

MERAUX REFINERY P O BOX 100 MERAUX LA 70075-0100

April 28, 2011

CERTIFIED: 7001 1140 0001 6090 7487

Department of Environmental Quality Office of Environmental Compliance Enforcement Division 602 North Fifth Street Baton Rouge, LA 70802 (225) 219-3700

Re: NSPS Excess Emissions & CEM Performance Report - 1st Quarter 2011
Murphy Oil USA, Inc. Meraux Refinery, Agency Interest # 1238
2500 East St. Bernard Hwy., St. Bernard Parish, Meraux, LA
Title V Permit Numbers: 2500-00001-V5

Gentlemen,

Murphy Oil USA, Inc. (MOUSA) is hereby submitting the Excess Emissions and Monitoring Systems Reports, per LAC 33:III, Chapter 30, 40 CFR 60.7(c) and 40 CFR 63.1575 for the First Quarter 2011. For the reporting period, excess emissions greater than 1 percent of the total operating time was exceeded at the #2 FCCU ESP Stack (EPN 2-77, EQT 0032) for Carbon Monoxide. No CEMS had downtime greater than 5 percent of the total operating time. Also enclosed are the Data Assessment Reports for the appropriate CEMs.

Should you have any questions regarding this submission, please contact Ms. Liz Lundmark or myself at (504) 271-4141.

I certify, based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate, and complete.

Regards,

MURPHY/0/L/USA, INC

Jeffrey K. Warmann Refinery Manager Meraux Refinery

Enclosures

cc: Mr. Mike Algero, LDEQ SE Regional Office, New Orleans, LA

(per 40 CFR 60.7(d))

Pollutant:	SO ₂	NO _x	TRS	H_2S	CO	Opacity x
Reporting pe	eriod dates: F	From <u>1/01/11</u>	_to <u>3/31/11</u>	_		
Date submitt	ted: 4/30/11	-				
Company:]	Murphy Oil	USA, Inc., Me	eraux Refiner	у		
Address: 25	00 East St. E	Bernard Highv	vay, Meraux,	LA 70075		
Emission Lin	mitation: <u>O</u>	pacity shall no	ot exceed 30%	for more the	an one 6-mi	nute interval in any hourly period.
Monitor Mar	nufacturer an	d Model No.:	Monitor La	bs Inc., #550		
Date of Late	st CMS Cert	ification or A	udit: <u>Certifi</u>	cation (4/11/	01)	

Total source operating time in reporting period¹: 127,371 minutes

Process Unit(s) Description: #2 FCCU ESP Stack (EPN 2-77, EQT 0032)

Emissions Data Summary ¹				
1. Duration of excess emissions in reporting period due to:	(minutes)			
a. Startup/shutdown	368			
b. Control equipment problems	0			
c. Process problems	0			
d. Other known causes	12			
e. Unknown causes	0			
2. Total duration of excess emission	380			
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.3 %			

CMS Performance Summary ¹				
1. CMS downtime in reporting period due to:	(minutes)			
a. Monitor equipment malfunctions	0			
b. Non-Monitor equipment malfunctions	0			
c. Quality assurance calibration	0			
d. Other known causes	13			
e. Unknown causes	0			
2. Total CMS Downtime	13			
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.0 %			

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

(per 40 CFR 60.7(d))

Pollutant: SO_2 __ NO_x __ TRS__ H_2S __ CO_x Opacity___

Reporting period dates: From 1/01/11 to 3/31/11

Date submitted: 4/30/11

Company: Murphy Oil USA, Inc., Meraux Refinery

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Carbon Monoxide shall not exceed 500 ppm on an hourly average.

Monitor Manufacturer and Model No.: Thermo Environmental 48C

Date of Latest CMS Certification or Audit: CGA on 1/18/11

Process Unit(s) Description: #2 FCCU ESP Stack (EPN 2-77, EQT 0032)

Emissions Data Summary ¹				
1. Duration of excess emissions in reporting period due to:	(hours)			
a. Startup/shutdown	56			
b. Control equipment problems	0			
c. Process problems	0			
d. Other known causes	0			
e. Unknown causes	0			
2. Total duration of excess emission	56			
3. Total duration of excess emissions x (100) [Total source operating time] ²	2.6 %			

CMS Performance Summary ¹				
1. CMS downtime in reporting period due to:	(hours)			
a. Monitor equipment malfunctions	0			
b. Non-Monitor equipment malfunctions	0			
c. Quality assurance calibration	5			
d. Other known causes	0			
e. Unknown causes	0			
2. Total CMS Downtime	5			
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.2 %			

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

(per 40 CFR 60.7(d))

Pollutant:	$SO_2\underline{x}$	NO _x	TRS	H_2S	CO	Opacity
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Reporting period dates: From 1/01/11 to 3/31/11

Date submitted: 4/30/11

Company: Murphy Oil USA, Inc., Meraux Refinery

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Sulfur Dioxide shall not exceed 250 ppm on a 12-hour rolling average.

