



St. Croix Sensory, Inc.

SWAPE

Bridgeton Sanitary Landfill Air Quality Assessment

Odor Evaluation Report

Report No. 1312802

05/08/13

Data Release Authorization:

Natasha Satre
Laboratory Associate

Reviewed and Approved:

Charles M. McGinley, P.E.
Technical Director

St. Croix Sensory is a laboratory dedicated to practicing state-of-the-art sensory evaluation and to advancing the science of sensory perception.

We are a family owned and operated business providing our clients with personal customer service, flexible scheduling, timely results.

Our focus is to provide the best professional services available to help make your project or product a success.

www.fivesenses.com

1150 Stillwater Boulevard North
Stillwater, Minnesota 55082 U.S.A.

Tel: 800-879-9231

Fax: 651-439-1065

Email: stcroix@fivesenses.com

St. Croix Sensory, Inc.

Odor Evaluation Report

Client: SWAPE

Report No.: 1312802

Project: Bridgeton Sanitary Landfill Air Quality Assessment

Evaluation Date: 05/08/13

#	Field No.	Sample Description	ASTM E679 & EN13725		ASTM E544	PERSISTENCY	CHARACTERIZATION		Comments
			Detection Threshold	Recognition Threshold	Intensity	Dose-Response Slope	Hedonic Tone	Principal Odor Descriptors	
1	U-1		55	30	13		-0.4	Chemical, Earthy	Sample descriptions were not provided.
2	U-2		50	30	19		-0.6	Chemical, Floral, Earthy	
3	D-1		120	65	30		-1.2	Chemical, Earthy, Floral, Offensive	
4	D-2		60	35	23		-1.2	Chemical, Earthy, Floral, Offensive	
5									
6									
7									
8									
9									
10									

Client: SWAPE

Field No.: U-1

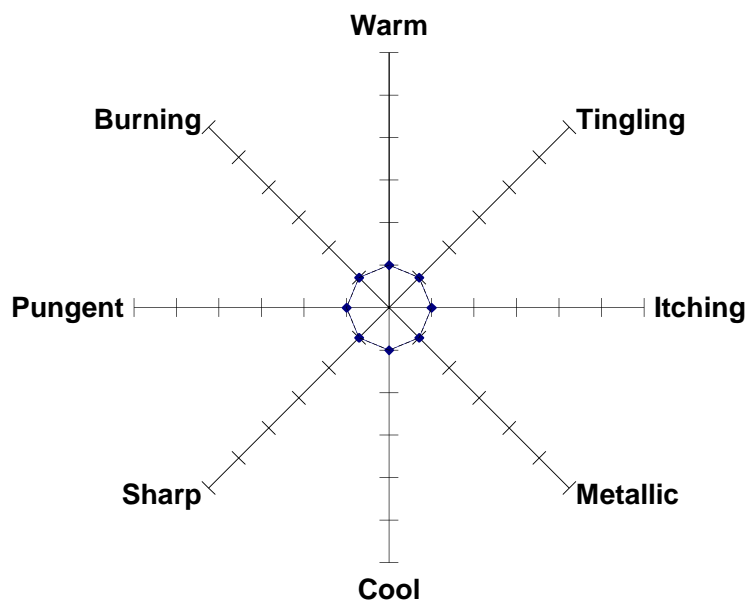
Report No.: 1312802

Project: Bridgeton Sanitary Landfill Air Quality Assessment

Description: _____

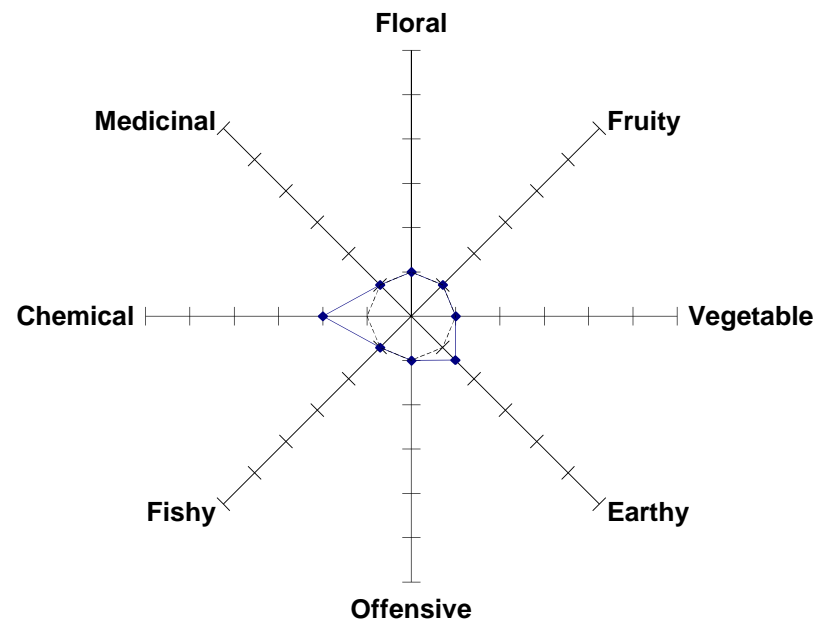
Evaluation Date: 05/08/13

Sensation Descriptor Graph



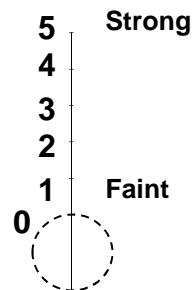
	Average Relative Strength
Warm	0.0
Tingling	0.0
Itching	0.0
Metallic	0.0
Cool	0.0
Sharp	0.0
Pungent	0.0
Burning	0.0

Odor Descriptor Graph



	Average Relative Strength
Floral	0.0
Fruity	0.0
Vegetable	0.0
Earthy	0.4
Offensive	0.0
Fishy	0.0
Chemical	1.0
Medicinal	0.0

KEY



Relative Strength

St. Croix Sensory, Inc.

