Wedn. Early Morn, February 6th, 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	02/6/2013
Start Time	0024
Stop Time	0332
Distance from observer (ft)	150'
Direction from observer	SE
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 cmex lengths
target?	sky
describe background to plume	sky
unique features of plume or stack	—
	@ 0024
Weather:	
ambient temperature (F)	32°
relative humidity	86 %
wind direction	calm
wind speed	calm
barometric pressure	29.93 inHg
rain? fog? snow? haze?	light snow/fog
Glasses worn:	
corrective? (Y/N)	yes
sunglasses? (Y/N)	—

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

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

sec	0	15	30	45
min	Run 1 Time: 0024			
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: 0050			
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: 0116			
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: 0142			
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 5 Time: 0208			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	5	5	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average: 2.5				
Source Conditions:				
Sun Angle (degrees):				
	Run 6 Time: 0234			
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 7 Time: 0300			
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 8 Time: 3216			
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

Wedn. Early Morning, February 6th, 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	02/6/2013
Start Time	352
Stop Time	542
Distance from observer (ft)	150'
Direction from observer	SE
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 cones lengths
target?	sky
describe background to plume	sky
unique features of plume or stack	—
	@ 350
Weather:	
ambient temperature (F)	31°
relative humidity	88%
wind direction	calm
wind speed	calm
barometric pressure	29.94 inHg
rain? fog? snow? haze?	fog
Glasses worn:	
corrective? (Y/N)	yes
sunglasses? (Y/N)	—

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

Run Number(s) and Description: ACB 1 Runs 9-13

sec	0	15	30	45	sec	0	15	30	45
min	Run 9 Time: 352				min	Run 13 Time: 536			
1	0	0	0	0	1	0	0	0	0
2	0	0	0	0	2	0	0	0	0
3	0	0	0	0	3	0	0	0	0
4	0	0	0	0	4	0	0	0	0
5	0	0	0	0	5	0	0	0	0
6	0	0	0	0	6	0	0	0	0
6-minute Average: 0					6-minute Average: 0				
Source Conditions:					Source Conditions:				
Sun Angle (degrees):					Sun Angle (degrees):				
	Run 10 Time: 0418					Run Time:			
1	0	0	0	0	1				
2	0	0	0	0	2				
3	0	0	0	0	3				
4	0	0	0	0	4				
5	0	0	0	0	5				
6	0	0	0	0	6				
6-minute Average: 0					6-minute Average:				
Source Conditions:					Source Conditions:				
Sun Angle (degrees):					Sun Angle (degrees):				
	Run 11 Time: 444					Run Time:			
1	0	0	0	0	1				
2	0	0	0	0	2				
3	0	0	0	0	3				
4	0	0	0	0	4				
5	0	0	0	0	5				
6	0	0	0	0	6				
6-minute Average: 0					6-minute Average:				
Source Conditions:					Source Conditions:				
Sun Angle (degrees):					Sun Angle (degrees):				
	Run 12 Time: 510					Run Time:			
1	0	0	0	0	1				
2	0	0	0	0	2				
3	0	0	0	0	3				
4	0	0	0	0	4				
5	0	0	0	0	5				
6	0	0	0	0	6				
6-minute Average: 0					6-minute Average:				
Source Conditions:					Source Conditions:				
Sun Angle (degrees):					Sun Angle (degrees):				

Range of opacity readings: low 0 high 0

Number of readings above 10 % were 0

Observer's Signature

UNIT 1

Run Number(s) and Description Pg. 1 2-6-13

Visible Emissions Evaluation

Facility Name	ECC FBF
AVOGADRO Project No.	12-9191
Location (city, state)	Brooklyn NY
Type of Facility	
Control Equipment / Emission Source	ACB
Date of Observation	2-6-13
Start Time	0200
Stop Time	
Distance from observer (ft)	100'
Direction from observer	NW
Stack height (fr. observer's elev.) (ft)	10'
Stack Diameter (in)	27 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	Top Edge
target?	
describe background to plume	Containers
unique features of plume or stack	
Weather:	
ambient temperature (F)	31°F
relative humidity	
wind direction *	ENE
wind speed	0-5
barometric pressure	
rain? fog? snow? haze?	CLEAR
Glasses worn:	
corrective? (Y/N)	Y
sunglasses? (Y/N)	N