Monitor Manufacturer and Model No.: <u>Brimstone SGX-231 (SO₂), Rosemount Oxymitter 4000 (O₂)</u>

Date of Latest CMS Certification or Audit: CGA on 2/18/11 (SO₂), 2/09/11 (O₂)

Process Unit(s) Description: #2 SRU Incinerator (EPN 1-93, EQT 0019)

Emissions Data Summary ¹				
1. Duration of excess emissions in reporting period due to:	(hours)			
a. Startup/shutdown	0			
b. Control equipment problems	0			
c. Process problems	0			
d. Other known causes	0			
e. Unknown causes	0			
2. Total duration of excess emission	0			
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %			

CMS Performance Summary				
1. CMS downtime in reporting period due to:	(hours)			
a. Monitor equipment malfunctions	2			
b. Non-Monitor equipment malfunctions	0			
c. Quality assurance calibration	2			
d. Other known causes	3			
e. Unknown causes	0			
2. Total CMS Downtime	7			
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.3 %			

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

(per 40 CFR 60.7(d))

Pollutant:	$SO_2\underline{x}$	NO_{x}	TRS	H_2S	CO	Opacity
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Reporting period dates: From 1/01/11 to 3/31/11

Date submitted: 4/30/11

Company: Murphy Oil USA, Inc., Meraux Refinery

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Sulfur Dioxide shall not exceed 250 ppm on an 12-hour rolling average.

Monitor Manufacturer and Model No.: Brimstone 991/CEM-X (SO₂), Rosemount Oxymitter 4000 (O₂)

Date of Latest CMS Certification or Audit: CGA on 2/18/11 (SO₂), 2/09/11 (O₂)

Process Unit(s) Description: #3 SRU Incinerator (EPN 5-00, EQT 0079)

Emissions Data Summary ¹				
1. Duration of excess emissions in reporting period due to:	(hours)			
a. Startup/shutdown	0			
b. Control equipment problems	0			
c. Process problems	0			
d. Other known causes	0			
e. Unknown causes	0			
2. Total duration of excess emission	0			
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %			

CMS Performance Summary ¹				
1. CMS downtime in reporting period due to:	(hours)			
a. Monitor equipment malfunctions	40			
b. Non-Monitor equipment malfunctions	0			
c. Quality assurance calibration	2			
d. Other known causes	0			
e. Unknown causes	0			
2. Total CMS Downtime	42			
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	1.9 %			

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

(per 40 CFR 60.7(d))

Pollutant: SO₂ NO_x TRS H₂S x CO Opacity Reporting period dates: From 1/01/11 to 3/31/11

Date submitted: 4/30/11

Company: Murphy Oil USA, Inc., Meraux Refinery

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 160 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek, #4661

Date of Latest CMS Certification or Audit: CGA on 2/15/11

Process Unit(s) Description: Area 1 Fuel Drum for Boiler TB-01 (EPN 1-06, EQT 0010) and Boiler B-7 (EPN 1-07, EQT 0011)

Emissions Data Summary ¹				
1. Duration of excess emissions in reporting period due to:	(hours)			
a. Startup/shutdown	0			
b. Control equipment problems	0			
c. Process problems	. 0			
d. Other known causes	0			
e. Unknown causes	0			
2. Total duration of excess emission	0			
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %			

CMS Performance Summary ¹	
1. CMS downtime in reporting period due to:	(hours)
a. Monitor equipment malfunctions	23
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	1
d. Other known causes	4
e. Unknown causes	0
2. Total CMS Downtime	28
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	1.3%

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

(per 40 CFR 60.7(d))

Pollutant: SO_2 NO_x IRS H_2S X CO Opacity
Reporting period dates: From1/01/11_ to3/31/11_
Date submitted: 4/30/11
Company: Murphy Oil USA, Inc., Meraux Refinery
Address: 2500 East St. Bernard Highway, Meraux, LA 70075
Emission Limitation: Hydrogen Sulfide shall not exceed 160 ppm on a 3-hour rolling average.
Monitor Manufacturer and Model No.: <u>Ametek</u> , #4661
Date of Latest CMS Certification or Audit: <u>CGA on 2/15/11</u>
Process Unit(s) Description: Area 2 Fuel Drum for: MDH Product and Fractionator Heaters (EPN 2-92, EQT 0033) ROSE Heater (EPN 1-80, EQT 0014); Vacuum Heater (EPN 1-76, EQT 0013); Platformer Charge Heater (EPN 17-72 a,b,c, EQT 0028); Hydrobon Charge Heater (EPN 14-72, EQT 0023)
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Emissions Data Summary ¹	
1. Duration of excess emissions in reporting period due to:	(hours)
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary ¹	
1. CMS downtime in reporting period due to:	(hours)
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	1
d. Other known causes	1
e. Unknown causes	0
2. Total CMS Downtime	2
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.1 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

