WA346

SOURCE TEST REPORT
FOUR 75 MEGAWATT GAS TURBINES
KERN RIVER COGENERATION COMPANY,
BAKERSFIELD, CALIFORNIA

Prepared for:

Kern River Cogeneration Company
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For Submittal to:

San Joaquin Valley Unified Air Pollution Control District
2700 M Street, Suite 275
Bakersfield, California 93301

Test Dates:

February 9-10, 1993

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INTRODUCTION

SOURCE TEST REPORT
FOUR 75 MEGAWATT GAS TURBINES
KERN RIVER COGENERATION COMPANY,
BAKERSFIELD, CALIFORNIA

SECTION 1

INTRODUCTION

Engineering-Science, Inc. (ES), Bakersfield, California conducted source testing of four 75 Megawatt (MW) gas turbines located at Kern River Cogeneration Company (KRCC), Bakersfield, California. Testing was conducted to demonstrate compliance with annual testing requirements in Permit to Operate numbers S-0088-0001-04 (turbine Unit A), S-0088-0002-04 (turbine Unit B), S-0088-0003-04 (turbine Unit C), and S-0088-0004-04 (turbine Unit D) issued by the San Joaquin Valley Unified Air Pollution Control District (District). The EPA Permit No. for the facility is NSR-4-4-8SJ8401.

All testing procedures were conducted in accordance with the guidelines published in 40 CFR, Part 60, Appendix A and Appendix B, dated July 1990 and CARB Method 100. Testing consisted of Continuous Emission Monitoring (CEM) for Nitrogen Oxides (NO_x), Carbon Monoxide (CO), Carbon Dioxide (CO_2), and Oxygen (O_2). The turbines were operated at 100% load condition and fueled by natural gas. The test program is summarized in Table 1-1.

Testing was performed on February 9-10, 1993. Three tests of 45 minute duration were performed on each of the four turbines while operating on natural gas for a total of 12 runs.

In addition to the CEM testing, a sample of natural gas was collected and analyzed for Carbon (C), Hydrogen (H), Oxygen (O), Nitrogen (N), Sulfur (S), and heating value (Btu). Fuel consumption data was supplied by KRCC plant personnel. This data was used to determine exhaust gas pollutant mass emission rates (lb/hr) in

TABLE 1-1
SUMMARY OF COMPLIANCE SOURCE TESTING
KERN RIVER COGENERATION COMPANY [1]
BAKERSFIELD, CALIFORNIA
FEBRUARY 9-10, 1993

Source Test Parameters and Methodology				
Natural Gas				
Nitrogen Oxides NO_x	Carbon Monoxide CO	Carbon Dioxide CO_2	Oxygen O_2	Exhaust Gas Flow Rate
Triplicate 45-minute runs per turbine for compliance. CARB Method 100	Triplicate 45-minute runs per turbine for compliance. CARB Method 100	Triplicate 45-minute runs per turbine. CARB Method 100	Triplicate 45-minute runs per turbine. CARB Method 100	Single fuel Sample Analyzed by ASTM Method D-3588 F-Factor calculations in accordance with 40 CFR, Part 60, Appendix A

[1] Facility EPA Permit # NSR-4-4-8SJ8401
District Permit # S-0088-0001-04 (Unit A)
District Permit # S-0088-0002-04 (Unit B)
District Permit # S-0088-0003-04 (Unit C)
District Permit # S-0088-0004-04 (Unit D)

accordance with F-Factor calculation methods specified in 40 CFR, Part 60, Appendix A.

The test program was observed by Mr. Harvey Lopez of the District. Ms. Karen White-Fallon of KRCC coordinated plant activities. The ES team was comprised of Mssrs. Troy Delfino and Jim Polhamus.

SECTION 2

SUMMARY OF RESULTS

SECTION 2

SUMMARY OF RESULTS

The following Tables present the parameters and emission data measured by Engineering-Science, Inc. at Kern River Cogeneration Company on February 9-10, 1993. Emission measurements were made of the exhaust gases of the four natural gas fired turbines, District Permit No.'s S-0088-0001-04 (Unit A), S-0088-0002-04 (Unit B), S-0088-0003-04 (Unit C) and S-0088-0004-04 (Unit D). The EPA Permit No. for the facility is NSR-4-4-8SJ8401.

Four Summary Tables are provided for EPA reporting requirements. Each of the EPA Summary Tables reports the unit tested, test method, test date, NO_X emissions (lbs/hr and ppm @ 15% O_2), CO emissions (lbs/hr and ppm @ 15% O_2), fuel usage, water injection, and water to fuel ratio.

Following the EPA Summary Tables are tables summarizing the NO_X and CO emissions from turbines A, B, C, and D (Tables 2-1 through 2-4, respectively). NO_X and CO emissions are reported in parts per million (ppm), ppm @ 15% O_2, pounds per hour (lb/hr), and pounds per million British Thermal units (lb/MMBtu).

SUMMARY OF SOURCE TEST RESULTS FOR EPA

Company : KERN RIVER COGENERATION COMPANY Permit Number : NSR-4-4-8SJ8401

Unit Number or Name : UNIT A, GAS Location HRSG

Pollutant/Other	Test Method	Test Date	Emissions / Other
Particulates			
SO2			
NOx as NO2	CARB METHOD 100	February 9, 1993	119.33 lbs/hr 34.40 ppm @ 15% O2
CO	CARB METHOD 100	February 9, 1993	8.24 lbs/hr 3.90 ppm @ 15% O2
Fuel Usage Water Injection Water to Fuel Ratio		February 9, 1993	11.505 lbs/sec 8.439 lbs/sec 0.733
Fuel Usage			
Excess Oxygen			
Other			

* Emissions/Other should be at standard conditions (68dF and 29.92 inches of Hg) and in units of EPA's Authority to Construct/Modify.

Prepared by : Gary W. McRae

Title : Environmental Scientist

Date : March 8, 1993

SUMMARY OF SOURCE TEST RESULTS FOR EPA

Company : KERN RIVER COGENERATION COMPANY Permit Number : NSR-4-4-8SJ8401

Unit Number or Name : UNIT B, GAS Location HRSG

Pollutant/Other	Test Method	Test Date	Emissions / Other
Particulates			
SO2			
NOx as NO2	CARB METHOD 100	February 9, 1993	127.27 lbs/hr 36.19 ppm @ 15% O2
CO	CARB METHOD 100	February 9, 1993	8.02 lbs/hr 3.75 ppm @ 15% O2
Fuel Usage Water Injection Water to Fuel Ratio		February 9, 1993	11.663 lbs/sec 7.790 lbs/sec 0.668
Fuel Usage			
Excess Oxygen			
Other			

* Emissions/Other should be at standard conditions (68dF and 29.92 inches of Hg) and in units of EPA's Authority to Construct/Modify.

Prepared by : Gary W. McRae

Title : Environmental Scientist

Date : March 8, 1993

SUMMARY OF SOURCE TEST RESULTS FOR EPA

Company : KERN RIVER COGENERATION COMPANY Permit Number : NSR-4-4-8SJ8401

Unit Number or Name : UNIT C, GAS Location HRSG

Pollutant/Other	Test Method	Test Date	Emissions / Other
Particulates			
SO2			
NOx as NO2	CARB METHOD 100	February 10, 1993	127.20 lbs/hr 34.19 ppm @ 15% O2
CO	CARB METHOD 100	February 10, 1993	6.55 lbs/hr 2.89 ppm @ 15% O2
Fuel Usage Water Injection Water to Fuel Ratio		February 10, 1993	12.347 lbs/sec 8.567 lbs/sec 0.694
Fuel Usage			
Excess Oxygen			
Other			

* Emissions/Other should be at standard conditions (68dF and 29.92 inches of Hg) and in units of EPA's Authority to Construct/Modify.

Prepared by : Gary W. McRae

Title : Environmental Scientist

Date : March 8, 1993

SUMMARY OF SOURCE TEST RESULTS FOR EPA

Company : KERN RIVER COGENERATION COMPANY Permit Number : NSR-4-4-8SJ8401

Unit Number or Name : UNIT D, GAS Location HRSG

Pollutant/Other	Test Method	Test Date	Emissions / Other
Particulates			
SO2			
NOx as NO2	CARB METHOD 100	February 10, 1993	134.06 lbs/hr 36.35 ppm @ 15% O2
CO	CARB METHOD 100	February 10, 1993	2.70 lbs/hr 1.20 ppm @ 15% O2
Fuel Usage Water Injection Water to Fuel Ratio		February 10, 1993	12.236 lbs/sec 8.542 lbs/sec 0.698
Fuel Usage			
Excess Oxygen			
Other			

* Emissions/Other should be at standard conditions (68dF and 29.92 inches of Hg) and in units of EPA's Authority to Construct/Modify.

Prepared by : Gary W. McRae

Title : Environmental Scientist

Date : March 8, 1993

TABLE 2-1
NITROGEN OXIDE AND CARBON MONOXIDE DATA SUMMARY
UNIT A, DISTRICT PERMIT # S-0088-0001-04
KERN RIVER COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
FEBRUARY 9, 1993

RUN	O_2	NITROGEN OXIDE (NOx)				CARBON MONOXIDE (CO)			
#	%	ppm(v)	ppm(v) @ 15% O_2	lb/hr	lb/MMBtu	ppm(v)	ppm(v) @ 15% O_2	lb/hr	lb/MMBtu
1	14.69	34.99	33.23	115.67	0.1214	4.11	3.90	8.27	0.0087
2	14.83	36.20	35.18	122.20	0.1286	3.77	3.67	7.75	0.0082
3	14.81	35.92	34.80	120.12	0.1271	4.27	4.14	8.70	0.0092
AVG	14.78	35.71	34.40	119.33	0.1257	4.05	3.90	8.24	0.0087

TABLE 2–2
NITROGEN OXIDE AND CARBON MONOXIDE DATA SUMMARY
UNIT B, DISTRICT PERMIT # S–0088–0002–04
KERN RIVER COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
FEBRUARY 9, 1993

RUN	O_2	NITROGEN OXIDE (NOx)				CARBON MONOXIDE (CO)			
#	%	ppm(v)	ppm(v) @ 15% O_2	lb/hr	lb/MMBtu	ppm(v)	ppm(v) @ 15% O_2	lb/hr	lb/MMBtu
1	14.78	36.51	35.22	123.86	0.1287	4.21	4.06	8.70	0.0090
2	14.85	37.42	36.46	127.92	0.1332	3.91	3.81	8.14	0.0085
3	14.87	37.73	36.89	130.02	0.1348	3.44	3.36	7.22	0.0075
AVG	14.83	37.22	36.19	127.27	0.1322	3.85	3.75	8.02	0.0083

TABLE 2-3
NITROGEN OXIDE AND CARBON MONOXIDE DATA SUMMARY
UNIT C, DISTRICT PERMIT # S-0088-0003-04
KERN RIVER COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
FEBRUARY 10, 1993

RUN	O_2	NITROGEN OXIDE (NOx)				CARBON MONOXIDE (CO)			
#	%	ppm(v)	ppm(v) @ 15% O_2	lb/hr	lb/MMBtu	ppm(v)	ppm(v) @ 15% O_2	lb/hr	lb/MMBtu
1	14.70	34.28	32.62	122.00	0.1192	3.60	3.43	7.80	0.0076
2	14.70	37.00	35.23	130.80	0.1287	2.83	2.69	6.08	0.0060
3	14.64	36.83	34.73	128.80	0.1269	2.71	2.56	5.77	0.0057
AVG	14.68	36.04	34.19	127.20	0.1249	3.05	2.89	6.55	0.0064

TABLE 2-4
NITROGEN OXIDE AND CARBON MONOXIDE DATA SUMMARY
UNIT D, DISTRICT PERMIT # S-0088-0004-04
KERN RIVER COGENERATION COMPANY
BAKERSFIELD, CALIFORNIA
FEBRUARY 10, 1993

RUN	O_2	NITROGEN OXIDE (NOx)				CARBON MONOXIDE (CO)			
#	%	ppm(v)	ppm(v) @ 15% O_2	lb/hr	lb/MMBtu	ppm(v)	ppm(v) @ 15% O_2	lb/hr	lb/MMBtu
1	14.75	38.01	36.47	134.87	0.1332	1.35	1.29	2.91	0.0029
2	14.77	37.70	36.27	133.65	0.1325	1.22	1.17	2.63	0.0026
3	14.69	38.20	36.31	133.67	0.1327	1.20	1.14	2.56	0.0025
AVG	14.74	37.97	36.35	134.06	0.1328	1.26	1.20	2.70	0.0027

SECTION 3

SAMPLING AND ANALYSIS PROCEDURES

SECTION 3

SAMPLING AND ANALYSIS PROCEDURES

Continuous Emissions Monitoring

Sample Extraction and Conditioning

Sampling is performed using a system which delivers a conditioned, continuous gas sample to the gas analyzers. The gas sample is extracted through a stainless steel probe, then passes through a heated (250^{o}F) Teflon sample line, a sample condenser (for moisture removal), an in-line filter (for particulate removal), and a stainless steel pump. The clean, dry sample is then transported via unheated Teflon line to the analyzer manifold (located within the mobile van) for sample distribution to the continuous emissions monitors.

Continuous Emissions Monitors (CEMS)

Table 3-1 describes the CEMS used in the mobile van to analyze the exhaust gases. Calibrations of the CEMS are performed using EPA Protocol 1 or NIST certified calibration gases. Copies of gas certifications are included in the Report appendix.

Prior to performing the emissions testing, a leak check of the sample system is performed. A check of sampling system bias is performed by injecting calibration gas (for each parameter) at the sample probe and then observing instrument response. A response within $\pm$ 5 percent of instrument range is considered acceptable. The leak check is repeated at the conclusion of the test day to verify the validity of the tests.

Before each test run, an initial calibration of the analyzers is performed by introducing zero and span gases and making appropriate adjustments. During each test run, analyzer response data is recorded for each instrument. At the conclusion of the test run, a calibration check is performed to verify acceptable zero and span drift limits.

TABLE 3–1
CEM INSTRUMENT SPECIFICATIONS
CEM VAN # 3

PARAMETER	MANUFACTURER	MODEL NO.	ANALYZER PRINCIPLE	SENSITIVITY / ACCURACY	LINEARITY	SPECIAL NOTES	RESPONSE TIME	NOISE	PRECISION
O_2	MSA Instruments	4000	Electroconductivity Detection	+– 0.01%	< 2%	Galvanic Fuel Cell	90% Full Scale in 20 sec.	+– 1%	
CO_2	Infrared Industries	732	Non–Dispersive Infrared		< 2%		90% Full Scale in 20 sec.		
NO_x	Thermo Environmental Instruments Inc.	10	Chemiluminescent	0.05 ppm	+– 1% from 0.05 to 10,000	High range has 0_2 feed.	Approx. 1.5 sec NO mode Approx. 1.7 sec NO_x mode	< 1% of Full Scale	
CO	Thermo Environmental Instruments Inc.	48	Gas Filter Correlation	0.1 ppm	< +– 1%		95% Full Scale in < 60 sec.	< 0.05 ppm	> +– 0.1ppm
Gas Dilution System	Environics, Inc.	Series 2000	Computerized Mass Flow Controllers	+–0.05% Full Scale	NA	Operated between 10% and 90% of flow controller full scale operating range.	+–2.0% of target flow in 30 seconds	NA	+–0.2% Full Scale
CO_2 / High CO	Fuji – Milton Roy	ZRH	Non–Dispersive Infrared	2% of Full Scale / week	1% of Full Scale	CO_2 Range : 0–20 % CO Range : 0–1 %	90% Full Scale in 3 sec.	< 0.5% of Full Scale	CO_2: .5% Full Scale CO: 1% Full Scale

Fuel Gas

A fuel gas sample is collected in a stainless steel gas sample cylinder, properly labeled, and delivered to the laboratory with an accompanying chain-of-custody form. Samples are analyzed by gas chromotography for CHONS (carbon, hydrogen, oxygen, nitrogen, and sulfur) and heating value in accordance with ASTM Method D-3588.

SECTION 4

CALCULATIONS

NOMENCLATURE

A_s	= Cross-sectional area of stack (ft^2)
A_n	= Cross-sectional area of nozzle (ft^2)
B_{ws}	= Water vapor in the gas stream, proportion by volume (dimensionless)
C_p	= Pitot tube coefficient (dimensionless)
dH	= Average pressure differential across the orifice meter (inches of water)
Md	= Dry molecular weight of stack gas (lb/lb-mole)
Ms	= Wet molecular weight of stack gas (lb/lb-mole)
N	= Normality of titrant (milliequivalents/ml)
dP	= Velocity pressure of stack gas (inches of water)
Pb	= Barometric pressure at sampling site (in. Hg)
Ps	= Absolute stack gas pressure (in. Hg)
Pstd	= Standard absolute pressure (29.92 in. Hg)
Qs(std)	= Dry volumetric stack gas flow rate, standard conditions (dscfm)
Ts	= Stack temperature (^oF)
Vm	= Dry gas volume as measured by dry gas meter (dcf)
Vm(std)	= Dry gas volume as measured by dry gas meter, corrected to standard conditions (dscf)
Vw(std)	= Volume of water vapor in the gas stream, corrected to standard conditions (scf)
Vlc	= Volume of water vapor condensed in impingers and silica gel (ml)
T(std)	= Standard temperature (^oF)
Tm	= Meter temperature (^oF)
SQ.RT.dP	= Square root of velocity pressure (dimensionless)
y	= Dry gas meter calibration factor (dimensionless)
Pstatic	= Static pressure of stack (in. H_2O)
Pstack	= Static pressure of stack (in. Hg)
I	= Isokinetic sample rate (percent)
vs	= Average velocity of the stack gas (ft/sec)
Qs	= Actual stack gas flow rate at stack conditions (ft^3/min)
Θ	= Total sampling time (min)
% O_2	= Percent oxygen by volume (dry basis)
% CO_2	= Percent carbon dioxide by volume (dry basis)
% CO	= Percent carbon monoxide by volume (dry basis)
% N_2	= Percent nitrogen by volume (dry basis)
Zcf	= Zero drift correction factor
Scf	= Span drift correction factor
Cz	= Zero correction concentration
MW	= Molecular weight (lb/lb-mole)
ppm	= Parts per million by volume

lb/MMBtu	= Emission concentration, pounds per million British thermal units
dscf/MMBtu	= Fuel factor, dry standard cubic feet per million British thermal units
gr/scf	= Emission concentration, grains per standard cubic foot
lb/hr	= Emission rate, pounds per hour
FHW	= Front Half Wash of sampling train
MF	= Mass Filter of sampling train
BHW	= Back Half Wash of Sampling train
gr/dscf	= Emission concentration, grains per dry standard cubic foot
ng	= Mass unit, nanograms
mg	= Mass unit, milligrams
g	= Mass unit, grams
ml	= Unit of volume, milliliters
L	= Unit of volume, liters
ul	= Unit of volume, microliters
H_2SO_4	= Chemical formula, sulfuric acid
$BaCl_2$	= Chemical formula, barium chloride
NaOH	= Chemical formula, sodium hydroxide
H_2S	= Chemical formula, hydrogen sulfide
FHS	= Front Half Sulfate of sampling train
BHS	= Back Half Sulfate of sampling train
F-Factor	= Fuel factor, volume of generated gases per unit of heat content (dscf/MMBtu)
^oF	= Degrees Fahrenheit
^oR	= Degrees Rankine
^oC	= Degrees Celsius
98.076	= Molecular weight of sulfuric acid
64.062	= Molecular weight of sulfur dioxide
46.006	= Molecular weight of nitrogen dioxide
28.010	= Molecular weight of carbon monoxide
60	= Conversion factor, minutes per hour
460	= Conversion factor, ^oF to ^oR
15.432	= Conversion factor, grains per gram
0.000143	= Converson factor, pounds per grain
32/98.076	= Conversion factor, equivalent weight of SO_2 to MW of H_2SO_4
1.60982	= Ideal Gas Law (lb-mole x dscf/ dscf/ ^oR x mg)
0.00000137	= Ideal Gas Law (lb-mole x $^oR/ft^3$)
0.280	= Molecular weight of N_2 or CO, divided by 100
0.320	= Molecular weight of O_2, divided by 100
0.440	= Molecular weight of CO_2, divided by 100
18.0	= Molecular weight of H_2O
32.064	= Equivalent weight of SO_2
85.49	= Pitot tube constant, ft/sec x $[$(lb/lb-mole) x (in.Hg)/((^oR) x (in.H_2O))$]^{0.5}$
8.223E-05	= Ideal gas constant (1.37E-06 lb-mole $^oR/ft^3$) x (60 min/hr)

EMISSION CALCULATIONS
GAS COMPONENTS

KERN RIVER COGENERATION COMPANY
UNIT A

DATA :

	Run 1	Run 2	Run 3	Average
Date	09-Feb-93	09-Feb-93	09-Feb-93	
Oxygen (%)	14.69	14.83	14.81	14.78
Qs(std), dscfm	454,378	464,012	459,638	459,343
F-Factor, dscf/MMBtu	8,503.21	8,503.21	8,503.21	8,503.21
NOx, ppm	34.99	36.20	35.92	35.71
CO, ppm	4.11	3.77	4.27	4.05
SO2, ppm				
HC (non-methane), ppm				

CALCULATIONS :

NOx, lb/hr	115.67	122.20	120.12	119.33
NOx, ppm @ 15 %O2	33.23	35.18	34.80	34.40
NOx, lb/MMBtu	0.1214	0.1286	0.1271	0.1257
CO, lb/hr	8.27	7.75	8.70	8.24
CO, ppm @ 15 %O2	3.90	3.67	4.14	3.90
CO, lb/MMBtu	0.0087	0.0082	0.0092	0.0087
SO2, lb/hr				
SO2, ppm @ 15 %O2				
SO2, lb/MMBtu				
HC, lb/hr				
HC, ppm @ 15 %O2				
HC, lb/MMBtu				

EQUATIONS :

lb/hr = (0.00000137 Lb-Mole °R / ft3) x 60 min/hr x Qs(std) x MW x ppm / [T(std) + 460]

ppm @ 15 %O2 = ppm measured x [(20.9 - 15 %O2) / (20.9 - %O2 measured)]

lb/MMBtu = F-Factor x MW x [(1.3711E-6 Lb-Mole °R / ft3) / (T(std) + 460)] x [20.9 / (20.9 - O2%)] x ppm

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CONSTANTS :

Standard Temp. T(std): 60 °F
Oxygen Correction : 15 % O2

NOx, MW = 46.005 lb/lb-mole
CO, MW = 28.010 lb/lb-mole
SO2, MW = 64.058 lb/lb-mole
HC, MW = 16.043 lb/lb-mole

EMISSION CALCULATIONS
GAS COMPONENTS

KERN RIVER COGENERATION COMPANY
UNIT B

DATA :

	Run 1	Run 2	Run 3	Average
Date	09-Feb-93	09-Feb-93	09-Feb-93	
Oxygen (%)	14.78	14.85	14.87	14.83
Qs(std), dscfm	466,292	469,950	473,657	469,966
F-Factor, dscf/MMBtu	8,503.21	8,503.21	8,503.21	8,503.21
NOx, ppm	36.51	37.42	37.73	37.22
CO, ppm	4.21	3.91	3.44	3.85
SO2, ppm				
HC (non-methane), ppm				

CALCULATIONS :

NOx, lb/hr	123.86	127.92	130.02	127.27
NOx, ppm @ 15 %O2	35.22	36.46	36.89	36.19
NOx, lb/MMBtu	0.1287	0.1332	0.1348	0.1322
CO, lb/hr	8.70	8.14	7.22	8.02
CO, ppm @ 15 %O2	4.06	3.81	3.36	3.75
CO, lb/MMBtu	0.0090	0.0085	0.0075	0.0083
SO2, lb/hr				
SO2, ppm @ 15 %O2				
SO2, lb/MMBtu				
HC, lb/hr				
HC, ppm @ 15 %O2				
HC, lb/MMBtu				

EQUATIONS :

lb/hr = (0.00000137 Lb-Mole °R / ft3) x 60 min/hr x Qs(std) x MW x ppm / [T(std) + 460]

ppm @ 15 %O2 = ppm measured x [(20.9 - 15 %O2) / (20.9 - %O2 measured)]

lb/MMBtu = F-Factor x MW x [(1.3711E-6 Lb-Mole °R / ft3) / (T(std) + 460)] x [20.9 / (20.9 - O2%)] x ppm

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CONSTANTS :

Standard Temp. T(std): 60 °F
Oxygen Correction : 15 % O2

NOx, MW = 46.005 lb/lb-mole
CO, MW = 28.010 lb/lb-mole
SO2, MW = 64.058 lb/lb-mole
HC, MW = 16.043 lb/lb-mole

EMISSION CALCULATIONS
GAS COMPONENTS

KERN RIVER COGENERATION COMPANY
UNIT C

DATA :

	Run 1	Run 2	Run 3	Average
Date	10-Feb-93	10-Feb-93	10-Feb-93	
Oxygen (%)	14.70	14.70	14.64	14.68
Qs(std), dscfm	489,215	485,943	480,660	485,273
F-Factor, dscf/MMBtu	8,503.21	8,503.21	8,503.21	8,503.21
NOx, ppm	34.28	37.00	36.83	36.04
CO, ppm	3.60	2.83	2.71	3.05
SO2, ppm				
HC (non-methane), ppm				

CALCULATIONS :

NOx, lb/hr	122.00	130.80	128.80	127.20
NOx, ppm @ 15 %O2	32.62	35.23	34.73	34.19
NOx, lb/MMBtu	0.1192	0.1287	0.1269	0.1249
CO, lb/hr	7.80	6.08	5.77	6.55
CO, ppm @ 15 %O2	3.43	2.69	2.56	2.89
CO, lb/MMBtu	0.0076	0.0060	0.0057	0.0064
SO2, lb/hr				
SO2, ppm @ 15 %O2				
SO2, lb/MMBtu				
HC, lb/hr				
HC, ppm @ 15 %O2				
HC, lb/MMBtu				

EQUATIONS :

lb/hr = (0.00000137 Lb-Mole °R / ft3) x 60 min/hr x Qs(std) x MW x ppm / [T(std) + 460]

ppm @ 15 %O2 = ppm measured x [(20.9 - 15 %O2) / (20.9 - %O2 measured)]

lb/MMBtu = F-Factor x MW x [(1.3711E-6 Lb-Mole °R / ft3) / (T(std) + 460)] x [20.9 / (20.9 - O2%)] x ppm

CONSTANTS :

Standard Temp. T(std): 60 °F
Oxygen Correction : 15 % O2

NOx, MW = 46.005 lb/lb-mole
CO, MW = 28.010 lb/lb-mole
SO2, MW = 64.058 lb/lb-mole
HC, MW = 16.043 lb/lb-mole

EMISSION CALCULATIONS – EPA
GAS COMPONENTS

KERN RIVER COGENERATION COMPANY
UNIT A

DATA :

	Run 1	Run 2	Run 3	Average
Date	09–Feb–93	09–Feb–93	09–Feb–93	
Oxygen (%)	14.69	14.83	14.81	14.78
Qs(std), dscfm	461,368	471,151	466,710	466,410
F–Factor, dscf/MMBtu	8,634.03	8,634.03	8,634.03	8,634.03
NOx, ppm	34.99	36.20	35.92	35.71
CO, ppm	4.11	3.77	4.27	4.05
SO2, ppm				
HC (non–methane), ppm				

CALCULATIONS :

NOx, lb/hr	115.67	122.20	120.12	119.33
NOx, ppm @ 15 %O2	33.23	35.18	34.80	34.40
NOx, lb/MMBtu	0.1214	0.1286	0.1271	0.1257
CO, lb/hr	8.27	7.75	8.70	8.24
CO, ppm @ 15 %O2	3.90	3.67	4.14	3.90
CO, lb/MMBtu	0.0087	0.0082	0.0092	0.0087
SO2, lb/hr				
SO2, ppm @ 15 %O2				
SO2, lb/MMBtu				
HC, lb/hr				
HC, ppm @ 15 %O2				
HC, lb/MMBtu				

EQUATIONS :

lb/hr = (0.00000137 Lb–Mole °R / ft3) x 60 min/hr x Qs(std) x MW x ppm / [T(std) + 460]

ppm @ 15 %O2 = ppm measured x [(20.9 – 15 %O2) / (20.9 – %O2 measured)]

lb/MMBtu = F–Factor x MW x [(1.3711E–6 Lb–Mole °R / ft3) / (T(std) + 460)] x [20.9 / (20.9 – O2%)] x ppm

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CONSTANTS :

Standard Temp. T(std): 68 °F
Oxygen Correction : 15 % O2

NOx, MW = 46.005 lb/lb–mole
CO, MW = 28.010 lb/lb–mole
SO2, MW = 64.058 lb/lb–mole
HC, MW = 16.043 lb/lb–mole

EMISSION CALCULATIONS
GAS COMPONENTS

KERN RIVER COGENERATION COMPANY
UNIT D

DATA :

	Run 1	Run 2	Run 3	Average
Date	10-Feb-93	10-Feb-93	10-Feb-93	
Oxygen (%)	14.75	14.77	14.69	14.74
Qs(std), dscfm	487,708	487,305	480,988	485,334
F-Factor, dscf/MMBtu	8,503.21	8,503.21	8,503.21	8,503.21
NOx, ppm	38.01	37.70	38.20	37.97
CO, ppm	1.35	1.22	1.20	1.26
SO2, ppm				
HC (non-methane), ppm				

CALCULATIONS :

NOx, lb/hr	134.87	133.65	133.67	134.06
NOx, ppm @ 15 %O2	36.47	36.27	36.31	36.35
NOx, lb/MMBtu	0.1332	0.1325	0.1327	0.1328
CO, lb/hr	2.91	2.63	2.56	2.70
CO, ppm @ 15 %O2	1.29	1.17	1.14	1.20
CO, lb/MMBtu	0.0029	0.0026	0.0025	0.0027
SO2, lb/hr				
SO2, ppm @ 15 %O2				
SO2, lb/MMBtu				
HC, lb/hr				
HC, ppm @ 15 %O2				
HC, lb/MMBtu				

EQUATIONS :

lb/hr = (0.00000137 Lb-Mole °R / ft3) x 60 min/hr x Qs(std) x MW x ppm / [T(std) + 460]

ppm @ 15 %O2 = ppm measured x [(20.9 - 15 %O2) / (20.9 - %O2 measured)]

lb/MMBtu = F-Factor x MW x [(1.3711E-6 Lb-Mole °R / ft3) / (T(std) + 460)] x [20.9 / (20.9 - O2%)] x ppm

CONSTANTS :

Standard Temp. T(std): 60 °F
Oxygen Correction : 15 % O2

NOx, MW = 46.005 lb/lb-mole
CO, MW = 28.010 lb/lb-mole
SO2, MW = 64.058 lb/lb-mole
HC, MW = 16.043 lb/lb-mole

EMISSION CALCULATIONS – EPA
GAS COMPONENTS

KERN RIVER COGENERATION COMPANY
UNIT B

DATA :

	Run 1	Run 2	Run 3	Average
Date	09–Feb–93	09–Feb–93	09–Feb–93	
Oxygen (%)	14.78	14.85	14.87	14.83
Qs(std), dscfm	473,466	477,180	480,944	477,197
F–Factor, dscf/MMBtu	8,634.03	8,634.03	8,634.03	8,634.03
NOx, ppm	36.51	37.42	37.73	37.22
CO, ppm	4.21	3.91	3.44	3.85
SO2, ppm				
HC (non–methane), ppm				

CALCULATIONS :

NOx, lb/hr	123.86	127.92	130.02	127.27
NOx, ppm @ 15 %O2	35.22	36.46	36.89	36.19
NOx, lb/MMBtu	0.1287	0.1332	0.1348	0.1322
CO, lb/hr	8.70	8.14	7.22	8.02
CO, ppm @ 15 %O2	4.06	3.81	3.36	3.75
CO, lb/MMBtu	0.0090	0.0085	0.0075	0.0083
SO2, lb/hr				
SO2, ppm @ 15 %O2				
SO2, lb/MMBtu				
HC, lb/hr				
HC, ppm @ 15 %O2				
HC, lb/MMBtu				

EQUATIONS :

lb/hr = (0.00000137 Lb–Mole °R / ft3) x 60 min/hr x Qs(std) x MW x ppm / [T(std) + 460]

ppm @ 15 %O2 = ppm measured x [(20.9 – 15 %O2) / (20.9 – %O2 measured)]

lb/MMBtu = F–Factor x MW x [(1.3711E–6 Lb–Mole °R / ft3) / (T(std) + 460)] x [20.9 / (20.9 – O2%)] x ppm

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CONSTANTS :

Standard Temp. T(std): 68 °F
Oxygen Correction : 15 % O2

NOx, MW = 46.005 lb/lb–mole
CO, MW = 28.010 lb/lb–mole
SO2, MW = 64.058 lb/lb–mole
HC, MW = 16.043 lb/lb–mole

EMISSION CALCULATIONS – EPA
GAS COMPONENTS

KERN RIVER COGENERATION COMPANY
UNIT C

DATA :

	Run 1	Run 2	Run 3	Average
Date	10–Feb–93	10–Feb–93	10–Feb–93	
Oxygen (%)	14.70	14.70	14.64	14.68
Qs(std), dscfm	496,742	493,419	488,055	492,739
F–Factor, dscf/MMBtu	8,634.03	8,634.03	8,634.03	8,634.03
NOx, ppm	34.28	37.00	36.83	36.04
CO, ppm	3.60	2.83	2.71	3.05
SO2, ppm				
HC (non–methane), ppm				

CALCULATIONS :

NOx, lb/hr	122.00	130.80	128.80	127.20
NOx, ppm @ 15 %O2	32.62	35.23	34.73	34.19
NOx, lb/MMBtu	0.1192	0.1287	0.1269	0.1249
CO, lb/hr	7.80	6.08	5.77	6.55
CO, ppm @ 15 %O2	3.43	2.69	2.56	2.89
CO, lb/MMBtu	0.0076	0.0060	0.0057	0.0064
SO2, lb/hr				
SO2, ppm @ 15 %O2				
SO2, lb/MMBtu				
HC, lb/hr				
HC, ppm @ 15 %O2				
HC, lb/MMBtu				

EQUATIONS :

lb/hr = (0.00000137 Lb–Mole °R / ft3) x 60 min/hr x Qs(std) x MW x ppm / [T(std) + 460]

ppm @ 15 %O2 = ppm measured x [(20.9 – 15 %O2) / (20.9 – %O2 measured)]

lb/MMBtu = F–Factor x MW x [(1.3711E–6 Lb–Mole °R / ft3) / (T(std) + 460)] x [20.9 / (20.9 – O2%)] x ppm

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CONSTANTS :

Standard Temp. T(std): 68 °F
Oxygen Correction : 15 % O2

NOx, MW = 46.005 lb/lb–mole
CO, MW = 28.010 lb/lb–mole
SO2, MW = 64.058 lb/lb–mole
HC, MW = 16.043 lb/lb–mole

EMISSION CALCULATIONS – EPA
GAS COMPONENTS

KERN RIVER COGENERATION COMPANY
UNIT D

DATA :

	Run 1	Run 2	Run 3	Average
Date	10–Feb–93	10–Feb–93	10–Feb–93	
Oxygen (%)	14.75	14.77	14.69	14.74
Qs(std), dscfm	495,211	494,802	488,388	492,800
F–Factor, dscf/MMBtu	8,634.03	8,634.03	8,634.03	8,634.03
NOx, ppm	38.01	37.70	38.20	37.97
CO, ppm	1.35	1.22	1.20	1.26
SO2, ppm				
HC (non–methane), ppm				

CALCULATIONS :

NOx, lb/hr	134.87	133.65	133.67	134.06
NOx, ppm @ 15 %O2	36.47	36.27	36.31	36.35
NOx, lb/MMBtu	0.1332	0.1325	0.1327	0.1328
CO, lb/hr	2.91	2.63	2.56	2.70
CO, ppm @ 15 %O2	1.29	1.17	1.14	1.20
CO, lb/MMBtu	0.0029	0.0026	0.0025	0.0027
SO2, lb/hr				
SO2, ppm @ 15 %O2				
SO2, lb/MMBtu				
HC, lb/hr				
HC, ppm @ 15 %O2				
HC, lb/MMBtu				

EQUATIONS :

lb/hr = (0.00000137 Lb–Mole °R / ft3) x 60 min/hr x Qs(std) x MW x ppm / [T(std) + 460]

ppm @ 15 %O2 = ppm measured x [(20.9 – 15 %O2) / (20.9 – %O2 measured)]

lb/MMBtu = F–Factor x MW x [(1.3711E–6 Lb–Mole °R / ft3) / (T(std) + 460)] x [20.9 / (20.9 – O2%)] x ppm

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CONSTANTS :

Standard Temp. T(std): 68 °F
Oxygen Correction : 15 % O2

NOx, MW = 46.005 lb/lb–mole
CO, MW = 28.010 lb/lb–mole
SO2, MW = 64.058 lb/lb–mole
HC, MW = 16.043 lb/lb–mole

GAS ANALYZER DATA

KERN RIVER COGENERATION COMPANY
UNIT A

Date : 09-Feb-93
Run No. : 1

	O2, %		CO2, %		NOx, ppm		CO, ppm		SO2, ppm	
	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading
Point #										
1	14.60	14.60	3.59	3.59	34.80	34.78	4.20	4.19		
2	14.60	14.61	3.59	3.58	34.80	34.74	4.20	4.18		
3	14.63	14.65	3.59	3.57	34.80	34.69	4.20	4.17		
4	14.63	14.66	3.59	3.57	34.80	34.65	4.20	4.16		
5	14.65	14.69	3.59	3.56	34.90	34.71	4.20	4.14		
6	14.65	14.70	3.59	3.56	35.00	34.76	4.20	4.13		
7	14.65	14.71	3.59	3.55	35.40	35.12	4.20	4.12		
8	14.68	14.75	3.59	3.54	36.00	35.67	4.10	4.01		
9	14.70	14.78	3.59	3.54	36.20	35.82	4.00	3.90		
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MEAN :		14.69		3.56		34.99		4.11		

Zero Check	0.02	0.15	0.00	0.10	0.00
Span Check	15.05	15.93	81.78	18.35	0.00
Initial Span Value	15.14	16.21	80.88	18.20	0.00
Drift, Percent	-0.7	-2.7	1.1	0.3	
Zero Drift, Zcf	0.00222	0.01667	0.00000	0.01111	
Span Drift, Scf	-0.00081	-0.00295	0.00124	0.00031	

Drift, Percent = [(Span Check – Zero Check) – Calib. Gas] / Calib. Gas x 100

Zero Drift Correction Factor, Zcf = Zero Check / # of Readings

Span Drift Correction Factor, Scf = (% Drift / 100) / # of Readings

Cz, Zero Corr. Concentration = measured value – [Zcf x (Point # – 0.5)]

Drift Corrected Reading = Cz / [1 + (Scf x (Point # – 0.5))]

GAS ANALYZER DATA

KERN RIVER COGENERATION COMPANY
UNIT A

Date : 09-Feb-93
Run No. : 2

	O2, %		CO2, %		NOx, ppm		CO, ppm		SO2, ppm	
	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading
Point #										
1	14.82	14.82	3.62	3.62	35.50	35.50	3.80	3.80		
2	14.82	14.82	3.62	3.61	35.50	35.50	3.80	3.80		
3	14.82	14.82	3.62	3.61	35.70	35.70	3.80	3.80		
4	14.85	14.85	3.62	3.60	35.70	35.70	3.80	3.80		
5	14.84	14.84	3.62	3.60	36.40	36.40	3.70	3.69		
6	14.84	14.83	3.62	3.59	36.60	36.60	3.70	3.69		
7	14.84	14.83	3.62	3.59	36.80	36.80	3.80	3.79		
8	14.84	14.83	3.62	3.58	36.80	36.80	3.80	3.79		
9	14.84	14.83	3.62	3.58	36.80	36.80	3.80	3.79		
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MEAN :		14.83		3.60		36.20		3.77		
Zero Check		0.00		0.00		0.00		0.00		0.00
Span Check		15.15		16.40		80.88		18.25		0.00
Initial Span Value		15.14		16.21		80.88		18.20		0.00
Drift, Percent		0.1		1.2		0.0		0.3		
Zero Drift, Zcf		0.00000		0.00000		0.00000		0.00000		
Span Drift, Scf		0.00007		0.00130		0.00000		0.00031		

Drift, Percent = [(Span Check – Zero Check) – Calib. Gas] / Calib. Gas x 100

Zero Drift Correction Factor, Zcf = Zero Check / # of Readings

Span Drift Correction Factor, Scf = (% Drift / 100) / # of Readings

Cz, Zero Corr. Concentration = measured value – [Zcf x (Point # – 0.5)]

Drift Corrected Reading = Cz / [1 + (Scf x (Point # – 0.5))]

GAS ANALYZER DATA

KERN RIVER COGENERATION COMPANY
UNIT A

Date : 09-Feb-93
Run No. : 3

	O2, %		CO2, %		NOx, ppm		CO, ppm		SO2, ppm	
	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading
Point #										
1	14.83	14.83	3.56	3.56	36.30	36.30	4.20	4.20		
2	14.83	14.83	3.56	3.57	36.30	36.30	4.20	4.20		
3	14.81	14.81	3.56	3.57	36.00	36.00	4.25	4.25		
4	14.81	14.81	3.56	3.58	35.50	35.50	4.40	4.41		
5	14.80	14.80	3.56	3.58	36.70	36.70	4.45	4.46		
6	14.80	14.80	3.56	3.58	36.00	36.00	4.45	4.46		
7	14.80	14.80	3.56	3.59	35.00	35.00	4.50	4.51		
8	14.80	14.80	3.56	3.59	35.00	35.00	4.00	4.01		
9	14.80	14.80	3.56	3.60	36.50	36.50	3.95	3.96		
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MEAN :		14.81		3.58		35.92		4.27		
Zero Check		0.00		-0.05		0.00		0.00		0.00
Span Check		15.14		16.21		80.88		18.13		0.00
Initial Span Value		15.14		16.21		80.88		18.20		0.00
Drift, Percent		0.0		0.3		0.0		-0.4		
Zero Drift, Zcf		0.00000		-0.00556		0.00000		0.00000		
Span Drift, Scf		0.00000		0.00034		0.00000		-0.00043		

Drift, Percent = [(Span Check – Zero Check) – Calib. Gas] / Calib. Gas x 100

Zero Drift Correction Factor, Zcf = Zero Check / # of Readings

Span Drift Correction Factor, Scf = (% Drift / 100) / # of Readings

Cz, Zero Corr. Concentration = measured value – [Zcf x (Point # – 0.5)]

Drift Corrected Reading = Cz / [1 + (Scf x (Point # – 0.5))]

GAS ANALYZER DATA

KERN RIVER COGENERATION COMPANY
UNIT B

Date : 09-Feb-93
Run No. : 1

	O2, %		CO2, %		NOx, ppm		CO, ppm		SO2, ppm	
	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading
Point #										
1	14.75	14.76	3.60	3.60	36.50	36.53	3.50	3.50		
2	14.75	14.77	3.60	3.60	36.30	36.39	3.50	3.50		
3	14.75	14.79	3.60	3.60	36.00	36.15	3.60	3.59		
4	14.75	14.80	3.60	3.60	36.00	36.21	4.60	4.59		
5	14.70	14.77	3.60	3.60	36.00	36.26	4.40	4.39		
6	14.70	14.78	3.60	3.60	36.50	36.83	5.00	4.98		
7	14.70	14.80	3.60	3.60	36.30	36.69	5.00	4.98		
8	14.67	14.78	3.60	3.60	36.30	36.75	4.20	4.18		
9	14.67	14.80	3.60	3.60	36.30	36.81	4.20	4.18		
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MEAN :		14.78		3.60		36.51		4.21		

Zero Check	0.00	0.00	0.00	0.00
Span Check	15.00	16.21	79.70	18.30
Initial Span Value	15.14	16.21	80.88	18.20
Drift, Percent	-0.9	0.0	-1.5	0.5
Zero Drift, Zcf	0.00000	0.00000	0.00000	0.00000
Span Drift, Scf	-0.00103	0.00000	-0.00162	0.00061

Drift, Percent = [(Span Check – Zero Check) – Calib. Gas] / Calib. Gas x 100

Zero Drift Correction Factor, Zcf = Zero Check / # of Readings

Span Drift Correction Factor, Scf = (% Drift / 100) / # of Readings

Cz, Zero Corr. Concentration = measured value – [Zcf x (Point # – 0.5)]

Drift Corrected Reading = Cz / [1 + (Scf x (Point # – 0.5))]

GAS ANALYZER DATA

KERN RIVER COGENERATION COMPANY
UNIT B

Date : 09-Feb-93
Run No. : 2

	O2, %		CO2, %		NOx, ppm		CO, ppm		SO2, ppm	
	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading
Point #										
1	14.83	14.83	3.62	3.62	37.80	37.76	4.40	4.40		
2	14.83	14.83	3.62	3.61	37.80	37.69	4.30	4.30		
3	14.83	14.83	3.62	3.61	37.80	37.62	4.30	4.30		
4	14.82	14.82	3.63	3.62	38.00	37.74	4.00	4.00		
5	14.86	14.86	3.63	3.61	37.50	37.17	3.60	3.60		
6	14.86	14.86	3.65	3.63	37.70	37.30	3.60	3.60		
7	14.86	14.86	3.68	3.65	37.70	37.23	3.60	3.60		
8	14.86	14.86	3.65	3.62	37.70	37.16	3.70	3.70		
9	14.86	14.86	3.63	3.60	37.70	37.09	3.70	3.70		
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MEAN :		14.85		3.62		37.42		3.91		

Zero Check	0.00	0.00	0.00	0.00
Span Check	15.14	16.37	82.30	18.20
Initial Span Value	15.14	16.21	80.88	18.20
Drift, Percent	0.0	1.0	1.8	0.0
Zero Drift, Zcf	0.00000	0.00000	0.00000	0.00000
Span Drift, Scf	0.00000	0.00110	0.00195	0.00000

Drift, Percent = [(Span Check − Zero Check) − Calib. Gas] / Calib. Gas x 100

Zero Drift Correction Factor, Zcf = Zero Check / # of Readings

Span Drift Correction Factor, Scf = (% Drift / 100) / # of Readings

Cz, Zero Corr. Concentration = measured value − [Zcf x (Point # − 0.5)]

Drift Corrected Reading = Cz / [1 + (Scf x (Point # − 0.5))]

GAS ANALYZER DATA

KERN RIVER COGENERATION COMPANY
UNIT B

Date : 09-Feb-93
Run No. : 3

	O2, %		CO2, %		NOx, ppm		CO, ppm		SO2, ppm	
	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading
Point #										
1	14.87	14.87	3.60	3.60	37.70	37.68	3.60	3.60		
2	14.87	14.87	3.60	3.61	37.70	37.65	3.40	3.40		
3	14.87	14.87	3.60	3.61	37.70	37.62	3.40	3.40		
4	14.87	14.87	3.60	3.62	37.80	37.69	3.40	3.40		
5	14.87	14.87	3.60	3.62	37.90	37.76	3.40	3.40		
6	14.87	14.86	3.60	3.62	38.00	37.82	3.40	3.39		
7	14.87	14.86	3.60	3.63	38.00	37.79	3.40	3.39		
8	14.87	14.86	3.60	3.63	38.10	37.86	3.50	3.49		
9	14.87	14.86	3.60	3.64	38.00	37.73	3.50	3.49		
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MEAN :		14.87		3.62		37.73		3.44		

Zero Check	0.00	-0.05	0.00	0.00
Span Check	15.15	16.21	81.50	18.25
Initial Span Value	15.14	16.21	80.88	18.20
Drift, Percent	0.1	0.3	0.8	0.3
Zero Drift, Zcf	0.00000	-0.00556	0.00000	0.00000
Span Drift, Scf	0.00007	0.00034	0.00085	0.00031

Drift, Percent = [(Span Check – Zero Check) – Calib. Gas] / Calib. Gas x 100

Zero Drift Correction Factor, Zcf = Zero Check / # of Readings

Span Drift Correction Factor, Scf = (% Drift / 100) / # of Readings

Cz, Zero Corr. Concentration = measured value – [Zcf x (Point # – 0.5)]

Drift Corrected Reading = Cz / [1 + (Scf x (Point # – 0.5))]

GAS ANALYZER DATA

KERN RIVER COGENERATION COMPANY
UNIT C

Date : 10-Feb-93
Run No. : 1

	O2, %		CO2, %		NOx, ppm		CO, ppm		SO2, ppm	
	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading
Point #										
1	14.70	14.70	3.68	3.68	34.30	34.34	3.80	3.80		
2	14.70	14.70	3.68	3.69	34.30	34.42	3.70	3.70		
3	14.70	14.70	3.68	3.69	33.80	34.00	3.70	3.69		
4	14.70	14.70	3.68	3.70	33.80	34.08	3.70	3.69		
5	14.70	14.70	3.68	3.70	33.70	34.05	3.65	3.64		
6	14.70	14.70	3.68	3.71	33.50	33.93	3.60	3.59		
7	14.70	14.70	3.68	3.71	33.70	34.21	3.50	3.49		
8	14.70	14.70	3.68	3.72	33.90	34.50	3.45	3.43		
9	14.70	14.70	3.68	3.73	34.30	34.99	3.40	3.38		
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30										
MEAN :		14.70		3.70		34.28		3.60		

