DOCKETED

Docket Number:	12-AFC-02C
Project Title:	Huntington Beach Energy Project - Compliance
TN #:	211426
Document Title:	South Coast Air Quality Management District Correspondance 05-06-16 Part 2
Description:	N/A
Filer:	Cindy Salazar
Organization:	CH2M HILL
Submitter Role:	Applicant Consultant
Submission Date:	5/10/2016 10:48:22 AM
Docketed Date:	5/10/2016

Dunavent, Andrew/SDO

From: Jacob Allen <jallen2@aqmd.gov>
Sent: Tuesday, May 03, 2016 4:34 PM
To: Dunavent, Andrew/SDO
Cc: OB PR Support NA Docs
Subject: Public Records Request #84576,
Attachments: - PR - PR Supporting Docs - 5/3/2016 - 84576 - - - COMPLETION LETTER - ANDREW DUNAVENT.pdf

Attached is a completion letter regarding your request. Below are two links to your requested documents. The files were too large to send as email attachments. Both links are for the same documents. The first link requires Active X and the second is an HTML link. While viewing the document you can Right Click and click Save to File to save each file to your computer.

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Public Records, SCAQMD
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COMPLETION LETTER

May 03, 2016

ANDREW DUNAVENT
CH2M HILL
402W. BROADWAY # SUITE 1450
SAN DIEGO, CA 92101

Ref.: CONTROL NO. 84576
Received 1/21/2016

Re: APPL'S, P/O'S & S/T RPTS FOR ORANGE COUNTY SANITATION DISTRICT, FAC ID #29110, AT 22212 BROOKHURST STREET, HUNTINGTON BEACH, CA 92646, APPL #'S 565929, 556625, 546364, 546365, 546366, 546367, 546368, 545004, 545005 & 545002.

After a thorough search of this agency's records, the following records were found:
S/T RPTS & COMPLETE ENGRG APPL FILES 565929, 556625, 546364, 546365, 546366, 546367, 546368, 545004, 545005 & 545002 FOR ORANGE COUNTY SANITATION DISTRICT, FAC ID #29110, AT 22212 BROOKHURST STREET, HUNTINGTON BEACH, CA 92646,

YOUR REQUESTED RECORDS WERE PROVIDED ELECTRONICALLY ON 05/03/2016

If you have any questions, please do not hesitate to contact me, Tuesday through Friday, **8:00 a.m**. to **4:30 p.m.**

Sincerely,

JACOB ALLEN x2282
For Colleen Paine
Public Records Coordinator

:ja

ORANGE COUNTY SANITATION DISTRICT
PLANT NO. 2 – UNITS 1, 2, 3, 4 & 5
RULE 1110.2 8760 HOUR & PERMIT COMPLIANCE
TEST REPORT YEAR 2013

PREPARED FOR:
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, California 92708-7018

EQUIPMENT LOCATION:
Treatment Plant No. 2
Huntington Beach, California

EQUIPMENT DESCRIPTION:
Engine 1 A/N: # 540708 & PTO: # G27394
Engine 2 A/N: # 540709 & PTO: # G27395
Engine 3 A/N: # 540710 & PTO: # G27396
Engine 4 A/N: # 540711 & PTO: # G27397
Engine 5 A/N: # 540712 & PTO: # G27398

TEST DATES:
December 5, 6, 9, 10 & 11, 2013

ISSUE DATE:
March 7, 2014

PREPARED BY:
Mr. Rudy Nunez
SCEC
1582-1 North Batavia Street
Orange, California 92867

Report No: **2061.1053.rpt2**

Tested By: ______________
Rudy Nunez

Reviewed By: ______________
Christopher D. Lovett

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1.0 Executive Summary and Results

On December 5, 6, 9, 10 & 11, 2013, SCEC performed a compliance source test program on five (5) internal combustion (IC) engines at the Orange County Sanitation District's Treatment Plant No. 2. The test program included nitrogen oxides (NO_x), carbon monoxide (CO), carbon dioxide (CO_2) and oxygen (O_2) concentration emission measurements. The tests were performed on each IC engine at high, normal and low loads. The normal load test was 60 minutes in duration. The low and high loads were each 15 minutes in duration. In addition, 60-minute total gaseous non-methane/ethane organics (TNMHC) samples and 72-minute particulate matter (PM) samples were collected at normal load. Digester gas fuel samples were collected at the inlet of each IC engine and analyzed for total reduced sulfurs (TRS), BTU content and fixed gases. As required by the permit conditions, one IC engine (No. 3) was also sampled in triplicate for formaldehyde, acetaldehyde and SCAQMD Rule 1401 speciated organic compounds. Three 60-minute EPA Method 323 runs were conducted to test for formaldehyde and acetaldehyde, and three 60-minute EPA Method TO-15 runs were done to test for speciated organic compounds. Engine No. 3 is equipped with an oxidation catalyst and was operated in accordance with the conditions set forth in Permit to Construct for an Experimental Research Project A/N 526135. All tests were conducted while each IC engine was fired on 5% natural gas and 95% digester gas fuel. All testing was performed under steady-state operating conditions at the outlets of (IC) Engines No. 1, 2, 3, 4 and 5.

The purpose of this testing was to document emissions for comparison with South Coast Air Quality Management District (SCAQMD) Rule 1110.2 limits and to verify compliance with permit requirements. The test program was performed as part of the annual source test required by SCAQMD Rule 1110.2 and permit conditions.

NO_x, CO, CO_2 and O_2 concentrations were determined according to SCAQMD Method 100.1. The SCAQMD Method 100.1 results were recorded using a Data Acquisition System (DAS) in parts per million (ppm) for NO_x and CO and percent volume (%) for O_2 and CO_2 every 2 seconds and presented in one minute averages. All mass emissions were calculated based on pitot-measured volumetric flow rates (SCAQMD Methods 1.1-4.1) determined at high, normal and low loads. The results of the test program are summarized in Table 1.1 through Table 1.6.

On-site source testing personnel for SCEC included Mr. Rudy Nunez – Program Manager and Mr. Anthony L. Weiss – Project Technician. Mr. Vladimir Kogan and Ms. Randa AbuShaban of OCSD coordinated all IC engine requirements. This compliance report presents the sampling methodology, data, calculations and results.

TABLE 1.1
SUMMARY OF RESULTS SCAQMD RULE 1110.2 8760 HOUR TEST & PERMIT COMPLIANCE
OCSD PLANT 2
ENGINE #1
December 10, 2013

Parameter	Units	Normal Load	High Load	Low Load	Average
NO_x	ppmvd	47.0	48.8	51.5	49.1
	ppmvd @ 15% O_2	31.0	33.4	31.7	32.0
	lb/MMBtu	0.121	0.130	0.124	0.125
	lb/hr	3.37	4.20	3.03	3.53
	lb/MMcf	77.2	83.1	79.1	79.8
CO	ppmvd	533	563	486	528
	ppmvd @ 15% O_2	351	384	299	345
	lb/MMBtu	0.836	0.914	0.712	0.821
	lb/hr	23.3	29.5	17.4	23.4
	lb/MMcf	533	583	454	524
TNMHC	ppmv	119.50	-	-	119.50
	ppmvd @ 15% O_2	78.69	-	-	78.69
	lb/MMBtu	0.1070	-	-	0.1070
	lb/hr as CH_4	2.98	-	-	2.98
	lbs/MMcf	68.23	-	-	68.23
PM	gr/DSCF	0.0036	-	-	0.0036
	lb/hr	0.30	-	-	0.30
O_2	%	11.9	12.3	11.3	11.8
CO_2	%	7.29	7.03	7.73	7.35
N_2	%	80.77	80.70	80.95	80.81
Inlet TRS	ppmv	17.7	-	-	17.7
	lb/hr as SO_2	1.77	-	-	1.77
Fuel Heating Value	BTU/SCF	627	-	-	627
Fuel Flow	SCFM	667	823	588	693
Load	kW	2,364	3,000	2,082	2,482
Volume Flow [1]	DSCFM	9,845	11,811	8,071	9,909

[1] Calculated based on SCAQMD Methods 1-4.

TABLE 1.2
SUMMARY OF RESULTS SCAQMD RULE 1110.2 8760 HOUR TEST & PERMIT COMPLIANCE
OCSD PLANT 2
ENGINE #2
December 5, 2013

Parameter	Units	Normal Load	High Load	Low Load	Average
NO_x	ppmvd	51.8	54.9	52.6	53.1
	ppmvd @ 15% O_2	32.7	35.2	31.9	33.3
	lb/MMBtu	0.13	0.14	0.12	0.13
	lb/hr	3.57	4.78	3.34	3.90
	lb/MMcf	83.2	89.7	81.1	84.7
CO	ppmvd	534	549	517	533
	ppmvd @ 15% O_2	337	352	313	334
	lb/MMBtu	0.80	0.84	0.74	0.79
	lb/hr	22.4	29.1	20.0	23.8
	lb/MMcf	522	546	486	518
TNMHC	ppmv	85.9	-	-	85.9
	ppmvd @ 15% O_2	54.1	-	-	54.1
	lb/MMBtu	0.074	-	-	0.074
	lb/hr as CH_4	2.06	-	-	2.06
	lbs/MMcf	47.9	-	-	47.9
PM	gr/DSCF	0.0050	-	-	0.0050
	lb/hr	0.40	-	-	0.40
O_2	%	11.5	11.7	11.2	11.5
CO_2	%	7.57	7.29	7.74	7.53
N_2	%	80.88	81.01	81.10	81.00
Inlet TRS	ppmv	22.7	-	-	22.7
	lb/hr as SO_2	2.18	-	-	2.18
Fuel Heating Value	BTU/SCF	641	-	-	641
Fuel Flow	SCFM	680	815	623	706
Load	kW	2,514	3,000	2,275	2,596
Volume Flow (1)	DSCFM	9,458	11,951	8,730	10,046

(1) Calculated based on SCAQMD Methods 1-4.

TABLE 1.3
SUMMARY OF RESULTS SCAQMD RULE 1110.2 8760 HOUR TEST & PERMIT COMPLIANCE
OCSD PLANT 2
ENGINE #3
December 11, 2013

Parameter	Units	Normal Load	High Load	Low Load	Average
NO_x	ppmvd	48.7	45.3	47.7	47.2
	ppmvd @ 15% O_2	32.5	29.7	33.0	31.7
	lb/MMBtu	0.128	0.117	0.129	0.125
	lb/hr	3.47	4.14	3.26	3.62
	lb/MMcf	82.3	75.1	83.3	80.2
CO	ppmvd	25.4	23.4	46.5	31.8
	ppmvd @ 15% O_2	17.0	15.3	32.1	21.5
	lb/MMBtu	0.041	0.037	0.077	0.051
	lb/hr	1.10	1.30	1.94	1.45
	lb/MMcf	26.1	23.6	49.4	33.1
TNMHC	ppmv	21.0	-	-	21.0
	ppmvd @ 15% O_2	14.0	-	-	14.0
	lb/MMBtu	0.0191	-	-	0.0191
	lb/hr as CH_4	0.52	-	-	0.52
	lbs/MMcf	12.3	-	-	12.3
PM	gr/DSCF	0.0013	-	-	0.0013
	lb/hr	0.11	-	-	0.11
O_2	%	12.1	11.9	12.4	12.1
CO_2	%	7.28	7.42	7.07	7.25
N_2	%	80.65	80.67	80.57	80.63
Inlet TRS	ppmv	<0.5	-	-	<0.5
	lb/hr as SO_2	<0.05	-	-	<0.05
Fuel Heating Value	BTU/SCF	633	-	-	633
Fuel Flow	SCFM	686	871	648	735
Load	kW	2,438	3,000	2,255	2,564
Volume Flow (1)	DSCFM	9,771	12,556	9,396	10,574

(1) Calculated based on SCAQMD Methods 1-4.

TABLE 1.4
SUMMARY OF RESULTS SCAQMD RULE 1110.2 8760 HOUR TEST & PERMIT COMPLIANCE
OCSD PLANT 2
ENGINE #4
December 6, 2013

Parameter	Units	Normal Load	High Load	Low Load	Average
NO_x	ppmvd	56.2	58.7	57.3	57.4
	ppmvd @ 15% O_2	36.3	39.8	35.8	37.3
	lb/MMBtu	0.14	0.16	0.14	0.15
	lb/hr	3.56	4.95	3.37	3.96
	lb/MMcf	92.3	101.3	90.9	94.8
CO	ppmvd	549	571	528	550
	ppmvd @ 15% O_2	355	387	330	357
	lb/MMBtu	0.84	0.92	0.78	0.85
	lb/hr	21.2	29.3	18.9	23.1
	lb/MMcf	549	599	510	553
TNMHC	ppmv	125	-	-	125
	ppmvd @ 15% O_2	80.8	-	-	80.8
	lb/MMBtu	0.110	-	-	0.110
	lb/hr as CH_4	2.75	-	-	2.75
	lbs/MMcf	71.4	-	-	71.4
PM	gr/DSCF	0.0020	-	-	0.0020
	lb/hr	0.15	-	-	0.15
O_2	%	11.8	12.2	11.4	11.8
CO_2	%	7.48	7.10	7.67	7.42
N_2	%	80.75	80.70	80.88	80.78
Inlet TRS	ppmv	18.3	-	-	18.3
	lb/hr as SO_2	1.61	-	-	1.61
Fuel Heating Value	BTU/SCF	640	-	-	640
Fuel Flow	SCFM	643	793	591	676
Load	kW	2,341	2,974	2,110	2,475
Volume Flow (1)	DSCFM	8,693	11,580	8,077	9,450

(1) Calculated based on SCAQMD Methods 1-4.

TABLE 1.5
SUMMARY OF RESULTS SCAQMD RULE 1110.2 8760 HOUR TEST & PERMIT COMPLIANCE
OCSD PLANT 2
ENGINE #5
December 9, 2013

Parameter	Units	Normal Load	High Load	Low Load	Average
NO_x	ppmvd	45.7	48.2	43.8	45.9
	ppmvd @ 15% O_2	32.0	34.8	29.8	32.2
	lb/MMBtu	0.12	0.14	0.12	0.13
	lb/hr	3.30	4.37	2.72	3.46
	lb/MMcf	81.2	88.4	75.6	81.8
CO	ppmvd	612	631	605	616
	ppmvd @ 15% O_2	428	455	410	431
	lb/MMBtu	1.01	1.08	0.97	1.02
	lb/hr	26.9	34.8	22.8	28.2
	lb/MMcf	662	704	635	667
TNMHC	ppmv	104.5	-	-	104.5
	ppmvd @ 15% O_2	73.0	-	-	73.0
	lb/MMBtu	0.099	-	-	0.099
	lb/hr as CH_4	2.62	-	-	2.62
	lbs/MMcf	64.6	-	-	64.6
PM	gr/DSCF	0.0022	-	-	0.0022
	lb/hr	0.18	-	-	0.18
O_2	%	12.5	12.7	12.2	12.5
CO_2	%	6.91	6.68	7.08	6.89
N_2	%	80.63	80.60	80.71	80.64
Inlet TRS	ppmv	17.2	-	-	17.2
	lb/hr as SO_2	1.73	-	-	1.73
Fuel Heating Value	BTU/SCF	641	-	-	641
Fuel Flow	SCFM	733	817	615	721
Load	kW	2,635	3,000	2,160	2,598
Volume Flow (1)	DSCFM	9,904	12,445	8,516	10,288

(1) Calculated based on SCAQMD Methods 1-4.

TABLE 1.6
TOXIC POLLUTANT TEST RESULT SUMMARY
OCSD PLANT 2
ENGINE #3
December 11, 2013

Parameter	Units	Average [1]	MRL [4]	Parameter	Units	Average [1]	MRL [4]
Formaldehyde	ppmv	18.77	0.025 [3]	Carbon Tetrachloride	ppbv [2]	< 1.1	1.0
	lb/hr	0.872			lb/hr	< 2.62E-04	
	lb/MMcf	20.72			lb/MMcf	< 0.0062	
Acetaldehyde	ppmv	0.1289	0.025 [3]	Trichloroethylene	ppbv [2]	< 1.1	1.0
	lb/hr	0.00878			lb/hr	< 2.24E-04	
	lb/MMcf	0.2086			lb/MMcf	< 0.0053	
Benzene	ppbv	5.83		Styrene	ppbv [2]	< 1.5	1.4
	lb/hr	7.05E-04			lb/hr	< 2.49E-04	
	lb/MMcf	0.0167			lb/MMcf	< 0.0059	
Vinyl Chloride	ppbv [2]	< 1.1	1.0	Toluene	ppbv	2.64	
	lb/hr	< 1.07E-04			lb/hr	3.75E-04	
	lb/MMcf	< 0.0025			lb/MMcf	0.009	
Methylene Chloride	ppbv [2]	< 1.54	1.4	Chlorobenzene	ppbv [2]	< 1.5	1.4
	lb/hr	< 2.03E-04			lb/hr	< 2.69E-04	
	lb/MMcf	< 0.005			lb/MMcf	< 0.0064	
Chloroform	ppbv [2]	< 1.1	1.0	Xylenes (Total)	ppbv [2]	< 1.5	1.4
	lb/hr	< 2.04E-04			lb/hr	< 2.54E-04	
	lb/MMcf	< 0.0048			lb/MMcf	< 0.0060	
1,2-Dichloroethane	ppbv [2]	< 1.5	1.4	Dichlorobenzene (Total)	ppbv [2]	< 1.5	1.0
	lb/hr	< 2.36E-04			lb/hr	< 3.51E-04	
	lb/MMcf	< 0.0056			lb/MMcf	< 0.0083	
1,1,1-Trichloroethane	ppbv [2]	< 1.1	1.0	Tetrachloroethylene	ppbv [2]	< 1.1	1.0
	lb/hr	< 2.28E-04			lb/hr	< 2.83E-04	
	lb/MMcf	< 0.0054			lb/MMcf	< 0.0067	

(1) Results are the average of 3 test runs.

(2) Results reported and calculated based on detection limit.

(3) Sample Reporting Limit (ug/sample) = MRL (0.025 ug/mL) x Analysis Dilution Factor x Method Dilution Factor

(4) MRL values are presented as ppbv (wet basis)

2.0 Introduction and Test Description

OCSD retained SCEC to source test five (5) Cooper-Bessemer engines subject to the requirements of SCAQMD Rule 1110.2 and site specific permit conditions. Gaseous, PM, TRS and fuel analysis test results for Engines 1, 2, 3, 4 and 5 are presented in Table 1.1 – Table 1.5, respectively. Engine 3 aldehyde and toxic air pollutant test results are presented in Table 1.7.

2.1 Test Conditions

Each IC engine was operated at three conditions (low, normal, and high load) while firing on 95% digester gas fuel. Engine data were monitored and recorded throughout each test period. These data are provided in Table 3.1 and Appendix I.

2.2 Sample Locations

All engine exhaust emissions samples were collected from each IC engine at its main exhaust stack. Emissions testing on each engine was conducted on the thirty-inch diameter discharge stack located approximately 59 feet above ground level on the engine building rooftop. Two sample ports 90° apart were utilized for sampling on the exhaust stack. The sample ports are located approximately 4.5 duct diameters downstream and 1.8 duct diameters upstream from the nearest flow disturbances.

Engine inlet fuel samples were analyzed for heat content, TRS and fixed gases. These samples were collected at the digester gas fuel line input to each IC engine.

3.0 Source Information and Equipment Description

Legal Owner:	Orange County Sanitation District 10844 Ellis Avenue Fountain Valley, CA 92708
Facility Contact:	Mr. Vladimir Kogan Environmental Compliance Division Site No.: (714) 593-7085
Equipment Location:	Treatment Plant No. 2 22212 Brookhurst Avenue Huntington Beach, CA 92646

Equipment Description:

Engines 1 through 5 are Cooper LSVB-16-SGC reciprocating internal combustion engines and are located at the Orange County Sanitation District's facility in Huntington Beach, California. Each engine is a four-stroke turbocharged lean-burn spark-ignited unit, utilizing pre-combustion chambers to minimize NO_x emissions. Each engine is directly coupled to a synchronous generator and is rated at 3000 kW. Each engine was operated at high, normal and low loads while firing a 5%/95% natural-gas/digester-gas mixture.

TABLE 3.1
ENGINE OPERATING PARAMETERS

Engine 1 – Operating Parameters

Parameter	Units	High Load	Normal Load	Low Load
Load	KW	3000	2,360	2,082
Fuel Usage (Di-gas)	SCFM	823	666.77	570
Speed	RPM	360	360	360

Engine 2 – Operating Parameters

Parameter	Units	High Load	Normal Load	Low Load
Load	KW	3000	2514	2275
Fuel Usage (Di-gas)	SCFM	816	680	623
Speed	RPM	360	360	360

Engine 3 – Operating Parameters

Parameter	Units	High Load	Normal Load	Low Load
Load	KW	3000	2438	2255
Fuel Usage (Di-gas)	SCFM	871	686	648
Speed	RPM	360	360	360

Engine 4 – Operating Parameters

Parameter	Units	High Load	Normal Load	Low Load
Load	KW	3000	2341	2110
Fuel Usage (Di-gas)	SCFM	793	643	591
Speed	RPM	360	360	360

Engine 5 – Operating Parameters

Parameter	Units	High Load	Normal Load	Low Load
Load	KW	3000	2635	2160
Fuel Usage (Di-gas)	SCFM	817	733	615
Speed	RPM	360	360	360

4.0 Test Critique

The Orange County Sanitation District retained the services of SCEC to perform the annual 8760 hour SCAQMD Rule 1110.2 and permit compliance source emissions test program on their Central Generation System natural gas/digester gas fired IC Engines 1 through 5 at Plant No. 2 in Huntington Beach, California. The test program was performed in accordance with SCAQMD Rule 1110.2 and each individual testing method. The results of the test program are considered to be representative of the engine emissions at the time of the test.

Calibration error checks were performed at the start and end of each test day. System bias checks were performed before and after each Method 100.1 sampling run. All system bias and calibration error checks were within the allowable tolerance. A NO_x converter efficiency check was performed daily. The NO_x converter efficiency checks were 94.7%, 95.5%, 94.7%, 95.0% and 95.3% for Engines 1 though 5, respectively.

Engine No. 3 was sampled for aldehydes and speciated organics as required by permit conditions. Complete laboratory QA/QC data packages are provided in electronic PDF format on a CD-ROM included with this report.

All mass emissions were calculated based on pitot-tube measured volumetric flow rates. Moisture content from the particulate sample train was utilized during all volumetric flow rate calculations.

5.0 Sampling and Analytical Methods

The test procedures used for the inlet and exhaust measurements are summarized below in Tables 5.1 and 5.2.

TABLE 5.1
TEST PROCEDURES
OCSD Plant 2: Engines 1, 2, 4 and 5

Parameter	Method	Number of Repetitions	Duration	Permit Required	Rule 1110.2 Required
		Inlet Sample Location			
BTU	ASTM D3588	1	Grab	X	---
N_2, O_2, CO_2	SCAQMD 10.1	1	Grab	X	---
TRS	SCAQMD 307.91	1	Grab	X	---
Flow Rate	CEMS Fuel Meter	1	60 min	X	X
		Exhaust Sample Location (Normal Load)			
Moisture	SCAQMD 4.1	1	60 min	X	---
Flow Rate	SCAQMD 1.1, 2.1, 3.1	1	60 min	X	X
N_2, O_2, CO_2	SCAQMD 100.1	1	60 min	X	X
NO_x	SCAQMD 100.1	1	60 min	X	X
CO	SCAQMD 100.1	1	60 min	X	X
TGNMNEO/CH_4	SCAQMD 25.1	1 Tray	60 min	X	X
PM	SCAQMD 5.1	1	72 min	X	---
		Exhaust Sample Location (High and Low Load)			
Flow Rate	SCAQMD 1.1, 2.1, 3.1	1	15 min	---	X
N_2, O_2, CO_2	SCAQMD 100.1	1	15 min	---	X
NO_x	SCAQMD 100.1	1	15 min	---	X
CO	SCAQMD 100.1	1	15 min	---	X

TABLE 5.2
TEST PROCEDURES
OCSD Plant 2: Engine 3

Parameter	Method	Number of Repetitions	Duration	Permit Required	Rule 1110.2 Required
Inlet Sample Location					
BTU	ASTM D3588	1	Grab	X	---
N_2, O_2, CO_2	SCAQMD 10.1	1	Grab	X	---
TRS	SCAQMD 307.91	1	Grab	X	---
Flow Rate	CEMS Fuel Meter	1	60 min	X	X
Exhaust Sample Location(Normal Load)					
Moisture	SCAQMD 4.1	1	60 min	X	---
Flow Rate	SCAQMD 1.1, 2.1, 3.1	1	60 min	X	X
N_2, O_2, CO_2	SCAQMD 100.1	1	60 min	X	X
NO_x	SCAQMD 100.1	1	60 min	X	X
CO	SCAQMD 100.1	1	60 min	X	X
TGNMNEO/CH_4	SCAQMD 25.3	1 Tray	60 min	X	X
PM	SCAQMD 5.1	1	72 min	X	---
Aldehydes	EPA 323	3	60 min	X	---
VOC's	EPA TO-15	3	60 min	X	---
Exhaust Sample Location(High and Low Load)					
Flow Rate	SCAQMD 1.1, 2.1, 3.1	1	15 min	---	X
N_2, O_2, CO_2	SCAQMD 100.1	1	15 min	---	X
NO_x	SCAQMD 100.1	1	15 min	---	X
CO	SCAQMD 100.1	1	15 min	---	X

There were no method deviations from the submitted source test protocol during the performance of the source test. PM sample time was increased from 60 to 72 minutes as sampling was done for three minutes at each traverse point.

List of Appendices

SCEC

Appendix A

SCAQMD Methods 100.1, 25.1/25.3, 1.1-4.1 and 5.1 Results

SUMMARY OF CONTINUOUS MONITORING DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		NORMAL LOAD	
SOURCE ID:	ENGINE #1	DATE:	12/10/13	TIME:	1309-1410
OPERATOR:	RN	PROJECT No.:	2061.1053		

PARAMETER UNITS	O_2 % VOL DRY	CO_2 % VOL DRY	NO_x PPMV,D	CO PPMV,D	SO_2 PPMV,D
INITIAL ZERO BIAS	0.05	-0.03	0.20	-0.40	---
INITIAL SPAN BIAS	12.48	8.39	41.50	846.00	---
FINAL ZERO BIAS	0.10	0.00	1.20	0.00	---
FINAL SPAN BIAS	12.49	8.41	41.70	850.40	---
AVERAGE ZERO BIAS	0.08	-0.02	0.70	-0.20	---
AVERAGE SPAN BIAS	12.49	8.40	41.60	848.20	---
BIAS GAS CONCENTRATION	12.50	8.31	42.40	857.00	---
FULL SCALE RANGE	25.00	20.00	100.00	2000.00	---
UNCORRECTED CONC.	11.93	7.37	46.05	527.92	---
CORRECTED CONC.	**11.94**	**7.29**	**47.01**	**533.47**	---
PPMV @ 15 % O2			30.96	351.30	---
LB/HR BASED ON PITOT FLOW (DSCFM)	9,845		3.37	23.28	---

SUMMARY OF CONTINUOUS MONITORING DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		HIGH LOAD
SOURCE ID:	ENGINE #1	DATE:	12/10/13	TIME: 1444-1459
OPERATOR:	RN	PROJECT No.:	2061.1053	

PARAMETER UNITS	O_2 % VOL DRY	CO_2 % VOL DRY	NO_x PPMV,D	CO PPMV,D	SO_2 PPMV,D
INITIAL ZERO BIAS	0.10	0.00	1.20	0.00	---
INITIAL SPAN BIAS	12.49	8.41	41.70	850.40	---
FINAL ZERO BIAS	0.01	-0.04	0.70	-0.40	---
FINAL SPAN BIAS	12.46	8.38	41.60	848.80	---
AVERAGE ZERO BIAS	0.06	-0.02	0.95	-0.20	---
AVERAGE SPAN BIAS	12.48	8.40	41.65	849.60	---
BIAS GAS CONCENTRATION	12.50	8.31	42.40	857.00	---
FULL SCALE RANGE	25.00	20.00	100.00	2000.00	---
UNCORRECTED CONC.	12.24	7.10	47.82	557.76	---
CORRECTED CONC.	**12.26**	**7.03**	**48.83**	**562.69**	---
PPMV @ 15 % O2			33.35	384.37	---
LB/HR BASED ON PITOT FLOW (DSCFM)	11,811		4.20	29.46	---

SUMMARY OF CONTINUOUS MONITORING DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		LOW LOAD	
SOURCE ID:	ENGINE #1	DATE:	12/10/13	TIME:	1507-1522
OPERATOR:	RN	PROJECT No.:	2061.1053		
PARAMETER UNITS	O_2 % VOL DRY	CO_2 % VOL DRY	NO_x PPMV,D	CO PPMV,D	SO_2 PPMV,D
INITIAL ZERO BIAS	0.10	0.00	1.20	0.00	---
INITIAL SPAN BIAS	12.49	8.41	41.70	850.40	---
FINAL ZERO BIAS	0.01	-0.04	0.70	-0.40	---
FINAL SPAN BIAS	12.46	8.38	41.60	848.80	---
AVERAGE ZERO BIAS	0.06	-0.02	0.95	-0.20	---
AVERAGE SPAN BIAS	12.48	8.40	41.65	849.60	---
BIAS GAS CONCENTRATION	12.50	8.31	42.40	857.00	---
FULL SCALE RANGE	25.00	20.00	100.00	2000.00	---
UNCORRECTED CONC.	11.30	7.81	50.42	482.05	---
CORRECTED CONC.	**11.32**	**7.73**	**51.54**	**486.34**	---
PPMV @ 15 % O2			31.74	299.50	---
LB/HR BASED ON PITOT FLOW (DSCFM)	8,071		3.03	17.40	---

OCSD PLANT 2 ENGINE 1 COMPLIANCE (NORM LOAD)
December 10, 2013
RAW DAS DATA - RM RUN 1

DATA PT	DATE	TIME	O2 % VD	CO2 % VD	NOx PPMVD	CO PPMVD
1	12/10	13:09:49	11.89	7.40	45.20	524.40
2	12/10	13:10:49	11.86	7.41	46.70	516.40
3	12/10	13:11:49	11.88	7.39	46.90	513.60
4	12/10	13:12:49	11.85	7.40	47.20	514.00
5	12/10	13:13:49	11.85	7.40	47.30	514.40
6	12/10	13:14:49	11.90	7.38	46.80	519.60
7	12/10	13:15:49	11.90	7.39	46.40	521.60
8	12/10	13:16:49	11.94	7.35	46.20	524.40
9	12/10	13:17:49	11.94	7.35	46.00	526.40
10	12/10	13:18:49	11.92	7.36	46.10	522.00
11	12/10	13:19:49	11.92	7.37	46.30	524.40
12	12/10	13:20:49	11.91	7.38	46.50	521.60
13	12/10	13:21:49	11.91	7.37	46.20	526.00
14	12/10	13:22:49	11.90	7.39	46.70	523.20
15	12/10	13:23:49	11.90	7.39	46.30	526.00
16	12/10	13:24:49	11.90	7.41	46.40	522.00
17	12/10	13:25:49	11.91	7.39	45.60	526.00
18	12/10	13:26:49	11.88	7.40	46.10	524.40
19	12/10	13:27:49	11.92	7.39	45.80	522.00
20	12/10	13:28:49	11.99	7.35	43.60	541.30
21	12/10	13:29:49	12.00	7.35	43.20	544.10
22	12/10	13:30:49	11.96	7.35	44.40	539.20
23	12/10	13:31:49	11.94	7.38	44.70	536.00
24	12/10	13:32:49	11.88	7.40	45.50	527.60
25	12/10	13:33:49	11.88	7.42	46.10	524.40
26	12/10	13:34:49	11.88	7.42	45.90	526.80
27	12/10	13:35:49	11.90	7.42	45.60	533.60
28	12/10	13:36:49	11.89	7.41	46.90	521.20
29	12/10	13:37:49	11.92	7.37	47.30	520.00
30	12/10	13:38:49	11.94	7.35	46.30	524.40
31	12/10	13:39:49	11.94	7.36	46.70	524.40
32	12/10	13:40:49	11.94	7.37	46.40	526.40

33	12/10	13:41:49	11.97	7.35	45.50	530.00
34	12/10	13:42:49	12.01	7.32	44.80	537.20
35	12/10	13:43:49	12.04	7.30	44.80	540.10
36	12/10	13:44:49	12.03	7.28	45.00	544.90
37	12/10	13:45:49	11.96	7.33	45.70	534.00
38	12/10	13:46:49	11.93	7.37	46.20	531.60
39	12/10	13:47:49	11.90	7.38	46.80	524.80
40	12/10	13:48:49	11.89	7.39	47.50	518.00
41	12/10	13:49:49	11.91	7.37	47.10	524.40
42	12/10	13:50:49	11.92	7.37	47.30	521.60
43	12/10	13:51:49	11.91	7.37	47.90	520.00
44	12/10	13:52:49	11.93	7.35	46.80	524.40
45	12/10	13:53:49	11.97	7.35	46.30	525.60
46	12/10	13:54:49	12.03	7.31	44.40	538.80
47	12/10	13:55:49	12.06	7.29	44.20	549.30
48	12/10	13:56:49	12.02	7.30	44.70	552.50
49	12/10	13:57:49	11.94	7.36	45.50	535.20
50	12/10	13:58:49	11.95	7.36	45.80	528.00
51	12/10	13:59:49	11.95	7.35	45.60	533.20
52	12/10	14:00:49	11.89	7.41	46.60	527.60
53	12/10	14:01:49	11.87	7.43	46.80	524.40
54	12/10	14:02:49	11.86	7.42	47.20	520.80
55	12/10	14:03:49	11.85	7.43	47.50	515.20
56	12/10	14:04:49	11.89	7.42	46.40	521.60
57	12/10	14:05:49	11.94	7.40	45.40	529.60
58	12/10	14:06:49	11.99	7.34	45.30	541.30
59	12/10	14:07:49	12.00	7.32	46.00	541.30
60	12/10	14:08:49	11.97	7.34	46.40	533.20
61	12/10	14:09:49	11.97	7.33	46.20	532.80
AVERAGES			**11.93**	**7.37**	**46.05**	**527.92**

OCSD PLANT 2 ENGINE 1 COMPLIANCE (HIGH LOAD)
December 10, 2013
RAW DAS DATA - RM RUN 2

DATA PT	DATE	TIME	O2 % VD	CO2 % VD	NOx PPMVD	CO PPMVD
1	12/10	14:44:49	12.15	7.19	49.10	529.20
2	12/10	14:45:49	12.23	7.13	48.40	540.90
3	12/10	14:46:49	12.25	7.12	47.90	550.90
4	12/10	14:47:49	12.24	7.12	47.30	556.90
5	12/10	14:48:49	12.21	7.13	48.60	555.30
6	12/10	14:49:49	12.22	7.11	48.20	557.70
7	12/10	14:50:49	12.20	7.12	48.40	555.70
8	12/10	14:51:49	12.21	7.11	48.60	554.50
9	12/10	14:52:49	12.22	7.11	48.50	556.90
10	12/10	14:53:49	12.27	7.08	47.20	561.70
11	12/10	14:54:49	12.30	7.07	46.10	573.00
12	12/10	14:55:49	12.30	7.08	46.10	576.20
13	12/10	14:56:49	12.26	7.07	47.50	565.30
14	12/10	14:57:49	12.26	7.06	47.80	558.90
15	12/10	14:58:49	12.26	7.07	48.00	561.70
16	12/10	14:59:49	12.25	7.09	47.40	569.40
AVERAGES			**12.24**	**7.10**	**47.82**	**557.76**