Observer's name	MARK J. READY
Observer certification date	10-22-12
Certifying agency	KOONTZ
Observer affiliation	AVOGADRO / DA

sec	0	15	30	45
min	Run 1 Time: 0700			
1	10	10	5	5
2	10	10	10	10
3	5	5	5	10
4	10	10	10	5
5	10	10	10	10
6	10	10	10	10
6-minute Average:	8.8			
Source Conditions:				
Sun Angle (degrees):	10			
	Run 2 Time: 0720			
1	10	10	10	10
2	10	10	10	10
3	10	10	10	5
4	5	10	10	10
5	10	10	10	10
6	10	10	10	10
6-minute Average:	9.6			
Source Conditions:				
Sun Angle (degrees):	15			
	Run 3 Time: 740			
1	15	15	15	15
2	15	10	10	10
3	15	15	15	15
4	15	15	15	5
5	15	15	15	15
6	10	10	10	15
6-minute Average:	13.8			
Source Conditions:				
Sun Angle (degrees):	15			
	Run 4 Time: 800			
1	10	10	10	10
2	15	10	10	10
3	10	10	10	10
4	15	15	15	10
5	15	15	10	15
6	15	15	15	15
6-minute Average:	12.3			
Source Conditions:				
Sun Angle (degrees):	15			

sec	0	15	30	45
min	Run 5 Time: 820			
1	15	15	15	10
2	10	15	15	15
3	15	15	15	15
4	15	15	15	15
5	15	15	15	15
6	15	15	15	15
6-minute Average:	14.6			
Source Conditions:				
Sun Angle (degrees):	10			
	Run 6 Time: 840			
1	15	15	15	15
2	20	20	20	20
3	20	20	15	15
4	20	20	20	20
5	20	20	20	20
6	20	20	20	20
6-minute Average:	18.8			
Source Conditions:				
Sun Angle (degrees):	10			
	Run 7 Time: 900			
1	20	20	20	20
2	20	20	20	20
3	20	20	20	20
4	25	25	20	20
5	20	20	20	20
6	20	20	20	20
6-minute Average:	20.4			
Source Conditions:				
Sun Angle (degrees):	5			
	Run 8 Time: 920			
1	20	20	20	20
2	20	20	20	20
3	15	15	15	15
4	15	20	15	15
5	15	15	15	15
6	20	20	20	20
6-minute Average:	17.7			
Source Conditions:				
Sun Angle (degrees):	0			

Range of opacity readings:

low 5 high 25

Number of readings above 10 % were 123

Observer's Signature

* WIND SHIFT TO ESE @ 840

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AVOGADRO ENVIRONMENTAL CORPORATION, Easton Pa

UNIT 1

Run Number(s) and Description Pg. 2 2-6-13

Visible Emissions Evaluation

Facility Name	ECC FBF
AVOGADRO Project No.	12-9191
Location (city, state)	Brooklyn NY
Type of Facility	
Control Equipment / Emission Source	ACB
Date of Observation	2-6-13
Start Time	940
Stop Time	
Distance from observer (ft)	100'
Direction from observer	NW
Stack height (fr. observer's elev.) (ft)	10'
Stack Diameter (in)	27x8
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	Top Edge
target?	
describe background to plume	Containers
unique features of plume or stack	
Weather:	
ambient temperature (F)	40°F
relative humidity	
wind direction	E
wind speed	5-10
barometric pressure	
rain? fog? snow? haze?	CLEAR
Glasses worn:	
corrective? (Y/N)	Y
sunglasses? (Y/N)	N

Observer's name	MARK T. READY
Observer certification date	10-22-12
Certifying agency	KOONTZ
Observer affiliation	AVOGADRO/DA

sec	0	15	30	45
min	Run 9 Time: 940			
1	15	20	20	20
2	15	15	20	20
3	15	15	20	20
4	20	20	20	20
5	20	20	20	20
6	15	15	15	15
6-minute Average:	18.1			
Source Conditions:				
Sun Angle (degrees):	0			
	Run 10 Time: 1000			
1	15	15	10	10
2	10	15	10	10
3	10	10	10	10
4	10	10	10	10
5	5	5	5	10
6	5	5	10	10
6-minute Average:	9.6			
Source Conditions:				
Sun Angle (degrees):	0			
	Run 11 Time: 1020			
1	5	5	10	10
2	10	5	10	10
3	10	10	10	10
4	5	5	5	5
5	10	10	5	5
6	10	5	5	5
6-minute Average:	7.5			
Source Conditions:				
Sun Angle (degrees):	5			
	Run 12 Time: 1040			
1	5	0	5	5
2	5	5	5	0
3	5	5	5	5
4	10	5	0	0
5	0	5	5	10
6	5	5	5	5
6-minute Average:	4.4			
Source Conditions:				
Sun Angle (degrees):	5			

sec	0	15	30	45
min	Run 13 Time: 1100			
1	5	0	0	5
2	5	5	0	0
3	0	0	0	0
4	0	5	0	0
5	0	5	5	0
6	0	0	0	0
6-minute Average:	1.5			
Source Conditions:				
Sun Angle (degrees):	10			
	Run 14 Time: 1120			
1	0	5	0	0
2	5	5	5	5
3	5	5	5	5
4	5	10	5	5
5	5	5	0	5
6	0	0	0	0
6-minute Average:				
Source Conditions:				
Sun Angle (degrees):	10			
	Run 15 Time: 1140			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	5	5	5	0
5	0	0	0	0
6	0	5	0	0
6-minute Average:	0.8			
Source Conditions:				
Sun Angle (degrees):	15			
	Run 16 Time: 1200			
1	5	5	10	5
2	5	5	5	5
3	5	5	5	5
4	0	0	5	5
5	10	10	5	5
6	5	5	0	0
6-minute Average:	4.8			
Source Conditions:				
Sun Angle (degrees):	20			

