2006 Method 9

Opacity

CATALYST AIR MANAGEMENT, INC.
SUMMARY OF METHOD 9 VISIBLE EMISSIONS DATA

Opacity Monitor

CLIENT: UGI Development Company
PLANT: Hunlock Station

DATE: ######

Run 1	seconds				method 9		
min.	0	15	30	45	AVG.	CEMS	Diff.
1	15	15	15	15	15.00	14.70	0.30
2	10	10	10	10	10.00	10.18	0.18
3	15	15	15	15	15.00	15.37	0.37
4	20	10	10	10	12.50	11.49	1.01
5	15	15	15	5	12.50	14.97	2.47
6	5	5	5	5	5.00	5.25	0.25
7	5	5	5	5	5.00	5.68	0.68
8	5	5	5	5	5.00	5.91	0.91
9	5	5	5	5	5.00	4.87	0.13
10	10	10	10	10	10.00	10.92	0.92
11	5	10	10	10	8.75	11.10	2.35
12	10	10	10	10	10.00	10.50	0.50
13	10	10	10	10	10.00	9.32	0.68
14	10	10	10	10	10.00	9.50	0.50
15	10	10	10	10	10.00	5.52	4.48
					AVG. ABS. DIFF		1.05

Run 2	seconds				method 9		
min.	0	15	30	45	AVG.	CEMS	Diff.
1	15	15	10	15	13.75	15.23	1.48
2	5	5	5	5	5.00	6.59	1.59
3	15	15	15	15	15.00	16.71	1.71
4	5	5	10	5	6.25	7.88	1.63
5	5	15	15	10	11.25	13.05	1.80
6	10	10	10	10	10.00	12.38	2.38
7	10	10	10	10	10.00	8.67	1.33
8	10	10	10	10	10.00	8.48	1.52
9	10	10	10	10	10.00	5.54	4.46
10	5	5	10	5	6.25	8.61	2.36
11	10	10	10	10	10.00	6.27	3.73
12	10	10	10	10	10.00	9.88	0.12
13	10	10	10	10	10.00	8.59	1.41
14	10	5	10	10	8.75	7.64	1.11
15	10	15	15	15	13.75	13.88	0.13
					AVG. ABS. DIFF		1.78

Run 3	seconds				method 9		
min.	0	15	30	45	AVG.	CEMS	Diff.
1	5	5	10	10	7.50	6.74	0.76
2	25	10	10	25	17.50	19.36	1.86
3	5	15	10	10	10.00	8.91	1.09
4	15	15	15	10	13.75	15.44	1.69
5	5	5	5	5	5.00	7.30	2.30
6	15	15	15	15	15.00	13.38	1.62
7	5	5	5	5	5.00	7.41	2.41
8	5	5	10	10	7.50	6.52	0.98
9	5	10	10	5	7.50	5.83	1.67
10	5	5	5	10	6.25	6.98	0.73
11	10	10	10	5	8.75	11.05	2.30
12	5	10	5	10	7.50	6.12	1.38
13	5	5	15	15	10.00	13.10	3.10
14	10	5	5	5	6.25	6.63	0.38
15	10	10	10	5	8.75	8.30	0.45
					AVG. ABS. DIFF		1.51

Run 4	seconds				method 9		
min.	0	15	30	45	AVG.	CEMS	Diff.
1	5	5	5	5	5.00	6.82	1.82
2	5	5	5	5	5.00	6.10	1.10
3	5	5	5	5	5.00	5.44	0.44
4	5	5	15	15	10.00	9.70	0.30
5	10	10	10	5	8.75	5.56	3.19
6	5	5	5	15	7.50	13.03	5.53
7	10	5	5	5	6.25	7.94	1.69
8	10	10	5	5	7.50	10.14	2.64
9	5	5	5	10	6.25	6.62	0.37
10	10	10	15	15	12.50	15.97	3.47
11	5	5	5	10	6.25	7.55	1.30
12	15	15	15	15	15.00	14.59	0.41
13	5	5	5	5	5.00	5.92	0.92
14	10	10	10	15	11.25	13.19	1.94
15	15	5	5	15	10.00	9.17	0.83
					AVG. ABS. DIFF		1.73