HIGH LOAD

OCSD PLANT 2 ENGINE 1 COMPLIANCE (LOW LOAD)
December 10, 2013
RAW DAS DATA - RM RUN 3

DATA PT	DATE	TIME	O2 % VD	CO2 % VD	NOx PPMVD	CO PPMVD
1	12/10	15:07:49	11.66	7.53	45.10	523.20
2	12/10	15:08:49	11.46	7.70	47.50	504.70
3	12/10	15:09:49	11.37	7.76	48.60	491.90
4	12/10	15:10:49	11.26	7.83	49.40	482.60
5	12/10	15:11:49	11.19	7.90	52.00	473.80
6	12/10	15:12:49	11.23	7.86	52.10	467.80
7	12/10	15:13:49	11.29	7.81	51.70	470.60
8	12/10	15:14:49	11.30	7.80	49.70	483.00
9	12/10	15:15:49	11.22	7.88	51.50	475.80
10	12/10	15:16:49	11.28	7.81	50.90	477.00
11	12/10	15:17:49	11.27	7.84	51.90	479.00
12	12/10	15:18:49	11.30	7.80	52.20	473.80
13	12/10	15:19:49	11.27	7.83	50.60	476.60
14	12/10	15:20:49	11.25	7.84	51.30	477.00
15	12/10	15:21:49	11.25	7.83	50.80	478.60
16	12/10	15:22:49	11.23	7.87	51.40	477.40
AVERAGES			**11.30**	**7.81**	**50.42**	**482.05**

LOW LOAD

DAQ32 Historical Viewer R10.02.01 Software ID **P2E1**

Start Time		2013/12/10		12:06:49.5			
End Time		2013/12/10		15:50:49.5			
Sample Rate		60.0 Sec					
Data Count		225					
Group		01	-	01			
		Ch.	CH001	CH002	CH003	CH004	
Date	Time	msec	% O2	% CO2	ppmNOx	ppm CO	
12/10	12:06:49	0.5	0.01	-0.02	0.0	0.0	ZERO
12/10	12:07:49	0.5	0.01	-0.02	0.0	0.0	
12/10	12:08:49	0.5	21.08	16.74	63.9	78.3	
12/10	12:09:49	0.5	21.11	16.78	87.4	1824.5	
12/10	12:10:49	0.5	21.13	16.79	87.3	1825.3	HIGH
12/10	12:11:49	0.5	21.11	16.77	87.4	1832.6	
12/10	12:12:49	0.5	12.57	8.47	42.6	1512.9	
12/10	12:13:49	0.5	12.55	8.44	42.3	843.6	MID
12/10	12:14:49	0.5	12.55	8.45	42.3	840.4	
12/10	12:15:49	0.5	12.49	8.38	42.2	843.2	
12/10	12:16:49	0.5	12.50	8.38	33.9	840.4	
12/10	12:17:49	0.5	12.51	8.38	34.0	234.5	
12/10	12:18:49	0.5	12.53	8.38	34.0	0.4	NOX RESPONSE TO NO2 GAS
12/10	12:19:49	0.5	12.52	8.37	0.1	0.8	
12/10	12:20:49	0.5	12.54	8.37	0.1	0.8	
12/10	12:21:49	0.5	12.54	8.37	0.1	0.8	
12/10	12:22:49	0.5	12.56	8.36	34.1	4.4	
12/10	12:23:49	0.5	0.01	-0.01	0.2	-0.4	
12/10	12:24:49	0.5	0.00	-0.01	0.1	-0.4	
12/10	12:25:49	0.5	-0.08	-0.01	0.1	-0.4	NO RESPONSE TO NO2 GAS
12/10	12:26:49	0.5	20.69	0.14	0.4	1652.3	
12/10	12:27:49	0.5	20.78	0.14	0.2	1820.9	
12/10	12:28:49	0.5	20.79	0.14	0.1	1821.7	
12/10	12:29:49	0.5	20.84	0.11	0.1	1814.9	
12/10	12:30:49	0.5	20.83	0.12	0.1	1828.1	
12/10	12:31:49	0.5	20.81	0.12	0.1	1820.9	
12/10	12:32:49	0.5	20.78	0.12	0.1	1821.3	
12/10	12:33:49	0.5	20.77	0.12	0.1	3276.7	
12/10	12:34:49	0.5	20.76	0.11	0.1	1798.4	
12/10	12:35:49	0.5	20.77	0.11	0.1	1091.3	
12/10	12:36:49	0.5	20.76	0.11	0.1	1090.1	
12/10	12:37:49	0.5	20.58	0.10	0.1	383.1	
12/10	12:38:49	0.5	20.56	0.10	0.1	338.5	
12/10	12:39:49	0.5	20.61	0.10	0.1	106.4	
12/10	12:40:49	0.5	20.63	0.10	0.1	1827.7	
12/10	12:41:49	0.5	20.65	0.09	0.0	1803.7	
12/10	12:42:49	0.5	20.67	0.09	0.1	1798.0	
12/10	12:43:49	0.5	20.67	0.09	0.1	1813.3	HIGH
12/10	12:44:49	0.5	20.67	0.09	0.1	391.1	
12/10	12:45:49	0.5	20.67	0.09	0.1	853.2	
12/10	12:46:49	0.5	20.69	0.09	0.1	849.6	MID
12/10	12:47:49	0.5	20.72	0.09	0.0	852.8	
12/10	12:48:49	0.5	20.56	0.10	0.1	307.6	
12/10	12:49:49	0.5	20.12	0.12	0.7	0.4	
12/10	12:50:49	0.5	20.07	0.13	0.0	0.0	
12/10	12:51:49	0.5	19.73	0.02	0.4	-0.4	
12/10	12:52:49	0.5	19.88	0.02	0.1	0.0	
12/10	12:53:49	0.5	20.74	0.10	0.5	-0.4	
12/10	12:54:49	0.5	0.19	-0.03	0.4	-0.4	
12/10	12:55:49	0.5	0.03	-0.03	0.3	-0.4	
12/10	12:56:49	0.5	0.05	-0.03	0.2	-0.4	SYSTEM ZERO
12/10	12:57:49	0.5	0.04	-0.03	0.2	0.0	
12/10	12:58:49	0.5	12.46	8.35	0.2	-0.4	
12/10	12:59:49	0.5	12.48	8.39	0.2	-0.4	O2/CO2 BIAS

12/10	13:00:49	0.5	12.52	8.35	0.2	0.0	
12/10	13:01:49	0.5	0.05	-0.01	41.5	0.0	
12/10	13:02:49	0.5	0.04	-0.02	41.5	0.0	NOX BIAS
12/10	13:03:49	0.5	0.06	-0.01	41.4	-0.4	
12/10	13:04:49	0.5	0.15	-0.01	2.2	121.3	
12/10	13:05:49	0.5	0.07	-0.02	0.3	846.8	
12/10	13:06:49	0.5	0.06	-0.02	0.3	846.0	CO BIAS
12/10	13:07:49	0.5	0.09	-0.02	0.2	850.0	
12/10	13:08:49	0.5	11.81	7.31	25.5	740.8	
12/10	13:09:49	0.5	11.89	7.40	45.2	524.4	START NORMAL TEST
12/10	13:10:49	0.5	11.86	7.41	46.7	516.4	
12/10	13:11:49	0.5	11.88	7.39	46.9	513.6	
12/10	13:12:49	0.5	11.85	7.40	47.2	514.0	
12/10	13:13:49	0.5	11.85	7.40	47.3	514.4	
12/10	13:14:49	0.5	11.90	7.38	46.8	519.6	
12/10	13:15:49	0.5	11.90	7.39	46.4	521.6	
12/10	13:16:49	0.5	11.94	7.35	46.2	524.4	
12/10	13:17:49	0.5	11.94	7.35	46.0	526.4	
12/10	13:18:49	0.5	11.92	7.36	46.1	522.0	
12/10	13:19:49	0.5	11.92	7.37	46.3	524.4	
12/10	13:20:49	0.5	11.91	7.38	46.5	521.6	
12/10	13:21:49	0.5	11.91	7.37	46.2	526.0	
12/10	13:22:49	0.5	11.90	7.39	46.7	523.2	
12/10	13:23:49	0.5	11.90	7.39	46.3	526.0	
12/10	13:24:49	0.5	11.90	7.41	46.4	522.0	
12/10	13:25:49	0.5	11.91	7.39	45.6	526.0	
12/10	13:26:49	0.5	11.88	7.40	46.1	524.4	
12/10	13:27:49	0.5	11.92	7.39	45.8	522.0	
12/10	13:28:49	0.5	11.99	7.35	43.6	541.3	
12/10	13:29:49	0.5	12.00	7.35	43.2	544.1	
12/10	13:30:49	0.5	11.96	7.35	44.4	539.2	
12/10	13:31:49	0.5	11.94	7.38	44.7	536.0	
12/10	13:32:49	0.5	11.88	7.40	45.5	527.6	
12/10	13:33:49	0.5	11.88	7.42	46.1	524.4	
12/10	13:34:49	0.5	11.88	7.42	45.9	526.8	
12/10	13:35:49	0.5	11.90	7.42	45.6	533.6	
12/10	13:36:49	0.5	11.89	7.41	46.9	521.2	
12/10	13:37:49	0.5	11.92	7.37	47.3	520.0	
12/10	13:38:49	0.5	11.94	7.35	46.3	524.4	
12/10	13:39:49	0.5	11.94	7.36	46.7	524.4	
12/10	13:40:49	0.5	11.94	7.37	46.4	526.4	
12/10	13:41:49	0.5	11.97	7.35	45.5	530.0	
12/10	13:42:49	0.5	12.01	7.32	44.8	537.2	
12/10	13:43:49	0.5	12.04	7.30	44.8	540.1	
12/10	13:44:49	0.5	12.03	7.28	45.0	544.9	
12/10	13:45:49	0.5	11.96	7.33	45.7	534.0	
12/10	13:46:49	0.5	11.93	7.37	46.2	531.6	
12/10	13:47:49	0.5	11.90	7.38	46.8	524.8	
12/10	13:48:49	0.5	11.89	7.39	47.5	518.0	
12/10	13:49:49	0.5	11.91	7.37	47.1	524.4	
12/10	13:50:49	0.5	11.92	7.37	47.3	521.6	
12/10	13:51:49	0.5	11.91	7.37	47.9	520.0	
12/10	13:52:49	0.5	11.93	7.35	46.8	524.4	
12/10	13:53:49	0.5	11.97	7.35	46.3	525.6	
12/10	13:54:49	0.5	12.03	7.31	44.4	538.8	
12/10	13:55:49	0.5	12.06	7.29	44.2	549.3	
12/10	13:56:49	0.5	12.02	7.30	44.7	552.5	
12/10	13:57:49	0.5	11.94	7.36	45.5	535.2	
12/10	13:58:49	0.5	11.95	7.36	45.8	528.0	
12/10	13:59:49	0.5	11.95	7.35	45.6	533.2	
12/10	14:00:49	0.5	11.89	7.41	46.6	527.6	
12/10	14:01:49	0.5	11.87	7.43	46.8	524.4	

12/10	14:02:49	0.5	11.86	7.42	47.2	520.8	
12/10	14:03:49	0.5	11.85	7.43	47.5	515.2	
12/10	14:04:49	0.5	11.89	7.42	46.4	521.6	
12/10	14:05:49	0.5	11.94	7.40	45.4	529.6	
12/10	14:06:49	0.5	11.99	7.34	45.3	541.3	
12/10	14:07:49	0.5	12.00	7.32	46.0	541.3	
12/10	14:08:49	0.5	11.97	7.34	46.4	533.2	
12/10	14:09:49	0.5	11.97	7.33	46.2	532.8	END NORMAL TEST
12/10	14:10:49	0.5	11.92	7.37	46.1	534.4	
12/10	14:11:49	0.5	11.89	7.38	47.1	526.0	
12/10	14:12:49	0.5	11.88	7.39	47.5	524.4	
12/10	14:13:49	0.5	19.83	0.64	18.7	521.6	
12/10	14:14:49	0.5	12.48	8.39	2.5	0.4	
12/10	14:15:49	0.5	12.49	8.41	1.9	0.0	O2/CO2 BIAS
12/10	14:16:49	0.5	12.49	8.37	1.7	-0.4	
12/10	14:17:49	0.5	0.13	0.03	1.6	673.4	
12/10	14:18:49	0.5	0.10	0.00	1.4	845.6	
12/10	14:19:49	0.5	0.10	-0.01	1.2	850.4	CO BIAS
12/10	14:20:49	0.5	0.65	-0.02	7.5	834.4	
12/10	14:21:49	0.5	0.01	-0.03	41.7	1.2	
12/10	14:22:49	0.5	0.02	-0.03	41.7	-0.4	
12/10	14:23:49	0.5	0.01	-0.02	41.7	0.0	NOX BIAS
12/10	14:24:49	0.5	0.01	-0.03	0.2	0.8	
12/10	14:25:49	0.5	0.00	-0.03	0.2	0.0	ZERO
12/10	14:26:49	0.5	21.02	16.68	25.0	8.8	
12/10	14:27:49	0.5	21.11	16.78	86.3	1825.7	
12/10	14:28:49	0.5	21.13	16.80	85.9	1813.7	
12/10	14:29:49	0.5	20.97	16.71	85.9	1811.3	HIGH
12/10	14:30:49	0.5	12.55	8.46	42.0	905.8	
12/10	14:31:49	0.5	12.56	8.46	41.8	854.4	
12/10	14:32:49	0.5	12.56	8.46	41.8	857.3	MID
12/10	14:33:49	0.5	12.55	8.47	60.7	856.1	
12/10	14:34:49	0.5	20.44	0.46	86.5	19.7	
12/10	14:35:49	0.5	20.40	0.47	86.5	0.8	HIGH
12/10	14:36:49	0.5	1.41	0.86	33.7	0.8	
12/10	14:37:49	0.5	11.86	7.41	41.9	315.2	
12/10	14:38:49	0.5	11.94	7.40	44.7	525.6	
12/10	14:39:49	0.5	11.93	7.40	45.4	524.0	
12/10	14:40:49	0.5	11.89	7.42	48.9	505.1	
12/10	14:41:49	0.5	11.92	7.37	52.2	497.1	
12/10	14:42:49	0.5	12.01	7.30	51.8	500.3	
12/10	14:43:49	0.5	12.12	7.21	50.4	516.0	
12/10	14:44:49	0.5	12.15	7.19	49.1	529.2	START HIGH LOAD TEST
12/10	14:45:49	0.5	12.23	7.13	48.4	540.9	
12/10	14:46:49	0.5	12.25	7.12	47.9	550.9	
12/10	14:47:49	0.5	12.24	7.12	47.3	556.9	
12/10	14:48:49	0.5	12.21	7.13	48.6	555.3	
12/10	14:49:49	0.5	12.22	7.11	48.2	557.7	
12/10	14:50:49	0.5	12.20	7.12	48.4	555.7	
12/10	14:51:49	0.5	12.21	7.11	48.6	554.5	
12/10	14:52:49	0.5	12.22	7.11	48.5	556.9	
12/10	14:53:49	0.5	12.27	7.08	47.2	561.7	
12/10	14:54:49	0.5	12.30	7.07	46.1	573.0	
12/10	14:55:49	0.5	12.30	7.08	46.1	576.2	
12/10	14:56:49	0.5	12.26	7.07	47.5	565.3	
12/10	14:57:49	0.5	12.26	7.06	47.8	558.9	
12/10	14:58:49	0.5	12.26	7.07	48.0	561.7	
12/10	14:59:49	0.5	12.25	7.09	47.4	569.4	END HIGH LOAD TEST
12/10	15:00:49	0.5	12.24	7.08	47.3	561.3	
12/10	15:01:49	0.5	12.23	7.08	47.7	558.5	
12/10	15:02:49	0.5	12.19	7.12	48.5	551.3	
12/10	15:03:49	0.5	12.27	7.05	45.9	562.9	

12/10	15:04:49	0.5	12.37	6.98	43.2	577.4	
12/10	15:05:49	0.5	12.24	7.08	39.6	608.3	
12/10	15:06:49	0.5	11.90	7.35	42.3	566.2	
12/10	15:07:49	0.5	11.66	7.53	45.1	523.2	START LOW LOAD
12/10	15:08:49	0.5	11.46	7.70	47.5	504.7	
12/10	15:09:49	0.5	11.37	7.76	48.6	491.9	
12/10	15:10:49	0.5	11.26	7.83	49.4	482.6	
12/10	15:11:49	0.5	11.19	7.90	52.0	473.8	
12/10	15:12:49	0.5	11.23	7.86	52.1	467.8	
12/10	15:13:49	0.5	11.29	7.81	51.7	470.6	
12/10	15:14:49	0.5	11.30	7.80	49.7	483.0	
12/10	15:15:49	0.5	11.22	7.88	51.5	475.8	
12/10	15:16:49	0.5	11.28	7.81	50.9	477.0	
12/10	15:17:49	0.5	11.27	7.84	51.9	479.0	
12/10	15:18:49	0.5	11.30	7.80	52.2	473.8	
12/10	15:19:49	0.5	11.27	7.83	50.6	476.6	
12/10	15:20:49	0.5	11.25	7.84	51.3	477.0	
12/10	15:21:49	0.5	11.25	7.83	50.8	478.6	
12/10	15:22:49	0.5	11.23	7.87	51.4	477.4	END LOW LOAD
12/10	15:23:49	0.5	11.22	7.86	52.8	471.8	
12/10	15:24:49	0.5	11.30	7.80	52.0	474.6	
12/10	15:25:49	0.5	11.30	7.81	50.7	482.6	
12/10	15:26:49	0.5	12.47	8.36	3.5	18.5	
12/10	15:27:49	0.5	12.46	8.38	2.6	-0.4	O2/CO2 BIAS
12/10	15:28:49	0.5	12.46	8.36	2.0	0.0	
12/10	15:29:49	0.5	0.16	0.05	2.1	244.5	
12/10	15:30:49	0.5	0.08	-0.01	1.7	845.6	
12/10	15:31:49	0.5	0.06	-0.02	1.4	849.6	
12/10	15:32:49	0.5	0.06	-0.02	1.3	848.8	CO BIAS
12/10	15:33:49	0.5	0.04	-0.03	1.1	846.8	
12/10	15:34:49	0.5	0.02	-0.04	33.4	622.8	
12/10	15:35:49	0.5	0.02	-0.04	41.7	0.8	
12/10	15:36:49	0.5	0.02	-0.04	41.6	0.0	NOX BIAS
12/10	15:37:49	0.5	0.03	-0.03	41.5	0.0	
12/10	15:38:49	0.5	0.01	-0.04	0.7	-0.4	ZERO BIAS
12/10	15:39:49	0.5	0.03	-0.04	0.6	-0.4	
12/10	15:40:49	0.5	0.02	-0.03	0.5	0.0	
12/10	15:41:49	0.5	21.10	16.77	86.5	1714.9	
12/10	15:42:49	0.5	21.10	16.77	86.6	1814.9	
12/10	15:43:49	0.5	12.58	8.46	80.1	1813.3	HIGH
12/10	15:44:49	0.5	12.56	8.44	41.8	1610.1	
12/10	15:45:49	0.5	12.43	8.37	41.8	854.8	
12/10	15:46:49	0.5	-0.01	-0.03	19.6	856.5	MID
12/10	15:47:49	0.5	-0.01	-0.04	0.2	294.7	
12/10	15:48:49	0.5	-0.01	-0.03	0.1	0.0	
12/10	15:49:49	0.5	-0.01	-0.03	0.1	0.0	
12/10	15:50:49	0.5	0.00	-0.03	0.1	-0.4	ZERO

SUMMARY OF CONTINUOUS MONITORING DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		NORMAL LOAD	
SOURCE ID:	ENGINE #2	DATE:	12/05/13	TIME:	1123-1223
OPERATOR:	RN	PROJECT No.:	2061.1048		
PARAMETER UNITS	O_2 % VOL DRY	CO_2 % VOL DRY	NO_x PPMV,D	CO PPMV,D	SO_2 PPMV,D
INITIAL ZERO BIAS	0.19	0.05	0.10	0.40	---
INITIAL SPAN BIAS	12.91	8.55	42.90	831.80	---
FINAL ZERO BIAS	0.14	0.04	0.40	0.80	---
FINAL SPAN BIAS	12.85	8.55	43.70	828.00	---
AVERAGE ZERO BIAS	0.17	0.05	0.25	0.60	---
AVERAGE SPAN BIAS	12.88	8.55	43.30	829.90	---
BIAS GAS CONCENTRATION	12.50	8.31	43.60	857.00	---
FULL SCALE RANGE	25.00	20.00	100.00	2000.00	---
UNCORRECTED CONC.	11.91	7.80	51.42	517.06	---
CORRECTED CONC.	**11.54**	**7.57**	**51.82**	**533.71**	---
PPMV @ 15 % O2			32.68	336.59	---
LB/HR BASED ON PITOT FLOW (DSCFM)	9,458		3.57	22.37	---

SUMMARY OF CONTINUOUS MONITORING DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		HIGH LOAD	
SOURCE ID:	ENGINE #2	DATE:	12/05/13	TIME:	1308-1323
OPERATOR:	RN	PROJECT No.:	2061.1048		
PARAMETER UNITS	O_2 % VOL DRY	CO_2 % VOL DRY	NO_x PPMV,D	CO PPMV,D	SO_2 PPMV,D
INITIAL ZERO BIAS	0.14	0.04	0.40	0.80	---
INITIAL SPAN BIAS	12.85	8.55	43.70	830.20	---
FINAL ZERO BIAS	0.18	0.09	0.60	0.00	---
FINAL SPAN BIAS	12.53	8.45	43.40	834.60	---
AVERAGE ZERO BIAS	0.16	0.07	0.50	0.40	---
AVERAGE SPAN BIAS	12.69	8.50	43.55	832.40	---
BIAS GAS CONCENTRATION	12.50	8.31	43.60	857.00	---
FULL SCALE RANGE	25.00	20.00	100.00	2000.00	---
UNCORRECTED CONC.	11.89	7.47	54.76	533.58	---
CORRECTED CONC.	**11.70**	**7.29**	**54.95**	**549.20**	---
PPMV @ 15 % O2			35.23	352.08	---
LB/HR BASED ON PITOT FLOW (DSCFM)	11,951		4.78	29.09	---

SUMMARY OF CONTINUOUS MONITORING DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		LOW LOAD	
SOURCE ID:	ENGINE #2	DATE:	12/05/13	TIME:	1337-1352
OPERATOR:	RN	PROJECT No.:	2061.1048		
PARAMETER UNITS	O_2 % VOL DRY	CO_2 % VOL DRY	NO_x PPMV,D	CO PPMV,D	SO_2 PPMV,D
INITIAL ZERO BIAS	0.14	0.04	0.40	0.80	---
INITIAL SPAN BIAS	12.85	8.55	43.70	830.20	---
FINAL ZERO BIAS	0.18	0.09	0.60	0.00	---
FINAL SPAN BIAS	12.53	8.45	43.40	834.60	---
AVERAGE ZERO BIAS	0.16	0.07	0.50	0.40	---
AVERAGE SPAN BIAS	12.69	8.50	43.55	832.40	---
BIAS GAS CONCENTRATION	12.50	8.31	43.60	857.00	---
FULL SCALE RANGE	25.00	20.00	100.00	2000.00	---
UNCORRECTED CONC.	11.35	7.92	52.43	502.53	---
CORRECTED CONC.	**11.16**	**7.74**	**52.59**	**517.21**	---
PPMV @ 15 % O2			31.85	313.26	---
LB/HR BASED ON PITOT FLOW (DSCFM)	8,730		3.34	20.01	---

OCSD PLANT 2 ENGINE 2 COMPLIANCE (NORM LOAD)
December 5, 2013
RAW DAS DATA - RM RUN 1

DATA PT	DATE	TIME	O2 % VD	CO2 % VD	NOx PPMVD	CO PPMVD
1	12/05	11:23:31	11.97	7.78	48.5	518.7
2	12/05	11:24:31	11.95	7.79	49.7	514.7
3	12/05	11:25:31	11.91	7.82	50.1	515.9
4	12/05	11:26:31	11.91	7.82	50.0	516.3
5	12/05	11:27:31	11.87	7.86	52.1	514.7
6	12/05	11:28:31	11.91	7.84	51.6	513.8
7	12/05	11:29:31	11.91	7.82	51.0	517.1
8	12/05	11:30:31	11.89	7.83	51.8	516.3
9	12/05	11:31:31	11.90	7.83	51.1	516.7
10	12/05	11:32:31	11.91	7.81	51.3	515.5
11	12/05	11:33:31	11.90	7.81	51.5	515.9
12	12/05	11:34:31	11.89	7.83	51.1	516.3
13	12/05	11:35:31	11.91	7.83	50.6	515.5
14	12/05	11:36:31	11.91	7.81	51.0	514.7
15	12/05	11:37:31	11.86	7.84	52.5	515.9
16	12/05	11:38:31	11.88	7.84	52.0	515.9
17	12/05	11:39:31	11.92	7.80	51.2	515.9
18	12/05	11:40:31	11.89	7.78	51.0	517.5
19	12/05	11:41:31	11.85	7.82	52.0	515.5
20	12/05	11:42:31	11.88	7.79	50.3	521.1
21	12/05	11:43:31	11.91	7.79	51.1	515.9
22	12/05	11:44:31	11.91	7.78	51.6	515.9
23	12/05	11:45:31	11.89	7.79	52.1	517.1
24	12/05	11:46:31	11.86	7.82	51.7	514.3
25	12/05	11:47:31	11.92	7.77	50.9	517.5
26	12/05	11:48:31	11.89	7.81	52.1	518.3
27	12/05	11:49:31	11.85	7.83	52.2	520.3
28	12/05	11:50:31	11.86	7.81	51.0	518.3
29	12/05	11:51:31	11.92	7.78	51.4	517.5
30	12/05	11:52:31	11.85	7.83	51.4	516.3
31	12/05	11:53:31	11.87	7.82	51.7	516.3
32	12/05	11:54:31	11.88	7.80	52.5	512.2
33	12/05	11:55:31	11.91	7.78	52.2	513.8
34	12/05	11:56:31	11.93	7.76	52.3	520.7
35	12/05	11:57:31	11.89	7.80	51.3	522.3
36	12/05	11:58:31	11.89	7.79	51.7	513.8
37	12/05	11:59:31	11.90	7.79	51.2	521.1
38	12/05	12:00:31	11.94	7.76	52.4	515.9
39	12/05	12:01:31	11.93	7.76	52.7	521.1
40	12/05	12:02:31	11.92	7.77	51.6	514.3
41	12/05	12:03:31	11.94	7.76	52.1	518.3
42	12/05	12:04:31	11.94	7.77	51.6	520.3
43	12/05	12:05:31	11.90	7.79	52.0	515.1

44	12/05	12:06:31	11.94	7.76	50.4	520.3
45	12/05	12:07:31	11.92	7.76	50.6	520.3
46	12/05	12:08:31	11.97	7.74	51.0	515.5
47	12/05	12:09:31	11.92	7.76	50.5	520.3
48	12/05	12:10:31	11.91	7.79	50.8	518.3
49	12/05	12:11:31	11.92	7.78	51.8	516.3
50	12/05	12:12:31	11.94	7.77	51.1	517.1
51	12/05	12:13:31	11.91	7.78	51.8	517.5
52	12/05	12:14:31	11.91	7.78	51.0	520.7
53	12/05	12:15:31	11.92	7.79	51.5	515.9
54	12/05	12:16:31	11.90	7.81	52.2	515.1
55	12/05	12:17:31	11.91	7.78	51.2	520.3
56	12/05	12:18:31	11.90	7.79	52.7	515.5
57	12/05	12:19:31	11.96	7.78	51.3	518.7
58	12/05	12:20:31	11.91	7.80	52.3	516.3
59	12/05	12:21:31	11.93	7.79	51.5	519.5
60	12/05	12:22:31	11.96	7.77	51.4	519.1
61	12/05	12:23:31	11.95	7.78	52.2	513.4
AVERAGES			**11.91**	**7.80**	**51.42**	**517.06**

OCSD PLANT 2 ENGINE 2 COMPLIANCE (HIGH LOAD)
December 5, 2013
RAW DAS DATA - RM RUN 2

DATA PT	DATE	TIME	O2 % VD	CO2 % VD	NOx PPMVD	CO PPMVD
1	12/05	13:08:31	11.91	7.46	54.4	531.5
2	12/05	13:09:31	11.88	7.46	55.0	537.1
3	12/05	13:10:31	11.88	7.46	55.0	530.7
4	12/05	13:11:31	11.86	7.47	56.0	533.9
5	12/05	13:12:31	11.87	7.48	55.1	534.3
6	12/05	13:13:31	11.88	7.46	55.2	534.3
7	12/05	13:14:31	11.91	7.46	53.7	533.5
8	12/05	13:15:31	11.89	7.47	54.3	533.5
9	12/05	13:16:31	11.91	7.44	53.9	533.1
10	12/05	13:17:31	11.86	7.47	54.4	534.3
11	12/05	13:18:31	11.88	7.47	55.0	531.5
12	12/05	13:19:31	11.89	7.48	54.8	533.1
13	12/05	13:20:31	11.90	7.45	54.4	530.7
14	12/05	13:21:31	11.87	7.48	55.3	531.5
15	12/05	13:22:31	11.86	7.47	55.3	535.5
16	12/05	13:23:31	11.91	7.46	54.3	538.7
AVERAGES			**11.89**	**7.47**	**54.76**	**533.58**

OCSD PLANT 2 ENGINE 2 COMPLIANCE (LOW LOAD)
December 5, 2013
RAW DAS DATA - RM RUN 3

DATA PT	DATE	TIME	O2 % VD	CO2 % VD	NOx PPMVD	CO PPMVD
1	12/05	13:37:31	11.38	7.88	53.0	504.6
2	12/05	13:38:31	11.30	7.95	52.6	503.0
3	12/05	13:39:31	11.34	7.91	52.2	506.2
4	12/05	13:40:31	11.33	7.93	52.4	501.8
5	12/05	13:41:31	11.32	7.93	52.5	502.6
6	12/05	13:42:31	11.40	7.86	52.2	501.8
7	12/05	13:43:31	11.33	7.94	52.3	500.6
8	12/05	13:44:31	11.32	7.94	52.9	498.2
9	12/05	13:45:31	11.35	7.92	52.8	499.4
10	12/05	13:46:31	11.35	7.93	52.6	502.6
11	12/05	13:47:31	11.32	7.94	52.9	505.0
12	12/05	13:48:31	11.35	7.93	52.1	502.6
13	12/05	13:49:31	11.39	7.88	51.2	501.8
14	12/05	13:50:31	11.31	7.96	53.1	503.0
15	12/05	13:51:31	11.38	7.91	51.4	504.2
16	12/05	13:52:31	11.36	7.93	52.6	503.0
AVERAGES			**11.35**	**7.92**	**52.43**	**502.53**

DAQ32 Historical Viewer R10.02.01				Software ID	**P2E2**		
Start Time		2013/12/05		10:32:31.5			
End Time		2013/12/05		14:27:31.5			
Sample Rate		60.0 Sec					
Data Count		236					
Group		01	-	01			
		Ch.	CH001	CH002	CH003	CH004	
Date	Time	msec	% O2	% CO2	ppmNOx	ppm CO	
12/05	10:32:31	0.5	-0.02	0.00	0.0	0.4	
12/05	10:33:31	0.5	-0.01	0.01	0.0	0.4	
12/05	10:34:31	0.5	0.06	0.01	0.0	0.4	ZERO
12/05	10:35:31	0.5	0.08	0.01	0.0	0.4	
12/05	10:36:31	0.5	20.30	16.11	87.8	1727.4	
12/05	10:37:31	0.5	21.05	16.12	87.5	1855.5	
12/05	10:38:31	0.5	21.09	16.76	87.3	1817.7	HIGH
12/05	10:39:31	0.5	21.12	16.78	87.3	1810.1	
12/05	10:40:31	0.5	12.58	8.49	60.3	1801.3	
12/05	10:41:31	0.5	12.56	8.47	43.7	1193.9	
12/05	10:42:31	0.5	12.68	8.54	43.6	844.2	
12/05	10:43:31	0.5	12.78	8.61	43.6	849.5	MID
12/05	10:44:31	0.5	12.85	8.65	43.7	845.4	
12/05	10:45:31	0.5	12.87	8.67	43.8	845.8	
12/05	10:46:31	0.5	12.87	8.66	43.8	845.8	
12/05	10:47:31	0.5	12.78	8.60	0.9	619.4	
12/05	10:48:31	0.5	12.78	8.59	0.8	2.4	
12/05	10:49:31	0.5	12.77	8.59	33.7	2.0	
12/05	10:50:31	0.5	12.77	8.59	34.2	1.2	
12/05	10:51:31	0.5	12.77	8.58	34.2	1.2	NOX RESPONSE TO NO2
12/05	10:52:31	0.5	12.75	8.58	4.5	1.2	
12/05	10:53:31	0.5	12.76	8.57	0.2	1.2	
12/05	10:54:31	0.5	12.75	8.56	0.1	1.2	
12/05	10:55:31	0.5	12.74	8.55	0.1	1.2	
12/05	10:56:31	0.5	12.70	8.55	0.0	1.2	NO RESPONSE TO NO2
12/05	10:57:31	0.5	21.40	5.93	0.1	34.5	
12/05	10:58:31	0.5	12.91	8.56	0.2	-0.4	
12/05	10:59:31	0.5	12.89	8.54	0.1	0.0	
12/05	11:00:31	0.5	12.91	8.55	0.1	0.0	O2/CO2 BIAS
12/05	11:01:31	0.5	12.90	8.55	0.1	-0.4	
12/05	11:02:31	0.5	12.89	8.55	0.1	-0.4	
12/05	11:03:31	0.5	10.66	5.06	0.8	-0.4	
12/05	11:04:31	0.5	0.24	0.08	42.9	0.8	
12/05	11:05:31	0.5	0.23	0.06	42.9	0.8	
12/05	11:06:31	0.5	0.22	0.06	43.0	1.2	
12/05	11:07:31	0.5	0.23	0.05	42.9	1.2	NOX BIAS
12/05	11:08:31	0.5	0.24	0.05	0.7	412.7	
12/05	11:09:31	0.5	0.23	0.05	0.2	831.0	
12/05	11:10:31	0.5	0.23	0.05	0.1	829.0	
12/05	11:11:31	0.5	0.23	0.05	0.1	831.8	CO BIAS
12/05	11:12:31	0.5	0.23	0.05	0.1	832.6	
12/05	11:13:31	0.5	19.96	0.10	0.1	311.1	
12/05	11:14:31	0.5	0.58	0.05	0.1	97.1	
12/05	11:15:31	0.5	0.20	0.05	0.1	2.4	
12/05	11:16:31	0.5	0.20	0.05	0.1	1.2	
12/05	11:17:31	0.5	0.19	0.05	0.1	0.4	
12/05	11:18:31	0.5	0.20	0.05	0.1	0.4	

