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Title:	Semi-Annual Monitoring Report July 1 - December 31, 2007 Air Quality Title V Operating Permit P100M2 Los Alamos National Laboratory
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Intended for:	Ms. Debra McElroy Section Chief, Enforcement/Compliance New Mexico Environment Department - Air Quality Bureau 1301 Siler Road, Building B Santa Fe, New Mexico 87507



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Form 836 (7/06)

Los Alamos National Laboratory
Operating Permit P100M2
Semi-Annual Monitoring Report
July 1 – December 31, 2007

Identifying Information

Source Name: Los Alamos National Laboratory County: Los Alamos .

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

Responsible Official: Victoria A. George Ph No. (505) 667-2211 Fax No. (505) 665-8858
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
P100M1 (June 15, 2006), P100M2 (July 16, 2007) .

Certification of Truth, Accuracy, and Completeness

I, Victoria A. George certify that, based on information and belief formed after reasonable inquiry, the statements and information contained in the attached semi-annual monitoring report are true, accurate, and complete.

Signature Date: 1/22/08 .

Title: Division Leader, Environmental Protection 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. **Data Disintegrator, TA-52-11**
9. **Power Plant at Technical Area 3 (TA-3-22)**

Deviations

Attachments

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

Los Alamos National Laboratory
Operating Permit P100M2
Semi-Annual Monitoring Report
July 1 – December 31, 2007

1. Asphalt Production

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 as Attachment A. Monthly six minute opacity readings are taken using the required EPA Methods.
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 in place 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 at the beginning of the production run and once at the end. This is consistent with 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
TA-3-29 Chemistry and Metallurgy Research Facility	A log shall be maintained during operations which indicate the number of Be samples processed.	The registration for this source has been cancelled. Beryllium work is no longer performed at this location. A letter was sent to NMED on June 5, 2007 making this request. All previous records/logs containing the number of Be samples processed will be kept for at least five (5) years as required by permit condition 3.2 and will be available on-site for NMED inspection.
TA-3-66 Sigma Facility	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.
TA-3-141 Beryllium Technology Facility (BTF)	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 Plans and emission results are provided to NMED quarterly. Submissions for this period were provided to NMED in reports dated August 9, 2007 [ENV-EAQ:07-185] and October 30, 2007 [ENV-EAQ:07-258]

Source	Monitoring Required	Monitoring Performed
TA-3-141 BTF (Continued)	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.
TA-35-213 Target Fabrication Facility	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 are available for NMED inspection. Stack emission test results are used to determine total emissions from this facility.
TA-55-PF-4 Plutonium Facility	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.	The TA-21 Steam Plant did not operate during this reporting period. The plant was officially and permanently shut-down as of September 28, 2007. This information was communicated to NMED in a letter dated October 16, 2007.
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 by units TA-55-6-BHW-1 and TA-55-6-BHW-2 on a monthly basis. 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.

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. During this reporting period, hour meters for the cyclone separators were utilized to monitor hours of shop operation. Readings are collected and recorded monthly. 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 D.

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 (ChemLog). The data is used to calculate emissions which are 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. This data is used to calculate emissions on a semi-annual basis. LANL's "Historical Solvent Usage Data" report for July 1 through December 31, 2007 is provided in Attachment E.
2.6.4.2	Complete checklist for work practice standards.	LANL completes work practice checklists for the degreaser operation. The checklists are available on-site for NMED inspection.

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 on a semi-annual basis. Stationary generator hours of operation for this reporting period are provided in Attachment F.
2.7.4 [TA-33-G-1]	Track hourly and 12-month rolling total kWh. Record hours of operation and the time operation begins and ends each day.	On May 18, 2006, LANL started the TA-33 diesel generator. Other than the start up test, the generator has not run. A form has been created and will be used for tracking generator start and stop times as well as hours of operation. These hourly readings will be used in tracking the 12-month rolling total of kWh.
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.

8. 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 destroyed 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 during this reporting period is included in Attachment G.
2.8.4.2	The permittee shall perform regular maintenance and repair on the cyclone and cloth tube filter(s) per manufacturer's recommendations.	The Data Disintegrator and associated pollution control devices are maintained under a preventative maintenance contract. LANL maintains documentation of all maintenance and repairs performed on the cyclone and cloth tube filters.

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

Permit Section	Monitoring Required	Monitoring Performed
2.9.4.1	Total fuel oil consumption shall be monitored so that combined fuel oil usage of Units TA-3-22-1, TA-3-22-2 and TA-3-22-3 can be calculated on a rolling 365-day total.	Total fuel oil consumption is monitored on a daily basis. These daily readings are used to calculate a 365-day rolling total. Attachment H contains a summary of monthly fuel oil consumption. Records of daily fuel oil use are available on-site for NMED inspection.
2.9.4.2	Natural gas consumption shall be monitored so that combined natural gas usage of Units TA-3-22-1, TA-3-22-2 and TA-3-22-3 can be calculated on a rolling 365-day total.	A volumetric flow meter is used to measure the total amount of natural gas used on a daily basis. These daily readings are used to calculate a 365-day rolling total. Attachment H contains a summary of monthly natural gas usage. Daily totals are available on-site for NMED inspection.
2.9.4.3	Natural gas consumption shall be monitored so that natural gas usage for Unit TA-3-22 CT-1 can be calculated on a rolling 365-day total.	The Combustion Turbine started operation on September 23, 2007. A monthly gas consumption report, containing daily turbine gas use, is generated by the plant operator. This data is used to calculate a rolling 365-day total.
2.9.4.4	A certification of total sulfur content of the No. 2 fuel oil used by Units TA-3-22-1, TA-3-22-2 and TA-3-22-3 shall be obtained from the supplier whenever No. 2 fuel oil is delivered to the facility.	No fuel oil was purchased or delivered during this reporting period.

Permit Section	Monitoring Required	Monitoring Performed
2.9.4.5	If the certification as specified by Condition 2.9.4.4 is not available at delivery, the permittee shall analyze the No. 2 fuel oil to determine the total sulfur content. The analysis shall be conducted using Department approved methods and standards for determining total sulfur content of No. 2 fuel oil.	No fuel oil was purchased or delivered during this reporting period.
2.9.4.6	The operating load of Unit TA-3-22 CT-1 specified by Condition 2.9.3.7 shall be monitored and recorded hourly during normal operations of that unit. Periods of startup and shutdown shall not be included in the hourly monitoring but shall be recorded separately.	A tracking log was created that contains the hours of start-up, normal operation, shut-down, and the hourly operating load during normal operation.
2.9.4.7	Compliance with NOx pound per hour emission limits for Unit TA-3-22 CT-1 shall be determined by multiplying the daily total natural gas firing rate for the unit (expressed in thousands of SCF), as recorded pursuant to Condition 2.9.5.3, by the manufacturer's guaranteed emission rate of 0.1029 pounds NOx per thousand SCF of gas burned (applicable for worst-case conditions of negative 18 degrees Fahrenheit) and divided by the number of hours of operation of the unit during that day as recorded pursuant to Condition 2.9.3.8. Compliance with NOx annual emission limits for Unit TA-3-22 CT-1 shall be determined by multiplying the 365 day total natural gas firing rate for the unit (expressed in thousands of SCF), as recorded pursuant to Condition 2.9.5.3, by the manufacturer's guaranteed emission rate of 0.1029 pounds NOx per thousand SCF of gas burned (applicable for annual average conditions of 47.9 degrees F).	An emission calculation spreadsheet was created, using the formula in this permit condition, to calculate the NOx pound per hour and ton per year emission rates. This data is compared with the permit emission limits.

Permit Section	Monitoring Required	Monitoring Performed
2.9.4.8	Compliance with CO pound per hour emission limits for Unit TA-3-22 CT-1 shall be determined by multiplying the daily total natural gas firing rate for the unit (expressed in thousands of SCF), as recorded pursuant to Condition 2.9.5.3, by the manufacturer's guaranteed emission rate of 0.731 pounds CO per thousand SCF of gas burned (applicable for worst-case conditions of negative 18 degrees Fahrenheit), and divided by the number of hours of operation of the unit during that day as recorded pursuant to Condition 2.9.3.8). Compliance with CO annual emission limits for Unit TA-3-22 CT-1 shall be determined by multiplying the 365 day total natural gas firing rate for the unit (expressed in thousands of SCF), as recorded pursuant to Condition 2.9.5.3, by the manufacturer's guaranteed emission rate of 0.0613 pounds CO per thousand SCF of gas burned (applicable for annual average conditions of 47.9 degrees Fahrenheit).	An emission calculation spreadsheet was created, using the formula in this permit condition, to calculate the CO pound per hour and ton per year emission rates. This data is compared with the permit emission limits.
2.9.4.9	At least once each calendar quarter the permittee shall use the method specified in Conditions 2.9.4.7 and 2.9.4.8 to determine compliance of Unit TA-3-22 CT-1 with the hourly and annual emission limits specified in this permit.	Monthly gas use data is entered into the above mentioned spreadsheet which uses the required method to automatically calculate both NOx and CO hourly and annual emissions. The resulting data is used to determine compliance with emission limits.

Permit Section	Monitoring Required	Monitoring Performed
2.9.4.10	Visible emissions from stationary combustion equipment shall not equal or exceed an opacity of 20%. Use of pipeline quality natural gas fuel as defined in Conditions 2.9.3.1 and 2.9.3.4 constitutes compliance with 20.2.61 NMAC unless opacity exceeds 20%. At such time as No. 2 fuel oil as defined in Condition 2.9.3.1 is used, opacity shall be measured in accordance with the procedures at 40 CFR 60, Appendix A, Method 9. Opacity measurements shall continue on a quarterly basis per calendar year for each effected unit until such time as pipeline quality natural gas is used.	LANL uses 40 CFR Part 60, Appendix A, Method 9 to determine compliance with the opacity limitation. Delivery of pipeline quality natural gas is specified in the transportation contract with the supplier. Opacity measurements performed at the Power Plant are provided in Attachment I.
2.9.4.11	Initial compliance tests are required on Unit TA-3-22 CT-1 for NOx and CO. These tests shall be conducted within sixty (60) days after the unit achieves the maximum normal production. If the maximum normal production rate does not occur within one hundred twenty (120) days of source startup, then the tests must be conducted no later than one hundred eighty (180) days after initial startup of the source. The tests shall be conducted in accordance with EPA Reference Methods 1 through 4, Method 7E for NOx, and Method 10 for CO contained in CFR Title 40, Part 60, Appendix A, and with the requirements of Subpart A, General Provisions, 60.8(f). Alternative test method(s) may be used if the Department approves the change. The permittee shall submit a testing protocol to the Department at least thirty (30) days prior to the test date, and provide notification to the Department at least thirty (30) days prior to the test date.	An initial compliance test was performed on the combustion turbine within 60 days following the unit achieving maximum normal production. The unit achieved its maximum normal production rate on September 27, 2007, and the compliance test was performed on October 5, 2007. The test report was provided to NMED on October 22, 2007. The test consisted of the EPA test methods identified in this permit condition.

