Los Alamos
NATIONAL LABORATORY
EST 1943

Associate Directorate for Technical Services
P.O. **Box** 1663, A104
Los Alamos, New Mexico 87545
505-667-0079/Fax 505-665-1812

Date: January 19, 2005
Refer To: ADTS:05-002

Program Manager, Compliance & Enforcement Section
New Mexico Environment Department
Air Quality Bureau
2048 Galisteo Street
Santa Fe, New Mexico 87505

Ref: P100 (IDEA/Tempo ID No. 856)

Dear Sir or Madam:

Attached is a copy of Los Alamos National Laboratory's Title V Operating Permit semi-annual monitoring report for the period **July 1 - December 31, 2004.** This submission is required by permit condition 4.2 **of** NMED Operating Permit P100 dated April 30, 2004, and is transmitted within the allowed 45 days after the end of the reporting period as specified in permit condition 4.3.

If you have any questions or comments regarding this submittal or would like to discuss the submittal in greater detail, please contact Steve Story at 665-2169.

Sincerely,

Carolyn A. Mangeng

Carolyn A. Mangeng
Associate Directorfor Technical Services

SLS:alb

Enc: a/s

cy:
S. Fong, DOE-LA-AO, A316
K. Benally, DOE-LA-AO, A316
K. Hargis, ENV-DO, J591
D. Stavert, ENV-DO, J591
J. Dewart, ENV-MAQ, 5978
D. Wilburn, ENV-MAQ, J978
S. Story, ENV-MAQ, J978
P. Wardwell, LC-ESH, A187
D. Plante, SSS-AE-V02, A199
ADTS File
ENV-MAQ Title V Monitoring Report File
ENV-MAQ Reading File

Los Alamos National Laboratory
Operating Permit P100
Semi-Annual Monitoring Report
July 1 – December 31,2004

Identifying Information

Source Name: Los Alamos National Laboratory County: Los Alamos

Source Address:
City: Los Alamos State: NM Zip Code: 87545

Responsible Official: Carolyn A. Mangeng Ph No. (505) 667-0079 Fax No. (505) 665-1812
Technical Contact: Steven L. Story Ph No. (505) 665-2169 Fax No. (505) 665-8858
Principal Company Product or Business: National Security and Nuclear Weapons Research Primary SIC Code: 9711

Permit No. P100 {IDEA/Tempo ID No. 8561 Permit Issued Date: April 30,2004

Certification of Truth, Accuracy, and Completeness

I, Carolyn A. Mangeng certify that, based on information and belief formed after reasonable inquiry, the statements and information contained in the attached semi-annual compliance certification are true, accurate, and complete.

Signature Carolyn Mangeng Date: 1/19/05

Title: Associate Director (Acting), Technical Services Directorate

Los Alamos National Laboratory
Operating Permit P100
Semi-Annual Monitoring Report
July 1 – December 31,2004

1. Asphalt Production

Permit condition 2.1.4.1: Perform monthly six (6) minute opacity readings for each emission point having opacity greater than zero as determined by EPA Method 22.

Permit condition 2.1.4.2: Monitor the differential pressure (inches of water) across the baghouse by the use of a differential pressure gauge, in accordance with condition IV.C.2 of NSR permit number GCP-3-2195G.

Permit condition 2.1.4.3: 40 CFR Part 60, Appendix A, Method 9 shall be used to determine compliance with the opacity limitation.

- Construction of the new BDM asphalt plant began in February, but was stopped for the spotted owl nesting season. Construction resumed in October, but was not completed in 2004; no monitoring performed.

2. Beryllium Activities

Registered Beryllium Sources

Chemistry and Metallurgy Research Facility TA-3-29

Permit condition 2.2.4: A log shall be maintained during operations which indicate the number of Be samples processed.

Sigma Facility TA-3-66

Permit condition 2.2.4: A log shall be maintained during operations which show the number of metallographic specimens used in the polishing operation and the weight of Be samples processed in the electroplating / chemical milling, machining, and arc melting/casting operations.

TA-16-207

Permit condition 2.2.4: Project files shall be maintained of components prepared for testing.

TA-35-87

Permit condition 2.2.4: A log shall be maintained during operations which show the number of beryllium filters cut.

- Registered beryllium sources; log books are available on-site for NMED inspection.

TA-3-141 Permitted Source

Permit Condition 2.2.4: Facility exhaust stack will be equipped with a continuous emission monitor used to measure beryllium emissions.

Quarterly Stack Continuous Emission Monitor Reports

Quarter	Submitted to NMED
Second Quarter Report	RRES-MAQ:04-249, dated July 29.2004
Third Quarter Report	RRES-MAQ:04-369, dated November **8,2004**

Permit Condition 2.2.4: Cartridge and HEPA filters will be equipped with differential pressure gauges that measure the differential pressure across the cartridge and HEPA filters while the exhaust fans are in operation.

- Cartridge and HEPA filters are equipped with differential pressure gauges to read differential pressure across the filters.

TA-35-213 Permitted Source

*Permit Condition 2.2.4: Records of the stack emission test results (see Condition **2** of NSR Permit No. 632) and other data needed to determine total emissions shall be retained at the source and made available for inspection by the Department.*

- Records of stack emission test results are maintained on-site and available for NMED inspection.

TA-55-PF-4 Permitted Source

*Permit Condition 2.2.4: The HEPA filtration systems shall be equipped with **a** differential pressure gauge that measures the differential pressure (inches of water) across the HEPA filters while the exhaust fans are in operation.*

- The HEPA filtration system is equipped with a differential pressure gauge that measures the differential pressure across the HEPA filters.

*Permit Condition **2.2.4:** Control efficiency shall be verified by daily HEPA filter pressure drop tests and annual HEPA filter challenge tests of accessible filters.*

Summary of HEPA Filter Test Results

Unit	Date	Pass/Fail
100 Area Glovebox Exhaust	**6/3/2004**	**Pass**
300 Area Glovebox Exhaust	**9/22/2004**	**Pass**

3. Boilers and Heaters

Permit condition 2.3.4.1 [Emission units TA-21-357-1, TA-21-357-2, and TA-21-357-3]: A volumetric flow meter shall be utilized to measure the total amount of natural gas being used on a monthly basis.

Permit condition 2.3.4.2: Emission units TA-55-6-BHW-1 and TA-55-6-BHW-2: A volumetric flow meter shall be utilized to measure the total amount of natural gas being used on a monthly basis.

- Volumetric flow meters are utilized to measure the total amount of natural gas being used on **a** monthly basis for emission units *TA-21-357-1, TA-21-357-2, TA-21-357-3, TA-55-6-BHW-1 and TA-55-6-BHW-2.* Natural gas usage records are available on-site for NMED inspection.

*Permit condition 2.3.4.3: **40** CFR Part 60, Appendix A, Method 9 shall be used to determine compliance with the opacity limitation.*

Source	Date	Time	Opacity
TA-21-357 Boiler No. 2	1212012004	11:40 – 12:40	3.25 %
TA-21-357 Boiler No. 2	1212112004	15:45 – 16:05	3.25 %
TA-21-357 Boiler No. 3	1212212004	14135– 14:55	4.625 %

4. Carpenter Shops, TA-3-38 & TA-15-563

Permit condition 2.4.4.1: Thepermittee shall maintain logs of the hours the carpenter shops are in operation.

- A logbook is maintained of the hours of operation at the TA-3-38 shop and is available on-site for NMED inspection. The TA-15-563 carpenter shop has not operated.

5. Chemical Usage

Permit condition 2.5.4.1: Maintain records of chemical purchasing through facility-wide chemical tracking system, and use the data to calculate the emissions on a semiannual basis in accordance with Condition 4.1.

- Records are maintained in LANL's ChemLog database. The data will be used to calculate emissions and will be submitted in the semi-annual emissions report.

6. Degreasers

Permit condition 2.6.4.1: Record the amount of solvent added to the degreaser, and calculate the emissions on a semiannual basis in accordance with Condition 4.1.

Permit condition 2.6.4.2: Complete checklist for work practice standards.

- Records of solvent added to the degreaser and completed work practice checklists are maintained on-site and are available for NMED inspection.

7. Internal Combustion Sources

Stationary Standby Generators

Permit condition 2.7.4: Track and record hours of operation for stationary standby generators on a semiannual basis.

- Records tracking generator hours of operation are maintained on-site and are available for NMED inspection.

TA-33-G-1 Diesel Fired Generator

Permit condition 2.7.4: TA-33-G-1 Track hourly and 12-month rolling total kWh.

Permit condition 2.7.4: Record hours of operation and the time operation begins and ends each day.

Permit condition 2.7.4.1: 40 CFR Part 60, Appendix A, Method 9 shall be used to determine compliance with the opacity linzitation.

- Installation of the TA-33-G-1 generator was not completed in 2004. No monitoring performed this period

8. Paper Shredder, TA-52-11

*Permit condition 2.8.4.1: The permittee shall maintain a log of the number of boxes of media that are shredded and calculate the emissions on a semiannual basis in accordance with Condition **4.1.***

- The number of boxes of media shredded is recorded in a logbook and is available for NMED inspection. Actual number of boxes shredded and emissions are included in LANL's semi-annual emission report.

9. Power Plant at Technical Area 3 (TA-3-22)

*Permit condition **2.9.4.1**: A volumetric flow meter shall be installed and utilized to measure the total amount of natural gas being used on a daily basis.*

*Permit condition **2.9.4.2:** Total fuel oil consumption shall be monitored on a monthly basis.*

*Permit condition **2.9.4.3:** If total natural gas used exceeds 3,400 MMscf per **365** day rolling total, semiannual compliance stack tests shall be conducted **for** NOx and CO from each unit in accordance with **NSR** permit 2195**B.** This testing shall continue until natural gas usage is calculated to be less than **3,400** MMscf per **365** day rolling total for a total of 730 consecutive days.*

- Daily natural gas and monthly fuel oil usage records are available on-site for NMED inspection. Since LANL did not exceed 3,400 MMscf per 365 days, semiannual compliance testing is not required.
  - On July 30, 2004, NSR permit 2195BM1 was issued, which reduced the natural gas use limit from 4,000 MMscf to 2,000 MMscf per 365 day rolling total. Due to this reduced gas use limit, permit condition 2.9.4.3 no longer applies.

*Permit condition **2.9.4.4:** 40 CFR Part 60, Appendix A, Method **9** shall be used to determine compliance with the opacity limitation.*

Opacity Test Result Summary (forms attached)

Source	Date	Time	Opacity
TA-3-22 Power Plant	8/24/2004	9:35	0.125 %
TA-3-22 Power Plant	8/24/2004	10:00	0
TA-3-22 Power Plant	8/24/2004	10:45	0
TA-3-22 Power Plant	8/24/2004	10:59	0.75 %
TA-3-22 Power Plant	8/24/2004	11:14	6.5 %
TA-3-22 Power Plant	8/24/2004	11:44	1.75 %

TA-3-22 Power Plant	8/24/2004	12:28	0.75 %
TA-3-22 Power Plant	8/24/2004	1:06	1.25 %
TA-3-22 Power Plant	8/24/2004	3:40	0.548 %
TA-3-22 Power Plant	9/28/2004	11:58	0.125 %
TA-3-22 Power Plant	9/28/2004	12:10	0
TA-3-22 Power Plant	9/28/2004	12:22	0
TA-3-22 Power Plant	10/13/2004	10:34	3.375 %
TA-3-22 Power Plant	10/20/2004	10:43	0
TA-3-22 Power Plant	10/26/2004	1:20	6.125 %
TA-3-22 Power Plant	11/3/2004	10:17	5.375 %
TA-3-22 Power Plant	11/8/2004	7:42	1.375 %
TA-3-22 Power Plant	12/9/2004	8:10	0.25 %
TA-3-22 Power Plant	12/9/2004	9:04	3.25 %

10. Rock Crusher, TA-21-RC, Portable

Permit condition 2.10.4.1: A compliance test to measure fugitive particulate emissions shall be conducted within 60 days of initial startup, in accordance with the requirements in NSR permit 2195.

Permit condition 2.10.4.2: 40 CFR Part 60, Appendix A, Method 9 shall be used to determine compliance with the opacity limitation.

- **LANL** submitted a letter to NMED on June 10,2004 providing notification that **LANL** will not operate the **rock** crusher. No monitoring **was** performed.

FOR INFORMATION ONLY

CONTROL AND EXECUTION OF TA-55 SAFETY SYSTEM LCOs AND SURVEILLANCES

ATTACHMENT E

Surveillance / Training Checklist

instruction Title: 300 Area Glovebox Exhaust In Place HEPA Filter Testing

Instruction #: TA55-TSR-104C-R01

Date of issue: 9/22/04

Working copy issued to: Bart Ortiz

Working copy issued by: AI &...

