

NOx and CO EMISSION SUMMARY
 COMBUSTION TURBINE 1
 LAKE COGEN LIMITED
 UMATILLA, FLORIDA
 20-May-02
 ENGINE 104

RUN NUMBER: 1-BASE 42 MW
 TIME: 1442-1542 TEMPERATURE F. 52
 RELATIVE HUMIDITY 100
 SPECIFIC HUMIDITY: 0.00826
 Pb 29.96

POINT	O2 %	CO2%	NOx PPM	CO PPM	15% NOx	ISO NOx
1-1						
1-2	SEE DATA LOGGER SUMMARY					
1-3						
1-4						
1-5						
1-6						
1-7						
1-8						
1-9						
1-10						
1-11						
1-12						

AVERAGES: 14.16 4.12 27.79 24.98 24.33 25.75
 LB/MMBTU: 0.090
 TURBINE NATURAL GAS FLOW(SCFM) 6815
 MMBTUH HHV: (1045) 427.30
 MMBTUH LHV (: 961.4) 393.12
 SO2 EMISSION @ 2.8 PPM SULFUR: 0.19 LB/HR
 NOx EMISSION: 38.29 LB/HR
 CO EMISSION: 0.049 LB/MMBTU
 CO EMISSION: 20.95 LB/HR

RUN NUMBER: 2-BASE 42 MW
 TIME: 1610-1710 TEMPERATURE F. 52
 RELATIVE HUMIDITY 100
 SPECIFIC HUMIDITY: 0.00826
 Pb 29.96

POINT	O2 %	CO2%	NOx PPM	CO PPM	15% NOx	ISO NOx
1-1						
1-2						
1-3						
1-4						
1-5	SEE DATA LOGGER SUMMARY					
1-6						
1-7						
1-8						
1-9						
1-10						
1-11						
1-12						

AVERAGES: 14.47 4.23 26.98 26.36 24.76 26.20
 LB/MMBTU: 0.091
 TURBINE NATURAL GAS FLOW(SCFM) 6820
 MMBTUH HHV: (1045) 427.61
 MMBTUH LHV (: 961.4) 393.40
 SO2 EMISSION @ 2.8 PPM SULFUR: 0.19 LB/HR
 NOx EMISSION: 39.00 LB/HR
 CO EMISSION: 0.054 LB/MMBTU
 CO EMISSION: 23.19 LB/HR

RUN NUMBER: 3-BASE 42 MW
 TIME: 1055-1155
 TEMPERATURE F. 52
 RELATIVE HUMIDITY 100
 SPECIFIC HUMIDITY: 0.00826
 Pb 29.96

POINT	O2 %	CO2 %	NOx PPM	CO PPM	15% NOx	ISO NOx
1-1						
1-2						
1-3						
1-4						
1-5						
1-6						
1-7						
1-8						
1-9						
1-10						
1-11						
1-12						

SEE DATA LOGGER SUMMARY

AVERAGES:	14.60	3.86	26.26	27.80	24.59	26.03
LB/MMBTU:			0.091			
TURBINE NATURAL GAS FLOW(SCFM)			6786			
MMBTUH HHV: (1045)			425.48			
MMBTUH LHV (: 961.4)			391.44			
SO2 EMISSION @ 2.8 PPM SULFUR:			0.19	LB/HR		
NOx EMISSION:			38.55	LB/HR		
CO EMISSION:			0.058	LB/MMBTU		
CO EMISSION:			24.83	LB/HR		
OVERALL FUEL FLOW AVG:			6950	SCFM		
OVERALL CO AVERAGE:			26.38	PPM		
OVERALL NOx AVERAGE:			24.56	PPM @ 15% O2		
OVERALL CO LB/HR:			23.28			
OVERALL NOx LB/HR:			39.11			
AVERAGE MMBTUH LHV.:			397.75			
NOx @ 423 MMBTU LHV:			41.60			
CO @ 423 MMBTU LHV:			24.75			

