reports\Facility Reports\June 2005\Facility_Report_050620.ge.doc

ATTACHMENT A

O&M Periodic Inspection Report

**Operation and Maintenance Periodic Inspection Report
Stoughton City Landfill
Stoughton, Wisconsin**

Inspector S. Smith
 Company BTZ, Inc.
 Project Stoughton City LF
 Location Stoughton, WI
 Date/Time 5/25/05 09:00
 Project No. #1764

Weather	<u>Partly cloudy (hazy)</u>	Clear	<u>Partly Cloudy</u>	Cloudy	Fog
Temperature	<u>~60°F</u>	High	F	---	---
Wind	<u>Slight breeze</u>	Calm	Medium	High	---
Precipitation	<u>None</u>	Rain	Light	Moderate	Heavy
		Snow	Light	Moderate	Heavy

Type of Inspection Routine Special

Persons/Equipment Present: S. Smith - BTZ

GEN200 LFG Meter, Tlermo PID (+1)

General Description of Site Conditions: Cover looks good, not quite ready to re-veget Grass is about 8-12" tall.

Specific Inspection Items	Potential Problem Areas	Status*	Notes
Perimeter Security Fencing	Broken boards/vandalism	1	NO broken boards; no visible vandalism
Entrance Gate and Locking Mechanism	Lock broken/missing, mechanism inoperative	1	Sprayed lock with WD-40; good condition
Monitoring Wells and Wellhead Covers	Signs of tampering, casing damaged, lock missing or damaged	1	NO signs of tampering or damage
Final Cover Vegetation	Bare spots, stressed vegetation, deep-rooted vegetation	1	Cover looks very good.
Final Cover Slope (explain below)	Gullies, lack of vegetation, subsidence, ponding	1	NO gullies or ponding
Evidence of Burrowing Animals	Damage to final cover, evidence of waste	1	Filled in burrow near MWS nest with dirt, packed down.
Stormwater Drainage Channels	Gullies, erosion, debris, culvert blocked	1	NO erosion or debris in channels
Landfill Gas Venting System	Damaged vent risers, stressed vegetation	1	All risers in good condition
Access Road	Ponding, rutting, erosion	1	Great condition.

*(1) Acceptable - No Maintenance Required. (2) Not Acceptable - Identify Required Maintenance.

Summary of Deficiencies and/or Corrective Actions: * See above.

Signature of Inspector *[Signature]*
 Date 5/25/05

ATTACHMENT B

Passive Gas Vent Monitoring Reports

**Operation and Maintenance Report
Passive Gas Vent Monitoring
Stoughton City Landfill / BT² Project #1764**

Probe	% LEL	% Oxygen	PID (ppm)	Gas Flow (m ³ /hr)	Other Gases
GV-1	0.0	20.9	0.6	0.00	—
GV-2	0.0	20.9	0.2	0.00	—
GV-3	0.0	20.8	0.0	0.00	—
GV-4	0.0	18.5	0.0	0.00	CO ₂ = 1.2%
GV-5	0.0	20.8	0.4	0.00	—
GV-6	0.0	19.1	0.6	0.00	CO ₂ = 1.2%
GV-7	4.3	1.3	1.9	0.00	CO ₂ = 19.0%
GV-8	0.0	18.6	0.4	0.00	CO ₂ = 0.6%
GV-9	0.0	20.8	0.0	0.00	—
GV-10	0.0	20.8	0.0	0.00	—
GV-11	0.0	20.8	0.0	0.00	—
GV-12 ¹³	6.1	5.8	1.9	+ 0.01	CO ₂ = 11.4%
GV-12 ¹²	0.0	20.8	0.0 20.8	0.00	—
GV-14	0.0	20.8	0.0	0.00	—
GV-15	0.0	20.8	0.0	0.00	—
GV-16	0.0	20.7	0.0	0.00	—
GV-17	0.1	14.5	0.9	0.00	CO ₂ = 4.8%
GV-18	0.0	20.8	0.0	0.00	—
GV-19	1.0	14.0	1.5	+ 0.04	CO ₂ = 4.1%
GV-20	2.0	3.0	1.1	0.00	CO ₂ = 11.4%
GV-21	0.0	11.6	0.9	0.00	CO ₂ = 6.5%

Field Meters: GEM2000 LF6 Meter, Thermo PID (#1) Operator: S. Smith
 Barometric Pressure: 30.10 inches mercury (29.15" H₂O)
 Temperature: 60.1 °F
 Ground Surface: Dry
 Date: 5/25/05
 Weather: overcast (hazy)