12/05	11:19:31	0.5	0.19	0.05	0.1	0.8	SYSTEM ZERO
12/05	11:20:31	0.5	0.19	0.05	0.1	0.0	
12/05	11:21:31	0.5	21.47	0.09	0.1	0.8	
12/05	11:22:31	0.5	11.93	7.79	47.4	500.6	
12/05	11:23:31	0.5	11.97	7.78	48.5	518.7	START NORMAL LOAD
12/05	11:24:31	0.5	11.95	7.79	49.7	514.7	
12/05	11:25:31	0.5	11.91	7.82	50.1	515.9	
12/05	11:26:31	0.5	11.91	7.82	50.0	516.3	
12/05	11:27:31	0.5	11.87	7.86	52.1	514.7	
12/05	11:28:31	0.5	11.91	7.84	51.6	513.8	
12/05	11:29:31	0.5	11.91	7.82	51.0	517.1	
12/05	11:30:31	0.5	11.89	7.83	51.8	516.3	
12/05	11:31:31	0.5	11.90	7.83	51.1	516.7	
12/05	11:32:31	0.5	11.91	7.81	51.3	515.5	
12/05	11:33:31	0.5	11.90	7.81	51.5	515.9	
12/05	11:34:31	0.5	11.89	7.83	51.1	516.3	
12/05	11:35:31	0.5	11.91	7.83	50.6	515.5	
12/05	11:36:31	0.5	11.91	7.81	51.0	514.7	
12/05	11:37:31	0.5	11.86	7.84	52.5	515.9	
12/05	11:38:31	0.5	11.88	7.84	52.0	515.9	
12/05	11:39:31	0.5	11.92	7.80	51.2	515.9	
12/05	11:40:31	0.5	11.89	7.78	51.0	517.5	
12/05	11:41:31	0.5	11.85	7.82	52.0	515.5	
12/05	11:42:31	0.5	11.88	7.79	50.3	521.1	
12/05	11:43:31	0.5	11.91	7.79	51.1	515.9	
12/05	11:44:31	0.5	11.91	7.78	51.6	515.9	
12/05	11:45:31	0.5	11.89	7.79	52.1	517.1	
12/05	11:46:31	0.5	11.86	7.82	51.7	514.3	
12/05	11:47:31	0.5	11.92	7.77	50.9	517.5	
12/05	11:48:31	0.5	11.89	7.81	52.1	518.3	
12/05	11:49:31	0.5	11.85	7.83	52.2	520.3	
12/05	11:50:31	0.5	11.86	7.81	51.0	518.3	
12/05	11:51:31	0.5	11.92	7.78	51.4	517.5	
12/05	11:52:31	0.5	11.85	7.83	51.4	516.3	
12/05	11:53:31	0.5	11.87	7.82	51.7	516.3	
12/05	11:54:31	0.5	11.88	7.80	52.5	512.2	
12/05	11:55:31	0.5	11.91	7.78	52.2	513.8	
12/05	11:56:31	0.5	11.93	7.76	52.3	520.7	
12/05	11:57:31	0.5	11.89	7.80	51.3	522.3	
12/05	11:58:31	0.5	11.89	7.79	51.7	513.8	
12/05	11:59:31	0.5	11.90	7.79	51.2	521.1	
12/05	12:00:31	0.5	11.94	7.76	52.4	515.9	
12/05	12:01:31	0.5	11.93	7.76	52.7	521.1	
12/05	12:02:31	0.5	11.92	7.77	51.6	514.3	
12/05	12:03:31	0.5	11.94	7.76	52.1	518.3	
12/05	12:04:31	0.5	11.94	7.77	51.6	520.3	
12/05	12:05:31	0.5	11.90	7.79	52.0	515.1	
12/05	12:06:31	0.5	11.94	7.76	50.4	520.3	
12/05	12:07:31	0.5	11.92	7.76	50.6	520.3	
12/05	12:08:31	0.5	11.97	7.74	51.0	515.5	
12/05	12:09:31	0.5	11.92	7.76	50.5	520.3	
12/05	12:10:31	0.5	11.91	7.79	50.8	518.3	
12/05	12:11:31	0.5	11.92	7.78	51.8	516.3	
12/05	12:12:31	0.5	11.94	7.77	51.1	517.1	
12/05	12:13:31	0.5	11.91	7.78	51.8	517.5	

12/05	12:14:31	0.5	11.91	7.78	51.0	520.7	
12/05	12:15:31	0.5	11.92	7.79	51.5	515.9	
12/05	12:16:31	0.5	11.90	7.81	52.2	515.1	
12/05	12:17:31	0.5	11.91	7.78	51.2	520.3	
12/05	12:18:31	0.5	11.90	7.79	52.7	515.5	
12/05	12:19:31	0.5	11.96	7.78	51.3	518.7	
12/05	12:20:31	0.5	11.91	7.80	52.3	516.3	
12/05	12:21:31	0.5	11.93	7.79	51.5	519.5	
12/05	12:22:31	0.5	11.96	7.77	51.4	519.1	
12/05	12:23:31	0.5	11.95	7.78	52.2	513.4	END NORMAL LOAD
12/05	12:24:31	0.5	12.00	7.73	51.4	520.3	
12/05	12:25:31	0.5	11.97	7.75	51.8	518.3	
12/05	12:26:31	0.5	11.95	7.78	51.8	520.3	
12/05	12:27:31	0.5	11.95	7.77	50.5	522.7	
12/05	12:28:31	0.5	18.13	0.24	28.7	472.9	
12/05	12:29:31	0.5	12.84	8.53	4.2	1.6	
12/05	12:30:31	0.5	12.85	8.55	3.1	0.0	O2/CO2 BIAS
12/05	12:31:31	0.5	12.83	8.55	2.3	-0.4	
12/05	12:32:31	0.5	12.86	8.55	1.7	0.0	
12/05	12:33:31	0.5	0.18	0.08	43.6	0.8	
12/05	12:34:31	0.5	0.16	0.05	43.7	0.8	
12/05	12:35:31	0.5	0.14	0.05	43.7	0.8	NOX BIAS
12/05	12:36:31	0.5	3.86	0.05	23.1	1.2	
12/05	12:37:31	0.5	0.15	0.04	0.9	798.9	
12/05	12:38:31	0.5	0.14	0.04	0.7	826.2	
12/05	12:39:31	0.5	0.14	0.04	0.6	830.2	
12/05	12:40:31	0.5	0.14	0.04	0.6	830.2	CO BIAS
12/05	12:41:31	0.5	0.14	0.04	0.5	829.8	
12/05	12:42:31	0.5	0.15	0.04	0.5	728.6	
12/05	12:43:31	0.5	0.14	0.04	0.5	2.4	
12/05	12:44:31	0.5	0.13	0.04	0.5	0.8	
12/05	12:45:31	0.5	0.14	0.04	0.4	0.8	
12/05	12:46:31	0.5	0.14	0.04	0.5	0.4	
12/05	12:47:31	0.5	16.10	5.99	25.0	9.2	
12/05	12:48:31	0.5	21.64	17.17	87.6	1796.9	
12/05	12:49:31	0.5	21.55	17.09	87.6	1798.5	
12/05	12:50:31	0.5	21.39	17.05	87.7	1784.0	HIGH
12/05	12:51:31	0.5	21.05	16.73	87.9	1799.7	
12/05	12:52:31	0.5	21.07	16.74	1.8	1790.8	HIGH
12/05	12:53:31	0.5	21.09	16.76	43.8	1797.3	MID
12/05	12:54:31	0.5	12.55	8.47	43.8	1788.4	
12/05	12:55:31	0.5	12.53	8.46	43.8	865.1	MID
12/05	12:56:31	0.5	12.52	8.46	43.8	837.8	
12/05	12:57:31	0.5	12.42	8.41	33.7	840.6	MID
12/05	12:58:31	0.5	-0.02	0.06	0.1	840.6	
12/05	12:59:31	0.5	-0.02	0.06	0.1	832.2	
12/05	13:00:31	0.5	-0.03	0.06	0.1	2.8	
12/05	13:01:31	0.5	-0.03	0.07	0.0	0.4	
12/05	13:02:31	0.5	-0.03	0.06	0.0	0.4	
12/05	13:03:31	0.5	-0.03	0.07	0.0	0.4	
12/05	13:04:31	0.5	20.80	0.26	0.2	0.4	
12/05	13:05:31	0.5	12.17	7.11	17.3	15.3	
12/05	13:06:31	0.5	11.87	7.47	52.7	531.1	
12/05	13:07:31	0.5	11.89	7.46	52.4	535.9	
12/05	13:08:31	0.5	11.91	7.46	54.4	531.5	START HIGH LOAD TEST

12/05	13:09:31	0.5	11.88	7.46	55.0	537.1	
12/05	13:10:31	0.5	11.88	7.46	55.0	530.7	
12/05	13:11:31	0.5	11.86	7.47	56.0	533.9	
12/05	13:12:31	0.5	11.87	7.48	55.1	534.3	
12/05	13:13:31	0.5	11.88	7.46	55.2	534.3	
12/05	13:14:31	0.5	11.91	7.46	53.7	533.5	
12/05	13:15:31	0.5	11.89	7.47	54.3	533.5	
12/05	13:16:31	0.5	11.91	7.44	53.9	533.1	
12/05	13:17:31	0.5	11.86	7.47	54.4	534.3	
12/05	13:18:31	0.5	11.88	7.47	55.0	531.5	
12/05	13:19:31	0.5	11.89	7.48	54.8	533.1	
12/05	13:20:31	0.5	11.90	7.45	54.4	530.7	
12/05	13:21:31	0.5	11.87	7.48	55.3	531.5	
12/05	13:22:31	0.5	11.86	7.47	55.3	535.5	
12/05	13:23:31	0.5	11.91	7.46	54.3	538.7	END HIGH LOAD TEST
12/05	13:24:31	0.5	11.88	7.46	54.1	533.9	
12/05	13:25:31	0.5	11.91	7.44	54.6	531.5	
12/05	13:26:31	0.5	11.89	7.47	54.4	534.3	
12/05	13:27:31	0.5	11.89	7.47	54.9	536.7	
12/05	13:28:31	0.5	11.88	7.47	54.8	538.3	
12/05	13:29:31	0.5	11.90	7.45	54.5	537.5	
12/05	13:30:31	0.5	11.89	7.49	55.2	532.7	
12/05	13:31:31	0.5	12.03	7.36	48.1	563.2	
12/05	13:32:31	0.5	12.04	7.35	50.6	544.0	
12/05	13:33:31	0.5	11.74	7.59	47.7	564.0	
12/05	13:34:31	0.5	11.60	7.71	45.7	542.0	
12/05	13:35:31	0.5	11.38	7.88	50.3	509.4	
12/05	13:36:31	0.5	11.38	7.88	52.0	505.0	
12/05	13:37:31	0.5	11.38	7.88	53.0	504.6	START LOW LOAD TEST
12/05	13:38:31	0.5	11.30	7.95	52.6	503.0	
12/05	13:39:31	0.5	11.34	7.91	52.2	506.2	
12/05	13:40:31	0.5	11.33	7.93	52.4	501.8	
12/05	13:41:31	0.5	11.32	7.93	52.5	502.6	
12/05	13:42:31	0.5	11.40	7.86	52.2	501.8	
12/05	13:43:31	0.5	11.33	7.94	52.3	500.6	
12/05	13:44:31	0.5	11.32	7.94	52.9	498.2	
12/05	13:45:31	0.5	11.35	7.92	52.8	499.4	
12/05	13:46:31	0.5	11.35	7.93	52.6	502.6	
12/05	13:47:31	0.5	11.32	7.94	52.9	505.0	
12/05	13:48:31	0.5	11.35	7.93	52.1	502.6	
12/05	13:49:31	0.5	11.39	7.88	51.2	501.8	
12/05	13:50:31	0.5	11.31	7.96	53.1	503.0	
12/05	13:51:31	0.5	11.38	7.91	51.4	504.2	
12/05	13:52:31	0.5	11.36	7.93	52.6	503.0	END LOW LOAD TEST
12/05	13:53:31	0.5	11.32	7.96	52.1	501.8	
12/05	13:54:31	0.5	11.37	7.92	52.3	503.8	
12/05	13:55:31	0.5	11.45	7.85	52.5	504.6	
12/05	13:56:31	0.5	12.50	8.22	5.3	194.3	
12/05	13:57:31	0.5	12.52	8.44	3.6	0.0	
12/05	13:58:31	0.5	12.53	8.45	2.7	0.0	O2/CO2 BIAS
12/05	13:59:31	0.5	14.27	6.45	2.0	-0.4	
12/05	14:00:31	0.5	11.78	0.15	20.8	0.8	
12/05	14:01:31	0.5	0.16	0.11	43.5	1.2	
12/05	14:02:31	0.5	0.14	0.10	43.4	0.8	
12/05	14:03:31	0.5	0.14	0.10	43.4	1.2	NOX BIAS

12/05	14:04:31	0.5	0.16	0.09	1.6	415.1	
12/05	14:05:31	0.5	0.16	0.10	0.9	833.8	
12/05	14:06:31	0.5	0.16	0.09	0.8	833.0	
12/05	14:07:31	0.5	0.71	0.10	0.8	834.6	CO BIAS
12/05	14:08:31	0.5	0.21	0.10	0.7	762.7	
12/05	14:09:31	0.5	0.18	0.09	0.6	4.0	SYSTEM ZERO
12/05	14:10:31	0.5	0.18	0.09	0.6	1.2	
12/05	14:11:31	0.5	0.17	0.09	0.6	0.4	
12/05	14:12:31	0.5	0.16	0.09	0.6	0.0	
12/05	14:13:31	0.5	0.17	0.09	0.5	0.0	
12/05	14:14:31	0.5	21.14	16.89	83.4	1625.5	
12/05	14:15:31	0.5	21.15	16.89	87.2	1802.5	
12/05	14:16:31	0.5	21.16	16.90	87.3	1804.5	HIGH
12/05	14:17:31	0.5	12.57	8.57	87.4	1803.7	
12/05	14:18:31	0.5	12.58	8.57	43.6	1804.1	MID
12/05	14:19:31	0.5	12.57	8.56	43.6	894.0	
12/05	14:20:31	0.5	-0.03	0.09	34.1	842.2	
12/05	14:21:31	0.5	-0.01	0.08	0.2	841.0	MID
12/05	14:22:31	0.5	-0.03	0.08	0.2	842.6	
12/05	14:23:31	0.5	-0.03	0.08	0.1	8.4	
12/05	14:24:31	0.5	-0.03	0.08	0.1	0.0	ZERO
12/05	14:25:31	0.5	-0.03	0.08	0.1	0.0	
12/05	14:26:31	0.5	-0.14	0.08	0.1	0.0	
12/05	14:27:31	0.5	-0.12	0.08	0.2	0.0	

SUMMARY OF CONTINUOUS MONITORING DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		NORMAL LOAD	
SOURCE ID:	ENGINE #3	DATE:	12/11/13	TIME:	1036-1136
OPERATOR:	RN	PROJECT No.:	2061.1053		
PARAMETER UNITS	O_2 % VOL DRY	CO_2 % VOL DRY	NO_x PPMV,D	CO PPMV,D	SO_2 PPMV,D
INITIAL ZERO BIAS	0.03	0.04	0.20	-0.14	---
INITIAL SPAN BIAS	12.43	8.43	42.00	18.16	---
FINAL ZERO BIAS	0.02	-0.05	0.30	-0.14	---
FINAL SPAN BIAS	12.49	8.36	42.40	18.12	---
AVERAGE ZERO BIAS	0.03	-0.01	0.25	-0.14	---
AVERAGE SPAN BIAS	12.46	8.40	42.20	18.14	---
BIAS GAS CONCENTRATION	12.50	8.31	42.40	18.40	---
FULL SCALE RANGE	25.00	20.00	100.00	50.00	---
UNCORRECTED CONC.	12.04	7.35	48.42	25.09	---
CORRECTED CONC.	**12.07**	**7.28**	**48.69**	**25.40**	---
PPMV @ 15 % O2			32.55	16.98	---
LB/HR BASED ON PITOT FLOW (DSCFM)	9,771		3.47	1.10	---

SUMMARY OF CONTINUOUS MONITORING DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		HIGH LOAD	
SOURCE ID:	ENGINE #3	DATE:	12/11/13	TIME:	1524-1539
OPERATOR:	RN	PROJECT No.:	2061.1053		
PARAMETER UNITS	O_2 % VOL DRY	CO_2 % VOL DRY	NO_x PPMV,D	CO PPMV,D	SO_2 PPMV,D
INITIAL ZERO BIAS	0.03	-0.05	0.20	-0.18	---
INITIAL SPAN BIAS	12.46	8.35	42.20	18.09	---
FINAL ZERO BIAS	0.01	-0.05	0.20	-0.15	---
FINAL SPAN BIAS	12.47	8.33	42.10	18.11	---
AVERAGE ZERO BIAS	0.02	-0.05	0.20	-0.17	---
AVERAGE SPAN BIAS	12.47	8.34	42.15	18.10	---
BIAS GAS CONCENTRATION	12.50	8.31	42.40	18.40	---
FULL SCALE RANGE	25.00	20.00	100.00	50.00	---
UNCORRECTED CONC.	11.88	7.44	44.99	23.04	---
CORRECTED CONC.	**11.91**	**7.42**	**45.27**	**23.38**	---
PPMV @ 15 % O2			29.71	15.34	---
LB/HR BASED ON PITOT FLOW (DSCFM)	12,556		4.14	1.30	---

SUMMARY OF CONTINUOUS MONITORING DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		LOW LOAD	
SOURCE ID:	ENGINE #3	DATE:	12/11/13	TIME:	1449-1504
OPERATOR:	RN	PROJECT No.:	2061.1053		

PARAMETER UNITS	O_2 % VOL DRY	CO_2 % VOL DRY	NO_x PPMV,D	CO PPMV,D	SO_2 PPMV,D
INITIAL ZERO BIAS	0.03	-0.05	0.20	-0.18	---
INITIAL SPAN BIAS	12.46	8.35	42.20	18.09	---
FINAL ZERO BIAS	0.01	-0.05	0.20	-0.15	---
FINAL SPAN BIAS	12.47	8.33	42.10	18.11	---
AVERAGE ZERO BIAS	0.02	-0.05	0.20	-0.17	---
AVERAGE SPAN BIAS	12.47	8.34	42.15	18.10	---
BIAS GAS CONCENTRATION	12.50	8.31	42.40	18.40	---
FULL SCALE RANGE	25.00	20.00	100.00	50.00	---
UNCORRECTED CONC.	12.32	7.09	47.40	45.98	---
CORRECTED CONC.	**12.36**	**7.07**	**47.71**	**46.49**	---
PPMV @ 15 % O2			32.95	32.11	---
LB/HR BASED ON PITOT FLOW (DSCFM)	9,396		3.26	1.94	---

OCSD PLANT 2 ENGINE 3 COMPLIANCE (NORM LOAD)
December 11, 2013
RAW DAS DATA - RM RUN 1

DATA PT	DATE	TIME	O2 % VD	CO2 % VD	NOx PPMVD	CO PPMVD
1	12/11	10:36:37	12.04	7.36	47.90	25.36
2	12/11	10:37:37	12.06	7.34	47.50	25.39
3	12/11	10:38:37	12.04	7.35	48.20	25.43
4	12/11	10:39:37	12.05	7.36	48.30	25.26
5	12/11	10:40:37	12.05	7.35	48.00	25.44
6	12/11	10:41:37	12.06	7.33	47.80	25.14
7	12/11	10:42:37	12.07	7.33	47.60	25.61
8	12/11	10:43:37	12.08	7.33	47.80	25.35
9	12/11	10:44:37	12.05	7.35	47.50	25.46
10	12/11	10:45:37	11.97	7.39	47.80	24.78
11	12/11	10:46:37	11.96	7.40	48.50	24.18
12	12/11	10:47:37	11.96	7.40	49.60	24.08
13	12/11	10:48:37	11.96	7.39	49.30	23.90
14	12/11	10:49:37	11.98	7.38	48.30	24.12
15	12/11	10:50:37	11.99	7.38	48.50	23.95
16	12/11	10:51:37	11.99	7.38	49.30	23.94
17	12/11	10:52:37	12.00	7.36	48.80	24.13
18	12/11	10:53:37	11.97	7.38	49.20	24.03
19	12/11	10:54:37	11.96	7.40	49.90	23.70
20	12/11	10:55:37	11.99	7.38	50.00	23.92
21	12/11	10:56:37	11.98	7.38	49.70	24.24
22	12/11	10:57:37	12.01	7.35	48.60	24.34
23	12/11	10:58:37	11.99	7.37	49.90	24.29
24	12/11	10:59:37	12.01	7.36	48.80	24.73
25	12/11	11:00:37	12.03	7.35	48.10	25.35
26	12/11	11:01:37	12.02	7.37	48.20	24.88
27	12/11	11:02:37	12.02	7.36	49.30	24.45
28	12/11	11:03:37	12.00	7.36	48.70	25.11
29	12/11	11:04:37	12.01	7.36	49.90	24.83
30	12/11	11:05:37	12.06	7.34	48.80	25.13
31	12/11	11:06:37	12.04	7.35	49.20	25.21
32	12/11	11:07:37	12.06	7.33	47.90	25.80

33	12/11	11:08:37	12.06	7.32	48.70	25.43
34	12/11	11:09:37	12.07	7.32	48.00	25.86
35	12/11	11:10:37	12.05	7.35	48.60	25.33
36	12/11	11:11:37	12.05	7.34	48.40	25.68
37	12/11	11:12:37	12.06	7.32	48.00	25.59
38	12/11	11:13:37	12.09	7.32	48.30	25.54
39	12/11	11:14:37	12.04	7.36	48.50	25.51
40	12/11	11:15:37	12.06	7.33	47.70	25.60
41	12/11	11:16:37	12.08	7.33	48.80	25.23
42	12/11	11:17:37	12.09	7.32	47.70	25.55
43	12/11	11:18:37	12.02	7.37	48.00	25.09
44	12/11	11:19:37	12.06	7.35	48.60	25.16
45	12/11	11:20:37	12.07	7.35	47.30	25.74
46	12/11	11:21:37	12.05	7.35	48.70	25.29
47	12/11	11:22:37	12.05	7.35	48.00	25.44
48	12/11	11:23:37	12.05	7.35	49.10	25.11
49	12/11	11:24:37	12.05	7.35	49.30	25.22
50	12/11	11:25:37	12.12	7.30	47.80	25.59
51	12/11	11:26:37	12.09	7.33	48.10	25.93
52	12/11	11:27:37	12.06	7.34	49.30	25.45
53	12/11	11:28:37	12.07	7.33	47.50	26.26
54	12/11	11:29:37	12.05	7.33	47.70	26.06
55	12/11	11:30:37	12.02	7.36	48.20	25.79
56	12/11	11:31:37	12.02	7.38	48.40	25.15
57	12/11	11:32:37	12.05	7.36	48.20	24.98
58	12/11	11:33:37	12.05	7.35	47.60	25.20
59	12/11	11:34:37	12.07	7.33	47.50	25.35
60	12/11	11:35:37	12.06	7.33	47.70	25.51
61	12/11	11:36:37	12.06	7.35	47.30	25.61
AVERAGES			**12.04**	**7.35**	**48.42**	**25.09**

OCSD PLANT 2 ENGINE 3 COMPLIANCE (LOW LOAD)
December 11, 2013
RAW DAS DATA - RM RUN 2

DATA PT	DATE	TIME	O2 % VD	CO2 % VD	NOx PPMVD	CO PPMVD
1	12/11	14:49:33	11.90	7.40	44.00	23.10
2	12/11	14:50:33	11.91	7.40	44.20	23.07
3	12/11	14:51:33	11.84	7.45	44.50	23.14
4	12/11	14:52:33	11.87	7.43	45.10	23.01
5	12/11	14:53:33	11.89	7.42	45.00	23.34
6	12/11	14:54:33	11.91	7.40	44.60	23.44
7	12/11	14:55:33	11.87	7.44	45.50	23.21
8	12/11	14:56:33	11.92	7.41	45.40	23.17
9	12/11	14:57:33	11.88	7.43	45.30	23.46
10	12/11	14:58:33	11.88	7.45	45.60	23.19
11	12/11	14:59:33	11.89	7.44	45.10	23.26
12	12/11	15:00:33	11.91	7.42	45.20	22.94
13	12/11	15:01:33	11.88	7.46	45.10	23.08
14	12/11	15:02:33	11.87	7.46	44.70	22.69
15	12/11	15:03:33	11.82	7.49	45.10	22.34
16	12/11	15:04:33	11.79	7.51	45.40	22.27
AVERAGES			**11.88**	**7.44**	**44.99**	**23.04**

HIGH LOAD

OCSD PLANT 2 ENGINE 3 COMPLIANCE (HIGH LOAD)
December 11, 2013
RAW DAS DATA - RM RUN 3

DATA PT	DATE	TIME	O2 % VD	CO2 % VD	NOx PPMVD	CO PPMVD
1	12/11	15:24:33	12.35	7.09	47.70	45.79
2	12/11	15:25:33	12.30	7.10	47.50	45.81
3	12/11	15:26:33	12.30	7.10	47.60	46.36
4	12/11	15:27:33	12.32	7.09	47.30	46.53
5	12/11	15:28:33	12.34	7.07	46.70	46.58
6	12/11	15:29:33	12.33	7.09	46.90	46.37
7	12/11	15:30:33	12.32	7.09	47.00	45.95
8	12/11	15:31:33	12.32	7.10	47.80	45.65
9	12/11	15:32:33	12.33	7.07	47.40	46.07
10	12/11	15:33:33	12.32	7.09	47.20	45.43
11	12/11	15:34:33	12.32	7.08	47.30	45.56
12	12/11	15:35:33	12.32	7.10	47.50	45.71
13	12/11	15:36:33	12.30	7.10	47.70	45.51
14	12/11	15:37:33	12.34	7.07	47.50	46.18
15	12/11	15:38:33	12.35	7.07	47.40	46.16
16	12/11	15:39:33	12.32	7.09	47.90	46.01
AVERAGES			**12.32**	**7.09**	**47.40**	**45.98**

LOW LOAD

DAQ32 Historical Viewer R10.02.01				Software ID	**P2E3**		
Start Time		2013/12/11		09:57:37.5			
End Time		2013/12/11		12:08:37.5			
Sample Rate		60.0 Sec					
Data Count		132					
Group		01	-	01			
		Ch.	CH001	CH002	CH003	CH004	
Date	Time	msec	% O2	% CO2	ppmNOx	ppm CO	
12/11	09:57:37	0.5	0.00	0.07	0.0	-0.16	ZERO
12/11	09:58:37	0.5	0.00	0.07	0.0	-0.16	
12/11	09:59:37	0.5	0.00	0.07	0.0	-0.18	
12/11	10:00:37	0.5	21.08	16.80	87.2	17.36	
12/11	10:01:37	0.5	21.08	16.82	87.3	42.07	HIGH
12/11	10:02:37	0.5	20.94	16.71	87.3	42.06	
12/11	10:03:37	0.5	12.56	8.54	42.3	42.09	
12/11	10:04:37	0.5	12.55	8.53	42.3	42.16	HIGH
12/11	10:05:37	0.5	12.53	8.53	42.2	42.01	
12/11	10:06:37	0.5	12.55	8.54	42.2	42.10	
12/11	10:07:37	0.5	12.55	8.52	42.3	18.44	
12/11	10:08:37	0.5	12.46	8.46	42.3	18.24	
12/11	10:09:37	0.5	12.44	8.45	33.8	18.25	MID
12/11	10:10:37	0.5	20.63	0.37	34.0	17.80	
12/11	10:11:37	0.5	20.58	0.36	34.0	1.35	
12/11	10:12:37	0.5	20.59	0.36	34.0	1.28	NOX RESPONSE TO NO2
12/11	10:13:37	0.5	20.62	0.35	0.1	1.26	
12/11	10:14:37	0.5	20.61	0.34	0.1	1.21	
12/11	10:15:37	0.5	20.61	0.34	0.1	1.18	NO RESPONSE TO NO2
12/11	10:16:37	0.5	20.61	0.33	29.8	1.16	
12/11	10:17:37	0.5	20.60	0.33	0.3	1.19	
12/11	10:18:37	0.5	12.46	8.42	0.4	0.65	
12/11	10:19:37	0.5	12.43	8.43	0.3	-0.60	O2/CO2 BIAS
12/11	10:20:37	0.5	12.44	8.43	0.3	-0.57	
12/11	10:21:37	0.5	0.07	0.10	0.2	11.18	
12/11	10:22:37	0.5	0.05	0.08	0.2	18.18	
12/11	10:23:37	0.5	0.04	0.07	0.1	18.16	CO BIAS
12/11	10:24:37	0.5	0.03	0.07	0.1	18.18	
12/11	10:25:37	0.5	0.04	0.06	19.1	17.80	
12/11	10:26:37	0.5	0.03	0.05	41.9	-0.12	
12/11	10:27:37	0.5	0.02	0.05	42.0	-0.16	NOX BIAS
12/11	10:28:37	0.5	0.01	0.04	42.0	-0.21	
12/11	10:29:37	0.5	0.03	0.04	37.6	-0.16	
12/11	10:30:37	0.5	0.03	0.04	0.2	-0.12	
12/11	10:31:37	0.5	0.02	0.04	0.2	-0.14	ZERO BIAS
12/11	10:32:37	0.5	0.02	0.03	0.1	-0.14	
12/11	10:33:37	0.5	0.06	0.03	0.2	-0.12	
12/11	10:34:37	0.5	20.64	0.22	0.3	0.42	
12/11	10:35:37	0.5	12.03	7.36	47.5	19.92	
12/11	10:36:37	0.5	12.04	7.36	47.9	25.36	START NORMAL LOAD
12/11	10:37:37	0.5	12.06	7.34	47.5	25.39	
12/11	10:38:37	0.5	12.04	7.35	48.2	25.43	
12/11	10:39:37	0.5	12.05	7.36	48.3	25.26	
12/11	10:40:37	0.5	12.05	7.35	48.0	25.44	
12/11	10:41:37	0.5	12.06	7.33	47.8	25.14	
12/11	10:42:37	0.5	12.07	7.33	47.6	25.61	
12/11	10:43:37	0.5	12.08	7.33	47.8	25.35	
12/11	10:44:37	0.5	12.05	7.35	47.5	25.46	
12/11	10:45:37	0.5	11.97	7.39	47.8	24.78	
12/11	10:46:37	0.5	11.96	7.40	48.5	24.18	
12/11	10:47:37	0.5	11.96	7.40	49.6	24.08	
12/11	10:48:37	0.5	11.96	7.39	49.3	23.90	
12/11	10:49:37	0.5	11.98	7.38	48.3	24.12	
12/11	10:50:37	0.5	11.99	7.38	48.5	23.95	

12/11	10:51:37	0.5	11.99	7.38	49.3	23.94	
12/11	10:52:37	0.5	12.00	7.36	48.8	24.13	
12/11	10:53:37	0.5	11.97	7.38	49.2	24.03	
12/11	10:54:37	0.5	11.96	7.40	49.9	23.70	
12/11	10:55:37	0.5	11.99	7.38	50.0	23.92	
12/11	10:56:37	0.5	11.98	7.38	49.7	24.24	
12/11	10:57:37	0.5	12.01	7.35	48.6	24.34	
12/11	10:58:37	0.5	11.99	7.37	49.9	24.29	
12/11	10:59:37	0.5	12.01	7.36	48.8	24.73	
12/11	11:00:37	0.5	12.03	7.35	48.1	25.35	
12/11	11:01:37	0.5	12.02	7.37	48.2	24.88	
12/11	11:02:37	0.5	12.02	7.36	49.3	24.45	
12/11	11:03:37	0.5	12.00	7.36	48.7	25.11	
12/11	11:04:37	0.5	12.01	7.36	49.9	24.83	
12/11	11:05:37	0.5	12.06	7.34	48.8	25.13	
12/11	11:06:37	0.5	12.04	7.35	49.2	25.21	
12/11	11:07:37	0.5	12.06	7.33	47.9	25.80	
12/11	11:08:37	0.5	12.06	7.32	48.7	25.43	
12/11	11:09:37	0.5	12.07	7.32	48.0	25.86	
12/11	11:10:37	0.5	12.05	7.35	48.6	25.33	
12/11	11:11:37	0.5	12.05	7.34	48.4	25.68	
12/11	11:12:37	0.5	12.06	7.32	48.0	25.59	
12/11	11:13:37	0.5	12.09	7.32	48.3	25.54	
12/11	11:14:37	0.5	12.04	7.36	48.5	25.51	
12/11	11:15:37	0.5	12.06	7.33	47.7	25.60	
12/11	11:16:37	0.5	12.08	7.33	48.8	25.23	
12/11	11:17:37	0.5	12.09	7.32	47.7	25.55	
12/11	11:18:37	0.5	12.02	7.37	48.0	25.09	
12/11	11:19:37	0.5	12.06	7.35	48.6	25.16	
12/11	11:20:37	0.5	12.07	7.35	47.3	25.74	
12/11	11:21:37	0.5	12.05	7.35	48.7	25.29	
12/11	11:22:37	0.5	12.05	7.35	48.0	25.44	
12/11	11:23:37	0.5	12.05	7.35	49.1	25.11	
12/11	11:24:37	0.5	12.05	7.35	49.3	25.22	
12/11	11:25:37	0.5	12.12	7.30	47.8	25.59	
12/11	11:26:37	0.5	12.09	7.33	48.1	25.93	
12/11	11:27:37	0.5	12.06	7.34	49.3	25.45	
12/11	11:28:37	0.5	12.07	7.33	47.5	26.26	
12/11	11:29:37	0.5	12.05	7.33	47.7	26.06	
12/11	11:30:37	0.5	12.02	7.36	48.2	25.79	
12/11	11:31:37	0.5	12.02	7.38	48.4	25.15	
12/11	11:32:37	0.5	12.05	7.36	48.2	24.98	
12/11	11:33:37	0.5	12.05	7.35	47.6	25.20	
12/11	11:34:37	0.5	12.07	7.33	47.5	25.35	
12/11	11:35:37	0.5	12.06	7.33	47.7	25.51	
12/11	11:36:37	0.5	12.06	7.35	47.3	25.61	END NORMAL TEST
12/11	11:37:37	0.5	12.05	7.35	46.9	25.48	
12/11	11:38:37	0.5	12.02	7.38	47.7	25.17	
12/11	11:39:37	0.5	12.00	7.36	48.2	24.83	
12/11	11:40:37	0.5	12.52	8.31	1.6	7.70	
12/11	11:41:37	0.5	12.49	8.36	1.2	-0.62	O2/CO2 BIAS
12/11	11:42:37	0.5	12.47	8.35	1.0	-0.62	
12/11	11:43:37	0.5	0.07	0.02	0.8	7.30	
12/11	11:44:37	0.5	0.04	-0.02	0.7	18.10	
12/11	11:45:37	0.5	0.03	-0.02	0.5	18.12	CO BIAS
12/11	11:46:37	0.5	0.50	-0.03	4.5	18.13	
12/11	11:47:37	0.5	0.01	-0.04	42.3	0.06	
12/11	11:48:37	0.5	0.01	-0.04	42.4	-0.19	NOX BIAS
12/11	11:49:37	0.5	0.00	-0.05	13.0	-0.17	
12/11	11:50:37	0.5	-0.04	-0.04	0.5	-0.02	
12/11	11:51:37	0.5	20.17	0.02	1.3	0.21	
12/11	11:52:37	0.5	0.03	-0.05	0.4	-0.10	

12/11	11:53:37	0.5	0.02	-0.05	0.3	-0.14	ZERO BIAS
12/11	11:54:37	0.5	0.02	-0.05	0.2	-0.16	
12/11	11:55:37	0.5	21.07	16.67	87.9	34.53	
12/11	11:56:37	0.5	21.09	16.69	88.0	41.98	HIGH
12/11	11:57:37	0.5	21.10	16.70	88.0	41.95	HIGH
12/11	11:58:37	0.5	12.59	8.44	87.8	41.88	HIGH
12/11	11:59:37	0.5	12.54	8.40	42.7	18.57	
12/11	12:00:37	0.5	12.54	8.39	42.6	18.22	
12/11	12:01:37	0.5	12.55	8.39	42.6	18.21	MID
12/11	12:02:37	0.5	12.55	8.39	42.6	18.18	
12/11	12:03:37	0.5	0.02	-0.04	2.8	16.36	
12/11	12:04:37	0.5	0.01	-0.05	0.0	-0.19	
12/11	12:05:37	0.5	-0.01	-0.05	0.0	-0.16	ZERO
12/11	12:06:37	0.5	0.00	-0.05	0.0	-0.19	
12/11	12:07:37	0.5	-0.01	-0.05	0.0	-0.19	
12/11	12:08:37	0.5	20.65	0.08	0.1	0.12	