Zero Check	0.07	0.00	0.00	0.00
Span Check	15.14	16.00	79.20	18.30
Initial Span Value	15.14	16.21	80.88	18.20
Drift, Percent	-0.5	-1.3	-2.1	0.5
Zero Drift, Zcf	0.00778	0.00000	0.00000	0.00000
Span Drift, Scf	-0.00051	-0.00144	-0.00231	0.00061

Drift, Percent = [(Span Check - Zero Check) - Calib. Gas] / Calib. Gas x 100

Zero Drift Correction Factor, Zcf = Zero Check / # of Readings

Span Drift Correction Factor, Scf = (% Drift / 100) / # of Readings

Cz, Zero Corr. Concentration = measured value - [Zcf x (Point # - 0.5)]

Drift Corrected Reading = Cz / [1 + (Scf x (Point # - 0.5))]

GAS ANALYZER DATA

KERN RIVER COGENERATION COMPANY
UNIT C

Date : 10-Feb-93
Run No. : 2

	O2, %		CO2, %		NOx, ppm		CO, ppm		SO2, ppm	
	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading
Point #										
1	14.76	14.75	3.64	3.64	37.00	37.00	2.82	2.82		
2	14.76	14.74	3.64	3.64	37.00	37.00	2.82	2.81		
3	14.76	14.73	3.64	3.64	37.00	37.00	2.84	2.83		
4	14.76	14.72	3.64	3.65	37.00	37.00	2.86	2.84		
5	14.76	14.70	3.64	3.65	37.00	37.00	2.86	2.84		
6	14.76	14.69	3.64	3.65	37.00	37.00	2.86	2.83		
7	14.76	14.68	3.64	3.65	37.00	37.00	2.86	2.83		
8	14.76	14.67	3.64	3.65	37.00	37.00	2.86	2.82		
9	14.76	14.65	3.64	3.65	37.00	37.00	2.84	2.80		
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30										
MEAN :		14.70		3.65		37.00		2.83		

Zero Check	0.20	0.00	0.00	0.05
Span Check	15.25	16.14	80.88	18.20
Initial Span Value	15.14	16.21	80.88	18.20
Drift, Percent	-0.6	-0.4	0.0	-0.3
Zero Drift, Zcf	0.02222	0.00000	0.00000	0.00556
Span Drift, Scf	-0.00066	-0.00048	0.00000	-0.00031

Drift, Percent = [(Span Check – Zero Check) – Calib. Gas] / Calib. Gas x 100

Zero Drift Correction Factor, Zcf = Zero Check / # of Readings

Span Drift Correction Factor, Scf = (% Drift / 100) / # of Readings

Cz, Zero Corr. Concentration = measured value – [Zcf x (Point # – 0.5)]

Drift Corrected Reading = Cz / [1 + (Scf x (Point # – 0.5))]

GAS ANALYZER DATA

KERN RIVER COGENERATION COMPANY
UNIT C

Date : 10-Feb-93
Run No. : 3

	O2, %		CO2, %		NOx, ppm		CO, ppm		SO2, ppm	
	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading
Point #										
1	14.61	14.61	3.66	3.66	36.50	36.50	2.66	2.66		
2	14.61	14.61	3.66	3.66	36.50	36.50	2.68	2.68		
3	14.63	14.63	3.66	3.66	36.60	36.60	2.68	2.68		
4	14.64	14.64	3.66	3.66	36.70	36.70	2.66	2.66		
5	14.64	14.64	3.66	3.66	36.70	36.70	2.68	2.68		
6	14.64	14.64	3.66	3.66	37.00	37.00	2.72	2.72		
7	14.67	14.67	3.66	3.66	37.20	37.20	2.72	2.72		
8	14.67	14.67	3.66	3.66	37.20	37.20	2.80	2.80		
9	14.67	14.67	3.66	3.66	37.10	37.10	2.80	2.80		
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MEAN :		14.64		3.66		36.83		2.71		

Zero Check	0.00	0.00	0.00	0.00
Span Check	15.14	16.21	80.88	18.20
Initial Span Value	15.14	16.21	80.88	18.20
Drift, Percent	0.0	0.0	0.0	0.0
Zero Drift, Zcf	0.00000	0.00000	0.00000	0.00000
Span Drift, Scf	0.00000	0.00000	0.00000	0.00000

Drift, Percent = [(Span Check – Zero Check) – Calib. Gas] / Calib. Gas x 100

Zero Drift Correction Factor, Zcf = Zero Check / # of Readings

Span Drift Correction Factor, Scf = (% Drift / 100) / # of Readings

Cz, Zero Corr. Concentration = measured value – [Zcf x (Point # – 0.5)]

Drift Corrected Reading = Cz / [1 + (Scf x (Point # – 0.5))]

GAS ANALYZER DATA

KERN RIVER COGENERATION COMPANY
UNIT D

Date : 10-Feb-93
Run No. : 1

	O2, %		CO2, %		NOx, ppm		CO, ppm		SO2, ppm	
	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading
Point #										
1	14.75	14.75	3.66	3.66	38.30	38.30	1.30	1.31		
2	14.75	14.75	3.66	3.66	38.30	38.30	1.30	1.32		
3	14.75	14.75	3.66	3.66	38.20	38.20	1.30	1.33		
4	14.75	14.75	3.66	3.66	38.10	38.10	1.30	1.34		
5	14.75	14.75	3.66	3.66	38.00	38.00	1.30	1.35		
6	14.75	14.75	3.66	3.66	37.90	37.90	1.30	1.36		
7	14.75	14.75	3.66	3.66	37.80	37.80	1.30	1.37		
8	14.75	14.75	3.66	3.66	37.80	37.80	1.30	1.38		
9	14.75	14.75	3.66	3.66	37.70	37.70	1.30	1.39		
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MEAN :		14.75		3.66		38.01		1.35		

Zero Check	0.00	0.00	0.00	-0.10
Span Check	15.14	16.21	80.88	18.20
Initial Span Value	15.14	16.21	80.88	18.20
Drift, Percent	0.0	0.0	0.0	0.5
Zero Drift, Zcf	0.00000	0.00000	0.00000	-0.01111
Span Drift, Scf	0.00000	0.00000	0.00000	0.00061

Drift, Percent = [(Span Check – Zero Check) – Calib. Gas] / Calib. Gas x 100

Zero Drift Correction Factor, Zcf = Zero Check / # of Readings

Span Drift Correction Factor, Scf = (% Drift / 100) / # of Readings

Cz, Zero Corr. Concentration = measured value – [Zcf x (Point # – 0.5)]

Drift Corrected Reading = Cz / [1 + (Scf x (Point # – 0.5))]

GAS ANALYZER DATA

KERN RIVER COGENERATION COMPANY
UNIT D

Date : 10-Feb-93
Run No. : 2

	O2, %		CO2, %		NOx, ppm		CO, ppm		SO2, ppm	
	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading
Point #										
1	14.75	14.75	3.73	3.73	37.70	37.70	1.22	1.22		
2	14.75	14.75	3.73	3.73	37.70	37.70	1.22	1.22		
3	14.77	14.77	3.73	3.73	37.70	37.70	1.22	1.22		
4	14.77	14.77	3.73	3.73	37.70	37.70	1.22	1.22		
5	14.78	14.78	3.73	3.73	37.70	37.70	1.22	1.22		
6	14.78	14.78	3.73	3.73	37.70	37.70	1.22	1.22		
7	14.78	14.78	3.73	3.73	37.70	37.70	1.22	1.22		
8	14.78	14.78	3.73	3.73	37.70	37.70	1.22	1.22		
9	14.75	14.75	3.73	3.73	37.70	37.70	1.22	1.22		
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30										
MEAN :		14.77		3.73		37.70		1.22		

Zero Check	0.00	0.00	0.00	0.00
Span Check	15.14	16.21	80.88	18.20
Initial Span Value	15.14	16.21	80.88	18.20
Drift, Percent	0.0	0.0	0.0	0.0
Zero Drift, Zcf	0.00000	0.00000	0.00000	0.00000
Span Drift, Scf	0.00000	0.00000	0.00000	0.00000

Drift, Percent = [(Span Check – Zero Check) – Calib. Gas] / Calib. Gas x 100

Zero Drift Correction Factor, Zcf = Zero Check / # of Readings

Span Drift Correction Factor, Scf = (% Drift / 100) / # of Readings

Cz, Zero Corr. Concentration = measured value – [Zcf x (Point # – 0.5)]

Drift Corrected Reading = Cz / [1 + (Scf x (Point # – 0.5))]

GAS ANALYZER DATA

KERN RIVER COGENERATION COMPANY
UNIT D

Date : 10-Feb-93
Run No. : 3

	O2, %		CO2, %		NOx, ppm		CO, ppm		SO2, ppm	
Point #	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading	Instrument Reading	Drift Corrected Reading
1	14.79	14.77	3.73	3.73	37.70	37.70	1.20	1.20		
2	14.80	14.75	3.73	3.73	37.70	37.70	1.20	1.20		
3	14.81	14.73	3.73	3.73	38.00	38.00	1.20	1.20		
4	14.82	14.71	3.73	3.73	38.30	38.30	1.20	1.20		
5	14.83	14.69	3.73	3.73	38.50	38.50	1.20	1.20		
6	14.84	14.67	3.73	3.73	38.50	38.50	1.20	1.20		
7	14.85	14.65	3.76	3.76	38.50	38.50	1.20	1.20		
8	14.88	14.65	3.73	3.73	38.30	38.30	1.20	1.20		
9	14.88	14.62	3.73	3.73	38.30	38.30	1.20	1.20		
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MEAN :		14.69		3.73		38.20		1.20		

Zero Check	0.00	0.00	0.00	0.00
Span Check	15.43	16.21	80.88	18.20
Initial Span Value	15.14	16.21	80.88	18.20
Drift, Percent	1.9	0.0	0.0	0.0
Zero Drift, Zcf	0.00000	0.00000	0.00000	0.00000
Span Drift, Scf	0.00213	0.00000	0.00000	0.00000

Drift, Percent = [(Span Check − Zero Check) − Calib. Gas] / Calib. Gas x 100

Zero Drift Correction Factor, Zcf = Zero Check / # of Readings

Span Drift Correction Factor, Scf = (% Drift / 100) / # of Readings

Cz, Zero Corr. Concentration = measured value − [Zcf x (Point # − 0.5)]

Drift Corrected Reading = Cz / [1 + (Scf x (Point # − 0.5))]

FUEL BASED CALCULATIONS

KERN RIVER COGENERATION COMPANY
UNIT A

09-Feb-93

FUEL ANALYSIS DATA

Run #	Fuel Value (%), Moisture & Ash Free: Carbon	Hydrogen	Nitrogen	Oxygen	Sulfur	GCV BTU/lb,dry	ft3/lb	lb/gal
1	73.24	23.65	2.03	1.07	0.00	22,925		
2	73.24	23.65	2.03	1.07	0.00	22,925		
3	73.24	23.65	2.03	1.07	0.00	22,925		

CALCULATIONS

Run #	Stack Gas Oxygen %	Fuel Gas Flowrate lb/hr	Fuel Gas Flowrate ft3/hr	Fuel Oil Flowrate lb/hr	Fuel Oil Flowrate gal/hr	Solid Fuel lb/hr	Heat Input MMBTU/hr	F-Factor dscf/MMBTU	Qs(std) dscfm
1	14.69	41,555					952.644	8,503.21	454,378
2	14.83	41,479					950.911	8,503.21	464,012
3	14.81	41,224					945.051	8,503.21	459,638

Heat Input, MMBTU/hr = (lb/hr fuel gas) x BTU/lb x MM/1E+06

= (ft3/hr fuel gas) x BTU/lb / (ft3/lb fuel gas) x MM/1E+06

= (lb/hr fuel oil) x BTU/lb x MM/1E+06

= (gal/hr fuel oil) x lb/gal x BTU/lb x MM/1E+06

= (lb/hr solid fuel) x BTU/lb x MM/1E+06

F-Factor, dscf/MMBTU = 1E+06 [(3.64 scf/lb)/% x (% H) + (1.53 scf/lb)/% x (% C) + (0.57 scf/lb)/% x (% S) + (0.14 scf/lb)/% x (% N) - (0.46 scf/lb)/% x (% O2)] / (BTU/lb) x [(Tstd + 460) / 528]

Qs(std), dscfm = MMBTU/hr x [F-Factor x (20.9 / (20.9 - %O2)) x (hr / 60 min)]

GCV = Gross Calorific Value of fuel, Btu/lb, dry

Standard Temperature = 60 °F

FUEL BASED CALCULATIONS

KERN RIVER COGENERATION COMPANY
UNIT B

09-Feb-93

FUEL ANALYSIS DATA

Run #	Fuel Value (%), Moisture & Ash Free: Carbon	Hydrogen	Nitrogen	Oxygen	Sulfur	GCV BTU/lb,dry	ft3/lb	lb/gal
1	73.24	23.65	2.03	1.07	0.00	22,925		
2	73.24	23.65	2.03	1.07	0.00	22,925		
3	73.24	23.65	2.03	1.07	0.00	22,925		

CALCULATIONS

Run #	Stack Gas Oxygen %	Fuel Gas Flowrate lb/hr	Fuel Gas Flowrate ft3/hr	Fuel Oil Flowrate lb/hr	Fuel Oil Flowrate gal/hr	Solid Fuel lb/hr	Heat Input MMBTU/hr	F-Factor dscf/MMBTU	Qs(std) dscfm
1	14.78	42,026					963.455	8,503.21	466,292
2	14.85	41,872					959.906	8,503.21	469,950
3	14.87	42,062					964.281	8,503.21	473,657

Heat Input, MMBTU/hr = (lb/hr fuel gas) x BTU/lb x MM/1E+06

= (ft3/hr fuel gas) x BTU/lb / (ft3/lb fuel gas) x MM/1E+06

= (lb/hr fuel oil) x BTU/lb x MM/1E+06

= (gal/hr fuel oil) x lb/gal x BTU/lb x MM/1E+06

= (lb/hr solid fuel) x BTU/lb x MM/1E+06

F-Factor, dscf/MMBTU = 1E+06 [(3.64 scf/lb)/% x (% H) + (1.53 scf/lb)/% x (% C) + (0.57 scf/lb)/% x (% S) + (0.14 scf/lb)/% x (% N) - (0.46 scf/lb)/% x (% O2)] / (BTU/lb) x [(Tstd + 460) / 528]

Qs(std), dscfm = MMBTU/hr x [F-Factor x (20.9 / (20.9 - %O2)) x (hr / 60 min)]

GCV = Gross Calorific Value of fuel, Btu/lb, dry

Standard Temperature = 60 °F

FUEL BASED CALCULATIONS

KERN RIVER COGENERATION COMPANY
UNIT C

10-Feb-93

FUEL ANALYSIS DATA

Run #	Fuel Value (%), Moisture & Ash Free					GCV		
	Carbon	Hydrogen	Nitrogen	Oxygen	Sulfur	BTU/lb,dry	ft3/lb	lb/gal
1	73.24	23.65	2.03	1.07	0.00	22,925		
2	73.24	23.65	2.03	1.07	0.00	22,925		
3	73.24	23.65	2.03	1.07	0.00	22,925		

CALCULATIONS

Run #	Stack Gas Oxygen %	Fuel Gas Flowrate		Fuel Oil Flowrate		Solid Fuel lb/hr	Heat Input MMBTU/hr	F-Factor dscf/MMBTU	Qs(std) dscfm
		lb/hr	ft3/hr	lb/hr	gal/hr				
1	14.70	44,669					1024.032	8,503.21	489,215
2	14.70	44,370					1017.182	8,503.21	485,943
3	14.64	44,312					1015.862	8,503.21	480,660

Heat Input, MMBTU/hr = (lb/hr fuel gas) x BTU/lb x MM/1E+06

= (ft3/hr fuel gas) x BTU/lb / (ft3/lb fuel gas) x MM/1E+06

= (lb/hr fuel oil) x BTU/lb x MM/1E+06

= (gal/hr fuel oil) x lb/gal x BTU/lb x MM/1E+06

= (lb/hr solid fuel) x BTU/lb x MM/1E+06

F-Factor, dscf/MMBTU = 1E+06 [(3.64 scf/lb)/% x (% H) + (1.53 scf/lb)/% x (% C) + (0.57 scf/lb)/% x (% S) + (0.14 scf/lb)/% x (% N) - (0.46 scf/lb)/% x (% O2)] / (BTU/lb) x [(Tstd + 460) / 528]

Qs(std), dscfm = MMBTU/hr x [F-Factor x (20.9 / (20.9 - %O2)) x (hr / 60 min)]

GCV = Gross Calorific Value of fuel, Btu/lb, dry

Standard Temperature = 60 °F

FUEL BASED CALCULATIONS

KERN RIVER COGENERATION COMPANY
UNIT D

10-Feb-93

FUEL ANALYSIS DATA

Run #	Fuel Value (%), Moisture & Ash Free: Carbon	Hydrogen	Nitrogen	Oxygen	Sulfur	GCV BTU/lb,dry	ft3/lb	lb/gal
1	73.24	23.65	2.03	1.07	0.00	22,925		
2	73.24	23.65	2.03	1.07	0.00	22,925		
3	73.24	23.65	2.03	1.07	0.00	22,925		

CALCULATIONS

Run #	Stack Gas Oxygen %	Fuel Gas Flowrate lb/hr	Fuel Gas Flowrate ft3/hr	Fuel Oil Flowrate lb/hr	Fuel Oil Flowrate gal/hr	Solid Fuel lb/hr	Heat Input MMBTU/hr	F-Factor dscf/MMBTU	Qs(std) dscfm
1	14.75	44,172					1012.643	8,503.21	487,708
2	14.77	43,992					1008.517	8,503.21	487,305
3	14.69	43,988					1008.434	8,503.21	480,988

Heat Input, MMBTU/hr = (lb/hr fuel gas) x BTU/lb x MM/1E+06

= (ft3/hr fuel gas) x BTU/lb / (ft3/lb fuel gas) x MM/1E+06

= (lb/hr fuel oil) x BTU/lb x MM/1E+06

= (gal/hr fuel oil) x lb/gal x BTU/lb x MM/1E+06

= (lb/hr solid fuel) x BTU/lb x MM/1E+06

F-Factor, dscf/MMBTU = 1E+06 [(3.64 scf/lb)/% x (% H) + (1.53 scf/lb)/% x (% C) + (0.57 scf/lb)/% x (% S) + (0.14 scf/lb)/% x (% N) - (0.46 scf/lb)/% x (% O2)] / (BTU/lb) x [(Tstd + 460) / 528]

Qs(std), dscfm = MMBTU/hr x [F-Factor x (20.9 / (20.9 - %O2)) x (hr / 60 min)]

GCV = Gross Calorific Value of fuel, Btu/lb, dry

Standard Temperature = 60 °F

FUEL BASED CALCULATIONS – EPA

09–Feb–93

KERN RIVER COGENERATION COMPANY
UNIT A

FUEL ANALYSIS DATA

Run #	Fuel Value (%), Moisture & Ash Free: Carbon	Hydrogen	Nitrogen	Oxygen	Sulfur	GCV BTU/lb,dry	ft3/lb	lb/gal
1	73.24	23.65	2.03	1.07	0.00	22,925		
2	73.24	23.65	2.03	1.07	0.00	22,925		
3	73.24	23.65	2.03	1.07	0.00	22,925		

CALCULATIONS

Run #	Stack Gas Oxygen %	Fuel Gas Flowrate lb/hr	Fuel Gas Flowrate ft3/hr	Fuel Oil Flowrate lb/hr	Fuel Oil Flowrate gal/hr	Solid Fuel lb/hr	Heat Input MMBTU/hr	F–Factor dscf/MMBTU	Qs(std) dscfm
1	14.69	41,555					952.644	8,634.03	461,368
2	14.83	41,479					950.911	8,634.03	471,151
3	14.81	41,224					945.051	8,634.03	466,710

Heat Input, MMBTU/hr = (lb/hr fuel gas) x BTU/lb x MM/1E+06

= (ft3/hr fuel gas) x BTU/lb / (ft3/lb fuel gas) x MM/1E+06

= (lb/hr fuel oil) x BTU/lb x MM/1E+06

= (gal/hr fuel oil) x lb/gal x BTU/lb x MM/1E+06

= (lb/hr solid fuel) x BTU/lb x MM/1E+06

F–Factor, dscf/MMBTU = 1E+06 [(3.64 scf/lb)/% x (% H) + (1.53 scf/lb)/% x (% C) + (0.57 scf/lb)/% x (% S) + (0.14 scf/lb)/% x (% N) – (0.46 scf/lb)/% x (% O2)] / (BTU/lb) x [(Tstd + 460) / 528]

Qs(std), dscfm = MMBTU/hr x [F–Factor x (20.9 / (20.9 – %O2)) x (hr / 60 min)]

GCV = Gross Calorific Value of fuel, Btu/lb, dry

Standard Temperature = 68 °F

FUEL BASED CALCULATIONS – EPA

09–Feb–93

KERN RIVER COGENERATION COMPANY
UNIT B

FUEL ANALYSIS DATA

Run #	Fuel Value (%), Moisture & Ash Free: Carbon	Hydrogen	Nitrogen	Oxygen	Sulfur	GCV BTU/lb,dry	ft3/lb	lb/gal
1	73.24	23.65	2.03	1.07	0.00	22,925		
2	73.24	23.65	2.03	1.07	0.00	22,925		
3	73.24	23.65	2.03	1.07	0.00	22,925		

CALCULATIONS

Run #	Stack Gas Oxygen %	Fuel Gas Flowrate lb/hr	Fuel Gas Flowrate ft3/hr	Fuel Oil Flowrate lb/hr	Fuel Oil Flowrate gal/hr	Solid Fuel lb/hr	Heat Input MMBTU/hr	F–Factor dscf/MMBTU	Qs(std) dscfm
1	14.78	42,026					963.455	8,634.03	473,466
2	14.85	41,872					959.906	8,634.03	477,180
3	14.87	42,062					964.281	8,634.03	480,944

Heat Input, MMBTU/hr = (lb/hr fuel gas) x BTU/lb x MM/1E+06

= (ft3/hr fuel gas) x BTU/lb / (ft3/lb fuel gas) x MM/1E+06

= (lb/hr fuel oil) x BTU/lb x MM/1E+06

= (gal/hr fuel oil) x lb/gal x BTU/lb x MM/1E+06

= (lb/hr solid fuel) x BTU/lb x MM/1E+06

F–Factor, dscf/MMBTU = 1E+06 [(3.64 scf/lb)/% x (% H) + (1.53 scf/lb)/% x (% C) + (0.57 scf/lb)/% x (% S) + (0.14 scf/lb)/% x (% N) – (0.46 scf/lb)/% x (% O2)] / (BTU/lb) x [(Tstd + 460) / 528]

Qs(std), dscfm = MMBTU/hr x [F–Factor x (20.9 / (20.9 – %O2)) x (hr / 60 min)]

GCV = Gross Calorific Value of fuel, Btu/lb, dry

Standard Temperature = 68 °F

FUEL BASED CALCULATIONS – EPA

KERN RIVER COGENERATION COMPANY
UNIT C

10–Feb–93

FUEL ANALYSIS DATA

Run #	Fuel Value (%), Moisture & Ash Free: Carbon	Hydrogen	Nitrogen	Oxygen	Sulfur	GCV BTU/lb,dry	ft3/lb	lb/gal
1	73.24	23.65	2.03	1.07	0.00	22,925		
2	73.24	23.65	2.03	1.07	0.00	22,925		
3	73.24	23.65	2.03	1.07	0.00	22,925		

CALCULATIONS

Run #	Stack Gas Oxygen %	Fuel Gas Flowrate lb/hr	Fuel Gas Flowrate ft3/hr	Fuel Oil Flowrate lb/hr	Fuel Oil Flowrate gal/hr	Solid Fuel lb/hr	Heat Input MMBTU/hr	F–Factor dscf/MMBTU	Qs(std) dscfm
1	14.70	44,669					1024.032	8,634.03	496,742
2	14.70	44,370					1017.182	8,634.03	493,419
3	14.64	44,312					1015.862	8,634.03	488,055

Heat Input, MMBTU/hr = (lb/hr fuel gas) x BTU/lb x MM/1E+06

= (ft3/hr fuel gas) x BTU/lb / (ft3/lb fuel gas) x MM/1E+06

= (lb/hr fuel oil) x BTU/lb x MM/1E+06

= (gal/hr fuel oil) x lb/gal x BTU/lb x MM/1E+06

= (lb/hr solid fuel) x BTU/lb x MM/1E+06

F–Factor, dscf/MMBTU = 1E+06 [(3.64 scf/lb)/% x (% H) + (1.53 scf/lb)/% x (% C) + (0.57 scf/lb)/% x (% S) + (0.14 scf/lb)/% x (% N) – (0.46 scf/lb)/% x (% O2)] / (BTU/lb) x [(Tstd + 460) / 528]

Qs(std), dscfm = MMBTU/hr x [F–Factor x (20.9 / (20.9 – %O2)) x (hr / 60 min)]

GCV = Gross Calorific Value of fuel, Btu/lb, dry

Standard Temperature = 68 °F

FUEL BASED CALCULATIONS – EPA

KERN RIVER COGENERATION COMPANY
UNIT D

10-Feb-93

FUEL ANALYSIS DATA

Run #	Fuel Value (%), Moisture & Ash Free					GCV		
	Carbon	Hydrogen	Nitrogen	Oxygen	Sulfur	BTU/lb,dry	ft3/lb	lb/gal
1	73.24	23.65	2.03	1.07	0.00	22,925		
2	73.24	23.65	2.03	1.07	0.00	22,925		
3	73.24	23.65	2.03	1.07	0.00	22,925		

CALCULATIONS

Run #	Stack Gas Oxygen %	Fuel Gas Flowrate		Fuel Oil Flowrate		Solid Fuel	Heat Input	F-Factor	Qs(std)
		lb/hr	ft3/hr	lb/hr	gal/hr	lb/hr	MMBTU/hr	dscf/MMBTU	dscfm
1	14.75	44,172					1012.643	8,634.03	495,211
2	14.77	43,992					1008.517	8,634.03	494,802
3	14.69	43,988					1008.434	8,634.03	488,388

Heat Input, MMBTU/hr = (lb/hr fuel gas) x BTU/lb x MM/1E+06

= (ft3/hr fuel gas) x BTU/lb / (ft3/lb fuel gas) x MM/1E+06

= (lb/hr fuel oil) x BTU/lb x MM/1E+06

= (gal/hr fuel oil) x lb/gal x BTU/lb x MM/1E+06

= (lb/hr solid fuel) x BTU/lb x MM/1E+06

F-Factor, dscf/MMBTU = 1E+06 [(3.64 scf/lb)/% x (% H) + (1.53 scf/lb)/% x (% C) + (0.57 scf/lb)/% x (% S) + (0.14 scf/lb)/% x (% N) – (0.46 scf/lb)/% x (% O2)] / (BTU/lb) x [(Tstd + 460) / 528]

Qs(std), dscfm = MMBTU/hr x [F-Factor x (20.9 / (20.9 – %O2)) x (hr / 60 min)]

GCV = Gross Calorific Value of fuel, Btu/lb, dry

Standard Temperature = 68 °F

SECTION 5

QUALITY ASSURANCE

SECTION 5

QUALITY ASSURANCE

The report is reviewed for technical and editorial quality and for compliance with project requirements. Calculations are performed by computer programs designed for source testing. At least one set of calculations are performed manually to check results.

All equipment used in testing has been checked for proper maintenance and calibrated prior to testing. Test equipment calibrations are included in the Report appendix. The dry gas meter accuracy is expressed as gamma and is determined as the difference between the meter box dry gas meter and the wet test meter used for calibration. The results of the orifice calibration are expressed as the delta H@ (dH@) at various pressure drops (inches of water), as specified in EPA publication APTD-0576. EPA Quality Assurance Branch annual audits are performed with an orifice check of each of the dry gas meters used for volumetric sampling.

The analyzers employed for continuous monitoring of NO_X, CO, SO_2, CO_2, O_2, and HC are California Air Resources Board (CARB) approved instruments. Sampling system bias checks of the continuous monitor sampling system are performed using either EPA protocol 1 or NIST certified calibration gases. Calibration certificates are included in the report. All other required checks of the continuous monitor system are also performed.

All field samples are labeled and logged in on a chain-of-custody sheet. Chain-of-custody sheets remain with samples and document sample movement.

SAMPLE SYSTEM BIAS CHECK

COMPANY KRCC DATE 2/9/93

TEST LOCATION OUTLET STACK OPERATOR T. DELFINO

COMMENTS:

Parameter	Instrument Full Scale	Span Gas Value	Scale	Internal Response	System Response	Percent Difference
O2 (%)	(0-25%)	0.00	Zero	0.00		
		15.14	Upscale	15.15	15.14	-0.04
CO2 (%)	(0-20%)	0.00	Zero	0.00		
		16.21	Upscale	16.21	16.09	-0.60
NOx (ppm)	(0-100ppm)	0.00	Zero	0.00		
		80.88	Upscale	81.50	79.80	-1.70
CO (ppm)	(0-20ppm)	0.00	Zero	0.00		
		18.20	Upscale	18.25	18.22	-0.15
SO2 (ppm)		0.00	Zero			
			Upscale			
HC (ppm)		0.00	Zero			
			Upscale			
		0.00	Zero			
			Upscale			

Percent Difference = [(System Response – Internal Response) / Instrument Full Scale] x 100

SAMPLE SYSTEM BIAS CHECK

COMPANY KRCC DATE 2/10/93

TEST LOCATION OUTLET STACK OPERATOR T. DELFINO

COMMENTS:

Parameter	Instrument Full Scale	Span Gas Value	Scale	Internal Response	System Response	Percent Difference
O2 (%)	(0-25%)	0.00	Zero	0.00		
		15.14	Upscale	15.43	15.27	-0.64
CO2 (%)	(0-20%)	0.00	Zero	0.00		
		16.21	Upscale	16.21	16.19	-0.10
NOx (ppm)	(0-100ppm)	0.00	Zero	0.00		
		80.88	Upscale	80.88	82.2	1.32
CO (ppm)	(0-20ppm)	0.00	Zero	0.00		
		18.20	Upscale	18.20	18.35	0.75
SO2 (ppm)		0.00	Zero			
			Upscale			
HC (ppm)		0.00	Zero			
			Upscale			
		0.00	Zero			
			Upscale			

Percent Difference = [(System Response – Internal Response) / Instrument Full Scale] x 100

Scott Specialty Gases, Inc.

2800 CAJON BOULEVARD, SAN BERNARDINO, CA 92411 (909) 887-2571 FAX: (909) 887-0549

CERTIFICATE OF ANALYSIS: EPA PROTOCOL GAS

Customer
ENGINEERING SCIENCE
P.O. BOX 2007
IRWINDALE, CA 91706

Assay Laboratory
Scott Specialty Gases
2600 Cajon Boulevard
San Bernardino, CA 92411

Purchase Order BK042
Scott Project # 0223658

ANALYTICAL INFORMATION

Certified to exceed the minimum specifications of EPA Protocol 1 Procedure #G1, Section Number 3.0.4

Cylinder Number ALM011324
Cylinder Pressure 1900 psig
Certification Date 2/2/93
Previous Certification Dates
Expiration Date 8/2/93

ANALYZED CYLINDER

Components	Certified Concentration	Analytical Uncertainty*
Nitric Oxide	12.50 ppm	± 1 % NIST Traceable
Carbon Monoxide	12.54 ppm	
Balance Gas: Nitrogen		
NOX	12.7 ppm	

*Analytical uncertainty is inclusive of usual known error sources which at least includes reference standard error & precision of the measurement processes.

REFERENCE STANDARD

Type	Expiration Date	Cylinder Number	Concentration
GMIS	3/93	ALM006975	22.52 ppm Nitric Oxide
GMIS	3/93	ALM026614	96.23 ppm Carbon Monoxide

INSTRUMENTATION

Instrument/Model/Serial #	Last Date Calibrated	Analytical Principle
TECO / 10AR / 38644-258	11/12/92	Chemi-Luminescent
Horiba / OPE-135D / 56565502	11/20/92	NDIR

ANALYZER READINGS (Z=Zero Gas R=Reference Gas T=Test Gas r=Correlation Coefficient)

Components

Nitric Oxide

First Triad Analysis			Second Triad Analysis			Calibration Curve
Date: 1/22/93	Response Units: mv		Date: 2/2/93	Response Units: mv		Concentration= Ax^2+Bx+C
Z1= 0.06	R1= 89.87	T1= 49.98	Z1= 0.00	R1= 89.99	T1= 50.08	A = -0.000050429
R2= 90.06	Z2= 0.18	T2= 50.02	R2= 90.23	Z2= 0.06	T2= 50.14	B = 1.04899
Z3= 0.20	T3= 50.02	R3= 90.05	Z3= 0.10	T3= 50.12	R3= 90.61	C = -0.29251
Avg. Conc. of Cust Cyl.		12.50 ppm	Avg. Conc. of Cust Cyl.		12.50 ppm	

Carbon Monoxide

Date: 1/26/93	Response Units: mv		Date: 2/2/93	Response Units: mv		Concentration= $Ax^4+Bx^3+Cx^2+DX+E$
Z1= 0.00	R1= 97.0	T1= 13.2	Z1= 0.00	R1= 97.0	T1= 13.3	A = 0.00000000689
R2= 97.0	Z2= 0.00	T2= 13.2	R2= 97.0	Z2= 0.00	T2= 13.2	B = -0.000002034
Z3= 0.00	T3= 13.2	R3= 97.0	Z3= 0.00	T3= 13.2	R3= 97.0	C = 0.0005717
Avg. Conc. of Cust Cyl.		12.52 ppm	Avg. Conc. of Cust Cyl.		12.55 ppm	D = 0.93937
						E = 0.004755

Date:	Response Units:		Date:	Response Units:		Concentration=
Z1=	R1=	T1=	Z1=	R1=	T1=	
R2=	Z2=	T2=	R2=	Z2=	T2=	
Z3=	T3=	R3=	Z3=	T3=	R3=	
Avg. Conc. of Cust Cyl.			Avg. Conc. of Cust Cyl.			

Special Notes

Analyst: Joseph De La Torre

SCOTT-MARRIN, INC.
2001 THIRD ST. • UNIT H • RIVERSIDE, CA 92507
TELEPHONE (714) 784-1240

REPORT OF ANALYSIS
EPA PROTOCOL GAS MIXTURES

ENSI01
TO:
D.J. WYMAN
ENGINEERING SCIENCES, INC.
P.O. BOX 2007
IRWINDALE, CA 91706

DATE : 12/23/91

CUSTOMER ORDER NUMBER: FI1234-24

PAGE 1

COMPONENT	CONCENTRATION(v/v)	REFERENCE STANDARD	ANALYSER MAKE,MODEL,S/N,DETECTION	EXPIRATION DATE	REPLICATE ANALYSIS DATA	
CYLINDER NO.:	CC12978					
			Monitor Labs Model 8440		12/12/91	12/19/91
[redacted]		GMIS	S/N 136	06/19/93	44.1 ppm	44.3 ppm
		Cylinder #	Continuous		44.1 ppm	44.2 ppm
Nitrogen,O2-Free Balance		CC39513	Chemiluminescence		44.0 ppm	44.1 ppm
Cylinder Pressure: 2000 psig		@ 49.1 ppm	Last Cal Date: 11/25/91		Mean: 44.1 ppm	44.2 ppm

ppm = umole/mole % = mole-%

The above analyses were performed in accordance with EPA-1987 Traceability Protocol # 1, Section 3.0.4, Procedure G1.

Analyst: B.E. Gross

Approved: J.T. Marrin

Scott Specialty Gases, Inc.

2600 CAJON BLVD., SAN BERNARDINO, CA 92411
FAX 714-887-0549
PHONE: 714-887-2571

Shipped From: Scott SAN BERNARDINO, CA
Date Shipped 09/25/92
Our Project No: 21550
Your P.O. No: BFI008
Page 1 of 1
Expiration Date: 3/93

ENGINEERING SCIENCE
ATTN: JIM POLHAMUS
2520 PEGASUS
BAKERSFIELD CA 93308

CERTIFICATE OF ANALYSIS – EPA PROTOCOL GASES

Certified Per Traceability Protocol No. 1 Procedure No. G1 Cylinder No. AAL14590 Cylinder Pressure 1950 PSIG Certified Accuracy ±1% % NIST Traceable

COMPONENTS	CERTIFIED CONC	REFERENCE STD SRM/CRM NO.	REFERENCE STD CYL. NO.	REFERENCE STD CONC.	GAS ANALYZER MAKE/MODEL/SERIAL NO.	GAS ANALYZER LAST CAL. DATE	GAS ANALYZER ANALYTICAL PRINCIPLE
NITRIC OXIDE	23.00 PPM	GMIS TRACEABLE TO SRM2629A	ALM001512	21.83 PPM	THERMO-ELECTRON 10AR 14853-150	07/03/92	CHEMI-LUMINESCENT
NOX	23.78 PPM						
CARBON MONOXIDE	18.20 PPM	CRM1678	AAL5970	47.20 PPM	HORIBA AIA-24 4564403	06/03/92	INFRA-RED

BALANCE GAS NITROGEN

ANALYZER READINGS: Z = Zero Gas T = Test Gas R = Reference Gas

Component NITRIC OXIDE
First Analysis Date 09/14/92 Units mv

Z 0.00	R 86.90	T 91.25			
R 86.85	Z 0.02	T 91.13			
Z 0.00	T 91.05	R 86.63			

Mean Test Assay 22.92 PPM

Second Analysis Date 09/22/92 Units mv

Z 0.00	R 86.93	T 91.90			
R 86.82	Z 0.02	T 91.79			
Z 0.05	T 91.65	R 86.85			

Mean Test Assay 23.07 PPM

Component CARBON MONOXIDE
Date 09/15/92 Units mv

Z 00.00	R 92.5	T 35.8			
R 92.5	Z 00.04	T 35.8			
Z 00.02	T 35.8	R 92.5			

Mean Test Assay 18.17 PPM

Date 09/21/92 Units mv

Z 00.00	R 92.5	T 35.9			
R 95.0	Z 00.01	T 35.9			
Z 00.02	T 35.9	R 95.0			

Mean Test Assay 18.22 PPM

Component _____
Date _____ Units mv

Z	R	T			
R	Z	T			
Z	T	R			

Mean Test Assay _____

Date _____ Units mv

Z	R	T			
R	Z	T			
Z	T	R			

Mean Test Assay _____

Chronology: Date _____
Assay _____

Analyst M. JOHNSON/G. KING/L. OLDHAM

Approved By: _____

A.F. LANGE, Ph.D., MANAGER, QA

Scott Specialty Gases, Inc.

2600 CAJON BLVD., SAN BERNARDINO, CA 92411
FAX . . .-887-0549
PHONE: 714-887-2571

Shipped From: Scott SAN BERNARDINO,
Date Shipped 09/25/92
Our Project No: 21550
Your P.O. No: BEI008
Page 1 of 1
Expiration Date: 3/93

ENGINEERING SCIENCE
ATTN: JIM POLHAMUS
2520 PEGASUS
BAKERSFIELD CA 93308

CERTIFICATE OF ANALYSIS – EPA PROTOCOL GASES

Certified Per Traceability Protocol No. 1 Procedure No. G1 Cylinder No. AAL14590 Cylinder Pressure 1950 PSIG Certified Accuracy ±1% % NIST Traceable

COMPONENTS	CERTIFIED CONC	REFERENCE STD SRM/CRM NO.	REFERENCE STD CYL. NO.	REFERENCE STD CONC.	GAS ANALYZER MAKE/MODEL/SERIAL NO.	GAS ANALYZER LAST CAL. DATE	GAS ANALYZER ANALYTICAL PRINCIPLE
NITRIC OXIDE	23.00 PPM	GMIS TRACEABLE TO SRM2629A	ALM001512	21.83 PPM	THERMO-ELECTRON 10AR 14853-150	07/03/92	CHEMI-LUMINESCENT
NOX	23.78 PPM						
CARBON MONOXIDE	18.20 PPM	CRM1678	AAL5970	47.20 PPM	HORIBA AIA-24 4564403	06/03/92	INFRA-RED

BALANCE GAS NITROGEN

ANALYZER READINGS: Z = Zero Gas T = Test Gas R = Reference Gas

Component NITRIC OXIDE
First Analysis Date 09/14/92 Units mv

0.00	R	86.90	T	91.25
86.85	Z	0.02	T	91.13
0.00	T	91.05	R	86.63

Mean Test Assay 22.92 PPM

Second Analysis Date 09/22/92 Units mv

0.00	R	86.93	T	91.90
86.82	Z	0.02	T	91.79
0.05	T	91.65	R	86.85

Mean Test Assay 23.07 PPM

Component CARBON MONOXIDE
Date 09/15/92 Units mv

Z 00.00	R	92.5	T	35.8
R 92.5	Z	00.04	T	35.8
Z 00.02	T	35.8	R	92.5

Mean Test Assay 18.17 PPM

Date 09/21/92 Units mv

Z 00.00	R	92.5	T	35.9
R 95.0	Z	00.01	T	35.9
Z 00.02	T	35.9	R	95.0

Mean Test Assay 18.22 PPM

Component _____
Date _____ Units mv

Z	R	T
R	Z	T
Z	T	R

Mean Test Assay _____

Date _____ Units mv

Z	R	T
R	Z	T
Z	T	R

Mean Test Assay _____

Chronology: Date _____
Assay _____

Analyst M. JOHNSON/G. KING/L. OLDHAM

Approved By: _____

A.F. LANGE, Ph.D., MANAGER, QA

Scott Specialty Gases, Inc.

2600 CAJON BLVD., SAN BERNARDINO, CA 92405
FAX 714-887-0549
PHONE: 714-887-2571

Shipped From: Scott SAN BERNARDINO, CA
Date Shipped 12/3/92
Our Project No: 22596
Your P.O. No: BKG0002
Page 1 of 1
Expiration Date: 5/93

ENGINEERING SCIENCE
ATTN: JIM POLHAMUS
2520 PEGASUS
BAKERSFIELD CA 93308

CERTIFICATE OF ~~ANALYSIS~~ - EPA PROTOCOL GASES

Certified Per Traceability Protocol No. 1 Procedure No. G1 Cylinder No. ALM033868 Cylinder Pressure 1950 PSIG Certified Accuracy ±1% % NBS Traceable

COMPONENTS	CERTIFIED CONC	REFERENCE STD SRM/CRM NO.	REFERENCE STD CYL. NO.	REFERENCE STD CONC.	GAS ANALYZER MAKE/MODEL/SERIAL NO.	GAS ANALYZER LAST CAL. DATE	GAS ANALYZER ANALYTICAL PRINCIPLE
NITRIC OXIDE	78.71 PPM	GMIS TRACEABLE TO CRM1684B	ALM003667	95.55 PPM	THERMO-ELECTRON 10AR 14853-150	10/29/92	CHEMI-LUMINESCENT
NOX	80.88 PPM						
CARBON MONOXIDE	83.21 PPM	CRM1679	ALM010524	96.67 PPM	HORIBA AIA-24 4564403	10/17/92	INFRA-RED

BALANCE GAS NITROGEN

ANALYZER READINGS: **Z = Zero Gas** **T = Test Gas** **R = Reference Gas**

Component NITRIC OXIDE
First Analysis Date 11/19/92 Units mv

Z	0.00	R	95.25	T	77.30
R	95.49	Z	-0.05	T	78.15
Z	-0.03	T	78.00	R	95.26

Mean Test Assay 78.69 PPM

Second Analysis Date 12/1/92 Units mv

Z	0.00	R	96.92	T	79.13
R	96.93	Z	-0.05	T	79.05
Z	-0.02	T	79.03	R	96.91

Mean Test Assay 78.73 PPM

Component CARBON MONOXIDE
Date 11/20/92 Units mv

Z	00.00	R	39.4	T	34.0
R	39.4	Z	00.00	T	34.0
Z	00.01	T	34.0	R	39.4

Mean Test Assay 83.08 PPM

Date 11/30/92 Units mv

Z	00.00	R	39.4	T	34.1
R	39.4	Z	00.02	T	34.1
Z	00.01	T	34.1	R	39.4

Mean Test Assay 83.33 PPM

Component _____
Date _____ Units mv

Z		R		T	
R		Z		T	
Z		T		R	

Mean Test Assay _____

Date _____ Units mv

Z		R		T	
R		Z		T	
Z		T		R	

Mean Test Assay _____

Chronology: Date _____
Assay _____

Analyst G. KING/J. DE LA TORRE

Approved By: _____
A.F. LANGE, Ph.D., MANAGER, QA

Scott Specialty Gases, Inc.

2600 CAJON BLVD., SAN BERNARDINO, CA 92411
FAX 714-887-0549
PHONE: 714-887-2571

Shipped From: Scott SAN BE RDINO, CA
Date Shipped 10/5/92
Our Project No: 0221822
Your P.O. No: BKG0001
Page 1 of 1
Expiration Date: 4/94

ENGINEERING SCIENCE
2520 PEGASUS
BAKERSFIELD, CA 93308-5003

CERTIFICATE OF ANALYSIS – EPA PROTOCOL GASES

Certified Per Traceability Protocol No. 1 Procedure No. G1 Cylinder No. ALM027283 Cylinder Pressure 1800 PSIG Certified Accuracy ±1% % NIST Traceable

COMPONENTS	CERTIFIED CONC	REFERENCE STD SRM/CRM NO.	REFERENCE STD CYL. NO.	REFERENCE STD CONC.	GAS ANALYZER MAKE/MODEL/SERIAL NO.	GAS ANALYZER LAST CAL. DATE	GAS ANALYZER ANALYTICAL PRINCIPLE
CARBON DIOXIDE	16.21 %	CRM1675	ALM001136	14.08%	HORIBA PRI2000 406004	6/3/92	INFRA RED
OXYGEN	7.087%	CRM2658	ALM017513	9.560%	BECKMAN 755 100410	6/3/92	PARAMAGNETIC

BALANCE GAS NITROGEN

ANALYZER READINGS: **Z = Zero Gas** **T = Test Gas** **R = Reference Gas**

Component CARBON DIOXIDE
First Analysis Date 10/5/92 Units mv

Z 00.0	R 72.7	T 78.6
R 72.7	Z 00.0	T 78.6
Z 00.0	T 78.6	R 72.7

Mean Test Assay 16.21 %

Second Analysis Date _____ Units mv

Z	R	T
R	Z	T
Z	T	R

Mean Test Assay _____

Component OXYGEN
Date 10/5/92 Units mv

Z 00.0	R 92.2	T 68.5
R 92.2	Z 00.0	T 68.5
Z 00.0	T 68.5	R 92.2

Mean Test Assay 7.087%

Date _____ Units mv

Z	R	T
R	Z	T
Z	T	R

Mean Test Assay _____

Component _____
Date _____ Units mv

Z	R	T
R	Z	T
Z	T	R

Mean Test Assay _____

Date _____ Units mv

Z	R	T
R	Z	T
Z	T	R

Mean Test Assay _____

Chronology: Date _____
Assay _____

Analyst F. VILLAMAS

Approved By: _____
A.F. LANGE, Ph.D., MANAGER, QA

Scott Specialty Gases, Inc.