(per 40 CFR 60.7(d))

Pollutant: SO_2 NO_x TRS H_2S x CO Opacity	
Reporting period dates: From <u>1/01/11</u> to <u>3/31/11</u>	
Date submitted: 4/30/11	
Company: Murphy Oil USA, Inc., Meraux Refinery	
Address: 2500 East St. Bernard Highway, Meraux, LA 70075	

Emission Limitation: Hydrogen Sulfide shall not exceed 160 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek, #4661

Date of Latest CMS Certification or Audit: CGA on 2/16/11

Process Unit(s) Description: Area 4 Fuel Drum for Alky Reboiler (EPN 1-77, EQT 0078)

Emissions Data Summary ¹	
1. Duration of excess emissions in reporting period due to:	(hours)
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary ¹	
1. CMS downtime in reporting period due to:	(hours)
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	1
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	1
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.0 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

(per 40 CFR 60.7(d))

Pollutant: SO_2 NO_x TRS H_2S x CO Opacity ____

Reporting period dates: From 1/01/11 to 3/31/11

Date submitted: 4/30/11

Company: Murphy Oil USA, Inc., Meraux Refinery

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 160 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek, #4661

Date of Latest CMS Certification or Audit: CGA on 2/16/11

Process Unit(s) Description: Area 6 Fuel Drum for Hydrocracker & Hydrotreater Charge Heaters (EPN 1-00, EQT 0009)

Emissions Data Summary ¹	
1. Duration of excess emissions in reporting period due to:	(hours)
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary ¹	
1. CMS downtime in reporting period due to:	(hours)
a. Monitor equipment malfunctions	0
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	1
d. Other known causes	0
e. Unknown causes	0
2. Total CMS Downtime	1
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.0 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

(per 40 CFR 60.7(d))

Pollutant: SO₂ NO_x TRS H₂S x CO Opacity Reporting period dates: From 1/01/11 to 3/31/11

Date submitted: 4/30/11

Company: Murphy Oil USA, Inc., Meraux Refinery

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Hydrogen Sulfide shall not exceed 160 ppm on a 3-hour rolling average.

Monitor Manufacturer and Model No.: Ametek, #4661

Date of Latest CMS Certification or Audit: CGA on 2/16/11

Process Unit(s) Description: Area 6 Fuel Drum for Boilers B-5 (EPN 2-00, EQT 0030) and B-6 (EPN 3-00, EQT 0048)

Emissions Data Summary ¹	
1. Duration of excess emissions in reporting period due to:	(hours)
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary ¹	
1. CMS downtime in reporting period due to:	(hours)
a. Monitor equipment malfunctions	10
b. Non-Monitor equipment malfunctions	0
c. Quality assurance calibration	1
d. Other known causes	8
e. Unknown causes	0
2. Total CMS Downtime	19
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.9 %

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

(per 40 CFR 60.7(d))

Pollutant: SO_2 NO_x X TRS H_2S CO Opacity

Reporting period dates: From 1/01/11 to 3/31/11

Date submitted: 4/30/11

Company: Murphy Oil USA, Inc., Meraux Refinery

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Nitrogen Oxide shall not exceed 0.1 pound/MMBtu on a 30-day rolling average.

Monitor Manufacturer and Model No.: ABB Lumus 11, Serial No. 23042-5-8018413

Date of Latest CMS Certification or Audit: CGA on 2/11/11 (NOx), 2/11/11 (O₂)

Process Unit(s) Description: Boiler B-5 (EPN 2-00, EQT 0030)

Emissions Data Summary ¹	
1. Duration of excess emissions in reporting period due to:	(hours)
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary ¹				
1. CMS downtime in reporting period due to:	(hours)			
a. Monitor equipment malfunctions	0			
b. Non-Monitor equipment malfunctions	0			
c. Quality assurance calibration	2			
d. Other known causes	0			
e. Unknown causes	0			
2. Total CMS Downtime	2			
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.1 %			

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

(per 40 CFR 60.7(d))

Pollutant:	SO_2	$NO_{x}x$	TRS	$_{-}$ $H_2S_{\underline{}}$	CO	Opacity	_
Reporting p	eriod dates	: From 1/0)1/11 to	3/31/11			

Date submitted: 4/30/11

Company: Murphy Oil USA, Inc., Meraux Refinery

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Nitrogen Oxide shall not exceed 0.1 pound/MMBtu on a 30-day rolling average.

