



Associate Directorate for ESH&Q P.O. Box 1663, MS K491 Los Alamos, New Mexico 87545 505-667-4218/Fax 505-665-3811

Date: July 29, 2010 Ref: ESH&Q-10-040

Manager, Compliance and Enforcement Section New Mexico Environment Department Air Quality Bureau 1301 Siler Road, Building B Santa Fe, New Mexico 87507

Dear Compliance and Enforcement Manager:

SUBJECT: SEMI-ANNUAL MONITORING REPORT FOR JANUARY – JUNE 2010 AIR QUALITY TITLE V OPERATING PERMIT P100R1 AI NO. 856 – Los Alamos National Laboratory (LANL)

Enclosed is Los Alamos National Laboratory's Title V Operating Permit Semi-Annual Monitoring Report for the period January 1 - June 30, 2010 (Enclosure 1). This submission is required by permit condition 4.2 of Operating Permit P100R1 and is being submitted within the allowed 45 days after the end of the reporting period as specified in permit condition 4.3. No permit deviations occurred during this reporting period.

If you have any questions or comments regarding this submittal or would like to discuss this submittal in greater detail, please contact Steve Story at 665-2169 or David Paulson at 665-8884.

Sincerely,

J. Chris Cantwell Associate Director Environment, Safety, Health & Quality

An Equal Opportunity Employer / Operated by Los Alamos National Security LLC for DOE/NNSA



Associate Directorate for ESH&Q

P.O. Box 1663, MS K491 Los Alamos, New Mexico 87545 505-667-4218/Fax 505-665-3811

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Dear Compliance and Enforcement Manager:

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J. Chris Cantwell Associate Director Environment, Safety, Health & Quality

LA-UR-10-05093

Approved for public release; distribution is unlimited.

Title:	Title V Semi-Annual Monitoring Report for Permit P100-R1
Author(s):	David L. Paulson
Intended for:	Manager, Compliance & Enforcement Section New Mexico Environment Department-Air Quality Bureau 1301 Siler Road, Building B Santa Fe, New Mexico 87507-3113



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Enclosure - 1

Los Alamos National Laboratory's Title V Operating Permit Monitoring Report for the period January 1 – June 30, 2010



New Mexico Environment Department Air Quality Bureau Compliance and Enforcement Section 1301 Siler Road Building B Santa Fe, NM 87507 Phone (505) 476-4300 Fax (505) 476-4375



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в. 🖂	Title V Semi-annual	Permit Condi	ition(s):	Desc	riptio	n:					
	Monitoring Report	All Monitoring	1	LANL	Semi	I-annual Monitoring Report for January-June 2010					
с. 🗌	NSPS Requirement (40CFR60)	Regulation.		0000	011(3)						
D. 🗌	MACT Requirement (40CFR63)	Regulation:		Secti	on(s)	Description:					
E. 🗌	NMAC Requirement (20.2.xx) or NESHAP Requirement (40CFR61)	Regulation:		Secti	on(s)	:	Description:				
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Date Reviewed:

Title V Semi - Annual Monitoring Report for Permit P100-R1

Part 1 – Monitoring Activity Reporting Requirements

4.0 **REPORTING**

Conditions of 4.0 are pursuant to 20.2.70.302.E NMAC.

- 4.1 Reports of actual emissions from permitted sources in Section 2.0 shall be submitted on a 6-month basis. Reports shall not include emissions from insignificant activities. Emission estimates of criteria pollutants NOx, CO, SO₂, PM, and VOCs shall not include fugitive emissions. Emission estimates of HAPs shall include fugitive emissions. The reports shall include a comparison of actual emissions that occurred during the reporting period with the facility-wide allowable emission limits specified in Section 2.11 of this permit.
- 4.2 Reports of all required monitoring activities shall be submitted on a semiannual basis. All instances of deviation from permit requirements, including those that occur during emergencies, shall be clearly identified in these reports. The conditions of 4.1 and 4.2 are pursuant to 20.2.70.302.E.1 NMAC.
- 4.3 The report required by Condition 4.1 shall be submitted within 90 days from the end of the reporting period. The semiannual report required by Condition 4.2 shall be submitted within 45 days from the end of the reporting period. The reporting periods are January 1st to June 30th and July 1st to December 31st. This condition is pursuant to 20.2.70.302.E.1 NMAC.
- 4.4 The permittee shall submit reports of all deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. These reports shall be contained in the semi-annual reports required by Condition 4.2. This condition is pursuant to 20.2.70.302.E.2 NMAC.
- 4.5 Results of emission tests and monitoring for each pollutant (except opacity) shall be reported in pounds per hour (unless otherwise specified) and tons per year. Opacity shall be reported in percent. Reported numerical values shall not be truncated or rounded, and shall be recorded and reported to the number of significant figures corresponding to the full accuracy inherent in the testing instrument or Method test used to obtain the data.

Permitted Sources:

2.1 A	Asphalt	Production

Monitoring Requirement

- 2.1.4 Emissions Monitoring Requirements Conditions of Section 2.1.4 are pursuant to 20.2.70.302.C NMAC.
- 2.1.4.1 To determine compliance with <u>Condition 2.1.2.1</u>, perform six (6) minute opacity readings on the rotary dryer/baghouse stack at least once per month using 40 CFR 60, Appendix A, Method 9.
- 2.1.4.2 To determine compliance with <u>Condition 2.1.2.2</u>, perform a Method 22 test at least once per month on all screens, conveyor drop points, and hoppers. There shall be no visible emissions for more than two (2) minutes during any ten (10) consecutive minutes of operation.
- 2.1.4.3 Monitor the differential pressure (inches of water) across the filters by the use of a differential pressure gauge. Pressure gauge readings and the time period the rotary dryer drum operates shall be recorded by a datalogger each time the rotary dryer drum is operating. The pressure data shall confirm whether the filter(s) are operating within manufacturer's specifications.
- <u>2.1.2.1</u> Visible emissions from the rotary dryer/baghouse stack shall not exhibit an opacity of 20% or greater.
- <u>2.1.2.2</u> Fugitive dust emissions from asphalt processing equipment, including the system used to recycle fabric filter fines, shall exhibit no more than five (5) minutes of visible emissions during any 2 consecutive hours. This condition does not apply to fugitive dust emissions from other support operations such as storage piles, front end loaders, or materials handling around the asphalt process equipment.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

Yes	Date report submitted:	Tracking Number:
🖂 No	Provide comments and identify a	ny supporting documentation as an attachment.
Comme	ents:	
2.1.4.1	See Attachment 1 for monthly six min stack. LANL has certified opacity read Appendix A, Method 9 to determine co	ute opacity readings taken on the asphalt plant baghouse ers on-site who perform opacity readings using 40 CFR 60, mpliance with the opacity limitation.
2.1.4.2	EPA Method 22 is used at least monthly equipment. These observations have no during any ten minute period. See Atta readings.	y to observe visible emissions from the asphalt plant of identified visible emissions for more than two minutes achment 2 for the monthly method 22 visible observation
2.1.4.3	A differential pressure gauge is in place The differential pressure and the time p	to monitor the differential pressure across the baghouse.

datalogger. Records are available on-site for NMED inspection.

- <u>2.1.2.1</u> Visible emissions from the rotary dryer/baghouse stack have not exhibited an opacity of 20% or greater during this reporting period. Records of observed opacity are included in **Attachment 1**.
- <u>2.1.2.2</u> Fugitive dust emissions from asphalt processing equipment, including the system used to recycle fabric filter fines, did not exhibit more than five (5) minutes of visible emissions in any 2 consecutive hours during this reporting period.

Asphalt Plant Method 9 Opacity Reports

Month	Read Location	Date	Time	Average Opacity	EPA Method
January	Top of Baghouse Stack	01/11/10	12:47 pm	0	9 ^(a)
February	Top of Baghouse Stack	02/16/10	10:15 am	0	9 ^(a)
March	Top of Baghouse Stack	03/16/10	11:18 am	0	9 ^(a)
April	Top of Baghouse Stack	04/07/10	11:18 am	0	9 ^(a)
May	Top of Baghouse Stack	05/11/10	9:20 am	0	9 ^(a)
June	Top of Baghouse Stack	06/08/10	10:59 am	0	9 ^(a)

Summary Table, Reports Attached

(a) EPA Method 9 was used to determine average opacity. 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 conditions 2.1.2.1 and 2.1.4.1 of the Los Alamos National Laboratory (LANL) Operating Permit P100R1.

ENV-EAQ-307, R4	Ecology and Air Quality
Attachment 2, page 1 of 1	Los Alamos National Laboratory

LOS Alamos LOS ALAMOS NATIONAL	LABORATO	RY (ANL	3		
VISIBLE EMISSION OBSERV	ATION FORM	1 (6 N	IINU	TE)		
Source Name:	Observation Dr	ite - 11	5	Start	Time 21-	7 1253
Source Location:	Min	0	15	30	45	Comments
Type of Source Type of Control Ecupronent	1	D	0	n	m	o o li
Asphalt Plant Baghouse	,	n	0	0	0	
Describe Enussion Point (Top of stack. etc.)		0	0	0	0	
Height Above Ground Level Height Relative to Observer		0	0	0	0	
Distance From Observer Direction of Source From Observer		D	0	0	0	
SO Feet N		0	0	0	D	
Description of Phune (stack exit only)	6	0	0	0	0	
MNO Plume Present	7	-			1.	
N/4 Continuous E Fugitive Enternations	8	-		0		
Water Droplets Present? ZNO EVES If YES, droplet phune is EAttached EDetached	9					
At what point in the plume was opacity determined?	.10				1	
Describe Background (1 e. blue dry (news etc.)	11					
Blue sky	12					
Backgreand Color SkyConditions	13	1				
Wind Speed Wind Direction (provide from to, ye, from North to South)	14	3				
FromANE	15					1+4
Anthent Temperature Relative Humday Z S *.	16	×				
Additional Continents Information	- 17					
All enveren portes wer	18					
	19	1.05		1		
Stack SOURCE LAYOUT SKETCH	20	+		10	t.	+++ +++
with Q Phune Draw Arrow in Sun + Emission North Direction	Average 6-Mi	nute O	pacity	1	Range of	Opacity Readings
	Name:	iplease	print) NC		Title:	ainees
V	Signature	A	2 2m		ĺ	Date - - 0
OBSERVER'S POSITION	ENV-2 Certified by	EA	Ø			Certification Date
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ENV-EAQ-307, R4	Ecology and Air Quality
Attachment 2, page 1 of 1	Los Alamos National Laboratory

5						
LOS ALAMOS LOS ALAMOS NATIONAL	LABORATO	RY (L	ANL)		
Source Name	Orientation D	M (0 .)	IINU	IE)	Line	End Time
LANL ASPHALT Plant	Z-16	4-11	D	10	15	1021
Sentre Locanon:	Min	0	15	30	45	Comments
Type of Source Type of Control Equipment	1	0	0	0	Q	
Benezien Point (Tep of stack. e.c.)	2	D	0	0	0	
Top of plant stack	3	D	12	D	n	
Height Above Ground Level Height Relative to Observer 3 3 Feet 40 Feet	4	D	D	D	0	
Distance From Observer Direction of Source From Observer	5	D	0	0	D	
Description of Phane (stack ext; only)	б	0	0	0	D	H
□Loting □Trapping □Leoping □Fanning □Coning WNo Plane Precent	7	1	10			1000 A
Emission Color Plane Type SNo Plane Present Continuous E Fugitive Enternations	8					
Water Droplers Present? ZNO DVES 17VES, droples plune is DAttached Decaded	9					
At what point in the planne was opacity determined"	10					
Describe Background () e, blue stry trees, etc.)	11					
Grey sky	12					
Background oler Sty Capterions	13		-			
Wind Speed / Wind Direction Chiph (provide from to, i.e. from North to South)	14	1				
FromE	15					
ZZ 'E 70 *	16					
Additional Comments Information.	17					
All ennorrow points clear	18					
	19	1				
Stade SOURCE LAYOUT SKETCH	20					
with Q Draw Arrow in Phane	Average 6-M	inute O	pacity	1	Range of	Opacity Readings
Sun the Emission Neith Literation	0	20		1	D	0 0%
	OBSERVER Name.	(please	print)		Title:	
	Dou	Ste	Syp		En	SINCON
	Signature		1		1	Date
	A day	1-	tern			2-16-10
	E.N.	EN	0			
OBSERVER'S POSITION	Certified by	- Y	7			Cestification Date
	ETA					8-26-09
SUN LOCATION LINE						