Range of opacity readings: low 0 high 20

Number of readings above 10 % were 27

Observer's Signature

UNIT 1

Run Number(s) and Description Pg. 3 2-6-13

Visible Emissions Evaluation

Facility Name	ECC FBF
AVOGADRO Project No.	12-9191
Location (city, state)	Brooklyn NY
Type of Facility	
Control Equipment / Emission Source	ACB
Date of Observation	2-6-13
Start Time	1220
Stop Time	
Distance from observer (ft)	150'
Direction from observer	NE
Stack height (fr. observer's elev.) (ft)	10'
Stack Diameter (in)	27 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	Top Edge
target?	
describe background to plume	Containers
unique features of plume or stack	
Weather:	
ambient temperature (F)	~~40~~ 45
relative humidity	
wind direction	E
wind speed	5-10
barometric pressure	
rain? fog? snow? haze?	Ptly Cldy
Glasses worn:	
corrective? (Y/N)	Y
sunglasses? (Y/N)	N

Observer's name	MARK T. READY
Observer certification date	10-22-12
Certifying agency	KOONTZ
Observer affiliation	AVOGADRO/DA

sec	0	15	30	45	sec	0	15	30	45
min	Run 17 Time: 1220				min	Run 21 Time: 1340			
1	5	5	5	5	1	15	10	10	15
2	5	5	5	5	2	10	10	5	5
3	5	5	5	5	3	10	10	5	5
4	10	10	5	5	4	5	5	5	5
5	5	10	5	5	5	5	5	5	5
6	5	10	5	10	6	5	5	5	5
6-minute Average:	6.0				6-minute Average:	7.1			
Source Conditions:					Source Conditions:				
Sun Angle (degrees):	50				Sun Angle (degrees):	25			
	Run 18 Time: 1240					Run 22 Time: 1400			
1	5	10	10	5	1	10	10	10	10
2	10	5	5	5	2	10	10	10	10
3	5	5	10	5	3	10	10	10	10
4	5	5	5	5	4	5	5	10	5
5	5	5	10	5	5	5	10	10	5
6	5	5	5	5	6	10	10	10	10
6-minute Average:	6.0				6-minute Average:	9.0			
Source Conditions:					Source Conditions:				
Sun Angle (degrees):	50				Sun Angle (degrees):	25			
	Run 19 Time: 1300					Run 23 Time: 1420			
1	5	5	5	5	1	10	5	5	10
2	5	5	5	5	2	5	5	5	5
3	5	5	5	5	3	5	10	10	5
4	5	5	5	5	4	5	5	5	5
5	5	5	5	5	5	10	10	5	10
6	5	5	5	5	6	5	5	5	5
6-minute Average:	5.0				6-minute Average:	6.5			
Source Conditions:					Source Conditions:				
Sun Angle (degrees):	50				Sun Angle (degrees):	20			
	Run 20 Time: 1320					Run 24 Time: 1440			
1	5	5	5	5	1	20	15	15	15
2	5	5	0	0	2	15	15	15	15
3	5	5	5	5	3	10	10	10	10
4	5	5	0	0	4	5	5	5	5
5	5	0	0	0	5	5	5	5	5
6	5	5	5	0	6	5	5	10	10
6-minute Average:	3.3				6-minute Average:	9.8			
Source Conditions:					Source Conditions:				
Sun Angle (degrees):	40				Sun Angle (degrees):	10			

Range of opacity readings:

low 0 high 20

Number of readings above 10 % were 10

Observer's Signature

AVOGADRO ENVIRONMENTAL CORPORATION, Easton Pa

UNIT 1

Run Number(s) and Description Pg. 4 2-6-13

Visible Emissions Evaluation

Facility Name	ECC FBF
AVOGADRO Project No.	12-9191
Location (city, state)	Brooklyn MY
Type of Facility	
Control Equipment / Emission Source	ACB
Date of Observation	2-6-13
Start Time	1500
Stop Time	
Distance from observer (ft)	150'
Direction from observer	NE
Stack height (fr. observer's elev.) (ft)	10'
Stack Diameter (in)	27x8
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	Top Edge
target?	
describe background to plume	Containers
unique features of plume or stack	
Weather:	
ambient temperature (F)	45°F
relative humidity	
wind direction	E
wind speed	5-10
barometric pressure	
rain? fog? snow? haze?	Ptly Cldy
Glasses worn:	
corrective? (Y/N)	Y
sunglasses? (Y/N)	N

