



**MOSTARDI-PLATT
ASSOCIATES, INC.**

Environmental Contract
Engineering Services

1077 Entry Drive
Bensenville, IL 60106
(312) 860-5900

R CID, 7/89

Rating = A.

Note: This is a reference cited in AP 42, *Compilation of Air Pollutant Emission Factors, Volume I Stationary Point and Area Sources*. AP42 is located on the EPA web site at www.epa.gov/ttn/chief/ap42/

The file name refers to the reference number, the AP42 chapter and section. The file name "ref02_c01s02.pdf" would mean the reference is from AP42 chapter 1 section 2. The reference may be from a previous version of the section and no longer cited. The primary source should always be checked.

used to determine

GASEOUS EMISSION STUDY
PERFORMED FOR
WASTE MANAGEMENT OF NORTH AMERICA, INC.
AT THE
CID LANDFILL GAS RECOVERY FACILITY
CHICAGO, ILLINOIS
CENTAUR UNITS 1-3
JULY 12-14, 1989

start eff.

*RSH compounds excluded from direct CO₂ ; not
clear if "fuel analysis" is for clean LFG or raw LFG.*

PROJECT NO. 91606.WMN
DATE SUBMITTED: JULY 27, 1989



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**MOSTARDI-PLATT
ASSOCIATES, INC.**

CERTIFICATION SHEET

Having supervised and worked on the test program described in this report, and having written this report, I hereby certify the data, information, and results in this report to be accurate and true according to the methods and procedures used.

MOSTARDI-PLATT ASSOCIATES, INC.

Ed Peterson
Project Supervisor



GASEOUS EMISSION STUDY
PERFORMED FOR
WASTE MANAGEMENT OF NORTH AMERICA, INC.
AT THE
CID LANDFILL GAS RECOVERY FACILITY
CHICAGO, ILLINOIS
CENTAUR UNITS 1-3
JULY 12-14, 1989

INTRODUCTION

A gaseous emissions test program was performed by MOSTARDI-PLATT ASSOCIATES, INC. (MPA) on the Centaur Stationary Gas Turbines (1-3) at the CID Landfill Facility of Waste Management of North America, Inc. (Waste Management) in Chicago, Illinois, on July 12-14, 1989. The tests were authorized by and performed for Waste Management.

The purpose of this test program was to determine the nitrogen oxide (NO_x) and sulfur dioxide (SO_2) emission rates from the gas turbine during normal full load operating conditions. The data obtained by this test program will be utilized to show compliance with existing State of Illinois emission regulations.

The tests were conducted by Messrs. P. Schalbach, K. Addison, and E. Peterson of MPA. Mr. Jim Greenwell of Waste Management provided assistance and coordinated plant operating conditions during the test program. Mr. George Kimura of the Illinois Environmental Protection Agency was at the test site on July 12, 1989 to observe the test program.



SUMMARY OF RESULTS

Three (3) 40CFR60 Appendix A-Method 20 gaseous emission test runs were performed on the flue gas exhaust stacks. The nitrogen oxide (NO_x) emission rate was calculated to be 3.99, 3.90, and 3.72 lbs/hr on Units 1-3, respectively. A complete test results summary is given on pages 9-11. The results summary includes pollutant concentrations, gas temperatures, and volumetric flow rates.

Sulfur dioxide (SO_2) emission tests were performed during each Method 20 (NO_x) test run. SO_2 emissions were determined to be 0.09, 0.80, and 0.79 lbs per hour on Units 1-3, respectively. The sulfur dioxide results are also included in the results summaries. The test results show that the emissions do not exceed the allowable limits as set forth in the NSPS 40CFR 60, Subpart A and GG, 35 Illinois Code 230; 40CFR 60.332 (a)(2) and 60.333.

Turbine operating data, recorded by Waste Management personnel, is shown on pages 13-15. Monitor data logs are also appended.

TEST PROCEDURES

All testing, sampling, analytical and calibration procedures used for this test program was performed as described in the Code of Federal Regulations, Title 40, Part 60.335, Appendix A, and 35 Illinois Administration Code 183 - Method 20 and the latest revisions thereof. Where applicable, the Quality Assurance



Handbook for Air Pollution Measurement Systems, Volume III, Stationary Source Specific Methods, EPA 600/4-77-027b was used to determine the precise procedures.

Nitrogen Oxide Determination

Method 20 was used for determining nitrogen oxides (NO_x), sulfur dioxide (SO_2) and oxygen (O_2) emissions from the gas turbines. A gas sample was continuously extracted from the exhaust stream of the gas turbine through a heated sampling probe. A portion of the sample stream was conveyed via a heated sampling line to gas analyzers for determination of NO_x and O_2 content. During each NO_x and O_2 determination, a separate measurement of SO_2 emissions was made, using Method 6. The O_2 determination is used to adjust the NO_x and SO_2 concentrations to a reference condition.

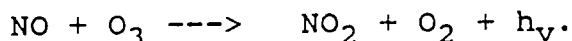
After the sampling location was selected and sample ports installed, a preliminary O_2 traverse was performed to locate the lowest concentrations. The O_2 traverse was performed at full load capacity. The lowest eight points were determined and used for emissions sampling.

Prior to emissions sampling the Thermo Electron Model 10AR chemiluminescent NO/NO_x monitor and the Teledyne Model 320B/RC O_2 analyzer were zeroed and calibrated. A high-level, mid-level, low-level, and zero gas were introduced into the sampling system. Separately, an O_2 calibration gas was used to calibrate the O_2 monitor.



The sample gas manifold was then adjusted for emissions sampling. Three (3) forty-minute emissions samples were performed. At the end of the first and second run, the zero gas and mid-level gas were introduced into the sampling system to check calibration. A full calibration, using all levels of calibration gas, was performed after the third sample run.

The chemiluminescent reaction of NO and O₃ provides the basis for this instrument operation. Specifically:



Light emission results when electronically excited NO₂ molecules revert to their ground state.

To measure NO concentrations, the gas sample to be analyzed was blended with O₃ in a reaction chamber. The resulting chemiluminescence was monitored through an optical filter by a high-sensitivity photomultiplier positioned at one end of the chamber. The filter/photomultiplier combination responds to light in a narrow-wavelength band unique to the above reaction (hence, no interference). The output from the photomultiplier is linearly proportional to the NO concentration.

To measure NO_x concentrations (i.e., NO plus NO₂), the sample gas flow was diverted through an NO₂-to-NO converter. The chemiluminescent response in the reaction chamber to the converted effluent is linearly proportional to the NO_x concentration entering the converter. The instrument was operated in the NO_x mode during all tests and calibration.



Sulfur Dioxide Determination

The Method 6 test procedure was used to determine the sulfur dioxide concentrations. Each gas sample was extracted from the sampling manifold supplying sample gas to the O_2 and NO_x analyzers.

The sulfur dioxide is separated from the sulfuric acid mist including sulfur trioxide and is measured by the barium-thorin titration method. The barium ions react preferentially with the sulfate ions in solution to form a highly insoluble precipitate. When the barium has reacted with all of the sulfate ions, the excess barium then reacts with the thorin indicator to form a metal salt of the indicator, resulting in a color change.

The gas was extracted at a constant sampling rate of approximately 0.035 dscfm for 20 minutes. The sample was collected in three midget impingers preceded by an initial midget bubbler containing an 80% isopropanol solution and a glass wool packed outlet to entrain water soluble SO_3 molecules and sulfuric acid mist. The first two midget impingers contained a recently prepared 8-10% hydrogen peroxide solution to oxidize the SO_2 to $SO_4^{=}$, which remained in aqueous solution as sulfuric acid. The impingers were placed in an ice bath to maintain the exit gas from the last impinger containing silica gel below 68°F in order to increase the efficiency of the silica gel in drying the metered gas. A leak check of the entire sampling train is performed at a vacuum greater than the sampling vacuum after each



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sampling in order to determine if any leakage had occurred during the test run. A leakage rate not in excess of 2 percent of the average sampling rate would have been acceptable. The train was purged by drawing clean ambient air through the system for 15 minutes at the sampling rate. The samples were transferred to polyethylene bottles appropriately marked with the sample number and for liquid level before transfer from the test site.

Immediately prior to analysis, the level of the liquid in each sample bottle was observed for liquid losses. The sample bottle contents were transferred to a 100-ml volumetric flask and diluted to 100 mls with deionized distilled water. An aliquot of this solution was pipetted into a 250-ml Erlenmeyer flask to which was added 80 mls of 100% isopropanol and four drops of thorin indicator. This sulfate solution was titrated to an orange-pink endpoint with standardized barium solution. The titration was repeated with another aliquot and the average of both results was used in the final calculations. Calculations are performed by computer and an explanation of the nomenclature and calculations along with the complete test results is appended. Also appended are calibration data and copies of the raw field data sheets.

Raw data are kept on file at the MPA offices in Bensenville, Illinois. All SO₂ samples from the test program will be retained for 60 days after the submittal of this report; after which, they will be discarded unless MPA is advised otherwise.



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SAMPLE CUSTODY LOG

<u>Operation</u>	<u>Personnel</u>	<u>Date</u>
Sampling and Recovery-SO ₂	EP/KAA/PS	07/12-14/89
Sample Transfer to Lab	KAA/PS	07/12-14/89
Analysis	MM	07/13 & 17/89

QUALITY ASSURANCE PROCEDURES

MPA recognizes the previous described reference methods to be very technique oriented and attempts to minimize all factors which can increase error by implementing its Quality Assurance Program into every segment of its testing activities.

Shelf life of chemical reagents prepared at the MPA laboratory or at the jobsite does not exceed those specified in the above mentioned methods; and, those reagents having a shelf life of one week are prepared daily at the jobsite. When on-site analyses are required, all reagent standardizations are performed daily by the same person performing the analysis.

Dry test meters and wet test meters were calibrated according to methods described in the Quality Assurance Handbook, Sections 3.3.2., 3.4.2 and 3.5.2. Percent error for the wet test meter according to the methods was less than the allowable error of 1.0 percent. The dry test meters measured the test sample volumes to within 2 percent at the flow rate and conditions encountered during sampling.



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ACKNOWLEDGMENTS

MOSTARDI-PLATT ASSOCIATES, INC. would like to thank the following personnel for their assistance in completing this test program.

Mr. Jim Greenwell	Waste Management - CID
Mr. Gary Stuenkel	Waste Management - CID
Mr. Joseph Gentile	Waste Management - CID
Mr. George Kimura	IEPA

Respectfully submitted:

MOSTARDI-PLATT ASSOCIATES, INC.

Ed Peterson
Project Supervisor

EP/mms



**MOSTARDI-PLATT
ASSOCIATES, INC.**

**WASTE MANAGEMENT OF NORTH AMERICA
CID LANDFILL FACILITY
CENTAUR TURBINE NO. 3**

July 12, 1989

Test Method	NSPS	40CFR60	Appendix A	Method 20
Test No.	1	2	3	Average
NO_x Emissions				
ppm	19.9	19.6	19.5	19.67
ppm at 15% O ₂	32.43	30.35	28.91	30.56
lbs/dscf x 10 ⁻⁶	2.38	2.34	2.33	2.35
lbs/hr	3.77	3.71	3.69	3.72
tons/yr (365 days)	--	--	--	16.29
O ₂ (%)	17.28	17.09	16.92	17.10
SO₂ emissions				
ppm	4.50	1.50	3.00	3.00
ppm at 15% O ₂	7.33	2.32	4.45	4.70
lbs/dscf x 10 ⁻⁵	0.075	0.025	0.050	0.050
lbs/hr	1.19	0.40	0.79	0.79
tons/yr (365 days)	--	--	--	3.46
Volumetric Flow				
ACFM	64,711	--	64,126	64,419
DSCFM	26,585	--	26,272	26,429
Temperature (°F)	734	--	737	736

$$\text{Avg. flow rate} = \frac{26,429 + 26,662 + 26,979}{3} = 26,688 \text{ dscfm}$$

$$\text{Avg. NO}_x \text{ emission} = \frac{19.67 + 20.52 + 20.52}{3} = 20.23 \text{ ppm}$$



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WASTE MANAGEMENT OF NORTH AMERICA
CID LANDFILL FACILITY
CENTAUR TURBINE NO. 2

July 13, 1989

Test Method	NSPS	40CFR60	Appendix A	Method 20
Test No.	1	2	3	Average
NO _x Emissions				
ppm	20.5	20.3	20.4	20.4
ppm at 15% O ₂	32.08	32.72	32.80	32.53
lbs/dscf x 10 ⁻⁶	2.45	2.42	2.44	2.44
lbs/hr	3.92	3.88	3.90	3.90
tons/yr (365 days)	--	--	--	17.08
O ₂ (%)	17.13	17.24	17.23	17.20
SO ₂ emissions				
ppm	0.00	4.50	4.50	3.00
ppm at 15% O ₂	0.00	7.25	7.23	4.83
lbs/dscf x 10 ⁻⁵	0.00	0.075	0.075	0.050
lbs/hr	0.00	1.20	1.20	0.80
tons/yr (365 days)	--	--	--	3.50
Volumetric Flow				
ACFM	64,023	--	63,059	63,541
DSCFM	26,871	--	26,453	26,662
Temperature (°F)	717	--	718	718



**MOSTARDI-PLATT
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WASTE MANAGEMENT OF NORTH AMERICA
CID LANDFILL FACILITY
CENTAUR TURBINE NO. 1

July 14, 1989

Test Method	NSPS	40CFR60	Appendix A	Method 20
Test No.	1	2	3	Average
NO _x Emissions				
ppm	19.5	21.1	21.3	20.63
ppm at 15% O ₂	29.50	36.29	36.96	34.25
lbs/dscf x 10 ⁻⁶	2.33	2.52	2.54	2.46
lbs/hr	3.77	4.08	4.12	3.99
tons/yr (365 days)	--	--	--	17.48
O ₂ (%)	17.00	17.47	17.50	17.32
SO ₂ emissions				
ppm	0.00	0.00	1.00	0.33
ppm at 15% O ₂	0.00	0.00	1.74	0.58
lbs/dscf x 10 ⁻⁵	0.00	0.00	0.017	0.006
lbs/hr	0.00	0.00	0.269	0.090
tons/yr (365 days)	--	--	--	0.394
Volumetric Flow				
ACFM	65,483	--	65,617	65,550
DSCFM	26,946	--	27,001	26,974
Temperature (°F)	727	--	727	727



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APPENDIX



RECEIVED JUL 21 1989

Turbine Performance Record

Plant: CID

Engine Model: Centaur T4500

Equipment #: 1

Location: Calumet City, IL

Serial #: 4283C

Date: 7-14-89

Oil Used - Brand: Mobil

Type: SHC 824

READING	REQUIRED VALUE	ACTUAL VALUE TIME: 7:01AM	ACTUAL VALUE TIME: 1:45PM	ACTUAL VALUE TIME:
Turbine Starts		62	62	
Turbine Hours		158.2	165.0	
Turbine Vibrations (IPS)	< 0.4	0.08	0.08	
Gearbox Vibrations (G's)	< 20	5.5	5	
Generator Winding Temperature A (°C)	< 150	98	98	
Generator Winding Temperature B (°C)	< 150	97	93	
Generator Winding Temperature C (°C)	< 150	98	96	
Generator Vibrations Forward (IPS)	< 0.4	0.05	0.05	
Generator Vibrations Aft (IPS)	< 0.4	0.05	0.04	
Forward Generator Bearing Temp (°C)	< 82	71	72	
Aft Generator Bearing Temp (°C)	< 82	72	72	
Turbine Speed (%)	100%	100	100	
Turbine Temperature (°F)	1170 Max	1140	1140	
Megawatts	2.8-3.3	3.0	2.9	
Power Factor	0.98	0.955	0.95	
KVAR		650	600	
Frequency (HZ)	60	60	60	
Volts A-B	4160	4225	4200	
Volts B-C	4160	4275	4200	
Volts A-C	4160	4250	4200	
Amperes A	< 480	400	400	
Amperes B	< 480	390	400	
Amperes C	< 480	380	390	
Generator Oil Pressure (PSI)	15-22	15	15	
Fuel Pressure (PSI)	150-185	169	169	
PCD	113-125	118	116	
Turbine Filter Inlet Oil (PSI)	55-65	68	68	
Turbine Filter Outlet Oil (PSI)	35-65	58	58	
Oil Filter ΔP (PSI)	< 20	10	10	
Oil Level	1/2 - Full	Full	Full	
Oil Temperature (°F)	135-155	150	150	
Fuel Gas Flow (SCFM)	1200-1750	1138✓	1117✓	
Gas Temperature (°F)	120-140	103	105	
Turbine Room Temperature (°F)		78	81	
Battery Charger (Volts)	24-28	28	28	
Battery Charger (AMPS)	5-10	14	14	
Ambient Temperature (°F)		62	68	
Inlet Filter ΔP (H2O)	< 3.0	1.3		
Operator's Initials		X.H	J.B	

(Make all comments on back).

AVG -
LFG. FR = $\frac{1138 + 1117 + 791 + 516}{5}$
= 938.8



Turbine Performance Record

Plant: CID

Engine Model: Centaur T4500

Equipment #: 2

Location: Calumet City, IL

Serial #: 4239C

Date: 7-13-89

Oil Used - Brand: Mobil

Type: SHC 824

READING	REQUIRED VALUE	ACTUAL VALUE TIME: 7:19 AM	ACTUAL VALUE TIME:	ACTUAL VALUE TIME:
Turbine Starts		68		
Turbine Hours		387.1		
Turbine Vibrations (IPS)	< 0.4	0.1		
Gearbox Vibrations (G's)	< 20	6.5		
Generator Winding Temperature A (°C)	< 150	101		
Generator Winding Temperature B (°C)	< 150	104		
Generator Winding Temperature C (°C)	< 150	102		
Generator Vibrations Forward (IPS)	< 0.4	0.05		
Generator Vibrations Aft (IPS)	< 0.4	0.02		
Forward Generator Bearing Temp (°C)	< 82	82		
Aft Generator Bearing Temp (°C)	< 82	80		
Turbine Speed (%)	100%	100		
Turbine Temperature (°F)	1170 Max	1140		
Megawatts	2.8-3.3	2.8		
Power Factor	0.98	0.95		
KVAR		600		
Frequency (HZ)	60	60		
Volts A-B	4160	4150		
Volts B-C	4160	4150		
Volts A-C	4160	4150		
Amperes A	< 480	390		
Amperes B	< 480	400		
Amperes C	< 480	380		
Generator Oil Pressure (PSI)	15-22	17.5		
Fuel Pressure (PSI)	150-185	158		
PCD	113-125	113		
Turbine Filter Inlet Oil (PSI)	55-65	63		
Turbine Filter Outlet Oil (PSI)	35-65	58		
Oil Filter ΔP (PSI)	< 20	5		
Oil Level	1/2 - Full	Full		
Oil Temperature (°F)	135-155	150		
Fuel Gas Flow (SCFM)	1200-1750	791		
Gas Temperature (°F)	120-140	113		
Turbine Room Temperature (°F)		77		
Battery Charger (Volts)	24-28	28		
Battery Charger (AMPS)	5-10	14		
Ambient Temperature (°F)		68		
Inlet Filter ΔP ("H ₂ O)	< 3.0			
Operator's Initials		J.B.		

(Make all comments on back)



Turbine Performance Record

Plant: CID

Engine Model: Centaur T4500

Equipment #: 3

Location: Calumet City, IL

Serial #: 4240C

Date: 7/12/89

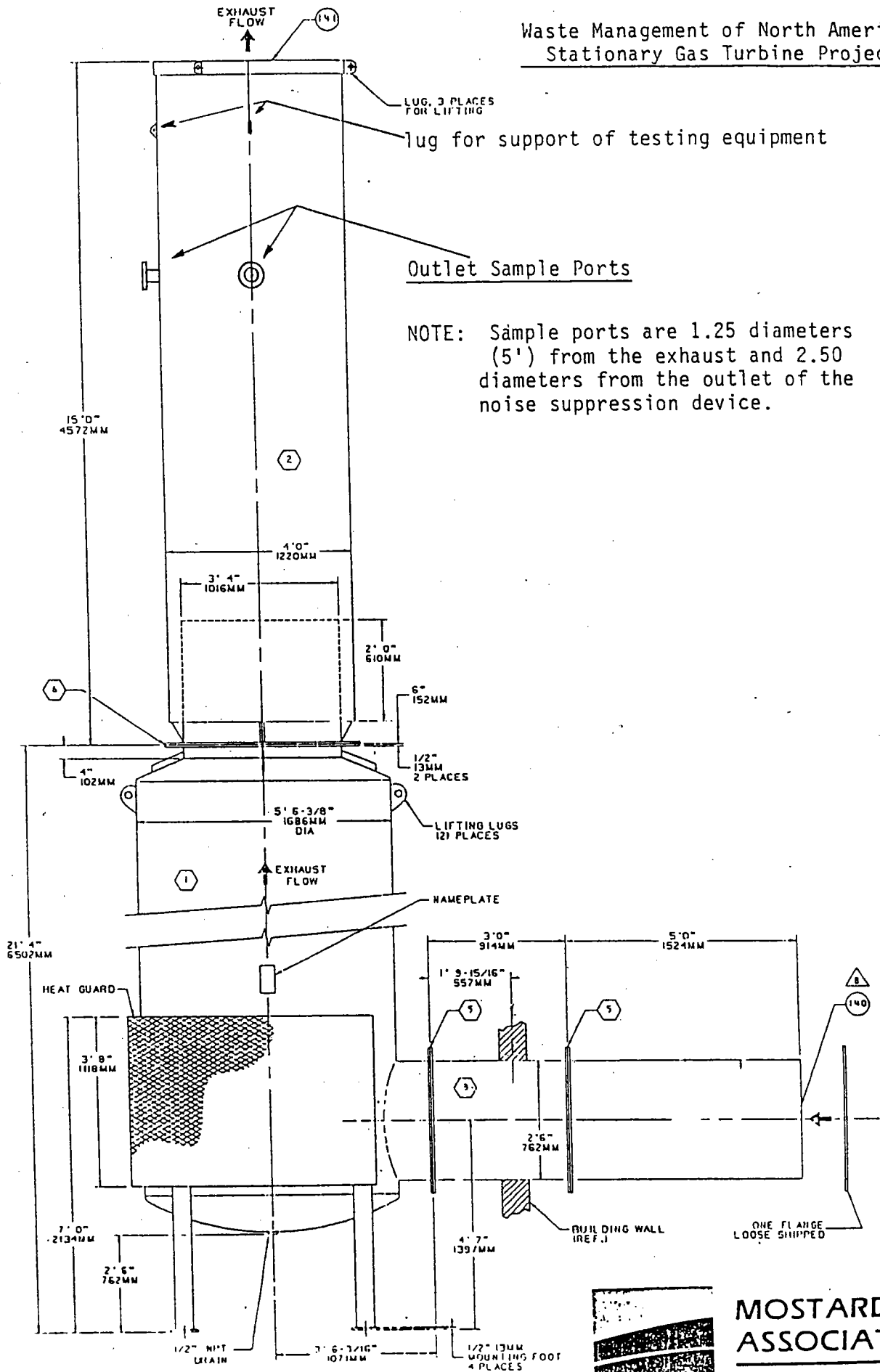
Oil Used - Brand: Mobil

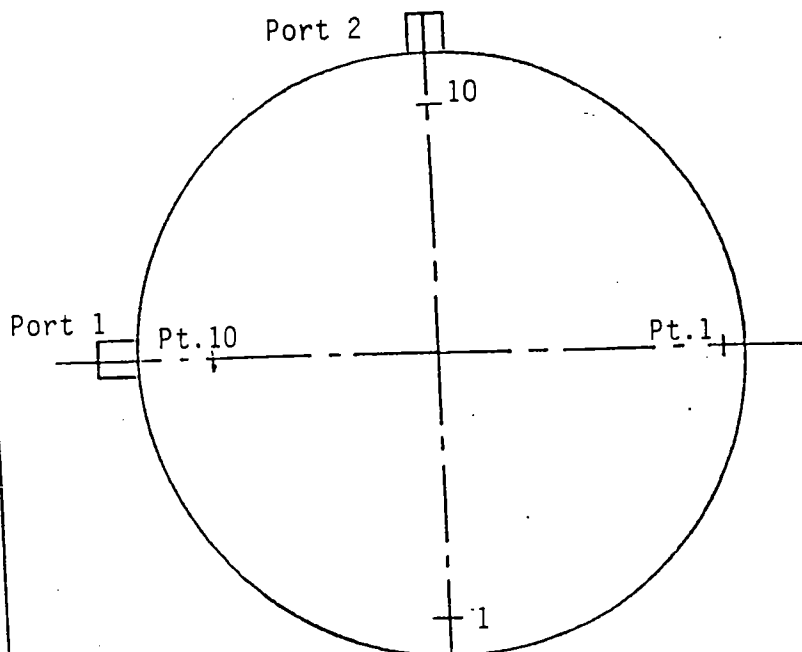
Type: SHC 824

READING	REQUIRED VALUE	ACTUAL VALUE TIME: 10:40 am	ACTUAL VALUE TIME: 2:20 pm	ACTUAL VALUE TIME:
Turbine Starts		33	33	
Turbine Hours		798.3	801.6	
Turbine Vibrations (IPS)	< 0.4	0.07	0.07	
Gearbox Vibrations (G's)	< 20	7.5	8.0	
Generator Winding Temperature A (°C)	< 150	95	95	
Generator Winding Temperature B (°C)	< 150	86	87	
Generator Winding Temperature C (°C)	< 150	85	85	
Generator Vibrations Forward (IPS)	< 0.4	0.01	0.01	
Generator Vibrations Aft (IPS)	< 0.4	0.01	0.01	
Forward Generator Bearing Temp (°C)	< 82	71	71	
Aft Generator Bearing Temp (°C)	< 82	72	71	
Turbine Speed (%)	100%	100	100	
Turbine Temperature (°F)	1170 Max	1140	1140	
Megawatts	2.8-3.3	2.75	2.72	
Power Factor	0.98	0.945	0.945	
KVAR		500	500	
Frequency (HZ)	60	60	60	
Volts A-B	4160	4225	4240	
Volts B-C	4160	4225	4250	
Volts A-C	4160	4250	4250	
Amperes A	< 480	380	380	
Amperes B	< 480	380	380	
Amperes C	< 480	370	370	
Generator Oil Pressure (PSI)	15-22	17	16.5	
Fuel Pressure (PSI)	150-185	164	164	
PCD	113-125	111	111	
Turbine Filter Inlet Oil (PSI)	55-65	57	57	
Turbine Filter Outlet Oil (PSI)	35-65	56	56	
Oil Filter ΔP (PSI)	< 20	1	1	
Oil Level	1/2 - Full	Full	Full	
Oil Temperature (°F)	135-155	152	153	
Fuel Gas Flow (SCFM)	1200-1750	816	832	
Gas Temperature (°F)	120-140	118	123	
Turbine Room Temperature (°F)		74	75	
Battery Charger (Volts)	24-28	29	29	
Battery Charger (AMPS)	5-10	14	14	
Ambient Temperature (°F)		72	73	
Inlet Filter ΔP (°H ₂ O)	< 3.0	1.4	1.4	
Operator's Initials		AS	AS	

(Make all comments on back)

Waste Management of North America
Stationary Gas Turbine Project





Compass
Direction
South

Diagram showing a circular cross-section of a stack with a horizontal line through its center labeled "Pt. 1".

1

(Percent of stack diameter from inside wall to traverse point)

(Percent of stack diameter from inside wall to traverse point)												Traverse point number on a diameter												
												1.1	24											
												3.2	23											
												1.1	5.5	22										
												3.5	7.9	21										
												1.3	6.0	10.5	20									
												3.9	8.7	13.2	19									
												1.4	6.7	11.6	16.1	18								
												4.4	9.7	14.6	19.4	17								
												1.6	7.5	12.9	18.0	23.0	16							
												4.9	10.9	16.5	21.8	27.2	15							
												1.8	8.5	14.6	20.4	26.1	32.3	14						
												5.7	12.5	18.8	25.0	31.5	39.8	13						
												2.1	9.9	16.9	23.6	30.6	39.3	60.2	12					
												6.7	14.6	22.0	29.6	38.8	60.7	67.7	11					
												2.5	11.8	20.1	28.3	38.2	61.2	68.5	72.8	10				
												8.2	17.7	26.9	37.5	61.8	69.4	73.9	77.0	9				
												3.3	14.6	25.0	36.6	62.5	70.4	75.0	78.2	80.6	8			
												10.5	22.6	35.5	63.4	71.7	76.4	79.6	82.0	83.9	7			
												4.4	19.4	34.2	64.5	73.1	78.0	81.2	83.5	85.4	86.8	6		
												14.7	32.3	65.8	75.0	79.9	83.1	85.4	87.1	88.4	89.5	5		
												6.7	29.5	67.7	77.4	82.3	85.4	87.5	89.1	90.3	91.3	92.1	4	
												25.0	70.5	80.6	85.4	88.2	90.1	91.5	92.5	93.3	94.0	94.5	3	
												14.6	75.0	85.3	89.5	91.8	93.3	94.3	95.1	95.6	96.1	96.5	96.8	2
												85.4	93.3	95.6	96.7	97.5	97.9	98.2	98.4	98.6	98.7	98.9	98.9	1
												2	4	6	8	10	12	14	16	18	20	22	24	
Number of traverse points on a diameter																								

JOB: Waste Management - CID Landfill Gas Recovery Facility

DATE: July, 1989

TEST NO. Units 1, 2, & 3

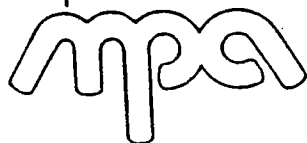
DUCT NO. Centaur Turbine Stack

DUCT DIA. 3 ft. 4 ins.

DUCT AREA 8.727 ft²

NO. POINTS ACROSS DIA. 8 (10 for Pitot & preliminary 02)

mostardi-platt associates, inc.



EQUAL AREA TRAVERSE

FOR ROUND DUCTS

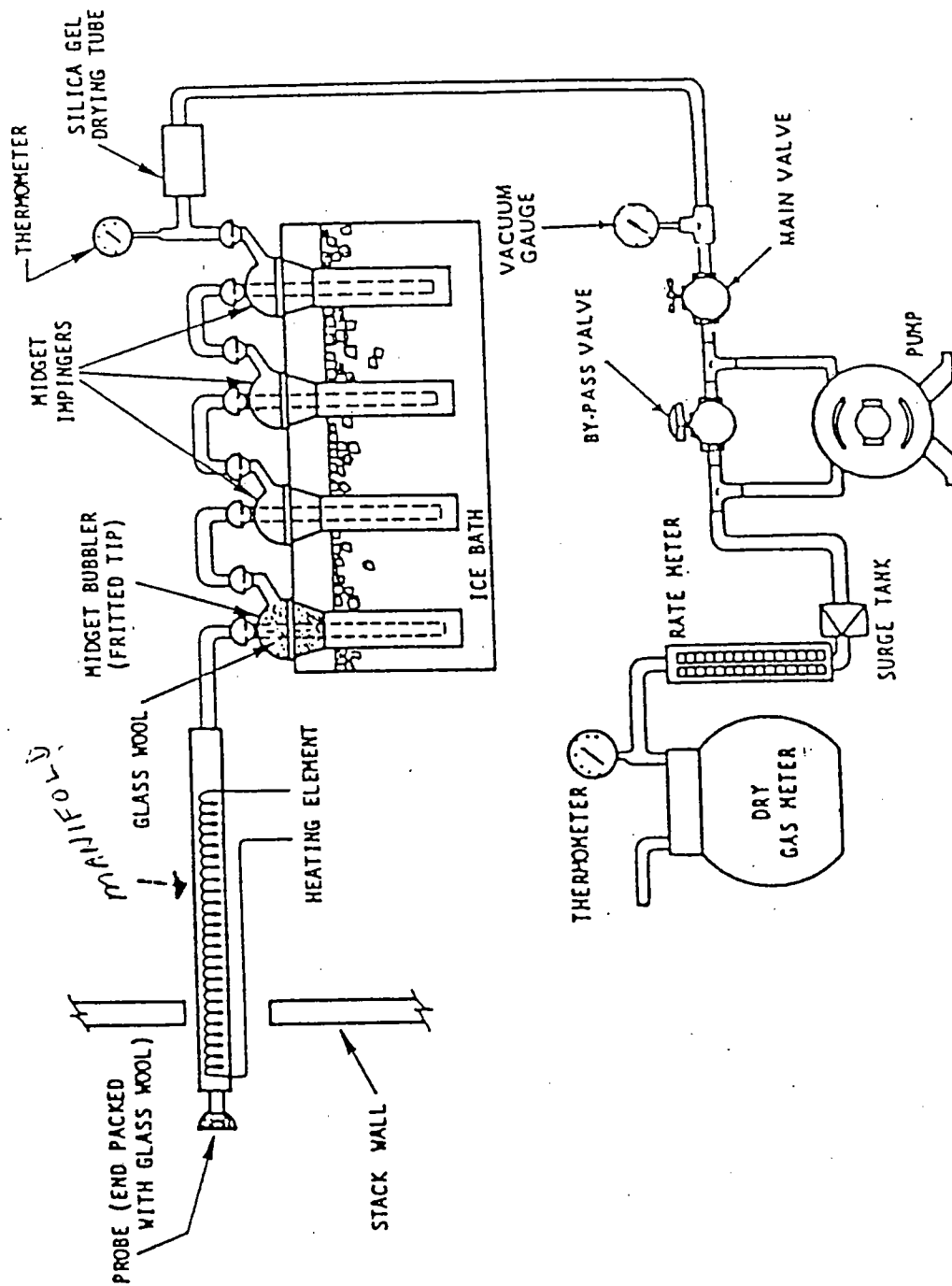
17

SCALE:

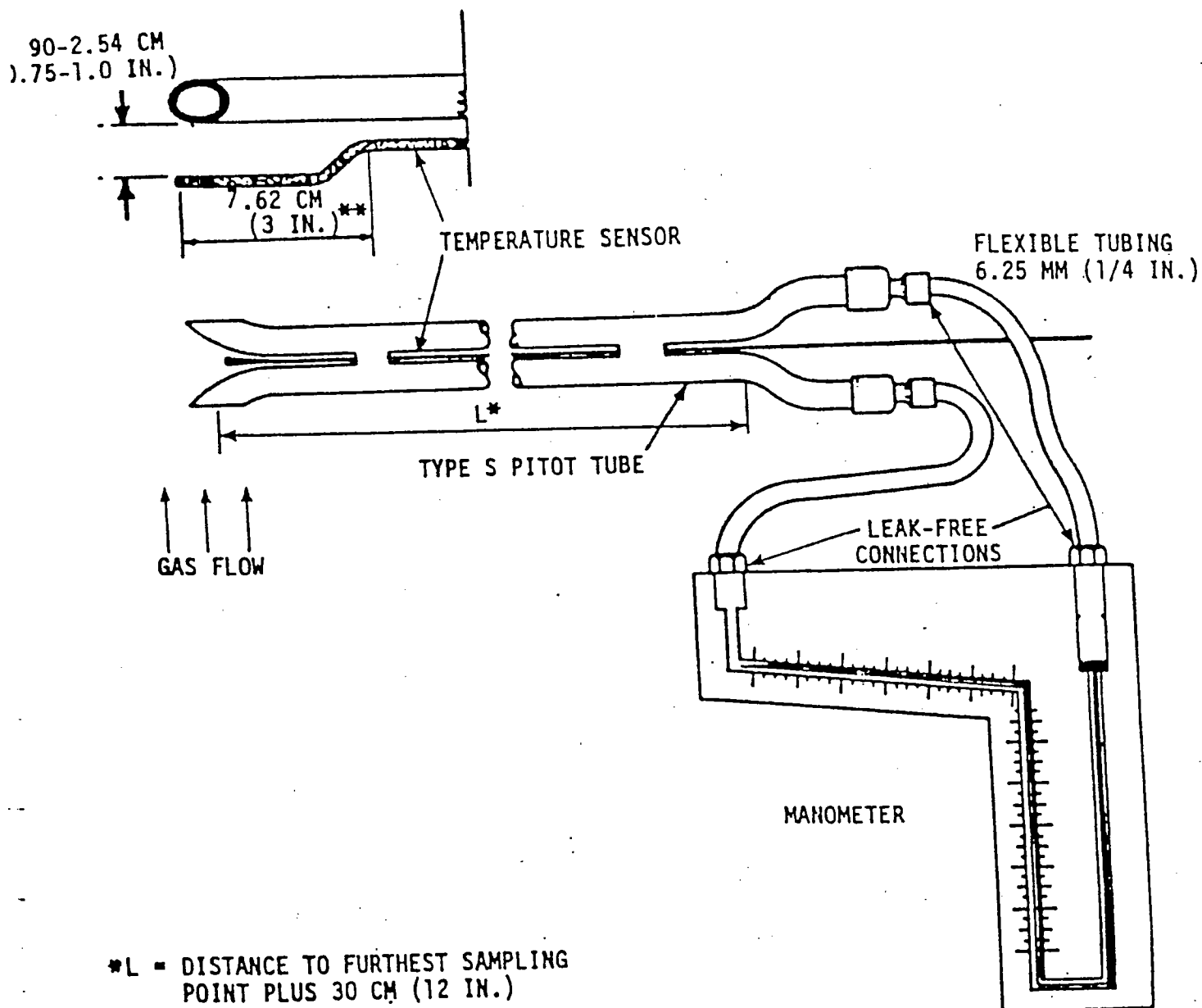
NONE

DRAWN

APPROVED



SO_2 sampling train.



*L = DISTANCE TO FURTHEST SAMPLING
POINT PLUS 30 CM (12 IN.)

**PITOT TUBE - TEMPERATURE SENSOR SPACING

Figure 1.1 Type S pitot tube-manometer assembly.

RESPONSE TIME

Date of test 7-12-89
Analyzer type Teco Model 10
S/N _____
Span gas concentration: 150 ppm
Analyzer span setting: 1000 ppm
Chart - 0-300 ppm

Upscale:

1 118 seconds
2 118 seconds
3 110 seconds

Average upscale response 113 seconds

Downscale:

1 125 seconds
2 130 seconds
3 123 seconds

Average downscale response 126 seconds

System response time =
slower average time =
126 seconds.

TURBINE 3

JULY 12, 1989

CHAN001= 136.7
 CHAN001= 137.2
 CHAN001= 137.2
 CHAN001= 137.7
 CHAN001= 137.5
 CHAN001= 137.5
 CHAN001= 137.2
 CHAN001= 137.2
 CHAN001= 137.5
 CHAN001= 138.0
 CHAN001= 138.0
 CHAN001= 136.7
 CHAN001= 136.2
 CHAN001= 136.2
 CHAN001= 136.5
 CHAN001= 136.5
 CHAN001= 137.5
 CHAN001= 137.7
 CHAN001= 137.7
 CHAN001= 138.5
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 CHAN001= 136.7
 CHAN001= 137.5
 CHAN001= 140.0
 CHAN001= 140.0
 CHAN001= 141.7
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 CHAN001= 139.5
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 CHAN001= 143.5
 CHAN001= 143.5
 CHAN001= 142.5
 CHAN001= 142.5
 CHAN001= 145.7
 CHAN001= 146.5
 CHAN001= 146.5
 CHAN001= 148.0
 CHAN001= 147.2
 CHAN001= 147.2
 CHAN001= 146.0
 CHAN001= 146.5
 CHAN001= 146.5
 CHAN001= 146.0
 CHAN001= 146.0
 CHAN001= 146.0
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 CHAN001= 149.2
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 CHAN001= 161.2
 CHAN001= 160.7
 CHAN001= 160.7
 CHAN001= 158.7
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 CHAN001= 150.2
 CHAN001= 150.2
 CHAN001= 150.2
 CHAN001= 149.5
 CHAN001= 149.7
 CHAN001= 149.7
 CHAN001= 149.5

WDR
 10/12/09
 3
 7-12

Pined
 10/12/09

TURBINE 3
 7/12/09

DCN#1> READ 02
CHAN#02= .4375

DCN#1> REPEAT READ 02

CHAN#02= .4375
CHAN#02= .4375
CHAN#02= .4375
CHAN#02= .4375
CHAN#02= .4375
CHAN#02= .3750
CHAN#02= .3750
CHAN#02= .0625
CHAN#02= .0625
CHAN#02= .0625
CHAN#02= .0625
CHAN#02= .0625
CHAN#02= .1250
CHAN#02= .0625
CHAN#02= .0625
CHAN#02= .1250
CHAN#02= .1250
CHAN#02= .0625
CHAN#02= .0625
CHAN#02= .0625
CHAN#02= .0625
CHAN#02= .0625
CHAN#02= .0625
CHAN#02= .1875
CHAN#02= .1875
CHAN#02= .1875
CHAN#02= .1875
CHAN#02= .4375
CHAN#02= .4375
CHAN#02= .4375
CHAN#02= .4375

0.107
cal

4/11/90
MAGNET
7-10-89
Unit 3

DCN#1> REPEAT READ 01

CHAN#01= 151.2
CHAN#01= 150.0
CHAN#01= 150.0
CHAN#01= 150.0
CHAN#01= 150.0
CHAN#01= 150.5
CHAN#01= 149.2
CHAN#01= 149.2
CHAN#01= 149.7
CHAN#01= 150.2
CHAN#01= 150.2
CHAN#01= 149.7
CHAN#01= 150.5
CHAN#01= 150.5
CHAN#01= 150.2
CHAN#01= 150.2
CHAN#01= 150.5
CHAN#01= 150.5
CHAN#01= 150.5
CHAN#01= 151.7
CHAN#01= 150.7
CHAN#01= 150.7
CHAN#01= 151.7
CHAN#01= 151.7
CHAN#01= 150.5
CHAN#01= 151.0
CHAN#01= 151.0
CHAN#01= 150.5
CHAN#01= 149.5
CHAN#01= 149.5
CHAN#01= 149.7
CHAN#01= 150.0
CHAN#01= 150.0
CHAN#01= 150.7
CHAN#01= 150.7
CHAN#01= 149.2
CHAN#01= 149.2
CHAN#01= 149.2
CHAN#01= 150.7
CHAN#01= 150.2
CHAN#01= 150.2
CHAN#01= 150.5
CHAN#01= 150.5
CHAN#01= 151.0
CHAN#01= 151.2
CHAN#01= 151.2
CHAN#01= 151.7
CHAN#01= 150.5
CHAN#01= 150.5
CHAN#01= 150.7
CHAN#01= 151.7
CHAN#01= 151.7

150 ppm cal

DCN#1> REPEAT READ 02

CHAN#02= 21.50
CHAN#02= 21.50
CHAN#02= 21.31
CHAN#02= 21.25
CHAN#02= 21.25
CHAN#02= 21.31
CHAN#02= 21.31
CHAN#02= 21.50
CHAN#02= 21.18
CHAN#02= 21.18
CHAN#02= 21.06
CHAN#02= 21.06
CHAN#02= 21.06
CHAN#02= 21.18
CHAN#02= 21.25
CHAN#02= 21.25
CHAN#02= 21.06
CHAN#02= 21.06
CHAN#02= 21.06
CHAN#02= 21.12
CHAN#02= 21.12
CHAN#02= 21.18
CHAN#02= 21.12
CHAN#02= 21.12
CHAN#02= 21.06
CHAN#02= 21.06
CHAN#02= 21.06
CHAN#02= 21.12
CHAN#02= 21.12
CHAN#02= 21.25
CHAN#02= 21.06
CHAN#02= 21.06
CHAN#02= 20.87
CHAN#02= 21.00
CHAN#02= 21.00
CHAN#02= 21.25
CHAN#02= 21.12
CHAN#02= 21.12
CHAN#02= 20.93
CHAN#02= 20.93
CHAN#02= 20.93
CHAN#02= 21.12
CHAN#02= 21.12
CHAN#02= 21.12
CHAN#02= 21.00
CHAN#02= 21.00
CHAN#02= 20.93
CHAN#02= 21.06
CHAN#02= 21.06
CHAN#02= 21.31
CHAN#02= 21.31
CHAN#02= 21.00
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 20.81
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 21.12
CHAN#02= 21.06
CHAN#02= 21.06
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 20.93

20.9% Or Cal.

