Early morning
Saturday February 2nd, 2013

Visible Emissions Evaluation

Facility Name	ECC Floyd Bennett Field
AVOGADRO Project No.	12-9191
Location (city, state)	Brooklyn, NY
Type of Facility	Debris Removal
Control Equipment / Emission Source	ACB 1
Date of Observation	02/2/2013
Start Time	0000
Stop Time	0348
Distance from observer (ft)	200'
Direction from observer	E
Stack height (fr. observer's elev.) (ft)	9'
Stack Diameter (in)	27'x9'
Description of plume:	
continuous? fugitive? intermittent?	cont.
color	white
water drops present? (Y/N)	N
attached steam plume? (Y/N)	N
detached steam plume? (Y/N)	N
secondary plume? (Y/N)	N
point where opacity read	1-3 conex lengths
target?	sky
describe background to plume	sky
unique features of plume or stack	—
	@0000
Weather:	
ambient temperature (F)	24°
relative humidity	48%
wind direction	SE
wind speed	7-12mph
barometric pressure	30.24 inHg
rain? fog? snow? haze?	clear
Glasses worn:	
corrective? (Y/N)	yes
sunglasses? (Y/N)	—

Observer's name	Joshua Wagner
Observer certification date	Night 12/20/2012
Certifying agency	Whitlow
Observer affiliation	Avogadro Env.

Run Number(s) and Description: ACB 1 Runs 1-8

sec	0	15	30	45
min	Run 1 Time: 0000			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:	0			
Source Conditions:				
Sun Angle (degrees):				
	Run 2 Time: 0026			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:	0			
Source Conditions:				
Sun Angle (degrees):				
	Run 3 Time: 0052			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:	0			
Source Conditions:				
Sun Angle (degrees):				
	Run 4 Time: 0118			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	5	5	5	5
6	0	5	5	0
6-minute Average:	1.2			
Source Conditions:				
Sun Angle (degrees):				

sec	0	15	30	45
min	Run 5 Time: 0144			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:	0			
Source Conditions:				
Sun Angle (degrees):				
	Run 6 Time: 0244			
1	5	5	5	5
2	5	5	0	5
3	5	5	5	5
4	5	5	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average:	4.8			
Source Conditions:				
Sun Angle (degrees):				
	Run 7 Time: 0316			
1	0	0	5	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:	0.2			
Source Conditions:				
Sun Angle (degrees):				
	Run 8 Time: 0342			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:				
Source Conditions:				
Sun Angle (degrees):				

Range of opacity readings: low 0 high 5

Number of readings above 10 % were 0

Observer's Signature

AVOGADRO ENVIRONMENTAL CORPORATION, Easton Pa

Saturday, Early Morn. February 2nd, 2013

Visible Emissions Evaluation

Facility Name	ECC Floyd Bennett Field
AVOGADRO Project No.	12-9191
Location (city, state)	Brooklyn, NY
Type of Facility	Debris Removal
Control Equipment / Emission Source	ACB 1
Date of Observation	02/2/2013
Start Time	0408
Stop Time	0536
Distance from observer (ft)	200'
Direction from observer	E
Stack height (fr. observer's elev.) (ft)	9'
Stack Diameter (in)	27'x9'

Description of plume:

continuous? fugitive? intermittent?	Cont.
color	white
water drops present? (Y/N)	N
attached steam plume? (Y/N)	N
detached steam plume? (Y/N)	N
secondary plume? (Y/N)	N
point where opacity read	1-3 conex lengths
target?	sky
describe background to plume	sky
unique features of plume or stack	—
	@ 400

Weather:

ambient temperature (F)	22°
relative humidity	30%
wind direction	SE
wind speed	6-10 mph
barometric pressure	30.28 inHg
rain? fog? snow? haze?	clear

Glasses worn:

corrective? (Y/N)	yes
sunglasses? (Y/N)	—

Observer's name	Joshua Wagner
Observer certification date	Night 12/20/2012
Certifying agency	Whitlow
Observer affiliation	Avogadro Env.

Run Number(s) and Description: ACB 1 Runs 9-12

sec	0	15	30	45
min	Run 9	Time: 0408		
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:	0			
Source Conditions:				
Sun Angle (degrees):				
	Run 10	Time: 0434		
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:	0			
Source Conditions:				
Sun Angle (degrees):				
	Run 11	Time: 0504		
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:	0			
Source Conditions:				
Sun Angle (degrees):				
	Run 12	Time: 0530		
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:	0			
Source Conditions:				
Sun Angle (degrees):				

sec	0	15	30	45
min	Run	Time:		
1				
2				
3				
4				
5				
6				
6-minute Average:				
Source Conditions:				
Sun Angle (degrees):				
	Run	Time:		
1				
2				
3				
4				
5				
6				
6-minute Average:				
Source Conditions:				
Sun Angle (degrees):				
	Run	Time:		
1				
2				
3				
4				
5				
6				
6-minute Average:				
Source Conditions:				
Sun Angle (degrees):				
	Run	Time:		
1				
2				
3				
4				
5				
6				
6-minute Average:				
Source Conditions:				
Sun Angle (degrees):				