Observer's name	MARK T. READY
Observer certification date	10-22-12
Certifying agency	KOOHTZ
Observer affiliation	AVOGADRO/DA

sec	0	15	30	45	sec	0	15	30	45
min	Run 25 Time: 1500				min	Run 29 Time: 1620			
1	5	5	5	5	1	0	0	10	5
2	5	5	5	5	2	0	0	0	0
3	5	5	5	5	3	5	5	0	0
4	5	5	5	5	4	0	0	5	5
5	5	5	5	5	5	0	0	10	5
6	5	5	5	5	6	5	5	0	0
6-minute Average:			5.0		6-minute Average:			2.5	
Source Conditions:					Source Conditions:				
Sun Angle (degrees):			10		Sun Angle (degrees):			5	
	Run 26 Time: 1520					Run 30 Time: 1640			
1	5	5	10	5	1	0	0	0	0
2	5	5	5	5	2	5	5	0	0
3	5	5	5	10	3	0	0	0	0
4	0	0	5	0	4	0	5	0	0
5	5	5	5	5	5	0	0	0	0
6	5	5	5	5	6	5	0	0	0
6-minute Average:			4.3		6-minute Average:			0.8	
Source Conditions:					Source Conditions:				
Sun Angle (degrees):			10		Sun Angle (degrees):			10	
	Run 27 Time: 1540					Run Time: 1700			
1	5	5	5	5	1	5	5	5	0
2	5	0	0	5	2	5	5	5	0
3	0	0	0	5	3	0	0	0	5
4	0	0	0	0	4	5	5	5	5
5	0	0	0	0	5	5	5	5	0
6	5	0	0	0	6	5	5	0	5
6-minute Average:			1.7		6-minute Average:			3.5	
Source Conditions:					Source Conditions:				
Sun Angle (degrees):			5		Sun Angle (degrees):			20	
	Run 28 Time: 1600					Run Time:			
1	0	0	0	0	1				
2	0	5	0	0	2				
3	0	0	0	5	3				
4	5	0	0	0	4				
5	0	0	0	0	5				
6	0	0	0	5	6				
6-minute Average:			0.8		6-minute Average:				
Source Conditions:					Source Conditions:				
Sun Angle (degrees):			5		Sun Angle (degrees):				

Range of opacity readings:
low 0 high 10

Number of readings above 10 % were 0

Mark T. Ready
Observer's Signature

AVOGADRO ENVIRONMENTAL CORPORATION, Easton Pa

Wedn. Night, February 6th, 2013

Visible Emissions Evaluation

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

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	02/6/2013
Start Time	1854
Stop Time	2202
Distance from observer (ft)	200'
Direction from observer	E
Stack height (fr. observer's elev.) (ft)	9'
Stack Diameter (in)	27' x 9'
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 cable lengths
target?	sky
describe background to plume	sky
unique features of plume or stack	—
	@1854
Weather:	
ambient temperature (F)	33°
relative humidity	36%
wind direction	S/SE
wind speed	12-15 mph
barometric pressure	30.31 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	Whittow
Observer affiliation	Avogadro Env.

sec	0	15	30	45
Run 1 Time: 1854				
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 2 Time: 1920				
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 3 Time: 1946				
1	10	10	10	10
2	10	10	10	10
3	10	10	10	10
4	10	10	10	10
5	10	10	10	10
6	10	10	10	10
6-minute Average: 10				
Source Conditions:				
Sun Angle (degrees):				
Run 4 Time: 2012				
1	10	10	10	10
2	10	10	10	10
3	10	10	10	10
4	10	10	10	10
5	10	10	10	10
6	10	10	10	10
6-minute Average: 10				
Source Conditions:				
Sun Angle (degrees):				

sec	0	15	30	45
Run 5 Time: 2038				
1	10	10	10	10
2	10	10	10	10
3	10	10	10	10
4	10	10	10	10
5	10	10	10	10
6	10	10	10	10
6-minute Average: 10				
Source Conditions:				
Sun Angle (degrees):				
Run 6 Time: 2104				
1	10	10	10	10
2	15	15	15	15
3	10	10	10	10
4	15	15	10	10
5	15	15	15	10
6	10	10	10	10
6-minute Average: 11.9				
Source Conditions: ash volume				
Sun Angle (degrees): high				
Run 7 Time: 2130				
1	10	10	10	10
2	10	10	10	10
3	10	10	15	10
4	10	10	10	10
5	15	10	10	15
6	10	10	10	10
6-minute Average: 10.6				
Source Conditions: ash volume				
Sun Angle (degrees): high				
Run 8 Time: 2156				
1	15	15	15	20
2	20	25	30	15
3	15	20	20	20
4	10	30	15	15
5	20	20	10	15
6	35	15	20	10
6-minute Average: 18.5				
Source Conditions: ash element				
Sun Angle (degrees):				

Range of opacity readings: low 5 high 35

Number of readings above 10 % were 34

note: high ash volume causing higher opacity, resolved to clean some ash out shortly @ ~ 2100. JW