DAQ32 Historical Viewer R10.02.01				Software ID		**P2E3**	
Start Time		2013/12/11		14:19:33.5			
End Time		2013/12/11		16:06:33.5			
Sample Rate		60.0 Sec					
Data Count		108					
Group		01	-	01			
		Ch.	CH001	CH002	CH003	CH004	
Date	Time	msec	% O2	% CO2	ppmNOx	ppm CO	
12/11	14:19:33	0.5	-0.01	-0.05	0.0	-0.21	
12/11	14:20:33	0.5	-0.02	-0.05	0.0	-0.22	ZERO
12/11	14:21:33	0.5	21.05	16.65	87.6	11.49	
12/11	14:22:33	0.5	21.06	16.68	88.0	41.89	
12/11	14:23:33	0.5	21.06	16.69	88.0	41.88	
12/11	14:24:33	0.5	12.56	8.42	87.2	41.91	
12/11	14:25:33	0.5	12.53	8.39	42.6	41.93	HIGH
12/11	14:26:33	0.5	12.52	8.39	42.5	21.95	
12/11	14:27:33	0.5	12.53	8.39	42.5	18.12	
12/11	14:28:33	0.5	12.42	8.33	0.5	18.11	MID
12/11	14:29:33	0.5	8.43	3.64	0.8	18.12	
12/11	14:30:33	0.5	20.83	0.07	0.1	0.62	
12/11	14:31:33	0.5	6.30	-0.01	2.7	0.77	
12/11	14:32:33	0.5	0.05	-0.04	0.3	-0.17	
12/11	14:33:33	0.5	0.03	-0.05	0.2	-0.18	SYSTEM ZERO
12/11	14:34:33	0.5	0.03	-0.05	0.2	-0.18	
12/11	14:35:33	0.5	12.42	8.28	0.2	-0.31	
12/11	14:36:33	0.5	12.46	8.35	0.1	-0.67	O2/CO2 SBIAS
12/11	14:37:33	0.5	12.48	8.35	0.1	-0.67	
12/11	14:38:33	0.5	0.06	-0.01	0.1	9.91	
12/11	14:39:33	0.5	0.04	-0.03	0.1	18.05	
12/11	14:40:33	0.5	0.03	-0.04	0.1	18.09	CO BIAS
12/11	14:41:33	0.5	0.03	-0.04	0.1	18.10	
12/11	14:42:33	0.5	0.01	-0.04	39.2	12.77	
12/11	14:43:33	0.5	0.01	-0.04	42.2	-0.23	NOX BIAS
12/11	14:44:33	0.5	0.01	-0.04	42.2	-0.25	
12/11	14:45:33	0.5	0.03	-0.04	42.1	-0.24	
12/11	14:46:33	0.5	12.63	0.03	36.7	-0.16	
12/11	14:47:33	0.5	20.73	0.08	0.3	0.28	
12/11	14:48:33	0.5	11.86	7.43	44.6	19.60	
12/11	14:49:33	0.5	11.90	7.40	44.0	23.10	START LOW LOAD
12/11	14:50:33	0.5	11.91	7.40	44.2	23.07	
12/11	14:51:33	0.5	11.84	7.45	44.5	23.14	
12/11	14:52:33	0.5	11.87	7.43	45.1	23.01	
12/11	14:53:33	0.5	11.89	7.42	45.0	23.34	
12/11	14:54:33	0.5	11.91	7.40	44.6	23.44	
12/11	14:55:33	0.5	11.87	7.44	45.5	23.21	
12/11	14:56:33	0.5	11.92	7.41	45.4	23.17	
12/11	14:57:33	0.5	11.88	7.43	45.3	23.46	
12/11	14:58:33	0.5	11.88	7.45	45.6	23.19	
12/11	14:59:33	0.5	11.89	7.44	45.1	23.26	
12/11	15:00:33	0.5	11.91	7.42	45.2	22.94	
12/11	15:01:33	0.5	11.88	7.46	45.1	23.08	
12/11	15:02:33	0.5	11.87	7.46	44.7	22.69	
12/11	15:03:33	0.5	11.82	7.49	45.1	22.34	
12/11	15:04:33	0.5	11.79	7.51	45.4	22.27	END LOW LOAD
12/11	15:05:33	0.5	11.78	7.53	46.1	21.89	

12/11	15:06:33	0.5	11.79	7.52	45.5	22.09	
12/11	15:07:33	0.5	11.80	7.52	45.6	21.97	
12/11	15:08:33	0.5	11.79	7.52	46.4	21.86	
12/11	15:09:33	0.5	11.81	7.52	45.5	22.08	
12/11	15:10:33	0.5	11.60	7.65	48.6	21.78	
12/11	15:11:33	0.5	11.95	7.39	45.9	22.97	
12/11	15:12:33	0.5	11.90	7.42	46.0	23.97	
12/11	15:13:33	0.5	11.96	7.39	47.9	24.44	
12/11	15:14:33	0.5	12.09	7.27	46.5	27.79	
12/11	15:15:33	0.5	12.01	7.33	52.0	27.64	
12/11	15:16:33	0.5	12.14	7.24	49.9	31.49	
12/11	15:17:33	0.5	12.20	7.18	48.7	33.39	
12/11	15:18:33	0.5	12.11	7.25	49.5	33.69	
12/11	15:19:33	0.5	12.11	7.24	53.6	34.87	
12/11	15:20:33	0.5	12.27	7.12	48.6	39.69	
12/11	15:21:33	0.5	12.30	7.12	48.7	42.63	
12/11	15:22:33	0.5	12.33	7.09	48.1	43.93	
12/11	15:23:33	0.5	12.31	7.10	47.5	45.93	
12/11	15:24:33	0.5	12.35	7.09	47.7	45.79	START HIGH LOAD
12/11	15:25:33	0.5	12.30	7.10	47.5	45.81	
12/11	15:26:33	0.5	12.30	7.10	47.6	46.36	
12/11	15:27:33	0.5	12.32	7.09	47.3	46.53	
12/11	15:28:33	0.5	12.34	7.07	46.7	46.58	
12/11	15:29:33	0.5	12.33	7.09	46.9	46.37	
12/11	15:30:33	0.5	12.32	7.09	47.0	45.95	
12/11	15:31:33	0.5	12.32	7.10	47.8	45.65	
12/11	15:32:33	0.5	12.33	7.07	47.4	46.07	
12/11	15:33:33	0.5	12.32	7.09	47.2	45.43	
12/11	15:34:33	0.5	12.32	7.08	47.3	45.56	
12/11	15:35:33	0.5	12.32	7.10	47.5	45.71	
12/11	15:36:33	0.5	12.30	7.10	47.7	45.51	
12/11	15:37:33	0.5	12.34	7.07	47.5	46.18	
12/11	15:38:33	0.5	12.35	7.07	47.4	46.16	
12/11	15:39:33	0.5	12.32	7.09	47.9	46.01	END HIGH LOAD
12/11	15:40:33	0.5	12.30	7.09	47.8	46.18	
12/11	15:41:33	0.5	14.70	6.26	11.4	38.06	
12/11	15:42:33	0.5	12.49	8.33	1.1	-0.58	
12/11	15:43:33	0.5	12.47	8.33	0.9	-0.64	O2/CO2 SBIAS
12/11	15:44:33	0.5	5.89	3.70	0.7	-0.65	
12/11	15:45:33	0.5	0.04	-0.02	0.5	17.67	
12/11	15:46:33	0.5	0.03	-0.03	0.5	18.07	
12/11	15:47:33	0.5	0.03	-0.04	0.4	18.11	CO BIAS
12/11	15:48:33	0.5	11.39	0.02	0.4	18.09	
12/11	15:49:33	0.5	0.02	-0.05	42.1	-0.09	NOX BIAS
12/11	15:50:33	0.5	0.02	-0.05	42.1	-0.23	
12/11	15:51:33	0.5	0.03	-0.05	30.9	-0.21	
12/11	15:52:33	0.5	0.01	-0.05	0.3	-0.17	
12/11	15:53:33	0.5	0.01	-0.05	0.2	-0.15	SYSTEM ZERO
12/11	15:54:33	0.5	0.01	-0.05	0.2	-0.19	
12/11	15:55:33	0.5	21.06	16.65	83.5	8.43	
12/11	15:56:33	0.5	21.07	16.69	87.7	41.89	
12/11	15:57:33	0.5	21.09	16.70	87.7	41.91	HIGH
12/11	15:58:33	0.5	12.57	8.42	87.6	41.93	
12/11	15:59:33	0.5	12.54	8.39	42.5	18.22	
12/11	16:00:33	0.5	12.54	8.38	42.5	18.20	MID

12/11	16:01:33	0.5	12.53	8.38	42.5	18.15	
12/11	16:02:33	0.5	0.02	-0.05	0.3	11.85	
12/11	16:03:33	0.5	0.00	-0.06	0.0	-0.24	
12/11	16:04:33	0.5	-0.01	-0.05	0.0	-0.25	
12/11	16:05:33	0.5	0.00	-0.06	0.0	-0.22	ZERO
12/11	16:06:33	0.5	-0.10	-0.06	0.0	-0.23	

SUMMARY OF CONTINUOUS MONITORING DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		NORMAL LOAD	
SOURCE ID:	ENGINE #4	DATE:	12/06/13	TIME:	1005-1105
OPERATOR:	RN	PROJECT No.:	2061.1048		
PARAMETER UNITS	O_2 % VOL DRY	CO_2 % VOL DRY	NO_x PPMV,D	CO PPMV,D	SO_2 PPMV,D
INITIAL ZERO BIAS	-0.25	-0.28	0.10	-0.80	---
INITIAL SPAN BIAS	12.34	8.28	42.20	851.20	---
FINAL ZERO BIAS	-0.36	0.17	0.50	0.00	---
FINAL SPAN BIAS	12.34	8.35	43.40	845.20	---
AVERAGE ZERO BIAS	-0.31	-0.06	0.30	-0.40	---
AVERAGE SPAN BIAS	12.34	8.32	42.80	848.20	---
BIAS GAS CONCENTRATION	12.50	8.31	42.40	857.00	---
FULL SCALE RANGE	25.00	20.00	100.00	2000.00	---
UNCORRECTED CONC.	11.60	7.48	56.63	543.48	---
CORRECTED CONC.	**11.77**	**7.48**	**56.19**	**549.26**	---
PPMV @ 15 % O2			36.30	354.83	---
LB/HR BASED ON PITOT FLOW (DSCFM)	8,693		3.56	21.16	---

SUMMARY OF CONTINUOUS MONITORING DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		HIGH LOAD	
SOURCE ID:	ENGINE #4	DATE:	12/06/13	TIME:	1125-1140
OPERATOR:	RN	PROJECT No.:	2061.1048		
PARAMETER UNITS	O_2 % VOL DRY	CO_2 % VOL DRY	NO_x PPMV,D	CO PPMV,D	SO_2 PPMV,D
INITIAL ZERO BIAS	-0.36	0.17	0.50	0.00	---
INITIAL SPAN BIAS	12.34	8.35	43.40	845.20	---
FINAL ZERO BIAS	-0.17	-0.17	1.30	0.80	---
FINAL SPAN BIAS	12.38	8.42	43.60	843.20	---
AVERAGE ZERO BIAS	-0.27	0.00	0.90	0.40	---
AVERAGE SPAN BIAS	12.36	8.39	43.50	844.20	---
BIAS GAS CONCENTRATION	12.50	8.31	42.40	857.00	---
FULL SCALE RANGE	25.00	20.00	100.00	2000.00	---
UNCORRECTED CONC.	12.06	7.17	59.92	562.96	---
CORRECTED CONC.	**12.20**	**7.10**	**58.74**	**571.36**	---
PPMV @ 15 % O2			39.83	387.41	---
LB/HR BASED ON PITOT FLOW (DSCFM)	11,580		4.95	29.33	---

SUMMARY OF CONTINUOUS MONITORING DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		LOW LOAD	
SOURCE ID:	ENGINE #4	DATE:	12/06/13	TIME:	1158-1213
OPERATOR:	RN	PROJECT No.:	2061.1048		
PARAMETER UNITS	O_2 % VOL DRY	CO_2 % VOL DRY	NO_x PPMV,D	CO PPMV,D	SO_2 PPMV,D
INITIAL ZERO BIAS	-0.36	0.17	0.50	0.00	---
INITIAL SPAN BIAS	12.34	8.35	43.40	845.20	---
FINAL ZERO BIAS	-0.17	-0.17	1.30	0.80	---
FINAL SPAN BIAS	12.38	8.42	43.60	843.20	---
AVERAGE ZERO BIAS	-0.27	0.00	0.90	0.40	---
AVERAGE SPAN BIAS	12.36	8.39	43.50	844.20	---
BIAS GAS CONCENTRATION	12.50	8.31	42.40	857.00	---
FULL SCALE RANGE	25.00	20.00	100.00	2000.00	---
UNCORRECTED CONC.	11.29	7.74	58.48	520.69	---
CORRECTED CONC.	**11.44**	**7.67**	**57.31**	**528.43**	---
PPMV @ 15 % O2			35.76	329.72	---
LB/HR BASED ON PITOT FLOW (DSCFM)	8,077		3.37	18.92	---

OCSD PLANT 2 ENGINE 4 COMPLIANCE (NORM LOAD)
December 6, 2013
RAW DAS DATA - RM RUN 1

DATA PT	DATE	TIME	O2 % VD	CO2 % VD	NOx PPMVD	CO PPMVD
1	12/06	10:05:25	11.61	7.42	54.5	543.3
2	12/06	10:06:25	11.62	7.42	53.8	543.3
3	12/06	10:07:25	11.60	7.43	54.7	543.7
4	12/06	10:08:25	11.57	7.46	55.2	547.3
5	12/06	10:09:25	11.58	7.46	56.8	536.4
6	12/06	10:10:25	11.59	7.46	56.1	540.5
7	12/06	10:11:25	11.60	7.44	56.2	539.2
8	12/06	10:12:25	11.63	7.42	55.3	542.1
9	12/06	10:13:25	11.63	7.42	55.7	546.9
10	12/06	10:14:25	11.63	7.43	54.6	551.3
11	12/06	10:15:25	11.61	7.41	54.5	550.5
12	12/06	10:16:25	11.60	7.44	55.2	547.3
13	12/06	10:17:25	11.58	7.46	55.9	546.9
14	12/06	10:18:25	11.59	7.44	55.4	546.1
15	12/06	10:19:25	11.56	7.47	56.8	539.2
16	12/06	10:20:25	11.57	7.46	57.8	541.3
17	12/06	10:21:25	11.63	7.44	57.5	540.5
18	12/06	10:22:25	11.64	7.43	56.9	543.3
19	12/06	10:23:25	11.66	7.42	55.4	548.1
20	12/06	10:24:25	11.62	7.45	55.7	550.9
21	12/06	10:25:25	11.60	7.45	56.4	547.3
22	12/06	10:26:25	11.58	7.48	57.7	541.3
23	12/06	10:27:25	11.59	7.48	57.1	540.1
24	12/06	10:28:25	11.59	7.48	55.9	545.7
25	12/06	10:29:25	11.55	7.51	56.7	543.7
26	12/06	10:30:25	11.52	7.53	57.4	540.5
27	12/06	10:31:25	11.54	7.52	57.4	538.4
28	12/06	10:32:25	11.52	7.53	58.7	539.2
29	12/06	10:33:25	11.55	7.52	59.2	533.6
30	12/06	10:34:25	11.59	7.49	57.9	540.9
31	12/06	10:35:25	11.63	7.45	57.6	535.6
32	12/06	10:36:25	11.64	7.45	57.1	541.3
33	12/06	10:37:25	11.63	7.46	56.8	542.9
34	12/06	10:38:25	11.61	7.48	58.3	540.1
35	12/06	10:39:25	11.64	7.45	57.4	540.1
36	12/06	10:40:25	11.65	7.44	56.4	541.7
37	12/06	10:41:25	11.63	7.46	57.2	544.1
38	12/06	10:42:25	11.62	7.49	57.0	544.9
39	12/06	10:43:25	11.62	7.49	58.2	541.7
40	12/06	10:44:25	11.63	7.47	57.1	541.3
41	12/06	10:45:25	11.64	7.48	56.3	542.9
42	12/06	10:46:25	11.62	7.49	56.5	546.9
43	12/06	10:47:25	11.61	7.49	56.7	542.1

44	12/06	10:48:25	11.55	7.53	58.8	541.7
45	12/06	10:49:25	11.61	7.51	58.1	536.4
46	12/06	10:50:25	11.60	7.50	57.1	538.8
47	12/06	10:51:25	11.62	7.50	57.1	542.5
48	12/06	10:52:25	11.59	7.52	57.0	546.5
49	12/06	10:53:25	11.57	7.54	56.5	546.9
50	12/06	10:54:25	11.54	7.57	57.1	544.9
51	12/06	10:55:25	11.55	7.56	57.1	538.8
52	12/06	10:56:25	11.57	7.54	57.4	543.3
53	12/06	10:57:25	11.58	7.52	55.8	545.3
54	12/06	10:58:25	11.59	7.54	57.0	546.1
55	12/06	10:59:25	11.58	7.52	56.0	548.1
56	12/06	11:00:25	11.58	7.54	56.5	546.5
57	12/06	11:01:25	11.61	7.50	55.4	550.5
58	12/06	11:02:25	11.61	7.53	55.7	551.7
59	12/06	11:03:25	11.60	7.53	56.9	547.7
60	12/06	11:04:25	11.63	7.50	56.4	548.5
61	12/06	11:05:25	11.61	7.51	57.3	543.7
AVERAGES			**11.60**	**7.48**	**56.63**	**543.48**

OCSD PLANT 2 ENGINE 4 COMPLIANCE (HIGH LOAD)
December 6, 2013
RAW DAS DATA - RM RUN 2

DATA PT	DATE	TIME	O2 % VD	CO2 % VD	NOx PPMVD	CO PPMVD
1	12/06	11:58:25	11.99	7.23	61.4	554.1
2	12/06	11:59:25	12.02	7.19	61.4	551.7
3	12/06	12:00:25	12.04	7.19	61.2	555.7
4	12/06	12:01:25	12.06	7.16	59.4	559.7
5	12/06	12:02:25	12.07	7.14	58.7	560.9
6	12/06	12:03:25	12.05	7.17	59.9	564.9
7	12/06	12:04:25	12.08	7.16	60.2	561.3
8	12/06	12:05:25	12.06	7.16	60.0	564.5
9	12/06	12:06:25	12.10	7.14	59.2	570.2
10	12/06	12:07:25	12.08	7.14	58.9	569.8
11	12/06	12:08:25	12.07	7.15	59.7	565.3
12	12/06	12:09:25	12.06	7.16	59.4	569.4
13	12/06	12:10:25	12.07	7.17	59.5	565.3
14	12/06	12:11:25	12.05	7.17	59.7	569.0
15	12/06	12:12:25	12.04	7.17	59.5	566.2
16	12/06	12:13:25	12.05	7.19	60.6	559.3
AVERAGES			**12.06**	**7.17**	**59.92**	**562.96**

OCSD PLANT 2 ENGINE 4 COMPLIANCE (LOW LOAD)
December 6, 2013
RAW DAS DATA - RM RUN 3

DATA PT	DATE	TIME	O2 % VD	CO2 % VD	NOx PPMVD	CO PPMVD
1	12/06	11:25:25	11.36	7.67	56.6	503.5
2	12/06	11:26:25	11.29	7.70	58.1	502.7
3	12/06	11:27:25	11.31	7.70	58.2	503.1
4	12/06	11:28:25	11.35	7.67	57.7	506.3
5	12/06	11:29:25	11.25	7.73	58.8	507.5
6	12/06	11:30:25	11.31	7.70	58.3	499.5
7	12/06	11:31:25	11.33	7.68	57.9	502.7
8	12/06	11:32:25	11.32	7.73	58.1	510.3
9	12/06	11:33:25	11.24	7.79	58.6	536.8
10	12/06	11:34:25	11.31	7.74	58.3	536.0
11	12/06	11:35:25	11.28	7.79	58.6	540.1
12	12/06	11:36:25	11.28	7.77	58.2	538.8
13	12/06	11:37:25	11.27	7.81	59.0	540.1
14	12/06	11:38:25	11.27	7.80	60.3	530.0
15	12/06	11:39:25	11.24	7.82	59.9	535.2
16	12/06	11:40:25	11.29	7.78	59.1	538.4
AVERAGES			**11.29**	**7.74**	**58.48**	**520.69**

DAQ32 Historical Viewer R10.02.01				Software ID	**P2E4**		
Start Time		2013/12/06		08:32:25.5			
End Time		2013/12/06		12:42:25.5			
Sample Rate		60.0 Sec					
Data Count		251					
Group		01	-	01			
		Ch.	CH001	CH002	CH003	CH004	
Date	Time	msec	% O2	% CO2	ppmNOx	ppm CO	
12/06	08:32:25	0.5	-0.02	0.00	0.0	0.0	ZERO
12/06	08:33:25	0.5	-0.03	0.01	0.0	0.4	
12/06	08:34:25	0.5	0.23	0.01	0.0	0.0	
12/06	08:35:25	0.5	18.25	14.75	84.4	1174.9	
12/06	08:36:25	0.5	18.06	14.79	87.1	1708.1	
12/06	08:37:25	0.5	20.47	16.21	87.6	1825.7	
12/06	08:38:25	0.5	21.04	16.70	87.3	1828.1	
12/06	08:39:25	0.5	21.10	16.72	43.1	1823.7	HIGH
12/06	08:40:25	0.5	21.23	16.71	42.3	1818.5	
12/06	08:41:25	0.5	12.64	8.48	42.2	1678.0	
12/06	08:42:25	0.5	12.62	8.49	42.2	858.1	
12/06	08:43:25	0.5	12.63	8.50	34.0	862.5	MID
12/06	08:44:25	0.5	12.62	8.48	33.9	862.5	
12/06	08:45:25	0.5	12.63	8.49	34.1	860.1	
12/06	08:46:25	0.5	20.90	0.20	34.0	746.8	
12/06	08:47:25	0.5	20.92	0.19	34.0	1.6	NOX RESPONSE TO NO2
12/06	08:48:25	0.5	12.37	8.59	30.8	-0.8	
12/06	08:49:25	0.5	12.36	8.61	0.0	-0.8	
12/06	08:50:25	0.5	12.36	8.62	0.0	-1.2	
12/06	08:51:25	0.5	12.52	8.48	0.0	-1.2	NO RESPONSE TO NO2
12/06	08:52:25	0.5	-0.14	0.08	28.7	737.2	
12/06	08:53:25	0.5	-0.45	0.04	1.4	856.5	
12/06	08:54:25	0.5	-0.46	0.03	0.2	853.2	
12/06	08:55:25	0.5	-0.19	0.04	0.2	851.2	CO BIAS
12/06	08:56:25	0.5	-0.32	0.03	0.2	838.8	
12/06	08:57:25	0.5	-0.50	0.02	42.0	26.1	
12/06	08:58:25	0.5	-0.51	0.02	42.2	-0.8	NOX BIAS
12/06	08:59:25	0.5	-0.51	0.02	42.2	-0.8	
12/06	09:00:25	0.5	-0.19	0.06	42.3	-0.4	
12/06	09:01:25	0.5	-0.48	0.02	0.3	-0.8	
12/06	09:02:25	0.5	-0.51	0.02	0.1	-0.8	ZERO BIAS
12/06	09:03:25	0.5	-0.51	0.02	0.1	-0.8	
12/06	09:04:25	0.5	-0.51	0.02	0.0	-0.8	
12/06	09:05:25	0.5	-0.52	0.02	0.0	-0.8	
12/06	09:06:25	0.5	-0.52	0.01	0.3	-0.8	
12/06	09:07:25	0.5	0.00	0.00	0.2	0.0	
12/06	09:08:25	0.5	0.00	0.01	0.2	0.0	
12/06	09:09:25	0.5	20.50	16.10	0.2	0.0	
12/06	09:10:25	0.5	21.09	16.73	0.2	0.0	
12/06	09:11:25	0.5	21.13	16.76	0.2	0.0	
12/06	09:12:25	0.5	21.16	16.79	0.2	0.0	
12/06	09:13:25	0.5	12.93	8.72	0.2	0.0	
12/06	09:14:25	0.5	0.57	0.37	0.2	-0.8	
12/06	09:15:25	0.5	11.37	8.14	0.2	0.0	
12/06	09:16:25	0.5	21.05	16.71	0.2	-0.8	
12/06	09:17:25	0.5	0.35	0.31	0.2	-0.8	
12/06	09:18:25	0.5	-0.05	0.04	0.2	-0.8	

12/06	09:19:25	0.5	-0.09	0.01	0.2	-0.8	
12/06	09:20:25	0.5	-0.12	-0.01	0.2	-0.8	
12/06	09:21:25	0.5	21.05	16.84	0.2	-0.8	
12/06	09:22:25	0.5	21.09	16.71	0.2	-0.8	
12/06	09:23:25	0.5	21.13	16.75	0.2	-0.4	
12/06	09:24:25	0.5	20.99	16.69	0.2	-0.8	
12/06	09:25:25	0.5	12.37	8.25	0.2	-0.8	
12/06	09:26:25	0.5	12.37	8.25	0.2	-0.8	
12/06	09:27:25	0.5	20.75	-0.27	0.1	-0.8	
12/06	09:28:25	0.5	12.28	8.16	0.1	-0.8	
12/06	09:29:25	0.5	12.32	8.21	0.0	-0.8	
12/06	09:30:25	0.5	12.45	8.28	0.0	-1.2	
12/06	09:31:25	0.5	-0.40	-0.38	0.0	-0.8	
12/06	09:32:25	0.5	-0.34	-0.41	0.0	-0.8	
12/06	09:33:25	0.5	-0.51	-0.43	0.0	-0.8	
12/06	09:34:25	0.5	-0.52	-0.44	0.0	-0.4	
12/06	09:35:25	0.5	-0.53	-0.44	0.0	-0.8	
12/06	09:36:25	0.5	-0.53	-0.45	0.0	-0.4	
12/06	09:37:25	0.5	-0.53	-0.45	0.0	-0.8	
12/06	09:38:25	0.5	-0.62	-0.45	0.0	-0.4	
12/06	09:39:25	0.5	-0.55	-0.46	0.1	-0.4	
12/06	09:40:25	0.5	2.42	-0.45	0.0	-0.8	
12/06	09:41:25	0.5	-0.55	-0.46	0.0	-0.8	
12/06	09:42:25	0.5	21.64	17.11	0.0	-0.8	
12/06	09:43:25	0.5	0.42	0.32	0.0	-0.4	
12/06	09:44:25	0.5	20.75	16.46	0.0	-0.8	
12/06	09:45:25	0.5	20.84	16.55	0.0	-0.8	
12/06	09:46:25	0.5	0.16	0.12	0.0	-0.8	
12/06	09:47:25	0.5	20.90	16.60	0.0	-0.8	
12/06	09:48:25	0.5	0.11	0.08	0.0	-0.4	
12/06	09:49:25	0.5	0.04	0.03	0.0	-0.8	ZERO
12/06	09:50:25	0.5	20.98	16.68	0.0	-0.4	
12/06	09:51:25	0.5	21.07	16.74	0.0	-0.4	HIGH
12/06	09:52:25	0.5	12.48	8.36	0.0	-0.8	
12/06	09:53:25	0.5	12.37	8.30	0.0	-0.8	MID
12/06	09:54:25	0.5	0.87	-0.08	0.0	-0.8	
12/06	09:55:25	0.5	20.86	-0.15	0.0	-0.4	
12/06	09:56:25	0.5	-0.25	-0.28	0.0	-0.8	O2/CO2 BIAS
12/06	09:57:25	0.5	-0.32	-0.29	0.0	-0.8	
12/06	09:58:25	0.5	12.32	8.23	0.0	-0.8	
12/06	09:59:25	0.5	12.34	8.28	0.0	-0.8	O2/CO2 BIAS
12/06	10:00:25	0.5	-0.29	-0.25	0.0	-0.8	
12/06	10:01:25	0.5	21.09	16.76	0.1	-0.8	
12/06	10:02:25	0.5	20.46	0.11	0.1	-0.8	
12/06	10:03:25	0.5	12.30	6.84	21.6	14.5	
12/06	10:04:25	0.5	11.56	7.44	55.2	535.6	
12/06	10:05:25	0.5	11.61	7.42	54.5	543.3	START NORMAL LOAD
12/06	10:06:25	0.5	11.62	7.42	53.8	543.3	
12/06	10:07:25	0.5	11.60	7.43	54.7	543.7	
12/06	10:08:25	0.5	11.57	7.46	55.2	547.3	
12/06	10:09:25	0.5	11.58	7.46	56.8	536.4	
12/06	10:10:25	0.5	11.59	7.46	56.1	540.5	
12/06	10:11:25	0.5	11.60	7.44	56.2	539.2	
12/06	10:12:25	0.5	11.63	7.42	55.3	542.1	
12/06	10:13:25	0.5	11.63	7.42	55.7	546.9	

12/06	10:14:25	0.5	11.63	7.43	54.6	551.3	
12/06	10:15:25	0.5	11.61	7.41	54.5	550.5	
12/06	10:16:25	0.5	11.60	7.44	55.2	547.3	
12/06	10:17:25	0.5	11.58	7.46	55.9	546.9	
12/06	10:18:25	0.5	11.59	7.44	55.4	546.1	
12/06	10:19:25	0.5	11.56	7.47	56.8	539.2	
12/06	10:20:25	0.5	11.57	7.46	57.8	541.3	
12/06	10:21:25	0.5	11.63	7.44	57.5	540.5	
12/06	10:22:25	0.5	11.64	7.43	56.9	543.3	
12/06	10:23:25	0.5	11.66	7.42	55.4	548.1	
12/06	10:24:25	0.5	11.62	7.45	55.7	550.9	
12/06	10:25:25	0.5	11.60	7.45	56.4	547.3	
12/06	10:26:25	0.5	11.58	7.48	57.7	541.3	
12/06	10:27:25	0.5	11.59	7.48	57.1	540.1	
12/06	10:28:25	0.5	11.59	7.48	55.9	545.7	
12/06	10:29:25	0.5	11.55	7.51	56.7	543.7	
12/06	10:30:25	0.5	11.52	7.53	57.4	540.5	
12/06	10:31:25	0.5	11.54	7.52	57.4	538.4	
12/06	10:32:25	0.5	11.52	7.53	58.7	539.2	
12/06	10:33:25	0.5	11.55	7.52	59.2	533.6	
12/06	10:34:25	0.5	11.59	7.49	57.9	540.9	
12/06	10:35:25	0.5	11.63	7.45	57.6	535.6	
12/06	10:36:25	0.5	11.64	7.45	57.1	541.3	
12/06	10:37:25	0.5	11.63	7.46	56.8	542.9	
12/06	10:38:25	0.5	11.61	7.48	58.3	540.1	
12/06	10:39:25	0.5	11.64	7.45	57.4	540.1	
12/06	10:40:25	0.5	11.65	7.44	56.4	541.7	
12/06	10:41:25	0.5	11.63	7.46	57.2	544.1	
12/06	10:42:25	0.5	11.62	7.49	57.0	544.9	
12/06	10:43:25	0.5	11.62	7.49	58.2	541.7	
12/06	10:44:25	0.5	11.63	7.47	57.1	541.3	
12/06	10:45:25	0.5	11.64	7.48	56.3	542.9	
12/06	10:46:25	0.5	11.62	7.49	56.5	546.9	
12/06	10:47:25	0.5	11.61	7.49	56.7	542.1	
12/06	10:48:25	0.5	11.55	7.53	58.8	541.7	
12/06	10:49:25	0.5	11.61	7.51	58.1	536.4	
12/06	10:50:25	0.5	11.60	7.50	57.1	538.8	
12/06	10:51:25	0.5	11.62	7.50	57.1	542.5	
12/06	10:52:25	0.5	11.59	7.52	57.0	546.5	
12/06	10:53:25	0.5	11.57	7.54	56.5	546.9	
12/06	10:54:25	0.5	11.54	7.57	57.1	544.9	
12/06	10:55:25	0.5	11.55	7.56	57.1	538.8	
12/06	10:56:25	0.5	11.57	7.54	57.4	543.3	
12/06	10:57:25	0.5	11.58	7.52	55.8	545.3	
12/06	10:58:25	0.5	11.59	7.54	57.0	546.1	
12/06	10:59:25	0.5	11.58	7.52	56.0	548.1	
12/06	11:00:25	0.5	11.58	7.54	56.5	546.5	
12/06	11:01:25	0.5	11.61	7.50	55.4	550.5	
12/06	11:02:25	0.5	11.61	7.53	55.7	551.7	
12/06	11:03:25	0.5	11.60	7.53	56.9	547.7	
12/06	11:04:25	0.5	11.63	7.50	56.4	548.5	
12/06	11:05:25	0.5	11.61	7.51	57.3	543.7	END NORMAL LOAD TEST
12/06	11:06:25	0.5	11.65	7.49	56.0	543.3	
12/06	11:07:25	0.5	11.66	7.49	54.9	549.7	
12/06	11:08:25	0.5	11.66	7.50	55.8	547.7	

12/06	11:09:25	0.5	12.33	8.33	3.7	35.3	
12/06	11:10:25	0.5	12.34	8.35	2.5	-0.4	O2/CO2 BIAS
12/06	11:11:25	0.5	12.38	8.36	2.0	-0.8	
12/06	11:12:25	0.5	-0.14	-0.08	1.9	283.5	
12/06	11:13:25	0.5	-0.21	-0.14	1.6	845.2	
12/06	11:14:25	0.5	-0.23	-0.15	1.3	845.2	CO BIAS
12/06	11:15:25	0.5	-0.24	-0.16	1.2	844.8	
12/06	11:16:25	0.5	-0.39	-0.17	38.9	651.3	
12/06	11:17:25	0.5	-0.38	-0.18	43.3	0.4	
12/06	11:18:25	0.5	-0.38	-0.17	43.4	0.0	NOX BIAS
12/06	11:19:25	0.5	-0.35	-0.17	43.3	-0.4	
12/06	11:20:25	0.5	-0.36	-0.17	0.7	-0.4	
12/06	11:21:25	0.5	-0.36	-0.17	0.5	-0.8	ZERO BIAS
12/06	11:22:25	0.5	-0.37	-0.17	0.5	-0.8	
12/06	11:23:25	0.5	0.70	0.13	0.8	-0.4	
12/06	11:24:25	0.5	11.33	7.67	56.0	482.6	
12/06	11:25:25	0.5	11.36	7.67	56.6	503.5	START LOW LOAD TEST
12/06	11:26:25	0.5	11.29	7.70	58.1	502.7	
12/06	11:27:25	0.5	11.31	7.70	58.2	503.1	
12/06	11:28:25	0.5	11.35	7.67	57.7	506.3	
12/06	11:29:25	0.5	11.25	7.73	58.8	507.5	
12/06	11:30:25	0.5	11.31	7.70	58.3	499.5	
12/06	11:31:25	0.5	11.33	7.68	57.9	502.7	
12/06	11:32:25	0.5	11.32	7.73	58.1	510.3	
12/06	11:33:25	0.5	11.24	7.79	58.6	536.8	
12/06	11:34:25	0.5	11.31	7.74	58.3	536.0	
12/06	11:35:25	0.5	11.28	7.79	58.6	540.1	
12/06	11:36:25	0.5	11.28	7.77	58.2	538.8	
12/06	11:37:25	0.5	11.27	7.81	59.0	540.1	
12/06	11:38:25	0.5	11.27	7.80	60.3	530.0	
12/06	11:39:25	0.5	11.24	7.82	59.9	535.2	
12/06	11:40:25	0.5	11.29	7.78	59.1	538.4	END LOW LOAD TEST
12/06	11:41:25	0.5	11.27	7.79	57.4	540.1	
12/06	11:42:25	0.5	11.26	7.81	58.6	539.2	
12/06	11:43:25	0.5	11.22	7.84	60.6	532.4	
12/06	11:44:25	0.5	11.23	7.84	60.6	532.8	
12/06	11:45:25	0.5	11.25	7.81	60.0	537.6	
12/06	11:46:25	0.5	11.27	7.79	59.7	534.0	
12/06	11:47:25	0.5	11.37	7.72	68.5	515.2	
12/06	11:48:25	0.5	11.59	7.55	61.5	534.0	
12/06	11:49:25	0.5	11.65	7.51	60.1	543.3	
12/06	11:50:25	0.5	11.67	7.49	60.4	545.7	
12/06	11:51:25	0.5	11.66	7.50	65.6	528.4	
12/06	11:52:25	0.5	11.76	7.40	62.6	535.2	
12/06	11:53:25	0.5	11.80	7.39	62.6	530.8	
12/06	11:54:25	0.5	11.76	7.41	67.0	532.8	
12/06	11:55:25	0.5	11.85	7.34	65.5	522.4	
12/06	11:56:25	0.5	11.90	7.28	63.2	536.8	
12/06	11:57:25	0.5	11.98	7.23	61.8	546.9	
12/06	11:58:25	0.5	11.99	7.23	61.4	554.1	START HIGH LOAD TEST
12/06	11:59:25	0.5	12.02	7.19	61.4	551.7	
12/06	12:00:25	0.5	12.04	7.19	61.2	555.7	
12/06	12:01:25	0.5	12.06	7.16	59.4	559.7	
12/06	12:02:25	0.5	12.07	7.14	58.7	560.9	
12/06	12:03:25	0.5	12.05	7.17	59.9	564.9	