Monitor Manufacturer and Model No.: ABB Lumus 11, Serial No. 23042-5-8018413

Date of Latest CMS Certification or Audit: CGA on 2/11/11 (NOx), 2/11/11 (O₂)

Process Unit(s) Description: Boiler B-6 (EPN 3-00, EQT 0048)

Emissions Data Summary ¹				
1. Duration of excess emissions in reporting period due to:	(hours)			
a. Startup/shutdown	0			
b. Control equipment problems	0			
c. Process problems	0			
d. Other known causes	0			
e. Unknown causes	0			
2. Total duration of excess emission	0			
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %			

CMS Performance Summary ¹				
1. CMS downtime in reporting period due to:	(hours)			
a. Monitor equipment malfunctions	0			
b. Non-Monitor equipment malfunctions	0			
c. Quality assurance calibration	2			
d. Other known causes	4			
e. Unknown causes	0			
2. Total CMS Downtime	6			
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	0.3 %			

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

(per 40 CFR 60.7(d))

Pollutant: SO_2 NO_x TRS H_2S CO Opacity ____

Reporting period dates: From 1/01/11 to 3/31/11

Date submitted: 4/30/11

Company: Murphy Oil USA, Inc., Meraux Refinery

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Nitrogen Oxide shall not exceed 0.1 pound/MMBtu on a 30-day rolling average.

Monitor Manufacturer and Model No.: Thermo Environmental 42i

Date of Latest CMS Certification or Audit: CGA on 2/17/11 (NOx), 2/16/11 (O₂)

Process Unit(s) Description: Boiler TB-01 (EPN 1-06, EQT 0010)

Emissions Data Summary ¹	
1. Duration of excess emissions in reporting period due to:	(hours)
a. Startup/shutdown	0
b. Control equipment problems	0
c. Process problems	0
d. Other known causes	0
e. Unknown causes	0
2. Total duration of excess emission	0
3. Total duration of excess emissions x (100) [Total source operating time] ²	0.0 %

CMS Performance Summary ¹				
1. CMS downtime in reporting period due to:	(hours)			
a. Monitor equipment malfunctions	33			
b. Non-Monitor equipment malfunctions	0			
c. Quality assurance calibration	3			
d. Other known causes	2			
e. Unknown causes	0			
2. Total CMS Downtime	38			
3. Total duration of CMS Downtime x (100) [Total source operating time] ²	1.8 %			

¹ For opacity, record all times in minutes. For gases, record all times in hours.

² For the reporting period: If the total duration of excess emissions is 1 percent or greater of the total operating time or the total CMS downtime is 5 percent or greater of the total operating time, both the summary report form and the excess emission report described in §60.7(c) shall be submitted.

GASEOUS AND OPACITY EXCESS EMISSIONS AND MONITORING SYSTEMS PERFORMANCE (per 40 CFR 60.7(c))

Pollutant: SO_2 NO_x $TRS_ H_2S_ CO_x$ Opacity ____

Reporting period dates: From 1/01/11 to 3/31/11

Date submitted: 4/30/11

Company: Murphy Oil USA, Inc., Meraux Refinery

Address: 2500 East St. Bernard Highway, Meraux, LA 70075

Emission Limitation: Carbon Monoxide shall not exceed 500 ppm on an hourly average.

Monitor Manufacturer and Model No.: Thermo Environmental 48C

Date of Latest CMS Certification or Audit: CGA on 1/18/11

Process Unit(s) Description: #2 FCCU ESP Stack (EPN 2-77, EQT 0032)

	-				EXCESS EMISSIONS	
Date	Start	End	Duration (hours)	Max 1- HRA (ppm)	Cause	Corrective Action
2/8/11	20:09		20	. 1000	#2 FCC CO > 500 ppm, 1-HRA during unit shutdown. MOUSA shut down the #2 FCC to repair a	MOUSA repaired the leak and conducted a shutdown of the #2 FCC according to operational procedures. The use of Torch Oil
2/10/11	:	00:09	28	>1000	leak from a 1/16 inch hole on the Reactor just above the stripping section. Torch Oil was used to maintain Regenerator temperature.	causes elevated levels of CO. On 2/10/11, MOUSA ignited the #2 FCC Air Preheater and removed Torch Oil to reduce CO.
2/11/11	16:48				2 FCC CO > 500 ppm, 1-HRA	
2/12/11		02:48	10	>1000	during unit start up. The startup MOUSA repaired the	MOUSA repaired the second leak
2/12/11	05:33	09:33	4	>1000	was unexpectedly delayed by the discovery of a separate leak on the	and conducted a startup of the #2 FCC according to operational
2/13/11	02:06	05:06	3	>1000	Reactor Manway. Torch Oil and the #2 FCC Air Preheater was used	procedures. The use of Torch Oil causes elevated levels of CO.
2/13/11	05:22	16:22	11	>1000	during the startup to minimize CO.	
TOTAL			56			

