LA-UR-06-0905

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Title: Semi-Annual Monitoring Report
July 1 - December 31, 2005
Air Quality Title V Operating Permit P100
Los Alamos National Laboratory

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Submitted to: Mr. Edward Horst
Environmental Compliance Specialist, Enforcement
New Mexico Environment Department
Air Quality Bureau
2048 Galisteo St.
Santa Fe, New Mexico 87505

Los Alamos
NATIONAL LABORATORY

Form 836 (8/00)

Los Alamos National Laboratory
Operating Permit P100
Semi-Annual Monitoring Report
July 1 – December 31, 2005

Identifying Information

Source Name: Los Alamos National Laboratory County: Los Alamos

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

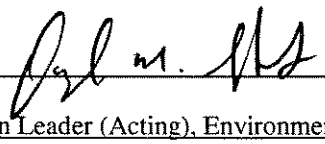
Responsible Official: Douglas M. Stavert Ph No. (505) 665-0235 Fax No. (505) 665-8190
Technical Contact: Steven L. Story Ph No. (505) 665-2169 Fax No. (505) 665-8858

Principal Company Product or Business: National Security and Nuclear Weapons Research Primary SIC Code: 9711

Permit No. P100 {IDEA/Tempo ID No. 856} Permit Issued Date: April 30, 2004

Certification of Truth, Accuracy, and Completeness

I, Douglas M. Stavert 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  Date: 2/8/06

Title: Deputy Division Leader (Acting), Environmental Stewardship Division

Sources (by permit section)

1. **Asphalt Production**
2. **Beryllium Activities**
3. **Boilers and Heaters**
4. **Carpenter Shops, TA-3-38 & TA-15-563**
5. **Chemical Usage**
6. **Degreasers**
7. **Internal Combustion Sources**
8. **Paper Shredder, TA-52-11**
9. **Power Plant at Technical Area 3 (TA-3-22)**
10. **Rock Crusher, TA-21-RC, Portable**

Deviations

Attachments

A: Asphalt Plant Opacity Reports
B: Beryllium HEPA Filter Tests Results
C: Boilers and Heaters Natural Gas Usage
D: Boilers and Heaters Opacity Reports
E: Carpenter Shop Hours of Operation
F: Degreaser Solvent Usage
G: Internal Combustion Generator Hours of Operation
H: Paper Shredder Box Throughput
I: Power Plant Natural Gas and Fuel Oil Usage
J: Power Plant Opacity Reports

1. Asphalt Production (Asphalt Plant began operation on July 19, 2005)

Permit Section	Monitoring Required	Monitoring Performed
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.	Monthly opacity reports are provided at Attachment A. Visible emissions did not equal or exceed 20% opacity.
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.	A differential pressure gauge is installed to continuously monitor the differential pressure across the baghouse as required by NSR permit GCP-3-2195G condition IV.C.2. The differential pressure is recorded twice each day during operations, once in the morning and once in the afternoon, as required by NSR permit GCP-3-2195G condition IV.D.2(e). Records are available on-site for NMED inspection.
2.1.4.3	40 CFR Part 60, Appendix A, Method 9 shall be used to determine compliance with the opacity limitation.	LANL has certified opacity readers on-site who perform opacity readings using 40 CFR 60, Appendix A, Method 9 to determine compliance with the opacity limitation.

2. Beryllium Activities

Permit Section 2.2.4		
Source	**Monitoring Required**	**Monitoring Performed**
Chemistry and Metallurgy Research Facility TA-3-29	A log shall be maintained during operations which indicate the number of Be samples processed.	A log is maintained indicating the number of Be samples processed. The log is available on-site for NMED inspection.
Sigma Facility TA-3-66	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.	A log is maintained showing the number of metallographic specimens used in the polishing operation. Logs are maintained showing the weight of Be samples processed in the electroplating/chemical milling, machining, and arc melting/casting operations. Logs are available on-site for NMED inspection.
Beryllium Technology Facility (BTF) TA-3-141	Facility exhaust stack will be equipped with a continuous emission monitor used to measure beryllium emissions.	The BTF is equipped with a continuous emissions monitor to measure beryllium emissions. The monitoring system is operated in accordance with LANL Quality Assurance Project Plan ESH-17-BM and emission results are provided to NMED quarterly. Submissions for this period were provided to NMED on August 22, 2005 [ENV-MAQ:05-244] and November 18, 2005 [ENV-MAQ:05-330].

	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 that measure the differential pressure across the cartridge and HEPA filters while the exhaust fans are in operation.
TA-16-207	Project files shall be maintained of components prepared for testing.	Project files are maintained of components prepared for testing. Files are available on-site for NMED inspection.
TA-35-87	A log shall be maintained during operations which show the number of beryllium filters cut.	A log is maintained showing the number of beryllium filters cut. The log is available on-site for NMED inspection.
Target Fabrication Facility TA-35-213	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. Stack emission test results are used to determine total emissions from this facility.
Plutonium Facility TA-55-PF-4 Permitted Source	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 systems are equipped with differential pressure gauges that measure the differential pressure across the HEPA filters while the exhaust fans are in operation.

	Control efficiency shall be verified by daily HEPA filter pressure drop tests and annual HEPA filter challenge tests of accessible filters.	Control efficiency is verified by daily HEPA filter pressure drop readings. Readings are recorded in the TA-55 Operations Center. Annual HEPA filter challenge tests of accessible filters are performed. Test results are summarized in Attachment B.

3. Boilers and Heaters

Permit Section	Monitoring Required	Monitoring Performed
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.	A volumetric flow meter is 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 and TA-21-357-3. Natural gas usage is summarized in Attachment C.
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-55-6-BHW-1 and TA-55-6-BHW-2. Natural gas usage is summarized in Attachment C.
2.3.4.3	40 CFR Part 60, Appendix A, Method 9 shall be used to determine compliance with the opacity limitation.	LANL uses 40 CFR Part 60, Appendix A, Method 9 to determine compliance with the opacity limitation. Opacity readings are summarized and provided in Attachment D.

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

Permit Section	Monitoring Required	Monitoring Performed
2.4.4.1	The permittee shall maintain logs of the hours the carpenter shops are in operation.	A log is maintained of the hours of operation at the TA-3-38 shop. The TA-15-563 carpenter shop is equipped with an hour meter on the cyclone separator. The hour meter is read and recorded monthly. Hours of operation are provided in Attachment E.

5. Chemical Usage

Permit Section	Monitoring Required	Monitoring Performed
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 semi-annual basis in accordance with Condition 4.1.	Records are maintained in LANL's facility wide chemical tracking system. The data is used to calculate emissions and will be submitted in the Semi-Annual Emission report.

6. Degreasers

Permit Section	Monitoring Required	Monitoring Performed
2.6.4.1	Record the amount of solvent added to the degreaser, and calculate the emissions on a semi-annual basis in accordance with Condition 4.1.	Records are maintained of the amount of solvent added to the degreaser and used to calculate emissions on a semi-annual basis. LANL's "Historical Solvent Usage Data" report for July 1 – December 31, 2005 is provided in Attachment F.
2.6.4.2	Complete checklist for work practice standards.	LANL completes a work practice checklist each time the degreaser is used. This checklist is posted on the degreaser glove box.

7. Internal Combustion Sources

Permit Section	Monitoring Required	Monitoring Performed
2.7.4 [Stationary Standby Generators]	Track and record hours of operation for stationary standby generators on a semi-annual basis.	LANL tracks and records generator hours of operation every six months. Stationary generator hours of operation for 2005 are provided in Attachment G.
2.7.4 [TA-33-G-1]	Track hourly and 12-month rolling total kWh.	Installation of the TA-33-G-1 generator has not been completed. No monitoring performed this period.
	Record hours of operation and the time operation begins and ends each day.	
2.7.4.1	40 CFR Part 60, Appendix A, Method 9 shall be used to determine compliance with the opacity limitation.	LANL uses 40 CFR Part 60, Appendix A, Method 9 to determine compliance with the opacity limitation. No opacity measurements were performed during this period.

8. Paper Shredder [Data Disintegrator], TA-52-11

Permit Section	Monitoring Required	Monitoring Performed
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 semi-annual basis in accordance with Condition 4.1.	LANL maintains a log of the number of boxes of media that are shredded and calculates the emissions on a semi-annual basis. The actual number of boxes shredded is included in Attachment H.

Note: The Title V 'Paper Shredder' source was replaced by a 'Data Disintegrator' under permit 2195-H. Permit 2195-H does not contain monitoring requirements, but LANL is continuing to track number of boxes shredded for emission calculations.

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

Permit Section	Monitoring Required	Monitoring Performed
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.	A volumetric flow meter is installed and utilized to measure the total amount of natural gas being used on a daily basis. Attachment I contains a summary of monthly natural gas usage. Daily totals are available on-site for NMED inspection.
2.9.4.2	Total fuel oil consumption shall be monitored on a monthly basis. NSR permit 2195-BM1 requires that fuel oil consumption shall be monitored so that combined fuel oil usage of Units B-1, B-2, and B-3 can be calculated on a rolling 365-day total.	Total fuel oil consumption is monitored on a monthly basis. Attachment I contains a summary of monthly fuel oil consumption. Total fuel oil consumption is also monitored on a rolling 365-day total. Records of daily fuel oil use are available on-site for NMED inspection.
2.9.4.3	If total natural gas used exceeds 3,400 MMscf per 365 day rolling total, semi-annual compliance stack tests shall be conducted for NOx and CO from each unit in accordance with NSR permit 2195B. 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.	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.

2.9.4.4	40 CFR Part 60, Appendix A, Method 9 shall be used to determine compliance with the opacity limitation.	LANL uses 40 CFR Part 60, Appendix A, Method 9 to determine compliance with the opacity limitation. Opacity measurements performed at the TA-03 Power Plant are provided in Attachment J.

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

Permit Section	Monitoring Required	Monitoring Performed
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.	LANL submitted a letter to NMED on June 10, 2004 providing notification that LANL will not operate the rock crusher. Therefore, no monitoring was performed.
2.10.4.2	40 CFR Part 60, Appendix A, Method 9 shall be used to determine compliance with the opacity limitation.	

Deviations

Permit Section 4.2 requires that all instances of deviations from permit conditions, including emergencies, be clearly identified. Listed below are permit deviations this period:

1. None

---------- Last Entry ----------

Attachment A
Asphalt Plant Opacity Reports

Summary Table, Reports Attached

	Source	Date	Time	Opacity
Jul	Top of Shaker	7/26/2005	10:15	6.45 %
	Conveyor Belt		10:30	0 %
	Top of Baghouse Stack		10:52	0 %
Aug	Top of Shaker	8/26/2005	11:20	0.625 %
	Conveyor Belt		11:35	0 %
	Conducted during source start-up test; included in test report submitted to NMED on 9/22/2005		N/A	N/A
Sep	Top of Shaker	9/26/2005	11:51	5.83 %
	Conveyor Belt		12:03	0 %
	Top of Baghouse Stack		11:40	0 %
Oct	Top of Shaker	10/28/2005	9:13	0.20 %
	Conveyor Belt		9:25	0 %
	Top of Baghouse Stack		9:01	0 %
Nov	Top of Shaker	11/8/2005	8:16	0 %
	Conveyor Belt		8:26	0 %
	Top of Baghouse Stack		8:05	0 %
Dec	Top of Shaker	12/19/2005	1:15	0.625 %
	Conveyor Belt		1:26	0 %
	Top of Baghouse Stack		8:45	0 %

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: Sigma Mesa Asphalt Plant
OBSERVATION DATE: 7/26/05
START TIME: 10:15
STOP TIME: 10:25

LOCATION: Sigma Mesa, Los Alamos
Type of Source: Asphalt Plant
Type of Control Equipment: Baghouse
Describe Emission Point (top of stack, etc.): Top of Stacker
Height Above Ground Level: 30 Feet
Height Relative to Observer: 30 Feet
Distance from Observer: 25 Yards
Direction from Observer: N/NW.
Description of Plume (stack exit only): ☐ Looping ☒ Fanning ☐ Coning ☐ Lofting ☐ Trapping ☐ Fumigation
Emission Color: Tan
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 Stacker Haze
Describe Background (i.e. blue sky, trees, etc.): Ptly Cloudy / Blue Sky
Background Color: Blue to Gray
Sky Conditions: Ptly cldy
Wind Speed: 0-5 mph
Wind Direction (i.e. from North to South): from NE to SW
Ambient Temperature: 70.4°F
Wet Temperature: 59.8°F
Relative Humidity: 37 %

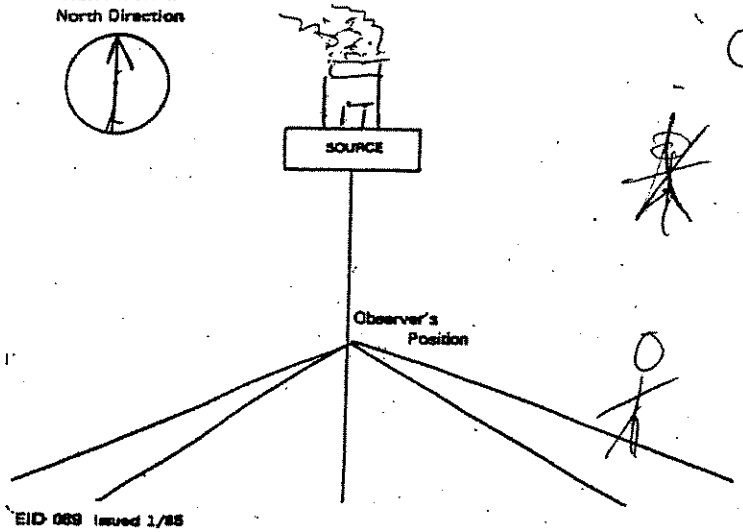
Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	5	5	10	5	13				
2	5	5	15	5	14				
3	5	10	5	5	15				
4	5	5	5	10	16				
5	5	5	5	5	17				
6	5	10	5	10	18				
7	5	5	10	5	19				
8	10	10	5	5	20				
9	10	5	5	5	21				
10	5	5	10	5	22				
11					23				
12					24				

COMMENTS: Opacity for Min. 1-6

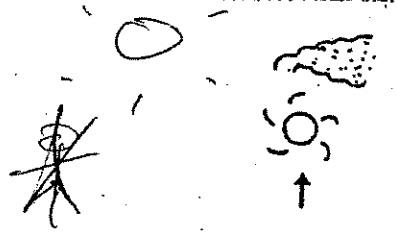
Average Opacity: 6.458 6.5 7
Range of Opacity Readings: Min.: 5 Max.: 15

OBSERVER (please print) Name: David Plant Title: Env. Sc.
Signature: David Plant
Date: 7/26/05
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 069 Issued 1/85

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: Sigma Mesa Asphalt Plt
LOCATION: Sigma Mesa, Los Alamos
OBSERVATION DATE: 7/26/05
START TIME: 10-30
STOP TIME: 10:40

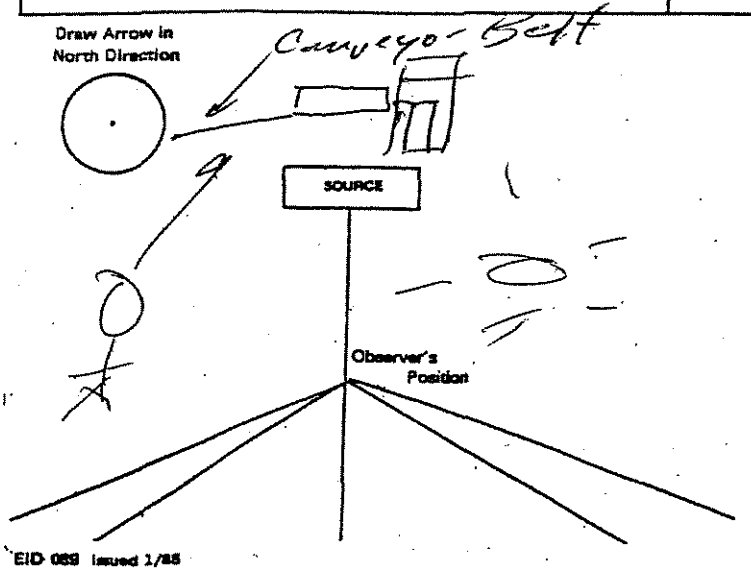
Type of Source: Asphalt Plant
Type of Control Equipment: Baghouse
Describe Emission Point (top of stack, etc.): Conveyor Belt
Height Above Ground Level: 5-10 Feet
Height Relative to Observer: 5-10 Feet
Distance from Observer: 15 Yards
Direction from Observer: To North
Description of Plume (stack exit only): ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation ☐ Lofting ☐ Trapping N/A
Emission Color: clear
Plume Type: N/A ☐ 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 Belt
Describe Background (i.e. blue sky, trees, etc.): Trees & Hills
Background Color: Brown/Green
Sky Conditions:
Wind Speed: 0-5 mph
Wind Direction (i.e. from North to South): NE - SW
Ambient Temperature: 19.8 °C
Wet Temperature: 10.2 °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	5	20				
9	0	0	0	0	21				
10	0	0	0	0	22				
11					23				
12					24				

Average Opacity: Min. 1-6 0 % 6
Range of Opacity Readings: Min.: 0 Max.: 0
OBSERVER (please print) Name: Dan O'Meara Title: Env. Sci.
Signature: Dan O'Meara Date: 7/26/05
Organization:
Certification Date:

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 089 Issued 1/88

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: Zigma Mesa Asphalt Plant	OBSERVATION DATE: 7/26/05
LOCATION: Los Alamos	START TIME: 10:50
Type of Source: Asphalt Plant	STOP TIME: 11:10
Type of Control Equipment: Baghouse	
Describe Emission Point (top of stack, etc.): Top of Baghouse Stack	
Height Above Ground Level: 25 Feet	Height Relative to Observer: 30 Feet
Distance from Observer: 400 Yards	Direction from Observer: NW
Description of Plume (stack exit only): ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation ☐ Lofting ☐ Trapping	
Emission Color: Clear	Plume Type: N/A ☐ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present? ☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached	
At what point in the plume was opacity determined? N/A.	
Describe Background (i.e. blue sky, trees, etc.): Blue to Cloudy Sky	
Background Color: Blue, White/Grey	Sky Conditions: Hazy Cloudy
Wind Speed: 5-10 mph	Wind Direction (i.e. from North to South): From N. East
Ambient Temperature: 28.5°C	Wet Temperature: 0.8 °C
Relative Humidity: 54 %	

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				
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:

Average Opacity: Min. 1-6 0

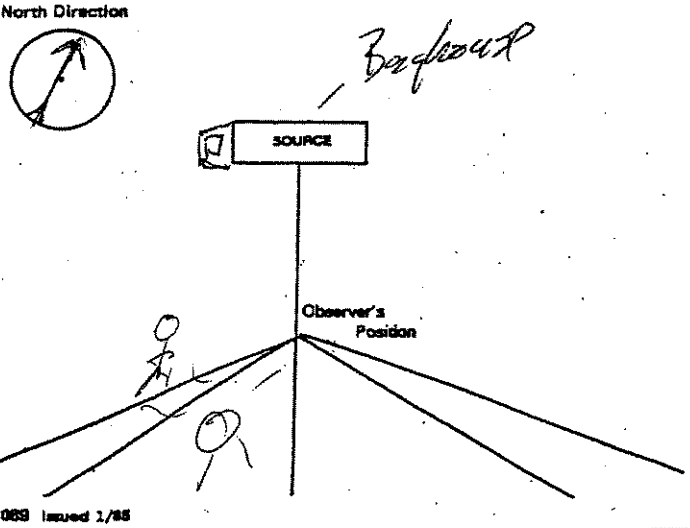
Range of Opacity Readings: Min.: 0 Max.: 0

OBSERVER (please print): Name: David Hartz Title: Env. Sci.