Permit Section	Monitoring Required	Monitoring Performed
2.9.4.12	The permittee shall comply with fuel sulfur monitoring requirements at 40 CFR 60.334(h) applicable to Unit TA-3-22 CT-1 by making the required demonstration which shows the fuel combusted in the turbine meets the definition of natural gas at 40 CFR 60.331(u).	The natural gas used by the combustion turbine meets the definition of natural gas in 60.331(u). The sulfur monitoring requirement is met under 40 CFR 60.334(h)(3)(i), which allows the use of a current and valid transportation contract that specifies the maximum total sulfur content is 20 grains per100 scf or less. The transportation contract specifies a sulfur content not to exceed 2 grains of total sulfur per 100 scf. A copy of the transportation contract is available at the facility.

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. No deviations occurred during this reporting period.

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

Attachment A
Asphalt Plant Opacity Reports

Summary Table, Reports Attached

	Source	Date	Time	Average Opacity	EPA Method
July	Entire Plant	07/09/07	8:56 am	0	22 [(b)]
Aug.	Entire Plant	08/21/07	10:04 am	0	22 [(b)]
Sept.	Top of Shaker	09/06/07	8:30 am	0	9 [(a)]
Oct.	Top of Shaker	10/11/07	8:37 am	0	9 [(a)]
Nov.	Top of Shaker	11/07/07	8:48 am	0	9 [(a)]
Dec.	Top of Shaker	12/05/07	9:25 am	0	9 [(a)]

(a) EPA Method 9 was used. Average opacity for the Asphalt Plant is the sum of the highest consecutive 24 readings divided by 24 (6 minutes of readings). The method is in accordance with 20.2.61 NMAC and condition 2.1.4.1 of the Los Alamos National Laboratory (LANL) Operating Permit P100M2.

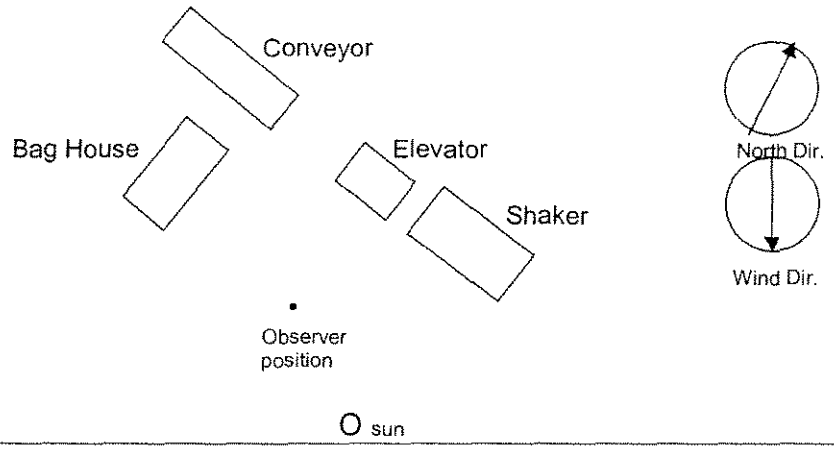
(b) EPA Method 22 was used to determine if any visible emissions greater than zero were present at the plant. If any emissions are observed using Method 22, a Method 9 observation will be performed on those points. Use of Method 22 is in accordance with condition 2.1.4.1 of the Los Alamos National Laboratory (LANL) Operating Permit P100M2.

Los Alamos National Laboratory

METHOD 22 FUGITIVE OPACITY EMISSION INSPECTION FORM

Location: LANL Asphalt Plant	**Observer Affiliation:** KSL-ENV
Representative: Donald Stone	**Date of Inspection:** 07/09/07
Sky Conditions: Clear	**Wind Direction:** From NNW
Precipitation: None	**Wind Speed:** 3 -7 mph
Industry: National Defense	**Process Unit:** All potential fugitive sources

Sketch of Process Unit:
Indicate:
* observer position relative to source
* potential emission and/or actual emission points
* sun location
* wind direction
* North direction



Observations:

	Clock Time	Observation period duration (min:sec)	Accumulated emission time (min:sec)
Begin	0856	11 min	0
End Observation	0907		

Notes: *During the observation period, there were no visible emissions. All probable fugitive sources at the plant were observed.*

This form is used to determine if any fugitive emission with opacity greater than zero is observed. If an emission is observed during the Method 22 inspection observation period (which must be at least 6 minutes for the Asphalt Plant and 10 minutes for all other LANL sources), a method 9 visible emission test may need to be performed.

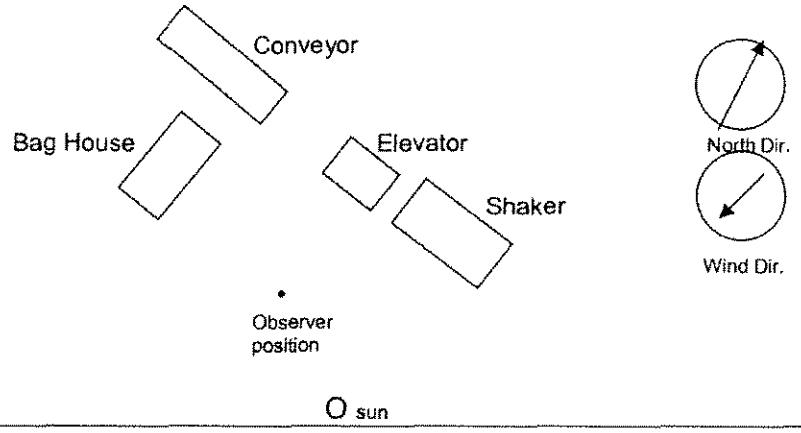
Signature of observer Inspector: Donald Stone **Date:** 7-9-07

Los Alamos National Laboratory

METHOD 22 FUGITIVE OPACITY EMISSION INSPECTION FORM

Location: LANL Asphalt Plant	**Observer Affiliation:** KSL-ENV
Representative: Donald Stone	**Date of Inspection:** 8-21-07
Sky Conditions: Clear	**Wind Direction:** From NNE
Precipitation: None	**Wind Speed:** 3-5 mph
Industry: National Defense	**Process Unit:** All potential fugitive sources

Sketch of Process Unit:
Indicate:
* observer position relative to source
* potential emission and/or actual emission points
* sun location
* wind direction
* North direction



Observations:

	Clock Time	Observation period duration (min:sec)	Accumulated emission time (min:sec)
Begin	1004	10 min	0
End Observation	1014		

Notes: *During the observation period, there were no visible emissions. All probable fugitive sources at the plant were observed.*

This form is used to determine if any fugitive emission with opacity greater than zero is observed. If an emission is observed during the Method 22 inspection observation period (which must be at least 6 minutes for the Asphalt Plant and 10 minutes for all other LANL sources), a method 9 visible emission test may need to be performed.

Signature of observer Inspector: Donald Stone **Date:** 8-21-07

Los Alamos

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (6 MINUTE)

Source Name: LANL Asphalt Plant

Source Location: TA-60 (Sigma Mesa)

Type of Source	Type of Control Equipment
Asphalt Plant	Baghouse

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

Height Above Ground Level	Height Relative to Observer
45 Feet	45 Feet

Distance From Observer	Direction of Source From Observer
55 Feet	NW

Description of Plume (stack exit only)
☐Lofting ☐Trapping ☐Looping ☐Fanning ☐Coning
☒No Plume Present

Emission Color	Plume Type
No emission	☒No Plume Present ☐Continuous ☐ Fugitive ☐Intermittent

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

At what point in the plume was opacity determined?
10 to 12 inches above stack

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

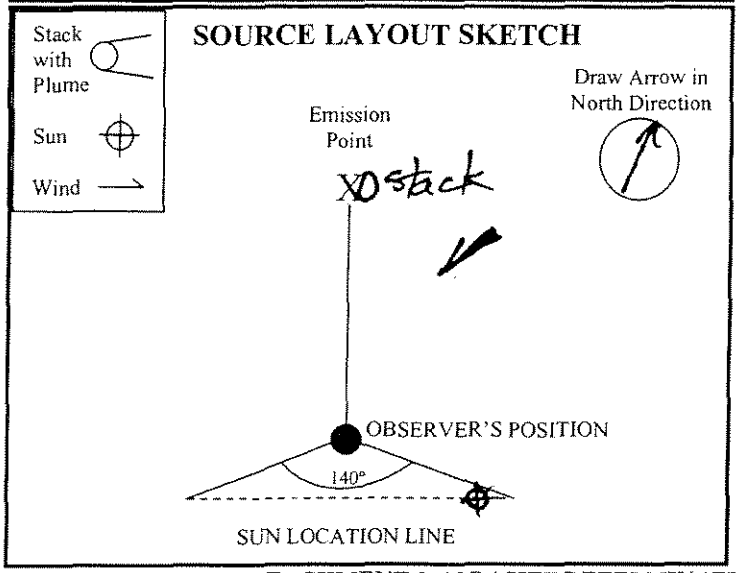
Background Color	Sky Conditions
Blue Gray	Partly cloudy

Wind Speed	Wind Direction (provide from/to, i.e. from North to South)
1-2 mph	from NE

Ambient Temperature	Relative Humidity
62 °F	66 %

Additional Comments/Information:
all emission points clear

SOURCE LAYOUT SKETCH



Observation Date	Start Time	End Time
9-6-07	0830	0836

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

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

OBSERVER (please print)

Name:	Title:
Don Stone	Engineer

Signature	Date
Don Stone	9-6-07

Observer Organization: KSL

Certified by	Certification Date
ETA	8-29-07

Los Alamos

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (6 MINUTE)

Source Name: LANL Asphalt Plant

Source Location: TA-60 (Sigma Mesa)

Type of Source: Asphalt Plant

Type of Control Equipment: Baghouse

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

Height Above Ground Level: 45 Feet

Height Relative to Observer: 45 Feet

Distance From Observer: 55 Feet

Direction of Source From Observer: NNW

Description of Plume (stack exit only)
☐Lofting ☐Trapping ☐Looping ☐Fanning ☐Coning
☒No Plume Present

Emission Color: No Emission

Plume Type ☒No Plume Present ☐Continuous ☐Fugitive ☐Intermittent

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

At what point in the plume was opacity determined?
3'11" above Top of Stack

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

Background Color: Blue

Sky Conditions: Clear

Wind Speed: 5-9 mph

Wind Direction (provide from/to, i.e. from North to South): From NW

Ambient Temperature: 55 °F

Relative Humidity: 53 %

Additional Comments/Information:
All emission Points Clear

Observation Date: 10-11-07

Start Time: 0837

End Time: 0842

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

Average 6-Minute Opacity: 0 %

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

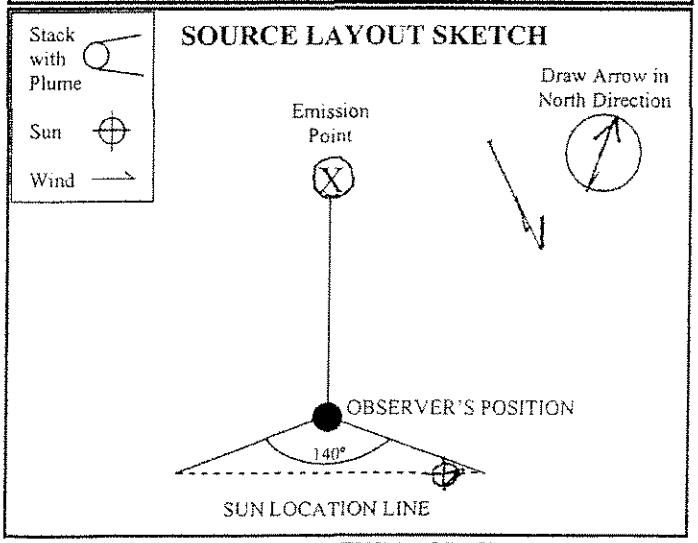
OBSERVER (please print)
Name: Don Stone Title: Engineer