ENV-EAQ-307, R4	Ecology and Air Quality
Attachment 2, page 1 of 1	Los Alamos National Laboratory

Los Alamos LOS ALAMOS NA	TIONAL LABORAT	ORY (L	ANL	.)		
Source Name:	OBSERVATION FOR	CM (6 M. Date		TE)	Time	End Time
Source Location	2-/6	1e	\sim	11	18	1124
TA-60 Sigma Mesa	Min		15	30	-45	Comments
Type of Source Type of Control Equipment	1	D	Ø	0	D	
Describe Enussion Point (Top of stack. erc.)	2	0	0	D	0	
Top of Mant Stack	3	n	12	1	n	
33 Feet	eet 4	12	D	0	h	
Distance From Observer Direction of Source From Ob	server 5	p	0	0	0	
Description of Phune (stack exit only)	6	1	0	0	0	
20No Phane Precent	. 7	6				4
Emission Color Plume Type ENo Plume Present	uttent S				÷	
Water Droplets Present?	9					
At what point in the plume was opacity determined?	, 10					
2 1017 above to 5 of Stac	K 11					
Blue sky	12					
Background Color Sky Conditions	13	-		-		
Wind Speed Wind Direction	5 14					
3-6 From NE	15					
Ambient Temperature Relative Humidity	15				-	
Additional Comments Information:	17					
All emission points cles	u 10					
	10				-	
Stack Source LAYOUT SKETCH	20	Linute Or		17		
Phune Drav Emission Nert	h Direction	DOL	acity	2	Im C	2 Max 00
Sum \bigoplus Point	OBSERVE	R (please)	print)		0/	0 010
Wind - (Y)	J Name:	4			Title:	
	Signature	210A	~	2	Ch	BINCES Date
/	Observer O		an	u-		3-16-10
	ENY	EA	P			
OESERVER'S FOSITION	Certified by	1	ć			Certification Date
140	ETA	<u> </u>				2-24-10
SUN LOCATION LINE						

ENV-EAQ-307, R4	Ecology and Air Quality
Attachment 2, page 1 of 1	Los Alamos National Laboratory

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 Los Alamos 	1	USIBLE EMI	SSION OBSERV	ATION FORM	E161	INU	J TE)		
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LANL ASP	halt	Plant		4-	7-1	10	11	18	1/24
TA-LO 4	1Ama	Mes	A -	Min	0	15	30	45	Comments
Type of Seince	geen	Type of Contro	A Equipment	1	0	0	n	0	
HSphalt PI	ant	Bagh	Ohse	- 2	D	n	n	12	
Topot	Pla	+ Sta	ck	3	0	b	0	0	
Height Above Ground	Level	Height Relative a	Observer		2	2	0	0	
Dryance From Otherw	н. Н	Duterion of Sour	ce From Observer		0	0	0	D	
60	Faet	N		2	0	0	0	0	
Description of Phune (stach exit o	nly: r z DEarning	DCours .	6	0	0	0	0	the second s
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At what goost in the pla	une mas op	egity determined"		10					
ZIFT. abe	Ve i	top of s	tack	11					
Blue	Ski	U		12	1		1.0		
Background Color		Sity Conditions	7/-	13					
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		Relative Humiday	25.	16	1	-			
Additional Comments	Infermation	• • •	1	17	-	-	-		
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ENV-EAQ-307, R4	
Attachment 2, page 1 of 1	

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20	-				
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	4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 Average 6-M Nume Doug Average 6-M OBSERVER Nume Doug Centified by ETA	$ \begin{array}{c} $	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$

ENV-EAQ-307, R4	Ecology and Air Quality
Attachment 2, page 1 of 1	Los Alamos National Laboratory

Curce Name: LANL Asph	alt Plant	Observation $1 - 5$	Date 3 / (0	Statt	Time 59	End Tune 110.5
TA-60 Sid	ama Mesa	Min	0	15	30	45	Comments
Asphalt Plant	Type of Control Equipment Baghouse	1	D	D	0	0	
escribe Emission Point (Top of st	lack, etc.)	- 2	0	0	0	0	
Tepot pla	nt stack	3	0	0	0	0	
eight Above Ground Level 33 Feet	Height Relative to Objecter	4	0	0	0	0	1.23
istance From Obterver	Direction of Source From Observer	5	0	0	0	0	
escription of Phune (stack exit or	ly;/V	6	0	D	0	D	
Lofting Trapping Loopic No Phune Present	ig DFamning DComing	7	1.				
nission Color Phune Ty NA DContinu	pe 🛛 🖗 Ko Plume Present 1848 🗇 Fugitive 🗆 Internation	8					
ager Droplets Present? NO DIVES 17 VES, droplet pler	ne is D'Attached - DBetached	9			-		4
what point in the plume was ope	city determined?	10					
IFT above	top of stack	11	-	to entre			
Blue 51	KU	12	-				1. B
Riground Color	Sky Conditions	13	-				
ind Speed Wind Dire	etten	14					
0-3 Fro	M ESF.	15	-		-		
nbient Temperature	Relative Humidaty	16					
Iditional Comments Information:		10					
demission	pointo clean	19	-	nin and and and and and and and and and an			
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SOURCE I	WOUT SUFFOR	20		111			4
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	OBSERVER'S POSITION	Obterver Og ENV Certified by	ganjenis - E	5	<u> </u>		Certification Date

Asphalt Plant Monthly Method 22 Visible Emission Observations

Month	Read Location	Date	Time	VE	EPA
				Duration	Method
January	Asphalt Processing Equipment	01/11/10	12:54 pm	0	22 ^(a)
February	Asphalt Processing Equipment	02/16/10	10:23 am	0	22 ^(a)
March	Asphalt Processing Equipment	03/16/10	11:28 am	0	22 ^(a)
April	Asphalt Processing Equipment	04/07/10	11:26 am	0	22 ^(a)
May	Asphalt Processing Equipment	05/11/10	9:27 am	0	22 ^(a)
June	Asphalt Processing Equipment	06/08/10	11:07 am	0	22 ^(a)

Summary Table, Reports Attached

(a) EPA Method 22 was used. The total amount of time visible emissions (VE) were observed from all process equipment at the Asphalt Plant is recorded over a ten minute period. The method is in accordance with conditions 2.1.2.2 and 2.1.4.2 of the Los Alamos National Laboratory (LANL) Operating Permit P100R1.

ENV-EAQ-307, R4	Ecology and Air Quality
Attachment 4, page 1 of 1	Los Alamos National Laboratory

METHOD	Los Alamos Na 22 Visual Determina	itional Labo tion of Fugi	ratory tive Emissions Form
Location: LAN	L ASPHALT PLAN	Observer Af	Tiliation: ENV-EAD
Representative:	Don Stone	Date of insp	ection: / - / / 10
Sky Conditions:	clear	Wind Directi	ion: From NE
Precipitation: V	lone-	Wind Speed	: 3-5 mph
Industry: Natio	sunit:	Process Uni	" Potential Fugiture Druse.
<u>Indicate</u> : * observer position * potential emissio * sun location	relative to source n and/or actual emission point	*win s *Nor	d direction th direction
	+0	beghrue	Levator North Direction Shakes D Wind Direction
	æ- < un		
	4 2 min		
Observations:	Clock Time Obse	rvation period	Accumulated Emission
Observations: Begin	Clock Time Obse dura	rvation period tion (min:sec)	Accumulated Emission Time(min;sec)
Observations: Begin End Observation	Clock Time Obse dura 1754 1304	D Mm	Accumulated Emission Time(min;sec)
Observations: Begin End Observation Notes:	Clock Time Obse dura 1754 $$	Treation period tion (min:sec)	Accumulated Emission Time(min:sec)
Observations: Begin End Observation Notes: This form is used to do during the Method 22 i minutes for all other LA	Clock Time Obse dura <u>1754</u> <u>1304</u> <u>1304</u> <u>1304</u> <u>1304</u> cument fugilive visible emissions fro rspection/observation period (which NL sources), a Method 9 visible emi	moutside air emiss must be at least 6 n	Accumulated Emission Time(min;sec)
Observations: Begin End Observation Notes: This form is used to do during the Method 22 i minutes for all other LA SIGNATURE OF OBSI	Clock Time Obse dura 1754 	moutside air emiss must be at least 6 n DAT	Accumulated Emission Time(min:sec)

ENV-EAQ-307, R4	Ecology and Air Quality
Attachment 4, page 1 of 1	Los Alamos National Laboratory

METHOD	Los Alan 22 Visual Dete	nos National Laboratory ermination of Fugitive Emissions Form
Location: LANL	Asphalt P.	Unit Observer Affiliation: ENV-EAD
Representative:	Don Sten	e Date of Inspection: Z-16-10
Sky Conditions:	DVerLass	Wind Direction: From E
Precipitation: N	lone	Wind Speed: 3-5 mph
Industry: Notion	unit:	e Process Unit-Potential Frigitive Juni
Indicate: * observer position (* potential emission * sun location	relative to source and/or actual emiss	* wind direction sion points * North direction
		Leghouse Wind Direction Wind Direction
		+ obcersia
		4 7 roh
Observations:		
Observations: Begin	Clock Time	Observation period Accumulated Emission duration (min:sec) Time(min:sec)
Observations: Begin End Observation	Clock Time	Observation period duration (min:sec) Accumulated Emission ID ID
Observations: Begin End Observation Notes:	Clock Time <u>1023</u> <u>1033</u>	Observation period duration (min:sec) Accumulated Emission
Observations: Begin End Observation Notes: This form is used to doc during the Method 22 ins minutes for all other LAM	Clock Time <u>1023</u> <u>1033</u> ument fugitive visible en spection/observation pe	Observation period duration (min:sec) Accumulated Emission Time(min:sec)
Observations: Begin End Observation Notes: This form is used to doc during the Method 22 ins minutes for all other LAN SIGNATURE OF OBSE	Clock Time <u>1023</u> <u>1033</u> <u>1033</u> ument fugitive visible en spection/observation pe VL sources), a Method 9 RVER/INSPECTOR:	Observation period duration (min:sec) Accumulated Emission Time(min:sec) ID ID ID ID

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ENV-EAQ-307, R4	Ecology and Air Quality
Attachment 4, page 1 of 1	Los Alamos National Laboratory