Signature: David Hartz Date: July 26, 05

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 1/88

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: Sigma Mesa Asph. Plant	OBSERVATION DATE: 8/26/05
LOCATION: Los Alamos, NM	START TIME: 11:20
Type of Source: Asphalt Plant	STOP TIME: 11:30
Type of Control Equipment: Ty Bag House	
Describe Emission Point (top of stack, etc.): Top of Separator Bin	
Height Above Ground Level: 25 Feet	Height Relative to Observer: 30 Feet
Distance from Observer: 50 Yards	Direction from Observer: To North
Description of Plume (stack exit only): ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation ☐ Lofting ☐ Trapping	
Emission Color: Lt. Brown	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 Separator	
Describe Background (i.e. blue sky, trees, etc.):	
Background Color: White & Blue Sky	Sky Conditions: Hazy Cloudy.
Wind Speed: 0-5 mph	Wind Direction (i.e. from North to South): E - W. East
Ambient Temperature °F	Wet Temperature °F
Relative Humidity %	

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	—	16				
5	5	0	0	0	17				
6	0	0	5	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					23				
12					24				

COMMENTS: Shutter Bins

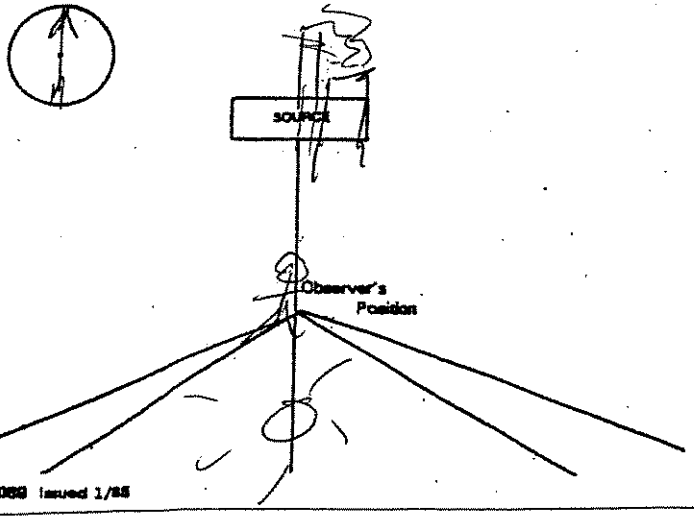
Average Opacity: Min 3-Min. 0.625% Range of Opacity Readings: Min.: 0 Max.: 5

OBSERVER (please print): Name: David Plate Title: Env. Spec.

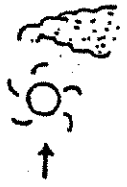
Signature: David Plate Date: 8/26/05

Organization: ASC-EMD Certification Date: 3/11/05

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 1/88

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: Hymac Mega Asphalt Plant
OBSERVATION DATE: 8/26/05
START TIME: 11:35
STOP TIME: 11:45
LOCATION: Los Alamos, NM
Type of Source: Asphalt Plant
Type of Control Equipment: Bag House
Describe Emission Point (top of stack, etc.): Above Conveyor Belt
Height Above Ground Level: 5-10 Feet
Height Relative to Observer: 5-10 Feet
Distance from Observer: 20 Yards
Direction from Observer: To North
Description of Plume (stack exit only): ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation ☐ Lofting ☐ Trapping N/A
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 Conveyor Belt
Describe Background (i.e., blue sky, trees, etc.): Overall Brown
Background Color:
Sky Conditions: N/A
Wind Speed: 0-5 mph
Wind Direction (i.e. from North to South): From S-SW
Ambient Temperature °F:
Wet Temperature °F:
Relative Humidity %:

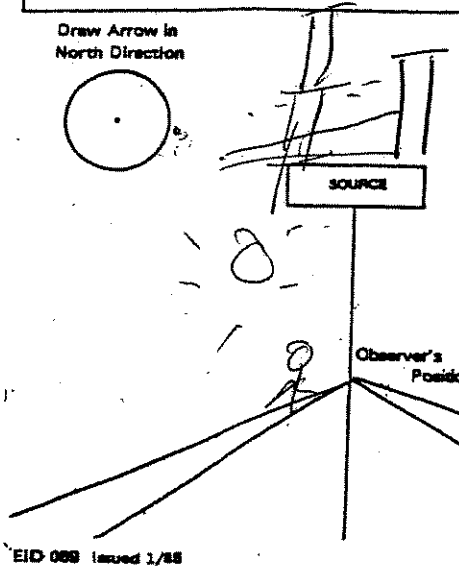
Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	0	0	0	13				
2	0	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6	0	0	0	0	18				
7	0	0	0	0	19				
8	0	0	0	0	20				
9	0	0	0	0	21				
10	0	0	0	0	22				
11					23				
12					24				

COMMENTS: Conveyor Belt

Average Opacity: Min. 1-6 %
Range of Opacity Readings: Min.: 0 Max.: 0

OBSERVER (please print)
Name: David Platt Title: Env. Sci
Signature: David Platt Date: 8/26/05
Organization: LASL-SM Certification Date: 3/1/05

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 1/88

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

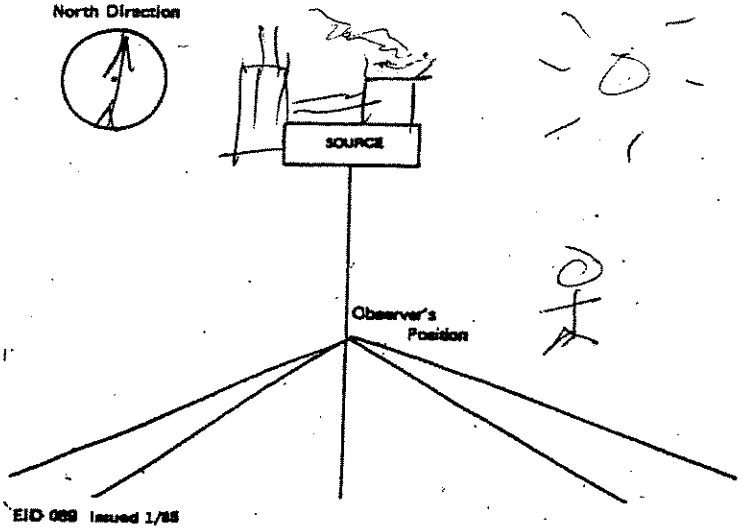
SOURCE: Sigma Mesa Asphalt Plant
OBSERVATION DATE: 9/26/05
START TIME: 12:57
STOP TIME: 13:01

LOCATION: Los Alamos, NM
Type of Source: Asphalt Plant
Type of Control Equipment: Bag house
Describe Emission Point (top of stack, etc.): Top of Shaker Bin
Height Above Ground Level: 30 Feet
Height Relative to Observer: 35 Feet
Distance from Observer: 30 Yards
Direction from Observer: 40 West
Description of Plume (steam exit only): ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation ☐ Lofting ☐ Trapping
Emission Color: Lt Brown
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.): Blue Sky
Background Color: Blue
Sky Conditions: Clear
Wind Speed: 05 mph
Wind Direction (i.e. from North to South): From South
Ambient Temperature: 23.4 °C
Wet Temperature: °F
Relative Humidity: 15 %

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

COMMENTS: Min 1-6
Average Opacity: 5.83% Ave.
Range of Opacity Readings: Min.: 0 Max.: 10
OBSERVER (please print) Name: David Plate Title: Env. Sc.
Signature: David Plate Date: 9/26/05
Organization: ESL-AEAU Certification Date: 8/05

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 1/88

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

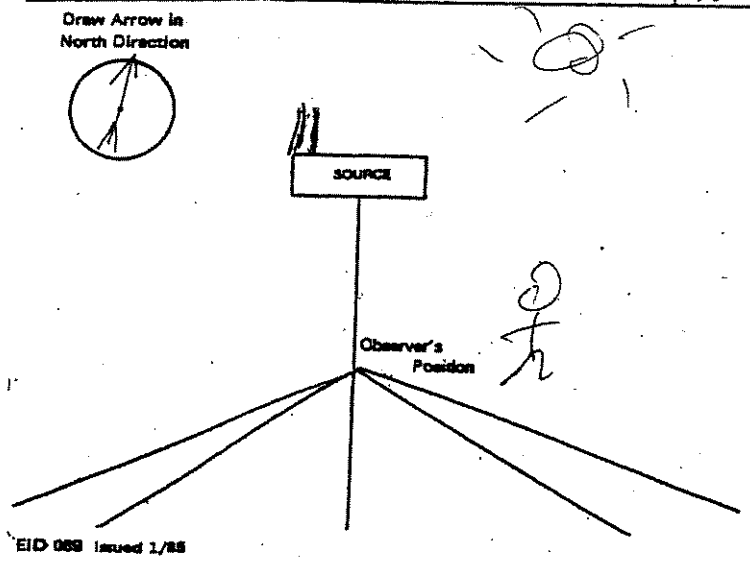
SOURCE: Espanola Mesa Asphalt Plant
OBSERVATION DATE: 9/26/05
START TIME: 12:40
STOP TIME: 12:57
LOCATION: Los Alamos, NM
Type of Source: Asphalt Plant
Type of Control Equipment: Bag House
Describe Emission Point (top of stack, etc.): Top of Stack / Baghouse
Height Above Ground Level: 25 Feet
Height Relative to Observer: 30 Feet
Distance from Observer: 20 Yards
Direction from Observer: 76 N.W.
Description of Plume (stack exit only): N/A ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation ☐ Lofting ☐ Trapping
Emission Color: Clear
Plume Type: N/A ☐ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present? ☐ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached: N/A
At what point in the plume was opacity determined? 1' above stack
Describe Background (i.e. blue sky, trees, etc.): Blue Sky
Background Color: Light Blue
Sky Conditions: Clear
Wind Speed: 0-5 mph
Wind Direction (i.e. from North to South): From South
Ambient Temperature: 23.4°C
Wet Temperature: °F
Relative Humidity: 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	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				

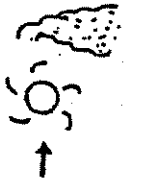
COMMENTS:

Average Opacity: N.A. 1-6 %
Range of Opacity Readings: Min.: 0 Max.: 0
OBSERVER (please print) Name: David Plaut Title: Env. Sc.
Signature: David Plaut Date: 9/26/05
Organization: ESC-ASNV Certification Date: 9/1/05

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 1/88

VISIBLE EMISSION OBSERVATION FORM

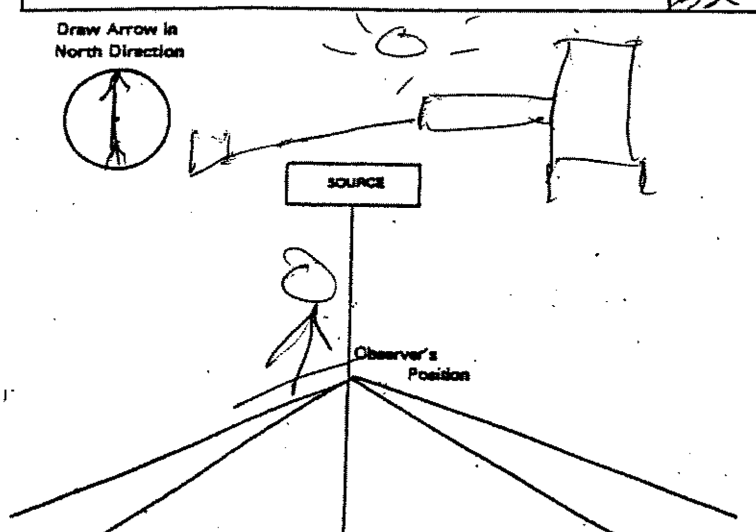
Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

Field	Entry
Source	Sigma Mesa Asphalt Plant
Observation Date	9/26/05
Start Time	12:03
Stop Time	12:13
Location	Los Alamos, NM
Type of Source	Asphalt Plant
Type of Control Equipment	Baghouse
Describe Emission Point (top of stack, etc.)	Above Conveyor Belt
Height Above Ground Level	4-12 Feet
Height Relative to Observer	4-12 Feet
Distance from Observer	20 Yards
Direction from Observer	To N.
Description of Plume (stack exit only)	N/A ☐ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation
Emission Color	N/A
Plume Type	N/A ☐ 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 Conveyor Belt
Describe Background (i.e. blue sky, trees, etc.)	Blue Sky & Trees
Background Color	Blue
Sky Conditions	Clear
Wind Speed	0-5 mph
Wind Direction (i.e. from North to South)	From South
Ambient Temperature	23.4 °C
Wet Temperature	°F
Relative Humidity	3 %

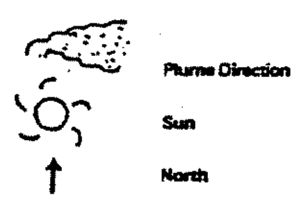
Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	0	0	0	13				
2	0	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6	0	0	0	0	18				
7	0	0	0	0	19				
8	0	0	0	0	20				
9	0	0	0	0	21				
10	0	0	0	0	22				
11					23				
12					24				

COMMENTS:

Average Opacity: Min 1-6 0%	Range of Opacity Readings: Min.: 0 Max.: 0
OBSERVER (please print) Name: David Plant	Title: Env. Sci.
Signature: [signature]	Date: 9/26/05
Organization: ESC-AENV	Certification Date: 8/05



IMPORTANT: Please indicate the following by sketch:



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

Signature: ______________________

Title: ______________________

Date: ______________________

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: Sigma Mesa Asphalt Plant	OBSERVATION DATE: 12/28/05		START TIME: 9:13			STOP TIME: 9:43			
LOCATION: Los Alamos, NM	Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
Type of Source: Asphalt Plant / Type of Control Equipment: B HEPA to Baghouse	1	0	0	0	0	13				
Describe Emission Point (top of stack, etc.): Top of Shaker Bins	2	0	0	0	0	14				
Height Above Ground Level: 30' Feet / Height Relative to Observer: 30' Feet	3	0	0	0	0	15				
Distance from Observer: 20 Yards / Direction from Observer: to N. West	4	0	0	0	0	16				
Description of Plume (stack exit only): ☒ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation	5	0	0	0	0	17				
Emission Color: Lt. Brown / Plume Type: ☐ Continuous ☐ Fugitive ☒ Intermittent	6	0	0	0	0	18				
Water Droplets Present? ☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached	7	5	0	0	0	19				
At what point in the plume was opacity determined? Above Shaker	8	0	0	0	0	20				
Describe Background (i.e. blue sky, trees, etc.): Blue/Gray	9	0	0	0	0	21				
Background Color: Gray/Blue / Sky Conditions: Ptly Cldy	10	0	0	0	0	22				
Wind Speed: 0 mph / Wind Direction (i.e. from North to South): NONE	11					23				
Ambient Temperature °F / Wet Temperature °F / Relative Humidity %	12					24				

COMMENTS: Min. 5-10 Opacity

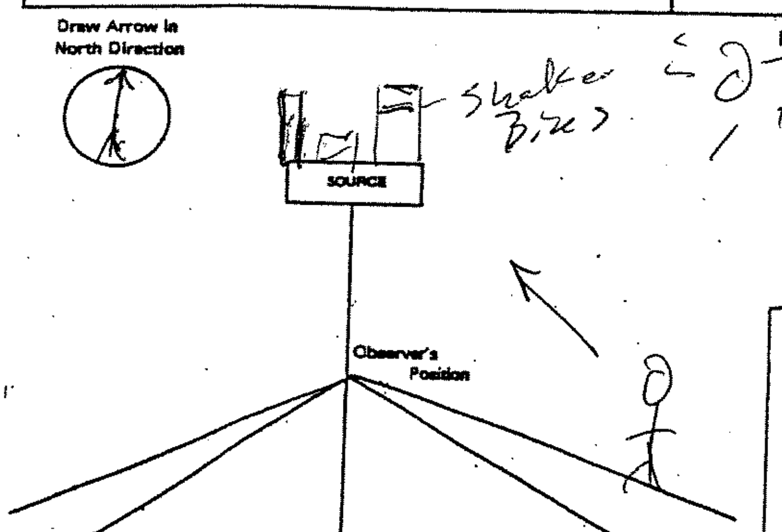
Average Opacity: ~~0~~ 0.2

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

OBSERVER (please print)
Name: David Plaster Title: Env. Sci.