2600 CAJON BLVD., SAN BERNARDINO, CA 92411
FAX 714-887-0549
PHONE: 714-887-2571

Shipped From: Scott SAN BERNARDINO, CA
Date Shipped 10/14/92
Our Project No: 22021
Your P.O. No: BK033
Page 1 of 1
Expiration Date: 4/94

ENGINEERING SCIENCE
ATTN: GARY MCRAE
2520 PEGASUS
BAKERSFIELD CA 93308

CERTIFICATE OF ANALYSIS – EPA PROTOCOL GASES

Certified Per Traceability Protocol No. 1 Procedure No. G1 Cylinder No. ALM011705 Cylinder Pressure 2000 PSIG Certified Accuracy ±1% % NIST Traceable

COMPONENTS	CERTIFIED CONC	REFERENCE STD SRM/CRM NO.	REFERENCE STD CYL. NO.	REFERENCE STD CONC.	GAS ANALYZER MAKE/MODEL/SERIAL NO.	GAS ANALYZER LAST CAL. DATE	GAS ANALYZER ANALYTICAL PRINCIPLE
CARBON DIOXIDE	8.002%	CRM1675	ALM001136	14.08%	OPE-135C	9/17/92	INFRA-RED
OXYGEN	15.14%	CRM2659	ALM017573	20.63%	OPE335	8/27/92	PARAMAGNETIC

BALANCE GAS NITROGEN

ANALYZER READINGS: Z = Zero Gas T = Test Gas R = Reference Gas

Component CARBON DIOXIDE
First Analysis Date 10/6/92 Units mv

Z 0.00	R 95.5	T 67.3			
R 95.5	Z 0.00	T 67.2			
Z 0.00	T 67.3	R 95.5			

Mean Test Assay 8.002%

Second Analysis Date _____ Units mv

Z	R	T
R	Z	T
Z	T	R

Mean Test Assay _____

Component OXYGEN
Date 10/6/92 Units mv

Z 0.00	R 83.7	T 61.3
R 83.7	Z 0.00	T 61.3
Z 0.01	T 61.2	R 83.7

Mean Test Assay 15.14%

Date _____ Units mv

Z	R	T
R	Z	T
Z	T	R

Mean Test Assay _____

Component _____
Date _____ Units mv

Z	R	T
R	Z	T
Z	T	R

Mean Test Assay _____

Date _____ Units mv

Z	R	T
R	Z	T
Z	T	R

Mean Test Assay _____

Chronology: Date _____
Assay _____

Analyst J. DE LA TORRE

Approved By: _____
A.F. LANGE, Ph.D., MANAGER, QA

ENGINEERING SCIENCE, INC.
2520 Pegasus Drive
Bakersfield, CA 93308
(805) 393-0272

CHAIN OF CUSTODY RECORD

Project No.	Project Name	Project Manager	Samples Sent To:	Analysis Required				
~~BKD~~ WA346	KRCC	G. McRae	Zalco By: T D	CHNS	GCV			
Samples Collected By	**Regulatory Agency (EPA, CARB, SCAQMD, etc.)**							
T DelFino	SJVUAPCD							

ES Lab Control No.	Test Date	Field Sample ID (Method-Run#-Sample Source)	Sample Amount	Sample Medium	Comments					
BK9302100	2/12/93	Fuel GAS - ALL - KRCC				X	X			
BK9302101	"	" " "				X	X			
		Back up sample								
		* Bombs w/ caps								

Relinquished By: (Sign & Print)	Date/Time	Received By: (Sign & Print)	Comments:
T DelFino Phone: 393-0272	2/17/0951	Danielle Armstrong Of: Zalco Labs.	
Relinquished By: (Sign & Print) Phone:	Date/Time	Received By: (Sign & Print) Of:	Comments:
Relinquished By: (Sign & Print) Phone:	Date/Time	Received By: (Sign & Print) Of:	Comments:

APPENDIX A

FIELD DATA

ENGINEERING–SCIENCE, INC.
CEM FIELD DATA SHEET

PLANT KECC
TEST LOCATION UNIT - 1
CEM VAN NO. 3
DATE 2/9/93
OPERATOR T. DELFINO

O2, %
Calibration Gases :
High 20.90 (83.6) Cyl. # CC67257
Mid 15.14 (60.56) Cyl. # 011705
Low 7.087 (28.34) Cyl. # 027283

CO2, %
Calibration Gases :
High 16.21 (81.05) Cyl. # CC1136
Mid Cyl. #
Low Cyl. #

NOx, ppm
Calibration Gases :
High 80.88 Cyl. # 033866
Mid 44.20 Cyl. # 12978
Low 23.78 Cyl. # 14590

CO, ppm
Calibration Gases :
High 18.20 (0.910) Cyl. # 14590
Mid 12.54 (62.7 Cyl. # ALM011324
Low 8.352 (41.7) Cyl. # CC22850

SO2, ppm
Calibration Gases :
High Cyl. #
Mid Cyl. #
Low Cyl. #

Calibration Gases :
High Cyl. #
Mid Cyl. #
Low Cyl. #

TIME	SAMPLE POINT	O2 (%)	CO2 (%)	NOx (ppm)	CO (ppm)	SO2 (ppm)		COMMENTS / RUN #
		15.14	16.21	80.88	18.20	—		Span gas values used for test.
		20.90	16.21	80.88	18.20			HIGH LINEARITY CHECKS
		15.20		44.40	12.46			MID
		7.25	0.10	23.30	8.35			LOW
1030 - 1035		14.60	3.59	34.80	4.20			RUN - 1 UNIT - A
1035 - 1040		14.60	3.69	34.80	4.20			NAT'L GAS
1040 - 1045		14.63	3.59	34.80	4.20			
1045 - 1050		14.63	3.59	34.80	4.20			
1050 - 1055		14.65	3.59	34.90	4.20			
1055 - 1100		14.65	3.69	35.00	4.20			
1100 - 1105		14.65	3.59	35.40	4.20			
1105 - 1110		14.68	3.69	36.0	4.10			
1110 - 1115		14.70	3.59	36.2	4.00			
CALIBRATE		0.05	0.15	0.00	0.10			ZERO CHECK
		15.05	15.93	81.78	18.35			SPAN CHECK

ENGINEERING–SCIENCE, INC.
CEM FIELD DATA SHEET

PLANT KRCC. DATE 2/9/93
TEST LOCATION UNIT - A CEM VAN NO. 3 OPERATOR T. DELFINO

TIME	SAMPLE POINT	O2 (%)	CO2 (%)	NOx (ppm)	CO (ppm)	SO2 (ppm)		COMMENTS / RUN #
		15.14	16.21	80.88	18.20	—		Span gas values used for test.
1140 - 45		14.82	3.62	35.5	3.80			RUN - 2 UNIT - A
1145 - 50		14.82	3.62	35.5	3.80			NAT'L GAS
1150 - 55		14.82	3.62	35.7	3.80			
1155 - 1200		14.85	3.62	35.7	3.80			
1200 - 1205		14.84	3.62	36.4	3.70			
1205 - 1210		14.84	3.62	36.6	3.70			
1210 - 1215		14.84	3.62	36.8	3.80			
1215 - 1220		14.84	3.62	36.8	3.80			
1220 - 1225		14.84	3.62	36.8	3.80			
CALIBRATE		0.00	0.00	0.00	0.00			ZERO CHECK
		15.15	16.40	80.88	18.25			SPAN CHECK
1245 - 1250		14.83	3.56	36.3	4.20	14.83		RUN - 3 / UNIT - A
1250 - 1255		14.83	3.56	36.3	4.20	14.83		
1255 - 1300		14.81	3.56	36.0	4.25	14.81		
1300 - 1305		14.81	3.56	35.5	4.40	14.81		
1305 - 1310		14.80	3.56	36.7	4.45	14.80		
1310 - 1315		14.80	3.56	36.0	4.45	TO 14.80		
1315 - 1320		14.80	3.56	35.0	4.50	12		
1320 - 1325		14.80	3.56	35.0	4.00			
1325 - 1330		14.80	3.56	36.5	3.95	14.80		
1330								
CALIBRATE		0.00	-0.05	0.00	0.0			ZERO CHECK
		15.14	16.21	80.88	18.13			SPAN CHECK

ENGINEERING–SCIENCE, INC.
CEM FIELD DATA SHEET

PLANT K.R.C.C.
TEST LOCATION UNIT - B
CEM VAN NO. 3
DATE 2/9/93
OPERATOR J. DelFino

TIME	SAMPLE POINT	O2 (%)	CO2 (%)	NOx (ppm)	CO (ppm)	SO2 (ppm)		COMMENTS / RUN #
		15.14	16.21	80.88	18.20	—		Span gas values used for test.
1500 - 1505		14.75	3.60	36.50	3.50			RUN - ONE / UNIT B
1505 - 1510		14.75	3.00	36.3	3.50			
1510 - 1515		14.75	3.60	36.0	3.60			
1515 - 1520		14.75	3.60	36.0	4.60			
1520 - 1525		14.70	3.60	36.0	4.40			
1525 - 1530		14.70	3.60	36.5	5.00			
1530 - 1535		14.70	3.60	36.3	5.00			
1535 - 1540		14.67	3.60	36.3	4.20			
1540 - 1545		14.67	3.60	36.3	4.20			
CALIBRATE		0.00	0.00	0.00	0.00			ZERO Check
		15.00	16.21	79.70	18.30			SPAN Check
1605 - 1610		14.83	3.62	37.8	4.40			RUN - 2 / UNIT B
1610 - 1615		14.83	3.62	37.8	4.30			
1615 - 1620		14.83	3.62	37.8	4.30			
1620 - 1625		14.82	3.63	38.0	4.00			
1625 - 1630		14.86	3.63	37.6	3.60			
1630 - 1635		14.86	3.65	37.7	3.60			
1635 - 1640		14.86	3.68	37.7	3.60			
1640 - 1645		14.86	3.65	37.7	3.70			
1645 - 1650		14.86	3.63	37.7	3.70			
CALIBRATE		0.00	0.00	0.00	0.00			zero check
		15.14	~~16.39~~ 16.51	82.30	18.20			SPAN check

ENGINEERING–SCIENCE, INC.
CEM FIELD DATA SHEET

PLANT KRCC
TEST LOCATION UNIT - B
CEM VAN NO. 4
DATE 2/9/93
OPERATOR T. DECAMO

TIME	SAMPLE POINT	O2 (%)	CO2 (%)	NOx (ppm)	CO (ppm)	SO2 (ppm)		COMMENTS / RUN #
		15.14	16.21	80.88	18.20			Span gas values used for test.
1705 - 1710		14.87	3.60	37.7	3.60			RUN - 3 / UNIT-B
1710 - 1715		14.87	3.60	37.7	3.40			
1715 - 1720		14.87	3.60	37.7	3.40			
1720 - 1725		14.87	3.60	37.8	3.40			
1725 - 1730		14.87	3.60	37.9	3.40			
1730 - 1735		14.87	3.60	38.0	3.40			
1735 - 1740		14.87	3.60	38.0	3.40			
1740 - 1745		14.87	3.60	38.1	3.50			
1745 - 1750		14.87	3.60	38.0	3.50			
CALIBRATE		0.00	0.00	0.00	0.00			ZERO CHECK
		15.15	16.21	81.50	18.25			SPAN CHECK
		15.14	16.09	79.80	18.22			SAMPLE SYSTEM BIAS ✓
		0.00						O2 External Zero ✓

70V

ENGINEERING–SCIENCE, INC.
CEM FIELD DATA SHEET

PLANT KRGG
TEST LOCATION UNIT - C
CEM VAN NO. 3
DATE 2/10/93
OPERATOR ~~2/10/93~~ T. Delfino

O2, % (0-25% f/s)
Calibration Gases :
High 20.90 Cyl. #
Mid 15.14 Cyl. #
Low 7.087 Cyl. #

CO2, % (0-20%) f/s
Calibration Gases :
High 16.21 Cyl. #
Mid Cyl. #
Low Cyl. #

NOx, ppm (0-100ppm) f/s
Calibration Gases :
High 80.88 Cyl. #
Mid Cyl. #
Low Cyl. #

CO, ppm (0-20ppm) f/s
Calibration Gases :
High 18.20 Cyl. #
Mid 12.54 Cyl. #
Low 8.352 Cyl. #

SO2, ppm
Calibration Gases :
High Cyl. #
Mid Cyl. #
Low Cyl. #

Calibration Gases :
High Cyl. #
Mid Cyl. #
Low Cyl. #

TIME	SAMPLE POINT	O2 (%)	CO2 (%)	NOx (ppm)	CO (ppm)	SO2 (ppm)		COMMENTS / RUN #
		15.14	16.21	80.88	18.20			Span gas values used for test.
0950 - 0955		14.70	3.68	34.3	3.80			RUN - 1 UNIT - C
0955 - 1000		14.70	3.68	34.3	3.70			
1000 - 1005		14.70	3.68	33.8	3.70			
1005 - 1010		14.70	3.68	33.8	3.70			
1010 - 1015		14.70	3.68	33.7	3.65			
1015 - 1020		14.70	3.68	33.5	3.60			
1020 - 1025		14.70	3.68	33.7	3.50			
1025 - 1030		14.70	3.68	33.90	3.45			
1030 - 1035		14.70	3.68	34.30	3.40			
~~1037~~								
Calibrate		0.07	0.0	0.0	0.0			ZERO CHECK
		15.14	16.00	79.20	18.30			SPAN CHECK

ENGINEERING–SCIENCE, INC.
CEM FIELD DATA SHEET

PLANT KRCC
TEST LOCATION UNIT - C
CEM VAN NO. 3
DATE 2/10/93
OPERATOR T. DELFINO

TIME	SAMPLE POINT	O2 (%)	CO2 (%)	NOx (ppm)	CO (ppm)	SO2 (ppm)		COMMENTS / RUN #
		15.14	16.21	80.88	18.20	—		Span gas values used for test.
		15.14	16					
1055 - 1100		14.76	3.64	37.0	3.82			RUN-2 / UNIT-C
1100 - 1105		14.76	3.64	37.0	3.82			
1105 - 1110		14.76	3.64	37.0	3.84			
1110 - 1115		14.76	3.64	37.0	3.86			
1115 - 1120		14.76	3.64	37.0	3.86			
1120 - 1125		14.76	3.64	37.0	2.86			
1125 - 1130		14.76	3.64	37.0	2.86			
1130 - 1135		14.76	3.64	37.0	2.86			
1135 - 1140		14.76	3.64	37.0	2.84			
CALIBRATE		0.20	0.00	0.0	0.05			ZERO CHECK
		15.25	16.14	80.88	18.20			SPAN CHECK
1150 - 1155		14.61	3.66	36.50	2.66			RUN-3 / UNIT-C
1155 - 1200		14.61	3.66	36.50	2.68			
1200 - 1205		14.63	3.66	36.60	2.68			
1205 - 1210		14.64	3.66	36.70	2.66			
1210 - 1215		14.64	3.66	36.70	2.68			
1215 - 1220		14.64	3.66	37.00	2.72			
1220 - 1225		14.67	3.66	37.20	2.72			
1225 - 1230		14.67	3.66	37.20	2.80			
1230 - 1235		14.67	3.64	37.1	2.80			
~~1235 - 1240~~								
~~1240 - 1246~~								
CALIBRATE		0.00	0.00	0.00	0.00			ZERO Check
		15.14	16.21	80.88	18.20			SPAN check

ENGINEERING–SCIENCE, INC.
CEM FIELD DATA SHEET

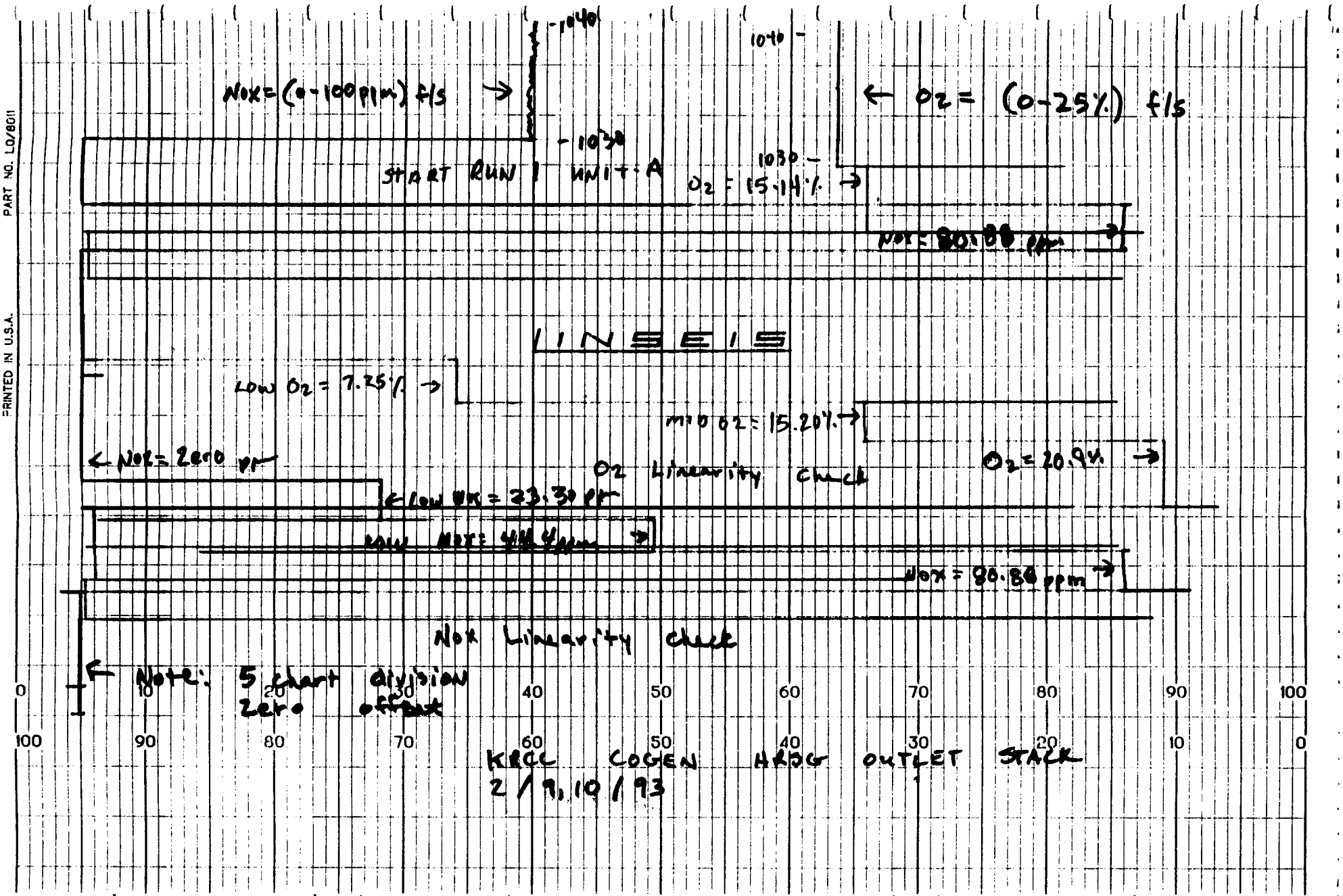
PLANT KRCC
TEST LOCATION UNIT – D
CEM VAN NO. 3
DATE 2/10/93
OPERATOR T. DELFINO

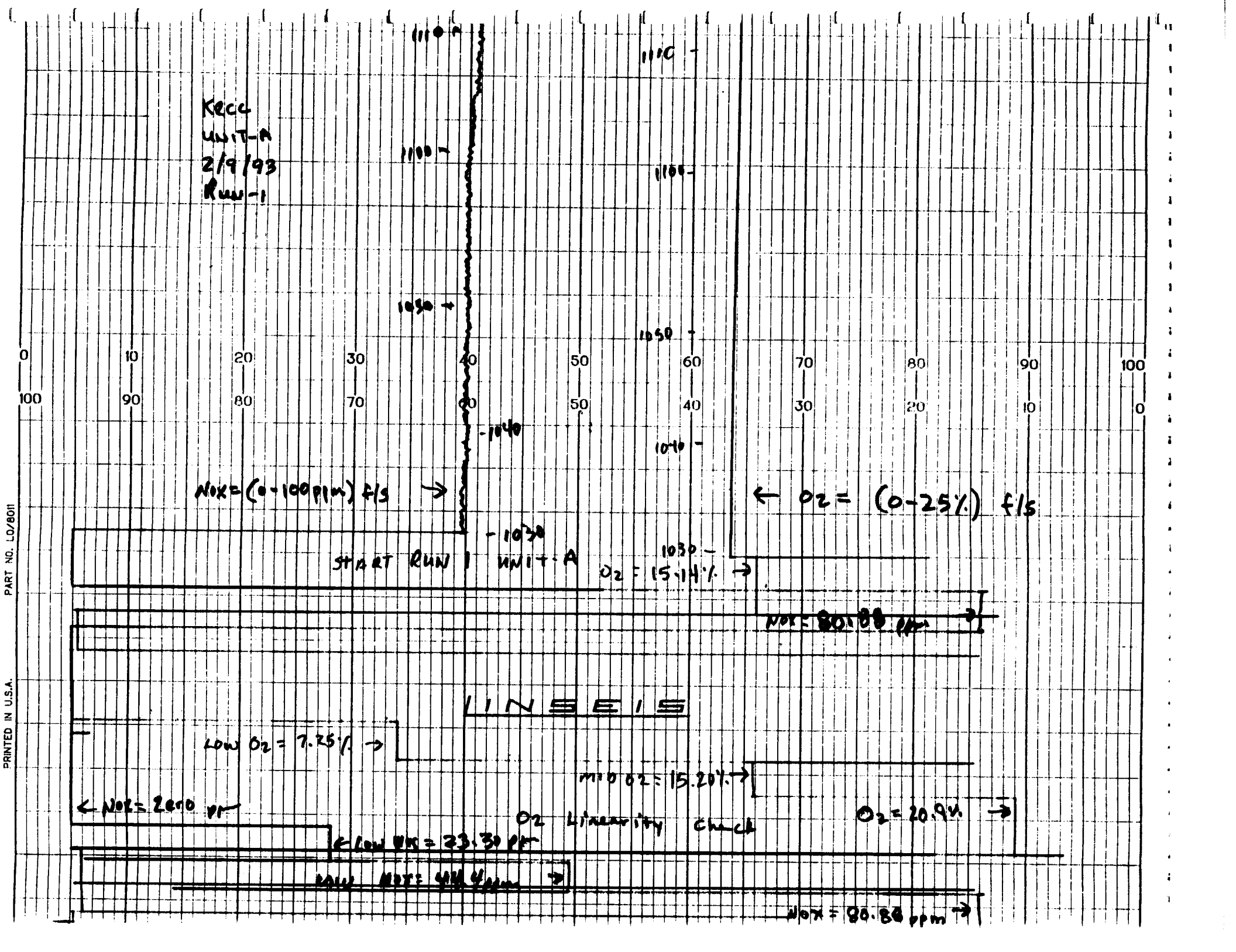
TIME	SAMPLE POINT	O2 (%)	CO2 (%)	NOx (ppm)	CO (ppm)	SO2 (ppm)		COMMENTS / RUN #
		15.14	16.21	80.88	18.20			Span gas values used for test.
1320 - 1325		14.75	3.66	38.30	1.30			RUN - 1 / UNIT - D
1325 - 1330		14.75	3.66	38.30	1.30			
1330 - 1335		14.75	3.66	38.20	1.30			
1335 - 1340		14.75	3.66	38.10	1.30			
1340 - 1345		14.75	3.66	38.00	1.30			
1345 - 1350		14.75	3.66	37.90	1.30			
1350 - 1355		14.75	3.66	37.80	1.30			
1355 - 1400		14.75	3.66	37.80	1.30			
1400 - 1405		14.75	3.64	37.70	1.30			
CALIBRATE		0.00	0.00	0.00	-0.10			ZERO CHECK
		15.14	16.21	80.88	18.20			SPAN CHECK
1415 - 1420		14.75	3.73	37.7	1.22			RUN - 2 / UNIT - D
1420 - 1425		14.75	3.73	37.7	1.22			
1425 - 1430		14.77	3.73	37.7	1.22			
1430 - 1435		14.77	3.73	37.7	1.22			
1435 - 1440		14.78	3.73	37.7	1.22			
1440 - 1445		14.78	3.73	37.7	1.22			
1445 - 1450		14.78	3.73	37.7	1.22			
1450 - 1455		14.78	3.73	37.7	1.22			
1455 - 1500		14.75	3.73	37.7	1.22			
CALIBRATE		0.0	0.00	0.0	0.0			ZERO CHECK
		15.14	16.21	80.88	18.20			SPAN CHECK

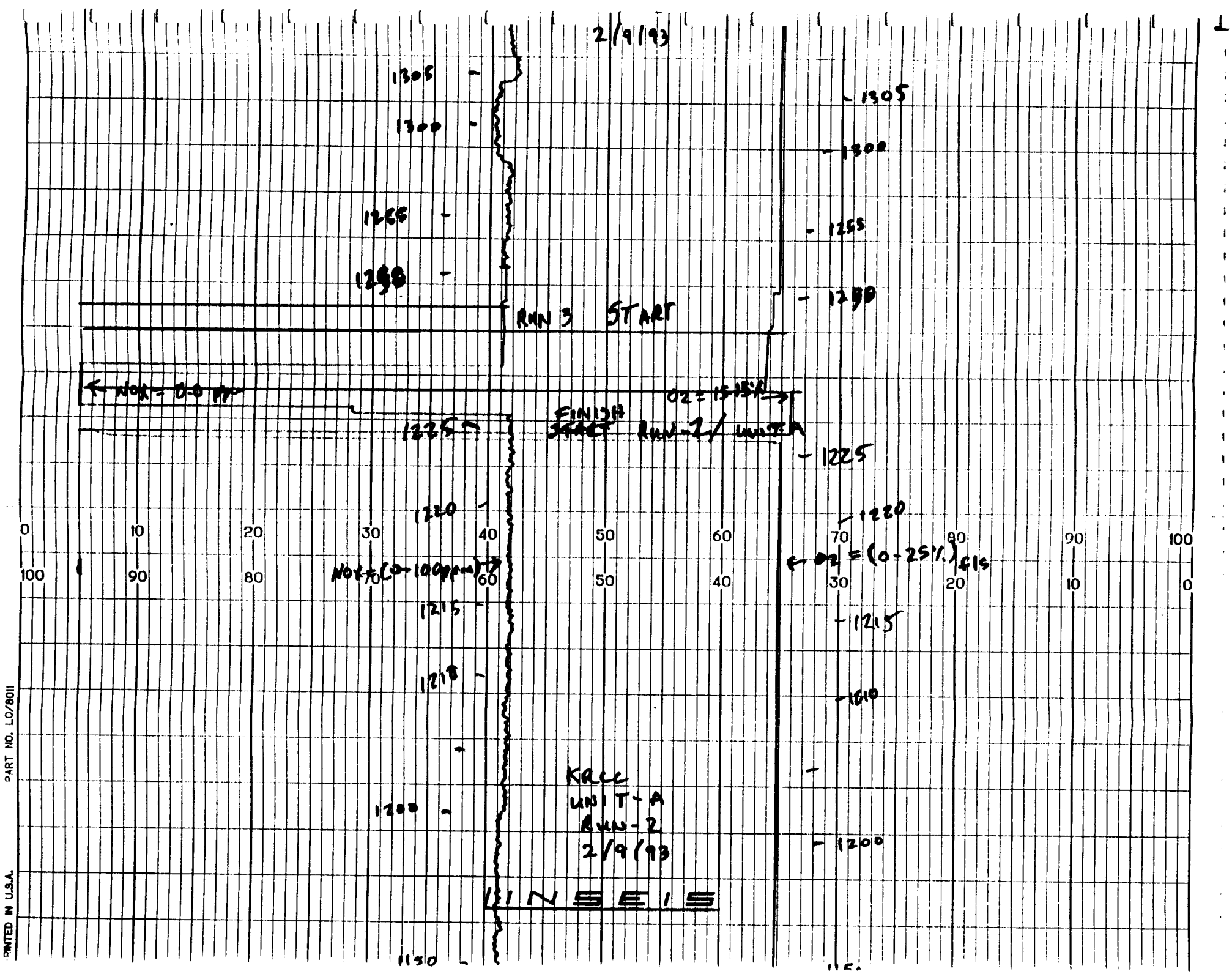
ENGINEERING–SCIENCE, INC.
CEM FIELD DATA SHEET

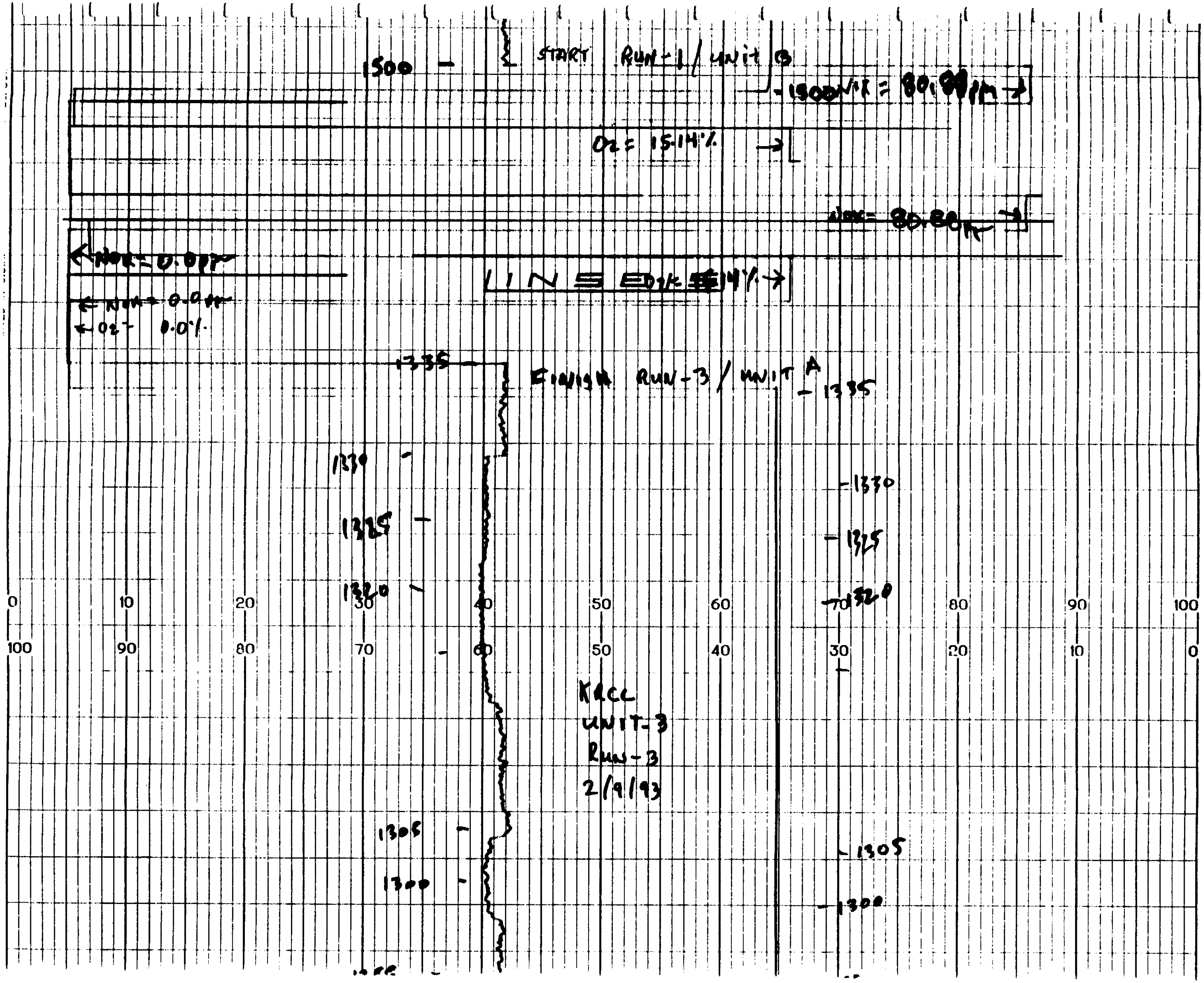
PLANT: KRCC
TEST LOCATION: UNIT-D / RUN-3
CEM VAN NO. 3
DATE: 2/10/93
OPERATOR: T. DELFINO

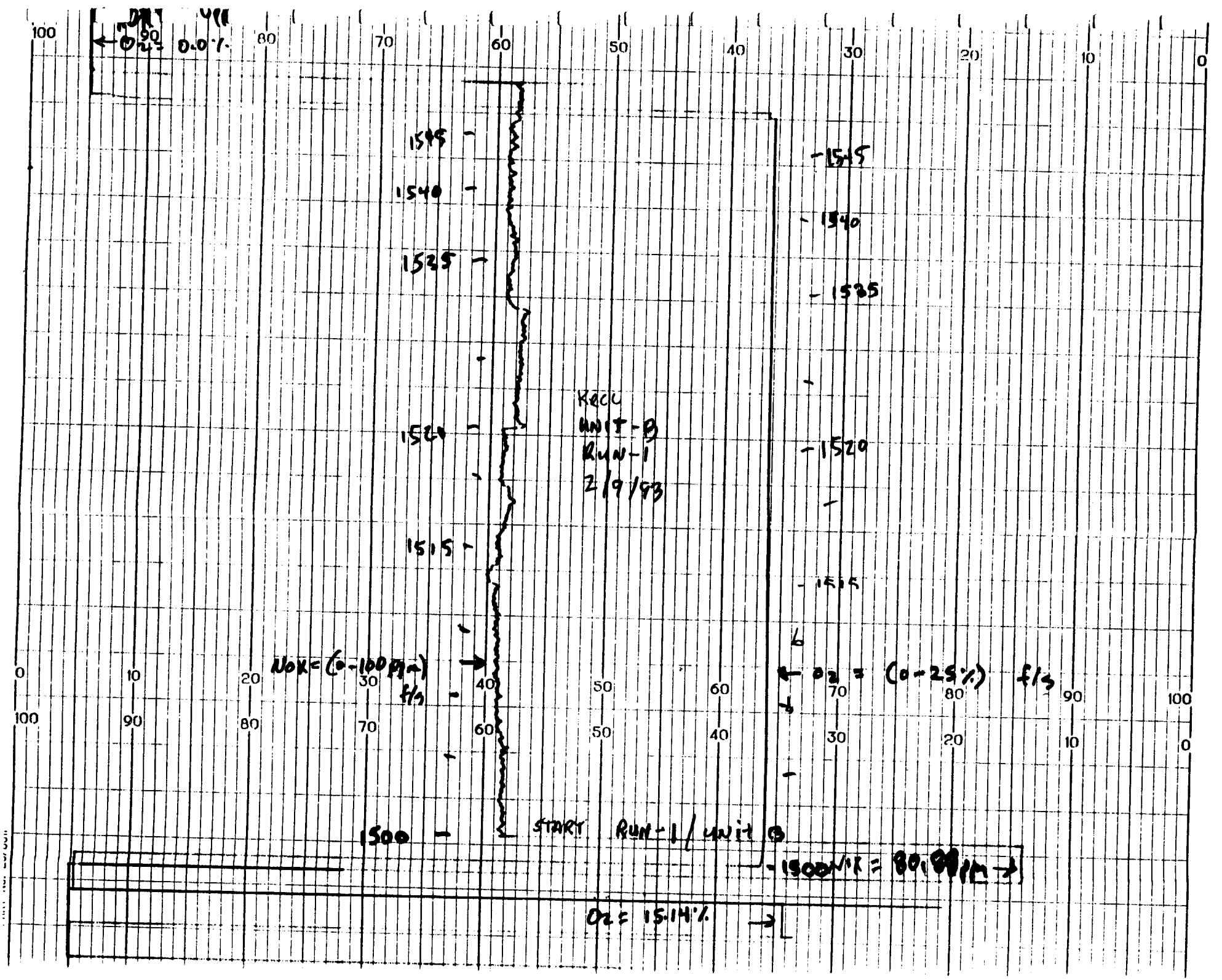
TIME	SAMPLE POINT	O2 (%)	CO2 (%)	NOx (ppm)	CO (ppm)	SO2 (ppm)		COMMENTS / RUN #
		15.14	16.21	80.88	18.20			Span gas values used for test.
1510 - 1515		14.79	3.73	37.7	1.20			RUN-3 / UNIT-D
1515 - 1520		14.80	3.73	37.7	1.20			
1520 - 1525		14.81	3.73	38.0	1.20			
1525 - 1530		14.82	3.73	38.3	1.20			
1530 - 1535		~~14.83~~ 14.83	3.73	38.5	1.20			
1535 - 1540		~~14.84~~ 14.84	3.73	38.5	1.20			
1540 - 1545		~~14.85~~ 14.85	3.73	38.5	1.20			
1545 - 1560		~~14.88~~ 14.88	3.73	38.3	1.20			
1550 - 1555		~~14.88~~ 14.88	3.73	38.3	1.20			
CALIBRATE		0.0	0.0	0.0	0.00			ZERO check
		15.43	16.21	80.88	18.20			SPAN check
		15.27	16.19	82.2	18.35			SAMPLE BIAS ✓

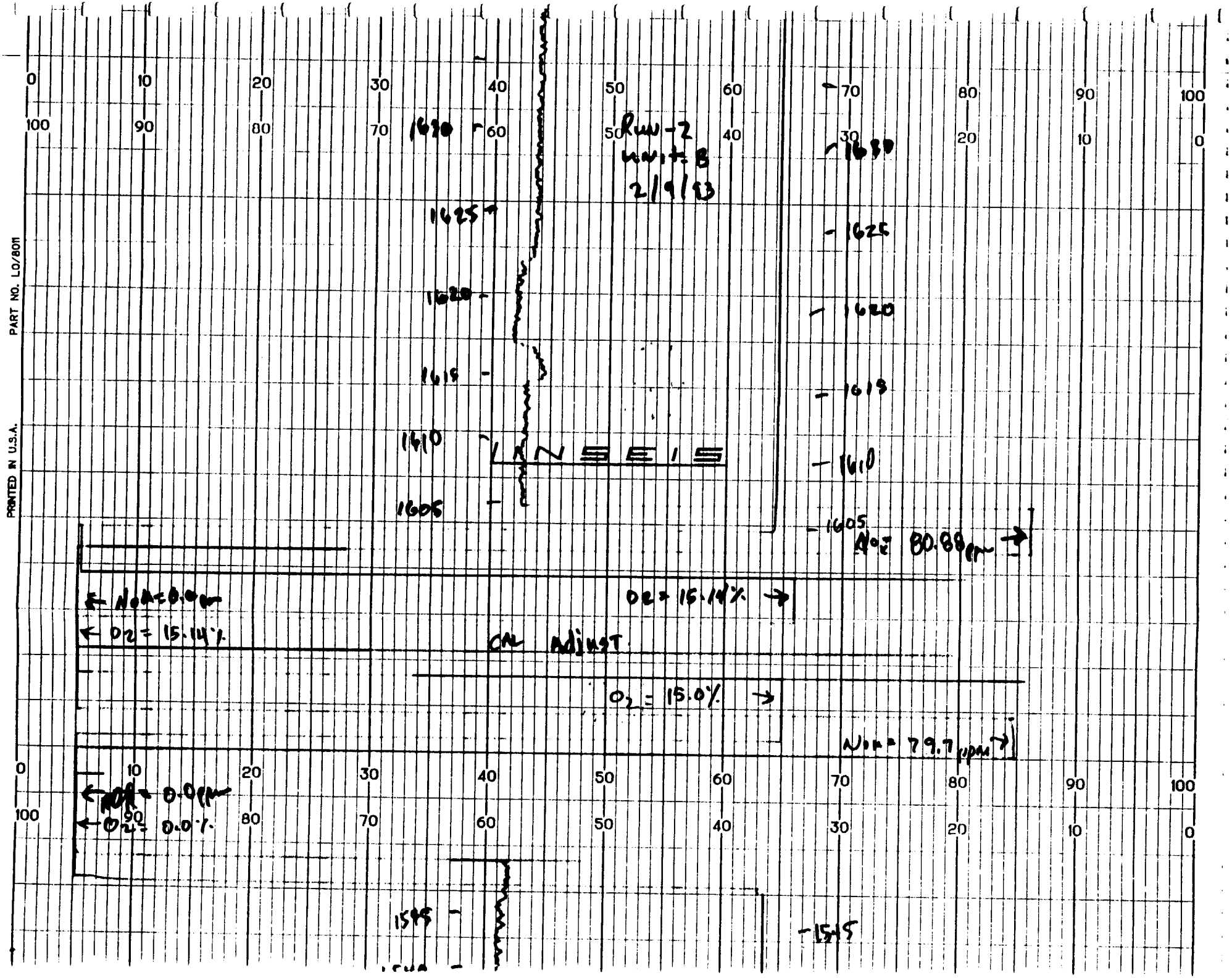

NOx = (0-100 ppm) f/s →
← O2 = (0-25%) f/s
START RUN 1 UNIT: A
O2 = 15.14% →
NOx = 80.00 ppm →
LINSEIS
Low O2 = 7.25% →
mid O2 = 15.20% →
← NOx = zero ppm
O2 Linearity Check
O2 = 20.9% →
← Low NOx = 33.30 ppm
NOx = 80.86 ppm →
NOx Linearity Check
← Note: 5 chart division zero offset
0 10 20 30 40 50 60 70 80 90 100
100 90 80 70 60 50 40 30 20 10 0
KRCC COGEN HRSG OUTLET STACK
2/9,10/93
PART NO. LD/8011
PRINTED IN U.S.A.

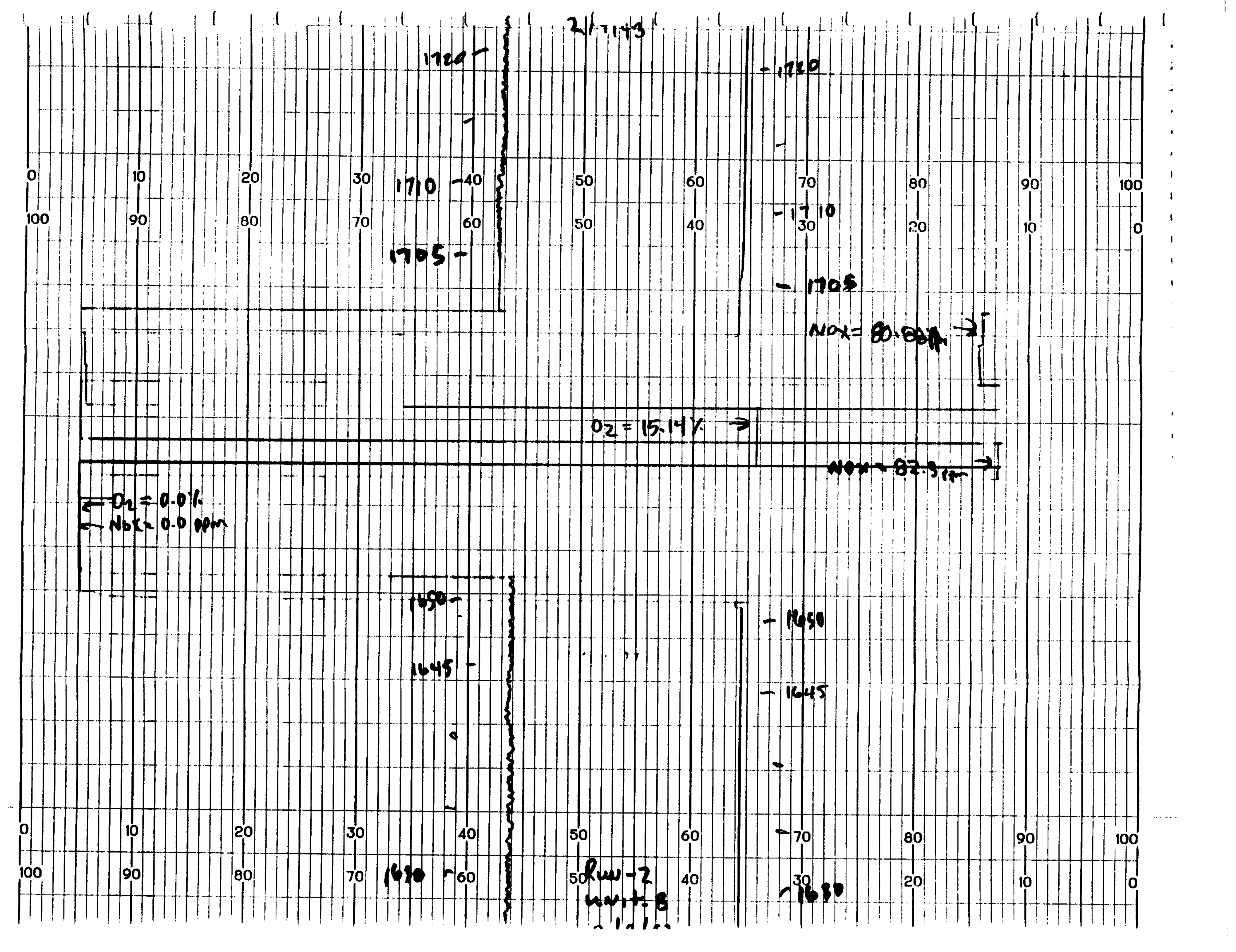

Kecc
UNIT-A
2/9/93
RUN-1
1110
1100
1090
1080
1070
1060
1050
1040
1030
0
10
20
30
40
50
60
70
80
90
100
NOx = (0-100 ppm) f/s
O2 = (0-25%) f/s
START RUN 1 UNIT-A
O2 = 15.14% →
NOx = 80.00 ppm
LINEARITY
LOW O2 = 7.25% →
MID O2 = 15.20% →
← NOx = Zero ppm
O2 Linearity Check
O2 = 20.9% →
← Low NOx = 23.30 ppm
NOx = 80.86 ppm →
PART NO. LO/8011
PRINTED IN U.S.A.

