

Attachment E - Calibration Certificate for Lumex RA-915 Mercury Analyser

Ohio Lumex Co.

9263 Ravenna Rd, Unit A-3

Twinsburg Ohio 44087

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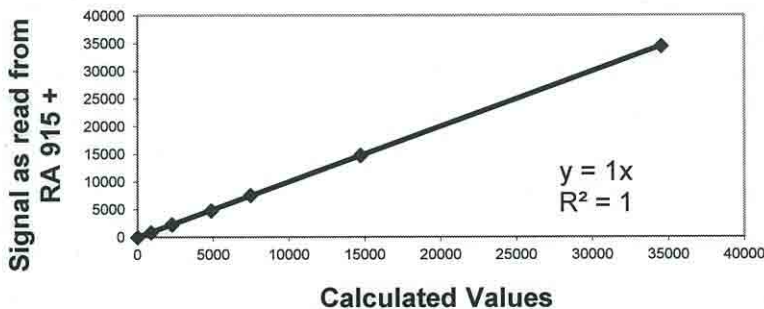
U69682X

Calibration Certificate #490

RA-915 +

Standard #	Temp C	Calculated value	Signal (10m cell)
1	21	0	0
2	21	884	868
3	21	2264	2285
4	21	4858	4805
5	21	7453	7570
6	21	14711	14778
7	21	34521	34473

RA 915 + Signal vs. Calculated Values



Calibration Gas certified value: 5.455 ug/m³

Reading observed: 5.4 ug/m³

Calibration Parameter A : 803

Calibration Parameter B : 43400

CALIBRATION DATE: 03/18/14 NEXT CALIBRATION DUE: 03/18/15

ON THE DATE CALIBRATED, THIS UNIT OPERATED WITHIN SPECIFIED TOLERANCES

Digital Barometer: Cert. # 4245-4547726, Cal. Due: 08/09/2014

Digital Thermometer: Cert. # 4245-4547726, Cal. Due: 08/09/2014

Gas NIST Traceable Standard: Thermo Hg Calibrator Serial #1021145493

Concentration: 5.455 ug/m³, Analytical Accuracy: +/- 10%. Recertification Date: 06/11/2014

SERVICE TECHNICIAN: J.S. *J. Stephens*

QC Check: *JB*

RECOMMENDATION NOTE: INSTRUMENT SHOULD BE RECALIBRATED EVERY 12 MONTHS OR SOONER, IF EXPOSED TO EXTREME CONDITIONS OR DAMAGE IS SUSPECTED

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Analyzer # 490 Repair Statement

Dear Sir or Madam:

Work Performed/ Results Found:	Work Performed and found as specified
1. RA 915+ (spectrometer) initial evaluation, cleaning	YES
2. Power and Charging system test, battery replaced	YES
3. Optical bench tested/adjusted	YES
4. Internal/External filters replaced	YES
5. Zero mercury filter replaced	YES
6. Pump tested	YES
7. Lamp and lamp generator tested/adjusted	YES
8. Photomultiplier module tested/adjusted	YES
9. Performance tested at elevated temperature (55C)	NO
10. Linearity tested/adjusted	YES
11. Calibration, Calibration Certificate attached,	YES
12. Datalogger tested	NA
13. Internal performance verification test module adjusted	YES
14. Mercury decontamination for instrument or case	NO

The problem we found was:

1. Multipas cell mirrors need adjustment

Measure taken:

Adjusted

On the day of testing, instrument is operational and found to perform as manufacturer specified.

Service Technician: _____

Date: 03/18/14