DCN#1> REPEAT READ 01

CHAN#01= 4.250
CHAN#01= 4.250
CHAN#01= 4.250
CHAN#01= 4.250
CHAN#01= 4.250
CHAN#01= 4.250
CHAN#01= 4.500
CHAN#01= 4.250
CHAN#01= 4.250
CHAN#01= 4.500
CHAN#01= 4.500
CHAN#01= 4.250
CHAN#01= 4.250
CHAN#01= 4.250
CHAN#01= 4.000
CHAN#01= 3.250
CHAN#01= 3.250
CHAN#01= 2.500
CHAN#01= 2.500
CHAN#01= 2.500
CHAN#01= 2.500
CHAN#01= 2.500
CHAN#01= 2.500
CHAN#01= 2.750
CHAN#01= 2.500
CHAN#01= 2.500
CHAN#01= -167.0
CHAN#01= 11.75
CHAN#01= 11.75
CHAN#01= 9.000
CHAN#01= 6.750
CHAN#01= 6.750
CHAN#01= 6.250
CHAN#01= 6.250
CHAN#01= 5.750
CHAN#01= 5.750
CHAN#01= 5.750
CHAN#01= 5.500
CHAN#01= 5.250
CHAN#01= 5.250
CHAN#01= 5.250
CHAN#01= 5.250
CHAN#01= 5.250
CHAN#01= 5.000
CHAN#01= 5.000
CHAN#01= 5.000
CHAN#01= -115.7
CHAN#01= -115.7
CHAN#01= .5000
CHAN#01= 2.500
CHAN#01= 2.500
CHAN#01= 2.500
CHAN#01= 2.500
CHAN#01= 2.500
CHAN#01= 2.500
CHAN#01= 2.500
CHAN#01= 2.750
CHAN#01= 2.750
CHAN#01= 2.750
CHAN#01= 2.500

O P₁ _{max}

DCN#1> REPEAT PRINT 02

ILLEGAL COMMAND

DCN#1> REPEAT READ

ILLEGAL COMMAND

DCN#1> REPEAT READ 02

CHAN#02= 14.18

CHAN#02= 14.18

CHAN#02= 14.06

CHAN#02= 14.06

CHAN#02= 14.06

CHAN#02= 14.18

CHAN#02= 14.18

CHAN#02= 14.18

CHAN#02= 14.12

CHAN#02= 14.12

CHAN#02= 14.06

CHAN#02= 14.12

CHAN#02= 14.12

CHAN#02= 14.12

CHAN#02= 14.12

CHAN#02= 14.12

CHAN#02= 14.06

CHAN#02= 14.00

CHAN#02= 14.00

CHAN#02= 14.06

CHAN#02= 14.06

CHAN#02= 14.18

CHAN#02= 14.12

CHAN#02= 14.12

CHAN#02= 14.00

CHAN#02= 14.00

CHAN#02= 14.00

CHAN#02= 14.12

CHAN#02= 13.93

CHAN#02= 13.93

CHAN#02= 13.87

CHAN#02= 13.87

CHAN#02= 13.81

CHAN#02= 13.87

CHAN#02= 13.87

CHAN#02= 13.87

CHAN#02= 13.93

CHAN#02= 13.93

CHAN#02= 13.93

CHAN#02= 13.87

CHAN#02= 13.87

CHAN#02= 13.81

CHAN#02= 13.81

CHAN#02= 13.93

CHAN#02= 14.00

CHAN#02= 14.00

CHAN#02= 13.87

CHAN#02= 13.81

CHAN#02= 13.81

CHAN#02= 13.87

CHAN#02= 14.00

CHAN#02= 14.00

CHAN#02= 13.93

CHAN#02= 13.93

CHAN#02= 13.87

CHAN#02= 13.81

CHAN#02= 13.87

CHAN#02= 13.87

CHAN#02= 13.93

CHAN#02= 13.93

CHAN#02= 14.00
CHAN#02= 13.93
CHAN#02= 13.93
CHAN#02= 13.87
CHAN#02= 13.81
CHAN#02= 13.81
CHAN#02= 13.87
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CHAN#02= 13.81
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CHAN#02= 13.93
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CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.62
CHAN#02= 13.62
CHAN#02= 13.62
CHAN#02= 13.56
CHAN#02= 13.50
CHAN#02= 13.50
CHAN#02= 13.56
CHAN#02= 13.62
CHAN#02= 13.62

13.6 '60 0 2 Cnt

0 ppm

29

DCN#1> READ 02
CHAN#02= 13.56

DCN#1> READ 02
CHAN#02= 13.75

DCN#1> READ 01
CHAN#01= .0000

DCN#1> READ 02
CHAN#02= 13.87

DCN#1> REPEAT READ 01

CHAN#01= 75.75
CHAN#01= 75.75
CHAN#01= 75.75
CHAN#01= 75.25
CHAN#01= 75.25
CHAN#01= 76.25
CHAN#01= 76.25
CHAN#01= 76.50
CHAN#01= 76.75
CHAN#01= 76.75
CHAN#01= 76.25
CHAN#01= 76.50
CHAN#01= 76.50
CHAN#01= 76.25
CHAN#01= 76.50
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CHAN#01= 76.00
CHAN#01= 76.00
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CHAN#01= 76.50
CHAN#01= 76.25
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CHAN#01= 76.75
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CHAN#01= 76.50
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CHAN#01= 76.75
CHAN#01= 76.75
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CHAN#01= 77.75
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CHAN#01= 78.00
CHAN#01= 78.00
CHAN#01= 78.00
CHAN#01= 78.50
CHAN#01= 78.50
CHAN#01= 78.50
CHAN#01= 79.50
CHAN#01= 79.50
CHAN#01= 79.25
CHAN#01= 78.75
CHAN#01= 78.75
CHAN#01= 79.00
CHAN#01= 79.50
CHAN#01= 79.50
CHAN#01= 78.75
CHAN#01= 78.75
CHAN#01= 79.25
CHAN#01= 79.00
CHAN#01= 79.00

81.6
cut

DCN#1> REAFAT READ 02

ILLEGAL COMMAND

DCN#1> REPEAT READ 02

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .1250

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

CHAN#02= .3125

DCN#1> READ 01

CHAN#01= 79.50

DCN#1> REPEAT READ 01

CHAN#01= 78.75

CHAN#01= 79.50

CHAN#01= 79.25

CHAN#01= 79.25

CHAN#01= 80.25

CHAN#01= 80.25

CHAN#01= 80.25

CHAN#01= 79.00

CHAN#01= 79.00

CHAN#01= 79.25

CHAN#01= 79.00

CHAN#01= 79.00

CHAN#01= 79.00

CHAN#01= 79.00

CHAN#01= 79.25

CHAN#01= 79.25

CHAN#01= 80.00

CHAN#01= 79.25

CHAN#01= 79.25

CHAN#01= 79.25

CHAN#01= 80.00

DCN#1> READ 01

CHAN#01= 273.2

DCN#1> READ 01

CHAN#01= 273.2

CHN11> REPEAT READ 01

CHN101= 275.5
CHN101= 275.2
CHN101= 275.7
CHN101= 275.7
CHN101= 276.7
CHN101= 276.7
CHN101= 275.9
CHN101= 278.0
CHN101= 278.0
CHN101= 278.0
CHN101= 276.9
CHN101= 276.9
CHN101= 273.7
CHN101= 273.7
CHN101= 276.7
CHN101= 277.2
CHN101= 277.2
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CHN101= 275.9
CHN101= 275.9
CHN101= 275.0
CHN101= 275.0
CHN101= 274.0
CHN101= 275.2
CHN101= 275.2
CHN101= 273.2
CHN101= 274.7
CHN101= 274.7
CHN101= 275.5
CHN101= 275.5
CHN101= 272.7
CHN101= 277.2
CHN101= 277.2
CHN101= 278.4
CHN101= 280.9
CHN101= 280.9
CHN101= 278.4
CHN101= 278.4
CHN101= 276.2
CHN101= 276.5
CHN101= 276.5
CHN101= 275.2
CHN101= 276.9
CHN101= 276.9
CHN101= 277.2
CHN101= 277.2
CHN101= 276.7
CHN101= 276.2
CHN101= 276.2
CHN101= 276.5
CHN101= 276.5
CHN101= 276.5
CHN101= 278.0
CHN101= 278.0
CHN101= 277.2
CHN101= 277.2
CHN101= 277.2
CHN101= 277.5
CHN101= 278.2
CHN101= 278.2
CHN101= 276.9
CHN101= 276.5
CHN101= 276.5
CHN101= 278.0
CHN101= 278.0
CHN101= 280.2
CHN101= 280.5
CHN101= 280.5
CHN101= 281.2
CHN101= 282.7
CHN101= 282.7
CHN101= 283.7
CHN101= 283.7
CHN101= 284.2
CHN101= 283.7
CHN101= 283.7
CHN101= 284.7
CHN101= 283.4
CHN101= 283.4
CHN101= 284.7
CHN101= 284.7
CHN101= 281.5
CHN101= 282.4
CHN101= 282.4
CHN101= 284.0
CHN101= 282.7
CHN101= 282.7
CHN101= 285.2
CHN101= 285.2
CHN101= 285.9
CHN101= 285.7
CHN101= 285.7
CHN101= 285.2
CHN101= 286.7
CHN101= 286.7
CHN101= 285.9
CHN101= 285.9
CHN101= 284.4
CHN101= 286.2
CHN101= 286.2

CHAN001= 285.2
CHAN001= 286.2
CHAN001= 285.7
CHAN001= 282.2
CHAN001= 288.2
CHAN001= 288.4
CHAN001= 288.4
CHAN001= 285.2
CHAN001= 286.2
CHAN001= 286.2
CHAN001= 286.2
CHAN001= 285.7
CHAN001= 285.7
CHAN001= 288.2
CHAN001= 288.2
CHAN001= 285.7
CHAN001= 287.7
CHAN001= 287.7
CHAN001= 289.7
CHAN001= 286.9
CHAN001= 286.9
CHAN001= 287.7
CHAN001= 287.7
CHAN001= 288.2
CHAN001= 286.5
CHAN001= 286.5
CHAN001= 288.2
CHAN001= 288.2
CHAN001= 288.2
CHAN001= 286.5
CHAN001= 286.5
CHAN001= 286.5
CHAN001= 288.7
CHAN001= 285.7
CHAN001= 285.7
CHAN001= 286.2
CHAN001= 288.7
CHAN001= 288.7
CHAN001= 287.4
CHAN001= 287.4
CHAN001= 288.4
CHAN001= 289.9
CHAN001= 289.9
CHAN001= 290.9
CHAN001= 291.5
CHAN001= 291.5
CHAN001= 292.7
CHAN001= 292.7
CHAN001= 292.2
CHAN001= 290.7
CHAN001= 290.7
CHAN001= 291.7
CHAN001= 288.7
CHAN001= 288.7
CHAN001= 288.2
CHAN001= 288.2
CHAN001= 289.2
CHAN001= 289.5
CHAN001= 289.5
CHAN001= 290.2
CHAN001= 288.4
CHAN001= 288.4
CHAN001= 291.2
CHAN001= 291.2
CHAN001= 289.8
CHAN001= 288.2
CHAN001= 288.2
CHAN001= 289.8
CHAN001= 291.7
CHAN001= 291.7
CHAN001= 289.2
CHAN001= 289.2
CHAN001= 292.8
CHAN001= 290.5
CHAN001= 290.5
CHAN001= 293.8
CHAN001= 292.4
CHAN001= 292.4
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CHAN001= 290.9
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CHAN001= 289.5
CHAN001= 289.5
CHAN001= 291.5
CHAN001= 291.5
CHAN001= 291.7
CHAN001= 291.7
CHAN001= 293.2
CHAN001= 293.8
CHAN001= 293.8
CHAN001= 293.7
CHAN001= 292.2
CHAN001= 292.2
CHAN001= 289.5
CHAN001= 289.5
CHAN001= 291.2
CHAN001= 289.5
CHAN001= 289.5
CHAN001= 287.4
CHAN001= 288.4
CHAN001= 288.4

210 ppm
cut

DCN#1> READ 02
CHAN#02= .2500

DCN#1> REPEAT READ 02

CHAN#02= .3125
CHAN#02= .3125
CHAN#02= .3125
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .3125
CHAN#02= .3125
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500

DCN#1> E5
ILLEGAL COMMAND
DCN#1> READ 01
ILLEGAL COMMAND
DCN#1> READ 01
CHAN#01= 285.7

DCN#1> READ 01
CHAN#01= 222.2

DCN#1> PRINT HOUR 01 08
01 07/12 07:36 24 43.07PK 151.9

DCN#1> PRINT HOUR 01,08,01
01 07/12 08:00 -999H

DCN#1> PRINT AUX 01,09:00,01
01 07/12 09:00 -999H

NOT IN TABLE!!!
DCN#1> PRINT AUX 01.0
BAD TIME ENTRY!
DCN#1> REPEAT REA 01
ILLEGAL COMMAND
DCN#1> REPEAT READ 01
CHAN#01= 166.5
CHAN#01= 166.2
CHAN#01= 166.2
CHAN#01= 166.7
CHAN#01= 165.7
CHAN#01= 165.7
CHAN#01= 165.7
CHAN#01= 163.7
CHAN#01= 163.5
CHAN#01= 163.5
CHAN#01= 164.0
CHAN#01= 161.7
CHAN#01= 161.7
CHAN#01= 160.2
CHAN#01= 160.2
CHAN#01= 157.7
CHAN#01= 156.0
CHAN#01= 156.0
CHAN#01= 156.2
CHAN#01= 154.2
CHAN#01= 154.2
CHAN#01= 152.2
CHAN#01= 151.5
CHAN#01= 151.5
CHAN#01= 151.5
CHAN#01= 151.5
CHAN#01= 151.7
CHAN#01= 151.7
CHAN#01= 151.7
CHAN#01= 150.0
CHAN#01= 151.7
CHAN#01= 151.7
CHAN#01= 151.5
CHAN#01= 151.5
CHAN#01= 152.2
CHAN#01= 152.7
CHAN#01= 152.7
CHAN#01= 150.7
CHAN#01= 149.5
CHAN#01= 149.5
CHAN#01= 149.7
CHAN#01= 150.2
CHAN#01= 150.2
CHAN#01= 148.5
CHAN#01= 148.5
CHAN#01= 147.5
CHAN#01= 149.2
CHAN#01= 149.2
CHAN#01= 149.2
CHAN#01= 149.7
CHAN#01= 149.7
CHAN#01= 150.7
CHAN#01= 150.7
CHAN#01= 152.0
CHAN#01= 151.5
CHAN#01= 151.5
CHAN#01= 151.2
CHAN#01= 150.2
CHAN#01= 150.2
CHAN#01= 151.0
CHAN#01= 150.2
CHAN#01= 150.2
CHAN#01= 149.5
CHAN#01= 149.5
CHAN#01= 149.5

Nbx
150 ppm wc

```

DCN#1> PRINT AUX 01.08:00.60
01 07/12 08:00 0004 /0000
01 07/12 08:01 0116 /0283
01 07/12 08:02 0143 /0319
01 07/12 08:03 0080 /0000
01 07/12 08:04 0080 /0000
01 07/12 08:05 0080 /0000
01 07/12 08:06 0079 /0000
01 07/12 08:07 0169 /0338
01 07/12 08:08 0095 /0026
01 07/12 08:09 0133 /0003
01 07/12 08:10 0137 /0001
01 07/12 08:11 0138 /0001
01 07/12 08:12 0149 /0005
01 07/12 08:13 0149 /0001
01 07/12 08:14 0150 /0001
01 07/12 08:15 0151 /0001
01 07/12 08:16 0150 /0001
01 07/12 08:17 0149 /0002
01 07/12 08:18 0128 /0029
01 07/12 08:19 0026 /0013
01 07/12 08:20 0007 /0001
01 07/12 08:21 0005 /0000
01 07/12 08:22 0004 /0000
01 07/12 08:23 0004 /0000
01 07/12 08:24 -003 /0033
01 07/12 08:25 0003 /0000
01 07/12 08:26 0002 /0000
01 07/12 08:27 0002 /0000
01 07/12 08:28 0002 /0000
01 07/12 08:29 0002 /0000
01 07/12 08:30 0002 /0000
01 07/12 08:31 0002 /0000
01 07/12 08:32 0001 /0001
01 07/12 08:33 0000 /0000
01 07/12 08:34 0000 /0000
01 07/12 08:35 0000 /0000
01 07/12 08:36 0000 /0000
01 07/12 08:37 0000 /0001
01 07/12 08:38 0052 /0019
01 07/12 08:39 0075 /0001
01 07/12 08:40 0078 /0001
01 07/12 08:41 0080 /0000
01 07/12 08:42 0080 /0001
01 07/12 08:43 0080 /0001
01 07/12 08:44 0080 /0000
01 07/12 08:45 0055 /0024
01 07/12 08:46 0078 /0074
01 07/12 08:47 0254 /0016
01 07/12 08:48 0274 /0002
01 07/12 08:49 0276 /0002
01 07/12 08:50 0284 /0003
01 07/12 08:51 0289 /0002
01 07/12 08:52 0288 /0003
01 07/12 08:53 0286 /0001
01 07/12 08:54 0287 /0002
01 07/12 08:55 0267 /0039
01 07/12 08:56 0065 /0029
01 07/12 08:57 0142 /0019
01 07/12 08:58 0164 /0001
01 07/12 08:59 0166 /0001

```

```

DCN#1> PRINT AUX 02,08:00,60
02 07/12 08:00 0021 /0000
02 07/12 08:01 0021 /0001
02 07/12 08:02 0021 /0000
02 07/12 08:03 0021 /0000
02 07/12 08:04 0021 /0000
02 07/12 08:05 0021 /0000
02 07/12 08:06 0021 /0000
02 07/12 08:07 0021 /0001
02 07/12 08:08 0004 /0004
02 07/12 08:09 0001 /0000
02 07/12 08:10 0000 /0000
02 07/12 08:11 0000 /0000
02 07/12 08:12 0000 /0000
02 07/12 08:13 0000 /0000
02 07/12 08:14 0000 /0000
02 07/12 08:15 0000 /0000
02 07/12 08:16 0001 /0001
02 07/12 08:17 0004 /0001
02 07/12 08:18 0006 /0003
02 07/12 08:19 0020 /0001
02 07/12 08:20 0021 /0000
02 07/12 08:21 0021 /0000
02 07/12 08:22 0021 /0000
02 07/12 08:23 0021 /0000
02 07/12 08:24 0021 /0000
02 07/12 08:25 0021 /0000
02 07/12 08:26 0019 /0003
02 07/12 08:27 0014 /0000
02 07/12 08:28 0014 /0000
02 07/12 08:29 0014 /0000
02 07/12 08:30 0014 /0000
02 07/12 08:31 0014 /0000
02 07/12 08:32 0014 /0000
02 07/12 08:33 0014 /0000
02 07/12 08:34 0014 /0000
02 07/12 08:35 0014 /0000
02 07/12 08:36 0014 /0000
02 07/12 08:37 0015 /0002
02 07/12 08:38 0003 /0004
02 07/12 08:39 0000 /0000
02 07/12 08:40 0000 /0000
02 07/12 08:41 0000 /0000
02 07/12 08:42 0000 /0000
02 07/12 08:43 0000 /0000
02 07/12 08:44 0000 /0000
02 07/12 08:45 0009 /0009
02 07/12 08:46 0013 /0008
02 07/12 08:47 0000 /0000
02 07/12 08:48 0000 /0000
02 07/12 08:49 0000 /0000
02 07/12 08:50 0000 /0000
02 07/12 08:51 0000 /0000
02 07/12 08:52 0000 /0000
02 07/12 08:53 0000 /0000
02 07/12 08:54 0000 /0000
02 07/12 08:55 0002 /0004
02 07/12 08:56 0018 /0004
02 07/12 08:57 0001 /0001
02 07/12 08:58 0000 /0000
02 07/12 08:59 0000 /0000

```

PRIV VIOLATION!
 DCHN1> INIT 02
 PRIV VIOLATION!
 DCHN1> SET PRIV
 PASSWORD>
 PRIV PERMITTED!
 DCHN1> INIT 02
 CHANNEL NAME: 02 ?
 CHANNEL TYPE: 9?
 STORE HOURLY AVERAGES: Y?
 STORE HOURLY SIGMAS: N?
 STORE AUX AVERAGES: Y?
 STORE AUX SIGMAS: Y?
 CHANNEL UNITS: 2 ?
 VOLTS FULL SCALE: 10.00?
 SLOPE: 250.0? 250.00
 INTERCEPT: .0000?
 MAX READING: 250.0? 250.00
 MIN READING: -25.00?
 MAX RATE OF CHANGE: 5000.7 5000.0
 BAD STATUS= XXXXXXXX XXXXXXXX?
 AUTO-CAL: N?
 AUX INTERVAL: 01
 ON-LINE: Y? Y

DCHN1> READ 02
 CHAN002= 20.60

DCHN1> PRINT AUX 02 09:00 15
 02 07/12 09:13 01 .000000 .0941

DCHN1> PRINT AUX 02 09:00 15
 02 07/12 09:00 0000 /0000
 02 07/12 09:01 0000 /0000
 02 07/12 09:02 0000 /0000
 02 07/12 09:03 0000 /0000
 02 07/12 09:04 0000 /0000
 02 07/12 09:05 0000 /0000
 02 07/12 09:06 0000 /0000
 02 07/12 09:07 0000 /0000
 02 07/12 09:08 0006 /0006
 02 07/12 09:09 0020 /0001
 02 07/12 09:10 0020 /0000
 02 07/12 09:11 0021 /0000
 02 07/12 09:12 0021 /0000
 02 07/12 09:13 000000 /0000
 02 07/12 09:14 0021 /0000

DCHN1> READ 02
 CHAN002= 20.62

DCHN1> PRINT 02
 ILLEGAL COMMAND
 DCHN1> READ 02
 CHAN002= 20.62

DCHN1> INIT02
 ILLEGAL COMMAND
 DCHN1> INIT 02
 CHANNEL NAME: 02 ?
 CHANNEL TYPE: 9?
 STORE HOURLY AVERAGES: Y?
 STORE HOURLY SIGMAS: N?
 STORE AUX AVERAGES: Y?
 STORE AUX SIGMAS: Y? N
 CHANNEL UNITS: 2 ?
 VOLTS FULL SCALE: 10.00? 10.0000
 SLOPE: 250.0? 250.0000
 INTERCEPT: .0000?
 MAX READING: 250.0? 250.0000
 MIN READING: -25.00?
 MAX RATE OF CHANGE: 5000.?
 BAD STATUS= XXXXXXXX XXXXXXXX?
 AUTO-CAL: N?
 AUX INTERVAL: 01
 ON-LINE: Y? Y

DCHN1> READ 02
 CHAN002= 20.75

DCHN1> READ 01
 CHAN001= .5000

DCHN1> READ 02
 CHAN002= 20.75

DCHN1> READ 02
 CHAN002= 20.07

DCHN1>

NOT LOGGED IN!

DCN#1)

ILLEGAL COMMAND

DCN#1> LOGIN

PASSWORD)

LOGGED IN

DCN#1> READ 01

CHAN#01= .5000

DCN#1> READ 02

CHAN#02= 20.87

DCN#1> READ 01READ

CHAN#01= .5000

DCN#1> READ 02

CHAN#02= 20.68

DCN#1> READ 02

CHAN#02= 21.00

DCN#1> READ 01

CHAN#01= .5000

DCN#1> PRINT AUX.09:00.52

ILLEGAL COMMAND

DCN#1> PRINT AUX 01.09:00.52

01 07/12 09:00 0165 /0001
01 07/12 09:01 0165 /0001
01 07/12 09:02 0166 /0001
01 07/12 09:03 0166 /0001
01 07/12 09:04 0166 /0001
01 07/12 09:05 0152 /0003
01 07/12 09:06 0150 /0001
01 07/12 09:07 0150 /0001
01 07/12 09:08 0074 /0043
01 07/12 09:09 0011 /0005
01 07/12 09:10 0003 /0001
01 07/12 09:11 0002 /0000
01 07/12 09:12 0001 /0000
01 07/12 09:13 0001 /0000
01 07/12 09:14 0001 /0000
01 07/12 09:15 0001 /0000
01 07/12 09:16 0001 /0000
01 07/12 09:17 0001 /0000
01 07/12 09:18 0001 /0000
01 07/12 09:19 0001 /0000
01 07/12 09:20 0001 /0000
01 07/12 09:21 0001 /0000
01 07/12 09:22 0001 /0000
01 07/12 09:23 0001 /0000
01 07/12 09:24 0001 /0000
01 07/12 09:25 0001 /0000
01 07/12 09:26 0001 /0000
01 07/12 09:27 0001 /0000
01 07/12 09:28 0001 /0000
01 07/12 09:29 0001 /0000
01 07/12 09:30 0000 /0000
01 07/12 09:31 0000 /0000
01 07/12 09:32 0001 /0000
01 07/12 09:33 0000 /0000
01 07/12 09:34 0000 /0000
01 07/12 09:35 0000 /0000
01 07/12 09:36 0001 /0000
01 07/12 09:37 0000 /0000
01 07/12 09:38 0000 /0000
01 07/12 09:39 0001 /0000
01 07/12 09:40 0000 /0000
01 07/12 09:41 0001 /0000
01 07/12 09:42 0000 /0000
01 07/12 09:43 0000 /0000
01 07/12 09:44 0000 /0000
01 07/12 09:45 0000 /0000
01 07/12 09:46 0000 /0000
01 07/12 09:47 0001 /0000
01 07/12 09:48 0000 /0000
01 07/12 09:49 0000 /0000
01 07/12 09:50 0000 /0000

-FD
Unit #3
7-12-09

DCN#1> PRINT AUX 02,09:00.50

02 07/12 09:00 0000
02 07/12 09:01 0000
02 07/12 09:02 0000
02 07/12 09:03 0000
02 07/12 09:04 0000
02 07/12 09:05 0000
02 07/12 09:06 0000
02 07/12 09:07 0000
02 07/12 09:08 0006
02 07/12 09:09 0020
02 07/12 09:10 0020
02 07/12 09:11 0021
02 07/12 09:12 0021
02 07/12 09:13 00000<
02 07/12 09:14 0021
02 07/12 09:15 0021
02 07/12 09:16 0021
02 07/12 09:17 0021
02 07/12 09:18 0021
02 07/12 09:19 0021
02 07/12 09:20 00000<
02 07/12 09:21 0021
02 07/12 09:22 0021
02 07/12 09:23 0021
02 07/12 09:24 0021
02 07/12 09:25 0021
02 07/12 09:26 0021
02 07/12 09:27 0021
02 07/12 09:28 0021
02 07/12 09:29 0021
02 07/12 09:30 0021
02 07/12 09:31 0021
02 07/12 09:32 0021
02 07/12 09:33 0021
02 07/12 09:34 0021
02 07/12 09:35 0021
02 07/12 09:36 0021
02 07/12 09:37 0021
02 07/12 09:38 0021
02 07/12 09:39 0021
02 07/12 09:40 0021
02 07/12 09:41 0021
02 07/12 09:42 0021
02 07/12 09:43 0021
02 07/12 09:44 0021
02 07/12 09:45 0021
02 07/12 09:46 0021
02 07/12 09:47 0021
02 07/12 09:48 0021
02 07/12 09:49 0021

DCN#1> READ 02
CHAN#02= 20.93

DCN#1> READ 01
CHAN#01= .5000

DCN#1> READ 01
CHAN#01= 16.50

DCN#1> READ 01
CHAN#01= 18.25

DCN#1> READ 01
CHAN#01= 19.00

DCN#1> READ 01
CHAN#01= 139.5

DCN#1> READ 01

000017 REPEAT READ 01

CHAN#01= 146.7
CHAN#01= 146.7
CHAN#01= 146.2
CHAN#01= 146.2
CHAN#01= 146.2
CHAN#01= 145.5
CHAN#01= 145.5
CHAN#01= 145.2
CHAN#01= 145.5
CHAN#01= 145.5
CHAN#01= 143.5
CHAN#01= 144.7
CHAN#01= 144.7
CHAN#01= 144.5
CHAN#01= 144.5
CHAN#01= 146.7
CHAN#01= 144.5
CHAN#01= 144.5
CHAN#01= 144.5
CHAN#01= 144.5
CHAN#01= 144.5
CHAN#01= 144.5
CHAN#01= 144.2
CHAN#01= 144.2
CHAN#01= 145.5
CHAN#01= 145.5
CHAN#01= 145.7
CHAN#01= 147.0
CHAN#01= 147.0
CHAN#01= 146.7
CHAN#01= 148.2
CHAN#01= 148.2
CHAN#01= 148.2
CHAN#01= 148.2
CHAN#01= 147.2
CHAN#01= 147.2
CHAN#01= 147.2
CHAN#01= 148.0
CHAN#01= 147.5
CHAN#01= 147.5
CHAN#01= 148.5
CHAN#01= 146.2
CHAN#01= 146.2
CHAN#01= 148.5
CHAN#01= 148.5
CHAN#01= 147.7
CHAN#01= 148.7
CHAN#01= 148.7
CHAN#01= 148.7
CHAN#01= 149.2
CHAN#01= 149.2
CHAN#01= 148.7
CHAN#01= 149.7
CHAN#01= 149.7
CHAN#01= 149.2
CHAN#01= 149.2
CHAN#01= 150.7
CHAN#01= 149.2
CHAN#01= 149.2
CHAN#01= 149.0
CHAN#01= 149.5
CHAN#01= 149.5
CHAN#01= 150.2
CHAN#01= 150.2
CHAN#01= 150.7
CHAN#01= 150.0

CHAN#01= 146.2
CHAN#01= 146.2
CHAN#01= 148.5
CHAN#01= 148.5
CHAN#01= 147.7
CHAN#01= 148.7
CHAN#01= 148.7
CHAN#01= 148.7
CHAN#01= 149.2
CHAN#01= 149.2
CHAN#01= 148.7
CHAN#01= 149.7
CHAN#01= 149.7
CHAN#01= 149.2
CHAN#01= 149.2
CHAN#01= 150.7
CHAN#01= 149.2
CHAN#01= 149.2
CHAN#01= 149.0
CHAN#01= 149.5
CHAN#01= 149.5
CHAN#01= 150.2
CHAN#01= 150.2
CHAN#01= 150.7
CHAN#01= 150.0
CHAN#01= 150.0
CHAN#01= 149.5
CHAN#01= 150.5
CHAN#01= 150.5
CHAN#01= 148.0
CHAN#01= 149.7
CHAN#01= 149.7
CHAN#01= 150.2
CHAN#01= 150.2
CHAN#01= 151.2
CHAN#01= 151.2
CHAN#01= 151.2
CHAN#01= 149.2
CHAN#01= 148.5
CHAN#01= 148.5
CHAN#01= 151.2
CHAN#01= 150.2
CHAN#01= 150.2
CHAN#01= 150.2
CHAN#01= 150.2
CHAN#01= 151.0
CHAN#01= 150.7
CHAN#01= 150.7
CHAN#01= 150.0
CHAN#01= 150.7
CHAN#01= 150.7
CHAN#01= 151.0
CHAN#01= 151.0
CHAN#01= 150.0
CHAN#01= 149.0
CHAN#01= 149.0
CHAN#01= 148.0
CHAN#01= 147.5
CHAN#01= 147.5
CHAN#01= 148.7
CHAN#01= 148.2
CHAN#01= 148.2
CHAN#01= 150.0
CHAN#01= 150.0
CHAN#01= 150.7
CHAN#01= 150.7
CHAN#01= 150.7

DCN#1> REPEAT READ 01

CHAN#01= 29.25
CHAN#01= 29.25
CHAN#01= 28.75
CHAN#01= 28.25
CHAN#01= 28.25
CHAN#01= 27.50
CHAN#01= 26.75
CHAN#01= 26.75
CHAN#01= 27.00
CHAN#01= 27.00
CHAN#01= 26.75
CHAN#01= 26.25
CHAN#01= 26.25
CHAN#01= 25.75
CHAN#01= 25.25
CHAN#01= 25.25
CHAN#01= 25.00
CHAN#01= 24.75
CHAN#01= 24.75
CHAN#01= 24.75
CHAN#01= 24.75
CHAN#01= 24.50
CHAN#01= 24.25
CHAN#01= 24.25
CHAN#01= 24.00
CHAN#01= 23.75
CHAN#01= 23.75
CHAN#01= 23.50
CHAN#01= 23.25
CHAN#01= 23.25
CHAN#01= 23.00
CHAN#01= 23.00
CHAN#01= 23.00
CHAN#01= 22.50
CHAN#01= 22.50
CHAN#01= 22.75
CHAN#01= 22.75
CHAN#01= 22.75
CHAN#01= 22.50
CHAN#01= 22.00
CHAN#01= 22.00
CHAN#01= 21.75
CHAN#01= 21.75
CHAN#01= 21.75
CHAN#01= 21.50

DCN#1> READ 01

CHAN#01= 20.50

DCN#1> READ 01

CHAN#01= .5000

DCN#1> READ 01

CHAN#01= 14.00

DCN#1> READ 01

CHAN#01= 15.75

DCN#1> REPEAT READ 01

CHAN#01= 17.25
CHAN#01= 17.50
CHAN#01= 17.75
CHAN#01= 17.75
CHAN#01= 18.00
CHAN#01= 18.00
CHAN#01= 18.00
CHAN#01= 18.25
CHAN#01= 18.25
CHAN#01= 18.25
CHAN#01= 18.25
CHAN#01= 18.25
CHAN#01= 18.50
CHAN#01= 18.75
CHAN#01= 18.75
CHAN#01= 18.75
CHAN#01= 19.00
CHAN#01= 19.00
CHAN#01= 19.00
CHAN#01= 19.00
CHAN#01= 19.25
CHAN#01= 19.25
CHAN#01= 19.25
CHAN#01= 19.25
CHAN#01= 19.25
CHAN#01= 19.25
CHAN#01= 19.50
CHAN#01= 19.50

DCN#1> READ 01

CHAN#01= 150.5

DCN#1> READ 01

CHAN#01= 150.7

DCN#1> REPEAT READ 01

CHAN#01= 27.00
CHAN#01= 27.00
CHAN#01= 26.75
CHAN#01= 26.50
CHAN#01= 26.50
CHAN#01= 26.25
CHAN#01= 26.00
CHAN#01= 26.00
CHAN#01= 25.50
CHAN#01= 25.50
CHAN#01= 25.25
CHAN#01= 25.25
CHAN#01= 25.25
CHAN#01= 24.75
CHAN#01= 24.50
CHAN#01= 24.50
CHAN#01= 24.25
CHAN#01= 24.25
CHAN#01= 24.25
CHAN#01= 23.50
CHAN#01= 23.50
CHAN#01= 23.75
CHAN#01= 23.50

DCN#1> READ 01

CHAN#01= 18.75

DCH#1> REPEAT READ 01
CHAN#01= 19.00
CHAN#01= 19.00
CHAN#01= 19.50
CHAN#01= 19.75
CHAN#01= 19.75
CHAN#01= 19.75
CHAN#01= 19.75
CHAN#01= 19.50
CHAN#01= 19.75
CHAN#01= 19.75
CHAN#01= 19.75
CHAN#01= 19.75
CHAN#01= 19.75
CHAN#01= 20.00

DCH#1> READ 01
CHAN#01= 151.5

DCH#1> REPEAT READ 01
CHAN#01= 24.25
CHAN#01= 24.50
CHAN#01= 24.50
CHAN#01= 24.00
CHAN#01= 23.50
CHAN#01= 23.50
CHAN#01= 23.75
CHAN#01= 23.50
CHAN#01= 23.50
CHAN#01= 23.50
CHAN#01= 23.50
CHAN#01= 23.25
CHAN#01= 23.25
CHAN#01= 23.25
CHAN#01= 22.75
CHAN#01= 22.75
CHAN#01= 22.75
CHAN#01= 22.50
CHAN#01= 22.50
CHAN#01= 22.50
CHAN#01= 22.50

DCH#1> READ 01
CHAN#01= 21.00

DCH#1> READ 01
CHAN#01= 20.50

DCH#1> READ 02
CHAN#02= 17.37

DCH#1> READ 01
CHAN#01= 20.50

DCH#1> READ 02
CHAN#02= 17.37

DCH#1> READ 01
CHAN#01= 20.25

DCH#1> READ 02
CHAN#02= 17.37

DCH#1>
ILLEGAL COMMAND
DCH#1> READ 01

START 1100
Run I
Point 1

DCH#1> READ 02
CHAN#02= 17.43

DCH#1> READ 01
CHAN#01= 19.50

DCH#1> READ 01
CHAN#01= 20.00

DCH#1> READ 0
NOT IN TABLE!!!
DCH#1> READ 02
CHAN#02= 17.37

DCH#1> READ 01
NOT IN TABLE!!!
DCH#1> READ 01
CHAN#01= 20.00

DCH#1> READ 02
CHAN#02= 17.31

DCH#1> READ 01
CHAN#01= 19.75

DCH#1> READ 01
CHAN#01= 20.25

DCH#1> READ 02
CHAN#02= 17.56

DCH#1> READ 02
CHAN#02= 17.43

DCH#1> READ 01
CHAN#01= 20.00

DCH#1> READ 02
CHAN#02= 17.37

DCH#1> READ 01
CHAN#01= 20.00

DCH#1>

READ 02
ILLEGAL COMMAND
DCH#1> READ 02
CHAN#02= 17.25

DCH#1> READ 02
CHAN#02= 17.43

DCH#1> READ 01
CHAN#01= 20.00

DCH#1> READ 01
CHAN#01= 20.25

DCH#1> READ 02
CHAN#02= 17.31

DCH#1>

Point # 2

Point # 4

ILLEGAL COMMAND
DCN#1> READ 01
CHAN#01= 19.75

DCN#1> READ 02
CHAN#02= 17.18

DCN#1> READ 01
CHAN#01= 19.75

DCN#1> READ 02
CHAN#02= 17.31

DCN#1> READ 01
CHAN#01= 20.25

DCN#1> READ 02
CHAN#02= 17.18

DCN#1> READ 01
CHAN#01= 20.00

DCN#1> READ 02
CHAN#02= 17.37

DCN#1>

Page 5

ILLEGAL COMMAND
DCN#1> READ 01
CHAN#01= 20.00

DCN#1> READ 02
CHAN#02= 17.25

DCN#1> READ 01
CHAN#01= 20.00

DCN#1> READ 02
CHAN#02= 17.18

DCN#1> READ 01
CHAN#01= 20.00

DCN#1> READ 02
CHAN#02= 17.25

DCN#1> READ 01
CHAN#01= 20.25

DCN#1> READ 02
CHAN#02= 17.12

DCN#1> READ 02
CHAN#02= 17.12

DCN#1> READ 02
CHAN#02= 17.00

DCN#1> READ 01
CHAN#01= 20.00

DCN#1> READ 02
CHAN#02= 17.00

DCN#1>

Print 6

READ 01
ILLEGAL COMMAND
DCN#1> READ 01
CHAN#01= 19.00

DCN#1> READ 01
CHAN#01= 18.75

DCN#1> READ 02
CHAN#02= 17.18

DCN#1> READ 02
CHAN#02= 17.12

DCN#1> READ 02
CHAN#02= 17.06

DCN#1> READ 02
CHAN#02= 17.12

DCN#1> READ 02
CHAN#01= 20.00

DCN#1> READ 01
CHAN#01= 19.75

DCN#1> READ 01
CHAN#01= 19.75

DCN#1>

Print 7

ILLEGAL COMMAND
DCN#1> READ 01
CHAN#01= 19.75

DCN#1> READ 02
CHAN#02= 17.31

DCN#1> READ 01
CHAN#01= 19.75

DCN#1> READ 02
CHAN#02= 17.18

DCN#1> READ 01
CHAN#01= 20.00

DCN#1> READ 02
CHAN#02= 17.18

DCN#1> READ 01
CHAN#01= 20.25

DCN#1> READ 02
CHAN#02= 17.18

DCN#1> READ 01
CHAN#01= 20.00

DCN#1> READ 02
CHAN#02= 17.12

DCN#1> READ 01
CHAN#01= 20.25

DCN#1> READ 02
CHAN#02= 17.25

DCN#1>

ILLEGAL COMMAND
DCN#1> READ 01
CHAN#01= 19.50

DCN#1> READ 02
CHAN#02= 17.37

DCN#1> READ 01
CHAN#01= 19.50

DCN#1> READ 02
CHAN#02= 17.37

DCN#1> READ 01
CHAN#01= 19.50

DCN#1> READ 01
CHAN#01= 19.25

DCN#1> READ 02
CHAN#02= 17.37

DCN#1> READ 01
CHAN#01= 19.50

DCN#1> READ 01
CHAN#01= 19.25

DCN#1> READ 01
CHAN#01= 19.00

DCN#1> READ 02
CHAN#02= 17.25

DCN#1>

Point 8

ILLEGAL COMMAND
DCN#1> PRINT AUX 01.11:00.40
01 07/12 11:00 0020 /0000
01 07/12 11:01 0021 /0000
01 07/12 11:02 0020 /0000
01 07/12 11:03 0020 /0000
01 07/12 11:04 0020 /0000
01 07/12 11:05 0020 /0000
01 07/12 11:06 0020 /0000
01 07/12 11:07 0020 /0000
01 07/12 11:08 0020 /0000
01 07/12 11:09 0020 /0000
01 07/12 11:10 0020 /0000
01 07/12 11:11 0020 /0000
01 07/12 11:12 0020 /0000
01 07/12 11:13 0020 /0000
01 07/12 11:14 0020 /0000
01 07/12 11:15 0020 /0000
01 07/12 11:16 0020 /0000
01 07/12 11:17 0020 /0000
01 07/12 11:18 0020 /0000
01 07/12 11:19 0020 /0000
01 07/12 11:20 0020 /0000
01 07/12 11:21 0020 /0000
01 07/12 11:22 0020 /0000
01 07/12 11:23 0020 /0000
01 07/12 11:24 0020 /0000
01 07/12 11:25 0020 /0001
01 07/12 11:26 0020 /0000
01 07/12 11:27 0020 /0000
01 07/12 11:28 0020 /0000
01 07/12 11:29 0020 /0000
01 07/12 11:30 0020 /0000
01 07/12 11:31 0020 /0000
01 07/12 11:32 0020 /0000
01 07/12 11:33 0020 /0000
01 07/12 11:34 0020 /0000
01 07/12 11:35 0019 /0000
01 07/12 11:36 0019 /0000
01 07/12 11:37 0019 /0000
01 07/12 11:38 0019 /0000
01 07/12 11:39 -999H

Turbine 3
Tested WJZ
7/12/89

DCN#1> PRINT AUX 02,11:00,40

02 07/12 11:00 0018
02 07/12 11:01 0017
02 07/12 11:02 0017
02 07/12 11:03 0017
02 07/12 11:04 0017
02 07/12 11:05 0017
02 07/12 11:06 0017
02 07/12 11:07 0017
02 07/12 11:08 0017
02 07/12 11:09 0017
02 07/12 11:10 0017
02 07/12 11:11 0017
02 07/12 11:12 0017
02 07/12 11:13 0017
02 07/12 11:14 0017
02 07/12 11:15 0017
02 07/12 11:16 0017
02 07/12 11:17 0017
02 07/12 11:18 0017
02 07/12 11:19 0017
02 07/12 11:20 0017
02 07/12 11:21 0017
02 07/12 11:22 0017
02 07/12 11:23 0017
02 07/12 11:24 0017
02 07/12 11:25 0017
02 07/12 11:26 0017
02 07/12 11:27 0017
02 07/12 11:28 0017
02 07/12 11:29 0017
02 07/12 11:30 0017
02 07/12 11:31 0017
02 07/12 11:32 0017
02 07/12 11:33 0017
02 07/12 11:34 0017
02 07/12 11:35 0017
02 07/12 11:36 0017
02 07/12 11:37 0017
02 07/12 11:38 0017
02 07/12 11:39 0017

Turbine 3
Test 1
%00
7-12-89

DCN#1> READ 00

CHAN#01= 19.50

CHAN#02= 17.37

DCN#1> READ 00

CHAN#01= 19.50

CHAN#02= 17.31

DCN#1> PRINT AUX 00,11:00,40

01 07/12 11:00 0020 /0000

02 07/12 11:00 0018

DCN#1> PRINT AUX 00,11:00,40

01 07/12 11:00 0020 /0000

02 07/12 11:00 0018

DCN#1> REPEAT READ 00

ILLEGAL COMMAND

DCN#1>

READ 00
ILLEGAL COMMAND
DCN#1> READ 00
CHAN#01= .7500
CHAN#02= 20.56

DCN#1> READ 00
CHAN#01= .7500
CHAN#02= 20.56

DCN#1> READ 00
CHAN#01= .7500
CHAN#02= 20.62

DCN#1> READ 00
CHAN#01= .7500
CHAN#02= 20.93

DCN#1> REPEAT READ 01
CHAN#01= .7500
CHAN#01= .7500
CHAN#01= .7500
CHAN#01= .7500
CHAN#01= .7500
CHAN#01= .7500

DCN#1> REPEAT READ 02
CHAN#02= 21.00
CHAN#02= 21.00
CHAN#02= 21.00
CHAN#02= 20.93
CHAN#02= 20.93
CHAN#02= 20.93
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 20.81
CHAN#02= 20.81
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 20.93
CHAN#02= 20.93
CHAN#02= 20.93
CHAN#02= 21.00
CHAN#02= 20.93
CHAN#02= 20.93
CHAN#02= 21.12
CHAN#02= 21.06
CHAN#02= 21.06
CHAN#02= 21.12
CHAN#02= 21.00
CHAN#02= 21.00
CHAN#02= 21.06
CHAN#02= 21.06
CHAN#02= 21.00
CHAN#02= 20.93
CHAN#02= 20.93
CHAN#02= 20.93
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 20.81
CHAN#02= 20.81
CHAN#02= 20.87

20.9
1.05 test
C.8

OPR 11/1

OPR 11/1

OPR 11/1

OPR 11/1

DCN#1> REPEAT READ 01

CHAN#01= 147.5
CHAN#01= 147.5
CHAN#01= 147.7
CHAN#01= 148.2
CHAN#01= 148.2
CHAN#01= 148.5
CHAN#01= 149.0
CHAN#01= 149.0
CHAN#01= 148.2
CHAN#01= 148.2
CHAN#01= 148.2
CHAN#01= 148.2
CHAN#01= 148.2
CHAN#01= 148.7
CHAN#01= 148.7
CHAN#01= 148.7
CHAN#01= 148.7
CHAN#01= 148.7
CHAN#01= 148.7
CHAN#01= 148.7
CHAN#01= 150.0
CHAN#01= 148.5
CHAN#01= 148.5
CHAN#01= 149.0
CHAN#01= 148.7
CHAN#01= 148.7
CHAN#01= 149.0
CHAN#01= 149.0
CHAN#01= 149.0
CHAN#01= 149.0
CHAN#01= 149.0
CHAN#01= 148.5
CHAN#01= 149.5
CHAN#01= 149.5
CHAN#01= 148.2
CHAN#01= 148.7
CHAN#01= 148.7
CHAN#01= 148.2
CHAN#01= 148.2

DCN#1> READ 01
CHAN#01= 148.0

DCN#1> READ 01
CHAN#01= 149.0

150 PPM
NOX
calibration

6) 170 (100)

6) 170 (100)

6) 170 (100)

6) 170 (100)

02 07/12 11:45 0017
 02 07/12 11:46 0017
 02 07/12 11:47 0016
 02 07/12 11:48 0021
 02 07/12 11:49 0021
 02 07/12 11:50 0021
 02 07/12 11:51 0021
 02 07/12 11:52 0021
 02 07/12 11:53 0021
 02 07/12 11:54 0021
 02 07/12 11:55 0021
 02 07/12 11:56 0021
 02 07/12 11:57 0011
 02 07/12 11:58 0000
 02 07/12 11:59 0000
 02 07/12 12:00 0000
 02 07/12 12:01 0000
 02 07/12 12:02 0000
 02 07/12 12:03 0000
 02 07/12 12:04 0000

DCN#1> PRINT AUX #1,11:50,22

01 07/12 11:50 0001 /0000
 01 07/12 11:51 0001 /0000
 01 07/12 11:52 0001 /0000
 01 07/12 11:53 0001 /0000
 01 07/12 11:54 0001 /0000
 01 07/12 11:55 0001 /0000
 01 07/12 11:56 0001 /0000
 01 07/12 11:57 0044 /0045
 01 07/12 11:58 0137 /0006
 01 07/12 11:59 0145 /0001
 01 07/12 12:00 0147 /0001
 01 07/12 12:01 0148 /0001
 01 07/12 12:02 0148 /0001
 01 07/12 12:03 0149 /0001
 01 07/12 12:04 0149 /0001
 01 07/12 12:05 0147 /0004
 01 07/12 12:06 0041 /0029
 01 07/12 12:07 -999N
 01 07/12 12:08 -999N
 01 07/12 12:09 -999N
 01 07/12 12:10 -999N
 01 07/12 12:11 -999N

DCN#1> READ 00
 CHAN#01= 19.75
 CHAN#02= 17.18

DCN#1> READ 00
 CHAN#01= 19.25
 CHAN#02= 17.12

DCN#1> READ 00
 CHAN#01= 19.50
 CHAN#02= 17.06

DCN#1> READ 00
 CHAN#01= 19.25
 CHAN#02= 17.18

DCN#1> READ 00
 CHAN#01= 19.50
 CHAN#02= 17.00

DCN#1> READ 00
 CHAN#01= 19.75
 CHAN#02= 17.00

DCN#1> READ 00
 CHAN#01= 19.75

Point #1 Test 43
CONNECTIONS

Channel #1
19.75
17.00

DCN#1> READ 00
CHAN#01= 19.25
CHAN#02= 17.18

DCN#1> READ 00
CHAN#01= 19.25
CHAN#02= 17.25

DCN#1> READ 00
CHAN#01= 19.75
CHAN#02= 17.06

DCN#1> READ 00
CHAN#01= 19.75
CHAN#02= 17.18

DCN#1> READ 00
CHAN#01= 19.50
CHAN#02= 17.12

DCN#1> READ 00
CHAN#01= 19.50
CHAN#02= 17.25

DCN#1> READ 00
CHAN#01= 19.25
CHAN#02= 17.06

DCN#1>

1001 #3

ILLEGAL COMMAND
DCN#1> READ 00
CHAN#01= 19.50
CHAN#02= 17.12

DCN#1> READ 00
CHAN#01= 19.75
CHAN#02= 17.00

DCN#1> READ 00
CHAN#01= 19.50
CHAN#02= 17.06

DCN#1> READ 00
CHAN#01= 19.75
CHAN#02= 17.12

DCN#1> READ 00
CHAN#01= 19.50
CHAN#02= 17.06

DCN#1> READ 00
CHAN#01= 19.50
CHAN#02= 17.18

DCN#1> READ 00
CHAN#01= 19.50
CHAN#02= 17.12

DCN#1> READ 00
CHAN#01= 19.50
CHAN#02= 17.00

DCN#1>

ILLEGAL COMMAND
DCN#1> READ 00
CHAN#01= 19.75
CHAN#02= 16.93

DCN#1> READ 00
CHAN#01= 20.00
CHAN#02= 16.87

DCN#1> READ 00
CHAN#01= 20.00
CHAN#02= 16.93

DCN#1> READ 00
CHAN#01= 20.00
CHAN#02= 17.06

DCN#1> READ 00R
CHAN#01= 20.00
CHAN#02= 16.93

DCN#1> READ 00
CHAN#01= 20.00
CHAN#02= 17.06

DCN#1> READ 00
CHAN#01= 20.25
CHAN#02= 17.00

DCN#1> READ 00
CHAN#01= 20.25
CHAN#02= 16.93

DCN#1> READ 00
CHAN#01= 20.00
CHAN#02= 17.00

DCN#1>

Print 21 15

ILLEGAL COMMAND
DCN#1> READ 00
CHAN#01= 20.25
CHAN#02= 17.06

DCN#1> READ 00
CHAN#01= 20.25
CHAN#02= 16.93

DCN#1> READ 00
CHAN#01= 20.25
CHAN#02= 16.87

DCN#1> READ 00
CHAN#01= 20.25
CHAN#02= 16.93

DCN#1> READ 00
CHAN#01= 20.25
CHAN#02= 17.00

DCN#1> READ 00
CHAN#01= 20.00
CHAN#02= 16.93

DCN#1> READ 00
CHAN#01= 20.00
CHAN#02= 17.06

DCN#1> READ 00
CHAN#01= 20.25
CHAN#02= 16.68

DCN#1> READ 00
CHAN#01= 20.25
CHAN#02= 16.75

DCN#1>

Point 7-46

READ 00
ILLEGAL COMMAND
DCN#1> READ 00
CHAN#01= 19.75
CHAN#02= 17.12

DCN#1> READ 00
CHAN#01= 19.75
CHAN#02= 17.00

DCN#1> READ 00
CHAN#01= 19.75
CHAN#02= 16.87

DCN#1> READ 00
CHAN#01= 19.75
CHAN#02= 16.93

DCN#1> READ 00
CHAN#01= 19.75
CHAN#02= 17.06

DCN#1> READ 00
CHAN#01= 19.75
CHAN#02= 17.00

DCN#1> READ 00
CHAN#01= 19.75
CHAN#02= 16.93

DCN#1> READ 00
CHAN#01= 19.75
CHAN#02= 17.00

DCN#1>

Point 7-47

Print 1

ILLEGAL COMMAND
DCN#1> READ 00
CHAN#01= 19.75
CHAN#02= 17.80

DCN#1> READ 00
CHAN#01= 19.75
CHAN#02= 17.18

DCN#1> READ 00
CHAN#01= 19.25
CHAN#02= 17.25

DCN#1> READ 00
CHAN#01= 19.25
CHAN#02= 17.18

DCN#1> READ 00
CHAN#01= 19.25
CHAN#02= 17.25

DCN#1> READ 00
CHAN#01= 19.25
CHAN#02= 17.18

DCN#1> READ 00
CHAN#01= 19.25
CHAN#02= 17.12

DCN#1> READ 00
CHAN#01= 19.25
CHAN#02= 17.06

DCN#1> READ 00
CHAN#01= 19.50
CHAN#02= 17.12

DCN#1> READ 00
CHAN#01= 19.25
CHAN#02= 17.25

DCN#1> SET AUTO

DCN#1>
01 07/12 12:48 01 19.25 .1202
02 07/12 12:48 01 17.16 .0000

01 07/12 12:49 01 18.84 .1763
02 07/12 12:49 01 17.21 .0000

01 07/12 12:50 01 18.84 .1577
02 07/12 12:50 01 17.21 .0000

01 07/12 12:51 01 18.79 .1253
02 07/12 12:51 01 17.24 .0000

01 07/12 12:52 01 18.79 .1504
02 07/12 12:52 01 17.21 .0000

01 07/12 12:53 01 18.78 .1307
02 07/12 12:53 01 17.22 .0000

201111

ILLEGAL COMMAND

DCN#1> PRINT AUX

01 07/12 12:54 01 18.61 .1599

02 07/12 12:54 01 17.20 .0000

PRINT

ILLEGAL COMMAND

DCN#1> PRINT AUX 01,12:15.41

01 07/12 12:15 0020 /0000

01 07/12 12:16 0020 /0000

01 07/12 12:17 0020 /0000

01 07/12 12:18 0020 /0000

01 07/12 12:19 0020 /0000

01 07/12 12:20 0020 /0000

01 07/12 12:21 0020 /0000

01 07/12 12:22 0020 /0000

01 07/12 12:23 0019 /0000

01 07/12 12:24 0019 /0000

01 07/12 12:25 0020 /0000

01 07/12 12:26 0019 /0000

01 07/12 12:27 0020 /0000

01 07/12 12:28 0020 /0000

01 07/12 12:29 0020 /0000

01 07/12 12:30 0020 /0000

01 07/12 12:31 0020 /0000

01 07/12 12:32 0020 /0000

01 07/12 12:33 0020 /0000

01 07/12 12:34 0020 /0000

01 07/12 12:35 0020 /0000

01 07/12 12:36 0020 /0000

01 07/12 12:37 0020 /0000

01 07/12 12:38 0020 /0000

01 07/12 12:39 0020 /0000

01 07/12 12:40 0020 /0000

01 07/12 12:41 0020 /0000

01 07/12 12:42 0020 /0000

01 07/12 12:43 0020 /0000

01 07/12 12:44 0020 /0000

01 07/12 12:45 0020 /0000

01 07/12 12:46 0020 /0000

01 07/12 12:47 0019 /0000

01 07/12 12:48 0019 /0000

01 07/12 12:49 0019 /0000

01 07/12 12:50 0019 /0000

01 07/12 12:51 0019 /0000

01 07/12 12:52 0019 /0000

01 07/12 12:53 0019 /0000

01 07/12 12:54 0019 /0000

01 07/12 12:55 -999H

DCN#1>

01 07/12 12:55 01 18.73 .1261

02 07/12 12:55 01 17.23 .0000

01 07/12 12:56 01 18.84 .1854

02 07/12 12:56 01 17.22 .0000

ILLEGAL COMMAND

DCN#1> PRINT AUX 02,12:

01 07/12 12:57 01 18.89 .2270

02 07/12 12:57 01 17.21 .0000

Handwritten:
1. 07/12 12:57
2. 07/12 12:57

Handwritten:
NOx test 2
Turbine 3
7/12/89

DCN#1> SET NAUTO
ILLEGAL COMMAND
DCN#1> GET NAUTO

DCN#1> PRINT AUX 02,12:15.41

02 07/12 12:15 0017
02 07/12 12:16 0017
02 07/12 12:17 0017
02 07/12 12:18 0017
02 07/12 12:19 0017
02 07/12 12:20 0017
02 07/12 12:21 0017
02 07/12 12:22 0017
02 07/12 12:23 0017
02 07/12 12:24 0017
02 07/12 12:25 0017
02 07/12 12:26 0017
02 07/12 12:27 0017
02 07/12 12:28 0017
02 07/12 12:29 0017
02 07/12 12:30 0017
02 07/12 12:31 0017
02 07/12 12:32 0017
02 07/12 12:33 0017
02 07/12 12:34 0017
02 07/12 12:35 0017
02 07/12 12:36 0017
02 07/12 12:37 0017
02 07/12 12:38 0017
02 07/12 12:39 0017
02 07/12 12:40 0017
02 07/12 12:41 0017
02 07/12 12:42 0017
02 07/12 12:43 0017
02 07/12 12:44 0017
02 07/12 12:45 0017
02 07/12 12:46 0017
02 07/12 12:47 0017
02 07/12 12:48 0017
02 07/12 12:49 0017
02 07/12 12:50 0017
02 07/12 12:51 0017
02 07/12 12:52 0017
02 07/12 12:53 0017
02 07/12 12:54 0017
02 07/12 12:55 0017