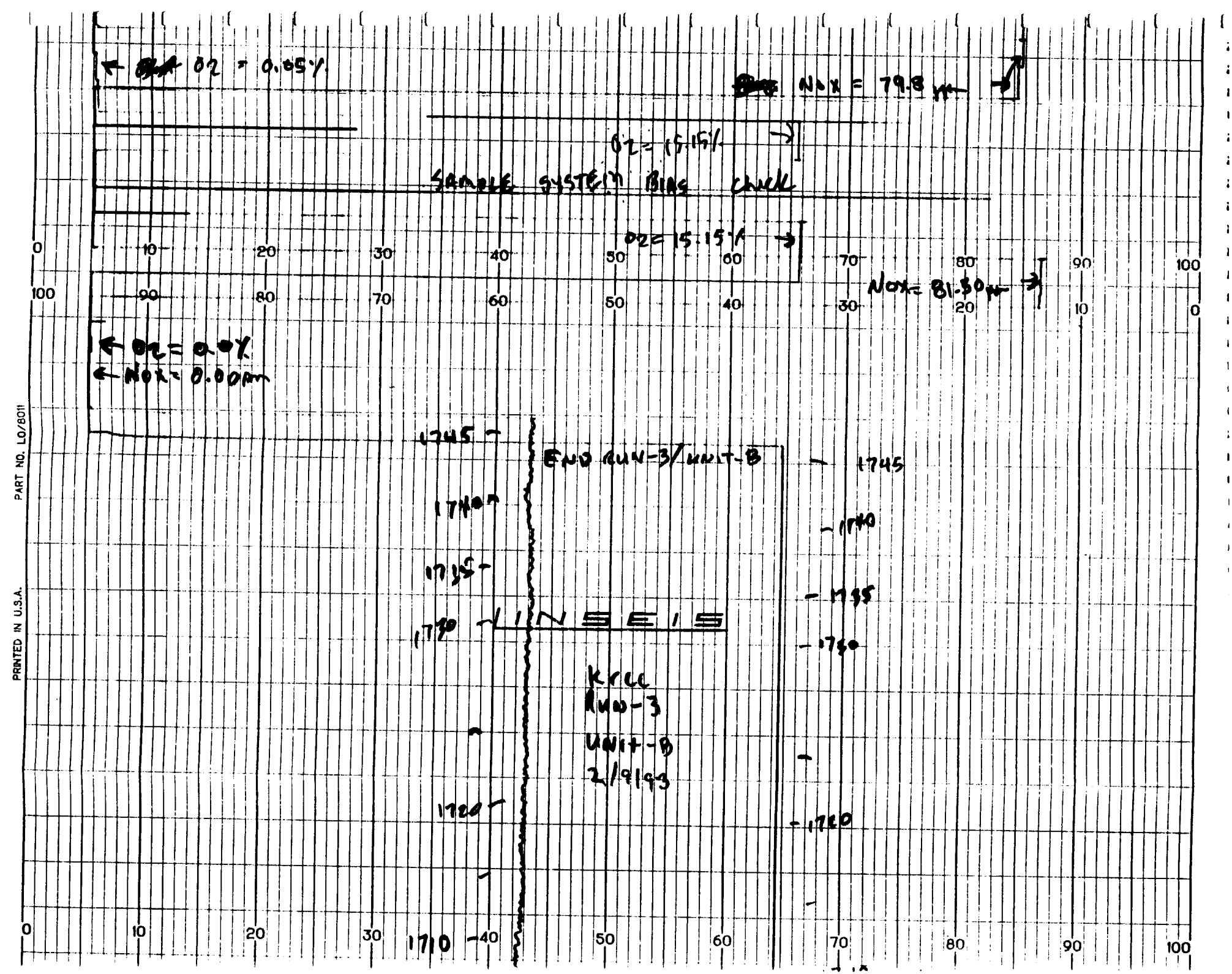


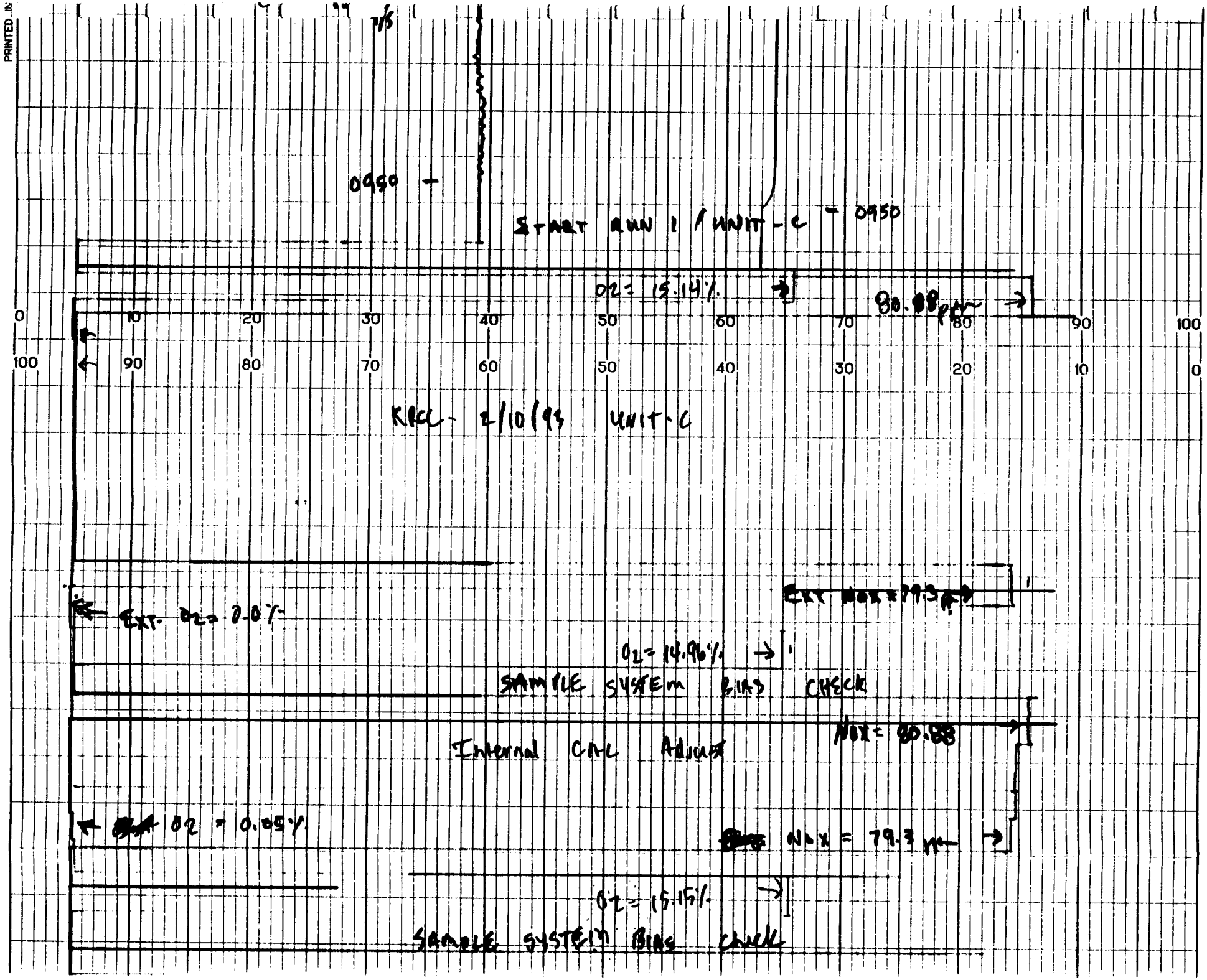

START RUN-1 / UNIT B
1500
O2 = 15.14%
FINISH RUN-3 / UNIT A
1335
1330
1325
1320
1305
1300
KRCC
UNIT-3
RUN-3
2/9/93
0 10 20 30 40 50 60 70 80 90 100
100 90 80 70 60 50 40 30 20 10 0
← O2 - 0.0%

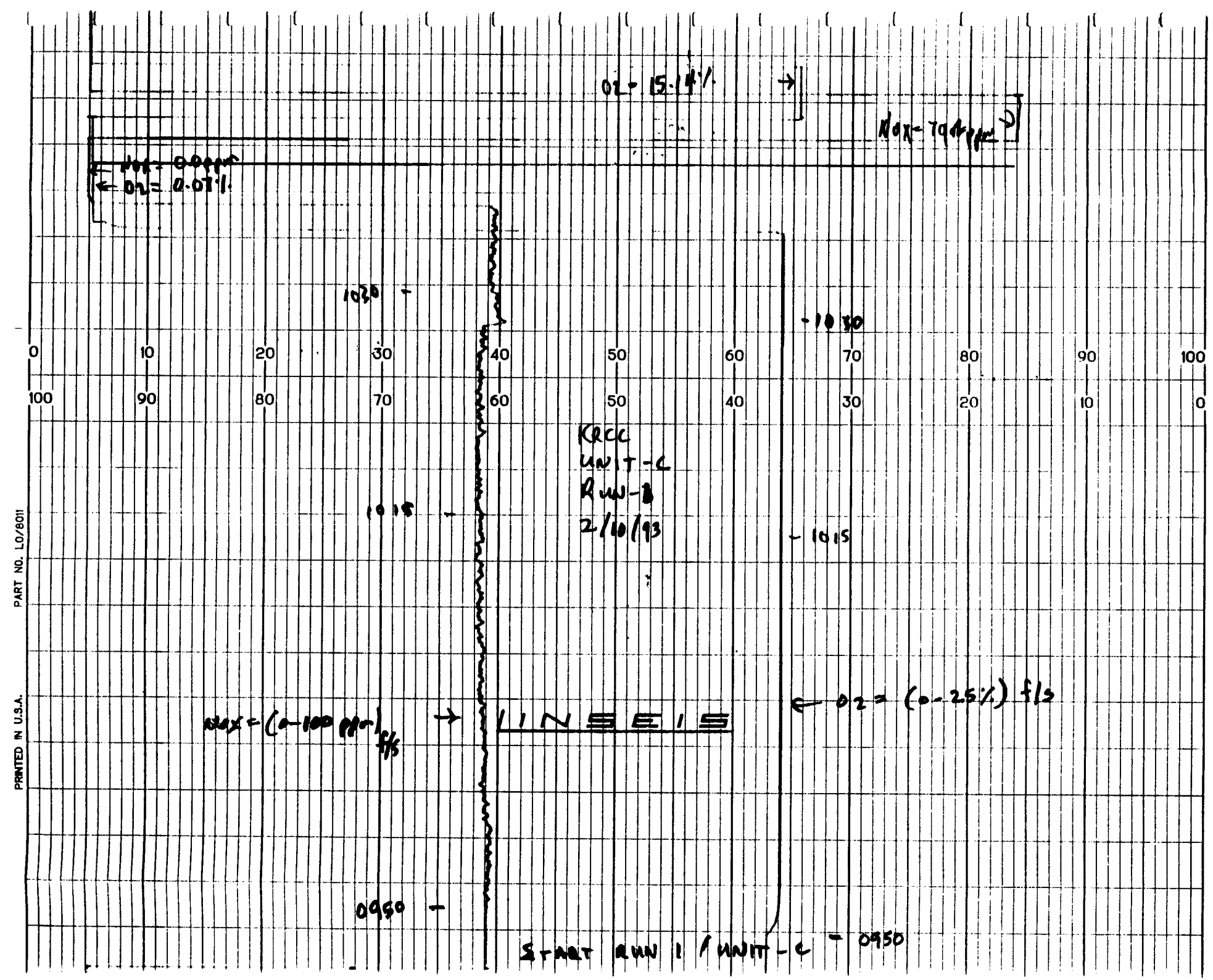

1545
1540
1535
1530
1525
1520
1515
1500
KECO
UNIT-B
RUN-1
2/9/93
NOx = (0-100 PPM)
f/s
O2 = (0-25%) f/s
START RUN-1 / UNIT @
O2 = 15.14%

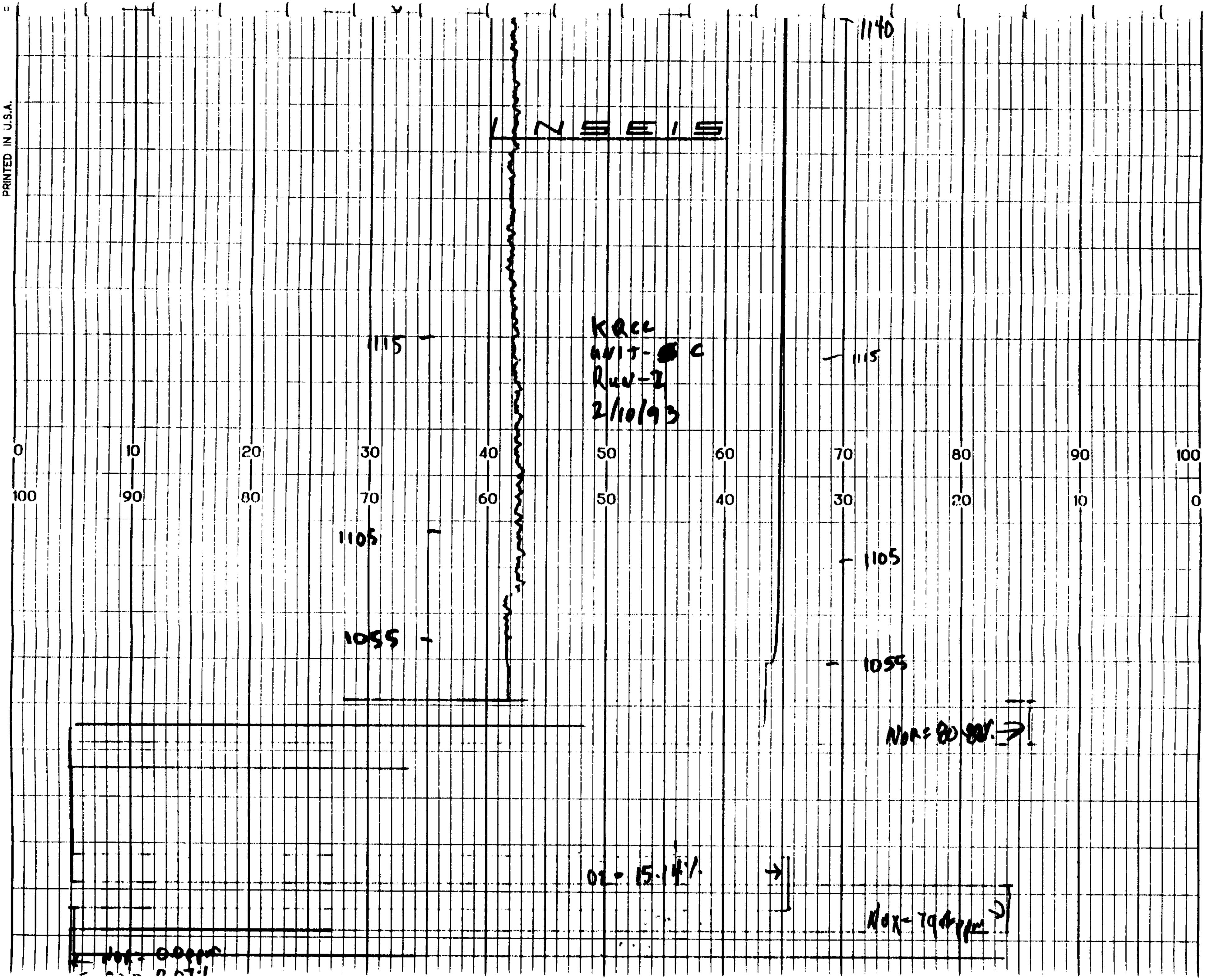

Run-2
with B
2/9/13
1630
1625
1620
1615
1610
1605
1545
NOx = 80.88 ppm
O2 = 15.14%
O2 = 15.14%
CM Adjust
O2 = 15.0%
NOx = 79.7 ppm
O2 = 0.0%
PART NO. LO/80M
PRINTED IN U.S.A.

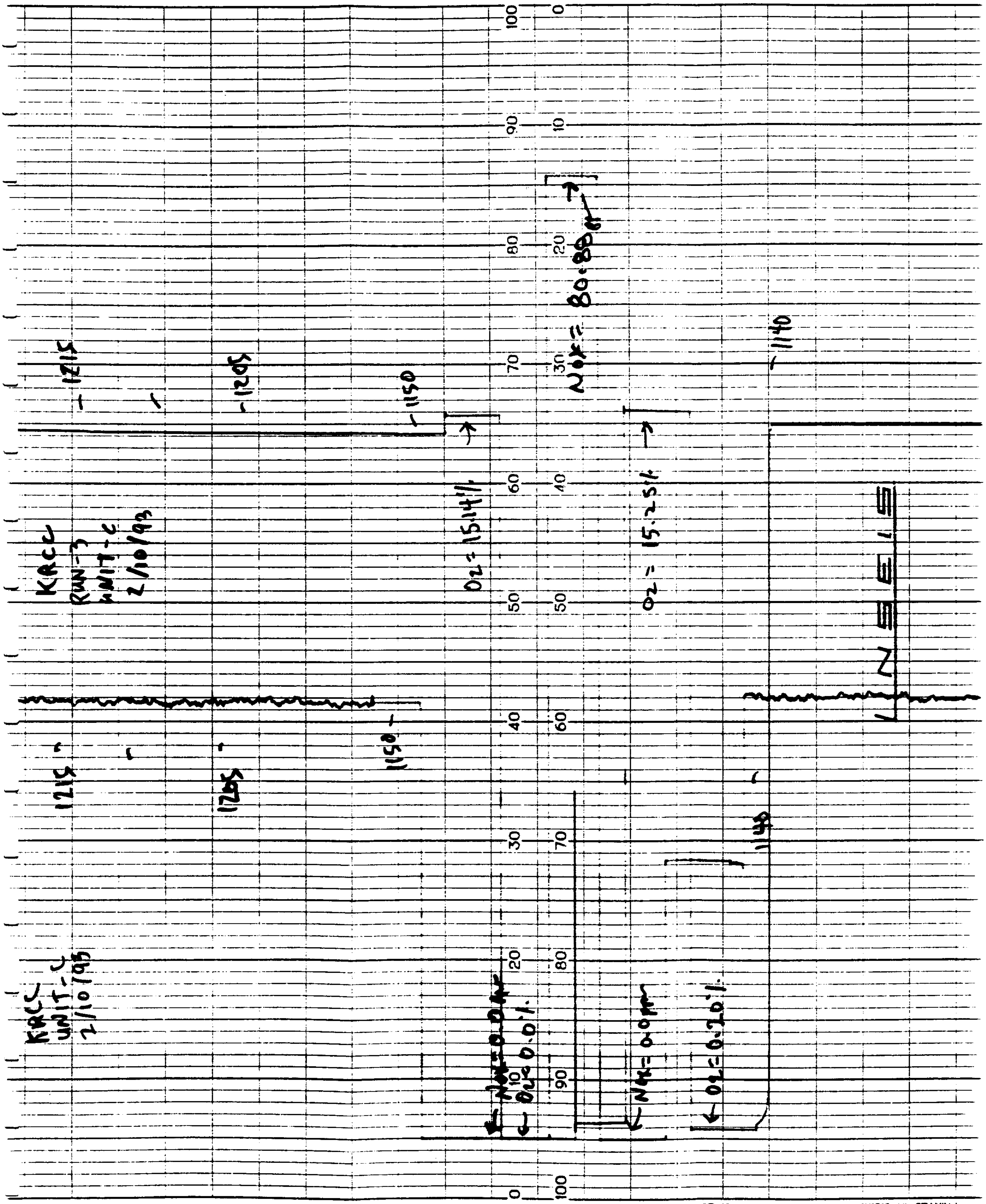

2/7/93
1720
1710
1705
NOx = 80.0 ppm
O2 = 15.14%
NOx = 82.9 ppm
O2 = 0.0%
NOx = 0.0 ppm
1650
1645
1640
Run-2
Unit-8


← O2 = 0.05%
NOx = 79.8 ppm →
O2 = 15.15% →
SAMPLE SYSTEM BIAS CHECK
O2 = 15.15% →
NOx = 81.50 ppm →
← O2 = 0.0%
← NOx = 0.00 ppm
1745
1740
1735
1730
1720
1710
END RUN-3/UNIT-B
LINES
KRCC
RUN-3
UNIT-B
2/19/93
PART NO. LO/8011
PRINTED IN U.S.A.

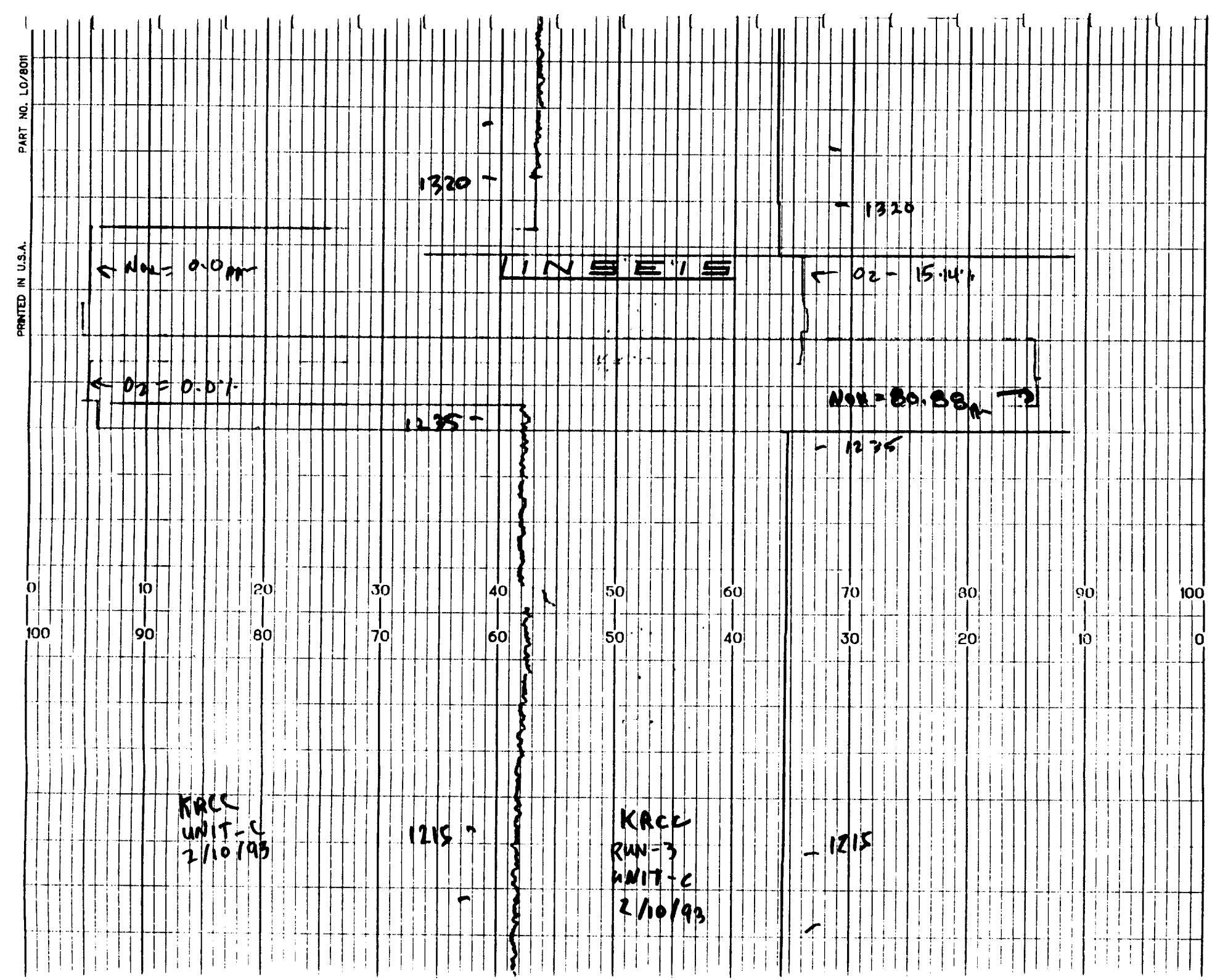

0950
START RUN 1 / UNIT - C - 0950
O2 = 15.14%
80.88 ppm
KRCL - 2/10/93 UNIT-C
EXT. O2 = 0.0%
EXT NOX = 79.3
O2 = 14.96%
SAMPLE SYSTEM BIAS CHECK
Internal CAL Adjust
NOX = 80.88
O2 = 0.05%
NOX = 79.3
O2 = 15.15%
SAMPLE SYSTEM BIAS CHECK

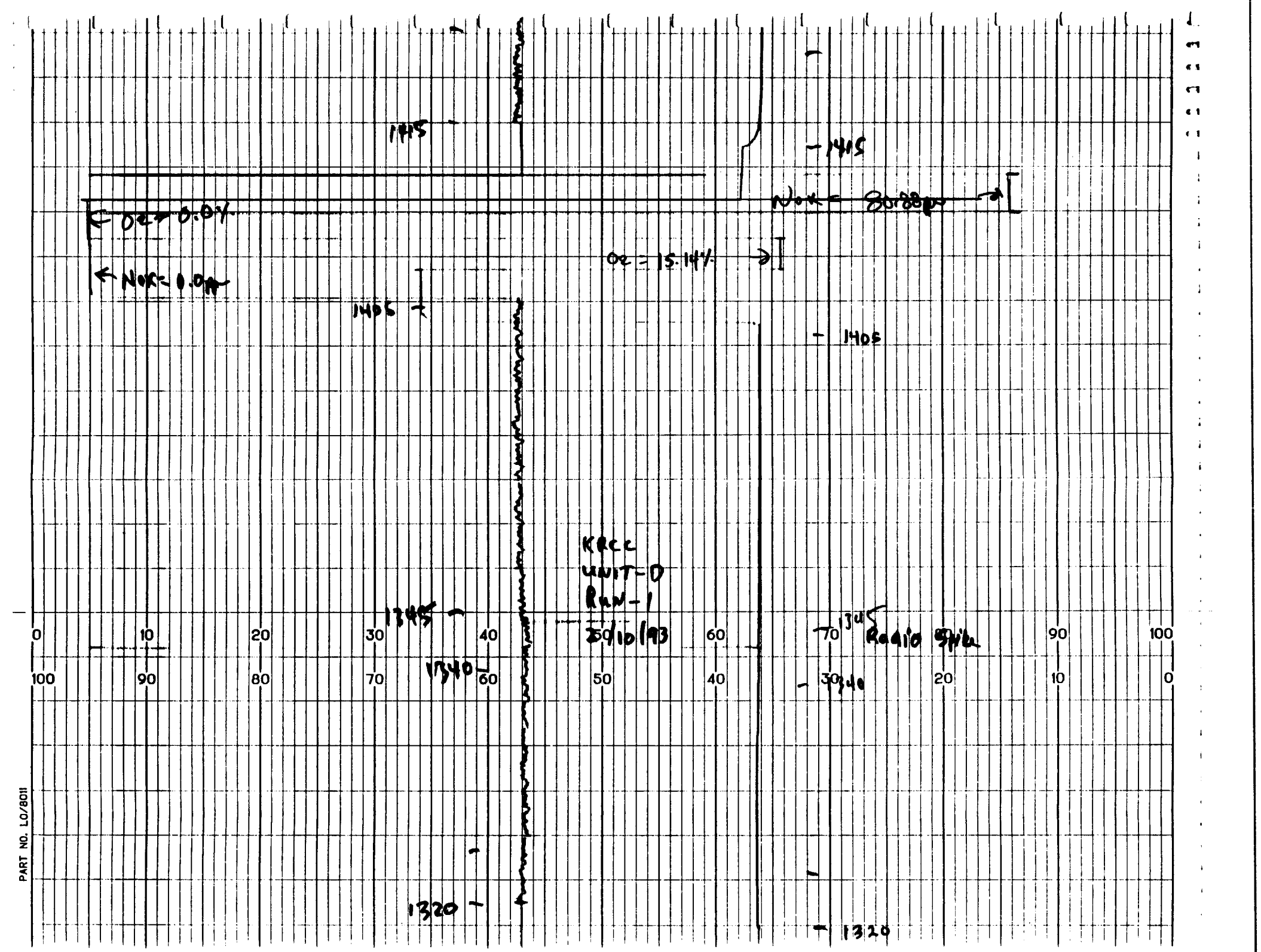

O2 = 15.14%
NOX = 794 ppm
NOX = 0.0 ppm
O2 = 0.07%
1020
1030
0
10
20
30
40
50
60
70
80
90
100
100
90
80
70
60
50
40
30
20
10
0
KRCC
UNIT-C
RUN-1
2/10/93
1015
1015
O2 = (0-25%) f/s
NOX = (0-100 ppm) f/s
LINSEIS
0950
START RUN 1 / UNIT-C = 0950
PART NO. LO/8011
PRINTED IN U.S.A.


LINSEIS
KRCC
UNIT-C
RUN-2
2/10/93
1140
1115
1105
1055
NOx = 80.90%
O2 = 15.14%
NOx = 79 ppm
PRINTED IN U.S.A.

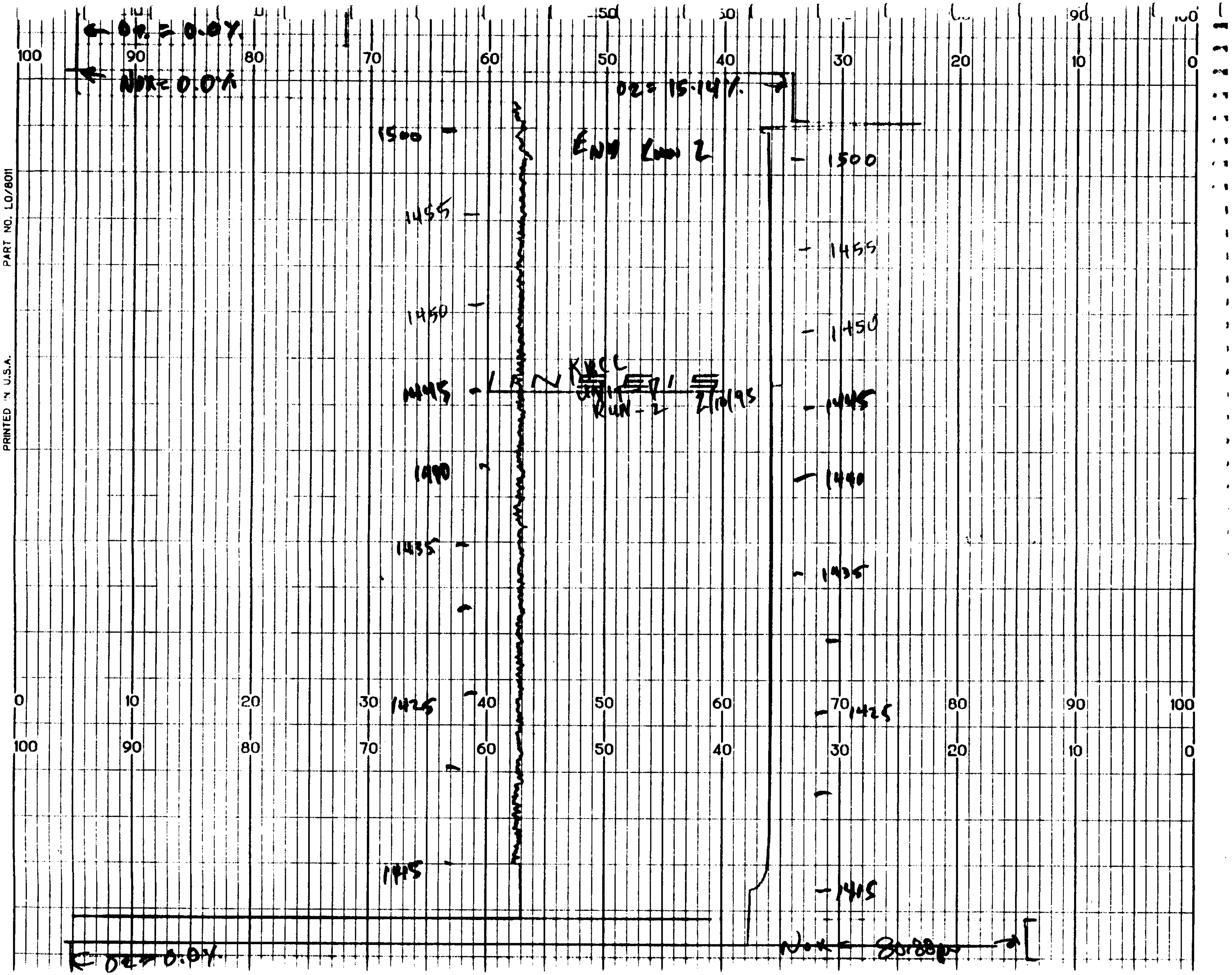


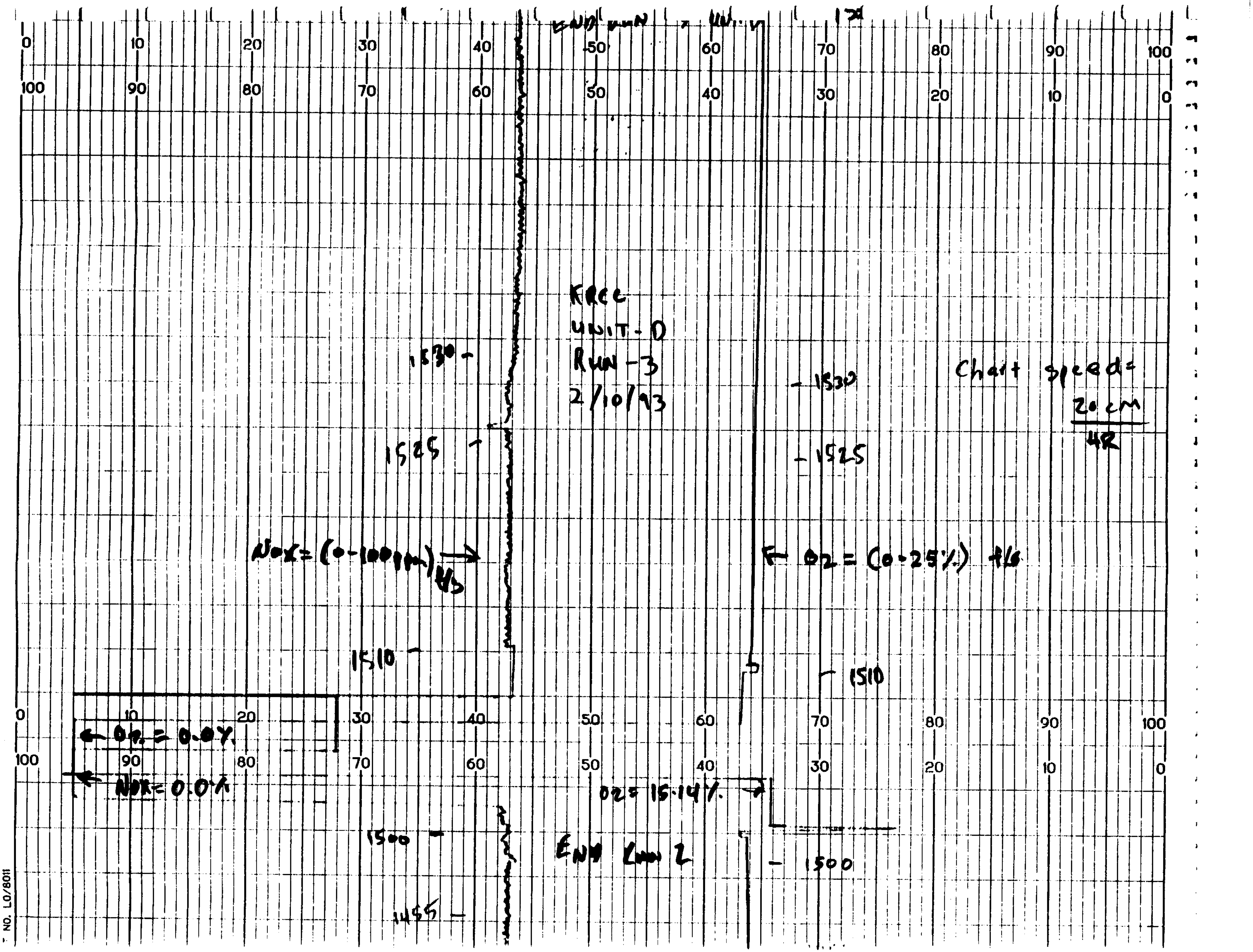
KRCC
RUN-3
UNIT-C
2/10/93
KRCC
UNIT-C
2/10/93
1215
1205
1150
1140
O2 = 15.14%
O2 = 15.25%
NOx = 80.80
NOx = 0.0
O2 = 0.0%
NOx = 0.0
O2 = 0.20%
PRINTED IN U.S.A.
PART NO. LO/80


PART NO. LO/8011
PRINTED IN U.S.A.
1320
1320
INSETS
NO_x = 0.0 PPM
O_2 = 0.01%
O_2 = 15.14%
NOx = 80.88 PPM
1235
1235
0 10 20 30 40 50 60 70 80 90 100
100 90 80 70 60 50 40 30 20 10 0
KRCL
UNIT-C
2/10/93
1215
KRCL
RUN-3
UNIT-C
2/10/93
1215

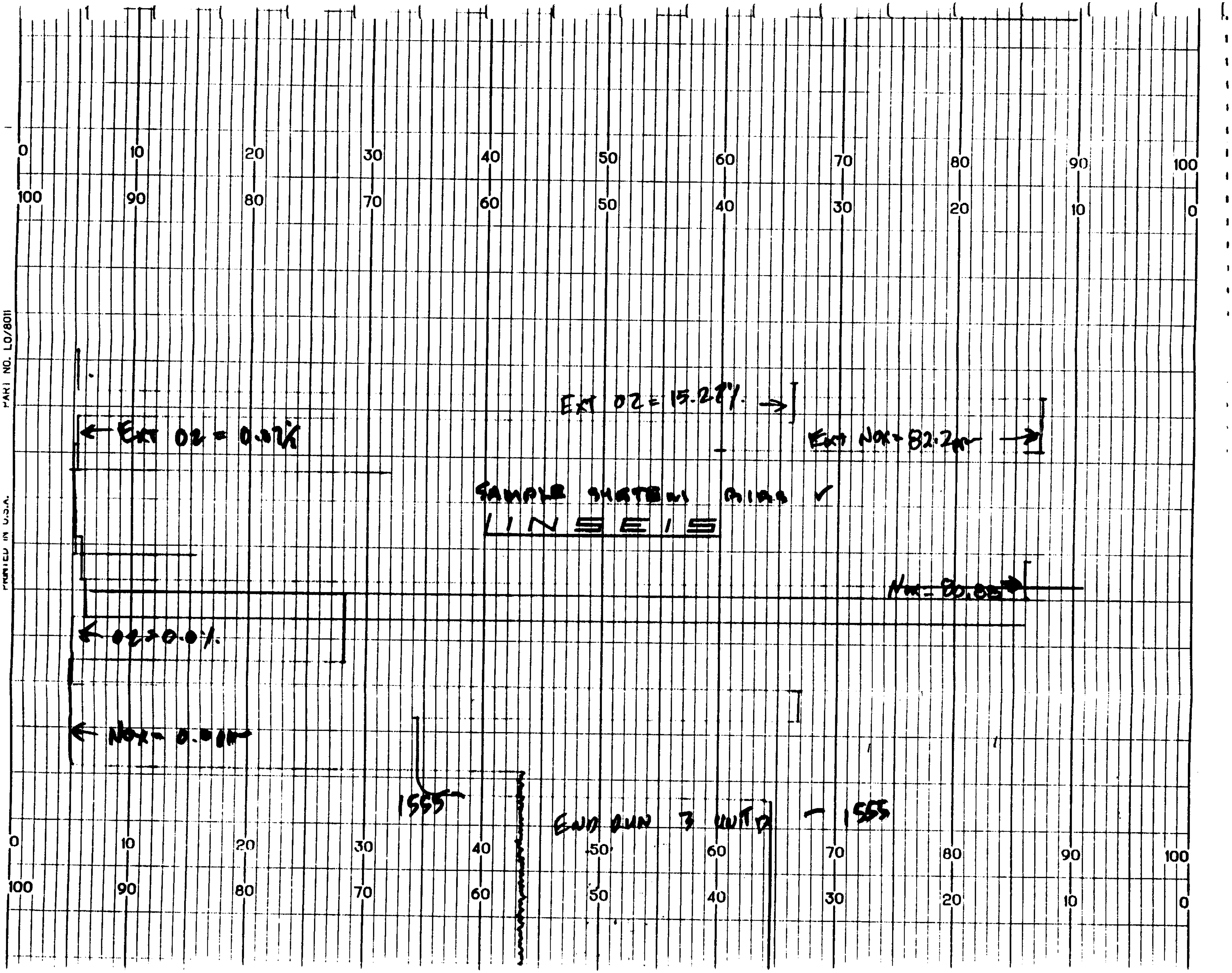


PART NO. LO/8011

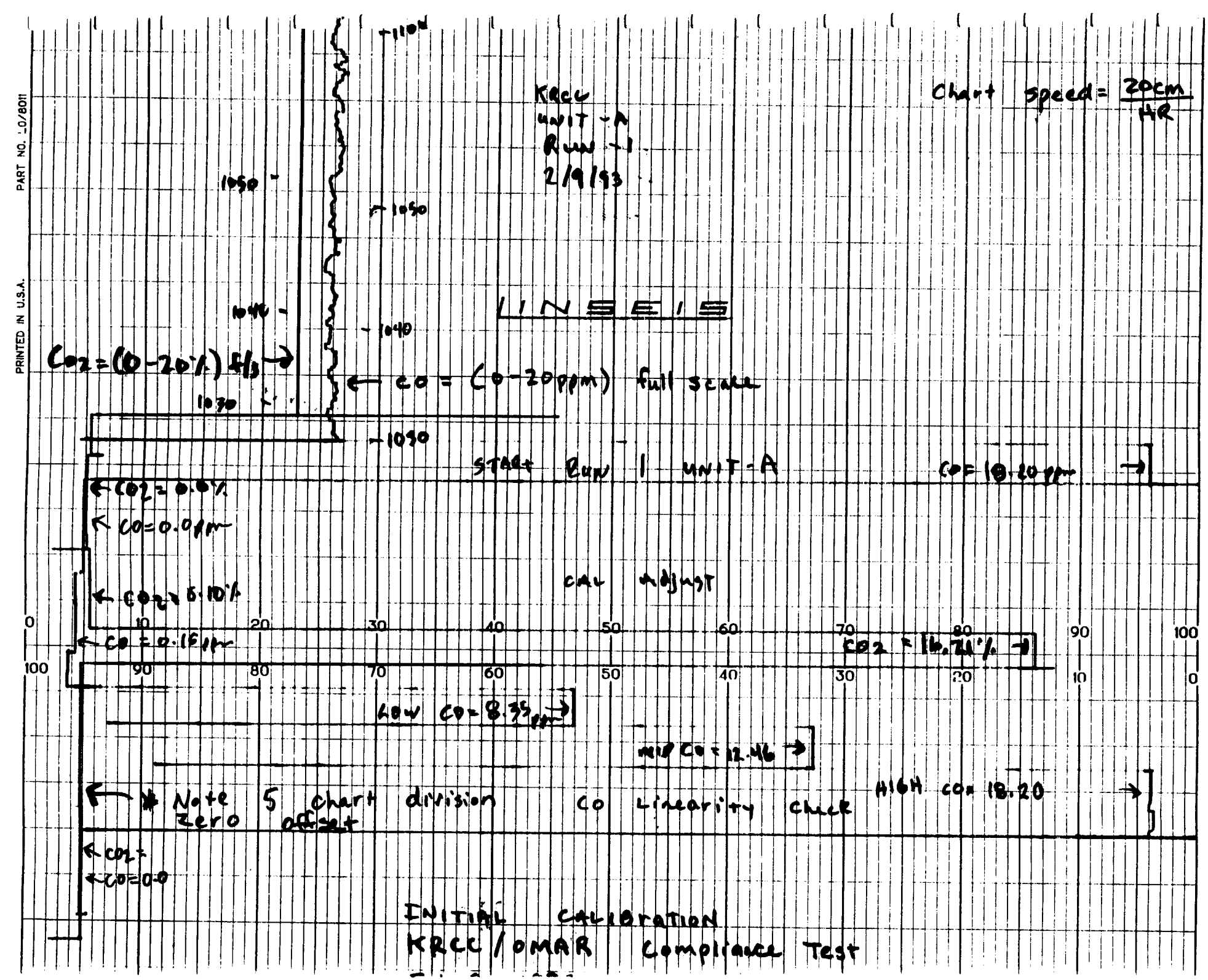

O2 = 0.0%
NOx = 0.0%
O2 = 15.14%
END RUN 2
KBCC
RUN - 2
2/10/95
1500
1455
1450
1445
1440
1435
1425
1415
NOx = 80.8 ppm
O2 = 0.0%
PART NO. LO/8011
PRINTED IN U.S.A.

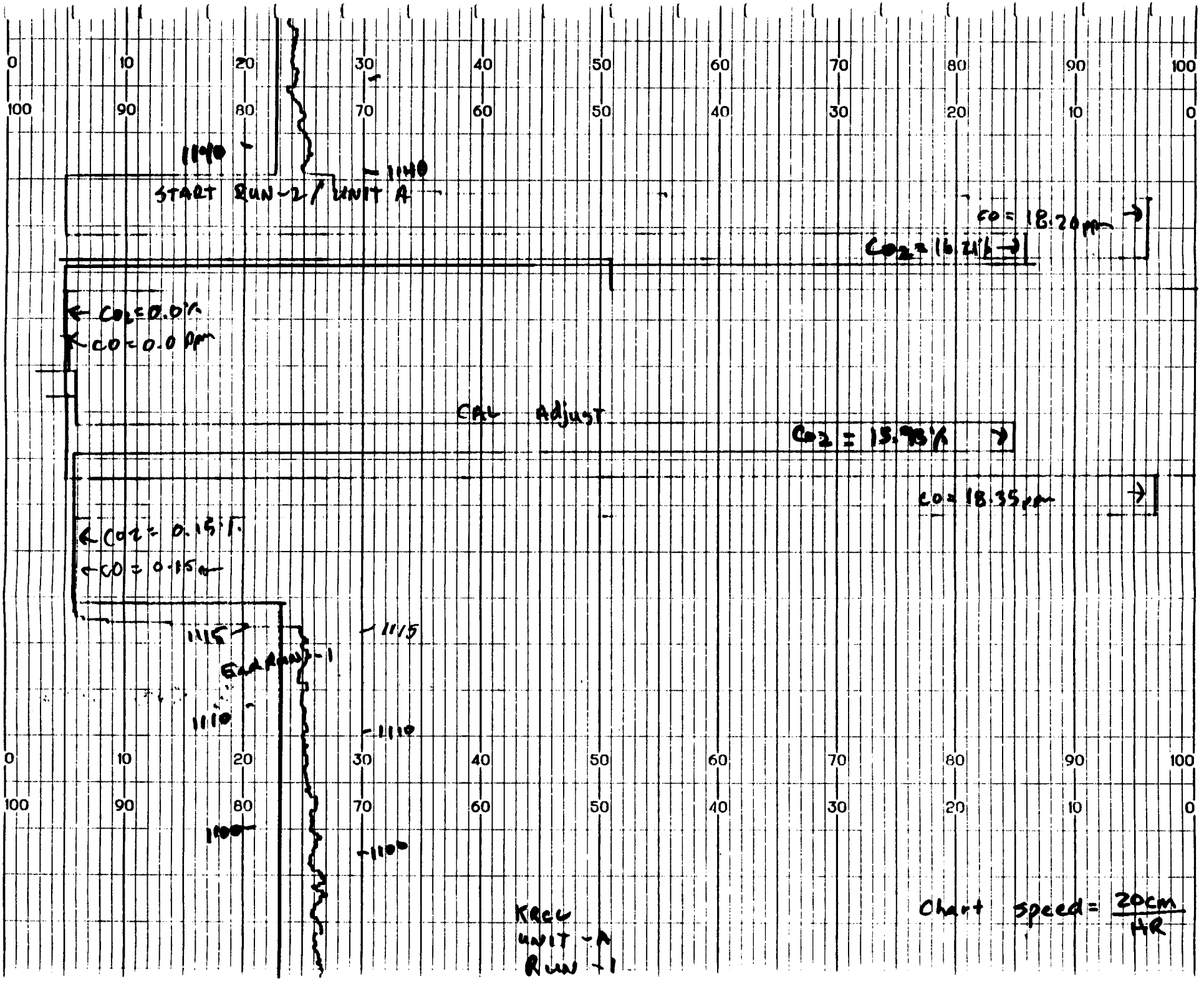


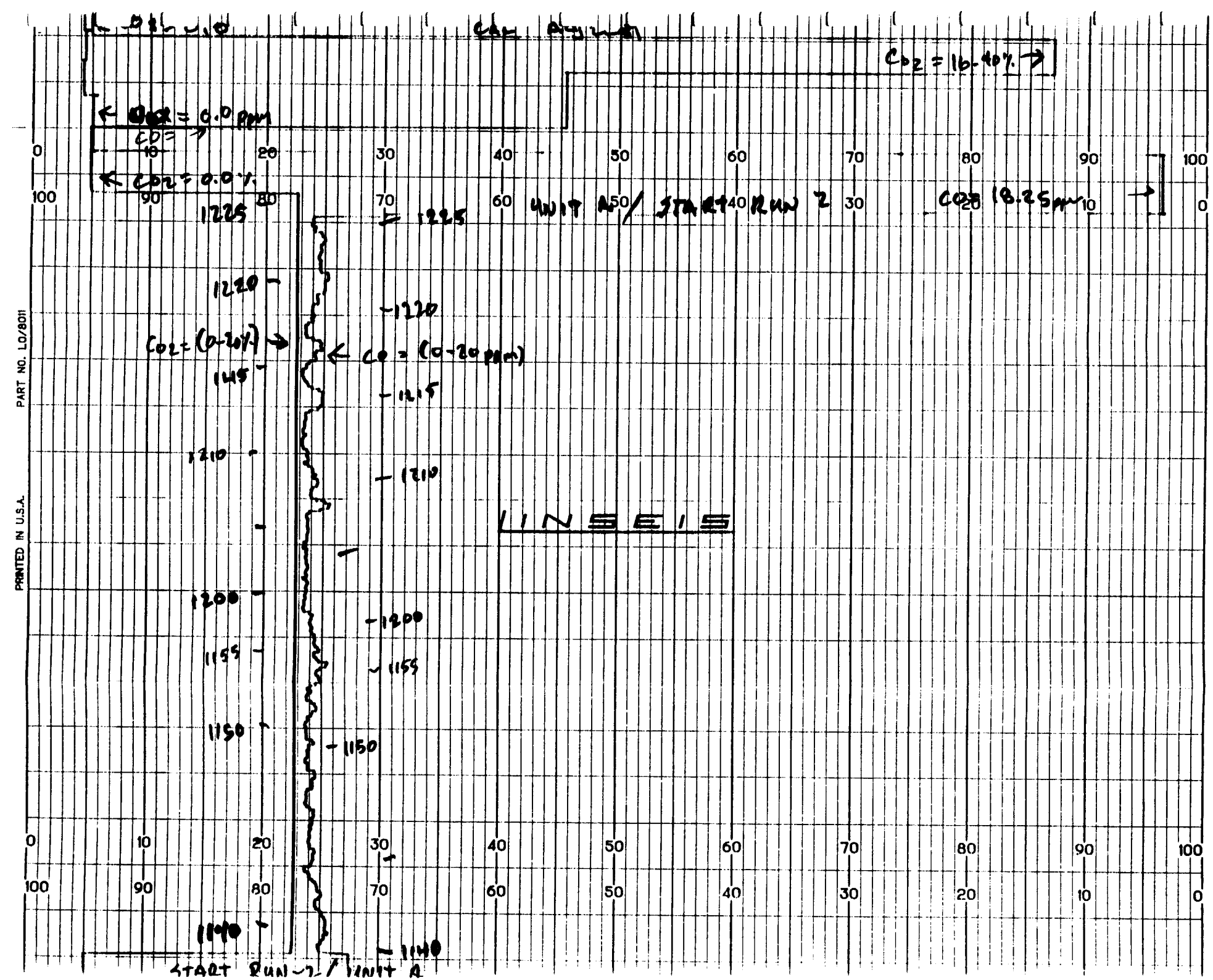
KREC
UNIT-D
RUN-3
2/10/93
Chart speed= 20 cm / HR
1530
1525
1510
1500
1455
NOx=(0-100ppm)
O2=(0-25%)
O2=0.0%
NOx=0.0%
O2=15.14%
END RUN 2
NO. L0/8011

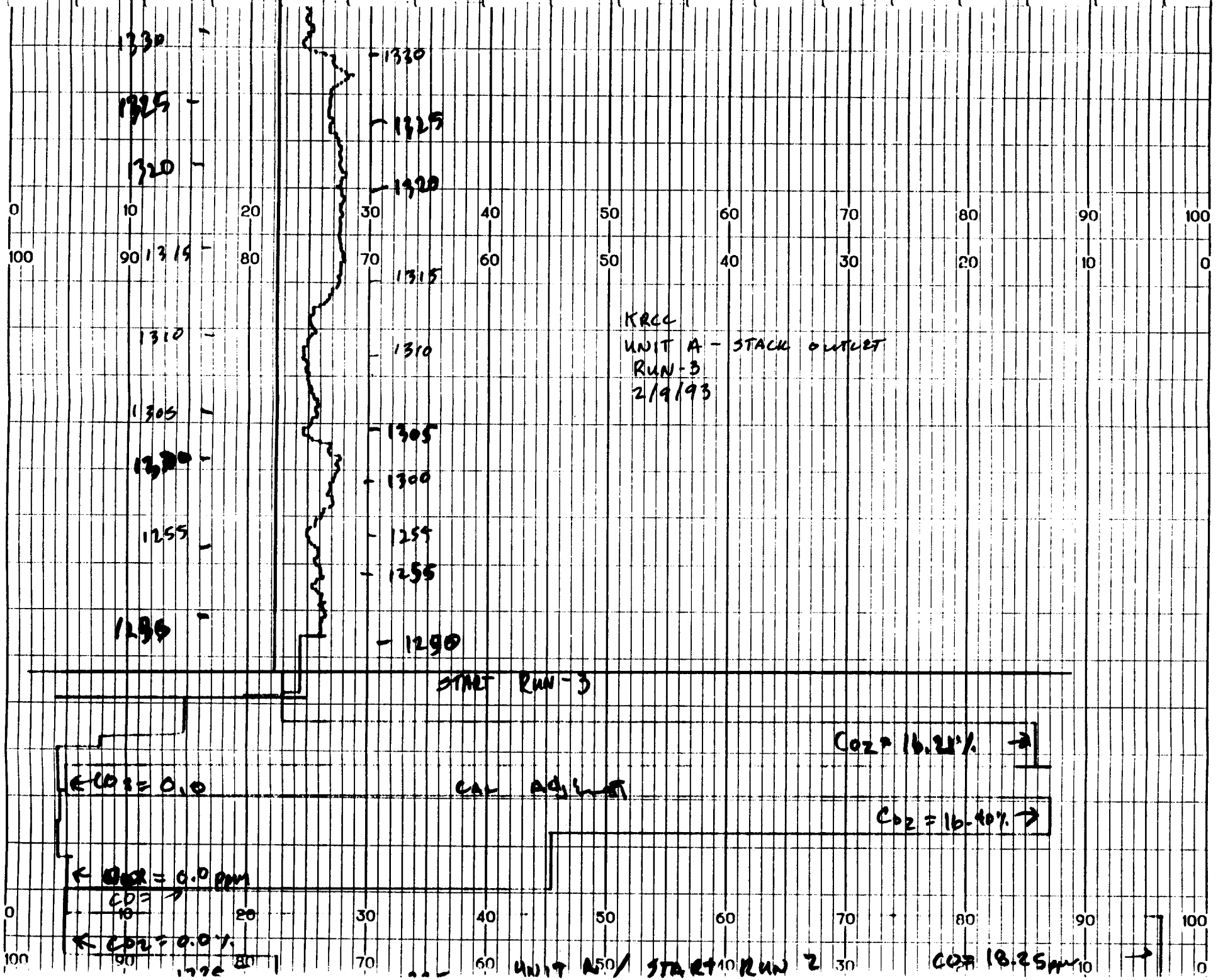


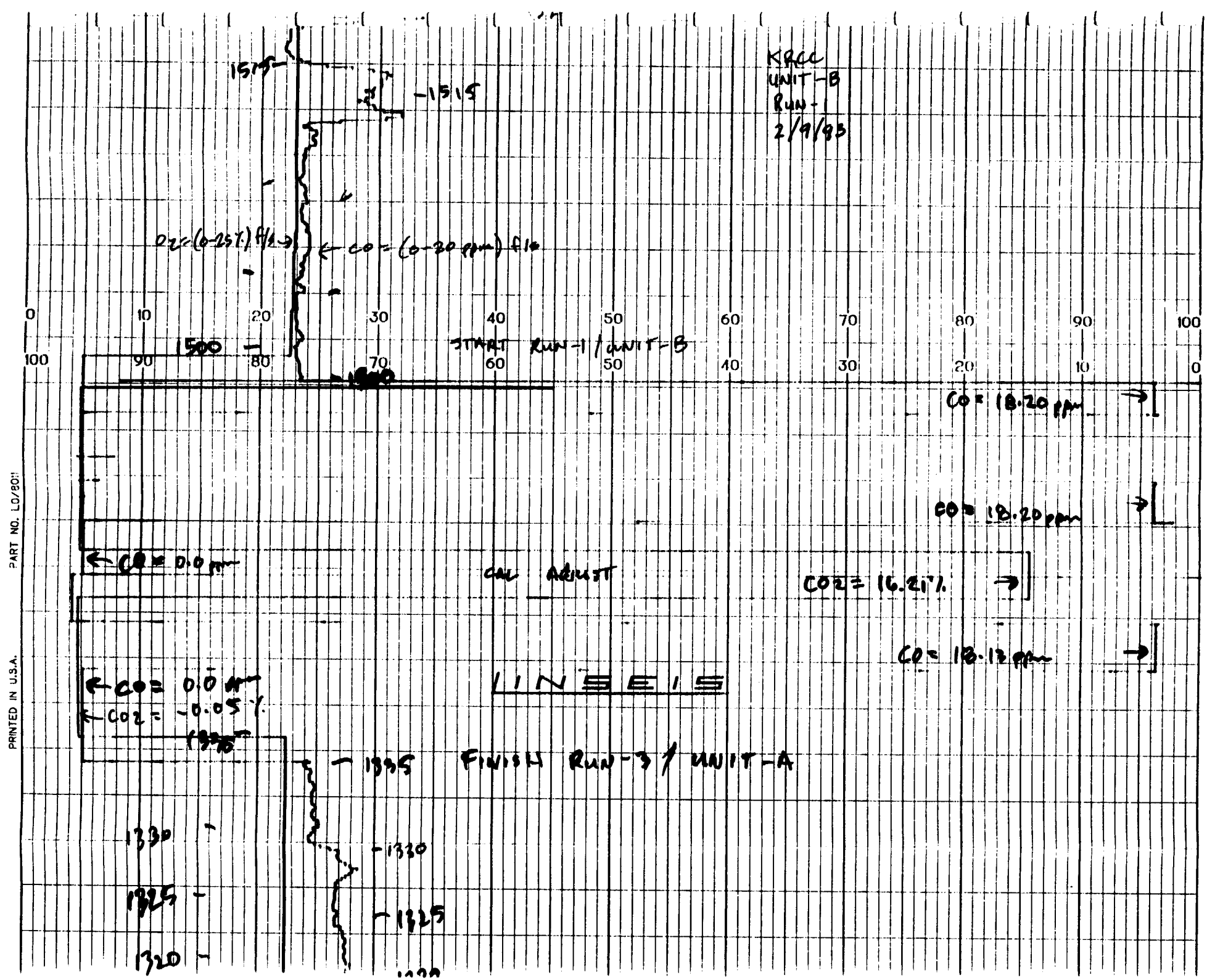
Ext O2 = 15.28%
Ext NOx = 82.2ppm
LINSEIS
NOx = 80.05
Ext O2 = 0.32%
O2 = 0.0%
1555
END RUN 3 UNTD – 1555
0
10
20
30
40
50
60
70
80
90
100
PART NO. LO/8011
PRINTED IN U.S.A.