Range of opacity readings: low 0 high 0

Number of readings above 10 % were 0

Observer's Signature

AVOGADRO ENVIRONMENTAL CORPORATION, Easton Pa

Visible Emissions Evaluation

Facility Name	ECC/Floyd Bennett Field
AVOGADRO Project No.	12-9191
Location (city, state)	Brooklyn, NY
Type of Facility	national park
Control Equipment / Emission Source	ACB #1
Date of Observation	2/2/13
Start Time	0714
Stop Time	
Distance from observer (ft)	150'
Direction from observer	NNW
Stack height (fr. observer's elev.) (ft)	10'
Stack Diameter (in)	no stack
Description of plume:	
continuous? fugitive? intermittent?	interm.
color	gray
water drops present? (Y/N)	N
attached steam plume? (Y/N)	N
detached steam plume? (Y/N)	N
secondary plume? (Y/N)	N
point where opacity read	above barrier
target?	
describe background to plume	blue sky
unique features of plume or stack	no stack
Weather:	
ambient temperature (F)	22°
relative humidity	
wind direction	NW
wind speed	5-10
barometric pressure	
rain? fog? snow? haze?	no
Glasses worn:	
corrective? (Y/N)	N
sunglasses? (Y/N)	N

Observer's name	William Reamy
Observer certification date	10-10-12
Certifying agency	Whitlow Enter.
Observer affiliation	Stack Hawk Envir.

Run Number(s) and Description: 1-8

sec	0	15	30	45
min	Run 1	Time:	0714	
1	10	10	10	10
2	5	15	10	15
3	5	10	10	5
4	5	10	10	10
5	10	10	15	10
6	10	10	10	10
6-minute Average:			9.8	
Source Conditions:			ADDING WOOD	
Sun Angle (degrees):			-50	

sec	0	15	30	45
min	Run 5	Time:	0858	
1	5	10	10	5
2	10	10	10	10
3	5	10	5	10
4	10	10	10	5
5	10	10	10	10
6	10	15	10	10
6-minute Average:			9.2	
Source Conditions:				
Sun Angle (degrees):			-30	

	Run 2	Time:	0740	
1	10	10	10	10
2	10	10	5	10
3	5	10	10	5
4	10	10	10	10
5	10	10	10	10
6	10	5	10	5
6-minute Average:			9.0	
Source Conditions:				
Sun Angle (degrees):			-45	

	Run 6	Time:	0924	
1	5	5	5	10
2	5	5	5	10
3	10	10	10	10
4	10	10	10	10
5	5	10	10	5
6	5	5	5	5
6-minute Average:			7.5	
Source Conditions:				
Sun Angle (degrees):			-55	

	Run 3	Time:	0806	
1	10	10	10	5
2	5	10	5	5
3	10	5	10	10
4	5	5	10	5
5	10	5	10	10
6	5	5	10	5
6-minute Average:			7.5	
Source Conditions:				
Sun Angle (degrees):			-40	

	Run 7	Time:	0950	
1	5	5	10	5
2	10	10	5	5
3	5	5	5	5
4	5	5	0	0
5	5	5	0	0
6	0	0	0	0
6-minute Average:			4.0	
Source Conditions:				
Sun Angle (degrees):			-45	

	Run 4	Time:	0832	
1	10	10	10	5
2	5	5	5	5
3	5	5	5	5
4	5	5	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average:			5.6	
Source Conditions:				
Sun Angle (degrees):			-35	

	Run 8	Time:	1016	
1	0	5	5	0
2	0	0	0	0
3	0	0	5	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:			0.6	
Source Conditions:				
Sun Angle (degrees):			-40	

Range of opacity readings: low 0 high 15

Number of readings above 10 % were 5

W H Reamy

Observer's Signature

Visible Emissions Evaluation

Facility Name	ECC/Floyd Bennett Field
AVOGADRO Project No.	12-9191
Location (city, state)	Brooklyn, NY
Type of Facility	national park
Control Equipment / Emission Source	ACB #1
Date of Observation	2/2/13
Start Time	1042
Stop Time	1350
Distance from observer (ft)	150'
Direction from observer	N
Stack height (ft. observer's elev.) (ft)	10'
Stack Diameter (in)	no stack

Description of plume:

continuous? fugitive? intermittent?	Interm.
color	gray
water drops present? (Y/N)	N
attached steam plume? (Y/N)	N
detached steam plume? (Y/N)	N
secondary plume? (Y/N)	N
point where opacity read	above barrier
target?	
describe background to plume	hazy sky
unique features of plume or stack	no stack

Weather:

ambient temperature (F)	30°
relative humidity	
wind direction	W
wind speed	5-10
barometric pressure	
rain? fog? snow? haze?	no

Glasses worn:

corrective? (Y/N)	N
sunglasses? (Y/N)	N

Observer's name	William Reamy
Observer certification date	10-10-12
Certifying agency	Whitlow Enter.
Observer affiliation	Stack Hawk Envir.