Or Test 2

%02
Test 2
7/12/89
Turbine 3

DCN#1> BRT AUTO

DCN#1> READ 00
CHAN#01= 1.250
CHAN#02= 21.18

DCN#1> READ 00
CHAN#01= 1.000
CHAN#02= 21.06

DCN#1>
01 07/12 13:01 01 1.467 .4907
02 07/12 13:01 01 21.05 .0000
READ 00
CHAN#01= .7500
CHAN#02= 21.12

DCN#1> READ 00
CHAN#01= .7500
CHAN#02= 21.06

205

Dr. Wel

0 P P M

W D F



01 07/12 13:04 01 .7500 .0000
02 07/12 13:04 01 20.93 .0000

01 07/12 13:05 01 .7500 .0000
02 07/12 13:05 01 20.96 .0000

01 07/12 13:06 01 84.38 45.76
02 07/12 13:06 01 3.776 .0000

READ 00

CHAN#01= 145.0

CHAN#02= .3750

DCN#1>

01 07/12 13:07 01 144.2 2.786

02 07/12 13:07 01 .3652 .0000

READ 00

CHAN#01= 149.0

CHAN#02= .3125

DCN#1>

01 07/12 13:08 01 148.2 1.392

02 07/12 13:08 01 .3125 .0000

REPEAT READ 01

CHAN#01= 148.7

CHAN#01= 148.0

CHAN#01= 148.0

CHAN#01= 148.2

CHAN#01= 148.2

CHAN#01= 148.2

CHAN#01= 148.0

CHAN#01= 148.0

CHAN#01= 149.5

CHAN#01= 148.0

CHAN#01= 148.0

CHAN#01= 148.5

CHAN#01= 149.5

CHAN#01= 149.5

CHAN#01= 149.0

CHAN#01= 149.0

CHAN#01= 149.0

CHAN#01= 148.0

CHAN#01= 148.0

CHAN#01= 148.7

CHAN#01= 150.0

CHAN#01= 150.0

CHAN#01= 150.0

CHAN#01= 150.0

CHAN#01= 149.5

CHAN#01= 149.0

CHAN#01= 149.0

CHAN#01= 149.2

CHAN#01= 149.5

CHAN#01= 149.5

CHAN#01= 149.0

CHAN#01= 148.0

CHAN#01= 148.0

CHAN#01= 148.2

CHAN#01= 148.2

CHAN#01= 147.2

CHAN#01= 148.5

CHAN#01= 148.5

CHAN#01= 149.0

CHAN#01= 149.0

CHAN#01= 149.0

CHAN#01= 146.5

CHAN#01= 146.7

CHAN#01= 146.7

CHAN#01= 147.2

CHAN#01= 147.2

CHAN#01= 148.2

CHAN#01= 147.5

CHAN#01= 147.5

CHAN#01= 147.2

CHAN#01= 148.2

CHAN#01= 148.2

CHAN#01= 148.2

CHAN#01= 148.2

CHAN#01= 147.7

CHAN#01= 149.7

150 01 00 00

DCN#1>

01 07/12 13:09 01 148.5 .8351

02 07/12 13:09 01 .1645 .8000

REPEAT READ 01

CHAN#01= 148.5

CHAN#01= 148.5

CHAN#01= 149.5

CHAN#01= 149.0

CHAN#01= 149.0

CHAN#01= 149.5

CHAN#01= 149.5

CHAN#01= 148.5

CHAN#01= 149.2

CHAN#01= 149.2

CHAN#01= 148.7

CHAN#01= 149.0

CHAN#01= 149.0

CHAN#01= 149.7

CHAN#01= 150.2

CHAN#01= 150.2

CHAN#01= 149.7

CHAN#01= 149.7

CHAN#01= 149.2

CHAN#01= 147.7

CHAN#01= 147.7

CHAN#01= 148.5

CHAN#01= 148.5

ISO PPM NO 2

DCN#1>

01 07/12 13:10 01 148.8 1.205

02 07/12 13:10 01 .1250 .8000

REPEAT READ 02

CHAN#02= .1250

CHAN#02= .1250

CHAN#02= .1250

CHAN#02= .1250

CHAN#02= .1250

CHAN#02= .1250

CHAN#02= .1250

CHAN#02= .1250

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CHAN#02= .1250

CHAN#02= .1250

CHAN#02= .1250

CHAN#02= .1250

CHAN#02= .1250

CHAN#02= .1250

0 NO 2

01 07/12 13:11 01 149.1 .6600
02 07/12 13:11 01 .1250 .8000
READ 00
CHAN001= 149.5
CHAN002= .1250

DCN01> READ 00
CHAN001= 151.0
CHAN002= .1250

DCN01> REPEAT
01 07/12 13:12 01 149.4 1.354
02 07/12 13:12 01 .1250 .8000
REPEAT READ 01

ILLEGAL COMMAND

DCN01> REPEAT READ 01

CHAN001= 150.5
CHAN001= 149.0
CHAN001= 149.0
CHAN001= 150.2
CHAN001= 150.7
CHAN001= 150.7
CHAN001= 149.2
CHAN001= 149.2
CHAN001= 149.2
CHAN001= 149.0
CHAN001= 148.2
CHAN001= 148.2
CHAN001= 149.7
CHAN001= 149.7
CHAN001= 152.5
CHAN001= 152.7
CHAN001= 152.7
CHAN001= 154.0
CHAN001= 154.0
CHAN001= 154.0
CHAN001= 152.0
CHAN001= 152.5
CHAN001= 152.5
CHAN001= 151.0
CHAN001= 151.0
CHAN001= 150.5
CHAN001= 151.5
CHAN001= 151.5
CHAN001= 152.0
CHAN001= 151.0
CHAN001= 151.0
CHAN001= 151.2
CHAN001= 151.2
CHAN001= 150.5
CHAN001= 150.5
CHAN001= 150.5
CHAN001= 152.7
CHAN001= 152.2
CHAN001= 152.2
CHAN001= 151.5
CHAN001= 151.5
CHAN001= 151.5
CHAN001= 151.7
CHAN001= 151.7
CHAN001= 151.2
CHAN001= 151.0
CHAN001= 151.0
CHAN001= 151.2
CHAN001= 151.5
CHAN001= 151.5
CHAN001= 150.7
CHAN001= 148.7
CHAN001= 148.7
CHAN001= 149.2
CHAN001= 149.2
CHAN001= 148.7
CHAN001= 148.5
CHAN001= 148.5
CHAN001= 149.2
CHAN001= 149.2
CHAN001= 149.2
CHAN001= 149.5
CHAN001= 149.5
CHAN001= 148.7
CHAN001= 148.7
CHAN001= 148.7
CHAN001= 150.5
CHAN001= 148.0
CHAN001= 148.0
CHAN001= 149.2
CHAN001= 148.7
CHAN001= 148.7
CHAN001= 150.2
CHAN001= 150.2
CHAN001= 150.2
CHAN001= 151.2
CHAN001= 151.2
CHAN001= 151.2
CHAN001= 151.2

150 ppm
Cool
Adjust

DCN#1>
01 07/12 13:13 01 150.7 1.381
02 07/12 13:13 01 .1250 .0000

01 07/12 13:14 01 150.2 1.132
02 07/12 13:14 01 .1267 .0000
PRINT AUX 01,
01 07/12 13:15 01 143.2 17.08
02 07/12 13:15 01 3.685 .0000

BAD TIME ENTRY!

DCN#1> PRINT AUX 01,12:55,20

01 07/12 12:55 0019 /0000
01 07/12 12:56 0019 /0000
01 07/12 12:57 0019 /0000
01 07/12 12:58 0019 /0000
01 07/12 12:59 0019 /0000
01 07/12 13:00 0009 /0005
01 07/12 13:01 0001 /0000
01 07/12 13:02 0001 /0000
01 07/12 13:03 0001 /0000
01 07/12 13:04 0001 /0000
01 07/12 13:05 0001 /0000
01 07/12 13:06 0004 /0046
01 07/12 13:07 0144 /0003
01 07/12 13:08 0148 /0001
01 07/12 13:09 0149 /0001
01 07/12 13:10 0149 /0001
01 07/12 13:11 0149 /0001
01 07/12 13:12 0149 /0001
01 07/12 13:13 0151 /0001
01 07/12 13:14 0150 /0001

DCN#1>

01 07/12 13:16 01 37.96 16.68
02 07/12 13:16 01 17.77 .0000

ILLEGAL COMMAND

DCN#1> PRINT AUX 02,12:55,20

02 07/12 12:55 0017
02 07/12 12:56 0017
02 07/12 12:57 0017
02 07/12 12:58 0017
02 07/12 12:59 0017
02 07/12 13:00 0019
02 07/12 13:01 0021
02 07/12 13:02 0021
02 07/12 13:03 0021
02 07/12 13:04 0021
02 07/12 13:05 0021
02 07/12 13:06 0004
02 07/12 13:07 0000
02 07/12 13:08 0000
02 07/12 13:09 0000
02 07/12 13:10 0000
02 07/12 13:11 0000
02 07/12 13:12 0000
02 07/12 13:13 0000
02 07/12 13:14 0000

DCN#1>

01 07/12 13:17 01 20.28 .6324
02 07/12 13:17 01 17.84 .0000

READ00

ILLEGAL COMMAND

DCN#1> READ 00

CHAN#01= 19.75

CHAN#02= 16.87

DCN#1>

01 07/12 13:18 01 19.72 .1367

01 07/12 13:19 01 19.63 .1888
02 07/12 13:19 01 17.02 .0000

01 07/12 13:20 01 19.49 .1346
02 07/12 13:20 01 16.99 .0000

01 07/12 13:21 01 19.50 .1133
02 07/12 13:21 01 17.02 .0000

01 07/12 13:22 01 19.36 .1492
02 07/12 13:22 01 16.99 .0000

01 07/12 13:23 01 19.38 .1249
02 07/12 13:23 01 16.98 .0000

01 07/12 13:24 01 19.31 .1856
02 07/12 13:24 01 17.00 .0000

01 07/12 13:25 01 19.29 .1978
02 07/12 13:25 01 17.01 .0000

01 07/12 13:26 01 19.26 .1718
02 07/12 13:26 01 16.99 .0000

01 07/12 13:27 01 19.26 .1718
02 07/12 13:27 01 17.02 .0000

01 07/12 13:28 01 18.98 .1598
02 07/12 13:28 01 17.00 .0000

01 07/12 13:29 01 19.33 .1928
02 07/12 13:29 01 16.94 .0000

01 07/12 13:30 01 19.76 .0805
02 07/12 13:30 01 16.87 .0000

01 07/12 13:31 01 19.71 .1749
02 07/12 13:31 01 16.88 .0000

01 07/12 13:32 01 19.67 .1613
02 07/12 13:32 01 16.87 .0000

01 07/12 13:33 01 19.61 .1594
02 07/12 13:33 01 16.86 .0000

01 07/12 13:34 01 19.77 .1862
02 07/12 13:34 01 16.85 .0000

01 07/12 13:35 01 19.84 .1774
02 07/12 13:35 01 16.82 .0000

1320
Channel #1 - 1001
Channel #2 - 001

1001-1002

1001-1002

01 07/12 13:36 01 19.70 .1709
02 07/12 13:36 01 16.83 .0000

01 07/12 13:37 01 19.81 .1574
02 07/12 13:37 01 16.79 .0000

01 07/12 13:38 01 19.63 .2126
02 07/12 13:38 01 16.85 .0000

01 07/12 13:39 01 19.74 .2331
02 07/12 13:39 01 16.86 .0000

01 07/12 13:40 01 19.76 .1850
02 07/12 13:40 01 16.84 .0000

01 07/12 13:41 01 19.73 .1383
02 07/12 13:41 01 16.85 .0000

01 07/12 13:42 01 19.68 .2199
02 07/12 13:42 01 16.85 .0000

01 07/12 13:43 01 19.61 .2046
02 07/12 13:43 01 16.84 .0000

01 07/12 13:44 01 19.64 .2820
02 07/12 13:44 01 16.82 .0000

01 07/12 13:45 01 19.98 .1400
02 07/12 13:45 01 16.83 .0000

01 07/12 13:46 01 20.21 .1350
02 07/12 13:46 01 16.77 .0000

01 07/12 13:47 01 20.45 .1952
02 07/12 13:47 01 16.79 .0000

01 07/12 13:48 01 20.30 .2950
02 07/12 13:48 01 16.78 .0000

01 07/12 13:49 01 19.82 .2496
02 07/12 13:49 01 16.88 .0000

01 07/12 13:50 01 19.33 .1636
02 07/12 13:50 01 16.98 .0000

01 07/12 13:51 01 19.09 .1338
02 07/12 13:51 01 16.98 .0000

01 07/12 13:52 01 19.34 .1457
02 07/12 13:52 01 16.98 .0000

01 07/12 13:53 01 19.26 .2040
02 07/12 13:53 01 17.28 .0000

01 07/12 13:54 01 19.14 .1687
02 07/12 13:54 01 16.92 .0000

01 07/12 13:55 01 18.74 .1573
02 07/12 13:55 01 17.00 .0000

01 07/12 13:56 01 18.69 .1340
02 07/12 13:56 01 17.03 .0000

01 07/12 13:57 01 18.56 .1232
02 07/12 13:57 01 17.04 .0000

PRINT AUX 01.11

01 07/12 13:58 01 18.57 .1163

02 07/12 13:58 01 17.05 .0000

PRINT

Point 4

Point 5

Point 6

Point 7

Point 8

```

AUX 01,13:19.40
ILLEGAL COMMAND
DCN#1> PRINT AUX 01,13:
01 07/12 13:59 01 18.82 .2064
01 07/12 13:00 60 38.45 47.55
02 07/12 13:59 01 17.04 .0000
02 07/12 13:00 60 14.66 .0000
PRINT AUX 01,13:19.40
BAD TIME ENTRY!
DCN#1> SET NOAUTO

```

```

DCN#1> PRINT AUX 01,13:19.41
01 07/12 13:19 0020 /0000
01 07/12 13:20 0019 /0000
01 07/12 13:21 0019 /0000
01 07/12 13:22 0019 /0000
01 07/12 13:23 0019 /0000
01 07/12 13:24 0019 /0000
01 07/12 13:25 0019 /0000
01 07/12 13:26 0019 /0000
01 07/12 13:27 0019 /0000
01 07/12 13:28 0019 /0000
01 07/12 13:29 0019 /0000
01 07/12 13:30 0020 /0000
01 07/12 13:31 0020 /0000
01 07/12 13:32 0020 /0000
01 07/12 13:33 0020 /0000
01 07/12 13:34 0020 /0000
01 07/12 13:35 0020 /0000
01 07/12 13:36 0020 /0000
01 07/12 13:37 0020 /0000
01 07/12 13:38 0020 /0000
01 07/12 13:39 0020 /0000
01 07/12 13:40 0020 /0000
01 07/12 13:41 0020 /0000
01 07/12 13:42 0020 /0000
01 07/12 13:43 0020 /0000
01 07/12 13:44 0020 /0000
01 07/12 13:45 0020 /0000
01 07/12 13:46 0020 /0000
01 07/12 13:47 0020 /0000
01 07/12 13:48 0020 /0000
01 07/12 13:49 0020 /0000
01 07/12 13:50 0019 /0000
01 07/12 13:51 0019 /0000
01 07/12 13:52 0019 /0000
01 07/12 13:53 0019 /0000
01 07/12 13:54 0019 /0000
01 07/12 13:55 0019 /0000
01 07/12 13:56 0019 /0000
01 07/12 13:57 0019 /0000
01 07/12 13:58 0019 /0000
01 07/12 13:59 0019 /0000

```

Test 3
 Turbine 3
 NOX
 7/14/29

DCN#1> PRINT AUX 02,13:19,41

02 07/12 13:19 0017
02 07/12 13:20 0017
02 07/12 13:21 0017
02 07/12 13:22 0017
02 07/12 13:23 0017
02 07/12 13:24 0017
02 07/12 13:25 0017
02 07/12 13:26 0017
02 07/12 13:27 0017
02 07/12 13:28 0017
02 07/12 13:29 0017
02 07/12 13:30 0017
02 07/12 13:31 0017
02 07/12 13:32 0017
02 07/12 13:33 0017
02 07/12 13:34 0017
02 07/12 13:35 0017
02 07/12 13:36 0017
02 07/12 13:37 0017
02 07/12 13:38 0017
02 07/12 13:39 0017
02 07/12 13:40 0017
02 07/12 13:41 0017
02 07/12 13:42 0017
02 07/12 13:43 0017
02 07/12 13:44 0017
02 07/12 13:45 0017
02 07/12 13:46 0017
02 07/12 13:47 0017
02 07/12 13:48 0017
02 07/12 13:49 0017
02 07/12 13:50 0017
02 07/12 13:51 0017
02 07/12 13:52 0017
02 07/12 13:53 0017
02 07/12 13:54 0017
02 07/12 13:55 0017
02 07/12 13:56 0017
02 07/12 13:57 0017
02 07/12 13:58 0017
02 07/12 13:59 0017

Test 3
Turbine 3
7/14/89
% 02

DCN#1> SET AUTO

DCN#1> READ

01 07/12 14:03 01 149.7 .9165

02 07/12 14:03 01 .2805 .8000

READ 00

NOT IN TABLE!!!

DCN#1> READ 00

CHAN#01= 150.7

CHAN#02= .2500

169 pp. 2

```
DCN11>
01 07/12 14:04 01 149.7 .8883
02 07/12 14:04 01 .2500 .0000
```

200-10
0.1 10

72

DCN#1>

01 07/12 14:05 01 150.8 .7869
02 07/12 14:05 01 .2303 .0000

01 07/12 14:06 01 149.7 .6496
02 07/12 14:06 01 .1250 .0000

01 07/12 14:07 01 126.7 32.81
02 07/12 14:07 01 1.506 .0000

01 07/12 14:08 01 15.60 12.43
02 07/12 14:08 01 19.11 .0000

01 07/12 14:09 01 1.677 .5254
02 07/12 14:09 01 20.99 .0000

01 07/12 14:10 01 1.000 .0001
02 07/12 14:10 01 20.96 .0000

READ 00

CHAN#01= .7500

CHAN#02= 21.00

DCN#1> REPEAT READ 02

CHAN#02= 21.00

CHAN#02= 21.00

CHAN#02= 21.00

CHAN#02= 21.12

CHAN#02= 21.06

CHAN#02= 21.06

CHAN#02= 21.18

CHAN#02= 21.00

CHAN#02= 21.00

CHAN#02= 21.06

CHAN#02= 21.06

CHAN#02= 21.00

CHAN#02= 20.93

CHAN#02= 20.93

CHAN#02= 21.00

CHAN#02= 20.87

CHAN#02= 20.87

CHAN#02= 20.93

CHAN#02= 20.81

CHAN#02= 20.81

CHAN#02= 20.87

CHAN#02= 20.93

CHAN#02= 20.93

CHAN#02= 20.93

CHAN#02= 20.93

CHAN#02= 21.06

CHAN#02= 21.00

CHAN#02= 21.00

20-9 01.0 09 Cut

DCN#1>

01 07/12 14:11 01 .9014 .1222

02 07/12 14:11 01 28.99 .0000

REPEAT READ 01

CHAN#01= .7500

CHAN#01= .7500

CHAN#01= .7500

CHAN#01= 1.000

CHAN#01= 1.000

CHAN#01= .7500

CHAN#01= .7500

CHAN#01= .7500

CHAN#01= 1.000

CHAN#01= 1.000

CHAN#01= 1.000

CHAN#01= .7500

CHAN#01= .7500

CHAN#01= .7500

CHAN#01= 1.000

CHAN#01= 1.000

CHAN#01= .7500

CHAN#01= .7500

CHAN#01= .7500

CHAN#01= .7500

CHAN#01= .7500

CHAN#01= .7500

CHAN#01= .7500

CHAN#01= .7500

CHAN#01= .7500

CHAN#01= .7500

CHAN#01= .7500

CHAN#01= .7500

*0 PPM
NO- Carl*

DCN#1>

01 07/12 14:12 01 .7829 .0846

02 07/12 14:12 01 21.03 .0000

READ 00

CHAN#01= 63.25

CHAN#02= .4375

DCN#1>

01 07/12 14:13 01 27.21 24.91

02 07/12 14:13 01 9.323 .0000

READ 00

CHAN#01= 69.00

CHAN#02= .3125

DCN#1> READ 00

CHAN#01= 75.00

CHAN#02= .3125

DCN#1> READ 00

CHAN#01= 74.75

CHAN#02= .2500

DCN#1>
01 07/12 14:14 01 73.02 2.738
02 07/12 14:14 01 .3093 .0000
READ 00
CHAN#01= 76.50
CHAN#02= .3125

DCN#1> READ 00
CHAN#01= 76.25
CHAN#02= .2500

DCN#1> READ 00
CHAN#01= 76.25
CHAN#02= .2500

DCN#1> READ
01 07/12 14:15 01 76.18 .5741
02 07/12 14:15 01 .2550 .0000
00

ILLEGAL COMMAND
DCN#1> READ 00
CHAN#01= 77.25
CHAN#02= .2500

DCN#1> REPEAT READ 01

CHAN#01= 77.25
CHAN#01= 76.75
CHAN#01= 76.75
CHAN#01= 77.25
CHAN#01= 77.00
CHAN#01= 77.00
CHAN#01= 77.25
CHAN#01= 77.25
CHAN#01= 77.50
CHAN#01= 77.75
CHAN#01= 77.75
CHAN#01= 77.75
CHAN#01= 78.25
CHAN#01= 78.25
CHAN#01= 79.00
CHAN#01= 78.00
CHAN#01= 78.00
CHAN#01= 78.00
CHAN#01= 78.00
CHAN#01= 78.25
CHAN#01= 78.50
CHAN#01= 78.50
CHAN#01= 78.00
CHAN#01= 79.25
CHAN#01= 79.25
CHAN#01= 79.25
CHAN#01= 79.25
CHAN#01= 79.25
CHAN#01= 77.50
CHAN#01= 77.50
CHAN#01= 78.50
CHAN#01= 78.25
CHAN#01= 78.25
CHAN#01= 78.75
CHAN#01= 78.50
CHAN#01= 78.50
CHAN#01= 78.00
CHAN#01= 78.00

81
PPM
NO X
Gul

DCN#1>
01 07/12 14:16 01 77.90 .6458
02 07/12 14:16 01 .2500 .0000
READ 00
CHAN#01= 78.00
CHAN#02= .2500

DCN#1>
01 07/12 14:17 01 77.48 1.326
02 07/12 14:17 01 .7418 .0000
READ 00
CHAN#01= 41.50
CHAN#02= 13.62

DCN#1> READ 00
CHAN#01= 20.75
CHAN#02= 13.93

DCN#1> READ 00
CHAN#01= 7.750
CHAN#02= 13.75

DCN#1> READ 00
CHAN#01= 5.250
CHAN#02= 13.75

DCN#1>
01 07/12 14:18 01 20.69 16.45
02 07/12 14:18 01 13.63 .0000
READ 00
CHAN#01= 3.000
CHAN#02= 13.68

DCN#1> READ 00
CHAN#01= 2.000
CHAN#02= 13.81

DCN#1> REPEAT READ 02,

CHAN#02= 13.75
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.75
CHAN#02= 13.75
CHAN#02= 13.75
CHAN#02= 13.75
CHAN#02= 13.81
CHAN#02= 13.81
CHAN#02= 13.81
CHAN#02= 13.87
CHAN#02= 13.87
CHAN#02= 13.87
CHAN#02= 13.87
CHAN#02= 13.87
CHAN#02= 13.87
CHAN#02= 13.81
CHAN#02= 13.81
CHAN#02= 13.81
CHAN#02= 13.75
CHAN#02= 13.75
CHAN#02= 13.75
CHAN#02= 13.75
CHAN#02= 13.75
CHAN#02= 13.75
CHAN#02= 13.68
CHAN#02= 13.75
CHAN#02= 13.75
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.81
CHAN#02= 13.81
CHAN#02= 13.81

13.6.070
70 Col

DCN#1>
01 07/12 14:19 01 1.750 .8661
02 07/12 14:19 01 13.77 .0000

01 07/12 14:20 01 .6645 .1187
02 07/12 14:20 01 13.80 .0000
READ 00
CHAN#01= .7500
CHAN#02= 13.81

DCN#1>
01 07/12 14:21 01 .5449 .0960
02 07/12 14:21 01 13.77 .0000

01 07/12 14:22 01 62.82 73.60
02 07/12 14:22 01 9.759 .0000
READ 00
CHAN#01= 251.0
CHAN#02= .3125

DCN#1>
01 07/12 14:23 01 244.8 15.55
02 07/12 14:23 01 .3278 .0000
READ 00
CHAN#01= 262.5
CHAN#02= .2500

DCN#1>
01 07/12 14:24 01 264.3 1.593
02 07/12 14:24 01 .2500 .0000
DE
ILLEGAL COMMAND
DCN#1> READ 00
CHAN#01= 266.2
CHAN#02= .2500

DCN#1> READ 00
CHAN#01= 278.0
CHAN#02= .2500

DCN#1> READ 00
CHAN#01= 275.5
CHAN#02= .2500

DCN#1>
01 07/12 14:25 01 27.4 5.889
02 07/12 14:25 01 .2254 .0000
READ 00
CHAN#01= 289.0
CHAN#02= .1875

DCN#1> REPEAT READ 01

CHAN#01= 289.2
CHAN#01= 289.9
CHAN#01= 291.5
CHAN#01= 291.5
CHAN#01= 291.2
CHAN#01= 291.2
CHAN#01= 288.7
CHAN#01= 292.0
CHAN#01= 292.0
CHAN#01= 292.4
CHAN#01= 290.2
CHAN#01= 290.2
CHAN#01= 288.7
CHAN#01= 286.9
CHAN#01= 286.9
CHAN#01= 288.0
CHAN#01= 288.0
CHAN#01= 289.0
CHAN#01= 288.2
CHAN#01= 288.2
CHAN#01= 288.7
CHAN#01= 286.9
CHAN#01= 286.9
CHAN#01= 285.7
CHAN#01= 285.7
CHAN#01= 286.9
CHAN#01= 288.4
CHAN#01= 288.4
CHAN#01= 287.7
CHAN#01= 286.2
CHAN#01= 286.2
CHAN#01= 284.4
CHAN#01= 284.4
CHAN#01= 288.4
CHAN#01= 286.2
CHAN#01= 286.2
CHAN#01= 284.9
CHAN#01= 285.2
CHAN#01= 285.2
CHAN#01= 286.9
CHAN#01= 286.9
CHAN#01= 290.2
CHAN#01= 290.5
CHAN#01= 290.5
CHAN#01= 289.2
CHAN#01= 289.5
CHAN#01= 289.5
CHAN#01= 287.2
CHAN#01= 289.5
CHAN#01= 289.5
CHAN#01= 289.5
CHAN#01= 288.2
CHAN#01= 288.2
CHAN#01= 286.9
CHAN#01= 288.2
CHAN#01= 288.2
CHAN#01= 288.0
CHAN#01= 288.0
CHAN#01= 288.0
CHAN#01= 290.2

290 0.5 m ND x Cal

DCN#1>

01 07/12 14:26 01 287.8 4.106
02 07/12 14:26 01 .2040 .0000
READ 00
CHAN#01= 288.4
CHAN#02= .1675

DCN#1>

01 07/12 14:27 01 288.4 1.518
02 07/12 14:27 01 .1977 .0000

ILLEGAL COMMAND
DCN#1> SET NOAUTO

DCN#1> PRINT AUX 01,14:00,30
01 07/12 14:00 0023 /0011
01 07/12 14:01 0122 /0022
01 07/12 14:02 0148 /0002
01 07/12 14:03 0150 /0001
01 07/12 14:04 0150 /0001
01 07/12 14:05 0150 /0001
01 07/12 14:06 0150 /0001
01 07/12 14:07 0127 /0033
01 07/12 14:08 0016 /0012
01 07/12 14:09 0002 /0001
01 07/12 14:10 0001 /0000
01 07/12 14:11 0001 /0000
01 07/12 14:12 0001 /0000
01 07/12 14:13 0027 /0025
01 07/12 14:14 0073 /0003
01 07/12 14:15 0076 /0001
01 07/12 14:16 0078 /0001
01 07/12 14:17 0077 /0001
01 07/12 14:18 0021 /0016
01 07/12 14:19 0002 /0001
01 07/12 14:20 0001 /0000
01 07/12 14:21 0001 /0000
01 07/12 14:22 0063 /0074
01 07/12 14:23 0245 /0016
01 07/12 14:24 0264 /0002
01 07/12 14:25 0274 /0006
01 07/12 14:26 0288 /0004
01 07/12 14:27 0288 /0002
01 07/12 14:28 0289 /0001
01 07/12 14:29 -999H

*Nox Cals
7/12/09*

DCN#1> PRINT AUX 02,14:00.30

02 07/12 14:00	0017
02 07/12 14:01	0010
02 07/12 14:02	0002
02 07/12 14:03	0000
02 07/12 14:04	0000
02 07/12 14:05	0000
02 07/12 14:06	0000
02 07/12 14:07	0002
02 07/12 14:08	0019
02 07/12 14:09	0021
02 07/12 14:10	0021
02 07/12 14:11	0021
02 07/12 14:12	0021
02 07/12 14:13	0009
02 07/12 14:14	0000
02 07/12 14:15	0000
02 07/12 14:16	0000
02 07/12 14:17	0001
02 07/12 14:18	0014
02 07/12 14:19	0014
02 07/12 14:20	0014
02 07/12 14:21	0014
02 07/12 14:22	0010
02 07/12 14:23	0000
02 07/12 14:24	0000
02 07/12 14:25	0000
02 07/12 14:26	0000
02 07/12 14:27	0000
02 07/12 14:28	0000
02 07/12 14:29	0000

DCN#1>

Oz cals

End

7/12/89

TURBINE 2

JULY 13, 1989

ILLEGAL COMMAND
DCN#1> LOGIN
PASSWORD>
LOGGED IN
DCN#1> TIME
07:10:13

DCN#1> LIST 00

CHANNEL NUMBER: 01
CHANNEL NAME: NOX
CHANNEL TYPE: 9
STORE HOURLY AVERAGES: Y
STORE HOURLY SIGMAS: N
STORE AUX AVERAGES: Y
STORE AUX SIGMAS: Y
CHANNEL UNITS: PPM
VOLTS FULL SCALE: 10.00
SLOPE: 1000.
INTERCEPT: .0000
MAX READING: 1000.
MIN READING: -25.00
MAX RATE OF CHANGE: 5000.
BAD STATUS= XXXXXXXX XXXXXXXX
AUTO-CAL: N
AUX INTERVAL: 01
ON-LINE: Y

CHANNEL NUMBER: 02
CHANNEL NAME: 02
CHANNEL TYPE: 9
STORE HOURLY AVERAGES: Y
STORE HOURLY SIGMAS: N
STORE AUX AVERAGES: Y
STORE AUX SIGMAS: N
CHANNEL UNITS: %
VOLTS FULL SCALE: 10.00
SLOPE: 250.0
INTERCEPT: .0000
MAX READING: 250.0
MIN READING: -25.00
MAX RATE OF CHANGE: 5000.
BAD STATUS= XXXXXXXX XXXXXXXX
AUTO-CAL: N
AUX INTERVAL: 01
ON-LINE: Y

DCN#1> ID
REMOTE ID = 1
REPORT ID = WST CID
DCN#1> DATE
07/13/89
DCN#1>

READ 00
ILLEGAL COMMAND
DCN#1> READ 00
CHAN#01= 9.250
CHAN#02= 7.062

7-13-89
CID Unit 2
Turbine 2

DCH#1> READ 00
CHAN#01= 155.5
CHAN#02= 1.187

DCH#1> READ 00
CHAN#01= 281.5
CHAN#02= .1875

DCH#1> READ 00
CHAN#01= 289.7
CHAN#02= .2500

DCH#1> READ 00
CHAN#01= 294.2
CHAN#02= .1875

DCH#1> READ 00
CHAN#01= 295.2
CHAN#02= .1875

DCH#1> REPEAT READ 01

CHAN#01= 289.2
CHAN#01= 287.7
CHAN#01= 287.7
CHAN#01= 287.7
CHAN#01= 286.7
CHAN#01= 287.7
CHAN#01= 287.7
CHAN#01= 286.9
CHAN#01= 286.9
CHAN#01= 288.0
CHAN#01= 285.9
CHAN#01= 285.9
CHAN#01= 288.4
CHAN#01= 285.9
CHAN#01= 285.9
CHAN#01= 286.7
CHAN#01= 286.7
CHAN#01= 288.4
CHAN#01= 285.2
CHAN#01= 285.2
CHAN#01= 286.5
CHAN#01= 285.5
CHAN#01= 285.5
CHAN#01= 286.2
CHAN#01= 284.2
CHAN#01= 284.2
CHAN#01= 285.9
CHAN#01= 285.9
CHAN#01= 285.9
CHAN#01= 287.4
CHAN#01= 287.4
CHAN#01= 288.7
CHAN#01= 289.5
CHAN#01= 289.5
CHAN#01= 288.2
CHAN#01= 288.2
CHAN#01= 290.5
CHAN#01= 288.7
CHAN#01= 288.7
CHAN#01= 284.4
CHAN#01= 283.2
CHAN#01= 283.2

NOT
sig cal - pre

DCN#1> REPEAT READ 02

CHAN#02= 13.87

CHAN#02= 13.81

CHAN#02= 13.87

CHAN#02= 13.87

CHAN#02= 13.81

CHAN#02= 13.81

CHAN#02= 13.81

CHAN#02= 13.81

CHAN#02= 13.81

CHAN#02= 13.68

CHAN#02= 13.75

CHAN#02= 13.75

CHAN#02= 13.68

CHAN#02= 13.75

CHAN#02= 13.75

CHAN#02= 13.75

CHAN#02= 13.81

CHAN#02= 13.81

CHAN#02= 13.81

CHAN#02= 13.81

CHAN#02= 13.87

CHAN#02= 13.87

CHAN#02= 13.87

CHAN#02= 13.81

CHAN#02= 13.81

CHAN#02= 13.81

CHAN#02= 13.75

CHAN#02= 13.75

CHAN#02= 13.75

CHAN#02= 13.68

CHAN#02= 13.68

CHAN#02= 13.68

CHAN#02= 13.68

CHAN#02= 13.68

CHAN#02= 13.62

CHAN#02= 13.62

CHAN#02= 13.62

CHAN#02= 13.62

CHAN#02= 13.62

CHAN#02= 13.62

CHAN#02= 13.62

CHAN#02= 13.68

CHAN#02= 13.68

M. G. O. R. Carl

DCN#1> READ 00

CHAN#01= 4.500

CHAN#02= 13.68

DCN#1> READ 00

CHAN#01= 4.250

CHAN#02= 13.62

DCN#1> READ 00

CHAN#01= 4.500

CHAN#02= 13.75

DCN#1> READ 00

CHAN#01= 4.500

CHAN#02= 13.50

DCN#1> READ 00

CHAN#01= 4.500

CHAN#02= 13.50

天

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CHAN#01=-.2500
CHAN#01=-.2500
CHAN#01=-.2500
CHAN#01=.0000
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CHAN#01=.0000
CHAN#01=.0000
CHAN#01=.2500
CHAN#01=-636.2
CHAN#01=-636.2
CHAN#01=-1.250
CHAN#01=-.5000
CHAN#01=-.5000
CHAN#01=-.5000
CHAN#01=-.5000
CHAN#01=-.2500
CHAN#01=-.5000
CHAN#01=-.5000
CHAN#01=-.5000
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CHAN#01=.0000
CHAN#01=.0000

NOV 22nd

DCH#1> READ 00
CHAN#01= 875.2
CHAN#02= 21.25

DCH#1> READ 00
CHAN#01= 875.2
CHAN#02= 21.25

DCH#1> READ 00
CHAN#01= 875.2
CHAN#02= 21.18

DCH#1> READ 00
CHAN#01= 875.2
CHAN#02= 21.06

DCH#1> READ 00
CHAN#01= 875.4
CHAN#02= 21.06

DCH#1> READ 00
CHAN#01=-.2500
CHAN#02= 21.00

DCH#1> READ 00
CHAN#01=-.2500
CHAN#02= 21.00

DCH#1> READ 00
CHAN#01=-.2500
CHAN#02= 20.87

DCH#1> REPEAT READ 02
CHAN#02= 20.93
CHAN#02= 20.93
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 20.81
CHAN#02= 20.81
CHAN#02= 20.81
CHAN#02= 20.81
CHAN#02= 20.75
CHAN#02= 20.81
CHAN#02= 20.81
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 20.93
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 21.00
CHAN#02= 20.93
CHAN#02= 20.93
CHAN#02= 21.00
CHAN#02= 21.00
CHAN#02= 21.00
CHAN#02= 21.00
CHAN#02= 21.00
CHAN#02= 21.00
CHAN#02= 20.93
CHAN#02= 20.93
CHAN#02= 20.93
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 20.81
CHAN#02= 20.81
CHAN#02= 20.81
CHAN#02= 20.81
CHAN#02= 20.93
CHAN#02= 20.93

20.9 0.00
CL

DCH#1> READ 00
CHAN#01=-.2500
CHAN#02= 20.81

DCH#1> READ 00
CHAN#01= 72.50
CHAN#02= .3750

DCH#1> READ 00
CHAN#01= 73.25
CHAN#02= .3750

DCH#1> READ 00
CHAN#01= 78.50
CHAN#02= .3125

DCH#1> READ 00
CHAN#01= 81.00
CHAN#02= .2500

DCH#1> REPEAT READ 01

CHAN#01= 81.50
CHAN#01= 81.50
CHAN#01= 82.25
CHAN#01= 81.75
CHAN#01= 81.75
CHAN#01= 81.00
CHAN#01= 81.00
CHAN#01= 81.25
CHAN#01= 81.75
CHAN#01= 81.75
CHAN#01= 80.75
CHAN#01= 81.00
CHAN#01= 81.00
CHAN#01= 80.50
CHAN#01= 80.75
CHAN#01= 80.75
CHAN#01= 80.50
CHAN#01= 80.50
CHAN#01= 81.00
CHAN#01= 81.25
CHAN#01= 81.25
CHAN#01= 80.25
CHAN#01= 80.75
CHAN#01= 80.75
CHAN#01= 81.00
CHAN#01= 80.75
CHAN#01= 80.75
CHAN#01= 80.50
CHAN#01= 80.50
CHAN#01= 81.25
CHAN#01= 82.00
CHAN#01= 82.00
CHAN#01= 81.50
CHAN#01= 81.25
CHAN#01= 81.25
CHAN#01= 81.75
CHAN#01= 81.25
CHAN#01= 81.25
CHAN#01= 80.25
CHAN#01= 80.25

81.6 No. 2 Cal

DCH#1> READ 00
CHAN#01= 81.75
CHAN#02= .1875

DCH11> READ 00
CHAN001= 82.00
CHAN002= .1075

DCH11> READ 00
CHAN001= 6.500
CHAN002= 20.93

DCH11> READ 00
CHAN001= .5000
CHAN002= 21.00

DCH11> READ 00
CHAN001= .2500
CHAN002= 21.00

DCH11> READ 00
CHAN001= 157.2
CHAN002= .2500

DCH11> READ 00
CHAN001= 152.2
CHAN002= .2500

DCH11> READ 00
CHAN001= 152.2
CHAN002= .2500

DCH11> READ 00
CHAN001= 152.7
CHAN002= .2500

DCH11> READ 00
CHAN001= 152.0
CHAN002= .2500

DCH11> REPEAT READ 00
ILLEGAL COMMAND
DCH11> REPEAT READ 01

CHAN001= 153.2
CHAN001= 153.2
CHAN001= 154.2
CHAN001= 153.2
CHAN001= 153.2
CHAN001= 153.2
CHAN001= 153.2
CHAN001= 152.0
CHAN001= 151.5
CHAN001= 151.5
CHAN001= 151.2
CHAN001= 151.5
CHAN001= 151.5
CHAN001= 151.0
CHAN001= 151.5
CHAN001= 151.5
CHAN001= 153.0
CHAN001= 153.0
CHAN001= 153.0
CHAN001= 153.2
CHAN001= 153.2
CHAN001= 152.7
CHAN001= 152.5
CHAN001= 152.5
CHAN001= 153.0
CHAN001= 153.0
CHAN001= 152.5
CHAN001= 152.5
CHAN001= 152.5
CHAN001= 152.0
CHAN001= 151.5
CHAN001= 151.5
CHAN001= 153.2
CHAN001= 152.5
CHAN001= 152.5
CHAN001= 151.5
CHAN001= 151.5
CHAN001= 151.5
CHAN001= 152.0
CHAN001= 152.0
CHAN001= 151.5
CHAN001= 150.7
CHAN001= 150.7
CHAN001= 149.7
CHAN001= 149.5
CHAN001= 149.5
CHAN001= 150.0
CHAN001= 150.0
CHAN001= 150.0
CHAN001= 151.0
CHAN001= 151.0
CHAN001= 151.5
CHAN001= 151.2
CHAN001= 151.2
CHAN001= 152.2
CHAN001= 152.2
CHAN001= 151.5
CHAN001= 151.5
CHAN001= 151.5
CHAN001= 152.5

150 ppm non cat

DCH#1>

READ 00
ILLEGAL COMMAND
DCH#1> READ 00
CHAN#01= .0000
CHAN#02= 21.06

DCH#1> READ 00
CHAN#01= .0000
CHAN#02= 20.93

DCH#1> PRINT AUX 01,07:30,40
01 07/13 07:30 0004 /0000
01 07/13 07:31 0143 /0098
01 07/13 07:32 0284 /0006
01 07/13 07:33 0293 /0002
01 07/13 07:34 0290 /0004
01 07/13 07:35 0289 /0002
01 07/13 07:36 0262 /0051
01 07/13 07:37 0040 /0031
01 07/13 07:38 0006 /0001
01 07/13 07:39 0005 /0000
01 07/13 07:40 0004 /0000
01 07/13 07:41 0004 /0000
01 07/13 07:42 0004 /0000
01 07/13 07:43 0004 /0000
01 07/13 07:44 0005 /0000
01 07/13 07:45 0008 /0009
01 07/13 07:46 0213 /0372
01 07/13 07:47 0002 /0002
01 07/13 07:48 -016 /0101
01 07/13 07:49 0000 /0000
01 07/13 07:50 0426 /0438
01 07/13 07:51 0875 /0000
01 07/13 07:52 0592 /0409
01 07/13 07:53 0000 /0000
01 07/13 07:54 0000 /0000
01 07/13 07:55 0009 /0015
01 07/13 07:56 0071 /0009
01 07/13 07:57 0030 /0001
01 07/13 07:58 0081 /0000
01 07/13 07:59 0079 /0002
01 07/13 08:00 0064 /0018
01 07/13 08:01 0007 /0006
01 07/13 08:02 0000 /0000
01 07/13 08:03 0040 /0047
01 07/13 08:04 0151 /0007
01 07/13 08:05 0152 /0002
01 07/13 08:06 0152 /0001
01 07/13 08:07 0152 /0001
01 07/13 08:08 0090 /0051
01 07/13 08:09 0006 /0005

NOT
Pre-test calcs
7/13/89
Turbine 2

```

DCH#1> PRINT AUX 02,7:30.40
BAD TIME ENTRY!
DCH#1> PRINT AUX 02,07:30.40
02 07/13 07:30 0022
02 07/13 07:31 0006
02 07/13 07:32 0000
02 07/13 07:33 0000
02 07/13 07:34 0000
02 07/13 07:35 0000
02 07/13 07:36 0004
02 07/13 07:37 0014
02 07/13 07:38 0014
02 07/13 07:39 0014
02 07/13 07:40 0014
02 07/13 07:41 0014
02 07/13 07:42 0014
02 07/13 07:43 0013
02 07/13 07:44 0019
02 07/13 07:45 0020
02 07/13 07:46 0020
02 07/13 07:47 0020
02 07/13 07:48 0020
02 07/13 07:49 0020
02 07/13 07:50 0021
02 07/13 07:51 0021
02 07/13 07:52 0021
02 07/13 07:53 0021
02 07/13 07:54 0021
02 07/13 07:55 0015
02 07/13 07:56 0000
02 07/13 07:57 0000
02 07/13 07:58 0000
02 07/13 07:59 0000
02 07/13 08:00 0000
02 07/13 08:01 0021
02 07/13 08:02 0021
02 07/13 08:03 0011
02 07/13 08:04 0000
02 07/13 08:05 0000
02 07/13 08:06 0000
02 07/13 08:07 0000
02 07/13 08:08 0013
02 07/13 08:09 0021

```

```

DCH#1> READ 00
CHAN#01=-.2500
CHAN#02= 20.93

```

```
DCH#1>
```

%O₂
pretest cals
7/13/89
Turbine 2

ILLEGAL COMMAND
DCN11> SET AUTO

DCN11> READ 00
CHAN101= 17.75
CHAN102= 17.25

DCN11> READ 00
CHAN101= 19.25
CHAN102= 17.37

DCN11>
01 07/13 08:22 01 12.55 6.589
02 07/13 08:22 01 17.68 .0000

01 07/13 08:23 01 20.27 .3292
02 07/13 08:23 01 17.37 .0000

01 07/13 08:24 01 20.67 .1615
02 07/13 08:24 01 17.34 .0000

01 07/13 08:25 01 20.70 .1641
02 07/13 08:25 01 17.31 .0000

01 07/13 08:26 01 20.89 .1856
02 07/13 08:26 01 17.31 .0000

01 07/13 08:27 01 20.88 .2001
02 07/13 08:27 01 17.29 .0000

01 07/13 08:28 01 20.63 .1694
02 07/13 08:28 01 17.27 .0000

01 07/13 08:29 01 20.62 .1590
02 07/13 08:29 01 17.25 .0000

01 07/13 08:30 01 20.59 .1762
02 07/13 08:30 01 17.25 .0000

01 07/13 08:31 01 20.62 .1791
02 07/13 08:31 01 17.24 .0000

01 07/13 08:32 01 20.51 .1826
02 07/13 08:32 01 17.24 .0000

01 07/13 08:33 01 20.50 .1517
02 07/13 08:33 01 17.23 .0000

01 07/13 08:34 01 20.57 .1275
02 07/13 08:34 01 17.21 .0000

01 07/13 08:35 01 20.70 .1609
02 07/13 08:35 01 17.17 .0000

01 07/13 08:36 01 20.70 .1250
02 07/13 08:36 01 17.20 .0000

01 07/13 08:37 01 20.65 .1667
02 07/13 08:37 01 17.16 .0000

01 07/13 08:38 01 20.61 .1487
02 07/13 08:38 01 17.17 .0000

01 07/13 08:39 01 20.63 .2030
02 07/13 08:39 01 17.17 .0000

01 07/13 08:40 01 20.94 .1456
02 07/13 08:40 01 17.12 .0000

01 07/13 08:41 01 20.75 .1672
02 07/13 08:41 01 17.12 .0000

01 07/13 08:42 01 20.66 .1921
02 07/13 08:42 01 17.10 .0000

01 07/13 08:43 01 20.63 .2046
02 07/13 08:43 01 17.11 .0000

01 07/13 08:44 01 20.54 .2357
02 07/13 08:44 01 17.09 .0000

01 07/13 08:45 01 20.77 .1773
02 07/13 08:45 01 17.08 .0000

01 07/13 08:46 01 20.69 .1660
02 07/13 08:46 01 17.08 .0000

01 07/13 08:47 01 20.79 .1892
02 07/13 08:47 01 17.09 .0000

01 07/13 08:48 01 20.76 .1433
02 07/13 08:48 01 17.09 .0000

01 07/13 08:49 01 20.68 .1406
02 07/13 08:49 01 17.09 .0000

TEST #1 CID
NOT
Channel 1 unit #12
O, Channel 2 7-13-87

Point 1

Point 2

Point 3

Point 4

01 07/13 09:08 01 19.76 .1735
02 07/13 09:08 01 17.11 .0000

01 07/13 09:09 01 18.08 2.189
02 07/13 09:09 01 17.53 .0000

READ 00

ILLEGAL COMMAND

DCH#1> READ 00

01 07/13 09:10 01 3.822 2.898
02 07/13 09:10 01 20.52 .0000

READ 00

CHAN#01= .7500

CHAN#02= 20.62

DCH#1> READ 00

CHAN#01= .5000

CHAN#02= 20.62

DCH#1> REREAD READ 01

CHAN#01= .2500

CHAN#01= .2500

CHAN#01= .2500

CHAN#01= .5000

CHAN#01= .2500

CHAN#01= .2500

CHAN#01= .2500

CHAN#01= .2500

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CHAN#01= .2500

CHAN#01= .2500

CHAN#01= .2500

0 ppm NOx

01 07/13 08:50 01	20.53	.1738
02 07/13 08:50 01	17.07	.0000
01 07/13 08:51 01	20.53	.1838
02 07/13 08:51 01	17.09	.0000
01 07/13 08:52 01	20.73	.2429
02 07/13 08:52 01	17.07	.0000
01 07/13 08:53 01	20.75	.1721
02 07/13 08:53 01	17.09	.0000
01 07/13 08:54 01	20.71	.2536
02 07/13 08:54 01	17.11	.0000
01 07/13 08:55 01	20.37	.2257
02 07/13 08:55 01	17.14	.0000
01 07/13 08:56 01	20.34	.1579
02 07/13 08:56 01	17.13	.0000
01 07/13 08:57 01	20.23	.1984
02 07/13 08:57 01	17.13	.0000
01 07/13 08:58 01	20.51	.1315
02 07/13 08:58 01	17.04	.0000
01 07/13 08:59 01	20.32	.2064
01 07/13 08:00 60	26.45	37.49
02 07/13 08:59 01	17.04	.0000
02 07/13 08:00 60	16.68	.0000
01 07/13 09:00 01	19.96	.2084
02 07/13 09:00 01	17.11	.0000
01 07/13 09:01 01	20.01	.1641
02 07/13 09:01 01	17.10	.0000
01 07/13 09:02 01	19.98	.1513
02 07/13 09:02 01	17.07	.0000
01 07/13 09:03 01	19.92	.1806
02 07/13 09:03 01	17.05	.0000
01 07/13 09:04 01	19.98	.1984
02 07/13 09:04 01	17.10	.0000
01 07/13 09:05 01	20.03	.1409
02 07/13 09:05 01	17.12	.0000
01 07/13 09:06 01	19.66	.2011
02 07/13 09:06 01	17.10	.0000
01 07/13 09:07 01	19.59	.1679
02 07/13 09:07 01	17.10	.0000