Observer's Signature

AVOGADRO ENVIRONMENTAL CORPORATION, Easton Pa

note: excess light causing perception of higher opacity, adjusted. JW

Wed Night, February 6th, 2013

Visible Emissions Evaluation

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

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	02/6/2013
Start Time	2234
Stop Time	2358
Distance from observer (ft)	200'
Direction from observer	E
Stack height (fr. observer's elev.) (ft)	9'
Stack Diameter (in)	27' x 9'
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 cross lengths
target?	sky
describe background to plume	sky
unique features of plume or stack	—
	@ 2230
Weather:	
ambient temperature (F)	32 °
relative humidity	27 %
wind direction	S
wind speed	8-15 mph
barometric pressure	30.31 in Hg
rain? fog? snow? haze?	clear
Glasses worn:	
corrective? (Y/N)	yes
sunglasses? (Y/N)	—

sec	0	15	30	45
Run 9 Time: 2234				
1	10	10	10	10
2	10	10	10	10
3	10	10	10	10
4	10	10	10	10
5	10	10	10	10
6	10	10	10	10
6-minute Average: 10				
Source Conditions: heating box				
Sun Angle (degrees): up				
Run 10 Time: 2300				
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 11 Time: 2326				
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 12 Time: 2352				
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
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):				

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

Range of opacity readings: low 0 high 10

Number of readings above 10 % were 0

note: excess light pollution causing higher opacity perception, adjusted. JW

Observer's Signature

Wedn. Early Mon., February 6th, 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	02/6/2013
Start Time	0024
Stop Time	0332
Distance from observer (ft)	150'
Direction from observer	SE
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	—
	@0024
Weather:	
ambient temperature (F)	32°
relative humidity	86 %
wind direction	calm
wind speed	calm
barometric pressure	27.93 in Hg
rain? fog? snow? haze?	light snow/fog
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: 0024			
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: 0050			
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: 0116			
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: 0142			
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: 0208			
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: 0234			
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 7 Time: 300			
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 8 Time: 326			
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 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	Debris Removal
Control Equipment / Emission Source	ACB 2
Date of Observation	02/6/2013
Start Time	352
Stop Time	542
Distance from observer (ft)	150'
Direction from observer	SE
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	—
	@ 350
Weather:	
ambient temperature (F)	31°
relative humidity	88 %
wind direction	calm
wind speed	calm
barometric pressure	29.94 inHg
rain? fog? snow? haze?	fog
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.

Wedn. Early Mon. February 6th, 2013

Run Number(s) and Description

ACB 2 Runs 9-13

sec	0	15	30	45	sec	0	15	30	45
min	Run 9 Time: 352				min	Run 13 Time: 536			
1	0	0	0	0	1	0	0	0	0
2	0	0	0	0	2	0	0	0	0
3	0	0	0	0	3	0	0	0	0
4	0	0	0	0	4	0	0	0	0
5	0	0	0	0	5	0	0	0	0
6	0	0	0	0	6	0	0	0	0
6-minute Average: 0					6-minute Average: 0				
Source Conditions:					Source Conditions:				
Sun Angle (degrees):					Sun Angle (degrees):				
	Run 10 Time: 418					Run Time:			
1	0	0	0	0	1				
2	0	0	0	0	2				
3	0	0	0	0	3				
4	0	0	0	0	4				
5	0	0	0	0	5				
6	0	0	0	0	6				
6-minute Average: 0					6-minute Average:				
Source Conditions:					Source Conditions:				
Sun Angle (degrees):					Sun Angle (degrees):				
	Run 11 Time: 444					Run Time:			
1	0	0	0	0	1				
2	0	0	0	0	2				
3	0	0	0	0	3				
4	0	0	0	0	4				
5	0	0	0	0	5				
6	0	0	0	0	6				
6-minute Average: 0					6-minute Average:				
Source Conditions:					Source Conditions:				
Sun Angle (degrees):					Sun Angle (degrees):				
	Run 12 Time: 510					Run Time:			
1	0	0	0	0	1				
2	0	0	0	0	2				
3	0	0	0	0	3				
4	0	0	0	0	4				
5	0	0	0	0	5				
6	0	0	0	0	6				
6-minute Average: 0					6-minute Average:				
Source Conditions:					Source Conditions:				
Sun Angle (degrees):					Sun Angle (degrees):				

Range of opacity readings:

low 0 high 0

Number of readings above 10 % were 0

Observer's Signature

UNIT 2

Visible Emissions Evaluation

Run Number(s) and Description: Pg. 1 2-6-13

Facility Name	ECC FBF
AVOGADRO Project No.	12-9191
Location (city, state)	Brooklyn NY
Type of Facility	
Control Equipment / Emission Source	ACB
Date of Observation	2-6-13
Start Time	0700
Stop Time	
Distance from observer (ft)	100'
Direction from observer	NW
Stack height (fr. observer's elev.) (ft)	10'
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	Top Edge
target?	
describe background to plume	Containers
unique features of plume or stack	
Weather:	
ambient temperature (F)	31°F
relative humidity	
wind direction	ENE
wind speed	0-5
barometric pressure	
rain? fog? snow? haze?	CLEAR
Glasses worn:	
corrective? (Y/N)	Y
sunglasses? (Y/N)	N