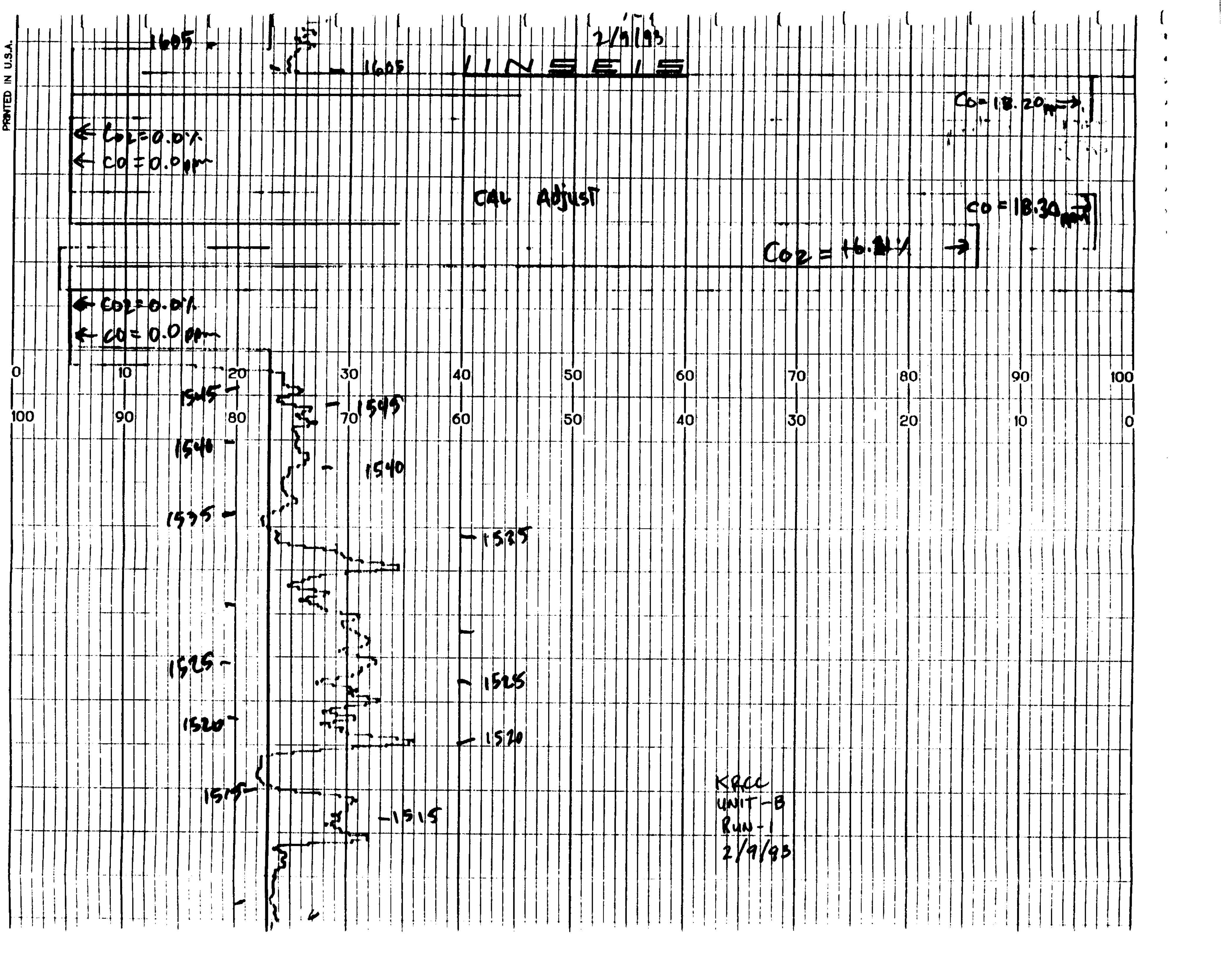

PART NO. 10/8011
PRINTED IN U.S.A.
KRCC
UNIT-A
Run-1
2/9/93
Chart speed = 20cm/HR
1110
1050
1040
1030
LINES
CO2 = (0-20%) FS
CO = (0-20 ppm) full scale
START Run 1 UNIT-A
COF 18.20 ppm
CO2 = 0.0%
CO = 0.0 ppm
CO2 = 6.10%
CO = 0.15 ppm
cal adjust
CO2 = 16.74%
LOW CO = 8.35 ppm
MID CO = 12.46
HIGH CO = 18.20
* Note 5 chart division CO Linearity check
zero offset
CO2 =
CO = 0.0
INITIAL CALIBRATION
KRCC/OMAR Compliance Test

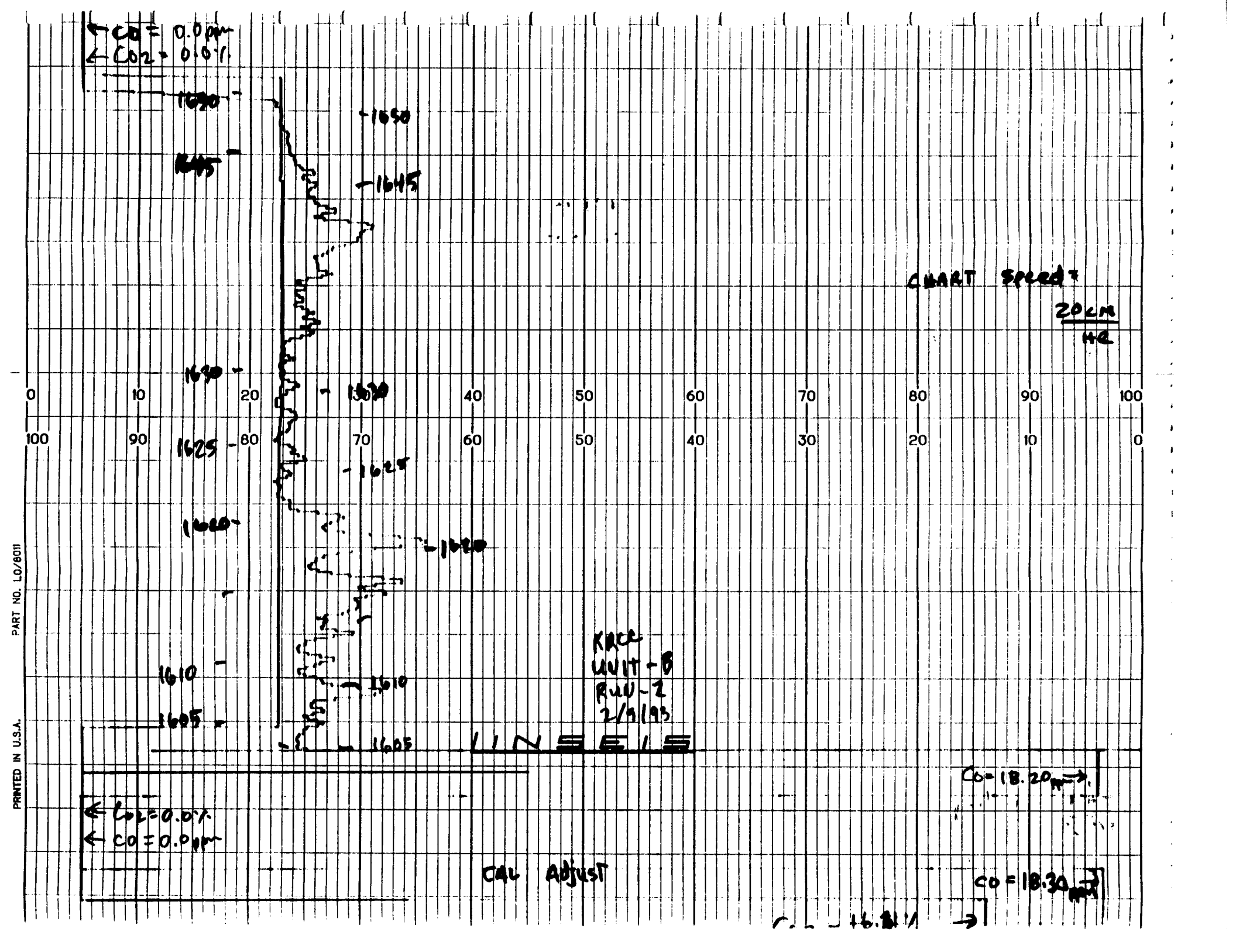

1140
START RUN-2 / UNIT A
1140
CO = 18.20 ppm
CO2 = 16.24%
CO2 = 0.0%
CO = 0.0 ppm
CAL ADJUST
CO2 = 15.98%
CO = 18.35 ppm
CO2 = 0.15%
CO = 0.15
1115
1115
1110
1110
1100
1100
KREC
UNIT - A
RUN - 1
Chart Speed = 20cm / HR

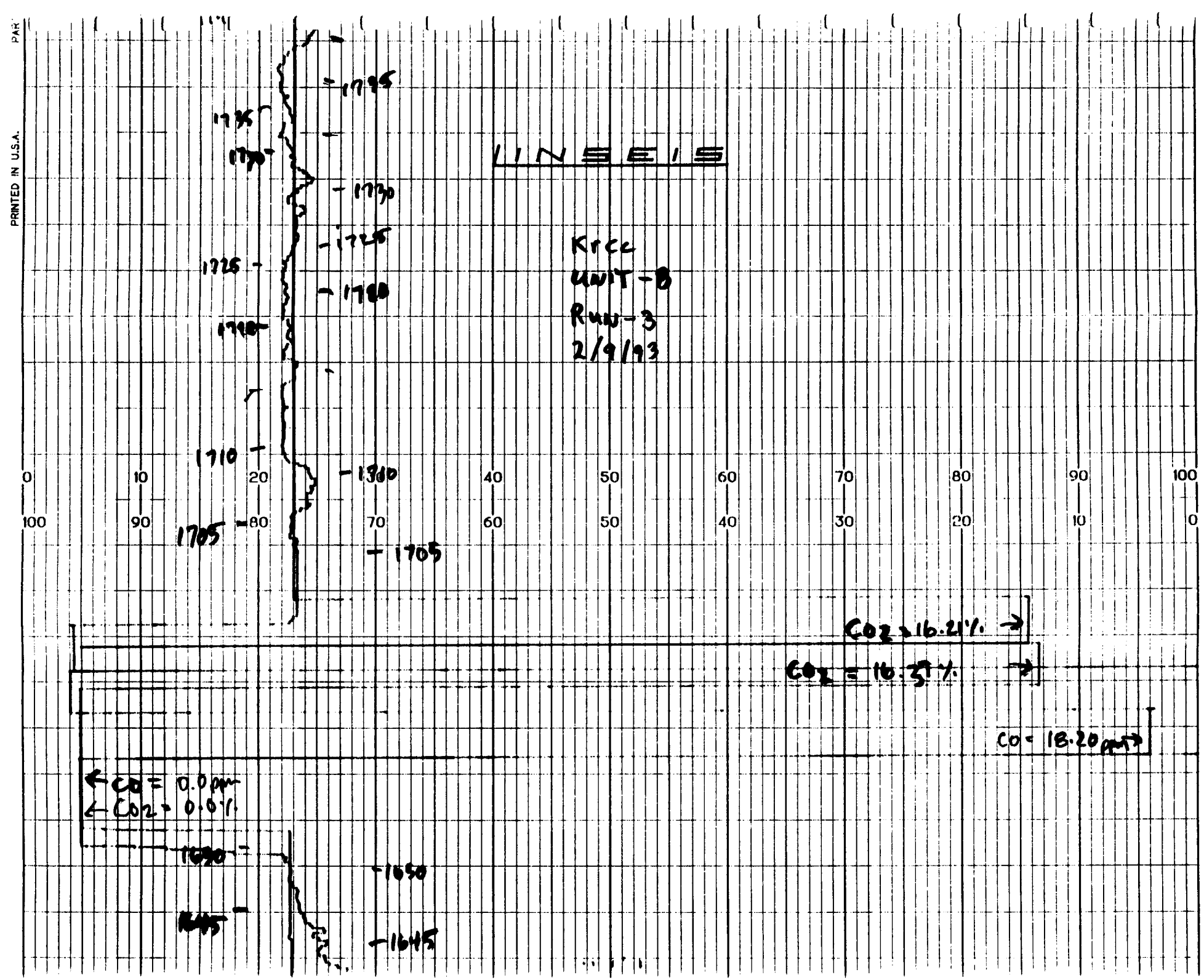

CO2 = 16-40%
CO = 0.0 ppm
CO2 = 0.0%
1225
1220
1215
1210
1205
1200
1195
1190
1150
1140
CO2 = (0-20%)
CO = (0-20 ppm)
UNIT A50/ START RUN 2
CO2 18.25%
LINSEIS
START RUN 2 / UNIT A
PART NO. LO/8011
PRINTED IN U.S.A.

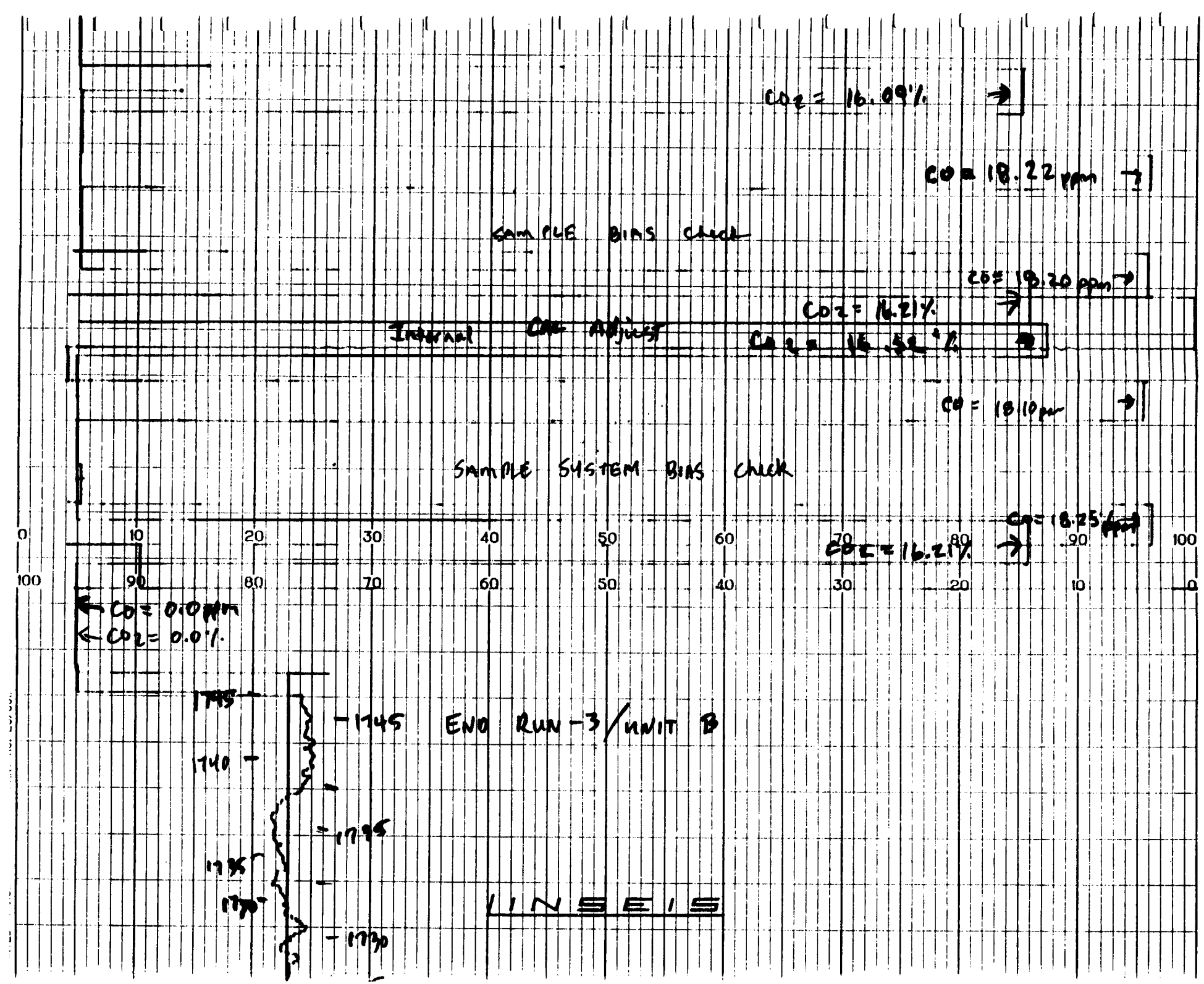

1330
1325
1320
1315
1310
1305
1300
1295
1290
KRCC
UNIT A - STACK OUTLET
RUN-3
2/9/93
START RUN-3
CO2 = 16.22%
CO2 = 16.40%
CO = 0.0
CAL ADJ
CO = 0.0 PPM
CO2 = 0.0%
UNIT A / START RUN 2
CO2 = 18.25%

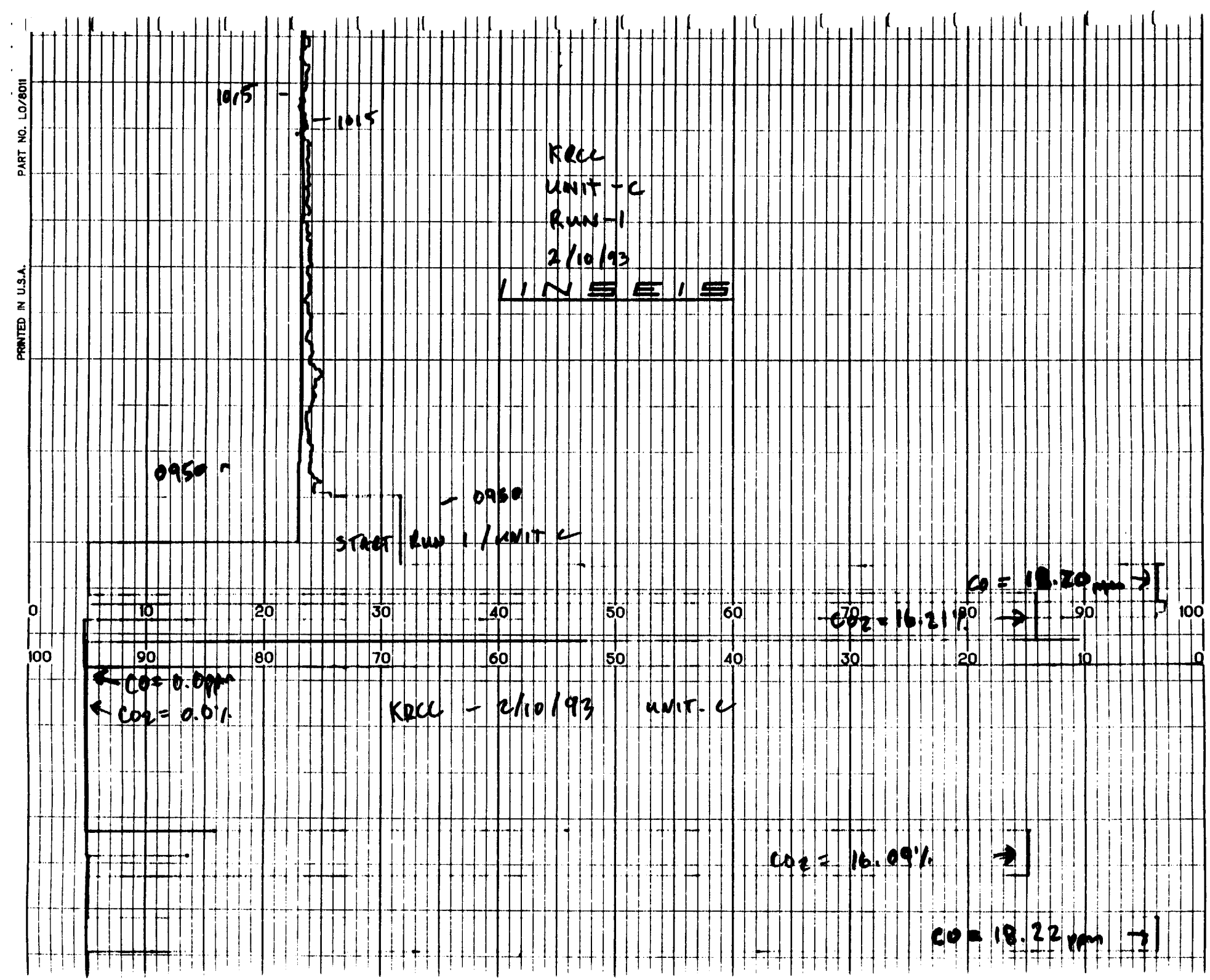

KRCC
UNIT-B
RUN-1
2/9/93
1515
1515
O2=(0-25%) FIG
CO=(0-30 ppm) FIG
0 10 20 30 40 50 60 70 80 90 100
100 90 80 70 60 50 40 30 20 10 0
1500
1500
START RUN-1 / UNIT-B
CO= 18.20 ppm
CO= 18.20 ppm
CO= 0.0 ppm
CAL ADJUST
CO2= 16.21%
CO= 18.13 ppm
CO= 0.0 ppm
CO2= -0.05%
LINES
1335
FINISH RUN-3 / UNIT-A
1330
1330
1325
1325
1320
PART NO. LO/80!!
PRINTED IN U.S.A.

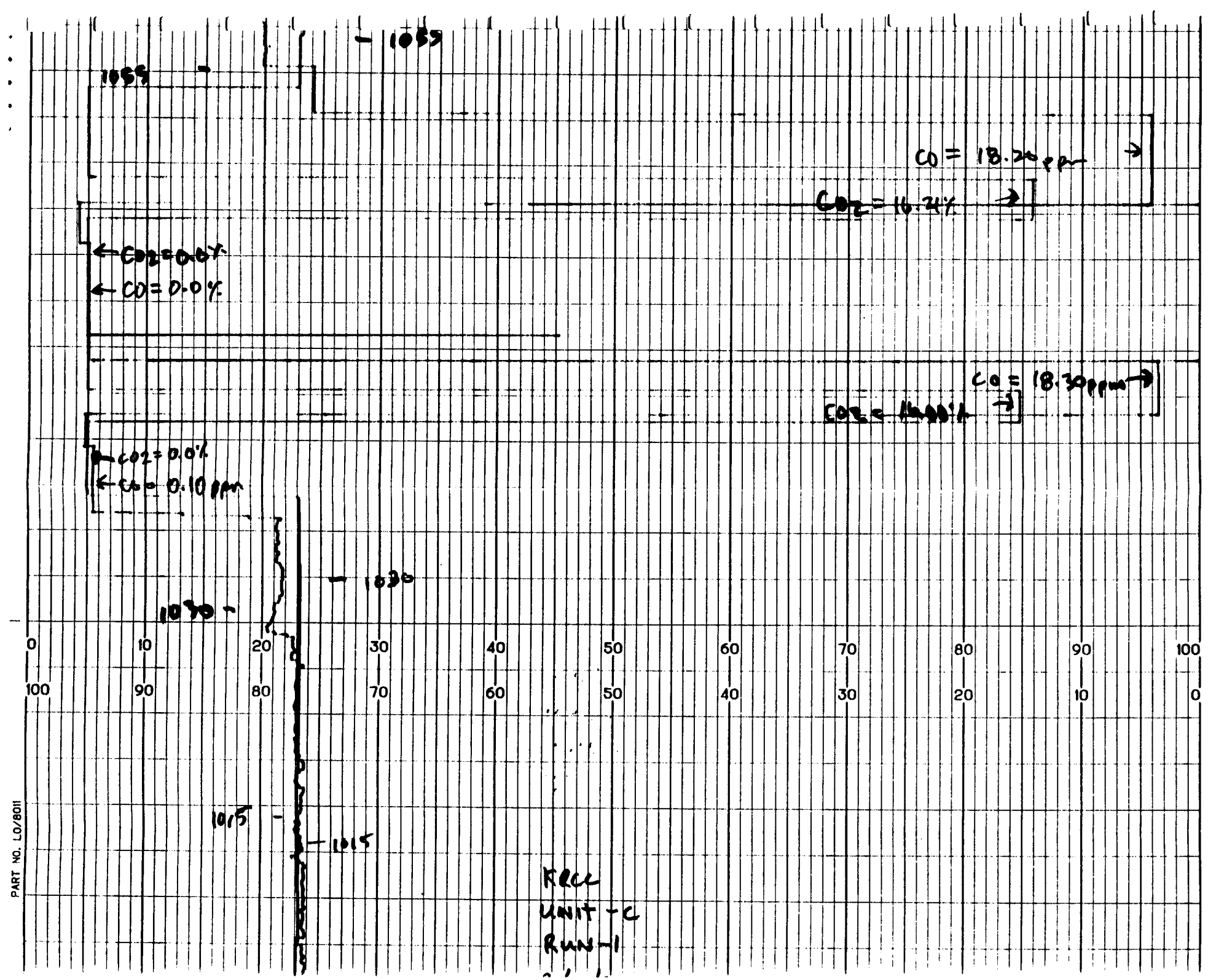

1605
2/9/93
LINSEIS
CO = 18.20 ppm
CO2 = 0.0%
CO = 0.0 ppm
CAL ADJUST
CO = 18.30 ppm
CO2 = 16.1%
CO2 = 0.0%
CO = 0.0 ppm
1545
1540
1535
1525
1520
1515
KACC
UNIT-B
RUN-1
2/9/93
PRINTED IN U.S.A.


← CO = 0.0 ppm
← CO2 = 0.0 %
1650
1645
1640
1635
1630
1625
1620
1615
1610
1605
CHART SPEED
20 cm
HC
0
10
20
30
40
50
60
70
80
90
100
KRACE
UNIT - 8
RUN - 2
2/9/93
LINSEIS
CO = 18.20 ppm
← CO2 = 0.0 %
← CO = 0.0 ppm
CAL ADJUST
CO = 18.30 ppm
PART NO. LO/8011
PRINTED IN U.S.A.

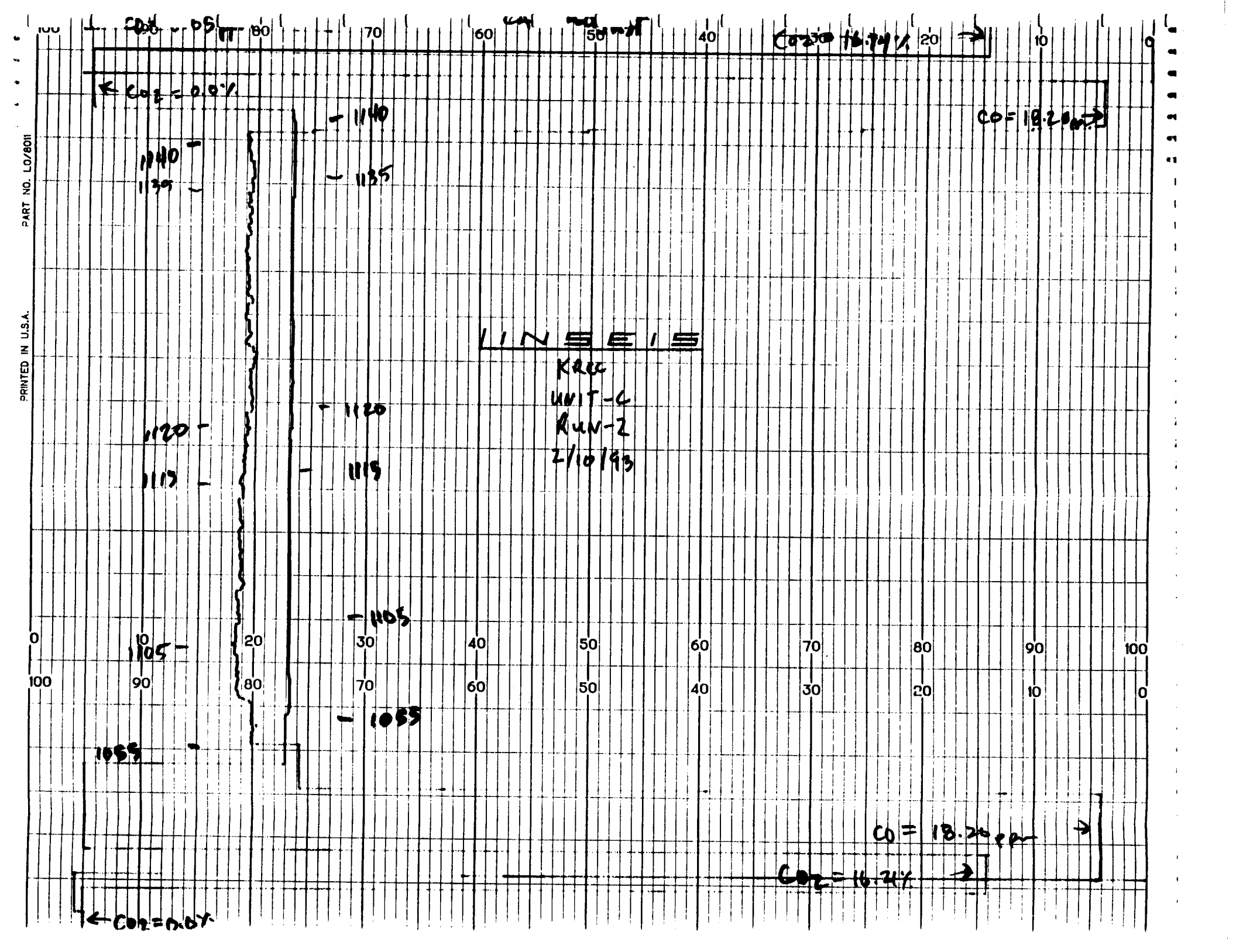

LINSEIS
KRCC
UNIT-B
RUN-3
2/9/93
1795
1790
1785
1780
1775
1770
1765
1760
1755
1750
1745
1740
1735
1730
1725
1720
1715
1710
1705
1700
1695
1690
1685
1680
1675
1670
1665
1660
1655
1650
1645
0
10
20
30
40
50
60
70
80
90
100
CO2 = 16.21 %
CO2 = 16.31 %
CO = 18.20 ppm
CO = 0.0 ppm
CO2 = 0.0 %

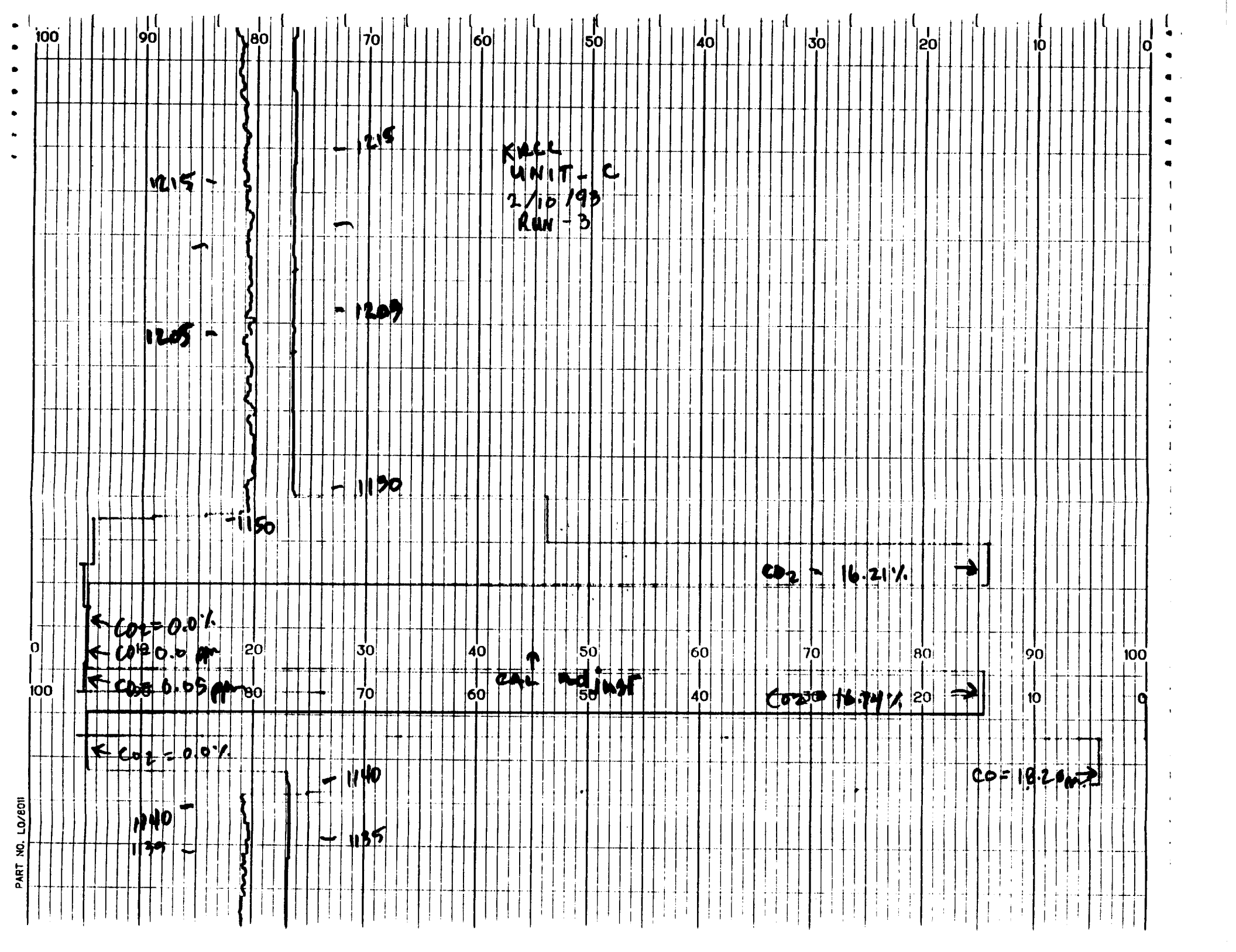

CO2 = 16.09%
CO = 18.22 ppm
SAMPLE BIAS CHECK
CO = 18.20 ppm
CO2 = 16.21%
INTERNAL CAL ADJUST
CO = 18.10 ppm
SAMPLE SYSTEM BIAS CHECK
CO = 18.25 ppm
CO2 = 16.21%
0 10 20 30 40 50 60 70 80 90 100
100 90 80 70 60 50 40 30 20 10 0
CO = 0.0 ppm
CO2 = 0.0%
1745
1740
1735
1730
1745 END RUN-3/UNIT B
1745
1740
LINSEIS

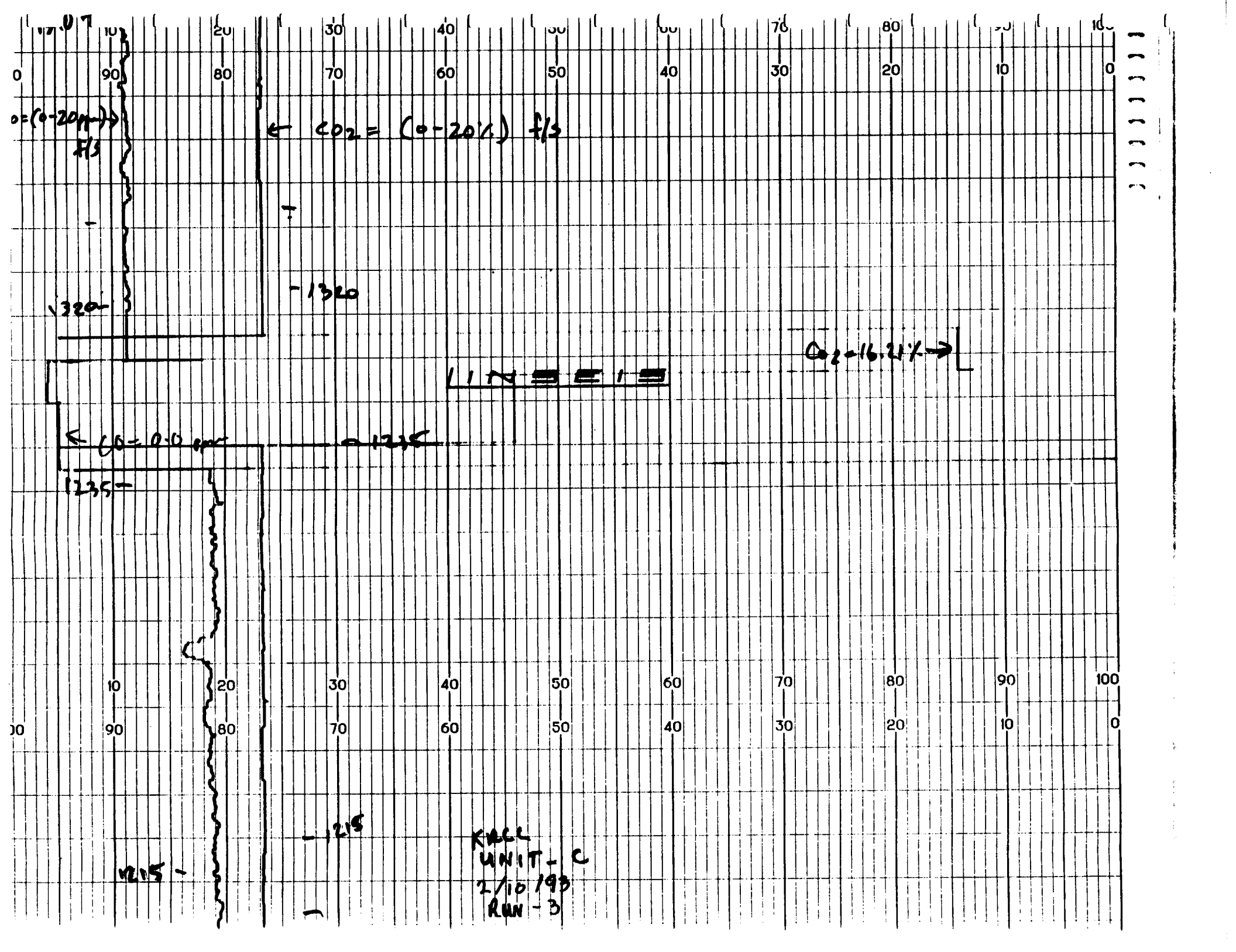

PART NO. LO/8011
PRINTED IN U.S.A.
1015
1015
KRCC
UNIT - C
RUN - 1
2/10/93
LINSEIS
0950
0950
START RUN 1 / UNIT C
CO = 18.20 ppm
CO2 = 16.21 %
0
10
20
30
40
50
60
70
80
90
100
100
90
80
70
60
50
40
30
20
10
0
CO = 0.0 ppm
CO2 = 0.0 %
KRCC - 2/10/93 UNIT - C
CO2 = 16.09 %
CO = 18.22 ppm

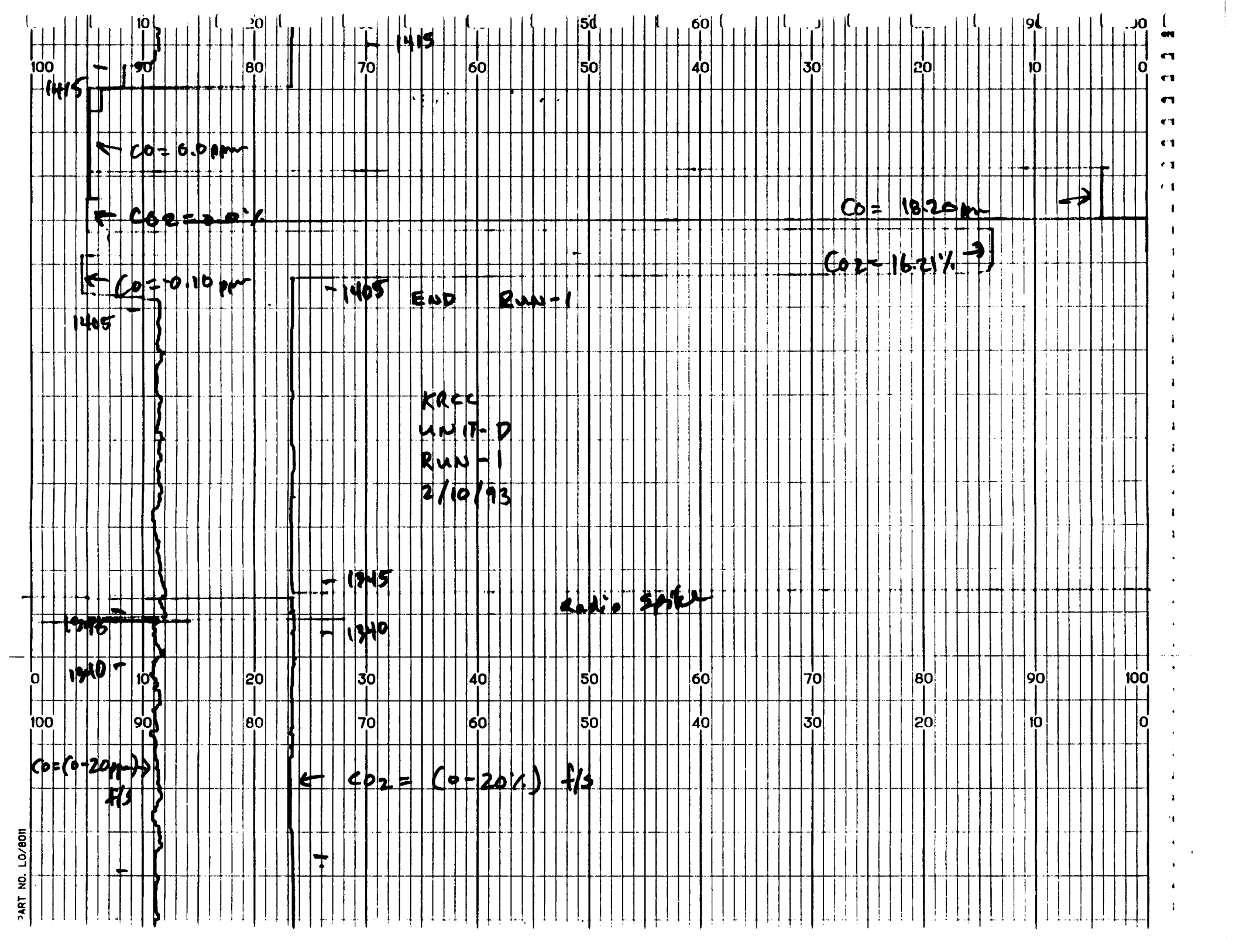


PART NO. LO/8011

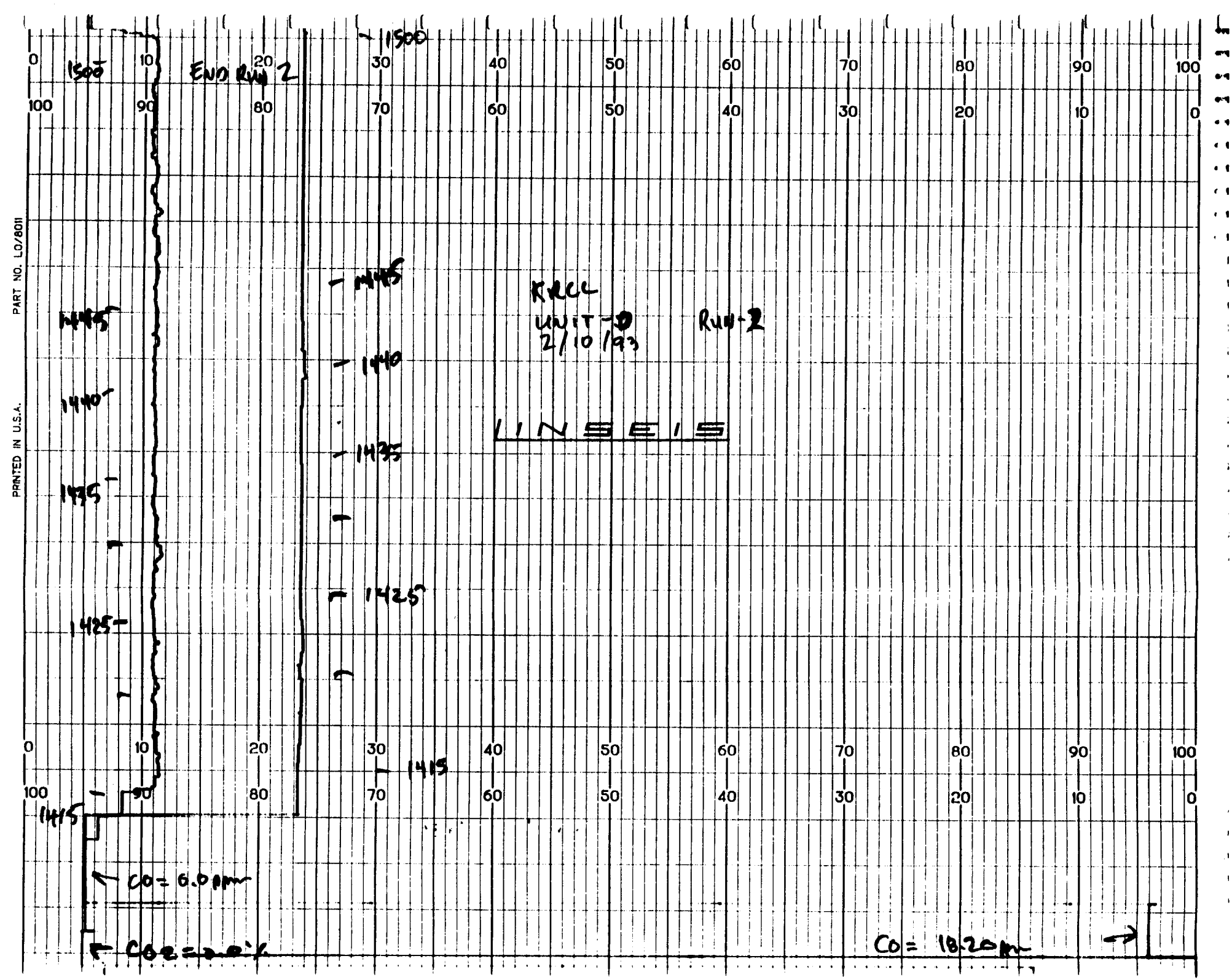

PART NO. LO/8011
PRINTED IN U.S.A.
CO2 = 0.0%
CO = 18.2%
1140
1135
1120
1115
1105
1055
LINSEIS
KRCC
UNIT-C
RUN-2
2/10/93
CO = 18.2%
CO2 = 16.2%
CO2 = 0.0%