Run Number(s) and Description: 9-16

sec	0	15	30	45
min	Run 9 Time:		1042	
1	5	5	5	5
2	0	5	0	0
3	0	5	5	5
4	5	0	0	0
5	0	0	0	10
6	20	5	10	10
6-minute Average:			4.2	
Source Conditions:				
Sun Angle (degrees):			-35	
	Run 10 Time:		1108	
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	10
6-minute Average:			0.4	
Source Conditions:				
Sun Angle (degrees):			-30	
	Run 11 Time:		1134	
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:			0.0	
Source Conditions:				
Sun Angle (degrees):			-25	
	Run 12 Time:		1200	
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	10	10
6-minute Average:			0.8	
Source Conditions:				
Sun Angle (degrees):			-20	

sec	0	15	30	45
min	Run 13 Time:		1226	
1	10	0	5	5
2	5	5	5	5
3	0	0	5	0
4	0	5	0	5
5	0	5	0	0
6	0	5	0	0
6-minute Average:			2.7	
Source Conditions:				
Sun Angle (degrees):			-15	
	Run 14 Time:		1252	
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:			0.0	
Source Conditions:				
Sun Angle (degrees):			-20	
	Run 15 Time:		1318	
1	0	0	5	0
2	0	5	10	0
3	0	5	10	10
4	0	0	0	5
5	0	0	0	5
6	0	0	0	0
6-minute Average:			2.3	
Source Conditions:				
Sun Angle (degrees):			-15	
	Run 16 Time:		1344	
1	0	0	5	0
2	0	10	10	15
3	5	0	5	10
4	5	10	5	5
5	5	0	5	15
6	5	5	0	0
6-minute Average:			5.0	
Source Conditions:				
Sun Angle (degrees):			-10	

Range of opacity readings: low 0 high 20

Number of readings above 10 % were 3

WM Reamy

Observer's Signature

Visible Emissions Evaluation

Facility Name	ECC/Floyd Bennett Field
AVOGADRO Project No.	12-9191
Location (city, state)	Brooklyn, NY
Type of Facility	national park
Control Equipment / Emission Source	ACB #1
Date of Observation	2/2/13
Start Time	1410
Stop Time	1652
Distance from observer (ft)	150'
Direction from observer	N
Stack height (ft, observer's elev.) (ft)	10'
Stack Diameter (in)	no stack
Description of plume:	
continuous? fugitive? intermittent?	interm.
color	gray
water drops present? (Y/N)	N
attached steam plume? (Y/N)	N
detached steam plume? (Y/N)	N
secondary plume? (Y/N)	N
point where opacity read	above barrier
target?	
describe background to plume	cloudy sky
unique features of plume or stack	no stack
Weather:	
ambient temperature (F)	33°
relative humidity	
wind direction	SW
wind speed	5-10
barometric pressure	
rain? fog? snow? haze?	no
Glasses worn:	
corrective? (Y/N)	N
sunglasses? (Y/N)	N

Observer's name	William Reamy
Observer certification date	10-10-12
Certifying agency	Whitlow Enter.
Observer affiliation	Stack Hawk Envir.

Run Number(s) and Description: 17-23

sec	0	15	30	45
min	Run 17 Time:		1410	
1	0	0	0	0
2	0	0	5	0
3	0	0	10	10
4	10	5	5	10
5	15	10	10	5
6	5	10	5	5
6-minute Average:			5.0	
Source Conditions:				
Sun Angle (degrees):			0	
	Run 18 Time:		1436	
1	5	10	5	10
2	5	5	5	5
3	5	5	5	5
4	5	5	5	5
5	5	5	5	5
WHR 6	5	10	5	10
6-minute Average:			5.8	
Source Conditions:				
Sun Angle (degrees):			+5	
	Run 19 Time:		1502	
1	10	10	10	10
2	10	5	10	5
3	10	10	10	20
4	15	5	10	20
5	25	10	15	15
6	10	5	5	10
6-minute Average:			11.0	
Source Conditions:			ADDING WOOD	
Sun Angle (degrees):			NO SUN	
	Run 20 Time:		1528	
1	10	15	10	15
2	10	10	15	5
3	15	5	5	10
4	10	5	5	5
5	5	5	10	5
6	5	5	5	5
6-minute Average:			8.1	
Source Conditions:				
Sun Angle (degrees):			NO SUN	

sec	0	15	30	45
min	Run 21 Time:		1554	
1	5	10	5	10
2	15	5	10	5
3	5	10	5	5
4	5	5	5	5
5	0	5	5	0
6	0	5	5	5
6-minute Average:			5.6	
Source Conditions:				
Sun Angle (degrees):			NO SUN	
	Run 22 Time:		1620	
1	5	5	15	5
2	5	0	0	5
3	5	5	0	0
4	0	5	5	5
5	5	0	5	5
6	0	0	5	0
6-minute Average:			3.5	
Source Conditions:				
Sun Angle (degrees):			NO SUN	
	Run 23 Time:		1646	
1	15	10	5	15
2	5	5	15	10
3	10	10	10	5
4	5	5	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average:			7.3	
Source Conditions:				
Sun Angle (degrees):			NO SUN	
	Run Time:			
1				
2				
3				
4				
5				
6				
6-minute Average:				
Source Conditions:				
Sun Angle (degrees):				