Observer's name	MARK T. READY
Observer certification date	10-22-12
Certifying agency	KOOMTZ
Observer affiliation	AVOGADRO/DA

sec	0	15	30	45
min	Run 1 Time: 0700			
1	0	0	0	5
2	0	0	0	0
3	0	0	0	0
4	0	5	5	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0.6				
Source Conditions:				
Sun Angle (degrees): 10				
	Run 2 Time: 0720			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	5	5	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0.4				
Source Conditions:				
Sun Angle (degrees): 15				
	Run 3 Time: 740			
1	0	0	0	0
2	0	0	0	0
3	0	0	0	0
4	0	0	0	0
5	5	5	5	0
6	0	0	0	0
6-minute Average: 0.6				
Source Conditions:				
Sun Angle (degrees): 15				
	Run 4 Time: 800			
1	0	0	5	5
2	5	5	5	10
3	5	5	5	10
4	0	5	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average: 4.8				
Source Conditions:				
Sun Angle (degrees): 15				

sec	0	15	30	45
min	Run 5 Time: 820			
1	15	15	15	15
2	10	15	10	10
3	10	15	15	15
4	15	15	15	15
5	15	10	15	15
6	15	15	15	15
6-minute Average: 14.0				
Source Conditions:				
Sun Angle (degrees): 10				
	Run 6 Time: 840			
1	0	0	5	5
2	5	0	5	0
3	0	0	5	5
4	5	5	5	5
5	0	0	5	5
6	0	5	0	5
6-minute Average: 2.9				
Source Conditions:				
Sun Angle (degrees): 10				
	Run 7 Time: 900			
1	0	0	0	5
2	5	5	0	0
3	5	5	0	0
4	0	0	0	0
5	0	0	0	5
6	0	0	0	0
6-minute Average: 1.3				
Source Conditions:				
Sun Angle (degrees): 5				
	Run 8 Time: 920			
1	0	0	0	0
2	0	0	0	0
3	0	0	5	5
4	0	5	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average: 0.6				
Source Conditions:				
Sun Angle (degrees): 0				

Range of opacity readings:

low 0 high 15

Number of readings above 10 % were 19

Observer's Signature

AVOGADRO ENVIRONMENTAL CORPORATION, Easton Pa

Visible Emissions Evaluation

UNIT 2

Run Number(s) and Description Pg. 2 2-6-13

Facility Name	ECC FBF
AVOGADRO Project No.	12-9191
Location (city, state)	Brooklyn NY
Type of Facility	
Control Equipment / Emission Source	ACB
Date of Observation	2-6-13
Start Time	940
Stop Time	
Distance from observer (ft)	100'
Direction from observer	NW
Stack height (fr. observer's elev.) (ft)	10'
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	Top Edge
target?	
describe background to plume	Containers
unique features of plume or stack	
Weather:	
ambient temperature (F)	40°F
relative humidity	
wind direction	E
wind speed	5-10
barometric pressure	
rain? fog? snow? haze?	CLEAR
Glasses worn:	
corrective? (Y/N)	Y
sunglasses? (Y/N)	N

sec	0	15	30	45
min	Run 9 Time: 940			
1	0	0	5	0
2	0	5	10	10
3	5	5	5	5
4	5	5	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average:	4.6			
Source Conditions:				
Sun Angle (degrees):	0			
	Run 10 Time: 1000			
1	5	5	0	5
2	5	5	5	0
3	0	5	0	5
4	0	0	5	0
5	0	0	0	5
6	0	0	5	0
6-minute Average:	2.3			
Source Conditions:				
Sun Angle (degrees):	0			
	Run 11 Time: 1020			
1	5	5	10	5
2	10	5	5	5
3	10	10	10	5
4	5	5	5	5
5	10	5	5	10
6	10	5	10	5
6-minute Average:	6.9			
Source Conditions:				
Sun Angle (degrees):	5			
	Run 12 Time: 1040			
1	0	5	10	5
2	5	5	10	5
3	10	5	5	5
4	10	5	10	5
5	0	5	5	5
6	5	5	10	10
6-minute Average:	6.0			
Source Conditions:				
Sun Angle (degrees):	5			