Run 5	seconds				method 9		
min.	0	15	30	45	AVG.	CEMS	Diff.
1	5	5	5	5	5.00	5.33	0.33
2	5	5	5	5	5.00	5.09	0.09
3	5	5	5	5	5.00	6.09	1.09
4	5	5	10	5	6.25	8.44	2.19
5	5	5	5	5	5.00	8.03	3.03
6	10	5	5	5	6.25	8.79	2.54
7	5	5	5	5	5.00	7.31	2.31
8	10	5	5	5	6.25	5.58	0.67
9	5	5	5	5	5.00	7.80	2.80
10	5	5	5	5	5.00	3.78	1.22
11	5	5	5	5	5.00	11.21	6.21
12	5	10	5	5	6.25	5.52	0.73
13	5	20	5	5	8.75	8.73	0.02
14	5	15	10	5	8.75	7.71	1.04
15	15	15	15	15	15.00	16.00	1.00
					AVG. ABS. DIFF		1.68

Run 6	seconds				method 9		
min.	0	15	30	45	AVG.	CEMS	Diff.
1	5	5	5	5	5.00	5.65	0.65
2	15	15	5	5	10.00	12.27	2.27
3	15	10	25	5	13.75	18.09	4.34
4	5	5	15	10	8.75	11.73	2.98
5	10	5	5	5	6.25	5.65	0.60
6	10	10	5	5	7.50	10.67	3.17
7	5	5	5	5	5.00	8.49	3.49
8	5	5	5	25	10.00	11.17	1.17
9	5	5	5	5	5.00	5.79	0.79
10	10	5	5	5	6.25	7.01	0.76
11	5	5	5	5	5.00	6.19	1.19
12	5	5	5	5	5.00	4.06	0.94
13	5	5	5	5	5.00	5.24	0.24
14	5	5	5	5	5.00	4.64	0.36
15	5	5	5	5	5.00	3.61	1.39
					AVG. ABS. DIFF		1.62

Run 7	seconds				method 9		
min.	0	15	30	45	AVG.	CEMS	Diff.
1	5	5	5	5	5.00	8.28	3.28
2	5	5	5	5	5.00	4.17	0.83
3	5	5	5	5	5.00	5.14	0.14
4	5	5	5	5	5.00	4.10	0.90
5	5	10	5	5	6.25	8.30	2.05
6	5	5	5	5	5.00	7.19	2.19
7	5	5	5	5	5.00	9.71	4.71
8	5	5	5	5	5.00	4.19	0.81
9	5	15	15	15	12.50	13.05	0.55
10	5	5	5	10	6.25	4.97	1.28
11	5	5	15	10	8.75	10.89	2.14
12	5	5	5	5	5.00	7.75	2.75
13	5	5	5	5	5.00	4.92	0.08
14	5	5	5	5	5.00	4.14	0.86
15	5	5	5	10	6.25	4.71	1.54
					AVG. ABS. DIFF		1.61

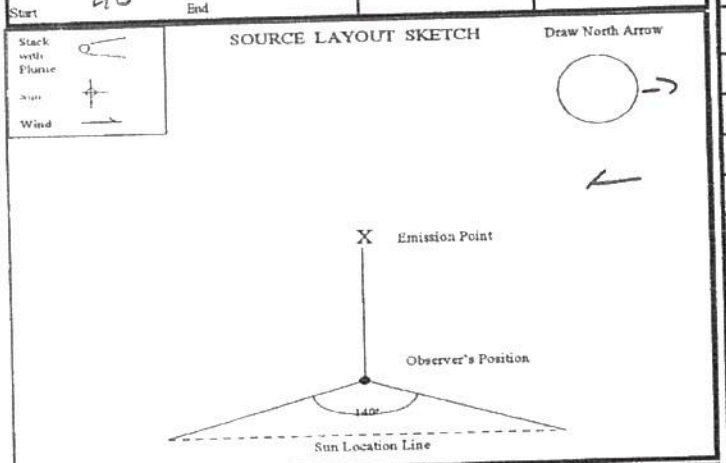
Run 8	seconds				method 9		
min.	0	15	30	45	AVG.	CEMS	Diff.
1	5	5	5	5	5.00	5.60	0.60
2	5	5	5	5	5.00	4.16	0.84
3	15	15	15	15	15.00	19.05	4.05
4	5	5	5	5	5.00	5.35	0.35
5	25	25	35	30	28.75	35.61	6.86
6	35	35	35	35	35.00	37.90	2.90
7	20	25	25	20	22.50	26.80	4.30
8	15	15	15	15	15.00	18.75	3.75
9	5	5	5	5	5.00	2.77	2.23
10	15	15	5	5	10.00	9.69	0.31
11	5	5	5	10	6.25	7.03	0.78
12	10	5	5	5	6.25	8.01	1.76
13	10	5	5	10	7.50	6.67	0.83
14	5	5	5	5	5.00	5.08	0.08
15	5	5	5	5	5.00	3.26	1.74
					AVG. ABS. DIFF		2.09