Range of opacity readings: low 0 high 25

Number of readings above 10 % were 16

W R Reamy

Observer's Signature

SATURDAY NIGHT - FEBRUARY 2, 2013

Visible Emissions Evaluation

Facility Name	ECC FLOYD BENNETT FIELD
AVOGADRO Project No.	12-9191
Location (city, state)	BROOKLYN, NY
Type of Facility	DEBRIS REMOVAL
Control Equipment / Emission Source	ACB 1
Date of Observation	2/2/2013
Start Time	1820
Stop Time	2128
Distance from observer (ft)	150'
Direction from observer	NE
Stack height (fr. observer's elev.) (ft)	9'
Stack Diameter (in)	27'x9'
Description of plume:	
continuous? fugitive? intermittent?	CONTINUOUS
color	WHITE
water drops present? (Y/N)	No
attached steam plume? (Y/N)	No
detached steam plume? (Y/N)	No
secondary plume? (Y/N)	No
point where opacity read	1-3 CONEX LENGTHS
target?	SKY
describe background to plume	SKY
unique features of plume or stack	—
Weather:	
ambient temperature (F)	29 °F
relative humidity	30 %
wind direction	SW
wind speed	5-10 mph
barometric pressure	30.11 in
rain? fog? snow? haze?	clear, night
Glasses worn:	
corrective? (Y/N)	No
sunglasses? (Y/N)	No

Observer's name	AARON T. JOHNSON
Observer certification date	NIGHT 1/6/2013
Certifying agency	WHITLOW ENTERPRISES
Observer affiliation	AVOGADRO ENV. CORP.

Run Number(s) and Description

ACB 1 - RUNS # 24 - 31

sec	0	15	30	45
min	Run 24 Time: 1820			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				

sec	0	15	30	45
min	Run 25 Time: 1826			
1	5	5	5	5
2	5	5	5	5
3	5	5	5	5
4	5	5	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average: 5				
Source Conditions:				
Sun Angle (degrees):				

Run 26 Time: 1912				
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				

Run 27 Time: 1938				
1	5	5	5	5
2	5	5	5	5
3	5	5	5	5
4	5	5	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average: 5				
Source Conditions:				
Sun Angle (degrees):				

Run 28 Time: 2004				
1	5	5	5	5
2	5	5	5	5
3	5	5	5	5
4	5	5	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average: 5				
Source Conditions:				
Sun Angle (degrees):				

Run 29 Time: 2030				
1	5	5	5	5
2	5	5	5	5
3	5	5	5	5
4	5	5	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average: 5				
Source Conditions:				
Sun Angle (degrees):				

Run 30 Time: 2056				
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				

Run 31 Time: 2102				
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				

Range of opacity readings: low 0 high 5

Number of readings above 10 % were 0

Observer's Signature

SATURDAY NIGHT - FEBRUARY 2, 2013

Visible Emissions Evaluation

Facility Name	ECC FLOYD BENNETT FIELD
AVOGADRO Project No.	12-9191
Location (city, state)	BROOKLYN, NY
Type of Facility	DEBRIS REMOVAL
Control Equipment / Emission Source	ACB 1
Date of Observation	2/2/2013
Start Time	2148
Stop Time	0004
Distance from observer (ft)	150'
Direction from observer	NE
Stack height (fr. observer's elev.) (ft)	9'
Stack Diameter (in)	27' x 9'
Description of plume:	
continuous? fugitive? intermittent?	CONTINUOUS
color	WHITE
water drops present? (Y/N)	No
attached steam plume? (Y/N)	No
detached steam plume? (Y/N)	No
secondary plume? (Y/N)	No
point where opacity read	1-3 CONEX LENGTHS
target?	SKY
describe background to plume	SKY
unique features of plume or stack	—
Weather:	
ambient temperature (F)	26 °F
relative humidity	77%
wind direction	SW
wind speed	5-10 mph
barometric pressure	30.09 in
rain? fog? snow? haze?	~~clear~~, night snowy
Glasses worn:	
corrective? (Y/N)	No
sunglasses? (Y/N)	No

Observer's name	AARON T. JOHNSON
Observer certification date	night 1/6/2013
Certifying agency	WHITLOW ENTERPRISES
Observer affiliation	AVOGADRO ENV. CORP.

Run Number(s) and Description

ACB 1 - RUNS # 32 - 37

sec	0	15	30	45
min	Run 32 Time: 2148			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				

sec	0	15	30	45
min	Run 33 Time: 2154			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				

sec	0	15	30	45
min	Run 34 Time: 2200			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				

sec	0	15	30	45
min	Run 35 Time: 2206			
1	5	5	5	5
2	5	5	5	5
3	5	5	5	5
4	5	5	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average: 5				
Source Conditions:				
Sun Angle (degrees):				

sec	0	15	30	45
min	Run 36 Time: 2212			
1	5	5	5	5
2	5	5	5	5
3	5	5	5	5
4	5	5	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average: 5				
Source Conditions:				
Sun Angle (degrees):				

sec	0	15	30	45
min	Run 37 Time: 2218			
1	5	5	5	5
2	5	5	5	5
3	5	5	5	5
4	5	5	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average: 5				
Source Conditions:				
Sun Angle (degrees):				

sec	0	15	30	45
min	Run Time:			
1				
2				
3				
4				
5				
6				
6-minute Average:				
Source Conditions:				
Sun Angle (degrees):				

sec	0	15	30	45
min	Run Time:			
1				
2				
3				
4				
5				
6				
6-minute Average:				
Source Conditions:				
Sun Angle (degrees):				