1

Location: (Awl As phatt Plant Observer Affiliation: ENV-2 Representative: Don Stone Date of Inspection: 3 - 16 - Sky Conditions: Clear Wind Direction: From N Precipitation: None Wind Speed: 3 - 6 mod Industry: National Detects c Process Unit: Elevated guarts Sketch of Process Unit: * wind direction Indicate: * wind direction * observer position relative to source * wind direction * sun location * North direction * sun location * Wind Direction: From N Detection: * wind direction * beenver position relative to source * wind direction * sun location * North direction * sun location * Wind Direction: The metative Observation points * Wind direction * Sun location * Wind Direction: The metative Observation period duration (minusec) * Clear Time(minusec) Observation period duration (minusec) Accumulated Erniss	s Form
Representative: Done Date of Inspection: 3-16- Sky Conditions: If and the second	EAR
Sky Conditions: Jear Wind Direction: From M Precipitation: Mone Wind Speed: 3 - 6 Mod Industry: Mational Defense Process Unit: Process Unit: Wind Speed: 3 - 6 Mod Sketch of Process Unit: Indicate: * wind direction * wind direction * observer position relative to source * wind direction * North direction * potential emission and/or actual emission points * North direction * * sun location * Wind Direction * Wind Direction * between * Wind direction * Wind direction * sun location * * Work direction * * sun location * * Work direction * * Budge Weight * * Wind Direction * * Budge Weight * * * Wind Direction * * Budge Weight * * * * * * * * Budge Weight * *	10
Precipitation: Voind Speed: 3 - 6 Model Industry: Materian Defense Process Unit: Process Unit: Process Unit: Process Unit: * wind direction * observer position relative to source * wind direction * wind direction * wind direction * potential emission and/or actual emission points * wind direction * North direction * sun location * Unit of the constant * North direction * Unit of the constant * Wind Speed: * Wind Speed: * potential emission and/or actual emission points * Wind direction * Wind direction * sun location * Supervalue * Wind direction * Wind direction * Supervalue * Converyor * Wind direction * Wind direction * Supervalue * Converyor * Wind direction * Wind direction * Budge use * Euglie use * Observation * Observation * Observation particid * Observation particid Accumulated Emise Unit of * Wind Speed: * Conversion * The form	E
Industry: Attornal Defense Process Unit: * wind direction Sketch of Process Unit: * wind direction * wind direction * wind direction * observer position relative to source * wind direction * North direction * potential emission and/or actual emission points * wind direction * North direction * sun location * Wind direction * North direction # Support * Support * Support	2
Indicate: • observer position relative to source • wind direction • potential emission and/or actual emission points • North direction • sun location • North direction • wind direction • North direction • sun location • North direction • sun location • Wind direction • Sun location • North direction • Sun location • Wind direction • Sun location • North direction • Sun location • Wind direction • Sun location • North direction • Sun location • North direction • Sun location • North direction • Sun location • Sun location • Budge use • Dobuwe • Dobuwe • Dobuwe • Observation period Accumulated Emiss • Unit P2 • Clock Time • Dobuwe	Joures_
Clock Time Observation period Accumulated Erniss Unit 192	
Deservations: Clock Time Unit 52 Unit 52 Unit 52 Clock Time duration period duration (min:sec) Time(min:sec)	Nach Direction
Observations: Clock Time Observation period Accumulated Emiss duration (min:sec) Time(min:sec)	
Observations: Clock Time Observation period Accumulated Emiss duration (minusec) Time(minusec)	
Begin 1103	sion)
End Observation 1138	
Noles:	
This form is used to document fugilive visible emissions from outside air emission sources. If an emissi during the Method 22 inspection/observation period (which must be at least 6 minutes for the Asphalt PI minutes for all other LANL sources), a Method 9 visible emission test may need to be performed.	ion is observed Yant and 10
SIGNATURE OF OBSERVERINSPECTOR: DATE: Jow Moneton 3-16-10	

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ENV-EAQ-307, R4	Ecology and Air Quality
Attachment 4, page 1 of 1	Los Alamos National Laboratory

	Determination of Fugitive Emissions Form
Location: LANZ ASPH	alt Plant Observer Affiliation: ENV-EAD
Representative: Dan 5	Tone Date of Inspection: 4-7-10
Sky Conditions: Clear	Wind Direction: FROM ENE
Precipitation: None	Wind Speed: 9-15 mpsh
Industry: National De- Sketch of Process Unit:	fense Process Unit: Potentia Fugitin Source
Indicate: * observer position relative to so * potential emission and/or actua * sun location	urce * wind direction I emission points * North direction
	Backbouse Stocker Direction Backbouse O Wind Direction Torbeewer
	& Sun
Observations: Clock Time	Observation period Accumulated Emission
Observations: Clock Time Begin <u>1126</u>	e Observation period Accumulated Emission duration (min;sec) Time(min;sec)
Observations: Clock Time Begin 1/26 End Observation 1/36	e Observation period Accumulated Emission duration (min;sec) Time(min:sec)
Observations: Clock Time Begin 1/2.6 End Observation 1/3.6 Notes:	Observation period Accumulated Emission duration (min:sec) Time(min:sec)
Observations: Clack Time Begin	Observation period Accumulated Emission duration (min ;sec) Time(min ;sec)

ENV-EAQ-307, R4	Ecology and Air Quality
Attachment 4, page 1 of 1	Los Alamos National Laboratory

METHO	Los Alam 22 Visual Dete	os National Labor rmination of Fugit	ratory live Emissions Form
Location: LAND	ASDhalt Pla	nt Observer Aff	iliation: ENV-ES
Representative:	Don Stone	Date of Inspe	sction: 5-11-10
Sky Conditions:	clear	Wind Direction	on: From SSW
Precipitation:	none/	Wind Speed:	5-15 mah
Industry: Natio	nal Defens	e Process Unit	Blential Frighting Sources
Sketch of Proces	is Unit:		, , ,
* observer position * potential emissio * sun location	n relative to source on and/or actual emissio	* wind on points * Nort	l direction h direction
		Beghouse + obse	Jor elevator Shakar Nerth Directions Wind Direction Wind Direction
Observations:		S	<i>m</i>
	Clock Time	Observation period duration (min;sec)	Accumulated Emission Time(min:sec)
Begin	0927		
		10	0
End Observation	0937	18 mm	
Notes:			
This form is used to de during the Method 22 minutes for all other L	cument fugitive visible emi inspection/observation peri ANL sources), a Method 9 v	ssions from outside air emissi od (which must be at least 6 m visible emission fest may need	on sources. If an emission is observed invites for the Asphalt Plant and 10 to be performed.
SIGNATURE OF OBS	ERVERANSPECTOR	DATI	
1 Jon	1 lotone	5	-11-10
- 1- Jon	1 cotone	5	- 11 - 10 THIS FORM IS FROM EAQ-

Attachment 4, page 1 of 1	Ecology and Air Quality Los Alamos National Laboratory	
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METHOD	Los Alan 22 Visual Dete	nos National Labo ermination of Fugi	ratory tive Emissions Form
Location: LAND	Asphalt P	lant Observer Af	Filiation: ENV-ES
Representative:	Don Stor	ye Date of Insp	ection: 6-8-10
Sky Conditions:	clear	Wind Directi	on: from ESE
Precipitation: A	10ne	Wind Speed	O-5mah
Industry: Natio	s Unit:	Process Uni	Bentin Augitive Source
Indicate: * observer position * potential emission * sun location	relative to source n and/or actual emiss	* win ion points * Nor	d direction th direction
		Baghane	vator 1 Shaker Nuth Direction Wind Direction
		+ obsen	re
Obennutinger		psun	
Begin	Clock Time	Observation period duration (min:sec)	Accumulated Emission Time(min:sec)
		10 mm	_0
End Observation	1112		
Notes: This form is used to do during the Method 22 i	cument fugitive visible en nspection/observation per	nissions from outside air emissi riod (which must be at least 6 n	on sources. If an emission is observed ninules for the Asphalt Plant and 10
minutes for all other LA SIGNATURE OF OBSI	INE sources), a Method 9 ERVER/INSPECTOR:	visible emission test may need DAT	I to be performed. E: -8 - 10

THIS FORM IS FROM EAQ-307, R4

2.2 Beryllium Activities

Monitoring Requirement

2.2.4 Emissions Monitoring Requirements Conditions of Section 2.2.4 are pursuant to 20.2.70.302.C NMAC.

Source	Monitoring Required
Sigma Facility TA-3-66	A log shall be maintained during operations, which shows the number of metallographic specimens used in the polishing operation and the weight or volume of Be samples processed in the electroplating/chemical milling, machining, and arc melting/casting operations.
Beryllium Technology Facility TA-3-141	Facility exhaust stack will be equipped with a continuous emission monitor used to measure beryllium emissions.
	Cartridge and HEPA filters shall be equipped with differential pressure gauges that measure the differential pressure across the cartridge and HEPA filters while the exhaust fans are in operation.
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.
Plutonium Facility TA-55-PF4	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. Control efficiency shall be verified by daily HEPA filter pressure drop tests and annual HEPA filter challenge tests of accessible filters. The furnace temperature shall be continuously monitored and the flow rate from the glove box containing the furnace shall be measured once during each metal melt operation.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

Yes Date report submitted: 1/27 & 04/21 **Tracking Number:** SBR20100005 & SBR20100007

No Provide comments and identify any supporting documentation as an attachment.

Comments:

<u>Sigma Facility (TA-3-66)</u> - A log is maintained showing the number of metallographic specimens used in the polishing operation. Logs are maintained showing the weight or volume of Be samples processed in the electroplating/chemical milling, machining, and arc melting/casting operations. Logs are available on-site for NMED inspection.

<u>Beryllium Technology Facility (TA-3-141)</u> - 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 January 27, 2010 and April 21, 2010. 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. No new or modified emission sources were added during this reporting period.

- <u>Target Fabrication Facility (TA-35-213)</u> Records of the stack emission test results are maintained on-site and are available for NMED inspection. Stack emission test results and operating logs are used to determine total emissions from this facility.
- <u>Plutonium Facility (TA-55-PF4)</u> 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 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. No annual challenge tests were performed during this reporting period.

2.3 Boi	lers and Heaters
Monita	oring Requirement
2.3.4	Emissions Monitoring Requirements Conditions of Section 2.3.4 are pursuant to 20.2.70.302.C NMAC.
2.3.4.1	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.
2.3.4.2	40 CFR 60, Appendix A, Method 9 shall be used to determine compliance with the opacity limitation.
Has this Answer	s reporting requirement been met during this reporting period with a separate report submittal? Yes or No below.
🗌 Yes	Date report submitted: Tracking Number:
🛛 No	Provide comments and identify any supporting documentation as an attachment.
Comm	ents:
2.3.4.1	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 3 .
2.3.4.2	LANL uses 40 CFR Part 60, Appendix A, Method 9 to determine compliance with the opacity limitation.

Boilers and Heaters Natural Gas Usage

		M	letered Boile	rs						
	ei	TA-55 Boil (MS	TA-55 Boiler Gas Use (MSCF)		Total Gas Use		Non-Metered Total Gas Use Gas Use		Non-Metered al Gas Use Gas Use	
	BHW-1B (B-602) Month ID (B-0016)	BHW-2B (B-603) ID (B-0017)	BS-1 ID) (B-0152)	(MSCF)	(MMSCF)	(MMSCF)	12-Month Rolling Total for all Small Boilers (MMSCF)			
-	January	1	1817		80.919	80.92	78.95	517.19		
	February	0	2287		71,735	71.74	69.30	523.62		
	March	795	996		67,008	67.01	65.07	529.31		
~	April	1682	0		50,383	50.38	48.55	529.96		
5	May	1614	0		37,176	37.18	35.41	556.88		
E	June	1548	0	899.9	30,050	30.05	28.35	567.63		
-	July									
Dat	August									
-	September					3.5				
	October									
	November		8			8	8			
	December									
	TOTAL	5640	5100	899.9	337.271	337.27	325.63	Permit Limit = 870		

2.4 Carpenter Shops

Monitoring Requirement

2.4.4 Emissions Monitoring Requirements

This condition is pursuant to 20.2.70.302.C NMAC.

2.4.4.1 The permittee shall maintain logs of the number of hours the carpenter shops are in operation.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

Yes	5 Date report submitted:	Tracking Number:
No	Provide comments and identify an	y supporting documentation as an attachment.
Comm	ents:	
2.4.4.1	A log is maintained of the hours of opera	tion for each of the permitted carpenter shops. Hour have been been been been been been been be

readings are collected and recorded monthly from hour meters installed on each of separators. Hours of operation are provided in **Attachment 4**.