12/06	12:04:25	0.5	12.08	7.16	60.2	561.3	
12/06	12:05:25	0.5	12.06	7.16	60.0	564.5	
12/06	12:06:25	0.5	12.10	7.14	59.2	570.2	
12/06	12:07:25	0.5	12.08	7.14	58.9	569.8	
12/06	12:08:25	0.5	12.07	7.15	59.7	565.3	
12/06	12:09:25	0.5	12.06	7.16	59.4	569.4	
12/06	12:10:25	0.5	12.07	7.17	59.5	565.3	
12/06	12:11:25	0.5	12.05	7.17	59.7	569.0	
12/06	12:12:25	0.5	12.04	7.17	59.5	566.2	
12/06	12:13:25	0.5	12.05	7.19	60.6	559.3	END HIGH LOAD TEST
12/06	12:14:25	0.5	12.06	7.18	60.2	563.3	
12/06	12:15:25	0.5	12.04	7.18	59.2	564.1	
12/06	12:16:25	0.5	11.81	7.52	11.7	453.7	
12/06	12:17:25	0.5	12.37	8.41	3.1	0.0	
12/06	12:18:25	0.5	12.38	8.42	2.3	-0.8	O2/CO2 BIAS
12/06	12:19:25	0.5	12.47	8.34	2.2	-0.4	
12/06	12:20:25	0.5	-0.12	-0.11	1.9	663.7	
12/06	12:21:25	0.5	-0.16	-0.15	1.6	840.0	
12/06	12:22:25	0.5	-0.17	-0.16	1.4	843.2	CO BIAS
12/06	12:23:25	0.5	-0.17	-0.17	1.3	842.8	
12/06	12:24:25	0.5	-0.36	-0.17	43.3	355.8	
12/06	12:25:25	0.5	-0.35	-0.17	43.6	0.8	NOX BIAS
12/06	12:26:25	0.5	-0.39	-0.18	36.8	-0.4	
12/06	12:27:25	0.5	-0.38	-0.18	0.1	181.9	
12/06	12:28:25	0.5	-0.39	-0.19	0.0	177.9	
12/06	12:29:25	0.5	-0.08	-0.09	0.0	-0.4	
12/06	12:30:25	0.5	12.40	8.41	43.5	-0.8	ZERO
12/06	12:31:25	0.5	12.40	8.41	43.6	11.2	MID
12/06	12:32:25	0.5	21.17	16.91	61.4	846.8	
12/06	12:33:25	0.5	21.15	16.90	0.5	850.0	
12/06	12:34:25	0.5	21.13	16.88	0.0	849.6	MID
12/06	12:35:25	0.5	21.14	16.90	87.6	851.2	
12/06	12:36:25	0.5	21.14	16.90	87.4	848.4	
12/06	12:37:25	0.5	21.14	16.90	87.4	852.0	
12/06	12:38:25	0.5	21.16	16.90	87.6	1124.7	
12/06	12:39:25	0.5	21.15	16.89	87.6	1793.2	
12/06	12:40:25	0.5	21.14	16.88	87.4	1798.0	HIGH
12/06	12:41:25	0.5	21.15	16.90	87.4	1787.6	
12/06	12:42:25	0.5	21.16	16.90	87.4	1800.0	

SUMMARY OF CONTINUOUS MONITORING DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		NORMAL LOAD	
SOURCE ID:	ENGINE #5	DATE:	12/09/13	TIME:	1142-1242
OPERATOR:	RN	PROJECT No.:	2061.1053		
PARAMETER UNITS	O_2 % VOL DRY	CO_2 % VOL DRY	NO_x PPMV,D	CO PPMV,D	SO_2 PPMV,D
INITIAL ZERO BIAS	0.03	0.06	0.50	-0.40	---
INITIAL SPAN BIAS	12.47	8.37	42.10	856.10	---
FINAL ZERO BIAS	0.03	0.07	0.90	-0.40	---
FINAL SPAN BIAS	12.43	8.36	42.00	854.80	---
AVERAGE ZERO BIAS	0.03	0.07	0.70	-0.40	---
AVERAGE SPAN BIAS	12.45	8.37	42.05	855.45	---
BIAS GAS CONCENTRATION	12.50	8.31	42.40	857.00	---
FULL SCALE RANGE	25.00	20.00	100.00	2000.00	---
UNCORRECTED CONC.	12.41	6.97	45.28	610.50	---
CORRECTED CONC.	**12.46**	**6.91**	**45.71**	**611.72**	---
PPMV @ 15 % O2			31.96	427.69	---
LB/HR BASED ON PITOT FLOW (DSCFM)	9,904		3.30	26.85	---

SUMMARY OF CONTINUOUS MONITORING DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		HIGH LOAD	
SOURCE ID:	ENGINE #5	DATE:	12/09/13	TIME:	1313-1328
OPERATOR:	RN	PROJECT No.:	2061.1053		
PARAMETER UNITS	O_2 % VOL DRY	CO_2 % VOL DRY	NO_x PPMV,D	CO PPMV,D	SO_2 PPMV,D
INITIAL ZERO BIAS	0.03	0.07	0.90	-0.40	---
INITIAL SPAN BIAS	12.43	8.36	42.00	854.80	---
FINAL ZERO BIAS	0.02	-0.01	0.70	0.00	---
FINAL SPAN BIAS	12.46	8.39	41.80	859.70	---
AVERAGE ZERO BIAS	0.03	0.03	0.80	-0.20	---
AVERAGE SPAN BIAS	12.45	8.38	41.90	857.25	---
BIAS GAS CONCENTRATION	12.50	8.31	42.40	857.00	---
FULL SCALE RANGE	25.00	20.00	100.00	2000.00	---
UNCORRECTED CONC.	12.66	6.74	47.53	631.27	---
CORRECTED CONC.	**12.72**	**6.68**	**48.20**	**631.14**	---
PPMV @ 15 % O2			34.76	455.16	---
LB/HR BASED ON PITOT FLOW (DSCFM)	12,445		4.37	34.81	---

SUMMARY OF CONTINUOUS MONITORING DATA

FACILITY:	OCSD PLANT 2	DATA FOR SAMPLING RUN:		LOW LOAD	
SOURCE ID:	ENGINE #5	DATE:	12/09/13	TIME:	1342-1357
OPERATOR:	RN	PROJECT No.:	2061.1053		

PARAMETER UNITS	O_2 % VOL DRY	CO_2 % VOL DRY	NO_x PPMV,D	CO PPMV,D	SO_2 PPMV,D
INITIAL ZERO BIAS	0.03	0.07	0.90	-0.40	---
INITIAL SPAN BIAS	12.43	8.36	42.00	854.80	---
FINAL ZERO BIAS	0.02	-0.01	0.70	0.00	---
FINAL SPAN BIAS	12.46	8.39	41.80	859.70	---
AVERAGE ZERO BIAS	0.03	0.03	0.80	-0.20	---
AVERAGE SPAN BIAS	12.45	8.38	41.90	857.25	---
BIAS GAS CONCENTRATION	12.50	8.31	42.40	857.00	---
FULL SCALE RANGE	25.00	20.00	100.00	2000.00	---
UNCORRECTED CONC.	12.16	7.14	43.28	604.63	---
CORRECTED CONC.	**12.21**	**7.08**	**43.82**	**604.51**	---
PPMV @ 15 % O2			29.75	410.43	---
LB/HR BASED ON PITOT FLOW (DSCFM)	8,516		2.72	22.82	---

OCSD PLANT 2 ENGINE 5 COMPLIANCE (NORM LOAD)
December 9, 2013
RAW DAS DATA - RM RUN 1

DATA PT	DATE	TIME	O2 % VD	CO2 % VD	NOx PPMVD	CO PPMVD
1	12/09	11:42:17	12.41	6.98	39.6	412.0
2	12/09	11:43:17	12.39	7.01	45.3	612.3
3	12/09	11:44:17	12.40	6.99	45.2	607.1
4	12/09	11:45:17	12.40	6.98	45.5	606.7
5	12/09	11:46:17	12.38	7.00	45.5	612.3
6	12/09	11:47:17	12.38	7.00	45.4	606.3
7	12/09	11:48:17	12.39	7.00	45.5	607.1
8	12/09	11:49:17	12.37	7.02	45.1	607.1
9	12/09	11:50:17	12.36	7.02	45.7	603.9
10	12/09	11:51:17	12.37	7.00	46.1	604.3
11	12/09	11:52:17	12.39	7.00	45.4	607.5
12	12/09	11:53:17	12.40	7.00	45.6	609.1
13	12/09	11:54:17	12.39	6.98	45.6	609.5
14	12/09	11:55:17	12.39	6.98	45.2	609.9
15	12/09	11:56:17	12.38	6.98	45.6	607.1
16	12/09	11:57:17	12.38	7.00	45.9	609.9
17	12/09	11:58:17	12.37	7.00	46.3	602.3
18	12/09	11:59:17	12.40	6.99	45.9	608.3
19	12/09	12:00:17	12.40	6.98	45.4	612.7
20	12/09	12:01:17	12.34	7.01	47.2	597.5
21	12/09	12:02:17	12.41	6.97	46.8	598.3
22	12/09	12:03:17	12.43	6.94	46.3	608.3
23	12/09	12:04:17	12.48	6.92	45.9	611.5
24	12/09	12:05:17	12.50	6.89	45.0	623.2
25	12/09	12:06:17	12.48	6.91	45.5	622.4
26	12/09	12:07:17	12.49	6.91	45.4	624.4
27	12/09	12:08:17	12.44	6.94	46.1	612.7
28	12/09	12:09:17	12.46	6.92	45.7	611.5
29	12/09	12:10:17	12.49	6.91	45.0	620.4
30	12/09	12:11:17	12.45	6.92	44.8	623.6
31	12/09	12:12:17	12.45	6.92	45	619.2
32	12/09	12:13:17	12.41	6.95	45.4	618.3
33	12/09	12:14:17	12.43	6.94	45.2	619.2

34	12/09	12:15:17	12.44	6.94	45.0	619.2
35	12/09	12:16:17	12.46	6.92	44.7	620.4
36	12/09	12:17:17	12.43	6.96	44.7	620.4
37	12/09	12:18:17	12.41	6.96	44.8	619.2
38	12/09	12:19:17	12.40	6.97	45.0	617.5
39	12/09	12:20:17	12.40	6.96	45.1	617.5
40	12/09	12:21:17	12.42	6.96	45.4	611.1
41	12/09	12:22:17	12.41	6.96	45.2	616.3
42	12/09	12:23:17	12.42	6.96	44.9	619.2
43	12/09	12:24:17	12.39	6.97	45.2	615.1
44	12/09	12:25:17	12.39	6.98	45.7	611.5
45	12/09	12:26:17	12.40	6.98	45.4	613.1
46	12/09	12:27:17	12.43	6.95	45.1	616.3
47	12/09	12:28:17	12.42	6.97	45.1	616.3
48	12/09	12:29:17	12.42	6.97	45.3	620.0
49	12/09	12:30:17	12.43	6.96	44.8	617.9
50	12/09	12:31:17	12.41	6.98	44.9	620.8
51	12/09	12:32:17	12.39	7.00	45.4	612.7
52	12/09	12:33:17	12.40	6.96	45.4	613.9
53	12/09	12:34:17	12.39	6.99	45.2	617.5
54	12/09	12:35:17	12.40	6.99	45.4	618.8
55	12/09	12:36:17	12.41	6.97	45.3	613.1
56	12/09	12:37:17	12.41	6.98	44.9	616.7
57	12/09	12:38:17	12.41	6.97	45.2	616.3
58	12/09	12:39:17	12.43	6.95	44.9	617.9
59	12/09	12:40:17	12.39	6.98	44.9	620.0
60	12/09	12:41:17	12.39	6.98	45.1	617.9
61	12/09	12:42:17	12.40	6.98	45.0	617.9
AVERAGES			**12.41**	**6.97**	**45.28**	**610.50**

OCSD PLANT 2 ENGINE 5 COMPLIANCE (HIGH LOAD)
December 9, 2013
RAW DAS DATA - RM RUN 2

DATA PT	DATE	TIME	O2 % VD	CO2 % VD	NOx PPMVD	CO PPMVD
1	12/09	13:13:17	12.55	6.84	47.4	609.9
2	12/09	13:14:17	12.57	6.82	47.2	620.4
3	12/09	13:15:17	12.55	6.82	48.5	608.7
4	12/09	13:16:17	12.60	6.79	48.6	607.5
5	12/09	13:17:17	12.62	6.77	48.3	618.3
6	12/09	13:18:17	12.66	6.73	47.3	629.2
7	12/09	13:19:17	12.69	6.71	47.2	639.2
8	12/09	13:20:17	12.71	6.71	47.1	642.4
9	12/09	13:21:17	12.69	6.71	47.2	640.4
10	12/09	13:22:17	12.69	6.72	47.4	639.2
11	12/09	13:23:17	12.70	6.72	47.7	635.2
12	12/09	13:24:17	12.70	6.71	47.7	633.2
13	12/09	13:25:17	12.72	6.70	47.3	639.2
14	12/09	13:26:17	12.72	6.69	47.0	646.1
15	12/09	13:27:17	12.72	6.70	47.1	646.1
16	12/09	13:28:17	12.71	6.70	47.4	645.3
AVERAGES			**12.66**	**6.74**	**47.53**	**631.27**

OCSD PLANT 2 ENGINE 5 COMPLIANCE (LOW LOAD)
December 9, 2013
RAW DAS DATA - RM RUN 3

DATA PT	DATE	TIME	O2 % VD	CO2 % VD	NOx PPMVD	CO PPMVD
1	12/09	13:42:17	12.58	6.82	41.4	656.9
2	12/09	13:43:17	12.46	6.92	41.0	654.9
3	12/09	13:44:17	12.34	7.01	41.4	639.6
4	12/09	13:45:17	12.19	7.12	42.7	615.5
5	12/09	13:46:17	12.10	7.19	43.3	603.1
6	12/09	13:47:17	12.11	7.18	43.5	595.1
7	12/09	13:48:17	12.09	7.18	43.3	598.7
8	12/09	13:49:17	12.12	7.18	43.1	597.9
9	12/09	13:50:17	12.05	7.23	43.5	596.3
10	12/09	13:51:17	12.04	7.23	43.8	589.0
11	12/09	13:52:17	12.01	7.27	44.3	582.2
12	12/09	13:53:17	12.01	7.26	44.5	585.0
13	12/09	13:54:17	12.06	7.22	44.4	585.4
14	12/09	13:55:17	12.10	7.19	44.5	585.4
15	12/09	13:56:17	12.11	7.16	44.0	594.7
16	12/09	13:57:17	12.14	7.15	43.8	594.3
AVERAGES			**12.16**	**7.14**	**43.28**	**604.63**

DAQ32 Historical Viewer R10.02.01 | Software ID | **P2E5**

Start Time		2013/12/09		08:59:43.5				
End Time		2013/12/09		11:02:43.5				
Sample Rate		60.0 Sec						
Data Count		124						
Group		01	-	01				
		Ch.	CH001	CH002	CH003	CH004		
Date	Time	msec	% O2	% CO2	ppmNOx	ppm CO		
12/09	08:59:43	0.5	0.00	0.05	0.0	-0.8	ZERO	
12/09	09:00:43	0.5	0.00	0.06	0.0	-0.4		
12/09	09:01:43	0.5	0.00	0.06	0.0	-0.4		
12/09	09:02:43	0.5	21.06	16.95	83.8	847.6		
12/09	09:03:43	0.5	21.08	16.72	87.3	1807.3		
12/09	09:04:43	0.5	21.01	16.73	87.7	1826.5		
12/09	09:05:43	0.5	20.99	16.71	87.3	1814.5		
12/09	09:06:43	0.5	12.47	8.47	53.3	1815.3	HIGH	
12/09	09:07:43	0.5	12.47	8.45	42.4	1816.9		
12/09	09:08:43	0.5	12.46	8.46	42.3	944.8		
12/09	09:09:43	0.5	12.43	8.43	42.3	852.0	MID	
12/09	09:10:43	0.5	12.30	8.35	42.3	851.2		
12/09	09:11:43	0.5	0.09	0.14	0.0	272.2		
12/09	09:12:43	0.5	0.09	0.13	0.0	0.0		
12/09	09:13:43	0.5	-0.02	0.12	33.5	0.4		
12/09	09:14:43	0.5	0.80	0.12	34.1	3.2		
12/09	09:15:43	0.5	9.27	0.13	34.1	3.2	NOX REPONSE TO NO2	
12/09	09:16:43	0.5	13.38	0.13	12.9	2.8		
12/09	09:17:43	0.5	14.25	0.14	0.0	1.6		
12/09	09:18:43	0.5	20.59	0.52	0.0	4.4	NO REPONSE TO NO2	
12/09	09:19:43	0.5	6.40	3.20	0.8	245.7		
12/09	09:20:43	0.5	0.29	0.22	0.5	817.9		
12/09	09:21:43	0.5	0.86	0.63	0.4	848.0		
12/09	09:22:43	0.5	0.53	0.38	0.3	848.4		
12/09	09:23:43	0.5	0.06	0.09	0.3	848.4		
12/09	09:24:43	0.5	0.07	0.09	16.1	843.6	CO BIAS	
12/09	09:25:43	0.5	0.02	0.09	42.6	3.6		
12/09	09:26:43	0.5	0.02	0.10	42.6	-0.8	NOX BIAS	
12/09	09:27:43	0.5	12.51	8.48	0.8	-0.8		
12/09	09:28:43	0.5	12.54	8.50	0.2	-1.2		
12/09	09:29:43	0.5	12.53	8.51	0.2	-0.8	O2/CO BIAS	
12/09	09:30:43	0.5	12.55	8.53	0.1	-0.8		
12/09	09:31:43	0.5	13.26	8.04	0.3	-1.2		
12/09	09:32:43	0.5	12.22	7.28	49.3	429.6		
12/09	09:33:43	0.5	12.26	7.26	50.3	556.9	START NORMAL LOAD TEST	
12/09	09:34:43	0.5	12.25	7.26	50.2	558.1		
12/09	09:35:43	0.5	12.26	7.29	50.0	558.9		
12/09	09:36:43	0.5	12.29	7.26	48.7	564.9		
12/09	09:37:43	0.5	12.27	7.28	49.0	565.7		
12/09	09:38:43	0.5	12.23	7.31	49.3	564.5		
12/09	09:39:43	0.5	12.24	7.30	50.9	554.1		
12/09	09:40:43	0.5	12.27	7.27	50.7	554.1		
12/09	09:41:43	0.5	12.23	7.31	50.9	555.3		
12/09	09:42:43	0.5	12.33	7.23	49.9	551.7		
12/09	09:43:43	0.5	12.36	7.21	49.3	566.2		
12/09	09:44:43	0.5	12.37	7.19	48.4	575.0		
12/09	09:45:43	0.5	12.37	7.19	48.4	577.4		

12/09	09:46:43	0.5	12.35	7.21	48.4	577.8	
12/09	09:47:43	0.5	12.34	7.22	48.6	570.2	
12/09	09:48:43	0.5	12.34	7.22	48.9	572.6	
12/09	09:49:43	0.5	12.31	7.22	49.2	571.4	
12/09	09:50:43	0.5	12.33	7.22	49.3	567.4	
12/09	09:51:43	0.5	12.31	7.24	49.6	568.6	
12/09	09:52:43	0.5	12.31	7.23	49.6	568.6	
12/09	09:53:43	0.5	12.31	7.23	49.7	565.3	
12/09	09:54:43	0.5	12.31	7.23	49.2	570.6	
12/09	09:55:43	0.5	12.31	7.23	49.1	567.0	
12/09	09:56:43	0.5	12.32	7.22	49.3	569.8	
12/09	09:57:43	0.5	12.32	7.23	48.8	573.8	
12/09	09:58:43	0.5	12.33	7.20	49.2	567.4	
12/09	09:59:43	0.5	12.34	7.18	48.2	575.4	
12/09	10:00:43	0.5	12.34	7.20	48.8	575.8	
12/09	10:01:43	0.5	12.34	7.19	48.7	576.2	
12/09	10:02:43	0.5	12.33	7.20	49.2	572.2	
12/09	10:03:43	0.5	12.33	7.21	49.6	569.0	
12/09	10:04:43	0.5	12.35	7.18	49.1	571.4	
12/09	10:05:43	0.5	12.32	7.19	49.3	572.6	
12/09	10:06:43	0.5	12.37	7.17	48.9	569.8	
12/09	10:07:43	0.5	12.38	7.16	48.9	573.4	
12/09	10:08:43	0.5	12.37	7.15	48.4	579.0	
12/09	10:09:43	0.5	12.36	7.15	48.8	576.6	
12/09	10:10:43	0.5	12.34	7.18	49.2	579.8	
12/09	10:11:43	0.5	12.38	7.15	48.9	572.2	
12/09	10:12:43	0.5	12.35	7.17	49.3	575.8	
12/09	10:13:43	0.5	12.40	7.12	48.7	576.6	
12/09	10:14:43	0.5	12.36	7.15	49.4	579.8	
12/09	10:15:43	0.5	12.38	7.14	49.2	576.6	
12/09	10:16:43	0.5	12.36	7.15	49.4	573.0	
12/09	10:17:43	0.5	12.36	7.16	49.5	575.8	
12/09	10:18:43	0.5	12.40	7.14	49.9	571.0	
12/09	10:19:43	0.5	12.42	7.10	48.7	580.6	
12/09	10:20:43	0.5	12.40	7.13	48.9	585.4	
12/09	10:21:43	0.5	12.39	7.12	48.8	580.2	
12/09	10:22:43	0.5	12.36	7.13	49.6	578.2	
12/09	10:23:43	0.5	12.34	7.13	49.8	576.6	
12/09	10:24:43	0.5	12.37	7.12	49.2	575.8	
12/09	10:25:43	0.5	12.36	7.13	48.9	581.4	
12/09	10:26:43	0.5	12.34	7.12	49.0	578.6	
12/09	10:27:43	0.5	12.36	7.12	49.1	581.0	
12/09	10:28:43	0.5	12.38	7.11	49.0	581.4	
12/09	10:29:43	0.5	12.35	7.12	49.1	581.0	
12/09	10:30:43	0.5	12.36	7.12	48.7	583.8	
12/09	10:31:43	0.5	12.37	7.12	49.0	578.6	
12/09	10:32:43	0.5	12.38	7.12	48.5	582.2	
12/09	10:33:43	0.5	12.36	7.12	48.6	578.6	END NORMAL LOAD TEST
12/09	10:34:43	0.5	12.36	7.11	48.9	577.8	
12/09	10:35:43	0.5	12.36	7.12	48.6	582.2	
12/09	10:36:43	0.5	12.39	7.10	48.6	580.2	
12/09	10:37:43	0.5	12.42	7.07	47.5	587.0	
12/09	10:38:43	0.5	12.53	8.44	2.8	53.4	O2/CO BIAS
12/09	10:39:43	0.5	12.53	8.47	2.0	-1.2	
12/09	10:40:43	0.5	12.53	8.46	1.5	-1.2	

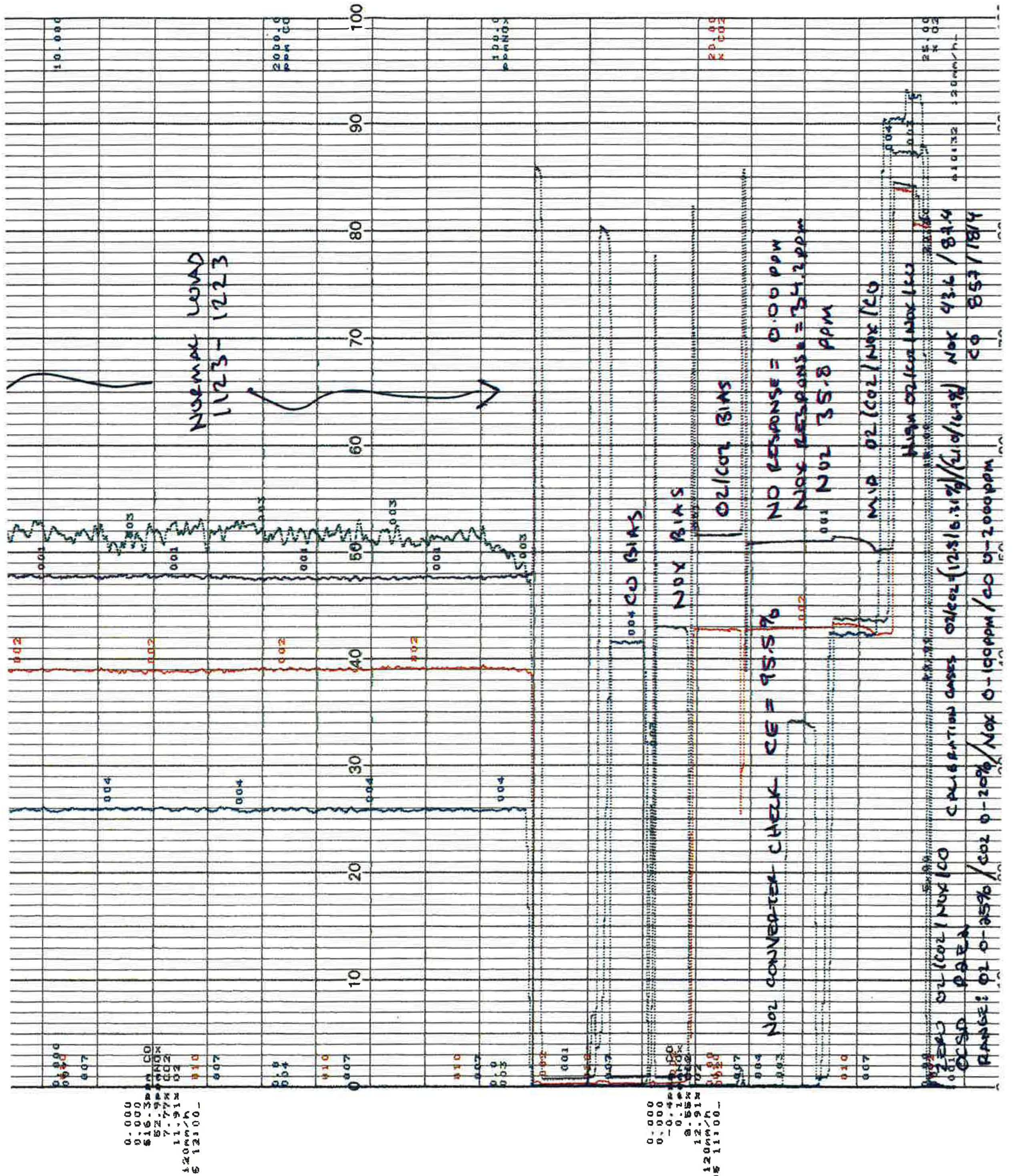
12/09	10:41:43	0.5	12.53	8.48	1.2	-0.8	
12/09	10:42:43	0.5	12.54	8.45	1.0	-0.8	
12/09	10:43:43	0.5	0.08	0.10	0.9	573.4	
12/09	10:44:43	0.5	0.06	0.07	0.8	846.0	
12/09	10:45:43	0.5	0.05	0.07	0.7	843.6	
12/09	10:46:43	0.5	0.04	0.06	0.6	846.4	
12/09	10:47:43	0.5	0.04	0.06	0.6	847.2	CO BIAS
12/09	10:48:43	0.5	0.04	0.06	41.6	661.7	
12/09	10:49:43	0.5	0.04	0.06	43.5	0.0	
12/09	10:50:43	0.5	0.04	0.06	43.5	-0.4	
12/09	10:51:43	0.5	0.03	0.06	43.6	-0.8	NOX BIAS
12/09	10:52:43	0.5	-0.01	0.04	0.0	0.0	
12/09	10:53:43	0.5	-0.01	0.04	0.0	-1.2	ZERO
12/09	10:54:43	0.5	12.55	8.47	43.4	42.2	
12/09	10:55:43	0.5	12.55	8.48	43.6	842.4	
12/09	10:56:43	0.5	12.55	8.48	43.6	846.0	
12/09	10:57:43	0.5	21.14	16.76	57.3	848.8	MID
12/09	10:58:43	0.5	21.15	16.80	90.5	1771.1	
12/09	10:59:43	0.5	21.15	16.81	90.5	1801.6	HIGH
12/09	11:00:43	0.5	21.20	16.85	8.8	1788.8	
12/09	11:01:43	0.5	21.19	16.84	0.3	1796.0	O2/CO HIGH
12/09	11:02:43	0.5	21.20	16.86	0.6	1800.4	

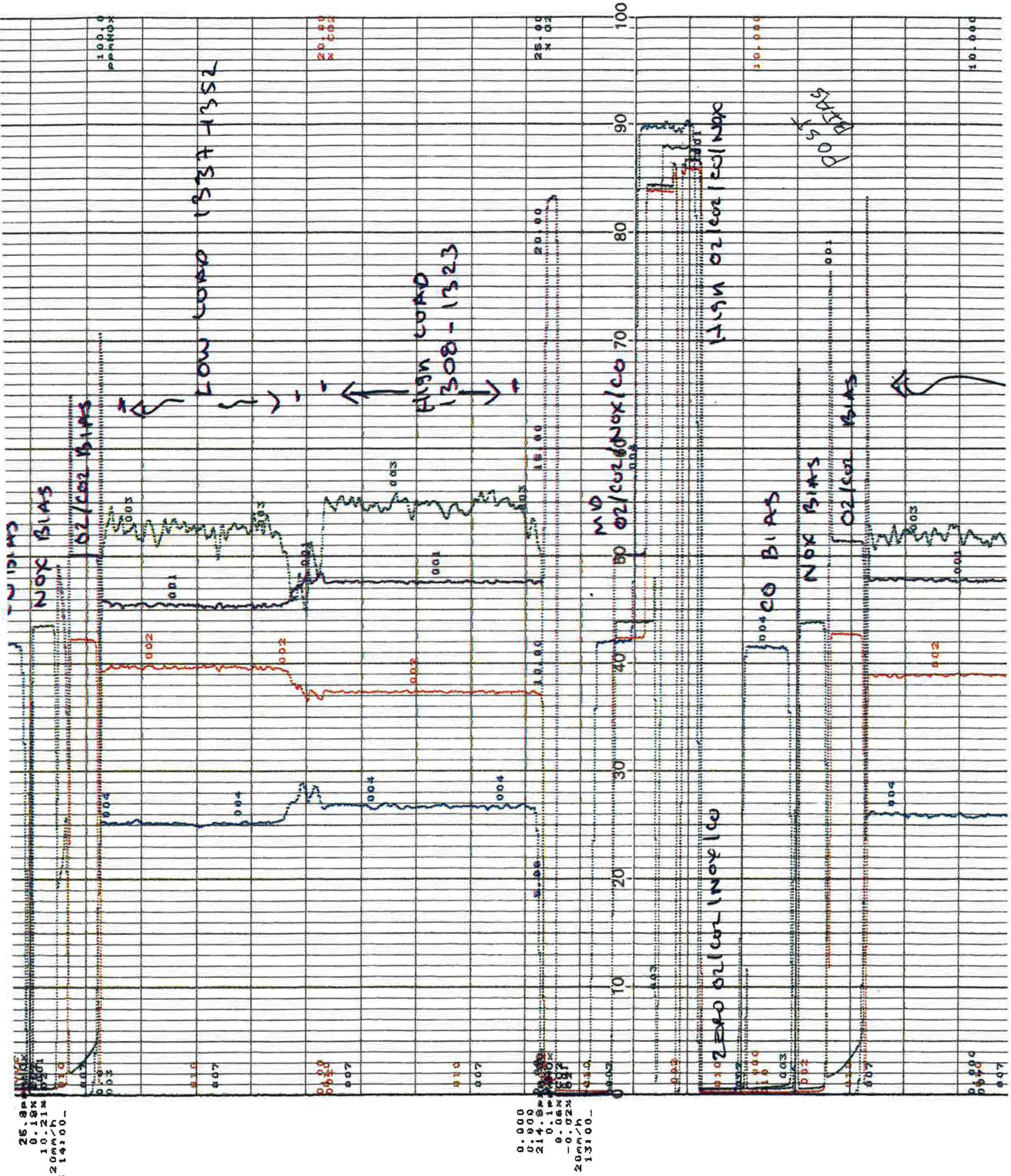
DAQ32 Historical Viewer R10.02.01				Software ID			**P2E5**
Start Time		2013/12/09		11:18:17.5			
End Time		2013/12/09		14:24:17.5			
Sample Rate		60.0 Sec					
Data Count		187					
Group		01	-	01			
		Ch.	CH001	CH002	CH003	CH004	
Date	Time	msec	% O2	% CO2	ppmNOx	ppm CO	
12/09	11:18:17	0.5	0.11	0.13	0.0	0.0	ZERO
12/09	11:19:17	0.5	0.11	0.12	0.0	0.0	
12/09	11:20:17	0.5	21.17	16.84	90.9	1504.1	
12/09	11:21:17	0.5	21.04	16.71	87.2	1787.6	
12/09	11:22:17	0.5	21.06	16.72	87.4	1813.3	HIGH
12/09	11:23:17	0.5	12.62	8.51	87.4	1823.7	
12/09	11:24:17	0.5	12.51	8.45	42.3	876.9	
12/09	11:25:17	0.5	12.52	8.45	42.2	856.9	
12/09	11:26:17	0.5	12.52	8.45	42.2	858.5	MID
12/09	11:27:17	0.5	20.87	0.13	0.1	269.0	
12/09	11:28:17	0.5	12.49	8.34	0.5	-0.8	
12/09	11:29:17	0.5	12.47	8.37	0.5	-1.2	O2/CO2 BIAS
12/09	11:30:17	0.5	12.46	8.36	0.4	-1.2	
12/09	11:31:17	0.5	11.79	7.63	0.4	-1.2	
12/09	11:32:17	0.5	0.05	0.08	0.4	832.8	
12/09	11:33:17	0.5	0.03	0.07	0.3	856.9	
12/09	11:34:17	0.5	0.03	0.06	0.3	856.1	CO BIAS
12/09	11:35:17	0.5	0.01	0.06	6.1	849.2	
12/09	11:36:17	0.5	0.02	0.06	42.0	4.0	
12/09	11:37:17	0.5	0.01	0.06	42.1	-0.8	
12/09	11:38:17	0.5	0.01	0.06	42.1	-0.4	NOX BIAS
12/09	11:39:17	0.5	12.40	6.95	43.2	280.7	
12/09	11:40:17	0.5	12.43	6.97	44.1	615.9	
12/09	11:41:17	0.5	20.85	0.15	86.7	491.9	
12/09	11:42:17	0.5	12.41	6.98	39.6	412.0	START NORMAL LOAD TEST
12/09	11:43:17	0.5	12.39	7.01	45.3	612.3	
12/09	11:44:17	0.5	12.40	6.99	45.2	607.1	
12/09	11:45:17	0.5	12.40	6.98	45.5	606.7	
12/09	11:46:17	0.5	12.38	7.00	45.5	612.3	
12/09	11:47:17	0.5	12.38	7.00	45.4	606.3	
12/09	11:48:17	0.5	12.39	7.00	45.5	607.1	
12/09	11:49:17	0.5	12.37	7.02	45.1	607.1	
12/09	11:50:17	0.5	12.36	7.02	45.7	603.9	
12/09	11:51:17	0.5	12.37	7.00	46.1	604.3	
12/09	11:52:17	0.5	12.39	7.00	45.4	607.5	
12/09	11:53:17	0.5	12.40	7.00	45.6	609.1	
12/09	11:54:17	0.5	12.39	6.98	45.6	609.5	
12/09	11:55:17	0.5	12.39	6.98	45.2	609.9	
12/09	11:56:17	0.5	12.38	6.98	45.6	607.1	
12/09	11:57:17	0.5	12.38	7.00	45.9	609.9	
12/09	11:58:17	0.5	12.37	7.00	46.3	602.3	
12/09	11:59:17	0.5	12.40	6.99	45.9	608.3	
12/09	12:00:17	0.5	12.40	6.98	45.4	612.7	
12/09	12:01:17	0.5	12.34	7.01	47.2	597.5	
12/09	12:02:17	0.5	12.41	6.97	46.8	598.3	
12/09	12:03:17	0.5	12.43	6.94	46.3	608.3	
12/09	12:04:17	0.5	12.48	6.92	45.9	611.5	