- Notes:**
- % LEL as measured as Methane.
 - Other gases - detected gases other than % O₂ and % LEL as Methane.
- I:\1764\Tables-General\PassGasMonfrm.wpd

ATTACHMENT C

Monthly Gas Monitoring Probe Reports

Monthly Report
Gas Monitoring Probes
Stoughton City Landfill
BT² Project #1764

Probe	% LEL (as Methane)	% Oxygen	% CO ₂	PID (ppm)	Pressure (inches H ₂ O)
GMP-1	0.1	20.6	0.1	0.6	0.00
GMP-2	0.0	20.8	0.0	0.0	0.00
GMP-3					

Instruments Used: GEM2000 LFE Meter, Thermo PID (+)
 Operator: S. Smith, BT² Date: 5/25/05 (1pm)

Weather Data

Barometric Pressure: 30.10" Hg Temperature: 60.1° F
 Humidity: 64% Dewpoint: 48.0° F Wind: SSE at 8.1 mph
 Ground Surface: Dry Conditions: Partly cloudy

**Monthly Report
Gas Monitoring Probes
Stoughton City Landfill
BT² Project #1764**

Probe	% LEL (as Methane)	% Oxygen	% CO ₂	PID (ppm)	Pressure (inches H ₂ O)
GMP-1	0.4	20.4	0.0	3.7	+0.01
GMP-2	0.3	20.4	0.4	1.9	0.00
GMP-3	0.6	20.0	0.2	9.1	+0.01

Instruments Used: Landtec GEM2000 LFG meter, Thermo PID (#1)
 Operator: S. Smith, BT² Date: 4/28/05 (17:00)

Weather Data

Barometric Pressure: 29.93" Hg Temperature: 52.0 F
 Humidity: 34% Dewpoint: 24.1 F Wind: 5.8 mph
 Ground Surface: Ground is moist Conditions: Clear

**Monthly Report
Gas Monitoring Probes
Stoughton City Landfill
BT² Project #1764**

Probe	% LEL (as Methane)	% Oxygen	% CO ₂	PID (ppm)	Pressure (inches H ₂ O)
GMP-1	0.3	20.4	0.0	1.1	+ 0.005
GMP-2	0.3	20.4	0.1	0.7	0.0
GMP-3	0.4	20.4	0.0	0.9	+ 0.007

Instruments Used: GEM 2000 LFG meter, Thermo PID
 Operator: S. Smith, BT² Date: 3/24/05 (9pm)

Weather Data

Barometric Pressure: 29.63" Hg Temperature: 66° F
 Humidity: 32% Dewpoint: 35.1° F Wind: 21.9 mph from South
 Ground Surface: wet Conditions: Overcast

**Monthly Report
Gas Monitoring Probes
Stoughton City Landfill
BT² Project #1764**

Probe	% LEL (as Methane)	% Oxygen	% CO ₂	PID (ppm)	Pressure (inches H ₂ O)
GMP-1	0.4	20.8	0.1	3.0	0.0
GMP-2	0.3	20.7	0.0	1.0	0.0
GMP-3	0.5	20.7	0.0	0.4	0.0