Signature: Don Stone Date: 10.11.07

Observer Organization: KSL

Certified by: ETA Certification Date: 8.29.07

SOURCE LAYOUT SKETCH



Los Alamos

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (6 MINUTE)

Source Name: LANL Asphalt Plant

Source Location: TA-60 (Sigma Mesa)

Type of Source: Asphalt Plant

Type of Control Equipment: Baghouse

Describe Emission Point (Top of stack, etc.): TOP OF SHAKER STACK

Height Above Ground Level: 45 Feet

Height Relative to Observer: 45 Feet

Distance From Observer: 55 Feet

Direction of Source From Observer: NW

Description of Plume (stack exit only)
☐Lofting ☐Trapping ☐Looping ☐Fanning ☐Coning
☒No Plume Present

Emission Color: NO EMISSION

Plume Type ☒No Plume Present
☐Continuous ☐Fugitive ☐Intermittent

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

At what point in the plume was opacity determined?
2 Ft above top of stack

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

Background Color: Blue

Sky Conditions: Clear

Wind Speed: 2-5 mph

Wind Direction (provide from/to, i.e. from North to South): from SE

Ambient Temperature: 51 °F

Relative Humidity: 30 %

Additional Comments/Information:
All emission points clear

Observation Date: 11-7-07

Start Time: 0848

End Time: 0854

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

Average 6-Minute Opacity: 0%

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

OBSERVER (please print)

Name: Don Stone

Title: Engineer

Signature: Don Stone

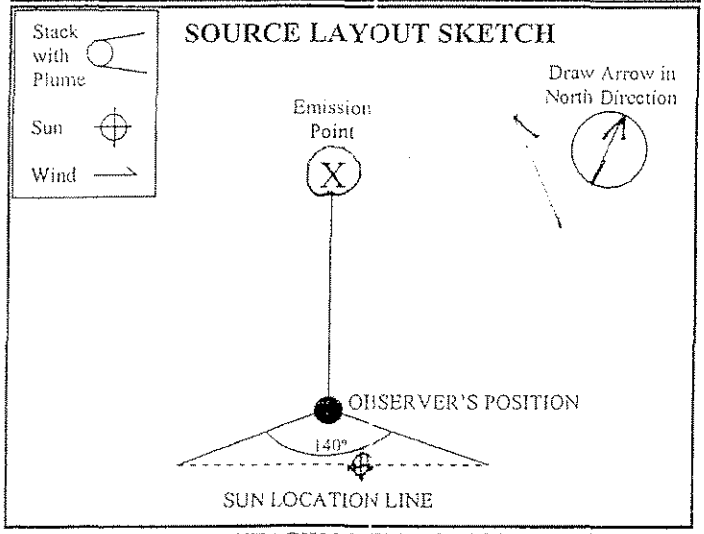
Date: 11-7-07

Observer Organization: KSL

Certified by: ETA

Certification Date: 8-29-07

SOURCE LAYOUT SKETCH



Los Alamos

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (6 MINUTE)

Source Name: LANL Asphalt Plant

Source Location: TA-60 (Sigma Mesa)

Type of Source	Type of Control Equipment
Asphalt Plant	Baghouse

Describe Emission Point (Top of stack, etc.): TOP OF SHAKER STACK

Height Above Ground Level	Height Relative to Observer
45 Feet	45 Feet

Distance From Observer	Direction of Source From Observer
55 Feet	NW

Description of Plume (stack exit only)
☐Lofting ☐Trapping ☐Looping ☐Fanning ☐Coning
☒No Plume Present

Emission Color	Plume Type
NO EMISSION	☒No Plume Present ☐Continuous ☐ Fugitive ☐Intermittent

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

At what point in the plume was opacity determined?
½ lft. ABOVE TOP STACK

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

Background Color	Sky Conditions
BLUE	Partly Cloudy

Wind Speed	Wind Direction (provide from/to, i.e. from North to South)
5-7 mph	FROM SSE

Ambient Temperature	Relative Humidity
42 °F	53 %

Additional Comments/Information:
ALL EMISSION POINTS CLEAR

Observation Date	Start Time	End Time
12-5-07	0925	0931

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

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

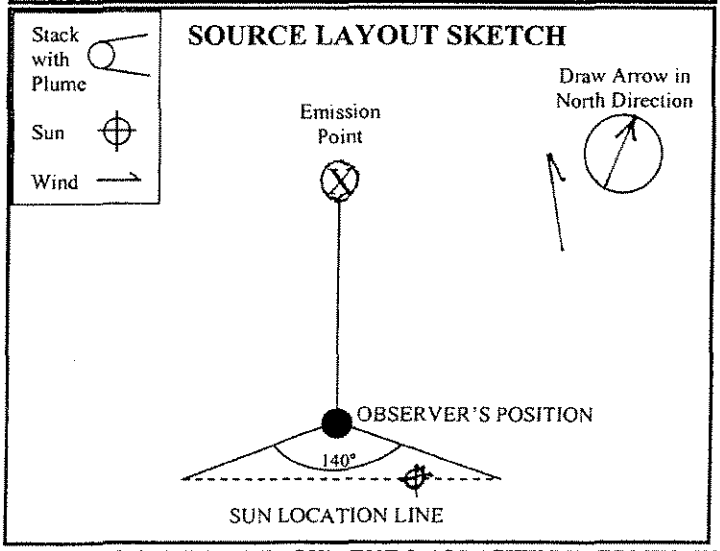
OBSERVER (please print)
Name: Don Stone Title: ENGINEER

Signature: Don Stone Date: 12-5-07

Observer Organization: ESL

Certified by	Certification Date
EJA	8-29-07

SOURCE LAYOUT SKETCH



Attachment B
Beryllium HEPA Filter Tests Results

Summary Table, Reports Attached

Unit	Date	Pass/Fail
TA-55 (H-5-1450) (FF-854)	7/10/2007	Pass
TA-55 (H-5-1460) (FF-855)	7/10/2007	Pass
TA-55 (H-5-5870) (FF-858)	7/10/2007	Pass
TA-55 (H-5-5880) (FF-859)	7/10/2007	Pass

300 AREA GLOVEBOX EXHAUST IN-PLACE HEPA FILTER TESTING

ATTACHMENT A
300 Area Glovebox Exhaust FF-854 Data Sheet

Date: 07-10-07 (8.4.1) LAS Calibration Expiration Date: 03-06-08 (8.4.3) Diluter Calibration Expiration Date: 10-02-07 (8.4.4) Dilution Ratio: 2063 (8.4.2)

Step Number	Item	FF-854 H-5-1450
9.1.12.2	Background concentration (part./cc)	2.825×10^{-2} part. concentration
9.1.12.3	Upstream concentration (part./cc)	2.149×10^{6} part. concentration
9.1.12.4	Challenge aerosol concentration between 2.00×10^{6} and 2.71×10^{6} part./cc	PKO Initials
9.1.12.5	1st stage downstream concentration (part./cc)	2.616×10^{2} part. concentration
9.1.12.6	2nd/3rd stage downstream concentration (part./cc)	3.884×10^{-2} part. concentration
9.1.12.7	1st stage Penetration $\leq 5.0 \times 10^{-4}$ (efficiency $\geq$ 99.95%)	1.217×10^{-4}
9.1.12.8	2nd/3rd stage Penetration $\leq 2.5 \times 10^{-7}$ (efficiency $\geq$ 99.999975%)	4.928×10^{-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)	PKO Initials / Independent Verification

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

FOR INFORMATION ONLY

Comments:

Surveillance Personnel Signature 07-10-07 Date

OC On-duty Supervisor Signature 7/10/07 Date

300 AREA GLOVEBOX EXHAUST IN-PLACE HEPA FILTER TESTING

ATTACHMENT C
300 Area Glovebox Exhaust FF-855 Data Sheet

Date: 07-10-07 (8.4.1) LAS Calibration **Expiration** Date: 03-06-08 (8.4.3) Diluter Calibration **Expiration** Date: 10-2-07 (8.4.4) Dilution Ratio: 2063 (8.4.2)

Step Number	Item	FF-855 H-5-1460
9.3.12.2	Background concentration (part./cc)	7.062×10^{-3} part concentration
9.3.12.3	Upstream concentration (part./cc)	2.445×10^{6} part concentration
9.3.12.4	Challenge aerosol concentration between 2.00×10^{6} and 2.71×10^{6} part./cc	PO Initials
9.3.12.5	1st stage downstream concentration (part./cc)	3.107×10^{1} part concentration
9.3.12.6	2nd/3rd stage downstream concentration (part./cc)	1.059×10^{-2} part concentration
9.3.12.7	1st stage Penetration ≤ 5.0×10^{-4} (efficiency ≥ 99.95%)	1.270×10^{-5}
9.3.12.8	2nd/3rd stage Penetration ≤ 2.5×10^{-7} (efficiency ≥ 99.999975%)	1.444×10^{-9}
9.3.13.2 9.3.13.3	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)	PO Initials; Independent Verification: MWT

Valve	Required Position	Initials	Independent Verification
HV-855-J	Closed and Locked	PO	MWT
HV-855-G	Closed	PO	MWT
HV-855-H	Closed	PO	MWT
HV-855-D	Closed	PO	MWT
HV-855-C	Closed	PO	MWT
HV-855-B	Closed	PO	MWT
HV-855-A	Closed	PO	MWT
HV-854-AA	Closed	PO	MWT

FOR INFORMATION ONLY

Comments:

Surveillance Personnel Signature 07-10-07 Date

OC On-duty Supervisor Signature 7/10/07 Date

300 AREA GLOVEBOX EXHAUST IN-PLACE HEPA FILTER TESTING

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

Date: 07-10-07 (8.4.1) LAS Calibration Expiration Date: 06-06-08 (8.4.3) Diluter Calibration Expiration Date: 10-2-07 (8.4.4) Dilution Ratio: 2063 (8.4.2)

Step Number	Item	FF-858 H-5-5870
9.2.9.2	Background concentration (part./cc)	0.00 part. concentration
9.2.9.3	Upstream concentration (part./cc)	2.189×10^{6} part. concentration
9.2.9.4	Challenge aerosol concentration between 2.00×10^{6} and 2.71×10^{6} part./cc	RO Initials
9.2.9.5	1st stage downstream concentration (part./cc)	5.642×10^{1} part. concentration
9.2.9.6	2nd/3rd stage downstream concentration (part./cc)	7.062×10^{-3} part. concentration
9.2.9.7	1st stage Penetration ≤ 5.0×10^{-4} (efficiency ≥ 99.95%)	2.578×10^{-5}
9.2.9.8	2nd/3rd stage Penetration ≤ 2.5×10^{-7} (efficiency ≥ 99.999975%)	3.226×10^{-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)	RO Initials / Independent Verification