Signature: David Plaster
Date:

Organization:
Certification Date:



IMPORTANT: Please indicate the following by sketch:

Plume Direction
Sun
North

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

Signature: ______________________

Title: ______________________

Date: ______________________

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: Sigma Mesa Asphalt Plant
LOCATION: Los Alamos, NM
Type of Source: Asphalt Plant
Type of Control Equipment: Bag House
Describe Emission Point (top of stack, etc.): Above Aggregate Conveyor Belt
Height Above Ground Level: 3-0' Feet
Height Relative to Observer: 3-0' Feet
Distance from Observer: 20 Yards
Direction from Observer: to North
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? 1' Above Conveyor Belt
Describe Background (i.e. blue sky, trees, etc.): Sky & Trees
Background Color: Green/Blue
Sky Conditions: Cloudy Pkly
Wind Speed: 0 mph
Wind Direction (i.e. from North to South): 0
Ambient Temperature: °F
Wet Temperature: °F
Relative Humidity: %

OBSERVATION DATE: 10/28/05
START TIME: 9:25
STOP TIME: 9:35

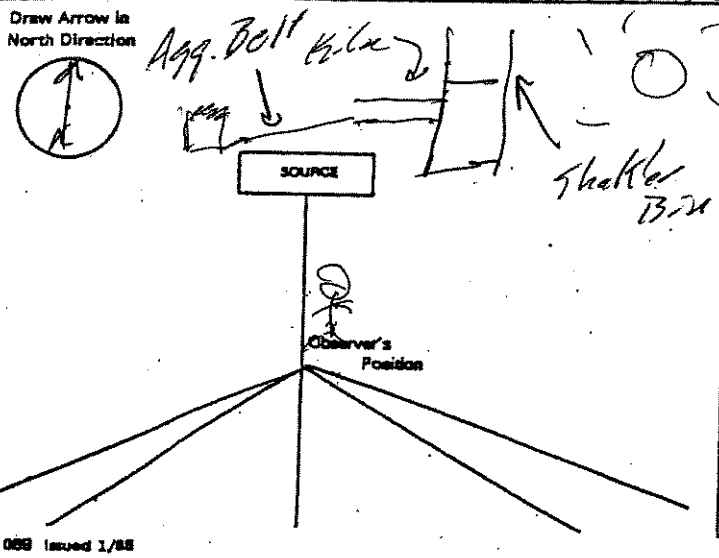
Sec. / Min.	0	15	30	45	Sec. / Min.	0	15	30	45
1	0	0	0	0	13				
2	0	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6	0	0	0	0	18				
7	0	0	0	0	19				
8	0	0	0	0	20				
9	0	0	0	0	21				
10	0	0	0	0	22				
11					23				
12					24				

COMMENTS:

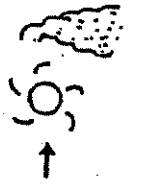
Average Opacity: Min 1-0 0 %
Range of Opacity Readings: Min.: 0 Max.: 0

OBSERVER (please print): Name: David Plant Title: Env. Sci.
Signature: David Plant
Date: 10/28/05
Organization: ESC-ENV
Certification Date: 9/05

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

1t · Asphalt Plant

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE	Asphalt Plant - Sigma Mesa
OBSERVATION DATE	10/25/05
START TIME	9:01
STOP TIME	9:11
LOCATION	Los Alamos, N.M.
Type of Source	Asphalt Plant
Type of Control Equipment	Bag House
Describe Emission Point (top of stack, etc.)	1' Above top of Stack
Height Above Ground Level	20' Feet
Height Relative to Observer	22' Feet
Distance from Observer	30 Yards
Direction from Observer	To East
Description of Plume (stack exit only)	☐ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☑ Coning ☐ Fumigation
Emission Color	Clear
Plume Type	N/A ☐ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present?	☑ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined?	N/A
Describe Background (i.e. blue sky, trees, etc.)	Gray/Blue Ptly cldy.
Background Color	Gray/Blue
Sky Conditions	Cldy.
Wind Speed	0-2 mph
Wind Direction (i.e. from North to South)	None
Ambient Temperature	°F
Wet Temperature	°F
Relative Humidity	%

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				

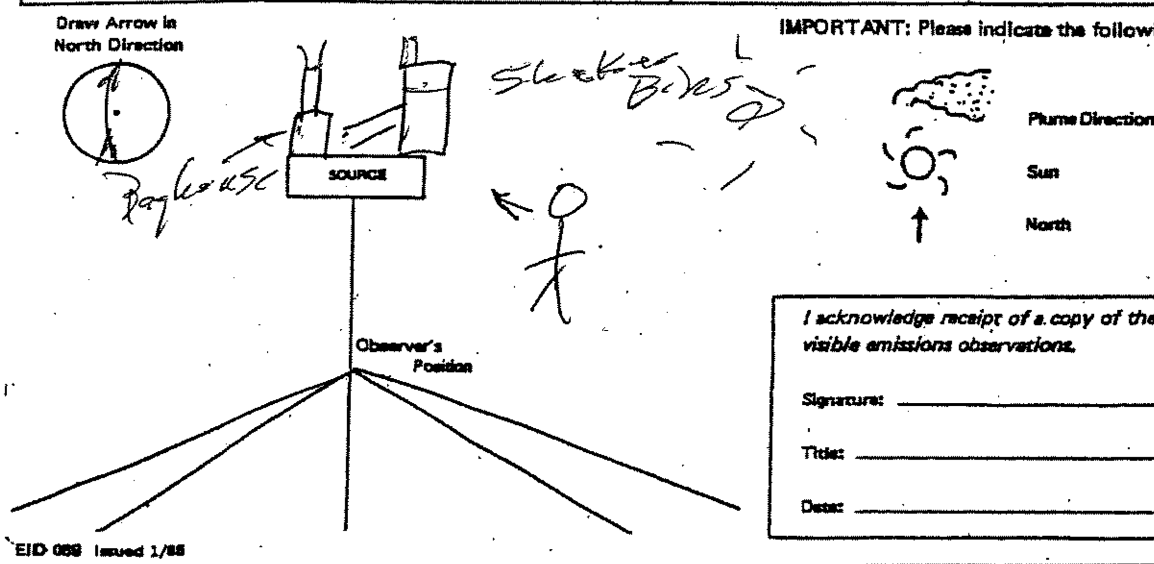
COMMENTS: Light Amount of Steam

Average Opacity: Min. 1-6 0%
Range of Opacity Readings: Min.: 0 Max.: 0

OBSERVER (please print)
Name: Dave Plato Title: Env. Sc.
Signature: David Plato Date: 10/25/05
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 069 Issued 1/85

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

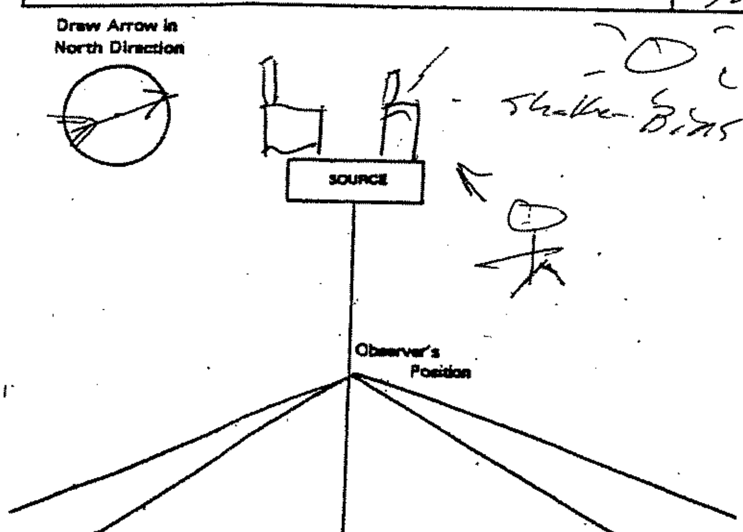
SOURCE	TA-60 Asphalt Plant
OBSERVATION DATE	11/8/05
START TIME	8:16
STOP TIME	8:26
LOCATION	Los Alamos, NM
Type of Source	Asphalt Plant
Type of Control Equipment	Baghouse
Describe Emission Point (top of stack, etc.)	Top of Shaker Bins
Height Above Ground Level	30 Feet
Height Relative to Observer	33 Feet
Distance from Observer	30 Yards
Direction from Observer	To N West
Description of Plume (stack exit only)	N/A ☐ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation
Emission Color	Clean
Plume Type	N/A ☐ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present?	N/A ☐ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined?	Top of Shaker Bin
Describe Background (i.e. blue sky, trees, etc.)	Gray/Blue Sky
Background Color	Gray/Blue
Sky Conditions	Light Clouds
Wind Speed	0 mph
Wind Direction (i.e. from North to South)	0 None
Ambient Temperature	10.0 °C
Wet Temperature	-6.8 °C
Relative Humidity	27 %

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				

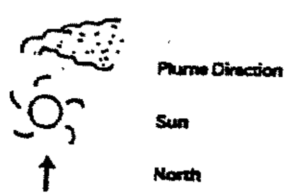
COMMENTS:

Average Opacity	Min 1-10 0%
Range of Opacity Readings	Min.: 0 Max.: 0
OBSERVER (please print) Name:	David Blatz
Title:	Env. Sci.
Signature	[signature]
Date	11/8/05
Organization	KSL-Env
Certification Date	9/19/05

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 068 Issued 1/85

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

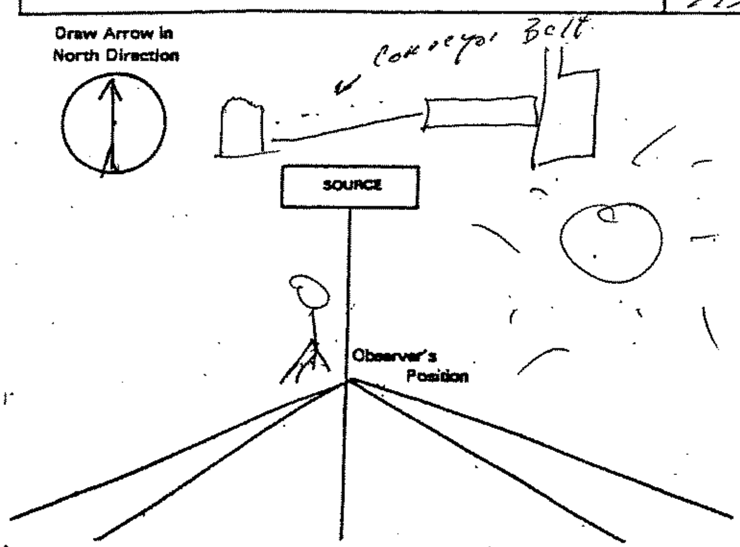
SOURCE: TA-60 Asphalt Plant	OBSERVATION DATE: 11/8/05
START TIME: 8:26	STOP TIME: 8:36
LOCATION: Los Alamos, NM	
Type of Source: Asphalt Plant	Type of Control Equipment: Baghouse
Describe Emission Point (top of stack, etc.): Top of Conveyor Belt	
Height Above Ground Level: 5-12 Feet	Height Relative to Observer: 5-12 Feet
Distance from Observer: 30 Yards	Direction from Observer: To North
Description of Plume (stack exit only): N/A ☐ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation	
Emission Color: Clear	Plume Type: N/A ☐ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present? N/A ☐ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached	
At what point in the plume was opacity determined? Top of Conveyor Belt	
Describe Background (i.e. blue sky, trees, etc.): Blue Sky & trees	
Background Color: Blue/Green	Sky Conditions: Ptly Cldy
Wind Speed: 0 mph	Wind Direction (i.e. from North to South): 0 N/A
Ambient Temperature: 10.9 °C	Wet Temperature: -6.9 °C
Relative Humidity: 26 %	

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:

Average Opacity: Min 1-6 0%	Range of Opacity Readings: Min.: 0 Max.: 0
OBSERVER (please print) Name: David Plate	Title: Env-Sci
Signature: David Plate	Date: 11/8/05
Organization: KSL-Env-	Certification Date: 9/19/05

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:

Plume Direction
Sun
North

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

Signature: ______________________

Title: ______________________

Date: ______________________

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

Source	TA-60 Asphalt Plant
Observation Date	11/8/05
Start Time	8:05
Stop Time	8:15
Location	Los Alamos, NM
Type of Source	Asphalt Plant
Type of Control Equipment	Bag House
Describe Emission Point (top of stack, etc.)	Top of Baghouse Stack
Height Above Ground Level	20 Feet
Height Relative to Observer	24 Feet
Distance from Observer	30 Yards
Direction from Observer	To N.E
Description of Plume (stack exit only)	N/A ☐ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation
Emission Color	Clear
Plume Type	N/A ☐ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present?	N/A ☐ 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/White/Blue Sky
Background Color	Gray/White/Blue
Sky Conditions	Ptly Cldy
Wind Speed	0-2 mph
Wind Direction (i.e. from North to South)	N/A
Ambient Temperature	10.5 °C
Wet Temperature	~6.4°C
Relative Humidity	30 %

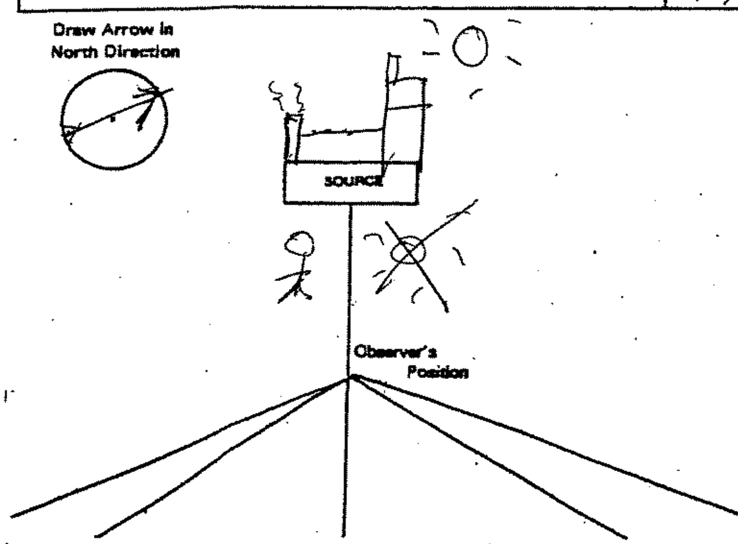
Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	0	0	0	13				
2	0	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6	0	0	0	0	18				
7	0	0	0	0	19				
8	0	0	0	0	20				
9	0	0	0	0	21				
10	0	0	0	0	22				
11					23				
12					24				

COMMENTS:

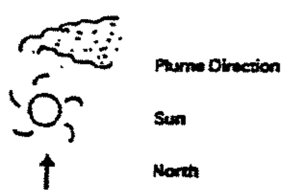
Average Opacity: Min 1-6 0 %
Range of Opacity Readings: Min.: 0 Max.: 0

OBSERVER (please print)
Name: David Pl?sta Title: Env. Sc.
Signature: David Pl?sta
Date: 11/8/05
Organization: KSL-Env.
Certification Date: 9/19/05

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: ____________________

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: TA-60 DX Asphalt Plant
OBSERVATION DATE: 12/19/05
START TIME: 1:15
STOP TIME: 1:25

LOCATION: Los Alamos Nat'l. Lab
Type of Source: Asphalt Plant
Type of Control Equipment: Baghouse
Describe Emission Point (top of stack, etc.): Top of Shaker Bin
Height Above Ground Level: 25 Feet
Height Relative to Observer: 25 Feet
Distance from Observer: 25 Yards
Direction from Observer: To North
Description of Plume (stack exit only): N/A ☐ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation
Emission Color: Lt. Brown
Plume Type: ~~N/A~~ ☐ 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 Shaker Bins
Describe Background (i.e. blue sky, trees, etc.): Blue Sky
Background Color: Blue
Sky Conditions: Pt'ly Cldy.
Wind Speed: 0 mph
Wind Direction (i.e. from North to South): 0
Ambient Temperature: °F
Wet Temperature: °F
Relative Humidity: %

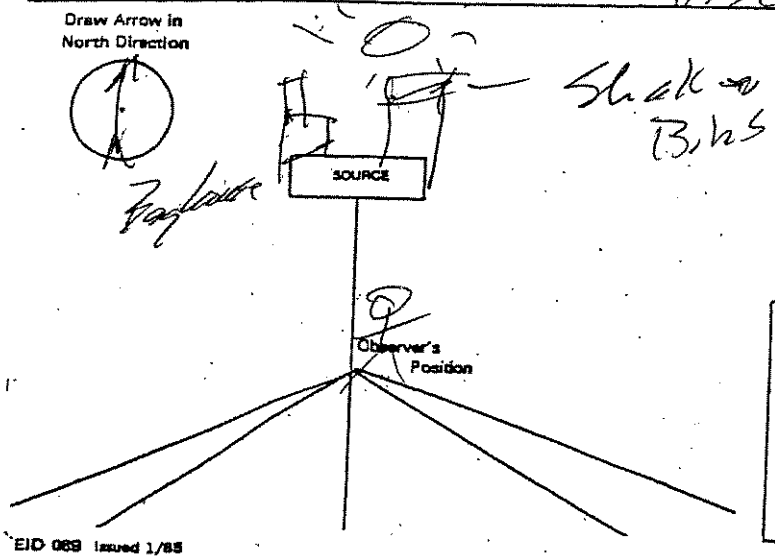
Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	0	0	0	13				
2	0	0	0	0	14				
3	0	0	0	0	15				
4	0	0	0	0	16				
5	0	0	0	0	17				
6	0	0	0	0	18				
7	0	0	0	0	19				
8	0	0	5	5	20				
9	0	0	5	0	21				
10	0	0	0	0	22				
11					23				
12					24				

COMMENTS: Min. 5-10 Opacity

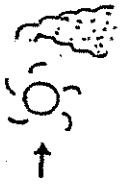
Average Opacity: 0.625 ~~0.75~~
Range of Opacity Readings: Min.: 0 Max.: 5

OBSERVER (please print)
Name: David Martinez Title: Env. Sci.
Signature: David Martinez Date: 12/19/05
Organization: ESC-Env. Certification Date: 9/1/05

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:



Plume Direction
Sun
North

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

Signature: _____

Title: _____

Date: _____

EID 069 Issued 1/88

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

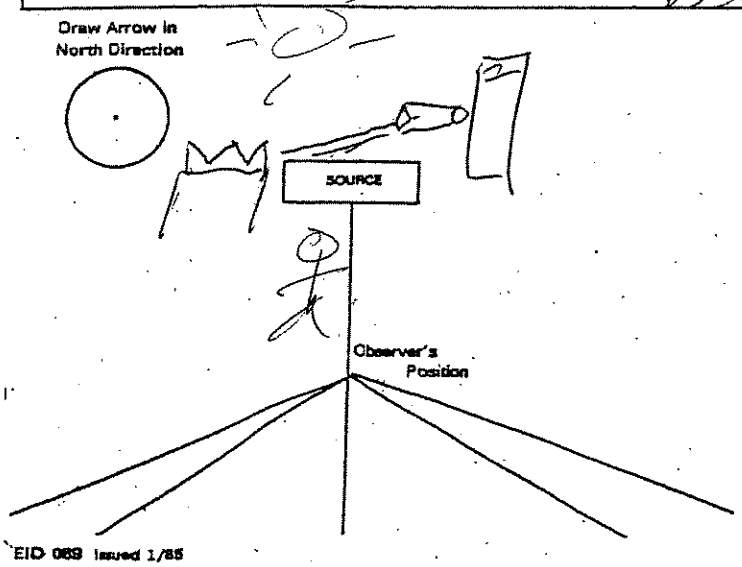
SOURCE: LA 60 TPH Asphalt Plant
OBSERVATION DATE: 12/19/05
START TIME: 1:26
STOP TIME: 1:36
LOCATION: LANL
Type of Source: Asphalt Plant
Type of Control Equipment: Baghouse
Describe Emission Point (top of stack, etc.): Above Conveyor Belt
Height Above Ground Level: 5-10 Feet
Height Relative to Observer: 5-10 Feet
Distance from Observer: 3 Yards
Direction from Observer: North
Description of Plume (stack exit only): N/A ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation ☐ Lofting ☐ Trapping
Emission Color: No 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 Conveyor Belt
Describe Background (i.e. blue sky, trees, etc.): Blue Sky & Trees
Background Color: Blue/Green
Sky Conditions: Partly Cloudy
Wind Speed: 0 mph
Wind Direction (i.e. from North to South): No Wind
Ambient Temperature: °F
Wet Temperature: °F
Relative Humidity: %

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				

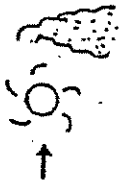
COMMENTS:

Average Opacity: Min. 1-6 0%
Range of Opacity Readings: Min.: 0 Max.: 0
OBSERVER (please print) Name: David Plant Title: Env. Sci.
Signature: David Plant
Date: 12/19/05
Organization: ESH-Env.
Certification Date: 9/1/05

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: BDM Asphalt TA-60
OBSERVATION DATE: 12/15/05
START TIME: 8:45
STOP TIME: 8:55

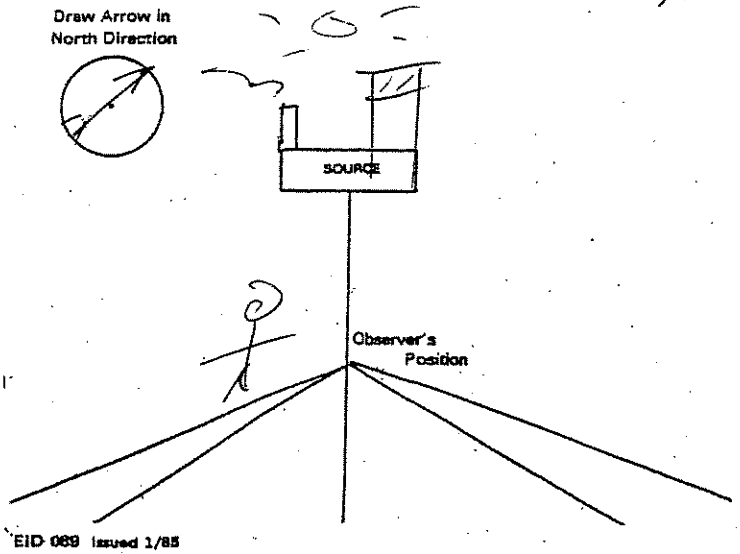
LOCATION: Sigma Mesa - Los Alamos N.M.
Type of Source: Asphalt Plant
Type of Control Equipment: Baghouse
Describe Emission Point (top of stack, etc.): Top of Stack
Height Above Ground Level: 20 Feet
Height Relative to Observer: 25 Feet
Distance from Observer: 30 Yards
Direction from Observer: to N.E.
Description of Plume (stack exit only): N/A ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation ☐ Lofting ☐ Trapping
Emission Color: None
Plume Type: N/A ☐ Continuous ☐ Fugitive ☐ Intermittent
Water Droplets Present? N/A ☐ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
At what point in the plume was opacity determined? 5' above Top of Stack
Describe Background (i.e. blue sky, trees, etc.): Clear Blue
Background Color: Blue
Sky Conditions: Clear
Wind Speed: 0-2 mph
Wind Direction (i.e. from North to South): N/A
Ambient Temperature °F
Wet Temperature °F
Relative Humidity %