Odor Evaluation Report

Client: SWAPE

Field No.: U-1

Report No.: 1312802

Project: Bridgeton Sanitary Landfill Air Quality Assessment

Description: _____

Evaluation Date: 05/08/13

% of Assessors |*****|*****|*****|*****| 100%

Chemical *****

Paint *****

Tar *****

Car exhaust *****

Earthy *****

Musty *****

Smoky *****

Client: SWAPE

Field No.: U-1

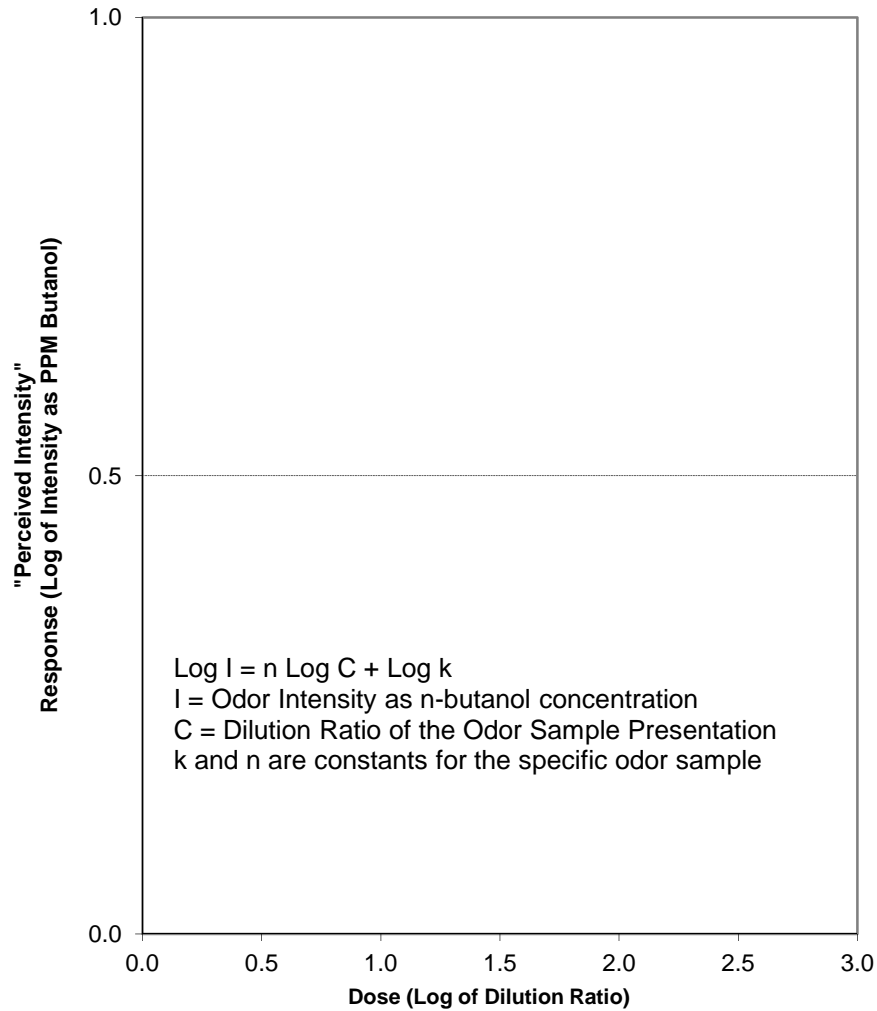
Report No.: 1312802

Project: Bridgeton Sanitary Landfill Air Quality Assessment

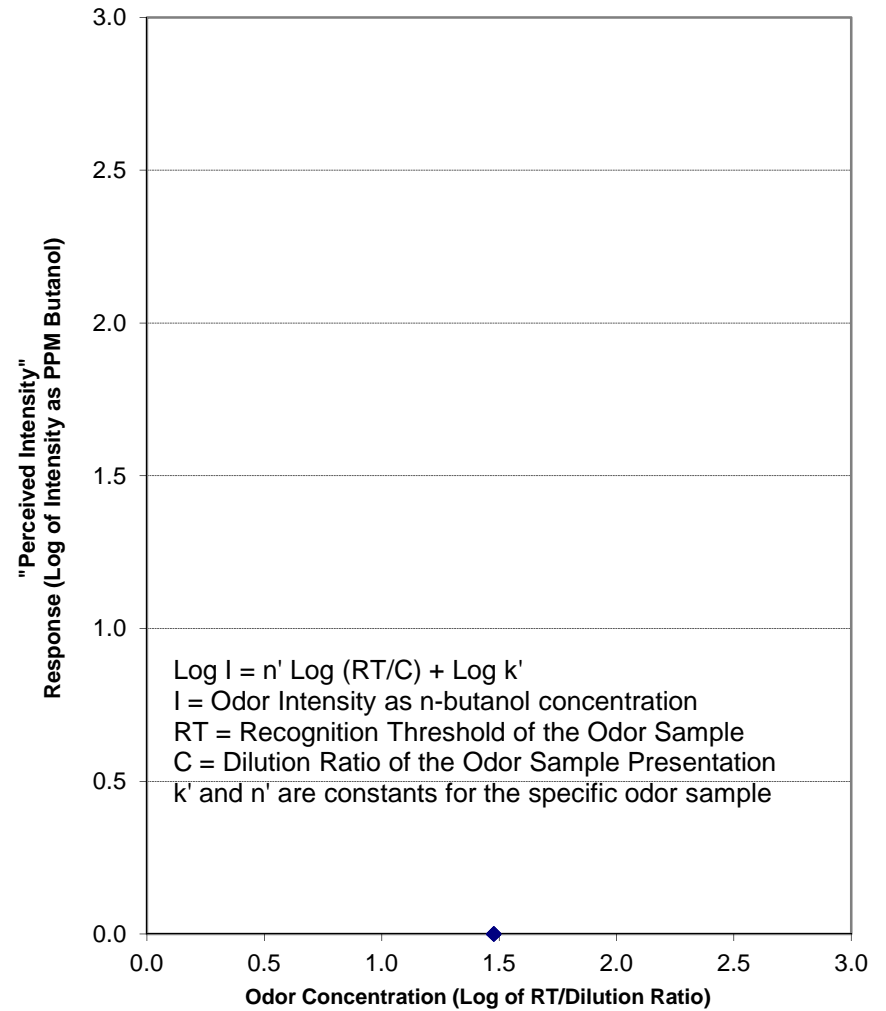
Description: _____

Evaluation Date: 05/08/13

Dose-Response



Dose-Response as Power Law



Client: SWAPE

Field No.: U-2

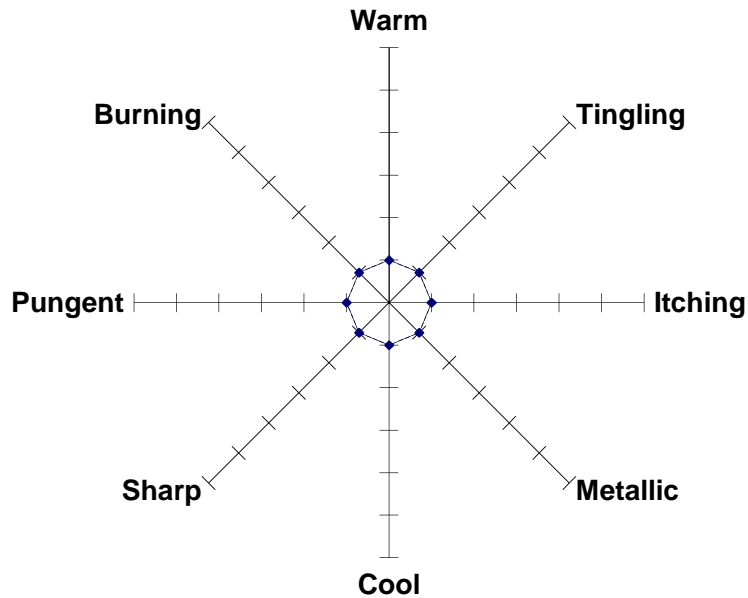
Report No.: 1312802

Project: Bridgeton Sanitary Landfill Air Quality Assessment

Description: _____

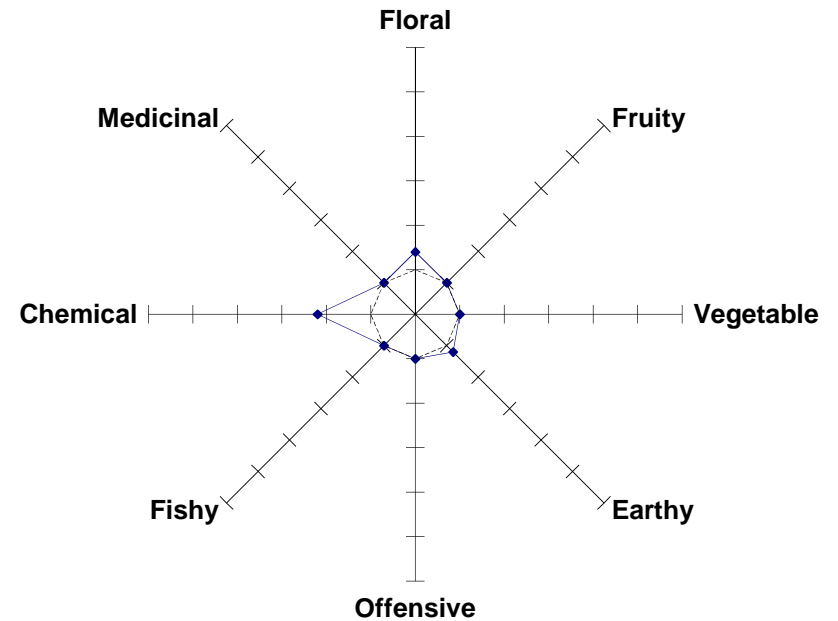