Carpenter Shop Hours of Operation

TA-3	Data Entry	TA-3	Data Entry
	Hours of Operation		Hours of Operation
Month	TA-3	Month	TA-3
January	5.3	July	
February	4.3	August	
March	17.6	September	
April	11.1	October	
Мау	12.0	November	
June	9.5	December	
6 mo. Total	59.8	6 mo. Total:	0.0

TA-15	Data Entry	TA-15	Data Entry
	Hours of Operation		Hours of Operation
Month	TA-15	Month	TA-15
January	5.4	July	
February	2.4	August	
March	4.0	September	
April	8.1	October	
May	7.8	November	
June	3.2	December	
6 mo. Total	30.9	6 mo. Total:	0.0

2.5 Chemical Usage

Monitoring Requirement

- 2.5.4 Emissions Monitoring/Recordkeeping Requirements This condition is pursuant to 20.2.70.302.C NMAC.
- 2.5.4.1 Maintain records of chemical purchasing through facility-wide chemical tracking system, and use the data to calculate the emissions on a semiannual basis in accordance with Condition 4.1.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

Xes Yes	Date report submitted:	March 25, 2010	Tracking Number: SBR20100006

No Provide comments and identify any supporting documentation as an attachment. Comments:

2.5.4.1 Records of chemical purchases are maintained through LANL's facility wide chemical tracking system (ChemLog). The data is used to calculate emissions which are submitted in the Semi-Annual Emission Reports in accordance with Condition 4.1. The Semi-Annual Emission Report submitted during this reporting period was received in the NMED-AQB office on March 25, 2010.

2.6 Deg	reasers										
Monito	ring Requirement										
2.6.4	Emissions Monitoring Requirements Conditions of Section 2.6.4 are pursuant to 20.2.70.302.C NMAC.										
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.										
2.6.4.2	Complete checklist for work practice standards.										
Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.											
🗌 Yes	Date report submitted: Tracking Number:										
🖂 No	Provide comments and identify any supporting documentation as an attachment.										
Commo	ents:										
2.6.4.1	Records are maintained of the amount of solvent added to the degreaser. This data is used to calculate emissions on a semi-annual basis. The Semi-Annual Emissions Report, containing the degreaser emissions, will be submitted within 90 days from the end of the reporting period in accordance with condition 4.3 of the operating permit. The Semi-Annual Emission Report for this reporting period was received in the NMED-AQB office on March 25, 2010. LANL's "Historical Solvent Usage Data" report for January 1 through June 30, 2010 is provided in Attachment 5 .										
2.6.4.2	The degreaser operations staff completes checklists for work practice standards. The checklists are available on-site for NMED inspection.										

Degreaser Solvent Usage

Degreaser	Туре	TA	Building	Solvent
TA-55-DG-1	Cold Batch	55		Trichloroethylene

Date Measured	Initial Solvent Level (inches)	Volume Added (liters)	Level Added (inches)	Volume Removed (liters)	Level Removed (inches)
Jan-26-2010	6.5	0	0	0	0
Feb-01-2010	6.5	1.96	1	0	0
Mar-29-2010	6.5	0	0	0	0
Apr-21-2010	6.4	0	0	0	0
May-05-2010	6.4	3.14	1.6	0	0
May-10-2010	8	0	0	15.73	8
May-18-2010	0	15.73	8	0	0
May-27-2010	8	0	0	0	0
Jun-30-2010	7.5	0	0	0	0

2.7 Internal Combustion Sources

Monitoring Requirement

2.7.4 Emissions Monitoring Requirements Conditions of Section 2.7.4 are pursuant to 20.2.70.302.C NMAC.

TA-33-G-1	Record kilowatt-hours on a daily and monthly rolling 12-month total basis.
	Record hours of operation and the time operation begins and ends each day.
TA-33-G-2 TA-33-G-3 TA-33-G-4	 During initial daily cold startup of each generator engine, the permittee shall determine compliance with <u>Condition 2.7.2.1</u> using EPA Method 9 for a minimum of ten (10) minutes. i) Corrective action shall be taken for all instances when visible emissions exceed 20% opacity. ii) The monitoring requirement shall be reduced to one time per year for each generator engine demonstrating compliance with <u>Condition 2.7.2.1</u> during four consecutive startups. Record annual total hours of operation for each generator engine every calendar year. Record opacity readings for each generator engine cold startup and corrective action to address visible emission exceedances. For each generator engine, maintain a copy of the engine certification to the applicable non road emission standards in 40 CFR 89.
Stationary Standby Generators	Track and record hours of operation for stationary standby generators on a semi-annual basis.

2.7.4.1 40 CFR 60, Appendix A, Method 9 shall be used to determine compliance with the opacity limitation.

<u>2.7.2.1</u> Visible emissions shall not equal or exceed an opacity of 20%.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

Yes Date report submitted:

Tracking Number:

No Provide comments and identify any supporting documentation as an attachment. Comments:

- 2.7.4 Kilowatt-hours produced by unit TA-33-G-1 are recorded on a daily basis and on a monthly rolling 12-month total basis. A kWh tracking form is used for tracking generator start and stop times as well as daily total hours of operation. These daily readings are used in tracking the 12-month rolling kWh total. The hours of operation for all permitted generator units are included in **Attachment 6**.
- 2.7.4 Units TA-33-G-2, TA-33-G-3, and TA-33-G-4 were observed for visible emissions for 10 minutes using Method 9. Opacity over the observations periods were below 20% during four consecutive startup tests performed in October 2007. The units are currently observed annually to verify opacity remains under the permit limit. Unit operators are aware that corrective actions must be taken if visible emissions exceed 20% opacity. The 2010 annual opacity readings for these generators are expected to occur later this year. Hours of operation for each generator are included in **Attachment 6**. For each generator engine, a copy of the engine certification to the applicable non-road emission standards in 40 CFR 89 is maintained and available on site for inspection.
- 2.7.4 Hours of operation for each stationary standby generator is tracked and evaluated on a semi-annual basis to verify that the average hour per year limit is not exceeded. Standby generator hours of operation for this reporting period are provided in **Attachment 7**.
- 2.7.4.1 LANL uses 40 CFR Part 60, Appendix A, Method 9 to determine opacity compliance.
- 2.7.2.1 Visible emissions did not equal or exceed an opacity of 20% during this reporting period.

TA-33 Permitted Generators Hours of Operation

				Perr	nitted Gen	erato	rs			Firs	t Half 20	010	Seco	ond Half	2010	16
TA	Bldg	ID #	Vanufacture	Serial #	MODEL	KW	Fuel Type	Rea 2nd I previo	ading half of us year	6 Month Reading Date	Reading	Hours Run	12 Month Reading Date	Reading	Hours Run	Total Run Hours
33	290	G-0012	Kohler	375801	1600ROZD	1600	Diesel	Dec. 09	34.3	Jun-10	87.5	53.2	Dec-10	ľ.	0	53.2
33	151	G-0007	Caterpillar	6PK01065	XQ225	225	Diesel	Dec. 09	3307.0	Jun-10	3393.0	86.0	Dec-10		0	86.0
33	209	G-0008	Kohler	2025460	20EORZ	20	Diesel	Dec. 09	384.1	Jun-10	387.1	3.0	Dec-10		0	3.0
33	280	G-0010	Kohler	2025461	20EORZ	20	Diesel	Dec. 09	175.9	Jun-10	176.8	0.9	Dec-10	li î	0	0.9

<u>Attachment 7</u>

Stationary Standby Generator Hours of Operation

I ł								First 6	Month Re	adings	Second	6 Month F	teadings
						Previous		6 Month			Month		
# QI	- 11	Manufacturer	MODEL	KW	Fuel Type	Neading	Previous Reading	Meading Date	Reading	Run	Neading Date	Reading	Run
G-00	3	Onan Sons	1500DVE15R31374B	150	Diesel	Nov-09	17.2	Jun-10	26.0	8.8	Dec-10		
G-00	0	Cummins	500FDR5051	260	Diesel	80-voN	121.8	Jun-10	121.8	0:0	Dec-10		
G-00	50	Cummins	DFGA-5005210	500	Diesel	80-voN	113	Jun-10	121	8.0	Dec-10		
G-00	3	Cummins	DGBB-5601289	35	Diesel	Nov-09	209.2	Jun-10	228	16.8	Deo-10		
G-00	24	Cummins	DFEH-5699616	400	Diesel	80-voN	68	Jun-10	159	91.0	Dec-10		
G-00	3	Cummins	DFLC-5554001	1250	Diesel	Dec-09	440.4	Jun-10	466	25.8	Dec-10		
0-00	17	Caterpillar	SR-4	600	Diesel	80-voN	354	Jun-10	361.0	7.0	Dec-10		
0-00	21	Onan Sons	DGDA-5005757	80	Diesel	80-voN	373	Jun-10	379	6.0	Dec-10		
0-00	33	Cummins	KTA50-G2	1100	Diesel	Dec-09	350.4	Jun-10	362.7	12.3	Dec-10		
0-0	332	Onan Sons	BOENA	60	Nat. Gas	Dec-09	1196	Jun-10	1230	34.0	Dec-10		
0-0	081	Onan Sons	60DGCB	60	Diesel	Dec-09	1090	Jun-10	1090	0.0	Dec-10		
0-0	934	Onan Sons	100DGDB	100	Diesel	Nov-08	115.5	Jun-10	115.5	0.0	Dec-10		
0-0	137	Cummins	DGCB-5874244	60	Diesel	Dec-08	240	Jun-10	267.0	27.0	Dec-10		
0-0	031	Cummins	4BT3.9-GC	50	Diesel	80-voN	408.3	Jun-10	412.0	5.7	Dec-10		
0-00	030	Onan Sons	DVE	150	Diesel	80-voN	727	Jun-10	764.0	37.0	Dec-10		
0-00	036	Onan Sons	300DEFCB	300	Diesel	Nov-08	1083.1	Jun-10	1154.0	90.9	Dec-10		
0-0	943	Onan Sons	DFCB-5740130	300	Diesel	Nov-08	116.3	Jun-10	131.0	14.7	Dec-10		
0-0	039	Cummins	680FDR5059FF	500	Diesel	80-voN	502.8	Jun-10	502.8	0.0	Dec-10		
0-0	040	Onan	DGDB4487482	100	Diesel	Dec-09	295.9	Jun-10	317.0	21.1	Dec-10		
3	944	Onan Sons	DGFA-568741	150	Diesel	80-voN	306	Jun-10	353.0	47.0	Dec-10		
0-0	038	Onan Sons	L940563879	1250	Diesel	80-voN	149	Jun-10	149.0	0.0	Dec-10		
3	004	Onan Sons	BOENA	60	Nat. Gas	80-voN	1495	Jun-10	1561.0	66.0	Dec-10		
3	002	Kato Eng.	Kamag-14	50	Diesel	80-voN	194.8	Jun-10	194.6	0.0	Dec-10		
0-0	110	Onan	15.0JC-18R	15	Propane	80-voN	362.6	Jun-10	371.0	8.4	Dec-10		
0-0	945	Olympian	95M-07874-F	500	Diesel	80-voN	348.9	Jun-10	349.1	0.2	Dec-10		
0-0	049	Kohler	100RZ71	100	Propane	Dec-09	121.7	Jun-10	130.5	8.8	Dec-10		
G-D(090	Delco/Detroit	E7014DD	009	Diesel	Dec-09	856.9	Jun-10	869.3	12.4	Dec-10		
0-0	051	Onan Sons	1250DFLC-4987	1250	Diesel	Deo-09	165.8	Jun-10	182.0	18.2	Dec-10		
3	047	Onan Sons	40DL6T	40	Diesel	Dec-09	94.8	Jun-10	102.1	7.3	Dec-10		
3	048	Onan Sons	1465	200	Diesel	Dec-09	592	Jun-10	599.9	6.7	Dec-10		
3	046	Cummins	DFEB-4963414	400	Diesel	Dec-09	143.7	Jun-10	150.7	7.0	Dec-10		
3	053	Cummins	DFHD-4964979	1000	Diesel	80-von	699	Jun-10	662	3.0	Dec-10		
3	054	Murphy	3166-0084	30	Diesel	Nov-08	716	Jun-10	716.0	0.0	Dec-10	-	
3	041	Onan Sons	250DVG	250	Diesel	80-voN	191.4	Jun-10	198.3	6.9	Dec-10		
0-0	055	Cummins	DFLC-5568730	1250	Diesel	80-voN	112.9	Jun-10	119.5	6.6	Dec-10		
	8	Generators in use	2	8				23	TOTAL	803.6		TOTAL	0.0

N/R = Not Read

First half average hours per unit 17.2 Second half average hours per unit

Semi-annual Form - Permit Number P100-R1

2.8 Data Disintegrator

Monitoring Requirement

- 2.8.4 Emissions Monitoring Requirements
- 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 semiannual basis in accordance with Condition 4.1. This condition is pursuant to 20.2.70.302.C NMAC.
- 2.8.4.2 The permittee shall perform regular maintenance and repair on the cyclone and cloth tube filter(s) per manufacturer's recommendations. This condition was brought forward from NSR Permit 2195H, Condition 1.d.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

Yes Date report submitted:

Tracking Number:

No Provide comments and identify any supporting documentation as an attachment. Comments:

- 2.8.4.1 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 8**.
- 2.8.4.2 The Data Disintegrator and associated pollution control devices are maintained under a preventative maintenance work order. LANL maintains documentation of maintenance and repairs performed on the cyclone and cloth tube filters. This documentation is available on-site for NMED inspection.