sec	0	15	30	45
min	Run 13 Time: 1100			
1	5	10	0	5
2	5	5	0	5
3	0	5	0	0
4	5	0	0	0
5	0	5	5	0
6	0	0	5	0
6-minute Average:	2.5			
Source Conditions:				
Sun Angle (degrees):	10			
	Run 14 Time: 1120			
1	5	5	0	0
2	5	5	5	5
3	5	5	5	5
4	5	5	5	5
5	0	0	5	5
6	0	5	5	5
6-minute Average:				
Source Conditions:				
Sun Angle (degrees):	10			
	Run 15 Time: 1140			
1	0	0	0	0
2	0	0	0	0
3	5	0	0	5
4	5	5	0	5
5	0	5	5	0
6	0	0	0	0
6-minute Average:	1.5			
Source Conditions:				
Sun Angle (degrees):	15			
	Run 16 Time: 1200			
1	10	10	5	5
2	5	5	5	5
3	5	5	0	5
4	0	5	0	0
5	5	5	5	5
6	0	0	0	0
6-minute Average:	3.8			
Source Conditions:				
Sun Angle (degrees):	20			

Observer's name	MARK T. READY
Observer certification date	10-22-12
Certifying agency	KOONTZ
Observer affiliation	AVOGADRO/DA

Range of opacity readings:

low 0 high 10

Number of readings above 10 % were 0

Observer's Signature

AVOGADRO ENVIRONMENTAL CORPORATION, Easton Pa

UNIT 2

Run Number(s) and Description Pg. 3 2-6-13

Visible Emissions Evaluation

Facility Name	ECC FBF
AVOGADRO Project No.	12-9191
Location (city, state)	Brooklyn NY
Type of Facility	
Control Equipment / Emission Source	ACB
Date of Observation	2-6-13
Start Time	1220
Stop Time	
Distance from observer (ft)	150'
Direction from observer	NE
Stack height (fr. observer's elev.) (ft)	10'
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	Top Edge
target?	
describe background to plume	Containers
unique features of plume or stack	
Weather:	
ambient temperature (F)	45°
relative humidity	
wind direction	E
wind speed	5-10
barometric pressure	
rain? fog? snow? haze?	PTly Cldy
Glasses worn:	
corrective? (Y/N)	Y
sunglasses? (Y/N)	N

Observer's name	MARK T. READY
Observer certification date	10-22-12
Certifying agency	KOONTZ
Observer affiliation	AVOGADRO/DA

sec	0	15	30	45
min	Run 17 Time: 1220			
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:	5.0			
Source Conditions:				
Sun Angle (degrees):	50			
	Run 18 Time: 1240			
1	0	5	0	5
2	0	0	5	0
3	0	0	5	5
4	0	5	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average:	3.3			
Source Conditions:				
Sun Angle (degrees):	50			
	Run 19 Time: 1300			
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:	5.0			
Source Conditions:				
Sun Angle (degrees):	50			
	Run 20 Time: 1320			
1	5	5	5	5
2	10	5	5	5
3	5	5	5	5
4	5	5	5	5
5	5	5	5	10
6	5	10	5	5
6-minute Average:	5.6			
Source Conditions:				
Sun Angle (degrees):	40			

sec	0	15	30	45
min	Run 21 Time: 1340			
1	5	5	5	5
2	5	5	5	5
3	5	5	5	5
4	5	10	5	5
5	5	5	5	5
6	5	5	5	5
6-minute Average:	5.2			
Source Conditions:				
Sun Angle (degrees):	25			
	Run 22 Time: 1400			
1	5	0	0	0
2	0	0	5	5
3	5	5	0	0
4	0	5	0	0
5	5	5	0	5
6	0	0	0	0
6-minute Average:	1.9			
Source Conditions:				
Sun Angle (degrees):	25			
	Run 23 Time: 1420			
1	0	0	0	0
2	0	5	5	0
3	0	0	0	5
4	5	0	0	0
5	0	0	5	0
6	0	0	0	5
6-minute Average:	1.3			
Source Conditions:				
Sun Angle (degrees):	20			
	Run 24 Time: 1440			
1	5	5	0	5
2	5	5	5	5
3	5	5	5	0
4	0	0	5	5
5	5	5	0	0
6	5	5	5	0
6-minute Average:	3.5			
Source Conditions:				
Sun Angle (degrees):	10			

Range of opacity readings:

low 0 high 10

Number of readings above 10 % were 0

Observer's Signature

AVOGADRO ENVIRONMENTAL CORPORATION, Easton Pa

Visible Emissions Evaluation

Facility Name	ECC FBF
AVOGADRO Project No.	12-9191
Location (city, state)	Brooklyn NY
Type of Facility	
Control Equipment / Emission Source	ACB
Date of Observation	2-6-13
Start Time	1500
Stop Time	
Distance from observer (ft)	150'
Direction from observer	NE
Stack height (fr. observer's elev.) (ft)	10'
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	Top Edge
target?	
describe background to plume	Containers
unique features of plume or stack	
Weather:	
ambient temperature (F)	45°F
relative humidity	
wind direction	E
wind speed	5-10
barometric pressure	
rain? fog? snow? haze?	~~Overcast~~ PTly cldy
Glasses worn:	
corrective? (Y/N)	Y
sunglasses? (Y/N)	N