Evaluation Date: 05/08/13

Sensation Descriptor Graph



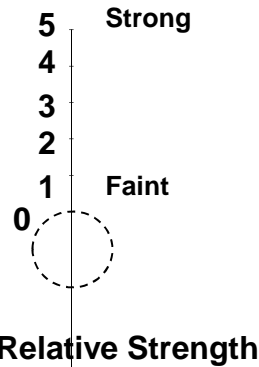
	Average Relative Strength
Warm	0.0
Tingling	0.0
Itching	0.0
Metallic	0.0
Cool	0.0
Sharp	0.0
Pungent	0.0
Burning	0.0

Odor Descriptor Graph



	Average Relative Strength
Floral	0.4
Fruity	0.0
Vegetable	0.0
Earthy	0.2
Offensive	0.0
Fishy	0.0
Chemical	1.2
Medicinal	0.0

KEY



St. Croix Sensory, Inc.

Odor Evaluation Report

Client: SWAPE

Field No.: U-2

Report No.: **1312802**

Project: Bridgeton Sanitary Landfill Air Quality Assessment

Description: _____

Evaluation Date: 05/08/13

% of Assessors |*****|*****|*****|*****| 100%

- Floral *****:
- Lavender *****
- Fragrant *****
- Perfumy *****
- Chemical *****:
- Paint *****
- Car exhaust *****
- Kerosine *****
- Turpentine *****
- Earthy *****
- Ashes *****
- Smoky *****