(Certified Operations Center operator]

Operation Center operator review:

☒ **SAT** ☐ **UNSAT**

Signature / 9/30/04 Date

Training Checklist

Personnel performing Surveillance Instruction;	Ttaining requirements current; initials	date
Bart Ortiz	BA	9/22/04
Art Herrera	AH	9/22/04

Comments:

Earliest Plenum Test was 9/22/04

FOR INFORMATION ONLY

CONTROL AND EXECUTION OF TA-55 SAFETY SYSTEM LCOs AND SURVEILLANCES

ATTACHMENT E

Surveillance / Training Checklist

Instruction Title: Area Glovebox Exhaust In-Place HEPA Filter Testing

Instruction #: TA-55-TSR-104A-R01

Date of issue: 6/3/04

Working copy issued to: L. J. Bornstein

Working copy issued by: A. J. Huff
[Certified Operations Center operator]

Operation Center operator review:

☑ SAT ☐ UNSAT

Signature / Date: 6-3-2004

Signature Date

Training Checklist

Personnel performing Surveillance Instruction;	Training requirements current; initials	date
Harry Bornstein		6/3/04
Art Herrera		6/3/04
Ricky Lopez		6/3/04
Michael Irish		6/3/04
Paul Trujillo		6/3/04

Comments:

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: TA-3-22 Power Plant
OBSERVATION DATE: 8/24/04
START TIME: 9:35
STOP TIME: 9:75
LOCATION: Los Alamos, NM
Type of Source: Power Plant
Type of Control Equipment: N/A
Describe Emission Point (top of stack, etc.): Center Top of Stack
Height Above Ground Level: 60 Feet
Height Relative to Observer: 60 Feet
Distance from Observer: 200 Yards
Direction from Observer: N. West
Description of Plume (stack exit only): ☒ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation
Emission Color: Clear
Plume Type: ☐ Continuous ☐ Fugitive ☒ Intermittent
Water Droplets Present? ☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined? 1 foot above 1 Dy of Stack
Describe Background (i.e., blue sky, trees, etc.): Blue Sky
Background Color: Blue
Sky Conditions: Mostly Cloudy
Wind Speed: 05 mph
Wind Direction (i.e., from North to South): S.S.E.
Ambient Temperature: 5.4 °C
Wet Temperature: -0.6 °C
Relative Humidity: 63 %

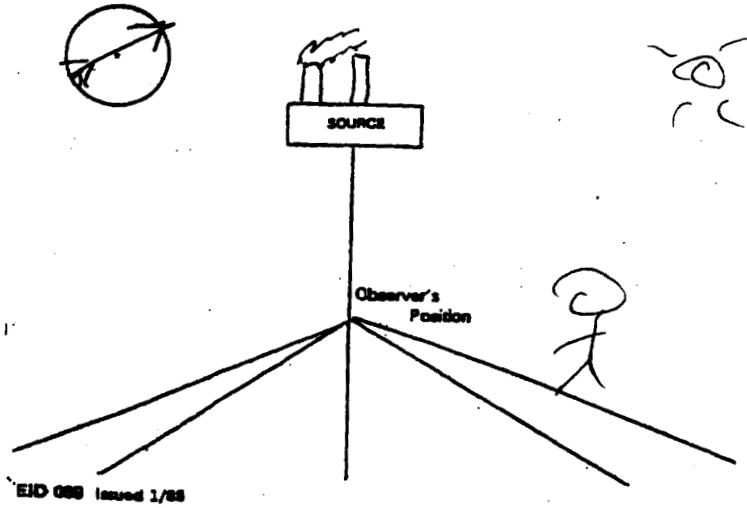
Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	0	0	0	13				
2	0	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6	0	0	0	0	18				
7	0	0	0	0	19				
8	0	0	0	0	20				
9	5	0	0	0	21				
10	0	0	0	0	22				
11					23				
12					24				

COMMENTS: #1 Burner On
0.1
#1 Boiler

Average Opacity: 0.125
Range of Opacity Readings: Min.: 0 Max.: 5
OBSERVER (please print) Name: David Plash Title: Env. Sci.
Signature: David Plash Date: 8/24/04
Organization: ESH-17 Certification Date: 2/04

Draw Arrow in North Direction

IMPORTANT: Please indicate the following by sketch:



I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 088 Issued 1/88

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: TA-3-22 Power Plant
LOCATION: Los Alamos, NM
OBSERVATION DATE: 8/24/04
START TIME: 10:00
STOP TIME: 10:30

Type of Source: Power Plant
Type of Control Equipment: N/A
Describe Emission Point (top of stack, etc.): Top of Stack
Height Above Ground Level: 60 Feet
Height Relative to Observer: 0 Feet
Distance from Observer: 200 Yards
Direction from Observer: N. West
Description of Plume (stack exit only): ☒ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation
Emission Color: Clear
Plume Type: ☒ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present? ☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined? Above Top of Stack
Describe Background (i.e. blue sky, trees, etc.): Blue Sky
Background Color: Blue/White
Sky Conditions: Partly Cldy.
Wind Speed: 0-5 mph
Wind Direction (i.e. from North to South): S. / S. East
Ambient Temperature: 5.9 °C
Wet Temperature: 2.0 °C
Relative Humidity: 62 %

COMMENTS: #2 Burner on Oil
#1 Boiler

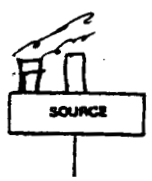
Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	0	0	0	13				
2	0	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6	0	0	0	0	18				
7	0	0	0	0	19				
8	0	0	0	0	20				
9	0	0	0	0	21				
10	0	0	0	0	22				
11					23				
12					24				

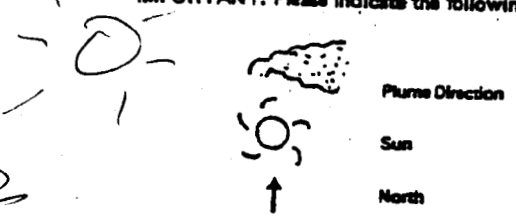
Average Opacity: 0
Range of Opacity Readings: Min.: 0 Max.: 0

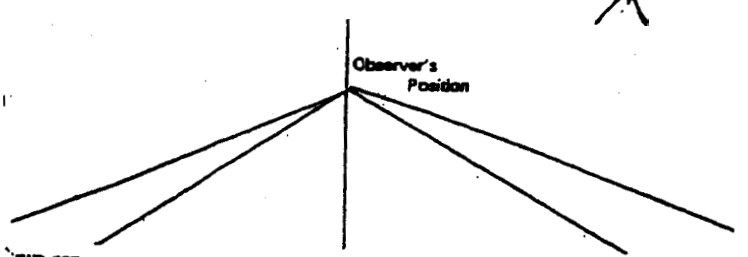
OBSERVER (please print)
Name: David Clark Title: Env. Scientist
Signature: David Clark Date: 8/24/04
Organization: ESA-AIR Certification Date: 7/04

Draw Arrow in North Direction

IMPORTANT: Please indicate the following by sketch:







I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 069 Issued 1/86

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: TA-3-22 Power Plant
LOCATION: Los Alamos, NM
Type of Source: Cogen Plant
Type of Control Equipment: N/A
Describe Emission Point (top of stack, etc.): Top of Stack
Height Above Ground Level: 60 Feet
Height Relative to Observer: 62 Feet
Distance from Observer: 200 Yards
Direction from Observer: N-West
Description of Plume (stack exit only): ☒ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation
Emission Color: Clear
Plume Type: ☒ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present? ☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined? At above Top of Stack
Describe Background (i.e. blue sky, trees, etc.): Blue Sky
Background Color: Blue
Sky Conditions: Partly Cldy
Wind Speed: 5-10 mph
Wind Direction (i.e. from North to South): West / Southwest
Ambient Temperature: 6.3 °C
Wet Temperature: -0.4 °C
Relative Humidity: 62 %

OBSERVATION DATE: 8/24/04
START TIME: 10:45
STOP TIME: 10:55

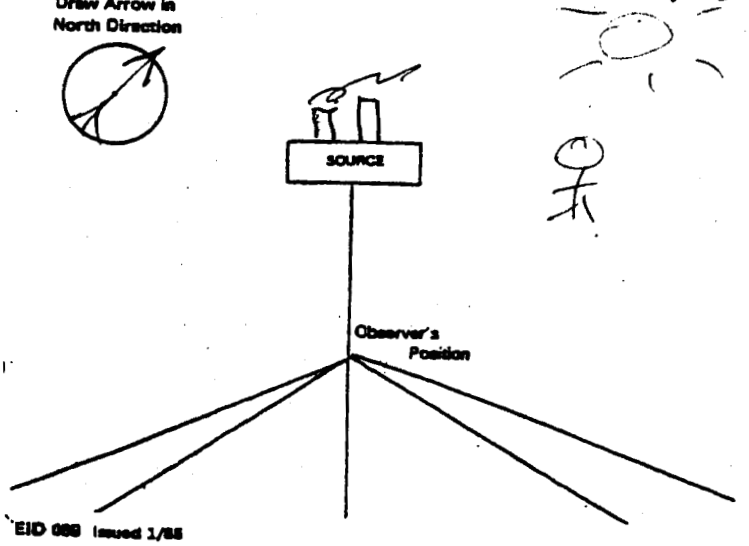
Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	0	0	0	13				
2	0	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6	0	0	0	0	18				
7	0	0	0	0	19				
8	0	0	0	0	20				
9	0	0	0	0	21				
10	0	0	0	0	22				
11					23				
12					24				

COMMENTS: Re light off Burner on fuel 3rd #182

Average Opacity: 0
Range of Opacity Readings: Min.: 0 Max.: 0

OBSERVER (please print): Name: David Plate Title: Env. Sci.
Signature: David Plate
Date: 8/24/04
Organization: ESH-13/N
Certification Date: 8/04

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:

I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 088 Issued 1/88

Los Alamos National Laboratory		

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division

RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: TA-3-22 Power Plant

LOCATION: Los Alamos, NM

Type of Source: Power Plant

Type of Control Equipment: N/A

Describe Emission Point (top of stack, etc.): Top of Stack

Height Above Ground Level: 60 Feet

Height Relative to Observer: 60 Feet

Distance from Observer: 200 Yards

Direction from Observer: N. West

Description of Plume (stack exit only): ☒ Looping ☐ Fanning ☐ Coning ☐ Fumigation ☒ Lofting ☐ Trapping

Emission Color: Black

Plume Type: ☒ Continuous ☐ Fugitive ☐ Intermittent

Water Droplets Present? ☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached

At what point in the plume was opacity determined? Above Top of Stack

Describe Background (i.e. blue sky, trees, etc.): Blue Sky

Background Color: Blue

Sky Conditions: Pt. Cldy.

Wind Speed: 5-10 mph

Wind Direction (i.e. from North to South): W. S. West

Ambient Temperature: 6-8 °C

Wet Temperature: -0.3 °C

Relative Humidity: 61 %

COMMENTS: Light ash 3" Burned. Bark #1

OBSERVATION DATE: 8/24/04

START TIME: 10:59

STOP TIME: 11:09 A

Sec. / Min.	0	15	30	45	Sec. / Min.	0	15	30	45
1	0	0	0	0	13				
2	0	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	5	5	17				
6	5	5	5	5	18				
7	5	0	0	0	19				
8	0	0	0	0	20				
9	0	0	0	0	21				
10	0	0	0	0	22				
11					23				
12					24				

Average Opacity: 0.75

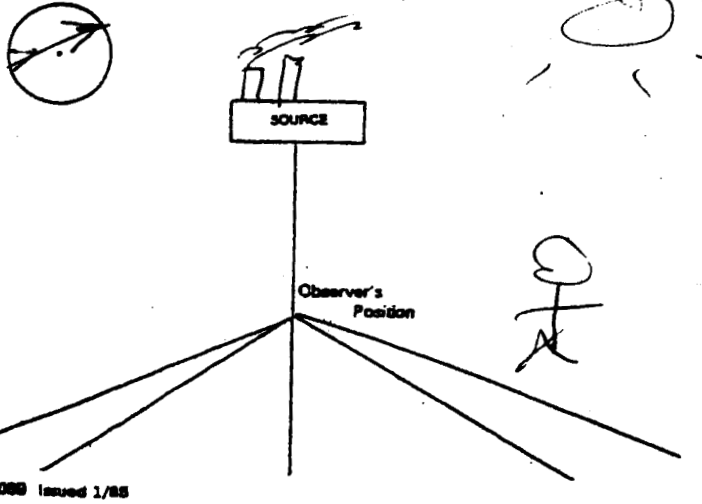
Range of Opacity Readings: Min.: 0 Max.: 10

OBSERVER (Please print) Name: Dave Plant Title: Env. Sci.

Signature: Dave Plant Date: 8/24/04

Organization: LC-ASM Certification Date: 2/04

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:

I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 089 Issued 1/85

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

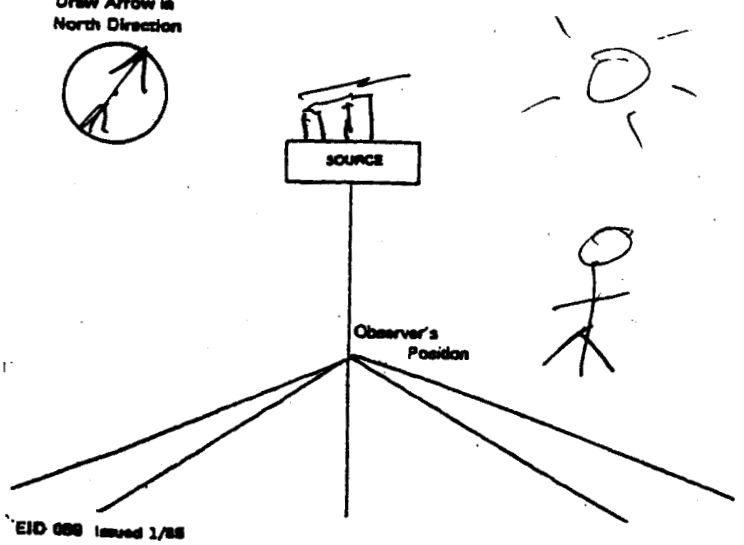
SOURCE: TA-3-22 Power Plant
LOCATION: Los Alamos, NM
Type of Source: Power Plant
Type of Control Equipment: N/A
Describe Emission Point (top of stack, etc.): Top of Stack
Height Above Ground Level: 60 Feet
Height Relative to Observer: 60 Feet
Distance from Observer: 200 Yards
Direction from Observer: N. N/W
Description of Plume (stack exit only): ☐ Looping ☐ Fanning ☒ Coning ☐ Lofting ☐ Trapping ☐ Fumigation
Emission Color: Black
Plume Type: ☐ Continuous ☒ Fugitive ☐ Intermittent
Water Droplets Present? ☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined? Above Top of Stack
Describe Background (i.e. blue sky, trees, etc.): Blue
Background Color: Blue
Sky Conditions: Partly Cldy
Wind Speed: 5-10 mph
Wind Direction (i.e. from North to South): W. to S. W
Ambient Temperature: 7.5 °C
Wet Temperature: -0.3 °C
Relative Humidity: 61 %
COMMENTS: Boiler tripped & Relight of 1-3 Burners

OBSERVATION DATE: 8/24/04
START TIME: 11:14
STOP TIME: 11:24

Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	80	90	40	40	13				
2	10	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6	0	0	0	0	18				
7	0	0	0	0	19				
8	0	0	0	0	20				
9	0	0	0	0	21				
10	0	0	0	0	22				
11					23				
12					24				

Average Opacity: 6.5
Range of Opacity Readings: Min.: 0 Max.: 90
OBSERVER (please print) Name: Dave Hart Title: Env. Spec.
Signature: Dave Hart Date: 8/24/04
Organization: ESH-ASEM Certification Date: 2/04

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:

