



November 20, 2003

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 #2, #8, and #10
Stoughton City Landfill
FID #113005950 - License #133
WDNR Purchase Order #NMD00000028
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 fourth year O&M at the Stoughton City Landfill site. Mr. Steven Smith of BT² inspected the site on September 25, 2003. 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 25, 2003. The monthly summaries of the monitoring of the three gas monitoring probes for June, July, and August 2003 are also included. Summaries of the facility inspection are as follows.

September 25, 2003 Inspection

The general site condition is good and the ground is covered in grasses to a height of approximately 12 inches. 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 at any of the site monitoring wells.

Final Cover Vegetation and Slope: The ground surface has a cover of approximately 12 inches of grass. No evidence of burrowing animals was observed on the cover.

Stormwater Drainage Channels: The storm water drainage channels are in good shape with no debris or blockages evident.

Landfill Gas Venting System: Gas vent pipes were inspected and found to be in good shape. The 21 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 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 accessible and in good condition.

Monthly Gas Monitoring Probe results

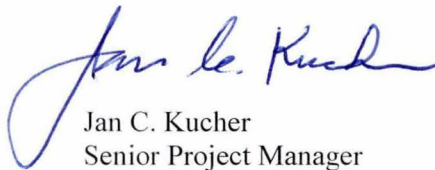
The Gas Monitoring Probe monthly check includes percent LEL (as methane), percent oxygen, percent carbon dioxide, PID, and well head pressure. Summaries of these reports are included as **Attachment C**.

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



Jan C. Kucher
Senior 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

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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 9/25/03 10:30am
 Project No. #1764

Weather	Partly sunny	Clear	<u>P. Cloudy</u>	Cloudy	Fog
Temperature	~48°F	High	F	---	---
Wind		Calm	<u>Medium</u>	High	---
Precipitation	None	Rain	Light	Moderate	Heavy
		Snow	Light	Moderate	Heavy

Type of Inspection Routine Special

Persons/Equipment Present: S. Smith - BT² with LMS, Landfill gas meter and TV
Turns PID (#1)

General Description of Site Conditions: Good condition, grass on cover is ready for its
2nd mowing.

Specific Inspection Items	Potential Problem Areas	Status*	Notes
Perimeter Security Fencing	Broken boards/vandalism	1	Good shape, no damage found
Entrance Gate and Locking Mechanism	Lock broken/missing, mechanism inoperative	1	Good shape, sprayed padlocks with WD-40
Monitoring Wells and Wellhead Covers	Signs of tampering, casing damaged, lock missing or damaged	1	Good shape, no damage
Final Cover Vegetation	Bare spots, stressed vegetation, deep-rooted vegetation	1	Good shape, ready for mowing
Final Cover Slope (explain below)	Gullies, lack of vegetation, subsidence, ponding	1	Good slope, no gullies, ponding
Evidence of Burrowing Animals	Damage to final cover, evidence of waste	1	NO evidence
Stormwater Drainage Channels	Gullies, erosion, debris, culvert blocked	1	Good shape, no blockages
Landfill Gas Venting System	Damaged vent risers, stressed vegetation	1	All in good condition
Access Road	Ponding, rutting, erosion	1	Good shape