Attachment 8 Data Disintegrator Box Throughput

	Data Entry		Data Entry
Month	Boxes Shredded	Month	Boxes Shredded
January	73	July	
February	57	August	
March	166	September	
April	135	October	
May	123	November	
June	43	December	
6 mo. Total:	597	6 mo. Total:	0
	Annual Boxes:	597	

2.9 Power Plant at Technical Area 3 (TA-3-22)

Monitoring Requirement

- 2.9.4 Emissions Monitoring Requirements Conditions of Section 2.9.4 are pursuant to 20.2.70.302.C NMAC.
- 2.9.4.1 Use of natural gas fuel containing no more than 2 grains of total sulfur per 100 dry standard cubic feet constitutes compliance with 20.2.61 NMAC unless opacity exceeds 20% averaged over a 10-minute period. When any visible emissions are observed during steady state operation, opacity shall be measured over a 10-minute period, in accordance with the procedures at 40 CFR 60, Appendix A, Method 9 as required by 20.2.61.114 NMAC.
- 2.9.4.2 Fuel usage: The liquid fuel flow rate for each boiler (Units TA-3-22-1, TA-3-22-2 and TA-3-22-3) shall be continuously monitored whenever liquid fuel is combusted. The natural gas fuel flow rate for each boiler and turbine (Unit TA-3-22-CT-1) shall be continuously monitored whenever natural gas is combusted by that unit. This condition was brought forward from NSR Permit 2195B-M1R2, Condition 3.b and 3.c.
- 2.9.4.3 The flue gas recirculating fans (Units F-1, F-2, and F-3) shall be inspected for proper operation and maintenance once during each calendar month that the unit was operating. This condition was brought forward from NSR Permit 2195B-M1R2, Condition 3.d.
- 2.9.4.4 The operating load of Unit TA-3-22-CT-1 specified by <u>Condition 2.9.3.7</u> shall be monitored once daily during normal operations of that unit. This condition was brought forward from NSR Permit 2195B-M1R2, Condition 3.e.
- 2.9.4.5 Periodic Emissions Tests for Unit TA-3-22-CT-1: The permittee shall test annually for NOx and CO emissions through use of a portable analyzer. The portable emissions analyzer shall be setup and operated in accordance with the manufacturer's instructions, with the current version of the Department's Standard Operating Procedure for Use of Portable Analyzers in Performance Tests, and with the following conditions:
 - 1. Equipment shall be tested in the "as found" condition. Equipment may not be adjusted or tuned prior to any test for the purpose of lowering emissions, and then returned to previous settings or operating conditions after the test is complete.
 - 2. During emissions tests the moisture content, O_2 concentration, flow rate and temperature of the exhaust gas shall be monitored (or calculated by an acceptable method) and recorded. This information shall be included with the test report.
 - 3. After the time a correlation is established between emission rate and concentration of a pollutant, the periodic emission test may consist of measuring the pollutant concentration. Exhaust flow rate at the time of correlation (by 40 CFR 60-method 19, by manufacturer's correlation, or by initial testing) may be used to calculate emission rates at later tests.
 - 4. Testing shall occur once during each calendar year. No two monitoring events shall occur closer together in time than 3 months. Monitoring shall be conducted during each monitoring period notwithstanding periods of operation less than 25%.
 - 5. A protocol submittal is required if a significant change in the testing procedure has taken place since the previous test.

This condition was brought forward from NSR Permit 2195B-M1R2, Condition 3.f.

2.9.4.6 The permittee shall maintain a valid purchase contract, tariff sheet, or transportation contract which shows natural gas fuel sulfur content, to show compliance with the applicable monitoring requirements in 40 CFR 60.334(h) for the turbine (Unit TA-3-22-CT-1). This documentation shall also reflect that the facility natural gas fuel complies with the maximum fuel sulfur requirement of <u>Conditions 2.9.3.2</u>, and 2.9.3.3.

Note: In accordance with EPA document EMTIG—GD-009 (March 12, 1990), no daily monitoring for fuel bound nitrogen is required for the turbine (Unit TA-3-22-CT-1).

This condition was brought forward from NSR Permit 2195B-M1R2, Condition 3.g.

- 2.9.4.7 The hours of operation, including start-up and shut-down times of Units TA-3-22-1, TA-3-22-2 and TA-3-22-3 and TA-3-22-CT-1 shall be continuously monitored. This condition was brought forward from NSR Permit 2195B-M1R2, Condition 3.a.
- 2.9.3.7 Unit TA-3-22-CT-1 shall be operated at no less than 100% full load, except for minimal periods during startup and shutdown conditions. The permittee shall follow the manufacturer's recommended startup/shutdown procedures in order to minimize the duration of these events. This condition was brought forward from NSR Permit No. 2195B-M1R2, Condition 1.g.
- 2.9.3.2 Units TA-3-22-1, TA-3-22-2 and TA-3-22-3 combined shall not use more than 2,000 MMscf of natural gas in any 12 month period or more than 500,000 gallons of No. 2 fuel oil in any 12 month period. Individually, they shall not use more than 1,200 MMscf of natural gas in any 12 month period or more than 170,000 gallons of No. 2 fuel oil in any 12 month period. This condition was brought forward and amended from NSR Permit 2195B-M1R2, Conditions 1.j.
- 2.9.3.3 Unit TA-3-22-CT-1 shall use natural gas containing no more than 2 grains of total sulfur per 100 standard cubic feet. Unit TA-3-22 CT-1 shall not use more than 646 MM standard cubic feet (SCF) of natural gas in any 12 month period. These conditions were brought forward from NSR Permit 2195B-M1R2, Conditions 1.h and 1.i.

Has this reporting requirement been met during this reporting period with a separate report submittal? Answer Yes or No below.

Yes	Date report submitted:	Tracking Number:
🖂 No	Provide comments and identify	any supporting documentation as an attachment.
Comme	ents:	
2.9.4.1	The natural gas transportation contract and contain no more than 3/4 grains of	t states that gas provided to LANL will be pipeline quality of total sulfur per 100 scf.
	Opacity did not meet or exceed 20% visible emissions were observed durin Opacity observations using EPA Met starting boilers on fuel oil. These observed	over a 10-minute period during this reporting period. Nong steady state operations during this reporting period. hod 9 were performed on the power plant boilers while servations are included in Attachment 11 .
2.9.4.2	Data on both fuel oil and natural gas data is electronically collected and m oil and natural gas usage by the boile	flow rates to each boiler are continuously monitored. This onitored. Attachment 9 contains a summary of monthly fuel rs. Daily totals are available on-site for NMED inspection.

Daily fuel use totals and hours of operation for unit TA-3-22-CT-1 are included in Attachment 10.

- 2.9.4.3 The FGR fans are inspected for proper operation and maintenance each month a unit is operating. Monthly inspection logs are available on-site for NMED inspection.
- 2.9.4.4 The operating load of the combustion turbine is monitored each day of operation and is recorded on the unit operating log. The operating logs are available on-site for NMED inspection.
- 2.9.4.5 The first annual emissions test required by this condition was performed on October 23, 2009. Each of the tests performed to date were conducted by an external testing company (TRC Environmental) using their portable analyzer. The analyzer was setup and operated in accordance with the manufacturer's instructions and with the AQB Operating procedure for use of portable analyzers in performance tests.

In addition, all equipment was tested in a "as found" condition.

Oxygen concentrations, flow rate, and temperature of the exhaust gas were monitored and recorded.

The final report for the June 17, 2010 combustion turbine test is included as Attachment 12.

- 2.9.4.6 The natural gas transportation contract states that gas provided to LANL is pipeline quality and contain no more than 3/4 grains of total sulfur per 100 scf.
- 2.9.4.7 An operator log book is used to identify when a boiler was brought on line or taken off line (or standby). Also recorded is the type of fuel the boiler is using. The plant computer monitoring system also monitors information on boiler start and stop times and duration of use. The combustion turbine hours of operation, including start and stop times, are monitored and recorded each day of turbine operation.
- 2.9.3.7 Unit TA-3-22-CT-1 operated at no less than 100% full load, except for minimal periods during startup and shutdown conditions, and during the annual performance test. During the annual performance test, performed on June 17, 2010, the operating load was brought down to 80% load to allow for emissions measurements at this lower load. The reduced load during this test was arranged and coordinated with NMED-AQB. See **Attachment 12** for more information on the test. The manufacturer's recommended startup/shutdown procedures are followed in order to minimize the duration of these events.
- 2.9.3.2 Units TA-3-22-1, TA-3-22-2 and TA-3-22-3 combined used no more than 2,000 MMscf of natural gas or more than 500,000 gallons of No. 2 fuel oil in any 12 month period during this reporting period. Individually, they did not use more than 1,200 MMscf of natural gas in any 12 month period or more than 170,000 gallons of No. 2 fuel oil in any 12 month period during this reporting period.
- 2.9.3.3 Unit TA-3-22-CT-1 used natural gas containing no more than 2 grains of total sulfur per 100 standard cubic feet. Unit TA-3-22 CT-1 did not use more than 646 MM standard cubic feet (SCF) of natural gas in any 12 month period during this reporting period.