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

Comments:

FOR INFORMATION ONLY

Surveillance Personnel Signature 7-10-07 Date

OC On-duty Supervisor Signature 7/10/07 Date

300 AREA GLOVEBOX EXHAUST IN-PLACE HEPA FILTER TESTING

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

Date: 07-10-07 (8.4.1) LAS Calibration **Expiration** Date: 03-06-08 (8.4.3) Diluter Calibration **Expiration** Date: 10-02-07 (8.4.4) Dilution Ratio: 2063 (8.4.2)

Step Number	Item	FF-859 H-5-5880
9.4.9.2	Background concentration (part./cc)	3.531×10^{-3} part. concentration
9.4.9.3	Upstream concentration (part./cc)	2.095×10^{6} part. concentration
9.4.9.4	Challenge aerosol concentration between 2.00×10^{6} and 2.71×10^{6} part./cc	PKO Initials
9.4.9.5	1st stage downstream concentration (part./cc)	6.434×10^{1} part. concentration
9.4.9.6	2nd/3rd stage downstream concentration (part./cc)	7.062×10^{-3} part. concentration
9.4.9.7	1st stage Penetration $\leq 5.0 \times 10^{-4}$ (efficiency $\geq$ 99.95%)	3.070×10^{-5}
9.4.9.8	2nd/3rd stage Penetration $\leq 2.5 \times 10^{-7}$ (efficiency $\geq$ 99.999975%)	1.685×10^{-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)	PKO Initials / Independent Verification

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

Comments:

FOR INFORMATION

Surveillance Personnel Signature 07-10-07 Date

QC On-duty Supervisor Signature 7/10/07 Date

Attachment C
Boilers and Heaters Natural Gas Usage

2007 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	1	2657		81,782	81.78	79.12	502.42
	February	676	1261		66,101	66.10	64.16	508.94
	March	1609	1		54,352	54.35	52.74	505.10
	April	1248	797		44,215	44.22	42.17	513.53
	May	1379	1836		29,468	29.47	26.25	521.07
	June	348	379	0.1	13,530	13.53	12.80	518.20
	July	333	128		13,687	13.69	13.23	519.25
	August	415	1297		8,794	8.79	7.08	514.87
	September	345	1160		19,691	19.69	18.19	511.34
	October	345	1537		36,509	36.51	34.63	506.16
	November	702	798		54,213	54.21	52.71	502.26
	December	769	814	0.0	79,717	79.72	78.13	502.06
	TOTAL	8170	12665	0.1	502,059	502.06	481.22	Permit Limit = 870

2006 Non Metered Boiler Pool Capacity:	**304.3**	MMBTU/hr[f]
Estimated Gas-Use per MMBtu rating Jan-June:	0.91	MMscf/MMBtu/hr
Estimated Gas-Use per MMBtu rating July-Dec:	0.67	MMscf/MMBtu/hr
Estimated Gas-Use per MMBtu - Annual	1.58	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[i] (MMBTU/hr)	**5.336**	**5.335**	**7.140**	**7.115**	**7.115**	**5.335**	**5.335**	**12.700**	**249**
Calculated Gas Use-Jan-June	4.862	4.861	6.505	6.482	6.482	4.861	4.861	11.571	226.769
Calculated Gas Use-July-Dec	3.577	3.576	4.786	4.769	4.769	3.576	3.576	8.513	166.826
Calculated Gas Use-Annual	8.439	8.438	11.291	11.251	11.251	8.438	8.438	20.084	393.595

2007 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	3184	0	3.184	January	29.16	402
February	2895	9	2.895	February	28.58	411
March	2853	10	2.853	March	27.87	421
April	2297	6	2.297	April	27.65	427
May	2172	3	2.172	May	27.82	430
June	1803	41	1.803	June	27.91	471
July	0	0	0.000	July	26.21	137
August	0	0	0.000	August	24.62	118
September	0	0	0.000	September	22.91	118
October	0	0	0.000	October	20.70	95
November	0	0	0.000	November	18.20	75
December	0	0	0.000	December	15.20	69
Annual Totals:	15204	69	15.204			
Jan. - June	15204	69	15.204			
July - Dec.	0	0	0.000			

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

In August, 2007, the TA-21 Steam Plant was placed on the D&D list and will no longer be operated. No further entries will be made on this calculation sheet after that date. A letter was sent to NMED in October informing them that the plant has closed.

Attachment D
Carpenter Shop Hours of Operation

2007 TA-3 & TA-15 Carpenter Shops

TA-3	Data Entry
	Hours of Operation[1]
Month	TA-3
January	3.1
February	4.3
March	25.6
April	4.6
May	3.4
June	2.3
6 mo. Total	43.3

TA-3	Data Entry
	Hours of Operation[1]
Month	TA-3
July	2.9
August	9.9
September	2.3
October	4.9
November	1.5
December	1.4
6 mo. Total:	22.9

TA-15	Data Entry
	Hours of Operation[1]
Month	TA-15
January	9.4
February	17.4
March	47.2
April	13.6
May	20.6
June	8.9
6 mo. Total	117.1

TA-15	Data Entry
	Hours of Operation[1]
Month	TA-15
July	12.3
August	10.3
September	8.8
October	10.2
November	13.0
December	4.8
6 mo. Total:	59.4

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.

Attachment E
Degreaser Solvent Usage

Historical Solvent Usage Data

The usage information for Emission Unit TA-55-DG-1, ultrasonic cold batch degreaser, from Jul-01-2007 through Dec-31-2007 is displayed below.

General Degreaser Information

Degreaser	Type	TA	Solvent
UT Bath	Cold Batch	55	Trichloroethylene

Date Measured	Initial Solvent Level (inches)	Volume Added (liters)	Level Added (inches)	Volume Removed (liters)	Level Removed (inches)
Jul-16-2007	7.4	0	0	14.55	7.4
Jul-23-2007	0	14.74	7.5	0	0
Aug-27-2007	7.5	0	0	1	0.5
Sep-27-2007	6.5	0	0	0	0
Oct-24-2007	6.5	0	0	0	0
Nov-27-2007	6.5	0	0	0	0
Dec-18-2007	6	0	0	0	0

Attachment F
Internal Combustion Generator Hours of Operation

2007 Generator Hours

								First 6 Month Readings			Second 6 Month Readings		
TA	Bldg	Manufacturer	MODEL	KW	Fuel Type	Previous Reading Date	Previous Reading	6 Month Reading Date	Reading	Hours Run	12 Month Reading Date	Reading	Hours Run
3	38	Onan Sons	H1750DSG15	175	Diesel	Dec-06	3054.4	May-07	3057.0	2.6	Nov-07	3070	13
3	38	Onan Sons	350DFCC	350	Diesel	Dec-06	2619.4	May-07	2629.4	10.0	Nov-07	2636.5	7.1
3	38	Cummins	150DGFA	150	Diesel	Dec-06	1147.0	May-07	1158.9	11.9	Nov-07	1170.6	11.7
3	40	Onan Sons	1500DVE15R31374B	150	Diesel	Dec-06	3.2	May-07	6.1	2.9	Dec-07	6.6	0.5
3	223	Onan Sons	45.OEM-15R/10742D	45	Nat. Gas	Dec-06	478.0	May-07	481.1	3.1	Dec-07	489.5	8.4
3	440	Cummins	500FDR5051	150	Diesel	Dec-06	121.8	May-07	121.8	0.0	Dec-07	121.8	121.8
3	440	Cummins	DFGA-5005210	500	Diesel	Dec-06	69.5	May-07	74.8	5.3	Dec-07	81.8	7
3	1076	Cummins	DGBB-5601289	35	Diesel	Dec-06	101.2	Jun-07	116.7	15.5	Dec-07	129.7	13
3	1400	Cummins	DFEH-5699616	400	Diesel	Apr-07	14.0	May-07	14.1	0.1	Dec-07	33	18.9
3	1404	Cummins	DFLC-5554001	1250	Diesel	Dec-05	287.9	Jun-07	324.2	36.3	Dec-07	336.5	12.3
3	1498	Caterpillar	SR-4	600	Diesel	Nov-05	303.0	May-07	315.0	12.0	Dec-07	326	11
3	2322	Onan Sons	DGDA-5005757	80	Diesel	Nov-05	329.1	May-07	336.8	7.7	Nov-07	339.8	3
16	980	Cummins	KTA50-G2	1100	Diesel	Dec-05	226.3	Jun-07	276.2	49.9	Dec-07	293.4	17.2
16	1374	Onan Sons	60ENA	60	Nat. Gas	Nov-05	1039.4	May-07	1058.9	19.5	Dec-07	1092.9	34
18	31	Onan Sons	275DFML29807N	275	Diesel	Dec-05	173.4	Jun-07	180.8	7.4	Dec-07	180.8	0
21	357	Caterpillar	SR-4	125	Diesel	Nov-05	497.5	May-07	541.0	43.5	Jan-08	558.2	17.2
60	yard	Cummins	DFHD-4964979	1000	Diesel	Feb-07	272.4	Jul-07	293.9	21.5	Dec-07	648.4	354.5
35	2	Onan Sons	100DGDB	100	Diesel	Dec-05	115.5	Jun-07	115.3	0.0	Dec-07	115.5	0.2
35	402	Cummins	DGCB-5674244	60	Diesel	Jun-07	107.4	Jun-07	107.4	0.0	Dec-07	138.4	31
43	1	Cummins	4BT3.9-GC	50	Diesel	Nov-05	369.4	May-07	379.0	9.6	Dec-07	383.9	4.9
43	1	Onan Sons	DVE	150	Diesel	Nov-05	562.6	May-07	589.1	26.5	Dec-07	620.2	31.1
46	335	Onan Sons	300DEFCB	300	Diesel	Nov-05	873.8	May-07	900.4	26.6	Dec-07	959.5	59.1
48	45	Onan Sons	DFCB-5740130	300	Diesel	Nov-05	16.0	May-07	24.9	8.9	Dec-07	53.5	28.6
50	37	Cummins	680FDR5059FF	500	Diesel	Nov-05	485.1	May-07	489.1	4.0	Nov-07	502.9	13.8
50	184	Onan Sons	DGFA-568741	150	Nat. Gas	Nov-05	153.6	May-07	209.7	56.1	Dec-07	212.7	3
50	188	Onan Sons	L940563879	1250	Diesel	Nov-05	149.0	Jun-07	149.0	0.0	Dec-07	149	0
53	1	Onan Sons	60ENA	60	Nat. Gas	Nov-05	1165.4	May-07	1195.1	29.7	Dec-07	1234.1	39
53	2	Kato Eng.	Kamag-14	50	Diesel	Nov-05	194.3	May-07	194.3	0.0	Dec-07	194.3	0
53	M	Onan Sons	12.5JC-18R/16095AA	12.5	Nat. Gas	Nov-05	581.5	May-07	581.5	0.0	Dec-07	581.5	0
54	412	Olympian	95M-07874-F	500	Diesel	Nov-05	292.0	May-07	306.1	14.1	Dec-07	317.9	11.8
55	5	Kohler	100RZ71	100	Nat. Gas	Dec-05	71.3	May-07	74.4	3.1	Nov-07	79.3	4.9
55	8	Delco/Detroit	E7014DD	600	Diesel	Dec-05	805.3	Jun-07	814.3	9.0	Dec-07	822.2	7.9
55	364	Onan Sons	1250DFLC-4987	1250	Diesel	Dec-05	52.6	Jun-07	62.0	9.4	Dec-07	82.8	20.8
55	28	Onan Sons	40DL6T	40	Diesel	Dec-05	47.3	Jun-07	47.3	0.0	Dec-07	66.5	19.2
55	47	Onan Sons	1465	200	Diesel	Nov-05	515.6	May-07	526.6	11.0	Nov-07	540	13.4
55	142	Cummins	DFEB-4963414	400	Diesel	Dec-05	88.8	May-07	96.1	7.3	Dec-07	105	8.9
59	1	Allis Chalmers	2884-0703	90	Diesel	Nov-05	749.3	Jun-07	750.0	0.7	Dec-07	750	0
63	Yard	Murphy	3166-0084	20	Diesel	Nov-05	715.9	Jun-07	715.9	0.0	Dec-07	716	0.1
64	1	Onan Sons	250DVG	250	Diesel	Nov-05	148.0	May-07	153.1	5.1	Dec-07	166.9	13.8
64	39	Onan Sons	20.0DL4-15R	20	Diesel	Dec-05	189.9	Jun-07	189.9	0.0	Dec-07	189.9	0
69	33	Cummins	DFLC-5568730	1250	Diesel	Nov-05	53.2	May-07	62.5	9.3	Dec-07	71.3	8.8
	41 Generators in use			12548					**TOTAL**	479.6		**TOTAL**	970.9