CMS PERFORMANCE						
Date	Start	End	Duration (hours)	Cause	Corrective Action	
1/18/11	08:07	09:07	1	CO Cylinder Gas Audit	N/A	
1/18/11	10:05	12:05	2	SO ₂ and NOx Cylinder Gas Audits	N/A	
2/7/11	10:34	11:34	1	CO ₂ Cylinder Gas Audit	N/A	
2/17/11	08:14	09:14	1	O ₂ Cylinder Gas Audit	N/A	
TOTAL			5			

Pollutant: SO ₂ NO _x TRS H ₂ S CO Opacity x
Reporting period dates: From 1/01/11 to 3/31/11
Date submitted: 4/30/11
Company: Murphy Oil USA, Inc., Meraux Refinery
Address: 2500 East St. Bernard Highway, Meraux, LA 70075
Monitor Manufacturer and Model No.: Monitor Labs, Model #550
Process Unit(s) Description: #2 FCCU ESP Stack (EPN 2-77, EQT 0032)
CEM Sampling Location: #2 FCCU ESP Stack
CEM Span Value: _Opacity 100%_
I. ACCURACY ASSESSMENT RESULTS
Not applicable to opacity monitors.
II. CALIBRATION DRIFT ASSESSMENT
A. Out-of Control Periods:
1. Dates: <u>N/A</u>
2. Number of Days <u>N/A</u>
R Corrective Actions: N/A

Pollutant: SO ₂ NO _x TRS H ₂ S	CO_x Opacity	•
Reporting period dates: From 1/01/11 to 3/31/11		
Date submitted: 4/30/11		
Company: Murphy Oil USA, Inc., Meraux Refinery		
Address: 2500 East St. Bernard Highway, Meraux, LA 70	075_	
Monitor Manufacturer and Model No.: Thermo Environme	ental 48C	
Process Unit(s) Description: #2 FCCU ESP Stack (EPN 2	-77, EQT 0032)	
CEM Sampling Location: _#2 FCCU ESP Stack		
CEM Span Value: Carbon Monoxide 1000 ppm		
I. ACCURACY ASSESSMENT RESULTS (CGA):		
Date of Audit Audit Gas Cylinder No. Date of Audit Gas Cert. Type of Certification Certified Audit Value CEM Response Value Accuracy Standard	CO #1 (low scale) 1/18/11 CC176140 12/22/09 EPA Protocol 1 245.6 255.0 3.8% <15%	CO #2 (high scale) 1/18/11 CC26687 3/10/09 EPA Protocol 1 585.2 598.3 2.2% <15%
II. CALIBRATION DRIFT ASSESSMENT		
A. Out-of Control Periods:		
1. Dates: <u>N/A</u>		
2. Number of Days <u>N/A</u>		
B. Corrective Actions: N/A		

Pollutant: SO _{2_x} NO _x TRS_	H ₂ S (CO Opacity		
Reporting period dates: From <u>1/01/11</u> to	3/31/11			
Date submitted: 4/30/11				
Company: Murphy Oil USA, Inc., Merau	x Refinery			
Address: 2500 East St. Bernard Highway,	Meraux, LA 70075	5_		
Monitor Manufacturer and Model No.: <u>Br</u>	imstone SGX-231 ((SO ₂), Rosemount (Oxymitter 4000 (O ₂)_
Source unit: <u>#2 SRU Incinerator (EPN 1</u>	-93, EQT 0019)			
CEM Sampling Location: #2 SRU Incine	erator (#1-93)			
CEM Span Value: Sulfur Dioxide 500 pp	m; Oxygen 25%			
I. ACCURACY ASSESSMENT RESU	JLTS (CGA):			
Date of Audit Audit Gas Cylinder No. Date of Audit Gas Cert. Type of Certification Certified Audit Value CEM Response Value Accuracy Standard I. CALIBRATION DRIFT ASSESSME	SO ₂ #1 (low scale) 2/18/11 CC135773 12/21/09 EPA Protocol 1 124.0 129.3 4.3% <15%	SO ₂ #2 (high scale) 2/18/11 SG9163703 12/17/09 EPA Protocol 1 274.5 284.7 3.7% <15%	O ₂ #1 (low scale) 2/9/11 XC019583B 12/11/09 EPA Protocol 1 6.32 6.20 1.8% <15%	O ₂ #2 (high scale) 2/9/11 SG9150283BAL 12/14/09 EPA Protocol 1 10.1 9.9 1.7% <15%
A. Out-of Control Periods:	•••			
1. Dates: N/A				
2. Number of Days N/A				•
B. Corrective Actions: N/A				
D. Contouve Actions, NA	•			