Range of opacity readings:

low 0 high 5

Number of readings above 10 % were 0

Observer's Signature

Early Morn. Act. February 2nd, 2013

Visible Emissions Evaluation

Facility Name	ECC Floyd Bennett Field
AVOGADRO Project No.	12-9191
Location (city, state)	Brooklyn, NY
Type of Facility	Debris Removal
Control Equipment / Emission Source	ACB 2
Date of Observation	02/2/2013
Start Time	0000
Stop Time	0348
Distance from observer (ft)	200'
Direction from observer	E
Stack height (fr. observer's elev.) (ft)	8'
Stack Diameter (in)	20'x 8'

Description of plume:

continuous? fugitive? intermittent?	Cont.
color	White
water drops present? (Y/N)	N
attached steam plume? (Y/N)	N
detached steam plume? (Y/N)	N
secondary plume? (Y/N)	N
point where opacity read	1-3 conex lengths
target?	Sky
describe background to plume	Sky
unique features of plume or stack	—
	@ 0000

Weather:

ambient temperature (F)	24°
relative humidity	48%
wind direction	SE
wind speed	7-12mph
barometric pressure	30.24 inHg
rain? fog? snow? haze?	clear

Glasses worn:

corrective? (Y/N)	yes
sunglasses? (Y/N)	

Observer's name	Joshua Wagner
Observer certification date	Night 12/20/2012
Certifying agency	Whitlow
Observer affiliation	Avogadro Env.

Run Number(s) and Description: ACB 2 Runs 1-8

sec	0	15	30	45
min	Run 1 Time: 0000			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				
	Run 2 Time: 0026			
1	0	0	0	0
2	0	0	0	0
3	0	5	5	5
4	0	0	0	0
5	0	0	0	0
6	0	5	5	0
6-minute Average: 1.2				
Source Conditions:				
Sun Angle (degrees):				
	Run 3 Time: 0052			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				
	Run 4 Time: 0118			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				

sec	0	15	30	45
min	Run 5 Time: 0144			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				
	Run 6 Time: 0244			
1	0	0	0	0
2	0	0	0	0
6 3	0	0	0	45
7 4	5	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0.4				
Source Conditions:				
Sun Angle (degrees):				
	Run 7 Time: 0316			
1	0	0	0	0
7 2	0	0	0	0
3	0	0	0	0
9 4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				
	Run 8 Time: 0342			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:				
Source Conditions:				
Sun Angle (degrees):				

Range of opacity readings: low 0 high 5

Number of readings above 10 % were 0

Observer's Signature

AVOGADRO ENVIRONMENTAL CORPORATION, Easton Pa

Early Morning Set, February 2nd, 2013

Visible Emissions Evaluation

Facility Name	ECC Floyd Bennett Field
AVOGADRO Project No.	12-9191
Location (city, state)	Brooklyn, NY
Type of Facility	Debris Removal
Control Equipment / Emission Source	ACB 2
Date of Observation	02/2/2013
Start Time	408
Stop Time	536
Distance from observer (ft)	200'
Direction from observer	E
Stack height (fr. observer's elev.) (ft)	8'
Stack Diameter (in)	20'x 8'
Description of plume:	
continuous? fugitive? intermittent?	Cont.
color	white
water drops present? (Y/N)	N
attached steam plume? (Y/N)	N
detached steam plume? (Y/N)	N
secondary plume? (Y/N)	N
point where opacity read	1-3 conex lengths
target?	Sky
describe background to plume	Sky
unique features of plume or stack	—
	@ 400
Weather:	
ambient temperature (F)	22°
relative humidity	50 %
wind direction	SE
wind speed	6-10mph
barometric pressure	30.28 in Hg
rain? fog? snow? haze?	clear
Glasses worn:	
corrective? (Y/N)	yes
sunglasses? (Y/N)	—

Observer's name	Joshua Wagner
Observer certification date	Night 12/20/2012
Certifying agency	Whittow
Observer affiliation	Avogadro Env.

Run Number(s) and Description

ACB 2 Runs 9-12

sec	0	15	30	45
min	Run 9 Time: 0408			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				

sec	0	15	30	45
min	Run Time:			
1				
2				
3				
4				
5				
6				
6-minute Average:				
Source Conditions:				
Sun Angle (degrees):				

	Run 10 Time: 0434			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				

	Run Time:			
1				
2				
3				
4				
5				
6				
6-minute Average:				
Source Conditions:				
Sun Angle (degrees):				

	Run 11 Time: 0504			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				

	Run Time:			
1				
2				
3				
4				
5				
6				
6-minute Average:				
Source Conditions:				
Sun Angle (degrees):				

	Run 12 Time: 0530			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	6
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				

	Run Time:			
1				
2				
3				
4				
5				
6				
6-minute Average:				
Source Conditions:				
Sun Angle (degrees):				