N/R = Not Read

First half average hours per unit	11.7	Second half average hours per unit	23.7

Annual Average of hours per unit	17.7

Attachment G
Data Disintegrator Box Throughput

2007 TA-52 Data Disintegrator

Month	Data Entry Boxes[(c)] Shredded	12-Month Rolling Total	Month	Data Entry Boxes[(c)] Shredded	12-Month Rolling Total
January	484	9257	**July**	1188	10900
February	542	8759	**August**	634	10066
March	2206	10199	**September**	977	10444
April	799	10293	**October**	535	10651
May	1719	10989	**November**	751	11387
June	992	10602	**December**	593	11420
6 mo. Total	6,742		**6 mo. Total:**	4,678	

Annual Boxes (2007):	**11,420**

Attachment H
Power Plant Natural Gas and Fuel Oil Usage

TA-3 Power Plant Fuel Use Totals 2007 (Data Entry)

	DATA ENTRY							
	TA-3-22 Power Plant[b] Boiler # 1 (Edgemoor Iron Works, 210 MMBTU/hr)		TA-3-22 Power Plant[b] Boiler # 2 (Edgemoor Iron Works, 210 MMBTU/hr)		TA-3-22 Power Plant[b] Boiler # 3 (Union Iron Works, 210 MMBTU/hr)		Monthly Totals	
Month	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	11,719	319	31,832	0	31,733	0	75.284	319
February	36,598	0	21,940	347	611	0	59.149	347
March	38,858	438	4,328	212	8,387	406	51.573	1056
April	9,160	0	3,101	603	29,807	0	42.068	603
May	362	27,893	10,074	438	24,198	50,133	34.634	78464
June	0	0	0	0	0	0	0.000	0
July	25	0	0	0	0	0	0.025	0
August	15,215	0	146	0	0	0	15.361	0
September	24,466	438	1,230	0	88	0	25.784	438
October	19,297	384	17,033	0	1,124	438	37.454	822
November	2,830	274	40,509	24	2,446	274	45.785	572
December	1,475	384	60,327	0	2,709	329	64.511	713
Annual Totals:	160,005	30,130	190,520	1,624	101,103	51,580	451.628	83334
Jan. - June	96,697	28,650	71,275	1,600	94,736	50,539	262.708	80789
July - Dec.	63,308	1,480	119,245	24	6,367	1,041	188.920	2545

Month	12-Mo. Rolling Total Natural Gas (MMscf)	12-Mo. Rolling Total Fuel Oil (gallons)
January	615.3	21463
February	616.0	21097
March	609.8	21231
April	601.9	21456
May	602.6	99269
June	573.2	98611
July	546.3	97448
August	534.6	97448
September	526.9	97886
October	482.3	98270
November	463.3	82840
December	451.6	83334

Permit Limits:	2000 MMscf	500,000 gallons

	Totals by Fuel Type	
	Natural Gas (MMscf)	Fuel Oil (Gallons)
Annual Totals:	451.63	83334.00
Jan. - June	262.71	80789.00
July - Dec.	188.92	2545.00

2007 Daily Turbine Gas Use (MCF), 365 Day Rolling Total Gas Use, & Hours of Operation

	Jan		Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec	
Day	Gas Use	Hours	Gas Use	Hours	Gas Use	Hours	Gas Use	Hours	Gas Use	Hours	Gas Use	Hours	Gas Use	Hours	Gas Use	Hours	Gas Use	Hours	Gas Use	Hours	Gas Use	Hours	Gas Use	Hours
1																			0	0.0	0	0	0	0
2																			0	0.0	0	0	0	0
3																			165	0.8	0	0	0	0
4																			15	0.3	0	0	0	0
5																			1441	6.5	0	0	0	0
6																			0	0.0	0	0	0	0
7																			0	0.0	0	0	0	0
8																			0	0.0	0	0	0	0
9																			0	0.0	0	0	0	0
10																			0	0.0	0	0	0	0
11																			0	0.0	0	0	0	0
12																			0	0.0	0	0	0	0
13																			0	0.0	0	0	0	0
14																			0	0.0	0	0	0	0
15																			0	0.0	0	0	0	0
16																			0	0.0	0	0	0	0
17																			0	0.0	0	0	0	0
18																			0	0.0	0	0	0	0
19																			0	0.0	0	0	0	0
20																	9	0.25	0	0.0	0	0	0	0
21																	0	0	0	0.0	0	0	0	0
22																	130	0.75	0	0.0	0	0	0	0
23																	34	0.25	0	0.0	0	0	0	0
24																	430	2	0	0.0	0	0	0	0
25																	966	4.5	0	0.0	0	0	0	0
26																	972	4.5	0	0.0	0	0	0	0
27																	920	4.25	0	0.0	0	0	0	0
28																	329	2	0	0.0	0	0	0	0
29																	639	3	0	0.0	0	0	0	0
30																	396	2	0	0.0	0	0	0	0
31																			0	0.0			0	0
SUM																	4825		1621		0		0	

First Half Gas Use: 0 **MCF** **Second Half Gas Use:** 6446 **MCF** **Annual Gas Use:** 6446 **MCF**

Gray shaded areas are prior to the initial startup of the turbine generator unit.

The SCFH value in the cell equation is from the compliance test report (223620 SCFH or 223.6 MSCFH)

365 day rolling total: 6446 **MCF**

6.446 **MMSCF**

Permit Limit (365 day rolling total): 646 MMSCF

Attachment I
Power Plant Opacity Reports

Summary Table, Reports Attached

Source	Date	Time	Average Opacity [a]
TA-3-22 Power Plant	July 2007	N/A	(b)
	August 2007	N/A	(b)
	09-11-07	10:57 am	0%
	09-11-07	11:08 am	0.125%
	09-18-07	10:55 am	0%
	09-18-07	11:08 am	0%
	10-02-07	10:24 am	0.625%
	10-02-07	10:35 am	0%
	10-16-07	10:39 am	0%
	10-23-07	10:25 am	0%
	10-23-07	11:36am	0%
	11-06-07	10:20 am	0%
	11-13-07	11:14 am	0%
	12-12-07	10:35 am	0%
	12-19-07	10:55 am	0%

(a) Average opacity for the Power Plant is the sum of the highest consecutive 40 readings divided by 40 (10 minutes of readings). The method is in accordance with EPA Method 9 and 20.2.61 NMAC.

(b) There were no visible emission readings taken in July or August due to a scheduled Power Plant steam outage. No fuel oil was used during these months.

Los Alamos NATIONAL LABORATORY

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (10 MINUTE)

Source Name: Power Plant at TA-3

Source Location: TA-3-22

Type of Source: Boiler # 3

Type of Control Equipment: No Particulate Control

Describe Emission Point (Top of stack, etc.): TOP OF Boiler #3 STACK

Height Above Ground Level: 150 Feet

Height Relative to Observer: 140 Feet

Distance From Observer: 200 Feet

Direction of Source From Observer: NE

Description of Plume (stack exit only)
☐Lofting ☐Trapping ☐Looping ☐Fanning ☐Coning
☒No Plume Present

Emission Color: NO EMISSION

Plume Type ☒No Plume Present ☐Continuous ☐Fugitive ☐Intermittent

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

At what point in the plume was opacity determined?
2 12" ABOVE TOP OF STACK

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

Background Color: BLUE

Sky Conditions: CLEAR

Wind Speed: 3-4 mph

Wind Direction (provide from/to, i.e. from North to South): FROM SSE

Ambient Temperature: 59.4 °F

Relative Humidity: 65 %

Additional Comments/Information:
BURNER LIGHT-OFF EXERCISES WITH FUEL OIL

Observation Date: 9-11-07

Start Time: 1057

End Time: 1107

Min \ Sec	0	15	30	45	Comments
1	0	0	0	0	MILITARY
2	0	0	0	0	START & END
3	0	0	0	0	TIME USED
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
10	0	0	0	0	
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Average 10-Minute Opacity: 0 %

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

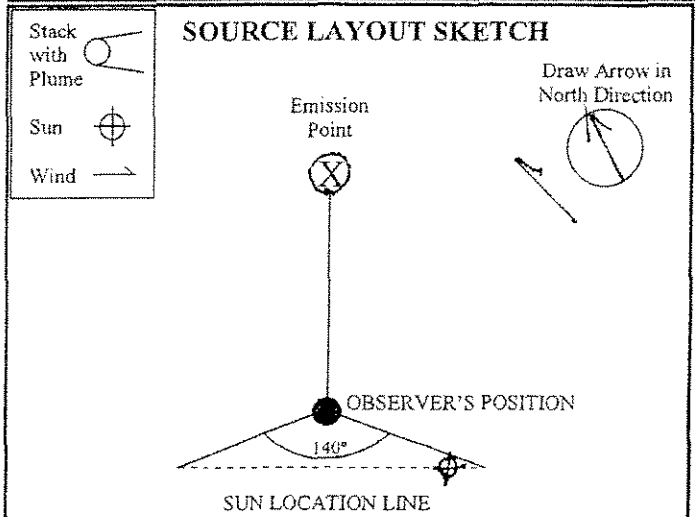
OBSERVER (please print)
Name: DON STONE Title: ENGINEER

Signature: Don Stone Date: 9-11-07

Observer Organization: KSL-ENV

Certified by: ETA Certification Date: 8.29-07

SOURCE LAYOUT SKETCH



Los Alamos NATIONAL LABORATORY

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (10 MINUTE)