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

Summary of Deficiencies and/or Corrective Actions: None needed

Signature of Inspector A. Stouder
 Date 9/25/03

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)	Other Gasses
GV-1	0.0	21.0	12.1	0.0	
GV-2	0.4	20.8	7.3	1.0	
GV-3	0.0	20.9	1.1	1.0	
GV-4	0.0	20.9	9.7	0.0	CO ₂ = 1.9%
GV-5	0.7	21.0	21.1 1.8	0.0	CO ₂ = 9.3%
GV-6	10.8	11.3	21.1	0.0	CO ₂ = 2.2%
GV-7	0.1	20.0	3.9	0.0	CO ₂ = 15.1%
GV-8	0.0	20.9	12.0	1.0	
GV-9	0.0	20.9	1.3	1.0	
GV-10	0.0	20.9	0.9	0.0	
GV-11	0.0	21.0	7.7	0.0	CO ₂ = 7.1%
GV-12	1.3	20.7	4.4	0.0	
GV-13	8.9	17.7	0.9	1.0	CO ₂ = 13.1%
GV-14	0.9	20.4	4.0	0.0	CO ₂ = 5.3%
GV-15	1.1	20.7	3.3	0.0	CO ₂ = 0.9%
GV-16	14.1	9.9	1.1	1.0	CO ₂ = 20.1%
GV-17	9.9	13.3	9.1	0.0	CO ₂ = 1.7%
GV-18	11.3	9.9	0.1	0.0	CO ₂ = 7.3%
GV-19	3.7	17.7	9.3	0.0	
GV-20	5.3	15.0	9.1	1.0	CO ₂ = 13.0%
GV-21	3.9	18.3	3.1	0.0	CO ₂ = 11.1%

PID Thermo PID (#1) Operator: S. Smith

Barometric Pressure: 30.04" Hg

Temperature: 53.6° F

Ground Surface: Clean, dry

Date: 9/25/03

Weather: Partly overcast

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	0.4	20.7	0.1	4.9	0.1
GMP-2	0.3	20.7	0.0	7.9	0.0
GMP-3	0.3	20.8	0.0	5.0	0.1

Instruments Used: LMS, Landfill Gas Meter, Thermo PID (+1)
 Operator: S. Smith Date: 9/25/03
(15:20)

Weather Data

Barometric Pressure: 30.04" Hg Temperature: 53.6°F
 Humidity: 51% Dewpoint: 35.8°F Wind: 6.9 mph
 Ground Surface: Clean, dry Conditions: Partly 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	0.2	20.8	0.0	3.3	0.04
GMP-2	0.4	20.7	0.0	7.1	0.01
GMP-3	0.3	20.8	0.0	4.2	0.0

Instruments Used: LMS Landfill Gas Meter, Thermo PID (+2)

Operator: S. Smith Date: 8/12/03

Weather Data

Barometric Pressure: 30.15 in Hg Temperature: 70° F ↑

Humidity: 73% Dewpoint: 61° F Wind: S at 8 mph

Ground Surface: Damp w/ dew 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	20.7	0.0	16.8	0.0
GMP-2	0.7	20.0	0.1	7.8	0.0
GMP-3	0.3	20.7	0.2	10.2	0.0

Instruments Used: LMSx Landfill Gas Meter, Thermo PID (#3)
 Operator: S. Smith Date: 7/23/03 (10:30)

Weather Data

Barometric Pressure: 30.09 in. Hg. Temperature: 69.8° F
 Humidity: 60% Dewpoint: 55.4° F Wind: 8 mph NNE
 Ground Surface: Clear and dry Conditions: Clear

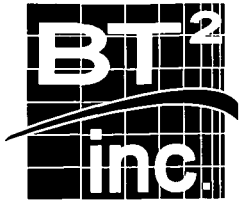
Monthly Report
Gas Monitoring Probes
Stoughton City Landfill
BT² Project #1764

Probe	%LEL (as Methane)	%Oxygen	%CO ₂	PID (ppm)	Pressure (inches H ₂ O)
GMP-1	0.5	20.5	0.0	8.4	0.0
GMP-2	0.7	20.1	0.1	9.1	0.0
GMP-3	0.4	20.6	0.0	7.0	0.0

Instruments Used: LMS_x Meter, Thermo PID (#4)
 Operator: S. Smith Date: 6/26/03, 2:30pm

Weather Data

Barometric Pressure: 29.86 in. Hg Temperature: 68°F
 Humidity: 46% Dewpoint: 48.2°F Wind: 16 mph west
 Ground Surface: Dry, clear Conditions: Overcast



February 11, 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
WDNR Purchase Order #NMD00000028
BT² Project #1764**

Dear Mr. Schmoller:

BT², Inc. has prepared the second of three facility inspection reports and the second semi-annual gas monitoring probe report for the fourth year O&M at the Stoughton City Landfill site. Mr. Steven Smith of BT² inspected the site on January 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 January 27, 2004. The monthly summaries of the monitoring of the three gas monitoring probes for October 2003, November 2003, December 2003, and January 2004 are also included. Summaries of the facility inspection are as follows.