I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 000 Issued 1/88

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: TA-72 Power Plant
OBSERVATION DATE: 8/24/04
START TIME: 11:44
STOP TIME: 11:54

LOCATION: Los Alamos, NM
Type of Source: Power Plant
Type of Control Equipment: N/A
Describe Emission Point (top of stack, etc.): Top of Stack
Height Above Ground Level: 60 Feet
Height Relative to Observer: 60 Feet
Distance from Observer: 200 Yards
Direction from Observer: W. to N.W.
Description of Plume (stack exit only): ☐ Looping ☐ Fanning ☐ Coning ☐ Lofting ☐ Trapping ☐ Fumigation
Emission Color: Black
Plume Type: ☒ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present? ☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined? Above Top of Stack
Describe Background (i.e. blue sky, trees, etc.): Blue/Grey Sky
Background Color: Blue/Grey
Sky Conditions: Partly Cldy
Wind Speed: 5-10 mph
Wind Direction (i.e. from North to South): West
Ambient Temperature: 7.7 °C
Wet Temperature: -0.4 °F
Relative Humidity: [illegible] %

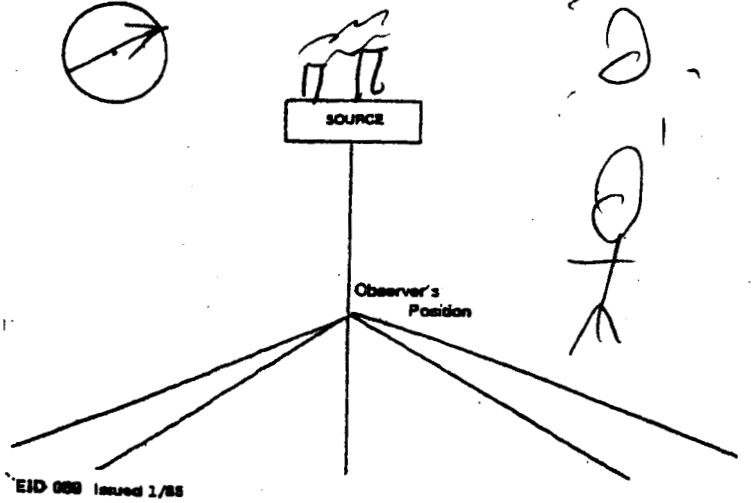
Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	0	0	0	13				
2	0	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6	0	0	0	0	18				
7	0	0	0	0	19				
8	0	0	0	0	20				
9	0	0	0	0	21				
10	0	0	0	0	22				
11					23				
12					24				

Average Opacity: 1.25
Range of Opacity Readings: Min.: 0 Max.: 40

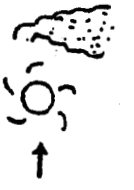
COMMENTS: Height of 1-3 Burners Bake #1

OBSERVER (please print) Name: David Plante Title: Env. Sci
Signature: [signature]
Date: 8/24/04
Organization: RSA211V
Certification Date: 2/04

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:



I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 069 Issued 1/85

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: TA-3-22 Power Plant	OBSERVATION DATE: 8/24/04
LOCATION: Los Alamos, NM	START TIME: 12:28
Type of Source: Cogen Plant	STOP TIME: 12:38
Type of Control Equipment: N/A	
Describe Emission Point (top of stack, etc.): Top of Stack	
Height Above Ground Level: 60 Feet	
Height Relative to Observer: 60 Feet	
Distance from Observer: 175 Yards	
Direction from Observer: North	
Description of Plume (stack exit only): ☒ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation	
Emission Color: Black	
Plume Type: ☒ Continuous ☐ Fugitive ☐ Intermittent	
Water Droplets Present? ☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached	
At what point in the plume was opacity determined? Top of Stack	
Describe Background (i.e. blue sky, trees, etc.): Blue Sky	
Background Color: Blue	
Sky Conditions: Ptly. Cldy	
Wind Speed: 5-10 mph	
Wind Direction (i.e. from North to South): W to W	
Ambient Temperature: 8.9 °C	
Wet Temperature: -0.2 °C	
Relative Humidity: 54 %	

Sec. / Min.	0	15	30	45	Sec. / Min.	0	15	30	45
1	0	0	0	0	13				
2	0	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6	0	0	0	0	18				
7	0	0	0	0	19				
8	0	0	0	0	20				
9	0	0	0	0	21				
10	0	0	0	0	22				
11					23				
12					24				

COMMENTS: Light Plume Burden

Average Opacity: 0.75

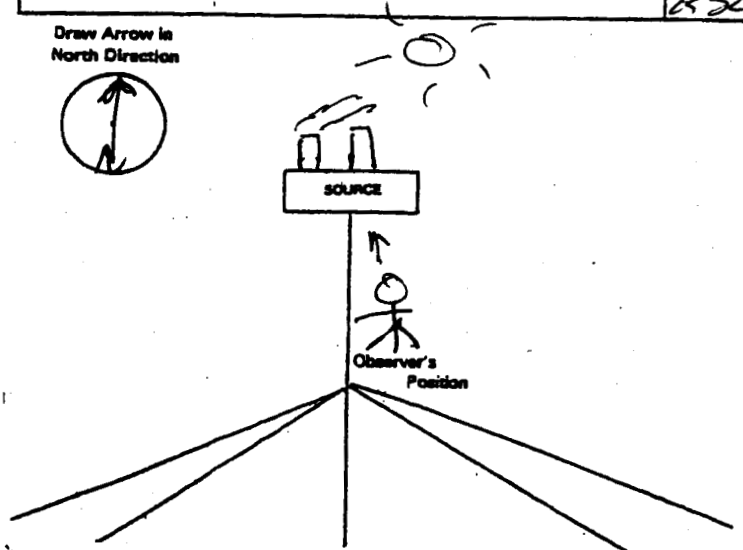
Range of Opacity Readings: Min.: 0 Max.: 20

OBSERVER (please print): Name: Don Hunt Title: Env. Sp.

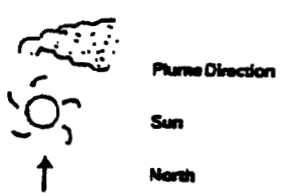
Signature: Don Hunt Date: 8/24/04

Organization: LSL-A3XV Certification Date: 2/04

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:



I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 688 Issued 1/88

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

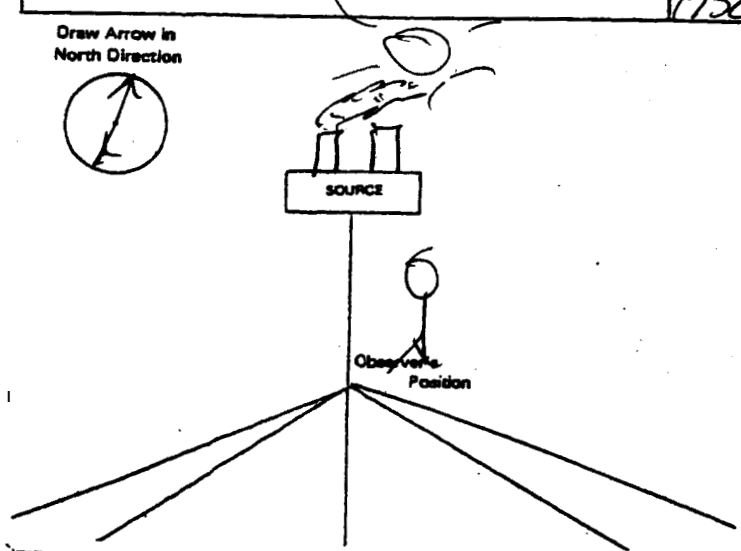
SOURCE: TA-22 Power Plant
OBSERVATION DATE: 8/24/04
START TIME: 1:06
STOP TIME: 1:76
LOCATION: Los Alamos, NM
Type of Source: Power Plant
Type of Control Equipment: N/A
Describe Emission Point (top of stack, etc.): Top of Stack
Height Above Ground Level: 60' Feet
Height Relative to Observer: 60' Feet
Distance from Observer: 175 Yards
Direction from Observer: To North
Description of Plume (stack exit only): ☒ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation
Emission Color:
Plume Type: ☒ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present? ☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined? Above Stack Top
Describe Background (i.e. blue sky, trees, etc.): Blue Sky w/ Clouds
Background Color: Gray/Blue
Sky Conditions: Partly Cldy
Wind Speed: 5-10 mph
Wind Direction (i.e. from North to South): S./S.West
Ambient Temperature: 9.0 °C
Wet Temperature: -1.0 °C
Relative Humidity: 50 %

Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	20	20	10	0	13				
2	0	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6	0	0	0	0	18				
7	0	0	0	0	19				
8	0	0	0	0	20				
9	0	0	0	0	21				
10					22				
11					23				
12					24				

COMMENTS: 2 Burners Tripped at Height of 283 Burners

Average Opacity: 1.25
Range of Opacity Readings: Min.: 0 Max.: 20
OBSERVER (please print): Name: David Plaut Title: Tech. Sr.
Signature: David Plaut Date: 8/24/04
Organization: RE-ASM Certification Date: 2/04

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:

I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 088 Issued 1/88

VISIBLE EMISSION OBSERVATION FORM

Pg. 1 of 2

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: 1322 Power Plant
OBSERVATION DATE: 8/24/04
START TIME: 3:40
STOP TIME: —

LOCATION: Los Alamos, NM

Sec. / Min.	0	15	30	45	Sec. / Min.	0	15	30	45
1	0	0	0	0	13	0	0	0	0
2	0	0	0	0	14	0	0	0	0
3	0	0	0	0	15	0	0	0	0
4	0	0	0	0	16	0	0	0	0
5	0	0	0	0	17	0	0	0	0
6	0	0	0	0	18	0	0	0	0
7	0	0	0	0	19	0	0	0	0
8	0	0	0	0	20	0	0	0	0
9	0	0	0	0	21	0	0	0	0
10	0	0	0	0	22	0	0	0	0
11	0	0	0	0	23	0	0	0	0
12	0	0	0	0	24	0	0	0	0

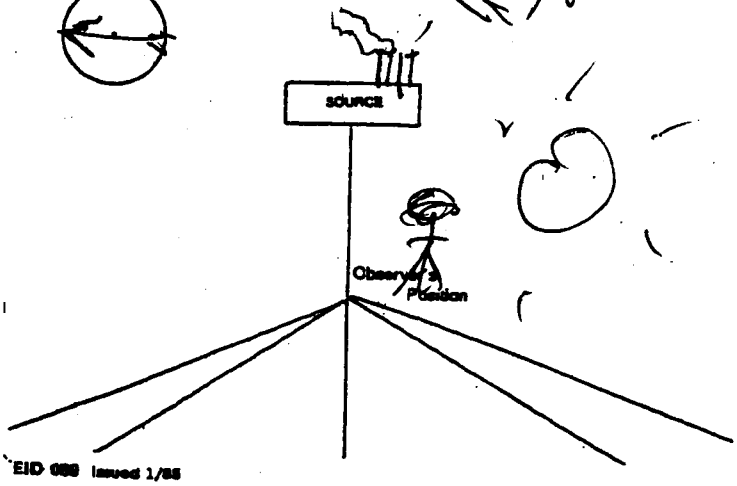
Type of Source: Power Plant
Type of Control Equipment: N/A
Describe Emission Point (top of stack, etc.): Top of Stack
Height Above Ground Level: 60 Feet
Height Relative to Observer: 60 Feet
Distance from Observer: 10 Yards
Direction from Observer: To the East
Description of Plume (stack exit only): ☒ Looping ☐ Fanning ☐ Coning ☐ Fumigation ☒ Lofting ☐ Trapping
Emission Color: Black
Plume Type: ☒ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present? ☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined? 1' Above Stack
Describe Background (i.e. blue sky, trees, etc.): Cloudy Sky
Background Color: Blue/Gray
Sky Conditions: Cloudy
Wind Speed: 5-10 mph
Wind Direction (i.e. from North to South): From West
Ambient Temperature: 16.1 °C
Wet Temperature: -3.1 °C
Relative Humidity: 32 %

COMMENTS: Start/Stop of Burn 1-3 from out to Natural Gas

Average Opacity: See Pg. 2
Range of Opacity Readings: Min.: 0 Max.: 10

OBSERVER (please print): Name: Dan D Plute Title: Env. Sci
Signature: Dan D Plute Date: 8/24/04
Organization: ESX-ASV Certification Date: 2/'04

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:

I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 000 Issued 1/88

VISIBLE EMISSION OBSERVATION FORM

Pg. 2 of

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: TA 3-22 Power Plant
OBSERVATION DATE: 8/24/04
START TIME: 3:40
STOP TIME: 4:21

LOCATION: Los Alamos, NM

Type of Source	Type of Control Equipment
Power Plant	N/A

Describe Emission Point (top of stack, etc.): Top of Stack

Height Above Ground Level	Height Relative to Observer
60 Feet	20 Feet

Distance from Observer	Direction from Observer
100 Yards	To East

Description of Plume (stack exit only): ☒ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation

Emission Color	Plume Type
Black	☒ Continuous ☐ Fugitive ☐ Intermittent

Water Droplets Present? ☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached

At what point in the plume was opacity determined? Top of Stack

Describe Background (i.e. blue sky, trees, etc.): Blue Hazy sky

Background Color	Sky Conditions
Hazy	Partly Cloudy

Wind Speed	Wind Direction (i.e. from North to South)
5-10 mph	From West

Ambient Temperature	Wet Temperature	Relative Humidity
10.2 °C	-2.1 °C	36 %

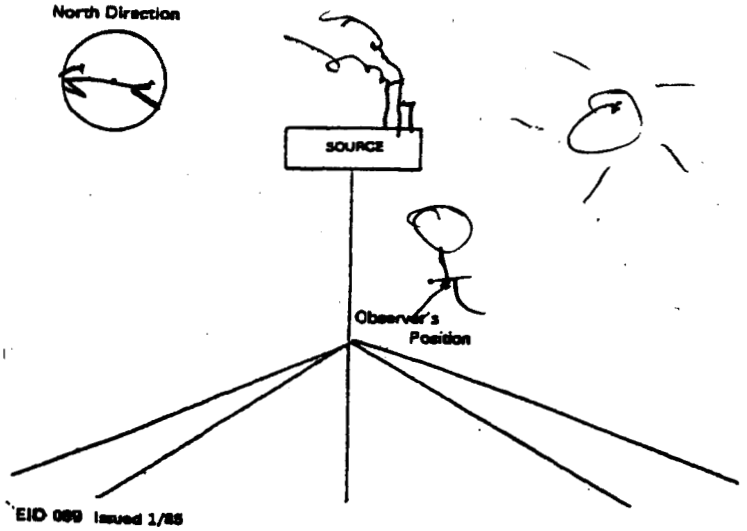
COMMENTS: Shutdown of Burners 1-3 from fuel oil to gas

Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	5	0	0	13	0	0	0	0
2	0	0	0	0	14	0	0	0	0
3	0	0	0	0	15	5	0	0	0
4	0	0	0	0	16	0	0	0	0
5	0	0	0	0	17	0	0	0	0
6	0	0	0	0	18				
7	0	0	0	0	19				
8	0	0	0	0	20				
9	0	0	0	0	21				
10	0	0	0	0	22				
11	0	0	0	0	23				
12	0	0	0	0	24				

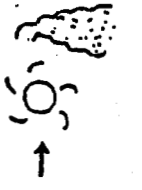
Average Opacity: 0.548
Range of Opacity Readings: Min.: 0 Max.: 10

OBSERVER (please print) Name: [illegible] Title: Gen Sci
Signature: [signature]
Date: 8/24/04
Organization: BSL-RSAL
Certification Date: 2/04

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:



I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 069 Issued 1/85

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: TA-22 Power Plant
LOCATION: Los Alamos, NM
Type of Source: Cogen Plant
Type of Control Equipment: N/A
Describe Emission Point (top of stack, etc.): Top of Stack
Height Above Ground Level: 70 Feet
Height Relative to Observer: 70 Feet
Distance from Observer: 700 Yards
Direction from Observer: to N. West
Description of Plume (stack exit only): ☒ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation
Emission Color: Clear
Plume Type: ☒ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present? ☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined? Above Stack
Describe Background (i.e. blue sky, trees, etc.): Cloudy Sky
Background Color: Lt. Gray
Sky Conditions: Mostly Cldy.
Wind Speed: 10-15 mph
Wind Direction (i.e. from North to South): from S. to S.W.
Ambient Temperature: 14.6 °C
Wet Temperature: 5.9 °C
Relative Humidity: 56 %

COMMENTS: Light off Burner #2 on Boiler 2. Scrubber Burner Tripped off Boiler 5 Also.

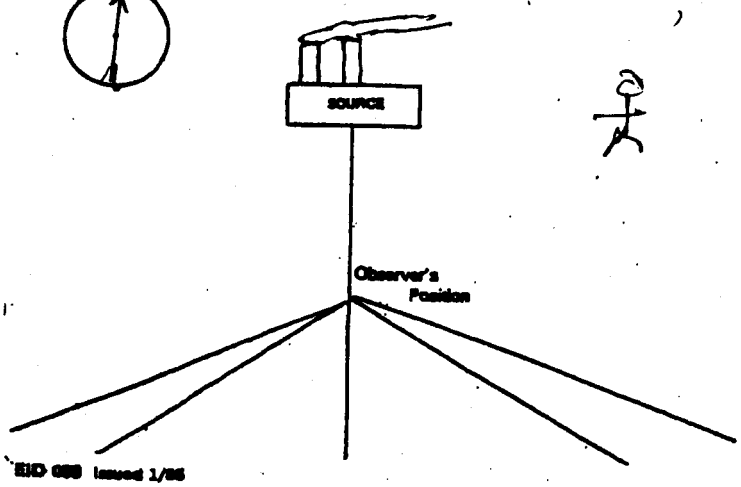
OBSERVATION DATE: 9/8/04
START TIME: 11:36
STOP TIME: 11:41

Sec. / Min.	0	15	30	45	Sec. / Min.	0	15	30	45
1	0	0	0	0	13				
2	0	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6					18				
7					19				
8					20				
9					21				
10					22				
11					23				
12					24				

Average Opacity: 0
Range of Opacity Readings: Min.: 0 Max.: 0

OBSERVER (please print) Name: David Plate Title: Eng. Sc.
Signature: David Plate Date: 9/25/04
Organization: EES-ASM Certification Date: 8/04

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:

I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 699 Issued 1/86

SOURCE: TA 3.22 Power Plant
LOCATION: Los Alamos, NM
Type of Source: Power Plant
Type of Control Equipment: N/A
Describe Emission Point (top of stack, etc.): Top of Stack
Height Above Ground Level: 70 Feet
Height Relative to Observer: 70 Feet
Distance from Observer: 200 Yards
Direction from Observer: N. West
Description of Plume (stack exit only): ☒ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation
Emission Color: Clear
Plume Type: ☒ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present? ☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined? 1 above Stack
Describe Background (i.e. blue sky, trees, etc.): Gray Sky
Background Color: Gray
Sky Conditions: Cloudy
Wind Speed: 03 mph
Wind Direction (i.e. from North to South): South
Ambient Temperature: 5.8 °C
Wet Temperature: 3.6 °C
Relative Humidity: 85 %
COMMENTS: Light Burner #1 on Boiler #1

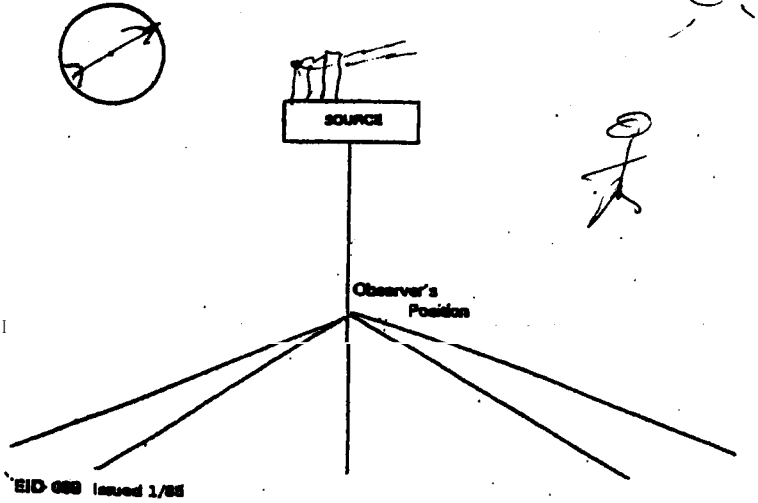
OBSERVATION DATE: 10/13/04
START TIME: 10:34
STOP TIME: 10:58

Sec. / Min.	0	15	30	45	Sec. / Min.	0	15	30	45
1	0	0	0	0	13	0	0	0	0
2	0	0	0	0	14	10	10	10	10
3	0	0	0	0	15	10	10	10	10
4	0	0	0	0	16	10	10	10	10
5	0	0	0	0	17	5	5	5	0
6	0	0	0	0	18	0	0	0	0
7	0	0	0	0	19	0	0	0	0
8	0	0	0	0	20	0	0	0	0
9	0	0	0	0	21	0	0	0	0
10	0	0	0	0	22	0	0	0	0
11	0	0	0	0	23	0	0	0	0
12	0	0	0	0	24	0	0	0	0

Average Opacity: 3.375
Range of Opacity Readings: Min.: 0 Max.: 10

OBSERVER (please print) Name: David Planke Title: Env. Sci.
Signature: David Planke Date: 10/13/04
Organization: ESC-AEN Certification Date: 8/04

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:

I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____
Title: _____
Date: _____

EID-069 Issued 1/85

RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE	#1 Boiler (Fuel oil)
LOCATION	TA-3 SM 22 Power Plant
Type of Source	#2 Fuel Oil
Type of Control Equipment	Bailey Controls
Describe Emission Point (top of stack, etc.)	1 FT Above Stack
Height Above Ground Level	Feet 70
Height Relative to Observer	Feet 90
Distance from Observer	Yards 60
Direction from Observer	South East
Description of Plume (stack exit only)	☐ Looping ☐ Fanning ☒ Coning ☐ Lofting ☐ Trapping ☐ Fumigation
Emission Color	Clear
Plume Type	☒ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present?	☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined?	Top of Stack (1 FT.)
Describe Background (i.e. blue sky, trees, etc.)	Blue Sky
Background Color	Blue
Sky Conditions	Clear (CP/C)
Wind Speed	3/5 mph
Wind Direction (i.e. from North to South)	East to West
Ambient Temperature	10.5 °C
Wet Temperature	1.L °C
Relative Humidity	45 %

OBSERVATION DATE: 10-20-04 START TIME: 10:43 STOP TIME: 11:43

Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	0	0	0	13	0	0	0	0
2	0	0	0	0	14	0	0	0	0
3	0	0	0	0	15	0	0	0	0
4	0	0	0	0	16	0	0	0	0
5	0	0	0	0	17	0	0	0	0
6	0	0	0	0	18	0	0	0	0
7	0	0	0	0	19	0	0	0	0
8	0	0	0	0	20	0	0	0	0
9	0	0	0	0	21	0	0	0	0
10	0	0	0	0	22	0	0	0	0
11	0	0	0	0	23	0	0	0	0
12	0	0	0	0	24	0	0	0	0

Average Opacity: 0 Range of Opacity Readings Min.: 0 Max.: 0

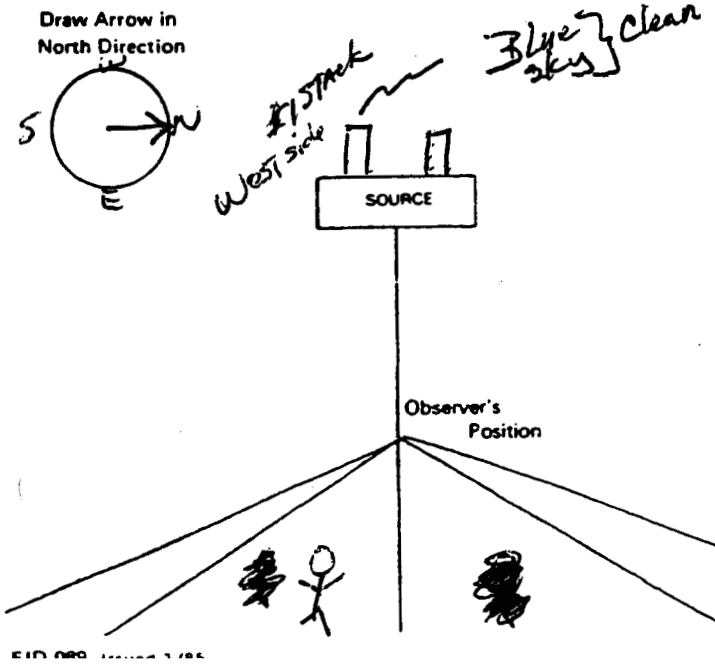
COMMENTS:
@ 1043 1 Burner ON.
@ 1055 2nd Burner ON.
@ 1100 - Boiler on auto, gas off, Full oil Burn.

OBSERVER (please print) Name: Joe Ortiz Title: Water Treatment Spec.

Signature: [signature] Date: 10-20-04

Organization: KSL Certification Date: 8/25/04

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:-

Plume Direction: North West

Sun: From the East

North

I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 089 Issued 7/95

RECORD OF VISUAL DETERMINATION OF OPACITY

2nd page

SO	
LOCATION	
Type of Source	Type of Control Equipment
Describe Emission Point (top of stack, etc.)	
Height Above Ground Level: Feet	Height Relative to Observer: Feet
Distance from Observer: Yards	Direction from Observer
Description of Plume (stack exit only) ☐ Looping ☐ Fanning ☐ Coning ☐ Lofting ☐ Trapping ☐ Fumigation	
Emission Color	Plume Type ☐ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present? ☐ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached	
At what point in the plume was opacity determined?	
Describe Background (i.e. blue sky, trees, etc.)	
Background Color	Sky Conditions
Wind Speed: mph	Wind Direction (i.e. from North to South)
Ambient Temperature: °F	Wet Temperature: °F / Relative Humidity: %
COMMENTS:	

OBSERVATION DATE: 10/20/04 | START TIME: 1043 | STOP TIME: 11:43

Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	0	0	0	13	0	0	0	0
2	0	0	0	0	14	0	0	0	0
3	0	0	0	0	15	0	0	0	0
4	0	0	0	0	16	0	0	0	0
5	0	0	0	0	17	0	0	0	0
6	0	0	0	0	18	0	0	0	0
7	0	0	0	0	19	0	0	0	0
8	0	0	0	0	20	0	0	0	0
9	0	0	0	0	21	0	0	0	0
10	0	0	0	0	22	0	0	0	0
11	0	0	0	0	23	0	0	0	0
12	0	0	0	0	24	0	0	0	0

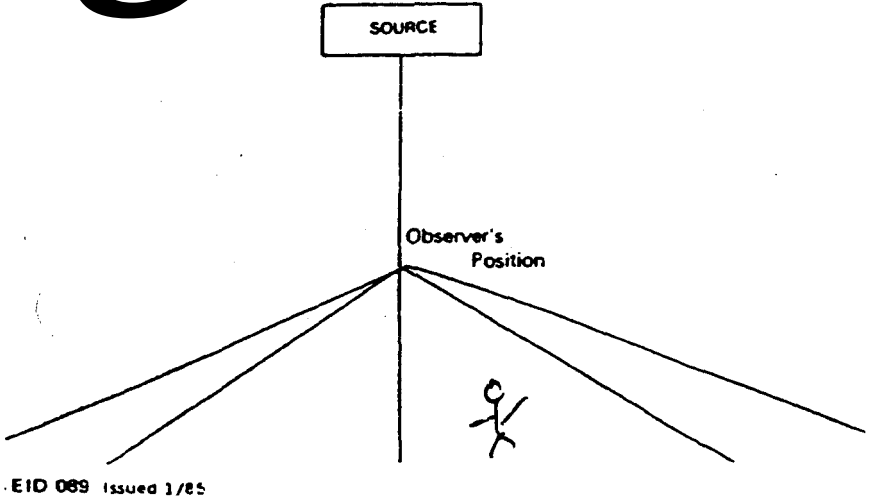
Average Opacity | Range of Opacity Readings Min.: Max.:

OBSERVER (please print) Name: Title:

Signature | O.U

Organization | Certification Date

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:

I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 089 Issued 1/85

RECORD OF VISUAL DETERMINATION OF OPACITY

3rd page

E

OBSERVATION DATE | START TIME 10:43 | STOP TIME 11:43

LOCATION

Type of Source | Type of Control Equipment

Describe Emission Point (top of stack, etc.)