Source Name: Power Plant at TA-3

Source Location: TA-3-22

Type of Source: Boiler # 3

Type of Control Equipment: No Particulate Control

Describe Emission Point (Top of stack, etc.): TOP OF BOILER #3 STACK

Height Above Ground Level: 150 Feet

Height Relative to Observer: 140 Feet

Distance From Observer: 200 Feet

Direction of Source From Observer: NE

Description of Plume (stack exit only)
☒Lofting ☐Trapping ☐Looping ☐Fanning ☐Coning
☐No Plume Present

Emission Color: BLACK TO CLEAR

Plume Type ☐No Plume Present ☐Continuous ☐Fugitive ☒Intermittent

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

At what point in the plume was opacity determined?
≈12" ABOVE TOP OF STACK

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

Background Color: BLUE

Sky Conditions: CLEAR

Wind Speed: 3-4 mph

Wind Direction (provide from/to, i.e. from North to South): FROM SSE

Ambient Temperature: 59.4°F

Relative Humidity: 65 %

Additional Comments/Information:
BURNER LITE-OFF EXERCISES WITH FUEL OIL

Observation Date: 9-11-07

Start Time: 1108

End Time: 1118

Min \ Sec	0	15	30	45	Comments
1	0	0	0	0	MILITARY
2	0	0	0	0	START & END
3	0	0	0	0	TIME USED
4	0	0	5	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
10	0	0	0	0	
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Average 10-Minute Opacity: 0.125 %

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

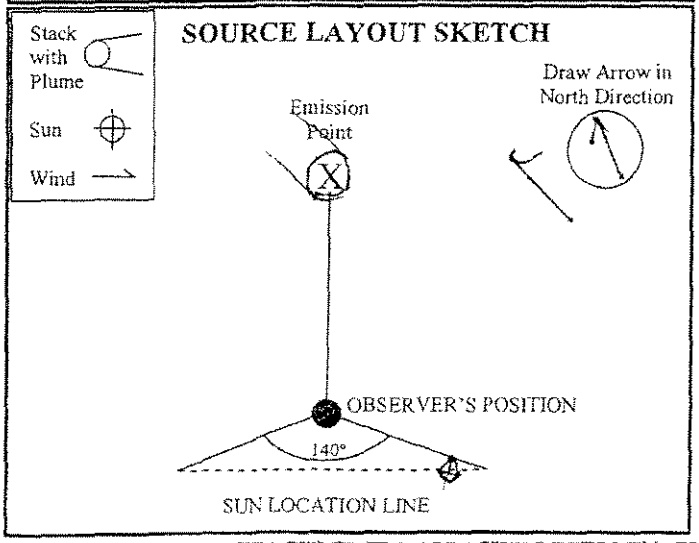
OBSERVER (please print)
Name: JON STONE Title: ENGINEER

Signature: Jon Stone Date: 9-11-07

Observer Organization: KSL-ENV

Certified by: ETA Certification Date: 8-29-07

SOURCE LAYOUT SKETCH



Los Alamos NATIONAL LABORATORY

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (10 MINUTE)

Source Name: Power Plant at TA-3

Source Location: TA-3-22

Type of Source: Boiler # 1

Type of Control Equipment: No Particulate Control

Describe Emission Point (Top of stack, etc.): Top of Boiler #1 Stack

Height Above Ground Level: 150 Feet

Height Relative to Observer: 140 Feet

Distance From Observer: 200 Feet

Direction of Source From Observer: NE

Description of Plume (stack exit only)
☐Lofting ☐Trapping ☐Looping ☐Fanning ☐Coning
☒No Plume Present

Emission Color: No emission

Plume Type ☒No Plume Present ☐Continuous ☐Fugitive ☐Intermittent

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

At what point in the plume was opacity determined?
≈ 12" above top of stack

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

Background Color: Blue

Sky Conditions: clear

Wind Speed: 4-6 mph

Wind Direction (provide from/to, i.e. from North to South): From ESE

Ambient Temperature: 61 °F

Relative Humidity: 45 %

Additional Comments/Information:
Fuel oil burn exercise
Boiler tripped at 1106, re-lite at 1107

Observation Date: 9-18-07

Start Time: 1055

End Time: 1105

Min \ Sec	0	15	30	45	Comments
1	0	0	0	0	Lifting start & end time used
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
10	0	0	0	0	
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Average 10-Minute Opacity: 0 %

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

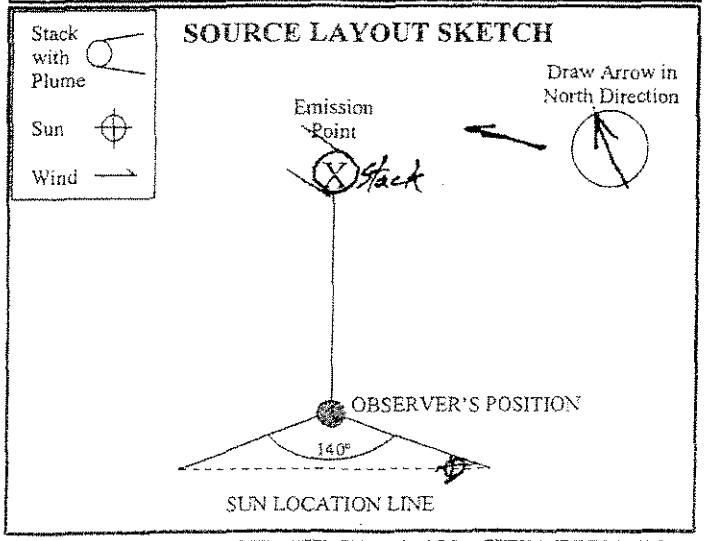
OBSERVER (please print)
Name: Don Stone Title: Engineer

Signature: Don Stone Date: 9-18-07

Observer Organization: KSL

Certified by: ETA Certification Date: 8-29-07

SOURCE LAYOUT SKETCH



Los Alamos NATIONAL LABORATORY

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (10 MINUTE)

Source Name: Power Plant at TA-3

Source Location: TA-3-22

Type of Source: Boiler # 1

Type of Control Equipment: No Particulate Control

Describe Emission Point (Top of stack, etc.): Top of Boiler #1 Stack

Height Above Ground Level: 150 Feet

Height Relative to Observer: 140 Feet

Distance From Observer: 200 Feet

Direction of Source From Observer: NE

Description of Plume (stack exit only)
☐Lofting ☐Trapping ☐Looping ☐Fanning ☐Coning
☒No Plume Present

Emission Color: No emission

Plume Type: ☒No Plume Present ☐Continuous ☐Fugitive ☐Intermittent

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

At what point in the plume was opacity determined?: 12" above top of stack

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

Background Color: Blue

Sky Conditions: Clear

Wind Speed: 4-6 mph

Wind Direction (provide from/to, i.e. from North to South): From ESE

Ambient Temperature: 61 °F

Relative Humidity: 45 %

Additional Comments/Information:
Fuel Oil burn exercise
Boiler tripped at 1106, re-lite at 1107. Very stable burn

Observation Date: 9-18-07

Start Time: 1108

End Time: 1118

Min \ Sec	0	15	30	45	Comments
1	0	0	0	0	Military start & end time used
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
10	0	0	0	0	
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Average 10-Minute Opacity: 0 %

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

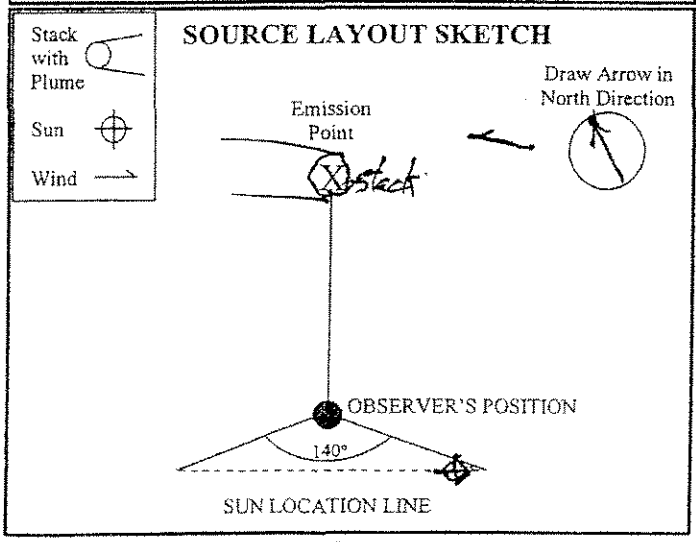
OBSERVER (please print)
Name: Don Stone Title: Engineer

Signature: Don Stone Date: 9-18-07

Observer Organization: KSL

Certified by: ETA Certification Date: 8-29-07

SOURCE LAYOUT SKETCH



Los Alamos

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (10 MINUTE)

Source Name: Power Plant at TA-3

Source Location: TA-3-22

Type of Source: Boiler # 3

Type of Control Equipment: No Particulate Control

Describe Emission Point (Top of stack, etc.): TOP OF BOILER #3 STACK

Height Above Ground Level: 150 Feet

Height Relative to Observer: 140 Feet

Distance From Observer: 250 Feet

Direction of Source From Observer: NE

Description of Plume (stack exit only)
☒Lofting ☐Trapping ☐Looping ☐Fanning ☐Coning
☐No Plume Present

Emission Color: BLACK

Plume Type ☐No Plume Present ☐Continuous ☐Fugitive ☒Intermittent

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

At what point in the plume was opacity determined?
12" ABOVE TOP OF STACK

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

Background Color: BLUE

Sky Conditions: PARTLY CLOUDY

Wind Speed: 13 mph

Wind Direction (provide from/to, i.e. from North to South): FROM NNW

Ambient Temperature: 59 °F

Relative Humidity: 46 %

Additional Comments/Information: FUEL OIL BURN EXERCISES

Observation Date: 10-2-07 | Start Time: 1024 | End Time: 1034

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

Average 10-Minute Opacity: 0.625 %

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

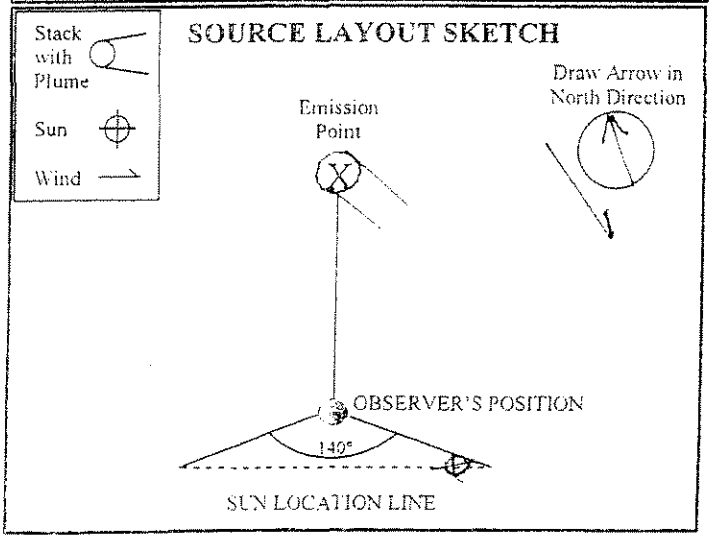
OBSERVER (please print)
Name: DON STONE Title: ENGINEER