January 27, 2004 Inspection

The general site condition is good and the ground is covered in snow to a height of approximately 6 inches. 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 snow has not been removed from the access roads. 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 at any of the site monitoring wells.

Final Cover Vegetation and Slope: The ground surface has a cover of approximately 12 inches of snow. No evidence of burrowing animals was observed on the cover.

Mr. Michael Schmoller
February 11, 2004
Page 2

Stormwater Drainage Channels: The storm water drainage channels are in good shape with no debris or blockages evident.

Landfill Gas Venting System: Gas vent pipes were inspected and found to be in good shape. The 21 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 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 somewhat accessible due to snow cover and are in good condition.

Monthly Gas Monitoring Probe results

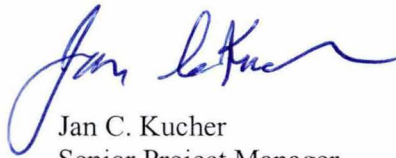
The Gas Monitoring Probe monthly check includes percent LEL (as methane), percent oxygen, percent carbon dioxide, PID, and wellhead pressure. Summaries of these reports are included as **Attachment C**.

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



Jan C. Kucher
Senior 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

I:\1764\Reports\Facility Reports\Feb.2004\Facility_Report_040204.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 1/27/04 09:30
 Project No. #1764

Weather	<u>Overcast and snowing</u>	Clear	P. Cloudy	<u>Cloudy</u>	Fog
Temperature	<u>~12°F</u>	High	F	---	---
Wind	<u>Very Windy</u>	Calm	<u>Medium</u>	High	---
Precipitation	<u>Lt snow</u>	Rain	Light	Moderate	Heavy
		Snow	Light	Moderate	Heavy

Type of Inspection Routine Special

Persons/Equipment Present: S. Smith - LMS, Landfill Gas Meter, Thermo PIVs (#3)

General Description of Site Conditions: Snow covered (approx. 6" deep)

Specific Inspection Items	Potential Problem Areas	Status*	Notes
Perimeter Security Fencing	Broken boards/vandalism	1	NO broken boards or obvious vandalism
Entrance Gate and Locking Mechanism	Lock broken/missing, mechanism inoperative	1	Locks work fine, gates are OK
Monitoring Wells and Wellhead Covers	Signs of tampering, casing damaged, lock missing or damaged	1	NO problems
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	Good, snow covered
Evidence of Burrowing Animals	Damage to final cover, evidence of waste	1	NO obvious damage
Stormwater Drainage Channels	Gullies, erosion, debris, culvert blocked	1	Good
Landfill Gas Venting System	Damaged vent risers, stressed vegetation	1	Good condition
Access Road	Ponding, rutting, erosion	1	Snow covered

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

Summary of Deficiencies and/or Corrective Actions: _____

Signature of Inspector Alexander [Signature]
 Date 1/27/04

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/hr)	Other Gases
GV-1	0.0	21.0	0.7	1.0	
GV-2	0.0	20.8	0.0	0.0	
GV-3	0.0	20.7	0.1	0.0	
GV-4	0.5	19.1	1.3	1.0	CO ₂ = 0.9%
GV-5	0.2	20.6	0.2	0.0	
GV-6	0.2	20.6	0.0	0.0	
GV-7	0.3	20.4	0.4	0.0	
GV-8	0.4	20.3	0.2	1.0	
GV-9	0.6	15.6	13.9	1.0	CO ₂ = 3.1%
GV-10	0.6	20.2	1.1	1.0	
GV-11	0.4	20.5	1.1	0.0	
GV-12	0.3	20.6	0.3	0.0	
GV-13	9.4	12.6	11.9	1.0	CO ₂ = 5.4%
GV-14	15.0	0.5	10.9	1.0	CO ₂ = 14.0%
GV-15	0.3	20.6	1.9	0.0	
GV-16	0.4	20.4	3.7	1.0	
GV-17	0.0	20.8	0.0	1.0	
GV-18	4.4	8.3	15.2	1.0	CO ₂ = 9.1%
GV-19	0.7	19.2	3.3	1.0	CO ₂ = 0.9%
GV-20	0.4	20.2	2.2	1.0	CO ₂ = 0.2%
GV-21	0.3	20.3	3.4	0.0	CO ₂ = 0.2%