Run 9	seconds				method 9		
min.	0	15	30	45	AVG.	CEMS	Diff.
1	5	5	5	5	5.00	4.78	0.22
2	5	5	5	5	5.00	6.74	1.74
3	5	5	5	5	5.00	3.64	1.36
4	5	5	5	5	5.00	7.70	2.70
5	5	5	20	5	8.75	4.25	4.50
6	5	5	5	5	5.00	6.58	1.58
7	5	10	5	15	8.75	3.50	5.25
8	5	5	5	5	5.00	8.92	3.92
9	5	5	5	5	5.00	4.32	0.68
10	10	5	5	15	8.75	10.09	1.34
11	5	5	5	5	5.00	7.19	2.19
12	10	5	5	5	6.25	8.40	2.15
13	15	5	5	5	7.50	7.80	0.30
14	5	5	5	5	5.00	4.73	0.27
15	5	5	5	5	5.00	3.03	1.97
					AVG. ABS. DIFF		2.01

OPACITY

COMPANY NAME	UGI
STREET ADDRESS	Route 11
CITY	Hunlock Creek
STATE	PA
ZIP	18621
PHONE (KEY CONTACT)	JEFF STEEBEN
SOURCE ID. NUMBER	Boiler 6
PROCESS EQUIPMENT	Boiler 6
OPERATING MODE	
CONTROL EQUIPMENT	Precip
OPERATING MODE	
DESCRIBE EMISSION POINT	Exhaust Stack
HEIGHT ABOVE GROUND LEVEL	150'
HEIGHT RELATIVE TO OBSERVER Start	150' End
DISTANCE FROM OBSERVER	300'
DIRECTION FROM OBSERVER Start	W End
DESCRIBE EMISSIONS Start	Smoke End Smoke
EMISSION COLOR Start	Black End Black
IF WATER DROPLET PLUME Attached	— Detached —
POINT IN THE PLUME AT WHICH OPACITY WAS DETERMINED Start	1' From Exit End 1' From Exit
DESCRIBE PLUME BACKGROUND Start	Grey Sky End
EMISSION COLOR Start	Black End
SKY CONDITIONS Start	100% OC End
WIND SPEED	0-3 End
WIND DIRECTION Start	N End
AMBIENT TEMP Start	40 End
WET BULB TEMP	
RH, percent	

SOURCE LAYOUT SKETCH



ADDITIONAL INFORMATION: No Sun

OBSERVATION DATE: 4/6/06

START TIME | END TIME

	0	15	30	45	COMMENTS
0	15	15	15	15	0915 Run 1
1	10	10	10	10	
2	15	15	15	15	
3	20	10	10	10	
4	15	15	15	5	
5	5	5	5	5	
6	5	5	5	5	
7	5	5	5	5	
8	5	5	5	5	
9	10	10	10	10	
10	5	10	10	10	
11	10	10	10	10	
12	10	10	10	10	
13	10	10	10	10	
14	10	10	10	10	0929
15	15	15	10	15	0930 Run 2
16	5	5	5	5	
17	15	15	15	15	
18	5	5	10	5	
19	5	15	15	10	
20	10	10	10	10	
21	10	10	10	10	
22	10	10	10	10	
23	10	10	10	10	
24	5	5	10	5	
25	10	10	10	10	
26	10	10	10	10	
27	10	10	10	10	
28	10	5	10	10	
29	10	15	15	15	0944