Signature: Don Stone Date: 10-2-07

Observer Organization: KSL

Certified by: ETA Certification Date: 8-29-07

SOURCE LAYOUT SKETCH



Los Alamos

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (10 MINUTE)

Source Name: Power Plant at TA-3

Source Location: TA-3-22

Type of Source: Boiler # 3

Type of Control Equipment: No Particulate Control

Describe Emission Point (Top of stack, etc.): TOP OF BOILER #3 STACK

Height Above Ground Level: 150 Feet

Height Relative to Observer: 140 Feet

Distance From Observer: 250 Feet

Direction of Source From Observer: NE

Description of Plume (stack exit only)
☐Lofting ☐Trapping ☐Looping ☐Fanning ☐Coning
☒No Plume Present

Emission Color: NO EMISSION

Plume Type: ☒No Plume Present ☐Continuous ☐Fugitive ☐Intermittent

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

At what point in the plume was opacity determined?
≈12" ABOVE TOP OF STACK

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

Background Color: BLUE

Sky Conditions: PARTLY CLOUDY

Wind Speed: 11-13 mph

Wind Direction (provide from/to, i.e. from North to South): FROM NNW

Ambient Temperature: 59 °F

Relative Humidity: 46 %

Additional Comments/Information:
FUEL OIL BURN EXERCISES

Observation Date: 10-2-07

Start Time: 1035

End Time: 1045

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

Average 10-Minute Opacity: 0 %

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

OBSERVER (please print)
Name: DON STONE Title: ENGINEER

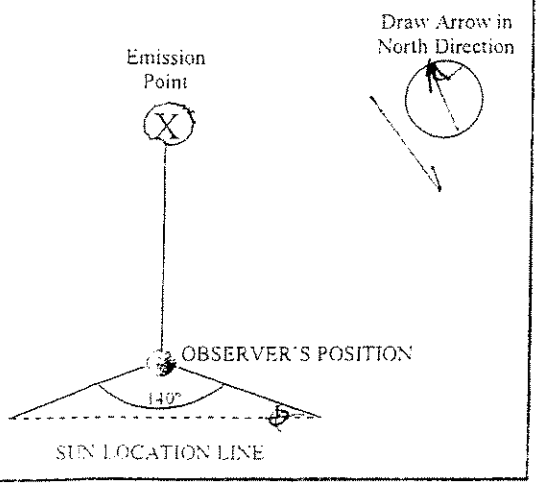
Signature: Don Stone Date: 12-2-07

Observer Organization: KSL

Certified by: ETA Certification Date: 8-29-07

SOURCE LAYOUT SKETCH

Stack with Plume
Sun
Wind



Los Alamos

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (10 MINUTE)

Source Name: Power Plant at TA-3	
Source Location: TA-3-22	
Type of Source: Boiler # 3	Type of Control Equipment: No Particulate Control
Describe Emission Point (Top of stack, etc.): TOP OF BOILER #3 STACK	
Height Above Ground Level: 150 Feet	Height Relative to Observer: 140 Feet
Distance From Observer: 250 Feet	Direction of Source From Observer: NE

Description of Plume (stack exit only)
☐Lofting ☐Trapping ☐Looping ☐Fanning ☐Coning
☒No Plume Present

Emission Color: NO EMISSION	Plume Type: ☒No Plume Present ☐Continuous ☐Fugitive ☐Intermittent

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

At what point in the plume was opacity determined?
1FT. ABOVE TOP OF STACK

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

Background Color: BLUE	Sky Conditions: CLEAR
Wind Speed: 5-10 mph	Wind Direction (provide from/to, i.e. from North to South): FROM SE
Ambient Temperature: 53 °F	Relative Humidity: 36 %

Additional Comments/Information:
Fuel Oil Burn Exercise

Observation Date	Start Time	End Time
10-16-07	1039	1049

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

Average 10-Minute Opacity	Range of Opacity Readings
0 %	Min. 0% Max. 0%

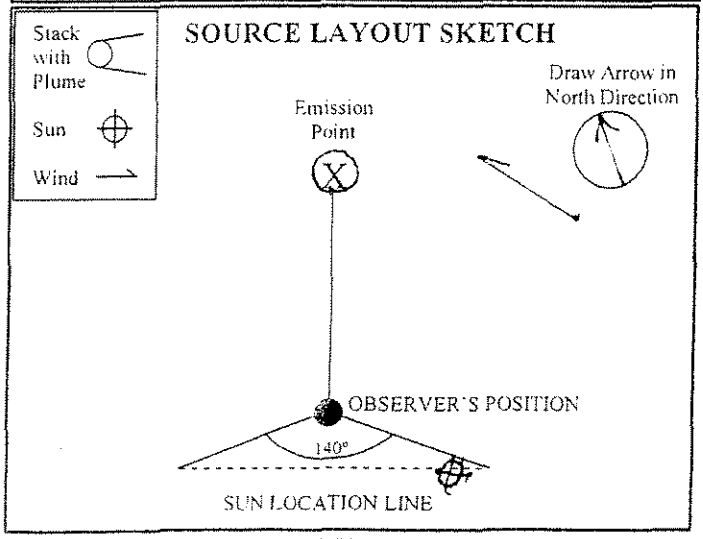
OBSERVER (please print)
Name: DON STONE Title: ENGINEER

Signature	Date
Don Stone	10-16-07

Observer Organization: ESL

Certified by	Certification Date
ETA	8-29-07

SOURCE LAYOUT SKETCH



Los Alamos

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (10 MINUTE)

Source Name: Power Plant at TA-3	
Source Location: TA-3-22	
Type of Source: Boiler # 1	Type of Control Equipment: No Particulate Control
Describe Emission Point (Top of stack, etc.): TOP OF BOILER #1 STALK	
Height Above Ground Level: 150 Feet	Height Relative to Observer: 130 Feet
Distance From Observer: 200 Feet	Direction of Source From Observer: NE

Description of Plume (stack exit only)
☐ Lofting ☐ Trapping ☐ Looping ☐ Fanning ☐ Coning
☒ No Plume Present

Emission Color: NO emission	Plume Type: ☒ No Plume Present ☐ Continuous ☐ Fugitive ☐ Intermittent

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

At what point in the plume was opacity determined?
1ft ABOVE TOP OF STACK

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

Background Color: Blue	Sky Conditions: Clear
Wind Speed: 4-8 mph	Wind Direction (provide from/to, i.e. from North to South): From N
Ambient Temperature: 50 °F	Relative Humidity: 26 %

Additional Comments/Information:
Fuel oil Burn exercise

Observation Date	Start Time	End Time
10-23-07	1025	1035

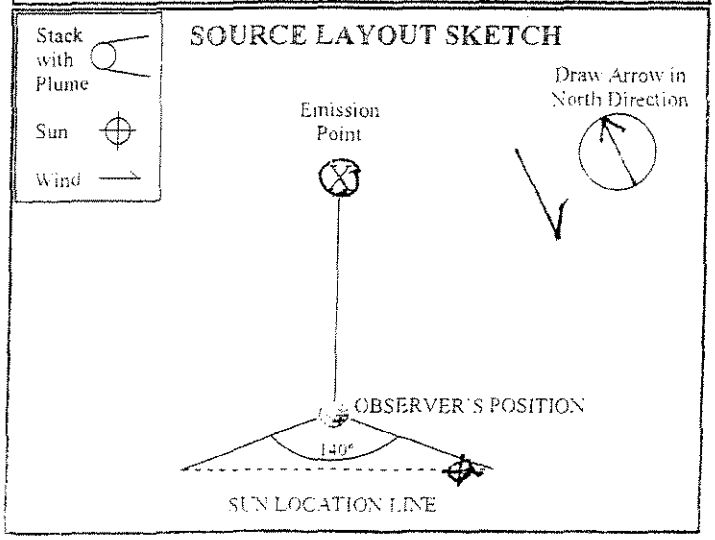
Min \ Sec	0	15	30	45	Comments
1	0	0	0	0	
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
10	0	0	0	0	
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Average 10-Minute Opacity	Range of Opacity Readings
0 %	Min. 0 % Max. 0 %

OBSERVER (please print)

Name:	Title:
Don Stone	Engineer
Signature: Don Stone	Date: 10-23-07
Observer Organization: KSL	
Certified by: ETA	Certification Date: 8-29-07

SOURCE LAYOUT SKETCH



Los Alamos

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (10 MINUTE)

Source Name: Power Plant at TA-3

Source Location: TA-3-22

Type of Source: Boiler # 1

Type of Control Equipment: No Particulate Control

Describe Emission Point (Top of stack, etc.): TOP of Boiler #1 STACK

Height Above Ground Level: 150 Feet

Height Relative to Observer: 130 Feet

Distance From Observer: 200 Feet

Direction of Source From Observer: NE

Description of Plume (stack exit only)
☐Lofting ☐Trapping ☐Looping ☐Fanning ☐Coning
☒No Plume Present

Emission Color: NO emission

Plume Type ☒No Plume Present
☐Continuous ☐Fugitive ☐Intermittent

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

At what point in the plume was opacity determined? Ft. above top of stack

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

Background Color: Blue

Sky Conditions: Clear

Wind Speed: 6-8 mph

Wind Direction (provide from-to, i.e. from North to South): From N

Ambient Temperature: 52 °F

Relative Humidity: 25 %

Additional Comments/Information:
Fuel oil Burn exercise
Re-light at 1136

Observation Date: 10-23-07 Start Time: 1136 End Time: 1145

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

Average 10-Minute Opacity: 0 %

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

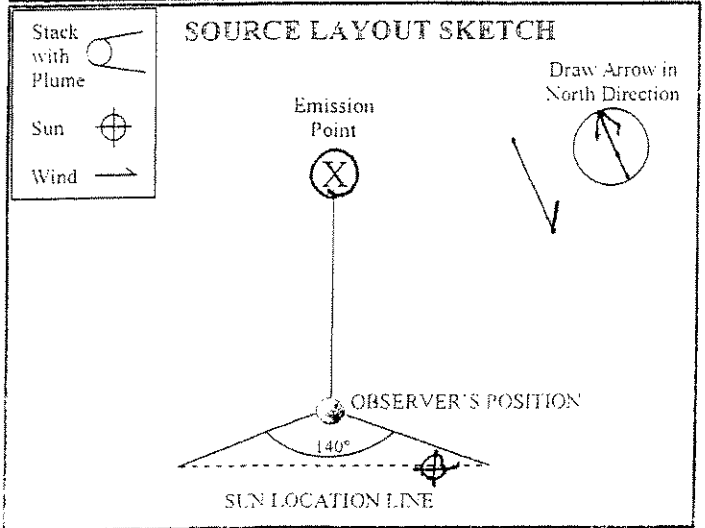
OBSERVER (please print)
Name: Don Stone Title: Engineer

Signature: Don Stone Date: 10-23-07

Observer Organization: KSL

Certified by: ETA Certification Date: 8-29-07

SOURCE LAYOUT SKETCH



Los Alamos

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (10 MINUTE)