Pollutant: SO _{2_x} NO _{x_} TRS_	H ₂ S (CO Opacity		
Reporting period dates: From <u>1/01/11</u> to	_3/31/11			
Date submitted: 4/30/11				
Company: <u>Murphy Oil USA, Inc., Merau</u>	x Refinery			
Address: 2500 East St. Bernard Highway,	Meraux, LA 70075	5		
Monitor Manufacturer and Model No.:l	Brimstone 991/CEN	1-X (SO ₂), Rosemo	unt Oxymitter 4000) (O ₂)
Source unit: _#3 SRU Incinerator (EPN 5	-00, EQT 0079)			
CEM Sampling Location: #3 SRU Incine	erator (#5-00)			
CEM Span Value: Sulfur Dioxide 500 pp	om; Oxygen 25%			
I. ACCURACY ASSESSMENT RESUL	LTS (CGA):			
Date of Audit Audit Gas Cylinder No. Date of Audit Gas Cert. Type of Certification Certified Audit Value CEM Response Value Accuracy Standard	SO ₂ #1 (low scale) 2/18/11 CC135773 12/21/09 EPA Protocol 1 124.0 137.7 11.0% <15%	SO ₂ #2 (high scale) 2/18/11 SG9163703 12/17/09 EPA Protocol 1 274.5 287.0 4.6% <15%	O ₂ #1 (low scale) 2/9//11 XC019583B 12/11/09 EPA Protocol 1 6.32 6.47 2.4% <15%	O ₂ #2 (high scale) 2/9/11 SG9150283BAL 12/14/09 EPA Protocol 1 10.1 10.2 1.0% <15%
II. CALIBRATION DRIFT ASSESSME	NT			
A. Out-of Control Periods:				
1. Dates: <u>N/A</u>	<u>. </u>			
2. Number of Days <u>N/A</u>	<u>. </u>			
B. Corrective Actions: N/A				

Pollutant: SO ₂ NO _x TRS H ₂ S_ <u>x</u> CC	Opacity	
Reporting period dates: From 1/01/11 to 3/31/11		
Date submitted: 4/30/11		
Company: Murphy Oil USA, Inc., Meraux Refinery		
Address: 2500 East St. Bernard Highway, Meraux, LA 70075	-	
Monitor Manufacturer and Model No.: Ametek, #4661		
Source Unit: Area 1 Fuel Drum for Boiler TB-01 (EPN 1-06, I	EQT 0010)	
CEM Sampling Location: Area I Fuel Drum		
CEM Span Value: <u>Hydrogen Sulfide, 300 ppm</u>		
I. ACCURACY ASSESSMENT RESULTS (CGA):		
Date of Audit Audit Gas Cylinder No. Date of Audit Gas Cert. Type of Certification Certified Audit Value CEM Response Value Accuracy Standard	H ₂ S #1 (low scale) 2/15/11 CC152579 1/26/11 EPA Protocol 1 74.5 71.7 3.8% <15%	H ₂ S #2 (high scale) 2/15/11 CC288256 1/25/11 EPA Protocol 1 164.9 155.3 5.8% <15%
II. CALIBRATION DRIFT ASSESSMENT		
A. Out-of Control Periods:		
1. Dates: <u>N/A</u>		
2. Number of Days <u>N/A</u>		
B. Corrective Actions: N/A		

Pollutant: SO ₂ NO _x TRS H ₂ S_x C	O Opacity	
Reporting period dates: From _1/01/11_to _3/31/11_		
Date submitted: 4/30/11		
Company: Murphy Oil USA, Inc., Meraux Refinery		
Address: 2500 East St. Bernard Highway, Meraux, LA 70075	5_	
Monitor Manufacturer and Model No.: Ametek, #4661		
Vacuum Heater (E. Platformer Charge	N 1-80, EQT 0014); PN 1-76, EQT 0013);	c , EQT 0028);
CEM Span Value: <u>Hydrogen Sulfide, 300 ppm</u>		
I. ACCURACY ASSESSMENT RESULTS (CGA):		
Date of Audit Audit Gas Cylinder No. Date of Audit Gas Cert. Type of Certification Certified Audit Value CEM Response Value Accuracy Standard	H ₂ S #1 (low scale) 2/15/11 CC152579 1/26/11 EPA Protocol 1 74.5 70.6 5.2% <15%	H ₂ S #2 (high scale) 2/15/11 CC288256 1/25/11 EPA Protocol 1 164.9 147.3 10.7% <15%
II. CALIBRATION DRIFT ASSESSMENT		
 A. Out-of Control Periods: 1. Dates: N/A 2. Number of Days N/A 		
B. Corrective Actions: N/A		