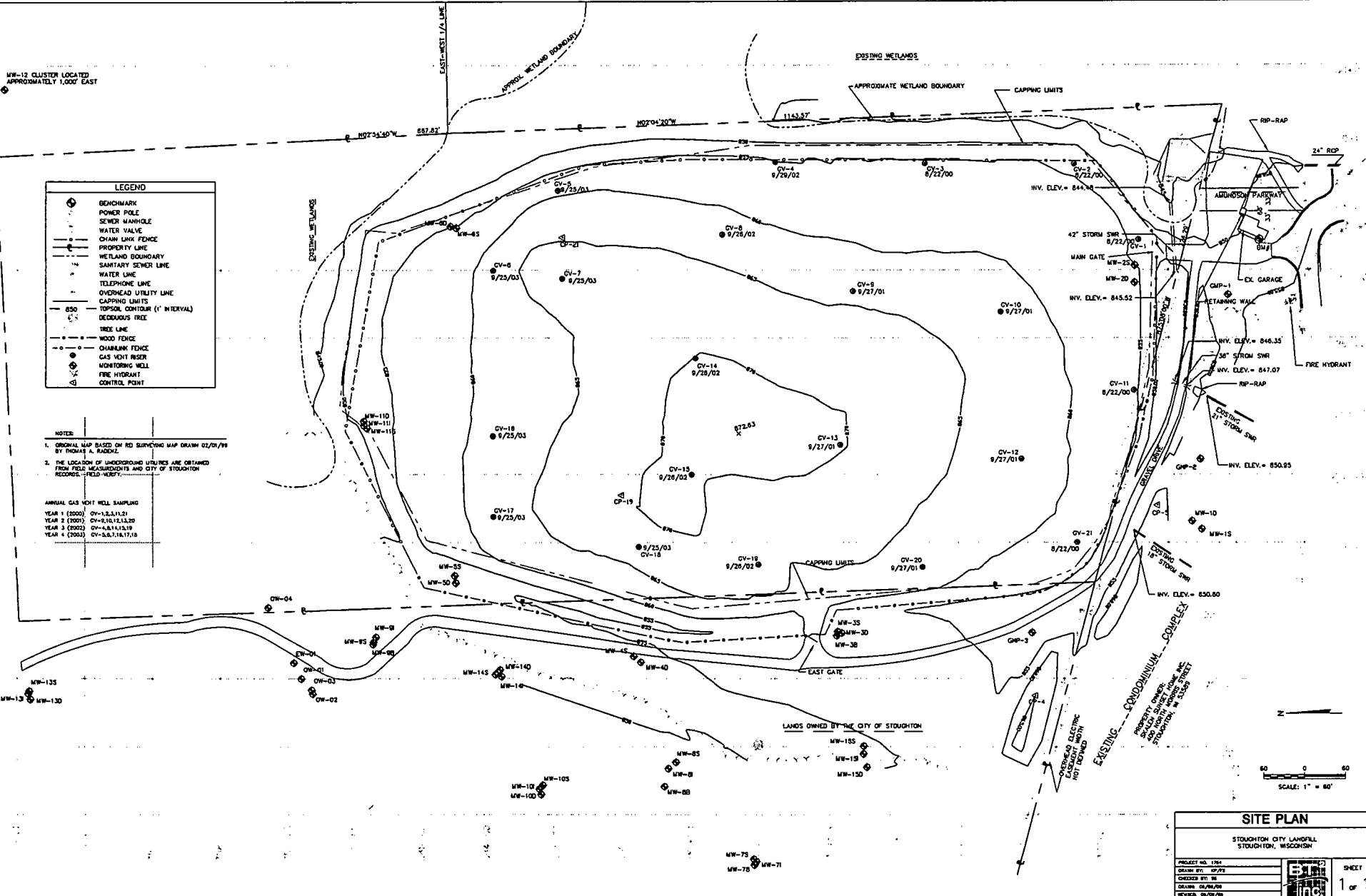
Instruments Used: CEM2000 LFG meter, Thermo PID #1
 Operator: S. Smith, BT² Date: 2/16/05

Weather Data

Barometric Pressure: 30.06 " Hg Temperature: 28°F
 Humidity: 51% Dewpoint: 12°F Wind: NW at 15.0 mph
 Ground Surface: Snow cover and damp Conditions: mostly cloudy

ATTACHMENT D

Site Plan



MW-12 CLUSTER LOCATED APPROXIMATELY 1,000' EAST

EXISTING WETLANDS

APPROXIMATE WETLAND BOUNDARY

CAPPING LIMITS

RIP-RAP

ADAMS PARKWAY

EX GARAGE

RETAINING WALL

EXISTING 24" STORM SWR

EXISTING 24" STORM SWR

EXISTING 24" STORM SWR

EXISTING 24" STORM SWR

EXISTING 24" STORM SWR

EXISTING 24" STORM SWR

EXISTING 24" STORM SWR

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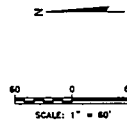
EXISTING 24" STORM SWR

EXISTING 24" STORM SWR

LANDS OWNED BY THE CITY OF STOUTHTON

EXISTING CONDUMINIUM COMPLEX
PROPERTY OWNED BY
STOUTHTON WASTE TREATMENT, INC.
STOUTHTON, WI 53089

OVERHEAD ELECTRIC
NOT SHOWN



SITE PLAN	
STOUTHTON CITY LANDFILL STOUTHTON, WISCONSIN	
PROJECT NO. 176	DATE: 06/09/06
DRAWN BY: GP/JS	CHECKED BY: W
DESIGN: GP/MS/MS	REVISION: 06/09/06

SHEET
1 of 1