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				

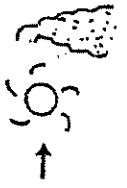
COMMENTS:

Average Opacity: All 0-1-0 0%
Range of Opacity Readings: Min.: 0 Max.: 0
OBSERVER (please print) Name: Dave Plante Title: Env. Sci.
Signature: Dave Plante Date: 12/19/05
Organization: ARL Env Certification Date: 9/1/05

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

Attachment B
Beryllium HEPA Filter Tests Results

Summary Table, Reports Attached

Unit	Date	Pass/Fail
TA-55 300 Area H5-1450	7/22/2005	Pass
TA-55 300 Area H5-5870	7/22/2005	Pass
TA-55 300 Area H5-5880	7/22/2005	Pass

300 AREA GLOVEBOX EXHAUST IN-PLACE HEPA FILTER TESTING

ATTACHMENT A
300 Area Glovebox Exhaust FF-854 Data Sheet

Date: 07/22/05 (8.4.1) LAS Calibration Expiration Date: 02/15/06 (8.4.3) Diluter Calibration Expiration Date: 8/11/2005 (8.4.4) Dilution Ratio: 2025/1 (8.4.2)

Step Number	Item	FF-854 H-5-1450	
9.1.12.2	Background concentration (part./cc)	3.531×10^{-3} part. concentration	
9.1.12.3	Upstream concentration (part./cc)	2.240×10^{6} part. concentration	
9.1.12.4	Challenge aerosol concentration between 2.00×10^{6} and 2.71×10^{6} part./cc	PT Initials	
9.1.12.5	1st stage downstream concentration (part./cc)	3.118×10^{2} part. concentration	
9.1.12.6	2nd/3rd stage downstream concentration (part./cc)	1.059×10^{2} part. concentration	
9.1.12.7	1st stage Penetration $\leq 5.0 \times 10^{-4}$ (efficiency $\geq$ 99.95%)	1.411×10^{-4}	
9.1.12.8	2nd/3rd stage Penetration $\leq 2.5 \times 10^{-7}$ (efficiency $\geq$ 99.999975%)	3.196×10^{-9}	
9.1.13.2 9.1.13.3	Ensure all test port ball valves are closed; (FF-858-FH1, FF-859-FH1, TP-858-2,TP-855-2, TP-854-2, TP-859-2, TP-854-3, TP-855-3, TP-855-1, TP-854-1)	PT Initials	Independent Verification

Valve	Required Position	Initials	Independent Verification
HV-854-J	Closed and Locked	ah	PT
HV-854-G	Closed	ah	PT
HV-854-H	Closed	ah	PT
HV-854-D	Closed	ah	PT
HV-854-C	Closed	ah	PT
HV-854-B	Closed	ah	PT
HV-854-A	Closed	ah	PT
HV-854-AA	Closed	ah	PT

Comments:

Surveillance Personnel Paul Trujillo Signature 7-22-05 Date OC On-duty Supervisor Signature 7/22/05 Date

300 AREA GLOVEBOX EXHAUST IN-PLACE HEPA FILTER TESTING

ATTACHMENT B
300 Area SRL Glovebox Exhaust FF-858 Data Sheet

Date: 07/22/05 (8.4.1) LAS Calibration **Expiration** Date: 02/15/06 (8.4.3) Diluter Calibration **Expiration** Date: 8/11/05 (8.4.4) Dilution Ratio: 2025/1 (8.4.2)

Step Number	Item	FF-858 H-5-5870	
9.2.9.2	Background concentration (part./cc)	0.000×10^{0} part. concentration	
9.2.9.3	Upstream concentration (part./cc)	2.719×10^{6} part. concentration	
9.2.9.4	Challenge aerosol concentration between 2.00×10^{6} and 2.71×10^{6} part./cc	PT Initials	
9.2.9.5	1st stage downstream concentration (part./cc)	1.028×10^{2} part. concentration	
9.2.9.6	2nd/3rd stage downstream concentration (part./cc)	3.531×10^{-3} part. concentration	
9.2.9.7	1st stage Penetration ≤ 5.0×10^{-4} (efficiency ≥ 99.95%)	3.780×10^{-5}	
9.2.9.8	2nd/3rd stage Penetration ≤ 2.5×10^{-7} (efficiency ≥ 99.999975%)	1.298×10^{-9}	
9.2.10.3 9.2.10.4	Ensure all test port ball valves are closed; (FF-858-FH1, FF-859-FH1, TP-858-2, TP-855-2, TP-854-2, TP-859-2, TP-854-3, TP-855-3, TP-855-1, TP-854-1)	PT Initials	Independent Verification

Valve	Required Position	Initials	Independent Verification
HV-858-8	Closed	ah	PT
HV-858-7	Closed	ah	PT
HV-858-5	Closed	ah	PT
HV-858-3	Closed	ah	PT
HV-858-2	Closed	ah	PT
HV-858-1	Closed	ah	PT
HV-854-AA	Closed	ah	PT

Comments:

Surveillance Personnel Signature: Paul Trujillo Date: 7-22-05 OC On-duty Supervisor Signature: [signature] Date: 7/22/05

ATTACHMENT D
300 Area SRL Glovebox Exhaust FF-859 Data Sheet

Date: 07/22/05 (8.4.1) LAS Calibration **Expiration** Date: 02/15/06 (8.4.3) Diluter Calibration **Expiration** Date: 8/11/05 (8.4.4) Dilution Ratio: 2035/1 (8.4.2)

Step Number	Item	FF-859 H-5-5880
9.4.9.2	Background concentration (part./cc)	0.0 part. concentration
9.4.9.3	Upstream concentration (part./cc)	2.329×10^6 part. concentration
9.4.9.4	Challenge aerosol concentration between 2.00×10^6 and 2.71×10^6 part./cc	mmT Initials
9.4.9.5	1st stage downstream concentration (part./cc)	9.821×10^1 part. concentration
9.4.9.6	2nd/3rd stage downstream concentration (part./cc)	mmT 7/22/05 3.531×10^{-3} part. concentration
9.4.9.7	1st stage Penetration $\leq 5.0 \times 10^{-4}$ (efficiency $\geq$ 99.95%)	3.788×10^{-5}
9.4.9.8	2nd/3rd stage Penetration $\leq 2.5 \times 10^{-7}$ (efficiency $\geq$ 99.999975%)	1.516×10^{-9}
9.4.10.3 9.4.10.4	Ensure all test port ball valves are closed; (FF-858-FH1, FF-859-FH1, TP-858-2,TP-855-2, TP-854-2, TP-859-2, TP-854-3, TP-855-3, TP-855-1, TP-854-1)	Initials / Independent Verification

Valve	Required Position	Initials	Independent Verification
HV-859-8	Closed	mmT	ach
HV-859-7	Closed	mmT	ach
HV-859-5	Closed	mmT	ach
HV-859-3	Closed	mmT	ach
HV-859-2	Closed	mmT	ach
HV-859-1	Closed	mmT	ach
HV-854-AA	Closed	mmT	ach

Comments:

Surveillance Personnel Signature: [signature] Date: 7/22/05

OC On-duty Supervisor Signature: [signature] Date: 7/22/05

Attachment C
Boilers and Heaters Natural Gas Usage

2005 TA-21 Steam Plant Data Entry / Fuel Use

	DATA ENTRY					
	Monthly Fuel Use					
	TA-21-357		Converted			
Month	Natural Gas (MCF)	Fuel Oil (gallons)	Natural Gas (MMscf)	Month	Natural Gas Use 12-Month Rolling Total (MMscf)	Fuel Oil Use 12-Month Rolling Total (Gallons)
January	3849	10	3.849	January	31.45	81
February	3605	10	3.605	February	31.28	87
March	3728	0	3.728	March	32.11	83
April	2627	96	2.627	April	32.10	171
May	2131	88	2.131	May	32.27	255
June	1556	40	1.556	June	32.21	295
July	1153	0	1.153	July	31.73	295
August	1687	0	1.687	August	31.74	295
September	1428	7	1.428	September	31.44	302
October	2584	0	2.584	October	31.54	302
November	3359	1	3.359	November	31.74	303
December	3891	0	3.891	December	31.60	252
Annual Totals:	31598	252	31.598			
Jan. - June	17496	244	17.496			
July - Dec.	14102	8	14.102			

Permit Limit = 60 MMScf/yr natural gas (12 month rolling total) and 10,000 gal/yr fuel oil (12 month rolling total)

Reviewed By: Walt Whetham 1/20/06

2005 Small Boilers Data Entry / Gas Use

	Month	Metered Boilers: TA-55 Boiler Gas Use (MSCF)[c] BHW-1B (B-602)	Metered Boilers: TA-55 Boiler Gas Use (MSCF)[c] BHW-2B (B-603)	Metered Boilers: TA-50-2[d] (MSCF) BS-1	Total Gas Use[a] (MSCF)	Total Gas Use[a] (MMSCF)	Non-Metered Gas Use (MMSCF)	12-Month Rolling Total for all Small Boilers (MMSCF)[e]
Data Entry	January	82	2798		75,388	75.39	72.51	539.37
	February	1360	925		68,552	68.55	66.26	534.54
	March	14	2969		65,683	65.68	62.70	545.28
	April	17	2746		48,462	48.46	45.70	544.79
	May	6	2178		30,265	30.27	28.08	547.61
	June	5	1928	17.9	15,693	15.69	13.76	547.14
	July	5	1650		15,299	15.30	13.64	548.68
	August	748	763		14,123	14.12	12.61	549.06
	September	546	756		16,233	16.23	14.93	548.08
	October	1386	448		40,575	40.58	38.74	543.60
	November	1546	1166		54,967	54.97	52.26	527.22
	December	1968	1110	0	73,605	73.61	70.53	518.85
	TOTAL	7683	19437	17.9	518,845	518.85	491.71	Permit Limit 870

2005 Non Metered Boiler Pool Capacity:	**262.1**	MMBTU/hr[f]
Estimated Gas-Use per MMBtu rating Jan-June:	1.10	MMscf/MMBtu/hr
Estimated Gas-Use per MMBtu rating July-Dec:	0.77	MMscf/MMBtu/hr
Estimated Gas-Use per MMBtu - Annual	1.88	MMscf/MMBtu/hr

Definitions:

MMSCF= Million Standard Cubic Feet
MSCF = Thousand Standard Cubic Feet

Metered/Non-metered: Metered boilers are those units that have unit specific volumetric flow meters for the boiler(s) only.

	Gas Use Non-Metered[g] (MMSCF)								
AIRS Stack #	015	016	017	018	019	020	021	024	Insignificant Units[h]
Location:	TA-48-1	TA-48-1	TA-48-1	TA-53-365	TA-53-365	TA-59-1	TA-59-1	TA-16-1484	Lab Wide
ID:	BS-1	BS-2	BS-6	BHW-1	BHW-2	BHW-1	BHW-2	Plant 5	Various
Design Rate[f] (MMBTU/hr)	**5.336**	**5.335**	**7.140**	**7.115**	**7.115**	**5.335**	**5.335**	**12.700**	**207**
Calculated Gas Use-Jan-June	5.884	5.883	7.873	7.845	7.845	5.883	5.883	14.003	227.899
Calculated Gas Use-July-Dec	4.127	4.126	5.522	5.502	5.502	4.126	4.126	9.822	159.854
Calculated Gas Use-Annual	10.011	10.009	13.395	13.347	13.347	10.009	10.009	23.826	387.753

F
5

Reviewed by: Walt Whetham 11/20/06

Attachment D
Boilers and Heaters Opacity Reports

Summary Table, Reports Attached

Source	Date	Time	Opacity
TA-21 Steam Plant	8/17/2005	11:20	0 %
TA-21 Steam Plant	8/24/2005	1:15	0 %
TA-21 Steam Plant	9/22/2005	10:05	4.87 %

VISIBLE EMISSION OBSERVATION FORM

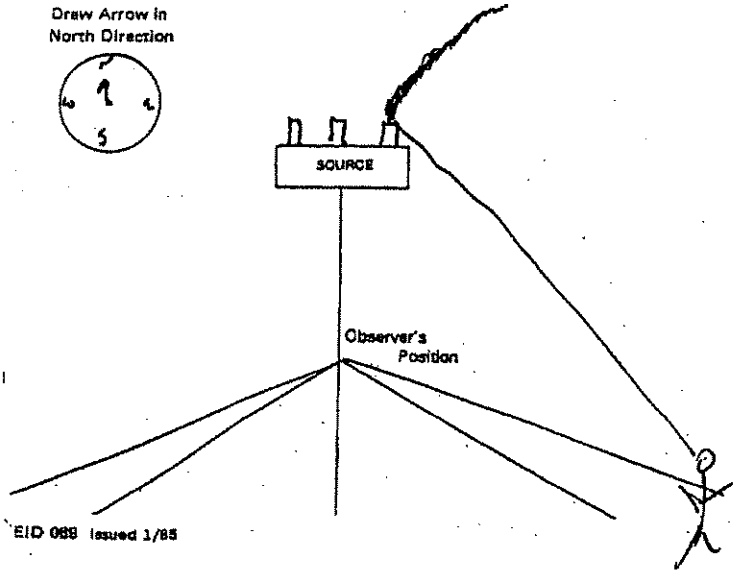
Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: Boiler #2
OBSERVATION DATE: 8-17-05
START TIME: 11:20
STOP TIME: 11:40
LOCATION: TA-21 DP Steam Plant Bldg 357
Type of Source: Fuel Oil #2
Type of Control Equipment: Boilers
Describe Emission Point (top of stack, etc.): Top of stack
Height Above Ground Level: 40 Feet
Height Relative to Observer: 45 Feet
Distance from Observer: 30 Yards
Direction from Observer: Northwest
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: Partly cloudy
Wind Speed: 0-2 mph
Wind Direction (i.e. from North to South): East to West
Ambient Temperature: °F
Wet Temperature: °F
Relative Humidity: %
COMMENTS:

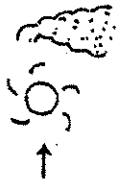
Sec. / Min.	0	15	30	45	Sec. / Min.	0	15	30	45
1	0	0	0	0	13	0	0	0	0
2	0	0	0	0	14	0	0	0	0
3	0	0	0	0	15	0	0	0	0
4	0	0	0	0	16	0	0	0	0
5	0	0	0	0	17	0	0	0	0
6	0	0	0	0	18	0	0	0	0
7	0	0	0	0	19	0	0	0	0
8	0	0	0	0	20	0	0	0	0
9	0	0	0	0	21				
10	0	0	0	0	22				
11	0	0	0	0	23				
12	0	0	0	0	24				

Average Opacity: 0 %
Range of Opacity Readings: Min.: 0 Max.: 100
OBSERVER (please print) Name: Scott McGarrow Title: Engineer
Signature:
Date: 8-17-05
Organization: ESL
Certification Date: 3-3-05

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: Maintenance Engineer
& Acting Co-Coordinator Supt.
Date: 8-18-05

EID 069 Issued 1/85

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

Field	Entry
SOURCE	Boiler #2 TA-21 BLDG 357
OBSERVATION DATE	8-24-05
START TIME	1115 pm
STOP TIME	
LOCATION	TA-21 - BLDG 357
Type of Source	fuel oil #2
Type of Control Equipment	Boilers
Describe Emission Point (top of stack, etc.)	6" from top of stack
Height Above Ground Level	40 Feet
Height Relative to Observer	45 Feet
Distance from Observer	30 Yards
Direction from Observer	E to 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?	6" TOP of Stack
Describe Background (i.e. blue sky, trees, etc.)	Blue sky
Background Color	Blue
Sky Conditions	cloudy
Wind Speed	0-5 mph
Wind Direction (i.e. from North to South)	E to W
Ambient Temperature	°F
Wet Temperature	°F
Relative Humidity	%

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				
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				

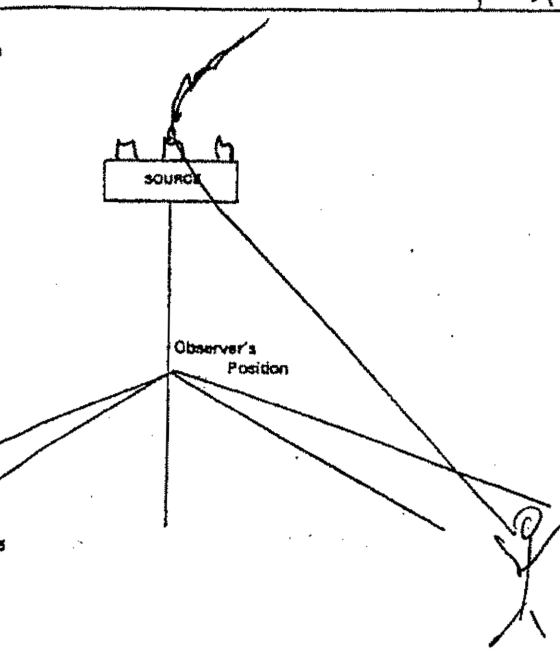
COMMENTS:

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

OBSERVER (please print)
Name: Scott Teegarden Title: Leadman
Signature: [signature]
Date: 8-24-05
Organization: KSL
Certification Date: 3-3-05

Draw Arrow in North Direction

IMPORTANT: Please indicate the following by sketch:



I acknowledge receipt of a copy of these visible emissions observations.
Signature: [signature]
Title: Water Treatment Spec.
Date: 8/25/05

VISIBLE EMISSION OBSERVATION FORM

Environmental Improvement Division
RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: Boiler #2 fuel oil
OBSERVATION DATE: 9-22-05
START TIME: 10:05
STOP TIME: 10:30

LOCATION: TA-21-Bldg 357
Type of Source: #2 fuel oil
Type of Control Equipment: Boilers
Describe Emission Point (top of stack, etc.): 6" top of stack
Height Above Ground Level: 40 Feet
Height Relative to Observer: 45 Feet
Distance from Observer: 30 Yards
Direction from Observer: E - W
Description of Plume (steam 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" Top of Stack
Describe Background (i.e. blue sky, trees, etc.): White
Background Color: white
Sky Conditions: cloudy
Wind Speed: 0-5 mph
Wind Direction (i.e. from North to South): S-N
Ambient Temperature: °F
Wet Temperature: °F
Relative Humidity: %