Range of opacity readings:

low 0 high 0

Number of readings above 10 % were 0

Observer's Signature

AVOGADRO ENVIRONMENTAL CORPORATION, Easton Pa

Visible Emissions Evaluation

Facility Name	ECC/Floyd Bennett Field
AVOGADRO Project No.	12-9191
Location (city, state)	Brooklyn, NY
Type of Facility	national park
Control Equipment / Emission Source	ACB #2
Date of Observation	2/2/13
Start Time	0714
Stop Time	1022
Distance from observer (ft)	150'
Direction from observer	NNW
Stack height (fr. observer's elev.) (ft)	10'
Stack Diameter (in)	no stack

Description of plume:

continuous? fugitive? intermittent?	Interm.
color	gray
water drops present? (Y/N)	N
attached steam plume? (Y/N)	N
detached steam plume? (Y/N)	N
secondary plume? (Y/N)	N
point where opacity read	above barrier
target?	
describe background to plume	blue sky
unique features of plume or stack	no stack

Weather:

ambient temperature (F)	22°
relative humidity	
wind direction	NW
wind speed	5-10
barometric pressure	
rain? fog? snow? haze?	no

Glasses worn:

corrective? (Y/N)	N
sunglasses? (Y/N)	N

Observer's name	William Reamy
Observer certification date	10-10-12
Certifying agency	Whitlow Enter.
Observer affiliation	Stack Hawk Envir.

Run Number(s) and Description: 1-8

sec	0	15	30	45
min	Run 1 Time: 0714			
1	5	5	5	5
2	5	5	5	5
3	5	0	5	0
4	5	5	0	0
5	5	0	0	0
6	0	5	0	0
6-minute Average:	2,9			
Source Conditions:				
Sun Angle (degrees):	-50			
	Run 2 Time: 0740			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	15	10	15
6-minute Average:	1,7			
Source Conditions:				
Sun Angle (degrees):	-45			
	Run 3 Time: 0806			
1	0	0	5	5
2	5	0	5	5
3	0	5	0	0
4	5	5	0	5
5	0	5	0	0
6	5	0	0	0
6-minute Average:	2,3			
Source Conditions:				
Sun Angle (degrees):	-40			
	Run 4 Time: 0832			
1	0	0	0	0
2	10	10	0	0
3	5	5	10	15
4	15	15	10	10
5	5	10	15	10
6	10	5	5	0
6-minute Average:	7,1			
Source Conditions:				
Sun Angle (degrees):	-35			

sec	0	15	30	45
min	Run 5 Time: 858			
1	5	5	5	5
2	5	5	5	0
3	5	5	0	5
4	0	0	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average:	4,2			
Source Conditions:				
Sun Angle (degrees):	-30			
	Run 6 Time: 0924			
1	0	0	5	0
2	0	5	0	0
3	5	0	5	5
4	5	0	5	0
5	0	5	0	0
6	5	0	5	0
6-minute Average:	2,1			
Source Conditions:				
Sun Angle (degrees):	-55			
	Run 7 Time: 0950			
1	5	5	5	5
2	5	5	0	10
3	5	0	0	0
4	5	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:	2,1			
Source Conditions:				
Sun Angle (degrees):	-50			
	Run 8 Time: 1016			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:	0,0			
Source Conditions:				
Sun Angle (degrees):	-45			

Range of opacity readings: low 0 high 15

Number of readings above 10 % were 6

W M Reamy

Observer's Signature

Visible Emissions Evaluation

Facility Name	ECC/Floyd Bennett Field
AVOGADRO Project No.	12-9191
Location (city, state)	Brooklyn, NY
Type of Facility	national park
Control Equipment / Emission Source	ACB #2
Date of Observation	2/2/13
Start Time	1042
Stop Time	1350
Distance from observer (ft)	150'
Direction from observer	N
Stack height (ft, observer's elev.) (ft)	10'
Stack Diameter (in)	no stack
Description of plume:	
continuous? fugitive? intermittent?	interm.
color	gray
water drops present? (Y/N)	N
attached steam plume? (Y/N)	N
detached steam plume? (Y/N)	N
secondary plume? (Y/N)	N
point where opacity read	above barrier
target?	
describe background to plume	hazy sky
unique features of plume or stack	no stack
Weather:	
ambient temperature (F)	30°
relative humidity	
wind direction	W
wind speed	5-10
barometric pressure	
rain? fog? snow? haze?	no
Glasses worn:	
corrective? (Y/N)	N
sunglasses? (Y/N)	N

Observer's name	William Reamy
Observer certification date	10-10-12
Certifying agency	Whitlow Enter.
Observer affiliation	Stack Hawk Envir.

Run Number(s) and Description: 9-16

sec	0	15	30	45
min	Run 9	Time:	1042	
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:			0.0	
Source Conditions:				
Sun Angle (degrees):			-35	
	Run 10	Time:	1108	
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:			0.0	
Source Conditions:				
Sun Angle (degrees):			-30	
	Run 11	Time:	1134	
1	0	10	10	10
2	5	10	5	5
3	0	0	5	0
4	0	5	5	5
5	0	5	0	0
6	0	5	0	5
6-minute Average:			3.8	
Source Conditions:				
Sun Angle (degrees):			-25	
	Run 12	Time:	1200	
1	0	0	0	10
2	5	0	0	0
3	5	0	5	0
4	0	10	10	5
5	0	5	5	0
6	0	0	5	5
6-minute Average:			2.9	
Source Conditions:				
Sun Angle (degrees):			-20	