Source Name: Power Plant at TA-3

Source Location: TA-3-22

Type of Source: Boiler # 3

Type of Control Equipment: No Particulate Control

Describe Emission Point (Top of stack, etc.): Top of Boiler #3 Stack

Height Above Ground Level: 150 Feet

Height Relative to Observer: 140 Feet

Distance From Observer: 250 Feet

Direction of Source From Observer: NE

Description of Plume (stack exit only)
☐Lofting ☐Trapping ☐Looping ☐Fanning ☐Coning
☒No Plume Present

Emission Color: No Emission

Plume Type ☒No Plume Present
☐Continuous ☐Fugitive ☐Intermittent

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

At what point in the plume was opacity determined?
1ft above top of stack

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

Background Color: Gray

Sky Conditions: Cloudy

Wind Speed: 5-8 mph

Wind Direction (provide from/to, i.e. from North to South): From S

Ambient Temperature: 38 °F

Relative Humidity: 55 %

Additional Comments/Information:
Fuel Oil Burn exercise

Observation Date: 11-6-07

Start Time: 1020

End Time: 1030

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

Average 10-Minute Opacity: 0%

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

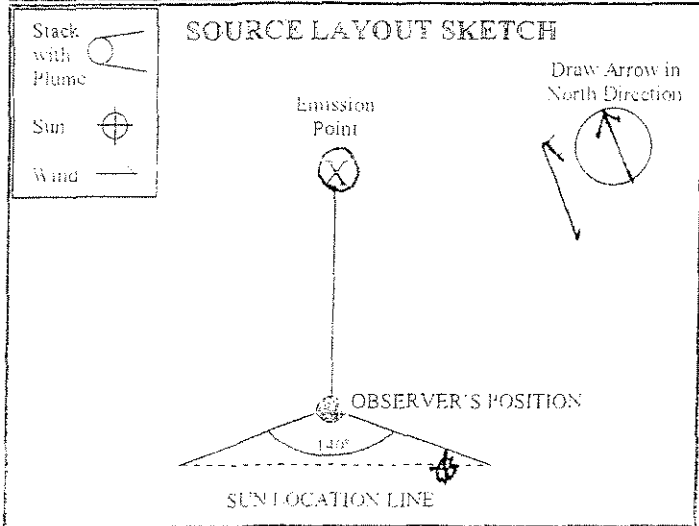
OBSERVER (please print)
Name: Don Stone Title: Engineer

Signature: Don Stone Date: 11-6-07

Observer Organization: KSL

Certified by: ETA Certification Date: 8-29-07

SOURCE LAYOUT SKETCH



Los Alamos

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (10 MINUTE)

Source Name: Power Plant at TA-3

Source Location: TA-3-22

Type of Source: Boiler # 2

Type of Control Equipment: No Particulate Control

Describe Emission Point (Top of stack, etc.): TOP OF Boiler #2 STACK

Height Above Ground Level: 150 Feet

Height Relative to Observer: 140 Feet

Distance From Observer: 200 Feet

Direction of Source From Observer: NE

Description of Plume (stack exit only)
☐Lofting ☐Trapping ☐Looping ☐Fanning ☐Coning
☒No Plume Present

Emission Color: NO EMISSION

Plume Type ☒No Plume Present ☐Continuous ☐Fugitive ☐Intermittent

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

At what point in the plume was opacity determined?
@ 1ft ABOVE TOP OF STACK

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

Background Color: BLUE

Sky Conditions: CLEAR

Wind Speed: 4-6 mph

Wind Direction (provide from/to, i.e. from North to South): FROM E

Ambient Temperature: 42 °F

Relative Humidity: 40 %

Additional Comments/Information:
Fuel Oil Burn exercise

Observation Date: 11-13-07

Start Time: 1114

End Time: 1124

Min \ Sec	0	15	30	45	Comments
1	0	0	0	0	
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
10	0	0	0	0	
11					
12					
13					
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16					
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18					
19					
20					

Average 10-Minute Opacity: 0 %

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

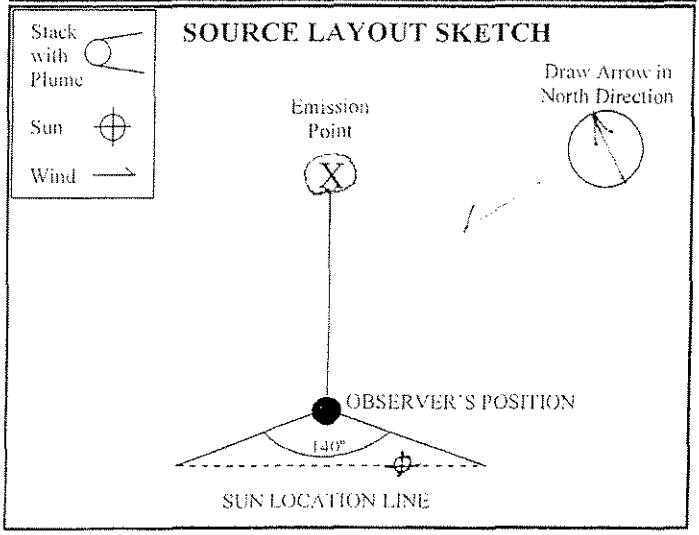
OBSERVER (please print)
Name: Von Stone
Title: Engineer

Signature: Von Stone
Date: 11-13-07

Observer Organization: KSL

Certified by: ETA
Certification Date: 8-29-07

SOURCE LAYOUT SKETCH



Los Alamos NATIONAL LABORATORY

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (10 MINUTE)

Source Name: Power Plant at TA-3

Source Location: TA-3-22

Type of Source: Boiler # 1

Type of Control Equipment: No Particulate Control

Describe Emission Point (Top of stack, etc.): TOP OF BOILER # 1 STACK

Height Above Ground Level: 150 Feet

Height Relative to Observer: 140 Feet

Distance From Observer: 200 Feet

Direction of Source From Observer: NE

Description of Plume (stack exit only)
☐Lofting ☐Trapping ☐Looping ☐Fanning ☐Coning
☒No Plume Present

Emission Color: NO EMISSION

Plume Type: ☒No Plume Present ☐Continuous ☐Fugitive ☐Intermittent

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

At what point in the plume was opacity determined?
2 Ft. ABOVE TOP STACK

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

Background Color: BLUE

Sky Conditions: PARTLY CLOUDY

Wind Speed: 3-5 mph

Wind Direction (provide from/to, i.e. from North to South): FROM ESE

Ambient Temperature: 26 °F

Relative Humidity: 68 %

Additional Comments/Information: FUEL OIL BURN EXERCISES

Observation Date	Start Time	End Time
12-12-07	1035	1045

Min \ Sec	0	15	30	45	Comments
1	0	0	0	0	
2	0	0	0	0	
3	0	0	0	0	
4	0	0	0	0	
5	0	0	0	0	
6	0	0	0	0	
7	0	0	0	0	
8	0	0	0	0	
9	0	0	0	0	
10	0	0	0	0	
11					
12					
13					
14					
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18					
19					
20					

Average 10-Minute Opacity: 0 %

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

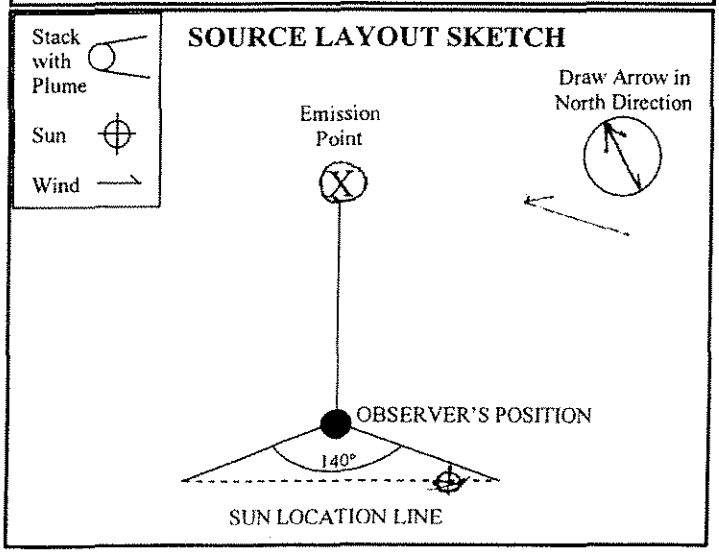
OBSERVER (please print)
Name: Don Stone Title: Engineer

Signature: Don Stone Date: 12-12-07

Observer Organization: KSL

Certified by: ETA Certification Date: 8-29-07

SOURCE LAYOUT SKETCH



Los Alamos

LOS ALAMOS NATIONAL LABORATORY (LANL)
VISIBLE EMISSION OBSERVATION FORM (10 MINUTE)

Source Name: Power Plant at TA-3

Source Location: TA-3-22

Type of Source: Boiler # 3

Type of Control Equipment: No Particulate Control

Describe Emission Point (Top of stack, etc.): TOP OF BOILER #3 STACK

Height Above Ground Level: 150 Feet

Height Relative to Observer: 140 Feet

Distance From Observer: 80 Yards

Direction of Source From Observer: NE

Description of Plume (stack exit only)
☐Lofting ☐Trapping ☐Looping ☐Fanning ☐Coning
☒No Plume Present

Emission Color: NO EMISSION

Plume Type ☒No Plume Present ☐Continuous ☐Fugitive ☐Intermittent

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

At what point in the plume was opacity determined?
1/4 ABOVE TOP OF STACK

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

Background Color: BLUE

Sky Conditions: PARTLY CLOUDY

Wind Speed: 3-5 mph

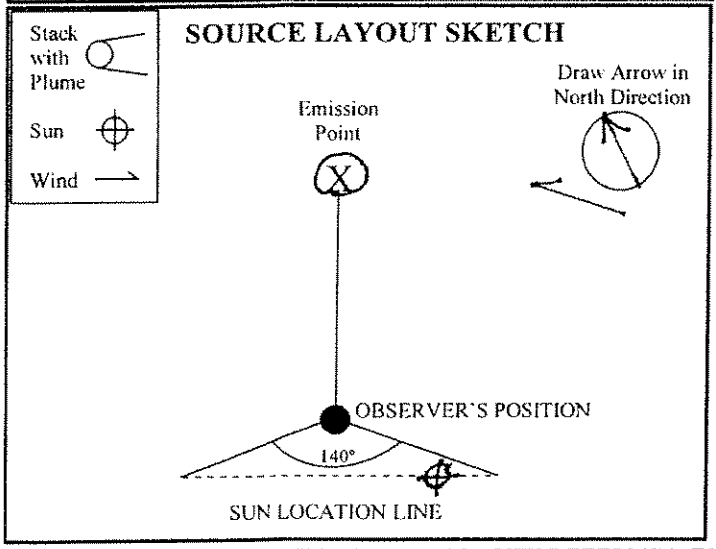
Wind Direction (provide from/to, i.e. from North to South): FROM SE

Ambient Temperature: 35 °F

Relative Humidity: 37%

Additional Comments/Information:
FUEL OIL BURN EXERCISE

SOURCE LAYOUT SKETCH



Observation Date	Start Time	End Time
12-19-07	1055	1105

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

Average 10-Minute Opacity: 0%

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

OBSERVER (please print)
Name: Don Stone Title: Engineer

Signature: Don Stone Date: 12-19-07

Observer Organization: KSL

Certified by: ETA Certification Date: 8-29-07