Client: SWAPE

Field No.: U-2

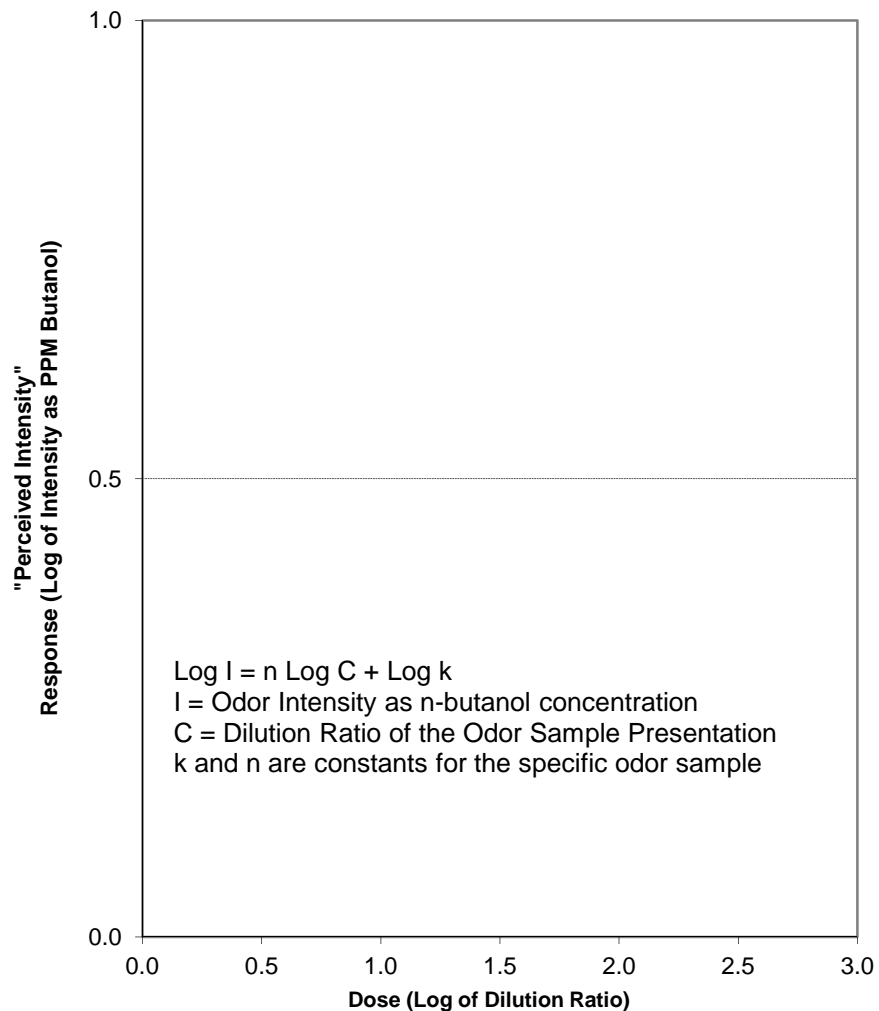
Report No.: 1312802

Project: Bridgeton Sanitary Landfill Air Quality Assessment

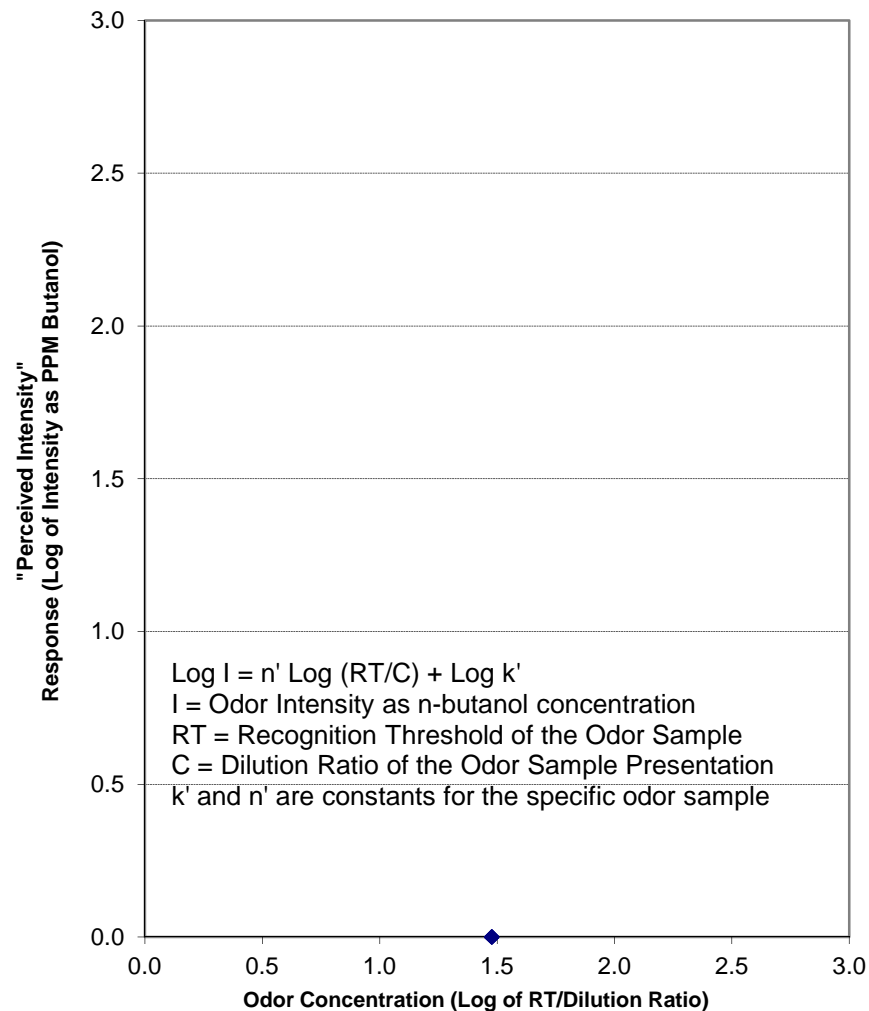
Description: _____

Evaluation Date: 05/08/13

Dose-Response



Dose-Response as Power Law



Client: SWAPE

Field No.: D-1

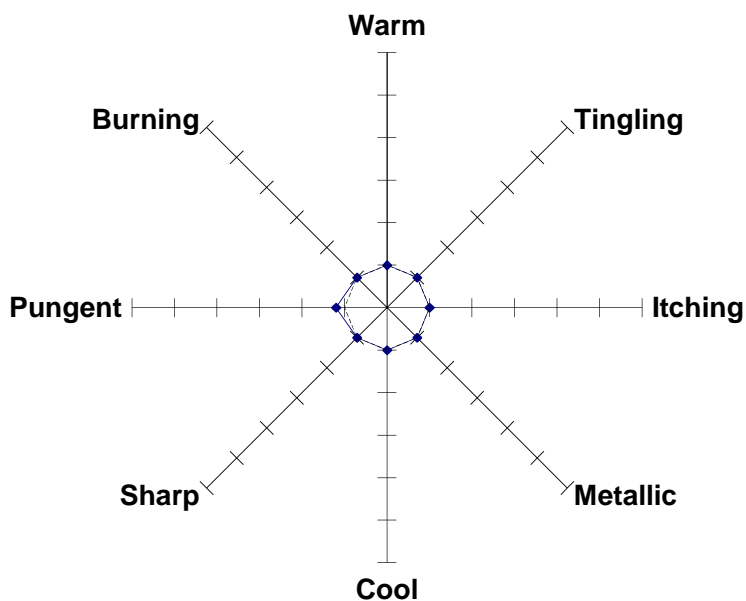
Report No.: 1312802

Project: Bridgeton Sanitary Landfill Air Quality Assessment

Description: _____

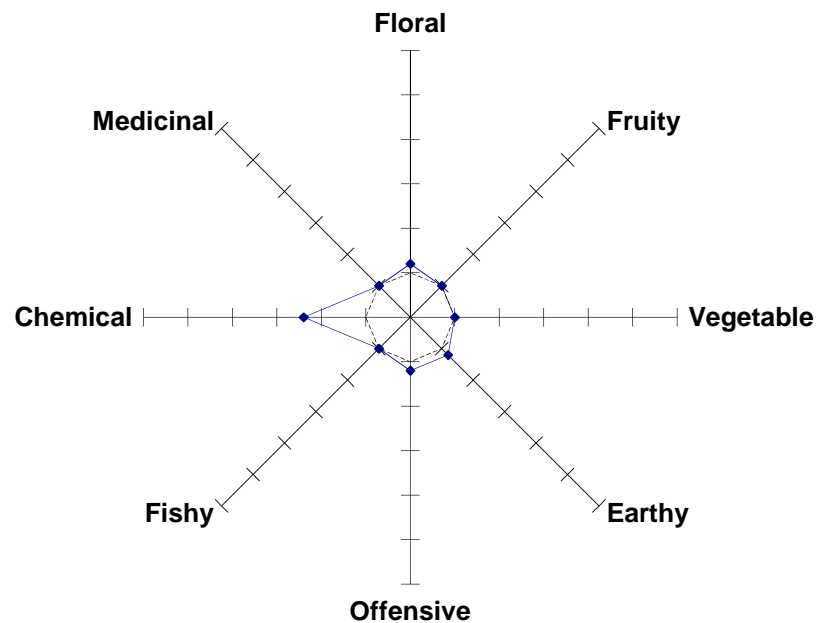
Evaluation Date: 05/08/13

Sensation Descriptor Graph



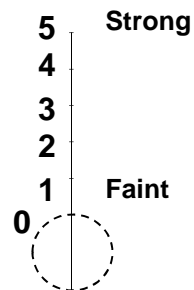
	Average Relative Strength
Warm	0.0
Tingling	0.0
Itching	0.0
Metallic	0.0
Cool	0.0
Sharp	0.0
Pungent	0.2
Burning	0.0

Odor Descriptor Graph



	Average Relative Strength
Floral	0.2
Fruity	0.0
Vegetable	0.0
Earthy	0.2
Offensive	0.2
Fishy	0.0
Chemical	1.4
Medicinal	0.0

KEY



Relative Strength

St. Croix Sensory, Inc.

Odor Evaluation Report

Client: SWAPE

Field No.: D-1

Report No.: 1312802

Project: Bridgeton Sanitary Landfill Air Quality Assessment

Description: _____

Evaluation Date: 05/08/13

% of Assessors |*****|*****|*****|*****| 100%

- Floral *****
- Fragrant *****
- Chemical *****:
- Paint *****
- Tar *****
- Car exhaust *****
- Petroleum *****
- Creosote *****
- Offensive *****
- Sewer *****
- Septic *****
- Earthy *****
- Ashes *****