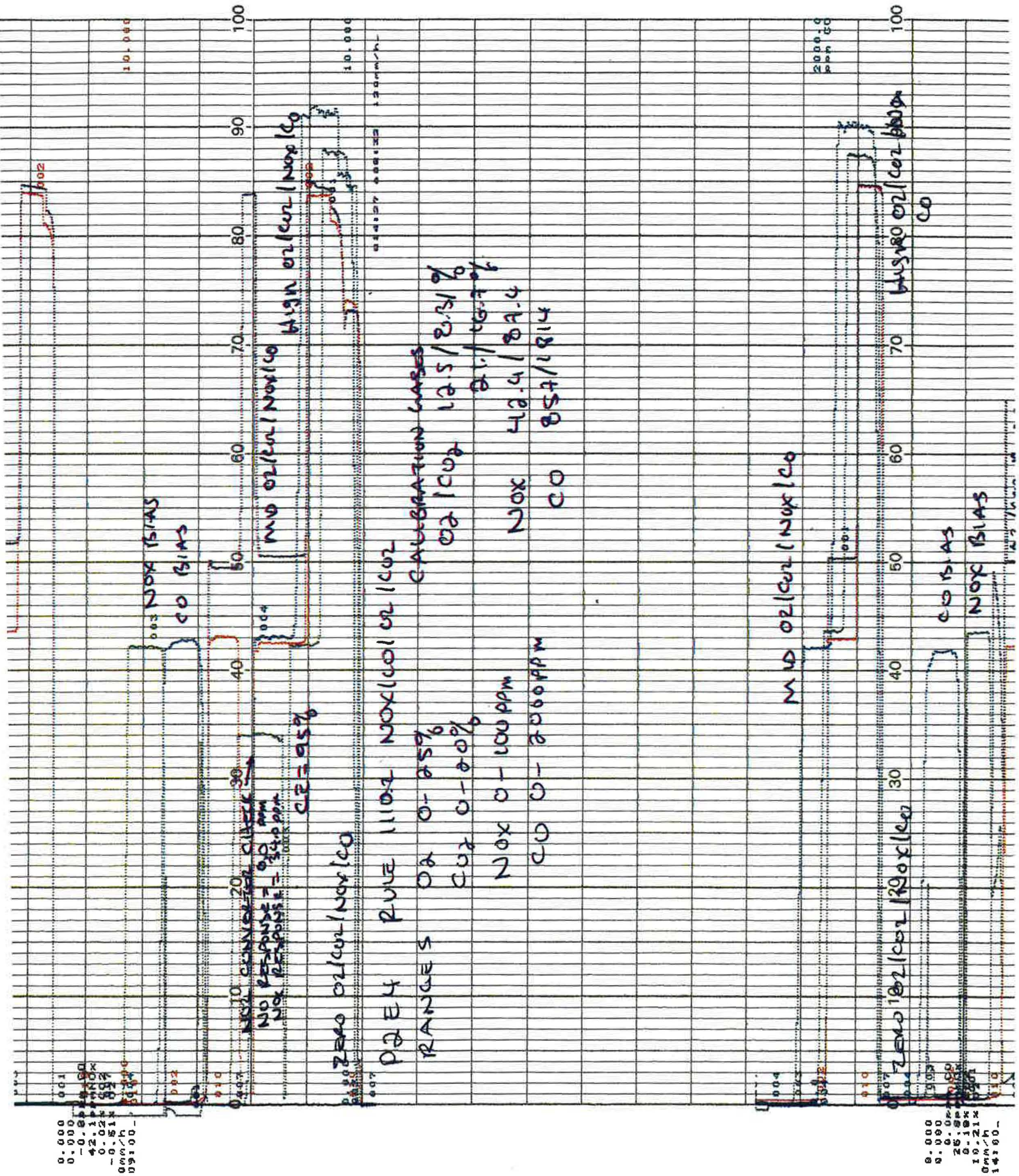
12/09	12:05:17	0.5	12.50	6.89	45.0	623.2	
12/09	12:06:17	0.5	12.48	6.91	45.5	622.4	
12/09	12:07:17	0.5	12.49	6.91	45.4	624.4	
12/09	12:08:17	0.5	12.44	6.94	46.1	612.7	
12/09	12:09:17	0.5	12.46	6.92	45.7	611.5	
12/09	12:10:17	0.5	12.49	6.91	45.0	620.4	
12/09	12:11:17	0.5	12.45	6.92	44.8	623.6	
12/09	12:12:17	0.5	12.45	6.92	45.0	619.2	
12/09	12:13:17	0.5	12.41	6.95	45.4	618.3	
12/09	12:14:17	0.5	12.43	6.94	45.2	619.2	
12/09	12:15:17	0.5	12.44	6.94	45.0	619.2	
12/09	12:16:17	0.5	12.46	6.92	44.7	620.4	
12/09	12:17:17	0.5	12.43	6.96	44.7	620.4	
12/09	12:18:17	0.5	12.41	6.96	44.8	619.2	
12/09	12:19:17	0.5	12.40	6.97	45.0	617.5	
12/09	12:20:17	0.5	12.40	6.96	45.1	617.5	
12/09	12:21:17	0.5	12.42	6.96	45.4	611.1	
12/09	12:22:17	0.5	12.41	6.96	45.2	616.3	
12/09	12:23:17	0.5	12.42	6.96	44.9	619.2	
12/09	12:24:17	0.5	12.39	6.97	45.2	615.1	
12/09	12:25:17	0.5	12.39	6.98	45.7	611.5	
12/09	12:26:17	0.5	12.40	6.98	45.4	613.1	
12/09	12:27:17	0.5	12.43	6.95	45.1	616.3	
12/09	12:28:17	0.5	12.42	6.97	45.1	616.3	
12/09	12:29:17	0.5	12.42	6.97	45.3	620.0	
12/09	12:30:17	0.5	12.43	6.96	44.8	617.9	
12/09	12:31:17	0.5	12.41	6.98	44.9	620.8	
12/09	12:32:17	0.5	12.39	7.00	45.4	612.7	
12/09	12:33:17	0.5	12.40	6.96	45.4	613.9	
12/09	12:34:17	0.5	12.39	6.99	45.2	617.5	
12/09	12:35:17	0.5	12.40	6.99	45.4	618.8	
12/09	12:36:17	0.5	12.41	6.97	45.3	613.1	
12/09	12:37:17	0.5	12.41	6.98	44.9	616.7	
12/09	12:38:17	0.5	12.41	6.97	45.2	616.3	
12/09	12:39:17	0.5	12.43	6.95	44.9	617.9	
12/09	12:40:17	0.5	12.39	6.98	44.9	620.0	
12/09	12:41:17	0.5	12.39	6.98	45.1	617.9	
12/09	12:42:17	0.5	12.40	6.98	45.0	617.9	START NORMAL LOAD TEST
12/09	12:43:17	0.5	12.41	6.97	44.7	620.8	
12/09	12:44:17	0.5	12.40	6.98	45.2	616.3	
12/09	12:45:17	0.5	12.39	6.98	45.3	615.1	
12/09	12:46:17	0.5	12.39	6.98	45.5	610.7	
12/09	12:47:17	0.5	12.41	6.97	45.1	615.9	
12/09	12:48:17	0.5	12.43	6.97	74.7	612.3	
12/09	12:49:17	0.5	12.42	8.39	2.9	49.0	
12/09	12:50:17	0.5	12.43	8.42	2.1	-1.2	
12/09	12:51:17	0.5	12.43	8.42	1.6	-0.8	
12/09	12:52:17	0.5	12.43	8.36	1.4	-0.8	O2/CO2 BIAS
12/09	12:53:17	0.5	0.13	0.15	1.3	123.3	
12/09	12:54:17	0.5	0.06	0.10	1.0	853.6	
12/09	12:55:17	0.5	0.06	0.09	0.9	854.8	CO BIAS
12/09	12:56:17	0.5	0.04	0.09	0.8	855.2	
12/09	12:57:17	0.5	0.02	0.07	86.1	177.1	
12/09	12:58:17	0.5	0.01	0.07	86.5	0.0	
12/09	12:59:17	0.5	0.02	0.07	86.5	-0.8	

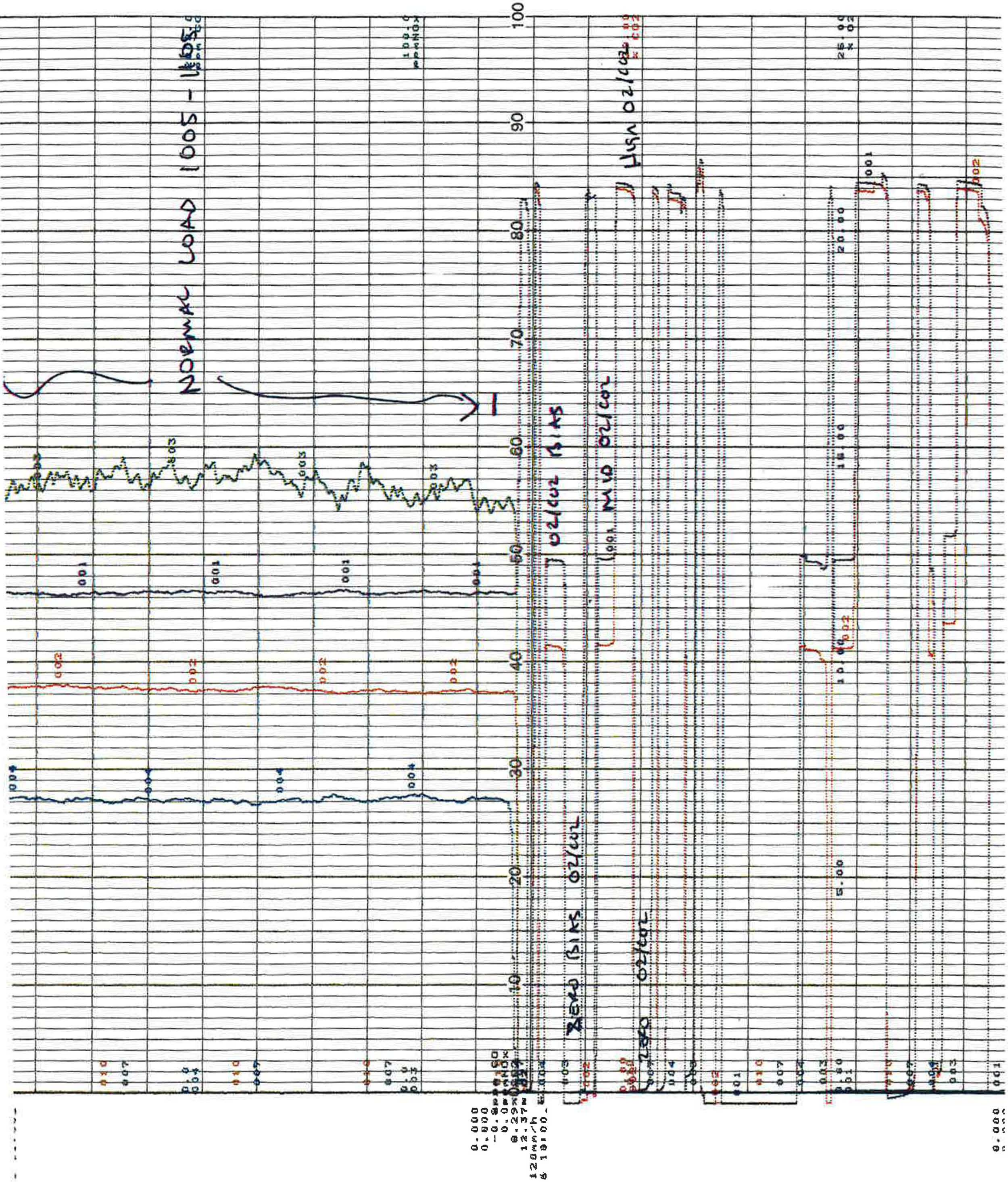
12/09	13:00:17	0.5	0.02	0.07	42.1	-0.8	
12/09	13:01:17	0.5	0.03	0.07	42.0	-0.4	NOX BIAS
12/09	13:02:17	0.5	20.98	16.63	68.4	38.5	
12/09	13:03:17	0.5	21.02	16.68	87.3	1810.5	
12/09	13:04:17	0.5	21.03	16.69	87.3	1815.7	
12/09	13:05:17	0.5	12.44	6.93	42.6	701.1	
12/09	13:06:17	0.5	12.46	6.92	44.0	617.9	
12/09	13:07:17	0.5	12.46	6.93	44.3	625.2	
12/09	13:08:17	0.5	12.44	6.94	44.5	624.0	
12/09	13:09:17	0.5	12.49	6.90	45.2	619.2	
12/09	13:10:17	0.5	12.52	6.87	45.0	624.4	
12/09	13:11:17	0.5	12.52	6.86	46.8	609.1	
12/09	13:12:17	0.5	12.50	6.88	46.8	620.8	
12/09	13:13:17	0.5	12.55	6.84	47.4	609.9	START HIGH LOAD TEST
12/09	13:14:17	0.5	12.57	6.82	47.2	620.4	
12/09	13:15:17	0.5	12.55	6.82	48.5	608.7	
12/09	13:16:17	0.5	12.60	6.79	48.6	607.5	
12/09	13:17:17	0.5	12.62	6.77	48.3	618.3	
12/09	13:18:17	0.5	12.66	6.73	47.3	629.2	
12/09	13:19:17	0.5	12.69	6.71	47.2	639.2	
12/09	13:20:17	0.5	12.71	6.71	47.1	642.4	
12/09	13:21:17	0.5	12.69	6.71	47.2	640.4	
12/09	13:22:17	0.5	12.69	6.72	47.4	639.2	
12/09	13:23:17	0.5	12.70	6.72	47.7	635.2	
12/09	13:24:17	0.5	12.70	6.71	47.7	633.2	
12/09	13:25:17	0.5	12.72	6.70	47.3	639.2	
12/09	13:26:17	0.5	12.72	6.69	47.0	646.1	
12/09	13:27:17	0.5	12.72	6.70	47.1	646.1	
12/09	13:28:17	0.5	12.71	6.70	47.4	645.3	END HIGH LOAD TEST
12/09	13:29:17	0.5	12.72	6.70	47.1	646.1	
12/09	13:30:17	0.5	12.72	6.68	47.0	646.9	
12/09	13:31:17	0.5	12.73	6.69	47.0	645.3	
12/09	13:32:17	0.5	12.71	6.71	47.1	644.0	
12/09	13:33:17	0.5	12.71	6.70	47.5	642.8	
12/09	13:34:17	0.5	12.71	6.71	47.3	644.0	
12/09	13:35:17	0.5	12.70	6.70	47.2	646.1	
12/09	13:36:17	0.5	12.78	6.66	45.9	653.3	
12/09	13:37:17	0.5	12.73	6.69	45.9	654.1	
12/09	13:38:17	0.5	12.73	6.68	45.8	655.7	
12/09	13:39:17	0.5	12.77	6.68	44.2	661.7	
12/09	13:40:17	0.5	12.72	6.70	43.3	665.7	
12/09	13:41:17	0.5	12.65	6.75	42.5	660.9	
12/09	13:42:17	0.5	12.58	6.82	41.4	656.9	START HIGH LOAD TEST
12/09	13:43:17	0.5	12.46	6.92	41.0	654.9	
12/09	13:44:17	0.5	12.34	7.01	41.4	639.6	
12/09	13:45:17	0.5	12.19	7.12	42.7	615.5	
12/09	13:46:17	0.5	12.10	7.19	43.3	603.1	
12/09	13:47:17	0.5	12.11	7.18	43.5	595.1	
12/09	13:48:17	0.5	12.09	7.18	43.3	598.7	
12/09	13:49:17	0.5	12.12	7.18	43.1	597.9	
12/09	13:50:17	0.5	12.05	7.23	43.5	596.3	
12/09	13:51:17	0.5	12.04	7.23	43.8	589.0	
12/09	13:52:17	0.5	12.01	7.27	44.3	582.2	
12/09	13:53:17	0.5	12.01	7.26	44.5	585.0	
12/09	13:54:17	0.5	12.06	7.22	44.4	585.4	

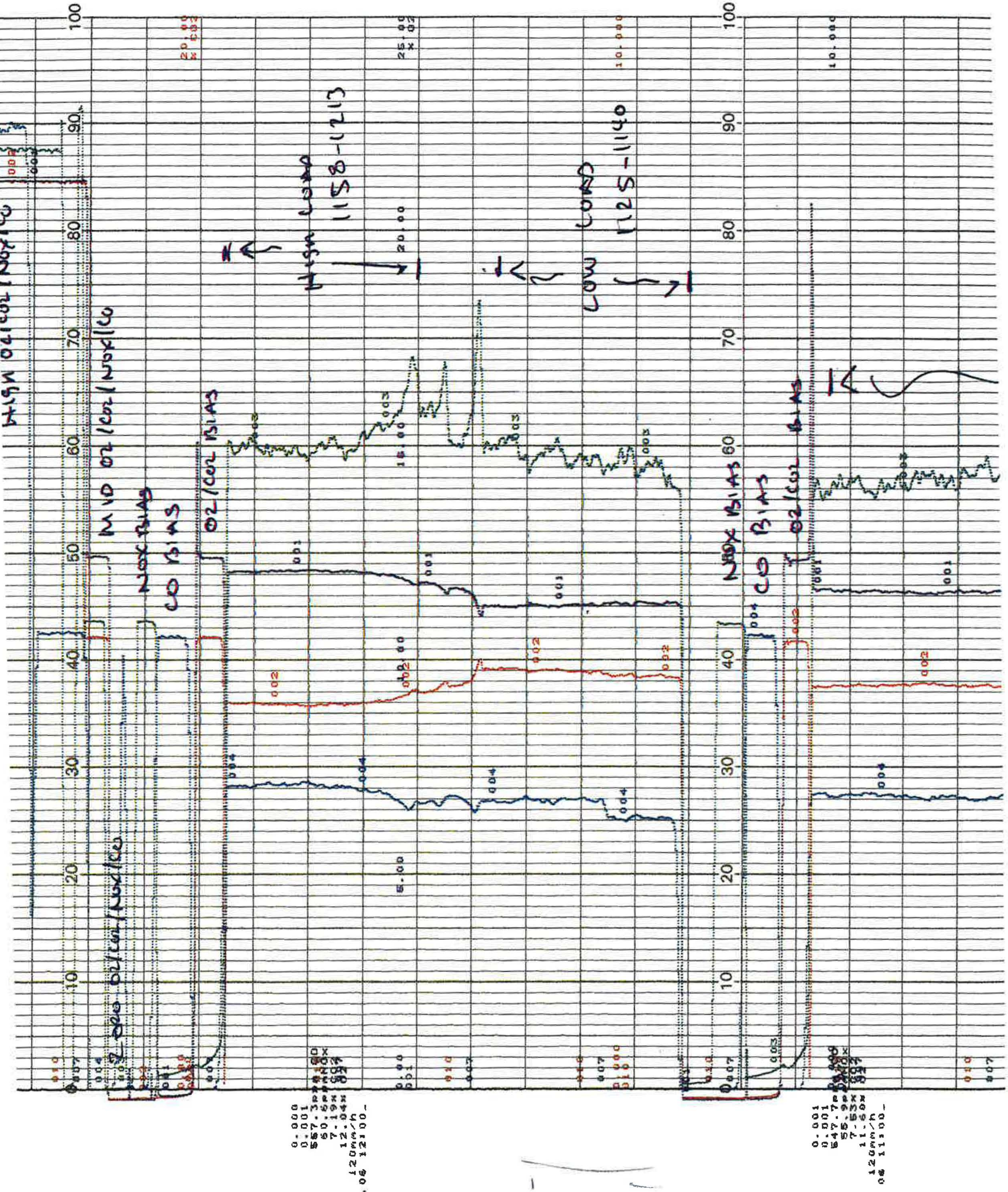
12/09	13:55:17	0.5	12.10	7.19	44.5	585.4	
12/09	13:56:17	0.5	12.11	7.16	44.0	594.7	
12/09	13:57:17	0.5	12.14	7.15	43.8	594.3	END HIGH LOAD TEST
12/09	13:58:17	0.5	12.16	7.16	45.0	583.8	
12/09	13:59:17	0.5	12.25	7.07	44.0	600.3	
12/09	14:00:17	0.5	12.29	7.05	43.2	606.3	
12/09	14:01:17	0.5	12.25	7.08	43.5	612.3	
12/09	14:02:17	0.5	12.27	7.08	42.9	615.9	
12/09	14:03:17	0.5	12.12	7.00	43.2	611.5	
12/09	14:04:17	0.5	18.03	2.95	3.3	55.0	
12/09	14:05:17	0.5	12.46	8.38	2.1	-1.2	
12/09	14:06:17	0.5	12.45	8.39	1.7	-0.8	
12/09	14:07:17	0.5	12.46	8.39	1.3	-0.8	O2/CO2 BIAS
12/09	14:08:17	0.5	0.29	0.25	1.2	50.6	
12/09	14:09:17	0.5	0.06	0.06	1.0	1810.5	
12/09	14:10:17	0.5	0.04	0.05	0.9	1818.1	
12/09	14:11:17	0.5	0.06	0.05	0.8	1769.5	
12/09	14:12:17	0.5	0.04	0.04	0.7	860.9	
12/09	14:13:17	0.5	0.04	0.04	0.7	859.7	CO BIAS
12/09	14:14:17	0.5	0.03	0.04	0.6	859.7	
12/09	14:15:17	0.5	0.01	0.04	41.7	106.4	
12/09	14:16:17	0.5	0.02	0.04	41.8	0.0	NOX BIAS
12/09	14:17:17	0.5	0.00	0.04	24.5	5.6	
12/09	14:18:17	0.5	-0.01	0.04	0.1	-0.8	ZERO
12/09	14:19:17	0.5	0.45	0.04	0.0	-0.8	
12/09	14:20:17	0.5	12.47	8.28	41.9	827.9	
12/09	14:21:17	0.5	12.48	8.29	42.0	859.7	MID
12/09	14:22:17	0.5	20.93	16.48	78.0	921.9	
12/09	14:23:17	0.5	20.94	16.51	86.9	1814.5	HIGH
12/09	14:24:17	0.5	21.03	16.40	86.9	1818.5	


NORMAL LOAD
1123-1223
CO BIAS
NOX BIAS
O2/CO2 BIAS
NO2 CONVERTER CHECK CE = 95.5%
NO RESPONSE = 0.00 PPM
NOX RESPONSE = 34.2 PPM
NO2 35.8 PPM
MID O2/CO2/NOX/CO
HIGH O2/CO2/NOX/CO
ZERO O2/CO2/NOX/CO
OCSD DATA
CALIBRATION GASES O2/CO2 = (12.5/6.31%)/(21.0/16.98%) NOX 43.6/87.4 CO 857/1814
RANGE: O2 0-25% / CO2 0-20% / NOX 0-100PPM / CO 0-2000PPM

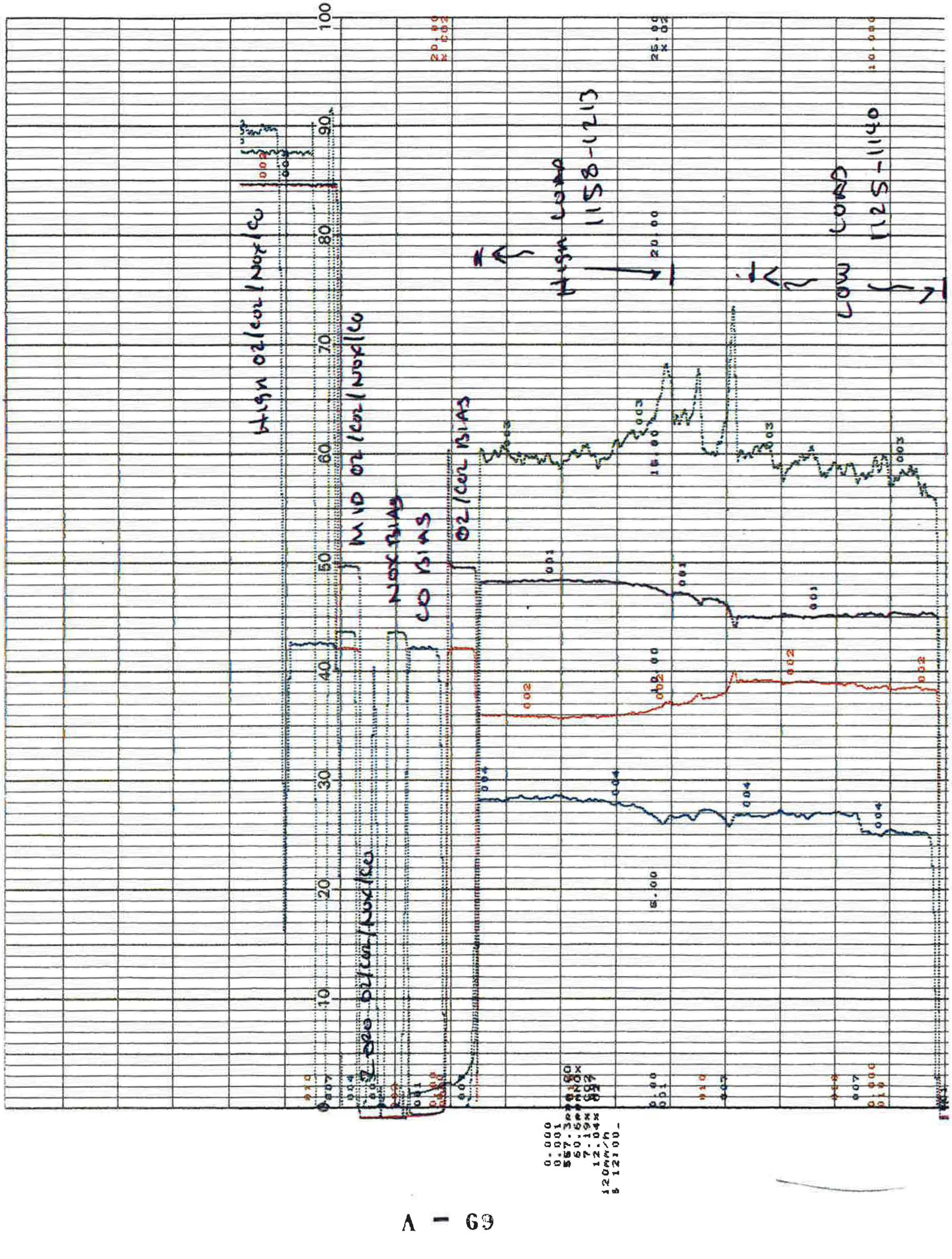

NOx BIAS
O2/CO2 BIAS
LOW LOAD 1337-1352
HIGH LOAD 1308-1323
MID O2/CO2/NOx/CO
HIGH O2/CO2/NOx
ZERO O2/CO2/NOx/CO
CO BIAS
NOx BIAS
O2/CO2 BIAS
POST BIAS
100.0 ppmNOx
20.00 %CO2
25.00 %O2

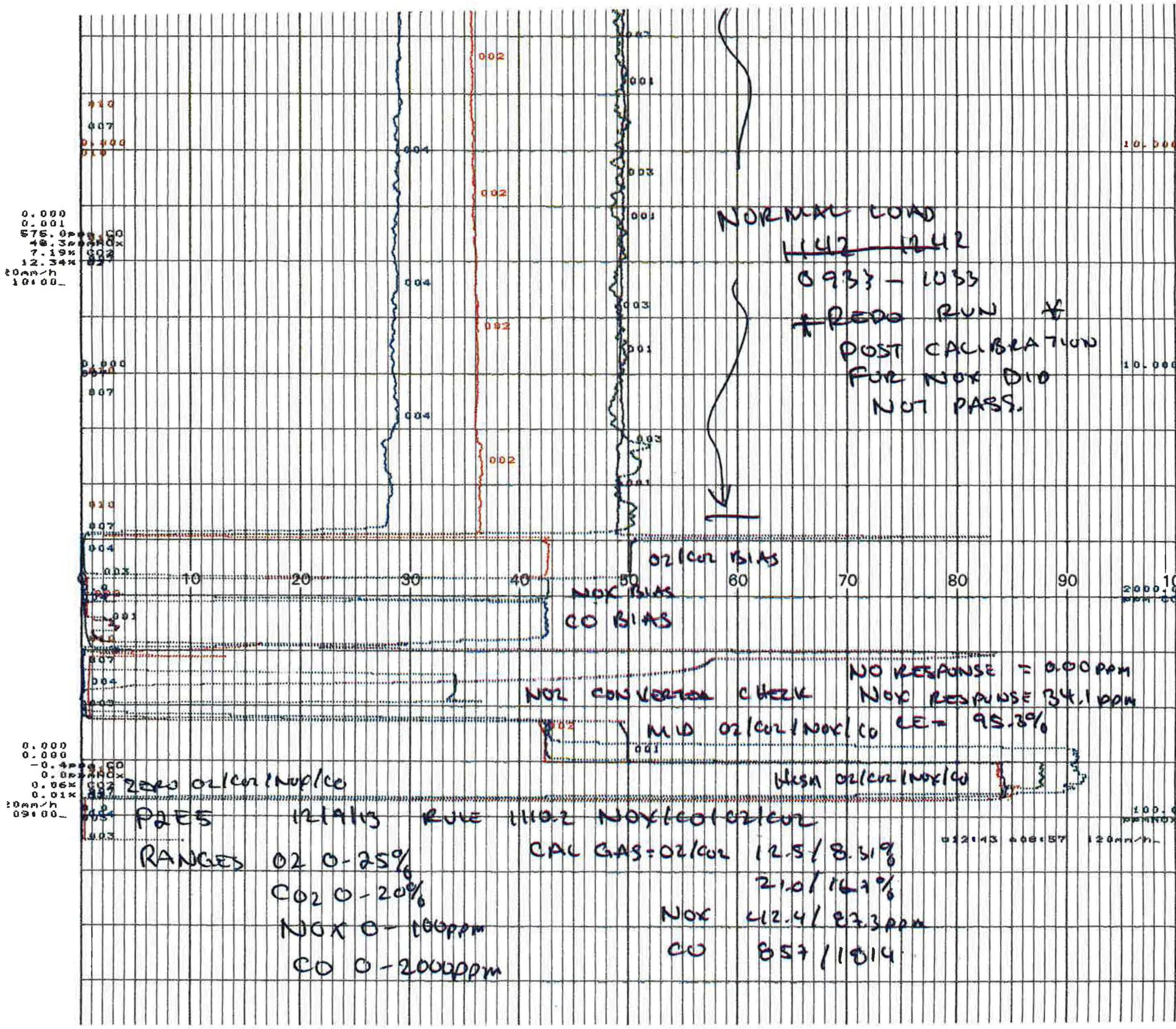

NOX BIAS
CO BIAS
NO2 CONVERTER CHECK
NO RESPONSE = 0.0 PPM
NOX RESPONSE = 34.0 PPM
CE = 95%
MID O2/CO2/NOX/CO
High O2/CO2/NOX/CO
ZERO O2/CO2/NOX/CO
P2E4 RULE 1110.2 NOX/CO/O2/CO2
RANGES O2 0-25%
CO2 0-20%
NOX 0-100 PPM
CO 0-2000PPM
CALIBRATION GASES
O2/CO2 12.5/8.31%
21.1/16.7%
NOX 42.4/87.4
CO 857/1814
MID O2/CO2/NOX/CO
ZERO O2/CO2/NOX/CO
HIGH O2/CO2/NOX
CO
CO BIAS
NOX BIAS