PID Thermo PID (#3) Operator: S. Smith

Barometric Pressure: 29.86" Hg

Temperature: 12.9°F

Ground Surface: Snow covered

Date: 1/27/04

Weather: Lt. Snow

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	2.1	19.1	1.0	12.7	0.0
GMP-2	1.3	20.7	0.8	7.7	0.0
GMP-3	0.9	20.9	0.5	4.7	0.0

Instruments Used: MSA 4-Gas Meter, Testo CO₂ Meter, Thermo PID (x1)
 Operator: S. Smith Date: 10/21/03 (am)

Weather Data

Barometric Pressure: 29.71" Hg Temperature: 39.2°F
 Humidity: 81% Dewpoint: 33.8% Wind: 6.9 mph
 Ground Surface: Clear and dry 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	0.8	20.1	0.1	7.3	0.0
GMP-2	0.4	20.7	0.0	5.1	0.0
GMP-3	0.9	20.1	0.2	4.7	0.0

Instruments Used: LMS, Landfill Gas Meter, Thermo PID (#1)
 Operator: S. Smith Date: 01/19/03 15:00

Weather Data

Barometric Pressure: 29.74 " Hg Temperature: 53.6°F
 Humidity: 44% Dewpoint: 32°F Wind: 8.1 mph
 Ground Surface: Damp in spots 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	0.4	20.7	0.0	3.1	0.0
GMP-2	0.3	20.8	0.2	4.1	0.0
GMP-3	0.6	20.5	0.0	7.1	0.0

Instruments Used: Thermo PID (#1), LMS landfill gas meter
 Operator: S. Smith, BT² Date: 12/5/03 (12:30)

Weather Data

Barometric Pressure: 29.75" Hg Temperature: 30.0°F
 Humidity: 88% Dewpoint: 27.0°F Wind: 16.1 mph from SSE
 Ground Surface: Snow covered, icy Conditions: Overcast

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

Probe	% LEL (as Methane)	% Oxygen	% CO	PID (ppm)	Pressure (inches H ₂ O)
GMP-1	0.3	20.4	0.0	2.2	0.0
GMP-2	0.6	20.2	0.0	3.1	0.0
GMP-3	0.4	20.4	0.0	2.0	0.0

Instruments Used: LMS_x Landfill Gas Meter, Thermo PID (#3)
 Operator: S. Smith Date: 1/27/04

Weather Data

Barometric Pressure: 29.86" Hg Temperature: 12.9°F
 Humidity: 74% Dewpoint: 6.1°F Wind: WNW 12.7 mph
 Ground Surface: Approx 6" snow Conditions: Overcast, lt. snow



June 7, 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 #NMD00000028
BT² Project #1764**

Dear Mr. Schmoller:

BT², Inc. has prepared the third of three facility inspection reports and the second semi-annual gas monitoring probe report for the fourth year O&M at the Stoughton City Landfill site. Mr. Steven Smith of BT² inspected the site on May 25, 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 May 25, 2004. The monthly summaries of the monitoring of the three gas monitoring probes for February 2004, March 2004, April 2004, and May 2004 are also included. Summaries of the facility inspection are as follows.

May 25, 2004 Inspection

The general site condition is fair and the ground is saturated by the last month of heavy rains. The cover grass is approximately 16 to 18 inches high and is over-due to be mowed. The mowing has been postponed until the cover can dry out from the months heavy rains until early June 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 at any of the site monitoring wells.

Mr. Michael Schmoller
June 7, 2004
Page 2

Final Cover Vegetation and Slope: The ground surface is saturated by the last month of heavy rains. The cover grass is approximately 16 to 18 inches high and is over-due to be mowed. No evidence of burrowing animals was observed on the cover.