Power Plant Monthly Natural Gas and Fuel Oil Use with Rolling 12-Month Totals

			DATA E	NTRY				
ş	TA-3-22 Po Boiler #1 (Ec Works, 210	ower Plant Igemoor Iron MMBTU/hr)	TA-3-22 Po Boiler # 2 (Ed Works, 210	ower Plant igemoor Iron MMBTU/hr)	TA-3-22 Po Boiler # 3 (Unio 210 MME	wer Plant on Iron Works, 3TU/hr)	Monthly	Totals
Month	Natural Gas (MCF)	Fuel Oil (gallons)	Natural Gas (MCF)	Fuel Oil (gallons)	Natural Gas (MCF)	Fuel Oil (gallons)	Natural Gas (MMCF)	Fuel Oil (gallons)
January	11,939	0	4,790	0	51,052	0	67.781	0
February	16,120	0	19,450	110	23,763	0	59.333	110
March	25,227	0	4,946	137	22,591	0	52.764	137
April	1	0	433	164	37,552	0	37.986	164
May	0	0	626	0	28,445	0	29.071	0
June	0	0	430	0	17,192	0	17.622	0
July	3 8						£	
August								
September								
October								
November								
December								
Annual Totals:	53,287	0	30,675	411	180,595	0	264.557	411
Jan June	53,287	0	30,675	411	180,595	0	264.557	411
July - Dec.	0	0	0	0	0	0	0.000	0

Month	12-Mo. Rolling Total Natural Gas (MMscf)	12-Mo. Rolling Total Fuel Oil (gallons)
January	493.4	1225
February	496.6	1335
March	496.9	979
April	490.8	869
May	489.5	814
June	483.5	814
July		
August		
September	2	
October	8	
November		
December	· · · · · · · · · · · · · · · · · · ·	

Combustion Turbine Daily and 12-Month Rolling Natural Gas Use

		2	010	Daily	Turb	oine (Gas L	Jse (I	MCF)	, 12 I	Nonth	Roll	ing T	otal	Gas	Use,	& Ho	urs c	of Op	eratio	on			
	Ja	an	Fe	eb	M	ar	A	pr	M	ay	Ju	in	Ju	ily	A	ug	Se	ept	0	ct	Ν	lov	De	ес
_	Gas		Gas		Gas		Gas		Gas		Gas		Gas		Gas		Gas		Gas		Gas		Gas	
Day	Use	Hrs	Use	Hrs	Use	Hrs	Use	Hrs	Use	Hrs	Use	Hrs	Use	Hrs	Use	Hrs	Use	Hrs	Use	Hrs	Use	Hrs	Use	Hrs
1	0	0	0	0	0	0	577	4 75	6	0	0	0												
2	0	0	1	0	0	0	0	0	0	ō	0	0												
3	0	0	0	0	0	0	0	0	0	0	0	0												
4	0	0	0	0	0	0	0	0	7	0	36	03												
5	0	0	0	0	0	0	0	0	62	0.6	36	0.0												
6	0	0	0	0	0	0	0	0	9	0.0	0	0												
7	0	0	0	0	0	0	0	0	0	0	0	0												
8	0	0	0	0	0	0	278	4.2	0	0	0	0												
9	0	0	0	0	30	0.7	894	5.2	0	0	0	0												
10	0	0	0	0	0	0	0	0	0	0	0	0												
11	0	0	0	0	0	0	17	0	0	0	0	0												
12	0	0	1	0	0	0	1428	63	0	0	0	0												
14	0	0	0	Ő	0	0	0	0	946	0.75	1128	5.62												
15	0	0	0	0	32	0.4	20	0	0	0	1115	5.38												
16	0	0	0	0	0	0	0	0	0	Ō	1086	5.42												
17	0	0	0	0	0	0	0	0	96	0.5	1044	5.47												
18	0	0	0	0	32	0.25	0	0	8	0	1050	5.17												
19	0	0	0	0	0	0	0	0	21	0	0	0												
20	0	0	0	0	0	0	110	0.2	16	0	0	0												
21	0	0	0	0	0	0	0	0	11	0	1039	5.25												
22	0	0	0	0	1387	4./	0	0	0	0	1065	5.57												
23	0	0	0	0	5 0	0	16	0	0	0	1438	5.5												
25	0	0	0	0	0	0	0	0	0	0	1103	5.65												
26	0	Ū.	Ő	Ō	0	0	0	Ō	901	4.4	0	0												
27	0	0	0	0	0	0	0	0	0	0	0	0												
28	0	0	0	0	0	0	0	0	881	4.25	1148	5.42												
29	0	0			0	0	0	0	0	0	1111	5.4												
30	0	0			0	0	0	0	0	0	1198	5.95												
31	0	0	2	0	18	0	2240	20.7	0	0	44677	72.5												
5UM	U	U	2	U	1504	0.05	3340	20.7	2964	10.5	14677	13.5												
Rolling Gas	169	123	160	925	18/	100	21	740	24	586	388	48												
Use (MCF)	103	20	103	.20	,0		21		24		000													
Fii	rst Ha	lf Gas	Use:	22	487	MCF				Sec	ond Ha	lf Gas	Use:	(0	MCF			Annua	al Gas	Use:	22,487	MCF	

Power Plant Opacity Reports

Source	Date ^(b)	Time	Average Opacity ^(a)
TA-3 Power Plant	02-10-10	10:24 am	0%
	03-01-10	10:25 am	0%
	04-28-10	10:20 am	0%

Summary Table, Reports Attached

- (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 observations taken in January, May, or June. Fuel oil was not combusted during these months.

ENV-EAQ-307, R4 Attachment 3, page 1 of 1

VISIBLE EMISSION OBSERVATION FORM (100 MINUTE) Observation Data Constrained Constrained Data End Time Constrained Data Data Data Data Data Constrained Data Data <th>Los Alam</th> <th>os</th> <th>LOS ALAM</th> <th>IOS NATIONAL</th> <th>LABORATO</th> <th>ORY (I</th> <th>LANI</th> <th>.)</th> <th></th> <th></th> <th></th>	Los Alam	os	LOS ALAM	IOS NATIONAL	LABORATO	ORY (I	LANI	.)			
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Source Name:		VISIBLE EMIS	SION OBSERVA	Observation 1	M (10) Date	MIN	JTE) Stort	Time	End Time	. 10
Societ Learner $\frac{1}{2}$	LAND	LANL POWER DIANT				-1	0	10	74	INZUL	5
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Sóurce Location	n:			Sec		1	10	-7	1027	100
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Describe Redepoind (c.e. bile ally, res., etc.) 11 Describe Redepoind (c.e. bile ally, res., etc.) 11 Badtground Color Sky Colditions Wild Speed Wind Direction Wild Speed Relaave Hunddry Sub Control to Le. from North to South) 14 14 15 Additiceal Counsents Informations: 16 Fuel D I B won Expericive 18 Ing 19 Stack: Source LAYOUT SKETCH Wind Direction Plane Direction Wind Direction Plane 0 OBSERVER'S POSITION Source Corganization United Tool Lie Source Corganization OBSERVER'S POSITION Source Corganization Stack 100 OBSERVER'S POSITION Source Corganization Stack 100 OBSERVER'S POSITION Source Corganization Stack 100	At what point in	the plume was	opacity determined?		10	0	Ø	o	0		
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Wind Direction Build Direction Wind Direction (provide from to ic ie, from North to South) J-5 mph Home SE 13 Ambuent Temperature 15 Additional Comments Information 16 Fuel D-I B with Exercise 16 Stack 19 Stack 10 Wind Draw Arrow in North Direction Stack North Direction Wind Four Wind Draw Arrow in North Direction Sum Four Wind OBSERVER'S POSITION 10 Interver Sun Location Line Source of the second	Backsround Col	1ght	Stray St	9	12					100m	
Wind Direction (provide from North to South) 3-5 mph Anabuent Tenneenture Relative Humidity 3-4 97 Additional Comments Information 15 Fuel D ID B WM Exercise 16 Stack North Direction Stack SOURCE LAYOUT SKETCH Wind Draw Arrow in North Direction North Direction Stack Source LAYOUT SKETCH Wind Draw Arrow in North Direction North Direction Num Point North Direction Stack Source LAYOUT SKETCH Wind Draw Arrow in North Direction North Direction Num Point North Direction Stack Stack Wind Source LAYOUT SKETCH Diate Diate Diate Diate Stack Stack OBSERVER'S POSITION Title: Minut Stack OBSERVER'S POSITION Entry Stack Stack Stack Stack Stack	gray	119.2	OVERC	ast	13						
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Additional Comments Information: 65 % Additional Comments Information: 16 Fuel Dil B with Aerocice 17 Stack with Plume Source LAYOUT SKETCH Sind: Draw Arrow in Point Wind Draw Arrow in Point Wind Draw Arrow in Point Wind Down Arrow in Point Wind Down Arrow in Point OBSERVER (glease print) Max. Nattree Date Wind Wind OBSERVER'S POSITION 100 142 SUN LOCATION LINE	Ambrant Taruna	Fr	em 55E		15						-
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Wind OBSERVER (glease print) Name, Title: Signature OBSERVER'S POSITION SUN LOCATION LINE SUN LOCATION LINE	Sun 🔶		Point	A	1	00/	0		0	6 0%	6
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OBSERVER'S POSITION 140* SUN LOCATION LINE Certification Date ETA SUN LOCATION LINE	8				A Du	2	50	m.		2-10-	10
OBSERVER'S POSITION 140° SUN LOCATION LINE Certified by ETA SUN LOCATION LINE					Observer Or	ganizati	2		2017 - 11 C / 2		
SUN LOCATION LINE ETA 8-26-09			OBSERVER'S P	OSITION	Certified by	EM	7	199		Certification Da	te
SUN LOCATION LINE		/	140*		ETA	-				8-26-5	54
		SUN L	OCATION LINE		the second se						1.

ENV-EAQ-307, R4 Attachment 3, page 1 of 1

<u>S</u>						
LOS Alamos LOS ALAMOS NATIONAL I	ABORATO	RY (I	ANI	.)		
Source Name:	Deservation D	1 (10. até	MIN	Stari	Time	End Time
LANI POWEr Plant	3-1	11	2	10	75	1035
Source Locanon:	Sec	1	1	10	27	1022
TA-3-ZZ	Min	0	15	30	-45	Comments
Pauler Plant de Potre ulate Carta	1	Ø	0	Ø	0	
Describe Emission Point (Top of stack, etc.)	2	D	D	D	Ø	
Top of Boiler 7 Stack	3	5	n	2	0	
151) Feet 14D Feet		10	0	0	0	
Distance From Observer Direction of Source From Observer		0	0	P	6	
2000 NE	5	D	0	0	Q	
Description of Pinne (stack exit only)	6	0	0	0	Ø	
MNo Plume Present Envision Color Plume Type MNo Pluma Present	7	D	n	D	D	
NA ElContinuous 🗆 Fugitive Eliternsittent	8	n	A	0	n	1
Water Droplets Present?	0	2	\sim	0		
As what makes in the plane are an aire determine 20	,	D	0	P	0	
WIAT above top of Stack	10	2	20	0	0	
Describe Bael ground (i.e. blue el/y, trees, etc.)	11			8		
Background Color Shy Conditions 4	12			0112555		
Blue partly cloudy	13					
Z-/ mph (provide from to, i.e. from North to South)	14			0. 		
FromNNE	15					
35 °F Kelative Hummany	16					
Additional Comments Information:						
Fuel Dil Burn Exercise	17					
,	18					
	19					
Stad: SOURCE LAYOUT SKETCH	20				0000	
Draw Arrow in North Diracion	Average 10-N	limute C	Opacity	I	Range of	Opacity Readings
Sun \oplus Pen:	D	0%	·	2	DP	Max.
$W_{ind} \rightarrow \square$	OBSERVER	please	print)	قداد	210	
¥	1 and <	to	IR-		Title:	
	Signature	(20			1	Date
	1bn	4	Tu.			3-1-10
	Observer Org	anizati	ou co		- L	2 1-10
	ENV-	El	P			
OBSERVER'S POSITION	Certified by					Certification Date
140	ETA				5	2-24-10
SUN LOCATION LINE						980.00

ENV-EAQ-307, R4 Attachment 3, page 1 of 1

<u>S</u>						
LOS ALAMOS NATIONAL	LABORATO	RY (I	ANI	.)		
VISIBLE EMISSION OBSERVA	TION FORM	I (10)	MIN	UTE)	-	1 - 1 -
Source Name:	Observation D	ite		Start	1 11110	End Time
CANC Pewer Plant	4-28	-12	0	10	ZD	1030
TAZ - 77	Sec		15	20	15	<u>.</u>
Type of Source Type of Control Fourprient	Nim	0	15	1 20	43	Comments
Pauler Plant de Particulité Cantal	1	D	0	0	0	
Describe Emission Point (Top of stack, etc.)	2	n	12	n	0	
Too of Barle #2 Stack		U	0	6	2	
Height Above Ground Level Height Relative to Observer	3	0	Ø	0	0	
50 Feet 14D Feet	4	0	0	0	0	
Distance From Observer Direction of Source From Observer	-	102	C	10		
Z30reei SE	3	D	0	0	0	
Description of Pinne (stack exit only)	6	0	0	0	0	
ZNo Plane Present	7			~		- 1. A.
Emission Color Plume Type ENo Plume Present		0	0	0	0	
	S	O	0	0	0	
Water Droplets Present? DNO DISES (CVES, chaplet plume is DAttached, DDetached	9	2		-	0	
At what waith in the physics are site determine 20		0	0	8	e_	
24 14th population and provide the second start	10	0	0	0	0	
Describe Background (i.e. blue sky, trees, etc.)	11					
Grey SKy	12	-				
Background Color Sky Conditions	12					
Wind Sueed Wind Direction	13			3		
5-15 mph (provide from to, i.e. from North to South)	14	l. l.				
From SW						
Ambient Temperature Relative Humidity	15					UN-238-3.
41 -6.	16					
Additional Comments Information	17	1000				
FUEL OUL oun placed	1/	<u>.</u>	}			
	18					
	19			00	1	
					-	
with O SOURCE LAYOUT SKETCH	20					
Plume Draw Arrow in North Direction	Average 10-M	innte (Opacity	F	Range of	Opacity Readings
Sun 🕂 Peur	0	0/	-		and g	Max 0
	OBSERVER	ulease	print)	_	0/0	010
	Name:	L			Title:	
1	Ven St	on	e		Eng	Ineer
	Signature	~ 1			1	Date
	Xon	4	in	2	4	4-28-10
	Observer Org	mikatio	021		- 1	
	ENV-	FA	Q			1000 L
OBSERVER'S POSITION	Certified by		1			Certification Date
140*	FTA					7-74.10
¢~	<u><u></u></u>	-			1	
SUN LOCATION LINE						