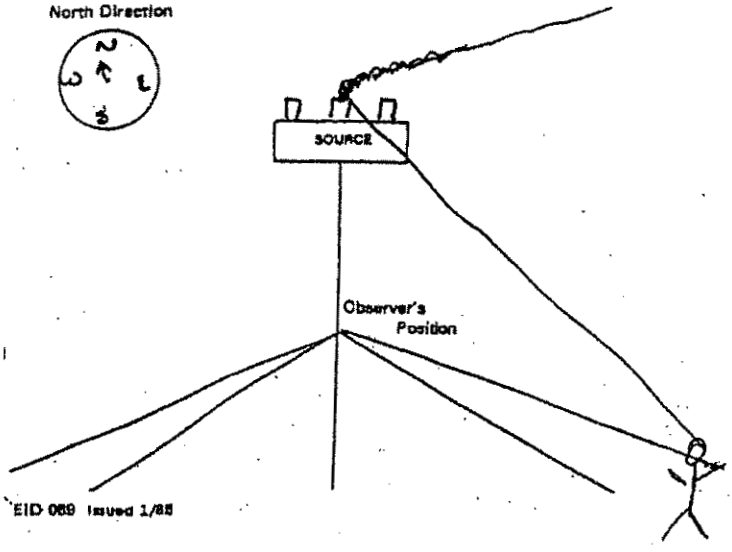
Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	0	0	0	13	0	0	0	0
2	0	0	0	0	14	0	0	0	0
3	0	0	0	0	15	0	0	0	0
4	0	0	0	0	16	0	0	0	0
5	0	0	0	0	17	100	50	0	0
6	100	75	0	0	18	0	0	0	0
7	50	0	0	0	19	0	0	0	0
8	0	0	0	0	20	10	10	5	0
9	0	0	0	0	21	0	0	0	0
10	0	0	0	0	22				
11	10	10	0	0	23				
12	0	0	0	0	24				

COMMENTS:

Average Opacity: 4.87
Range of Opacity Readings: Min.: 0 Max.: 100

OBSERVER (please print)
Name: Scott Teegarden Title: Leadman
Signature:
Date: 9-22-05
Organization: KSL
Certification Date: 9-1-05

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: KSL/WESB Maint. Engr.
Date: 9-23-05

EID 069 Issued 1/88

Attachment E
Carpenter Shop Hours of Operation

2005 TA-3 & TA-15 Carpenter Shops

TA-3	Data Entry
	Hours of Operation[1]
Month	TA-3
January	7.5
February	20.5
March	20.4
April	14.5
May	12.3
June	8.6
6 mo. Total	83.80

TA-3	Data Entry
	Hours of Operation[1]
Month	TA-3
July	7.5
August	6
September	7.25
October	6.2
November	9.3
December	15
6 mo. Total:	51.25

TA-15	Data Entry
	Hours of Operation[1]
Month	TA-15
January	0.0
February	0.0
March	0.0
April	0.0
May	0.0
June	35.4
6 mo. Total	35.4

TA-15	Data Entry
	Hours of Operation[1]
Month	TA-15
July	17.2
August	21.8
September	41.7
October	26.8
November	16.3
December	5.4
6 mo. Total:	129.2

Saws, drills, shaping and sanding equipment shall each not operate in excess of 4368 hours per year.

Reference
1. Based on information provided monthly by the shop foreman from each shop.

Reviewed By/Date: Walt Whetham 1/20/06

Attachment F
Degreaser Solvent Usage

phone: 665-8855
fax: 665-8858
who we are

METEOROLOGY & AIR QUALITY

Degreaser Compliance Site

Historical Solvent Usage Data

The usage information for UT Bath degreaser from Jan-01-2005 through Dec-31-2005 is displayed below.

General Degreaser Information

Degreaser Type	TA	Building	Solvent
Cold Batch	55		*Trichloroethylene*

Date Measured	Initial Solvent Level (inches)	Volume Added (liters)	Level Added (inches)	Volume Removed (liters)	Level Removed (inches)
Jan-03-2005	7.4	0.00	0.00	0.0	0.0
Feb-01-2005	7.0	0.00	0.00	0.0	0.0
Mar-01-2005	6.8	0.00	0.00	0.0	0.0
Mar-07-2005	6.8	0.00	0.00	13.37	6.8
Mar-08-2005	0.0	14.74	7.50	0.0	0.0
Apr-04-2005	7.3	0.00	0.00	0.0	0.0
May-02-2005	7.1	0.00	0.00	0.0	0.0
Jun-05-2005	6.8	0.00	0.00	0.0	0.0
Jun-23-2005	6.6	0.00	0.00	12.97	6.6
Jun-27-2005	0.0	15.33	7.80	0.0	0.0
Jul-05-2005	7.7	0.00	0.00	0.0	0.0
Aug-01-2005	7.3	0.00	0.00	0.0	0.0
Sep-01-2005	7.0	0.00	0.00	0.0	0.0
Oct-03-2005	6.8	0.00	0.00	0.0	0.0
Nov-01-2005	6.6	0.00	0.00	12.97	6.6
Nov-07-2005	0.0	14.35	7.30	0.0	0.0
Dec-01-2005	6.8	0.00	0.00	0.0	0.0

Change Selection | View Emissions | Main Menu
Problem Report | Exit Application

Attachment G
Internal Combustion Generator Hours of Operation

								First 6 Month Readings 2005					Second 6 Month Readings 2005				
TA	Bldg	Manufacturer	MODEL	KW	Fuel Type	Reading Date 2nd half 04'	Reading 2nd half 04'	6 Month Reading Date	Reading	Hours Run	Days between readings	6 mth. Prorated Hours	12 Month Reading Date	Reading	Hours Run	Days b/t readings	6 mth. Prorated Hours
3	40	Onan Sons	1500DVE15R3137	150	Diesel	12/01/2004	245.0	06/01/2005	246	1	180	1.0	11/01/2005	246.0	0	150	0.0
3	223	Onan Sons		45	Nat. Gas	12/01/2004	452.1	05/01/2005	457	4.9	150	5.9	11/01/2005	469.1	12.1	180	12.1
3	1404	Cummins		1250	Diesel	11/01/2004	79.0	06/01/2005	123.5	44.5	210	38.1	12/01/2005	176.6	53.1	180	53.1
3	440	Cummins	500FDR5051	150	Diesel	12/01/2004	98.0	06/01/2005	104	6	180	6.0	12/01/2005	110.4	6.4	180	6.4
3	440	Cummins	DFGA-5005210	500	Diesel	12/01/2004	42.9	06/01/2005	49	6.1	180	6.1	12/01/2005	56.6	7.6	180	7.6
3	1076	Cummins	DGBB-5601289	35	Diesel	01/01/2005	44.5	06/01/2005	56	11.5	150	13.8	12/01/2005	69.8	13.8	180	13.8
3	1498	Caterpillar		600	Diesel	12/01/2004	269.0	06/01/2005	276	7	180	7.0	11/01/2005	281.0	5	150	6.0
3	2322	Onan Sons		80	Diesel	12/01/2004	56.8	06/01/2005	192.6	135.8	180	135.8	11/01/2005	202.8	10.2	150	12.2
16	205	Onan Sons	250	250	Diesel	11/01/2004	1008.7	06/01/2005	Shutdown	0	210	0.0	11/01/2005	Shutdown	0	150	0.0
16	980	Cummins	KTA50-G2	1100	Diesel	12/01/2004	10.4	06/01/2005	19	8.6	180	8.6	12/01/2005	43.5	24.5	180	24.5
16	1374	Onan Sons	60ENA	60	Nat. Gas	12/01/2004	865.2	05/01/2005	908	42.8	150	51.4	11/01/2005	978.0	70	180	70.0
18	31	Onan Sons	275DFML29807N	275	Diesel	12/01/2004	147.6	06/01/2005	154	6.4	180	6.4	12/01/2005	160.0	6	180	6.0
21	155	Onan Sons	750.ODFV-4XR	750	Diesel	12/01/2004	825.6	06/01/2005	832	6.4	180	6.4	11/01/2005	837.8	5.8	150	7.0
21	357	Caterpillar		125	Diesel	12/01/2004	445.0	06/01/2005	451	6	180	6.0	11/01/2005	456.5	5.5	150	6.6
21	1002	Onan Sons	H1750DSG15	175	Diesel	11/01/2004	2878.2	05/01/2005	2928.2	50	180	50.0	11/01/2005	2934.0	5.8	180	5.8
21	1002	Onan Sons		350	Diesel	12/01/2004	1770.9	05/01/2005	1778	7.1	150	8.5	11/01/2005	1878.1	100.1	180	100.1
21	1002	Cummins	150DGFA	150	Diesel	12/01/2004	1072.8	05/01/2005	1080	7.2	150	8.6	11/01/2005	1083.5	3.5	180	3.5
33	20	Kohler	30ROZ	30	Diesel	12/01/2004	840.5	05/01/2005	870.0	29.5	150	35.4	11/01/2005	915.2	45.2	180	45.2
33	151	Caterpillar	XQ225	225	Diesel	12/01/2004	2944.0	05/01/2005	2944	0.0	150	0.0	11/01/2005	2944.0	0	180	0.0
33	208	Kohler	1600ROZD	1600	Diesel	12/01/2004	4.9	05/01/2005	4.9	0	150	0.0	11/01/2005	4.9	0	180	0.0
33	Point	Onan Sons	80DG10A	80	Diesel	12/01/2004	7643.1	05/01/2005	7643.1	0	150	0.0	11/01/2005	7643.1	0	180	0.0
35	2	Onan Sons	100DGDB	100	Diesel	01/01/2005	95.3	05/01/2005	105	9.7	120	14.6	12/01/2005	115.3	10.3	210	8.8
43	1	Cummins	4BT3.9-GC	50	Diesel	12/01/2004	344.6	06/01/2005	351	6.4	180	6.4	11/01/2005	356.7	5.7	150	6.8
43	1	Onan Sons		150	Diesel	12/01/2004	455.3	06/01/2005	483	27.7	180	27.7	11/01/2005	506.6	23.6	150	28.3
46	335	Onan Sons	300DEFCB	300	Diesel	12/01/2004	717.3	05/01/2005	748	30.7	150	36.8	11/01/2005	784.6	36.6	180	36.6
48	45	Onan Sons		125	Diesel	12/01/2004	328.5	06/01/2005	334	5.5	180	5.5	11/01/2005	343.7	9.7	150	11.6
50	37	Cummins	680FDR5059FF	500	Diesel	12/01/2004	463.8	06/01/2005	470	6.2	180	6.2	11/01/2005	475.4	5.4	150	6.5
50	184	Onan Sons	75ENAD	60	Nat. Gas	01/01/2005	49.5	05/01/2005	65	15.5	120	23.3	11/01/2005	92.1	27.1	180	27.1
50	188	Onan Sons	L940563879	1250	Diesel	12/01/2004	131.2	06/01/2005	138	6.8	180	6.8	11/01/2005	142.7	4.7	150	5.6
53	1	Onan Sons		60	Nat. Gas	12/01/2004	971.1	06/01/2005	1017.5	46.4	180	46.4	11/01/2005	1067.1	49.6	150	59.5
53	2	Kato Eng.	Kaman	50	Diesel	12/01/2004	189.0	06/01/2005	193	4	180	4.0	11/01/2005	194.3	1.3	150	1.6
53	M	Cummins		60	Diesel	12/01/2004	4440.0	06/01/2005	4440	0	180	0.0	11/01/2005	4440.0	0	150	0.0
53	M	Onan Sons		12.5	Nat. Gas	12/01/2004	581.5	06/01/2005	581.5	0	180	0.0	11/01/2005	581.5	0	150	0.0
54	412	Olympian	95M-07874-F	500	Diesel	12/01/2004	242.6	06/01/2005	248	5.4	180	5.4	11/01/2005	269.2	21.2	150	25.4
55	5			100	Nat. Gas	12/01/2004	44.7	06/01/2005	53.3	8.6	180	8.6	12/01/2005	62.4	9.1	180	9.1
55	8	Detroit		600	Diesel	12/01/2004	760.6	06/01/2005	773	12.4	180	12.4	12/01/2005	782.9	9.9	180	9.9
55	8	Onan Sons	1250DFLC-4987	1250	Diesel								12/01/2005	11.9	11.9	38131	0.1
55	28	Onan Sons		40	Diesel	12/01/2004	31.4	06/01/2005	38.6	7.2	180	7.2	12/01/2005	45.1	6.5	180	6.5
55	47	Onan Sons	1465	200	Diesel	12/01/2004	480.6	06/01/2005	487	6.4	180	6.4	11/01/2005	492.3	5.3	150	6.4
55	142	Cummins	DFEB-4963414	400	Diesel	12/01/2004	24.8	06/01/2005	31	6.2	180	6.2	12/01/2005	75.0	44	180	44.0
59	1	Allis Chalmers	2884-0703	90	Diesel	12/01/2004	725.5	06/01/2005	731	5.5	180	5.5	11/01/2005	736.8	5.8	150	7.0
61	23	Murphy		20	Diesel	12/01/2004	569.9	05/01/2005	569.9	0	150	0.0	11/01/2005	569.9	0	180	0.0
64	1	Onan Sons		250	Diesel	12/01/2004	114.6	06/01/2005	129	14.4	180	14.4	11/01/2005	134.5	5.5	150	6.6
64	39	Onan Sons		20	Diesel	12/01/2004	189.0	06/01/2005	190	1	180	1.0	12/01/2005	189.9	-0.1	180	-0.1
69	33	Cummins	DFLC-5568730	1250	Diesel	12/01/2004	16.5	06/01/2005	30	13.5	180	13.5	11/01/2005	35.0	5	150	6.0
	45 Generators in use										**TOTAL**	653.3				**TOTAL**	693.2

N/R = Not Read

First half average hours per unit	14.8

Second half average hours per unit	15.4

Annual Average of houra per unit	15.13

Reviewed By / Date: Walt Whitman 1/20/06

Attachment H
Paper Shredder Box Throughput

2005 TA-52 Data Disintegrator

Reviewed By / Date: M. Stockton 2/8/06

Month	Data Entry Boxes[c] Shredded	12-Month Rolling Total	Month	Data Entry Boxes[c] Shredded	12-Month Rolling Total
January	665	3031	July	758	7884
February	768	3799	August	585	8411
March	1065	4864	September	0	7508
April	844	5708	October	0	6791
May	768	6476	November	320	6660
June	650	7126	December	1216	7639
6 mo. Total	4,760		6 mo. Total:	2,879	

Annual Boxes (2005):	7,639

Attachment I
Power Plant Natural Gas and Fuel Oil Usage

TA-3 Power Plant Fuel Use Totals 2005 (Data Entry)

DATA ENTRY

Month	TA-3-22 Steam Plant[b] Boiler # 1 (Edgemoor Iron Works, 210 MMBTU/hr)		TA-3-22 Steam Plant[b] Boiler # 2 (Edgemoor Iron Works, 210 MMBTU/hr)		TA-3-22 Steam Plant[b] Boiler # 3 (Union Iron Works, 210 MMBTU/hr)		Monthly Totals	
	Natural Gas (MCF)[a]	Fuel Oil (gallons)[a]	Natural Gas (MCF)[a]	Fuel Oil (gallons)[a]	Natural Gas (MCF)[a]	Fuel Oil (gallons)[a]	Natural Gas (MMCF)[a]	Fuel Oil (gallons)[a]
January	6,231	706	0	0	60,123	119	66.354	825
February	3,136	0	598	0	53,192	122	56.926	122
March	4,944	35	29	0	54,579	0	59.552	35
April	192	446	38,481	598	9,028	0	47.701	1044
May	18,337	512	23,362	384	64	0	41.763	896
June	30,209	0	28	0	450	656	30.687	656
July	10,589	0	14,754	0	4,281	0	29.624	0
August	0	0	18,092	577	9,733	0	27.825	577
September	212	0	4,216	0	23,471	0	27.899	0
October	32,932	219	0	0	9,280	767	42.212	986
November	35,968	0	15,589	0	1,975	0	53.532	0
December	18,847	0	23,023	0	33,701	87	75.571	87
Annual Totals:	161,597	1,918	138,172	1,559	259,877	1,751	559.646	5228
Jan. - June	63,049	1,699	62,498	982	177,436	897	302.983	3578
July - Dec.	98,548	219	75,674	577	82,441	854	256.663	1650

Month	12-Mo. Rolling Total Natural Gas (MMscf)	12-Mo. Rolling Total Fuel Oil (gallons)
January	554.1	27489
February	546.0	26673
March	551.0	23311
April	553.4	20777
May	557.3	21673
June	558.4	22329
July	559.9	11810
August	558.6	7771
September	558.7	7671
October	556.6	7718
November	553.3	5195
December	559.6	5228

	Totals by Fuel Type	
	Natural Gas (MMscf)	Fuel Oil (Gallons)
Annual Totals:	559.65	5228.00
Jan. - June	302.98	3578.00
July - Dec.	256.66	1650.00

For References, See "Emission Summary Sheet"

Data Reviewed By: Walt Whetham 1/20/06

Permit Limits:	2000 MMscf	500,000 gallons

The limit for Natural Gas is from NSR Permit # 2195BM2. **The limit for Fuel Oil is from the Title-V Operating Permit.**

Attachment J
Power Plant Opacity Reports

Summary Table, Reports Attached

Source	Date	Time	Opacity
TA-3 SM-22 Power Plant	8/10/2005	10:06	10.875 %
TA-3 SM-22 Power Plant	8/26/2005	9:00	0.75 %
TA-3 SM-22 Power Plant	9/16/2005	9:37	9 %
TA-3 SM-22 Power Plant	10/6/2005	10:17	4.25 %
TA-3 SM-22 Power Plant	10/6/2005	11:35	11.0 %
TA-3 SM-22 Power Plant	10/18/2005	9:44	8.5 %
TA-3 SM-22 Power Plant	11/11/2005	10:03	5 %

RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE	Fuel oil # Boiler
LOCATION	TA 3 SM22 Power Plant
Type of Source	Fuel oil
Type of Control Equipment	N/A
Describe Emission Point (top of stack, etc.)	Top of Stack
Height Above Ground Level	175 Feet
Height Relative to Observer	175 Feet
Distance from Observer	150 Yards
Direction from Observer	N E
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.)	Blue Sky
Background Color	Blue
Sky Conditions	Clear
Wind Speed	10-3 mph
Wind Direction (i.e. from North to South)	From SW to N E
Ambient Temperature	°F
Wet Temperature	°F
Relative Humidity	%

OBSERVATION DATE	START TIME	STOP TIME
8-10-05	10:06	10:25

Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	100	100	50	0	13	0	0	0	0
2	0	0	0	50	14	0	0	0	0
3	40	25	0	0	15	0	0	0	0
4	0	0	0	0	16	5	0	0	0
5	0	10	10	10	17	0	0	0	0
6	10	10	10	5	18	0	0	0	0
7	5	0	0	0	19	0	0		
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: Had Control Problem Had To stop Fuel Burn As per Leroy MTZ

DP 10.875%

Average Opacity: ~~10.5~~ 8% DP

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

OBSERVER (please print)
Name: Brian Ortiz Title: Operator
Signature: Brian Ortiz Date: 8-10-05
Organization: UPPS Certification Date: 9-1-05

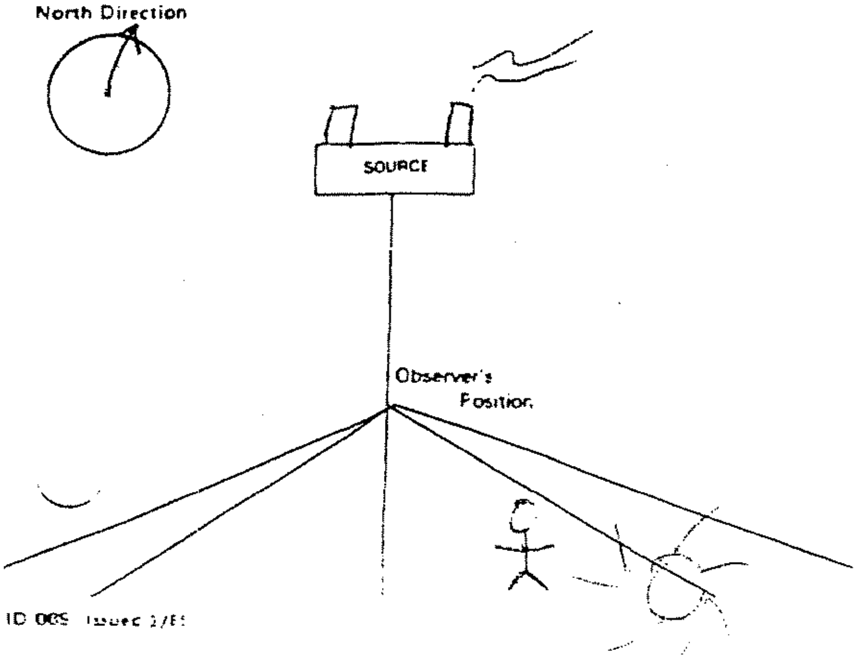
Draw Arrow in North Direction

IMPORTANT: Please indicate the following by sketch:

Plume Direction

Sun

North



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

Signature: [signature]

Title: Acting Co-Generation Supt.