Pollutant: SO ₂ NO _x TRS H ₂ S x	CO Opacity				
Reporting period dates: From 1/01/11 to 3/31/11					
Date submitted: 4/30/11					
Company: Murphy Oil USA, Inc., Meraux Refinery					
Address: 2500 East St. Bernard Highway, Meraux, LA 70075					
Monitor Manufacturer and Model No.: Ametek, #4661					
Process Unit(s) Description: Area 4 Fuel Drum for Alky Reboile	er (EPN 1-77, EQT 00	078)			
CEM Sampling Location: Area 4 Fuel Drum					
CEM Span Value: <u>Hydrogen Sulfide</u> , 300 ppm					
I. ACCURACY ASSESSMENT RESULTS (CGA):					
Date of Audit Audit Gas Cylinder No. Date of Audit Gas Cert. Type of Certification Certified Audit Value CEM Response Value Accuracy Standard	H ₂ S #1 (low scale) 2/16/11 CC152579 1/26/11 EPA Protocol 1 74.5 73.3 1.6% <15%	H ₂ S #2 (high scale) 2/16/11 CC288256 1/25/11 EPA Protocol 1 164.9 163.7 0.7% <15%			
II. CALIBRATION DRIFT ASSESSMENT					
A. Out-of Control Periods:					
1. Dates: <u>N/A</u>					
2. Number of Days <u>N/A</u>					
B. Corrective Actions: N/A					

Pollutant: SO ₂ N	NO _x TRS	H ₂ Sx	co o	pacity
Reporting period dates: From	m <u>1/01/11</u> to <u>3/31/1</u>	.1_		
Date submitted: 4/30/11				
Company: Murphy Oil US	A, Inc., Meraux Refin	ery_		
Address: 2500 East St. Ber	rnard Highway, Merau	x, LA 70075		
Monitor Manufacturer and I	Model No.: Ametek,	<u>#4661</u>		
Process Unit(s) Description	: Area 6 Fuel Drum fo	or Hydrocracke	r & Hydrotreate	er Charge Heaters (EPN 1-00, EQT 0009)
CEM Sampling Location:	Area 6 Heaters Fuel D	rum_		
CEM Span Value: Hydrog	en Sulfide, 300 ppm	-		
I. ACCURACY ASSESS	MENT RESULTS (CO	GA):		
Date of Type o Certific	Gas Cylinder No. f Audit Gas Cert. f Certification ed Audit Value Response Value cy		H ₂ S #1 (low scale) 2/16/11 CC152579 1/26/11 EPA Protocol 74.5 78.2 5.0% <15%	H ₂ S #2 (high scale) 2/16/11 CC288256 1/25/11 1 EPA Protocol 1 164.9 173.0 4.9% <15%
II. CALIBRATION DRIF				
1. Dates:	N/A_ of DaysN/A			

Pollutant: SO ₂ NO _x TRS H ₂ Sx	CO Opacity _	
Reporting period dates: From 1/01/11 to 3/31/11		
Date submitted: 4/30/11		
Company: Murphy Oil USA, Inc., Meraux Refinery		
Address: 2500 East St. Bernard Highway, Meraux, LA 700	<u>075</u>	
Monitor Manufacturer and Model No.: Ametek, #4661		
Process Unit(s) Description: Area 6 Fuel Drum for Boiler	s B-5 (EPN 2-00, EQT 003	30) and B-6 (EPN 3-00, EQT 0048)
CEM Sampling Location: Area 6 Boilers Fuel Drum		
CEM Span Value: Hydrogen Sulfide, 300 ppm		
I. ACCURACY ASSESSMENT RESULTS (CGA):		
Date of Audit Audit Gas Cylinder No. Date of Audit Gas Cert. Type of Certification Certified Audit Value CEM Response Value Accuracy Standard	H ₂ S #1 (low scale) 2/16/11 CC152579 1/26/11 EPA Protocol 1 74.5 75.0 0.7% <15%	H ₂ S #2 (high scale) 2/16/11 CC288256 1/25/11 EPA Protocol 1 164.9 167.0 1.3% <15%
II. CALIBRATION DRIFT ASSESSMENT		
A. Out-of Control Periods:		
1. Dates: <u>N/A</u>		
2. Number of Days <u>N/A</u>		
B. Corrective Actions: N/A		

Pollutant: SO_2 NO_x X TRS_2	H ₂ S 0	CO Opacity _			
Reporting period dates: From 1/01/11 to 3/31/11					
Date submitted: 4/30/11					
Company: <u>Murphy Oil USA, Inc., Merau</u>	x Refinery				
Address: <u>2500 East St. Bernard Highway.</u>	Meraux, LA 7007:	5_			
Emission Limitation: <u>Nitrogen Oxide sh</u>	all not exceed 0.1 p	ound/MMBtu on a	30-day rolling aver	age.	
Monitor Manufacturer and Model No.:	ABB 23042-5-80184	413_			
Process Unit(s) Description: Boiler B-5	(EPN 2-00, EQT 00	030)			
CEM Sampling Location: Boiler B-5					
CEM Span Value: Nitrogen Oxide 100 p	pm, Oxygen 25 %	-			
I. ACCURACY ASSESSMENT RESU	LTS (CGA):				
Date of Audit Audit Gas Cylinder No. Date of Audit Gas Cert. Type of Certification Certified Audit Value CEM Response Value Accuracy Standard	NOx #1 (low scale) 2/11/11 CC182945 12/9/09 EPA Protocol 1 25.3 25.3 0.1% <15%	NOx #2 (high scale) 2/11/11 SG9931306 12/17/09 EPA Protocol 1 54.8 56.0 2.2% <15%	O ₂ #1 (low scale) 2/11/11 XC019583B 12/11/09 EPA Protocol 1 6.32 6.28 0.5% <15%	O ₂ #2 (high scale) 2/11/11 SG9150283BAL 12/14/09 EPA Protocol 1 10.1 10.0 0.5% <15%	
II. CALIBRATION DRIFT ASSESSMENT					
A. Out-of Control Periods:					
1. Dates: <u>N/A</u>	<u>. </u>				
2. Number of Days <u>N/A</u>	<u>. </u>				
B. Corrective Actions: N/A					