Annual Combustion Turbine Emission Test Results (Universal Test Notification and Report Form – Section 1)

	New Mexico Environment Department Air Quality Bureau 1301 Siler Road Building B Santa Fe, NM 87507 Phone (505) 476-4300 Fax (505) 476-4375	(
Version 1/1/2010			
NMED USE ONLY]	NMED	USE ONLY
DTS	UNIVERSAL STACK TEST NOTIFICATION, PROTOCOL	Staff	

Admin

Submit to: Stacktest.aqb@state.nm.us

AND REPORT FORM

a. Al#	Test Report		Periodic Test (Portable Analyzer)			
d Company Name		1	e Facility Name:			
Los Alamos	National Security		Los Alamos Nationa	al Laboratory		
f. Emission Unit Num TA-3-22-CT-1	Emission Unit Numbers: g. El YA-3-22-CT-1 Ro		g. Emission Unit Description (boiler, Waukesha 7042, etc) Rolls-Royce Combustion Turbine			
h. Reports - Tracking Number CMT			i. Proposed Test Date: j. Actual test date: 06-17-2010 06-17-2010			
from notification resp k. Reason for test Operating pe earlier than n	(name permit requirement, NSPS rmit condition 2.9.4.5 formal to provide emi	, MACT, consent deci . Annual port issions data a	06-17-2010 ee, etc. Indicate here is this not table anayzer test. t 80% load for a pot	[06-17-2010 ification is a revised test date only) This test was perform ential permit revision.		

II. GENI	ERAL COMPANY	AND FACILITY INFORMA	TION			
a.Company Address: P.O. Box 1663, MS J978			k Facility Address: Same as Company			
c, State: NM	d. Zip: 87545	I. City;	m. State;	n. Zip:		
f. Title:		o. Facility Contact:	p. Title:	_		
ENV-ES	Group Leader	Steve Story	Air Con	npliance Manager		
h. Cell Nu	mber:	q. Phone Number:	r, Cell Nu	imber:		
505-699	-2151	505-665-2169				
		s. Email Address:				
patg@lanl.gov		story@lanl.gov				
j. Title V Permit Number:		t. NSR Permit Number:				
		2195B-M1-R2				
	II. GENI 8 c. State: NM f. Title: ENV-ES h. Cell Nu 505-699	II. GENERAL COMPANY 8 C. State: NM 87545 f. Title: ENV-ES Group Leader h. Cell Number: 505-699-2151	II. GENERAL COMPANY AND FACILITY INFORMA 8 C. State: d. Zip: Same as Company C. State: d. Zip: I. City: NM 87545 f. Title: O. Facility Contact: ENV-ES Group Leader Steve Story h. Cell Number: q. Phone Number: 505-669-2151 505-665-2169 S. Email Address: story@lanl.gov t. NSR Permit Number: 2195B-M1-R2	II. GENERAL COMPANY AND FACILITY INFORMATION 8 k Facility Address: Same as Company c. State: d. Zip: I. City: m. State: MM 87545 i. City: m. State: f. Title: o. Facility Contact: p. Title: ENV-ES Group Leader Steve Story Air Com h. Cell Number: q. Phone Number: r. Cell Nu 505-699-2151 505-665-2169 s. Email Address: s. Email Address: story@lan1.gov t. NSR Permit Number: 2195B-M1-R2		

u. Detailed driving directions from nearest New Mexico town:

TEMPO

A visitors badge is required for each visitor when working on or visiting LANL property. Arrangements must be made with the LANL contact prior to the visit. Visitor badges will be provided at the TA-3-22 Power Plant (see map). The LANL contact will escort the visitors to the Compressed Gas Turbine Generator (CGTG).

From the intersection of Diamond Drive and Trinity Drive in Los Alamos, take Diamond Drive South across Omega Bridge, continue to the traffic light. At the light, turn right toward LANL TA-3 (toward West Jemez Road). Proceed through the Vehicle Access Portal/Security Post to the light at East Jemez and Diamond Drive. Turn left at the light and continue through LANL TA-3 to the Power Plant. The Power Plant is past the first light and is the first large building on the left. The CGTG is located behind the TA-3 Power Plant, but parking is in the Power Plant parking lot.

UNIVERSAL STACK TEST NOTIFICATION, PROTOCOL AND REPORT FORM

Page 2 of 5

		Ш. 1	TESTING FIRM		
a. Company:			g. Contact:		
TRC Environmental Company			Richard Stallings		
b. Address 1:			h. Title:		
4221-A Balloon Park Road NE			Program Manager		
c. Address 2:			I. Office Phone: (505) 314-7072	j. Cell Phone: (505) 238-2088	
d. City:	e. State:	f. Zip:	k. Email Address:		
Albuquerque	NM	87109	rstallings@TRCSOLUTIONS.COM		

	IV. EMISSION UN	STACK PA	RAMETERS	
a. Emission Unit Number:	b. Make	& Model Number	m. Velocity (ft/sec):	79.6
TA-3-22-CT-1	Rolls-	Royce RB211-6761 DLE	n. Temperature (°C):	494
c. Serial Number:	d. Perm	itted Capacity:	o. Stack Diameter, D (in.):	120 x 120
2011	24.6		p. Distance to Stack Bends	or Obstructions:
e Exceptions: Explain if tes	t is late, rescheduled, related t	o an enforcement action:	Upstream, Distance A (in.):	84
In addition to meeting performed to provide anticipated permit rev Enforcement Manage provided approval for	the annual test requirem emissions data at a lower ision. The NMED AQB (rr, as well as the NMED / this test.	nent, this test was er load (80%) for an Compliance and AQB permit engineer,	Downstream, Distance B (FLOW DISTURBANCE
The emission source generator rated at 24 TA-3 Power Plant and The CGTG is used po used to generate po with dry low emission The CGTG has a sin sample exhaust gas	e is a natural gas fired 4.6 MW. The CGTG is I ad was installed and sta rimaily for back-up em wer if demand increase on control technology t gle stack with ports an es.	combustion turbine ocated behind the existing arted in September 2007. ergency power, but can be es. The CGTG is equiped o reduce NOx emissions. d a platform used to		Sample Port RT IENSION
h. Installation Date: September 2007	 Startup Date: 9-23-2007 	k. Date Reached Max. Capacity: 9-27-2007	$ \rightarrow (\frown$	
I. Control Equipment Desc Dry Low Emission (I	ription as listed in permit (mode DLE) Technology (NOx	el, ser. # etc. if applicable): reduction)	EXAMPLE VIEW SHOW SAMPLE PORT TO F Attach an explanation or difficult or unusual stack	LOW DISTURBANCE ING DISTANCES FROM LOW DISTURBANCES drawing to explain any geometry or parameters

		V. POLLUTANTS AND PROPOSED TEST METHODS		
Pollutant or Parameter: Propos		Proposed Test Methods (Deviations from approved methods require supporting documentation and prior authorization)	Deviation to Test Method Requested	
\boxtimes	Portable Analyzer Methods for NOx, CO, SO ₂			
	NOx	EPA Method 7E		
	со	EPA Method 10		
	SO2	EPA Method 6		
	VOCs	(Specify)		
	HAPs	(Specify)		
	PM (TSP)	EPA Method 5		
	PM10	EPA Method 201		
	PM2.5	(Specify)		

NMED Air Quality Bureau

UNIVERSAL STACK TEST NOTIFICATION, PROTOCOL AND REPORT FORM

Page 3 of 5

	Opacity	EPA Method 9	
	Visual E.	EPA Method 22	
\boxtimes	Stack Flow	EPA Methods 1 - 3	
\boxtimes	Moisture	EPA Method 4	
	Other	(Specify)	
	Other	(Specify)	

	VI. PROPOS	BED TEST RUN	AND TEST LOAD INFOR	RMATIO	N
a. Number of Test Runs: 3 @ 80%, 3 @ 100%	b. Run Duration 20 Min.	c. Required by (regulation or permit number): Operating Permit P100R1		d. Speci 2.9.4.5	ific Condition or Section: 5 & NMED Port. Analyzer SOP
PLEASE NOTE - Default ru	n duration is 60 minutes	, unless otherwise s	specified by an applicable regula	ation.	
e. Expected Load: 22 to 25 MW	f. Percent of Permit 80 to 100	ted Capacity:	g. Is this an opacity to Yes 🔲 No 🖸	est?	h. If yes, no. of observation pts.:
load (80%) for an anti- the NMED AQB permi NOTE – Failure to test at 90 conducted.	cipated permit rev t engineer, provid 0-100% of permitted lo	ision. The NM led approval fo ad will limit unit op	ED AQB Compliance an r this test. peration to 110% of tested load	d Enford	emissions data at a lower cement Manager, as well as ew initial compliance test is
PLANT OR UNIT OPE	RATING PARAME	TERS TO BE N	IONITORED		
J. List and explain the plant o	perating parameters the	at will be monitored	and applicable permit conditions	or regulat	ory standards.
Total natural gas volu will be monitored.	ime and flow rate	will be monitor	red during the test. The	electric	al output of the generator

VII. ADDITIONAL DETAILS (where applicable)		
RATA and INSTRUMENTAL ANALYZER CALIBRATION PROCEDURES		
a. Do any of the methods you are proposing utilize instrumental analyzers (i.e.; EPA Methods 3A, 6C, 7E, 10, 18, 25/25A, 320 etc.)? If yes, briefly describe analyzer calibration procedures and/or calibration standard procedures. Enter the highest pollutant concentration expected and the proposed concentrations of calibration gases.	🛛 Yes	🗌 No

NMED Air Quality Bureau

UNIVERSAL STACK TEST NOTIFICATION, PROTOCOL AND REPORT FORM

The portable analyzer will be calibrated and maintained in accordance with the manufacturer's specifications.

Zero and span check will be performed before and after each test run.

Zero drift will be less than ± 6% of the span over the period of each run.

For CO and NOx measurements, the Portable Analyzer will have a calibration error less than ± 4% of the span for the zero, mid-range, and high-range calibration gases.

Sampling system bias will be less than ± 10% of the span for the zero, mid-range, and high-range calibration gases. Sample system bias checks ensure no sample degradation in the system.

Calibration drift will be less than ± 6% of the span over the period of each run.

Three calibration gases will be used. Ambient air may be used as the zero gas. The multi-point calibration of instuments ensures linear response (calibration error test).

The calibration gases used will be certified to \pm 3% accuracy. All calibration gases will be used from their original containers. Calibration gases are certified by vendor to meet requirements of EPA Methods.

Interference response test documentation will be recorded.

Response time data will be recorded.