Height Above Ground Level: Feet | Height Relative to Observer: Feet

Distance from Observer: Yards | Direction from Observer

Description of Plume (stack exit only) ☐ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation

Emission Color | Plume Type ☐ Continuous ☐ Fugitive ☐ Intermittent

Water Droplets Present? ☐ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached

At what point in the plume was opacity determined?

Describe Background (i.e. blue sky, trees, etc.)

Background Color | Sky Conditions

Wind Speed: mph | Wind Direction (i.e. from North to South)

Ambient Temperature: °F | Wet Temperature: °F | Relative Humidity: %

Sec. / Min.	0	15	30	45	Sec. / Min.	0	15	30	45
1	0	0	0	0	13				
2	0	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6	0	0	0	0	18				
7	0	0	0	0	19				
8	0	0	0	0	20				
9				0	21				
10	0	0	0	0	22				
11	0	0	0	0	23				
12	0	0	0	0	24				

COMMENTS:

Average Opacity: 0 | Range of Opacity Readings Min.: 0 Max.: 0

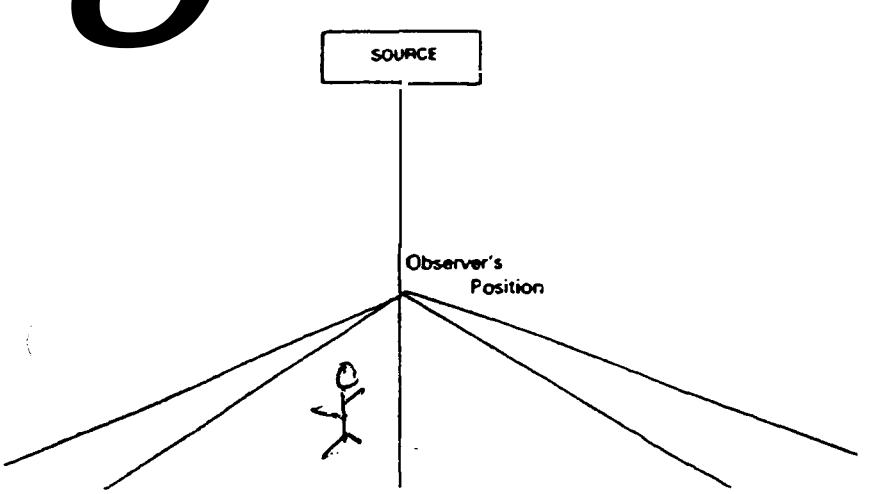
OBSERVER (please print)

Name: | Title:

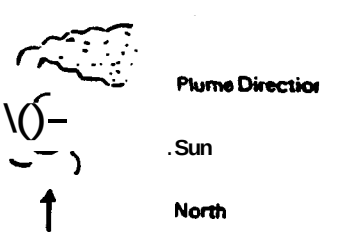
Signature | Date: 10-20-04

Organization: KSL | Certification Date: 8/25/04

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:-



I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 089 Issued 1/85

RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE	Fuel #2 #3 Boiler
LOCATION	TA3 SMZZ Power Plant
Type of Source	Fuel Oil
Type of Control Equipment	N/A
Describe Emission Point (top of stack, etc.)	1 Foot Above Stack
Height Above Ground Level	50' Feet
Height Relative to Observer	50' ~~100'~~ Feet
Distance from Observer	100' Yards
Direction from Observer	NE
Description of Plume (stack exit only)	☒ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation
Emission Color	
Plume Type	☐ Continuous ☐ Fugitive ☒ Intermittent
Water Droplets Present?	☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined?	1' From Top of Stack
Describe Background (i.e. blue sky, trees, etc.)	Cloudy
Background Color	White, Grey, Blue
Sky Conditions	Cloudy
Wind Speed	[illegible] mph
Wind Direction (i.e. from North to South)	SW
Ambient Temperature	10.5 °C
Wet Temperature	5.8 °C
Relative Humidity	63 %

OBSERVATION DATE: 10-26-04 | START TIME: 1:20 pm | STOP TIME: 2:15 pm

Sec. / Min.	0	15	30	45	Sec. / Min.	0	15	30	45
1	40	40	10	0	13	60	100	40	5
2	0	0	0	0	14	0	0	0	0
3	0	0	0	0	15	0	0	0	0
4	0	0	0	0	16	0	0	0	0
5	0	0	0	0	17	0	0	0	0
6	0	0	0	0	18	0	0	0	0
7	0	0	0	0	19	0	0	0	0
8	0	0	0	0	20	0	0	0	0
9	0	0	0	0	21	0	0	0	0
10	0	0	0	0	22	0	0	0	0
11	0	0	0	0	23	0	0	0	0
12	0	0	0	40	24	0	0	0	0

Average Opacity: ~~5.125~~ DD 6.125 | Range of Opacity Readings: Min.: 0 Max.: 100

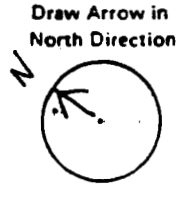
OBSERVER (please print): Name: BRIAN ORTIZ Title: Operator

Signature: Brian Ortiz | Date: 10-26-04

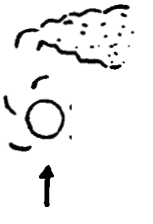
Organization: UPS | Certification Date: 8-25-04

COMMENTS:

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:



I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 069 Issued 1/85

RECORD OF VISUAL DETERMINATION OF OPACITY

OCATION	
ype of Source	Type of Control Equipment
leight Above Ground Level Feet	Height Relative to Observer Feet
)istance from Observer Yards	Direction from Observer
mission Color	Plume Type ☐ Continuous ☐ Fugitive ☐ Intermittent
☐ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached	
At what point in the plume was opacity determined?	
Describe Background (i.e. blue sky, trees, etc.)	
Background Color	Sky Conditions
mph	
Ambient Temperature °F	Wet Temperature °F / Relative Humidity %
COMMENTS:	

OBSERVATION DATE: 10-26-04 START TIME: 1:20pm STOP TIME: 2:15pm

Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	0	0	0	13	0	0	0	0
2	0	0	0	0	14	0	0	0	0
3	0	0	0	0	15	0	0	0	0
4	0	0	0	0	16	0	0	0	0
5	0	0	0	0	17	0	0	0	0
6	0	0	0	0	18	0	0	0	0
7	0	0	0	0	19	0	0	0	0
8	0	0	0	0	20	0	0	0	0
9	0	0	0	0	21	0	0	0	0
10	0	0	0	0	22	0	0	0	0
11	0	0	0	0	23	0	0	0	0
12	0	0	0	0	24	0	0	0	0

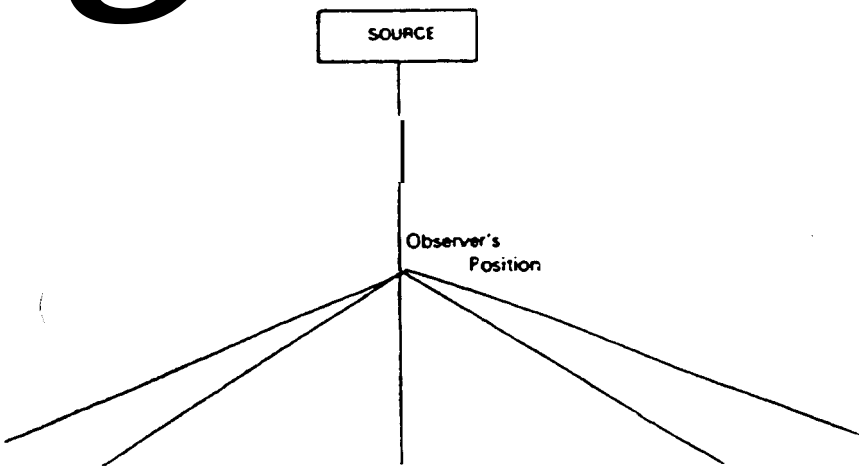
Average Opacity | Range of Opacity Readings Min.: Max.:

OBSERVER (please print) Name: BRIAN ORTIZ Title: Operator

Signature: Brian Ortiz Date: 10-26-04

Organization: UPS Certification Date: 8-25-04

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:

I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

RECORD OF VISUAL DETERMINATION OF OPACITY

LOCATION	
Type of Source	Type of Control Equipment
Describe Emission Point (top of stack, etc.)	
Height Above Ground Level: Feet	Height Relative to Observer: Feet
Distance from Observer: Yards	Direction from Observer
☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation	
Emission Color	Plume Type: ☐ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present? ☐ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached	
At what point in the plume was opacity determined?	
Describe Background (i.e. blue sky, trees, etc.)	
Background Color	Sky Conditions
Wind Speed: mph	Wind Direction (i.e. from North to South)
Ambient Temperature: °F	Wet Temperature: F / Relative Humidity: %

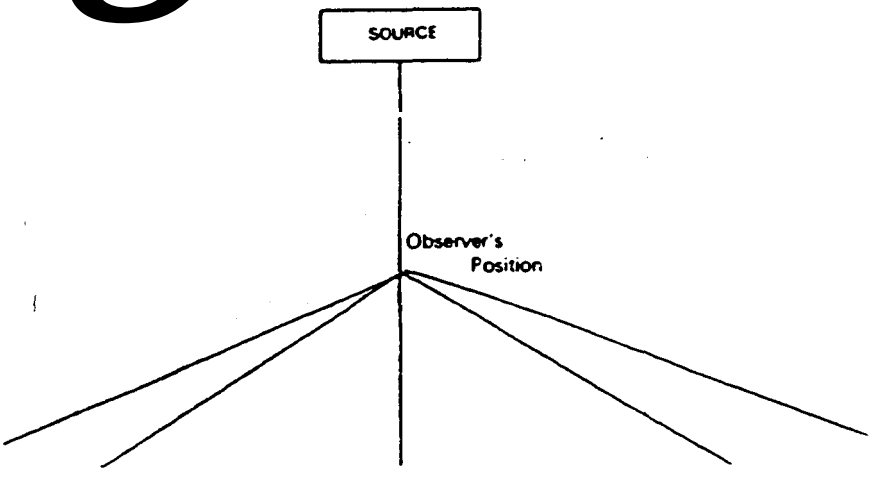
OBSERVATION DATE | START TIME: 1:20 pm | STOP TIME: 2:15 pm

Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	0	0	0	13				
2	0	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6	0	0	0	0	18				
7	0	0	0	0	19				
8	40	25	5	0	20				
9					21				
10					22				
11					23				
12					24				

Average Opacity | Range of Opacity Readings: Min.: Max.:

OBSERVER (please print)
Name: BRIAN OLTIL Title: Operator
Signature: Brian Oltil Date: 10-26-04
Organization: UPPS Certification Date: 8-25-04

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:

I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 069 Issued 1/85

RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE	Fuel Oil #2 #3 Boiler
LOCATION	TA3 SM 22
Type of Source	Fuel Oil
Type of Control Equipment	N/A
Describe Emission Point (top of stack, etc.)	Foot Above Stack
Height Above Ground Level	80' Feet
Height Relative to Observer	110' Feet
Distance from Observer	100 Yards
Direction from Observer	NW
Description of Plume (stack exit only)	☒ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation
Emission Color	Black
Plume Type	☐ Continuous ☐ Fugitive ☒ Intermittent
Water Droplets Present?	☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined?	1 Foot Above Stack
Describe Background (i.e. blue sky, trees, etc.)	Blue Skies
Background Color	Blue
Sky Conditions	Clear
Wind Speed	3-5 mph
Wind Direction (i.e. from North to South)	NW
Ambient Temperature	38 °C
Wet Temperature	9-4 °C
Relative Humidity	32%

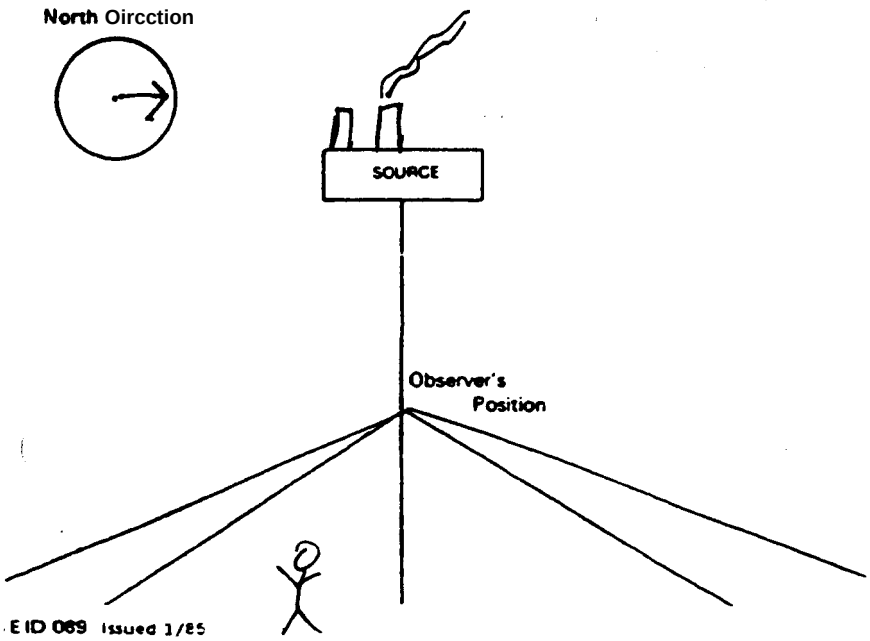
COMMENTS:
10:17 First Burner
10:21 Second Burner
10:30 Last Burner
10:30 Burner Lit

OBSERVATION DATE	START TIME	STOP TIME
11/3/04	10:17	11:15

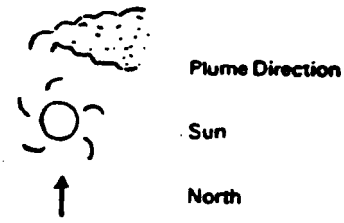
Sec. / Min.	0	15	30	45	Sec. / Min.	0	15	30	45
1	0	0	0	0	13	0	0	0	0
2	0	0	0	0	14	0	0	0	0
3	0	0	0	0	15	0	0	0	0
4	0	0	0	0	16	0	0	0	0
5	0	0	0	0	17	0	0	0	0
6	0	0	0	0	18	0	0	0	0
7	0	0	0	0	19	0	0	0	0
8	0	0	0	0	20	0	0	0	0
9	0	0	0	0	21	0	0	0	0
10	0	0	0	0	22	0	0	0	0
11	0	0	0	0	23	0	0	0	0
12	0	0	0	0	24	0	0	0	0