Point 5

Point 6

Point 7

Point 8

End test 1

CHAN001= 147.0
CHAN001= 147.0
CHAN001= 146.0
CHAN001= 146.0
CHAN001= 145.0
CHAN001= 146.2
CHAN001= 146.2
CHAN001= 146.2
CHAN001= 145.2
CHAN001= 145.2
CHAN001= 147.2
CHAN001= 147.2
CHAN001= 148.5
CHAN001= 147.0
CHAN001= 147.0
CHAN001= 145.5
CHAN001= 147.2
CHAN001= 147.2
CHAN001= 148.7
CHAN001= 146.5
CHAN001= 146.5
CHAN001= 147.0
CHAN001= 147.0
CHAN001= 148.5
CHAN001= 145.7
CHAN001= 145.7
CHAN001= 146.7
CHAN001= 147.5
CHAN001= 147.5
CHAN001= 147.5
CHAN001= 147.5
CHAN001= 148.5
CHAN001= 147.5
CHAN001= 147.5
CHAN001= 147.7
CHAN001= 146.0
CHAN001= 146.0
CHAN001= 146.0
CHAN001= 148.0
CHAN001= 148.0

150 ppm
1100
col

DCH01>

01 07/13 09:17 01 146.1 1.150
02 07/13 09:17 01 .2500 .0000

REPEAT READ 01

CHAN001= 147.7
CHAN001= 149.0
CHAN001= 149.0
CHAN001= 147.7
CHAN001= 147.0
CHAN001= 147.0
CHAN001= 146.7
CHAN001= 148.0
CHAN001= 148.0
CHAN001= 148.2
CHAN001= 149.0
CHAN001= 149.0
CHAN001= 147.7
CHAN001= 147.7
CHAN001= 147.5
CHAN001= 147.5
CHAN001= 147.5
CHAN001= 147.5
CHAN001= 146.5
CHAN001= 146.5
CHAN001= 146.7
CHAN001= 148.0
CHAN001= 148.0
CHAN001= 148.2
CHAN001= 148.2
CHAN001= 148.7
CHAN001= 148.7
CHAN001= 148.7
CHAN001= 149.2
CHAN001= 149.7
CHAN001= 149.7
CHAN001= 148.7
CHAN001= 148.7
CHAN001= 147.5
CHAN001= 147.7
CHAN001= 147.7
CHAN001= 146.2
CHAN001= 148.0
CHAN001= 148.0

150 ppm
1100
col

DCN#1>
01 07/13 09:11 01 .4488 .1807
02 07/13 09:11 01 20.58 .0000

01 07/13 09:12 01 .2566 .0401
02 07/13 09:12 01 20.55 .0000

READ 00

CHAN#01= .2500

CHAN#02= 20.68

DCN#1> REPEAT READ 02

CHAN#02= 20.56

CHAN#02= 20.56

CHAN#02= 20.56

CHAN#02= 20.50

CHAN#02= 20.50

CHAN#02= 20.50

CHAN#02= 20.50

CHAN#02= 20.43

CHAN#02= 20.43

CHAN#02= 20.50

CHAN#02= 20.43

CHAN#02= 20.43

CHAN#02= 20.56

CHAN#02= 20.56

CHAN#02= 20.56

CHAN#02= 20.56

CHAN#02= 20.56

CHAN#02= 20.62

CHAN#02= 20.56

CHAN#02= 20.56

CHAN#02= 20.75

CHAN#02= 20.75

CHAN#02= 20.75

CHAN#02= 20.81

CHAN#02= 20.81

CHAN#02= 20.81

CHAN#02= 20.81

CHAN#02= 20.81

CHAN#02= 20.75

CHAN#02= 20.75

CHAN#02= 20.75

CHAN#02= 20.75

CHAN#02= 20.75

CHAN#02= 20.75

CHAN#02= 20.68

CHAN#02= 20.68

CHAN#02= 20.68

CHAN#02= 20.68

CHAN#02= 20.68

CHAN#02= 20.62

CHAN#02= 20.62

CHAN#02= 20.62

CHAN#02= 20.62

DCN#1>

01 07/13 09:13 01 .2500 .0000

02 07/13 09:13 01 20.57 .0000

01 07/13 09:14 01 .2500 .0000

02 07/13 09:14 01 20.70 .0000

01 07/13 09:15 01 24.36 33.42

02 07/13 09:15 01 13.11 .0000

01 07/13 09:16 01 132.6 12.26

02 07/13 09:16 01 .3701 .0000

READ 00

CHAN#01= 144.7

CHAN#02= .2500

20.9 %
Ds Cat

```

01 07/13 09:18 01 147.8 .9733
02 07/13 09:18 01 .2418 .8088
PRI
ILLEGAL COMMAND
DCN01)
01 07/13 09:19 01 147.7 .9942
02 07/13 09:19 01 .2254 .8088
REPEAT READ 01
CHAN001= 148.2
CHAN001= 148.2
CHAN001= 148.2
CHAN001= 148.2
CHAN001= 147.5
CHAN001= 148.8
CHAN001= 148.8
CHAN001= 148.2
CHAN001= 148.8
CHAN001= 148.8
CHAN001= 149.8
CHAN001= 148.2
CHAN001= 148.2
CHAN001= 146.7
CHAN001= 146.7
CHAN001= 146.2
CHAN001= 147.7
CHAN001= 147.7
CHAN001= 149.8
CHAN001= 149.7
CHAN001= 149.7
CHAN001= 149.5
CHAN001= 158.8
CHAN001= 158.8
CHAN001= 149.2
CHAN001= 149.2
CHAN001= 148.5
CHAN001= 149.2
CHAN001= 149.2
CHAN001= 149.2
CHAN001= 158.8
CHAN001= 158.8

```

150 ppm
w/ 0.05% T

```

DCN01)
01 07/13 09:20 01 147.8 1.453
02 07/13 09:20 01 .2186 .8088
PRINT AUX 01.08:29.52
01 07/13 08:29 0021 /0000
01 07/13 08:30 0021 /0000
01 07/13 08:31 0021 /0000
01 07/13 08:32 0021 /0000
01 07/13 08:33 0020 /0000
01 07/13 08:34 0021 /0000
01 07/13 08:35 0021 /0000
01 07/13 08:36 0021 /0000
01 07/13 08:37 0021 /0000
01 07/13 08:38 0021 /0000
01 07/13 08:39 0021 /0000
01 07/13 08:40 0021 /0000
01 07/13 08:41 0021 /0000
01 07/13 08:42 0021 /0000
01 07/13 08:43 0021 /0000
01 07/13 08:44 0021 /0000
01 07/13 08:45 0021 /0000
01 07/13 08:46 0021 /0000
01 07/13 08:47 0021 /0000
01 07/13 08:48 0021 /0000
01 07/13 08:49 0021 /0000
01 07/13 08:50 0021 /0000
01 07/13 08:51 0021 /0000
01 07/13 08:52 0021 /0000
01 07/13 08:53 0021 /0000
01 07/13 08:54 0021 /0000
01 07/13 08:55 0020 /0000
01 07/13 08:56 0020 /0000
01 07/13 08:57 0020 /0000
01 07/13 08:58 0021 /0000
01 07/13 08:59 0020 /0000
01 07/13 09:00 0020 /0000
01 07/13 09:01 0020 /0000
01 07/13 09:02 0020 /0000
01 07/13 09:03 0020 /0000
01 07/13 09:04 0020 /0000
01 07/13 09:05 0020 /0000
01 07/13 09:06 0020 /0000
01 07/13 09:07 0020 /0000
01 07/13 09:08 0020 /0000
01 07/13 09:09 0019 /0002
01 07/13 09:10 0004 /0003
01 07/13 09:11 0000 /0000
01 07/13 09:12 0000 /0000
01 07/13 09:13 0020 /0000
01 07/13 09:14 0000 /0000
01 07/13 09:15 0024 /0033
01 07/13 09:16 0133 /0012
01 07/13 09:17 0146 /0001
01 07/13 09:18 0147 /0001
01 07/13 09:19 0148 /0001
01 07/13 09:20 0148 /0001

```

Test 1
Aux ppm
7/13/89

DCN#1)
01 07/13 09:22 01 150.2 1.258
02 07/13 09:22 01 .1960 .0000

01 07/13 09:22 01 150.2 1.258
02 07/13 09:22 01 .1960 .0000

PRINT AUX 02,03:29,53

02 07/13 08:29 0017
02 07/13 08:30 0017
02 07/13 08:31 0017
02 07/13 08:32 0017
02 07/13 08:33 0017
02 07/13 08:34 0017
02 07/13 08:35 0017
02 07/13 08:36 0017
02 07/13 08:37 0017
02 07/13 08:38 0017
02 07/13 08:39 0017
02 07/13 08:40 0017
02 07/13 08:41 0017
02 07/13 08:42 0017
02 07/13 08:43 0017
02 07/13 08:44 0017
02 07/13 08:45 0017
02 07/13 08:46 0017
02 07/13 08:47 0017
02 07/13 08:48 0017
02 07/13 08:49 0017
02 07/13 08:50 0017
02 07/13 08:51 0017
02 07/13 08:52 0017
02 07/13 08:53 0017
02 07/13 08:54 0017
02 07/13 08:55 0017
02 07/13 08:56 0017
02 07/13 08:57 0017
02 07/13 08:58 0017
02 07/13 08:59 0017
02 07/13 09:00 0017
02 07/13 09:01 0017
02 07/13 09:02 0017
02 07/13 09:03 0017
02 07/13 09:04 0017
02 07/13 09:05 0017
02 07/13 09:06 0017
02 07/13 09:07 0017
02 07/13 09:08 0017
02 07/13 09:09 0018
02 07/13 09:10 0021
02 07/13 09:11 0021
02 07/13 09:12 0021
02 07/13 09:13 0021
02 07/13 09:14 0021
02 07/13 09:15 0013
02 07/13 09:16 0000
02 07/13 09:17 0000
02 07/13 09:18 0000
02 07/13 09:19 0000
02 07/13 09:20 0000
02 07/13 09:21 0000

DCN#1)

01 07/13 09:23 01 149.4 1.045
02 07/13 09:23 01 .2270 .0000

01 07/13 09:24 01 78.03 50.19
02 07/13 09:24 01 13.58 .0000

0% 0L 78+1

```
DCHE1> READ 00
CHAN#01= 135.0
CHAN#02= .3125
```

```
REPEAT READ 02
  ILLEGAL COMMAND
DCH11> REPEAT READ 02
```

07 2000 Col

99

01 07/13 09:28 01 149.9 .7794
02 07/13 09:28 01 .1316 .0000

01 07/13 09:29 01 53.93 42.65
02 07/13 09:29 01 4.399 .0000

01 07/13 09:30 01 8.519 4.537
02 07/13 09:30 01 4.903 .0000

READ 00

ILLEGAL COMMAND

DCN#1> READ 00

CHAN#01= 20.00

CHAN#02= 4.437

DCN#1> READ 0

01 07/13 09:31 01 19.30 1.024

02 07/13 09:31 01 6.453 .0000

READ 00

NOT IN TABLE!!!

DCN#1> READ 00

CHAN#01= 20.75

CHAN#02= 17.37

DCN#1>

01 07/13 09:32 01 20.65 .1456

02 07/13 09:32 01 17.43 .0000

01 07/13 09:33 01 20.38 .1486

02 07/13 09:33 01 17.42 .0000

TEST 2 unit 2 C10 110-2

01 07/13 09:34 01 20.50 .1147

02 07/13 09:34 01 17.37 .0000

01 07/13 09:35 01 20.42 .1618

02 07/13 09:35 01 17.35 .0000

01 07/13 09:36 01 20.38 .1787

02 07/13 09:36 01 17.33 .0000

01 07/13 09:37 01 20.36 .1598

02 07/13 09:37 01 17.35 .0000

01 07/13 09:38 01 20.42 .2191

02 07/13 09:38 01 17.33 .0000

DATA 1

02	07/13	09:39	01	17.30	.0000
01	07/13	09:40	01	20.42	.1826
02	07/13	09:40	01	17.31	.0000
01	07/13	09:41	01	20.33	.2852
02	07/13	09:41	01	17.28	.0000
01	07/13	09:42	01	20.32	.2238
02	07/13	09:42	01	17.27	.0000
01	07/13	09:43	01	20.46	.1576
02	07/13	09:43	01	17.28	.0000
01	07/13	09:44	01	20.55	.1622
02	07/13	09:44	01	17.26	.0000
01	07/13	09:45	01	20.39	.2841
02	07/13	09:45	01	17.21	.0000
01	07/13	09:46	01	20.56	.1788
02	07/13	09:46	01	17.22	.0000
01	07/13	09:47	01	20.43	.1877
02	07/13	09:47	01	17.26	.0000
01	07/13	09:48	01	20.31	.1855
02	07/13	09:48	01	17.25	.0000
01	07/13	09:49	01	20.67	.1981
02	07/13	09:49	01	17.20	.0000
01	07/13	09:50	01	20.68	.1877
02	07/13	09:50	01	17.20	.0000
01	07/13	09:51	01	20.26	.3368
02	07/13	09:51	01	17.17	.0000
01	07/13	09:52	01	20.15	.1862
02	07/13	09:52	01	17.19	.0000
01	07/13	09:53	01	20.58	.1927
02	07/13	09:53	01	17.18	.0000
01	07/13	09:54	01	20.44	.1489
02	07/13	09:54	01	17.16	.0000
01	07/13	09:55	01	20.51	.1620
02	07/13	09:55	01	17.17	.0000
01	07/13	09:56	01	20.52	.2853
02	07/13	09:56	01	17.15	.0000
01	07/13	09:57	01	20.52	.3292
02	07/13	09:57	01	17.13	.0000
01	07/13	09:58	01	20.37	.2549
02	07/13	09:58	01	17.13	.0000
01	07/13	09:59	01	20.52	.1885
01	07/13	09:00	60	41.97	49.98
02	07/13	09:59	01	17.15	.0000
02	07/13	09:00	60	13.77	.0000
01	07/13	10:00	01	20.19	.2513
02	07/13	10:00	01	17.16	.0000
01	07/13	10:01	01	20.34	.1931
02	07/13	10:01	01	17.18	.0000
01	07/13	10:02	01	20.28	.1919
02	07/13	10:02	01	17.20	.0000
01	07/13	10:03	01	20.24	.1572
02	07/13	10:03	01	17.18	.0000
01	07/13	10:04	01	20.17	.2285
02	07/13	10:04	01	17.20	.0000

Point 3

Point 1

Point 4

Point 5

01	07/13	10:05	01	20.11	.1698
02	07/13	10:05	01	17.21	.0000
01	07/13	10:06	01	19.92	.2062
02	07/13	10:06	01	17.23	.0000
01	07/13	10:07	01	20.04	.1375
02	07/13	10:07	01	17.23	.0000
01	07/13	10:08	01	20.06	.1593
02	07/13	10:08	01	17.23	.0000
01	07/13	10:09	01	19.84	.4119
02	07/13	10:09	01	17.26	.0000
01	07/13	10:10	01	19.52	.1681
02	07/13	10:10	01	17.29	.0000
01	07/13	10:11	01	19.45	.1975
02	07/13	10:11	01	17.28	.0000
01	07/13	10:12	01	19.46	.1539
02	07/13	10:12	01	17.29	.0000

Round 8

01 07/13 10:13 01 19.51 .1812
 02 07/13 10:13 01 17.27 .0000
 PRI

ILLEGAL COMMAND

DCN#1> PRINT AUX 01:09:34.40

01	07/13	09:34	0020	/0000
01	07/13	09:35	0020	/0000
01	07/13	09:36	0020	/0000
01	07/13	09:37	0020	/0000
01	07/13	09:38	0020	/0000
01	07/13	09:39	0020	/0000
01	07/13	09:40	0020	/0000
01	07/13	09:41	0020	/0000
01	07/13	09:42	0020	/0000
01	07/13	09:43	0020	/0000
01	07/13	09:44	0021	/0000
01	07/13	09:45	0020	/0000
01	07/13	09:46	0021	/0000
01	07/13	09:47	0020	/0000
01	07/13	09:48	0020	/0000
01	07/13	09:49	0021	/0000
01	07/13	09:50	0021	/0000
01	07/13	09:51	0020	/0000
01	07/13	09:52	0020	/0000
01	07/13	09:53	0021	/0000
01	07/13	09:54	0020	/0000
01	07/13	09:55	0021	/0000
01	07/13	09:56	0021	/0000
01	07/13	09:57	0021	/0000
01	07/13	09:58	0020	/0000
01	07/13	09:59	0021	/0000
01	07/13	10:00	0020	/0000
01	07/13	10:01	0020	/0000
01	07/13	10:02	0020	/0000
01	07/13	10:03	0020	/0000
01	07/13	10:04	0020	/0000
01	07/13	10:05	0020	/0000
01	07/13	10:06	0020	/0000
01	07/13	10:07	0020	/0000
01	07/13	10:08	0020	/0000
01	07/13	10:09	0020	/0000
01	07/13	10:10	0020	/0000
01	07/13	10:11	0019	/0000
01	07/13	10:12	0019	/0000
01	07/13	10:13	0020	/0000

NOX 10:52
Summary

7/13/89
Turbine 2

DCN#1>

01	07/13	10:14	01	19.55	.1978
02	07/13	10:14	01	17.28	.0000

01	07/13	10:15	01	19.30	.1762
02	07/13	10:15	01	17.31	.0000

ILLEGAL COMMAND

DCN#1>

ILLEGAL COMMAND

DCN#1> PRINT AUX 02,09:34,40

02 07/13 09:34 0017
02 07/13 09:35 0017
02 07/13 09:36 0017
02 07/13 09:37 0017
02 07/13 09:38 0017
02 07/13 09:39 0017
02 07/13 09:40 0017
02 07/13 09:41 0017
02 07/13 09:42 0017
02 07/13 09:43 0017
02 07/13 09:44 0017
02 07/13 09:45 0017
02 07/13 09:46 0017
02 07/13 09:47 0017
02 07/13 09:48 0017
02 07/13 09:49 0017
02 07/13 09:50 0017
02 07/13 09:51 0017
02 07/13 09:52 0017
02 07/13 09:53 0017
02 07/13 09:54 0017
02 07/13 09:55 0017
02 07/13 09:56 0017
02 07/13 09:57 0017
02 07/13 09:58 0017
02 07/13 09:59 0017
02 07/13 10:00 0017
02 07/13 10:01 0017
02 07/13 10:02 0017
02 07/13 10:03 0017
02 07/13 10:04 0017
02 07/13 10:05 0017
02 07/13 10:06 0017
02 07/13 10:07 0017
02 07/13 10:08 0017
02 07/13 10:09 0017
02 07/13 10:10 0017
02 07/13 10:11 0017
02 07/13 10:12 0017
02 07/13 10:13 0017

DCN#1>

01 07/13 10:16 01 13.35 5.987

02 07/13 10:16 01 18.99 .8000

READ 00

CHAN#01= 1.500

CHAN#02= 28.87

DCN#1>

Test 2 Summary

Test 2
Turbine 2
7/13/89

ILLEGAL COMMAND
DCN#1> REPEAT READ 02

CHAN#02= 20.87
CHAN#02= 20.75
CHAN#02= 20.75
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 20.93
CHAN#02= 20.93
CHAN#02= 20.93
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 20.93
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 20.93
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 20.93
CHAN#02= 20.93
CHAN#02= 20.81
CHAN#02= 20.81
CHAN#02= 20.81
CHAN#02= 20.87
CHAN#02= 20.75
CHAN#02= 20.75
CHAN#02= 20.81
CHAN#02= 20.75
CHAN#02= 20.75
CHAN#02= 20.75
CHAN#02= 20.75
CHAN#02= 20.68
CHAN#02= 20.68
CHAN#02= 20.75
CHAN#02= 20.68
CHAN#02= 20.68
CHAN#02= 20.68
CHAN#02= 20.81
CHAN#02= 20.81
CHAN#02= 20.75
CHAN#02= 20.81
CHAN#02= 20.81
CHAN#02= 20.75

20.9
0.2

DCN#1>

01	07/13	10:17	01	1.447	.7951
02	07/13	10:17	01	20.78	.0000
01	07/13	10:18	01	.5066	.0700
02	07/13	10:18	01	20.83	.0000
01	07/13	10:19	01	.4408	.1010
02	07/13	10:19	01	20.76	.0000
01	07/13	10:20	01	.4014	.1222
02	07/13	10:20	01	20.78	.0000

ILLEGAL COMMAND

DCN#1> REPEAT READ 01

CHAN#01= .2500
CHAN#01= .5000
CHAN#01= .5000
CHAN#01= .5000
CHAN#01= .2500
CHAN#01= .2500
CHAN#01= .2500
CHAN#01= .2500
CHAN#01= .2500
CHAN#01= .2500
CHAN#01= .5000
CHAN#01= .5000
CHAN#01= .5000
CHAN#01= .2500
CHAN#01= .2500
CHAN#01= .2500
CHAN#01= .5000
CHAN#01= .5000
CHAN#01= .5000
CHAN#01= .5000
CHAN#01= .5000
CHAN#01= .2500
CHAN#01= .2500
CHAN#01= .2500

20.9
0.2

ILLEGAL COMMAND

DCM#1>

01	07/13	10:21	01	.3685	.1249
02	07/13	10:21	01	20.75	.0000

01	07/13	10:22	01	1.500	4.319
02	07/13	10:22	01	19.70	.0000

01	07/13	10:23	01	111.3	31.71
02	07/13	10:23	01	.9800	.0000

01	07/13	10:24	01	147.3	1.567
02	07/13	10:24	01	.2451	.0000

REPEAT READ 01

CHAN#01= 149.2

CHAN#01= 149.2

CHAN#01= 149.2

CHAN#01= 149.2

CHAN#01= 149.5

CHAN#01= 149.2

CHAN#01= 149.2

CHAN#01= 148.5

CHAN#01= 148.7

CHAN#01= 148.7

CHAN#01= 147.7

CHAN#01= 148.7

CHAN#01= 148.7

CHAN#01= 147.7

CHAN#01= 147.7

CHAN#01= 148.5

CHAN#01= 148.7

CHAN#01= 148.7

CHAN#01= 148.5

CHAN#01= 149.5

CHAN#01= 149.5

CHAN#01= 149.5

CHAN#01= 149.5

CHAN#01= 148.5

CHAN#01= 149.5

CHAN#01= 149.5

CHAN#01= 148.5

CHAN#01= 150.2

CHAN#01= 150.2

CHAN#01= 147.7

CHAN#01= 149.2

CHAN#01= 149.2

CHAN#01= 149.7

CHAN#01= 149.7

CHAN#01= 149.7

CHAN#01= 150.2

CHAN#01= 150.2

CHAN#01= 148.2

CHAN#01= 148.2

ISO ppm NOx Cal

010

CHAN#02= .1875

ILLEGAL COMMAND

01 07/13 18:20 777N
01 07/13 18:29 -999N

106

ILLEGAL COMMAND

DCH#1> PRINT AUX 02,10:15,13

02 07/13 10:15 0017
 02 07/13 10:16 0019
 02 07/13 10:17 0021
 02 07/13 10:18 0021
 02 07/13 10:19 0021
 02 07/13 10:20 0021
 02 07/13 10:21 0021
 02 07/13 10:22 0020
 02 07/13 10:23 0001
 02 07/13 10:24 0000
 02 07/13 10:25 0000
 02 07/13 10:26 0000
 02 07/13 10:27 0000

DCH#1>

01 07/13 10:28 01 113.2 41.74
 02 07/13 10:28 01 7.743 .0000

01 07/13 10:29 01 10.24 8.159
 02 07/13 10:29 01 20.81 .0000

01 07/13 10:30 01 .9803 .3460
 02 07/13 10:30 01 20.93 .0000

01 07/13 10:31 01 .5000 .0000
 02 07/13 10:31 01 20.90 .0000

01 07/13 10:32 01 4.205 4.808
 02 07/13 10:32 01 19.69 .0000

01 07/13 10:33 01 17.46 1.541
 02 07/13 10:33 01 17.34 .0000

READ 00

CHAN#01= 21.00

CHAN#02= 17.31

DCH#1>

01 07/13 10:34 01 20.22 .6065
 02 07/13 10:34 01 17.37 .0000

Start test 3 unit 2 7-13-89

01 07/13 10:35 01 20.34 .1662
 02 07/13 10:35 01 17.35 .0000

01 07/13 10:36 01 19.94 .2083
 02 07/13 10:36 01 17.37 .0000

01 07/13 10:37 01 20.13 .1486
 02 07/13 10:37 01 17.33 .0000

01 07/13 10:38 01 20.36 .1491
 02 07/13 10:38 01 17.35 .0000

Point #1

01 07/13 10:39 01	20.38	.2031
02 07/13 10:39 01	17.30	.0000
01 07/13 10:40 01	20.44	.1174
02 07/13 10:40 01	17.31	.0000
01 07/13 10:41 01	20.26	.2218
02 07/13 10:41 01	17.30	.0000
01 07/13 10:42 01	20.12	.1590
02 07/13 10:42 01	17.31	.0000
01 07/13 10:43 01	20.30	.1456
02 07/13 10:43 01	17.30	.0000
01 07/13 10:44 01	20.32	.2442
02 07/13 10:44 01	17.26	.0000
01 07/13 10:45 01	20.44	.1290
02 07/13 10:45 01	17.24	.0000
01 07/13 10:46 01	20.57	.1808
02 07/13 10:46 01	17.27	.0000
01 07/13 10:47 01	20.27	.2052
02 07/13 10:47 01	17.23	.0000
01 07/13 10:48 01	20.37	.1591
02 07/13 10:48 01	17.26	.0000
01 07/13 10:49 01	20.42	.1509
02 07/13 10:49 01	17.22	.0000
01 07/13 10:50 01	20.50	.1346
02 07/13 10:50 01	17.24	.0000
01 07/13 10:51 01	20.76	.2144
02 07/13 10:51 01	17.21	.0000
01 07/13 10:52 01	20.61	.2766
02 07/13 10:52 01	17.19	.0000
01 07/13 10:53 01	20.67	.1827
02 07/13 10:53 01	17.23	.0000

ILLEGAL COMMAND
DCH#1>

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ILLEGAL COMMAND
DCH#1>

01 07/13 10:54 01	20.55	.2081
02 07/13 10:54 01	17.21	.0000

01 07/13 10:55 01 20.64 .1356
02 07/13 10:55 01 17.21 .0000

01 07/13 10:56 01 20.71 .1740
02 07/13 10:56 01 17.17 .0000

01 07/13 10:57 01 20.70 .2682
02 07/13 10:57 01 17.18 .0000

01 07/13 10:58 01 20.35 .2639
02 07/13 10:58 01 17.17 .0000

01 07/13 10:59 01 20.64 .1587
01 07/13 10:00 60 28.66 37.52
02 07/13 10:59 01 17.16 .0000
02 07/13 10:00 60 16.27 .0000

01 07/13 11:00 01 20.75 .1463
02 07/13 11:00 01 17.14 .0000

01 07/13 11:01 01 20.69 .1738
02 07/13 11:01 01 17.14 .0000

01 07/13 11:02 01 20.42 .2605
02 07/13 11:02 01 17.14 .0000

01 07/13 11:03 01 20.32 .1635
02 07/13 11:03 01 17.12 .0000

01 07/13 11:04 01 20.50 .2108
02 07/13 11:04 01 17.12 .0000

01 07/13 11:05 01 20.08 .2301
02 07/13 11:05 01 17.16 .0000

01 07/13 11:06 01 20.20 .2284
02 07/13 11:06 01 17.15 .0000

01 07/13 11:07 01 20.28 .1677
02 07/13 11:07 01 17.16 .0000

01 07/13 11:08 01 20.02 .2251
02 07/13 11:08 01 17.17 .0000

01 07/13 11:09 01 20.23 .1400
02 07/13 11:09 01 17.20 .0000

01 07/13 11:10 01 19.87 .1880
02 07/13 11:10 01 17.22 .0000

01 07/13 11:11 01 19.88 .2393
02 07/13 11:11 01 17.21 .0000

01 07/13 11:12 01 20.07 .1397
02 07/13 11:12 01 17.21 .0000

01	07/13	11:13	01	19.89	.1364
02	07/13	11:13	01	17.21	.0000
01	07/13	11:14	01	19.65	.1576
02	07/13	11:14	01	17.21	.0000
01	07/13	11:15	01	19.59	.1930
02	07/13	11:15	01	17.23	.0000
01	07/13	11:16	01	19.90	.1863
02	07/13	11:16	01	17.24	.0000
01	07/13	11:17	01	19.67	.1508
02	07/13	11:17	01	17.23	.0000
01	07/13	11:18	01	9.538	6.171
02	07/13	11:18	01	19.73	.0000
01	07/13	11:19	01	.9803	.4345
02	07/13	11:19	01	20.74	.0000

ILLEGAL COMMAND
 OCN#1> REPEAT READ 02

CHAN#02= 20.37
 CHAN#02= 20.75
 CHAN#02= 20.81
 CHAN#02= 20.81
 CHAN#02= 20.68
 CHAN#02= 20.75
 CHAN#02= 20.75
 CHAN#02= 20.75
 CHAN#02= 20.75
 CHAN#02= 20.68
 CHAN#02= 20.68
 CHAN#02= 20.68
 CHAN#02= 20.62
 CHAN#02= 20.62
 CHAN#02= 20.62
 CHAN#02= 20.62
 CHAN#02= 20.62
 CHAN#02= 20.62
 CHAN#02= 20.75
 CHAN#02= 20.75
 CHAN#02= 20.68
 CHAN#02= 20.81
 CHAN#02= 20.81
 CHAN#02= 20.81
 CHAN#02= 20.75
 CHAN#02= 20.75
 CHAN#02= 20.87
 CHAN#02= 20.81
 CHAN#02= 20.81
 CHAN#02= 20.87
 CHAN#02= 20.87
 CHAN#02= 20.87
 CHAN#02= 20.75
 CHAN#02= 20.75
 CHAN#02= 20.81

20.9 02.08

DCN#1>

01 07/13 11:20 01 .4540 .0970
02 07/13 11:20 01 20.74 .0000

ILLEGAL COMMAND

DCN#1> REPEAT READ 01

CHAN#01= .5000
CHAN#01= .2500
CHAN#01= .2500
CHAN#01= .2500
CHAN#01= .2500
CHAN#01= .2500
CHAN#01= .2500
CHAN#01= .2500
CHAN#01= .2500
CHAN#01= .2500
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CHAN#01= .2500
CHAN#01= .2500
CHAN#01= .2500
CHAN#01= .5000
CHAN#01= .5000
CHAN#01= .5000
CHAN#01= .2500

Not zero

DCN#1>

01 07/13 11:21 01 .3334 .1179
02 07/13 11:21 01 20.73 .0000

01 07/13 11:22 01 .3356 .1187
02 07/13 11:22 01 20.73 .0000

01 07/13 11:23 01 27.15 36.58
02 07/13 11:23 01 12.68 .0000

01 07/13 11:24 01 134.9 10.92
02 07/13 11:24 01 .3438 .0000

READ 00
ILLEGAL COMMAND
DCN#1> READ 00
CHAN#01= 147.7
CHAN#02= .2500

DCN#1> REPEAT READ 01

CHAN#01= 146.5
CHAN#01= 146.5
CHAN#01= 147.7
CHAN#01= 147.7
CHAN#01= 148.0
CHAN#01= 147.5
CHAN#01= 147.5
CHAN#01= 146.5
CHAN#01= 145.0
CHAN#01= 145.0
CHAN#01= 146.5
CHAN#01= 146.5
CHAN#01= 146.5
CHAN#01= 146.7
CHAN#01= 146.7
CHAN#01= 147.7
CHAN#01= 146.0
CHAN#01= 146.0
CHAN#01= 147.7
CHAN#01= 146.5
CHAN#01= 146.5
CHAN#01= 146.2
CHAN#01= 146.5
CHAN#01= 146.5
CHAN#01= 146.7
CHAN#01= 146.7
CHAN#01= 145.2
CHAN#01= 146.0
CHAN#01= 146.0
CHAN#01= 146.0
CHAN#01= 146.7
CHAN#01= 146.7
CHAN#01= 146.5
CHAN#01= 146.5
CHAN#01= 146.2
CHAN#01= 148.2
CHAN#01= 148.2
CHAN#01= 148.7
CHAN#01= 146.0
CHAN#01= 146.0
CHAN#01= 146.0
CHAN#01= 146.2
CHAN#01= 146.2
CHAN#01= 147.0
CHAN#01= 147.0
CHAN#01= 146.0
CHAN#01= 148.0
CHAN#01= 148.0

150 ppm
1502
cal

DCN#1>

01 07/13 11:25 01 146.8 .9510
02 07/13 11:25 01 .2500 .0000

01 07/13 11:26 01 146.8 .8750
02 07/13 11:26 01 .2484 .0000

ILLEGAL COMMAND
DCN#1> REPEAT READ 02

CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .1875
CHAN#02= .1875
CHAN#02= .2500
CHAN#02= .1875
CHAN#02= .1875
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .2500
CHAN#02= .1875
CHAN#02= .1875
CHAN#02= .2500
CHAN#02= .1875
CHAN#02= .1875
CHAN#02= .2500
CHAN#02= .1875
CHAN#02= .1875
CHAN#02= .1875
CHAN#02= .1875
CHAN#02= .2500
CHAN#02= .1875
CHAN#02= .1875
CHAN#02= .2500

new 02 (1)

DCN#1>
01 07/13 11:27 01 146.8 .7832
02 07/13 11:27 01 .2287 .0000

01 07/13 11:28 01 145.9 4.594
02 07/13 11:28 01 1.284 .0000
READ 00
CHAN#01= 30.75
CHAN#02= 13.81

DCN#1> READ 00
CHAN#01= 17.75
CHAN#02= 13.93

DCN#1> REPEAT READ 00
ILLEGAL COMMAND
DCN#1> READ 00
CHAN#01= 6.500
CHAN#02= 13.93

DCN#1>
01 07/13 11:29 01 37.93 30.26
02 07/13 11:29 01 13.58 .0000
READ 00
CHAN#01= 2.750
CHAN#02= 13.87

DCN#1> READ 00
CHAN#01= 2.000
CHAN#02= 13.81

```
DCN#1> READ 00
CHAN#01= .7500
CHAN#02= 13.68
```

ILLEGAL COMMAND
DCN#1> REPEAT READ 02

```
DCN#1> READ 00
CHAN#01= .2500
CHAN#02= 13.68
```

01	07/13	11:32	01	.2435	.0401
02	07/13	11:32	01	13.69	.0000

```
READ 03
  CHAN#01= 70.75
  CHAN#02= .2500
```

12-2-03

DCN#1> READ 00
CHAN#01= 73.00
CHAN#02= .2500

DCN#1> READ 00
CHAN#01= 73.75
CHAN#02= .2500

DCN#1> READ 00
CHAN#01= 74.25
CHAN#02= .2500

DCN#1>
01 07/13 11:34 01 73.03 1.407
02 07/13 11:34 01 .2484 .0000
READ 00
CHAN#01= 76.25
CHAN#02= .2500

DCN#1> READ 00
CHAN#01= 76.50
CHAN#02= .2500

DCN#1> READ 00
CHAN#01= 76.00
CHAN#02= .2500

DCN#1> READ 00
CHAN#01= 76.75
CHAN#02= .2500

DCN#1> READ 00
CHAN#01= 77.25
CHAN#02= .2500

DCN#1> READ 00
01 07/13 11:35 01 76.22 1.100
02 07/13 11:35 01 .2435 .0000
READ 00
CHAN#01= 77.50
CHAN#02= .2500

DCN#1> READ 00
CHAN#01= 79.00
CHAN#02= .1875

DCN#1> REPEAT READ 01

CHAN#01= 77.50
CHAN#01= 77.50
CHAN#01= 77.50
CHAN#01= 78.00
CHAN#01= 78.00
CHAN#01= 78.00
CHAN#01= 78.00
CHAN#01= 78.00
CHAN#01= 78.00
CHAN#01= 78.00
CHAN#01= 78.75
CHAN#01= 77.25
CHAN#01= 77.25
CHAN#01= 78.25
CHAN#01= 78.50
CHAN#01= 78.50
CHAN#01= 78.75
CHAN#01= 78.75
CHAN#01= 78.50
CHAN#01= 77.75
CHAN#01= 77.75
CHAN#01= 77.75
CHAN#01= 77.75
CHAN#01= 77.75
CHAN#01= 78.50
CHAN#01= 79.00
CHAN#01= 79.00
CHAN#01= 78.50
CHAN#01= 78.50
CHAN#01= 78.00
CHAN#01= 78.50
CHAN#01= 78.50
CHAN#01= 78.25
CHAN#01= 79.75
CHAN#01= 79.75
CHAN#01= 79.00
CHAN#01= 79.25
CHAN#01= 79.25
CHAN#01= 78.50
CHAN#01= 78.50
CHAN#01= 79.00
CHAN#01= 78.75
CHAN#01= 78.75
CHAN#01= 79.00
CHAN#01= 80.00
CHAN#01= 80.00
CHAN#01= 79.25
CHAN#01= 79.25
CHAN#01= 79.25
CHAN#01= 78.75
CHAN#01= 78.75
CHAN#01= 79.25
CHAN#01= 79.25

81.6 NOX
6.8

DCN#1>

01 07/13 11:36 01 78.00 .5604

02 07/13 11:36 01 .2237 .0000

READ 00

CHAN#01= 78.75

CHAN#02= .2500

```

DCN#1>
01 07/13 11:37 01 78.94 .4917
02 07/13 11:37 01 .2139 .0000

01 07/13 11:38 01 79.17 .5599
02 07/13 11:38 01 .2237 .0000

01 07/13 11:39 01 79.17 .4852
02 07/13 11:39 01 .2292 .0000

01 07/13 11:40 01 74.09 10.22
02 07/13 11:40 01 4.006 .0000

01 07/13 11:41 01 112.5 79.92
02 07/13 11:41 01 7.996 .0000
R
01 07/13 11:42 01 259.6 9.558
02 07/13 11:42 01 .2468 .0000
READ 00
ILLEGAL COMMAND
DCN#1> READ 00
CHAN#01= 272.5
CHAN#02= .1875

DCN#1> READ 00
CHAN#01= 270.2
CHAN#02= .1875

DCN#1> READ
01 07/13 11:43 01 272.7 3.583
02 07/13 11:43 01 .1926 .0000
READ 00
NOT IN TABLE!!!
DCN#1> READ 00
CHAN#01= 274.7
CHAN#02= .1875

DCN#1> READ 00
NOT IN TABLE!!!
DCN#1> READ 00
CHAN#01= 280.0
CHAN#02= .1875

DCN#1> READ 00
CHAN#01= 277.5
CHAN#02= .1875

DCN#1> READ 00
CHAN#01= 279.0
CHAN#02= .1875

DCN#1>
01 07/13 11:44 01 277.9 1.805
02 07/13 11:44 01 .1875 .0000
READ 00
CHAN#01= 280.5
CHAN#02= .1875

DCN#1> READ 00
CHAN#01= 286.5
CHAN#02= .1875

```

DATA1> REPEAT READ 01

CHAN#01= 283.4
CHAN#01= 283.4
CHAN#01= 285.7
CHAN#01= 281.7
CHAN#01= 281.7
CHAN#01= 283.7
CHAN#01= 283.7
CHAN#01= 281.7
CHAN#01= 281.5
CHAN#01= 281.5
CHAN#01= 283.2
CHAN#01= 284.2
CHAN#01= 284.2
CHAN#01= 283.4
CHAN#01= 283.4
CHAN#01= 285.5
CHAN#01= 284.7
CHAN#01= 284.7
CHAN#01= 286.9
CHAN#01= 283.4
CHAN#01= 283.4
CHAN#01= 282.7
CHAN#01= 282.7
CHAN#01= 284.8
CHAN#01= 281.9
CHAN#01= 281.9
CHAN#01= 285.7
CHAN#01= 285.2
CHAN#01= 285.2
CHAN#01= 281.9
CHAN#01= 283.7
CHAN#01= 283.7
CHAN#01= 284.2
CHAN#01= 284.2
CHAN#01= 282.4
CHAN#01= 284.7
CHAN#01= 284.7
CHAN#01= 284.8
CHAN#01= 286.2
CHAN#01= 286.2
CHAN#01= 285.9
CHAN#01= 285.9
CHAN#01= 283.2
CHAN#01= 285.2
CHAN#01= 285.2
CHAN#01= 284.9
CHAN#01= 284.2
CHAN#01= 284.2
CHAN#01= 285.5
CHAN#01= 285.5
CHAN#01= 290.7
CHAN#01= 286.5
CHAN#01= 286.5
CHAN#01= 287.7
CHAN#01= 287.2
CHAN#01= 287.2
CHAN#01= 282.7
CHAN#01= 282.7
CHAN#01= 283.8
CHAN#01= 285.5
CHAN#01= 285.5
CHAN#01= 289.2
CHAN#01= 289.2
CHAN#01= 289.2
CHAN#01= 289.5
CHAN#01= 286.7
CHAN#01= 286.7
CHAN#01= 289.5
CHAN#01= 289.5
CHAN#01= 288.8
CHAN#01= 289.7
CHAN#01= 289.7

2910 ppm
110 =
6.1

```

01 07/13 11:46 01 285.4 2.263
02 07/13 11:46 01 .1875 .0000

01 07/13 11:46 01 285.4 2.263
02 07/13 11:46 01 .1875 .0000

01 07/13 11:47 01 287.8 1.732
02 07/13 11:47 01 .1875 .0000

01 07/13 11:48 01 288.8 2.897
02 07/13 11:48 01 .2369 .0000

```

```

ILLEGAL COMMAND
DCN41> PRINT AUX 01.10:34.75
01 07/13 10:34 0020 /0001
01 07/13 10:35 0020 /0000
01 07/13 10:36 0020 /0000
01 07/13 10:37 0020 /0000
01 07/13 10:38 0020 /0000
01 07/13 10:39 0020 /0000
01 07/13 10:40 0020 /0000
01 07/13 10:41 0020 /0000
01 07/13 10:42 0020 /0000
01 07/13 10:43 0020 /0000
01 07/13 10:44 0020 /0000
01 07/13 10:45 0020 /0000
01 07/13 10:46 0021 /0000
01 07/13 10:47 0020 /0000
01 07/13 10:48 0020 /0000
01 07/13 10:49 0020 /0000
01 07/13 10:50 0021 /0000
01 07/13 10:51 0021 /0000
01 07/13 10:52 0021 /0000
01 07/13 10:53 0021 /0000
01 07/13 10:54 0021 /0000
01 07/13 10:55 0021 /0000
01 07/13 10:56 0021 /0000
01 07/13 10:57 0021 /0000
01 07/13 10:58 0020 /0000
01 07/13 10:59 0021 /0000
01 07/13 11:00 0021 /0000
01 07/13 11:01 0021 /0000
01 07/13 11:02 0020 /0000
01 07/13 11:03 0020 /0000
01 07/13 11:04 0021 /0000
01 07/13 11:05 0020 /0000
01 07/13 11:06 0020 /0000
01 07/13 11:07 0020 /0000
01 07/13 11:08 0020 /0000
01 07/13 11:09 0020 /0000
01 07/13 11:10 0020 /0000
01 07/13 11:11 0020 /0000
01 07/13 11:12 0020 /0000
01 07/13 11:13 0020 /0000
01 07/13 11:14 0020 /0000
01 07/13 11:15 0020 /0000
01 07/13 11:16 0020 /0000
01 07/13 11:17 0020 /0000
01 07/13 11:18 0010 /0006
01 07/13 11:19 0001 /0000
01 07/13 11:20 0000 /0000
01 07/13 11:21 0000 /0000
01 07/13 11:22 0000 /0000
01 07/13 11:23 0027 /0037
01 07/13 11:24 0135 /0011
01 07/13 11:25 0147 /0001
01 07/13 11:26 0147 /0001
01 07/13 11:27 0147 /0001
01 07/13 11:28 0146 /0005
01 07/13 11:29 0038 /0030
01 07/13 11:30 0002 /0001
01 07/13 11:31 0000 /0000
01 07/13 11:32 0000 /0000
01 07/13 11:33 0042 /0024
01 07/13 11:34 0073 /0001
01 07/13 11:35 0076 /0001
01 07/13 11:36 0078 /0001
01 07/13 11:37 0079 /0000
01 07/13 11:38 0079 /0001
01 07/13 11:39 0079 /0000
01 07/13 11:40 0074 /0010
01 07/13 11:41 0113 /0000
01 07/13 11:42 0260 /0010
01 07/13 11:43 0273 /0004
01 07/13 11:44 0278 /0002
01 07/13 11:45 0282 /0003
01 07/13 11:46 0285 /0002
01 07/13 11:47 0287 /0002
01 07/13 11:48 0288 /0002

```

Test 3
 Turbine 2
 7/13/89
 Nox ppm

DCH11>
01 07/13 11:50 01 11.89 7.556
02 07/13 11:50 01 20.87 .0000

01 07/13 11:50 01 11.89 7.556
02 07/13 11:50 01 20.87 .0000

ILLEGAL COMMAND
DCH11> SET HORAuto
ILLEGAL COMMAND
DCH11> SET HORUTO

DCH11>

ILLEGAL COMMAND
DCH11> PRINT AUX 02.10:34.75

02 07/13 10:34 0017
02 07/13 10:35 0017
02 07/13 10:36 0017
02 07/13 10:37 0017
02 07/13 10:38 0017
02 07/13 10:39 0017
02 07/13 10:40 0017
02 07/13 10:41 0017
02 07/13 10:42 0017
02 07/13 10:43 0017
02 07/13 10:44 0017
02 07/13 10:45 0017
02 07/13 10:46 0017
02 07/13 10:47 0017
02 07/13 10:48 0017
02 07/13 10:49 0017
02 07/13 10:50 0017
02 07/13 10:51 0017
02 07/13 10:52 0017
02 07/13 10:53 0017
02 07/13 10:54 0017
02 07/13 10:55 0017
02 07/13 10:56 0017
02 07/13 10:57 0017
02 07/13 10:58 0017
02 07/13 10:59 0017
02 07/13 11:00 0017
02 07/13 11:01 0017
02 07/13 11:02 0017
02 07/13 11:03 0017
02 07/13 11:04 0017
02 07/13 11:05 0017
02 07/13 11:06 0017
02 07/13 11:07 0017
02 07/13 11:08 0017
02 07/13 11:09 0017
02 07/13 11:10 0017
02 07/13 11:11 0017
02 07/13 11:12 0017
02 07/13 11:13 0017
02 07/13 11:14 0017
02 07/13 11:15 0017
02 07/13 11:16 0017
02 07/13 11:17 0017
02 07/13 11:18 0020
02 07/13 11:19 0021
02 07/13 11:20 0021
02 07/13 11:21 0021
02 07/13 11:22 0021
02 07/13 11:23 0013
02 07/13 11:24 0000
02 07/13 11:25 0000
02 07/13 11:26 0000
02 07/13 11:27 0000
02 07/13 11:28 0001
02 07/13 11:29 0014
02 07/13 11:30 0014
02 07/13 11:31 0014
02 07/13 11:32 0014
02 07/13 11:33 0003
02 07/13 11:34 0000
02 07/13 11:35 0000
02 07/13 11:36 0000
02 07/13 11:37 0000
02 07/13 11:38 0000
02 07/13 11:39 0000
02 07/13 11:40 0004
02 07/13 11:41 0000
02 07/13 11:42 0000
02 07/13 11:43 0000
02 07/13 11:44 0000
02 07/13 11:45 0000
02 07/13 11:46 0000
02 07/13 11:47 0000
02 07/13 11:48 0000

DCH11>

0% 02
Test 3
Turbine 2
7/13/89

TURBINE 1

JULY 14, 1989

AUTO ANSWER

AUTO ANSWER

AUTO ANSWER

JJJJJJJJJJJJJLLLLLLLLKKKKKKKKKKKKKKKK

ILLEGAL COMMAND

DCN#1> LOGIN

PASSWORD>

LOGGED IN

DCN#1> READ RAW 00

NOT IN TABLE!!!

DCN#1> READ RAW 02

NOT IN TABLE!!!

DCN#1> RAW 02

CHAN#02= .0025V

DCN#1> READ 01

CHAN#01= .2500

DCN#1> RAW 01

CHAN#01= .0025V

DCN#1> LIST

ILLEGAL COMMAND

DCN#1> LIST 00

CHANNEL NUMBER: 01

CHANNEL NAME: NOX

CHANNEL TYPE: 9

STORE HOURLY AVERAGES: Y

STORE HOURLY SIGMAS: N

STORE AUX AVERAGES: Y

STORE AUX SIGMAS: Y

CHANNEL UNITS: PPM

VOLTS FULL SCALE: 10.00

SLOPE: 1000.

INTERCEPT: .0000

MAX READING: 1000.

MIN READING: -25.00

MAX RATE OF CHANGE: 5000.

BAD STATUS= XXXXXXXX XXXXXXXX

AUTO-CAL: N

AUX INTERVAL: 01

ON-LINE: Y

CHANNEL NUMBER: 02

CHANNEL NAME: 02

CHANNEL TYPE: 9

STORE HOURLY AVERAGES: Y

STORE HOURLY SIGMAS: N

STORE AUX AVERAGES: Y

STORE AUX SIGMAS: N

CHANNEL UNITS: %

VOLTS FULL SCALE: 10.00

SLOPE: 250.0

INTERCEPT: .0000

MAX READING: 250.0

MIN READING: -25.00

MAX RATE OF CHANGE: 5000.