CONTINUOUS MONITOR Q/A
 LINEARITY and DRIFT DATA
 COMBUSTION TURBINE 1
 LAKE COGEN LIMITED
 UMATILLA, FLORIDA
 MAY 20-21, 2002

DRIFT TEST RESULTS

SPAN	18.5	ppm NOx		13.94		% O2		
		BEGIN	END	% RANGE	BEGIN	END	% RANGE	
1-BASE	19.61	19.25	1.11	0.75	14	13.58	0.24	-1.44
2-BASE	19.25	19.26	0.75	0.76	13.99	13.94	0.2	0
3-BASE	19.12	18.56	0.62	0.06	14.07	13.96	0.52	0.08
ZERO								
1-BASE	0.1	0.4	0.10	0.40	0.02	0.04	0.08	0.16
2-BASE	0.4	0.47	0.40	0.47	0.04	0.01	0.16	0.04
3-BASE	0.7	0.5	0.7	0.50	0.07	0.04	0.28	0.16

CONTINUOUS MONITOR Q/A
 LINEARITY and DRIFT DATA
 COMBUSTION TURBINE 1
 LAKE COGEN LIMITED
 UMATILLA, FLORIDA
 MAY 20-21, 2002

DRIFT TEST RESULTS
 SPAN 30.3 ppm CO

RUN NO.	BEGIN	END	% RANGE	
			BEGIN	END
1-BASE	30.05	29.43	-0.25	-0.87
2-BASE	29.43	29.61	-0.87	-0.69
3-BASE	29.69	29.52	-0.61	-0.78
ZERO				
1-BASE	0	0.03	0.00	0.03
2-BASE	0.03	0.04	0.03	0.04
3-BASE	0.22	0.15	0.22	0.15

CONTINUOUS MONITOR Q/A
 LINEARITY and DRIFT DATA
 COMBUSTION TURBINE 1
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GAS I.D. NOx
 CEM: TE MODEL 10S
 RANGE: 100 PPM

<u>GAS VALUE</u>	<u>CEM</u>	<u>DIFF.</u>	<u>% RANGE</u>
0	0.1	0.1	0.10
85.6	85.63	0.03	0.03
45.3	45.26	-0.04	-0.04
18.5	18.49	-0.01	-0.01
18.9	19.48	0.58	0.58
22.9	23.91	1.01	1.01
18.5	19.61	1.11	1.11
23.03	22.38	-0.65	-0.65

GAS I.D. O2
 CEM: TELEDYNE 320
 RANGE: 25 %

<u>GAS VALUE</u>	<u>CEM</u>	<u>DIFF.</u>	<u>% RANGE</u>
13.94	14	0.06	0.24
4.99	5.06	0.07	0.28
0	0.03	0.03	0.12

SCOTT

AIR GAS

NO2

CO

TE MODEL 48C

GAS I.D. RANGE: 100 PPM

<u>GAS VALUE</u>	<u>CEM</u>	<u>DIFF.</u>	<u>% RANGE</u>
57.2	56.67	-0.53	-0.53
30.3	30.05	-0.25	-0.25
0	0	0	0.00

CONTINUOUS MONITOR Q/A
 LINEARITY and DRIFT DATA
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DRIFT TEST RESULTS
 SPAN 30.3 ppm CO

RUN NO.	BEGIN	END	% RANGE	
			BEGIN	END
1-BASE	30.05	29.43	-0.25	-0.87
2-BASE	29.43	29.61	-0.87	-0.69
3-BASE	29.69		-0.61	#VALUE!
ZERO				
1-BASE	0	0.03	0.00	0.03
2-BASE	0.03	0.04	0.03	0.04
3-BASE	0.22		0.22	#VALUE!