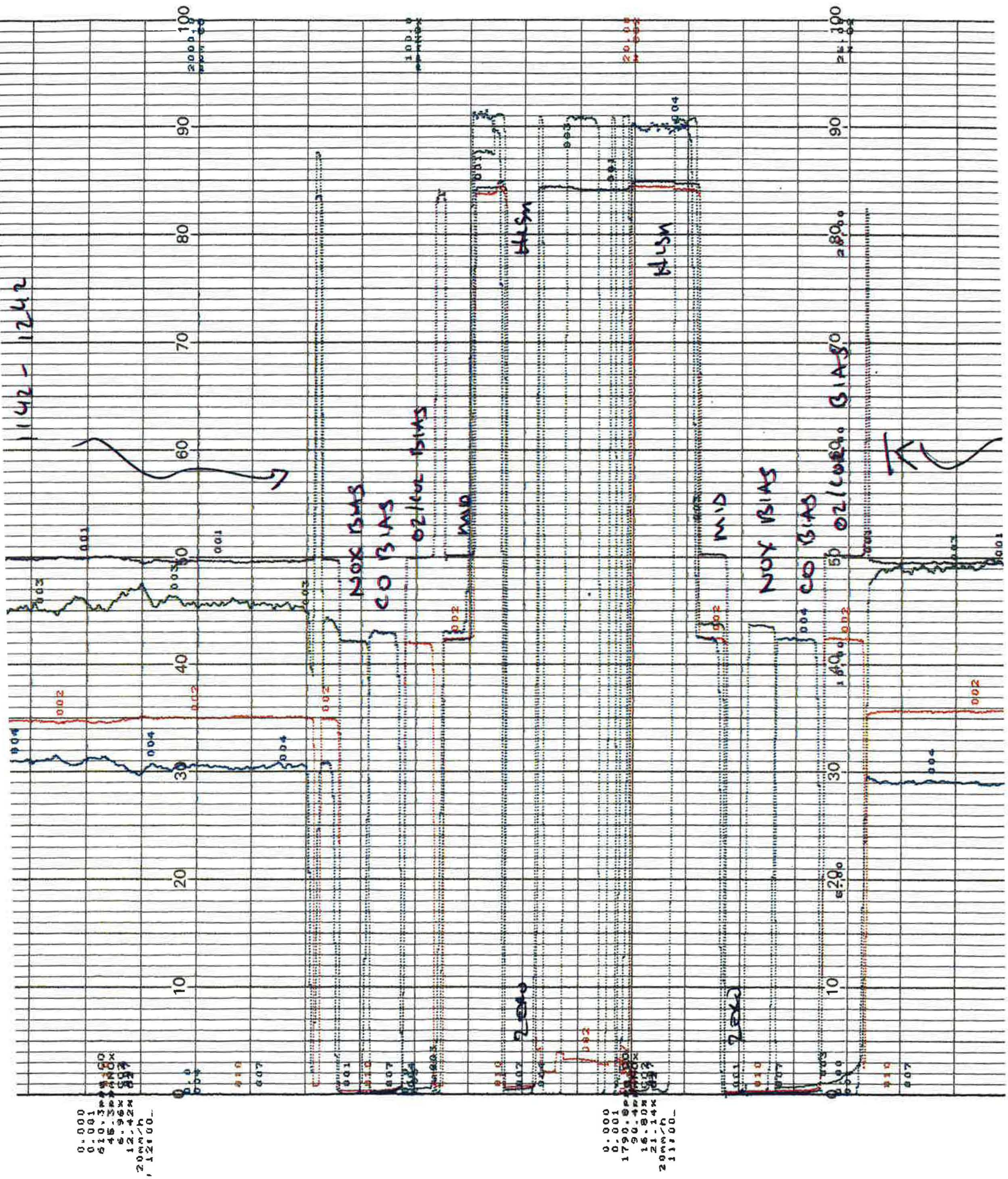

NORMAL LOAD 1005 - 1605
O2/CO2 BIAS
MID O2/CO2
HIGH O2/CO2
ZERO BIAS O2/CO2
ZERO O2/CO2

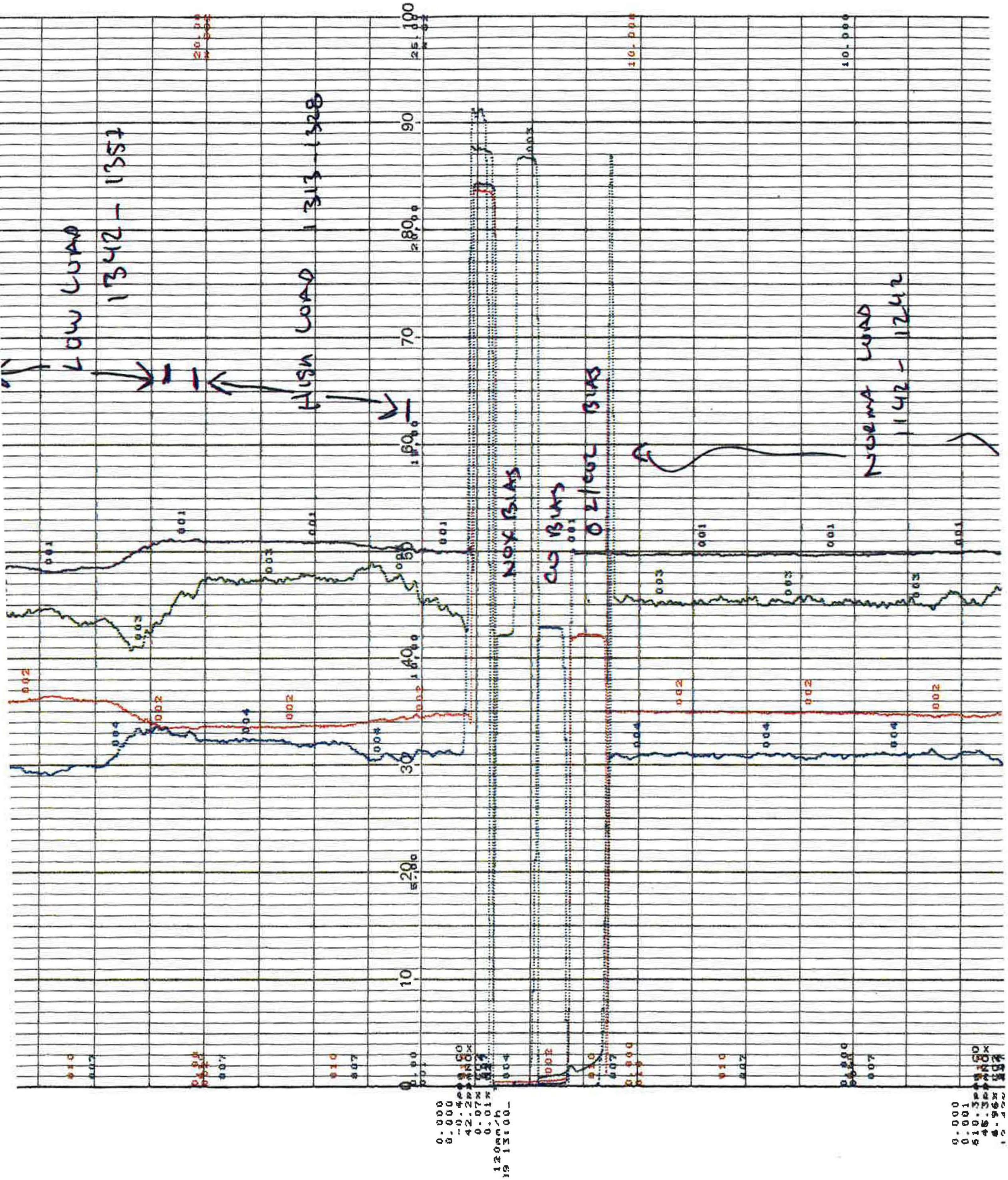


HIGH LOAD
1158-1213
LOW LOAD
1125-1140
MID O2/CO2/NOx/CO
NOx BIAS
CO BIAS
O2/CO2 BIAS
ZERO O2/CO2/NOx/CO

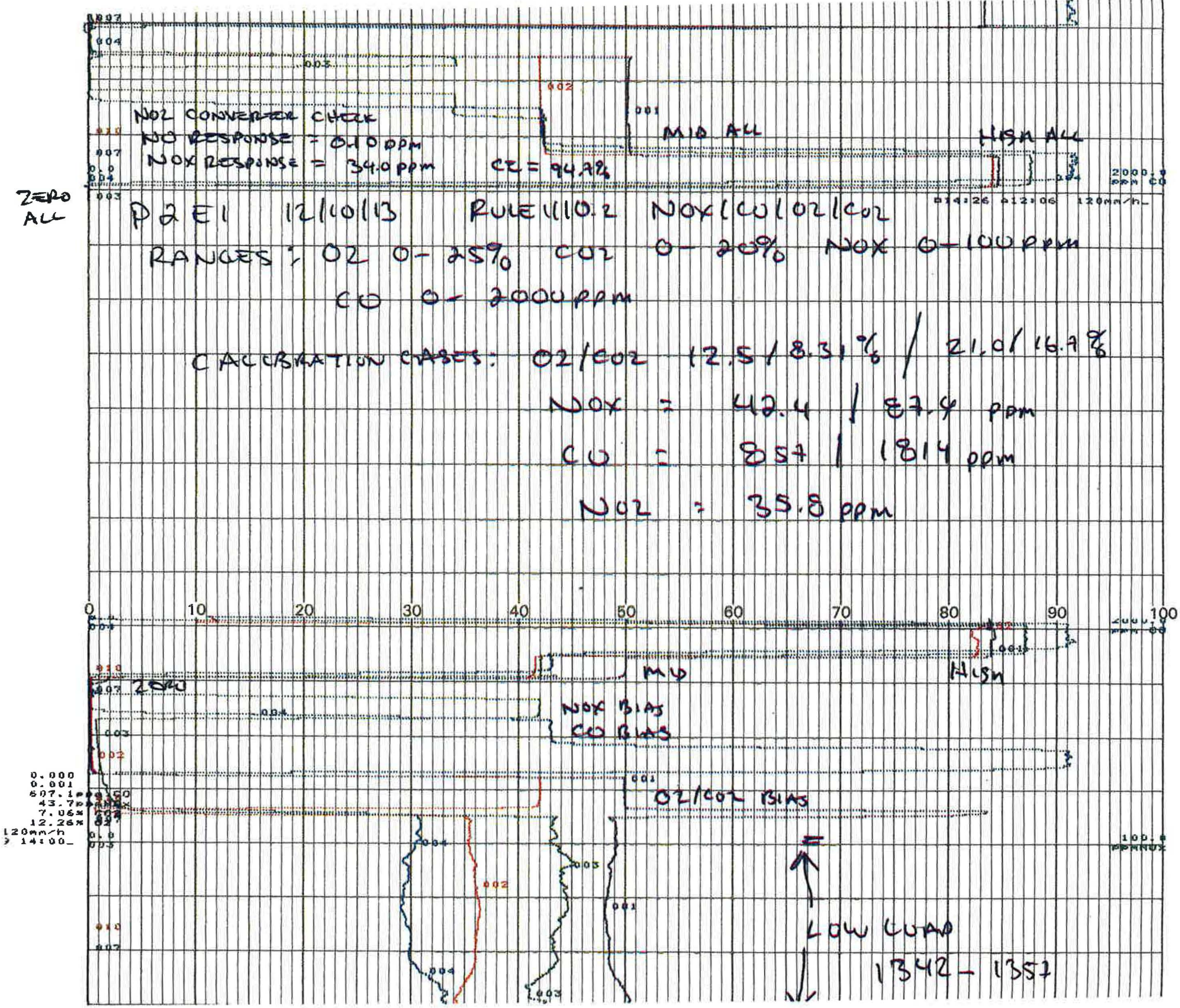

High O2/CO2/NOx/CO
Mid O2/CO2/NOx/CO
NOx BIAS
CO BIAS
O2/CO2 BIAS
Zero O2/CO2/NOx/CO
High Cond
1158-1213
Low Cond
1125-1140

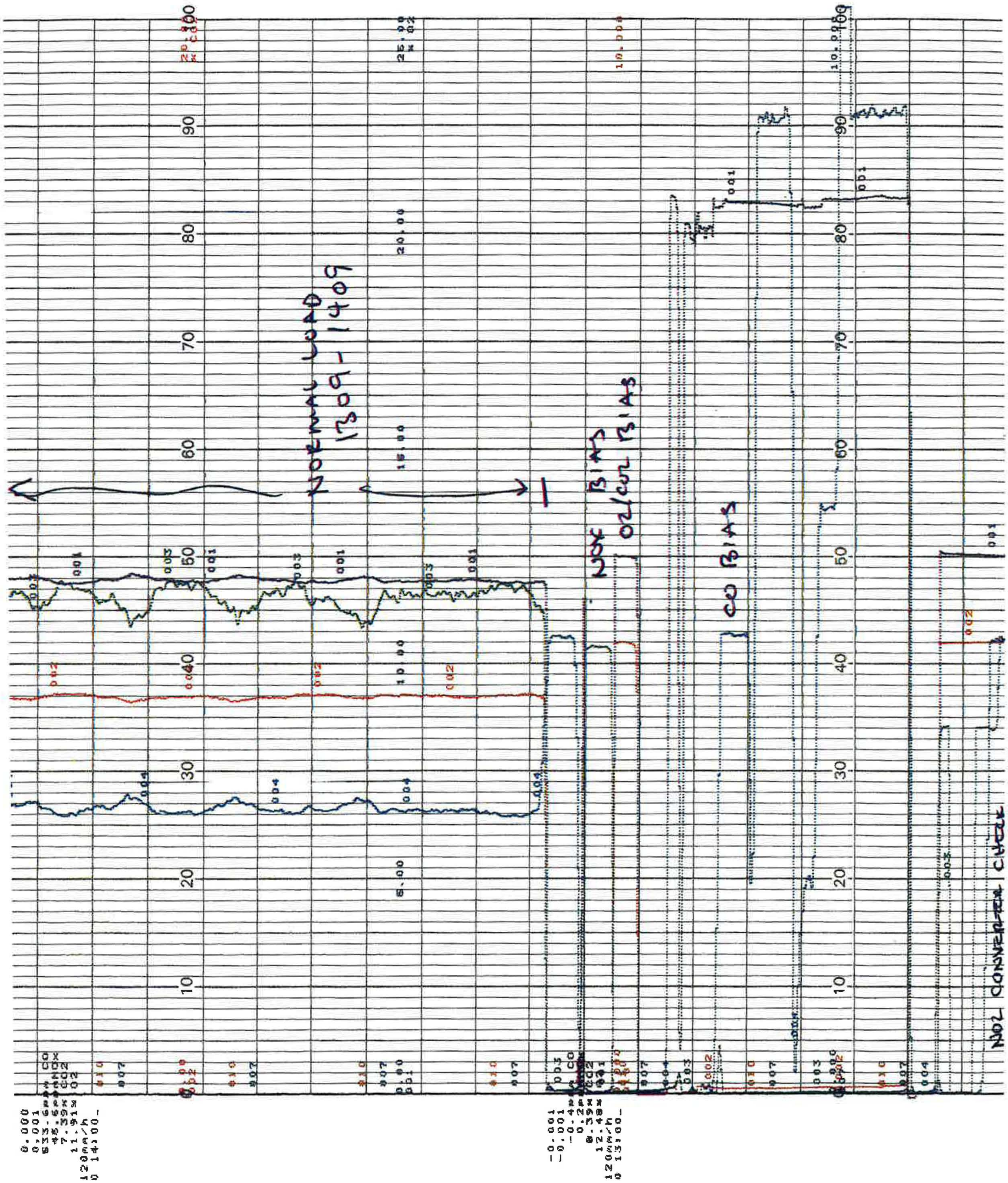

NORMAL LOAD
~~1142~~ 1242
0933 - 1033
* REDO RUN *
POST CALIBRATION
FOR NOX DID
NOT PASS.
O2/CO2 BIAS
NOX BIAS
CO BIAS
NO2 CONVERTOR CHECK
NO RESPONSE = 0.00 PPM
NOX RESPONSE 34.1 PPM
CE = 95.3%
MID O2/CO2/NOX/CO
HIGH O2/CO2/NOX/CO
ZERO O2/CO2/NOX/CO
P2ES 12/9/13 RULE 1110.2 NOX/CO/O2/CO2
RANGES O2 0-25%
CO2 0-20%
NOX 0-100PPM
CO 0-2000PPM
CAL GAS: O2/CO2 12.5/8.31%
21.0/16.7%
NOX 42.4/83.3PPM
CO 857/1814
10
20
30
40
50
60
70
80
90
100

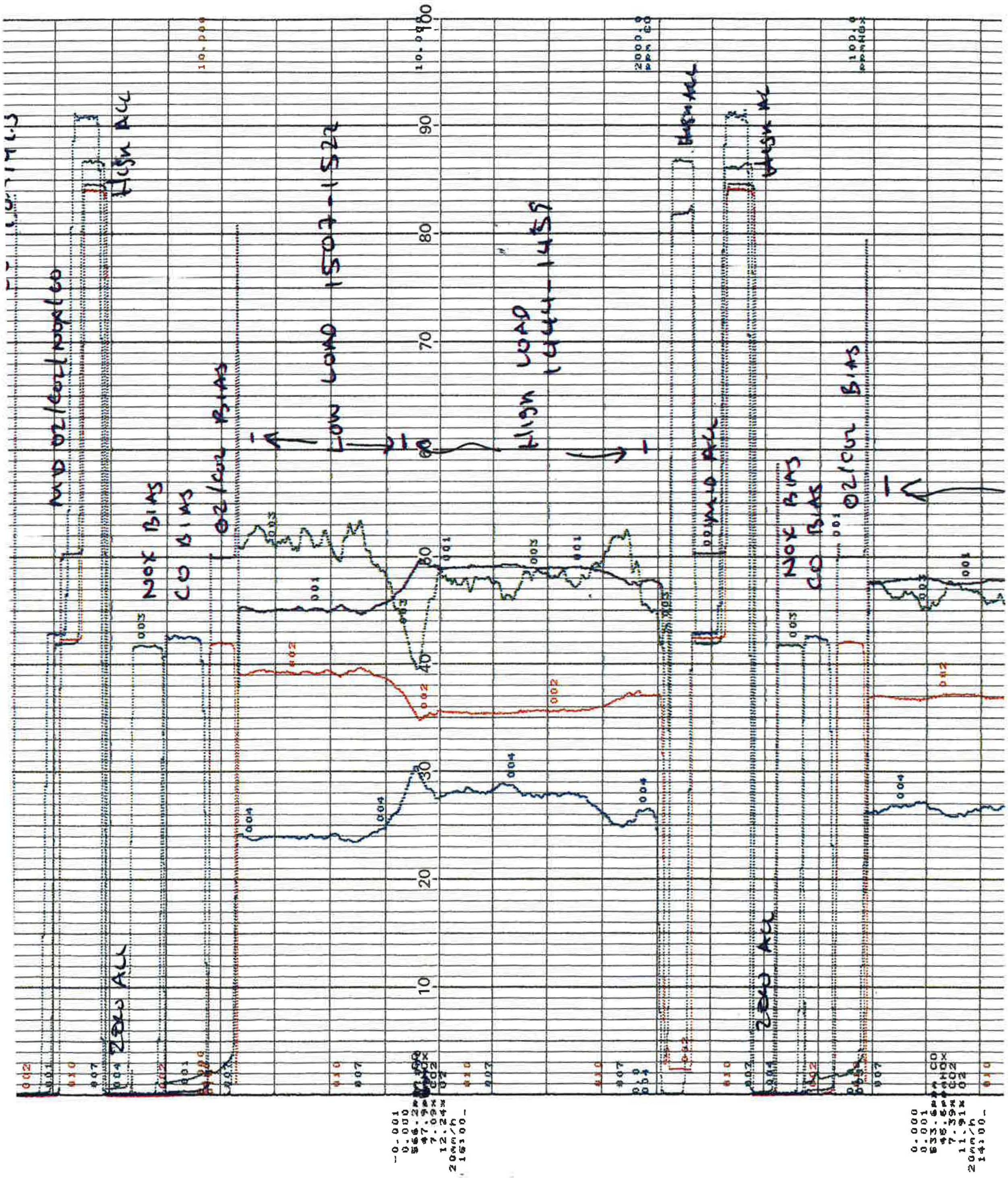

1142 - 1242
NOX BIAS
CO BIAS
O2/CO2 BIAS
MID
HIGH
ZERO
HIGH
MID
NOX BIAS
CO BIAS
O2/CO2 BIAS
ZERO
0
10
20
30
40
50
60
70
80
90
100

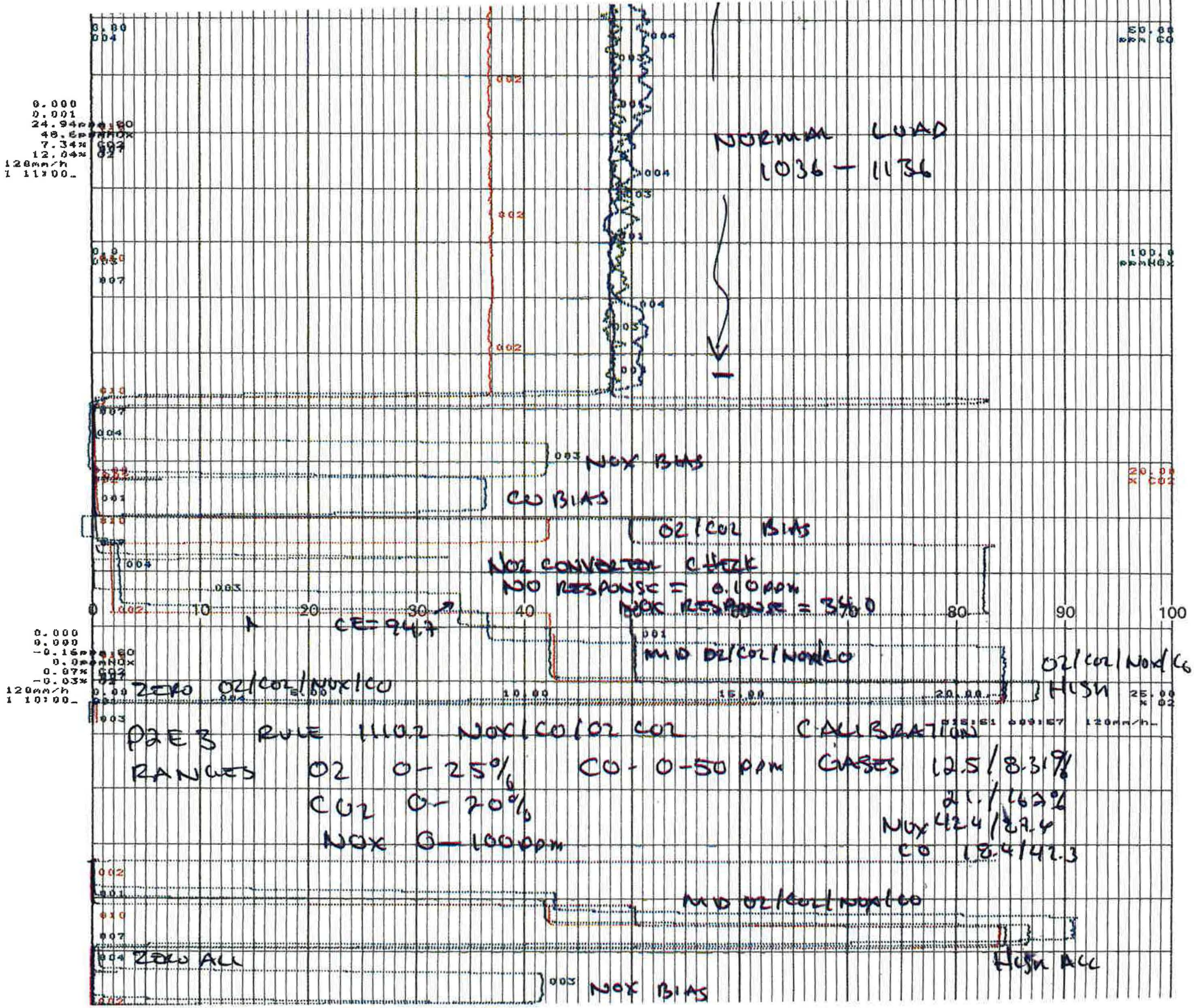


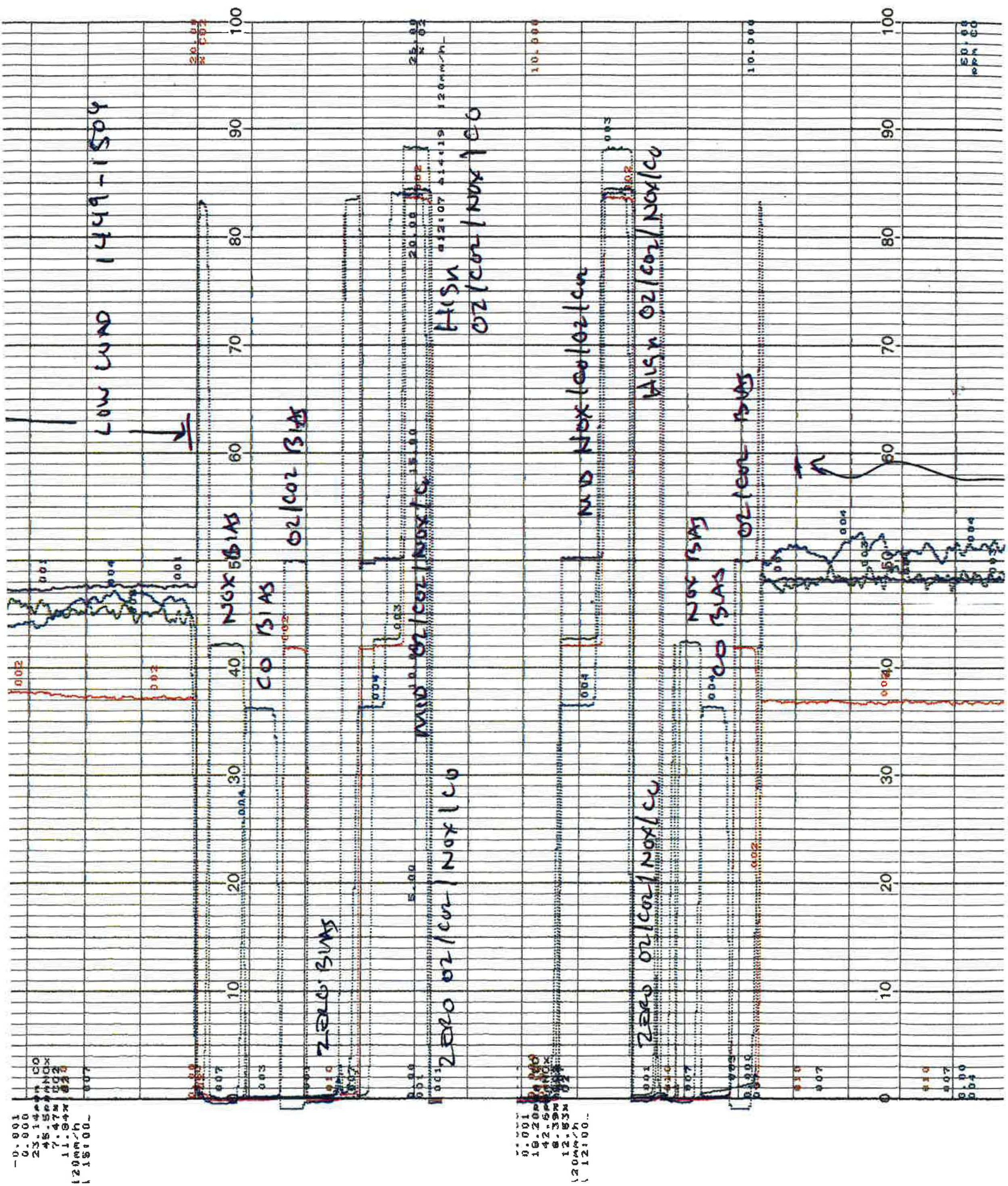
LOW LOAD
1342 - 1351
HIGH LOAD 1313 - 1328
NOX BIAS
CO BIAS
O2/COC BIAS
NORMAL LOAD
1142 - 1242

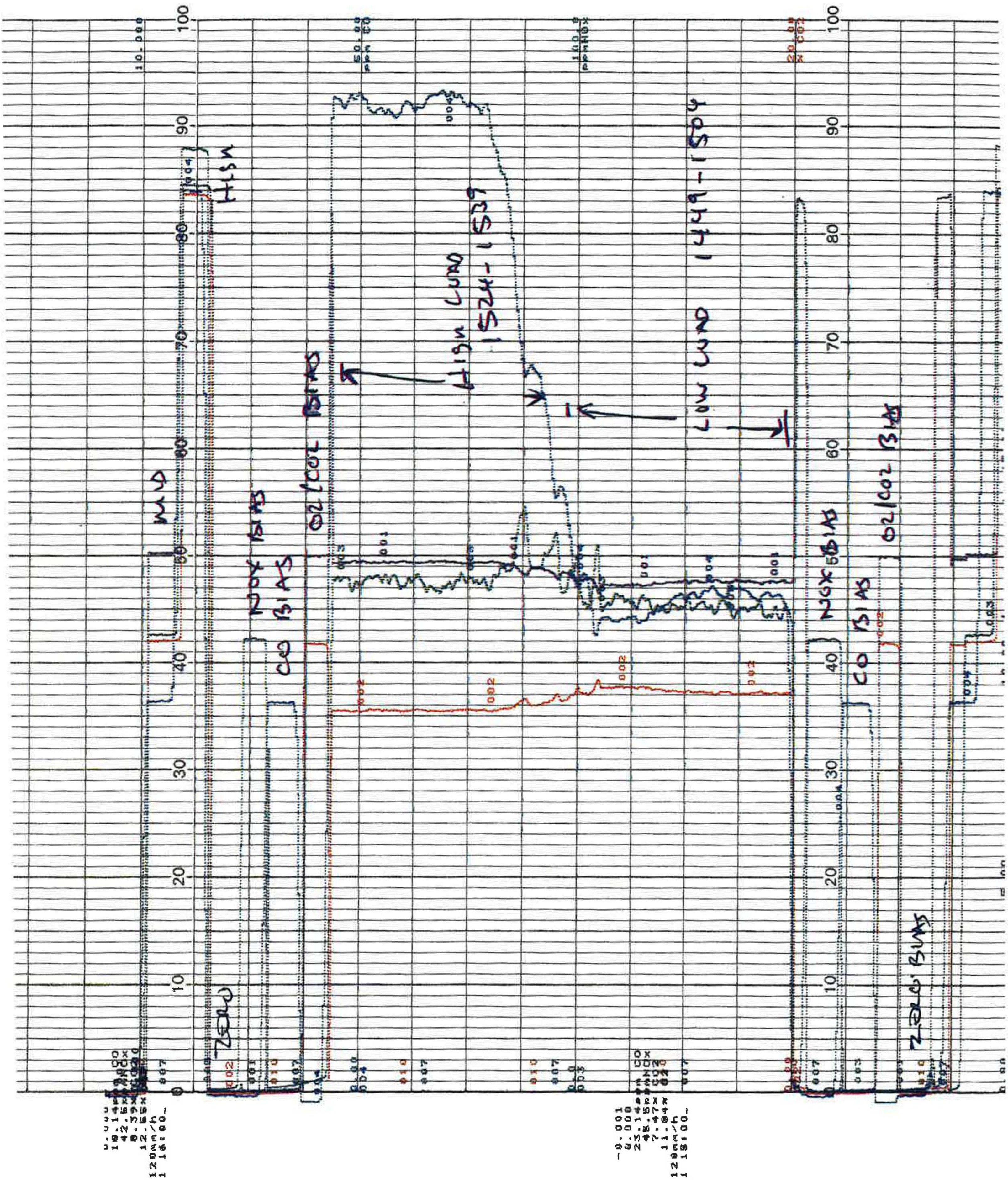

NO2 CONVERTER CHECK
NO RESPONSE = 0.10 ppm
NOX RESPONSE = 34.0 ppm
CE = 94.7%
MID ALL
HIGH ALL
ZERO ALL
P2E1 12/10/13 RULE 1110.2 NOX/CO/O2/CO2
RANGES: O2 0-25% CO2 0-20% NOX 0-100 ppm
CO 0-2000 ppm
CALIBRATION GASES: O2/CO2 12.5/8.31% / 21.0/16.7%
NOX = 42.4 / 87.4 ppm
CO = 857 / 1814 ppm
NO2 = 35.8 ppm
ZERO
MID
HIGH
NOX BIAS
CO BIAS
O2/CO2 BIAS
LOW LOAD
1342 - 1357


NORMAL LOAD
1309-1409
NOx BIAS
O2/CO2 BIAS
CO BIAS
NO2 CONVERTER CHECK


MID O2/CO2/NOX/CO
HIGH ALL
ZERO ALL
NOX BIAS
CO BIAS
O2/CO2 BIAS
LOW LOAD 1507-1522
HIGH LOAD 1444-1457
MID ALL
20mm/h
14:00


NORMAL LOAD
1036 – 1136
NOX BIAS
CO BIAS
O2/CO2 BIAS
NO2 CONVERTER CHECK
NO RESPONSE = 0.10 ppm
NOX RESPONSE = 34.0
CE=94.7
MID O2/CO2/NOX/CO
O2/CO2/NOX/CO
HIGH
ZERO O2/CO2/NOX/CO
PDEB RULE 1110.2 NOX/CO/O2 CO2 CALIBRATION
RANGES O2 0-25%
CO2 0-20%
NOX 0-100 ppm
CO 0-50 ppm
GASES 12.5/8.31%
21.1/16.2%
NOX 42.4/87.4
CO 18.4/42.3
MID O2/CO2/NOX/CO
ZERO ALL
HIGH ALL
NOX BIAS


LOW LOAD 1449-1504
NOX BIAS
CO BIAS
O2/CO2 BIAS
ZERO BIAS
MID O2/CO2/NOX/CO
ZERO O2/CO2/NOX/CO
HIGH O2/CO2/NOX/CO
MID NOX/CO/O2/CO2
HIGH O2/CO2/NOX/CO
ZERO O2/CO2/NOX/CO
NOX BIAS
CO BIAS
O2/CO2 BIAS


ZERO
MID
HIGH
NOX BIAS
CO BIAS
O2/CO2 BIAS
HIGH LOAD
1524-1539
LOW LOAD 1449-1504
NOX BIAS
CO BIAS
O2/CO2 BIAS
ZERO BIAS

OCSD PLANT 2
SCAQMD RULE 1110.2 TNMHC DATA
SCAQMD METHOD 25.1
ENGINE #1
December 10, 2013

		Method 25.1		
Parameter	Units	Run 1A	Run 1B	Average
Methane	ppmv	4,560	4,860	**4,710**
Ethane	ppmv	20.9	21.4	**21.2**
TNMHC Canister	ppmv	27.2	32.2	**29.7**
TNMHC Trap	ppmv	82.8	96.8	**89.8**
TNMHC Total	ppmv	110.0	129.0	**119.5**
Oxygen	%v	11.94	11.94	**11.9**
Volume Flow Rate	DSCFM	9,845	9,845	**9,845**
TNMHC Total (O_2 Corrected)	ppmv@15% O_2	72.4	84.9	**78.7**
TNMHC Total Emissions	Lb/Hr as CH_4	2.74	3.22	**2.98**

OCSD PLANT 2
SCAQMD RULE 1110.2 TNMHC DATA
SCAQMD METHOD 25.1
ENGINE #2
December 5, 2013

		Method 25.1		
Parameter	Units	Run 1A	Run 1B	Average
Methane	ppmv	4,100	4,040	**4,070**
Ethane	ppmv	16.1	16.6	**16.4**
TNMHC Canister	ppmv	35.3	31.6	**33.5**
TNMHC Trap	ppmv	64.7	40.1	**52.4**
TNMHC Total	ppmv	100.0	71.7	**85.9**
Oxygen	%v	11.54	11.54	**11.5**
Volume Flow Rate	DSCFM	9,458	9,458	**9,458**
TNMHC Total (O_2 Corrected)	ppmv@15% O_2	63.1	45.2	**54.1**
TNMHC Total Emissions	Lb/Hr as CH_4	2.40	1.72	**2.06**

SUMMARY OF TNMHC RESULTS

FACILITY:	OCSD PLANT 2	STD. TEMP:	60	DEG. F
UNIT:	ENGINE #3			
DATE:	12/11/2013			
JOB NO:	2061.1053			

PARAMETER-UNITS	RUN #1A	RUN #1B	AVERAGE [1]
PITOT FLOW RATE - DSCFM	9771.0	9771.0	9771.0
STACK OXYGEN - % O_2 DRY	12.07	12.07	12.07
Tank TNMNEOC - ppmv	1.40	1.20	1.30
Trap TNMNEOC - ppmv	18.30	17.60	17.95
Total TNMNEOC - ppmv	21.40	20.50	20.95
TNMNEOC-ppmv @15%O_2	14.30	13.70	14.00
TNMNEOC - lb/hr	0.530	0.507	0.518

[1] ***If Run 1A or 1B is not within 20% of the mean of 1A and 1B then the average is defaulted to the highest value.***

EQUATIONS

TNMHC LB/HR = TNMHC ppm * MW * 1.583E-07 * DSCFM

TNMHC = TOTAL NON-METHANE HYDROCARBONS
PPM = PARTS PER MILLION, CONCENTRATION
MW = MOLECULAR WEIGHT (16 LB/LB-MOLE as Carbon)
1.583 E-07 = CONVERSION FACTOR
DSCFM = DRY STANDARD CUBIC FEET PER MINUTE

PPM @ 15% O_2 = PPM * ((20.9-15)/20.9-O_2%))

O_2% = EXHAUST GAS OXYGEN CONCENTRATION

OCSD PLANT 2
SCAQMD RULE 1110.2 TNMHC DATA
SCAQMD METHOD 25.1
ENGINE #4
December 6, 2013

		Method 25.1		
Parameter	Units	Run 1A	Run 1B	Average
Methane	ppmv	4,810	4,690	**4,750**
Ethane	ppmv	20.4	19.4	**19.9**
TNMHC Canister	ppmv	37.3	30.2	**33.8**
TNMHC Trap	ppmv	78.7	103.8	**91.3**
TNMHC Total	ppmv	116.0	134.0	**125.0**
Oxygen	%v	11.77	11.77	**11.8**
Volume Flow Rate	DSCFM	8,693	8,693	**8,693**
TNMHC Total (O_2 Corrected)	ppmv@15% O_2	74.9	86.6	**80.8**
TNMHC Total Emissions	Lb/Hr as CH_4	2.55	2.95	**2.75**

OCSD PLANT 2
SCAQMD RULE 1110.2 TNMHC DATA
SCAQMD METHOD 25.1
ENGINE #5
December 9, 2013

		Method 25.1		
Parameter	Units	Run 1A	Run 1B	Average
Methane	ppmv	5,160	4,240	**4,700**
Ethane	ppmv	20.1	18.7	**19.4**
TNMHC Canister	ppmv	37.3	30.9	**34.1**
TNMHC Trap	ppmv	76.7	64.0	**70.4**
TNMHC Total	ppmv	114.0	94.9	**104.5**
Oxygen	%v	12.46	12.46	**12.5**
Volume Flow Rate	DSCFM	9,904	9,904	**9,904**
TNMHC Total (O_2 Corrected)	ppmv@15% O_2	79.7	66.4	**73.0**
TNMHC Total Emissions	Lb/Hr as CH_4	2.86	2.38	**2.62**

SUMMARY OF VOLUME FLOW SOURCE TEST DATA AND CALCULATIONS

Facility: OCSD PLANT 2
Source ID: ENGINE #1

MEASURED SOURCE PARAMETERS	SYMBOL	UNITS	AVERAGE LOAD	HIGH LOAD	LOW LOAD	AVERAGE
DATE			12/10/13	12/10/13	12/10/13	
TIME			1309-1410	1444-1459	1507-1522	
STACK DIAMETER	Ds	IN	30.00	30.00	30.00	30.00
STACK AREA	Ds	FT^2	4.91	4.91	4.91	4.91
BAROMETERIC PRESSURE	Pbar	IN. Hg	29.97	29.97	29.97	29.97
STATIC PRESSURE	Pstat	IN. H2O	-0.54	-0.90	-0.50	-0.65
STACK PRESSURE	Ps	IN. Hg	29.93	29.90	29.93	29.92
AVERAGE STACK TEMPERATURE	Ts	DEG. F	489.2	509.0	499.4	499.2
AVERAGE SQ. ROOT VELOCITY PRESSURE	dP	IN. H2O	0.8855	1.0734	0.7303	0.8964
SAMPLING PARAMETERS						
STANDARD TEMPERATURE	Tstd	DEG. F	60.0	60.0	60.0	60.0
STANDARD PRESSURE	Pstd	IN. Hg	29.92	29.92	29.92	29.92
PERCENT CARBON DIOXIDE	CO2	%	7.29	7.03	7.73	7.35
PERCENT OXYGEN	O2	%	11.94	12.26	11.32	11.84
PITOT CORRECTION FACTOR	Cp		0.840	0.840	0.840	0.840
SAMPLING TIME	t	MIN.	72.0	15.0	15.0	34.0
GAS VOLUME SAMPLED	Vm	DCF	60.114	60.114	60.114	60.114
WATER VAPOR COLLECTED	Vlc	GRAMS	123.5	123.5	123.5	123.5
DRY GAS METER CORRECTION FACTOR	Y		0.9720	0.9720	0.9720	0.9720
DRY GAS METER TEMPERATURE	Tm	DEG. F	60.7	60.7	60.7	60.7
ORIFICE PRESSURE	dH	IN. H2O	2.199	2.199	2.199	2.199
CALCULATED RESULTS						
CORRECTED GAS VOLUME SAMPLED	Vmstd	DSCF	58.764	58.764	58.764	58.764
VOLUME OF WATER CONDENSED	Vwstd	SCF	5.74	5.74	5.74	5.74
MOISTURE CONTENT OF FLUE GAS	Bws	%	8.90	8.90	8.90	8.90
DRY MOLECULAR WEIGHT OF FLUE GAS	MWdry	lb/lb-mol	29.64	29.62	29.69	29.65
WET MOLECULAR WEIGHT OF FLUE GAS	MWwet	lb/lb-mol	28.61	28.58	28.65	28.61
FLUE GAS VELOCITY	Vs	ft/sec	66.96	82.07	55.47	68.17
FLUE GAS FLOW RATE (ACTUAL CONDITIONS)	ACFM	ACFM	19,720	24,173	16,337	20,077
FLUE GAS FLOW RATE (STD. CONDITIONS)	SDCFM	SDCFM	9,845	11,811	8,071	9,909
PERCENT EXCESS AIR	% EA	%	127.3	135.6	112.6	125.2