BAD STATUS= XXXXXXXX XXXXXXXX

AUTO-CAL: N

AUX INTERVAL: 01

ON-LINE: Y

DCN#1> DATE

07/14/89

DCN#1> TIME

121

DCN#1> RAW 01
CHAN#01= 8.752V

DCN#1> RAW 01
CHAN#01= 8.752V

DCN#1> READ 01
CHAN#01= .0000

DCN#1> READ 00
CHAN#01= .0000
CHAN#02= 21.43

DCN#1> READ 00
CHAN#01= .0000
CHAN#02= 21.25

DCN#1> READ 00
CHAN#01= .2500
CHAN#02= 21.06

DCN#1> READ 00
CHAN#01= .0000
CHAN#02= 21.06

DCN#1> READ 00
CHAN#01= .0000
CHAN#02= 20.81

DCN#1> READ 00
CHAN#01= .0000
CHAN#02= 21.00

DCN#1>

0 ppm
mix

DCHE 1 >

ILLEGAL COMMAND
DCN#1> SET AUTO

```
DCN#1)
01 07/14 07:28 01 4.916 15.01
02 07/14 07:28 01 20.99 .0000

01 07/14 07:29 01 198.8 52.44
02 07/14 07:29 01 19.13 .0000

01 07/14 07:30 01 244.3 6.043
02 07/14 07:30 01 12.44 .0000

01 07/14 07:31 01 265.4 6.284
02 07/14 07:31 01 1.391 .0000

01 07/14 07:32 01 261.3 7.346
02 07/14 07:32 01 .3027 .0000

01 07/14 07:33 01 264.8 8.669
02 07/14 07:33 01 .2382 .0000

FEAD 00
CHAN#01= 308.7
CHAN#02= .2500
```

```

UCN#1> READ 00
CHAN#01= 273.7
CHAN#02= .1875

```

```

DOH11>
01 07/14 07:34 01 238.4 9.419
02 07/14 07:34 01 .2040 .0000

```

REPEAT READ 01

CHAN#01= 293.2
CHAN#01= 293.2
CHAN#01= 296.7
CHAN#01= 291.7
CHAN#01= 291.7
CHAN#01= 290.5
CHAN#01= 288.0
CHAN#01= 288.0
CHAN#01= 289.0
CHAN#01= 289.0
CHAN#01= 289.7
CHAN#01= 272.9
CHAN#01= 272.9
CHAN#01= 288.2
CHAN#01= 293.7
CHAN#01= 293.7
CHAN#01= 286.2
CHAN#01= 286.2
CHAN#01= 296.4
CHAN#01= 290.9
CHAN#01= 290.9
CHAN#01= 293.7
CHAN#01= 285.7
CHAN#01= 285.7
CHAN#01= 289.5
CHAN#01= 289.5
CHAN#01= 295.7
CHAN#01= 297.2
CHAN#01= 297.2
CHAN#01= 292.0
CHAN#01= 301.4
CHAN#01= 301.4
CHAN#01= 300.2
CHAN#01= 297.7
CHAN#01= 297.7
CHAN#01= 294.0
CHAN#01= 294.0
CHAN#01= 299.5
CHAN#01= 291.7
CHAN#01= 291.7
CHAN#01= 292.2
CHAN#01= 298.9
CHAN#01= 298.9
CHAN#01= 296.4
CHAN#01= 296.4
CHAN#01= 290.9
CHAN#01= 293.2
CHAN#01= 293.2
CHAN#01= 290.7
CHAN#01= 295.2
CHAN#01= 295.2
CHAN#01= 292.7
CHAN#01= 292.7
CHAN#01= 295.2
CHAN#01= 300.2
CHAN#01= 300.2
CHAN#01= 298.0
CHAN#01= 299.9
CHAN#01= 299.9
CHAN#01= 301.2
CHAN#01= 301.2
CHAN#01= 293.2
CHAN#01= 292.7
CHAN#01= 292.7
CHAN#01= 292.7

CHAN#01= 290.9
CHAN#01= 293.2
CHAN#01= 293.2
CHAN#01= 290.7
CHAN#01= 295.2
CHAN#01= 295.2
CHAN#01= 292.7
CHAN#01= 292.7
CHAN#01= 295.2
CHAN#01= 300.2
CHAN#01= 300.2
CHAN#01= 298.0
CHAN#01= 299.9
CHAN#01= 299.9
CHAN#01= 301.2
CHAN#01= 301.2
CHAN#01= 293.2
CHAN#01= 292.7
CHAN#01= 292.7
CHAN#01= 289.0
CHAN#01= 283.7
CHAN#01= 283.7
CHAN#01= 275.0
CHAN#01= 275.0
CHAN#01= 280.7
CHAN#01= 288.0
CHAN#01= 288.0
CHAN#01= 288.0
CHAN#01= 294.7
CHAN#01= 298.2
CHAN#01= 298.2
CHAN#01= 294.2
CHAN#01= 293.4
CHAN#01= 293.4
CHAN#01= 290.2
CHAN#01= 290.2
CHAN#01= 299.7
CHAN#01= 296.7
CHAN#01= 296.7
CHAN#01= 287.4
CHAN#01= 281.9
CHAN#01= 281.9
CHAN#01= 283.7
CHAN#01= 283.7
CHAN#01= 281.9
CHAN#01= 286.2
CHAN#01= 286.2
CHAN#01= 292.4
CHAN#01= 279.0
CHAN#01= 279.0
CHAN#01= 266.0
CHAN#01= 266.0
CHAN#01= 264.0
CHAN#01= 242.5
CHAN#01= 242.5
CHAN#01= 258.9
CHAN#01= 280.7
CHAN#01= 280.7
CHAN#01= 290.2
CHAN#01= 290.2
CHAN#01= 288.4
CHAN#01= 281.9
CHAN#01= 281.9
CHAN#01= 279.0
CHAN#01= 281.2
CHAN#01= 281.2
CHAN#01= 284.7
CHAN#01= 286.5

290 ppm and
pre-cal

01 07/14 07:37 01 293.4 5.445
02 07/14 07:37 01 .1892 .0000

01 07/14 07:37 01 293.4 5.445
02 07/14 07:37 01 .1892 .0000

01 07/14 07:38 01 282.8 11.54
02 07/14 07:38 01 .1875 .0000

01 07/14 07:39 01 281.5 7.696
02 07/14 07:39 01 .2024 .0000

REPEAT READ 01

CHAN#01= 293.0
CHAN#01= 293.0
CHAN#01= 290.7
CHAN#01= 281.9
CHAN#01= 281.9
CHAN#01= 286.7
CHAN#01= 286.7
CHAN#01= 292.0
CHAN#01= 284.4
CHAN#01= 284.4
CHAN#01= 279.7
CHAN#01= 270.7
CHAN#01= 270.7
CHAN#01= 254.2
CHAN#01= 227.2
CHAN#01= 227.2
CHAN#01= 218.2
CHAN#01= 218.2
CHAN#01= 196.7
CHAN#01= 185.0
CHAN#01= 185.0
CHAN#01= 174.5

DCN#1)

01 07/14 07:40 01 228.3 74.11
02 07/14 07:40 01 6.422 .0000

01 07/14 07:41 01 33.51 20.11
02 07/14 07:41 01 20.64 .0000

01 07/14 07:42 01 4.138 2.452
02 07/14 07:42 01 14.55 .0000

READ 00

CHAN#01= .7500
CHAN#02= 13.62

DCN#1) REPEAT READ

01 07/14 07:43 01 .9408 .2529
02 07/14 07:43 01 13.62 .0000

REPEAT READC02

NOT IN TABLE!!!

DCN#1) REPEAT READ 02

CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.62
CHAN#02= 13.62
CHAN#02= 13.62
CHAN#02= 13.62
CHAN#02= 13.62
CHAN#02= 13.56
CHAN#02= 13.62
CHAN#02= 13.62
CHAN#02= 13.62
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.75
CHAN#02= 13.75
CHAN#02= 13.68
CHAN#02= 13.75
CHAN#02= 13.75
CHAN#02= 13.62
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.62
CHAN#02= 13.62
CHAN#02= 13.62
CHAN#02= 13.62
CHAN#02= 13.56
CHAN#02= 13.62
CHAN#02= 13.62

13.6%
Or Cal

01 07/14 07:44 01 .4872 .1125
02 07/14 07:44 01 13.64 .0000

01 07/14 07:45 01 .3298 .1163
02 07/14 07:45 01 13.62 .0000

01 07/14 07:46 01 39.66 25.88
02 07/14 07:46 01 3.967 .0000
READ 00
CHAN001= 74.75
CHAN002= .3125

DCH01> READ 00
CHAN001= 88.00
CHAN002= .2500

DCH01> READ 00
CHAN001= 88.50
CHAN002= .2500

DCH01> REPEAT READ 01

CHAN001= 83.25
CHAN001= 83.25
CHAN001= 84.00
CHAN001= 82.50
CHAN001= 82.50
CHAN001= 83.25
CHAN001= 83.25
CHAN001= 85.00
CHAN001= 85.00
CHAN001= 85.00
CHAN001= 86.75
CHAN001= 86.25
CHAN001= 86.25
CHAN001= 87.00
CHAN001= 87.25
CHAN001= 87.25
CHAN001= 87.25
CHAN001= 87.25
CHAN001= 86.00
CHAN001= 82.50
CHAN001= 82.50
CHAN001= 83.50
CHAN001= 82.00
CHAN001= 82.00
CHAN001= 81.25
CHAN001= 88.25
CHAN001= 88.25
CHAN001= 81.00
CHAN001= 81.00
CHAN001= 84.00
CHAN001= 84.75
CHAN001= 84.75
CHAN001= 83.75
CHAN001= 83.75
CHAN001= 83.75
CHAN001= 83.75
CHAN001= 84.50
CHAN001= 84.50
CHAN001= 85.25
CHAN001= 85.25
CHAN001= 81.50
CHAN001= 88.50
CHAN001= 88.50
CHAN001= 84.50
CHAN001= 84.25
CHAN001= 84.25
CHAN001= 83.00
CHAN001= 85.25
CHAN001= 85.25
CHAN001= 86.50
CHAN001= 86.50
CHAN001= 85.00
CHAN001= 87.25
CHAN001= 87.25
CHAN001= 87.75
CHAN001= 86.75
CHAN001= 86.75
CHAN001= 86.25
CHAN001= 86.25
CHAN001= 86.25
CHAN001= 85.00
CHAN001= 85.00
CHAN001= 85.25
CHAN001= 83.50
CHAN001= 83.50
CHAN001= 84.00
CHAN001= 84.25
CHAN001= 84.25
CHAN001= 81.50
CHAN001= 84.00
CHAN001= 84.00
CHAN001= 85.00
CHAN001= 85.00
CHAN001= 81.25
CHAN001= 88.00
CHAN001= 88.00
CHAN001= 88.50
CHAN001= 88.25
CHAN001= 88.25
CHAN001= 88.50
CHAN001= 81.50

DATA#17

01 07/14 07:48 01 84.39 1.987
02 07/14 07:48 01 .2388 .0000

01 07/14 07:48 01 84.39 1.987
02 07/14 07:48 01 .2388 .0000

REPEAT READ 01

CHAN#01= 83.25
CHAN#01= 82.75
CHAN#01= 82.75
CHAN#01= 84.25
CHAN#01= 84.25
CHAN#01= 84.25
CHAN#01= 83.75
CHAN#01= 83.75
CHAN#01= 83.50
CHAN#01= 82.25
CHAN#01= 82.25
CHAN#01= 82.25
CHAN#01= 82.50
CHAN#01= 82.50
CHAN#01= 80.25
CHAN#01= 80.25
CHAN#01= 79.50
CHAN#01= 80.25
CHAN#01= 80.25
CHAN#01= 79.00
CHAN#01= 80.50
CHAN#01= 80.50
CHAN#01= 81.50
CHAN#01= 80.50
CHAN#01= 80.50
CHAN#01= 83.00
CHAN#01= 83.00
CHAN#01= 83.00
CHAN#01= 82.00
CHAN#01= 82.00
CHAN#01= 81.50
CHAN#01= 81.50
CHAN#01= 81.50
CHAN#01= 81.25
CHAN#01= 79.00
CHAN#01= 79.00
CHAN#01= 77.75
CHAN#01= 77.75
CHAN#01= 80.00
CHAN#01= 82.75
CHAN#01= 82.75
CHAN#01= 81.75
CHAN#01= 82.00
CHAN#01= 82.00
CHAN#01= 80.50
CHAN#01= 83.25
CHAN#01= 83.25
CHAN#01= 82.00
CHAN#01= 82.00
CHAN#01= 79.25
CHAN#01= 78.50
CHAN#01= 78.50
CHAN#01= 76.50
CHAN#01= 75.25
CHAN#01= 75.25
CHAN#01= 74.75
CHAN#01= 71.75
CHAN#01= 71.75
CHAN#01= 72.50
CHAN#01= 72.50

DATA#18

01 07/14 07:49 01 81.46 1.406
02 07/14 07:49 01 .2073 .0000

01 07/14 07:50 01 77.66 2.709
02 07/14 07:50 01 .2007 .0000

01 07/14 07:51 01 78.64 2.558
02 07/14 07:51 01 .1908 .0000

READ 01

CHAN#01= 77.50

DCN#1> REPEAT READ 01

CHAN#01= 77.25

CHAN#01= 77.25

CHAN#01= 78.75

CHAN#01= 80.50

CHAN#01= 80.50

CHAN#01= 76.00

CHAN#01= 76.00

CHAN#01= 79.25

CHAN#01= 78.25

CHAN#01= 78.25

CHAN#01= 75.50

CHAN#01= 74.50

CHAN#01= 74.50

CHAN#01= 77.25

CHAN#01= 78.50

CHAN#01= 78.50

CHAN#01= 78.25

CHAN#01= 78.25

CHAN#01= 81.00

CHAN#01= 80.00

CHAN#01= 80.00

CHAN#01= 77.50

CHAN#01= 78.75

CHAN#01= 78.75

CHAN#01= 79.75

CHAN#01= 78.75

CHAN#01= 78.75

CHAN#01= 77.75

CHAN#01= 77.75

CHAN#01= 78.50

CHAN#01= 78.25

CHAN#01= 78.25

CHAN#01= 73.75

CHAN#01= 73.50

CHAN#01= 73.50

CHAN#01= 76.00

CHAN#01= 76.75

CHAN#01= 76.75

CHAN#01= 79.00

CHAN#01= 79.00

CHAN#01= 79.25

*81.6 P. from
Coul*

DCN#1>

01 07/14 07:52 01 78.07 1.828
02 07/14 07:52 01 .1892 .0000

01 07/14 07:53 01 77.05 2.434
02 07/14 07:53 01 .2073 .0000

01 07/14 07:54 01 54.17 25.15
02 07/14 07:54 01 6.033 .0000

01 07/14 07:55 01 5.348 3.747
02 07/14 07:55 01 19.67 .0000

01 07/14 07:56 01 22.40 32.49
02 07/14 07:56 01 16.65 .0000

01 07/14 07:57 01 138.5 13.72
02 07/14 07:57 01 .8849 .8000

01 07/14 07:58 01 150.8 9.700
02 07/14 07:58 01 .3125 .8000

REPEAT READ 01

CHAN#01= 150.7
CHAN#01= 150.5
CHAN#01= 148.2
CHAN#01= 148.2
CHAN#01= 146.7
CHAN#01= 150.7
CHAN#01= 150.7
CHAN#01= 143.7
CHAN#01= 143.7
CHAN#01= 145.5
CHAN#01= 149.7
CHAN#01= 149.7
CHAN#01= 150.2
CHAN#01= 156.5
CHAN#01= 156.5
CHAN#01= 157.2
CHAN#01= 157.5
CHAN#01= 157.5
CHAN#01= 155.0
CHAN#01= 155.0
CHAN#01= 157.7
CHAN#01= 155.2
CHAN#01= 155.2
CHAN#01= 152.7
CHAN#01= 152.5
CHAN#01= 152.5
CHAN#01= 148.0
CHAN#01= 146.5
CHAN#01= 146.5
CHAN#01= 144.5
CHAN#01= 144.5
CHAN#01= 149.0
CHAN#01= 155.0
CHAN#01= 155.0
CHAN#01= 155.2
CHAN#01= 153.0
CHAN#01= 153.0
CHAN#01= 155.2
CHAN#01= 155.2
CHAN#01= 154.0
CHAN#01= 149.5
CHAN#01= 149.5
CHAN#01= 149.0
CHAN#01= 142.0
CHAN#01= 142.0
CHAN#01= 145.7
CHAN#01= 139.5
CHAN#01= 139.5
CHAN#01= 142.5
CHAN#01= 142.5
CHAN#01= 147.0
CHAN#01= 143.5
CHAN#01= 143.5
CHAN#01= 145.7
CHAN#01= 145.0
CHAN#01= 145.0
CHAN#01= 148.5
CHAN#01= 146.7
CHAN#01= 146.7
CHAN#01= 147.0
CHAN#01= 147.0
CHAN#01= 148.0
CHAN#01= 150.2
CHAN#01= 150.2
CHAN#01= 152.2
CHAN#01= 152.2

152 ppm
Coul

01	07/14	07:59	01	151.3	3.829
01	07/14	07:00	60	110.6	190.5
02	07/14	07:59	01	.2533	.0000
02	07/14	07:00	60	9.007	.0000

01	07/14	08:00	01	146.0	3.351
02	07/14	08:00	01	.2500	.0000

DCN#1> REPEAT READ 02

[illegible]

08 220

01	07/14	08:01	01	145.0	4.967
02	07/14	08:01	01	.3010	.0000

01	07/14	08:02	01	96.60	47.20
02	07/14	08:02	01	4.338	.0000

01	07/14	08:03	01	7.750	5.785
02	07/14	08:03	01	19.16	.0000

01	07/14	08:04	01	.9014	.3371
02	07/14	08:04	01	20.33	.0000

01	07/14	08:05	01	.2632	.0985
02	07/14	08:05	01	20.44	.0000

01	07/14	09:06	01	.2369	.0559
02	07/14	08:06	01	20.45	.0000

01	07/14	08:07	01	.2565	.0396
02	07/14	08:07	01	20.44	.0000

CHAN#01= .2500
CHAN#02= 20.37

01	07/14	08:08	01	.2369	.0001
02	07/14	08:08	01	20.41	.0000

01	07/14	03:09	01	- .1185	.0000
02	07/14	03:09	01	20.35	.0000

CHAN#01= 73.75

CHAN#01= 123.7
 CHAN#01= 117.0
 CHAN#01= 125.0
 CHAN#01= 125.0
 CHAN#01= 129.0
 CHAN#01= 128.0
 CHAN#01= 128.0
 CHAN#01= 135.0
 CHAN#01= 134.0
 CHAN#01= 134.0
 CHAN#01= 142.5
 CHAN#01= 142.5
 CHAN#01= 140.2
 CHAN#01= 138.0
 CHAN#01= 138.0
 CHAN#01= 138.5
 CHAN#01= 142.7
 CHAN#01= 142.7
 CHAN#01= 138.2
 CHAN#01= 138.2
 CHAN#01= 139.0
 CHAN#01= 137.2
 CHAN#01= 137.2
 CHAN#01= 145.0
 CHAN#01= 149.0
 CHAN#01= 149.0
 CHAN#01= 148.0
 CHAN#01= 145.5
 CHAN#01= 145.5
 CHAN#01= 149.2
 CHAN#01= 149.2
 CHAN#01= 146.0
 CHAN#01= 146.2
 CHAN#01= 146.2
 CHAN#01= 146.2
 CHAN#01= 148.0
 CHAN#01= 148.0
 CHAN#01= 148.2
 CHAN#01= 150.0
 CHAN#01= 150.0
 CHAN#01= 152.0
 CHAN#01= 152.0
 CHAN#01= 143.2
 CHAN#01= 147.2
 CHAN#01= 147.2
 CHAN#01= 150.5
 CHAN#01= 149.5
 CHAN#01= 149.5
 CHAN#01= 149.0
 CHAN#01= 149.0
 CHAN#01= 147.0
 CHAN#01= 147.2
 CHAN#01= 147.2
 CHAN#01= 146.0
 CHAN#01= 149.2
 CHAN#01= 149.2
 CHAN#01= 153.0
 CHAN#01= 153.0

150 WY
CW

DCN#1>

01	07/14	08:10	01	56.16	50.84
02	07/14	08:10	01	20.40	.0000

01	07/14	08:11	01	146.4	4.865
02	07/14	08:11	01	20.42	.0000

01	07/14	08:12	01	48.57	39.34
02	07/14	08:12	01	20.42	.0000

02 07/14 08:13 01 20.39 .0000

READ 00

CHAN#01=-.2500

CHAN#02= 21.18

DCN#1> READ 00

CHAN#01=-.2500

CHAN#02= 20.87

DCN#1>

01 07/14 08:14 01 -4.190 24.04

02 07/14 08:14 01 20.60 .0000

01 07/14 08:15 01 -.4552 .0960

02 07/14 08:15 01 20.96 .0000

01 07/14 08:16 01 -.5000 .0000

02 07/14 08:16 01 21.13 .0000

READ 00

CHAN#01=-.5000

CHAN#02= 20.93

DCN#1>

01 07/14 08:17 01 -.4935 .0401

02 07/14 08:17 01 20.99 .0000

01 07/14 08:18 01 -.3847 .1476

02 07/14 08:18 01 20.37 .0000

01 07/14 08:19 01 -.5066 .0401

02 07/14 08:19 01 20.93 .0000

01 07/14 08:20 01 .6053 1.684

02 07/14 08:20 01 20.89 .0000

READ 00

CHAN#01= 15.25

CHAN#02= 18.37

DCN#1> READ 00

CHAN#01= 16.00

CHAN#02= 18.31

DCN#1> READ

001 07/14 08:21 01 12.91 2.843

02 07/14 08:21 01 18.06 .0000

READ 00

NOT IN TABLE!!!

DCN#1> READ 00

CHAN#01= 16.75

CHAN#02= 17.93

DCN#1> READ 00

CHAN#01= 17.00

CHAN#02= 17.87

DCN#1> READ 00

CHAN#01= 17.00

CHAN#02= 17.81

DCN#1>

01 07/14 08:22 01 16.73 .6015

02 07/14 08:22 01 17.84 .0000

READ 00

CHAN#01= 15.25

CHAN#02= 17.68

DCN#1> READ 00

CHAN#01= 18.00

CHAN#02= 17.62

CHAN#01= 17.75
CHAN#02= 17.68

DCN#1> READ 00
NOT IN TABLE!!!

DCN#1> READ 00
01 07/14 08:23 01 16.98 .6150
02 07/14 08:23 01 17.63 .0000
READ 00
CHAN#01= 16.50
CHAN#02= 17.62

DCN#1> READ 00
CHAN#01= 16.25
CHAN#02= 17.56

DCN#1>
01 07/14 08:24 01 16.78 .3377
02 07/14 08:24 01 17.56 .0000
READ 00
NOT IN TABLE!!!
DCN#1> READ 00
CHAN#01= 16.25
CHAN#02= 17.50

DCN#1> BBT NOAUTO

DCN#1> READ 02
CHAN#02= 17.37

DCN#1> READ 02
CHAN#02= 17.31

DCN#1> READ 02
CHAN#02= 17.25

DCN#1> READ 00
CHAN#01= 18.25
CHAN#02= 17.37

DCN#1> READ 00
CHAN#01= 17.00
CHAN#02= 17.25

DCN#1> READ 00
CHAN#01= 17.50
CHAN#02= 17.31

DCN#1> READ 00
CHAN#01= 19.75
CHAN#02= 17.37

DCN#1> READ 00
CHAN#01=-.2500
CHAN#02= 20.93

DCN#1> READ 00
CHAN#01=-.2500
CHAN#02= 20.93

DCN#1> READ 00
CHAN#01=-.2500
CHAN#02= 21.00

DCN#1>

ILLEGAL COMMAND
DCN#1> SET AUTO

DCN#1> READ 00
CHAN#01= 4.000
CHAN#02= 21.00

DCN#1>
01 07/14 08:39 01 2.559 4.415
02 07/14 08:39 01 20.84 .0000

01 07/14 08:40 01 17.66 2.001
02 07/14 08:40 01 17.81 .0000
READ 00
CHAN#01= 20.75
CHAN#02= 17.62

DCN#1>
01 07/14 08:41 01 20.60 .3875
02 07/14 08:41 01 17.54 .0000

01 07/14 08:42 01 19.72 .7251
02 07/14 08:42 01 18.15 .0000

01 07/14 08:43 01 19.73 .7241
02 07/14 08:43 01 19.15 .0000

01 07/14 08:44 01 20.10 .8258
02 07/14 08:44 01 19.20 .0000

01 07/14 08:45 01 20.30 .7082
02 07/14 08:45 01 19.12 .0000
READ 00
CHAN#01= 19.75
CHAN#02= 18.37

DCN#1>
01 07/14 08:46 01 19.98 .7287
02 07/14 08:46 01 18.61 .0000
READ 00
CHAN#01= 18.75
CHAN#02= 18.00

DCN#1>
01 07/14 08:47 01 19.74 .8017
02 07/14 08:47 01 17.94 .0000
READ 00
CHAN#01= 18.75
CHAN#02= 17.75

DCN#1> READ 00
CHAN#01= 19.50
CHAN#02= 17.93

DCN#1>
01 07/14 08:48 01 19.39 .5492
02 07/14 08:48 01 17.85 .0000

01 07/14 08:49 01 19.73 .6977
02 07/14 08:49 01 18.11 .0000

01 07/14 08:50 01 19.91 .8057
02 07/14 08:50 01 18.39 .0000

01 07/14 08:51 01 19.69 .7526
02 07/14 08:51 01 18.65 .0000

01 07/14 08:52 01 19.88 .8024
02 07/14 08:52 01 18.78 .0000

01 07/14 08:53 01 19.71 .7121
02 07/14 08:53 01 18.78 .0000

01 07/14 08:54 01 19.55 .7444
02 07/14 08:54 01 18.87 .0000

01 07/14 08:55 01 20.87 .7564
02 07/14 08:55 01 18.91 .0000

01 07/14 08:56 01 19.75 .6451
02 07/14 08:56 01 18.95 .0000

01 07/14 08:57 01 19.93 .6838
02 07/14 08:57 01 19.06 .0000

01 07/14 08:58 01 20.46 .6528
02 07/14 08:58 01 18.70 .0000

01 07/14 08:59 01 20.26 .5224
01 07/14 08:00 60 20.27 34.50
02 07/14 08:59 01 17.97 .0000
02 07/14 08:00 60 18.53 .0000

01 07/14 09:00 01 20.12 .8338
02 07/14 09:00 01 18.00 .0000

01 07/14 09:01 01 20.20 .8446
02 07/14 09:01 01 18.06 .0000

01 07/14 09:02 01 20.46 .6085
02 07/14 09:02 01 18.02 .0000

01 07/14 09:03 01 20.69 .8090
02 07/14 09:03 01 17.99 .0000

01 07/14 09:04 01 21.49 .7221
02 07/14 09:04 01 17.25 .0000

READ 02
CHAN#02= 16.68

DCN#1>
01 07/14 09:05 01 20.33 1.272
02 07/14 09:05 01 16.79 .0000

01 07/14 09:06 01 20.92 .7704
02 07/14 09:06 01 16.59 .0000

01 07/14 09:07 01 21.23 .6514
02 07/14 09:07 01 17.03 .0000

READ 00

ILLEGAL COMMAND

DCN#1> READ 00

CHAN#01= 21.00

CHAN#02= 16.68

DCN#1>

01 07/14 09:08 01 20.63 .6457
02 07/14 09:08 01 16.80 .0000

READ 00

ILLEGAL COMMAND

DCN#1>

01 07/14 09:09 01 21.32 .8073
02 07/14 09:09 01 16.61 .0000

01 07/14 09:10 01 21.46 .7263
02 07/14 09:10 01 16.55 .0000

01 07/14 09:11 01 20.94 .6424
02 07/14 09:11 01 16.54 .0000

01 07/14 09:12 01 20.70 .6927
02 07/14 09:12 01 17.20 .0000

01 07/14 09:13 01 20.80 .6799
02 07/14 09:13 01 17.79 .0000

READ 00

CHAN#01= 21.25

CHAN#02= 17.68

DCN#1>

01 07/14 09:14 01 20.84 .5425
02 07/14 09:14 01 17.79 .0000

01 07/14 09:15 01 20.61 .6707
02 07/14 09:15 01 17.65 .0000

READ 00

CHAN#01= 19.25

CHAN#02= 18.18

DCN#1>

01 07/14 09:16 01 20.03 .6632
02 07/14 09:16 01 18.30 .0000

01 07/14 09:17 01 20.21 .7122
02 07/14 09:17 01 17.96 .0000

01 07/14 09:18 01 20.80 .8645
02 07/14 09:18 01 17.50 .0000

01 07/14 09:19 01 20.94 .7755

01 07/14 09:20 01 20.58 .8278
02 07/14 09:20 01 17.55 .0000

01 07/14 09:21 01 20.17 .5095
02 07/14 09:21 01 17.74 .0000

01 07/14 09:22 01 20.06 .7689
02 07/14 09:22 01 18.06 .0000

01 07/14 09:23 01 19.84 .6594
02 07/14 09:23 01 16.27 .0000

READ 00

ILLEGAL COMMAND

DCN#1> READ 00

CHAN#01= 20.75

CHAN#02= 16.62

DCN#1>

01 07/14 09:24 01 19.48 .6372

02 07/14 09:24 01 16.48 .0000

READ 00

CHAN#01= 20.00

CHAN#02= 18.37

DCN#1>

01 07/14 09:25 01 19.41 .6317

02 07/14 09:25 01 18.09 .0000

READ 00

CHAN#01= 19.50

CHAN#02= 18.12

DCN#1>

01 07/14 09:26 01 19.78 .6519

02 07/14 09:26 01 18.00 .0000

READ 00

CHAN#01= 20.75

CHAN#02= 16.93

DCN#1> READ 00

CHAN#01= 20.00

CHAN#02= 16.81

DCN#1> READ 00

CHAN#01= 20.00

CHAN#02= 16.56

DCN#1> READY

01 07/14 09:27 01 20.11 .4127

02 07/14 09:27 01 16.76 .0000

READ 00

ILLEGAL COMMAND

DCN#1> READ 00

CHAN#01= 20.25

CHAN#02= 16.87

DCN#1> READ 00

CHAN#01= 20.00

DCN#1> RE
01 07/14 09:28 01 19.83 .7396
02 07/14 09:28 01 16.69 .0000
READ 00
ILLEGAL COMMAND
DCN#1> READ 00
CHAN#01= 20.25
CHAN#02= 16.93

DCN#1> READ 00
CHAN#01= 20.25
CHAN#02= 16.93

DCN#1> READ 00
CHAN#01= 21.50
CHAN#02= 16.75

DCN#1> READ 00
CHAN#01= 20.75
CHAN#02= 16.56

DCN#1> READ 00
CHAN#01= 20.25
CHAN#02= 16.56

DCN#1>
01 07/14 09:29 01 20.26 .7532
02 07/14 09:29 01 16.77 .0000
READ 00
CHAN#01= 20.00
CHAN#02= 17.00

DCN#1>

STPAT TEST 1

Turbine 1
7/14/89

01 07/14 09:30 01 19.58 .7078
02 07/14 09:30 01 16.99 .0000

01 07/14 09:31 01 19.48 .6938
02 07/14 09:31 01 17.11 .0000

01 07/14 09:32 01 19.12 .5962
02 07/14 09:32 01 17.09 .0000

01 07/14 09:33 01 18.91 .6343
02 07/14 09:33 01 17.05 .0000

01 07/14 09:34 01 19.36 .5671
02 07/14 09:34 01 17.02 .0000

01 07/14 09:35 01 19.18 .6507
02 07/14 09:35 01 16.98 .0000

01 07/14 09:36 01 19.39 .6273
02 07/14 09:36 01 16.96 .0000

01 07/14 09:37 01 19.59 .6424
02 07/14 09:37 01 16.98 .0000

01 07/14 09:38 01 19.68 .6009
02 07/14 09:38 01 16.97 .0000

01 07/14 09:39 01 19.81 .4894
02 07/14 09:39 01 16.92 .0000

01 07/14 09:40 01 19.96 .5966
02 07/14 09:40 01 16.93 .0000

01 07/14 09:41 01 19.81 .5981
02 07/14 09:41 01 16.96 .0000

01 07/14 09:42 01 19.16 .6339
02 07/14 09:42 01 16.96 .0000

01 07/14 09:43 01 19.47 .8200
02 07/14 09:43 01 16.97 .0000

01 07/14 09:44 01 19.86 .8167
02 07/14 09:44 01 16.93 .0000

01 07/14 09:45 01	19.83	.7182
02 07/14 09:45 01	16.89	.0000
01 07/14 09:46 01	20.81	.7478
02 07/14 09:46 01	16.93	.0000
01 07/14 09:47 01	19.63	.5813
02 07/14 09:47 01	16.93	.0000
01 07/14 09:48 01	19.31	.7245
02 07/14 09:48 01	16.91	.0000
01 07/14 09:49 01	19.57	.7212
02 07/14 09:49 01	16.89	.0000
01 07/14 09:50 01	20.85	.8834
02 07/14 09:50 01	16.90	.0000
01 07/14 09:51 01	19.75	.5487
02 07/14 09:51 01	16.92	.0000
01 07/14 09:52 01	20.26	.5581
02 07/14 09:52 01	16.91	.0000
01 07/14 09:53 01	20.81	.6525
02 07/14 09:53 01	16.90	.0000
01 07/14 09:54 01	19.81	.8126
02 07/14 09:54 01	16.93	.0000
01 07/14 09:55 01	19.89	.6500
02 07/14 09:55 01	16.98	.0000
01 07/14 09:56 01	19.31	.6482
02 07/14 09:56 01	16.99	.0000
01 07/14 09:57 01	19.19	.6767
02 07/14 09:57 01	16.98	.0000
01 07/14 09:58 01	19.78	.6689
02 07/14 09:58 01	16.99	.0000
01 07/14 09:59 01	19.78	.7424
01 07/14 09:00 60	20.85	.9322
02 07/14 09:59 01	16.98	.0000
02 07/14 09:00 60	17.16	.0000
01 07/14 10:00 01	19.51	.6893
02 07/14 10:00 01	17.00	.0000
01 07/14 10:01 01	19.80	.5437
02 07/14 10:01 01	16.99	.0000
01 07/14 10:02 01	20.19	.7742
02 07/14 10:02 01	17.00	.0000
01 07/14 10:03 01	20.66	.5687
02 07/14 10:03 01	17.00	.0000
01 07/14 10:04 01	20.88	.8877
02 07/14 10:04 01	17.00	.0000
01 07/14 10:05 01	18.85	.6376
02 07/14 10:05 01	17.19	.0000
01 07/14 10:06 01	18.44	.6392
02 07/14 10:06 01	17.20	.0000
01 07/14 10:07 01	18.56	.6116
02 07/14 10:07 01	17.21	.0000

Point 14

Point 5

Point 6

Point 7

Point 8

01 07/14 10:08 01 18.57 .6528
02 07/14 10:08 01 17.13 .0000

READ 00

ILLEGAL COMMAND

DCN#1> E

01 07/14 10:09 01 6.401 4.639

02 07/14 10:09 01 20.24 .0000

READ 00

ILLEGAL COMMAND

DCN#1> READ 0

NOT IN TABLE!!!

DCN#1> READ 00

CHAN#01= .5000

CHAN#02= 20.43

DCN#1> READ 00

CHAN#01= .2500

CHAN#02= 20.43

DCN#1> READ 00

CHAN#01= .2500

CHAN#02= 20.37

DCN#1>

01 07/14 10:10 01 .5593 .3317

02 07/14 10:10 01 20.42 .0000

READ 00

CHAN#01= .2500

CHAN#02= 20.68

DCN#1> REPEAT READ 02

CHAN#02= 20.50

CHAN#02= 20.50

CHAN#02= 20.43

CHAN#02= 20.43

CHAN#02= 20.43

CHAN#02= 20.50

CHAN#02= 20.50

CHAN#02= 20.50

CHAN#02= 20.50

CHAN#02= 20.50

CHAN#02= 20.68

CHAN#02= 20.62

CHAN#02= 20.62

CHAN#02= 20.68

CHAN#02= 20.68

CHAN#02= 20.75

CHAN#02= 20.68

CHAN#02= 20.68

CHAN#02= 20.75

CHAN#02= 20.75

CHAN#02= 20.75

CHAN#02= 20.68

CHAN#02= 20.75

CHAN#02= 20.75

CHAN#02= 20.68

CHAN#02= 20.68

CHAN#02= 20.75

CHAN#02= 20.62

CHAN#02= 20.62

CHAN#02= 20.62

CHAN#02= 20.62

CHAN#02= 20.62

CHAN#02= 20.56

CHAN#02= 20.56

CHAN#02= 20.56

CHAN#02= 20.56

CHAN#02= 20.56

CHAN#02= 20.50

CHAN#02= 20.50

CHAN#02= 20.50

CHAN#02= 20.62

CHAN#02= 20.62

CHAN#02= 20.62

CHAN#02= 20.75

CHAN#02= 20.81

CHAN#02= 20.81

CHAN#02= 20.68

CHAN#02= 20.81

CHAN#02= 20.81

CHAN#02= 20.68

CHAN#02= 20.68

CHAN#02= 20.75

CHAN#02= 20.75

CHAN#02= 20.75

20.7 0.2 (u)

01	07/14	10:11	01	.1411	.1240
02	07/14	10:11	01	20.61	.0000

```
CHAN001= .0000  
CHAN001= .0000  
CHAN001= .0000  
CHAN001= .0000  
CHAN001= .0000  
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CHAN001= .0000  
CHAN001= .0000  
CHAN001= .0000  
CHAN001= .0000  
CHAN001= .0000  
CHAN001= .0000  
CHAN001= -.2500  
CHAN001= -.2500  
CHAN001= .8000  
CHAN001= .8000
```

Nov 0 11:00 AM

01	07/14	10:12	01	-.0132	.0000
02	07/14	10:12	01	20.73	.0000

01	07/14	18:13	01	- .8987	.0000
02	07/14	18:13	01	20.63	.0000

ILLEGAL COMMAND

CHAN002= 20.56
CHAN002= 20.56
CHAN002= 20.62
CHAN002= 20.56
CHAN002= 20.56
CHAN002= 20.50
CHAN002= 20.56
CHAN002= 20.56
CHAN002= 20.87
CHAN002= 20.81
CHAN002= 20.93
CHAN002= 20.93
CHAN002= 20.87
CHAN002= 20.93
CHAN002= 20.93
CHAN002= 21.00
CHAN002= 20.93
CHAN002= 20.93
CHAN002= 21.06
CHAN002= 21.00
CHAN002= 21.00
CHAN002= 21.00
CHAN002= 21.00
CHAN002= 21.06
CHAN002= 21.00
CHAN002= 21.00
CHAN002= 21.00
CHAN002= 20.93
CHAN002= 20.87
CHAN002= 20.93
CHAN002= 20.93
CHAN002= 20.87
CHAN002= 20.81
CHAN002= 20.87
CHAN002= 20.87
CHAN002= 20.81
CHAN002= 20.81

Set 20.9 00 Cal

DCN#1>
01 07/14 10:14 01 -.1859 .0000
02 07/14 10:14 01 20.75 .0000

01 07/14 10:15 01 -.2106 .0000
02 07/14 10:15 01 20.91 .0000

01 07/14 10:16 01 77.40 42.25
02 07/14 10:16 01 3.914 .0000

01 07/14 10:17 01 132.9 3.744
02 07/14 10:17 01 .4885 .0000

READ 00

CHAN#01= 132.0

CHAN#02= .4375

DCN#1>
01 07/14 10:18 01 135.1 4.569
02 07/14 10:18 01 .4425 .0000

READ 00

CHAN#01= 135.2

CHAN#02= .3750

DCN#1> READ 00

CHAN#01= 130.0

CHAN#02= .2500

DCN#1> READ

001 07/14 10:19 01 136.1 3.857

02 07/14 10:19 01 .3520 .0000

NOT IN TABLE!!!

DCN#1> READ 00

CHAN#01= 143.7

CHAN#02= .2500

DCN#1> READ 00

CHAN#01= 140.7

CHAN#02= .2500

DCN#1>

01 07/14 10:20 01 136.5 5.866

02 07/14 10:20 01 .2468 .0000

READ 00

CHAN#01= 141.5

CHAN#02= .2500

DCN#1> READ 00

CHAN#01= 138.0

CHAN#02= .1875

DCN#1> READ 00

CHAN#01= 132.2

CHAN#02= .1875

DCN#1>

01 07/14 10:21 01 140.6 3.919

02 07/14 10:21 01 .2303 .0000

READ 00

CHAN#01= 141.0

CHAN#02= .1875

DCN#1> READ 00

CHAN#01= 155.5

CHAN#02= .1875

DCH#1> REPEAT READ 01

CHAN#01= 146.7
CHAN#01= 144.5
CHAN#01= 145.2
CHAN#01= 145.2
CHAN#01= 142.2
CHAN#01= 146.0
CHAN#01= 146.0
CHAN#01= 145.5
CHAN#01= 151.5
CHAN#01= 151.5
CHAN#01= 147.2
CHAN#01= 147.2
CHAN#01= 145.7
CHAN#01= 150.0
CHAN#01= 150.0
CHAN#01= 146.7
CHAN#01= 155.0
CHAN#01= 155.0
CHAN#01= 141.0
CHAN#01= 148.0
CHAN#01= 148.0
CHAN#01= 155.5
CHAN#01= 155.5
CHAN#01= 142.7
CHAN#01= 142.7
CHAN#01= 142.7
CHAN#01= 147.2
CHAN#01= 149.5
CHAN#01= 149.5
CHAN#01= 139.2
CHAN#01= 139.2
CHAN#01= 147.5
CHAN#01= 152.7
CHAN#01= 152.7
CHAN#01= 148.7
CHAN#01= 150.7
CHAN#01= 150.7
CHAN#01= 160.7
CHAN#01= 148.2
CHAN#01= 148.2
CHAN#01= 150.0
CHAN#01= 150.0
CHAN#01= 149.2
CHAN#01= 146.7
CHAN#01= 146.7
CHAN#01= 145.2
CHAN#01= 139.7
CHAN#01= 139.7
CHAN#01= 152.0
CHAN#01= 146.2
CHAN#01= 146.2
CHAN#01= 146.5
CHAN#01= 146.5
CHAN#01= 148.7
CHAN#01= 140.5
CHAN#01= 140.5
CHAN#01= 142.5
CHAN#01= 157.0
CHAN#01= 157.0
CHAN#01= 156.7
CHAN#01= 156.7
CHAN#01= 152.0
CHAN#01= 151.5

150 ppm
1002
Cal

1150 11th Nov 1902

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22/10/02

READ 00
ILLEGAL COMMAND
DCN#1> READ 00
CHAN#01= 12.50
CHAN#02= 21.12

DCN#1>
01 07/14 10:25 01 32.70 20.93
02 07/14 10:25 01 20.63 .0000

ILLEGAL COMMAND
DCN#1> PRINT AUX 0109:
01 07/14 10:26 01 3.544 2.312
02 07/14 10:26 01 21.08 .0000

01 07/14 10:26 01 3.544 2.312

DCN#1> PRINT AUX 01:00:30.57
01 07/14 09:30 0020 /0001
01 07/14 09:31 0019 /0001
01 07/14 09:32 0019 /0001
01 07/14 09:33 0019 /0001
01 07/14 09:34 0019 /0001
01 07/14 09:35 0019 /0001
01 07/14 09:36 0019 /0001
01 07/14 09:37 0020 /0001
01 07/14 09:38 0020 /0001
01 07/14 09:39 0020 /0000
01 07/14 09:40 0020 /0001
01 07/14 09:41 0020 /0001
01 07/14 09:42 0019 /0001
01 07/14 09:43 0019 /0001
01 07/14 09:44 0020 /0001
01 07/14 09:45 0020 /0001
01 07/14 09:46 0020 /0001
01 07/14 09:47 0020 /0001
01 07/14 09:48 0019 /0001
01 07/14 09:49 0020 /0001
01 07/14 09:50 0020 /0001
01 07/14 09:51 0020 /0001
01 07/14 09:52 0020 /0001
01 07/14 09:53 0020 /0001
01 07/14 09:54 0020 /0001
01 07/14 09:55 0020 /0001
01 07/14 09:56 0019 /0001
01 07/14 09:57 0019 /0001
01 07/14 09:58 0020 /0001
01 07/14 09:59 0020 /0001
01 07/14 10:00 0020 /0001
01 07/14 10:01 0020 /0001
01 07/14 10:02 0020 /0001
01 07/14 10:03 0021 /0001
01 07/14 10:04 0020 /0001
01 07/14 10:05 0019 /0001
01 07/14 10:06 0018 /0001
01 07/14 10:07 0019 /0001
01 07/14 10:08 0019 /0001
01 07/14 10:09 0006 /0005
01 07/14 10:10 0001 /0000
01 07/14 10:11 0000 /0000
01 07/14 10:12 0000 /0000
01 07/14 10:13 0000 /0000
01 07/14 10:14 0000 /0000
01 07/14 10:15 0000 /0000
01 07/14 10:16 0077 /0042
01 07/14 10:17 0133 /0004
01 07/14 10:18 0135 /0005
01 07/14 10:19 0136 /0004
01 07/14 10:20 0137 /0006
01 07/14 10:21 0141 /0004
01 07/14 10:22 0148 /0005
01 07/14 10:23 0151 /0007
01 07/14 10:24 0144 /0011
01 07/14 10:25 0033 /0021
01 07/14 10:26 0004 /0002

NOX
PPM
Test 1
Turbine 1
7/14/89

DCN#1>

01 07/14 10:27 01 .4306 .2000
02 07/14 10:27 01 21.08 .0000

01 07/14 10:28 01 .1777 .1134
02 07/14 10:28 01 21.09 .0000

ILLEGAL COMMAND

DCN#1> PRINT AUX 02,09:30.57

02 07/14 09:30 0017
02 07/14 09:31 0017
02 07/14 09:32 0017
02 07/14 09:33 0017
02 07/14 09:34 0017
02 07/14 09:35 0017
02 07/14 09:36 0017
02 07/14 09:37 0017
02 07/14 09:38 0017
02 07/14 09:39 0017
02 07/14 09:40 0017
02 07/14 09:41 0017
02 07/14 09:42 0017
02 07/14 09:43 0017
02 07/14 09:44 0017
02 07/14 09:45 0017
02 07/14 09:46 0017
02 07/14 09:47 0017
02 07/14 09:48 0017
02 07/14 09:49 0017
02 07/14 09:50 0017
02 07/14 09:51 0017
02 07/14 09:52 0017
02 07/14 09:53 0017
02 07/14 09:54 0017
02 07/14 09:55 0017
02 07/14 09:56 0017
02 07/14 09:57 0017
02 07/14 09:58 0017
02 07/14 09:59 0017
02 07/14 10:00 0017
02 07/14 10:01 0017
02 07/14 10:02 0017
02 07/14 10:03 0017
02 07/14 10:04 0017
02 07/14 10:05 0017
02 07/14 10:06 0017
02 07/14 10:07 0017
02 07/14 10:08 0017
02 07/14 10:09 0020
02 07/14 10:10 0020
02 07/14 10:11 0021
02 07/14 10:12 0021
02 07/14 10:13 0021
02 07/14 10:14 0021
02 07/14 10:15 0021
02 07/14 10:16 0004
02 07/14 10:17 0000
02 07/14 10:18 0000
02 07/14 10:19 0000
02 07/14 10:20 0000
02 07/14 10:21 0000
02 07/14 10:22 0000
02 07/14 10:23 0000
02 07/14 10:24 0002
02 07/14 10:25 0021
02 07/14 10:26 0021

Tot
0/02
Turbine 1
7/14/99

01 07/14 10:29 01 .0473 .0980
02 07/14 10:29 01 21.04 .0000
READ 00
CHAN#01= .0000
CHAN#02= 21.00

DCN#1> READ
01 07/14 10:30 01 -.0065 .0000
02 07/14 10:30 01 21.04 .0000
READ 00
ILLEGAL COMMAND
DCN#1> READ 00
CHAN#01= .0000
CHAN#02= 20.93

DCN#1>
01 07/14 10:31 01 .0198 .1201
02 07/14 10:31 01 21.08 .0000

01 07/14 10:32 01 14.40 4.174
02 07/14 10:32 01 17.85 .0000

01 07/14 10:33 01 19.62 .9523
02 07/14 10:33 01 17.67 .0000

01 07/14 10:34 01 20.41 .7216
02 07/14 10:34 01 17.67 .0000

ILLEGAL COMMAND
DCN#1> READ 00
CHAN#01= 19.75
CHAN#02= 17.62

DCN#1>

Test #2 Unit 2

01 07/14 10:35 01 20.48 .9319
02 07/14 10:35 01 17.66 .0000

01 07/14 10:36 01 20.60 .8822
02 07/14 10:36 01 17.64 .0000

01 07/14 10:37 01 20.63 .8541
02 07/14 10:37 01 17.62 .0000

01 07/14 10:38 01 21.39 .6430
02 07/14 10:38 01 17.59 .0000

01 07/14 10:39 01 20.83 .7147
02 07/14 10:39 01 17.58 .0000

01 07/14 10:40 01 21.00 .7278
02 07/14 10:40 01 17.57 .0000

01 07/14 10:41 01 21.57 .5853
02 07/14 10:41 01 17.56 .0000

01 07/14 10:42 01 21.49 .7512
02 07/14 10:42 01 17.59 .0000

Point #1

Point 2

01 07/14 10:43 01 21.25 .8165
02 07/14 10:43 01 17.62 .0000

01 07/14 10:44 01 21.62 .6458
02 07/14 10:44 01 17.55 .0000

01 07/14 10:45 01 21.80 .9017
02 07/14 10:45 01 17.54 .0000

01 07/14 10:46 01 22.09 .7630
02 07/14 10:46 01 17.45 .0000

01 07/14 10:47 01 21.24 .7999
02 07/14 10:47 01 17.44 .0000

01 07/14 10:48 01 21.32 .7762
02 07/14 10:48 01 17.44 .0000

01 07/14 10:49 01 21.28 .7451
02 07/14 10:49 01 17.45 .0000

01 07/14 10:50 01 21.82 .6568
02 07/14 10:50 01 17.43 .0000

01 07/14 10:51 01 21.98 .7725
02 07/14 10:51 01 17.40 .0000

01 07/14 10:52 01 21.26 .7812
02 07/14 10:52 01 17.40 .0000

01 07/14 10:53 01 21.34 .7355
02 07/14 10:53 01 17.39 .0000

01 07/14 10:54 01 21.09 .8785
02 07/14 10:54 01 17.32 .0000

01 07/14 10:55 01 22.58 .7974
02 07/14 10:55 01 17.30 .0000

01 07/14 10:56 01 22.23 .8223
02 07/14 10:56 01 17.29 .0000

01 07/14 10:57 01 20.99 1.133
02 07/14 10:57 01 17.32 .0000

01 07/14 10:58 01 21.57 .6019
02 07/14 10:58 01 17.30 .0000

01 07/14 10:59 01 21.35 1.109
01 07/14 10:00 60 33.48 43.94
02 07/14 10:59 01 17.32 .0000
02 07/14 10:00 60 15.71 .0000

01 07/14 11:00 01 21.94 .6693
02 07/14 11:00 01 17.37 .0000

01 07/14 11:01 01 20.86 .7226
02 07/14 11:01 01 17.37 .0000

01 07/14 11:02 01 20.88 .7698
02 07/14 11:02 01 17.40 .0000

01 07/14 11:03 01 20.42 .6442
02 07/14 11:03 01 17.41 .0000

01 07/14 11:04 01 20.65 .7059

01 07/14 11:05 01	20.00	.7447
02 07/14 11:05 01	17.45	.0000
01 07/14 11:06 01	20.00	.7134
02 07/14 11:06 01	17.48	.0000
01 07/14 11:07 01	20.49	.8142
02 07/14 11:07 01	17.47	.0000
01 07/14 11:08 01	20.47	.6119
02 07/14 11:08 01	17.45	.0000
01 07/14 11:09 01	20.63	.8107
02 07/14 11:09 01	17.53	.0000
01 07/14 11:10 01	19.71	.7335
02 07/14 11:10 01	17.53	.0000
01 07/14 11:11 01	20.10	.9609
02 07/14 11:11 01	17.53	.0000
01 07/14 11:12 01	19.78	.8496
02 07/14 11:12 01	17.54	.0000
01 07/14 11:13 01	19.76	.6360
02 07/14 11:13 01	17.53	.0000
01 07/14 11:14 01	19.88	.6197
02 07/14 11:14 01	17.53	.0000
01 07/14 11:15 01	19.97	.7100
02 07/14 11:15 01	17.54	.0000
01 07/14 11:16 01	20.11	.6632
02 07/14 11:16 01	17.51	.0000
01 07/14 11:17 01	20.18	.6431
02 07/14 11:17 01	17.51	.0000

01 07/14 11:18 01	19.72	.6451
02 07/14 11:18 01	17.52	.0000

01 07/14 11:19 01	20.73	.7843
02 07/14 11:19 01	17.43	.0000

01 07/14 11:20 01	7.342	5.246
02 07/14 11:20 01	20.58	.0000

READ 00

ILLEGAL COMMAND

DCN11> READ 00

NOT IN TABLE!!!