sec	0	15	30	45
min	Run 13	Time:	1226	
1	10	0	5	0
2	5	0	5	5
3	0	0	5	0
4	5	5	0	5
5	0	5	0	0
6	0	5	0	0
6-minute Average:			2.5	
Source Conditions:				
Sun Angle (degrees):			-10	
	Run 14	Time:	1252	
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:			0.0	
Source Conditions:				
Sun Angle (degrees):			-30	
	Run 15	Time:	1318	
1	0	0	5	0
2	0	0	0	0
3	0	0	3	5
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:			0.6	
Source Conditions:				
Sun Angle (degrees):			-25	
	Run 16	Time:	1344	
1	0	0	5	0
2	5	0	0	5
3	0	0	0	0
4	0	0	0	5
5	0	0	0	0
6	0	5	0	0
6-minute Average:			1.0	
Source Conditions:				
Sun Angle (degrees):			-20	

Range of opacity readings: low 0 high 10

Number of readings above 10 % were 0

WM Reamy

Observer's Signature

Visible Emissions Evaluation

Facility Name	ECC/Floyd Bennett Field
AVOGADRO Project No.	12-9191
Location (city, state)	Brooklyn, NY
Type of Facility	national park
Control Equipment / Emission Source	ACB #2
Date of Observation	2/2/13
Start Time	1410
Stop Time	1652
Distance from observer (ft)	150'
Direction from observer	N
Stack height (ft, observer's elev.) (ft)	10'
Stack Diameter (in)	no stack
Description of plume:	
continuous? fugitive? intermittent?	interm.
color	gray
water drops present? (Y/N)	N
attached steam plume? (Y/N)	N
detached steam plume? (Y/N)	N
secondary plume? (Y/N)	N
point where opacity read	above barrier
target?	
describe background to plume	cloudy sky
unique features of plume or stack	no stack
Weather:	
ambient temperature (F)	33°
relative humidity	
wind direction	SW
wind speed	5-10
barometric pressure	
rain? fog? snow? haze?	no
Glasses worn:	
corrective? (Y/N)	N
sunglasses? (Y/N)	N

Observer's name	William Reamy
Observer certification date	10-10-12
Certifying agency	Whitlow Enter.
Observer affiliation	Stack Hawk Envir.

Run Number(s) and Description: 17-23

sec	0	15	30	45
min	Run 17 Time:		1410	
1	5	10	10	0
2	5	0	0	5
3	10	5	0	5
4	5	5	5	5
5	5	5	5	5
6	5	0	5	0
6-minute Average:			4.4	
Source Conditions:				
Sun Angle (degrees):			-10	
	Run 18 Time:		1436	
1	0	0	5	0
2	5	5	5	5
3	0	5	5	5
4	5	5	5	5
5	0	5	5	0
6	5	5	5	10
6-minute Average:			4.0	
Source Conditions:				
Sun Angle (degrees):			-5	
	Run 19 Time:		1502	
1	0	5	5	0
2	5	5	5	5
3	5	10	5	10
4	10	5	5	5
5	10	5	10	10
6	5	5	5	5
6-minute Average:			5.8	
Source Conditions:				
Sun Angle (degrees):			NO SUN	
	Run 20 Time:		1528	
1	5	5	5	5
2	5	5	5	5
3	5	5	5	5
4	5	5	15	5
5	5	5	10	5
6	5	0	10	5
6-minute Average:			5.6	
Source Conditions:				
Sun Angle (degrees):			NO SUN	

sec	0	15	30	45
min	Run 21 Time:		1554	
1	0	0	0	0
2	0	0	0	0
3	0	0	5	0
4	0	0	0	0
5	0	0	0	5
6	0	0	0	0
6-minute Average:			0.4	
Source Conditions:				
Sun Angle (degrees):			NO SUN	
	Run 22 Time:		1620	
1	0	0	0	0
2	5	0	0	0
3	0	5	0	5
4	5	0	5	5
5	0	0	5	0
6	0	0	5	5
6-minute Average:			1.9	
Source Conditions:				
Sun Angle (degrees):			NO SUN	
	Run 23 Time:		1646	
1	0	5	0	5
2	0	0	5	5
3	0	0	0	5
4	5	5	0	0
5	5	5	5	0
6	5	10	10	10
6-minute Average:			3.5	
Source Conditions:				
Sun Angle (degrees):			NO SUN	
	Run:		Time:	
1				
2				
3				
4				
5				
6				
6-minute Average:				
Source Conditions:				
Sun Angle (degrees):				