Date: 8-16-05

ID 005 Issued 1/85

D

RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE	Fuel oil #2 Boiler
OBSERVATION DATE	8-26-05
START TIME	0900
STOP TIME	1045
LOCATION	TA-3 SM-22 Power Plant
Type of Source	fuel oil
Type of Control Equipment	N/A
Describe Emission Point (top of stack, etc.)	Top of Stack
Height Above Ground Level	150 Feet
Height Relative to Observer	175 Feet
Distance from Observer	225 ~~Yards~~
Direction from Observer	SE
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 Skies
Background Color	Blue
Sky Conditions	Clear
Wind Speed	3 mph
Wind Direction (i.e. from North to South)	NNW
Ambient Temperature	°F
Wet Temperature	°F
Relative Humidity	%

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

COMMENTS: #3 Burner on fuel oil
0900 on #2 BLR

Average Opacity: 0.75

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

OBSERVER (please print)
Name: DAVID Dees Title: Shifthead

Signature: [signature]
Date:

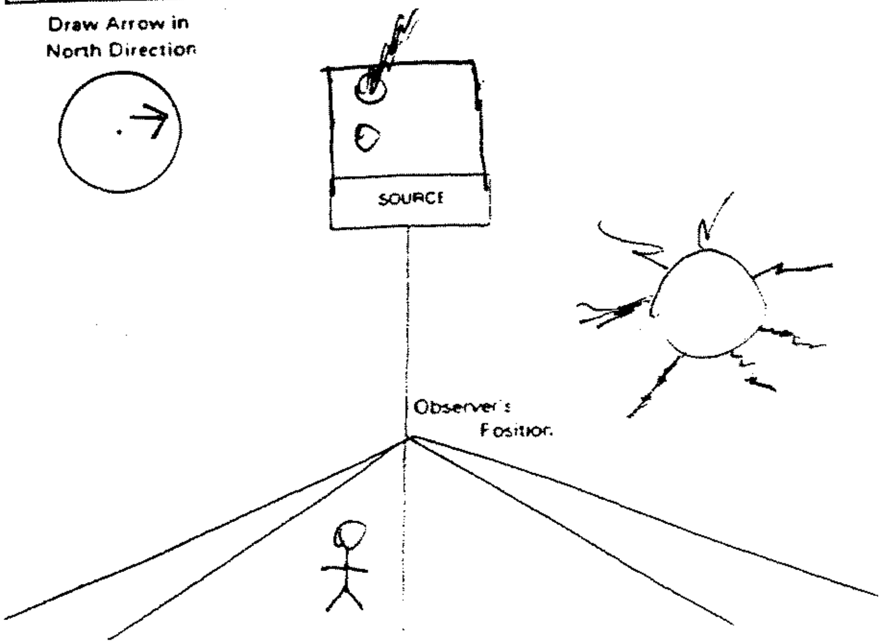
Organization: KSL / UPPS
Certification Date: 3-2-05

IMPORTANT: Please indicate the following by sketch:

Plume Direction

Sun

North



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

Signature: [signature]

Title: Water Treatment Spec

Date: 8/29/05

EID 069 Issued 1/81

(2)

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 ☐ 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 | START TIME | STOP TIME

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	20	10	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: 0.75

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

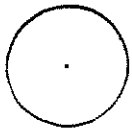
OBSERVER (please print)

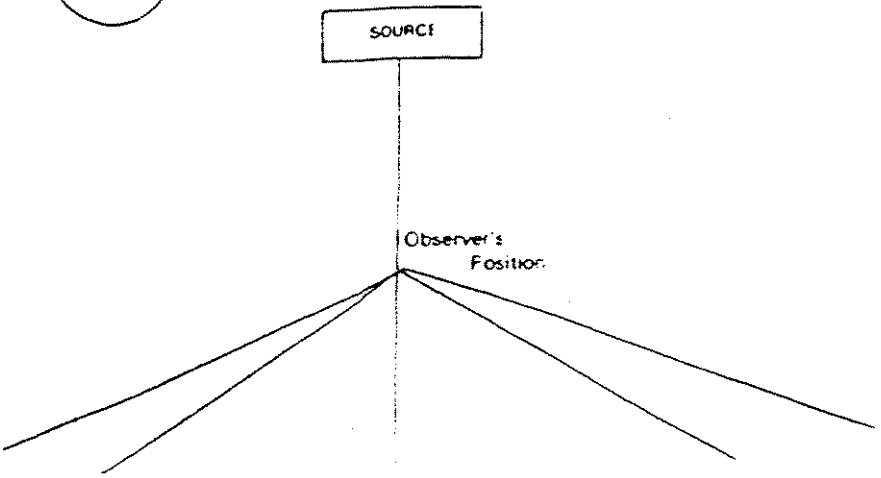
Name: DAVID Dees Title: Shiftheap

Signature: David Dees Date: 8-26-05

Organization: KSL | UPPS Certification Date: 3-2-05

Draw Arrow in North Direction





IMPORTANT: Please indicate the following by sketch:

Plume Direction

Sun

North

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

Signature: _____

Title: _____

Date: _____

EID 085 Issued 3/81

(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) ☐ 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 — %

COMMENTS: 0955 #3 Burner Thipped on #2 BLR.

OBSERVATION DATE | START TIME | STOP TIME 955

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					21				
10					22				
11					– 23				
12					24				

Average Opacity: 0.75

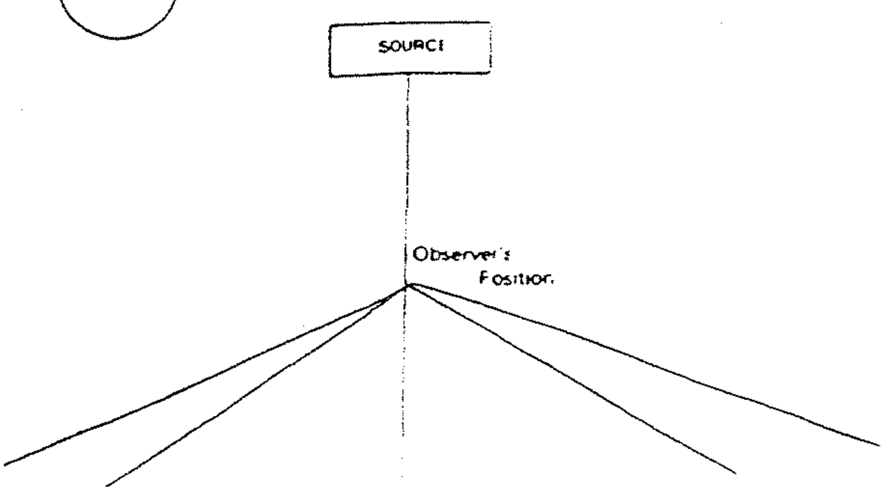
Range of Opacity Readings: Min.: 0 Max.: 20

OBSERVER (please print)
Name: DAVID Dees Title: Shifthead

Signature: [signature] | Date: 8-26-05

Organization: KSL | UPPS | Certification Date: 3-2-05

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:

Plume Direction

Sun

North

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

Signature: ______________________

Title: ______________________

Date: ______________________

(4)

RECORD OF VISUAL DETERMINATION OF OPACITY

)URCE	OBSERVATION DATE
)CATION	START TIME 1045
ype of Source	Type of Control Equipment
escribe Emission Point (top of stack, etc.)	STOP TIME 1245
eight Above Ground Level Feet	Height Relative to Observer Feet
istance from Observer Yards	Direction from Observer
escription of Plume (stack exit only) ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation ☐ Lofting ☐ Trapping	
mission 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	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	10	15	10	0
12	0	0	0	0	24	0	0	0	0

Average Opacity: 0.75

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

COMMENTS: 1045 #3 Burner on fuel oil #2 BLR

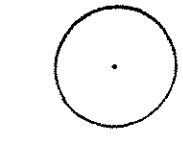
OBSERVER (please print)

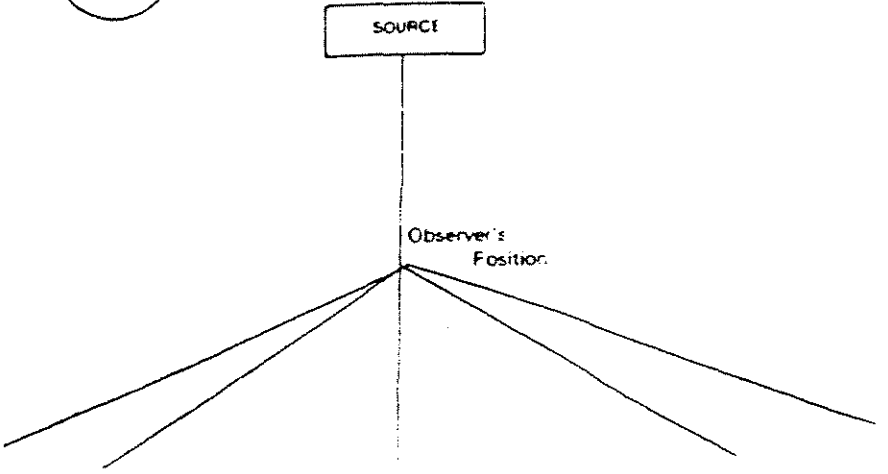
Name: DAVID DEES Title: Shift Head

Signature: David Dees Date: 8-26-05

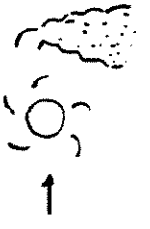
Organization: KSL/UPPS Certification Date: 3-2-05

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

(5)

RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE		OBSERVATION DATE	START TIME	STOP TIME

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: %

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

COMMENTS:

Average Opacity: 0.75

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

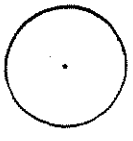
OBSERVER (please print)

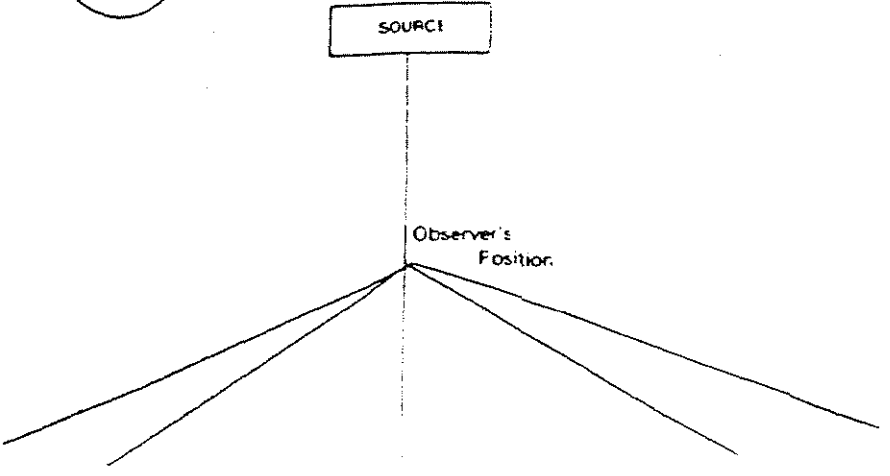
Name: DAVID DEES Title: SHIFTHEAD

Signature: David Dees Date: 8-26-05

Organization: KSL/UPRS Certification Date: 3-2-05

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 009 Issued 1/81

(6)

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: 135 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: °F	Wet Temperature: °F / Relative Humidity: %

OBSERVATION DATE | START TIME | STOP TIME

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: 0.75

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

COMMENTS:

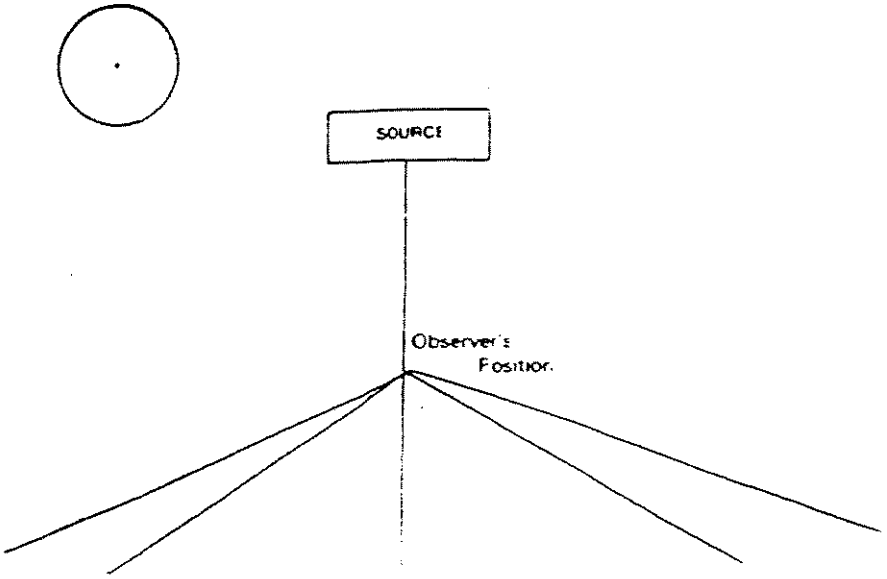
OBSERVER (please print)

Name: DAVID Dees Title: Shiftheap

Signature: David Dees Date: 8-26-05

Organization: KSL/UPPS Certification Date: 3-2-05

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

(7)

RECORD OF VISUAL DETERMINATION OF OPACITY

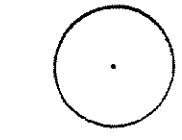
SOURCE		OBSERVATION DATE	START TIME / STOP TIME
LOCATION			
Type of Source	Type of Control Equipment		
Describe Emission Point (top of stack, etc.)			
Height Above Ground Level: Feet	Height Relative to Observer: Feet		
Distance from Observer: Yards	Direction from Observer		
Description of Plume (stack exit only) ☐ Looping ☐ Fanning ☐ Lofting ☐ Coning ☐ 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: %		

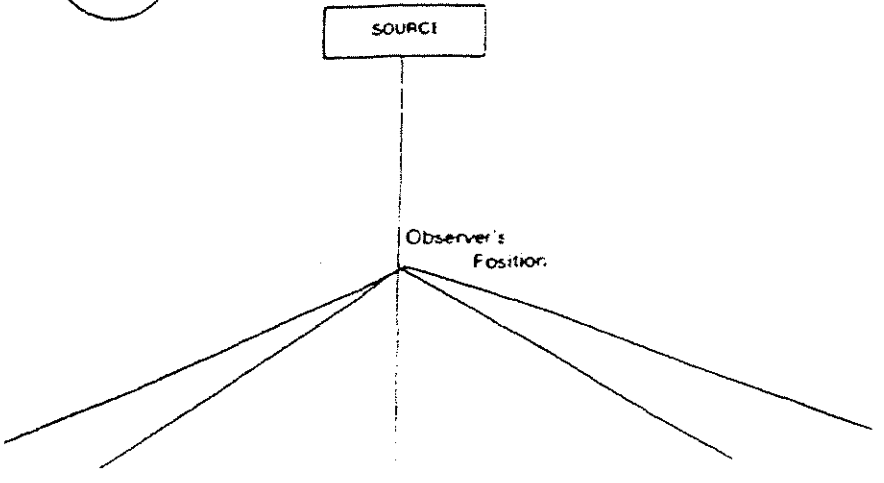
Sec. / Min.	0	15	30	45	Sec. / Min.	0	15	30	45
1	0	0	0	0	13	0	0	0	0
2	0	0	0	0	14	0	0	0	0
3	0	0	0	0	15	0	0	0	0
4	0	0	0	0	16	0	0	0	0
5	0	0	0	0	17	0	0	0	0
6	0	0	0	0	18	0	0	0	0
7	0	0	0	0	19	0	0	0	0
8	0	0	0	0	20	0	0	0	0
9	0	0	0	0	21	0	0	0	0
10	0	0	0	0	22	0	0	0	0
11	0	0	0	0	23	0	0	0	0
12	0	0	0	0	24	0	0	0	0

Average Opacity: 0.75	Range of Opacity Readings: Min.: 0 Max.: 20
OBSERVER (please print) Name: David Dees	Title: Shifthead
Signature: David Dees	Date: 8-26-05
Organization: KSL/UPPS	Certification Date: 3-2-05

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: _____

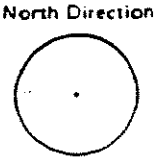
EID 009 Issued 3/81

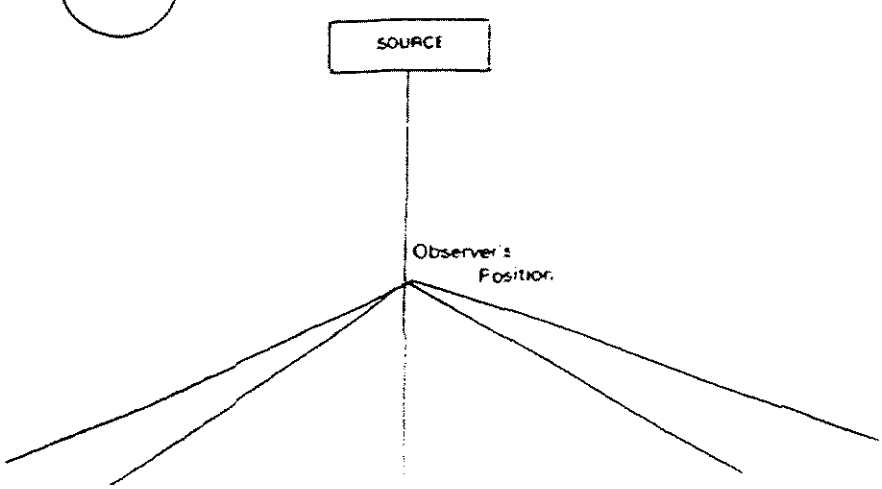
(8)

RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE #			OBSERVATION DATE		START TIME			STOP TIME		
LOCATION			Min. \ Sec.	0	15	30	45	0	15	30	45
Type of Source	Type of Control Equipment		1	0	0	0	0	13	0	0	0	0
Describe Emission Point (top of stack, etc.)			2	0	0	0	0	14	0	0	0	0
Height Above Ground Level Feet	Height Relative to Observer Feet		3	0	0	0	0	15	0	0	0	0
Distance from Observer Yards	Direction from Observer		4	0	0	0	0	16	0	0	0	0
Description of Plume (stack exit only) ☐ Looping ☐ Fanning ☐ Coning ☐ Lofting ☐ Trapping ☐ 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 °F	Wet Temperature °F	Relative Humidity %	12	0	0	0	0	24	0	0	0	0
COMMENTS:			Average Opacity 0.75					Range of Opacity Readings Min.: 0 Max.: 20				
			OBSERVER (please print) Name: DAVID DEES Title: SHIFT HEAD									
			Signature David Dees					Date 8-26-05				
			Organization RSL/UPPS					Certification Date 3-2-05				

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 065 Issued 3/81

RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: Fuel oil

LOCATION: TA-3 SM22 Power Plant

Type of Source: Fuel Oil

Type of Control Equipment: N/A

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

Height Above Ground Level: 200 Feet

Height Relative to Observer: 200 Feet

Distance from Observer: 175 ~~Ft~~ ~~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.): Blue Skies

Background Color: Blue

Sky Conditions: Clear

Wind Speed: 1-3 mph

Wind Direction (i.e. from North to South): From SE to NW

Ambient Temperature: °F

Wet Temperature: °F

Relative Humidity: %

COMMENTS:

OBSERVATION DATE: 9-16-05

START TIME: 9:37

STOP TIME: 10:20

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%

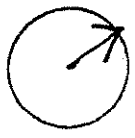
Range of Opacity Readings: Min.: 0 Max.: 0

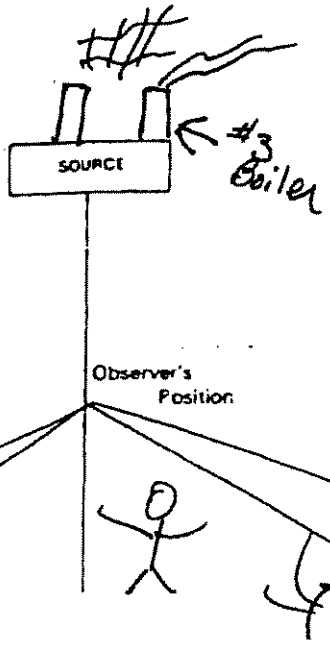
OBSERVER (please print) Name: Brian Ortiz Title: Operator

Signature: Brian Ortiz Date: 9/16/05

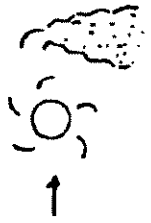
Organization: Utilities/KSL Certification Date: 8/31/05

Draw Arrow in North Direction





IMPORTANT: Please indicate the following by sketch:



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

Signature: Armond Stanley

Title: Maint. Engineer U845

Date: 9-16-05

EID 005 Issued 1/81

RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE	Fuel oil
LOCATION	TA-3 SMZZ Power Plant
Type of Source	Fuel oil
Type of Control Equipment	N/A
Describe Emission Point (top of stack, etc.)	Top of Stack
Height Above Ground Level	200 Feet
Height Relative to Observer	200 Feet
Distance from Observer	175 Ft / 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.)	Blue Skies
Background Color	Blue
Sky Conditions	Clear
Wind Speed	1-3 mph
Wind Direction (i.e. from North to South)	FROM SE TO NW
Ambient Temperature	°F
Wet Temperature	°F
Relative Humidity	%

OBSERVATION DATE: 9-16-05 | START TIME: 9:37 | STOP TIME: 10:20

Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	0	0	0	13	100	100	100	25
2	0	0	0	0	14	25	10	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				
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: 99 to 8.75% | Range of Opacity Readings: Min.: 0.0 Max.: 100

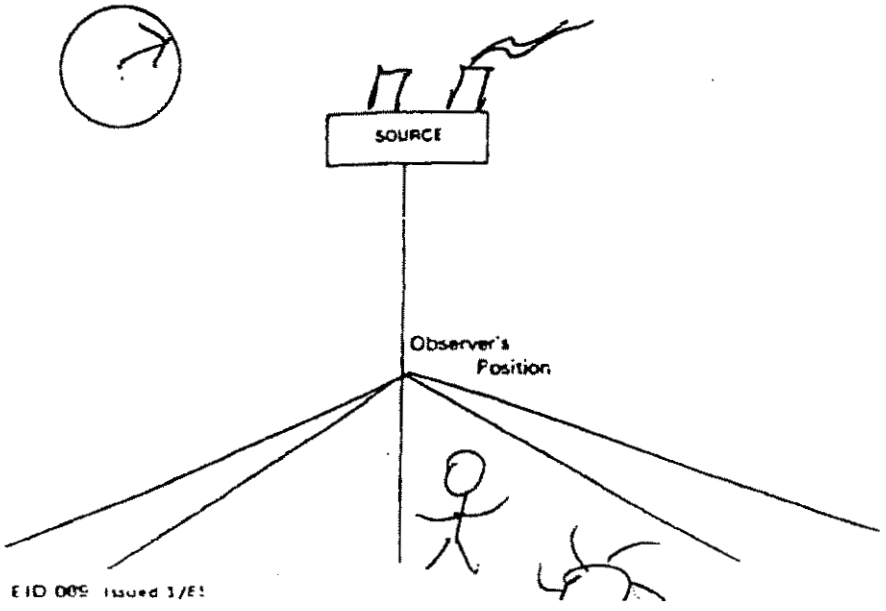
OBSERVER (please print) Name: BRIAN OETR Title: Operator

Signature: Brian Oetr Date: 9/16/05

Organization: utilities/KSL Certification Date: 8/31/05

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: Leonard Stankey

Title: Plant Engineer UESB

Date: 9-16-05

EID 005 Issued 1/81

Pg 1 of 2

RECORD OF VISUAL DETERMINATION OF OPACITY

Source: Fueloil #1 Boiler	
Location: TA 3 SM22	
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: 150 Feet	Height Relative to Observer: 175 Feet
Distance from Observer: 150 Ft [redacted]	Direction from Observer: NE
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.): Dark Grey Clouds	
Background Color: Dark Grey	Sky Condition: Cloudy/Rainy
Wind Speed: 5-10 mph	Wind Direction (i.e. from North to South): South ~~[crossed out]~~ To ~~[crossed out]~~ North
Ambient Temperature: °F	Wet Temperature: °F; Relative Humidity: %

COMMENTS: It Is Cloudy Raining On and Off Sky Is Very Dark and Windy

Observation Date: 10-6-05 | Start Time: 10:17 AM | Stop Time: 11:02 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	0	0	0	17	0	0	0	0
6	0	25	0	0	18	0	0	0	0
7	0	0	100	25	19	0	0	0	0
8	10	5	5	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: 4.25%

Range of Opacity Readings: Min.: 0.0% Max.: 100.0%

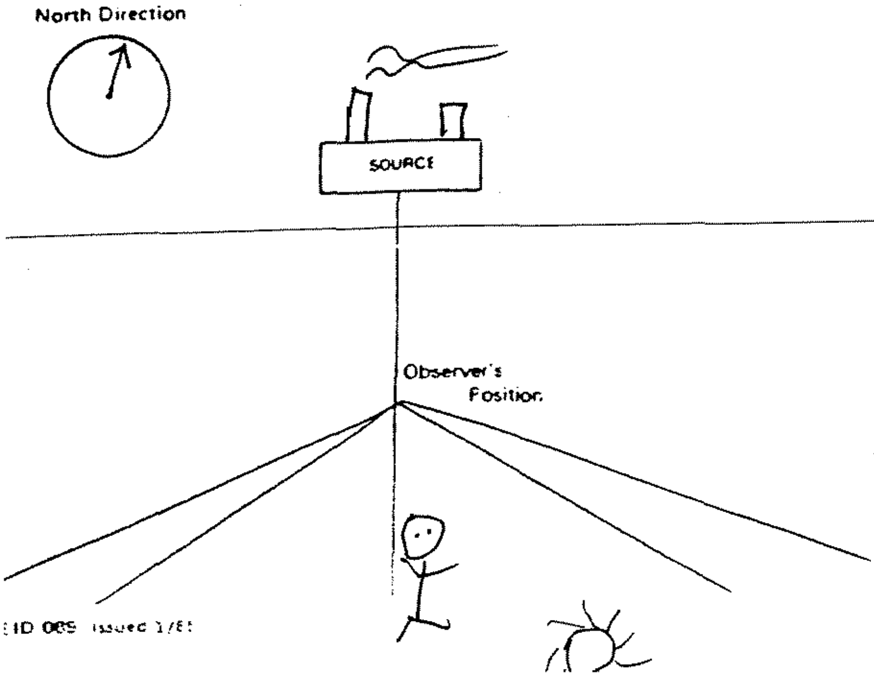
OBSERVER (please print) Name: BRIAN ORTIZ Title: Operator

Signature: Brian [signature] | Date: 10-6-05

Organization: UPPS | Certification Date: 3-2-06

IMPORTANT: Please indicate the following by sketch:

Draw Arrow in North Direction



Plume Direction

Sun

North

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

Signature: [signature]

Title: MAINT. ENG. KSL/UUSB

Date: 10-6-05

EID 005 Issued 1/81

RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE	Fuel oil #1 Boiler
LOCATION	TA 35 M 22 Power Plant
Type of Source	Fuel oil
Type of Control Equipment	N/A
Describe Emission Point (top of stack, etc.)	Top of Stack
Height Above Ground Level	150 Feet
Height Relative to Observer	175 Feet
Distance from Observer	150 ~~Yards~~ Ft
Direction from Observer	NE
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.)	Dark Grey Skies
Background Color	Dark Grey
Sky Conditions	Cloudy
Wind Speed	5-10 mph
Wind Direction (i.e. from North to South)	South to North
Ambient Temperature	°F
Wet Temperature	°F
Relative Humidity	%

OBSERVATION DATE	START TIME	STOP TIME
10-6-05	10:17 AM	11:02 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	0	0	0	17	0	0	0	0
6	0	0	0	50	18	0	0	0	0
7	25	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: 4.25%

Range of Opacity Readings: Min.: 0.0% Max.: 100.0%

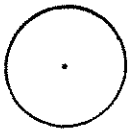
~~OBSERVER~~ (please print) Name: Brian [illegible] Title: Operations

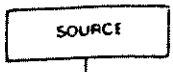
Signature: BRIAN ORTIZ Date: 10-6-05

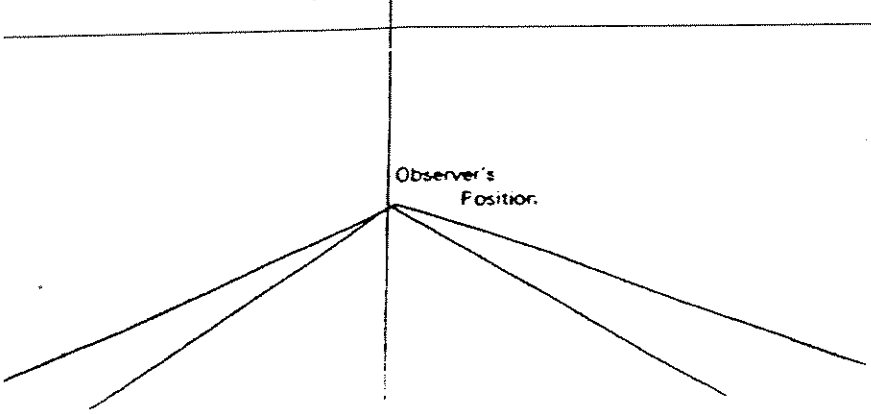
Organization: UPPS Certification Date: 3-2-06

COMMENTS: Stopped 11:02 For Test

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 3/81

RECORD OF VISUAL DETERMINATION OF OPACITY

URCE: Fuel oil #1 Boiler

ICATION: TA35M22 Power Plant

pe of Source: Fuel Oil

Type of Control Equipment: N/A

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

ight Above Ground Level: 150 Feet

Height Relative to Observer: 175 Feet

stance from Observer: 150 ~~Yards~~ Ft

Direction from Observer: NE

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

mission Color: Black

Plume Type ☐ Continuous ☐ Fugitive ☑ Intermittent

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

t what point in the plume was opacity determined? 1 Foot Above Stack

escribe Background (i.e. blue sky, trees, etc.): Dark Gray Skies

ackground Color: Dark Gray

Sky Conditions: Cloudy

ind Speed: 5-10 mph

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

mbient Temperature °F

Wet Temperature °F

Relative Humidity %

OMMENTS:

OBSERVATION DATE: 10-6-05

START TIME: 11:39 AM

STOP TIME: 12:53 pm

Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	0	0	0	13	0	0	0	0
2	0	100	100	100	14	0	0	0	0
3	25	5	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	50	50	10	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: 11.0%

Range of Opacity Readings: Min.: 0.0% Max.: 100.0%

OBSERVER (please print) Name: Brian Title: Operator

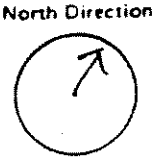
Signature: Brian

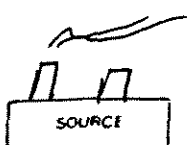
Date: 10-6-05

Organization: UAPS

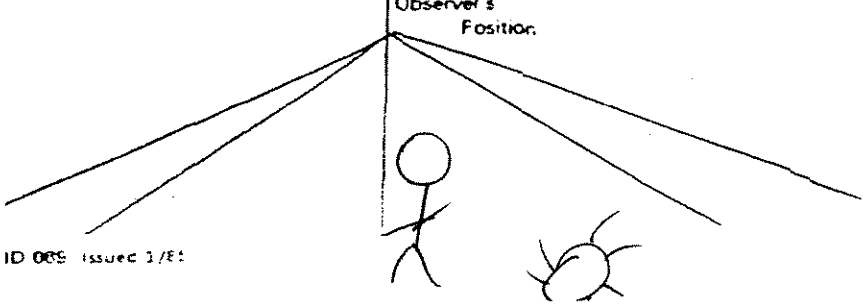
Certification Date: 3-2-06

Draw Arrow in North Direction





IMPORTANT: Please indicate the following by sketch:



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

Signature: Armand Stanley

Title: Maint. Engr. KSL/URSB

Date: 10-6-05

ID 085 Issued 1/81

RECORD OF VISUAL DETERMINATION OF OPACITY

URCE	OBSERVATION DATE 10/6/05 ~~11/35/05~~	START TIME 11:35 AM	STOP TIME 12:53 PM
CATION			

pe of Source	Type of Control Equipment		
cribe Emission Point (top of stack, etc.)			
ght Above Ground Level Feet	Height Relative to Observer Feet		
tance from Observer Yards	Direction from Observer		

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

mission 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.)

ckground Color	Sky Conditions
ind Speed mph	Wind Direction (i.e. from North to South)
mbient 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	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	100	100	19	0	0	0	0
8	25	5	5	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 11.0%

Range of Opacity Readings Min.: 0.0% Max.: 100.%

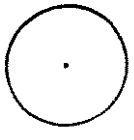
OBSERVER (please print) Name: BRIAN OLTZ Title: operator

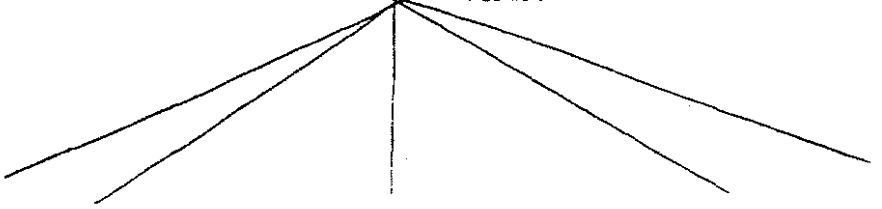
Signature: Brian Oltz Date: 10-6-05

Organization: UPS Certification Date: 3-2-05

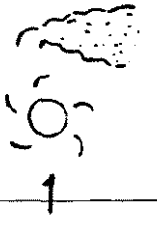
COMMENTS:

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: _____

ID 005 Issued 3/85

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 ☐ 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 °F | Wet Temperature °F | Relative Humidity %

COMMENTS:

OBSERVATION DATE: 10-6-05 | START TIME: 11:53 AM | STOP TIME: 12:53 pm

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	100	100	14	0	0	0	0
3	50	25	10	5	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: 11.0%

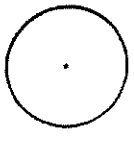
Range of Opacity Readings: Min.: 0.0% Max.: 100.0%

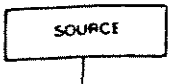
OBSERVER (please print) Name: BRIAN ORTIZ Title: operator

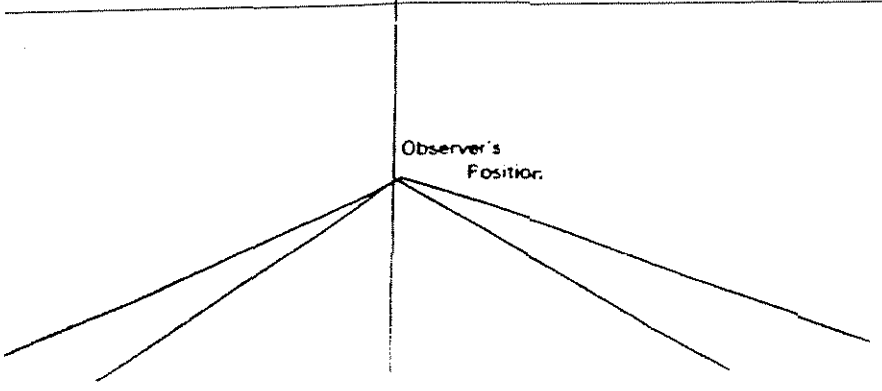
Signature: Brian Ortiz | Date: 10-6-05

Organization: UAPS | Certification Date: 3-2-06

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 005 Issued 1/E

RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE		OBSERVATION DATE: 10-6-05	START TIME: 11:35 AM
LOCATION			STOP TIME: 12:53 PM
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: %	

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					17				
6					18				
7					19				
8					20				
9					21				
10					22				
11					23				
12					24				

COMMENTS:

Average Opacity: 11.0 %

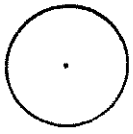
Range of Opacity Readings: Min.: 0.0% Max.: 100.0%

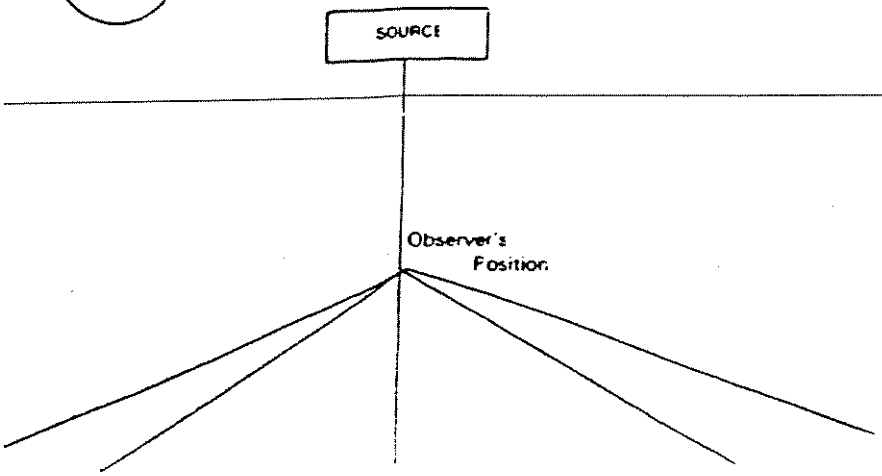
OBSERVER (please print) Name: BRIAN DIETZ Title: Operator