Client: SWAPE

Field No.: D-1

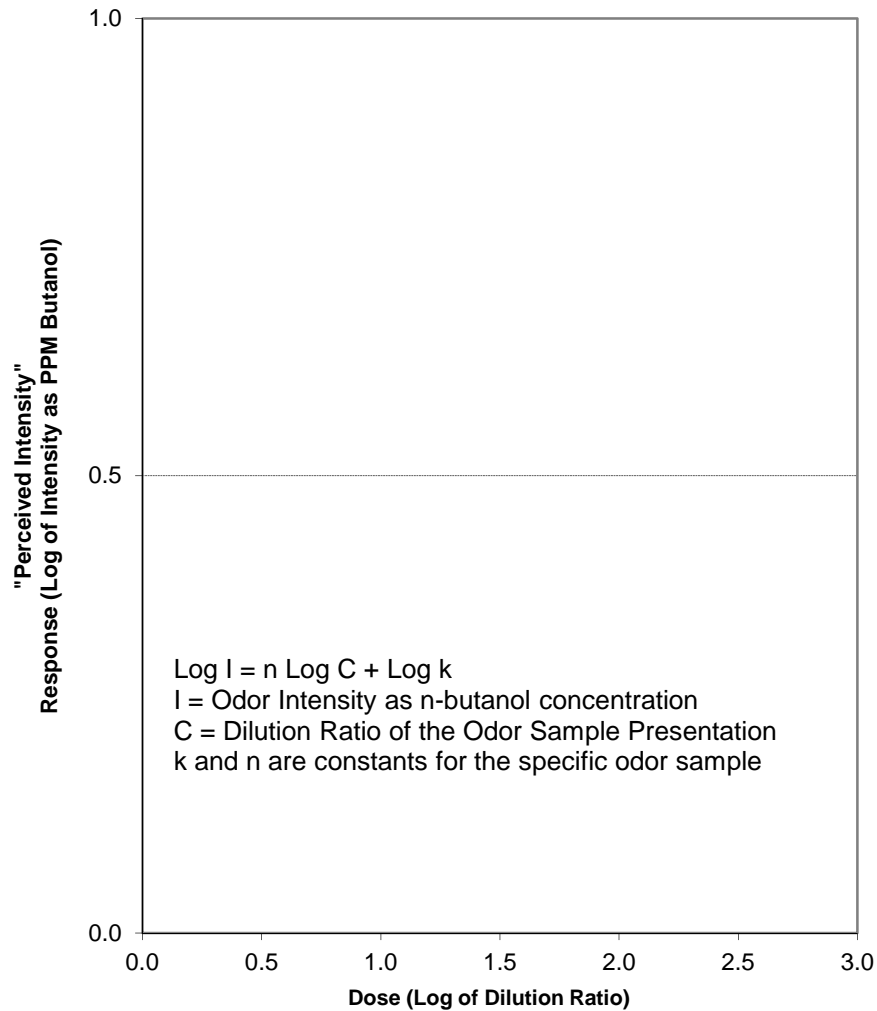
Report No.: 1312802

Project: Bridgeton Sanitary Landfill Air Quality Assessment

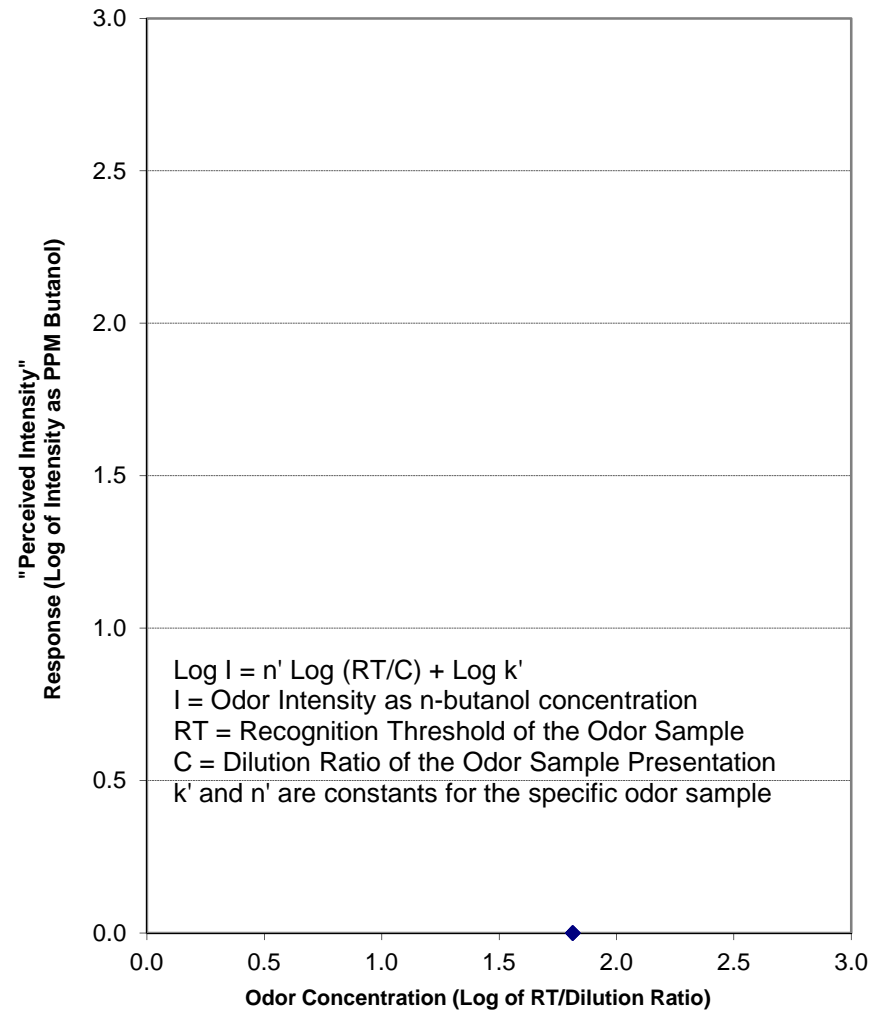
Description: _____

Evaluation Date: 05/08/13

Dose-Response



Dose-Response as Power Law



Client: SWAPE

Field No.: D-2

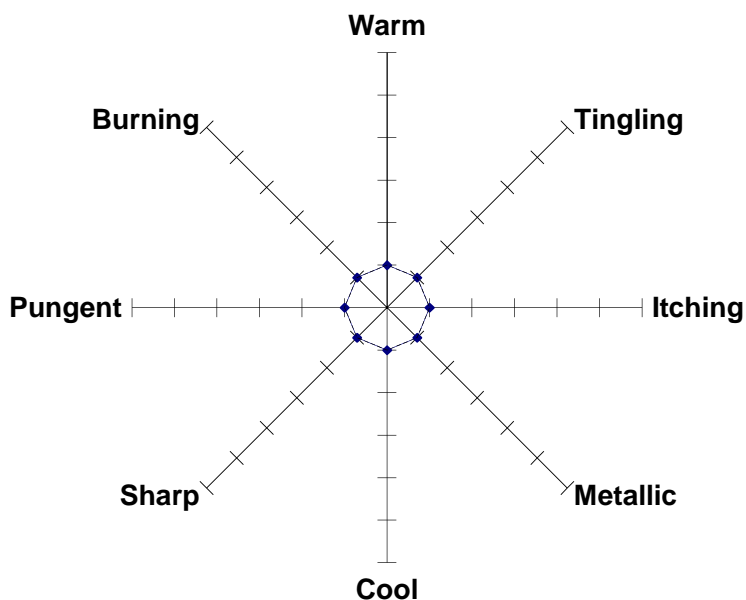
Report No.: 1312802

Project: Bridgeton Sanitary Landfill Air Quality Assessment

Description: _____

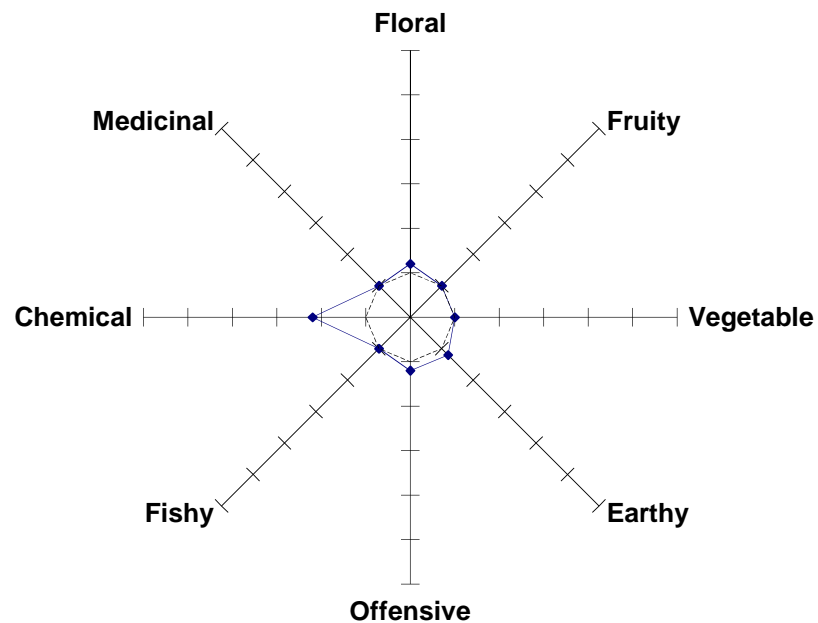
Evaluation Date: 05/08/13

Sensation Descriptor Graph



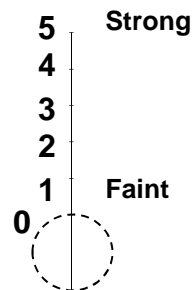
	Average Relative Strength
Warm	0.0
Tingling	0.0
Itching	0.0
Metallic	0.0
Cool	0.0
Sharp	0.0
Pungent	0.0
Burning	0.0

Odor Descriptor Graph



	Average Relative Strength
Floral	0.2
Fruity	0.0
Vegetable	0.0
Earthy	0.2
Offensive	0.2
Fishy	0.0
Chemical	1.2
Medicinal	0.0

KEY



Relative Strength

St. Croix Sensory, Inc.

Odor Evaluation Report

Client: SWAPE

Field No.: D-2

Report No.: **1312802**

Project: Bridgeton Sanitary Landfill Air Quality Assessment

Description: _____

Evaluation Date: 05/08/13

% of Assessors |*****|*****|*****|*****| 100%

- Floral *****
- Fragrant *****
- Chemical *****:
- Paint *****
- Car exhaust *****
- Turpentine *****
- Vinyl *****
- Offensive *****
- Sewer *****
- Earthy *****
- Ashes *****
- Smoky *****