Range of opacity readings: low 0 high 15

Number of readings above 10 % were 1

W M Reamy

Observer's Signature

SATURDAY NIGHT – FEBRUARY 2, 2013

Visible Emissions Evaluation

Facility Name	ECC FLOYD BENNETT FIELD
AVOGADRO Project No.	12-9191
Location (city, state)	BROOKLYN, NY
Type of Facility	DEBRIS REMOVAL
Control Equipment / Emission Source	ACB 2
Date of Observation	2/2/2013
Start Time	1820
Stop Time	2128
Distance from observer (ft)	150'
Direction from observer	NE
Stack height (fr. observer's elev.) (ft)	8'
Stack Diameter (in)	20'x8'
Description of plume:	
continuous? fugitive? intermittent?	CONTINUOUS
color	WHITE
water drops present? (Y/N)	No
attached steam plume? (Y/N)	No
detached steam plume? (Y/N)	No
secondary plume? (Y/N)	No
point where opacity read	1-3 CONFX LENGTHS
target?	SKY
describe background to plume	SKY
unique features of plume or stack	—
Weather:	
ambient temperature (F)	29 °F
relative humidity	30 %
wind direction	SW
wind speed	5-10 mph
barometric pressure	30.11 in
rain? fog? snow? haze?	clear, night
Glasses worn:	
corrective? (Y/N)	No
sunglasses? (Y/N)	No

Observer's name	AARON T. JOHNSON
Observer certification date	night 1/6/2013
Certifying agency	WHITLOW ENTERPRISES
Observer affiliation	AVOGADRO ENV. CORP.

Run Number(s) and Description

ACB 2 – RUNS # 24 – 31

sec	0	15	30	45
min	Run #24 Time: 1820			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				

sec	0	15	30	45
min	Run #25 Time: 1846			
1	5	5	5	5
2	5	5	5	5
3	5	5	5	5
4	5	5	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average: 5				
Source Conditions:				
Sun Angle (degrees):				

	Run #26 Time: 1918			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				

	Run #27 Time: 1943			
1	5	5	5	5
2	5	5	5	5
3	5	5	5	5
4	5	5	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average: 5				
Source Conditions:				
Sun Angle (degrees):				

	Run #28 Time: 2004			
1	5	5	5	5
2	5	5	5	5
3	5	5	5	5
4	5	5	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average: 5				
Source Conditions:				
Sun Angle (degrees):				

	Run #29 Time: 2028			
1	5	5	5	5
2	5	5	5	5
3	5	5	5	5
4	5	5	5	5
5	5	5	5	5
6	6	5	5	5
6-minute Average: 5				
Source Conditions:				
Sun Angle (degrees):				

	Run #30 Time: 2056			
1	5	5	5	5
2	5	5	5	5
3	5	5	5	5
4	5	5	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average: 5				
Source Conditions:				
Sun Angle (degrees):				

	Run #31 Time: 2123			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				

Range of opacity readings: low 0 high 5

Number of readings above 10 % were 0

Observer's Signature

SATURDAY NIGHT – FEBRUARY 2, 2013

Visible Emissions Evaluation

Facility Name	ECC FLOYD BENNETT FIELD
AVOGADRO Project No.	12-9191
Location (city, state)	BROOKLYN, NY
Type of Facility	DEBRIS REMOVAL
Control Equipment / Emission Source	ACB 2
Date of Observation	2/2/2013
Start Time	2148
Stop Time	0004
Distance from observer (ft)	150'
Direction from observer	NE
Stack height (fr. observer's elev.) (ft)	8'
Stack Diameter (in)	20' x 8'
Description of plume:	
continuous? fugitive? intermittent?	CONTINUOUS
color	WHITE
water drops present? (Y/N)	No
attached steam plume? (Y/N)	No
detached steam plume? (Y/N)	No
secondary plume? (Y/N)	No
point where opacity read	1-3 CONFX LENGTHS
target?	SKY
describe background to plume	SKY
unique features of plume or stack	—
Weather:	
ambient temperature (F)	26 °F
relative humidity	77 %
wind direction	SW
wind speed	5-10 Mph
barometric pressure	30.09 in
rain? fog? snow? haze?	~~sleet~~, night SNOWY
Glasses worn:	
corrective? (Y/N)	No
sunglasses? (Y/N)	No

Observer's name	AARON T. JOHNSON
Observer certification date	night 1/6/2013
Certifying agency	WHITLOW ENTERPRISES
Observer affiliation	AVOGADRO ENV. CORP.

Run Number(s) and Description

ACB 2 – RUNS # 32 – 37

sec	0	15	30	45
min	Run 32 Time: 2148			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				
	Run 33 Time: 2240			
1	5	5	0	0
2	0	5	5	5
3	0	5	5	0
4	0	0	5	5
5	0	5	0	5
6	0	0	5	0
6-minute Average: 2.5				
Source Conditions:				
Sun Angle (degrees):				
	Run 34 Time: 2332			
1	5	5	5	5
2	5	5	5	5
3	5	5	5	5
4	5	5	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average: 5				
Source Conditions:				
Sun Angle (degrees):				
	Run Time:			
1				
2				
3				
4				
5				
6				
6-minute Average:				
Source Conditions:				
Sun Angle (degrees):				

sec	0	15	30	45
min	Run 35 Time: 2417			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0				
Source Conditions:				
Sun Angle (degrees):				
	Run 36 Time: 2500			
1	5	5	5	5
2	5	5	5	5
3	5	5	5	5
4	5	5	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average: 5				
Source Conditions:				
Sun Angle (degrees):				
	Run Time:			
1				
2				
3				
4				
5				
6				
6-minute Average:				
Source Conditions:				
Sun Angle (degrees):				

Range of opacity readings: low 0 high 5

Number of readings above 10 % were 0

Observer's Signature