FUMIGATION STUDY

2 Major Sources of Methyl Bromide
City of Suffolk, Virginia

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Royal Fumigation
460
Western Ave
Manar St
Prentis St
32
Market St
Main St
Bank St
Suffolk
13
NCW Ave
Bank Street Extended
Clays Dr
Mill Creek St
Newport St
Central Ave
Oakdale Terrace
Bethlehem St
Kingsborough
Highland Ave
Georgia Ave
Arizona Ave
Oregon Ave
Kentucky Ave
Vermont Ave
Florida
Scotland St
Briggs St
Fuller St
Bunker St
Collie St
Main St
Saint St
Pinner St
Kenneth St
Gay St
Pearl St
Granby St
Church St
Holden St
Fort St
Morgan St
Cedar St
Jackson St
Webb St
Maple St
642
Google
Tour Guide
1990

Western Fumigation
Pruden Blvd
460
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Google earth

Royal Fumigation – Baseline Study

Location	Ambient conditions	length	Canister No.	Methyl Bromide (ppb)	Methyl bromide (ug/m3)	Approximate Distance from fence line	Comments	Fumigating/ Aerating
Royal Fumigation	Clear Day, breezy, slight odor, avg wind speed 6 mph, direction SW	1-hour	S184	0.13	0.5	Behind the facility near railroad tracks	South of fumigation bldgs	Fumigating in 1 building
		6-hour	S154	1.59	6.2	Approx 500 feet	Northeast of fumigation bldgs	
		6-hour	S162	0.09	0.35	Approx 100 feet	directly north of fumigation bldgs	

Western Fumigation – Baseline Study

Location	Ambient conditions	Sampling duration	Canister No.	Methyl Bromide (ppb)	Methyl bromide (ug/m3)	Approximate Distance from fence line	Comments	Fumigating/ Aerating
Western Fumigation	Clear Day, no observable odor, shifting winds, avg. wind speed 4.4 mph, direction NW	1 hour	S210	0.11	0.43	At the fence line	Southeast corner of the building	Fumigating
		6-hour	S204	ND		approx 300 ft from fence line	Northwest corner of the parking lot	
		6-hour	S157	ND		approx 500 ft from fence line	Directly South of the building	

Royal Fumigation Standardized Sampling Sites

#1	#2	#3	#4	#5
N 36° 43.858'	N 36° 43.827'	N 36° 43.827'	N 36° 43.892'	N 36° 43.931'
W 76° 34.426'	W 76° 34.351'	W 76° 34.351'	W 76° 34.363'	W 76° 34.302'

#6	#7	#8	#9	#10
N 36° 43.846'	N 36° 43.849'	N 36° 43.989'	N 36° 43.933'	N 36° 43.837'
W 76° 34.406'	W 76° 34.272'	W 76° 34.146'	W 76° 34.071'	W 76° 34.198'

Results from Royal Fumigation – Near Maximum Capacity

#1	#1A	#1B	#2A	#2B	#3A	#3B	#3C	#4
	N 36° 43.858' W 76° 34.426'		N 36° 43.827' W 76° 34.351'					N 36° 43.892' W 76° 34.363'
SAAC Values hourly = 950 µg/m3 Annual 38 µg/m3								
			22.07		16.87			0.50
0.35			ND		ND			0.47
ND	ND	ND	2.37		0.35			ND
0.27			**846.32**		**958.85**			ND
			81.81	**84.25**	**223.00**	**9.12**	**1.05**	**4.42**

#5	#6	#7A	#7B	#8	#8A	#8B	#9	#10
N 36° 43.931' W 76° 34.302'	N 36° 43.846' W 76° 34.406'	N 36° 43.849' W 76° 34.272'		N 36° 43.989' W 76° 34.146'			N 36° 43.933' W 76° 34.071'	N 36° 43.837' W 76° 34.198'
SAAC Values hourly = 950 µg/m3 Annual 38 µg/m3								
ND	ND	12.22		55.12			19.39	1.67
2.83	0.50	ND		ND	ND	ND	ND	ND
ND	ND	1.44		ND			ND	1.90
ND	ND	2.17		0.23			ND	ND
12.84	ND	**13.27**	**61.64**	**2.09**			**27.73**	**5.97**

Production Scenario: Building 1 fumigating; Building 2 aerating

Production Scenario: both buildings Fumigating Background Scenario

Production Scenario; Building 1 Aerating; Building 2 fumigating. This is to be retested

Production Scenario; Building 1 Aerating; Building 2 fumigating.

Production Scenario; Building 1 Aerating; Building 2 fumigating.

Indicates that no sample was taken

2A hourly sample

2A hourly sample #8A and #8B Collocated hourly samples

#1A and #1B collocated hourly samples; 2A hourly sample

#2A and #2B collocated hourly samples; #3A, #3B and #3C hourly samples

#7A grab sample and #7B hourly sample

Western Fumigation Standardized Sampling Sites

C1	C2			C3			C4			C5	C6
N 36° 47.061' W 076° 38.596'	N 36° 47.020' W 076° 38.605'	N 36° 47.020' W 076° 38.605'	N 36° 47.020' W 076° 38.605'	N 36° 46.990' W 076° 38.617'	N 36° 46.990' W 076° 38.617'	N 36° 46.990' W 076° 38.617'	N 36° 46.975' W 076° 38.576'	N 36° 46.975' W 076° 38.576'	N 36° 46.975' W 076° 38.576'	N 36° 46.997' W 076° 38.573'	N 36° 47.007' W 076° 38.565'

Results from Western Fumigation – Near Maximum Capacity

C1	C2			C3			C3 - C4	C4			C5	C5 - C6	C6
Grab	Grab	1-hour	1-hour	Grab	1-hour	1-hour	1-hour	Grab	1-hour	1-hour	Grab	Grab	Grab
ND	ND			**1548.15**	**8.15**	**110.28**		**55.29**			**0.74**		**16.00**
ND	ND			**134.70**	**104.38**	**515.62**		ND			ND		ND
ND		ND	ND		**0.31**		**1.24**		**4.73**		**40.73**		ND
ND	ND			ND					**59.35**	**58.96**	ND	**2077.58**	1.01

C1	C2			C3			C3 - C4	C4			C5	C5 - C6	C6
N 36° 47.061' W 076° 38.596'	N 36° 47.020' W 076° 38.605'	N 36° 47.020' W 076° 38.605'	N 36° 47.020' W 076° 38.605'	N 36° 46.990' W 076° 38.617'	N 36° 46.990' W 076° 38.617'	N 36° 46.990' W 076° 38.617'	N 36° 46.979' W 076° 38.597'	N 36° 46.975' W 076° 38.576'	N 36° 46.975' W 076° 38.576'	N 36° 46.975' W 076° 38.576'	N 36° 46.997' W 076° 38.573'	N 36o 47.012' W 076o 38.564'	N 36° 47.007' W 076° 38.565'

Future Study – What is projected for the near future

- → PID Study – Modeling information

- → Coordinate with Permitting Efforts