DCN11> READ 00

CHAN001= .5000

CHAN002= 20.93

DCN11> REPEAT READ 00

ILLEGAL COMMAND

DCN11> REPEAT READ 02

CHAN002= 21.80

CHAN002= 20.87

CHAN002= 20.87

CHAN002= 20.87

CHAN002= 20.87

CHAN002= 20.87

CHAN002= 20.81

CHAN002= 20.81

CHAN002= 20.81

CHAN002= 20.87

CHAN002= 20.87

CHAN002= 20.87

CHAN002= 20.93

CHAN002= 20.93

CHAN002= 21.00

CHAN002= 20.93

CHAN002= 20.93

CHAN002= 21.06

CHAN002= 21.06

CHAN002= 21.06

CHAN002= 20.93

CHAN002= 20.93

CHAN002= 20.93

CHAN002= 20.93

CHAN002= 20.87

CHAN002= 20.81

CHAN002= 20.81

CHAN002= 20.81

20.93 Cal

DCN#1>

01 07/14 11:21 01 .5706 .3667

02 07/14 11:21 01 20.93 .0000

READ 00

CHAN#01= .0000

CHAN#02= 20.81

DCN#1> REPEAT READ

01 07/14 11:22 01 -.0066 .0675

02 07/14 11:22 01 20.88 .0000

REPEAT READ 01

ILLEGAL COMMAND

DCN#1> REPEAT READ 02

CHAN#01= .0000

CHAN#01=-.2500

CHAN#01=-.2500

CHAN#01=-.2500

CHAN#01= .0000

CHAN#01= .0000

CHAN#01=-.2500

CHAN#01= .0000

CHAN#01= .0000

CHAN#01=-.2500

CHAN#01=-.2500

CHAN#01= .0000

CHAN#01=-.2500

CHAN#01=-.2500

CHAN#01=-.2500

CHAN#01= .0000

CHAN#01= .0000

CHAN#01= .0000

CHAN#01=-.2500

CHAN#01=-.2500

CHAN#01=-.2500

CHAN#01=-.2500

CHAN#01=-.2500

CHAN#01=-.2500

DCN#1>

01 07/14 11:23 01 -.1185 .0000

02 07/14 11:23 01 20.84 .0000

01 07/14 11:24 01 -.1514 .0000

02 07/14 11:24 01 20.90 .0000

01 07/14 11:25 01 88.35 41.79

02 07/14 11:25 01 2.381 .0000

01 07/14 11:26 01 141.9 4.052

02 07/14 11:26 01 .2040 .0000

READ 00

CHAN#01= 141.2

CHAN#02= .1875

DCN#1> READ 00

CHAN#01= 146.5

CHAN#02= .1875

DCN#1> READ 00

CHAN#01= 150.2

CHAN#02= .1875

DCN#1> READ 00

CHAN#01= 145.0

CHAN#02= .1875

DCN#1> READ 00

CHAN#01= 142.2

CHAN#02= .1875

D ppm per Cal

DCN#1>

01 07/14 11:29 01 142.9 4.402
02 07/14 11:29 01 .1859 .0000

01 07/14 11:30 01 143.9 4.832
02 07/14 11:30 01 .1859 .0000

REPEAT READ 01

CHAN#01= 145.2
CHAN#01= 141.2
CHAN#01= 141.2
CHAN#01= 143.2
CHAN#01= 138.2
CHAN#01= 138.2
CHAN#01= 141.2
CHAN#01= 147.2
CHAN#01= 147.2
CHAN#01= 148.5
CHAN#01= 148.5
CHAN#01= 151.7
CHAN#01= 151.5
CHAN#01= 151.5
CHAN#01= 156.7
CHAN#01= 143.2
CHAN#01= 143.2
CHAN#01= 146.2
CHAN#01= 146.2
CHAN#01= 149.7
CHAN#01= 150.5
CHAN#01= 150.5
CHAN#01= 154.5
CHAN#01= 149.7
CHAN#01= 149.7
CHAN#01= 158.0
CHAN#01= 156.0
CHAN#01= 156.0
CHAN#01= 145.2
CHAN#01= 145.2
CHAN#01= 144.5
CHAN#01= 152.2
CHAN#01= 152.2
CHAN#01= 145.5
CHAN#01= 148.7
CHAN#01= 148.7
CHAN#01= 149.2
CHAN#01= 146.7
CHAN#01= 146.7
CHAN#01= 148.7
CHAN#01= 148.7
CHAN#01= 139.7

150 ppm cut

DCN#1>

01 07/14 11:31 01 147.5 4.911
02 07/14 11:31 01 .1843 .0000

01 07/14 11:32 01 144.1 4.005
02 07/14 11:32 01 .1859 .0000

01 07/14 11:33 01 154.8 6.558
02 07/14 11:33 01 .1843 .0000

01 07/14 11:34 01 138.6 15.33
02 07/14 11:34 01 2.274 .0000

01 07/14 11:35 01 29.91 18.53
02 07/14 11:35 01 20.68 .0000

ILLEGAL COMMAND

DCN#1> READ 00

CHAN#01= 5.000

DCN#1> READ 00
CHAN#01= 11.00
CHAN#02= 17.93

DCN#1> READ 00
CHAN#01= 13.00
CHAN#02= 17.75

DCN#1> READ 00
CHAN#01= 16.25
CHAN#02= 17.81

DCN#1>
01 07/14 11:36 01 9.631 4.124
02 07/14 11:36 01 19.32 .0000
READ
ILLEGAL COMMAND
DCN#1> read 00
ILLEGAL COMMAND
DCN#1> READ 00
CHAN#01= 19.50
CHAN#02= 17.68

DCN#1>
01 07/14 11:37 01 19.00 1.441
02 07/14 11:37 01 17.66 .0000

01 07/14 11:38 01 19.92 1.013
02 07/14 11:38 01 17.67 .0000

01 07/14 11:39 01 20.97 .5983
02 07/14 11:39 01 17.63 .0000

01 07/14 11:40 01 21.57 .9493
02 07/14 11:40 01 17.63 .0000

01 07/14 11:41 01 20.97 .8103
02 07/14 11:41 01 17.62 .0000

01 07/14 11:42 01 21.44 .8034
02 07/14 11:42 01 17.61 .0000

01 07/14 11:43 01 21.44 .8477
02 07/14 11:43 01 17.61 .0000

01 07/14 11:44 01 21.11 .8004
02 07/14 11:44 01 17.57 .0000

01 07/14 11:45 01 21.88 .7922
02 07/14 11:45 01 17.56 .0000

01 07/14 11:46 01 20.78 .9675
02 07/14 11:46 01 17.56 .0000

01 07/14 11:47 01 21.12 .7023
02 07/14 11:47 01 17.55 .0000

01 07/14 11:48 01 21.30 .5712
02 07/14 11:48 01 17.54 .0000

Print 1

Print 2

01	07/14	11:49	01	21.21	.8143
02	07/14	11:49	01	17.53	.0000

01	07/14	11:50	01	20.69	.8439
02	07/14	11:50	01	17.48	.0000

Point 3

01	07/14	11:51	01	21.53	.8759
02	07/14	11:51	01	17.42	.0000

01	07/14	11:52	01	21.55	.8530
02	07/14	11:52	01	17.44	.0000

01	07/14	11:53	01	21.23	.6525
02	07/14	11:53	01	17.45	.0000

01	07/14	11:54	01	22.37	.7487
02	07/14	11:54	01	17.41	.0000

Point 4

01	07/14	11:55	01	21.46	.6235
02	07/14	11:55	01	17.37	.0000

01	07/14	11:56	01	22.50	.8783
02	07/14	11:56	01	17.37	.0000

01	07/14	11:57	01	21.37	.6069
02	07/14	11:57	01	17.37	.0000

01	07/14	11:58	01	21.68	.8206
02	07/14	11:58	01	17.37	.0000

01	07/14	11:59	01	22.05	.7915
01	07/14	11:00	00	38.89	46.83
02	07/14	11:59	01	17.36	.0000
02	07/14	11:00	00	15.04	.0000

Point 5

01	07/14	12:00	01	21.77	.7507
02	07/14	12:00	01	17.37	.0000

01	07/14	12:01	01	21.98	.8151
02	07/14	12:01	01	17.37	.0000

01	07/14	12:02	01	21.57	.9370
02	07/14	12:02	01	17.37	.0000

01	07/14	12:03	01	21.48	.6769
02	07/14	12:03	01	17.37	.0000

01	07/14	12:04	01	21.60	.6275
02	07/14	12:04	01	17.38	.0000

Point 6

01	07/14	12:05	01	21.86	.5981
02	07/14	12:05	01	17.41	.0000

01	07/14	12:06	01	21.86	.9074
02	07/14	12:06	01	17.39	.0000

01	07/14	12:07	01	21.28	.7349
02	07/14	12:07	01	17.40	.0000

01	07/14	12:08	01	21.65	.7556
02	07/14	12:08	01	17.49	.0000

01	07/14	12:09	01	20.95	.7628
02	07/14	12:09	01	17.55	.0000

01 07/14 12:10 01 20.82	.6287
02 07/14 12:10 01 17.58	.0000
01 07/14 12:11 01 20.92	.6046
02 07/14 12:11 01 17.59	.0000
01 07/14 12:12 01 21.00	.8312
02 07/14 12:12 01 17.58	.0000
01 07/14 12:13 01 21.22	.9428
02 07/14 12:13 01 17.59	.0000
01 07/14 12:14 01 21.13	.7775
02 07/14 12:14 01 17.63	.0000
01 07/14 12:15 01 20.30	.6365
02 07/14 12:15 01 17.63	.0000
01 07/14 12:16 01 20.71	.5997
02 07/14 12:16 01 17.65	.0000
01 07/14 12:17 01 20.30	.7812
02 07/14 12:17 01 17.65	.0000
01 07/14 12:18 01 20.74	.8613
02 07/14 12:18 01 17.63	.0000

Print 6

PR
 ILLEGAL COMMAND
 DCHN1> PRINT AUX 01.10:35.
 01 07/14 12:19 01 18.80 2.864
 02 07/14 12:19 01 18.26 .0000

BAD TIME ENTRY!
 DCHN1> PRINT AUX 01.10:35.55
 01 07/14 10:35 0020 /0001
 01 07/14 10:36 0021 /0001
 01 07/14 10:37 0021 /0001
 01 07/14 10:38 0021 /0001
 01 07/14 10:39 0021 /0001
 01 07/14 10:40 0021 /0001
 01 07/14 10:41 0022 /0001
 01 07/14 10:42 0021 /0001
 01 07/14 10:43 0021 /0001
 01 07/14 10:44 0022 /0001
 01 07/14 10:45 0022 /0001
 01 07/14 10:46 0022 /0001
 01 07/14 10:47 0021 /0001
 01 07/14 10:48 0021 /0001
 01 07/14 10:49 0021 /0001
 01 07/14 10:50 0022 /0001
 01 07/14 10:51 0022 /0001
 01 07/14 10:52 0021 /0001
 01 07/14 10:53 0021 /0001
 01 07/14 10:54 0021 /0001
 01 07/14 10:55 0023 /0001
 01 07/14 10:56 0022 /0001
 01 07/14 10:57 0021 /0001
 01 07/14 10:58 0022 /0001
 01 07/14 10:59 0021 /0001
 01 07/14 11:00 0022 /0001
 01 07/14 11:01 0021 /0001
 01 07/14 11:02 0021 /0001
 01 07/14 11:03 0020 /0001
 01 07/14 11:04 0021 /0001
 01 07/14 11:05 0020 /0001
 01 07/14 11:06 0021 /0001
 01 07/14 11:07 0020 /0001
 01 07/14 11:08 0020 /0001
 01 07/14 11:09 0021 /0001
 01 07/14 11:10 0020 /0001
 01 07/14 11:11 0020 /0001
 01 07/14 11:12 0020 /0001
 01 07/14 11:13 0020 /0001
 01 07/14 11:14 0020 /0001
 01 07/14 11:15 0020 /0001
 01 07/14 11:16 0020 /0001
 01 07/14 11:17 0020 /0001
 01 07/14 11:18 0020 /0001
 01 07/14 11:19 0021 /0001
 01 07/14 11:20 0007 /0005
 01 07/14 11:21 0001 /0000
 01 07/14 11:22 0000 /0000
 01 07/14 11:23 0000 /0000
 01 07/14 11:24 0000 /0000
 01 07/14 11:25 0000 /0042
 01 07/14 11:26 0142 /0004
 01 07/14 11:27 0144 /0006
 01 07/14 11:28 0143 /0005
 01 07/14 11:29 0143 /0004

705T 2 Summary
 Nov
 7/14/89
 Turbine 1

DCH#1>

01 07/14 12:20 01 3.282 2.644
02 07/14 12:20 01 20.97 .0000

01 07/14 12:21 01 .1974 .2057
02 07/14 12:21 01 21.01 .0000

ILLEGAL COMMAND

DCH#1> PRINT AUX 02.10:30.60

02 07/14 10:30 0021
02 07/14 10:31 0021
02 07/14 10:32 0018
02 07/14 10:33 0018
02 07/14 10:34 0018
02 07/14 10:35 0018
02 07/14 10:36 0018
02 07/14 10:37 0018
02 07/14 10:38 0018
02 07/14 10:39 0018
02 07/14 10:40 0018
02 07/14 10:41 0018
02 07/14 10:42 0018
02 07/14 10:43 0018
02 07/14 10:44 0018
02 07/14 10:45 0018
02 07/14 10:46 0017
02 07/14 10:47 0017
02 07/14 10:48 0017
02 07/14 10:49 0017
02 07/14 10:50 0017
02 07/14 10:51 0017
02 07/14 10:52 0017
02 07/14 10:53 0017
02 07/14 10:54 0017
02 07/14 10:55 0017
02 07/14 10:56 0017
02 07/14 10:57 0017
02 07/14 10:58 0017
02 07/14 10:59 0017
02 07/14 11:00 0017
02 07/14 11:01 0017
02 07/14 11:02 0017
02 07/14 11:03 0017
02 07/14 11:04 0017
02 07/14 11:05 0017
02 07/14 11:06 0017
02 07/14 11:07 0017
02 07/14 11:08 0017
02 07/14 11:09 0018
02 07/14 11:10 0018
02 07/14 11:11 0018
02 07/14 11:12 0018
02 07/14 11:13 0018
02 07/14 11:14 0018
02 07/14 11:15 0018
02 07/14 11:16 0018
02 07/14 11:17 0018
02 07/14 11:18 0018
02 07/14 11:19 0017
02 07/14 11:20 0021
02 07/14 11:21 0021
02 07/14 11:22 0021
02 07/14 11:23 0021
02 07/14 11:24 0021
02 07/14 11:25 0002
02 07/14 11:26 0000
02 07/14 11:27 0000
02 07/14 11:28 0000
02 07/14 11:29 0000

TEST 2
02 Summary
7/14/89
Turbine 1

DCN#1>
01 07/14 12:22 01 -.1908 .0000
02 07/14 12:22 01 20.93 .0000

ILLEGAL COMMAND

DCN#1>
01 07/14 12:23 01 -.2372 .0000
02 07/14 12:23 01 20.94 .0000

REPEAT READ 02

CHAN#02= 20.81
CHAN#02= 20.81
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 20.93
CHAN#02= 21.00
CHAN#02= 21.00
CHAN#02= 20.93
CHAN#02= 20.93
CHAN#02= 21.06
CHAN#02= 21.00
CHAN#02= 21.00
CHAN#02= 21.00
CHAN#02= 21.06
CHAN#02= 21.06
CHAN#02= 20.93
CHAN#02= 21.00
CHAN#02= 21.00
CHAN#02= 20.93
CHAN#02= 20.93
CHAN#02= 20.87
CHAN#02= 20.93
CHAN#02= 20.93
CHAN#02= 20.87
CHAN#02= 20.81
CHAN#02= 20.81
CHAN#02= 20.87
CHAN#02= 20.81
CHAN#02= 20.81
CHAN#02= 20.81
CHAN#02= 20.81
CHAN#02= 20.93
CHAN#02= 20.87
CHAN#02= 20.87
CHAN#02= 20.93
CHAN#02= 21.00
CHAN#02= 21.00
CHAN#02= 21.00
CHAN#02= 21.06
CHAN#02= 21.06
CHAN#02= 21.06
CHAN#02= 21.00
CHAN#02= 21.00
CHAN#02= 21.05

20.9 0.2 Cal

DCN#1>
01 07/14 12:32 01 17.15 12.32
02 07/14 12:32 01 14.02 .0000
READ 00
CHAN#01= .7500
CHAN#02= 14.06

DCN#1> READ 00
CHAN#01= .5000
CHAN#02= 14.06

DCN#1> REPEAT READ 02

CHAN#02= 13.93
CHAN#02= 13.93
CHAN#02= 13.93
CHAN#02= 13.93
CHAN#02= 13.93
CHAN#02= 14.00
CHAN#02= 14.00
CHAN#02= 13.93
CHAN#02= 13.93
CHAN#02= 13.93
CHAN#02= 13.87
CHAN#02= 13.87
CHAN#02= 13.87
CHAN#02= 13.81
CHAN#02= 13.81
CHAN#02= 13.75
CHAN#02= 13.75
CHAN#02= 13.75
CHAN#02= 13.75
CHAN#02= 13.75
CHAN#02= 13.75
CHAN#02= 13.75
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.62
CHAN#02= 13.62
CHAN#02= 13.62
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CHAN#02= 13.62
CHAN#02= 13.62
CHAN#02= 13.62
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.62
CHAN#02= 13.62
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.68
CHAN#02= 13.68

13.6 Or Cal

DCN#1>
01 07/14 12:33 01 .9369 .8090
02 07/14 12:33 01 14.02 .0000

01 07/14 12:34 01 -.1988 .0396
02 07/14 12:34 01 13.71 .0000

REPEAR

ILLEGAL COMMAND

DCN#1> REPEAT READ 01

CHAN#01=-.2500
CHAN#01=-.2500
CHAN#01=-.2500
CHAN#01=-.2500
CHAN#01=-.2500
CHAN#01=-.2500
CHAN#01=-.2500
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CHAN#01=-.2500
CHAN#01=-.2500
CHAN#01=-.2500
CHAN#01=-.2500

*270 ppm
No 2 Coil*

DCN#1>

01 07/14 12:35 01 -.2632 .0559
02 07/14 12:35 01 13.69 .0000

01 07/14 12:36 01 16.52 20.89
02 07/14 12:36 01 8.090 .0000

READ 00

CHAN#01= 68.50
CHAN#02= .1875

DCN#1>

01 07/14 12:37 01 68.42 4.498
02 07/14 12:37 01 .2254 .0000

READ 00

CHAN#01= 70.25
CHAN#02= .1875

DCN#1> READ 00

CHAN#01= 72.75
CHAN#02= .1875

DCN#1> READ 00

CHAN#01= 74.25
CHAN#02= .1875

DCN#1> READ 00

CHAN#01= 72.00
CHAN#02= .1875

DCN#1> READ 00

CHAN#01= 71.25
CHAN#02= .1875

DCN#1>
01 07/14 12:38 01 71.86 1.999
02 07/14 12:38 01 .1875 .0000
READ 00
CHAN#01= 76.00
CHAN#02= .1875

DCN#1> READ 00
CHAN#01= 68.50
CHAN#02= .1875

DCN#1>
01 07/14 12:39 01 73.80 2.861
02 07/14 12:39 01 .1875 .0000
REPEAT READ 01

CHAN#01= 73.75
CHAN#01= 73.75
CHAN#01= 74.75
CHAN#01= 73.00
CHAN#01= 73.00
CHAN#01= 73.50
CHAN#01= 73.25
CHAN#01= 73.25
CHAN#01= 74.50
CHAN#01= 74.25
CHAN#01= 74.25
CHAN#01= 75.50
CHAN#01= 75.50
CHAN#01= 76.00
CHAN#01= 77.25
CHAN#01= 77.25
CHAN#01= 78.75
CHAN#01= 77.75
CHAN#01= 77.75
CHAN#01= 76.25
CHAN#01= 77.50
CHAN#01= 77.50
CHAN#01= 77.50
CHAN#01= 77.50
CHAN#01= 75.75
CHAN#01= 77.50
CHAN#01= 77.50
CHAN#01= 79.50
CHAN#01= 75.25
CHAN#01= 75.25
CHAN#01= 76.00
CHAN#01= 78.75
CHAN#01= 78.75
CHAN#01= 80.50
CHAN#01= 80.50
CHAN#01= 73.75
CHAN#01= 72.75
CHAN#01= 72.75
CHAN#01= 75.75
CHAN#01= 74.00
CHAN#01= 74.00
CHAN#01= 74.75
CHAN#01= 74.50
CHAN#01= 74.50
CHAN#01= 75.50
CHAN#01= 75.50
CHAN#01= 75.00
CHAN#01= 76.25

*806 PPm NW
CUL*

01 07/14 12:40 01 75.77 2.244
02 07/14 12:40 01 .1875 .0000
READ 00
CHAN001= 88.00
CHAN002= .1875

DCN01> REPEAT READ 01

CHAN001= 73.50
CHAN001= 73.50
CHAN001= 75.00
CHAN001= 73.25
CHAN001= 73.25
CHAN001= 74.00
CHAN001= 74.00
CHAN001= 76.25
CHAN001= 76.25
CHAN001= 76.25
CHAN001= 77.00
CHAN001= 75.50
CHAN001= 75.50
CHAN001= 75.25
CHAN001= 74.50
CHAN001= 74.50
CHAN001= 74.25
CHAN001= 74.25
CHAN001= 75.75
CHAN001= 80.00
CHAN001= 80.00
CHAN001= 76.00
CHAN001= 74.25
CHAN001= 74.25
CHAN001= 73.75
CHAN001= 74.50
CHAN001= 74.50
CHAN001= 74.75
CHAN001= 74.75
CHAN001= 76.75
CHAN001= 75.50
CHAN001= 75.50
CHAN001= 76.50

DCN01>

01 07/14 12:41 01 77.24 3.842
02 07/14 12:41 01 .1875 .0000

01 07/14 12:42 01 77.85 2.316
02 07/14 12:42 01 .1875 .0000

01 07/14 12:43 01 55.45 22.67
02 07/14 12:43 01 8.458 .0000

01 07/14 12:44 01 174.7 80.72
02 07/14 12:44 01 2.685 .0000

01 07/14 12:45 01 262.2 9.298
02 07/14 12:45 01 .1875 .0000

REPEAT READ 01

CHAN001= 287.7
CHAN001= 287.7
CHAN001= 298.9
CHAN001= 300.7
CHAN001= 300.7
CHAN001= 298.9
CHAN001= 298.9
CHAN001= 292.2
CHAN001= 290.2
CHAN001= 290.2
CHAN001= 303.2
CHAN001= 297.2
CHAN001= 297.2
CHAN001= 295.2
CHAN001= 295.2
CHAN001= 298.7
CHAN001= 298.2
CHAN001= 298.2
CHAN001= 294.0
CHAN001= 283.2
CHAN001= 283.2
CHAN001= 275.7
CHAN001= 275.7
CHAN001= 280.9
CHAN001= 273.4
CHAN001= 273.4
CHAN001= 275.9
CHAN001= 270.4
CHAN001= 270.4
CHAN001= 281.9
CHAN001= 281.9
CHAN001= 293.0
CHAN001= 285.2
CHAN001= 285.2
CHAN001= 297.0
CHAN001= 301.7
CHAN001= 301.7

290 ppm

01 07/14 12:46 01 284.3 14.39
02 07/14 12:46 01 .2270 .0000
READ 00
CHAN#01= 275.9
CHAN#02= .1875

DCN#1>
01 07/14 12:47 01 291.9 15.12
02 07/14 12:47 01 .2213 .0000

ILLEGAL COMMAND
DCN#1>

N
ILLEGAL COMMAND
DCN#1> SET NOAUTO

DCN#1> PRINT AUX 01.11:39.69
01 07/14 11:39 0021 /0001
01 07/14 11:40 0022 /0001
01 07/14 11:41 0021 /0001
01 07/14 11:42 0021 /0001
01 07/14 11:43 0021 /0001
01 07/14 11:44 0021 /0001
01 07/14 11:45 0022 /0001
01 07/14 11:46 0021 /0001
01 07/14 11:47 0021 /0001
01 07/14 11:48 0021 /0001
01 07/14 11:49 0021 /0001
01 07/14 11:50 0021 /0001
01 07/14 11:51 0022 /0001
01 07/14 11:52 0022 /0001
01 07/14 11:53 0021 /0001
01 07/14 11:54 0022 /0001
01 07/14 11:55 0021 /0001
01 07/14 11:56 0023 /0001
01 07/14 11:57 0021 /0001
01 07/14 11:58 0022 /0001
01 07/14 11:59 0022 /0001
01 07/14 12:00 0022 /0001
01 07/14 12:01 0022 /0001
01 07/14 12:02 0022 /0001
01 07/14 12:03 0021 /0001
01 07/14 12:04 0022 /0001
01 07/14 12:05 0022 /0001
01 07/14 12:06 0022 /0001
01 07/14 12:07 0021 /0001
01 07/14 12:08 0022 /0001
01 07/14 12:09 0021 /0001
01 07/14 12:10 0021 /0001
01 07/14 12:11 0021 /0001
01 07/14 12:12 0021 /0001
01 07/14 12:13 0021 /0001
01 07/14 12:14 0021 /0001
01 07/14 12:15 0020 /0001
01 07/14 12:16 0021 /0001
01 07/14 12:17 0020 /0001
01 07/14 12:18 0021 /0001
01 07/14 12:19 0019 /0003
01 07/14 12:20 0003 /0003
01 07/14 12:21 0000 /0000
01 07/14 12:22 0000 /0000
01 07/14 12:23 0000 /0000
01 07/14 12:24 0000 /0000
01 07/14 12:25 0000 /0000
01 07/14 12:26 0071 /0051
01 07/14 12:27 0139 /0006
01 07/14 12:28 0150 /0005
01 07/14 12:29 0144 /0005
01 07/14 12:30 0149 /0007
01 07/14 12:31 0125 /0033
01 07/14 12:32 0017 /0012
01 07/14 12:33 0001 /0001
01 07/14 12:34 0000 /0000
01 07/14 12:35 0000 /0000
01 07/14 12:36 0017 /0021
01 07/14 12:37 0060 /0004
01 07/14 12:38 0072 /0002
01 07/14 12:39 0074 /0003
01 07/14 12:40 0076 /0002
01 07/14 12:41 0077 /0004
01 07/14 12:42 0077 /0002
01 07/14 12:43 0055 /0023
01 07/14 12:44 0175 /0001
01 07/14 12:45 0262 /0009
01 07/14 12:46 0204 /0014
01 07/14 12:47 0292 /0015

T2-57 #3 NOX
Summary 7/14/09
TURBINE 1

DCN11> PRINT AUX 02,11:39,70

02 07/14 11:39 0018
02 07/14 11:40 0018
02 07/14 11:41 0018
02 07/14 11:42 0018
02 07/14 11:43 0018
02 07/14 11:44 0018
02 07/14 11:45 0018
02 07/14 11:46 0018
02 07/14 11:47 0018
02 07/14 11:48 0018
02 07/14 11:49 0018
02 07/14 11:50 0017
02 07/14 11:51 0017
02 07/14 11:52 0017
02 07/14 11:53 0017
02 07/14 11:54 0017
02 07/14 11:55 0017
02 07/14 11:56 0017
02 07/14 11:57 0017
02 07/14 11:58 0017
02 07/14 11:59 0017
02 07/14 12:00 0017
02 07/14 12:01 0017
02 07/14 12:02 0017
02 07/14 12:03 0017
02 07/14 12:04 0017
02 07/14 12:05 0017
02 07/14 12:06 0017
02 07/14 12:07 0017
02 07/14 12:08 0017
02 07/14 12:09 0018
02 07/14 12:10 0018
02 07/14 12:11 0018
02 07/14 12:12 0018
02 07/14 12:13 0018
02 07/14 12:14 0018
02 07/14 12:15 0018
02 07/14 12:16 0018
02 07/14 12:17 0018
02 07/14 12:18 0018
02 07/14 12:19 0018
02 07/14 12:20 0021
02 07/14 12:21 0021
02 07/14 12:22 0021
02 07/14 12:23 0021
02 07/14 12:24 0021
02 07/14 12:25 0021
02 07/14 12:26 0006
02 07/14 12:27 0000
02 07/14 12:28 0000
02 07/14 12:29 0000
02 07/14 12:30 0000
02 07/14 12:31 0005
02 07/14 12:32 0014
02 07/14 12:33 0014
02 07/14 12:34 0014
02 07/14 12:35 0014
02 07/14 12:36 0008
02 07/14 12:37 0000
02 07/14 12:38 0000
02 07/14 12:39 0000
02 07/14 12:40 0000
02 07/14 12:41 0000
02 07/14 12:42 0000
02 07/14 12:43 0008
02 07/14 12:44 0003
02 07/14 12:45 0000
02 07/14 12:46 0000
02 07/14 12:47 0000
02 07/14 12:48 0000

010 02
TURBINE 1
7/14/09

DCN11>

SO₂ FIELD TEST DATA

PAGE 1

MONITOR TYPE N/A
SERIAL # 0
DATE-SAMPLES 7-14-89

COMPANY WST. MGMT. OF NO. AMER.
PLANT C.I.D. 130th ST
SAMPLING LOCATION TURBINE 1 STACK

METER # 6806273
METER CALIBRATION FACTOR Y= 1.019
NORMALITY OF BARIUM SOLUTION, N= .00988
Vb=ml of blank = .13
Va=ml of aliquot = 20

TEST 1	TIME	t _M ° F	Chg(H)	V _M	TEST 2	TIME	t _M ° F	Chg(H)	V _M
Pbar 29.26	926	72	0.00	70.010	Pbar 29.26	948	74	0.00	797
	931	74	0.00	70.195		953	74	0.00	1.027
	936	74	0.00	70.376		958	74	0.00	1.257
	941	74	0.00	70.573		1003	74	0.00	1.504
	946	74	0.00	70.770		1008	74	0.00	1.715
	AVG	74	0.00	.760		AVG	74	0.00	.918

Vt = ml of titrant = .13
Vscf = .905
CSO2 = 0.000x 10
PPM = 0

Vt = ml of titrant = .13
Vscf = .750
CSO2 = 0.000x 10
PPM = 0

TEST 3	TIME	t _M ° F	Chg(H)	V _M	TEST 4	TIME	t _M ° F	Chg(H)	V _M
Pbar 29.26	1035	74	0.00	1.730	Pbar 29.26	1057	74	0.00	2.518
	1040	74	0.00	1.923		1102	74	0.00	2.702
	1045	74	0.00	2.102		1103	74	8.88	3.899
	1050	74	0.00	2.310		1117	74	0.00	3.257
	1055	74	0.00	2.503					
	AVG	74	0.00	.773		AVG	74	0.00	.739

Vt = ml of titrant = .13
Vscf = .728
CSO2 = 0.000x 10
PPM = 0

Vt = ml of titrant = .13
Vscf = .762
CSO2 = 0.000x 10
PPM = 0

SO₂ FIELD TEST DATA

PAGE 2

PLANT C.I.D. 130th ST.
COMPANY WST. MGMT. OF NO. AMER.
SAMPLING LOCATION TURBINE 1 STACK

MONITOR TYPE N/A
SERIAL # 0
DATE-SAMPLES 7-14-89

TEST	S	TIME	t °F	Chg(H)	V M	TEST	6	TIME	t °F	Chg(H)	V M
Pbar	29.26	1140	75	0.00	3.285	Pbar	29.26	1202	75	0.00	4.278
		1145	75	0.00	3.507			1207	75	0.00	4.482
		1150	75	0.00	3.721			1212	75	0.00	4.691
		1155	75	0.00	3.951			1217	75	0.00	4.900
		1200			4.267			1222			5.130
		AVG	75	0.00	.982			AVG	75	0.00	.852

Vt = ml of titrant = .13
Vscf = .966
CSO2 = 0.000 x 10⁻⁵
PPM = 0

Vt = ml of titrant = .20
Vscf = .838
CSO2 = .031 x 10⁻⁵
PPM = 2

SO₂ FIELD TEST DATA

PAGE 1

MONITOR TYPE N/A
SERIAL # 0
DATE-SAMPLES 7-13-89

COMPANY WSI MGMT OF NO. AMER.
PLANT C.I.D. 130th ST
SAMPLING LOCATION TURBINE 2 STACK

METER # 6806273
METER CALIBRATION FACTOR, Y= 1.019
NORMALITY OF BARIUM SOLUTION, N= .00988
Vb=ml of blank = .10
Va=ml of aliquot = 20

TEST 1	TIME	t _M ° F	Chg(H)	V _M	TEST 2	TIME	t _M ° F	CHG(H)	V _M
Pbar 29.30	826	72	0.00	5.382	Pbar 29.30	848	72	0.00	6.130
	831	72	0.00	5.557		853	72	0.00	6.337
	836	72	0.00	5.733		858	73	0.00	6.525
	841	72	0.00	5.910		903	73	0.00	6.733
	846	---	---	6.110		908	---	---	6.920
	AVG	72	0.00	.728		AVG	73	0.00	.790

171

Vt = ml of titrant = .10
Vscf = .721
CSO2 = 0.000x 10⁻⁵
PPM = 0

TEST 3	TIME	t _M ° F	Chg(H)	V _M	TEST 4	TIME	t _M ° F	CHG(H)	V _M
Pbar 29.30	933	74	0.00	7.000	Pbar 29.30	955	75	0.00	7.780
	938	74	0.00	7.170		1000	75	0.00	7.980
	943	75	0.00	7.375		1005	75	0.00	8.145
	948	75	0.00	7.550		1010	75	0.00	8.310
	953	---	---	7.755		1015	---	---	8.520
	AVG	75	0.00	.755		AVG	75	0.00	.740

Vt = ml of titrant = .30
Vscf = .744
CSO2 = 0.094x 10⁻⁵
PPM = .048x 10⁻⁵

SO₂ FIELD TEST DATA

PAGE 2

PLANT COMPANY C.I.D. 1301P ST AMER.
 WST. MGMT. OF NO. AMER.
 SAMPLING LOCATION TURBINE 2 STACK

MONITOR TYPE N/A
 SERIAL # 0
 DATE-SAMPLES 7-13-89

TEST	S	TIME	t ° F	Chg(H)	V M	TEST	6	TIME	t ° F	Chg(H)	V M
Pbar	29.30	1036	75	0.00	8.530	Pbar	29.30	1057	74	0.00	9.265
		1041	75	0.00	8.712			1102	74	0.00	9.435
		1046	75	0.00	8.880			1102	74	0.00	9.635
		1051	75	0.00	9.075			1112	74	0.00	9.807
		1056			9.255			1117			9.994
		AVG	75	0.00	.725			AVG	74	0.00	.729

172

Vt = ml of titrant = .18
 Vscf = .714
 CSO2 = .037x 10⁻⁵
 PPM = 2

Vt = ml of titrant = .35
 Vscf = .719
 CSO2 = .121x 10⁻⁵
 PPM = 7

SO₂ FIELD TEST DATA

PAGE 1

COMPANY WST MGMT. OF NO. AMER.
PLANT C.I.D. 130th ST
SAMPLING LOCATION TURBINE 3 STACK

MONITOR TYPE N/A
SERIAL # 0
DATE-SAMPLES 7-12-89

METER # 6806273
METER CALIBRATION FACTOR, Y= 1.019
NORMALITY OF BARIUM SOLUTION, N= .00973
Vb=ml of blank = 15
Va=ml of aliquot = 20

TEST 1	TEST 2	TIME	t _M ° F	CHG(H)	V _M	TIME	t _M ° F	CHG(H)	V _M
Pbar 29.34	Pbar 29.34	1102	74	0.00	.473	1125	74	0.00	1.170
		1107	74	0.00	.635	1130	74	0.00	1.515
		1112	74	0.00	.790	1135	74	0.00	1.735
		1117	75	0.00	.968	1140	75	0.00	1.947
		1122			1.135	1145			2.138
		AVG			.662	AVG			.968
			74	0.00			74	0.00	

Vt = ml of titrant = .48
Vscf = .956
CSO2 = 120x 10
PPM = 7

Vt = ml of titrant = .20
Vscf = .654
CSO2 = .029x 10
PPM = 2

TEST 3	TEST 4	TIME	t _M ° F	CHG(H)	V _M	TIME	t _M ° F	CHG(H)	V _M
Pbar 29.34	Pbar 29.34	1217	75	0.00	2.165	1240	75	0.00	3.007
		1222	75	0.00	2.400	1245	75	0.00	3.250
		1227	75	0.00	2.560	1250	75	0.00	3.415
		1232	75	0.00	2.763	1255	75	0.00	3.605
		1237			2.965	1300			3.760
		AVG			.800	AVG			.753
			75	0.00			75	0.00	

Vt = ml of titrant = .15
Vscf = .743
CSO2 = 0.000x 10
PPM = -5

Vt = ml of titrant = .25
Vscf = .789
CSO2 = .044x 10
PPM = -5

SO₂ FIELD TEST DATA

PLANT C.I.D. 130th ST
 COMPANY WST. MGMT. OF NO. AMER
 SAMPLING LOCATION TUREINE 3 STACK

MONITOR TYPE N/A
 SERIAL # 0
 DATE-SAMPLES 7-12-89

TEST	5	TIME	t ° F	Chg(H)	V M	TEST	6	TIME	t ° F	CHG(H)	V M
Pbar	29.34	1317 1322 1327 1332 1337	75 75 75 75	0.00 0.00 0.00 0.00	3.788 3.995 4.215 4.430 4.650	Pbar	29.34	1340 1345 1350 1355 1400	75 75 75 75	0.00 0.00 0.00 0.00	4.678 4.860 5.010 5.155 5.325
		AVG	75	0.00	.862			AVG	75	0.00	.647

Vt = ml of titrant = .25
 Vscf = .850
 CSO2 = .042 x 10⁻⁵
 PPM = 3

Vt = ml of titrant = .24
 Vscf = .638
 CSO2 = .051 x 10⁻⁵
 PPM = 3

BARIUM-THORIN TITRATION ANALYSIS SHEET
for Sulfur Oxides & Sulfuric Acid Mist

Project CSD 7-1289, Turbine #3 Analyst Mike M. Date of Analysis 7-13-89
Barium Titrant (2 0.0 0 ml) (0.02N H2SO4) = (4 1.0 3 ml Ba++) (0.0 0 9 7 4 9 N Ba++) Average
Standardization (2 0.0 0 ml) (0.02N H2SO4) = (4 1.0 3 ml Ba++) (0.0 0 9 7 4 9 N Ba++) Normality
(2 0.0 0 ml) (0.02N H2SO4) = (4 1.0 3 ml Ba++) (0.0 0 9 7 4 9 N Ba++) 0.0 0 9 7 3 N
Standardization Blank (25ml H2O + 100ml IPA) = (0.0 0 7 ml Ba++), Must be ≤ 0.5 ml

Sample Number	Date of Sampling	Sample Description Test Number Pollutant Sampling Location	Liquid Sample at Marked Level	Total Sample (Vsoln) ml	Sample Aliquot (V _a) ml	Titration Volume for Sample** Final Reading - Initial Reading	(V _t) ml	Titration Volume for Blank	(V _t - V _{tb})
1	7-12-89	#1 outlet	✓	100.00	20.00	43.20 - 43.00 = 0.20 43.40 - 43.20 = 0.20 Average 0.20	0.20	0.145	0.05
2		#2 outlet	✓			0.56 - 0.00 = 0.56 1.40 - 1.00 = 0.40 Average 0.48	0.56	0.145	0.33
3		#3 outlet	✓			1.66 - 1.40 = 0.26 2.27 - 2.00 = 0.27 Average 0.245	0.26	0.145	0.10
4		#4 outlet	✓			4.15 - 4.00 = 0.15 4.15 - 4.15 = 0.00 Average 0.075	0.15	0.145	0.00
5		#5 outlet	✓			2.75 - 2.50 = 0.25 3.00 - 2.75 = 0.25 Average 0.25	0.25	0.145	0.10
6		#6 outlet	✓			3.78 - 3.50 = 0.28 4.00 - 3.80 = 0.20 Average 0.24	0.28	0.145	0.09
7	✓	25. Blank #7 outlet	✓			42.14 - 42.00 = 0.14 42.65 - 42.50 = 0.15 Average 0.145 = V _{tb}	0.14	0.145	

* Volume of aliquot for absorbing solution blank (V_{tb}) must be the same as the sample aliquot.
** Replicate titrations must agree within 1 percent or 0.2 ml, whichever is larger.

CAD, Turbine #3

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BARIUM-THORIN TITRATION ANALYSIS SHEET
for Sulfur Oxides & Sulfuric Acid Mist

Project CID, Turbine 2 + 1 Analyst Mike M. Date of Analysis 7-17-89

Barium Titrant $(\frac{2}{2} \frac{0}{0} \frac{0}{0} \frac{0}{0})$ (0.02N H₂SO₄) = $(\frac{4}{4} \frac{0}{0} \frac{5}{5} \frac{0}{0})$ ml Ba⁺⁺) (0.0 9 8 7 6 N Ba⁺⁺) Average Normality 0.0 0 9 8 7 6 N Ba⁺⁺)

Standardization $(\frac{2}{2} \frac{0}{0} \frac{0}{0} \frac{0}{0})$ ml) (0.02N H₂SO₄) = $(\frac{4}{4} \frac{0}{0} \frac{3}{3} \frac{0}{0})$ ml Ba⁺⁺) (0.0 9 8 7 6 N Ba⁺⁺)

$(\frac{2}{2} \frac{0}{0} \frac{0}{0} \frac{0}{0})$ ml) (0.02N H₂SO₄) = $(\frac{4}{4} \frac{0}{0} \frac{7}{7} \frac{0}{0})$ ml Ba⁺⁺) (0.0 9 8 7 6 N Ba⁺⁺)

Standardization Blank (25ml H₂O + 100ml IPA) = $(\frac{0}{0} \frac{1}{1} \frac{0}{0} \frac{0}{0})$ ml Ba⁺⁺), Must be ≤ 0.5ml

Sample Number	Date of Sampling	Sample Description Test Number Pollutant Sampling Location	Liquid at Marked Level	Total Sample (Vsoln) ml	Sample Aliquot (V _a) ml	Titrant Final Reading	Titrant Volume for Sample Initial Reading	(V _t) ml	Titrant Volume for Blank*	(V _t - V _{tb})
1	7-13-89	#1 Turbine 2	✓	100.0	20.00				0.10	0.00
2		#2 Turbine 2	✓	100.0	20.00	44.45	44.40	0.05	0.10	0.00
3		#3 Turbine 2	✓	100.0	20.00	48.30	48.00	0.30	0.10	0.20
4		#4 Turbine 2	✓	100.0	20.00	48.60	48.30	0.30	0.10	0.20
5		#5 Turbine 2	✓	100.0	20.00	0.20	0.00	0.20	0.10	0.10
6		#6 Turbine 2	✓	100.0	20.00	0.40	0.20	0.20	0.10	0.10
7		#7 Blank	✓	100.0	20.00	0.60	0.40	0.20	0.10	0.07
		Average				0.75	0.60	0.15	0.10	0.05
		Average				1.90	1.50	0.40	0.10	0.30
		Average				3.90	3.60	0.30	0.10	0.20
		Average				5.10	5.00	0.10	0.10	0.00
		Average				5.60	5.50	0.10	0.10	0.00
		Average						0.10	0.10	0.00

* Volume of aliquot for absorbing solution blank (V_{tb}) must be the same as the sample aliquot.
** Replicate titrations must agree within 1 percent or 0.2 ml, whichever is larger.

MOSTARDI-PLATT
ASSOCIATES, INC.

Page 2 of 2

Project CID, Turbine #27

Sample Number	Date of Sampling	Sample Description Test Number Pollutant Sampling Location	Liquid at Marked Level	Total Sample (V _{soln}) ml	Sample Aliquot (V ₂) ml	Titration Volume for Sample Final Reading - Initial Reading	(V ₂) ml	Titration Volume for Blank	(V _t - V ₂)
8	7-13-89	#8 Hydrogen Peroxide Turbine 2	✓	100.0	20.00	6.10 - 6.00 Average	0.10 0.05	0.10	0.00
9	7-14-89	#1 Turbine 1	✓	100.0	20.00	6.25 - 6.20 Average	0.05 0.00	0.125	0.00
10		#2 Turbine 1	✓	100.0	20.00	6.60 - 6.50 Average	0.10 0.05	0.125	0.00
11		#3 Turbine 1	✓	100.0	20.00	6.81 - 6.70 Average	0.11 0.11	0.125	0.00
12		#4 Turbine 1	✓	100.0	20.00	8.10 - 8.00 Average	0.10 0.15	0.125	0.00
13		#5 Turbine 1	✓	100.0	20.00	8.25 - 8.10 Average	0.15 0.125	0.125	0.00
14		#6 Turbine 1	✓	100.0	20.00	8.70 - 8.50 Average	0.20 0.20	0.125	0.07
15		#7 Dist. Blank Turbine 1	✓	100.0	20.00*	9.20 - 9.10 Average	0.10 0.15	—	—
16	↓	#8 Hydrogen Peroxide Blank Turbine 1	✓	100.0	20.00	10.15 - 10.00 Average	0.15 0.12	0.125	0.01
						11.12 - 11.00 Average	0.12 0.135		

RUN PREST.MGMT.
 COMPANY C I D 130th st>
 PLANT C I D 130th st> TURBINE 1
 TEST LOCATION OUTLET -
 DATE 7-14-89
 C-FACTOR .989
 PITOT TUBE COEFFICIENT 838
 BAROMETRIC PRESSURE 29.28
 FLUE PRESSURE (in. H2O) 0
 AVERAGE NOZZLE DIAMETER 0
 AREA CALCULATED 8.727
 MINUTES PER POINT 0
 TOTAL NUMBER OF SAMPLE POINTS 0
 AVERAGE CO2 2
 AVERAGE O2 17.2
 COAL ANALYSIS?N
 BTU/LB 0
 VIC 76
 Mn 0
 AVERAGE SQUARE IN Ps 1.461
 VM 66.65
 AVERAGE CHANGE IN h .5
 AVERAGE ts 726.75
 AVERAGE tm 86.5
 LBS/MIL BTU CALCULATED BY O2

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RUN # POST
COMPANY WST.MGMT.
PLANT C.I.D. 130th st>
TEST LOCATION OUTLET - TURBINE 1
DATE 7-14-89
C-FACTOR .989
PITOT TUBE COEFFICIENT 838
BAROMETRIC PRESSURE 29.26
FLUE PRESSURE (in. H2O) 0
AVERAGE NOZZLE DIAMETER 0
AREA CALCULATED 8.727
MINUTES PER POINT 8.0
TOTAL NUMBER OF SAMPLE POINTS 0
AVERAGE CO2 2
AVERAGE O2 17.2
COAL ANALYSIS?N
RTU/LB 0
VIC 76
Mn 0
AVERAGE SQUARE IN Ps 1.464
UM 66.65
AVERAGE CHANGE IN h .5
AVERAGE ts 726.75
AVERAGE tm 86.5
LBS/MIL BTU CALCULATED BY 02

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RUN #PRE - RESULTS SUMMARY

WSI MGMT
C.I.D. 130 th st
7-14-89
OUTLET -

TURBINE 1

PARTICULATE CONCENTRATION @STACK COND. C_{acf} = 0.000 GR/ACF
PARTICULATE CONCENTRATION @DRY STAND. COND., C_s = 0.000 GR/SCFD
PARTICULATE CONCENTRATION = 0.00 Lbs/hr
PARTICULATE CONCENTRATION (O_2 BASIS) = 0.000 Lbs/Mbtu
BAROMETRIC PRESSURE P_b = 29.26 in. Hg.
AVERAGE FLUE GAS PRESSURE P_s = 29.26 in. Hg.
AVERAGE FLUE GAS TEMPERATURE, T_s = 1187°R
AVERAGE METER TEMPERATURE, T_m = 547°R
TOTAL METER VOLUME, V_m = 66.65 cu. ft.
TOTAL METER VOLUME @STAND. COND. $V_m(Std)$ = 62.359 cu. ft.
TOTAL WATER VAPOR @STAND. COND. $V_w(Std)$ = 3.58 cu. ft.
WATER VAPOR IN GAS STREAM PROPORTION BY VOLUME, B_{ws} = 0.054
AVERAGE CARBON DIOXIDE CONTENT OF GAS, CO_2 = 2.00 %
AVERAGE OXYGEN CONTENT OF GAS, O_2 = 17.20 %
AVERAGE NITROGEN CONTENT OF GAS, N_2 = 80.80 %
MOISTURE CORRECTION FACTOR = 0.946
AVERAGE GAS VELOCITY, V_s = 125.06 ft/sec
AVERAGE GAS VOLUMETRIC FLOW RATE, STACK COND. = 65.483 ACFM
AVERAGE GAS VOLUMETRIC FLOW RATE, STAND. COND. = 26.946 DSCFM
AVERAGE GAS VOLUMETRIC FLOW RATE, STAND. COND. = 1,616,739 DSCFH
PERCENT EXCESS AIR = 416.34 %
MOLECULAR WEIGHT OF THE STACK GAS, DRY BASIS, M_d = 29.0080
MOLECULAR WEIGHT OF THE STACK GAS, WET BASIS, M_s = 28.4108
STACK GAS SPECIFIC GRAVITY (AIR = 1,000) = 0.981
ISOKINETIC VARIANCE, IKV = 0.00

*STANDARD CONDITIONS = 68 F, 29.92 in. Hg.