OBSERVER'S NAME (PRINT)	David J. Hofmann
OBSERVER'S SIGNATURE	[signature]
DATE	4/6/06
ORGANIZATION	A & H Emission Testing, LLC
CERTIFIED BY	Compliance Assurance Assoc.
DATE	20-Mar-06
CONTINUED ON VEO FORM NUMBER	

COMPANY NAME: Hunlock Creek (UGI)	TYPE OF FACILITY: Boiler
CITY: Hunlock Creek PA	EMISSION POINT: Stack
TEST NO.: Run 3-6	OBSERVER: Hofmann

OBSERVATION DATE: 4/6/06 START TIME: END TIME:

	0	15	30	45	COMMENTS
0	5	5	10	10	Run 3 0945
1	25	10	10	25	
2	5	15	10	10	
3	15	15	15	10	
4	5	5	5	5	
5	15	15	15	15	
6	5	5	5	5	
7	5	5	10	10	
8	5	10	10	5	
9	5	5	5	10	
10	10	10	10	5	
11	5	10	5	10	
12	5	5	15	15	
13	10	5	5	5	
14	10	10	10	5	0959
0	5	5	5	5	Run 4 1008
1	5	5	5	5	
2	5	5	5	5	
3	5	5	15	15	
4	10	10	10	5	
5	5	5	5	15	
6	10	5	5	5	
7	10	10	5	5	
8	5	5	5	10	
9	10	10	15	15	
10	5	5	5	10	
11	15	15	15	15	
12	5	5	5	5	
13	10	10	10	15	
14	15	5	5	15	1022

START TIME: END TIME:

	0	15	30	45	COMMENTS
0	5	5	5	5	Run 5 1023
1	5	5	5	5	
2	5	5	5	5	
3	5	5	10	5	
4	5	5	5	5	
5	10	5	5	5	
6	5	5	5	5	
7	10	5	5	5	
8	5	5	5	5	
9	5	5	5	5	
10	5	5	5	25	
11	5	10	5	5	
12	5	20	5	5	
13	5	15	10	5	
14	15	15	15	15	1037
0	5	5	5	5	Run 6 1043
1	15	15	5	5	
2	15	10	25	5	
3	5	5	15	10	
4	10	5	5	5	
5	10	10	5	5	
6	5	5	5	5	
7	5	5	5	25	
8	5	5	5	5	
9	10	5	5	5	
10	5	5	5	5	
11	5	5	5	5	
12	5	5	5	5	
13	5	5	5	5	
14	5	5	5	5	1057

Opacity

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COMPANY NAME: UGI

CITY: Hunlock Creek

TEST NO: Run 7-9

TYPE OF FACILITY: Boiler

EMISSION POINT: Stack

OBSERVER: Hofmann

OBSERVATION DATE

START TIME: 11/6/06 | END TIME

	0	15	30	45	COMMENTS
0	5	5	5	5	Run 7 1058
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	
7	5	5	5	5	
8	5	15	15	15	
9	5	5	5	10	
10	5	5	15	10	
11	5	5	5	5	
12	5	5	5	5	
13	5	5	5	5	
14	5	5	5	10	1112
0	5	5	5	5	Run 8 1113
1	5	5	5	5	
2	15	15	15	15	
3	5	5	5	5	
4	25	25	35	30	
5	35	35	35	35	
6	20	25	25	20	
7	15	15	15	15	
8	5	5	5	5	
9	15	15	5	5	
10	5	5	5	10	
11	10	5	5	5	
12	10	5	5	10	
13	5	5	5	5	
14	5	5	5	5	1127

START TIME | END TIME

	0	15	30	45	COMMENTS
0	5	5	5	5	Run 9 1128
1	5	5	5	5	
2	5	5	5	5	
3	5	5	5	5	
4	5	5	20	5	
5	5	5	5	5	
6	5	10	5	15	
7	5	5	5	5	
8	5	5	5	5	
9	10	5	5	15	
10	5	5	5	5	
11	10	5	5	5	
12	15	5	5	5	
13	5	5	5	5	
14	5	5	5	5	1142
0					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					