Correction of test data for NOx, CO, O2 and CO2 analyzers zero and calibration drift by equation 7e.1

SAMPLING TRAIN LEAK CHECK PROCEDURES

b. Do any of the methods you are proposing utilize the EPA Method 5 sampling train (i.e.; EPA Methods 1-4, 5, 17, 26/26A, 29, etc.)? If yes, briefly describe sampling train and pitot tube leak check procedures: Method 5 sampling train was not used. For methods 1 through 4, the pitot tubes will be leak checked by assuring that either a positive or negative pressure (as appropriate to the + or - sides of the pitot) can be maintained for one minute with no leaks, as measured by the pressure on the manometer.

EPA METHOD 19 IN LIEU OF EPA METHODS 1-4

c. Are you proposing to utilize EPA Method 19 in lieu of EPA Methods 1-4? If yes, explain why you believe this proposal is lustified:

Method 19 was used in addition to Methods 1-4 to establish a correlation between emission rate and concentration of pollutants.

PLEASE NOTE – EPA Method 19 may be utilized in lieu of EPA Methods 1-4, subject to the approval of the Department. If you are proposing to utilize EPA Method 19 in lieu of EPA Methods 1-4, you MUST include a recent fuel gas heating value analysis as well as a recent fuel flow meter calibration certificate, preferably conducted on the day of the test, but no earlier than three months prior to the test date. If the analyses have been conducted prior to the test date, you MUST append the certificates to the protocol. If conducted on the day of the test, but no earlier than three months prior to the test, you MUST append the certificates to the protocol. If conducted on the day of the test, you MUST append the certificates to the final test report.

Yes

No No

UNIVERSAL STACK TEST NOTIFICATION, PROTOCOL AND REPORT FORM

	VIII. ATTACHMENTS (as needed to support proposed test; check all that apply)
NO.	TIFICATION/PROTOCOL ATTACHMENTS
\boxtimes	Road Map Indicating Directions from Nearest New Mexico Town to Facility
\boxtimes	Schematic of process being tested showing emission points, sampling sites and stack cross-section
	Copy of proposed test methods (except for those promulgated test methods found in 40 CFR 51, 60, 61 and 63)
	Fuel Heating Value Analysis
	Fuel Flow Meter Calibration Certificate
	Other:
	Other:
TES	ST REPORT ATTACHMENTS
\boxtimes	Section 2. Tables of Results
	Supporting Documents (Specify)
Ret	ain Report Section 3 - Test Procedures, Data, Calculations, Appendices – 2 years NSR permits, 5 years TV
	IX. CERTIFICATION
This	designed has been analyzed under much medicles and is assume and something in the best of much sould des. I understand that

This document has been prepared under acceptance of this protocol does not walv omissions are the sole responsibility of th	ny supervision and is accurate and complete to the best of my known e the requirements of any permit or regulation. I understand that a permit holder.	owledge. I understand that any procedural errors or
Signature: Potimur 9. Sellen	Print Name and Title: Patricia Gallagher, Environmental Stewardship Group Leader	Date: 7-21-2010
Responsible Official for Title V?	Yes No (R.O signature not required for routing	ne periodic testing)

Universal Stack Test Notification, Protocol and Report Form Attachments

Attachment 1: Road Map and Directions

For additional information or directions call David Paulson at: (505) 665-8884









Annual Combustion Turbine Emission Test Results (Summary Tables of Results – Section 2)

Unit CT-1 (100% Load)

Client: Los Alamos National Labs Location: TA-3 Source: Rolls-Royce Gas Turbine (Unit CT-1) Technicians: RS/GG

Test Number	1	2	3	
Date	6/17/2010	6/17/2010	6/17/2010	
Start Time	12:14	12:41	13:14	
Stop Time	12:34	13:01	13:34	
Turbine/Generator Operation	*		<u>.</u>	
NL (RPM)	6380	6380	6380	
NH (RPM	9114	9114	9114	
PT (RPM)	4846	4846	4846	
Ambient (°F)	77	77	77	
GG Exit (°F)	1452	1452	1452	
P30 (psia)	226	226	226	
Ambient Conditions		•		
Atmospheric Pressure (in. Hg)	30.20	30.20	30.20	
Fuel Heating Value (BTU) (HHV @ 60°F & 30 in. Hg)	1022.95	1022.95	1022.95	
Fuel Flow Rate from Turbine Reference Meter (SCFH)	218240	215835	215975	
Fuel O2 F-Factor (DSCF/MMBTU)	8640.92	8640.92	8640.92	
Measured Emissions (dry) (corrected per equation 7e-	5)			Averages
NOx (ppmv)	15.3	15.1	14.9	15.1
CO (ppmv)	10.9	9.8	9.6	10.1
O2 (%)	15.0	15.0	15.0	14.97
CO2 (%)	3.1	3.1	3.1	3.08
Fo Factor	1.93	1.92	1.93	1.93
Exhaust Flow Rates	*			
via EPA Methods 1-4, O2 F-Factor (DSCFH)	8.75E+06	8.75E+06	8.75E+06	8.75E+06
via EPA Method 19, O2 F-Factor (DSCFH)	6.79E+06	6.73E+06	6.75E+06	6.76E+06
Mass Emission Rates (Based on Methods 1-4)		*		
NOx (lbs/hr)	15.96	15.75	15.53	15.75
CO (lbs/hr)	6.91	6.24	6.10	6.42
NSR Permit 2195-BM1 Allowable Emissions				
	Allowa	able NOx Emi	ssions (lb/hr)	23.8
	Allov	vable CO Emi	ssions (lb/hr)	170.9

Testing by TRC Air Measurements, Albuquerque, New Mexico

Unit CT-1 (80% Load)

Client: Los Alamos National Labs Location: TA-3 Source: Rolls-Royce Gas Turbine (Unit CT-1) Technicians: RS/GG

Test Number	4	5	6	
Date	6/17/2010	6/17/2010	6/17/2010	
Start Time	13:44	14:11	14:37	
Stop Time	14:04	14:31	14:57	
Turbine/Generator Operation	ne.	**		
NL (RPM)	6381	6378	6202	
NH (RPM	9118	9119	8923	
PT (RPM)	4847	4846	4846	
Ambient (°F)	79	79	79	
GG Exit (°F)	1452	1452	1369	
P30 (psia)	227	226	202	
Ambient Conditions	a.]			
Atmospheric Pressure (in. Hg)	30.20	30.20	30.20	
		ь		
Fuel Heating Value (BTU) (HHV @ 60°F & 30 in. Hg)	1022.95	1022.95	1022.95	
Fuel Flow Rate from Turbine Reference Meter (SCFH)	216130	207225	184300	
Fuel O2 F-Factor (DSCF/MMBTU)	8640.92	8640.92	8640.92	
Measured Emissions (dry) (corrected per equation 7e-	5)			Averages
NOx (ppmv)	16.6	17.1	17.1	17.0
CO (ppmv)	14.7	14.4	13.8	14.3
O2 (%)	15.4	15.4	15.4	15.37
CO2 (%)	2.8	2.8	2.8	2.81
Fo Factor	1.98	1.97	1.96	1.97
Exhaust Flow Rates				
via EPA Methods 1-4, O2 F-Factor (DSCFH)	7.47E+06	7.47E+06	7.47E+06	7.47E+06
via EPA Method 19, O2 F-Factor (DSCFH)	7.23E+06	6.93E+06	6.14E+06	6.77E+06
Mass Emission Rates (Based on Methods 1-4)			,	
NOx (lbs/hr)	14.83	15.28	15.28	15.13
CO (lbs/hr)	7.99	7.80	7.47	7.75
NSR Permit 2195-BM1 Allowable Emissions				
	Allowa	able NOx Emi	issions (lb/hr)	23.8
	Allov	vable CO Emi	issions (lb/hr)	170.9

Testing by TRC Air Measurements, Albuquerque, New Mexico

Part 2

Deviation Summary Report

SUMMARY OF DEVIATIONS PREVIOUSLY REPORTED						
Unit # and description	Date deviation reported	Tracking Number				

LA-UR 10-05093

2. Are there any deviations not yet reported? If No, no further information is required on the Deviation Summary Report. If Yes, answer question 3 below and enter the required information in the Deviation Summary Table.								ary	Yes	🛛 No	
3. Did any of the deviations result in excess emissions? For deviations resulting in excess emissions a completed Excess Emission Form for each deviation must be attached to this report.									ed Excess	Yes	□ No
Dev	Deviation Summary Table for deviations not yet reported.										
No.	Applicable Requ (Include Rule Ci	irement tation)	Em Uni	ission t ID(s)	Caus	e of Deviation		Corrective A	action Taken		
1											
2											
Dev	Deviation Summary Table (cont.)										
Deviation Started Deviation Ended								Did you attae excess emiss	ch an ion form?		
No.	Date	Time	Date	Tin	ne	Pollutant	Monitoring Method		Amount of Emissions		
1										The Yes	No No
2										🗌 Yes	No No



Signature/Review/Coordination Sheet

This form is to accompany all documents requiring review, approval, or signature by the Laboratory Director or Designee.

Date 07/29/10	Deadline 08/13/10 (to NMED)	Is this a response to an action item?	Yes 🗋 No 🗵					
From:								
Name: David L. Pauls	on MS: J978	Name: David L. Paulson	Phone: 665-8884					
		Nume. David E. Paulson	T Hone: 005-0004					
Title: Identify docume	nt, briefly describing subject matter.							
Semi-annual Monitoring	g Report (January - June 2010), Air Qua	lity Operating Permit P100R1						
🖾 Action 🛛 In	formation Only							
Background/Issues:								
Semi-Annual monitorin activities, and be submit 2010 to NMED).	Semi-Annual monitoring report required under Operating Permit Condition 4.2. This report is required to address all monitoring activities, and be submitted within 45 days from the end of the reporting period (period ends June 30, 2010, report due August 13, 2010 to NMED).							
No permit deviations oc	curred during this reporting period.							
ACTION requested of	f Laboratory Director or Designee							
Review and sign corresp	pondence to NMED.		*					
NMED-AQB requires t	he use of the "Reporting Submittal Form	" with all correspondence. This is not ar	n attachment.					
PAD Endorsement	Signaturo		Data					
	Signature		Date					
AD Endorsement								
Name (<i>print</i>)	Signature		Date					
Chris Cantwell, A	ADESHQ	tento	8/2/10					
Coordinated with			ujer, i e					
1. Name (print)	Signature	Λο	Date					
Denny Hieresen	ENV-DO		7/29/10					
2. Name (print)	Signature		Date					
	DA	1 la G PG	7/29/2010					
Patricia Gallagher	r, ENV-ES	for is	Date					
	Olgitaluie		Daio					
4 Name (print)	Signature		Date					
	l		5410					
E Nome (mint)	Olara a huma		Data					
5. Name (print)	Signature		Date					

Please ensure appropriate inter/intra Directorate/Divisional coordination and review prior to submittal to the Director's Office. Form 1824 (1/07)

Title V Report Certification Form

I. Report Type						
Annual Compliance Certification						
🖾 Semi-Annual Monitoring Report						
□ Other Specify:						
II. Identifying Information						
Facility Name: Los Alamos National Laboratory						
Facility Address: P.O. Box 1663, MS J978, Los Alamos	S	tate: NN	Ν	Zip	o: 87545	
Responsible Official (RO): J. Chris Cantwell		Phone	505-667-42	218	Fax: 505-665-3811	
RO Title: Assoc. Director Environmental, Safety, Health, and	d Q	uality	RO e-mail:	can	ntwe@lanl.gov	
Permit No.: P100R1	I	Date Per	mit Issued:	Augi	ust 7, 2009	
Report Due Date (as required by the permit): 08/13/2010	I	Permit A	I number: 8	856		
Time period covered by this Report:From: January 1, 2010To: June 30, 2010						
III. Certification of Truth, Accuracy, and Compl	ete	eness				
I am the Responsible Official indicated above. I, <u>(J. Chris Cantwell)</u> certify that I meet the requirements of 20.2.70.7.AD NMAC. I certify that, based on information and belief formed after reasonable inquiry, the statements and information contained in the attached Title V report are true, accurate, and complete.						
Signature Date: 7/29/2010.						