Average Opacity	5.375
Range of Opacity Readings	Min.: 0 Max.: 75
OBSERVER (please print) Name:	Brian Ortiz
Title:	Opr III
Signature	Brian Ortiz
Date	11-3-04
Organization	UPPS
Certification Date	8-25-04

Draw Arrow in North Oircction



IMPORTANT: Please indicate the following by sketch:



I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

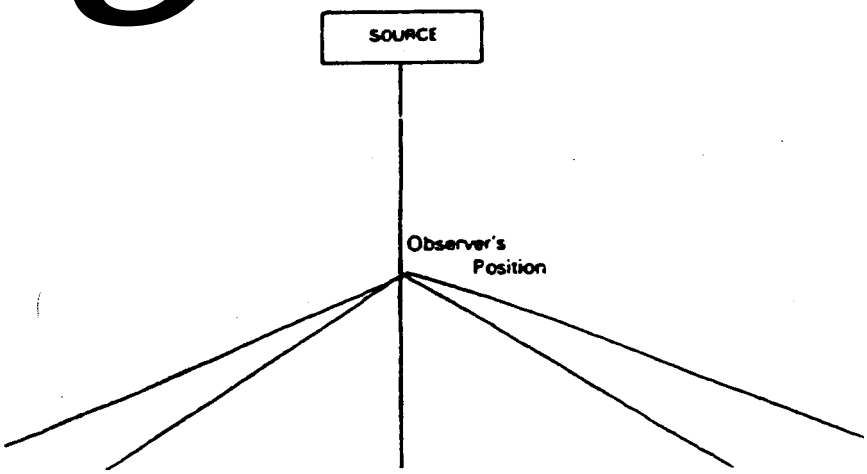
Date: _____

EID 069 Issued 1/85

RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE				OBSERVATION DATE 11-3-04		START TIME 10:17		STOP TIME 11:15		
LOCATION										
Type of Source	Type of Control Equipment	Sec. / Min.	0	15	30	45	Sec. / Min.	0	15	30	45
Describe Emission Point (top of stack, etc.)		1	0	0	0	0	13	0	0	0	0
		2	0	0	0	0	14	0	0	0	5
Height Above Ground Level Feet	Height Relative to Observer Feet	3	0	0	0	0	15	5	5	5	5
Distance from Observer Yards	Direction from Observer	4	0	0	0	0	16	5	5	0	0
Description of Plume (stack exit only) ☐ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation		5	0	0	0	0	17	0	0	0	0
Emission Color	Plume Type ☐ Continuous ☐ Fugitive ☐ Intermittent	6	0	0	0	0	18	0	0	0	0
Water Droplets Present? ☐ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached		7	0	0	0	0	19	0	0	0	0
At what point in the plume was opacity determined?		8	0	0	0	0	20	0	0	0	0
Describe Background (i.e. blue sky, trees, etc.)		9	0	0	0	0	21	0	0	0	0
Background Color	Sky Conditions	10	0	0	0	0	22	0	0	0	0
Wind Speed mph	Wind Direction (i.e. from North to South)	11	0	0	0	0	23	0	0	0	0
Ambient Temperature 4.3 °C	Wet Temperature -9.2 °C / Relative Humidity 31 %	12	0	0	0	0	24	0	0	0	0
COMMENTS: 10:52 Turned of Natural gas on Fuel only		Average Opacity					Range of Opacity Readings Min.: Max.:				
		OBSERVER (please print) Name: BRIAN ORTIZ Title: OPR III									
		Signature: Brian Ortiz					Date 11-3-04				
		Organization UPPS					Certification Date 8-25-04				

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:-

I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

3 of 3

RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE	
LOCATION	
Type of Source	Type of Control Equipment
Describe Emission Point (top of stack, etc.)	
Height Above Ground Level Feet	Height Relative to Observer Feet
Distance from Observer Yards	Direction from Observer
Description of Plume (stack exit only) ☐ Looping ☐ Fanning ☐ Coning ☐ Lofting ☐ Fumigation ☐ Trapping	
Emission Color	Plume Type ☐ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present? ☐ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached	
At what point in the plume was opacity determined?	
Describe Background (i.e. blue sky, trees, etc.)	
Background Colof	Sky Conditions
Wi tec mph	Wind Direction (in. from North to South)
Ambient Temperature 47 °F	Wet Temperature -9.8 °F
Relative Humidity 29 %	

OBSERVATION DATE: 11-3-04 | START TIME: 10:17 | STOP TIME: 11:15

Min.	Sec. 0	15	30	45	Min.	Sec. 0	15	30	45
1	0	0	0	0	13				
2	0	0	0	0	14				
3	0	0	0	0	15				
4	5	5	5	5	16				
5	10	20	20	75	17				
6	30	10	5	5	18				
7	0	0	0	0	19				
8	0	0	0	0	20				
9	0	0	0	0	2				
10	0	0	0	0	22				
11					23				
12					24				

Average Opacity | Range of Opacity Readings Min.: 0 Max.: 95

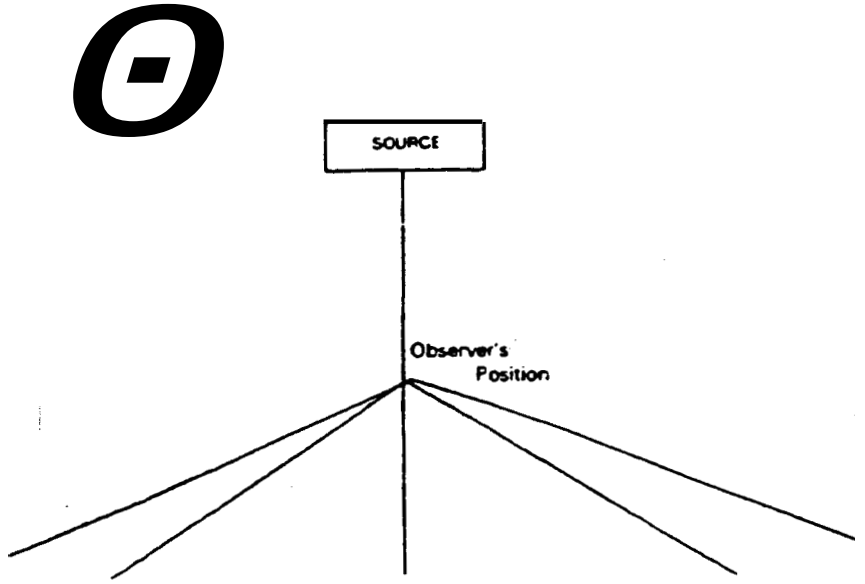
OBSERVER (please print) Name: BRIAN J. DE TIZ fhk: OPEL III

Signature: Brian | Date: 11-3-04

Organization: UPPS | Certification Date: 8-25-04

COMMENTS:
1426 ON Auto
BEGINNING OIL TO GAS
11:15 OFF OIL

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:-

I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 089 Issued 1/85

RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: TA-3-22 Power Plant
OBSERVATION DATE: 9/28/04
START TIME: 11:54
STOP TIME: 12:87
LOCATION: Los Alamos NM
Type of Source: Power Plant
Type of Control Equipment: N/A
Describe Emission Point (top of stack, etc.): Stack Top of Stack
Height Above Ground Level: 70 Feet
Height Relative to Observer: 70 Feet
Distance from Observer: 200 Yards
Direction from Observer: To N. West
Description of Plume (stack exit only): ☒ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation
Emission Color: Clear
Plume Type: ☒ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present? ☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined? 1" above Top of Stack
Describe Background (i.e. blue sky, trees, etc.): Dark Gray Clouds
Background Color: Dark Gray
Sky Conditions: Cloudy
Wind Speed: 10-15 mph
Wind Direction (i.e. from North to South): S. to S. West
Ambient Temperature: 15.2 °C
Wet Temperature: 6.4 °C
Relative Humidity: 56 %

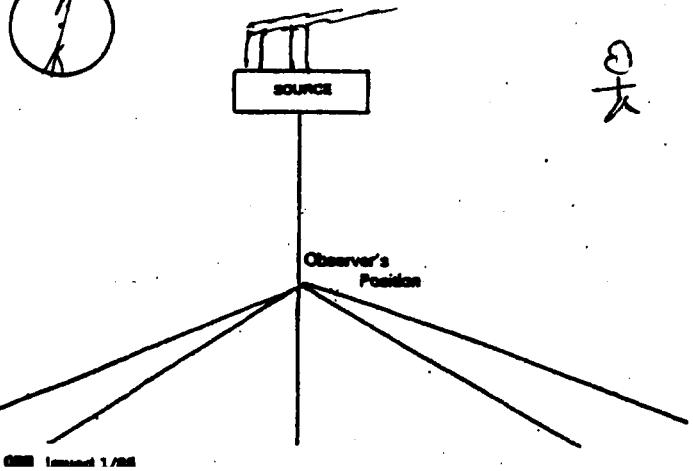
Min.	Sec. 0	15	30	45	Min.	Sec. 0	15	30	45
1	0	0	0	0	13				
2	0	0	5	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6	0	0	0	0	18				
7	0	0	0	0	19				
8	0	0	0	0	20				
9	0	0	0	0	21				
10	0	0	0	0	22				
11					23				
12					24				

COMMENTS: Burner #4 on Boiler #2

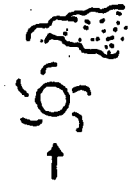
Average Opacity: 0.125
Range of Opacity Readings: Min.: 0 Max.: 5

OBSERVER (please print)
Name: David Maple Title: Env. Sc.
Signature: David Maple Date: 9/28/04
Organization: ESC-ASAH Certification Date: 8/04

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:



I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 6888 (revised 1/96)

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: TA-22 Power Plant
OBSERVATION DATE: 7/28/04
START TIME: 12:41
STOP TIME: 12:17
R. 20

LOCATION: Los Alamos, NM

Type of Source: Power Plant
Type of Control Equipment: N/A
Describe Emission Point (top of stack, etc.): Top of Stack
Height Above Ground Level: 70 Feet
Height Relative to Observer: 70 Feet
Distance from Observer: 200 Yards
Direction from Observer: N.W.
Description of Plume (stack exit only): ☒ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation
Emission Color: Clear
Plume Type: ☒ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present? ☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined? 1' Above Stack
Describe Background (i.e. blue sky, trees, etc.): Clouds / Gray
Background Color: Gr. Gray
Sky Conditions: Cloudy
Wind Speed: 10-15 mph
Wind Direction (i.e. from North to South): S. to S.W.
Ambient Temperature: 15.2 °C
Wet Temperature: 6.7 °C
Relative Humidity: 55 %

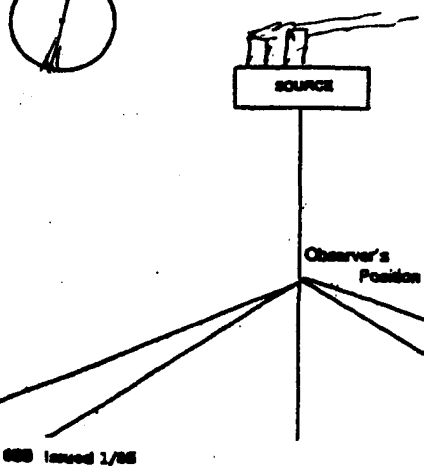
COMMENTS: Burner #1 on Boiler #2 + Both Burners 90 deg

Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	0	0	0	13				
2	0	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6	0	0	0	0	18				
7	0	0	0	0	19				
8	0	0	0	0	20				
9	0	0	0	0	21				
10	0	0	0	0	22				
11					23				
12					24				

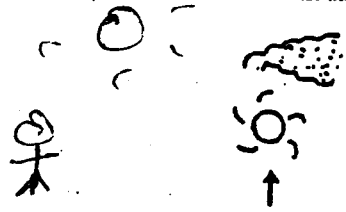
Average Opacity: 0
Range of Opacity Readings: Min.: 0 Max.: 0

OBSERVER (please print) Name: Dan Plant Title: Env. Spec.
Signature: Dan Plant Date: 8/29/04
Organization: ESH-ASM Certification Date: 8/04

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:



I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 600 Issued 1/86

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: TA-3-22 Power Plant
OBSERVATION DATE: 9/28/04
START TIME: 12:22
STOP TIME: 12:32

LOCATION: Los Alamos, NM
Type of Source: Cogen Plant
Type of Control Equipment: N/A
Describe Emission Point (top of stack, etc.): Top of Stack
Height Above Ground Level: 70 Feet
Height Relative to Observer: 70 Feet
Distance from Observer: 200 Yards
Direction from Observer: To N.West
Description of Plume (stack exit only): ☒ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation
Emission Color: Clear
Plume Type: ☒ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present? ☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined? Above Stack Top
Describe Background (i.e. blue sky, trees, etc.): Cloudy
Background Color: Lt Gray
Sky Conditions: Mly. Cldy.
Wind Speed: 10-15 mph
Wind Direction (i.e. from North to South): S. / S. West
Ambient Temperature: 15.2 °C
Wet Temperature: 6.7 °C
Relative Humidity: 55 %

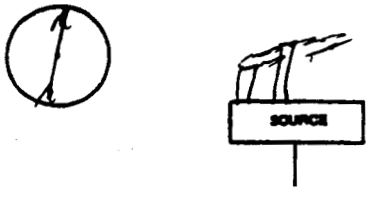
Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	0	0	0	13				
2	0	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6	0	0	0	0	18				
7	0	0	0	0	19				
8	0	0	0	0	20				
9	0	0	0	0	21				
10	0	0	0	0	22				
11					23				
12					24				

COMMENTS: Relight of Burner #2 on Boiler #2

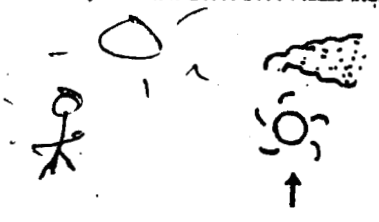
Average Opacity: 0
Range of Opacity Readings: Min.: 0 Max.: 0