RUN #POST - RESULTS SUMMARY

WSI MGM1
C 1 D 130 1b st
7-14-89
OUTLET -

TURBINE 1

PARTICULATE CONCENTRATION @STACK COND. Cacf= 0.0000 GR/ACF
PARTICULATE CONCENTRATION @DRY STAND. COND., Cs = 0.0000 GR/SCFD
PARTICULATE CONCENTRATION = 0.00 Lbs/hr
PARTICULATE CONCENTRATION (O₂ BASIS) = 0.000 Lbs/MBtu

BAROMETRIC PRESSURE Pb = 29.26 in. Hg.
AVERAGE FLUE GAS PRESSURE Ps = 29.26 in. Hg.
AVERAGE FLUE GAS TEMPERATURE, Ts = 1187°R
AVERAGE METER TEMPERATURE, Tm = 547°R

1- TOTAL METER VOLUME, Vm = 66.65 cu. ft.
2- TOTAL METER VOLUME @STAND. COND. Vm(STD) = 62.359 cu. ft.
TOTAL WATER VAPOR @STAND. COND. Vw(STD) = 3.58 cu. ft.
WATER VAPOR IN GAS STREAM PROPORTION BY VOLUME, Bws = 0.054

AVERAGE CARBON DIOXIDE CONTENT OF GAS, CO₂ = 2.00 %
AVERAGE OXYGEN CONTENT OF GAS, O₂ = 17.20 %
AVERAGE NITROGEN CONTENT OF GAS, N₂ = 80.80 %
MOISTURE CORRECTION FACTOR = 0.946

AVERAGE GAS VELOCITY, Vs = 125.31 ft/sec
AVERAGE GAS VOLUMETRIC FLOW RATE, STACK COND. = 65.617 ACFM
AVERAGE GAS VOLUMETRIC FLOW RATE, STAND. COND. = 27.001 DSCFM
AVERAGE GAS VOLUMETRIC FLOW RATE, STAND. COND. = 1,620,058 DSCFH

PERCENT EXCESS AIR = 416.34 %
MOLECULAR WEIGHT OF THE STACK GAS, DRY BASIS, Md = 29.0080
MOLECULAR WEIGHT OF THE STACK GAS, WET BASIS, Ms = 28.4108
STACK GAS SPECIFIC GRAVITY (AIR = 1,000) = 0.981

ISOKINETIC VARIANCE, IKV = 0.00

*STANDARD CONDITIONS = 68° F, 29.92 in. Hg.

RUN # PRE
 COMPANY WST. MGMT. C.I.D.
 PLANT 130th ST.
 TEST LOCATION OUTLET - TURBINE 2
 DATE 7-13-89
 C-FACTOR .989
 PITOT TUBE COEFFICIENT .838
 BAROMETRIC PRESSURE 29.3
 FLUE PRESSURE (in. H2O) 0
 AVERAGE NOZZLE DIAMETER 0
 AREA CALCULATED 8.727
 MINUTES PER POINT 0
 TOTAL NUMBER OF SAMPLE POINTS 20
 AVERAGE CO2 2
 AVERAGE O2 17.3
 COAL ANALYSIS?N
 BTU/LB 0
 VIC 44.7
 MN 0
 AVERAGE SQUARE IN PS 1.438
 UM 48.75
 AVERAGE CHANGE IN h .53
 AVERAGE ts 717.25
 AVERAGE tm 91.5
 LBS/MIL BTU CALCULATED BY O2

MOSTARDI-PLATT ASSOCIATES, INC.

RUN #PRE - RESULTS SUMMARY

WST. MGMT. C.I.D.
130th ST.
7-13-89
OUTLET -

TURBINE 2

PARTICULATE CONCENTRATION @STACK COND. C_{acf} = 0.0000 GR/ACF
PARTICULATE CONCENTRATION @DRY STAND. COND., C_s = 0.0000 GR/SCFD
PARTICULATE CONCENTRATION = 0.00 Lbs/hr.
PARTICULATE CONCENTRATION (O_2 BASIS) = 0.000 Lbs/MBtu

BAROMETRIC PRESSURE P_b = 29.30 in. Hg.
AVERAGE FLUE GAS PRESSURE P_s = 29.30 in. Hg.
AVERAGE FLUE GAS TEMPERATURE, T_s = 1177°R
AVERAGE METER TEMPERATURE, T_m = 552°R

TOTAL METER VOLUME, V_m = 48.75 cu. ft.
TOTAL METER VOLUME @STAND. COND. $V_m(Std)$ = 45.263 cu. ft.
TOTAL WATER VAPOR @STAND. COND. $V_w(Std)$ = 2.19 cu. ft.
WATER VAPOR IN GAS STREAM PROPORTION BY VOLUME, E_{ws} = 0.044

AVERAGE CARBON DIOXIDE CONTENT OF GAS, CO_2 = 2.00 %
AVERAGE OXYGEN CONTENT OF GAS, O_2 = 17.30 %
AVERAGE NITROGEN CONTENT OF GAS, N_2 = 80.70 %
MOISTURE CORRECTION FACTOR = 0.956

AVERAGE GAS VELOCITY, V_s = 122.27 ft/sec
AVERAGE GAS VOLUMETRIC FLOW RATE, STACK COND. = 64,023 ACFM
AVERAGE GAS VOLUMETRIC FLOW RATE, STAND. COND. = 26,871 DSCFM
AVERAGE GAS VOLUMETRIC FLOW RATE, STAND. COND. = 1,612,234 DSCFH

PERCENT EXCESS AIR = 431.98 %
MOLECULAR WEIGHT OF THE STACK GAS, DRY BASIS, M_d = 29.0120
MOLECULAR WEIGHT OF THE STACK GAS, WET BASIS, M_s = 28.5228
STACK GAS SPECIFIC GRAVITY (AIR = 1,000) = 0.985

ISOKINETIC VARIANCE, IKV = 0.00

*STANDARD CONDITIONS = 68° F, 29.92 in. Hg.

RUN # POST
 COMPANY WST. MGMT. C.I.D.
 PLANT 130th ST
 TEST LOCATION OUTLET - TURBINE 2
 DATE 7-13-89
 C-FACTOR .989
 PITOT TUBE COEFFICIENT .838
 BAROMETRIC PRESSURE 29.3
 FLUE PRESSURE (in H2O) 0
 AVERAGE NOZZLE DIAMETER 0
 AREA CALCULATED 8.727
 MINUTES PER POINT 0
 TOTAL NUMBER OF SAMPLE POINTS 20
 AVERAGE CO2 2
 AVERAGE O2 17.3
 COAL ANALYSIS?N
 BTU/LB 0
 Vlc 44.7
 Mn 0
 AVERAGE SQUARE IN Ps 1.416
 Um 48.75
 AVERAGE CHANGE IN h .53
 AVERAGE ts 717.8
 AVERAGE tm 91.5
 LBS/MIL BTU CALCULATED BY O2

RUN #POST - RESULTS SUMMARY

WSI MGMT. C.I.D.
130th ST.
7-13-89
OUTLET -

TURBINE 2

PARTICULATE CONCENTRATION @STACK COND., Cacf= 0.000 GR/ACF
PARTICULATE CONCENTRATION @DRY STAND. COND., Cs = 0.000 GR/SCFD
PARTICULATE CONCENTRATION = 0.00 Lbs/hr
PARTICULATE CONCENTRATION (O₂ BASIS) = 0.000 Lbs/Mbtu

BAROMETRIC PRESSURE Pb = 29.30 in. Hg.
AVERAGE FLUE GAS PRESSURE Ps = 29.30 in. Hg.
AVERAGE FLUE GAS TEMPERATURE, Ts = 1178°R
AVERAGE METER TEMPERATURE, Tm = 552°R

TOTAL METER VOLUME, Vm = 48.75 cu. ft.
TOTAL METER VOLUME @STAND. COND. Vm(STD) = 45.263 cu. ft.
TOTAL WATER VAPOR @STAND. COND. Vw(STD) = 2.10 cu. ft.
WATER VAPOR IN GAS STREAM PROPORTION BY VOLUME, Bws = 0.044

AVERAGE CARBON DIOXIDE CONTENT OF GAS, CO₂ = 2.00 %
AVERAGE OXYGEN CONTENT OF GAS, O₂ = 17.30 %
AVERAGE NITROGEN CONTENT OF GAS, N₂ = 80.70 %
MOISTURE CORRECTION FACTOR = 0.956

AVERAGE GAS VELOCITY, Vs = 120.43 ft/sec
AVERAGE GAS VOLUMETRIC FLOW RATE, STACK COND. = 63,059 ACFM
AVERAGE GAS VOLUMETRIC FLOW RATE, STAND. COND. = 26,453 DSCFM
AVERAGE GAS VOLUMETRIC FLOW RATE, STAND. COND. = 1,587,198 DSCFH

PERCENT EXCESS AIR = 431.98 %
MOLECULAR WEIGHT OF THE STACK GAS, DRY BASIS, Md = 29.0120
MOLECULAR WEIGHT OF THE STACK GAS, WET BASIS, Ms = 28.5228
STACK GAS SPECIFIC GRAVITY (AIR = 1,000) = 0.985

ISOKINETIC VARIANCE, IKV = 0.00

*STANDARD CONDITIONS = 68° F, 29.92 in. Hg.

RUN # PRE
 COMPANY WST. MGMT. C.I.D.
 PLANT 130th ST
 TEST LOCATION OUTLET - TURBINE 3
 DATE 7-12-89
 C-FACTOR .989
 PITOT TUBE COEFFICIENT .838
 BAROMETRIC PRESSURE 29.34
 FLUE PRESSURE (10. H2O) 0
 AVERAGE NOZZLE DIAMETER 0
 AREA CALCULATED 8.727
 MINUTES PER POINT 0
 TOTAL NUMBER OF SAMPLE POINTS 20
 AVERAGE CO2 2
 AVERAGE O2 17.2
 COAL ANALYSIS?N
 BTU/LB 0
 VIC 54.7
 MO 0
 AVERAGE SQUARE IN Ps 1.442
 VM 49.25
 AVERAGE CHANGE IN h .53
 AVERAGE ts 733.5
 AVERAGE tm 89
 LBS/MIL BTU CALCULATED BY O2

RUN #PRE - RESULTS SUMMARY

WST MGMT. C.I.D.
130th ST.
7-12-89
OUTLET -

TURBINE 3

PARTICULATE CONCENTRATION @STACK COND. C_{acf} = 0.0000 GR/ACF
PARTICULATE CONCENTRATION @DRY STAND. COND., C_s = 0.0000 GR/SCFD
PARTICULATE CONCENTRATION = 0.00 Lbs/hr
PARTICULATE CONCENTRATION (O_2 BASIS) = 0.000 Lbs/MBtu
BAROMETRIC PRESSURE P_b = 29.34 in. Hg.
AVERAGE FLUE GAS PRESSURE P_s = 29.34 in. Hg.
AVERAGE FLUE GAS TEMPERATURE, T_s = 1194°R
AVERAGE METER TEMPERATURE, T_m = 549°R
TOTAL METER VOLUME, V_m = 49.25 cu. ft.
TOTAL METER VOLUME @STAND. COND. $V_m(Std)$ = 45.998 cu. ft.
TOTAL WATER VAPOR @STAND. COND. $V_w(Std)$ = 2.57 cu. ft.
WATER VAPOR IN GAS STREAM PROPORTION BY VOLUME, B_{ws} = 0.053
AVERAGE CARBON DIOXIDE CONTENT OF GAS, CO_2 = 2.00 %
AVERAGE OXYGEN CONTENT OF GAS, O_2 = 17.20 %
AVERAGE NITROGEN CONTENT OF GAS, N_2 = 80.80 %
MOISTURE CORRECTION FACTOR = 0.947
AVERAGE GAS VELOCITY, V_s = 123.58 ft./sec
AVERAGE GAS VOLUMETRIC FLOW RATE, STACK COND. = 64.711 ACFM
AVERAGE GAS VOLUMETRIC FLOW RATE, STAND. COND. = 26,585 DSCFM
AVERAGE GAS VOLUMETRIC FLOW RATE, STAND. COND. = 1,595,083 DSCFH
PERCENT EXCESS AIR = 416.34 %
MOLECULAR WEIGHT OF THE STACK GAS, DRY BASIS, M_d = 29.0080
MOLECULAR WEIGHT OF THE STACK GAS, WET BASIS, M_s = 28.4245
STACK GAS SPECIFIC GRAVITY (AIR = 1,000) = 0.982
ISOKINETIC VARIANCE, IKV = 0.00

*STANDARD CONDITIONS = 68°F, 29.92 in. Hg.

RUN # POST
 COMPANY WST. MGMT. C.I.D.
 PLANT 130th ST.
 TEST LOCATION OUTLET - TURBINE 3
 DATE 7-12-89
 C-FACTOR 989
 PITOT TUBE COEFFICIENT 838
 BAROMETRIC PRESSURE 29.34
 FLUE PRESSURE (in. H2O) 0
 AVERAGE NOZZLE DIAMETER 0
 AREA CALCULATED 8.727
 MINUTES PER POINT 0
 TOTAL NUMBER OF SAMPLE POINTS 20
 AVERAGE CO2 2
 AVERAGE O2 17.2
 COAL ANALYSIS?N
 BTU/LB 0
 VIC 54.7
 Mn 0
 AVERAGE SQUARE IN Ps 1.427
 Um 49.25
 C AVERAGE CHANGE IN h .53
 AVERAGE ts 736.8
 AVERAGE tm 89
 LBS/MIL BTU CALCULATED BY O2

RUN #POST - RESULTS SUMMARY

WST. MCMT. C.I.D.

130th ST.

7-12-89

OUTLET -

TURBINE 3

PARTICULATE CONCENTRATION @STACK COND. C_{acf} = 0.0000 GR/ACF
 PARTICULATE CONCENTRATION @DRY STAND. COND., C_s = 0.0000 GR/SCFD
 PARTICULATE CONCENTRATION = 0.00 Lbs/hr
 PARTICULATE CONCENTRATION (O_2 BASIS) = 0.000 Lbs/MBtu

BAROMETRIC PRESSURE P_b = 29.34 in. Hg.
 AVERAGE FLUE GAS PRESSURE P_s = 29.34 in. Hg.
 AVERAGE FLUE GAS TEMPERATURE, T_s = 1197°R
 AVERAGE METER TEMPERATURE, T_m = 549°R

TOTAL METER VOLUME, V_m = 49.25 cu. ft.
 TOTAL METER VOLUME @STAND. COND. $V_m(Std)$ = 45.998 cu. ft.
 TOTAL WATER VAPOR @STAND. COND. $V_w(Std)$ = 2.57 cu. ft.
 WATER VAPOR IN GAS STREAM PROPORTION BY VOLUME, R_{ws} = 0.053

AVERAGE CARBON DIOXIDE CONTENT OF GAS, CO_2 = 2.00 %
 AVERAGE OXYGEN CONTENT OF GAS, O_2 = 17.20 %
 AVERAGE NITROGEN CONTENT OF GAS, N_2 = 80.80 %
 MOISTURE CORRECTION FACTOR = 0.947

AVERAGE GAS VELOCITY, V_s = 122.47 ft/sec
 AVERAGE GAS VOLUMETRIC FLOW RATE, STACK COND. = 64,126 ACFM
 AVERAGE GAS VOLUMETRIC FLOW RATE, STAND. COND. = 26,273 DSCFM
 AVERAGE GAS VOLUMETRIC FLOW RATE, STAND. COND. = 1,576,313 DSCFH

PERCENT EXCESS AIR = 416.34 %
 MOLECULAR WEIGHT OF THE STACK GAS, DRY BASIS, M_d = 29.0080
 MOLECULAR WEIGHT OF THE STACK GAS, WET BASIS, M_s = 28.4245
 STACK GAS SPECIFIC GRAVITY (AIR = 1,000) = 0.982

ISOKINETIC VARIANCE, IKV = 0.00

*STANDARD CONDITIONS = 68° F, 29.92 in. Hg.

NO_x CALCULATIONS

$$K_c = 100 \left[\frac{A_1 + 2A_2 + 3A_3 + 4A_4}{A_1^2 + A_2^2 + A_3^2 + A_4^2} \right]$$

$$V_{sc} = 17.64 (V_f - 25 \text{ ml}) \left[\frac{P_f}{T_f} - \frac{P_i}{T_i} \right]$$

$$m = 2 K_c A F$$

$$C_{NO_x} = 6.2428 \times 10^{-5} \frac{m}{V_{sc}}$$

$$\text{ppm NO}_x = 8.3755 \times 10^6 C_{NO_x} \quad \text{ppm at 15\% O}_2 = \text{ppm} \times \left(\frac{5.9}{20.9 - \%O_2} \right)$$

Where: A = Absorbance of sample

A₁, A₂, A₃, A₄ = Absorbance of NO₂ standards (100, 200, 300, 400 µg)

C_{NO_x} = Concentration of NO_x as nitrogen dioxide, dry basis, corrected to standard conditions, lb/dscf

F = Dilution factor

K_c = Spectrophotometer calibration factor

m = Mass of NO_x as NO₂ in gas sample, µg

P_f = Final absolute pressure of flask, in. Hg

P_i = Initial absolute pressure of flask, in. Hg

P_{std} = Standard absolute pressure, 29.92 in. Hg

T_f = Final absolute temperature of flask, °R

T_i = Initial absolute temperature of flask, °R

T_{std} = Standard absolute temperature, 528° R

V_f = Volume of flask and valve, ml

V_{sc} = Sample volume at standard conditions, dry basis, ml

$$17.64 = T_{std}/P_{std}$$

$$8.3755 \times 10^6 = \frac{\text{dscf}}{\text{lb}}$$

$$6.2428 \times 10^{-5} = \frac{\text{lb/scf}}{\mu\text{g/ml}}$$

SO₂ CALCULATIONS

$$V_{m(\text{std})} = 17.64 V_m Y \frac{P_{\text{bar}}}{T_m}$$

$$C_{\text{SO}_2} = 7.0613 \times 10^{-5} \frac{(V_t - V_{\text{tb}}) N \left(\frac{V_{\text{soln}}}{V_a} \right)}{V_{m(\text{std})}}$$

$$\text{ppm SO}_2 = 6.0151 \times 10^6 C_{\text{SO}_2} \quad \text{ppm at 15\% O}_2 = \text{ppm} \times \left(\frac{5.9}{20.9 - \% \text{O}_2} \right)$$

Where:

C_{SO_2} = Concentration of sulfur dioxide, dry basis, corrected to standard conditions, lb/dscf

N = Normality of barium perchlorate titrant, meq/ml

P_{bar} = Barometric pressure at the exit orifice of the dry gas meter, in. Hg

P_{std} = Standard absolute pressure, 29.92 in. Hg

T_m = Dry gas meter average absolute temperature, °R

T_{std} = Standard absolute temperature, 528° R

V_a = Volume of sample aliquot titrated, ml

V_m = Dry gas volume measured by dry gas meter, dcf

$V_{m(\text{std})}$ = Dry gas volume measured by dry gas meter, corrected to standard conditions, dscf

V_{soln} = Total volume of solution in which the sulfur dioxide sample is contained, ml

V_t = Volume of barium perchlorate titrant used for the sample (average of replicate titrations), ml

V_{tb} = Volume of barium perchlorate titrant used for the blank, ml

Y = Dry gas meter calibration factor

$$17.64 = T_{\text{std}}/P_{\text{std}}$$

$$7.0613 \times 10^{-5} = \text{Equivalent weight of sulfur dioxide}$$

$$(6.0151) \times 10^6 = \left(\frac{\text{dscf}}{\text{lb}} \right) \times 10^6$$

EMISSION RATE CALCULATIONS

A pollutant emission rate (E), expressed as pounds of pollutant per million Btu heat input from the fuel combusted by several methods as follows:

- 1) $C = c_s / 7000$ where, C = pollutant concentration, lb/dscf

c_s = pollutant concentration, grains/dscf

- 2) If fuel flow is monitored and the fuel combusted during the test is sampled and analyzed for gross calorific value, then

$$E = \frac{Q_{sd} C}{\text{fuel flow rate (lb/hr) GCV}} \times 10^6$$

where, E

GCV = gross calorific value, Btu/lb

Q_{sd} = dry volumetric gas flow at standard conditions, dscf/hr

- 3) If an integrated gas sample is taken during the test and analyzed for %CO₂ or %O₂, dry basis by volume, with an Orsat gas analyzer, then

$$E = C F_c \frac{100}{(\%CO_2)} \quad \text{or, } E = C F \frac{20.9}{(20.9 - \%O_2)} \quad \text{where,}$$

%CO₂ and %O₂ are expressed as percent; and, for example, for subbituminous and bituminous coals:

F_c = a factor representing a ratio of the volume of carbon dioxide generated to the calorific value of the fuel combusted, $\frac{1040}{1040}$ scf CO₂/million Btu

F = a factor representing a ratio of the volume of dry flue gases generated to the calorific value of the fuel combusted, $\frac{8710}{8710}$ dscf/million Btu

- 4) If fuel sample increments are taken and composited during the test and an ultimate analysis is performed and the GCV is determined, then

$$F_c = \frac{321 \times 10^3 (\%C)}{GCV} \quad \text{where, \%C = carbon content by weight expressed as percent}$$

$$F = \frac{[3.64(\%H) + 1.53(\%C) + 0.57(\%S) + 0.14(\%N) - 0.46(\%O)]}{GCV} \times 10^6$$

where, H, C, S, N, and O are content by weight of hydrogen, carbon, sulfur, nitrogen, and oxygen (expressed as percent) respectively.

- 5) If fuels other than subbituminous and bituminous coals are fired, other F-factors than those above will apply; and, if combinations of different fuels are fired, the F-factors must be prorated according to the fraction of the total heat input derived from each type of fuel.

NOMENCLATURE — PARTICULATES

A	= Cross-sectional area of stack or duct, ft ²
A _n	= Cross-sectional area of nozzle, ft ²
B _{ws}	= Water vapor in gas stream, proportion by volume
C _a	= Acetone blank residue concentration, g/g
c _{acf}	= Concentration of particulate matter in gas stream at actual conditions, gr/acf
C _p	= Pitot tube coefficient, dimensionless
c _s	= Concentration of particulate matter in gas stream, dry basis, corrected to standard conditions, gr/dscf
IKV	= Isokinetic sampling variance, must be .90 ≤ IKV ≤ 1.10
M _d	= Dry molecular weight of gas, lb/lb-mole
m _n	= Total amount of particulate matter collected, grams
M _s	= Molecular weight of gas, wet basis, lb/lb-mole
M _w	= Molecular weight of water, 18.0 lb/lb-mole
m _a	= Mass of residue of acetone after evaporation, grams
P _{bar}	= Barometric pressure at testing site, in.Hg
P _g	= Static pressure of gas, in.Hg (in.H ₂ O/13.6)
P _s	= Absolute pressure of gas, in.Hg = P _{bar} + P _g
P _{std}	= Standard absolute pressure, 29.92 in.Hg
Q _{acfm}	= Actual volumetric gas flow rate, acfm
Q _{sd}	= Dry volumetric gas flow rate corrected to standard conditions, dscf/hr
R	= Ideal gas constant, 21.85 in.Hg-ft ³ /°R-lb-mole
T _m	= Absolute average dry gas meter temperature, °R
T _s	= Absolute average gas temperature, °R
T _{std}	= Standard absolute temperature, 528°R
V _a	= Volume of acetone blank, ml
V _{aw}	= Volume of acetone used in wash, ml
V _{1c}	= Total volume of liquid collected in impingers and silica gel, ml
V _m	= Volume of gas sample as measured by dry gas meter, dcf
V _{m(std)}	= Volume of gas sample measured by dry gas meter, corrected to standard conditions, dscf
v _s	= Average gas velocity, ft/sec
V _{w(std)}	= Volume of water vapor in gas sample, corrected to standard conditions, scf
W _a	= Weight of residue in acetone wash, grams
Y	= Dry gas meter calibration factor
ΔH	= Average pressure differential across the orifice meter, in.H ₂ O
Δp	= Velocity head of gas, in.H ₂ O
ρ _a	= Density of acetone, 0.7855 g/ml (average)
ρ _w	= Density of water, 0.002201 lb/ml
θ	= Total sampling time, minutes
K ₁	= 17.64 °R/in.Hg
K ₂	= 0.04707 ft ³ /ml
K ₃	= 0.09450/100 = 0.000945
K _p	= Pitot tube constant, $85.49 \frac{\text{ft}}{\text{sec}} \left[\frac{(\text{lb/lb-mole})(\text{in.Hg})}{(°\text{R})(\text{in.H}_2\text{O})} \right]^{1/2}$
%EA	= Percent excess air
%CO ₂	= Percent carbon dioxide by volume, dry basis
%O ₂	= Percent oxygen by volume, dry basis
%CO	= Percent carbon monoxide by volume, dry basis
%N ₂	= Percent nitrogen by volume, dry basis
0.264	= Ratio of O ₂ to N ₂ in air, v/v
0.28	= Molecular weight of N ₂ or CO, divided by 100
0.32	= Molecular weight of O ₂ , divided by 100
0.44	= Molecular weight of CO ₂ , divided by 100
13.6	= Specific gravity of mercury (Hg)

PPM TO LB/HR
CONVERSION CALCULATIONS

1) NO_x

$$\frac{\text{PPM NO}_x}{8.3755 \times 10^6} = \frac{\text{LBS NO}_x}{\text{DSCF}}$$

$$\frac{\text{LBS NO}_x}{\text{DSCF}} \times \frac{\text{DSCF}}{\text{Min}} \times \frac{60 \text{ Min}}{\text{Hr}} = \frac{\text{LBS NO}_x}{\text{Hr}}$$

2) SO₂

$$\frac{\text{PPM SO}_2}{6.0151 \times 10^6} = \frac{\text{LBS SO}_2}{\text{DSCF}}$$

$$\frac{\text{LBS SO}_2}{\text{DSCF}} \times \frac{\text{DSCF}}{\text{Min}} \times \frac{60 \text{ MIN}}{\text{Hr}} = \frac{\text{LBS SO}_2}{\text{Hr}}$$

3) CO

$$\frac{\text{PPM CO}}{1.3762 \times 10^7} = \frac{\text{LBS CO}}{\text{DSCF}}$$

$$\frac{\text{LBS CO}}{\text{DSCF}} \times \frac{\text{DSCF}}{\text{Min}} \times \frac{60 \text{ MIN}}{\text{Hr}} = \frac{\text{LBS CO}}{\text{Hr}}$$

4) CH₄

$$\frac{\text{PPM CH}_4}{2.4017 \times 10^7} = \frac{\text{LBS CH}_4}{\text{DSCF}}$$

$$\frac{\text{LBS CH}_4}{\text{DSCF}} \times \frac{\text{DSCF}}{\text{Min}} \times \frac{60 \text{ MIN}}{\text{Hr}} = \frac{\text{LBS CH}_4}{\text{Hr}}$$

METER BOX CALIBRATION DATA

Dry Gas Meter No. N-2 682-5350 Yr = 0.9960 Date 6/9/89 Calibrated By MJB
 Standard Meter No. 682-5350 Yr = 0.9960 Barometric Pressure, in. Hg (Pb): 29.75 - 0.65 = 29.10

Run No	Orifice Setting	Gas Volume, ft ³	Pressure in. H ₂ O	Meter Temperature, °F	Time	Y	Chg(H ₂ O) in. H ₂ O
		-----	-----	-----	-----		
	in. H ₂ O	Standard Dry Gas	Standard Dry Gas	Standard Dry Gas	Test Meter		
	Chg(H)	Meter (V) _r	Meter (V) _d	Meter (P) _r	Inlet (t) _r	Outlet (t) _d	Avg (t) _d
					di	do	min. sec.
1	0.25	60.112 55.738 4.374	42.232 37.825 4.407	0.00	73	81	81.0 15 4 1.003 1.710
2	0.45	65.581 60.488 5.093	48.082 42.836 5.246	0.00	74	85	85.0 13 36 0.986 1.844
3	0.65	77.116 66.030 11.086	60.500 48.977 11.523	0.00	74	93	93.0 24 55 0.991 1.859
4	0.90	88.842 77.748 11.094	73.370 61.862 11.508	0.00	74	94	94.0 21 21 0.994 1.884
5	1.30	100.002 89.450 10.552	85.546 74.438 11.108	0.00	74	95	95.0 11 3 0.980 0.804
6	1.85	115.544 101.146 14.398	102.242 87.086 15.156	0.00	74	96	96.0 9 2 0.981 0.410

STACK TEMPERATURE SENSOR CALIBRATION DATA FORM

Date 4-21-89 Thermocouple number 9
 Ambient temperature 68 °F Barometric pressure 29.34 in. Hg
 Calibrator HP Reference: mercury-in-glass

other

Reference point number ^a	Source ^b (specify)	Reference thermometer temperature, °F	Thermocouple potentiometer temperature, °F	Temperature difference, % ^c
.50	MILLIVOLT POTENTIOMETER	50	55	-0.98
1.94		100	100	0.0
3.41		150	150	0.0
4.91		200	200	0.0
6.42		250	250	0.0
7.94		300	300	0.0
9.48		350	350	0.0
11.03		400	405	0.47
12.57		450	452	0.22
14.12		500	505	0.52
15.65		550	555	0.50
17.18		600	610	0.99
18.72		650	650	0.0
20.26		700	710	0.86
23.32		800	800	0.0
26.40		900	895	0.37
28.52		1000	970	2.05
32.72		1100	1100	0.0
36.01		1200	1195	0.30

^aEvery (50°F) for each reference point.

^bType of calibration system used.

^c
$$\left[\frac{(\text{ref temp, } ^\circ\text{F} + 460) - (\text{test thermom temp, } ^\circ\text{F} + 460)}{\text{ref temp, } ^\circ\text{F} + 460} \right] 100 \leq 1.5\%$$

METER BOX CALIBRATION DATA

Dry Gas Meter No. 6806273 Date 5/31/89 Calibrated By SWB
 Standard Meter No. 6825350 Yr = 1.0040 Barometric Pressure, in. Hg (Pb): 29.84 - 0.65 = 29.19

Run Orifice Gas Volume, ft³ Pressure Meter Temperature, F Time Y Chg(H₂O)
 No Setting ----- in. H₂O -----

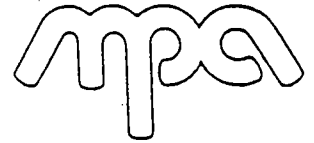
in. H₂O Standard Dry Gas Standard Dry Gas Test Meter

Chg(H) Meter (V)_r Meter (V)_d Meter (P)_r Meter (t)_r Inlet (t)_{di} Outlet (t)_{do} Avg (t)_d min. sec.

198

1	0.45	38.135 36.481 1.654	50.030 48.415 1.615	0.00	82	76	76	76.0	0	0	1.016	0.000
2	0.45	40.651 38.135 2.516	52.488 50.030 2.458	0.00	83	77	77	77.0	0	0	1.016	0.000
3	0.45	41.567 40.651 0.916	53.375 52.488 0.887	0.00	83	77	77	77.0	0	0	1.024	0.000
4	0.00	0.000 0.000 0.000	0.000 0.000 0.000	0.00	0	0	0	0.0	0	0	0.000	0.000
5	0.00	0.000 0.000 0.000	0.000 0.000 0.000	0.00	0	0	0	0.0	0	0	0.000	0.000
6	0.00	0.000 0.000 0.000	0.000 0.000 0.000	0.00	0	0	0	0.0	0	0	0.000	0.000

AVERAGE 1.019 0.000



TYPE S PITOT TUBE INSPECTION DATA FORM

Pitot tube assembly level? ☒ yes ☐ noPitot tube openings damaged? ☐ yes (explain below) ☒ no $\alpha_1 = 1.5^\circ (<10^\circ)$, $\alpha_2 = 0.0^\circ (<10^\circ)$ $\beta_1 = 4.5^\circ (<5^\circ)$, $\beta_2 = 1.5^\circ (<5^\circ)$ $\gamma = 3.5^\circ$, $\theta = 1.0^\circ$, $A = 0.050$ (in.) $z = A \sin \gamma = 0.040$ (in.); (<0.125 in.) $w = A \sin \theta = 0.0113$ (in.); (<0.03125 in.) $P_A = 0.308$ (in.), $P_B = 0.342$ (in.), $D_t = 0.250$ (in.)

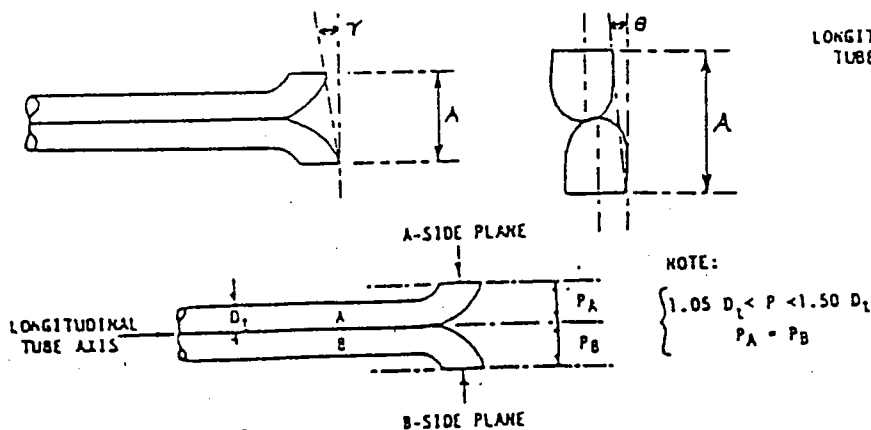
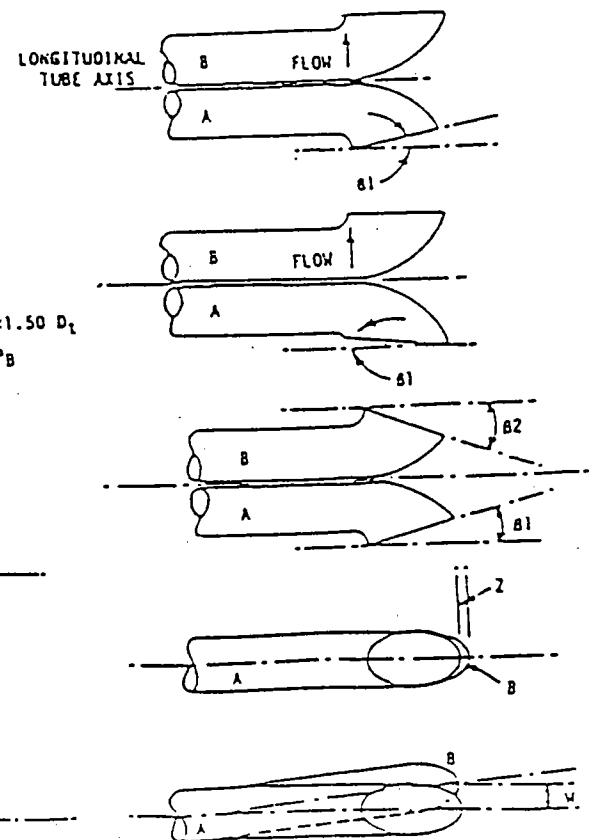
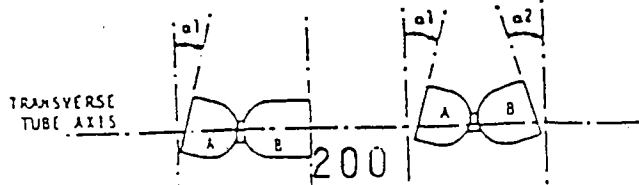
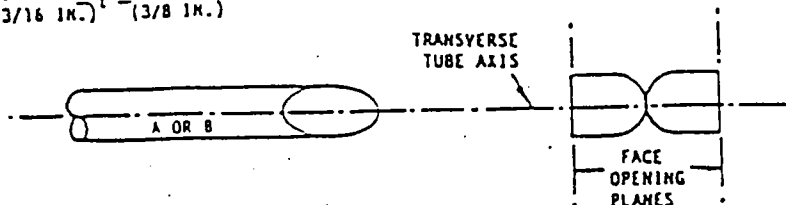
Comments: *TIPS, DREGULAR. STAINLESS STEEL-DETACHABLE

CALIBRATED 7-30-87 $C_p(A) = 0.838$ $C_p(B) = 0.833$ Calibration required? ☒ yes ☐ no

PITOT TUBE # 8

DATE 7-29-87

NAME Ed Peterson


 $0.48 \text{ CM} < D_1 < 0.95 \text{ CM}$
 $(3/16 \text{ IN.}) < D_1 < (3/8 \text{ IN.})$




PITOT TUBE CALIBRATION DATA

Calibration pitot tube: type STANDARD -4Emi size (OD) 0.375 ID number S-1

Type S pitot tube ID number 8 $C_{p(Std)} =$ 0.99

Calibration: date 7-30-87 performed by Ed Peterson

A-Side Calibration

$\Delta P_{Std'}$ (in.) H_2O	$\Delta P_{S'}$ (in.) H_2O	$C_{p(S)}^a$	DEV. ^b
0.285	0.398	0.838	0.000
0.435	0.605	0.839	0.000
0.662	0.922	0.839	0.001
1.25	1.75	0.837	0.001
2.85	3.99	0.837	0.001
Average		0.838	

B-Side Calibration

$\Delta P_{Std'}$ (in.) H_2O	$\Delta P_{S'}$ (in.) H_2O	$C_{p(S)}^a$	DEV. ^b
0.285	0.402	0.834	0.001
0.662	0.935	0.833	0.000
1.25	1.77	0.834	0.001
2.85	4.03	0.833	0.000
3.40	4.80	0.833	0.000
Average		0.833	

$$^a C_{p(S)} = C_{p(Std)} \sqrt{\frac{\Delta P_{Std}}{\Delta P_S}} = 0.836$$

LEAK CHECK:
NO LEAK

$$^b DEV = C_{p(S)} - \bar{C}_p \text{ (must be } \leq 0.01)$$

$$\bar{C}_p(A) - \bar{C}_p(B) = 0.005 \text{ (must be } \leq 0.01).$$

MOSTARDI-PLATT ASSOCIATES
1077 ENTRY DRIVE
BENSENVILLE, ILLINOIS 60106

Date: 06/14/89
Customer Purchase Order #: 4535
Matheson Order #: 102-83675
Matheson Lot Number:

Analytical Laboratory Report
GAS MIX CERTIFIED STD. 2 COMPONENT

Cylinder #	Component	Request	Analysis
SD11315	OXYGEN	13.50%	13.60000%
	NITROGEN	Balance	Balance

2000 PSIA

Analyst DA

The only liability of this Company for gas which fails to comply with this analysis shall be replacement thereof by the Company without extra cost.

The reported values are in VOLUME%

Copy sent _____

RECEIVED APR 10 1989



Mostardi-Platt Associates
1077 Entry Drive
Bensenville, IL 60106-

Attn: Scott Banach

Date April 7, 1989

Our Invoice No. 102-30049

Our Work Order No. 102-81153

Your P.O. No. 4386

Gentlemen:

Below are the results of the analysis you requested, as reported by our laboratory. Results are in volume percent, unless otherwise indicated.

LABORATORY REPORT ON GAS ANALYSIS

COMPONENT	Cyl. No. SD-11322		Cyl. No. SD-11292		Cyl. No. SD-11187	
	Requested	Actual	Requested	Actual	Requested	Actual
Sulfur Dioxide	250 PPM	232 PPM	450 PPM	418 PPM	800-900PPM	848 PP
Air	Balance	Balance	Balance	Balance	Balance	Balance
Nitric Oxide	Cyl. No. SD-11195		Cyl. No. SD-11194		Cyl. No. SD-11309	
	Requested	Actual	Requested	Actual	Requested	Actual
Nitrogen	60-90 PPM	74.4 PPM	135-165PPM	150 PPM	240-270PPM	251 PPM
	Balance	Balance	Balance	Balance	Balance	Balance
Nitric Oxide	Cyl. No. SD-11196		Cyl. No.		Cyl. No.	
	Requested	Actual	Requested	Actual	Requested	Actual
Nitrogen	400-450 PPM	420 PPM				
	Balance	Balance				

Analyst PH 3-29-89

The only liability of this Company for gas which fails to comply with this analysis shall be replacement thereof by the Company without extra cost.

Manhattan Road & Richards Street
P.O. Box 96
Joliet, Illinois 60434
Phone: (815) 727-4848



MOSTARDI-PLATT ASSOCIATES INC.
1077 ENTRY DRIVE
BENSENVILLE, ILLINOIS 60106

Date: 12/13/88
Customer Purchase Order #: 4197
Matheson Order #: 102-77939
Matheson Lot Number:

Analytical Laboratory Report
GAS MIX CERTIFIED STD. 2 COMPONENT

Cylinder #	Component	Request	Analysis
5D1051E	NITRIC OXIDE	270.00ppm	0.028300%
	NITROGEN	Balance	Balance
	Nitrogen Dioxide	-	7.0 ppm
			290 ppm.
			2000 PSIA

Analyst PA

The only liability of this Company for gas which fails to comply with this analysis shall be replacement thereof by the Company without extra cost.

The reported values are in VOLUME%

Copy sent _____

Received: 07/14/89

07/21/89 08:50:29

RECEIVED JUL 24 1989

REPORT Mostardi Platt Associates Inc
TO 1077 Entry Drive
Bensenville, Illinois, 60106
(Phone #: 312-860-5900)

ATTEN Mr. Ken Addison

PREPARED Chemical Research Services
BY Institute of Gas Technology
3424 S. State Street
Chicago, IL 60616-3896

ATTEN S. S. Chao Business Phone
PHONE 312-567-5739 ; 312-567-3650

CERTIFIED BY

CONTACT KONCAR X3815

CLIENT MOST PLATT SAMPLES 1
COMPANY Mostardi Platt Associates Inc
FACILITY 1077 Entry Drive
Bensenville, Illinois, 60106

(For additional information, phone the CONTACT above.)
NEITHER IGT NOR ANY PERSON ACTING ON BEHALF OF IGT ASSUMES ANY
LIABILITY WITH RESPECT TO THE USE OF, OR FOR DAMAGES RESULTING
FROM THE USE OF, ANY INFORMATION PRESENTED IN THIS REPORT.

WORK ID Gas Sample #9071-D
TAKEN
TRANS Hand Delivered by Most. Platt
TYPE Landfill Gas
P.O. # 4614
INVOICE under separate cover

SAMPLE IDENTIFICATION

TEST CODES and NAMES used on this report

01 Gas Bag Sample # 9071-DGAS1 GAS ANALYSIS

SAMPLE ID Gas Bag Sample # 9071-D FRACTION 01A TEST CODE GAS1 NAME GAS ANALYSIS
Date & Time Collected 07/14/89 Category _____

<u>COMPONENT</u>	<u>MOLE%</u>	<u>D. L.</u>	<u>WEIGHT%</u>
Helium	ND		
Hydrogen	BDL	0.01	
Oxygen & Argon	5.40	0.01	6.19
Nitrogen	24.5	0.01	24.6
Carbon Dioxide	28.6	0.01	45.2
Methane	41.4	0.01	23.9
Ethane	BDL	0.01	
Propane	BDL	0.01	
i-Butane	BDL	0.01	
n-Butane	BDL	0.01	
i-Pentane	BDL	0.01	
n-Pentane	BDL	0.01	
C-6 & Heavier	0.03	0.01	0.10
Hydrogen sulfide	ND		
Total	100.0		100.0

CALCULATED PROPERTIES at 60 F / 14.73 psia (ASTM 3588)

Specific Gravity : 0.963
Compressibility [z] : 0.9982
Gross Heating Value (BTU/SCF) Net Heating Value (BTU/SCF)
-- dry -- : 422 -- dry -- : 380
-- sat.-- : 414 -- sat.-- : 373

Analyst : G.J. Koncar

NOTES: BDL = below detection limit (D.L.) 0.01 mole% if not specified
ND = Component not determined by this analysis

NOTICE: Neither IGT nor any person acting on behalf of IGT assumes any liability with respect to the use of, or for damages resulting from the use of, any information presented in this report.

Received: 07/14/89

07/21/89 08:50:29

Mostardi Platt Associates Inc

Fraction: -01A

Sample Description: Gas Sample #9071-D 7/14/89

TRACE SULFUR DETERMINATION BY GC/FPD

COMPOUND	PPMV
Carbonyl Sulfide	BDL
Hydrogen Sulfide	25
Methyl Mercaptan	2.0
Carbon Disulfide	2.4
Sulfur Dioxide	BDL
Ethyl Mercaptan	0.4
Dimethyl Sulfide	BDL
Methyl Ethyl Sulfide	0.2
i-Propyl Mercaptan	0.7
n-Propyl Mercaptan	BDL
Thiophane	0.1
Thiophene	0.4
t-Butyl Mercaptan	0.1
Other C4 S cpds	BDL
Dimethyl Disulfide	BDL
C1-Thiophenes	0.3
C2-Thiophenes	0.05
C3-Thiophenes	BDL
Benzothiophene	BDL
C5 Sulfur cpds	BDL
C6+ Sulfur cpds	BDL
Unidentified S cpds.	1.6

BDL=Below Detection Limit

(0.05ppmv except Hydrogen Sulfide @ 0.2ppmv)

Analyst: Alan C. Janos

206-2



MOSTARDI-PLATT ASSOCIATES INC.
1077 ENTRY DRIVE
BENSENVILLE, ILLINOIS 60106

Date: 12/13/88
Customer Purchase Order #: 4197
Matheson Order #: 102-77939
Matheson Lot Number:

Analytical Laboratory Report
GAS MIX CERTIFIED STD. 2 COMPONENT

Cylinder #	Component	Request	Analysis
SD10515	NITRIC OXIDE	80.00ppm	0.007360%
	NITROGEN	Balance	Balance
	Nitrogen Dioxide	-	8.0 ppm 81.6 ppm.

2000 PSIA

Analyst PA

The only liability of this Company for gas which fails to comply with this analysis shall be replacement thereof by the Company without extra cost.

The reported values are in VOLUME%

Copy sent _____

TEST #1

UNIT #1
STATIONARY GAS TURBINE SAMPLE POINT RECORD

Turbine identification:

Manufacturer SOLAR
Model, serial No. CENTRA T4500 S/N 4238C

Location:

Plant WASTE MANAGEMENT CID
City, State Chicago IL
Ambient temperature 70°F
Ambient pressure 29.26
Date 7-14-87

Test time: start 930
Test time: finish 1015
Test operator name S. Peterson
Diluent instrument type Tektronix
Serial No. 97874
NO_x instrument type Tecos Model 10
Serial No. _____

Sample point	Time, min.	O ₂ , %	NO _x , ppm
1-1	930-933	17.1	19
2	935-938	17.0	19
3	940-943	17.0	20
4	945-948	16.9	20
5	950-953	16.9	20
6	955-958	17.0	20
7	1000-1003	17.0	20
8	1005-1008	17.20	19

Test Run #2

STATIONARY GAS TURBINE SAMPLE POINT RECORD

Turbine identification:

Manufacturer Solar

Model, serial No. CENTRAK 74500 SN 9138C

Location:

Plant WASTE MANAGEMENT CID

City, State Chicago IL

Ambient temperature 72°F

Ambient pressure 29.26

Date 7-14-89

Test time: start 1035

Test time: finish

Test operator name Ed Peterson

Diluent instrument type Teledyne

Serial No. 97874

NO_x instrument type TECO Model 10

Serial No.

Sample point	Time, min.	O ₂ , %	NO _x , ppm
1-1	1035-1038	17.6	21
2	1040-1043	17.6	21
3	1045-1048	17.5	21
4	1050-1053	17.4	22
5	1055-1058	17.3	22
6	1100-1103	17.4	21
7	1105-1108	17.5	21
8	1110-1113	17.5	20

TEST #3

UNIT 1
STATIONARY GAS TURBINE SAMPLE POINT RECORD

Turbine identification:

Manufacturer SOLAR CENTAUR
Model, serial No. T4500 SW/ 4258C

Location:

Plant WASTE MANAGEMENT CID
City, State Chicago IL
Ambient temperature 75°F
Ambient pressure 29.26

Date 7-14-89

Test time: start 1140

Test time: finish 1220

Test operator name Ed Peterson

Diluent instrument type Telco

Serial No. 97874

NO_x instrument type Teco model 110

Serial No. _____

Sample point	Time, min.	O ₂ , %	NO _x , ppm
1-1	1140-1143	17.6	21
2	1145-1148	17.6	21
3	1150-1153	17.5	21
4	1155-1158	17.4	22
5	1200-1203	17.4	22
6	1205-1208	17.4	22
7	1210-1213	17.6	21
8	1215-1218	17.6	20

Test #1

STATIONARY GAS TURBINE SAMPLE POINT RECORD
UNIT #2

Turbine identification:

Manufacturer Solar

Model, serial No. CENTURION T4500 SN 4239C

Location:

Plant WASTE MANAGEMENT CID

City, State Chicago IL

Ambient temperature 70°F

Ambient pressure 29.30

Date 7-13-89

Test time: start 830

Test time: finish 910

Test operator name Ed Peterson

Diluent instrument type Teledyne

Serial No. 97874

NO_x instrument type TECO Model 10

Serial No. _____

To Smoke 821

Sample point	Time, min.	O ₂ , %	NO _x , ppm
1-1	830 - 833	17.3	21
2	835 - 838	17.2	21
3	840 - 843	17.1	21
4	845 - 848	17.1	21
5	850 - 853	17.1	21
6	855 - 858	17.1	20
7	900 - 903	17.1	20
8	905 - 908	17.1	20

Test #2

STATIONARY GAS TURBINE SAMPLE POINT RECORD

UNIT #2

Turbine identification:

Manufacturer SOLAR CENTRA
Model, serial No. T4500 SN/ 4239 C

Location:

Plant WASTE MANAGEMENT CID
City, State Chicago IL
Ambient temperature 75°
Ambient pressure 29.30

Date 7-13-89
Test time: start 935

Test time: finish 1015

Test operator name F. Peterson

Diluent instrument type Teledyne

Serial No. 97874

NO_x instrument type TECA Model 10

Serial No. _____

to STACK 929

Sample point	Time, min.	O ₂ , %	NO _x , ppm
1 -1	935-938	17.3	20
2	940-943	17.3	20
3	945-948	17.2	21
4	950-953	17.2	20
5	955-958	17.1	21
6	1000-1003	17.1	20
7	1005-1008	17.2	20
8	1010-1013	17.3	20

Test #3

STATIONARY GAS TURBINE SAMPLE POINT RECORD UNIT 2

Turbine identification:

Manufacturer SOLAR CENTAUR

Model, serial No. 14500 SN/

Location:

Plant WASTE MANAGEMENT CID

City, State CHICAGO IL

Ambient temperature 75°F

Ambient pressure 29.30

Date 7-13-89

Test time: start 1035

Test time: finish 1105

Test operator name E. Peterson

Diluent instrument type Teledyne

Serial No. 97874

NO_x instrument type TECO model 10

Serial No. _____

TO Stack 1031

Sample point	Time, min.	O ₂ , %	NO _x , ppm
1 - 1	1035 - 1038	17.3	20
2	1040 - 1043	17.3	20
3	1045 - 1048	17.2	20
4	1050 - 1053	17.2	21
5	1055 - 1058	17.2	21
6	1100 - 1103	17.1	21
7	1105 - 1108	17.2	20
8	1110 - 1113	17.2	20

Test #1

STATIONARY GAS TURBINE SAMPLE POINT RECORD
UNIT #3

Turbine identification:

Manufacturer SOLAR
Model, serial No. CENTUR T400 - SN 4240C

Location:

Plant CID - WASTE MANAGEMENT
City, State Chicago IL
Ambient temperature 80°
Ambient pressure 29.39
Date 7-12-89
Test time: start 1100 AM
Test time: finish 1140
Test operator name E. Peterson
Diluent instrument type Teklyn 97
Serial No. 97874
NO_x instrument type TECA Model 10
Serial No. _____

TO Stack 1055

Sample point	Time, min.	O ₂ , %	NO _x , ppm
1-1	1100-1103	17.4	20
2	1105-1108	17.4	20
3	1110-1113	17.4	20
4	1115-1118	17.3	20
5	1120-1123	17.1	20
6	1125-1128	17.1	20
7	1130-1133	17.2	20
8	1135-1138	17.4	20

Test #2

STATIONARY GAS TURBINE SAMPLE POINT RECORD
UNIT 3

Turbine identification:

Manufacturer SOLAR

Model, serial No. CE-11A-14500-SN9240C

Location:

Plant WASTE MGMT. - CID

City, State Chicago, IL

Ambient temperature 80°F

Ambient pressure 29.39

Date 7-12-89

Test time: start 12:15

Test time: finish 12:55

Test operator name Ed R. Jensen

Diluent instrument type Teledyne

Serial No. 97874

NO_x instrument type Teco Model 10

Serial No. _____

TO Stack 12:10

Sample point	Time, min.	O ₂ , %	NO _x , ppm
1-1	12:15-12:18	17.1	20
1-2	12:20-12:23	17.2	19
1-3	12:25-12:28	17.1	20
1-4	12:30-12:33	17.0	20
1-5	12:35-12:38	16.9	20
1-6	12:40-12:43	17.0	20
1-7	12:45-12:48	17.1	19
1-8	12:50-12:53	17.2	19

TEST #3

STATIONARY GAS TURBINE SAMPLE POINT RECORD
UNIT #3

Turbine identification:

Manufacturer Solar

Model, serial No. CENTAUR T4500 - SN 4240C

Location:

Plant WASTE MANAGEMENT - CID

City, State Chicago IL.