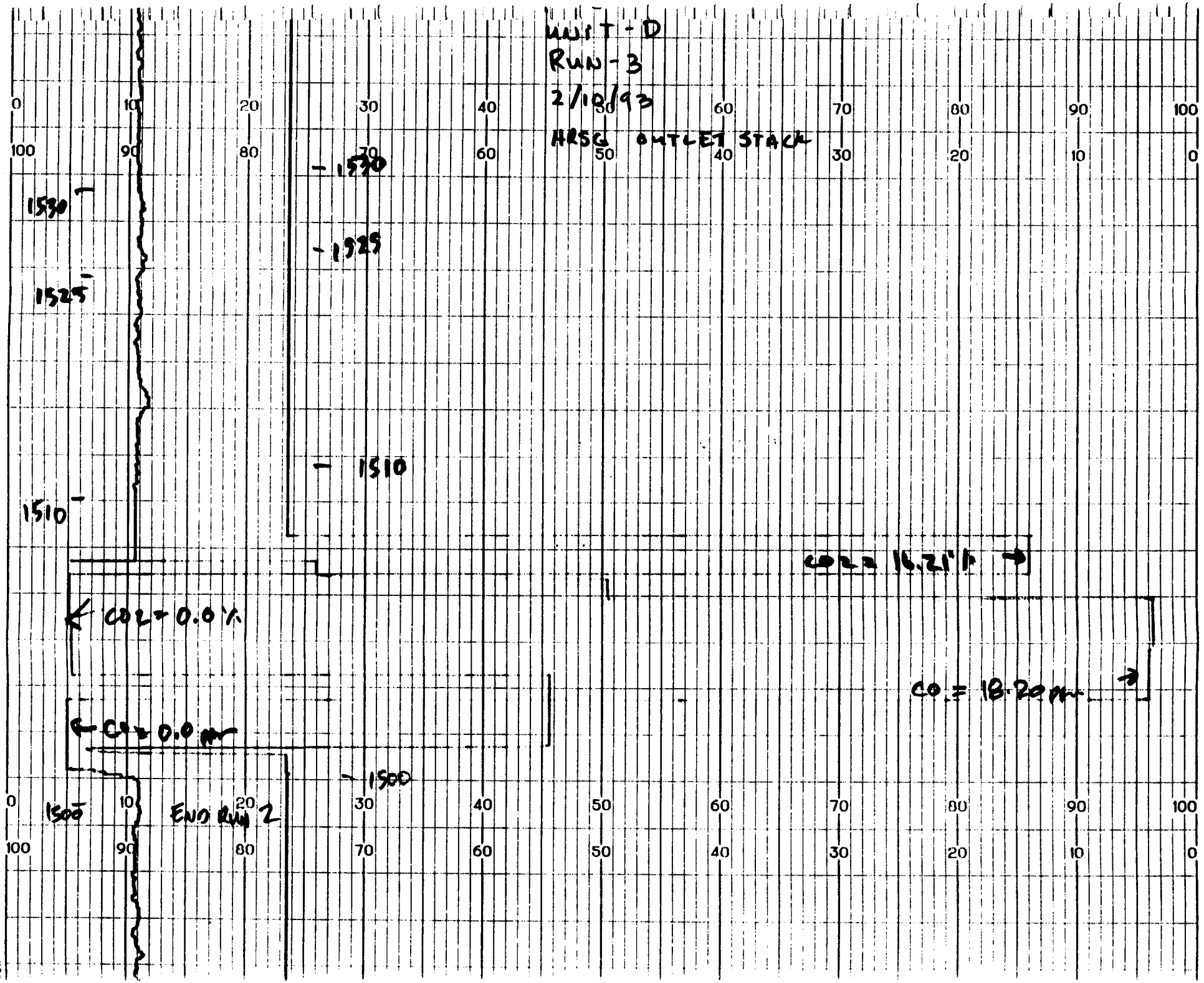

KILN
UNIT - C
2/10/93
RUN - 3
1215
1209
1205
1150
1140
1135
CO2 = 16.21%
CO2 = 0.0%
CO = 0.0 PPM
CO = 0.05 PPM
CO2 = 16.24%
CO = 18.2 PPM
CO2 = 0.0%
air adjust
PART NO. LO/8011

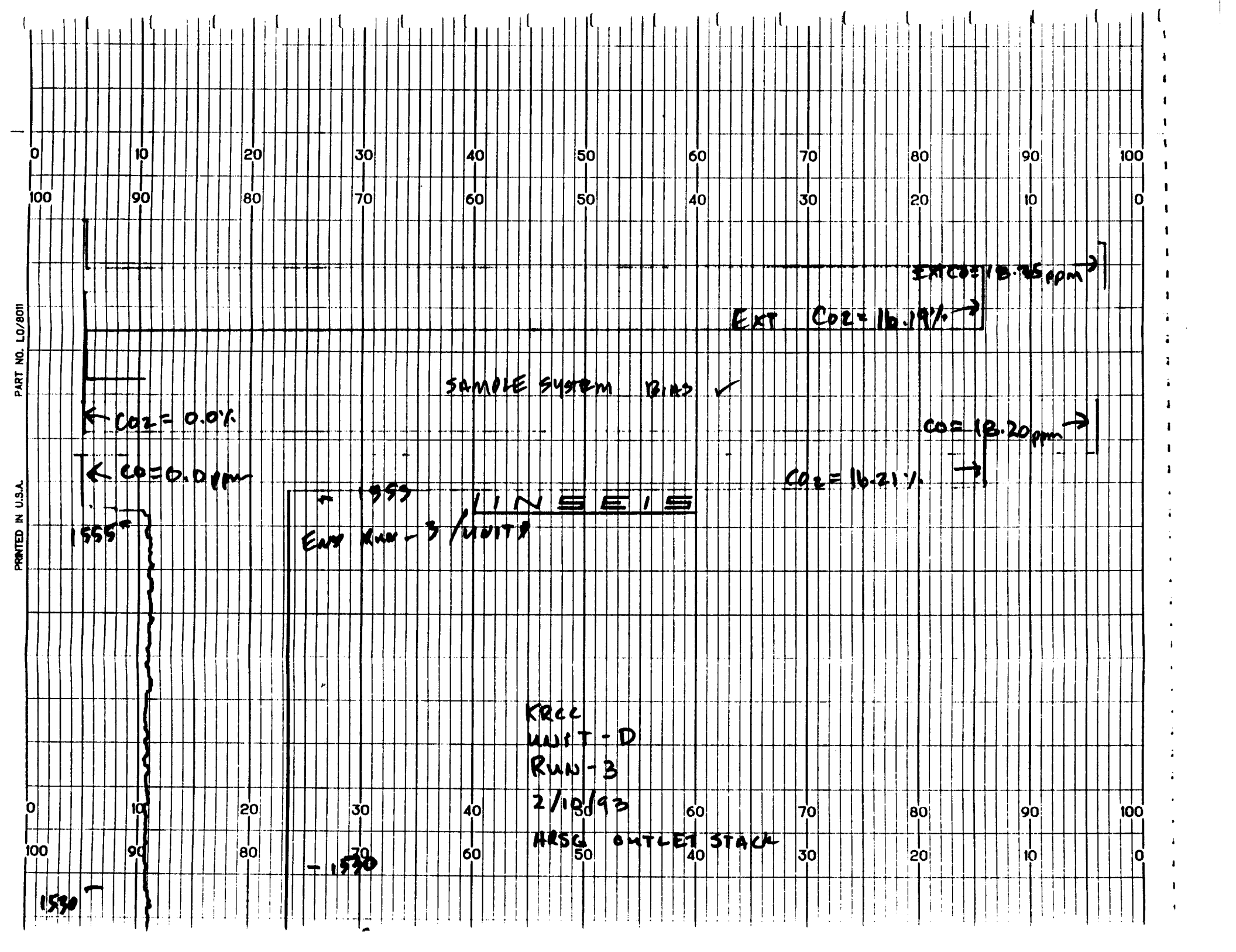

← CO₂ = (0-20%) f/s
1320
1235
CO₂ = 16.2% →
CO = 0.0 ppm
1215
KACL
UNIT - C
2/10 193
RUN - 3



PART NO. LO/8011


1500
END RUN 2
1445
1440
1435
1425
1415
KRCC
UNIT-D
2/10/93
RUN-2
LINSEIS
CO= 6.0 mM
CO= 18.2 mM


UNIT - D
RUN - 3
2/10/93
HRSG OUTLET STACK
1530
1525
1510
1500
CO2 = 0.0 %
CO = 0.0 ppm
CO2 = 16.2 %
CO = 18.20 ppm
END RUN 2


EXT CO = 18.85 ppm
EXT CO2 = 16.19%
SAMPLE SYSTEM BIAS
CO2 = 0.0%
CO = 0.0 ppm
CO = 18.20 ppm
CO2 = 16.21%
1555
955
LINES
END RUN - 3 / UNITS
KRCC
UNIT - D
RUN - 3
2/10/93
HRSG OUTLET STACK
1530
1530
PART NO. LO/8011
PRINTED IN U.S.A.

APPENDIX B

LABORATORY DATA

ZALCO LABORATORIES, INC.
Analytical & Consulting Services

ENGINEERING SCIENCE
2520 Pegasus Drive
Bakersfield, CA 93308

Lab. No.: 034815_001
Received: Feb 17, 1993
Reported: Feb 17, 1993

Attention: T. Delfino

Sample Description: Fuel Gas-A11-KRCC Control #BK9302100
2/12/93 1500
* CHROMATOGRAPHIC ANALYSIS (Z 1635) *

Components	Mole %	Wt %	CHONS	Wt %
Hydrogen	0.000	0.000	CARBON	73.24
Carbon Dioxide	.535	1.360	HYDROGEN	23.65
Oxygen	.043	.080	OXYGEN	1.07
Nitrogen	1.258	2.035	NITROGEN	2.03
Carbon Monoxide	0.000	0.000	SULFUR	0.00
Hydrogen Sulfide	0.000	0.000		
Methane	92.430	85.589	Totals	99.99
Ethane	4.730	8.210	Total H/C	.32
Propane	.831	2.115		
IsoButane	.078	.261		
N-Butane	.064	.213		
IsoPentane	.013	.054		
N-Pentane	.008	.034		
Hexanes+	.010	.049		
Totals =	100.000	100.000		

SPECIFIC GRAVITY (Air = 1)		.5992
SPECIFIC VOLUME, cu.ft./lb	*	21.87
GROSS CALORIFIC VALUE, BTU/cu.ft.	*	1030.60
GROSS CALORIFIC VALUE, BTU/cu.ft.	**	1048.42
GROSS CALORIFIC VALUE, BTU/lb	**	22925.00
NET CALORIFIC VALUE, BTU/cu.ft.	**	945.74
NET CALORIFIC VALUE, BTU/lb	**	20679.79
DSCF EXHAUST PER SCF FUEL (0% Oxygen)		8.8951
COMPRESSIBILITY FACTOR 'Z' (60 F,1 ATM)		.9978
EPA 'F' Factor @ 68 F:	8633.576 DSCF / MM Btu.	
KCAPCD 'F' Factor @ 60 F:	8504.073 DSCF / MM Btu.	

* Water Saturated ** Dry Gas @ 60 F, 14.73 psia

Analyst

for Jim Etherton
Laboratory Director

4309 Armour Avenue Bakersfield, California 93308
(805) 395-0539 FAX (805) 395-3069

APPENDIX C

PLANT DATA

Unit A
KRCC
Gas

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	151	DEG F	TTXD1_3	1006	DEG F
TTXSP1	52	DEG F	TTXD1_4	996	DEG F
TTXSP2	43	DEG F	TTXD1_5	996	DEG F
TTXSP3	40	DEG F	TTXD1_6	1004	DEG F
TTXC	1006	DEG F	TTXD1_7	1005	DEG F
TTXM	1006	DEG F	TTXD1_8	1026	DEG F
BB1	0.13	IPS	TTXD1_9	1025	DEG F
BB2	0.13	IPS	TTXD1_10	1009	DEG F
BB3	0.18	IPS	TTXD1_11	994	DEG F
BB4	0.08	IPS	TTXD1_12	990	DEG F
BB5	0.18	IPS	TTXD1_13	1006	DEG F
BB7	0.03	IPS	TTXD1_14	977	DEG F
BB8	0.02	IPS	TTXD1_15	997	DEG F
BB9	0.01	IPS	TTXD1_16	1031	DEG F
TTXD1_1	1009	DEG F	TTXD1_17	1015	DEG F
TTXD1_2	987	DEG F	TTXD1_18	1028	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 10:51:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	148.7	PSIG	→ WQJ	8.505	#/SEC
CTD	645	DEG F	WSQ	6.963	#/SEC
CTIF1	56	DEG F	TNH	100.0	% SPD
CTIF2	56	DEG F	TNR	103.7	% SPD
→ DW	74.04	MW	CSGV	83.1	DEG
FSR1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FDG2	79.9	INH2O	CTD	645	DEG F
→ FQG	11.550	#/SEC	TIMR_01	63 714.1	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	235	RPM	FQ_PR	0	RPM
WXC	0.708	RATIO	HPA1	96.3	% H2
WXJ	0.734	RATIO	HPA2	96.3	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 11:06:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1009	DEG F
TTXSP1	54	DEG F	TTXD1_4	997	DEG F
TTXSP2	42	DEG F	TTXD1_5	998	DEG F
TTXSP3	41	DEG F	TTXD1_6	1001	DEG F
TTXC	1006	DEG F	TTXD1_7	1005	DEG F
TTXM	1006	DEG F	TTXD1_8	1026	DEG F
BB1	0.13	IPS	TTXD1_9	1026	DEG F
BB2	0.13	IPS	TTXD1_10	1007	DEG F
BB3	0.18	IPS	TTXD1_11	994	DEG F
BB4	0.08	IPS	TTXD1_12	990	DEG F

BB8	0.02	IPS	TTXD1_16	1030	DEG F
BB9	0.01	IPS	TTXD1_17	1017	DEG F
TTXD1_1	1010	DEG F	TTXD1_18	1030	DEG F
TTXD1_2	989	DEG F			

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 11:06:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	148.0	PSIG	→ WQJ	8.525	#/SEC
CTD	645	DEG F	WSQ	6.895	#/SEC
CTIF1	57	DEG F	TNH	100.0	% SPD
CTIF2	57	DEG F	TNR	103.7	% SPD
→ DW	74.14	MW	CSGV	83.0	DEG
FSL	-0.01	% STR	LTTH	120	DEG F
FSR	57.5	% FSR	S125P	67.51	V DC
FSG	56.33	% STR	S125N	-63.57	V DC
FTG	57	DEG F	CTIM	57	DEG F
FDG1	29.98	INH2O	CPD	148.0	PSIG
FDG2	80.2	INH2O	CTD	645	DEG F
→ FQG	11.572	#/SEC	TIMR_01	63 714.4	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	235	RPM	FQ_PR	0	RPM
WXC	0.711	RATIO	HPA1	96.3	% H2
WXJ	0.736	RATIO	HPA2	96.3	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 11:21:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1008	DEG F
TTXSP1	57	DEG F	TTXD1_4	997	DEG F
TTXSP2	45	DEG F	TTXD1_5	996	DEG F
TTXSP3	41	DEG F	TTXD1_6	1005	DEG F
TTXC	1008	DEG F	TTXD1_7	1008	DEG F
TTXM	1007	DEG F	TTXD1_8	1029	DEG F
BB1	0.13	IPS	TTXD1_9	1030	DEG F
BB2	0.13	IPS	TTXD1_10	1012	DEG F
BB3	0.19	IPS	TTXD1_11	996	DEG F
BB4	0.08	IPS	TTXD1_12	992	DEG F
BB5	0.19	IPS	TTXD1_13	1010	DEG F
BB7	0.03	IPS	TTXD1_14	976	DEG F
BB8	0.02	IPS	TTXD1_15	997	DEG F
BB9	0.01	IPS	TTXD1_16	1033	DEG F
TTXD1_1	1011	DEG F	TTXD1_17	1017	DEG F
TTXD1_2	988	DEG F	TTXD1_18	1028	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 11:21:07 PAGE001

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	148.1	PSIG	→ WQJ	8.416	#/SEC
CTD	646	DEG F	WSQ	6.936	#/SEC
CTIF1	57	DEG F	TNH	100.0	% SPD
CTIF2	57	DEG F	TNR	103.7	% SPD
→ DW	73.95	MW	CSGV	82.6	DEG
FSL	-0.13	% STR	LTTH	120	DEG F
FSR	57.4	% FSR	S125P	67.14	V DC
FSG	56.19	% STR	S125N	-64.01	V DC
FTG	59	DEG F	CTIM	57	DEG F
FDG1	29.98	INH2O	CPD	148.1	PSIG
FDG2	79.9	INH2O	CTD	646	DEG F
→ FQG	11.508	#/SEC	TIMR_01	63 714.6	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	231	RPM	FQ_PR	0	RPM
WXC	0.711	RATIO	HPA1	96.3	% H2
WXJ	0.728	RATIO	HPA2	96.3	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

WQJ = 8.482
FQG = 11.543
DW = 74.04

Unit A - Gas End Run #1

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17 FEB 91 09:54:21.12	108	GENERATOR PURGE CO2 LOW PRESSURE	ALARM
31 DEC 92 22:30:11.75	018	TURBINE AIR INLET CONTROL AIR LOW	ALARM
31 DEC 92 22:30:11.75	042	ATOMIZING AIR DIFF PRESSURE LOW	ALARM
31 DEC 92 22:40:54.00	116	GEN PURGE SYSTEM ON MANUAL CONTROL	ALARM
06 JAN 93 12:01:24.87	232	DIAGNOSTIC ALARM - SEE DISPLAY	ALARM

DATA LIST 12 09 FEB 93 11:36:02 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1009	DEG F
TTXSP1	58	DEG F	TTXD1_4	998	DEG F
TTXSP2	45	DEG F	TTXD1_5	999	DEG F
TTXSP3	45	DEG F	TTXD1_6	1007	DEG F
TTXC	1008	DEG F	TTXD1_7	1010	DEG F
TTXM	1007	DEG F	TTXD1_8	1026	DEG F
BB1	0.13	IPS	TTXD1_9	1030	DEG F
BB2	0.13	IPS	TTXD1_10	1010	DEG F
BB3	0.20	IPS	TTXD1_11	995	DEG F
BB4	0.08	IPS	TTXD1_12	989	DEG F
BB5	0.20	IPS	TTXD1_13	1010	DEG F
BB7	0.03	IPS	TTXD1_14	975	DEG F
BB8	0.02	IPS	TTXD1_15	996	DEG F
BB9	0.01	IPS	TTXD1_16	1034	DEG F
TTXD1_1	1013	DEG F	TTXD1_17	1019	DEG F
TTXD1_2	989	DEG F	TTXD1_18	1030	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 11:36:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS

CTIF1	57	DEG F	INH	100.1	% SPD
CTIF2	56	DEG F	TNR	103.7	% SPD
DW	73.57	MW	CSGV	82.7	DEG
FSL	-0.01	% STR	LTTH	119	DEG F
FSR	57.4	% FSR	S125P	67.36	V DC
FSG	56.26	% STR	S125N	-63.71	V DC
FTG	60	DEG F	CTIM	57	DEG F
FDG1	29.98	INH2O	CPD	147.9	PSIG
FDG2	79.2	INH2O	CTD	648	DEG F
FQG	11.484	#/SEC	TIMR_01	63 714.9	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	234	RPM	FQ_PR	0	RPM
WXC	0.707	RATIO	HPA1	96.3	% H2
WXJ	0.735	RATIO	HPA2	96.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

HOUR LOG ---------- ROLLING AVG ----------

TIME	GAS FUEL #/SEC	WATER #/SEC	ACTUAL RATIO	REQUIRED RATIO	AMBIENT DEG F
09 FEB 93 11:38:00	11.535	8.472	0.734	0.709	57

Unit A - Gas Run #2 Begin

DATA LIST 12 09 FEB 93 11:51:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1006	DEG F
TTXSP1	55	DEG F	TTXD1_4	995	DEG F
TTXSP2	46	DEG F	TTXD1_5	996	DEG F
TTXSP3	42	DEG F	TTXD1_6	1002	DEG F
TTXC	1007	DEG F	TTXD1_7	1006	DEG F
TTXM	1006	DEG F	TTXD1_8	1026	DEG F
BB1	0.13	IPS	TTXD1_9	1027	DEG F
BB2	0.13	IPS	TTXD1_10	1011	DEG F
BB3	0.19	IPS	TTXD1_11	995	DEG F
BB4	0.08	IPS	TTXD1_12	992	DEG F
BB5	0.19	IPS	TTXD1_13	1009	DEG F
BB7	0.03	IPS	TTXD1_14	977	DEG F
BB8	0.02	IPS	TTXD1_15	995	DEG F
BB9	0.01	IPS	TTXD1_16	1033	DEG F
TTXD1_1	1012	DEG F	TTXD1_17	1018	DEG F
TTXD1_2	987	DEG F	TTXD1_18	1028	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 11:51:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS

CTD	646	DEG F	WSQ	7.139	#/SEC
CTIF1	57	DEG F	TNH	100.1	% SPD
CTIF2	56	DEG F	TNR	103.7	% SPD
→ DW	73.85	MW	CSGV	82.8	DEG
FSL	-0.01	% STR	LTTH	119	DEG F
FSR	57.3	% FSR	S125P	68.02	V DC
FSG	56.12	% STR	S125N	-63.28	V DC
FTG	58	DEG F	CTIM	57	DEG F
FDG1	29.98	INH2O	CPD	148.3	PSIG
FDG2	80.1	INH2O	CTD	646	DEG F
→ FQG	11.553	#/SEC	TIMR_01	63 715.1	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	234	RPM	FQ_PR	0	RPM
WXC	0.706	RATIO	HPA1	96.3	% H2
WXJ	0.734	RATIO	HPA2	96.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 12:06:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1007	DEG F
TTXSP1	57	DEG F	TTXD1_4	995	DEG F
TTXSP2	46	DEG F	TTXD1_5	996	DEG F
TTXSP3	44	DEG F	TTXD1_6	1003	DEG F
TTXC	1007	DEG F	TTXD1_7	1007	DEG F
TTXM	1007	DEG F	TTXD1_8	1027	DEG F
BB1	0.13	IPS	TTXD1_9	1028	DEG F
BB2	0.13	IPS	TTXD1_10	1011	DEG F
BB3	0.19	IPS	TTXD1_11	995	DEG F
BB4	0.08	IPS	TTXD1_12	991	DEG F
BB5	0.19	IPS	TTXD1_13	1008	DEG F
BB7	0.03	IPS	TTXD1_14	978	DEG F
BB8	0.02	IPS	TTXD1_15	997	DEG F
BB9	0.01	IPS	TTXD1_16	1033	DEG F
TTXD1_1	1011	DEG F	TTXD1_17	1015	DEG F
TTXD1_2	988	DEG F	TTXD1_18	1028	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 12:06:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	147.9	PSIG	→ WQJ	8.336	#/SEC
CTD	645	DEG F	WSQ	6.475	#/SEC
CTIF1	56	DEG F	TNH	100.1	% SPD
CTIF2	55	DEG F	TNR	103.7	% SPD
→ DW	73.66	MW	CSGV	82.8	DEG
FSL	0.05	% STR	LTTH	118	DEG F
FSR	57.0	% FSR	S125P	67.72	V DC
FSG	55.84	% STR	S125N	-63.35	V DC
FTG	57	DEG F	CTIM	56	DEG F

→ FQG	11.493	#/SEC	TIMR_01	65 /15.4	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	230	RPM	FQ_PR	0	RPM
WXC	0.704	RATIO	HPA1	96.2	% H2
WXJ	0.726	RATIO	HPA2	96.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

17 FEB 91 09:54:21.12	108	GENERATOR PURGE CO2 LOW PRESSURE	ALARM
31 DEC 92 22:30:11.75	018	TURBINE AIR INLET CONTROL AIR LOW	ALARM
31 DEC 92 22:30:11.75	042	ATOMIZING AIR DIFF PRESSURE LOW	ALARM
31 DEC 92 22:40:54.00	116	GEN PURGE SYSTEM ON MANUAL CONTROL	ALARM
06 JAN 93 12:01:24.87	232	DIAGNOSTIC ALARM - SEE DISPLAY	ALARM
09 FEB 93 12:12:56.87	057	STANDBY COOLING WATER PUMP RUNNING	ALARM
09 FEB 93 12:12:57.00	057	STANDBY COOLING WATER PUMP RUNNING	NORMAL
09 FEB 93 12:12:57.12	057	STANDBY COOLING WATER PUMP RUNNING	ALARM
09 FEB 93 12:12:59.00	057	STANDBY COOLING WATER PUMP RUNNING	NORMAL
09 FEB 93 12:19:46.75	009	EMERGENCY LUBE PUMP MOTOR RUNNING	ALARM
09 FEB 93 12:20:10.25	009	EMERGENCY LUBE PUMP MOTOR RUNNING	NORMAL

DATA LIST 12 09 FEB 93 12:21:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1004	DEG F
TTXSP1	58	DEG F	TTXD1_4	996	DEG F
TTXSP2	47	DEG F	TTXD1_5	998	DEG F
TTXSP3	43	DEG F	TTXD1_6	1006	DEG F
TTXC	1007	DEG F	TTXD1_7	1006	DEG F
TTXM	1007	DEG F	TTXD1_8	1028	DEG F
BB1	0.13	IPS	TTXD1_9	1030	DEG F
BB2	0.13	IPS	TTXD1_10	1012	DEG F
BB3	0.19	IPS	TTXD1_11	998	DEG F

	0.03	IPS	TTXD1_16	1019	DEG F
	0.03	IPS	TTXD1_17	1029	DEG F
	0.01	DEG F	TTXD1_18		
	1012	DEG F			
L_1	988				
XD1_2					

REMOTE LINK HEALTHY

PERIOD = 0015 MINUTES

09 FEB 93 12:21:08 PAGE001

DATA LIST 12 DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
N 1E	147.9	PSIG	WQJ	8.296	#/SEC
CPD	646	DEG F	WSQ	6.475	#/SEC
CTD	57	DEG F	TNH	100.0	% SPD
CTIF1	56	DEG F	TNR	103.7	% SPD
CTIF2	73.38	MW	CSGV	82.6	DEG
DW	-0.13	% STR	LTTH	119	DEG F
SL	56.8	% FSR	S125P	62.69	V DC
FSR	55.50	% STR	S125N	-58.17	V DC
FSG	53	DEG F	CTIM	57	DEG F
FTG	29.98	INH2O	CPD	147.9	PSIG
FDG1	78.6	INH2O	CTD	646	DEG F
FDG2	11.519	#/SEC	TIMR_01	63 715.6	HOURS
FQG	0.000	#/SEC	FLAME	#3#4#7#8	
FQ	229	RPM	FQ_PR	0	RPM
WQJF_PR	0.708	RATIO	HPA1	96.2	% H2
WXC	0.721	RATIO	HPA2	96.5	% H2
WXJ					

REMOTE LINK HEALTHY

NORMAL

WQJ = 8.369
FQG = 11.522
DW = 73.63

LOG PERIOD = 0015 MINUTES

09 FEB 93 12:21:13.87 008 LUBE PRESSURE LOW RUNNING

09 FEB 93 12:21:13.87 008 LUBE PRESSURE LOW

Unit A – Gas End Run #2

NORMAL

09 FEB 93 12:21:50.25 003 AUX LUBE OIL PUMP RUNNING

09 FEB 93 12:36:01 PAGE000

DATA LIST 12 DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1003	DEG F
TTXSP1	57	DEG F	TTXD1_4	996	DEG F
TTXSP2	48	DEG F	TTXD1_5	998	DEG F
TTXSP3	43	DEG F	TTXD1_6	1006	DEG F
TTXC	1007	DEG F	TTXD1_7	1007	DEG F
TTXM	1007	IPS	TTXD1_8	1027	DEG F
BB1	0.13	IPS	TTXD1_9	1028	DEG F
BB2	0.13	IPS	TTXD1_10	1010	DEG F
BB3	0.18	IPS	TTXD1_11	995	DEG F
BB4	0.08	IPS	TTXD1_12	991	DEG F
BB5	0.19	IPS	TTXD1_13	1008	DEG F
	0.03	IPS	TTXD1_14	977	DEG F
			TTXD1_15	996	DEG F
			TTXD1_16	1034	

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 12:36:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	148.3	PSIG	WQJ	8.416	#/SEC
CTD	645	DEG F	WSQ	7.180	#/SEC
CTIF1	56	DEG F	TNH	100.0	% SPD
CTIF2	56	DEG F	TNR	103.7	% SPD
DW	73.76	MW	CSGV	82.8	DEG
FSL	-0.13	% STR	LTTH	119	DEG F
FSR	56.8	% FSR	S125P	68.23	V DC
FSG	55.64	% STR	S125N	-62.99	V DC
FTG	50	DEG F	CTIM	56	DEG F
FDG1	29.98	INH2O	CPD	148.3	PSIG
FDG2	77.9	INH2O	CTD	645	DEG F
FQG	11.467	#/SEC	TIMR_01	63 715.9	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	231	RPM	FQ_PR	0	RPM
WXC	0.711	RATIO	HPA1	96.2	% H2
WXJ	0.734	RATIO	HPA2	96.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

HOUR LOG ---------- ROLLING AVG ----------

TIME	GAS FUEL #/SEC	WATER #/SEC	ACTUAL RATIO	REQUIRED RATIO	AMBIENT DEG F
09 FEB 93 12:38:00	11.502	8.398	0.730	0.707	56

Unit A-Gas Run #3 Begin

DATA LIST 12 09 FEB 93 12:51:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1006	DEG F
TTXSP1	59	DEG F	TTXD1_4	997	DEG F
TTXSP2	45	DEG F	TTXD1_5	997	DEG F
TTXSP3	44	DEG F	TTXD1_6	1007	DEG F
TTXC	1007	DEG F	TTXD1_7	1008	DEG F
TTXM	1008	DEG F	TTXD1_8	1027	DEG F
BB1	0.13	IPS	TTXD1_9	1029	DEG F
BB2	0.12	IPS	TTXD1_10	1010	DEG F
BB3	0.19	IPS	TTXD1_11	993	DEG F
BB4	0.08	IPS	TTXD1_12	989	DEG F
BB5	0.19	IPS	TTXD1_13	1009	DEG F
BB7	0.03	IPS	TTXD1_14	974	DEG F

TTXD1_1	1013	DEG F	TTXD1_17	1018	DEG F
TTXD1_2	988	DEG F	TTXD1_18	1027	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 12:51:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	147.6	PSIG	WQJ	8.456	#/SEC
CTD	647	DEG F	WSQ	7.248	#/SEC
CTIF1	58	DEG F	TNH	100.1	% SPD
CTIF2	58	DEG F	TNR	103.7	% SPD
DW	73.85	MW	CSGV	82.4	DEG
FSL	0.00	% STR	LTTH	120	DEG F
FSR	56.8	% FSR	S125P	67.07	V DC
FSG	55.57	% STR	S125N	-64.08	V DC
FTG	53	DEG F	CTIM	58	DEG F
FDG1	29.98	INH2O	CPD	147.6	PSIG
FDG2	78.2	INH2O	CTD	647	DEG F
FQG	11.487	#/SEC	TIMR_01	63 716.1	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	232	RPM	FQ_PR	0	RPM
WXC	0.719	RATIO	HPA1	96.2	% H2
WXJ	0.736	RATIO	HPA2	96.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

17 FEB 91 09:54:21.12	108	GENERATOR PURGE CO2 LOW PRESSURE	ALARM
31 DEC 92 22:30:11.75	018	TURBINE AIR INLET CONTROL AIR LOW	ALARM
31 DEC 92 22:30:11.75	042	ATOMIZING AIR DIFF PRESSURE LOW	ALARM
31 DEC 92 22:40:54.00	116	GEN PURGE SYSTEM ON MANUAL CONTROL	ALARM
06 JAN 93 12:01:24.87	232	DIAGNOSTIC ALARM - SEE DISPLAY	ALARM

DATA LIST 12 09 FEB 93 13:06:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1007	DEG F
TTXSP1	62	DEG F	TTXD1_4	997	DEG F
TTXSP2	48	DEG F	TTXD1_5	999	DEG F
TTXSP3	44	DEG F	TTXD1_6	1005	DEG F
TTXC	1009	DEG F	TTXD1_7	1010	DEG F
TTXM	1008	DEG F	TTXD1_8	1030	DEG F
BB1	0.13	IPS	TTXD1_9	1033	DEG F
BB2	0.13	IPS	TTXD1_10	1013	DEG F
BB3	0.19	IPS	TTXD1_11	999	DEG F
BB4	0.08	IPS	TTXD1_12	993	DEG F
BB5	0.18	IPS	TTXD1_13	1009	DEG F
BB7	0.03	IPS	TTXD1_14	975	DEG F
BB8	0.02	IPS	TTXD1_15	995	DEG F
BB9	0.01	IPS	TTXD1_16	1037	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 13:06:07 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	147.8	PSIG	WQJ	8.605	#/SEC
CTD	647	DEG F	WSQ	6.841	#/SEC
CTIF1	58	DEG F	TNH	100.0	% SPD
CTIF2	58	DEG F	TNR	103.7	% SPD
DW	73.10	MW	CSGV	82.4	DEG
FSL	-0.06	% STR	LTTH	119	DEG F
FSR	56.5	% FSR	S125P	68.02	V DC
FSG	55.29	% STR	S125N	-63.20	V DC
FTG	51	DEG F	CTIM	58	DEG F
FDG1	29.98	INH2O	CPD	147.8	PSIG
FDG2	77.2	INH2O	CTD	647	DEG F
FQG	11.430	#/SEC	TIMR_01	63 716.4	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	237	RPM	FQ_PR	0	RPM
WXC	0.717	RATIO	HPA1	96.2	% H2
WXJ	0.752	RATIO	HPA2	96.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 13:21:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1007	DEG F
TTXSP1	56	DEG F	TTXD1_4	999	DEG F
TTXSP2	47	DEG F	TTXD1_5	999	DEG F
TTXSP3	42	DEG F	TTXD1_6	1004	DEG F
TTXC	1009	DEG F	TTXD1_7	1009	DEG F
TTXM	1008	DEG F	TTXD1_8	1030	DEG F
BB1	0.13	IPS	TTXD1_9	1032	DEG F
BB2	0.13	IPS	TTXD1_10	1013	DEG F
BB3	0.18	IPS	TTXD1_11	997	DEG F
BB4	0.08	IPS	TTXD1_12	993	DEG F
BB5	0.18	IPS	TTXD1_13	1009	DEG F
BB7	0.03	IPS	TTXD1_14	980	DEG F
BB8	0.03	IPS	TTXD1_15	997	DEG F
BB9	0.01	IPS	TTXD1_16	1036	DEG F
TTXD1_1	1014	DEG F	TTXD1_17	1020	DEG F
TTXD1_2	988	DEG F	TTXD1_18	1032	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 13:21:07 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS

CTIF1	58	DEG F	TNH	100.0	% SPD
CTIF2	57	DEG F	TNR	103.7	% SPD
→ DW	73.38	MW	CSGV	82.6	DEG
FSL	-0.06	% STR	LTTH	121	DEG F
FSR	56.7	% FSR	S125P	68.16	V DC
FSG	55.64	% STR	S125N	-63.13	V DC
FTG	51	DEG F	CTIM	58	DEG F
FDG1	29.98	INH2O	CPD	147.9	PSIG
FDG2	77.9	INH2O	CTD	648	DEG F
→ FQG	11.447	#/SEC	TIMR_01	63 716.6	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	240	RPM	FQ_PR	0	RPM
WXC	0.720	RATIO	HPA1	96.2	% H2
WXJ	0.762	RATIO	HPA2	96.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

17 FEB 91 09:54:21.12	108	GENERATOR PURGE CO2 LOW PRESSURE	ALARM
31 DEC 92 22:30:11.75	018	TURBINE AIR INLET CONTROL AIR LOW	ALARM
31 DEC 92 22:30:11.75	042	ATOMIZING AIR DIFF PRESSURE LOW	ALARM
31 DEC 92 22:40:54.00	116	GEN PURGE SYSTEM ON MANUAL CONTROL	ALARM
06 JAN 93 12:01:24.87	232	DIAGNOSTIC ALARM - SEE DISPLAY	ALARM

DATA LIST 12 DEMAND DISPLAY 09 FEB 93 13:36:01 PAGE000

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1005	DEG F
TTXSP1	62	DEG F	TTXD1_4	996	DEG F
TTXSP2	47	DEG F	TTXD1_5	999	DEG F
TTXSP3	45	DEG F	TTXD1_6	1004	DEG F
TTXC	1008	DEG F	TTXD1_7	1008	DEG F
TTXM	1008	DEG F	TTXD1_8	1029	DEG F
BB1	0.13	IPS	TTXD1_9	1030	DEG F
BB2	0.13	IPS	TTXD1_10	1012	DEG F
BB3	0.18	IPS	TTXD1_11	996	DEG F
BB4	0.08	IPS	TTXD1_12	989	DEG F
BB5	0.18	IPS	TTXD1_13	1010	DEG F
BB7	0.03	IPS	TTXD1_14	973	DEG F
BB8	0.03	IPS	TTXD1_15	995	DEG F
BB9	0.01	IPS	TTXD1_16	1037	DEG F
TTXD1_1	1014	DEG F	TTXD1_17	1021	DEG F
TTXD1_2	988	DEG F	TTXD1_18	1028	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 13:36:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	147.6	PSIG	→ WQJ	8.336	#/SEC
CTD	648	DEG F	WSO	7.147	#/SEC

→ DW	73.57	MW	CSGV	83.0	DEG
FSL	0.00	% STR	LTTH	121	DEG F
FSR	56.5	% FSR	S125P	67.29	V DC
FSG	55.36	% STR	S125N	-64.01	V DC
FTG	52	DEG F	CTIM	58	DEG F
FDG1	29.98	INH2O	CPD	147.6	PSIG
FDG2	77.7	INH2O	CTD	648	DEG F
→ FQG	11.440	#/SEC	TIMR_01	63 716.9	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	230	RPM	FQ_PR	0	RPM
WXC	0.715	RATIO	HPA1	96.2	% H2
WXJ	0.729	RATIO	HPA2	96.4	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

WQJ = 8.466
FQG = 11.451
DW = 73.48
Unit A - Gas Run # 3 End

UNIT - A

HOUR LOG ---------- ROLLING AVG ----------

TIME	GAS FUEL #/SEC	WATER #/SEC	ACTUAL RATIO	REQUIRED RATIO	AMBIENT DEG F
09 FEB 93 13:38:00	11.461	8.500	0.742	0.718	58

DATA LIST 12 09 FEB 93 13:51:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1008	DEG F
TTXSP1	56	DEG F	TTXD1_4	997	DEG F
TTXSP2	49	DEG F	TTXD1_5	996	DEG F
TTXSP3	44	DEG F	TTXD1_6	1004	DEG F
TTXC	1007	DEG F	TTXD1_7	1006	DEG F
TTXM	1008	DEG F	TTXD1_8	1025	DEG F
BB1	0.13	IPS	TTXD1_9	1028	DEG F
BB2	0.13	IPS	TTXD1_10	1009	DEG F
BB3	0.18	IPS	TTXD1_11	995	DEG F
BB4	0.08	IPS	TTXD1_12	989	DEG F
BB5	0.18	IPS	TTXD1_13	1007	DEG F
BB7	0.03	IPS	TTXD1_14	978	DEG F
BB8	0.03	IPS	TTXD1_15	995	DEG F
BB9	0.01	IPS	TTXD1_16	1035	DEG F
TTXD1_1	1011	DEG F	TTXD1_17	1020	DEG F
TTXD1_2	988	DEG F	TTXD1_18	1028	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 13:51:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	148.4	PSIG	WQJ	8.675	#/SEC

CTD	58	DEG F	TNR	82.5	DEG F
CTIF1	59	DEG F	CSGV	121	V DC
CTIF2	73.95	MW	LTTH	70.35	V DC
DW	-0.07	% STR	S125P	-60.87	DEG F
FSL	56.7	% FSR	S125N	59	PSIG
FSR	55.43	% STR	CTIM	148.4	DEG F
FSG	49	DEG F	CPD	646	HOURS
FTG	29.98	INH2O	CTD	63 717.1	
FDG1	78.2	INH2O	TIMR_01	#3#4#7#8	RPM
FDG2	11.490	#/SEC	FLAME	0	% H2
FQG	0.000	#/SEC	FQ_PR	96.2	% H2
FQ	238	RPM	HPA1	96.4	
WQJF_PR	0.719	RATIO	HPA2		
WXC	0.754	RATIO			
WXJ					

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

09 FEB 93 14:06:01 PAGE

DATA LIST 12 DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1006	DEG F
TTXSP1	52	DEG F	TTXD1_4	996	DEG F
TTXSP2	44	DEG F	TTXD1_5	996	DEG F
TTXSP3	38	DEG F	TTXD1_6	1004	DEG F
TTXC	1008	DEG F	TTXD1_7	1007	DEG F
TTXM	1007	IPS	TTXD1_8	1012	DEG F
BB2	0.13	IPS	TTXD1_9	1011	DEG F
BB3	0.18	IPS	TTXD1_10	997	DEG F
BB4	0.08	IPS	TTXD1_11	994	DEG F
BB5	0.18	IPS	TTXD1_12	1005	DEG F
BB7	0.03	IPS	TTXD1_13	979	DEG F
BB8	0.03	IPS	TTXD1_14	1001	DEG F
BB9	0.01	DEG F	TTXD1_15	1033	DEG F
TTXD1_1	1011	DEG F	TTXD1_16	1017	DEG F
TTXD1_2	988		TTXD1_17	1031	
			TTXD1_18		

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

09 FEB 93 14:06:08

DATA LIST 12 DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	147.9	PSIG	WQJ	8.486	#/SE
CTD	645	DEG F	WSQ	6.705	#/SE
CTIF1	57	DEG F	TNH	100.0	% SF
CTIF2	57	MW	TNR	103.7	% SI
DW	73.76	% STR	CSGV	82.3	DEG
FSL	0.05	% FSR	LTTH	120	DEG
FSR	56.6	% STR	S125P	67.87	V I
FSG	55.43	DEG F	S125N	-63.28	V I
FTG	46	INH2O	CTIM	57	DE
FDG1	29.98	INH2O	CPD	147.9	PS
	77.9	#/SEC	CTD	645	DE
			TIMR_01	63 717.4	HO
			FLAME	#3#4#7#8	

WXJ	0.738	RATIO	HPA2	96.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

17 FEB 91 09:54:21.12	108	GENERATOR PURGE CO2 LOW PRESSURE	ALARM
31 DEC 92 22:30:11.75	018	TURBINE AIR INLET CONTROL AIR LOW	ALARM
31 DEC 92 22:30:11.75	042	ATOMIZING AIR DIFF PRESSURE LOW	ALARM
31 DEC 92 22:40:54.00	116	GEN PURGE SYSTEM ON MANUAL CONTROL	ALARM
06 JAN 93 12:01:24.87	232	DIAGNOSTIC ALARM - SEE DISPLAY	ALARM

DATA LIST 12 09 FEB 93 14:21:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1009	DEG F
TTXSP1	54	DEG F	TTXD1_4	997	DEG F
TTXSP2	44	DEG F	TTXD1_5	997	DEG F
TTXSP3	41	DEG F	TTXD1_6	1001	DEG F
TTXC	1006	DEG F	TTXD1_7	1004	DEG F
TTXM	1006	DEG F	TTXD1_8	1028	DEG F
BB1	0.13	IPS	TTXD1_9	1027	DEG F
BB2	0.13	IPS	TTXD1_10	1008	DEG F
BB3	0.19	IPS	TTXD1_11	995	DEG F
BB4	0.08	IPS	TTXD1_12	992	DEG F
BB5	0.18	IPS	TTXD1_13	1006	DEG F
BB7	0.03	IPS	TTXD1_14	979	DEG F
BB8	0.03	IPS	TTXD1_15	993	DEG F
BB9	0.01	IPS	TTXD1_16	1033	DEG F
TTXD1_1	1009	DEG F	TTXD1_17	1019	DEG F
TTXD1_2	988	DEG F	TTXD1_18	1028	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 14:21:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	148.5	PSIG	WQJ	8.495	#/SEC
CTD	642	DEG F	WSQ	6.678	#/SEC
CTIF1	55	DEG F	TNH	100.1	% SPD
CTIF2	54	DEG F	TNR	103.7	% SPD
DW	74.52	MW	CSGV	82.6	DEG
FSL	-0.01	% STR	LTTH	118	DEG F
FSR	56.6	% FSR	S125P	68.31	V DC
FSG	55.50	% STR	S125N	-62.99	V DC
FTG	43	DEG F	CTIM	55	DEG F
FDG1	29.98	INH2O	CPD	148.5	PSIG
FDG2	78.9	INH2O	CTD	642	DEG F
FQG	11.584	#/SEC	TIMR_01	63 717.6	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	