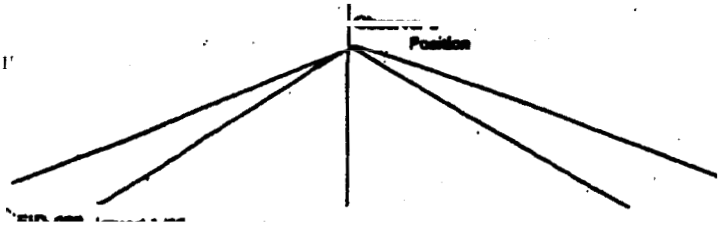
OBSERVER (please print) Name: David Rhodes Title: Env. Sc.
Signature: David Rhodes Date: 9/28/04
Organization: ESH-15/ALL Certification Date: 8/04

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch





I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

RECORD OF VISUAL DETERMINATION OF OPACITY

1ST PAGE

SOURCE	#1 Boiler
LOCATION	TA-3 SM-22
Type of Source	Fuel oil #2
Type of Control Equipment	~~Baghouse~~ BAILEY
Describe Emission Point (top of stack, etc.)	1FT Above #1 STACK (WEST)
Height Above Ground Level	8 Feet
Height Relative to Observer	100 Feet
Distance from Observer	100 Yards
Direction from Observer	NorthWest
Description of Plume (stack exit only)	☑ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation
Emission Color	BLACK
Plume Type	☑ Continuous ☐ Fugitive ☑ Intermittent
Water Droplets Present?	☑ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined?	1FT Above STACK
Describe Background (i.e. blue sky, trees, etc.)	Blue Sky
Background Color	Blue
Sky Conditions	Clear
Wind Speed	3/5 mph
Wind Direction (i.e. from North to South)	South TO North
Ambient Temperature	9.7 °C
Wet Temperature	-1.3 °C
Relative Humidity	46 %

OBSERVATION DATE: 11/08/04 | START TIME: 0842 | STOP TIME:

Sec. / Min.	0	15	30	45	Sec. / Min.	0	15	30	45
1	5	10	10	10	13	0	0	0	0
2	0	0	0	0	14	0	0	0	0
3	0	0	0	0	15	0	0	0	5
4	0	0	0	0	16	0	0	0	0
5	0	0	0	5	17	0	0	0	0
6	5	0	5	0	18	0	0	0	0
7	0	5	0	0	19	0	0	0	0
8	0	0	0	0	20	0	0	0	0
9	0	0	0	0	21	0	0	0	0
10	0	0	0	0	22	0	0	0	0
11	0	0	0	0	23	0	0	0	0
12	0	0	0	0	24	0	0	0	0

Average Opacity: 1,375 | Range of Opacity Readings: Min.: 0 Max.: 10

OBSERVER (please print) Name: JOE ORTIZ | Title: Water Treatment Spec.

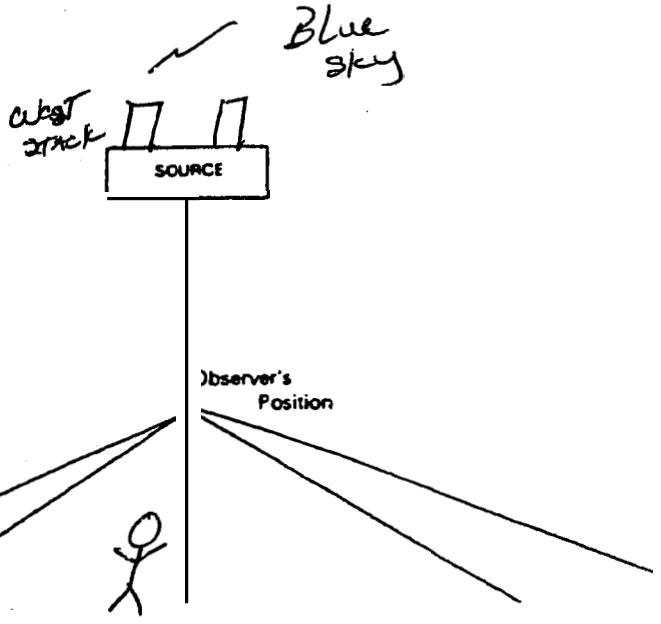
Signature | Date: 11/08/04

Organization: KSL | Certification Date: 8/25/04

COMMENTS:

1ST BURNER ON @ 0842
2nd " ON @ 0804

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:-

I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 069 Issued 1/85

2nd page

RECORD OF VISUAL DETERMINATION OF OPACITY

Type of Source	Type of Control Equipment
Height Above Ground Level: Feet	Height Relative to Observer: Feet
Distance from Observer: Yards	Direction from Observer

☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation

Emission Color	Plume Type: ☐ Continuous ☐ Fugitive ☐ Intermittent

Water Droplets Present?
☐ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached

At what point in the plume was opacity determined?

Describe Background (i.e. blue sky, trees, etc.)

Background Color	Sky Conditions

Wind Speed: mph	Wind Direction (i.e. from North to South)	
Ambient Temperature: °F	Wet Temperature: °F	Relative Humidity: %

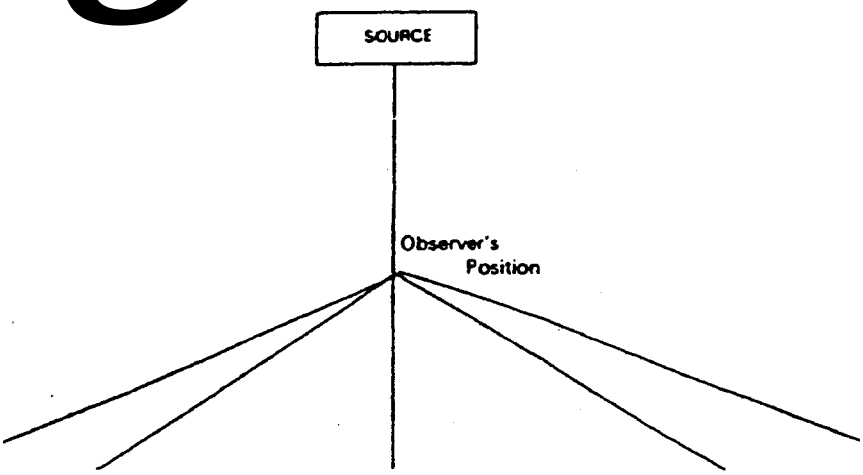
COMMENTS:

OBSERVATION DATE	START TIME	STOP TIME
		0815

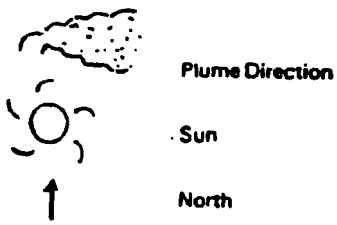
Sec. / Min.	0	15	30	45	Sec. / Min.	0	15	30	45
1	0	0	0	0	13				
2	0	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6	0	0	0	0	18				
7	0	0	0	0	19				
8	0	0	0	0	20				
9					21				
10					22				
11					23				
12					24				

Average Opacity	Range of Opacity Readings: Min.: Max.:
OBSERVER (please print) Name: Joe Ortiz	Title: Western Treatment Supervisor
Signature:	Date: 11/08/04
Organization: ESE	Certification Date: 8/25/04

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:-



I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE	Fuel oil SM26 #1 Boiler
LOCATION	TA3 SM22 Power Plant
Type of Source	Fuel Oil
Type of Control Equipment	N/A
Describe Emission Point (top of stack, etc.)	Foot Above Stack
Height Above Ground Level	75 Feet
Height Relative to Observer	75 Feet
Distance from Observer	25 Yards
Direction from Observer	NW
Description of Plume (steady or puffs)	☒ Steady ☐ Puffs
Plume Type	☐ Continuous ☐ Fugitive ☒ Intermittent
Description of Plume (stack exit only)	☒ Lofting ☐ Looping ☐ Fanning ☐ Coning ☐ Trapping ☐ Fumigation
Emission Color	Black
Water Droplets Present?	☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined?	1' from Top of Stack
Describe Background (i.e. blue sky, trees, etc.)	Partly Cloudy
Background Color	Blue with Grey Clouds
Sky Conditions	Partly Cloudy
Wind Speed	5 mph
Wind Direction (i.e. from North to South)	NW
Ambient Temperature	-1.5 °C
Wet Temperature	-3.9 °C
Relative Humidity	34 %

OBSERVATION DATE: 12-9-04 START TIME: 8:10 AM STOP TIME: 8:30 AM

Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	0	0	0	13	0	0	0	0
2	0	0	0	0	14	0	0	0	0
3	0	0	0	0	15	0	0	0	0
4	0	0	0	0	16	0	0	0	0
5	0	5	5	0	17	0	0	0	0
6	0	0	0	0	18	0	0	0	0
7	0	0	0	0	19	0	0	0	0
8	0	0	0	0	20	0	0	0	0
9	0	0	0	0	21	0	0	0	0
10	0	0	0	0	22	0	0	0	0
11	0	0	0	0	23	0	0	0	0
12	0	0	0	0	24	0	0	0	0

COMMENTS:
1st Burner 8:10 AM
2nd Burner 8:13 AM
2nd Burner off 8:15 AM
3rd Burner 8:16 AM
Last Burner 8:18 AM
Stopped 8:30 AM Boiler Problem

Average Opacity: 25 %

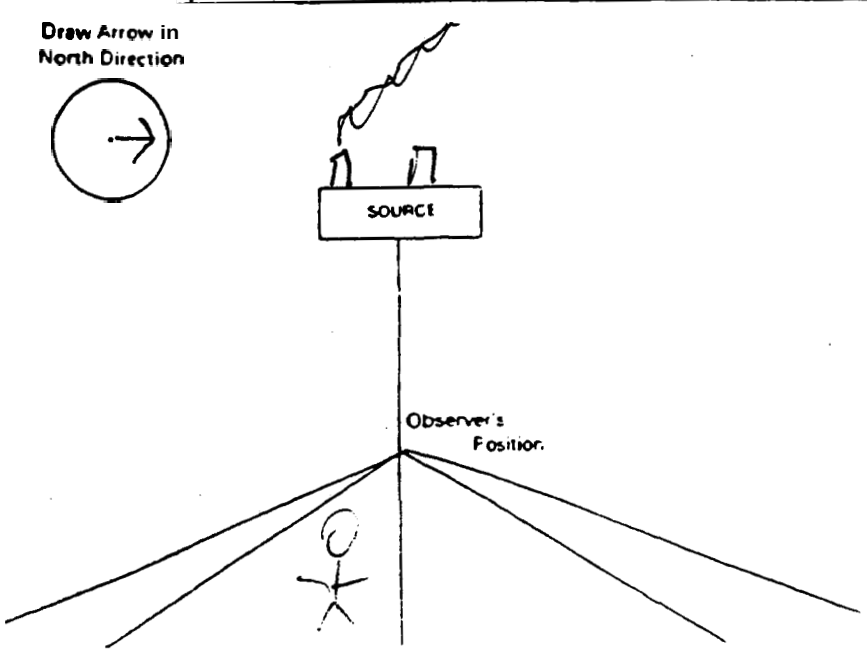
Range of Opacity Readings: Min.: 0 Max.: 5

OBSERVER (please print) Name: BRIAN ORTIZ Title: Operator 3

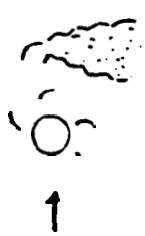
Signature: Brian Ortiz Date: 12-9-04

Organization: UPPS Certification Date: 8-25-04

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:



I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

EID 085 Issued 1/81

RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE	Fuel oil Sm26 #1 Boiler
LOCATION	TA3 Sm22 Power Plant
Type of Source	Fuel Oil
Type of Control Equipment	N/A
Describe Emission Point (top of stack, etc.)	1 Foot Above Stack
Height Above Ground Level	75 Feet
Height Relative to Observer	75 Feet
Distance from Observer	25 Yards
Direction from Observer	NW
Description of Plume (stack exit only)	☒ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation
Emission Color	Black
Plume Type	☐ Continuous ☐ Fugitive ☒ Intermittent
Water Droplets Present?	☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined?	One Foot Above Stack
Describe Background (i.e. blue sky, trees, etc.)	Partly Cloudy
Background Color	Blue with Grey Clouds
Sky Conditions	Partly Cloudy
Wind Speed	5 mph
Wind Direction (i.e. from North to South)	NW
Ambient Temperature	-0.2°C
Wet Temperature	-3.6°C
Relative Humidity	78%

OBSERVATION DATE: 12-9-04 | START TIME: 9:04 | STOP TIME: 9:16

Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	25	50	50	13	0	0		
2	5	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6	0	0	0	0	18				
7	0	0	0	0	19				
8	0	0	0	0	20				
9	0	0	0	0	21				
10	0	0	0	0	22				
11	0	0	0	0	23				
12	0	0	0	0	24				

COMMENTS:
9:04 Light 3rd Burner
9:05 Turned off 3rd Burner
9:15 Light 4th Burner

Average Opacity: 3.25%

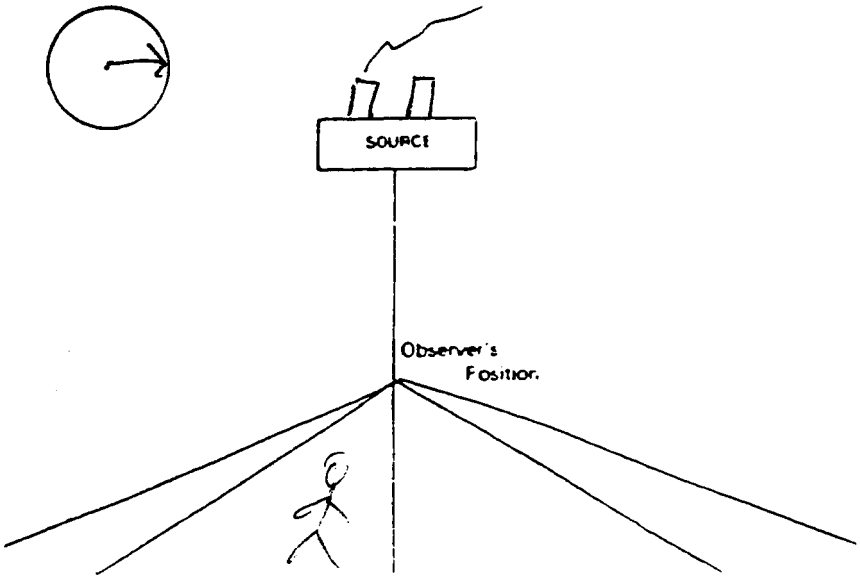
Range of Opacity Readings: Min.: 0 Max.: 50

OBSERVER (please print) Name: Brian Ortiz Title: Operator 3

Signature: Brian Ortiz Date: 12-9-04

Organization: UPPS Certification Date: 8-25-04

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:

I acknowledge receipt of a copy of these visible emissions observations.