Ambient temperature 85°F

Ambient pressure 29.59

Date 7-12-89

Test time: start 1320

Test time: finish 1400

Test operator name E. J. Peterson

Diluent instrument type TELECAL

Serial No. 97874

NO_x instrument type TECOMARK 10

Serial No. _____

TO STACK 1315

Sample point	Time, min.	O ₂ , %	NO _x , ppm
1-1	1320 -	17.0	19
2	1325	17.0	19
3	1330	16.9	20
4	1335	16.8	20
5	1340	16.9	20
6	1345	16.8	20
7	1350	17.0	19
8	1355	17.0	19

PRELIMINARY DILUENT TRAVERSE
UNIT 1

Date 7-14-89

Location:

Plant WABE MANAGEMENT CIP

City, State CHICAGO ILL

Turbine identification:

Manufacturer SOLAR

Model, serial number CINTECH T4500 SN/4238C

Sample point	Oxygen concentration, ppm %
1 - 1	17.4
2	17.4
3	17.4
4	17.3
5	17.3
6	17.3
7	17.3
8	17.4
9	17.4
10	17.4
2 - 1	17.5
2	17.5
3	17.4
4	17.4
5	17.4
6	17.4
7	17.4
8	17.4
9	17.4
10	17.4

PRELIMINARY DILUENT TRAVERSE

UNIT #2

Date 7-12-89

Location:

Plant CID - WASTE MANAGEMENT
City, State CHICAGO ILL

Turbine identification:

Manufacturer SOLAR
Model, serial number CENTRAK T400 SN 4239C

Sample point	Oxygen concentration, ppm %
1-1	17.3
1-2	17.3
3	17.3
4	17.2
5	17.2
6	17.2
7	17.2
8	17.2
9	17.3
10	17.3
2-1	17.4
2	17.4
3	17.3
4	17.3
5	17.3
6	17.3
7	17.3
8	17.3
9	17.3
10	17.3

PRELIMINARY DILUENT TRAVERSE

Unit 3

Date 7-11-79

Location:

Plant CID LANDFILL

City, State Chicago IL

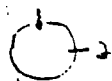
Turbine identification: #3

Manufacturer SOLAR

Model, serial number CENTAUR T4500 511-4040C

2.7 x 10³ KW/KVAR (90%)

Sample point Oxygen concentration, ~~ppm~~ %



← North

1-1	17.2
2	17.2
3	17.2
4	17.1
5	17.1
6	17.0
7	17.1
8	17.2
9	17.2
10	17.2
2-1	17.3
2	17.3
3	17.2
4	17.2
5	17.2
6	17.2
7	17.2
8	17.2
9	17.3
10	17.3

Unit #1

Averages

Test 1

Point	NO ₂	O ₂
1	19.4	17.06
2	19.4	16.97
3	19.6	16.96
4	19.8	16.92
5	20.0	16.93
6	19.5	16.98
7	19.9	17.60
8	18.6	17.20

19.53

17.00

Test 2

1	20.4	17.64
2	21.4	17.57
3	21.4	17.48
4	21.7	17.41
5	21.9	17.30
6	21.2	17.38
7	20.5	17.47
8	19.9	17.53

21.09

17.47

Test 3

1	21.3	17.62
2	21.3	17.56
3	21.3	17.44
4	21.8	17.37
5	21.8	17.37
6	21.6	17.40
7	20.9	17.52
8	20.4	17.64

21.9

21.3

17.50

Unit #2

7-13-89

Test #1

NOX

O₂

Point #

1	20.6	17.24
2	20.7	17.18
3	20.8	17.17
4	20.8	17.08
5	20.6	17.08
6	20.3	17.13
7	20.0	17.09
8	19.8	17.11

20.5

17.13

Test #2

Point #

1	20.4	17.34
2	20.4	17.29
3	20.5	17.23
4	20.4	17.19
5	20.5	17.15
6	20.3	17.18
7	20.0	17.22
8	19.5	17.29

20.3

17.24

Test #3

Point #

1	20.1	17.35
2	20.3	17.31
3	20.4	17.25
4	20.6	17.21
5	20.7	17.19
6	20.6	17.14
7	20.2	17.16
8	19.9	17.21

220

17.22

Averages

UNIT # 3

7-12-89

NOX

O₃

TEST #1

POINT #1

1	20.5	17.39
2	19.9	17.42
3	20.1	17.35
4	20.0	17.27
5	20.1	17.13
6	19.25	17.13
7	20.0	17.20

8

19.4

19.9

17.34

17.28

TEST #2

POINT

1	19.4	17.11
2	19.5	17.14
3	19.6	17.14
4	20.0	16.97
5	20.2	16.91
6	19.8	16.99
7	19.4	17.14
8	18.8	17.22

19.6

17.09

TEST 3 POINT

1	19.5	17.00
2	19.3	17.01
3	19.7	16.87
4	19.8	16.81
5	19.7	16.85
6	20.2221	16.80
7	19.3	16.98
8	18.7	17.02

19.5

16.92



Time 815

[illegible]

P_{bar} 29.30 "Hg Static — "H₂O P_g — "Hg P_s 29.30 "Hg C_p 0.838 part 9

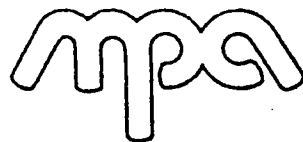
0.44 x 2.0 = _____ t_s _____ °F T_s _____ °R Flue Area 8.727 ft²

$$0.32 \times 17.30 =$$
$$0.28 \times 50.70 =$$

179.012

$$B_{VS} \quad 1 - B_{VS} \quad \sqrt{\Delta p}$$
$$(29.012 \times 0.955) + (18 \times 0.045) = 29.516$$
$$v_s = 85.49 \times 0.838 \times \sqrt{\frac{122.5}{120.43}} = 120.43 \text{ ft/sec}$$
$$Q_{acfm} = \frac{2930}{8.727} \times 60 = 164,037 \text{ acfm}$$

225 Data Taken By 63, 548 63, 548 26, 635

Project C. IDLocation Unit 3Date 7/12/89 Test No. 1 p. test Time 1015-1030

Point No.	Δp	$\sqrt{\Delta p}$	t_s	α	Point No.	Δp	$\sqrt{\Delta p}$	t_s	α
1-1	2.00	1.414	735		2-1	2.00	1.414	735	
2	2.100	1.449	730			1.90	1.378	730	
3	2.30	1.517	735			2.10	1.449	730	
4	2.30		740			2.00	1.414	740	
5	2.30		740			2.10	1.449	725	
6	2.30		735			2.20	1.483	730	
7	2.10	1.449	730			2.10	1.449	735	
8	2.10	1.449	740			2.00	1.414	730	
9	2.10	1.449	725			1.90	1.378	735	
10	2.00	1.414	740		10	1.85	1.360	730	
		14.6553					(14.189)		
1-1	1.75	1.323	735	1.445	-1500				
2	1.85	1.360	735		2.1	1.85	1.36	740	
3	2.15	1.466	740		2	1.90	1.378	740	
4	2.30	1.517	735		3	2.10	1.449	745	
5	2.30	1.517	740		4	2.00	1.414	735	
6	2.20	1.483	735		5	2.30	1.517	740	
7	2.10	1.449	725		6	2.30	1.517	740	
8	2.00	1.414	735		7	2.10	1.449	730	
9	1.85	1.360	730		8	2.10	1.449	745	
10	1.85	1.360	740		9	2.00	1.414	730	
					10	1.80	1.342	740	
		14.249							

Avg α

(1.442)

1.65

1.445

(1.427)

P_{bar} 29.34 "Hg Static — "H₂O P_g — "Hg P_s 29.34 "Hg C_p 8A - 0.835

$0.44 \times \frac{2.0}{17.2} =$ t_s — °F T_s — °R Flue Area 8.727 ft² 40"

$0.32 \times \frac{17.2}{81.9} =$

$0.28 \times \frac{81.9}{29.003} =$ B_{ws} 0.053 $1 - B_{ws}$ 0.9 $\sqrt{\Delta p}$ —

$(29.003 \times 0.947) + (18 \times 0.053) = 28.425$

$v_s = 85.49 \times 0.839 \times \frac{28.425}{123.67} = \frac{123.67}{123.67}$ ft/sec

$Q_{acfm} = \frac{8.727}{60} \times 64.751 = 9.34$ acfm

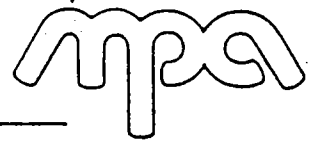
226 Data Taken By KAM

64478

126518 dsc

26234

Avg 26,396

METHOD 6 - FIELD DATA SHEET
SULFUR DIOXIDE and MOISTURE

Project: West Mgmt CID Date: 7/14/99
 Sampling Location: TURBINE 1
 Source Condition: FULL LOAN (2950 KW/KVAR with)
 Dry Gas Meter # 6506273 $\gamma =$ 1.019

Test(Run) No. <u>1</u>		Barometric Pressure (P_{bar}) <u>29.26</u> in.Hg		Orsat Analysis	
Gas Temperature <u>730</u> °F		Static Pressure <u>—</u> in.H ₂ O		%CO ₂ <u>17</u> %O ₂	
Clock Time 24hr	Meter Volume (V_m) ft ³	Meter Gauge Pressure (ΔH) in.H ₂ O	Meter Temp. (t_m) °F	Impgr. Outlet Temp. °F	Pump Vacuum in.Hg
926	70.010	0.00	72	Fully	2
931	70.195		74	100	
936	70.376		74		
941	70.573		74		
946	70.770				
V_{soln} _____ V_a _____ N _____ $V_t - V_{tb}$ _____ $V_{m(std)}$ <u>0.7492</u> _____ lbs SO ₂ /dscf _____ ppm(dry) _____ grams (W_f) _____ ppm(wet) _____ grams (W_i) $B_{ws} =$ _____ _____ grams $1 - B_{ws} =$ _____ $\times 0.04715 =$ _____ ft ³ [$V_{w(std)}$] $V_{m(std)} = 17.64 V_m \gamma \frac{P_{bar}}{P_m} \frac{\Delta H}{13.6}$ $\text{lbs SO}_2/\text{dscf} = \frac{2.061 \times 10^{-5}}{V_{m(std)}} \times (V_t - V_{tb}) \times \frac{V_{soln}}{V_a}$ $\text{ppm SO}_2(\text{dry}) = 6.015 \times 10^6 \times \text{lbs SO}_2/\text{dscf} \quad B_{ws} = \frac{V_{w(std)}}{V_{w(std)} + V_{m(std)}}$					
AVG <u>0.76</u>		73.5 (T_m)		533.5 °F	
Leak Check: ☒ cc/min @ 15 in.Hg					

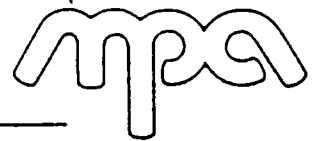
Comments:

Test(Run) No. <u>2</u>		Barometric Pressure (P_{bar}) <u>29.26</u> in.Hg		Orsat Analysis	
Gas Temperature <u>730</u> °F		Static Pressure <u>—</u> in.H ₂ O		%CO ₂ <u>17</u> %O ₂	
Clock Time 24hr	Meter Volume (V_m) ft ³	Meter Gauge Pressure (ΔH) in.H ₂ O	Meter Temp. (t_m) °F	Impgr. Outlet Temp. °F	Pump Vacuum in.Hg
948	0.797	0.00	74	Fully	2
953	1.027		74	100	
958	1.257		74		
1003	1.504		74		
1008	1.715				
V_{soln} _____ V_a _____ N _____ $V_t - V_{tb}$ _____ $V_{m(std)}$ <u>0.9042</u> _____ lbs SO ₂ /dscf _____ ppm(dry) _____ grams (W_f) _____ ppm(wet) _____ grams (W_i) $B_{ws} =$ _____ _____ grams $1 - B_{ws} =$ _____ $\times 0.04715 =$ _____ ft ³ [$V_{w(std)}$] $V_{m(std)} = 17.64 V_m \gamma \frac{P_{bar}}{P_m} \frac{\Delta H}{13.6}$ $\text{lbs SO}_2/\text{dscf} = \frac{2.061 \times 10^{-5}}{V_{m(std)}} \times (V_t - V_{tb}) \times \frac{V_{soln}}{V_a}$ $\text{ppm SO}_2(\text{dry}) = 6.015 \times 10^6 \times \text{lbs SO}_2/\text{dscf} \quad B_{ws} = \frac{V_{w(std)}}{V_{w(std)} + V_{m(std)}}$					
AVG <u>0.918</u>		74 (T_m)		534 °F	
Leak Check: ☒ cc/min @ 15 in.Hg					

Comments:

Samples Transferred to Lab By:

Date 7/14/99Operator KAH

METHOD 6 - FIELD DATA SHEET
SULFUR DIOXIDE and MOISTURE

Project: Wst. Mgnt C. I. D. Date: 7/14/89
 Sampling Location: Turbine 1
 Source Condition: Full Load
 Dry Gas Meter # 6906273 $\gamma =$ 1.019

Test(Run) No. <u>3</u> Barometric Pressure (P_{bar}) <u>29.26</u> in.Hg						Orsat Analysis	
Gas Temperature <u>730</u> °F Static Pressure <u>—</u> in.H ₂ O						<u>—</u> %CO ₂	<u>—</u> %O ₂
Clock Time 24hr	Meter Volume (V_m) ft ³	Meter Gauge Pressure (ΔH) in.H ₂ O	Meter Temp. (t_m) °F	Impgr. Outlet Temp. °F	Pump Vacuum in.Hg	V_{soln} <u>—</u> V_a <u>—</u> N <u>—</u> $V_t - V_{tb}$ <u>—</u> $V_{m(std)}$ <u>0.7614</u> <u>—</u> lbs SO ₂ /dscf <u>—</u> ppm(dry) <u>—</u> grams (W_f) <u>—</u> ppm(wet) <u>—</u> grams (W_i) $B_{ws} =$ <u>—</u> <u>—</u> grams $1 - B_{ws} =$ <u>—</u> $\times 0.04715 =$ <u>—</u> ft ³ [$V_{w(std)}$] $V_{m(std)} = 17.64 V_m \gamma \frac{P_{bar}}{T_m} \frac{\Delta H}{13.6}$ $\text{lbs SO}_2/\text{dscf} = \frac{7.061 \times 10^{-5}}{V_{m(std)}} \times (V_t - V_{tb}) \times \frac{V_{soln}}{V_a}$ $\text{ppm SO}_2(\text{dry}) = 6.015 \times 10^6 \times \text{lbs SO}_2/\text{dscf} \times B_{ws} = \frac{V_{w(std)}}{V_{m(std)} + V_{w(std)}}$	
1035	1.730	0.00	74	Full	2		
1040	1.923		74	iced			
1045	2.102		74				
1050	2.310		74				
1055	2.503						
AVG 0.773						74 (T_m) 534 °F	

Leak Check: ☒ cc/min @ 15 in.Hg

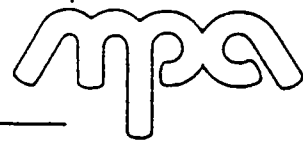
Test(Run) No. <u>4</u> Barometric Pressure (P_{bar}) <u>29.24</u> in.Hg						Orsat Analysis	
Gas Temperature <u>730</u> °F Static Pressure <u>—</u> in.H ₂ O						<u>—</u> %CO ₂	<u>—</u> %O ₂
Clock Time 24hr	Meter Volume (V_m) ft ³	Meter Gauge Pressure (ΔH) in.H ₂ O	Meter Temp. (t_m) °F	Impgr. Outlet Temp. °F	Pump Vacuum in.Hg	V_{soln} <u>—</u> V_a <u>—</u> N <u>—</u> $V_t - V_{tb}$ <u>—</u> $V_{m(std)}$ <u>0.7279</u> <u>—</u> lbs SO ₂ /dscf <u>—</u> ppm(dry) <u>—</u> grams (W_f) <u>—</u> ppm(wet) <u>—</u> grams (W_i) $B_{ws} =$ <u>—</u> <u>—</u> grams $1 - B_{ws} =$ <u>—</u> $\times 0.04715 =$ <u>—</u> ft ³ [$V_{w(std)}$] $V_{m(std)} = 17.64 V_m \gamma \frac{P_{bar}}{T_m} \frac{\Delta H}{13.6}$ $\text{lbs SO}_2/\text{dscf} = \frac{7.061 \times 10^{-5}}{V_{m(std)}} \times (V_t - V_{tb}) \times \frac{V_{soln}}{V_a}$ $\text{ppm SO}_2(\text{dry}) = 6.015 \times 10^6 \times \text{lbs SO}_2/\text{dscf} \times B_{ws} = \frac{V_{w(std)}}{V_{m(std)} + V_{w(std)}}$	
1057	2.518	0.00	74	Full	2		
1102	2.702		74	iced			
1107	2.890		74				
1112	3.075		74				
1117	3.257						
AVG 0.739						74 (T_m) 534 °F	

Leak Check: ☒ cc/min @ 15 in.Hg

Samples Transferred to Lab By: _____

Operator K.A.H.

_____, Date _____

METHOD 6 - FIELD DATA SHEET
SULFUR DIOXIDE and MOISTURE

Project: lust. mgmt CID Date: 7/14/99
 Sampling Location: Turbine 1
 Source Condition: Full Load
 Dry Gas Meter # 6806273 $\gamma = 1.019$

Test(Run) No. 5 Barometric Pressure (P_{bar}) 29.26 in.Hg Orsat Analysis
 Gas Temperature 730 °F Static Pressure — in.H₂O %CO₂ 17.2 %O₂

X-4-0
7/14/99

Clock Time 24hr	Meter Volume (V_m) ft ³	Meter Gauge Pressure (ΔH) in.H ₂ O	Meter Temp. (t_m) °F	Impgr. Outlet Temp. °F	Pump Vacuum in.Hg
1140	3.285	0.00	75	Fully	2
1145	3.507		75	100	
1150	3.721		75		
1155	3.951		75		
1200	4.267				
AVG	0.902		75 (T_m)	535 °F	

V_{soln} — V_a — N —
 $V_t - V_{tb}$ — $V_m(std)$ 0.965
 — lbs SO₂/dscf — ppm(dry)
 — grams (W_f) — ppm(wet)
 — grams (W_i) $B_{ws} =$ —
 — grams $1 - B_{ws} =$ —
 $\times 0.04715 =$ — ft³ [$V_w(std)$]
 $V_m(std) = 17.64 V_m \gamma \frac{P_{bar}'}{T_m} \frac{\Delta H}{13.6}$
 $lbs SO_2/dscf = \frac{7.061 \times 10^{-5}}{V_m(std)} \times (V_t - V_{tb}) \times \frac{V_{soln}}{V_a}$
 $ppm SO_2(dry) = 6.015 \times 10^6 \times lbs SO_2/dscf \times B_{ws} = \frac{V_w(std)}{V_w(std) + V_m(std)}$

Leak Check: ☒ cc/min @ 15 in.Hg

Test(Run) No. 6 Barometric Pressure (P_{bar}) 29.26 in.Hg Orsat Analysis
 Gas Temperature — °F Static Pressure — in.H₂O %CO₂ 17.4 %O₂

Clock Time 24hr	Meter Volume (V_m) ft ³	Meter Gauge Pressure (ΔH) in.H ₂ O	Meter Temp. (t_m) °F	Impgr. Outlet Temp. °F	Pump Vacuum in.Hg
1202	4.278	0.00	75	Fully	2
1207	4.482		75	100	
1212	4.691		75		
1217	4.900		75		
1222	5.130				
AVG	0.852		75 (T_m)	535 °F	

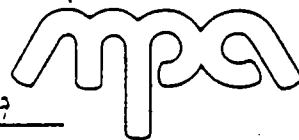
V_{soln} — V_a — N —
 $V_t - V_{tb}$ — $V_m(std)$ 0.838
 — lbs SO₂/dscf — ppm(dry)
 — grams (W_f) — ppm(wet)
 — grams (W_i) $B_{ws} =$ —
 — grams $1 - B_{ws} =$ —
 $\times 0.04715 =$ — ft³ [$V_w(std)$]

Leak Check: ☒ cc/min @ 15 in.Hg

Samples Transferred to Lab By:

RAA/PA, Date 7/14/99

Operator RAA

METHOD 6 - FIELD DATA SHEET
SULFUR DIOXIDE and MOISTURE

Project: INST. Mgnt C.I.D. Date: 7-13-89
 Sampling Location: TURBINE 2
 Source Condition: Full Load
 Dry Gas Meter # 6806273 $\gamma = 1.019$

Test(Run) No. <u>1</u>		Barometric Pressure (P_{bar}) <u>29.30</u> in.Hg		Orsat Analysis	
Gas Temperature <u>720</u> °F		Static Pressure <u>—</u> in.H ₂ O		<u>2</u> %CO ₂ <u>17.3</u> %O ₂	
Clock Time 24hr	Meter Volume (V_m) ft ³	Meter Gauge Pressure (ΔH) in.H ₂ O	Meter Temp. (t_m) °F	Impgr. Outlet Temp. °F	Pump Vacuum in.Hg
826	5.382	0.00	72	Full	1.75
831	5.557		72	Full	
836	5.733		72		1.75
841	5.910		72		
846	6.110	✓			
$V_{soln} \text{ — } V_a \text{ — } N \text{ —}$ $V_t - V_{tb} \text{ — } V_{m(std)} \text{ 0.7208 }$ $\text{ — } \text{lbs SO}_2/\text{dscf} \text{ — } \text{ppm(dry)}$ $\text{ — } \text{grams (W}_f\text{)} \text{ — } \text{ppm(wet)}$ $\text{ — } \text{grams (W}_i\text{)} B_{ws} = \text{ —}$ $\text{ — } \text{grams } 1 - B_{ws} = \text{ —}$ $\times 0.04715 = \text{ — } \text{ft}^3 [V_{w(std)}]$ $V_{m(std)} = 17.64 V_m \frac{P_{bar} \Delta H}{T_m}$ $\text{lbs SO}_2/\text{dscf} = \frac{7.061 \times 10^{-5}}{V_{m(std)}} \times (V_t - V_{tb}) \times \frac{V_{soln}}{V_a}$ $\text{ppm SO}_2(\text{dry}) = 6.015 \times 10^6 \times \text{lbs SO}_2/\text{dscf} B_{ws} = \frac{V_{w(std)}}{V_{w(std)} + V_{m(std)}}$					
AVG <u>0.720</u>		<u>72</u> (T_m) <u>532</u> °F		Comments:	

Leak Check: ☒ cc/min @ 15 in.Hg

Test(Run) No. <u>2</u>		Barometric Pressure (P_{bar}) <u>29.30</u> in.Hg		Orsat Analysis	
Gas Temperature <u>@ 720</u> °F		Static Pressure <u>—</u> in.H ₂ O		<u>2</u> %CO ₂ <u>17.3</u> %O ₂	
Clock Time 24hr	Meter Volume (V_m) ft ³	Meter Gauge Pressure (ΔH) in.H ₂ O	Meter Temp. (t_m) °F	Impgr. Outlet Temp. °F	Pump Vacuum in.Hg
848	6.130	0.00	72	Full	2.0
853	6.337		72	Full	2.0
858	6.525		73		2.0
903	6.733		73		
908	6.920	✓			
$V_{soln} \text{ — } V_a \text{ — } N \text{ —}$ $V_t - V_{tb} \text{ — } V_{m(std)} \text{ 0.7814 }$ $\text{ — } \text{lbs SO}_2/\text{dscf} \text{ — } \text{ppm(dry)}$ $\text{ — } \text{grams (W}_f\text{)} \text{ — } \text{ppm(wet)}$ $\text{ — } \text{grams (W}_i\text{)} B_{ws} = \text{ —}$ $\text{ — } \text{grams } 1 - B_{ws} = \text{ —}$ $\times 0.04715 = \text{ — } \text{ft}^3 [V_{w(std)}]$					
AVG <u>0.790</u>		<u>71.5</u> (T_m) <u>532.5</u> °F		Comments:	

Leak Check: ☒ cc/min @ 15 in.Hg

Samples Transferred to Lab By:

YBB/PS

Date 7/13/89

Operator KTA

METHOD 6 - FIELD DATA SHEET
SULFUR DIOXIDE and MOISTURE

Project: West. Ingot (C.I.D.) Date: 7/13/89
 Sampling Location: Turbine 2
 Source Condition: FULL LOAD
 Dry Gas Meter # 686273 $\gamma =$ 1.019

Test(Run) No. <u>3</u>		Barometric Pressure (P_{bar}) <u>29.30</u> in.Hg		Orsat Analysis	
Gas Temperature _____ °F		Static Pressure _____ in.H ₂ O		<u>2.0</u> %CO ₂ <u>17.3</u> %O ₂	
Clock Time 24hr	Meter Volume (V_m) ft ³	Meter Gauge Pressure (ΔH) in.H ₂ O	Meter Temp. (t_m) °F	Impgr. Outlet Temp. °F	Pump Vacuum in.Hg
933	7.000	0.00	74	Fully	2.00
938	7.170		74	Test	
943	7.375		75		
948	7.550		75		
953	7.755				
V_{soln} _____ V_a _____ N _____ $V_t - V_{tb}$ _____ $V_{m(std)}$ <u>0.744</u> _____ lbs SO ₂ /dscf _____ ppm(dry) _____ grams (W_f) _____ ppm(wet) _____ grams (W_i) $B_{ws} =$ _____ _____ grams $1 - B_{ws} =$ _____ $\times 0.04715 =$ _____ ft ³ [$V_{w(std)}$] $V_{m(std)} = 17.64 V_a \gamma \frac{P_{bar} \Delta H}{13.6}$ $\text{lbs SO}_2/\text{dscf} = \frac{7.061 \times 10^{-5}}{V_{m(std)}} \times (V_t - V_{tb}) \times \frac{V_{soln}}{V_a}$ $\text{ppm SO}_2(\text{dry}) = 6.015 \times 10^6 \times \text{lbs SO}_2/\text{dscf} \quad B_{ws} = \frac{V_{w(std)}}{V_{w(std)} + V_{m(std)}}$					
AVG <u>0.755</u>			<u>74.5</u> (T_m)	<u>534.5</u> °F	Comments: _____

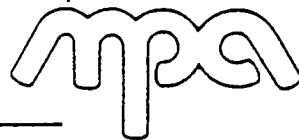
Leak Check: ☒ cc/min @ 15 in.Hg

Test(Run) No. <u>4</u>		Barometric Pressure (P_{bar}) <u>29.30</u> in.Hg		Orsat Analysis	
Gas Temperature _____ °F		Static Pressure _____ in.H ₂ O		<u>_____</u> %CO ₂ <u>_____</u> %O ₂	
Clock Time 24hr	Meter Volume (V_m) ft ³	Meter Gauge Pressure (ΔH) in.H ₂ O	Meter Temp. (t_m) °F	Impgr. Outlet Temp. °F	Pump Vacuum in.Hg
955	7.780	0.00	75	Fully	2
1000	7.980		75	Test	
1005	8.145		75		
1010	8.310		75		
1015	8.520				
V_{soln} _____ V_a _____ N _____ $V_t - V_{tb}$ _____ $V_{m(std)}$ <u>0.7285</u> _____ lbs SO ₂ /dscf _____ ppm(dry) _____ grams (W_f) _____ ppm(wet) _____ grams (W_i) $B_{ws} =$ _____ _____ grams $1 - B_{ws} =$ _____ $\times 0.04715 =$ _____ ft ³ [$V_{w(std)}$] $V_{m(std)} = 17.64 V_a \gamma \frac{P_{bar} \Delta H}{13.6}$ $\text{lbs SO}_2/\text{dscf} = \frac{7.061 \times 10^{-5}}{V_{m(std)}} \times (V_t - V_{tb}) \times \frac{V_{soln}}{V_a}$ $\text{ppm SO}_2(\text{dry}) = 6.015 \times 10^6 \times \text{lbs SO}_2/\text{dscf} \quad B_{ws} = \frac{V_{w(std)}}{V_{w(std)} + V_{m(std)}}$					
AVG <u>0.740</u>			<u>75</u> (T_m)	<u>535</u> °F	Comments: _____

Leak Check: ☒ cc/min @ 15 in.Hg

Samples Transferred to Lab By:

P. J. N. A., Date 7/13/89
Operator E. H. H.

METHOD 6 - FIELD DATA SHEET
SULFUR DIOXIDE and MOISTURE

Project: Wst / Agmt. C.I.D Date: 7/13/89
 Sampling Location: Turbine 2
 Source Condition: Full Load
 Dry Gas Meter # 6006273 $\gamma = 1.019$

Test(Run) No. <u>5</u>		Barometric Pressure (P_{bar}) <u>29.30</u> in.Hg		Orsat Analysis	
Gas Temperature _____ °F		Static Pressure _____ in.H ₂ O		_____% CO ₂ _____ % O ₂	
Clock Time 24hr	Meter Volume (V_m) ft ³	Meter Gauge Pressure (ΔH) in.H ₂ O	Meter Temp. (t_m) °F	Impgr. Outlet Temp. °F	Pump Vacuum in.Hg
1036	8.530	0.00	75	fully	2
1041	8.712		75	id	
1046	8.880		75		
1051	9.075		75		
1056	9.255				
AVG 0.725			75 (T_m)	535 °F	

Leak Check: ☒ cc/min @ 15 in.Hg

V_{soln} _____ V_a _____ N _____
 $V_t - V_{tb}$ _____ $V_{m(std)}$ 0.7137
 _____ lbs SO₂/dscf _____ ppm(dry)
 _____ grams (W_f) _____ ppm(wet)
 = _____ grams (W_i) $B_{ws} =$ _____
 _____ grams $1 - B_{ws} =$ _____
 $\times 0.04715 =$ _____ ft³ [$V_{w(std)}$]
 $V_{m(std)} = 17.64 V_m \gamma \frac{P_{bar}}{13.6}$
 $\text{lbs SO}_2/\text{dscf} = \frac{7.061 \times 10^{-5}}{V_{m(std)}} \times (V_t - V_{tb}) \times \frac{V_{soln}}{V_a}$
 $\text{ppm SO}_2(\text{dry}) = 6.015 \times 10^6 \times \text{lbs SO}_2/\text{dscf} \times B_{ws} = \frac{V_{w(std)}}{V_{m(std)} + V_{m(std)}}$

Comments:

Test(Run) No. <u>6</u>		Barometric Pressure (P_{bar}) <u>29.30</u> in.Hg		Orsat Analysis	
Gas Temperature _____ °F		Static Pressure _____ in.H ₂ O		_____% CO ₂ _____ % O ₂	
Clock Time 24hr	Meter Volume (V_m) ft ³	Meter Gauge Pressure (ΔH) in.H ₂ O	Meter Temp. (t_m) °F	Impgr. Outlet Temp. °F	Pump Vacuum in.Hg
1057	9.265	0.00	74	fully	2
1102	9.435		74	id	
1107	9.635		74		
1112	9.807		74		
1117	9.994				
AVG 729			74 (T_m)	534 °F	

Leak Check: ☒ cc/min @ 15 in.Hg

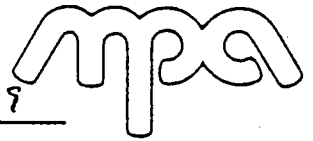
V_{soln} _____ V_a _____ N _____
 $V_t - V_{tb}$ _____ $V_{m(std)}$ 0.719
 _____ lbs SO₂/dscf _____ ppm(dry)
 _____ grams (W_f) _____ ppm(wet)
 = _____ grams (W_i) $B_{ws} =$ _____
 _____ grams $1 - B_{ws} =$ _____
 $\times 0.04715 =$ _____ ft³ [$V_{w(std)}$]
 $V_{m(std)} = 17.64 V_m \gamma \frac{P_{bar}}{13.6}$
 $\text{lbs SO}_2/\text{dscf} = \frac{7.061 \times 10^{-5}}{V_{m(std)}} \times (V_t - V_{tb}) \times \frac{V_{soln}}{V_a}$
 $\text{ppm SO}_2(\text{dry}) = 6.015 \times 10^6 \times \text{lbs SO}_2/\text{dscf} \times B_{ws} = \frac{V_{w(std)}}{V_{m(std)} + V_{m(std)}}$

Comments:

Samples Transferred to Lab By:

10/1/89, Date 7/12/89

Operator 1-AP

METHOD 6 - FIELD DATA SHEET
SULFUR DIOXIDE AND MOISTURE

Project: Waste mgmt CTD Landfill Date: 7/12/09
 Sampling Location: Turbine 3 outlet
 Source Condition: Full Load
 Dry Gas Meter # 1506273 $\gamma = 1.019$

Test(Run) No. 1 Barometric Pressure (P_{bar}) 29.34 in.Hg Orsat Analysis
 Gas Temperature 750 °F Static Pressure _____ in.H₂O %CO₂ 17.2 %O₂

Clock Time	Meter Volume (V) 24hr ft ³	Meter Gauge Pressure (ΔH) in.H ₂ O	Meter Temp. (t _m) °F	Impgr. Outlet Temp. °F	Pump Vacuum in.Hg
1102	0.473	0.00	74	Full	
1107	0.635		74	iced	1.50
1112	0.990		74		1.50
1117	1.968		75		1.50
1122	1.135				
AVG	1.162		74.25 (T _m)	74.25	

V_{soln} _____ V_a _____ N _____
 $V_t - V_{tb}$ _____ $V_{m(std)}$ 0.634
 _____ lbs SO₂/dscf _____ ppm(dry)
 _____ grams (W_f) _____ ppm(wet)
 _____ grams (W_i) $B_{ws} =$ _____
 _____ grams $1 - B_{ws} =$ _____
 $\times 0.04715 =$ _____ ft³ [$V_{w(std)}$]
 $V_{m(std)} = 17.64 V_m \gamma \frac{P_{bar} - 13.6}{T_m}$
 $\text{lbs SO}_2/\text{dscf} = \frac{7.061 \times 10^{-5}}{V_{m(std)}} \times (V_t - V_{tb}) \times \frac{V_{soln}}{V_a}$
 $\text{ppm SO}_2(\text{dry}) = 6.015 \times 10^6 \times \text{lbs SO}_2/\text{dscf} \times B_{ws} = \frac{V_{w(std)}}{V_{m(std)} + V_{w(std)}}$

Leak Check: ☒ cc/min @ 14 in.Hg

Test(Run) No. 2 Barometric Pressure (P_{bar}) 29.34 in.Hg Orsat Analysis
 Gas Temperature _____ °F Static Pressure _____ in.H₂O %CO₂ _____ %O₂

Clock Time	Meter Volume (V) 24hr ft ³	Meter Gauge Pressure (ΔH) in.H ₂ O	Meter Temp. (t _m) °F	Impgr. Outlet Temp. °F	Pump Vacuum in.Hg
1123	1.190	0.00	74	Full	2.0
1128	1.515		74	iced	1.75
1133	1.938		74		1.75
1138	1.924		75		1.90
1143	2.133				
AVG	0.968		74.25 (T _m)	74.25	

V_{soln} _____ V_a _____ N _____
 $V_t - V_{tb}$ _____ $V_{m(std)}$ 0.956
 _____ lbs SO₂/dscf _____ ppm(dry)
 _____ grams (W_f) _____ ppm(wet)
 _____ grams (W_i) $B_{ws} =$ _____
 _____ grams $1 - B_{ws} =$ _____
 $\times 0.04715 =$ _____ ft³ [$V_{w(std)}$]

Leak Check: _____ cc/min @ _____ in.Hg

Samples Transferred to Lab By:

KAR/DS

Date 7/12/09

Operator PS/KAR

METHOD 6 - FIELD DATA SHEET
SULFUR DIOXIDE and MOISTURE

mostardi-platt associates, inc



Project: W.M. MID LANDFILL Date: 7-12-89
Sampling Location: TURBINE 3 OUTLET
Source Condition: FULL LOAD
Dry Gas Meter # 6806243 $\gamma =$ 1.019

Test(Run) No. <u>3</u> Barometric Pressure (P_{bar}) <u>29.84</u> in.Hg						Orsat Analysis	
Gas Temperature _____ °F Static Pressure _____ in.H ₂ O						%CO ₂ _____ %O ₂ _____	
Clock Time 24hr	Meter Volume (V) m ³ ft ³	Meter Gauge Pressure (ΔH) in.H ₂ O	Meter Temp. (t) m °F	Impgr. Outlet Temp. °F	Pump Vacuum in.Hg	V_{soln} _____ V_a _____ N _____ $V_t - V_{tb}$ _____ $V_{m(std)}$ <u>0.737</u> _____ lbs SO ₂ /dscf _____ ppm(dry) _____ grams (W _f) _____ ppm(wet) _____ grams (W _i) $B_{ws} =$ _____ _____ grams $1 - B_{ws} =$ _____ $\times 0.04715 =$ _____ ft ³ [$V_{w(std)}$] $V_{m(std)} = 17.64 V_m \gamma \frac{P_{bar} \Delta H}{13.6}$ $\text{lbs SO}_2/\text{dscf} = \frac{7.061 \times 10^{-5}}{V_{m(std)}} \times (V_t - V_{tb}) \times \frac{V_{soln}}{V_a}$ $\text{ppm SO}_2(\text{dry}) = 6.015 \times 10^6 \times \text{lbs SO}_2/\text{dscf} \times B_{ws} = \frac{V_{w(std)}}{V_{w(std)} + V_{m(std)}}$	
1217	2.135	0.0	75	FULLY	1.80		
1222	2.170		75	ICED	1.80		
1227	2.560		75		1.70		
1232	2.763		75		1.70		
1237	2.963						
AVG <u>1.800</u> <u>75</u> (T _m) <u>535.0</u> °F						Comments:	

Leak Check: 0 cc/min @ 15 in.Hg

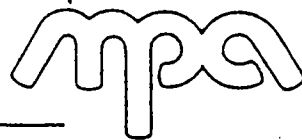
Test(Run) No. <u>4</u> Barometric Pressure (P_{bar}) <u>29.34</u> in.Hg						Orsat Analysis	
Gas Temperature _____ °F Static Pressure _____ in.H ₂ O						%CO ₂ _____ %O ₂ _____	
Clock Time 24hr	Meter Volume (V) m ³ ft ³	Meter Gauge Pressure (ΔH) in.H ₂ O	Meter Temp. (t) m °F	Impgr. Outlet Temp. °F	Pump Vacuum in.Hg	V_{soln} _____ V_a _____ N _____ $V_t - V_{tb}$ _____ $V_{m(std)}$ <u>0.742</u> _____ lbs SO ₂ /dscf _____ ppm(dry) _____ grams (W _f) _____ ppm(wet) _____ grams (W _i) $B_{ws} =$ _____ _____ grams $1 - B_{ws} =$ _____ $\times 0.04715 =$ _____ ft ³ [$V_{w(std)}$] $V_{m(std)} = 17.64 V_m \gamma \frac{P_{bar} \Delta H}{13.6}$ $\text{lbs SO}_2/\text{dscf} = \frac{7.061 \times 10^{-5}}{V_{m(std)}} \times (V_t - V_{tb}) \times \frac{V_{soln}}{V_a}$ $\text{ppm SO}_2(\text{dry}) = 6.015 \times 10^6 \times \text{lbs SO}_2/\text{dscf} \times B_{ws} = \frac{V_{w(std)}}{V_{w(std)} + V_{m(std)}}$	
1240	3.027	0.0	75	FULLY	1.80		
1245	3.250		75	ICED	1.70		
1250	3.415		75		1.70		
1254	3.605		75		1.70		
1259	3.760						
AVG <u>1.750</u> <u>75</u> (T _m) <u>535.0</u> °F						Comments:	

Leak Check: 0 cc/min @ 15 in.Hg

Samples Transferred to Lab By:

KRA/PS, Date 7/12/89
234

Operator PS

METHOD 6 - FIELD DATA SHEET
SULFUR DIOXIDE and MOISTURE

Project: Waste mgmt. C.I.A.D. Date: 7-12-89
 Sampling Location: Turbine 3 output
 Source Condition: Full Load
 Dry Gas Meter # 6806273 $\gamma = 1.019$

Test(Run) No. <u>5</u>		Barometric Pressure (P_{bar}) <u>29.34</u> in.Hg		Orsat Analysis	
Gas Temperature _____ °F		Static Pressure _____ in.H ₂ O		_____% CO ₂ _____ % O ₂	
Clock Time	Meter Volume (V) m ³ ft ³	Meter Gauge Pressure (ΔH) in.H ₂ O	Meter Temp. (t) m °F	Impgr. Outlet Temp. °F	Pump Vacuum in.Hg
1311	3.788	0.0	75	FULL	1.70
1322	3.995	1	75	ICED	1.70
1327	4.215	1	75		1.70
1333	4.430	1	75		1.70
1340	4.650	1			
AVG	4.262		75 (T _m)	535 °F	

Leak Check: 0 cc/min @ 15 in.Hg

V_{soln} _____ V_a _____ N _____
 $V_t - V_{tb}$ _____ $V_{m(std)}$ 0.835
 _____ lbs SO₂/dscf _____ ppm(dry)
 _____ grams (W_f) _____ ppm(wet)
 _____ grams (W_i) $B_{ws} =$ _____
 _____ grams $1 - B_{ws} =$ _____
 $\times 0.04715 =$ _____ ft³ [V_{w(std)}]
 $V_{m(std)} = 17.64 V_m \gamma \frac{P_{bar}}{T_m} \frac{\Delta H}{13.6}$
 $\text{lbs SO}_2/\text{dscf} = \frac{7.061 \times 10^{-5}}{V_{m(std)}} \times (V_t - V_{tb}) \times \frac{V_{soln}}{V_a}$
 $\text{ppm SO}_2(\text{dry}) = 6.015 \times 10^6 \times \text{lbs SO}_2/\text{dscf} \times \frac{V_{w(std)}}{V_{w(std)} + V_{m(std)}}$

Comments:

Test(Run) No. <u>6</u>		Barometric Pressure (P_{bar}) <u>29.34</u> in.Hg		Orsat Analysis	
Gas Temperature _____ °F		Static Pressure _____ in.H ₂ O		_____% CO ₂ _____ % O ₂	
Clock Time	Meter Volume (V) m ³ ft ³	Meter Gauge Pressure (ΔH) in.H ₂ O	Meter Temp. (t) m °F	Impgr. Outlet Temp. °F	Pump Vacuum in.Hg
1340	4.678	0.0	75	FULL	1.50
1345	4.860	1	75	ICED	1.50
1350	5.010	1	75		1.50
1355	5.155	1			
1400	5.305	1			
AVG	4.847		75 (T _m)	535 °F	

Leak Check: 0 cc/min @ 15 in.Hg

V_{soln} _____ V_a _____ N _____
 $V_t - V_{tb}$ _____ $V_{m(std)}$ 0.638
 _____ lbs SO₂/dscf _____ ppm(dry)
 _____ grams (W_f) _____ ppm(wet)
 _____ grams (W_i) $B_{ws} =$ _____
 _____ grams $1 - B_{ws} =$ _____
 $\times 0.04715 =$ _____ ft³ [V_{w(std)}]

Comments:

Samples Transferred to Lab By:

Operator PS/KAA

_____, Date _____

ONE PARTNER INSTRUMENT COMPANY OF N. Y. C.

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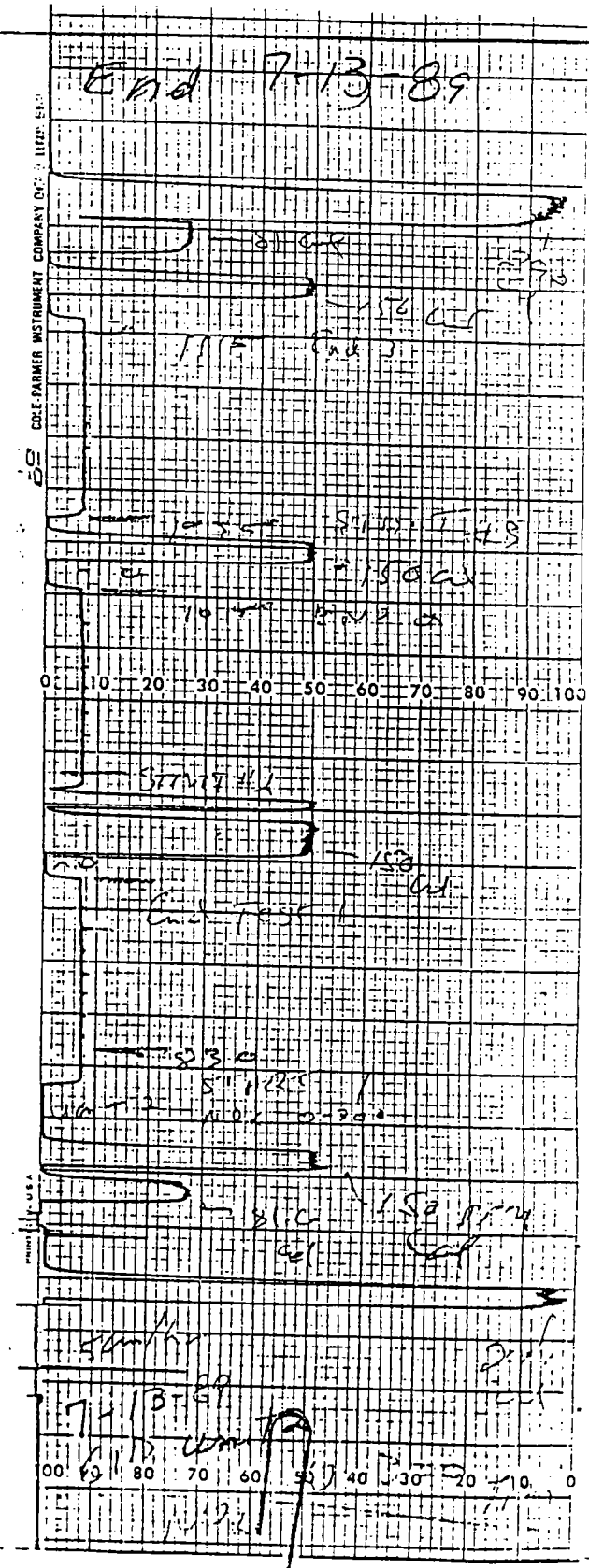
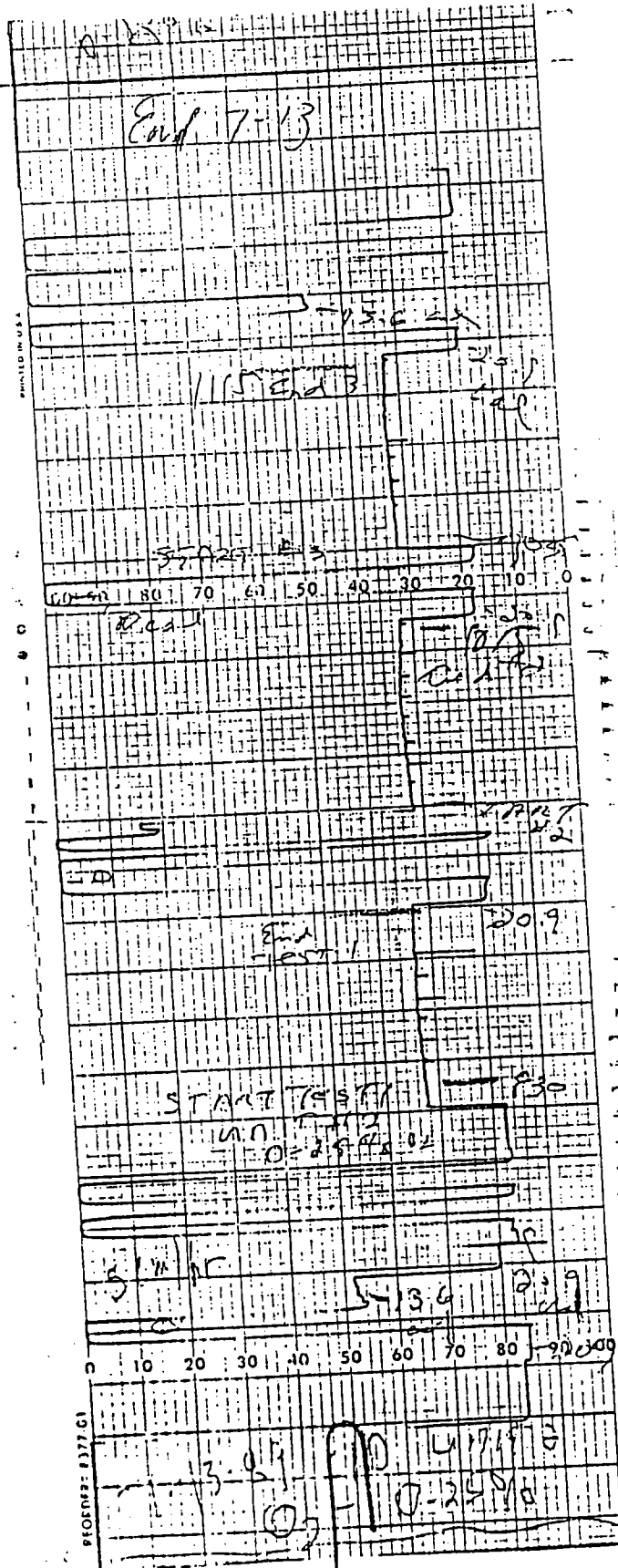
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