Stormwater Drainage Channels: The storm water drainage channels are in good shape with no debris or blockages evident. The heavy rains have caused the channels to be full of standing water, however, 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 shape. The 21 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 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

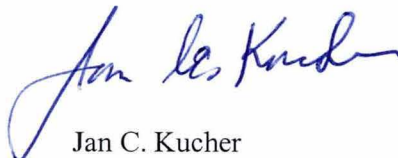
The Gas Monitoring Probe monthly check includes percent LEL (as methane), percent oxygen, percent carbon dioxide, PID, and wellhead pressure. Summaries of these reports are included as **Attachment C**.

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



Jan C. Kucher
Senior 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\May2004\Facility_Report_040604.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 5/25/04 9:30 am
 Project No. #1764

Weather	<u>Cloudy</u>	Clear	P. Cloudy	<u>Cloudy</u>	Fog
Temperature	<u>49°F</u>	High	F	---	---
Wind	<u>Calm</u>	<u>Calm</u>	Medium	High	---
Precipitation	<u>None</u>	Rain	Light	Moderate	Heavy
		Snow	Light	Moderate	Heavy

Type of Inspection Routine Special

Persons/Equipment Present: GEM2000 Landfill Gas Monitor, Thermo RIO(*1)

General Description of Site Conditions: Surface of LF is saturated due to 2 weeks of heavy rain. Some minor puddling on cover. Stormwater drainage channels are filled with steady H₂O. NO culvert damage damage due to snuff visible.

Specific Inspection Items	Potential Problem Areas	Status*	Notes
Perimeter Security Fencing	Broken boards/vandalism	1	NO broken boards visible. Fence appears to be in good condition.
Entrance Gate and Locking Mechanism	Lock broken/missing, mechanism inoperative	1	Problems are slightly rusty - sprayed with WD-40
Monitoring Wells and Wellhead Covers	Signs of tampering, casing damaged, lock missing or damaged	1	NO evidence of tampering or damage.
Final Cover Vegetation	Bare spots, stressed vegetation, deep-rooted vegetation	1	The cover is ready for a mowing once the surface dries out. Grass is knee-high.
Final Cover Slope (explain below)	Gullies, lack of vegetation, subsidence, ponding	1	Some minor ponding on surface; ground is heavily saturated.
Evidence of Burrowing Animals	Damage to final cover, evidence of waste	1	NO damage visible.
Stormwater Drainage Channels	Gullies, erosion, debris, culvert blocked	1	Drainage channels are full of H ₂ O; no visible damage.
Landfill Gas Venting System	Damaged vent risers, stressed vegetation	1	NO damaged risers or stressed vegetation.
Access Road	Ponding, rutting, erosion	1	Some minor ponding.

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

Summary of Deficiencies and/or Corrective Actions: None required.

Signature of Inspector [Signature]
 Date 5/25/04

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)	Other Gasses
GV-1	0.0	20.9	0.0	-0.01	
GV-2	0.0	20.6	0.0	0.0	
GV-3	0.0	20.8	0.0	0.0	
GV-4	0.0	20.8	0.4	0.0	
GV-5	0.1	20.7	0.0	-0.01	
GV-6	0.2	20.6	0.0	0.0	
GV-7	0.4	20.4	0.3	-0.01	
GV-8	1.0	19.9	0.1	0.0	
GV-9	0.9	16.6	15.5	-0.02	CO ₂ = 2.1%
GV-10	0.8	20.0	1.9	0.0	
GV-11	0.5	20.4	3.0	0.0	
GV-12	0.2	20.8	0.0	0.0	
GV-13	10.1	10.9	16.6	0.0	CO ₂ = 6.3%
GV-14	16.1	0.6	13.3	0.0	CO ₂ = 13.4%
GV-15	0.2	20.4	0.2	-0.01	
GV-16	0.3	20.4	4.0	0.0	
GV-17	0.0	20.8	0.0	0.0	
GV-18	0.2	20.2	0.6	-0.02	CO ₂ = 7.1%
GV-19	1.0	19.0	4.1	0.0	CO ₂ = 0.6%
GV-20	0.4	20.1	4.7	0.0	CO ₂ = 0.4%
GV-21	0.6	20.0	3.0	0.0	CO ₂ = 0.3%

