



Certificate of Calibration

MSA Lapel Air Sampler Calibration Form

Environmental Restoration Group, Inc.
8809 Washington St NE, Suite 150
Albuquerque, NM 87113
(505) 298-4224
www.ERGoffice.com

Manufacturer: MSA Model Number: Escort ELF Lapel Air Sampler Serial Number: A2-32568

☐ Mechanical Check

Barometric Pressure: 24.51 inches Hg

☒ Flow Fault Check:

Temperature: 76 °F

Relative Humidity: 20 %

Digital Flow Run
Number

Flow 1
(2000 cc/min)

Flow 2
(3000 cc/min)

| | | |
|---|------|------|
| 1 | 2038 | 3212 |
| 2 | 2052 | 3192 |
| 3 | 2114 | 3120 |
| 4 | 1990 | 3076 |
| 5 | 2109 | 3051 |
| 6 | 2080 | 3192 |

Note: Breathing zone sampler calibration consists of a single-point calibration at two different flow rates. The average flow rate for each flow rate tested is based on the test runs at each flow rate tested. The sampler flow rate is then adjusted to match this average.

Average: 2063.8

3140.5

Adjustment Set: ☒

☒

Final Flow Setting: 2.5 LPM

a

Reference Calibrator:

☒ MSA DIGICAL serial number: 020158

☐ A.P. Buck mini-Buck serial number: 053058

Calibrated By:

Calibration Date: 6-9-16

Reviewed By:

Review Date: 6/9/16



Certificate of Calibration

Calibration and Voltage Plateau

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Meter: Manufacturer: Ludlum Model Number: 2360 Serial Number: 184913
Detector: Manufacturer: Ludlum Model Number: 43-93 Serial Number: PR199839

- ☒ Mechanical Check ☒ THR/WIN Operation
☐ F/S Response Check ☒ Reset Check
☒ Geotropism ☒ Audio Check
☒ Meter Zeroed ☒ Battery Check (Min 4.4 VDC)

HV Check (+/- 2.5%): ☒ 500 V ☒ 1000 V ☒ 1500 V

Cable Length: ☒ 39-inch ☐ 72-inch ☐ Other:

Source Distance: ☒ Contact ☐ 6 inches ☐ Other:

Source Geometry: ☐ Side ☒ Below ☐ Other:

Alpha Threshold: 120 mV

Beta Threshold: 4

Beta Window: 30 mV

Barometric Pressure: 24.54 inches Hg

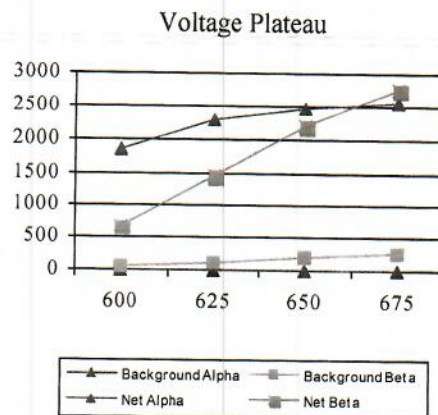
Temperature: 76 °F

Relative Humidity: 20 %

Instrument found within tolerance: ☒ Yes ☐ No

| Range/Multiplier | Reference Setting | "As Found Reading" | Meter Reading | Integrated 1-Min. Count | |
|------------------|-------------------|--------------------|---------------|-------------------------|---------|
| | | | | α | β |
| x 1000 | 400 Kcpm | 400 | 400 | 398886 | 398893 |
| x 1000 | 100 Kcpm | 100 | 100 | | |
| x 100 | 40 Kcpm | 400 | 400 | 39862 | 39865 |
| x 100 | 10 Kcpm | 100 | 100 | | |
| x 10 | 4 Kcpm | 400 | 400 | 3987 | 3988 |
| x 10 | 1 Kcpm | 100 | 100 | | |
| x 1 | 400 cpm | 400 | 400 | 399 | 399 |
| x 1 | 100 cpm | 100 | 100 | | |

| High Voltage | Alpha Source | | Beta Source | | Background | |
|--------------|--------------|---------|-------------|---------|------------|---------|
| | α | β | α | β | α | β |
| 600 | 1853 | 308 | 9 | 749 | 1 | 57 |
| 625 | 2284 | 314 | 7 | 1579 | 4 | 131 |
| 650 | 2480 | 414 | 6 | 2387 | 2 | 201 |
| 675 | 2552 | 514 | 8 | 3017 | 6 | 269 |



Comments: HV Plateau Scaler Count Time = 1 min. Recommended HV = 650

Reference Instruments and/or Sources:

Ludlum pulser serial number: ☐ 97743 ☒ 201932

Fluke multimeter serial number ☒ 87490128

☒ Alpha Source: Th-230 (s/n 4098-03) 12,800 dpm on 1/4/12

☐ Gamma Source Cs-137 @ 5.2 uCi (1/4/12) sn: 4097-03

☒ Beta Source: ~~Th-230~~ (sn: 4099-03) 17,700 dpm on 1/4/12

☐ Other Source:

Calibrated By:

Calibration Date: 6-9-16

Calibration Due: 6-9-17

Reviewed By:

Date: 6/9/16

ERG Form ITC. 101.C

This calibration conforms to the requirements and acceptable calibration conditions of ANSI N323A - 1997