Observer's name	MARK T. READY
Observer certification date	10-22-12
Certifying agency	KOONTZ
Observer affiliation	AVOGADRO/DA

UNIT 2

Run Number(s) and Description

Pg. 4 2-6-13

sec	0	15	30	45
min	Run 25 Time: 1500			
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:	5.0			
Source Conditions:				
Sun Angle (degrees):	10			
	Run 26 Time: 1520			
1	10	10	5	5
2	5	5	10	5
3	10	5	5	0
4	0	0	0	5
5	5	5	5	5
6	5	5	5	5
6-minute Average:	5.0			
Source Conditions:				
Sun Angle (degrees):	10			
	Run 27 Time: 1540			
1	5	10	5	5
2	5	5	5	5
3	5	5	5	5
4	5	5	5	10
5	5	5	5	5
6	5	5	5	5
6-minute Average:	5.4			
Source Conditions:				
Sun Angle (degrees):	5			
	Run 28 Time: 1600			
1	0	5	5	0
2	0	0	0	0
3	5	5	5	0
4	0	0	0	0
5	0	0	0	0
6	0	5	5	0
6-minute Average:	1.5			
Source Conditions:				
Sun Angle (degrees):	5			

sec	0	15	30	45
min	Run 29 Time: 1620			
1	0	0	0	0
2	0	0	5	0
3	0	0	0	0
4	5	5	0	0
5	0	0	0	0
6	0	0	0	0
6-minute Average:	0.6			
Source Conditions:				
Sun Angle (degrees):	5			
	Run 30 Time: 1640			
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):	10			
	Run 31 Time: 1700			
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 Time:			
1				
2				
3				
4				
5				
6				
6-minute Average:				
Source Conditions:				
Sun Angle (degrees):				

Range of opacity readings:

low 0 high 10

Number of readings above 10 % were 0

Observer's Signature

Visible Emissions Evaluation

Wedn. Night, February 6th, 2013

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

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	02/6/2013
Start Time	1854
Stop Time	2202
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	—
	@ 1854
Weather:	
ambient temperature (F)	33°
relative humidity	36%
wind direction	S/SE
wind speed	12-15 mph
barometric pressure	30.31 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	Wh:How
Observer affiliation	Avogadro Env.

sec	0	15	30	45
min	Run 1 Time: 1854			
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 2 Time: 1920			
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 3 Time: 1946			
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 4 Time: 2012			
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: 2038			
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: 2104			
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 7 Time: 2130			
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 8 Time: 2156			
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

note: excess light causing perception of higher opacity, adjusted. JW

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	Debris Removal
Control Equipment / Emission Source	ACB 2
Date of Observation	02/6/2013
Start Time	2234
Stop Time	2358
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	—
	@ 2230
Weather:	
ambient temperature (F)	32°
relative humidity	27 %
wind direction	S
wind speed	8-15 mph
barometric pressure	30.31 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	Whitlow
Observer affiliation	Avogadro Env.

Note: light pollution causing higher opacity perception, adjusted. JW

Wedn. Night, February 6th, 2013

Run Number(s) and Description

ACB 2 Runs 9-12

sec	0	15	30	45	sec	0	15	30	45
min	Run 9 Time: 2234				min	Run Time:			
1	0	0	0	0	1				
2	0	0	0	0	2				
3	0	0	0	0	3				
4	0	0	0	0	4				
5	0	0	0	0	5				
6	0	0	0	0	6				
6-minute Average: 0					6-minute Average:				
Source Conditions:					Source Conditions:				
Sun Angle (degrees):					Sun Angle (degrees):				
	Run 10 Time: 2300					Run Time:			
1	0	0	0	0	1				
2	0	0	0	0	2				
3	0	0	0	0	3				
4	0	0	0	0	4				
5	0	0	0	0	5				
6	0	0	0	0	6				
6-minute Average: 0					6-minute Average:				
Source Conditions:					Source Conditions:				
Sun Angle (degrees):					Sun Angle (degrees):				
	Run 11 Time: 2326					Run Time:			
1	0	0	0	0	1				
2	0	0	0	0	2				
3	0	0	0	0	3				
4	0	0	0	0	4				
5	0	0	0	0	5				
6	0	0	0	0	6				
6-minute Average: 0					6-minute Average:				
Source Conditions:					Source Conditions:				
Sun Angle (degrees):					Sun Angle (degrees):				
	Run 12 Time: 2352					Run Time:			
1	0	0	0	0	1				
2	0	0	0	0	2				
3	0	0	0	0	3				
4	0	0	0	0	4				
5	0	0	0	0	5				
6	0	0	0	0	6				
6-minute Average: 0					6-minute Average:				
Source Conditions:					Source Conditions:				
Sun Angle (degrees):					Sun Angle (degrees):				

Range of opacity readings: low 0 high 0

Number of readings above 10 % were 0

Observer's Signature