EPA VISIBLE EMISSION OBSERVATION FORM 1

Method Used (Circle One)
 Method 9 203A 203B Other: _____

Company Name
LAKE COGEN

Facility Name

Street Address

City State Zip

Process
COMBUSTION TURBINE Unit # 142 Operating Mode 42 MW (EACH)

Control Equipment
WATER INJECTION. Operating Mode

Describe Emission Point
TWO STACKS

Height of Emiss. Pt. Start 90 FT End 80 FT Height of Emiss. Pt. Rel. to Observer Start 90 FT End 80 FT

Distance to Emiss. Pt. Start 400 FT End 400 FT Direction to Emiss. Pt. (Degrees) Start 300° End 300°

Vertical Angle to Obs. Pt. Start 14° End 14° Direction to Obs. Pt. (Degrees) Start 300° End 300°

Distance and Direction to Observation Point from Emission Point Start 2 DIA UP End 2 DIA UP

Describe Emissions Start NOT VISIBLE End NOT VISIBLE

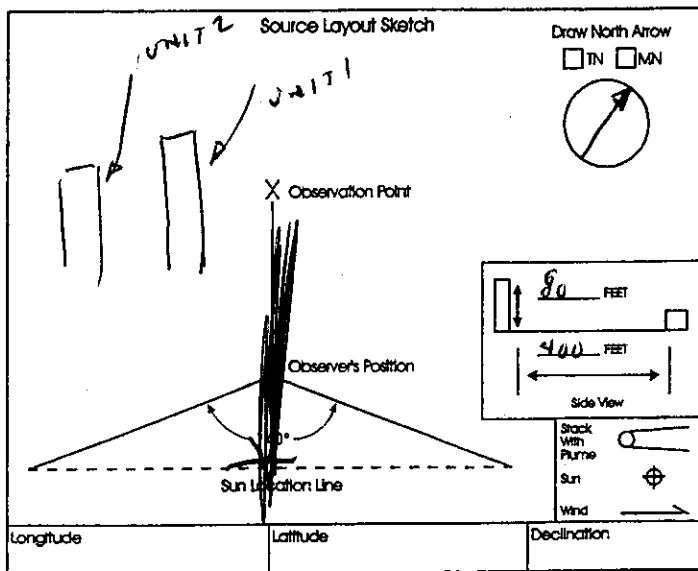
Emission Color Start NONE End NONE Water Droplet Plume Attached Detached None

Describe Plume Background Start SKY End SKY

Background Color Start BLUE End BLUE Sky Conditions Start P.C.I. End P.C.I.

Wind Speed Start 3-5 End 3-5 Wind Direction Start NE End NE

Ambient Temp. Start 80° End 80° Wet Bulb Temp. RH Percent



Additional Information

Form Number _____ Page _____ Of _____

Continued on YEO Form Number _____

Observation Date		Time Zone				Start Time	End Time
21-MAY-02						1:00	1:12
Min	Sec	0	15	30	45	UNIT Comments	
01	0	0	0	0	0		
12	0	0	0	0	0		
23	0	0	0	0	0		
34	0	0	0	0	0		
45	0	0	0	0	0		
56	0	0	0	0	0		
67	0	0	0	0	0		
78	0	0	0	0	0		
89	0	0	0	0	0		
910	0	0	0	0	0		
1011	0	0	0	0	0		
1112	0	0	0	0	0		
1213	0	0	0	0	0		
14						UNIT 2	
15	0	0	0	0	0		
16	0	0	0	0	0		
17	0	0	0	0	0		
18	0	0	0	0	0		
19	0	0	0	0	0		
20	0	0	0	0	0		
21	0	0	0	0	0		
22	0	0	0	0	0		
23	0	0	0	0	0		
24	0	0	0	0	0		
25	0	0	0	0	0		
26	0	0	0	0	0		
27	0	0	0	0	0		
28							
29							
30							

Observer's Name (Print) GARRY RUBENSKI

Observer's Signature [Signature] Date 5/21/02

Organization FDEP

Certified By ETA Date 2/21/02