SUMMARY OF VOLUME FLOW SOURCE TEST DATA AND CALCULATIONS

Facility:	OCSD PLANT 2						
Source ID:	ENGINE #2						
MEASURED SOURCE PARAMETERS	**SYMBOL**	**UNITS**		**AVERAGE LOAD**	**HIGH LOAD**	**LOW LOAD**	**AVERAGE**
DATE				12/05/13	12/05/13	12/05/13	
TIME				1123-1223	1308-1323	1337-1352	
STACK DIAMETER	Ds	IN		30.00	30.00	30.00	30.00
STACK AREA	Ds	FT^2		4.91	4.91	4.91	4.91
BAROMETERIC PRESSURE	Pbar	IN. Hg		30.01	30.01	30.01	30.01
STATIC PRESSURE	Pstat	IN. H2O		-0.61	-0.09	-0.56	-0.42
STACK PRESSURE	Ps	IN. Hg		29.97	30.00	29.97	29.98
AVERAGE STACK TEMPERATURE	Ts	DEG. F		715.4	714.3	707.5	712.4
AVERAGE SQ. ROOT VELOCITY PRESSURE	dP	IN. H2O		0.9481	1.1959	0.8723	1.0054
SAMPLING PARAMETERS							
STANDARD TEMPERATURE	Tstd	DEG. F		60.0	60.0	60.0	60.0
STANDARD PRESSURE	Pstd	IN. Hg		29.92	29.92	29.92	29.92
PERCENT CARBON DIOXIDE	CO2	%		7.57	7.29	7.74	7.53
PERCENT OXYGEN	O2	%		11.54	11.70	11.16	11.47
PITOT CORRECTION FACTOR	Cp			0.840	0.840	0.840	0.840
SAMPLING TIME	t	MIN.		72.0	15.0	15.0	34.0
GAS VOLUME SAMPLED	Vm	DCF		54.566	54.566	54.566	54.566
WATER VAPOR COLLECTED	Vlc	GRAMS		110.8	110.8	110.8	110.8
DRY GAS METER CORRECTION FACTOR	Y			0.9720	0.9720	0.9720	0.9720
DRY GAS METER TEMPERATURE	Tm	DEG. F		78.5	78.5	78.5	78.5
ORIFICE PRESSURE	dH	IN. H2O		1.713	1.713	1.713	1.713
CALCULATED RESULTS							
CORRECTED GAS VOLUME SAMPLED	Vmstd	DSCF		51.588	51.588	51.588	51.588
VOLUME OF WATER CONDENSED	Vwstd	SCF		5.15	5.15	5.15	5.15
MOISTURE CONTENT OF FLUE GAS	Bws	%		9.08	9.08	9.08	9.08
DRY MOLECULAR WEIGHT OF FLUE GAS	MWdry	lb/lb-mol		29.67	29.63	29.68	29.66
WET MOLECULAR WEIGHT OF FLUE GAS	MWwet	lb/lb-mol		28.61	28.58	28.62	28.61
FLUE GAS VELOCITY	Vs	ft/sec		79.72	100.51	73.08	84.43
FLUE GAS FLOW RATE (ACTUAL CONDITIONS)	ACFM	ACFM		23,479	29,602	21,522	24,868
FLUE GAS FLOW RATE (STD. CONDITIONS)	SDCFM	SDCFM		9,458	11,951	8,730	10,046
PERCENT EXCESS AIR	% EA	%		117.7	120.7	108.8	115.8

SUMMARY OF VOLUME FLOW SOURCE TEST DATA AND CALCULATIONS

Facility:	OCSD PLANT 2					
Source ID:	ENGINE #3					
MEASURED SOURCE PARAMETERS	**SYMBOL**	**UNITS**	**AVERAGE LOAD**	**HIGH LOAD**	**LOW LOAD**	**AVERAGE**
DATE			12/11/13	12/11/13	12/11/13	
TIME			1036-1136	1524-1539	1449-1504	
STACK DIAMETER	Ds	IN	30.00	30.00	30.00	30.00
STACK AREA	Ds	FT^2	4.91	4.91	4.91	4.91
BAROMETERIC PRESSURE	Pbar	IN. Hg	29.93	29.93	29.93	29.93
STATIC PRESSURE	Pstat	IN. H2O	-0.64	-1.10	-0.35	-0.70
STACK PRESSURE	Ps	IN. Hg	29.88	29.85	29.90	29.88
AVERAGE STACK TEMPERATURE	Ts	DEG. F	488.7	500.0	488.3	492.3
AVERAGE SQ. ROOT VELOCITY PRESSURE	dP	IN. H2O	0.8826	1.1418	0.8480	0.9575
SAMPLING PARAMETERS						
STANDARD TEMPERATURE	Tstd	DEG. F	60.0	60.0	60.0	60.0
STANDARD PRESSURE	Pstd	IN. Hg	29.92	29.92	29.92	29.92
PERCENT CARBON DIOXIDE	CO2	%	7.28	7.42	7.07	7.25
PERCENT OXYGEN	O2	%	12.07	11.91	12.36	12.11
PITOT CORRECTION FACTOR	Cp		0.840	0.840	0.840	0.840
SAMPLING TIME	t	MIN.	72.0	15.0	15.0	34.0
GAS VOLUME SAMPLED	Vm	DCF	59.812	59.812	59.812	59.812
WATER VAPOR COLLECTED	Vlc	GRAMS	129.2	129.2	129.2	129.2
DRY GAS METER CORRECTION FACTOR	Y		0.9720	0.9720	0.9720	0.9720
DRY GAS METER TEMPERATURE	Tm	DEG. F	59.5	59.5	59.5	59.5
ORIFICE PRESSURE	dH	IN. H2O	2.186	2.186	2.186	2.186
CALCULATED RESULTS						
CORRECTED GAS VOLUME SAMPLED	Vmstd	DSCF	58.528	58.528	58.528	58.528
VOLUME OF WATER CONDENSED	Vwstd	SCF	6.01	6.01	6.01	6.01
MOISTURE CONTENT OF FLUE GAS	Bws	%	9.31	9.31	9.31	9.31
DRY MOLECULAR WEIGHT OF FLUE GAS	MWdry	lb/lb-mol	29.65	29.66	29.63	29.65
WET MOLECULAR WEIGHT OF FLUE GAS	MWwet	lb/lb-mol	28.56	28.58	28.54	28.56
FLUE GAS VELOCITY	Vs	ft/sec	66.82	86.98	64.18	72.66
FLUE GAS FLOW RATE (ACTUAL CONDITIONS)	ACFM	ACFM	19,679	25,619	18,903	21,401
FLUE GAS FLOW RATE (STD. CONDITIONS)	SDCFM	SDCFM	9,771	12,556	9,396	10,574
PERCENT EXCESS AIR	% EA	%	131.0	126.8	138.7	132.2

SUMMARY OF VOLUME FLOW SOURCE TEST DATA AND CALCULATIONS

Facility:	OCSD PLANT 2						
Source ID:	ENGINE #4						
MEASURED SOURCE PARAMETERS	**SYMBOL**	**UNITS**		**AVERAGE LOAD**	**HIGH LOAD**	**LOW LOAD**	**AVERAGE**
DATE				12/06/13	12/06/13	12/06/13	
TIME				1005-1105	1125-1140	1158-1213	
STACK DIAMETER	Ds	IN		30.00	30.00	30.00	30.00
STACK AREA	Ds	FT^2		4.91	4.91	4.91	4.91
BAROMETERIC PRESSURE	Pbar	IN. Hg		30.17	30.17	30.17	30.17
STATIC PRESSURE	Pstat	IN. H2O		-0.75	-0.50	-0.40	-0.55
STACK PRESSURE	Ps	IN. Hg		30.11	30.13	30.14	30.13
AVERAGE STACK TEMPERATURE	Ts	DEG. F		522.6	526.4	517.3	522.1
AVERAGE SQ. ROOT VELOCITY PRESSURE	dP	IN. H2O		0.8085	1.0781	0.7491	0.8786
SAMPLING PARAMETERS							
STANDARD TEMPERATURE	Tstd	DEG. F		60.0	60.0	60.0	60.0
STANDARD PRESSURE	Pstd	IN. Hg		29.92	29.92	29.92	29.92
PERCENT CARBON DIOXIDE	CO2	%		7.48	7.10	7.67	7.42
PERCENT OXYGEN	O2	%		11.77	12.20	11.44	11.80
PITOT CORRECTION FACTOR	Cp			0.840	0.840	0.840	0.840
SAMPLING TIME	t	MIN.		72.0	15.0	15.0	34.0
GAS VOLUME SAMPLED	Vm	DCF		49.317	49.317	49.317	49.317
WATER VAPOR COLLECTED	Vlc	GRAMS		127.3	127.3	127.3	127.3
DRY GAS METER CORRECTION FACTOR	Y			0.9720	0.9720	0.9720	0.9720
DRY GAS METER TEMPERATURE	Tm	DEG. F		65.8	65.8	65.8	65.8
ORIFICE PRESSURE	dH	IN. H2O		1.445	1.445	1.445	1.445
CALCULATED RESULTS							
CORRECTED GAS VOLUME SAMPLED	Vmstd	DSCF		47.976	47.976	47.976	47.976
VOLUME OF WATER CONDENSED	Vwstd	SCF		5.92	5.92	5.92	5.92
MOISTURE CONTENT OF FLUE GAS	Bws	%		10.98	10.98	10.98	10.98
DRY MOLECULAR WEIGHT OF FLUE GAS	MWdry	lb/lb-mol		29.67	29.62	29.69	29.66
WET MOLECULAR WEIGHT OF FLUE GAS	MWwet	lb/lb-mol		28.39	28.35	28.40	28.38
FLUE GAS VELOCITY	Vs	ft/sec		62.25	83.19	57.48	67.64
FLUE GAS FLOW RATE (ACTUAL CONDITIONS)	ACFM	ACFM		18,334	24,502	16,928	19,921
FLUE GAS FLOW RATE (STD. CONDITIONS)	SDCFM	SDCFM		8,693	11,580	8,077	9,450
PERCENT EXCESS AIR	% EA	%		123.2	134.0	115.5	124.2

SUMMARY OF VOLUME FLOW SOURCE TEST DATA AND CALCULATIONS

Facility:	OCSD PLANT 2					
Source ID:	ENGINE #5					
MEASURED SOURCE PARAMETERS	**SYMBOL**	**UNITS**	**AVERAGE LOAD**	**HIGH LOAD**	**LOW LOAD**	**AVERAGE**
DATE			12/09/13	12/09/13	12/09/13	
TIME			1142-1242	1313-1328	1342-1357	
STACK DIAMETER	Ds	IN	30.00	30.00	30.00	30.00
STACK AREA	Ds	FT^2	4.91	4.91	4.91	4.91
BAROMETERIC PRESSURE	Pbar	IN. Hg	29.99	29.99	29.99	29.99
STATIC PRESSURE	Pstat	IN. H2O	-0.69	-0.53	-0.23	-0.48
STACK PRESSURE	Ps	IN. Hg	29.94	29.95	29.97	29.95
AVERAGE STACK TEMPERATURE	Ts	DEG. F	476.6	474.6	464.3	471.8
AVERAGE SQ. ROOT VELOCITY PRESSURE	dP	IN. H2O	0.8813	1.1055	0.7526	0.9131
SAMPLING PARAMETERS						
STANDARD TEMPERATURE	Tstd	DEG. F	60.0	60.0	60.0	60.0
STANDARD PRESSURE	Pstd	IN. Hg	29.92	29.92	29.92	29.92
PERCENT CARBON DIOXIDE	CO2	%	6.91	6.68	7.08	6.89
PERCENT OXYGEN	O2	%	12.46	12.72	12.21	12.46
PITOT CORRECTION FACTOR	Cp		0.840	0.840	0.840	0.840
SAMPLING TIME	t	MIN.	72.0	15.0	15.0	34.0
GAS VOLUME SAMPLED	Vm	DCF	59.646	59.646	59.646	59.646
WATER VAPOR COLLECTED	Vlc	GRAMS	117.1	117.1	117.1	117.1
DRY GAS METER CORRECTION FACTOR	Y		0.9720	0.9720	0.9720	0.9720
DRY GAS METER TEMPERATURE	Tm	DEG. F	60.4	60.4	60.4	60.4
ORIFICE PRESSURE	dH	IN. H2O	2.182	2.182	2.182	2.182
CALCULATED RESULTS						
CORRECTED GAS VOLUME SAMPLED	Vmstd	DSCF	58.380	58.380	58.380	58.380
VOLUME OF WATER CONDENSED	Vwstd	SCF	5.44	5.44	5.44	5.44
MOISTURE CONTENT OF FLUE GAS	Bws	%	8.53	8.53	8.53	8.53
DRY MOLECULAR WEIGHT OF FLUE GAS	MWdry	lb/lb-mol	29.60	29.58	29.62	29.60
WET MOLECULAR WEIGHT OF FLUE GAS	MWwet	lb/lb-mol	28.61	28.59	28.63	28.61
FLUE GAS VELOCITY	Vs	ft/sec	66.17	82.94	56.09	68.40
FLUE GAS FLOW RATE (ACTUAL CONDITIONS)	ACFM	ACFM	19,490	24,428	16,519	20,145
FLUE GAS FLOW RATE (STD. CONDITIONS)	SDCFM	SDCFM	9,904	12,445	8,516	10,288
PERCENT EXCESS AIR	% EA	%	141.2	148.6	134.2	141.3

SUMMARY OF PARTICULATE EMISSIONS

Date: December 10, 2013
Client: OCSD PLANT 2
Site: ENGINE #1

PARTICULATE TYPE	SYMBOL	UNITS	RUN 1
FILTERABLE PARTICULATE			
NET MILLIGRAMS	mg	mg	1.4
CONCENTRATION	Csd	gr/SDCF	0.0004
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0006
EMISSION RATE	E.R.	LB/HR	0.03
EMISSION RATE	E.R.	LB/DAY	0.74
CONDENSABLE PARTICULATE			
NET MILLIGRAMS	mg	mg	10.0
CONCENTRATION	Csd	gr/SDCF	0.0026
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0043
EMISSION RATE	E.R.	LB/HR	0.22
EMISSION RATE	E.R.	LB/DAY	5.33
ORGANIC PARTICULATE			
NET MILLIGRAMS	mg	mg	2.1
CONCENTRATION	Csd	gr/SDCF	0.0006
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0009
EMISSION RATE	E.R.	LB/HR	0.05
EMISSION RATE	E.R.	LB/DAY	1.14
TOTAL PARTICULATE			
NET MILLIGRAMS	mg	mg	13.6
CONCENTRATION	Csd	gr/SDCF	0.0036
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0059
EMISSION RATE	E.R.	LB/HR	0.30
EMISSION RATE	E.R.	LB/DAY	7.22

Note: NA = Not Applicable - Lab Results were below analytical detection.

PARTICULATE LABORATORY DATA

Date: December 10, 2013
Client: OCSD PLANT 2
Site: ENGINE #1

Run No.	Type	Total Sample Vol. (ml)	Aliquot Vol. (ml)	Vlc less Silica gel Vol. (ml)	Gross Wt. (g)	Tare Wt. (g)	Uncorrected Final Wt. (mg)	Corrected Final Wt. (mg)
Blank	**Acetone**	NA	-----	-----	NA	NA	**NA**	-----
Blank	**H2O**	250	-----	-----	110.21465	110.2146	**0.05**	-----
Blank	**MeCl2**	200	-----	-----	118.15480	118.1548	**0.00**	-----
Average 1	**Filter**	-------	-----	-----	0.14106	0.13966	**1.40**	**1.40**
	Condensables	470	470	84.5	99.70760	99.6975	**10.10**	**10.02**
	Organics	470	470	-----	101.48395	101.4818	**2.15**	**2.15**
	Total	-------	-----	-----	-------	-------	**13.65**	**13.57**

Note: NA = Not Applicable for the test program.

SUMMARY OF PARTICULATE SOURCE TEST DATA AND CALCULATIONS

Date:	December 10, 2013		
Client:	OCSD PLANT 2		
Site:	ENGINE #1		
MEASURED SOURCE PARAMETERS	**SYMBOL**	**UNITS**	**RUN 1**
STACK DIAMETER	Ds	IN	30.00
STACK AREA	Ds	FT^2	4.91
BAROMETERIC PRESSURE	Pbar	IN. Hg	29.97
STATIC PRESSURE	Pstat	IN. H2O	-0.540
STACK PRESSURE	Ps	IN. Hg	29.93
AVERAGE STACK TEMPERATURE	Ts	DEG. F	489.2
AVERAGE SQ. ROOT VELOCITY PRESSURE	dP	IN. H2O	0.886
SAMPLING PARAMETERS			
STANDARD TEMPERATURE	Tstd	DEG. F	60.0
STANDARD PRESSURE	Pstd	IN. Hg	29.92
PERCENT CARBON DIOXIDE	CO2	%	7.29
PERCENT OXYGEN	O2	%	11.94
PITOT CORRECTION FACTOR	Cp		0.840
NOZZLE DIAMETER	Dn	IN	0.275
NOZZLE DIAMETER	Dn	FT^2	0.00041
SAMPLING TIME	t	MIN.	72.0
GAS VOLUME SAMPLED	Vm	DCF	60.114
WATER VAPOR COLLECTED	Vlc	GRAMS	123.5
DRY GAS METER CORRECTION FACTOR	Y		0.9720
DRY GAS METER TEMPERATURE	Tm	DEG. F	60.7
ORIFICE PRESSURE	dH	IN. H2O	2.20
CALCULATED RESULTS			
CORRECTED GAS VOLUME SAMPLED	Vmstd	DSCF	58.764
VOLUME OF WATER CONDENSED	Vwstd	SCF	5.74
MOISTURE CONTENT OF FLUE GAS	Bws	%	8.90
DRY MOLECULAR WEIGHT OF FLUE GAS	MW dry	lb/lb-mole	29.64
WET MOLECULAR WEIGHT OF FLUE GAS	MW wet	lb/lb-mole	28.61
FLUE GAS VELOCITY	Vs	ft/sec	66.96
FLUE GAS FLOW RATE (ACTUAL CONDITIONS)	ACFM	ACFM	19,720
FLUE GAS FLOW RATE (STD. CONDITIONS)	SDCFM	SDCFM	9,845
PERCENT EXCESS AIR	% EA	%	127.3
PERCENT ISOKINETIC SAMPLING RATE	% ISO	%	98.7

Note: NA = Not Applicable for the test program.

SUMMARY OF PARTICULATE EMISSIONS

Date: December 5, 2013
Client: OCSD PLANT 2
Site: ENGINE #2

PARTICULATE TYPE	SYMBOL	UNITS	RUN 1
FILTERABLE PARTICULATE			
NET MILLIGRAMS	mg	mg	2.7
CONCENTRATION	Csd	gr/SDCF	0.0008
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0013
EMISSION RATE	E.R.	LB/HR	0.07
EMISSION RATE	E.R.	LB/DAY	1.59
CONDENSABLE PARTICULATE			
NET MILLIGRAMS	mg	mg	10.7
CONCENTRATION	Csd	gr/SDCF	0.0032
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0051
EMISSION RATE	E.R.	LB/HR	0.26
EMISSION RATE	E.R.	LB/DAY	6.24
ORGANIC PARTICULATE			
NET MILLIGRAMS	mg	mg	3.2
CONCENTRATION	Csd	gr/SDCF	0.0010
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0015
EMISSION RATE	E.R.	LB/HR	0.08
EMISSION RATE	E.R.	LB/DAY	1.86
TOTAL PARTICULATE			
NET MILLIGRAMS	mg	mg	16.7
CONCENTRATION	Csd	gr/SDCF	0.0050
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0079
EMISSION RATE	E.R.	LB/HR	0.40
EMISSION RATE	E.R.	LB/DAY	9.70

Note: NA = Not Applicable - Lab Results were below analytical detection.

PARTICULATE LABORATORY DATA

Date: December 5, 2013
Client: OCSD PLANT 2
Site: ENGINE #2

Run No.	Type	Total Sample Vol. (ml)	Aliquot Vol. (ml)	Vlc less Silica gel Vol. (ml)	Gross Wt. (g)	Tare Wt. (g)	Uncorrected Final Wt. (mg)	Corrected Final Wt. (mg)
Blank	**Acetone**	NA	-----	-----	NA	NA	**NA**	-----
Blank	**H2O**	250	-----	-----	110.21465	110.2146	**0.05**	-----
Blank	**MeCl2**	200	-----	-----	118.15480	118.1548	**0.00**	-----
Average 1	**Filter**	-------	-----	-----	0.14076	0.13802	**2.74**	**2.74**
	Condensables	484	484	100.2	115.21340	115.2026	**10.80**	**10.72**
	Organics	484	484	-----	113.12330	113.1201	**3.20**	**3.20**
	Total	-------	-----	-----	-------	-------	**16.74**	**16.66**

Note: NA = Not Applicable for the test program.

SUMMARY OF PARTICULATE SOURCE TEST DATA AND CALCULATIONS

Date:	December 5, 2013		
Client:	**OCSD PLANT 2**		
Site:	**ENGINE #2**		
MEASURED SOURCE PARAMETERS	**SYMBOL**	**UNITS**	**RUN 1**
STACK DIAMETER	Ds	IN	30.00
STACK AREA	Ds	FT^2	4.91
BAROMETERIC PRESSURE	Pbar	IN. Hg	30.01
STATIC PRESSURE	Pstat	IN. H2O	-0.610
STACK PRESSURE	Ps	IN. Hg	29.97
AVERAGE STACK TEMPERATURE	Ts	DEG. F	715.4
AVERAGE SQ. ROOT VELOCITY PRESSURE	dP	IN. H2O	0.948
SAMPLING PARAMETERS			
STANDARD TEMPERATURE	Tstd	DEG. F	60.0
STANDARD PRESSURE	Pstd	IN. Hg	29.92
PERCENT CARBON DIOXIDE	CO2	%	7.57
PERCENT OXYGEN	O2	%	11.54
PITOT CORRECTION FACTOR	Cp		0.840
NOZZLE DIAMETER	Dn	IN	0.275
NOZZLE DIAMETER	Dn	FT^2	0.00041
SAMPLING TIME	t	MIN.	72.0
GAS VOLUME SAMPLED	Vm	DCF	54.566
WATER VAPOR COLLECTED	Vlc	GRAMS	110.8
DRY GAS METER CORRECTION FACTOR	Y		0.9720
DRY GAS METER TEMPERATURE	Tm	DEG. F	78.5
ORIFICE PRESSURE	dH	IN. H2O	1.71
CALCULATED RESULTS			
CORRECTED GAS VOLUME SAMPLED	Vmstd	DSCF	51.588
VOLUME OF WATER CONDENSED	Vwstd	SCF	5.15
MOISTURE CONTENT OF FLUE GAS	Bws	%	9.08
DRY MOLECULAR WEIGHT OF FLUE GAS	MW dry	lb/lb-mole	29.67
WET MOLECULAR WEIGHT OF FLUE GAS	MW wet	lb/lb-mole	28.61
FLUE GAS VELOCITY	Vs	ft/sec	79.72
FLUE GAS FLOW RATE (ACTUAL CONDITIONS)	ACFM	ACFM	23,479
FLUE GAS FLOW RATE (STD. CONDITIONS)	SDCFM	SDCFM	9,458
PERCENT EXCESS AIR	% EA	%	117.7
PERCENT ISOKINETIC SAMPLING RATE	% ISO	%	90.2

Note: NA = Not Applicable for the test program.

SUMMARY OF PARTICULATE EMISSIONS

Date: December 11, 2013
Client: OCSD PLANT 2
Site: ENGINE #3

PARTICULATE TYPE	SYMBOL	UNITS	RUN 1
FILTERABLE PARTICULATE			
NET MILLIGRAMS	mg	mg	0.2
CONCENTRATION	Csd	gr/SDCF	0.0001
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0001
EMISSION RATE	E.R.	LB/HR	0.00
EMISSION RATE	E.R.	LB/DAY	0.11
CONDENSABLE PARTICULATE			
NET MILLIGRAMS	mg	mg	2.5
CONCENTRATION	Csd	gr/SDCF	0.0007
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0011
EMISSION RATE	E.R.	LB/HR	0.06
EMISSION RATE	E.R.	LB/DAY	1.34
ORGANIC PARTICULATE			
NET MILLIGRAMS	mg	mg	2.3
CONCENTRATION	Csd	gr/SDCF	0.0006
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0010
EMISSION RATE	E.R.	LB/HR	0.05
EMISSION RATE	E.R.	LB/DAY	1.19
TOTAL PARTICULATE			
NET MILLIGRAMS	mg	mg	5.0
CONCENTRATION	Csd	gr/SDCF	0.0013
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0022
EMISSION RATE	E.R.	LB/HR	0.11
EMISSION RATE	E.R.	LB/DAY	2.64

Note: NA = Not Applicable - Lab Results were below analytical detection.

PARTICULATE LABORATORY DATA

Date: December 11, 2013
Client: OCSD PLANT 2
Site: ENGINE #3

Run No.	Type	Total Sample Vol. (ml)	Aliquot Vol. (ml)	Vlc less Silica gel Vol. (ml)	Gross Wt. (g)	Tare Wt. (g)	Uncorrected Final Wt. (mg)	Corrected Final Wt. (mg)
Blank	**Acetone**	NA	-----	-----	NA	NA	**NA**	-----
Blank	**H2O**	250	-----	-----	110.21465	110.2146	**0.05**	-----
Blank	**MeCl2**	200	-----	-----	118.15480	118.1548	**0.00**	-----
Average 1	**Filter**	-------	-----	-----	0.15743	0.15722	**0.21**	**0.21**
	Condensables	506	506	115.9	118.82520	118.8226	**2.60**	**2.52**
	Organics	506	506	-----	97.08405	97.0818	**2.25**	**2.25**
	Total	-------	-----	-----	-------	-------	**5.06**	**4.98**

Note: NA = Not Applicable for the test program.

SUMMARY OF PARTICULATE SOURCE TEST DATA AND CALCULATIONS

Date:	**December 11, 2013**		
Client:	**OCSD PLANT 2**		
Site:	**ENGINE #3**		
MEASURED SOURCE PARAMETERS	**SYMBOL**	**UNITS**	**RUN 1**
STACK DIAMETER	Ds	IN	30.00
STACK AREA	Ds	FT^2	4.91
BAROMETERIC PRESSURE	Pbar	IN. Hg	29.93
STATIC PRESSURE	Pstat	IN. H2O	-0.640
STACK PRESSURE	Ps	IN. Hg	29.88
AVERAGE STACK TEMPERATURE	Ts	DEG. F	488.7
AVERAGE SQ. ROOT VELOCITY PRESSURE	dP	IN. H2O	0.883
SAMPLING PARAMETERS			
STANDARD TEMPERATURE	Tstd	DEG. F	60.0
STANDARD PRESSURE	Pstd	IN. Hg	29.92
PERCENT CARBON DIOXIDE	CO2	%	7.28
PERCENT OXYGEN	O2	%	12.07
PITOT CORRECTION FACTOR	Cp		0.840
NOZZLE DIAMETER	Dn	IN	0.275
NOZZLE DIAMETER	Dn	FT^2	0.00041
SAMPLING TIME	t	MIN.	72.0
GAS VOLUME SAMPLED	Vm	DCF	59.812
WATER VAPOR COLLECTED	Vlc	GRAMS	129.2
DRY GAS METER CORRECTION FACTOR	Y		0.9720
DRY GAS METER TEMPERATURE	Tm	DEG. F	59.5
ORIFICE PRESSURE	dH	IN. H2O	2.19
CALCULATED RESULTS			
CORRECTED GAS VOLUME SAMPLED	Vmstd	DSCF	58.528
VOLUME OF WATER CONDENSED	Vwstd	SCF	6.01
MOISTURE CONTENT OF FLUE GAS	Bws	%	9.31
DRY MOLECULAR WEIGHT OF FLUE GAS	MW dry	lb/lb-mole	29.65
WET MOLECULAR WEIGHT OF FLUE GAS	MW wet	lb/lb-mole	28.56
FLUE GAS VELOCITY	Vs	ft/sec	66.82
FLUE GAS FLOW RATE (ACTUAL CONDITIONS)	ACFM	ACFM	19,679
FLUE GAS FLOW RATE (STD. CONDITIONS)	SDCFM	SDCFM	9,771
PERCENT EXCESS AIR	% EA	%	131.0
PERCENT ISOKINETIC SAMPLING RATE	% ISO	%	99.0

Note: NA = Not Applicable for the test program.

SUMMARY OF PARTICULATE EMISSIONS

Date:	December 6, 2013
Client:	OCSD PLANT 2
Site:	ENGINE #4

PARTICULATE TYPE	SYMBOL	UNITS	RUN 1
FILTERABLE PARTICULATE			
NET MILLIGRAMS	mg	mg	1.1
CONCENTRATION	Csd	gr/SDCF	0.0003
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0006
EMISSION RATE	E.R.	LB/HR	0.03
EMISSION RATE	E.R.	LB/DAY	0.62
CONDENSABLE PARTICULATE			
NET MILLIGRAMS	mg	mg	3.5
CONCENTRATION	Csd	gr/SDCF	0.0011
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0018
EMISSION RATE	E.R.	LB/HR	0.08
EMISSION RATE	E.R.	LB/DAY	2.02
ORGANIC PARTICULATE			
NET MILLIGRAMS	mg	mg	1.8
CONCENTRATION	Csd	gr/SDCF	0.0006
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0009
EMISSION RATE	E.R.	LB/HR	0.04
EMISSION RATE	E.R.	LB/DAY	1.01
TOTAL PARTICULATE			
NET MILLIGRAMS	mg	mg	6.3
CONCENTRATION	Csd	gr/SDCF	0.0020
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF	0.0033
EMISSION RATE	E.R.	LB/HR	0.15
EMISSION RATE	E.R.	LB/DAY	3.64

Note: NA = Not Applicable - Lab Results were below analytical detection.

PARTICULATE LABORATORY DATA

Date: December 6, 2013
Client: OCSD PLANT 2
Site: ENGINE #4

Run No.	Type	Total Sample Vol. (ml)	Aliquot Vol. (ml)	Vlc less Silica gel Vol. (ml)	Gross Wt. (g)	Tare Wt. (g)	Uncorrected Final Wt. (mg)	Corrected Final Wt. (mg)
Blank	**Acetone**	NA	-----	-----	NA	NA	**NA**	-----
Blank	**H2O**	250	-----	-----	110.21465	110.2146	**0.05**	-----
Blank	**MeCl2**	200	-----	-----	118.15480	118.1548	**0.00**	-----
Average 1	**Filter**	-------	-----	-----	0.15479	0.15372	**1.07**	**1.07**
	Condensables	538	538	117.9	114.31480	114.3112	**3.60**	**3.52**
	Organics	538	538	-----	113.70715	113.7054	**1.75**	**1.75**
	Total	-------	-----	-----	-------	-------	**6.42**	**6.34**

Note: NA = Not Applicable for the test program.

SUMMARY OF PARTICULATE SOURCE TEST DATA AND CALCULATIONS

Date:	**December 6, 2013**			
Client:	**OCSD PLANT 2**			
Site:	**ENGINE #4**			
MEASURED SOURCE PARAMETERS	**SYMBOL**	**UNITS**		**RUN 1**
STACK DIAMETER	Ds	IN		30.00
STACK AREA	Ds	FT^2		4.91
BAROMETERIC PRESSURE	Pbar	IN. Hg		30.17
STATIC PRESSURE	Pstat	IN. H2O		-0.750
STACK PRESSURE	Ps	IN. Hg		30.11
AVERAGE STACK TEMPERATURE	Ts	DEG. F		522.6
AVERAGE SQ. ROOT VELOCITY PRESSURE	dP	IN. H2O		0.809
SAMPLING PARAMETERS				
STANDARD TEMPERATURE	Tstd	DEG. F		60.0
STANDARD PRESSURE	Pstd	IN. Hg		29.92
PERCENT CARBON DIOXIDE	CO2	%		7.48
PERCENT OXYGEN	O2	%		11.77
PITOT CORRECTION FACTOR	Cp			0.840
NOZZLE DIAMETER	Dn	IN		0.275
NOZZLE DIAMETER	Dn	FT^2		0.00041
SAMPLING TIME	t	MIN.		72.0
GAS VOLUME SAMPLED	Vm	DCF		49.317
WATER VAPOR COLLECTED	Vlc	GRAMS		127.3
DRY GAS METER CORRECTION FACTOR	Y			0.9720
DRY GAS METER TEMPERATURE	Tm	DEG. F		65.8
ORIFICE PRESSURE	dH	IN. H2O		1.44
CALCULATED RESULTS				
CORRECTED GAS VOLUME SAMPLED	Vmstd	DSCF		47.976
VOLUME OF WATER CONDENSED	Vwstd	SCF		5.92
MOISTURE CONTENT OF FLUE GAS	Bws	%		10.98
DRY MOLECULAR WEIGHT OF FLUE GAS	MW dry	lb/lb-mole		29.67
WET MOLECULAR WEIGHT OF FLUE GAS	MW wet	lb/lb-mole		28.39
FLUE GAS VELOCITY	Vs	ft/sec		62.25
FLUE GAS FLOW RATE (ACTUAL CONDITIONS)	ACFM	ACFM		18,334
FLUE GAS FLOW RATE (STD. CONDITIONS)	SDCFM	SDCFM		8,693
PERCENT EXCESS AIR	% EA	%		123.2
PERCENT ISOKINETIC SAMPLING RATE	% ISO	%		91.2

Note: NA = Not Applicable for the test program.

SUMMARY OF PARTICULATE EMISSIONS

Date:	December 9, 2013			
Client:	OCSD PLANT 2			
Site:	ENGINE #5			
PARTICULATE TYPE	**SYMBOL**	**UNITS**		**RUN 1**
FILTERABLE PARTICULATE				
NET MILLIGRAMS	mg	mg		1.2
CONCENTRATION	Csd	gr/SDCF		0.0003
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF		0.0006
EMISSION RATE	E.R.	LB/HR		0.03
EMISSION RATE	E.R.	LB/DAY		0.66
CONDENSABLE PARTICULATE				
NET MILLIGRAMS	mg	mg		3.9
CONCENTRATION	Csd	gr/SDCF		0.0010
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF		0.0018
EMISSION RATE	E.R.	LB/HR		0.09
EMISSION RATE	E.R.	LB/DAY		2.11
ORGANIC PARTICULATE				
NET MILLIGRAMS	mg	mg		3.0
CONCENTRATION	Csd	gr/SDCF		0.0008
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF		0.0014
EMISSION RATE	E.R.	LB/HR		0.07
EMISSION RATE	E.R.	LB/DAY		1.62
TOTAL PARTICULATE				
NET MILLIGRAMS	mg	mg		8.2
CONCENTRATION	Csd	gr/SDCF		0.0022
CONCENTRATION @ 12% CO2	Csd,12	gr/SDCF		0.0037
EMISSION RATE	E.R.	LB/HR		0.18
EMISSION RATE	E.R.	LB/DAY		4.39

Note: NA = Not Applicable - Lab Results were below analytical detection.