HOUR LOG ---------- ROLLING AVG ----------

TIME	GAS FUEL #/SEC	WATER #/SEC	ACTUAL RATIO	REQUIRED RATIO	AMBIENT DEG F
09 FEB 93 17:50:00	11.667	7.831	0.671	0.643	57

DATA LIST 12 09 FEB 93 17:54:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	146.0	PSIG	→ WQJ	7.797	#/SEC
CTD	630	DEG F	WSQ	6.978	#/SEC
CTIF1	55	DEG F	TNH	100.0	% SPD
CTIF2	57	DEG F	TNR	103.9	% SPD
→ DW	74.08	MW	CSGV	83.6	DEG
FSL	0.00	% STR	LTTH	119	DEG F
FSR	57.0	% FSR	S125P	66.41	V DC
FSG	55.15	% STR	S125N	-64.44	V DC
FTG	36	DEG F	CTIM	57	DEG F
FDG1	29.98	INH20	CPD	146.0	PSIG
FDG2	78.8	INH20	CTD	630	DEG F
→ FQG	11.741	#/SEC	TIMR_01	63 924.2	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	215	RPM	FQ_PR	0	RPM
WXC	0.644	RATIO	HPA1	92.4	% H2
WXJ	0.665	RATIO	HPA2	94.4	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 17:54:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1029	DEG F
TTXSP1	57	DEG F	TTXD1_4	1011	DEG F
TTXSP2	53	DEG F	TTXD1_5	1014	DEG F
TTXSP3	47	DEG F	TTXD1_6	1007	DEG F
TTXC	1010	DEG F	TTXD1_7	1011	DEG F
TTXM	1011	DEG F	TTXD1_8	1003	DEG F
BB1	0.07	IPS	TTXD1_9	1032	DEG F
BB2	0.07	IPS	TTXD1_10	1017	DEG F
BB3	0.23	IPS	TTXD1_11	1012	DEG F
BB4	0.12	IPS	TTXD1_12	1009	DEG F
BB5	0.09	IPS	TTXD1_13	1029	DEG F
BB7	0.03	IPS	TTXD1_14	979	DEG F
BB8	0.04	IPS	TTXD1_15	1005	DEG F
BB9	0.03	IPS	TTXD1_16	1029	DEG F
TTXD1_1	983	DEG F	TTXD1_17	976	DEG F
TTXD1_2	1003	DEG F	TTXD1_18	1013	DEG F

ALARM STATUS 09 FEB 93 15:22:19 PAGE 01

NEXT PAGE

DATE	TIME	DROP	ALARM
08 FEB 93	21:19:39.00	229 1	FIRE DETECTOR SYSTEM TROUBLE
6 FEB 93	21:19:45.12	075 1	AUTO SYNCHRONIZING LOCKOUT
7 JAN 93	10:53:56.00	116 1	GEN PURGE SYSTEM ON MANUAL CONTROL
27 JAN 93	10:45:49.87	042 1	ATOMIZING AIR DIFF PRESSURE LOW
7 JAN 93	10:41:45.00	018 1	TURBINE AIR INLET CONTROL AIR LOW
7 JAN 93	10:38:24.62	134 1	VIBRATION ALERT
00 000 00	00:00:01.62	108 1	GENERATOR PURGE CO2 LOW PRESSURE

DIAGN ALARM

ALARM LOCOUT

ALARM UNLOC

ALARM ACK

LOAD STATUS 09 FEB 93 15:22:26

KRCC — Unit B-Gas

BREAKER 52G	CLOSED	VOLTS1	14.48KVOLT
		VOLTS2	14.46KVOLT
FLD AMPS	804.2	VOLTS3	14.50KVOLT
FLD VOLTS	225.6	AMPS1	3120AMP
REQ	60.01HZ	AMPS2	3117AMP
WATTS	73.83MW	AMPS3	3096AMP
ARS	19.20 LAG		

SELECT:

CTIM	57 DEG F	ALARM ACK
WQJF_PR	217 RPM	
FQG	11.675 #/SEC	

ACKNOWLEDGED ALARMS: 7

Unit B-Gas Begin Run #1

DATA LIST 12 09 FEB 93 15:24:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS

CTIF1	56	DEG F	TNH	100.0	% SPD
CTIF2	57	DEG F	TNR	103.9	% SPD
→ DW	73.33	MW	CSGV	83.6	DEG
FSL	-0.06	% STR	LTTH	118	DEG F
FSR	57.4	% FSR	S125P	65.97	V DC
FSG	55.36	% STR	S125N	-64.81	V DC
FTG	42	DEG F	CTIM	57	DEG F
FDG1	29.98	INH20	CPD	145.7	PSIG
FDG2	78.9	INH20	CTD	629	DEG F
→ FQG	11.705	#/SEC	TIMR_01	63 921.7	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	216	RPM	FQ_PR	0	RPM
WXC	0.641	RATIO	HPA1	92.8	% H2
WXJ	0.670	RATIO	HPA2	94.3	% H2

7 7.817

KRCC — Unit B Gas

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 15:24:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	140	DEG F	TTXD1_3	1030	DEG F
TTXSP1	55	DEG F	TTXD1_4	1010	DEG F
TTXSP2	48	DEG F	TTXD1_5	1014	DEG F
TTXSP3	43	DEG F	TTXD1_6	1006	DEG F
TTXC	1011	DEG F	TTXD1_7	1011	DEG F
TTXM	1012	DEG F	TTXD1_8	1006	DEG F
BB1	0.07	IPS	TTXD1_9	1031	DEG F
BB2	0.07	IPS	TTXD1_10	1016	DEG F
BB3	0.23	IPS	TTXD1_11	1016	DEG F
BB4	0.12	IPS	TTXD1_12	1013	DEG F
BB5	0.10	IPS	TTXD1_13	1031	DEG F
BB7	0.04	IPS	TTXD1_14	984	DEG F
BB8	0.04	IPS	TTXD1_15	1008	DEG F
BB9	0.02	IPS	TTXD1_16	1031	DEG F
TTXD1_1	988	DEG F	TTXD1_17	976	DEG F
TTXD1_2	1006	DEG F	TTXD1_18	1014	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 15:39:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	145.3	PSIG	→ WQJ	7.937	#/SEC
CTD	631	DEG F	WSQ	7.449	#/SEC
CTIF1	57	DEG F	TNH	100.0	% SPD
CTIF2	58	DEG F	TNR	103.9	% SPD
→ DW	73.65	MW	CSGV	83.6	DEG
FSL	-0.06	% STR	LTTH	119	DEG F
FSR	57.4	% FSR	S125P	65.83	V DC
FSG	55.36	% STR	S125N	-64.88	V DC

→ FQG	11.700	#/SEC	TIMR_01	63 922.0	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	218	RPM	FQ_PR	0	RPM
WXC	0.648	RATIO	HPA1	92.7	% H2
WXJ	0.679	RATIO	HPA2	94.2	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 15:39:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1030	DEG F
TTXSP1	57	DEG F	TTXD1_4	1012	DEG F
TTXSP2	52	DEG F	TTXD1_5	1014	DEG F
TTXSP3	46	DEG F	TTXD1_6	1006	DEG F
TTXC	1011	DEG F	TTXD1_7	1012	DEG F
TTXM	1011	DEG F	TTXD1_8	1006	DEG F
BB1	0.07	IPS	TTXD1_9	1033	DEG F
BB2	0.08	IPS	TTXD1_10	1017	DEG F
BB3	0.23	IPS	TTXD1_11	1020	DEG F
BB4	0.11	IPS	TTXD1_12	1012	DEG F
BB5	0.09	IPS	TTXD1_13	1029	DEG F
BB7	0.03	IPS	TTXD1_14	981	DEG F
BB8	0.04	IPS	TTXD1_15	1007	DEG F
BB9	0.03	IPS	TTXD1_16	1031	DEG F
TTXD1_1	988	DEG F	TTXD1_17	978	DEG F
TTXD1_2	1006	DEG F	TTXD1_18	1014	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

HOUR LOG ---------- ROLLING AVG ----------

TIME	GAS FUEL #/SEC	WATER #/SEC	ACTUAL RATIO	REQUIRED RATIO	AMBIENT DEG F
09 FEB 93 15:50:00	11.743	7.888	0.672	0.644	55

DATA LIST 12 09 FEB 93 15:54:02 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	145.4	PSIG	→ WQJ	7.787	#/SEC
CTD	631	DEG F	WSQ	6.843	#/SEC
CTIF1	57	DEG F	TNH	100.0	% SPD
CTIF2	57	DEG F	TNR	103.9	% SPD
→ DW	73.21	MW	CSGV	83.6	DEG

FTG	46	DEG F	CTIM	57	DEG F
FDG1	29.98	INH20	CPD	145.4	PSIG
FDG2	78.6	INH20	CTD	631	DEG F
→ FQG	11.617	#/SEC	TIMR_01	63 922.2	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	215	RPM	FQ_PR	0	RPM
WXC	0.636	RATIO	HPA1	92.6	% H2
WXJ	0.669	RATIO	HPA2	94.3	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 15:54:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1032	DEG F
TTXSP1	55	DEG F	TTXD1_4	1014	DEG F
TTXSP2	52	DEG F	TTXD1_5	1012	DEG F
TTXSP3	47	DEG F	TTXD1_6	1009	DEG F
TTXC	1013	DEG F	TTXD1_7	1014	DEG F
TTXM	1012	DEG F	TTXD1_8	1007	DEG F
BB1	0.07	IPS	TTXD1_9	1034	DEG F
BB2	0.07	IPS	TTXD1_10	1020	DEG F
BB3	0.20	IPS	TTXD1_11	1016	DEG F
BB4	0.12	IPS	TTXD1_12	1014	DEG F
BB5	0.10	IPS	TTXD1_13	1034	DEG F
BB7	0.03	IPS	TTXD1_14	983	DEG F
BB8	0.04	IPS	TTXD1_15	1011	DEG F
BB9	0.03	IPS	TTXD1_16	1033	DEG F
TTXD1_1	987	DEG F	TTXD1_17	980	DEG F
TTXD1_2	1008	DEG F	TTXD1_18	1016	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

WQJ = 7.847
FQG = 11.674
DW = 73.40

Unit B- Gas End Run #1

DATA LIST 12 09 FEB 93 16:09:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	145.0	PSIG	WQJ	7.778	#/SEC
CTD	632	DEG F	WSQ	6.783	#/SEC
CTIF1	58	DEG F	TNH	100.0	% SPD
CTIF2	58	DEG F	TNR	103.9	% SPD
DW	73.27	MW	CSGV	83.6	DEG
FSL	-0.06	% STR	LTTH	120	DEG F
FSR	57.2	% FSR	S125P	66.41	V DC
FSG	55.29	% STR	S125N	-64.44	V DC
FTG	45	DEG F	CTIM	58	DEG F
FDG1	29.98	INH20	CPD	145.0	PSIG
FDG2	78.8	INH20	CTD	632	DEG F
FQG	11.635	#/SEC	TIMR_01	63 922.5	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	214	RPM	FQ_PR	0	RPM
WXC	0.637	RATIO	HPA1	93.7	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1034	DEG F
TTXSP1	59	DEG F	TTXD1_4	1013	DEG F
TTXSP2	54	DEG F	TTXD1_5	1013	DEG F
TTXSP3	51	DEG F	TTXD1_6	1008	DEG F
TTXC	1013	DEG F	TTXD1_7	1013	DEG F
TTXM	1012	DEG F	TTXD1_8	1008	DEG F
BB1	0.07	IPS	TTXD1_9	1036	DEG F
BB2	0.07	IPS	TTXD1_10	1019	DEG F
BB3	0.23	IPS	TTXD1_11	1018	DEG F
BB4	0.11	IPS	TTXD1_12	1015	DEG F
BB5	0.09	IPS	TTXD1_13	1033	DEG F
BB7	0.03	IPS	TTXD1_14	985	DEG F
BB8	0.04	IPS	TTXD1_15	1011	DEG F
BB9	0.03	IPS	TTXD1_16	1032	DEG F
TTXD1_1	988	DEG F	TTXD1_17	977	DEG F
TTXD1_2	1008	DEG F	TTXD1_18	1016	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

Unit B-Gas Begin Run #2

09 FEB 93 16:19:01.87 229 FIRE DETECTOR SYSTEM TROUBLE NORMAL

DATA LIST 12 09 FEB 93 16:24:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	145.0	PSIG	→ WQJ	7.648	#/SEC
CTD	632	DEG F	WSQ	6.669	#/SEC
CTIF1	58	DEG F	TNH	100.0	% SPD
CTIF2	58	DEG F	TNR	103.9	% SPD
→ DW	73.03	MW	CSGV	83.6	DEG
FSL	-0.06	% STR	LTTH	119	DEG F
FSR	57.2	% FSR	S125P	66.05	V DC
FSG	55.22	% STR	S125N	-64.66	V DC
FTG	45	DEG F	CTIM	58	DEG F
FDG1	29.98	INH20	CPD	145.0	PSIG
FDG2	78.8	INH20	CTD	632	DEG F
→ FQG	11.623	#/SEC	TIMR_01	63 922.7	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	210	RPM	FQ_PR	0	RPM
WXC	0.642	RATIO	HPA1	92.6	% H2
WXJ	0.657	RATIO	HPA2	94.3	% H2

REMOTE LINK HEALTHY

DATA LIST 12 09 FEB 93 16:24:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	275	DEG F	TTXD1_3	1030	DEG F
TTXSP1	59	DEG F	TTXD1_4	1013	DEG F
TTXSP2	51	DEG F	TTXD1_5	1013	DEG F
TTXSP3	48	DEG F	TTXD1_6	1006	DEG F
TTXC	1012	DEG F	TTXD1_7	1013	DEG F
TTXM	1012	DEG F	TTXD1_8	1005	DEG F
BB1	0.07	IPS	TTXD1_9	1035	DEG F
BB2	0.07	IPS	TTXD1_10	1017	DEG F
BB3	0.22	IPS	TTXD1_11	1017	DEG F
BB4	0.12	IPS	TTXD1_12	1014	DEG F
BB5	0.10	IPS	TTXD1_13	1030	DEG F
BB7	0.03	IPS	TTXD1_14	984	DEG F
BB8	0.04	IPS	TTXD1_15	1008	DEG F
BB9	0.03	IPS	TTXD1_16	1032	DEG F
TTXD1_1	988	DEG F	TTXD1_17	978	DEG F
TTXD1_2	1005	DEG F	TTXD1_18	1017	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	144.9	PSIG	→ WQJ	7.698	#/SEC
CTD	631	DEG F	WSQ	6.899	#/SEC
CTIF1	57	DEG F	TNH	100.0	% SPD
CTIF2	58	DEG F	TNR	103.9	% SPD
→ DW	73.21	MW	CSGV	83.6	DEG
FSL	0.00	% STR	LTTH	119	DEG F
FSR	57.0	% FSR	S125P	65.97	V DC
FSG	55.01	% STR	S125N	-64.74	V DC
FTG	43	DEG F	CTIM	58	DEG F
FDG1	29.98	INH20	CPD	144.9	PSIG
FDG2	78.5	INH20	CTD	631	DEG F
→ FQG	11.634	#/SEC	TIMR_01	63 923.0	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	212	RPM	FQ_PR	0	RPM
WXC	0.642	RATIO	HPA1	92.4	% H2
WXJ	0.659	RATIO	HPA2	94.3	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	274	DEG F	TTXD1_3	1031	DEG F

TTXSP3	46	DEG F	TTXD1_6	1010	DEG F
TTXC	1013	DEG F	TTXD1_7	1012	DEG F
TTXM	1013	DEG F	TTXD1_8	1008	DEG F
BB1	0.07	IPS	TTXD1_9	1035	DEG F
BB2	0.07	IPS	TTXD1_10	1019	DEG F
BB3	0.21	IPS	TTXD1_11	1018	DEG F
BB4	0.12	IPS	TTXD1_12	1015	DEG F
BB5	0.10	IPS	TTXD1_13	1032	DEG F
BB7	0.03	IPS	TTXD1_14	986	DEG F
BB8	0.04	IPS	TTXD1_15	1007	DEG F
BB9	0.03	IPS	TTXD1_16	1030	DEG F
TTXD1_1	989	DEG F	TTXD1_17	977	DEG F
TTXD1_2	1008	DEG F	TTXD1_18	1018	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

HOUR LOG ---------- ROLLING AVG ----------

TIME	GAS FUEL #/SEC	WATER #/SEC	ACTUAL RATIO	REQUIRED RATIO	AMBIENT DEG F
09 FEB 93 16:50:00	11.628	7.743	0.666	0.641	58

DATA LIST 12 09 FEB 93 16:54:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	145.4	PSIG	→ WQJ	7.758	#/SEC
CTD	632	DEG F	WSQ	7.219	#/SEC
CTIF1	57	DEG F	TNH	100.0	% SPD
CTIF2	58	DEG F	TNR	103.9	% SPD
→ DW	73.40	MW	CSGV	83.6	DEG
FSL	0.00	% STR	LTTH	120	DEG F
FSR	57.1	% FSR	S125P	66.19	V DC
FSG	55.22	% STR	S125N	-64.59	V DC
FTG	42	DEG F	CTIM	58	DEG F
FDG1	29.98	INH20	CPD	145.4	PSIG
FDG2	78.0	INH20	CTD	632	DEG F
→ FQG	11.635	#/SEC	TIMR_01	63 923.2	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	213	RPM	FQ_PR	0	RPM
WXC	0.645	RATIO	HPA1	92.4	% H2
WXJ	0.666	RATIO	HPA2	94.3	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

TTXSPL	259	DEG F	TTXD1_3	1032	DEG F
TTXSP1	62	DEG F	TTXD1_4	1012	DEG F
TTXSP2	56	DEG F	TTXD1_5	1010	DEG F
TTXSP3	48	DEG F	TTXD1_6	1005	DEG F
TTXC	1012	DEG F	TTXD1_7	1012	DEG F
TTXM	1012	DEG F	TTXD1_8	1005	DEG F
BB1	0.07	IPS	TTXD1_9	1035	DEG F
BB2	0.07	IPS	TTXD1_10	1019	DEG F
BB3	0.23	IPS	TTXD1_11	1020	DEG F
BB4	0.12	IPS	TTXD1_12	1013	DEG F
BB5	0.10	IPS	TTXD1_13	1029	DEG F
BB7	0.03	IPS	TTXD1_14	981	DEG F
BB8	0.04	IPS	TTXD1_15	1005	DEG F
BB9	0.03	IPS	TTXD1_16	1031	DEG F
TTXD1_1	988	DEG F	TTXD1_17	974	DEG F
TTXD1_2	1005	DEG F	TTXD1_18	1015	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

WQJ = 7.701
FQG = 11.631
DW = 73.21

Unit B- Gas End Run #2

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	145.5	PSIG	WQJ	7.877	#/SEC
CTD	633	DEG F	WSQ	7.489	#/SEC
CTIF1	57	DEG F	TNH	100.0	% SPD
CTIF2	58	DEG F	TNR	103.9	% SPD
DW	73.52	MW	CSGV	83.6	DEG
FSL	0.00	% STR	LTTH	120	DEG F
FSR	57.1	% FSR	S125P	65.83	V DC
FSG	55.15	% STR	S125N	-64.95	V DC
FTG	40	DEG F	CTIM	58	DEG F
FDG1	29.98	INH20	CPD	145.5	PSIG
FDG2	78.8	INH20	CTD	633	DEG F
FQG	11.709	#/SEC	TIMR_01	63 923.5	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	216	RPM	FQ_PR	0	RPM
WXC	0.648	RATIO	HPA1	92.4	% H2
WXJ	0.674	RATIO	HPA2	94.3	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1030	DEG F
TTXSP1	64	DEG F	TTXD1_4	1014	DEG F
TTXSP2	60	DEG F	TTXD1_5	1015	DEG F
TTXSP3	50	DEG F	TTXD1_6	1007	DEG F
TTXC	1012	DEG F	TTXD1_7	1013	DEG F
TTXM	1011	DEG F	TTXD1_8	1005	DEG F

BB4	0.12	IPS	TTXD1_12	1013	DEG F
BB5	0.10	IPS	TTXD1_13	1032	DEG F
BB7	0.03	IPS	TTXD1_14	979	DEG F
BB8	0.04	IPS	TTXD1_15	1004	DEG F
BB9	0.03	IPS	TTXD1_16	1031	DEG F
TTXD1_1	987	DEG F	TTXD1_17	976	DEG F
TTXD1_2	1005	DEG F	TTXD1_18	1014	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

09 FEB 93 17:19:31.50 229 FIRE DETECTOR SYSTEM TROUBLE ALARM

Unit B - Gas Beam Run #3

DATA LIST 12 09 FEB 93 17:24:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	145.8	PSIG	→ WQJ	7.857	#/SEC
CTD	632	DEG F	WSQ	7.278	#/SEC
CTIF1	56	DEG F	TNH	100.0	% SPD
CTIF2	57	DEG F	TNR	103.9	% SPD
→ DW	73.77	MW	CSGV	83.6	DEG
FSL	-0.06	% STR	LTTH	119	DEG F
FSR	57.1	% FSR	S125P	66.41	V DC
FSG	55.22	% STR	S125N	-64.44	V DC
FTG	39	DEG F	CTIM	57	DEG F
FDG1	29.98	INH20	CPD	145.8	PSIG
FDG2	78.1	INH20	CTD	632	DEG F
→ FQG	11.631	#/SEC	TIMR_01	63 923.7	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	216	RPM	FQ_PR	0	RPM
WXC	0.638	RATIO	HPA1	92.4	% H2
WXJ	0.675	RATIO	HPA2	94.3	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 17:24:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1032	DEG F
TTXSP1	59	DEG F	TTXD1_4	1014	DEG F
TTXSP2	56	DEG F	TTXD1_5	1015	DEG F
TTXSP3	50	DEG F	TTXD1_6	1008	DEG F
TTXC	1012	DEG F	TTXD1_7	1014	DEG F
TTXM	1011	DEG F	TTXD1_8	1005	DEG F
BB1	0.07	IPS	TTXD1_9	1036	DEG F
BB2	0.07	IPS	TTXD1_10	1020	DEG F
BB3	0.23	IPS	TTXD1_11	1017	DEG F
BB4	0.11	IPS	TTXD1_12	1014	DEG F

BB8	0.04	IPS	TTXD1_15	1004	DEG F
BB9	0.03	IPS	TTXD1_16	1030	DEG F
TTXD1_1	986	DEG F	TTXD1_17	977	DEG F
TTXD1_2	1005	DEG F	TTXD1_18	1015	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 17:39:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	145.8	PSIG	→WQJ	7.808	#/SEC
CTD	630	DEG F	WSQ	6.900	#/SEC
CTIF1	56	DEG F	TNH	100.0	% SPD
CTIF2	57	DEG F	TNR	103.9	% SPD
→DW	73.71	MW	CSGV	83.6	DEG
FSL	-0.06	% STR	LTTH	119	DEG F
FSR	57.0	% FSR	S125P	65.76	V DC
FSG	55.15	% STR	S125N	-65.10	V DC
FTG	37	DEG F	CTIM	57	DEG F
FDG1	29.98	INH20	CPD	145.8	PSIG
FDG2	77.9	INH20	CTD	630	DEG F
→FQG	11.680	#/SEC	TIMR_01	63 924.0	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	215	RPM	FQ_PR	0	RPM
WXC	0.640	RATIO	HPA1	92.4	% H2
WXJ	0.668	RATIO	HPA2	94.3	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 17:39:07 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	265	DEG F	TTXD1_3	1030	DEG F
TTXSP1	59	DEG F	TTXD1_4	1012	DEG F
TTXSP2	56	DEG F	TTXD1_5	1013	DEG F
TTXSP3	49	DEG F	TTXD1_6	1007	DEG F
TTXC	1011	DEG F	TTXD1_7	1012	DEG F
TTXM	1011	DEG F	TTXD1_8	1005	DEG F
BB1	0.07	IPS	TTXD1_9	1035	DEG F
BB2	0.07	IPS	TTXD1_10	1021	DEG F
BB3	0.23	IPS	TTXD1_11	1016	DEG F
BB4	0.11	IPS	TTXD1_12	1011	DEG F
BB5	0.09	IPS	TTXD1_13	1031	DEG F
BB7	0.03	IPS	TTXD1_14	978	DEG F
BB8	0.04	IPS	TTXD1_15	1006	DEG F
BB9	0.03	IPS	TTXD1_16	1030	DEG F
TTXD1_1	985	DEG F	TTXD1_17	977	DEG F
TTXD1_2	1005	DEG F	TTXD1_18	1013	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

HOUR LOG ---------- ROLLING AVG ----------

TIME	GAS FUEL #/SEC	WATER #/SEC	ACTUAL RATIO	REQUIRED RATIO	AMBIENT DEG F
09 FEB 93 17:50:00	11.667	7.831	0.671	0.643	57

DATA LIST 12 09 FEB 93 17:54:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	146.0	PSIG	→ WQJ	7.797	#/SEC
CTD	630	DEG F	WSQ	6.978	#/SEC
CTIF1	55	DEG F	TNH	100.0	% SPD
CTIF2	57	DEG F	TNR	103.9	% SPD
→ DW	74.08	MW	CSGV	83.6	DEG
FSL	0.00	% STR	LTTH	119	DEG F
FSR	57.0	% FSR	S125P	66.41	V DC
FSG	55.15	% STR	S125N	-64.44	V DC
FTG	36	DEG F	CTIM	57	DEG F
FDG1	29.98	INH20	CPD	146.0	PSIG
FDG2	78.8	INH20	CTD	630	DEG F
→ FQG	11.741	#/SEC	TIMR_01	63 924.2	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	215	RPM	FQ_PR	0	RPM
WXC	0.644	RATIO	HPA1	92.4	% H2
WXJ	0.665	RATIO	HPA2	94.4	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 17:54:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1029	DEG F
TTXSP1	57	DEG F	TTXD1_4	1011	DEG F
TTXSP2	53	DEG F	TTXD1_5	1014	DEG F
TTXSP3	47	DEG F	TTXD1_6	1007	DEG F
TTXC	1010	DEG F	TTXD1_7	1011	DEG F
TTXM	1011	DEG F	TTXD1_8	1003	DEG F
BB1	0.07	IPS	TTXD1_9	1032	DEG F
BB2	0.07	IPS	TTXD1_10	1017	DEG F
BB3	0.23	IPS	TTXD1_11	1012	DEG F
BB4	0.12	IPS	TTXD1_12	1009	DEG F
BB5	0.09	IPS	TTXD1_13	1029	DEG F
BB7	0.03	IPS	TTXD1_14	979	DEG F
BB8	0.04	IPS	TTXD1_15	1005	DEG F
BB9	0.03	IPS	TTXD1_16	1029	DEG F
TTXD1_1	983	DEG F	TTXD1_17	976	DEG F
TTXD1_2	1003	DEG F	TTXD1_18	1013	DEG F

LOG PERIOD = 0015 MINUTES

WGJ = 7.821
FQG = 11.684
DW = 73.85

Unit B - Gas End Run #3

DATA LIST 12 09 FEB 93 18:09:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	146.4	PSIG	WQJ	7.808	#/SEC
CTD	629	DEG F	WSQ	6.900	#/SEC
CTIF1	55	DEG F	TNH	100.0	% SPD
CTIF2	56	DEG F	TNR	103.9	% SPD
DW	74.26	MW	CSGV	83.6	DEG
FSL	0.00	% STR	LTTH	119	DEG F
FSR	57.1	% FSR	S125P	65.76	V DC
FSG	55.29	% STR	S125N	-65.03	V DC
FTG	35	DEG F	CTIM	56	DEG F
FDG1	29.98	INH20	CPD	146.4	PSIG
FDG2	78.7	INH20	CTD	629	DEG F
FQG	11.749	#/SEC	TIMR_01	63 924.5	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	215	RPM	FQ_PR	0	RPM
WXC	0.645	RATIO	HPA1	92.3	% H2
WXJ	0.664	RATIO	HPA2	94.4	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 18:09:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1030	DEG F
TTXSP1	56	DEG F	TTXD1_4	1011	DEG F
TTXSP2	53	DEG F	TTXD1_5	1015	DEG F
TTXSP3	47	DEG F	TTXD1_6	1005	DEG F
TTXC	1011	DEG F	TTXD1_7	1011	DEG F
TTXM	1010	DEG F	TTXD1_8	1003	DEG F
BB1	0.07	IPS	TTXD1_9	1036	DEG F
BB2	0.08	IPS	TTXD1_10	1018	DEG F
BB3	0.22	IPS	TTXD1_11	1017	DEG F
BB4	0.11	IPS	TTXD1_12	1013	DEG F
BB5	0.09	IPS	TTXD1_13	1032	DEG F
BB7	0.03	IPS	TTXD1_14	983	DEG F
BB8	0.04	IPS	TTXD1_15	1007	DEG F
BB9	0.03	IPS	TTXD1_16	1034	DEG F
TTXD1_1	988	DEG F	TTXD1_17	977	DEG F
TTXD1_2	1002	DEG F	TTXD1_18	1014	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

UMT B

DATA LIST 12 09 FEB 93 18:24:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	145.8	PSIG	WQJ	7.787	#/SEC
CTD	631	DEG F	WSQ	6.945	#/SEC
CTIF1	56	DEG F	TNH	100.0	% SPD
CTIF2	57	DEG F	TNR	103.9	% SPD
DW	73.77	MW	CSGV	83.6	DEG
FSL	0.00	% STR	LTTH	119	DEG F
FSR	56.9	% FSR	S125P	65.90	V DC
FSG	55.01	% STR	S125N	-65.03	V DC
FTG	34	DEG F	CTIM	57	DEG F
FDG1	29.98	INH20	CPD	145.8	PSIG
FDG2	78.6	INH20	CTD	631	DEG F
FQG	11.724	#/SEC	TIMR_01	63 924.7	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	215	RPM	FQ_PR	0	RPM
WXC	0.649	RATIO	HPA1	92.3	% H2
WXJ	0.665	RATIO	HPA2	94.4	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 18:24:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1030	DEG F
TTXSP1	61	DEG F	TTXD1_4	1010	DEG F
TTXSP2	54	DEG F	TTXD1_5	1010	DEG F
TTXSP3	49	DEG F	TTXD1_6	1005	DEG F
TTXC	1011	DEG F	TTXD1_7	1010	DEG F
TTXM	1011	DEG F	TTXD1_8	1004	DEG F
BB1	0.07	IPS	TTXD1_9	1035	DEG F
BB2	0.07	IPS	TTXD1_10	1019	DEG F
BB3	0.19	IPS	TTXD1_11	1019	DEG F
BB4	0.11	IPS	TTXD1_12	1013	DEG F
BB5	0.10	IPS	TTXD1_13	1031	DEG F
BB7	0.03	IPS	TTXD1_14	982	DEG F
BB8	0.04	IPS	TTXD1_15	1005	DEG F
BB9	0.03	IPS	TTXD1_16	1031	DEG F
TTXD1_1	987	DEG F	TTXD1_17	974	DEG F
TTXD1_2	1004	DEG F	TTXD1_18	1013	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 09 FEB 93 18:39:01 PAGE000

DEMAND DISPLAY

BB1	0.10	IPS	TTXD1_9	1014	DEG F	
BB2	0.10	IPS	TTXD1_10	1019	DEG F	
BB3	0.23	IPS	TTXD1_11	1052	DEG F	DELETE
BB4	0.16	IPS	TTXD1_12	1002	DEG F	ENTRY
BB5	0.15	IPS	TTXD1_13	1036	DEG F	
BB7	0.07	IPS	TTXD1_14	1008	DEG F	
BB8	0.06	IPS	TTXD1_15	984	DEG F	SET LOG
BB9	0.06	IPS	TTXD1_16	1014	DEG F	ON/OFF
TTXD1_1	972	DEG F	TTXD1_17	953	DEG F	
TTXD1_2	961	DEG F	TTXD1_18	1002	DEG F	

SET TIME ON/OFF

KRCC Natural
UNIT-C Gas

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 09:01:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	275	DEG F	TTXD1_3	1019	DEG F
TTXSP1	96	DEG F	TTXD1_4	991	DEG F
TTXSP2	92	DEG F	TTXD1_5	972	DEG F
TTXSP3	80	DEG F	TTXD1_6	977	DEG F
TTXC	997	DEG F	TTXD1_7	991	DEG F
TTXM	997	DEG F	TTXD1_8	985	DEG F
BB1	0.10	IPS	TTXD1_9	1015	DEG F
BB2	0.10	IPS	TTXD1_10	1021	DEG F
BB3	0.22	IPS	TTXD1_11	1050	DEG F
BB4	0.16	IPS	TTXD1_12	1001	DEG F
BB5	0.14	IPS	TTXD1_13	1036	DEG F
BB7	0.07	IPS	TTXD1_14	1008	DEG F
BB8	0.06	IPS	TTXD1_15	986	DEG F
BB9	0.05	IPS	TTXD1_16	1016	DEG F
TTXD1_1	971	DEG F	TTXD1_17	955	DEG F
TTXD1_2	960	DEG F	TTXD1_18	1002	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 09:01:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	154.0	PSIG	WQJ	8.835	#/SEC
CTD	625	DEG F	WSQ	7.451	#/SEC
CTIF1	48	DEG F	TNH	100.0	% SPD
CTIF2	47	DEG F	TNR	103.9	% SPD
DW	80.36	MW	CSGV	83.7	DEG
FSL	0.05	% STR	LTTH	113	DEG F
FSR	60.0	% FSR	S125P	68.16	V DC
FSG	58.80	% STR	S125N	-56.28	V DC
FTG	35	DEG F	CTIM	48	DEG F
FDG1	29.98	INH20	CPD	154.0	PSIG
FDG2	85.5	INH20	CTD	625	DEG F
FQG	12.443	#/SEC	TIMR_01	63 576.5	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF PR	244	RPM	FQ PR	0	RPM

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 09:16:02 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	130	DEG F	TTXD1_3	1023	DEG F
TTXSP1	98	DEG F	TTXD1_4	991	DEG F
TTXSP2	92	DEG F	TTXD1_5	973	DEG F
TTXSP3	79	DEG F	TTXD1_6	978	DEG F
TTXC	998	DEG F	TTXD1_7	992	DEG F
TTXM	996	DEG F	TTXD1_8	989	DEG F
BB1	0.10	IPS	TTXD1_9	1018	DEG F
BB2	0.10	IPS	TTXD1_10	1022	DEG F
BB3	0.22	IPS	TTXD1_11	1052	DEG F
BB4	0.16	IPS	TTXD1_12	1001	DEG F
BB5	0.14	IPS	TTXD1_13	1039	DEG F
BB7	0.07	IPS	TTXD1_14	1011	DEG F
BB8	0.06	IPS	TTXD1_15	985	DEG F
BB9	0.05	IPS	TTXD1_16	1015	DEG F
TTXD1_1	974	DEG F	TTXD1_17	954	DEG F
TTXD1_2	960	DEG F	TTXD1_18	1005	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 09:16:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	153.9	PSIG	WQJ	8.824	#/SEC
CTD	626	DEG F	WSQ	7.248	#/SEC
CTIF1	47	DEG F	TNH	100.0	% SPD
CTIF2	48	DEG F	TNR	103.9	% SPD
DW	80.42	MW	CSGV	83.7	DEG
FSL	0.05	% STR	LTTH	114	DEG F
FSR	60.2	% FSR	S12SP	68.82	V DC
FSG	58.73	% STR	S12SN	-55.55	V DC
FTG	37	DEG F	CTIM	48	DEG F
FDG1	29.98	INH20	CPD	153.9	PSIG
FDG2	86.7	INH20	CTD	626	DEG F
FQG	12.460	#/SEC	TIMR_01	63 576.8	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	243	RPM	FQ_PR	0	RPM
WXC	0.692	RATIO	HPA1	95.8	% H2
WXJ	0.709	RATIO	HPA2	93.6	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

HOUR LOG ---------- ROLLING AVG ----------

TIME	GAS FUEL #/SEC	WATER #/SEC	ACTUAL RATIO	REQUIRED RATIO	AMBIENT DEG F
10 FEB 93 09:21:00	12.454	8.834	0.709	0.691	47

DATA LIST 12 10 FEB 93 09:31:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1021	DEG F
TTXSP1	96	DEG F	TTXD1_4	990	DEG F
TTXSP2	90	DEG F	TTXD1_5	971	DEG F
TTXSP3	80	DEG F	TTXD1_6	978	DEG F
TTXC	998	DEG F	TTXD1_7	992	DEG F
TTXM	997	DEG F	TTXD1_8	989	DEG F
BB1	0.10	IPS	TTXD1_9	1017	DEG F
BB2	0.10	IPS	TTXD1_10	1022	DEG F
BB3	0.22	IPS	TTXD1_11	1052	DEG F
BB4	0.17	IPS	TTXD1_12	1002	DEG F
BB5	0.14	IPS	TTXD1_13	1039	DEG F
BB7	0.07	IPS	TTXD1_14	1011	DEG F
BB8	0.06	IPS	TTXD1_15	988	DEG F
BB9	0.05	IPS	TTXD1_16	1015	DEG F
TTXD1_1	972	DEG F	TTXD1_17	956	DEG F
TTXD1_2	962	DEG F	TTXD1_18	1004	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 09:31:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	153.6	PSIG	WQJ	8.835	#/SEC
CTD	627	DEG F	WSQ	7.397	#/SEC
CTIF1	48	DEG F	TNH	100.0	% SPD
CTIF2	48	DEG F	TNR	103.9	% SPD
DW	80.17	MW	CSGV	83.7	DEG
FSL	0.05	% STR	LTTH	112	DEG F
FSR	60.1	% FSR	S125P	68.31	V DC
FSG	58.94	% STR	S125N	-55.70	V DC
FTG	38	DEG F	CTIM	48	DEG F
FDG1	29.98	INH20	CPD	153.6	PSIG
FDG2	86.4	INH20	CTD	627	DEG F
FQG	12.466	#/SEC	TIMR_01	63 577.0	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	243	RPM	FQ_PR	0	RPM
WXC	0.699	RATIO	HPA1	95.8	% H2
WXJ	0.708	RATIO	HPA2	93.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 09:46:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	146	DEG F	TTXD1_3	1022	DEG F
TTXSP1	96	DEG F	TTXD1_4	992	DEG F
TTXSP2	91	DEG F	TTXD1_5	972	DEG F
TTXSP3	79	DEG F	TTXD1_6	978	DEG F
TTXC	999	DEG F	TTXD1_7	993	DEG F
TTXM	997	DEG F	TTXD1_8	989	DEG F
BB1	0.10	IPS	TTXD1_9	1018	DEG F
BB2	0.10	IPS	TTXD1_10	1024	DEG F
BB3	0.22	IPS	TTXD1_11	1051	DEG F
BB4	0.16	IPS	TTXD1_12	1002	DEG F
BB5	0.14	IPS	TTXD1_13	1038	DEG F
BB7	0.07	IPS	TTXD1_14	1011	DEG F
BB8	0.06	IPS	TTXD1_15	988	DEG F
BB9	0.05	IPS	TTXD1_16	1016	DEG F
TTXD1_1	973	DEG F	TTXD1_17	956	DEG F
TTXD1_2	961	DEG F	TTXD1_18	1006	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 09:46:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	153.7	PSIG	WQJ	8.865	#/SEC
CTD	626	DEG F	WSQ	7.723	#/SEC
CTIF1	48	DEG F	TNH	100.0	% SPD
CTIF2	48	DEG F	TNR	103.9	% SPD
DW	80.17	MW	CSGV	83.7	DEG
FSL	0.05	% STR	LTTH	112	DEG F
FSR	60.3	% FSR	S125P	68.31	V DC
FSG	59.08	% STR	S125N	-55.99	V DC
FTG	38	DEG F	CTIM	48	DEG F
FDG1	29.98	INH20	CPD	153.7	PSIG
FDG2	86.8	INH20	CTD	626	DEG F
FQG	12.464	#/SEC	TIMR_01	63 577.2	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	244	RPM	FQ_PR	0	RPM
WXC	0.696	RATIO	HPA1	95.7	% H2
WXJ	0.711	RATIO	HPA2	93.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

Unit C Gas Begin Run #1

DATA LIST 12 10 FEB 93 10:01:01 PAGE000

DEMAND DISPLAY

TTXSPL	128	DEG F	TTXD1_3	1020	DEG F
TTXSP1	99	DEG F	TTXD1_4	991	DEG F
TTXSP2	90	DEG F	TTXD1_5	971	DEG F
TTXSP3	82	DEG F	TTXD1_6	976	DEG F
TTXC	998	DEG F	TTXD1_7	993	DEG F
TTXM	998	DEG F	TTXD1_8	985	DEG F
BB1	0.10	IPS	TTXD1_9	1015	DEG F
BB2	0.10	IPS	TTXD1_10	1019	DEG F
BB3	0.21	IPS	TTXD1_11	1054	DEG F
BB4	0.17	IPS	TTXD1_12	1004	DEG F
BB5	0.14	IPS	TTXD1_13	1036	DEG F
BB7	0.07	IPS	TTXD1_14	1010	DEG F
BB8	0.06	IPS	TTXD1_15	987	DEG F
BB9	0.05	IPS	TTXD1_16	1016	DEG F
TTXD1_1	975	DEG F	TTXD1_17	956	DEG F
TTXD1_2	967	DEG F	TTXD1_18	1005	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 10:01:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	153.3	PSIG	→ WQJ	8.845	#/SEC
CTD	629	DEG F	WSQ	7.641	#/SEC
CTIF1	49	DEG F	TNH	100.0	% SPD
CTIF2	50	DEG F	TNR	103.9	% SPD
→ DW	80.24	MW	CSGV	83.7	DEG
FSL	-0.01	% STR	LTTH	113	DEG F
FSR	60.2	% FSR	S125P	69.26	V DC
FSG	59.01	% STR	S125N	-55.91	V DC
FTG	40	DEG F	CTIM	50	DEG F
FDG1	29.98	INH20	CPD	153.3	PSIG
FDG2	86.6	INH20	CTD	629	DEG F
→ FQG	12.443	#/SEC	TIMR_01	63 577.5	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	245	RPM	FQ_PR	0	RPM
WXC	0.694	RATIO	HPA1	95.7	% H2
WXJ	0.710	RATIO	HPA2	93.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 10:16:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1019	DEG F
TTXSP1	98	DEG F	TTXD1_4	991	DEG F
TTXSP2	90	DEG F	TTXD1_5	972	DEG F
TTXSP3	79	DEG F	TTXD1_6	976	DEG F
TTXC	998	DEG F	TTXD1_7	993	DEG F
TTXM	998	DEG F	TTXD1_8	982	DEG F
BB1	0.10	IPS	TTXD1_9	1015	DEG F

BB4	0.16	IPS	TTXD1_12	1002	DEG F
BB5	0.14	IPS	TTXD1_13	1038	DEG F
BB7	0.06	IPS	TTXD1_14	1009	DEG F
BB8	0.06	IPS	TTXD1_15	986	DEG F
BB9	0.07	IPS	TTXD1_16	1016	DEG F
TTXD1_1	976	DEG F	TTXD1_17	956	DEG F
TTXD1_2	964	DEG F	TTXD1_18	1005	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 10:16:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	153.5	PSIG	→WQJ	8.854	#/SEC
CTD	628	DEG F	WSQ	7.736	#/SEC
CTIF1	49	DEG F	TNH	100.1	% SPD
CTIF2	49	DEG F	TNR	103.9	% SPD
→ DW	80.11	MW	CSGV	83.7	DEG
FSL	0.12	% STR	LTTH	114	DEG F
FSR	60.3	% FSR	S125P	68.75	V DC
FSG	59.01	% STR	S125N	-55.84	V DC
FTG	41	DEG F	CTIM	49	DEG F
FDG1	29.98	INH20	CPD	153.5	PSIG
FDG2	86.6	INH20	CTD	628	DEG F
→ FQG	12.411	#/SEC	TIMR_01	63 577.7	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	243	RPM	FQ_PR	0	RPM
WXC	0.692	RATIO	HPA1	95.8	% H2
WXJ	0.712	RATIO	HPA2	93.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

HOUR LOG ---------- ROLLING AVG ----------

TIME	GAS FUEL #/SEC	WATER #/SEC	ACTUAL RATIO	REQUIRED RATIO	AMBIENT DEG F
10 FEB 93 10:21:00	12.449	8.860	0.712	0.694	48

DATA LIST 12 10 FEB 93 10:31:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1020	DEG F
TTXSP1	98	DEG F	TTXD1_4	991	DEG F
TTXSP2	89	DEG F	TTXD1_5	973	DEG F
TTXSP3	80	DEG F	TTXD1_6	977	DEG F

BB1	0.10	IPS	TTXD1_9	1016	DEG F
BB2	0.10	IPS	TTXD1_10	1020	DEG F
BB3	0.23	IPS	TTXD1_11	1054	DEG F
BB4	0.16	IPS	TTXD1_12	1004	DEG F
BB5	0.14	IPS	TTXD1_13	1036	DEG F
BB7	0.07	IPS	TTXD1_14	1009	DEG F
BB8	0.06	IPS	TTXD1_15	987	DEG F
BB9	0.05	IPS	TTXD1_16	1015	DEG F
TTXD1_1	973	DEG F	TTXD1_17	955	DEG F
TTXD1_2	965	DEG F	TTXD1_18	1005	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	153.2	PSIG	→ WQJ	8.575	#/SEC
CTD	629	DEG F	WSQ	8.658	#/SEC
CTIF1	48	DEG F	TNH	100.0	% SPD
CTIF2	49	DEG F	TNR	103.9	% SPD
→ DW	79.80	MW	CSGV	83.7	DEG
FSL	0.05	% STR	LTTH	114	DEG F
FSR	60.0	% FSR	S125P	68.38	V DC
FSG	58.72	% STR	S125N	-55.11	V DC
FTG	41	DEG F	CTIM	49	DEG F
FDG1	29.98	INH20	CPD	153.2	PSIG
FDG2	85.5	INH20	CTD	629	DEG F
→ FQG	12.369	#/SEC	TIMR_01	63 578.0	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	238	RPM	FQ_PR	0	RPM
WXC	0.686	RATIO	HPA1	95.8	% H2
WXJ	0.693	RATIO	HPA2	93.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

WQJ = 8.758
FQG = 12.408
DW = 80.05
Unit C - Gas End Run #1

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1017	DEG F
TTXSP1	98	DEG F	TTXD1_4	990	DEG F
TTXSP2	86	DEG F	TTXD1_5	973	DEG F
TTXSP3	80	DEG F	TTXD1_6	974	DEG F
TTXC	998	DEG F	TTXD1_7	993	DEG F
TTXM	998	DEG F	TTXD1_8	983	DEG F
BB1	0.10	IPS	TTXD1_9	1016	DEG F
BB2	0.10	IPS	TTXD1_10	1019	DEG F
BB3	0.23	IPS	TTXD1_11	1053	DEG F
BB4	0.16	IPS	TTXD1_12	1003	DEG F
BB5	0.14	IPS	TTXD1_13	1037	DEG F
BB7	0.07	IPS	TTXD1_14	1009	DEG F
BB8	0.06	IPS	TTXD1_15	986	DEG F

TTXD1_2	968	DEG F	TTXD1_18	1006	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	153.9	PSIG	WQJ	8.695	#/SEC
CTD	628	DEG F	WSQ	9.703	#/SEC
CTIF1	48	DEG F	TNH	100.0	% SPD
CTIF2	48	DEG F	TNR	103.9	% SPD
DW	80.05	MW	CSGV	83.7	DEG
FSL	0.05	% STR	LTTH	112	DEG F
FSR	60.0	% FSR	S125P	69.26	V DC
FSG	58.72	% STR	S125N	-55.04	V DC
FTG	41	DEG F	CTIM	48	DEG F
FDG1	29.98	INH20	CPD	153.9	PSIG
FDG2	85.9	INH20	CTD	628	DEG F
FQG	12.372	#/SEC	TIMR_01	63 578.2	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	240	RPM	FQ_PR	0	RPM
WXC	0.676	RATIO	HPA1	95.8	% H2
WXJ	0.703	RATIO	HPA2	93.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

Unit C-Gas Run #2

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1020	DEG F
TTXSP1	99	DEG F	TTXD1_4	991	DEG F
TTXSP2	90	DEG F	TTXD1_5	971	DEG F
TTXSP3	82	DEG F	TTXD1_6	978	DEG F
TTXC	998	DEG F	TTXD1_7	994	DEG F
TTXM	998	DEG F	TTXD1_8	986	DEG F
BB1	0.10	IPS	TTXD1_9	1016	DEG F
BB2	0.10	IPS	TTXD1_10	1020	DEG F
BB3	0.23	IPS	TTXD1_11	1053	DEG F
BB4	0.16	IPS	TTXD1_12	1003	DEG F
BB5	0.14	IPS	TTXD1_13	1037	DEG F
BB7	0.07	IPS	TTXD1_14	1010	DEG F
BB8	0.06	IPS	TTXD1_15	988	DEG F
BB9	0.06	IPS	TTXD1_16	1015	DEG F
TTXD1_1	974	DEG F	TTXD1_17	956	DEG F
TTXD1_2	964	DEG F	TTXD1_18	1004	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	153.3	PSIG	WQJ	8.615	#/SEC
CTD	630	DEG F	WSQ	6.611	#/SEC
CTIF1	49	DEG F	TNH	100.0	% SPD
CTIF2	49	DEG F	TNR	103.9	% SPD
DW	79.67	MW	CSGV	83.7	DEG
FSL	0.05	% STR	LTTH	114	DEG F
FSR	59.9	% FSR	S125P	68.60	V DC
FSG	58.72	% STR	S125N	-54.97	V DC
FTG	41	DEG F	CTIM	49	DEG F
FDG1	29.98	INH20	CPD	153.3	PSIG
FDG2	85.2	INH20	CTD	630	DEG F
FQG	12.358	#/SEC	TIMR_01	63 578.5	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	237	RPM	FQ_PR	0	RPM
WXC	0.672	RATIO	HPA1	95.8	% H2
WXJ	0.697	RATIO	HPA2	93.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1022	DEG F
TTXSP1	98	DEG F	TTXD1_4	992	DEG F
TTXSP2	90	DEG F	TTXD1_5	971	DEG F
TTXSP3	81	DEG F	TTXD1_6	977	DEG F
TTXC	998	DEG F	TTXD1_7	994	DEG F
TTXM	999	DEG F	TTXD1_8	989	DEG F
BB1	0.10	IPS	TTXD1_9	1017	DEG F
BB2	0.10	IPS	TTXD1_10	1019	DEG F
BB3	0.22	IPS	TTXD1_11	1054	DEG F
BB4	0.16	IPS	TTXD1_12	1002	DEG F
BB5	0.14	IPS	TTXD1_13	1038	DEG F
BB7	0.07	IPS	TTXD1_14	1012	DEG F
BB8	0.06	IPS	TTXD1_15	988	DEG F
BB9	0.05	IPS	TTXD1_16	1013	DEG F
TTXD1_1	972	DEG F	TTXD1_17	955	DEG F
TTXD1_2	963	DEG F	TTXD1_18	1004	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	153.4	PSIG	WQJ	8.386	#/SEC
CTD	629	DEG F	WSQ	6.841	#/SEC
CTIF1	49	DEG F	TNH	100.0	% SPD
CTIF2	50	DEG F	TNR	103.9	% SPD
DW	79.74	MW	CSGV	83.6	DEG