Pollutant: SO ₂ NO _x x TRS_	H ₂ S 0	CO Opacity_		
Reporting period dates: From <u>1/01/11</u> to	3/31/11			
Date submitted: 4/30/11				
Company: <u>Murphy Oil USA, Inc., Merau</u>	ıx Refinery			
Address: 2500 East St. Bernard Highway	, Meraux, LA 7007:	5_		
Emission Limitation: <u>Nitrogen Oxide sh</u>	all not exceed 0.1 p	ound/MMBtu on a	30-day rolling aver	age.
Monitor Manufacturer and Model No.:	ABB 23042-5-8018	413_		
Process Unit(s) Description: Boiler B-6 (EPN 3-00, EQT 00	48)		
CEM Sampling Location: Boiler B-6				
CEM Span Value: Nitrogen Oxide 100 p	pm, Oxygen 25 %	_		
I. ACCURACY ASSESSMENT RESU	LTS (CGA):			
Date of Audit Audit Gas Cylinder No. Date of Audit Gas Cert. Type of Certification Certified Audit Value CEM Response Value Accuracy Standard	NOx #1 (low scale) 2/11/11 CC182945 12/9/09 EPA Protocol 1 25.3 27.1 7.2% <15%	NOx #2 (high scale) 2/11/11 SG9931306 12/17/09 EPA Protocol 1 54.8 56.2 2.5% <15%	O ₂ #1 (low scale) 2/11/11 XC019583B 12/11/09 EPA Protocol 1 6.32 6.25 1.0% <15%	O ₂ #2 (high scale) 2/11/11 SG9150283BAL 12/14/09 EPA Protocol 1 10.1 10.0 0.7% <15%
II. CALIBRATION DRIFT ASSESSME	ENT			
A. Out-of Control Periods:				
1. Dates: <u>N/A</u>				
2. Number of Days <u>N/A</u>	<u>\</u>			
B. Corrective Actions: N/A	•			

Pollutant: SO ₂ NO _x TRS	H ₂ S C	O Opacity		
Reporting period dates: From 1/01/11 to 3/31/11				
Date submitted: 4/30/11				
Company: Murphy Oil USA, Inc., Merau:	x Refinery			
Address: 2500 East St. Bernard Highway,	Meraux, LA 7007	5_		
Emission Limitation: <u>Nitrogen Oxide sha</u>	ll not exceed 0.1 p	ound/MMBtu on a 3	0-day rolling avera	ige.
Monitor Manufacturer and Model No.: The	nermo Environmen	tal Model 42i (NOx). 43i (O ₂)	
Process Unit(s) Description: Boiler TB-0	(EPN 1-06, EQT	0010)		
CEM Sampling Location: Boiler TB-01				
CEM Span Value: Nitrogen Oxide 500 pp	om, Oxygen 25 %			
I A COUR A CW A COEGOMENT DECLI	TC (C/C A).			
I. ACCURACY ASSESSMENT RESUL	.18 (CGA):			
	NOx #1	NOx #2	O ₂ #1	O ₂ #2
	(low scale)	(high scale)	(low scale)	(high scale)
Date of Audit	2/17/11	2/17/11	2/16/11	2/16/11
Audit Gas Cylinder No. Date of Audit Gas Cert.	CC287345 1/5/10	SG9163479 12/29/09	XC019583B 12/11/09	SG9150283BAL 12/14/09
Type of Certification	EPA Protocol 1	EPA Protocol 1	EPA Protocol 1	EPA Protocol 1
Certified Audit Value	119.2	286.2	6.32	10.1
CEM Response Value	127.3	285.7	6.30	10.0
Accuracy	6.8%	0.2%	0.2%	0.7%
Standard	<15%	<15%	<15%	<15%
II. CALIBRATION DRIFT ASSESSMENT				
A. Out-of Control Periods:				
1. Dates: <u>N/A</u>				
2. Number of Days <u>N/A</u>	_			
B. Corrective Actions: N/A				