Signature: _____

Title: _____

Date: _____

ID 065 Issued 3/83

Meteorology and Air Quality Los Alamos National Laboratory		RRES-MAQ-307, R1 Attachment 2, page 1 of 1

Environmental Improvement Division

RECORD Of VISUAL DETERMINATION OF OPACITY

SOURCE: TA-21 Boiler No. 2

LOCATION: TA-21 357

Type of Source: #2 Fuel oil

Type of Control Equipment: Baffles

Describe Emission Point (top of stack, etc.): Top of Stack

Height Above Ground Level: 40 Feet

Height Relative to Observer: 50 Feet

Distance from Observer: 50 Yards

Direction from Observer: West

Description of Plume (stack exit only): ☐ Looping ☐ Fanning ☑ Coning ☐ Lofting ☐ Trapping ☐ Fumigation

Emission Color: Clear

Plume Type: ☐ Continuous ☐ Fugitive ☑ Intermittent

Water Droplets Present? ☑ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached

At what point in the plume was opacity determined? 6" From Top of Stack

Describe Background (i.e. blue sky, trees, etc.): Blue sky

Background Color: Blue

Sky Conditions: Clear

Wind Speed: 5-10 mph

Wind Direction (i.e. from North to South): South/West

Ambient Temperature: 4.8 °C

Wet Temperature: -10.° °C

Relative Humidity: ~~73~~ %

COMMENTS: Clear Conditions

OBSERVATION DATE: 12-20-04

START TIME: 1050

STOP TIME: 1240

Sec. / Min.	0	15	30	45	Sec. / Min.	0	15	30	45
1	100	10	10	0	13	0	0	0	0
2	0	10	0	0	14	0	0	0	0
3	0	0	0	0	15	0	0	0	0
4	0	0	0	0	16	0	0	0	0
5	0	0	0	0	17	0	0	0	0
6	0	0	0	0	18	0	0	0	0
7	0	0	0	0	19	0	0	0	0
8	0	0	0	0	20	0	0	0	0
9	0	0	0	0	21	0	0	0	0
10	0	0	0	0	22	0	0	0	0
11	0	0	0	0	23	20	10	0	0
12	0	0	0	0	24	0	0	0	0

Average Opacity: 3.25

Range of Opacity Readings: Min.: 0 Max.: 100

OBSERVER (please print)

Name: David Lovato

Title: TA-21 Foreman

Signature:

Date: 12-20-04

Organization: KSL

Certification Date: Aug 25 2004

Draw Arrow in North Direction

IMPORTANT: Please indicate the following by sketch:

I acknowledge receipt of a copy of these visible emissions observations.

Signature: Leonard Standley

Title: Acting Superintendent

Date: 12-20-04

EID 089 Issued 1/88

Cont. on next Page

Meteorology and Air Quality Los Alamos National Laboratory		RRES-MAQ-307, R1 Attachment 2, page 1 of 1

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE

LOCATION: Continued from Page 1

Type of Source | Type of Control Equipment

Describe Emission Point (top of stack, etc.)

Height Above Ground Level: Feet | Height Relative to Observer: Feet

Distance from Observer: Yards | Direction from Observer

Description of Plume (stack exit only) ☐ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation

Emission Color | Plume Type ☐ Continuous ☐ Fugitive ☐ Intermittent

Water Droplets Present? ☐ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached

At what point in the plume was opacity determined?

Describe Background (i.e. blue sky, trees, etc.)

Background Color | Sky Conditions

Wind Speed: mph | Wind Direction (i.e. from North to South)

Ambient Temperature: 5.0 °C | Wet Temperature: -11.2 °C | Relative Humidity: 30 %

OBSERVATION DATE: 12-20-04 | START TIME: 1140 | STOP TIME: 1240

Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	25	10	0	0	13	5	5	0	0
2	0	0	0	0	14	5	5	0	5
3	0	0	0	0	15	0	0	0	0
4	0	0	0	0	16	0	0	0	0
5	0	5	5	20	17	0	0	0	0
6	5	0	0	0	18	0	0	0	0
7	0	5	5	0	19	0	0	0	0
8	0	0	0	0	20	0	0	0	0
9	0	0	0	0	21	0	0	0	0
10	0	0	0	0	22	0	0	0	0
11	0	0	30	30	23	0	0	0	0
12	10	0	5	5	24	0	0	0	0

COMMENTS: SAME AS PREVIOUS PAGE

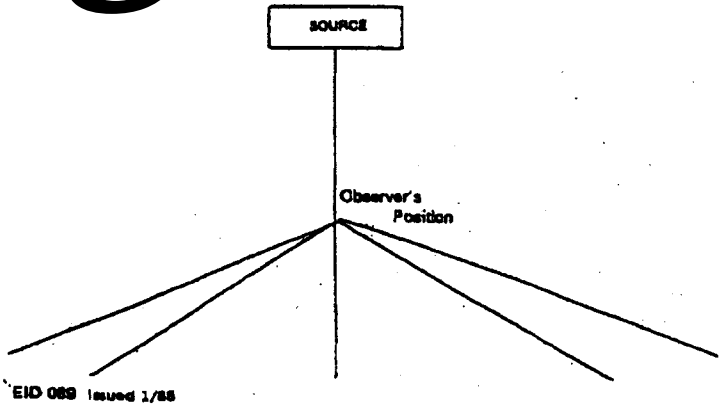
Average Opacity: 1st 15 min 2 | 2nd 15 min 2.625 | Range of Opacity Readings: Min.: 0 Max.: 30

OBSERVER (please print) Name: Dana Lovato Title: TA-21 Foreman

Signature | Date: 12-20-04

Organization: XSL | Certification Date: Aug. 25, 2004

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:

I acknowledge receipt of a copy of these visible emissions observations.

Signature:

Title: Acting Superintendent

Date: 12-20-04

EID 069 Issued 1/88

 Cont. on next page

Meteorology and Air Quality
Los Alamos National Laboratory

RRES-MAQ-307, R1
Attachment 2, page 1 of 1

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE

OBSERVATION DATE: 12-20-04 | START TIME: 1140 | STOP TIME: 1240

LOCATION: Continuation from Page 2

Type of Source | Type of Control Equipment

Describe Emission Point (top of stack, etc.)

Height Above Ground Level: Feet | Height Relative to Observer: Feet

Distance from Observer: Yards | Direction from Observer

Description of Plume (stack exit only): ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation ☐ Lofting ☐ Trapping

Emission Color | Plume Type: ☐ Continuous ☐ Fugitive ☐ Intermittent

Water Droplets Present? ☐ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached

At what point in the plume was opacity determined?

Describe Background (i.e. blue sky, trees, etc.)

Background Color | Sky Conditions

Wind Speed: mph | Wind Direction (i.e. from North to South)

Ambient Temperature: 5.2 °C | Wet Temperature: 11.6 °C | Relative Humidity: 28 %

Sec. / Min.	0	15	30	45	Sec. / Min.	0	15	30	45
1	0	0	0	0	13				
2	0	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6	0	0	0	0	18				
7	0	0	0	0	19				
8	0	5	0	0	20				
9	0	0	0	0	21				
10	0	0	0	0	22				
11	0	0	0	0	23				
12	0	0	0	0	24				

COMMENTS: Same As Previous Page

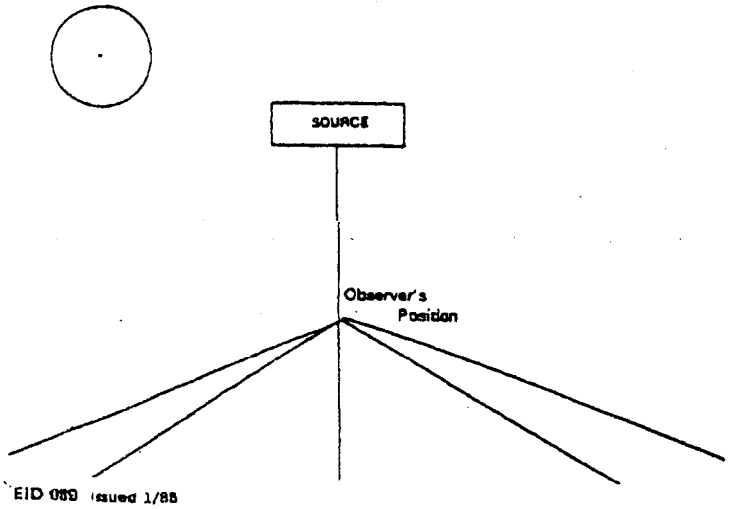
Average Opacity: 0.125 | Range of Opacity Readings: Min.: 0 Max.: 5

OBSERVER (please print) Name: Edward Lovato | Title: Tech Foreman

Signature | Date: 12-20-04

Organization: KSL | Certification Date: Aug. 25, 2004

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:

I acknowledge receipt of a copy of these visible emission observations.

Signature: Edward Standley

Title: Acting Supervisor

Date: _____

EID 089 Issued 1/88

Meteorology and Air Quality Los Alamos National Laboratory		RRES-MAQ-307, R1 Attachment 2, page 1 of 1

SOURCE: Boiler No 2

LOCATION: TA-21 Steam Plant BLDG 357

Type of Source: #2 fuel oil

Type of Control Equipment: Baghouse

Describe Emission Point (top of stack, etc.): 6' From Top of Stack

Height Above Ground Level: 40 Feet

Height Relative to Observer: 50 Feet

Distance from Observer: 50 Yards

Direction from Observer: West

Description of Plume (stack exit only): ☐ Looping ☐ Fanning ☑ Coning ☐ Fumigation ☐ Lofting ☐ Trapping

Emission Color: Clear

Plume Type: ☐ Continuous ☐ Fugitive ☑ Intermittent

Water Droplets Present? ☑ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached

At what point in the plume was opacity determined? 6' From Top of Stack

Describe Background (i.e. blue sky, trees, etc.): Cloudy Sky

Background Color: Gray

Sky Conditions: Cloudy

Wind Speed: 3-5 mph

Wind Direction (i.e. from North to South): South East

Ambient Temperature: -3.0 °C

Wet Temperature: -4.3 °C

Relative Humidity: 94 %

COMMENTS: Cloudy / Snowy Conditions

OBSERVATION DATE: 12-21-04

START TIME: 1545

STOP TIME: 1605

Sec. / Min.	0	15	30	45	Sec. / Min.	0	15	30	45
1	100	30	0	0	13	0	0	0	0
2	0	0	0	0	14	0	0	0	0
3	0	0	0	0	15	0	0	0	0
4	0	0	0	0	16	0	0	0	0
5	0	0	0	0	17	0	0	0	0
6	0	0	0	0	18	0	0	0	0
7	0	0	0	0	19	0	0	0	0
8	0	0	0	0	20	0	0	0	0
9	0	0	0	0	21				
10	0	0	0	0	22				
11	0	0	0	0	23				
12	0	0	0	0	24				

Average Opacity: 3.25

Range of Opacity Readings: Min.: 0 Max.: 100

OBSERVER (please print) Name: David Lovato Title: TA-21 Foreman

Signature: [signature] Date: 12-21-04

Organization: KSL Certification Date: Aug 05, 2004

North Direction

IMPORTANT: Please indicate the following by sketch:

I acknowledge receipt of a copy of the visible emissions observations.

Signature: [signature]

EID 089 Issued 1/88

Meteorology and Air Quality Los Alamos National Laboratory		RRES-MAQ-307, R1

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: Boiler No. 3
LOCATION: TA-21 BLDG. 357
Type of Source: #2 fuel oil
Type of Control Equipment: Boiler
Describe Emission Point (top of stack, etc.): Top of Stack
Height Above Ground Level: 40 Feet
Height Relative to Observer: 40 Feet
Distance from Observer: 50 Yards
Direction from Observer: West
Description of Plume (stack exit only): ☐ Looping ☐ Fanning ☑ Coning ☐ Lofting ☐ Trapping ☐ Fumigation
Emission Color: Clear
Plume Type: ☐ Continuous ☐ Fugitive ☑ Intermittent
Water Droplets Present? ☑ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point is the plume was opacity determined? 6" from Top of Stack
Describe Background (i.e. blue sky, trees, etc.): Grey Sky
Background Color: Grey
Sky Conditions: Cloudy
Wind Speed: 10-20 mph
Wind Direction (i.e. from North to South): North
Ambient Temperature: -7.4 °C
Wet Temperature: -9.9 °C
Relative Humidity: 82 %

OBSERVATION DATE: 12/22/04
START TIME: 1435
STOP TIME: 1455

Min.	Sec. 0	15	30	45	Min.	Sec. 0	15	30	45
1	00	30	5	5	13	0	0	0	0
2	5	0	0	0	14	0	0	0	0
3	0	0	0	0	15	0	0	0	0
4	0	0	0	0	16	0	0	0	0
5	10	10	10	10	17	0	0	0	0
6	0	0	0	0	18	0	0	0	0
7	0	0	0	0	19	0	0	0	0
8	0	0	0	0	20	0	0	0	0
9	0	0	0	0	21				
10	0	0	0	0	22				
11	0	0	0	0	23				
12	0	0	0	0	24				

Average Opacity: 4.625
Range of Opacity Readings: Min.: 0 Max.: 100

COMMENTS: Cloudy Condition

OBSERVER (please print)
Name: David Lovato Title: TA-21 Foreman
Signature:
Date: 12/22/04
Organization: RSL
Certification Date: Aug. 25, 2004

Draw Arrow in North Direction

IMPORTANT: Please indicate the following by sketch:

I acknowledge receipt of a copy of these visible emissions observations.
Signature: Leonard Stanley
Title: Acting Environmental Project Leader
Date: 12-23-04

EID 088 Issued 2/88