Signature: Brian Dietz Date: 10-6-05

Organization: UPS Certification Date: 3-2-06

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 #3 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	150 Feet
Height Relative to Observer	175 Feet
Distance from Observer	150 Ft ~~Yards~~
Direction from Observer	NE
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 Sky
Background Color	Blue
Sky Conditions	Clear
Wind Speed	0-5 mph
Wind Direction (i.e. from North to South)	From South To North
Ambient Temperature	N/A °F
Wet Temperature	N/A °F
Relative Humidity	N/A %

COMMENTS:

Observation Date	Start Time	Stop Time
10/18/05	9:44	11:03

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

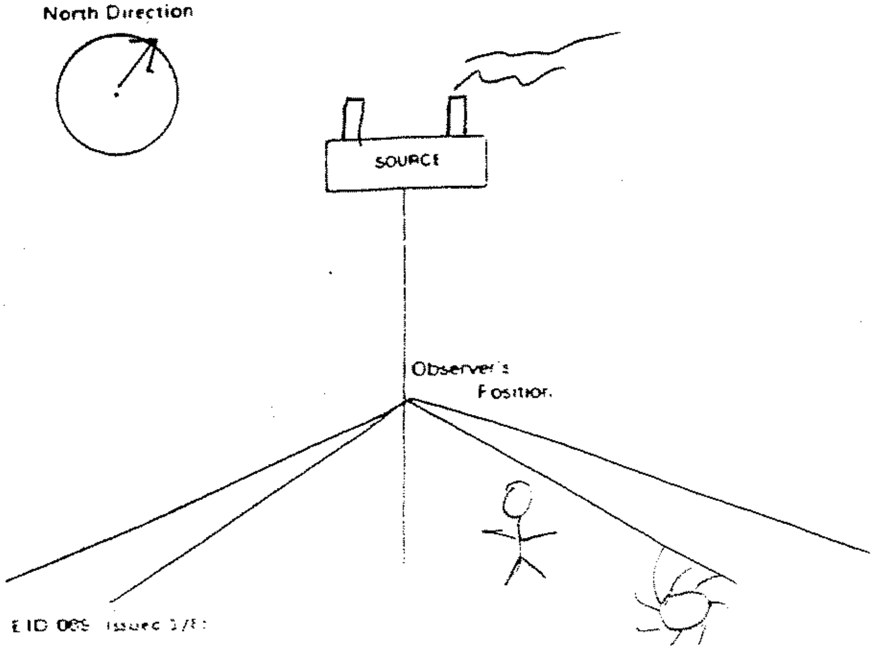
Average Opacity: 8.5%	Range of Opacity Readings: Min.: 0% Max.: 100%

OBSERVER (please print)

Name: BRIAN ORTIZ Title: Operator III

Signature: Brian Ortiz	Date: 10-18-05
Organization: UPPS	Certification Date: 8-31-05

Draw Arrow in North Direction



IMPORTANT: Please indicate the following by sketch:

Plume Direction

Sun

North

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

Signature: [signature]

Title: MAINT. ENGR. KSL/UESB

Date: 10-18-05

RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE	Fuel Oil #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.)	Top of Stack
Height Above Ground Level	150 Feet
Height Relative to Observer	175 Feet
Distance from Observer	150 Ft
Direction from Observer	NE
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.)	Blue Sky
Background Color	Blue
Sky Conditions	Clear
Wind Speed	0-3 mph
Wind Direction (i.e. from North to South)	South to North
Ambient Temperature	°F
Wet Temperature	°F
Relative Humidity	%

OBSERVATION DATE	START TIME	STOP TIME
10-18-05	9:44	11:03

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	5	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: 8.5%

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

OBSERVER (please print)

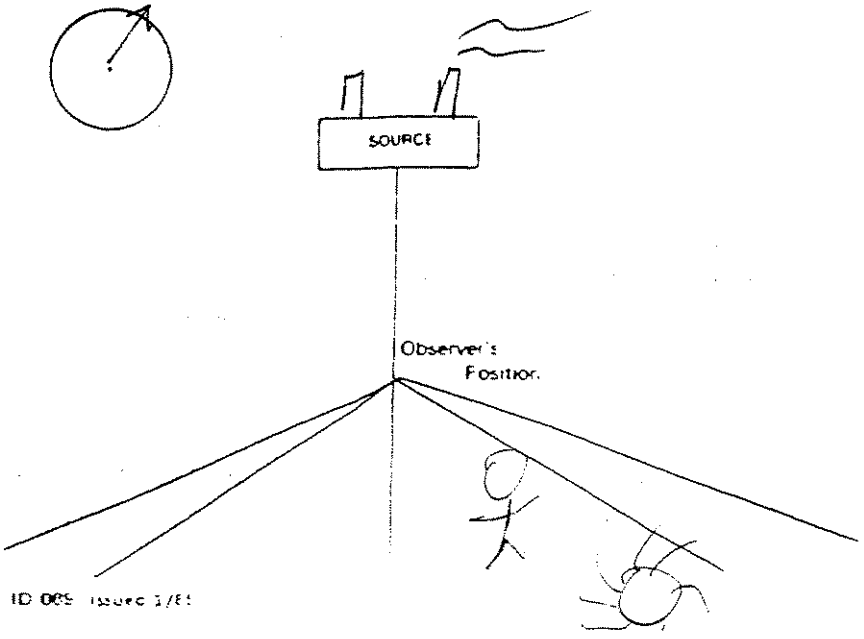
Name: Brian Ortiz Title: Operator

Signature: Brian Ortiz Date: 10/18/05

Organization: UPPS Certification Date: 8-31-CE

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: _____

RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE	Fuel oil # 3 Boiler
LOCATION	TA 3 SM 22 [redacted] Power Plant
Type of Source	Fuel oil
Type of Control Equipment	N/A
Describe Emission Point (top of stack, etc.)	Top of Stack
Height Above Ground Level	150 Feet
Height Relative to Observer	175 Feet
Distance from Observer	150 ~~Feet~~ ~~Yards~~
Direction from Observer	N E
Description of Plume (stack exit only)	☒ ~~Looping~~ Looping ☐ 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.)	Blue Sky
Background Color	Blue
Sky Conditions	Clear
Wind Speed	0-5 mph
Wind Direction (i.e. from North to South)	South TO North
Ambient Temperature	°F
Wet Temperature	°F
Relative Humidity	%

OBSERVATION DATE	START TIME	STOP TIME
10-18-05	9:44	11:03

Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	0	0	0	13	0	0	0	0
2	95	100	100	10	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	10	20	21	0	0	0	0
10	25	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: 8.5 %

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

COMMENTS:

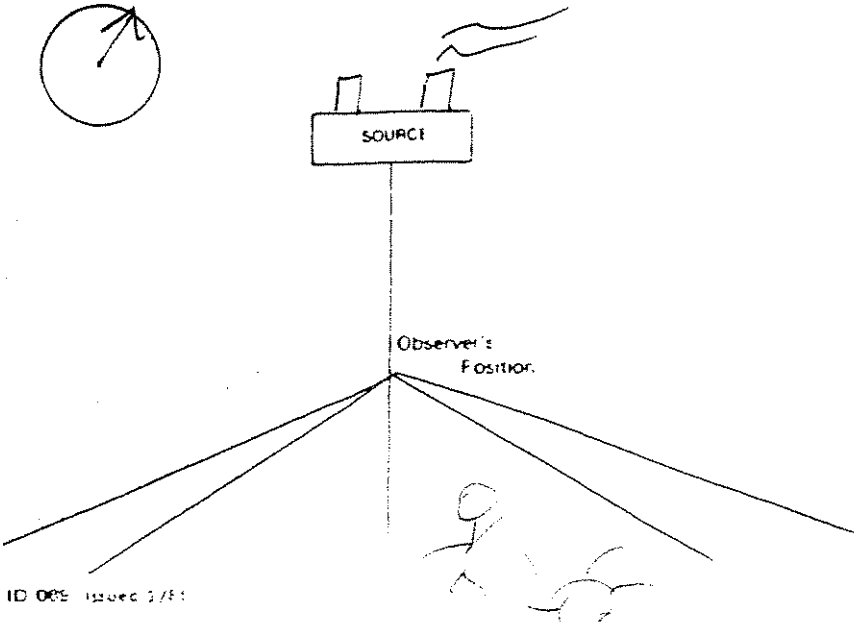
OBSERVER (please print)

Name: BRIAN ORTIZ Title: Operator

Signature: Brian Ortiz Date: 10/18/05

Organization: UPPS Certification Date: 8/31/05

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: _____

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RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: Fuel oil #3 Boiler

OBSERVATION DATE:

START TIME:

STOP TIME: 11:03

LOCATION: TA 3 SM22 Power Plant

Type of Source: Fuel oil

Type of Control Equipment: N/A

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

Height Above Ground Level: 150 Feet

Height Relative to Observer: 175 Feet

Distance from Observer: 150 Ft ~~Feet~~

Direction from Observer: NE

Description of Plume (stack exit only): ☑ Colting ☐ 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.): Blue Sky

Background Color: Blue

Sky Conditions: Clear

Wind Speed: 0-5 mph

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

Ambient Temperature: °f

Wet Temperature: °f

Relative Humidity: %

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	25	17				
6	25	25	25	25	18				
7	10	0	0	0	19				
8					20				
9					21				
10					22				
11					23				
12					24				

COMMENTS: Stopped reading at 11:03 A.M. Just observing. Boiler IN Auto.

Average Opacity: 8.5

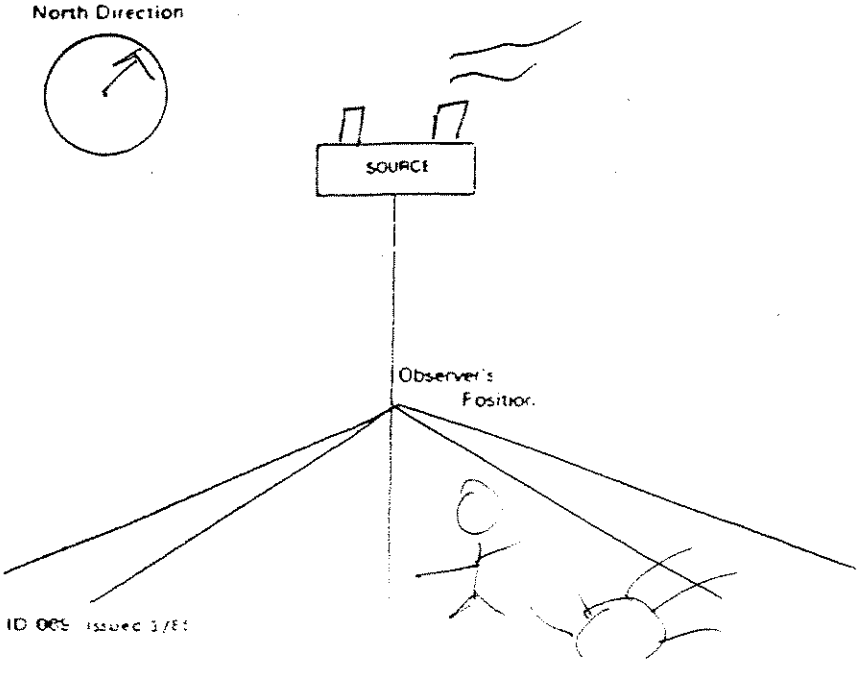
Range of Opacity Readings: Min.: 0% Max.: 100%

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

Signature: Brian Ortiz Date: 10/18/05

Organization: UPPS Certification Date: 8/31/05

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 005 Issued 3/85

RECORD OF VISUAL DETERMINATION OF OPACITY

SOURCE: Fuel oil #2 Boiler
LOCATION: TA3 SM22 Power Plant
Type of Source: Fuel oil
Type of Control Equipment: N/A
Describe Emission Point (top of stack, etc.): Top of Stack
Height Above Ground Level: 150 Feet
Height Relative to Observer: 150 Feet
Distance from Observer: 175 Ft Yards
Direction from Observer: NE
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.): Blue Sky with some white Clouds
Background Color: Blue & White
Sky Conditions: Partly Cloudy
Wind Speed: 1-3 mph
Wind Direction (i.e. from North to South): South to North
Ambient Temperature: °F
Wet Temperature: °F
Relative Humidity: %

OBSERVATION DATE: 11/11/05
START TIME: 10:03 AM
STOP TIME: 10:30 AM

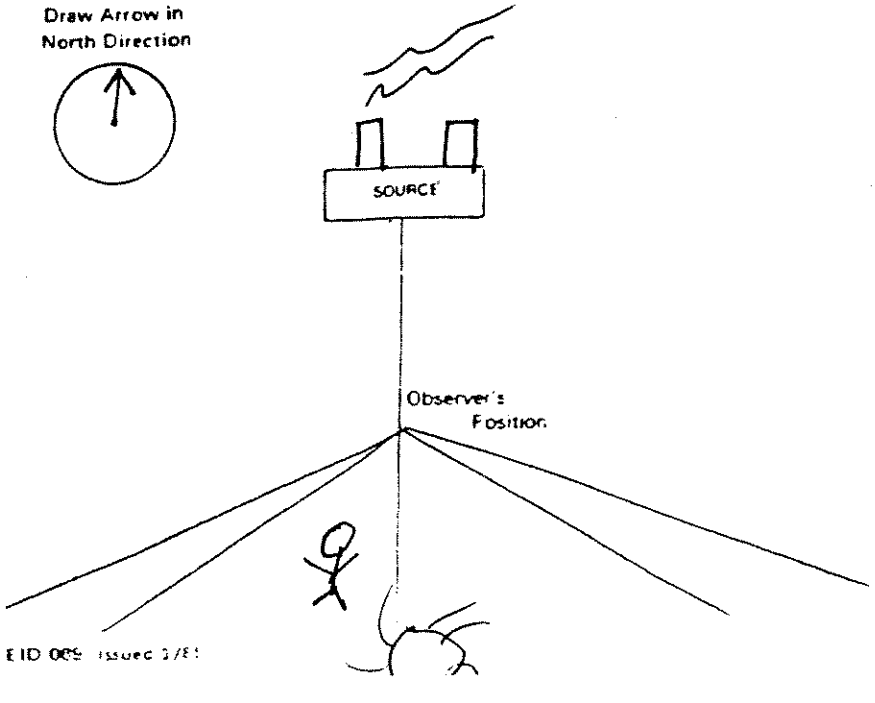
Min. \ Sec.	0	15	30	45	Min. \ Sec.	0	15	30	45
1	0	0	0	75	13	0	0	0	0
2	75	0	0	0	14	0	0	0	0
3	0	0	0	0	15	0	0	0	0
4	0	0	0	0	16	0	0	0	0
5	0	0	0	0	17	0	0	0	0
6	0	0	0	0	18	0	0	0	0
7	0	0	0	0	19	0	0	0	0
8	0	0	25	25	20	0	0	0	0
9	0	0	0	0	21	0	0	0	0
10	0	0	0	0	22	0	0	5	5
11	0	0	0	0	23	5	20	10	0
12	0	0	0	0	24	0	0	0	0

Average Opacity: 5% ~~20%~~
Range of Opacity Readings: Min.: 0% Max.: 75%

OBSERVER (please print)
Name: BRIAN ORTIZ Title: Operator
Signature: Brian Ortiz
Date: 11/11/05
Organization: UPPS/KSL
Certification Date: 8-31-05

COMMENTS: Burner Management Test

IMPORTANT: Please indicate the following by sketch:



I acknowledge receipt of a copy of these visible emissions observations.
Signature: Arnold Stanley
Title: Acting Co-Gen Supt.
Date: 11-10-05

EID 005 Issued 3/81

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RECORD OF VISUAL DETERMINATION OF OPACITY

URCE	Fuel oil #2 Boiler
CATION	TA3 SMZZ Power Plant
pe of Source	Fuel Oil
Type of Control Equipment	N/A
scribe Emission Point (top of stack, etc.)	Top of Stack
ight Above Ground Level	150 Feet
Height Relative to Observer	150 Feet
stance from Observer	175 Ft
Direction from Observer	NE
escription of Plume (stack exit only)	☑ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning ☐ Fumigation
mission Color	Black
Plume Type	☐ Continuous ☐ Fugitive ☑ Intermittent
ater Droplets Present?	☒ NO ☐ YES If YES, droplet plume is ☐ Attached ☐ Detached
t what point in the plume was opacity determined?	ONE Foot Above stack
escribe Background (i.e. blue sky, trees, etc.)	Blue Sky with Some White Clouds
ackground Color	Blue and White
Sky Conditions	Partly Cloudy
Wind Speed	1-3 mph
Wind Direction (i.e. from North to South)	South to North
Ambient Temperature °F	Wet Temperature °F
Relative Humidity %	

OBSERVATION DATE	START TIME	STOP TIME
		10:30 Am

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			16				
5					17				
6					18				
7					19				
8					20				
9					21				
10					22				
11					23				
12					24				

Average Opacity: 5% to 20%

Range of Opacity Readings: Min.: 0 Max.: 75

COMMENTS: Burner Management Test

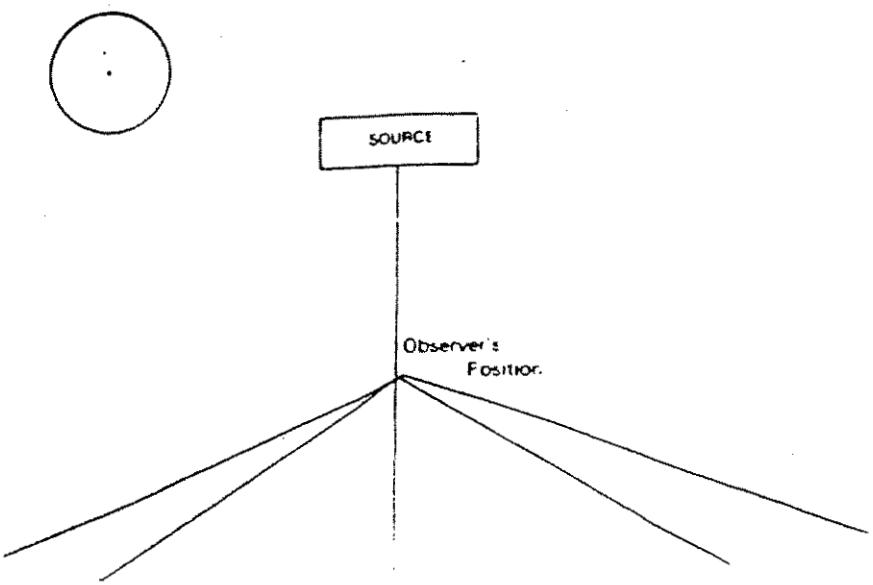
OBSERVER (please print)
Name: BRIAN OCTR Title: Operator

Signature: Brian Date: 11/11/05

Organization: UPPS/KSL Certification Date: 8/31/05

IMPORTANT: Please indicate the following by sketch:

Draw Arrow in North Direction



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

Signature: Armand Stanley

Title: Acting Co-Gen Supt.

Date: 11-10-05

EID 0815 Issued 1/81