Client: SWAPE

Field No.: D-2

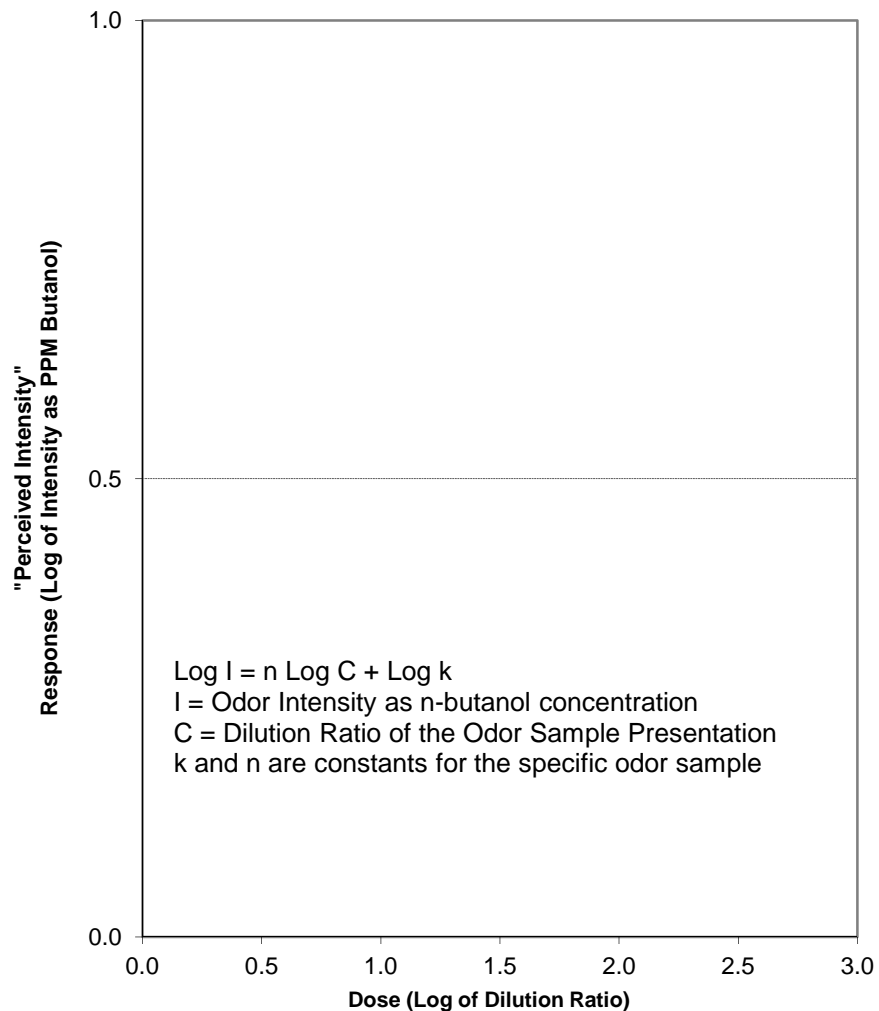
Report No.: 1312802

Project: Bridgeton Sanitary Landfill Air Quality Assessment

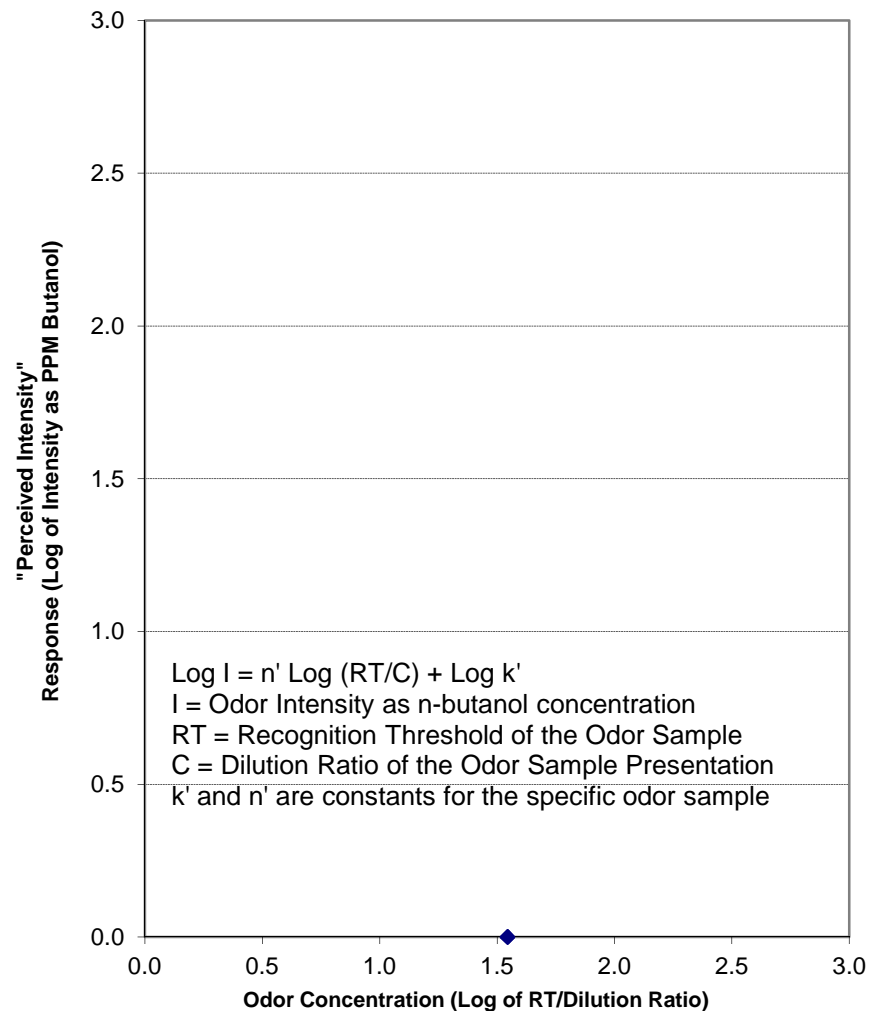
Description: _____

Evaluation Date: 05/08/13

Dose-Response



Dose-Response as Power Law



CHAIN OF CUSTODY RECORD / ANALYTICAL REQUEST FORM

Bridgeton Sanitary Landfill Air Quality Assessment

Client Name: **SOIL / WATER AIR PROTECTION ENTERPRISE** Telephone No. / Fax No.: (310) 434-0110 / (310) 434-0011 Date: 5/7/13 Page 1 of 1

Project Manager: **PAUL ROSENFELD, PH.D.**

Address: **1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401**

Project Name and Location: **BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT**

Requested By: **Paul Rosenfeld** Sample Signature: *Paul Rosenfeld*

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	Requested Tests / Analyses	Special Instructions / Conditions of Receipt
	U-1		5/7/13	10:01	VOCS - EPA TO-15 Reduced Sulfur Compounds - ASTM D5504 Aldehydes - EPA TO-11A Carboxylic Acids - Tube GC-MS HCL - NIOSH 7903 Ammonia - OSHA ID-188 SO2 - OSHA ID-200 HCN - NIOSH 6010 Amines - NIOSH 2010M Fixed Gases - EPA 3C PAHs / Dioxins EPA TO-13A / 9A Mercury - NIOSH 6009 Odor Evaluation	SEE NOTE
	U-2			10:10		
	D-1			10:32		
	D-2			10:46		

Requested Turnaround Time: Standard turn-around for all analyses. If possible deliver report within 2 weeks.

Requested By: <i>Paul Rosenfeld</i>	Date: 5/7/13	Time: 15:30	QC Requirements: Provide Level IV QC Package for all Analyses.
Relinquished By: <i>Anna McJury</i>	Date: 5/8/13	Time: 9:30	
Relinquished By:	Date:	Time:	
Relinquished By:	Date:	Time:	

SOIL / WATER / AIR PROTECTION ENTERPRISE X All samples are ambient air. Odor intensity, reaction to threshold and odor character.