FSG	58.44	% STR	SI2SN	-55.48	V DC
FTG	40	DEG F	CTIM	50	DEG F
FDG1	29.98	INH20	CPD	153.4	PSIG
FDG2	84.4	INH20	CTD	629	DEG F
→ FQG	12.296	#/SEC	TIMR_01	63 578.7	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	232	RPM	FQ_PR	0	RPM
WXC	0.669	RATIO	HPA1	95.8	% H2
WXJ	0.682	RATIO	HPA2	93.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

HOUR LOG ---------- ROLLING AVG ----------

TIME	GAS FUEL #/SEC	WATER #/SEC	ACTUAL RATIO	REQUIRED RATIO	AMBIENT DEG F
10 FEB 93 11:21:00	12.358	8.601	0.696	0.678	49

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1023	DEG F
TTXSP1	97	DEG F	TTXD1_4	993	DEG F
TTXSP2	88	DEG F	TTXD1_5	974	DEG F
TTXSP3	81	DEG F	TTXD1_6	979	DEG F
TTXC	1000	DEG F	TTXD1_7	994	DEG F
TTXM	998	DEG F	TTXD1_8	986	DEG F
BB1	0.10	IPS	TTXD1_9	1018	DEG F
BB2	0.10	IPS	TTXD1_10	1021	DEG F
BB3	0.22	IPS	TTXD1_11	1055	DEG F
BB4	0.16	IPS	TTXD1_12	1006	DEG F
BB5	0.14	IPS	TTXD1_13	1037	DEG F
BB7	0.07	IPS	TTXD1_14	1011	DEG F
BB8	0.06	IPS	TTXD1_15	990	DEG F
BB9	0.05	IPS	TTXD1_16	1016	DEG F
TTXD1_1	974	DEG F	TTXD1_17	957	DEG F
TTXD1_2	966	DEG F	TTXD1_18	1007	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	153.1	PSIG	→ WQJ	8.456	#/SEC
CTD	629	DEG F	WSC	7.953	#/SEC

→DW	79.67	MW	CSGV	83.7	DEG
FSL	0.05	% STR	LTTH	114	DEG F
FSR	59.8	% FSR	S125P	68.60	V DC
FSG	58.51	% STR	S125N	-55.91	V DC
FTG	39	DEG F	CTIM	50	DEG F
FDG1	29.98	INH20	CPD	153.1	PSIG
FDG2	84.5	INH20	CTD	629	DEG F
→FQG	12.327	#/SEC	TIMR_01	63 579.0	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	232	RPM	FQ_PR	0	RPM
WXC	0.685	RATIO	HPA1	95.8	% H2
WXJ	0.687	RATIO	HPA2	93.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1021	DEG F
TTXSP1	97	DEG F	TTXD1_4	993	DEG F
TTXSP2	84	DEG F	TTXD1_5	978	DEG F
TTXSP3	78	DEG F	TTXD1_6	980	DEG F
TTXC	1000	DEG F	TTXD1_7	996	DEG F
TTXM	999	DEG F	TTXD1_8	986	DEG F
BB1	0.10	IPS	TTXD1_9	1017	DEG F
BB2	0.10	IPS	TTXD1_10	1017	DEG F
BB3	0.23	IPS	TTXD1_11	1054	DEG F
BB4	0.16	IPS	TTXD1_12	1007	DEG F
BB5	0.14	IPS	TTXD1_13	1037	DEG F
BB7	0.07	IPS	TTXD1_14	1010	DEG F
BB8	0.06	IPS	TTXD1_15	989	DEG F
BB9	0.07	IPS	TTXD1_16	1015	DEG F
TTXD1_1	975	DEG F	TTXD1_17	956	DEG F
TTXD1_2	970	DEG F	TTXD1_18	1007	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	153.0	PSIG	→WQJ	8.546	#/SEC
CTD	631	DEG F	WSQ	8.279	#/SEC
CTIF1	50	DEG F	TNH	100.1	% SPD
CTIF2	51	DEG F	TNR	103.9	% SPD
→DW	79.54	MW	CSGV	83.7	DEG
FSL	0.05	% STR	LTTH	114	DEG F
FSR	59.7	% FSR	S125P	69.33	V DC
FSG	58.36	% STR	S125N	-55.40	V DC
FTG	40	DEG F	CTIM	51	DEG F
FDG1	29.98	INH20	CPD	153.0	PSIG

WQJF_PR	234	RPM	FQ_PR	0	RPM
WXC	0.670	RATIO	HPA1	95.8	% H2
WXJ	0.694	RATIO	HPA2	93.5	% H2

12.317

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

WQJ = 8.501
FQG = 12.325
DW = 79.66
Unit C-Gas End Run #2

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DEMAND DISPLAY

Unit C-Gas Begin Run #3

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1021	DEG F
TTXSP1	97	DEG F	TTXD1_4	993	DEG F
TTXSP2	88	DEG F	TTXD1_5	975	DEG F
TTXSP3	80	DEG F	TTXD1_6	977	DEG F
TTXC	999	DEG F	TTXD1_7	994	DEG F
TTXM	999	DEG F	TTXD1_8	984	DEG F
BB1	0.10	IPS	TTXD1_9	1018	DEG F
BB2	0.10	IPS	TTXD1_10	1020	DEG F
BB3	0.23	IPS	TTXD1_11	1054	DEG F
BB4	0.16	IPS	TTXD1_12	1005	DEG F
BB5	0.14	IPS	TTXD1_13	1037	DEG F
BB7	0.07	IPS	TTXD1_14	1010	DEG F
BB8	0.06	IPS	TTXD1_15	989	DEG F
BB9	0.05	IPS	TTXD1_16	1018	DEG F
TTXD1_1	974	DEG F	TTXD1_17	957	DEG F
TTXD1_2	966	DEG F	TTXD1_18	1006	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	153.0	PSIG	→ WQJ	8.495	#/SEC
CTD	631	DEG F	WSQ	7.560	#/SEC
CTIF1	50	DEG F	TNH	100.0	% SPD
CTIF2	51	DEG F	TNR	103.9	% SPD
→ DW	79.54	MW	CSGV	83.7	DEG
FSL	0.05	% STR	LTTH	115	DEG F
FSR	59.6	% FSR	S125P	68.89	V DC
FSG	58.44	% STR	S125N	-55.70	V DC
FTG	39	DEG F	CTIM	51	DEG F
FDG1	29.98	INH20	CPD	153.0	PSIG
FDG2	84.7	INH20	CTD	631	DEG F
→ FQG	12.316	#/SEC	TIMR_01	63 579.5	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	234	RPM	FQ_PR	0	RPM
WXC	0.670	RATIO	HPA1	95.8	% H2
WXJ	0.690	RATIO	HPA2	93.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1020	DEG F
TTXSP1	97	DEG F	TTXD1_4	992	DEG F
TTXSP2	91	DEG F	TTXD1_5	973	DEG F
TTXSP3	82	DEG F	TTXD1_6	979	DEG F
TTXC	999	DEG F	TTXD1_7	996	DEG F
TTXM	999	DEG F	TTXD1_8	985	DEG F
BB1	0.10	IPS	TTXD1_9	1018	DEG F
BB2	0.10	IPS	TTXD1_10	1019	DEG F
BB3	0.23	IPS	TTXD1_11	1055	DEG F
BB4	0.16	IPS	TTXD1_12	1005	DEG F
BB5	0.13	IPS	TTXD1_13	1039	DEG F
BB7	0.07	IPS	TTXD1_14	1010	DEG F
BB8	0.06	IPS	TTXD1_15	988	DEG F
BB9	0.05	IPS	TTXD1_16	1015	DEG F
TTXD1_1	974	DEG F	TTXD1_17	958	DEG F
TTXD1_2	963	DEG F	TTXD1_18	1007	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	152.6	PSIG	→ WQJ	8.466	#/SEC
CTD	630	DEG F	WSQ	7.601	#/SEC
CTIF1	50	DEG F	TNH	100.0	% SPD
CTIF2	51	DEG F	TNR	103.9	% SPD
→ DW	79.17	MW	CSGV	83.7	DEG
FSL	0.05	% STR	LTTH	115	DEG F
FSR	59.7	% FSR	S125P	68.16	V DC
FSG	58.44	% STR	S125N	-56.28	V DC
FTG	40	DEG F	CTIM	51	DEG F
FDG1	29.98	INH20	CPD	152.6	PSIG
FDG2	84.6	INH20	CTD	630	DEG F
→ FQG	12.316	#/SEC	TIMR_01	63 579.7	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	235	RPM	FQ_PR	0	RPM
WXC	0.661	RATIO	HPA1	95.8	% H2
WXJ	0.687	RATIO	HPA2	93.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

HOUR LOG ---------- ROLLING AVG ----------

10 FEB 93 12:21:00 12.329 8.478 0.688 0.670 50

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1024	DEG F
TTXSP1	94	DEG F	TTXD1_4	994	DEG F
TTXSP2	87	DEG F	TTXD1_5	974	DEG F
TTXSP3	77	DEG F	TTXD1_6	982	DEG F
TTXC	1001	DEG F	TTXD1_7	996	DEG F
TTXM	998	DEG F	TTXD1_8	990	DEG F
BB1	0.10	IPS	TTXD1_9	1021	DEG F
BB2	0.10	IPS	TTXD1_10	1020	DEG F
BB3	0.24	IPS	TTXD1_11	1052	DEG F
BB4	0.15	IPS	TTXD1_12	1005	DEG F
BB5	0.14	IPS	TTXD1_13	1039	DEG F
BB7	0.07	IPS	TTXD1_14	1013	DEG F
BB8	0.07	IPS	TTXD1_15	991	DEG F
BB9	0.05	IPS	TTXD1_16	1016	DEG F
TTXD1_1	976	DEG F	TTXD1_17	958	DEG F
TTXD1_2	965	DEG F	TTXD1_18	1007	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	152.9	PSIG	→ WQJ	8.366	#/SEC
CTD	631	DEG F	WSQ	6.393	#/SEC
CTIF1	51	DEG F	TNH	100.1	% SPD
CTIF2	51	DEG F	TNR	103.9	% SPD
→ DW	79.23	MW	CSGV	83.7	DEG
FSL	0.05	% STR	LTTH	115	DEG F
FSR	59.7	% FSR	S125P	68.82	V DC
FSG	58.44	% STR	S125N	-55.77	V DC
FTG	42	DEG F	CTIM	51	DEG F
FDG1	29.98	INH20	CPD	152.9	PSIG
FDG2	84.9	INH20	CTD	631	DEG F
→ FQG	12.294	#/SEC	TIMR_01	63 580.0	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	230	RPM	FQ_PR	0	RPM
WXC	0.667	RATIO	HPA1	95.8	% H2
WXJ	0.680	RATIO	HPA2	93.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

WQJ = 8.442
FQG = 12.309
DW = 79.31

Gas-
Unit C End Run # 3

DATA LIST 12 10 FEB 93 12:46:01 PAGE000

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1027	DEG F
TTXSP1	97	DEG F	TTXD1_4	994	DEG F
TTXSP2	91	DEG F	TTXD1_5	973	DEG F
TTXSP3	81	DEG F	TTXD1_6	981	DEG F
TTXC	1001	DEG F	TTXD1_7	997	DEG F
TTXM	1000	DEG F	TTXD1_8	988	DEG F
BB1	0.10	IPS	TTXD1_9	1021	DEG F
BB2	0.10	IPS	TTXD1_10	1022	DEG F
BB3	0.23	IPS	TTXD1_11	1054	DEG F
BB4	0.16	IPS	TTXD1_12	1006	DEG F
BB5	0.14	IPS	TTXD1_13	1040	DEG F
BB7	0.07	IPS	TTXD1_14	1013	DEG F
BB8	0.07	IPS	TTXD1_15	991	DEG F
BB9	0.05	IPS	TTXD1_16	1017	DEG F
TTXD1_1	975	DEG F	TTXD1_17	958	DEG F
TTXD1_2	964	DEG F	TTXD1_18	1007	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	152.3	PSIG	WQJ	8.466	#/SEC
CTD	632	DEG F	WSQ	7.736	#/SEC
CTIF1	51	DEG F	TNH	100.1	% SPD
CTIF2	52	DEG F	TNR	103.9	% SPD
DW	79.23	MW	CSGV	83.7	DEG
FSL	0.05	% STR	LTTH	114	DEG F
FSR	59.7	% FSR	S125P	68.16	V DC
FSG	58.29	% STR	S125N	-56.42	V DC
FTG	42	DEG F	CTIM	52	DEG F
FDG1	29.98	INH20	CPD	152.3	PSIG
FDG2	84.9	INH20	CTD	632	DEG F
FQG	12.292	#/SEC	TIMR_01	63 580.2	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	232	RPM	FQ_PR	0	RPM
WXC	0.666	RATIO	HPA1	95.8	% H2
WXJ	0.689	RATIO	HPA2	93.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 13:01:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1024	DEG F
TTXSP1	98	DEG F	TTXD1_4	994	DEG F
TTXSP2	86	DEG F	TTXD1_5	975	DEG F
TTXSP3	81	DEG F	TTXD1_6	977	DEG F

BB1	0.10	IPS	TTXD1_9	1017	DEG F
BB2	0.10	IPS	TTXD1_10	1018	DEG F
BB3	0.21	IPS	TTXD1_11	1056	DEG F
BB4	0.16	IPS	TTXD1_12	1007	DEG F
BB5	0.14	IPS	TTXD1_13	1038	DEG F
BB7	0.07	IPS	TTXD1_14	1012	DEG F
BB8	0.07	IPS	TTXD1_15	989	DEG F
BB9	0.05	IPS	TTXD1_16	1017	DEG F
TTXD1_1	975	DEG F	TTXD1_17	957	DEG F
TTXD1_2	968	DEG F	TTXD1_18	1008	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 13:01:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	152.4	PSIG	WQJ	8.376	#/SEC
CTD	632	DEG F	WSQ	6.801	#/SEC
CTIF1	52	DEG F	TNH	100.0	% SPD
CTIF2	52	DEG F	TNR	103.9	% SPD
DW	78.98	MW	CSGV	83.7	DEG
FSL	0.05	% STR	LTTH	115	DEG F
FSR	59.7	% FSR	S125P	68.53	V DC
FSG	58.29	% STR	S125N	-55.55	V DC
FTG	44	DEG F	CTIM	52	DEG F
FDG1	29.98	INH20	CPD	152.4	PSIG
FDG2	85.0	INH20	CTD	632	DEG F
FQG	12.273	#/SEC	TIMR_01	63 580.5	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	232	RPM	FQ_PR	0	RPM
WXC	0.665	RATIO	HPA1	95.8	% H2
WXJ	0.682	RATIO	HPA2	93.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 13:16:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	1022	DEG F
TTXSP1	96	DEG F	TTXD1_4	994	DEG F
TTXSP2	86	DEG F	TTXD1_5	975	DEG F
TTXSP3	79	DEG F	TTXD1_6	981	DEG F
TTXC	1000	DEG F	TTXD1_7	998	DEG F
TTXM	1000	DEG F	TTXD1_8	983	DEG F
BB1	0.10	IPS	TTXD1_9	1018	DEG F
BB2	0.10	IPS	TTXD1_10	1018	DEG F
BB3	0.23	IPS	TTXD1_11	1056	DEG F
BB4	0.16	IPS	TTXD1_12	1006	DEG F
BB5	0.14	IPS	TTXD1_13	1037	DEG F
BB7	0.07	IPS	TTXD1_14	1012	DEG F
BB8	0.07	IPS	TTXD1_15	990	DEG F

TTXD1_2	967	DEG F	TTXD1_18	1010	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 13:16:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	152.1	PSIG	WQJ	8.276	#/SEC
CTD	634	DEG F	WSQ	8.129	#/SEC
CTIF1	52	DEG F	TNH	100.0	% SPD
CTIF2	52	DEG F	TNR	103.9	% SPD
DW	78.61	MW	CSGV	83.7	DEG
FSL	0.05	% STR	LTTH	115	DEG F
FSR	59.6	% FSR	S125P	68.23	V DC
FSG	58.36	% STR	S125N	-56.13	V DC
FTG	45	DEG F	CTIM	52	DEG F
FDG1	29.98	INH20	CPD	152.1	PSIG
FDG2	84.5	INH20	CTD	634	DEG F
FQG	12.258	#/SEC	TIMR_01	63 580.7	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	228	RPM	FQ_PR	0	RPM
WXC	0.667	RATIO	HPA1	95.8	% H2
WXJ	0.676	RATIO	HPA2	93.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

HOUR LOG ---------- ROLLING AVG ----------

TIME	GAS FUEL #/SEC	WATER #/SEC	ACTUAL RATIO	REQUIRED RATIO	AMBIENT DEG F
10 FEB 93 13:21:00	12.281	8.389	0.683	0.664	52

HOUR LOG ---------- ROLLING AVG ----------

TIME	GAS FUEL #/SEC	WATER #/SEC	ACTUAL RATIO	REQUIRED RATIO	AMBIENT DEG F
10 FEB 93 14:21:00	12.234	8.401	0.687	0.667	53

HOUR LOG ---------- ROLLING AVG ----------

FSG	56.79	% STR	S125N	-39.22	V DC	
FTG	45	DEG F	CTIM	54	DEG F	DELETE
FTG1	45	DEG F	CPD	149.1	PSIG	ENTRY
FDG2	85.3	INH20	CTD	634	DEG F	
FQG	12.324	#/SEC	TIMR_01	62 870.5	HOURS	
FQ	0.000	#/SEC	FLAME	#3#4#7#8		SET LOG
WQJF_PR	237	RPM	FQ_PR	0	RPM	ON/OFF
WXC	0.682	RATIO	HPA1	85.8	% H2	
WXJ	0.701	RATIO	HPA2	88.7	% H2	
						SET TIME
						ON/OFF

KRCC
Unit D - Natural Gas

.OG PERIOD = 0015 MINUTES

)ATA LIST 12 DEMAND DISPLAY 10 FEB 93 13:20:54 PAGE 00

PREVIOUS PAGE

NAME	VALUE	UNITS	NAME	VALUE	UNITS	
TTXSPL	128	DEG F	TTXD1_3	978	DEG F	NEXT
TTXSP1	55	DEG F	TTXD1_4	1004	DEG F	PAGE
TTXSP2	55	DEG F	TTXD1_5	1032	DEG F	
TTXSP3	54	DEG F	TTXD1_6	981	DEG F	
TTXC	1007	DEG F	TTXD1_7	1028	DEG F	INSERT
TTXM	1005	DEG F	TTXD1_8	1030	DEG F	ENTRY
BB1	0.08	IPS	TTXD1_9	1025	DEG F	
BB2	0.08	IPS	TTXD1_10	1034	DEG F	
BB3	0.16	IPS	TTXD1_11	1034	DEG F	DELETE
BB4	0.11	IPS	TTXD1_12	990	DEG F	ENTRY
BB5	0.11	IPS	TTXD1_13	1024	DEG F	
BB7	0.03	IPS	TTXD1_14	989	DEG F	
BB8	0.02	IPS	TTXD1_15	978	DEG F	SET LOG
BB9	0.04	IPS	TTXD1_16	1023	DEG F	ON/OFF
TTXD1_1	999	DEG F	TTXD1_17	979	DEG F	
TTXD1_2	998	DEG F	TTXD1_18	977	DEG F	
						SET TIME
						ON/OFF

LOG PERIOD = 0015 MINUTES

Unit D Begin Run #1

DATA LIST 12 DEMAND DISPLAY 10 FEB 93 13:31:04 PAGE 00

PREVIOUS PAGE

NAME	VALUE	UNITS	NAME	VALUE	UNITS	
TTXSPL	128	DEG F	TTXD1_3	978	DEG F	NEXT
TTXSP1	56	DEG F	TTXD1_4	1004	DEG F	PAGE
TTXSP2	55	DEG F	TTXD1_5	1033	DEG F	
TTXSP3	55	DEG F	TTXD1_6	979	DEG F	
TTXC	1007	DEG F	TTXD1_7	1030	DEG F	INSERT
TTXM	1005	DEG F	TTXD1_8	1031	DEG F	ENTRY
BB1	0.08	IPS	TTXD1_9	1026	DEG F	
BB2	0.08	IPS	TTXD1_10	1031	DEG F	
BB3	0.18	IPS	TTXD1_11	1033	DEG F	DELETE
BB4	0.12	IPS	TTXD1_12	989	DEG F	ENTRY
BB5	0.11	IPS	TTXD1_13	1026	DEG F	
BB7	0.03	IPS	TTXD1_14	990	DEG F	
BB8	0.02	IPS	TTXD1_15	979	DEG F	SET LOG

TTXD1_2	998	DEG F	TTXD1_18	979	DEG F

SET TIME ON/OFF

LOG PERIOD = 0015 MINUTES

unit 0 KRCC

DATA LIST 12 DEMAND DISPLAY 10 FEB 93 13:31:12 PAGE 01

PREVIOUS PAGE

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	149.0	PSIG	WQJ	8.634	#/SEC
CTD	633	DEG F	WSQ	7.994	#/SEC
CTIF1	54	DEG F	TNH	100.0	% SPD
CTIF2	54	DEG F	TNR	103.8	% SPD
DW	76.46	MW	CSGV	83.5	DEG
FSL	1.31	% STR	LTTH	115	DEG F
FSR	58.5	% FSR	S125P	91.78	V DC
FSG	56.88	% STR	S125N	-39.29	V DC
FTG	47	DEG F	CTIM	54	DEG F
FTG1	47	DEG F	CPD	149.0	PSIG
FDG2	86.2	INH20	CTD	633	DEG F
FQG	12.308	#/SEC	TIMR_01	62 870.7	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	238	RPM	FQ_PR	0	RPM
WXC	0.681	RATIO	HPA1	85.7	% H2
WXJ	0.702	RATIO	HPA2	88.6	% H2

NEXT PAGE

INSERT ENTRY

DELETE ENTRY

SET LOG ON/OFF

SET TIME ON/OFF

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 13:35:00 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	976	DEG F
TTXSP1	60	DEG F	TTXD1_4	1002	DEG F
TTXSP2	58	DEG F	TTXD1_5	1036	DEG F
TTXSP3	57	DEG F	TTXD1_6	982	DEG F
TTXC	1007	DEG F	TTXD1_7	1031	DEG F
TTXM	1005	DEG F	TTXD1_8	1032	DEG F
BB1	0.08	IPS	TTXD1_9	1027	DEG F
BB2	0.08	IPS	TTXD1_10	1036	DEG F
BB3	0.16	IPS	TTXD1_11	1036	DEG F
BB4	0.11	IPS	TTXD1_12	991	DEG F
BB5	0.11	IPS	TTXD1_13	1026	DEG F
BB7	0.03	IPS	TTXD1_14	992	DEG F
BB8	0.02	IPS	TTXD1_15	978	DEG F
BB9	0.04	IPS	TTXD1_16	1023	DEG F
TTXD1_1	999	DEG F	TTXD1_17	979	DEG F
TTXD1_2	999	DEG F	TTXD1_18	979	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	148.4	PSIG	WQJ	8.624	#/SEC
CTD	634	DEG F	WSQ	7.980	#/SEC
CTIF1	54	DEG F	TNH	100.0	% SPD
CTIF2	54	DEG F	TNR	103.8	% SPD
DW	76.14	MW	CSGV	83.5	DEG
FSL	1.21	% STR	LTTH	115	DEG F
FSR	58.6	% FSR	S125P	91.85	V DC
FSG	56.51	% STR	S125N	-39.22	V DC
FTG	47	DEG F	CTIM	54	DEG F
FTG1	47	DEG F	CPD	148.4	PSIG
FDG2	85.5	INH20	CTD	634	DEG F
FQG	12.245	#/SEC	TIMR_01	62 870.8	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	236	RPM	FQ_PR	0	RPM
WXC	0.679	RATIO	HPA1	85.7	% H2
WXJ	0.706	RATIO	HPA2	88.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 13:50:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	978	DEG F
TTXSP1	55	DEG F	TTXD1_4	1004	DEG F
TTXSP2	55	DEG F	TTXD1_5	1033	DEG F
TTXSP3	55	DEG F	TTXD1_6	980	DEG F
TTXC	1006	DEG F	TTXD1_7	1029	DEG F
TTXM	1005	DEG F	TTXD1_8	1030	DEG F
BB1	0.08	IPS	TTXD1_9	1025	DEG F
BB2	0.08	IPS	TTXD1_10	1032	DEG F
BB3	0.17	IPS	TTXD1_11	1032	DEG F
BB4	0.11	IPS	TTXD1_12	989	DEG F
BB5	0.11	IPS	TTXD1_13	1026	DEG F
BB7	0.03	IPS	TTXD1_14	991	DEG F
BB8	0.02	IPS	TTXD1_15	978	DEG F
BB9	0.04	IPS	TTXD1_16	1022	DEG F
TTXD1_1	997	DEG F	TTXD1_17	978	DEG F
TTXD1_2	997	DEG F	TTXD1_18	978	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 13:50:07 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	148.8	PSIG	WQJ	8.654	#/SEC
CTD	634	DEG F	WSQ	7.967	#/SEC
CTIF1	55	DEG F	TNH	100.1	% SPD

FSL	1.25	% STR	LTTH	115	DEG F
FSR	58.5	% FSR	S125P	91.49	V DC
FSG	56.46	% STR	S125N	-39.66	V DC
FTG	46	DEG F	CTIM	55	DEG F
FTG1	46	DEG F	CPD	148.8	PSIG
FDG2	84.7	INH2O	CTD	634	DEG F
FQG	12.234	#/SEC	TIMR_01	62 871.0	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	239	RPM	FQ_PR	0	RPM
WXC	0.679	RATIO	HPA1	86.5	% H2
WXJ	0.707	RATIO	HPA2	88.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

HOUR LOG ---------- ROLLING AVG ----------

TIME	GAS FUEL #/SEC	WATER #/SEC	ACTUAL RATIO	REQUIRED RATIO	AMBIENT DEG F
10 FEB 93 13:56:00	12.294	8.614	0.701	0.680	54

DATA LIST 12 10 FEB 93 14:05:02 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	980	DEG F
TTXSP1	55	DEG F	TTXD1_4	1005	DEG F
TTXSP2	55	DEG F	TTXD1_5	1035	DEG F
TTXSP3	55	DEG F	TTXD1_6	982	DEG F
TTXC	1007	DEG F	TTXD1_7	1029	DEG F
TTXM	1005	DEG F	TTXD1_8	1032	DEG F
BB1	0.08	IPS	TTXD1_9	1026	DEG F
BB2	0.08	IPS	TTXD1_10	1033	DEG F
BB3	0.16	IPS	TTXD1_11	1034	DEG F
BB4	0.11	IPS	TTXD1_12	991	DEG F
BB5	0.11	IPS	TTXD1_13	1025	DEG F
BB7	0.03	IPS	TTXD1_14	991	DEG F
BB8	0.02	IPS	TTXD1_15	979	DEG F
BB9	0.04	IPS	TTXD1_16	1023	DEG F
TTXD1_1	999	DEG F	TTXD1_17	980	DEG F
TTXD1_2	1000	DEG F	TTXD1_18	979	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 14:05:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS

CTIF1	55	DEG F	TNH	100.0	% SPD
CTIF2	54	DEG F	TNR	103.8	% SPD
→ DW	76.14	MW	CSGV	83.5	DEG
FSL	1.21	% STR	LTTH	115	DEG F
FSR	58.2	% FSR	S125P	91.42	V DC
FSG	56.58	% STR	S125N	-39.73	V DC
FTG	44	DEG F	CTIM	55	DEG F
FTG1	44	DEG F	CPD	148.3	PSIG
FDG2	84.8	INH20	CTD	634	DEG F
→ FQG	12.291	#/SEC	TIMR_01	62 871.3	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	237	RPM	FQ_PR	0	RPM
WXC	0.681	RATIO	HPA1	85.7	% H2
WXJ	0.705	RATIO	HPA2	88.5	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

FQG = 12.270
WQJ = 8.644
DW = 76.19

Unit D End Run #1

DATA LIST 12 10 FEB 93 14:20:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	976	DEG F
TTXSP1	57	DEG F	TTXD1_4	1003	DEG F
TTXSP2	57	DEG F	TTXD1_5	1034	DEG F
TTXSP3	55	DEG F	TTXD1_6	982	DEG F
TTXC	1007	DEG F	TTXD1_7	1028	DEG F
TTXM	1007	DEG F	TTXD1_8	1032	DEG F
BB1	0.08	IPS	TTXD1_9	1026	DEG F
BB2	0.08	IPS	TTXD1_10	1035	DEG F
BB3	0.17	IPS	TTXD1_11	1034	DEG F
BB4	0.11	IPS	TTXD1_12	992	DEG F
BB5	0.11	IPS	TTXD1_13	1028	DEG F
BB7	0.03	IPS	TTXD1_14	991	DEG F
BB8	0.02	IPS	TTXD1_15	977	DEG F
BB9	0.04	IPS	TTXD1_16	1025	DEG F
TTXD1_1	1001	DEG F	TTXD1_17	980	DEG F
TTXD1_2	999	DEG F	TTXD1_18	981	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 14:20:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	148.3	PSIG	→ WQJ	8.585	#/SEC
CTD	634	DEG F	WSQ	7.505	#/SEC
CTIF1	55	DEG F	TNH	100.0	% SPD
CTIF2	54	DEG F	TNR	103.8	% SPD
→ DW	76.20	MW	CSGV	83.7	DEG
FSL	1.25	% STR	LTTH	115	DEG F
FSR	57.8	% FSR	S125P	91.05	V DC
FSG	56.37	% STR	S125N	-39.95	V DC
FTG	40	DEG F	CTIM	55	DEG F

FQG	12.250	#/SEC	TIMR_01	62 871.5	HOURS
→ FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	236	RPM	FQ_PR	0	RPM
WXC	0.677	RATIO	HPA1	86.0	% H2
WXJ	0.701	RATIO	HPA2	88.4	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

Unit D - Natural Gas

Begin Run #2

DATA LIST 12 10 FEB 93 14:35:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	152	DEG F	TTXD1_3	979	DEG F
TTXSP1	56	DEG F	TTXD1_4	1004	DEG F
TTXSP2	55	DEG F	TTXD1_5	1034	DEG F
TTXSP3	54	DEG F	TTXD1_6	982	DEG F
TTXC	1006	DEG F	TTXD1_7	1031	DEG F
TTXM	1006	DEG F	TTXD1_8	1032	DEG F
BB1	0.08	IPS	TTXD1_9	1027	DEG F
BB2	0.08	IPS	TTXD1_10	1034	DEG F
BB3	0.17	IPS	TTXD1_11	1033	DEG F
BB4	0.11	IPS	TTXD1_12	989	DEG F
BB5	0.11	IPS	TTXD1_13	1024	DEG F
BB7	0.03	IPS	TTXD1_14	988	DEG F
BB8	0.02	IPS	TTXD1_15	978	DEG F
BB9	0.04	IPS	TTXD1_16	1022	DEG F
TTXD1_1	1000	DEG F	TTXD1_17	978	DEG F
TTXD1_2	998	DEG F	TTXD1_18	980	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 14:35:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	148.7	PSIG	→ WQJ	8.515	#/SEC
CTD	635	DEG F	WSQ	7.424	#/SEC
CTIF1	54	DEG F	TNH	100.0	% SPD
CTIF2	54	DEG F	TNR	103.8	% SPD
→ DW	76.14	MW	CSGV	83.6	DEG
FSL	1.31	% STR	LTTH	115	DEG F
FSR	57.9	% FSR	S125P	91.42	V DC
FSG	56.18	% STR	S125N	-39.58	V DC
FTG	39	DEG F	CTIM	54	DEG F
FTG1	40	DEG F	CPD	148.7	PSIG
FDG2	83.8	INH20	CTD	635	DEG F
→ FQG	12.253	#/SEC	TIMR_01	62 871.8	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	236	RPM	FQ_PR	0	RPM
WXC	0.674	RATIO	HPA1	86.6	% H2
WXJ	0.695	RATIO	HPA2	88.3	% H2

REMOTE LINK HEALTHY

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	979	DEG F
TTXSP1	57	DEG F	TTXD1_4	1005	DEG F
TTXSP2	57	DEG F	TTXD1_5	1035	DEG F
TTXSP3	56	DEG F	TTXD1_6	983	DEG F
TTXC	1008	DEG F	TTXD1_7	1029	DEG F
TTXM	1005	DEG F	TTXD1_8	1033	DEG F
BB1	0.08	IPS	TTXD1_9	1027	DEG F
BB2	0.08	IPS	TTXD1_10	1036	DEG F
BB3	0.16	IPS	TTXD1_11	1036	DEG F
BB4	0.11	IPS	TTXD1_12	992	DEG F
BB5	0.12	IPS	TTXD1_13	1026	DEG F
BB7	0.03	IPS	TTXD1_14	992	DEG F
BB8	0.02	IPS	TTXD1_15	979	DEG F
BB9	0.04	IPS	TTXD1_16	1027	DEG F
TTXD1_1	1002	DEG F	TTXD1_17	981	DEG F
TTXD1_2	1000	DEG F	TTXD1_18	980	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	148.3	PSIG	→WQJ	8.425	#/SEC
CTD	635	DEG F	WSQ	7.329	#/SEC
CTIF1	55	DEG F	TNH	100.0	% SPD
CTIF2	55	DEG F	TNR	103.8	% SPD
→DW	75.67	MW	CSGV	83.7	DEG
FSL	1.31	% STR	LTTH	116	DEG F
FSR	58.1	% FSR	S125P	91.42	V DC
FSG	56.39	% STR	S125N	-39.66	V DC
FTG	43	DEG F	CTIM	55	DEG F
FTG1	43	DEG F	CPD	148.3	PSIG
FDG2	83.3	INH20	CTD	635	DEG F
→FQG	12.179	#/SEC	TIMR_01	62 872.0	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	232	RPM	FQ_PR	0	RPM
WXC	0.675	RATIO	HPA1	87.0	% H2
WXJ	0.691	RATIO	HPA2	88.3	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

TIME	GAS FUEL #/SEC	WATER #/SEC	ACTUAL RATIO	REQUIRED RATIO	AMBIENT DEG F
10 FEB 93 14:56:00	12.226	8.530	0.698	0.675	55

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	980	DEG F
TTXSP1	57	DEG F	TTXD1_4	1005	DEG F
TTXSP2	57	DEG F	TTXD1_5	1034	DEG F
TTXSP3	56	DEG F	TTXD1_6	983	DEG F
TTXC	1007	DEG F	TTXD1_7	1028	DEG F
TTXM	1007	DEG F	TTXD1_8	1032	DEG F
BB1	0.08	IPS	TTXD1_9	1025	DEG F
BB2	0.08	IPS	TTXD1_10	1035	DEG F
BB3	0.16	IPS	TTXD1_11	1033	DEG F
BB4	0.11	IPS	TTXD1_12	991	DEG F
BB5	0.11	IPS	TTXD1_13	1028	DEG F
BB7	0.03	IPS	TTXD1_14	992	DEG F
BB8	0.02	IPS	TTXD1_15	978	DEG F
BB9	0.04	IPS	TTXD1_16	1026	DEG F
TTXD1_1	1001	DEG F	TTXD1_17	982	DEG F
TTXD1_2	1000	DEG F	TTXD1_18	980	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	148.2	PSIG	→ WQJ	8.455	#/SEC
CTD	635	DEG F	WSQ	7.899	#/SEC
CTIF1	56	DEG F	TNH	100.0	% SPD
CTIF2	55	DEG F	TNR	103.8	% SPD
→ DW	75.87	MW	CSGV	83.7	DEG
FSL	1.33	% STR	LTTH	116	DEG F
FSR	58.1	% FSR	S125P	91.20	V DC
FSG	56.58	% STR	S125N	-39.80	V DC
FTG	45	DEG F	CTIM	56	DEG F
FTG1	45	DEG F	CPD	148.2	PSIG
FDG2	84.2	INH20	CTD	635	DEG F
→ FQG	12.227	#/SEC	TIMR_01	62 872.3	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	234	RPM	FQ_PR	0	RPM
WXC	0.684	RATIO	HPA1	87.1	% H2
WXJ	0.694	RATIO	HPA2	88.3	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

WQJ = 8.465
FQG = 12.22
DW = 75.89
Unit D End Run #2

Unit D - Gas
Begin Run #3

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	981	DEG F
TTXSP1	55	DEG F	TTXD1_4	1003	DEG F
TTXSP2	55	DEG F	TTXD1_5	1035	DEG F
TTXSP3	54	DEG F	TTXD1_6	985	DEG F
TTXC	1008	DEG F	TTXD1_7	1029	DEG F
TTXM	1006	DEG F	TTXD1_8	1031	DEG F
BB1	0.08	IPS	TTXD1_9	1028	DEG F
BB2	0.08	IPS	TTXD1_10	1036	DEG F
BB3	0.17	IPS	TTXD1_11	1036	DEG F
BB4	0.11	IPS	TTXD1_12	992	DEG F
BB5	0.11	IPS	TTXD1_13	1026	DEG F
BB7	0.03	IPS	TTXD1_14	991	DEG F
BB8	0.03	IPS	TTXD1_15	981	DEG F
BB9	0.04	IPS	TTXD1_16	1026	DEG F
TTXD1_1	1001	DEG F	TTXD1_17	984	DEG F
TTXD1_2	1000	DEG F	TTXD1_18	981	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	148.1	PSIG	→ WQJ	8.544	#/SEC
CTD	636	DEG F	WSQ	7.939	#/SEC
CTIF1	55	DEG F	TNH	100.0	% SPD
CTIF2	55	DEG F	TNR	103.8	% SPD
→ DW	75.54	MW	CSGV	83.7	DEG
FSL	1.31	% STR	LTTH	116	DEG F
FSR	58.2	% FSR	S125P	91.78	V DC
FSG	56.30	% STR	S125N	-39.22	V DC
FTG	46	DEG F	CTIM	55	DEG F
FTG1	46	DEG F	CPD	148.1	PSIG
FDG2	84.5	INH20	CTD	636	DEG F
→ FQG	12.203	#/SEC	TIMR_01	62 872.5	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	235	RPM	FQ_PR	0	RPM
WXC	0.680	RATIO	HPA1	87.1	% H2
WXJ	0.700	RATIO	HPA2	88.3	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	979	DEG F
TTXSP1	61	DEG F	TTXD1_4	1003	DEG F

TTXC	1007	DEG F	TTXD1_7	1031	DEG F
TTXM	1007	DEG F	TTXD1_8	1033	DEG F
BB1	0.08	IPS	TTXD1_9	1028	DEG F
BB2	0.08	IPS	TTXD1_10	1036	DEG F
BB3	0.18	IPS	TTXD1_11	1035	DEG F
BB4	0.11	IPS	TTXD1_12	992	DEG F
BB5	0.11	IPS	TTXD1_13	1026	DEG F
BB7	0.03	IPS	TTXD1_14	991	DEG F
BB8	0.02	IPS	TTXD1_15	978	DEG F
BB9	0.04	IPS	TTXD1_16	1025	DEG F
TTXD1_1	1000	DEG F	TTXD1_17	979	DEG F
TTXD1_2	1001	DEG F	TTXD1_18	978	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	148.2	PSIG	→WQJ	8.505	#/SEC
CTD	636	DEG F	WSQ	7.451	#/SEC
CTIF1	57	DEG F	TNH	100.0	% SPD
CTIF2	56	DEG F	TNR	103.8	% SPD
→DW	75.87	MW	CSGV	83.7	DEG
FSL	1.31	% STR	LTTH	118	DEG F
FSR	58.3	% FSR	S125P	91.56	V DC
FSG	56.08	% STR	S125N	-39.51	V DC
FTG	47	DEG F	CTIM	57	DEG F
FTG1	48	DEG F	CPD	148.2	PSIG
FDG2	85.4	INH20	CTD	636	DEG F
→FQG	12.273	#/SEC	TIMR_01	62 872.8	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	235	RPM	FQ_PR	0	RPM
WXC	0.688	RATIO	HPA1	87.2	% H2
WXJ	0.694	RATIO	HPA2	88.3	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	978	DEG F
TTXSP1	57	DEG F	TTXD1_4	1004	DEG F
TTXSP2	55	DEG F	TTXD1_5	1034	DEG F
TTXSP3	54	DEG F	TTXD1_6	984	DEG F
TTXC	1008	DEG F	TTXD1_7	1028	DEG F
TTXM	1006	DEG F	TTXD1_8	1031	DEG F
BB1	0.08	IPS	TTXD1_9	1029	DEG F
BB2	0.08	IPS	TTXD1_10	1035	DEG F
BB3	0.17	IPS	TTXD1_11	1035	DEG F
BB4	0.11	IPS	TTXD1_12	992	DEG F
BB5	0.11	IPS	TTXD1_13	1027	DEG F

BB9	0.04	IPS	TTXD1_16	1027	DEG F
TTXD1_1	1002	DEG F	TTXD1_17	981	DEG F
TTXD1_2	1002	DEG F	TTXD1_18	980	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	148.1	PSIG	→ WQJ	8.505	#/SEC
CTD	636	DEG F	WSQ	7.424	#/SEC
CTIF1	56	DEG F	TNH	100.0	% SPD
CTIF2	56	DEG F	TNR	103.8	% SPD
→ DW	75.60	MW	CSGV	83.9	DEG
FSL	1.27	% STR	LTTH	118	DEG F
FSR	58.3	% FSR	S125P	91.20	V DC
FSG	56.23	% STR	S125N	-39.80	V DC
FTG	47	DEG F	CTIM	56	DEG F
FTG1	47	DEG F	CPD	148.1	PSIG
FDG2	84.2	INH20	CTD	636	DEG F
→ FQG	12.181	#/SEC	TIMR_01	62 873.0	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	235	RPM	FQ_PR	0	RPM
WXC	0.680	RATIO	HPA1	87.2	% H2
WXJ	0.698	RATIO	HPA2	88.2	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

WQJ = 8.518
FQG = 12.219
DW = 75.67
Unit D-Gas End Run #3

HOUR LOG ---------- ROLLING AVG ----------

TIME	GAS FUEL #/SEC	WATER #/SEC	ACTUAL RATIO	REQUIRED RATIO	AMBIENT DEG F
10 FEB 93 15:56:00	12.198	8.499	0.697	0.681	56

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	982	DEG F
TTXSP1	56	DEG F	TTXD1_4	1006	DEG F
TTXSP2	56	DEG F	TTXD1_5	1037	DEG F
TTXSP3	54	DEG F	TTXD1_6	985	DEG F
TTXC	1009	DEG F	TTXD1_7	1030	DEG F
TTXM	1008	DEG F	TTXD1_8	1035	DEG F
BB1	0.08	IPS	TTXD1_9	1025	DEG F

BB5	0.11	IPS	TTXD1_13	1028	DEG F
BB7	0.03	IPS	TTXD1_14	994	DEG F
BB8	0.02	IPS	TTXD1_15	981	DEG F
BB9	0.04	IPS	TTXD1_16	1026	DEG F
TTXD1_1	1002	DEG F	TTXD1_17	984	DEG F
TTXD1_2	1002	DEG F	TTXD1_18	983	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	149.2	PSIG	WQJ	8.475	#/SEC
CTD	636	DEG F	WSQ	7.424	#/SEC
CTIF1	56	DEG F	TNH	100.1	% SPD
CTIF2	56	DEG F	TNR	103.8	% SPD
DW	75.87	MW	CSGV	83.9	DEG
FSL	1.37	% STR	LTTH	118	DEG F
FSR	58.2	% FSR	S125P	91.42	V DC
FSG	56.60	% STR	S125N	-39.58	V DC
FTG	45	DEG F	CTIM	56	DEG F
FTG1	45	DEG F	CPD	149.2	PSIG
FDG2	84.6	INH20	CTD	636	DEG F
FQG	12.249	#/SEC	TIMR_01	62 873.3	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	234	RPM	FQ_PR	0	RPM
WXC	0.684	RATIO	HPA1	87.3	% H2
WXJ	0.693	RATIO	HPA2	88.2	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 16:20:02 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	979	DEG F
TTXSP1	56	DEG F	TTXD1_4	1004	DEG F
TTXSP2	55	DEG F	TTXD1_5	1035	DEG F
TTXSP3	54	DEG F	TTXD1_6	984	DEG F
TTXC	1008	DEG F	TTXD1_7	1031	DEG F
TTXM	1006	DEG F	TTXD1_8	1032	DEG F
BB1	0.08	IPS	TTXD1_9	1028	DEG F
BB2	0.08	IPS	TTXD1_10	1035	DEG F
BB3	0.16	IPS	TTXD1_11	1035	DEG F
BB4	0.11	IPS	TTXD1_12	991	DEG F
BB5	0.11	IPS	TTXD1_13	1026	DEG F
BB7	0.03	IPS	TTXD1_14	991	DEG F
BB8	0.02	IPS	TTXD1_15	980	DEG F
BB9	0.04	IPS	TTXD1_16	1024	DEG F
TTXD1_1	1000	DEG F	TTXD1_17	981	DEG F
TTXD1_2	1000	DEG F	TTXD1_18	981	DEG F

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DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
CPD	148.3	PSIG	WQJ	8.544	#/SEC
CTD	635	DEG F	WSQ	7.465	#/SEC
CTIF1	56	DEG F	TNH	100.0	% SPD
CTIF2	56	DEG F	TNR	103.8	% SPD
DW	75.80	MW	CSGV	83.8	DEG
FSL	1.33	% STR	LTTH	117	DEG F
FSR	58.0	% FSR	S125P	91.85	V DC
FSG	56.46	% STR	S125N	-39.22	V DC
FTG	43	DEG F	CTIM	56	DEG F
FTG1	43	DEG F	CPD	148.3	PSIG
FDG2	83.9	INH20	CTD	635	DEG F
FQG	12.189	#/SEC	TIMR_01	62 873.5	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	236	RPM	FQ_PR	0	RPM
WXC	0.681	RATIO	HPA1	87.3	% H2
WXJ	0.700	RATIO	HPA2	88.2	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 16:35:01 PAGE000

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS
TTXSPL	128	DEG F	TTXD1_3	976	DEG F
TTXSP1	57	DEG F	TTXD1_4	1003	DEG F
TTXSP2	56	DEG F	TTXD1_5	1033	DEG F
TTXSP3	56	DEG F	TTXD1_6	983	DEG F
TTXC	1006	DEG F	TTXD1_7	1032	DEG F
TTXM	1005	DEG F	TTXD1_8	1030	DEG F
BB1	0.08	IPS	TTXD1_9	1026	DEG F
BB2	0.08	IPS	TTXD1_10	1035	DEG F
BB3	0.16	IPS	TTXD1_11	1033	DEG F
BB4	0.11	IPS	TTXD1_12	989	DEG F
BB5	0.11	IPS	TTXD1_13	1025	DEG F
BB7	0.03	IPS	TTXD1_14	988	DEG F
BB8	0.02	IPS	TTXD1_15	980	DEG F
BB9	0.04	IPS	TTXD1_16	1023	DEG F
TTXD1_1	998	DEG F	TTXD1_17	979	DEG F
TTXD1_2	1000	DEG F	TTXD1_18	978	DEG F

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES

DATA LIST 12 10 FEB 93 16:35:08 PAGE001

DEMAND DISPLAY

NAME	VALUE	UNITS	NAME	VALUE	UNITS

CTIF1	56	DEG F	TNH	100.0	% SPD
CTIF2	55	DEG F	TNR	103.8	% SPD
DW	75.67	MW	CSGV	83.5	DEG
FSL	1.33	% STR	LTTH	117	DEG F
FSR	57.9	% FSR	S125P	91.85	V DC
FSG	56.32	% STR	S125N	-39.22	V DC
FTG	41	DEG F	CTIM	56	DEG F
FTG1	41	DEG F	CPD	148.0	PSIG
FDG2	83.0	INH20	CTD	635	DEG F
FQG	12.159	#/SEC	TIMR_01	62 873.8	HOURS
FQ	0.000	#/SEC	FLAME	#3#4#7#8	
WQJF_PR	235	RPM	FQ_PR	0	RPM
WXC	0.680	RATIO	HPA1	87.2	% H2
WXJ	0.697	RATIO	HPA2	88.0	% H2

REMOTE LINK HEALTHY

LOG PERIOD = 0015 MINUTES