PID Thermo (#1) Operator: S. Smith
 Barometric Pressure: 29.82" Hg (28.88" Hg - GEM)
 Temperature: 49°F (↑)
 Ground Surface: Wet, ground saturated
 Date: 5/22/04
 Weather: Overcast

- 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	0.2	20.6	0.0	0.0	-0.02
GMP-2	0.3	20.7	0.0	0.3	-0.01
GMP-3	0.2	20.7	0.0	0.6	-0.02

Instruments Used: GEM2000 LF Gas Metering Thermo PID (#1)

Operator: S.S. Miller Date: 5/25/09

Weather Data

Barometric Pressure: 29.82" Hg (28.88" Hg - GEM) Temperature: 49°F

Humidity: 86% Dewpoint: 48°F Wind: Calm

Ground Surface: wet; ground saturated 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	0.6	20.1	0.3	①	0.0
GMP-2	0.2	20.6	0.1	①	0.0
GMP-3	0.4	20.3	0.0	①	0.0

Instruments Used: GEM 500 Landfill Gas Meter

Operator: S. Smith Date: 4/21/04 15:00

Weather Data

Barometric Pressure: _____ Temperature: _____

Humidity: _____ Dewpoint: _____ Wind: _____

Ground Surface: Damp from previous days rain Conditions: ~~Clear~~ Overcast

① NO PID's or FID's
were available for use.

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

Probe	% LEL (as Methane)	% Oxygen	% CO ₂	PID FID (ppm)	Pressure (inches H ₂ O)
GMP-1	0.3	20.4	0.0	19	-1.1
GMP-2	0.2	20.4	0.1	12	-0.5
GMP-3	0.3	20.4	0.1	11	-0.5

Instruments Used: Landtec GEM2000 LFG meter, FID (#2)
 Operator: S. Smith, BT² Date: 3/24/04 (10:20am)

Weather Data

Barometric Pressure: 29.95" Hg Temperature: 48.2°F
 Humidity: 82% Dewpoint: 42.8°F Wind: 12.7 mph (S)
 Ground Surface: wet, soft 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	20.4	0.3	7.9	0.0
GMP-2	0.3	20.6	0.1	3.3	0.0
GMP-3	0.4	20.5	0.2	5.0	0.0

Instruments Used: PID Thermo (#1), GEM500 Landfill Gas Meter
 Operator: S. Smith, BT² Date: 2/18/04 (11:30 am)

Weather Data

Barometric Pressure: 30.13" Hg Temperature: 39°F
 Humidity: 55% Dewpoint: 24.1°F Wind: SSW at 8.1 mph
 Ground Surface: Snow covered Conditions: Overcast

ATTACHMENT D

Site Plan

MW-12 CLUSTER LOCATED APPROXIMATELY 1,000' EAST

LEGEND

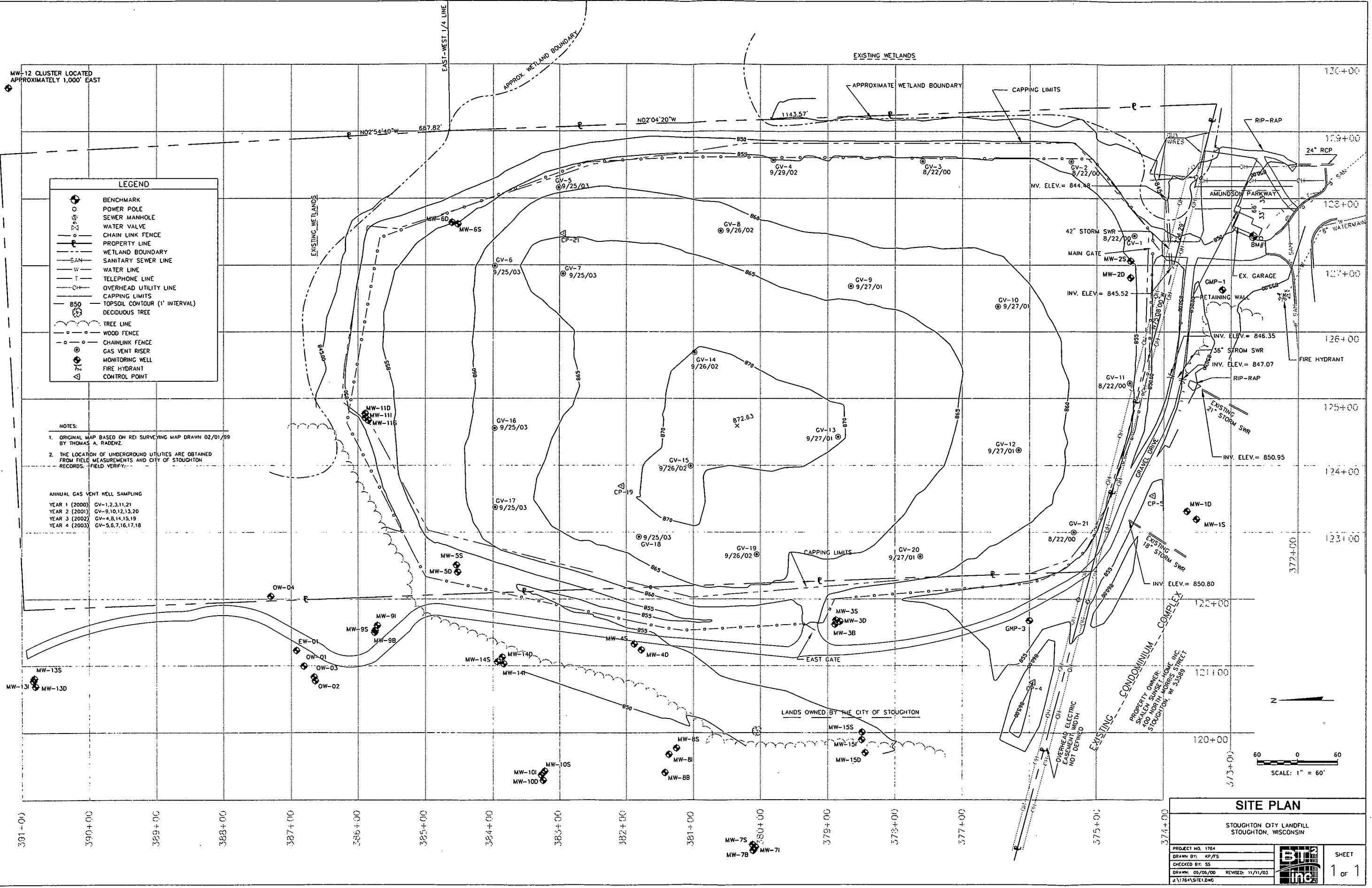
- ⊕ BENCHMARK
- ⊙ POWER POLE
- ⊙ SEWER MANHOLE
- ⊙ WATER VALVE
- CHAIN LINK FENCE
- PROPERTY LINE
- - - WETLAND BOUNDARY
- - - SANITARY SEWER LINE
- WATER LINE
- TELEPHONE LINE
- OVERHEAD UTILITY LINE
- - - CAPPING LIMITS
- 850 TOPSOIL CONTOUR (1' INTERVAL)
- ⊙ DECIDUOUS TREE
- TREE LINE
- WOOD FENCE
- 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. RADEKZ.
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

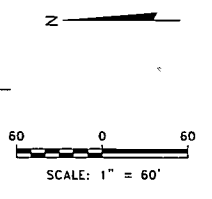


SITE PLAN

STOUGHTON CITY LANDFILL
STOUGHTON, WISCONSIN

PROJECT NO. 1764		SHEET 1 of 1
DRAWN BY: KP/FS		
CHECKED BY: SS		
DRAWN: 05/06/00 REVISED: 11/11/03		

2\1764\SITE1.DWG



391+00 390+00 389+00 388+00 387+00 386+00 385+00 384+00 383+00 382+00 381+00 380+00 379+00 378+00 377+00 376+00 375+00 374+00

120+00 121+00 122+00 123+00 124+00 125+00 126+00 127+00 128+00 129+00 130+00