



Plant Protection Division
 Weights and Measures Program
 Metrology Laboratory
 2747 29th Ave. SW ♦ Tumwater ♦ Washington 98512
 Ph (360) 753-5042 ♦ Fax (360) 586-4728
 e-mail: dwright@agr.wa.gov



For Scope of Accreditation
 Under
 NVLAP Lab Code 200446-0

Report of Calibration # L2669-4

Calibration Date: November 16, 2007

Artifact

| | | | |
|--------------------|--------------------------------|------------------|-------------------------|
| Test Item..... | Test Weights, 16 each, 1000 lb | Work Order #.... | L2669 |
| Serial Number.... | SP17 - SP32 | Manufacture.... | See Calibration Results |
| Specification..... | NIST HB 105-3, Class F | Material..... | Cast Iron |
| Date Received: | November 13, | | |

Submitted By

| | |
|-------------------------|--------------------------------|
| Washington State Patrol | Purchase Order # : N/A |
| 8623 Armstrong Road SW | Point of Contact.: Dave Cromer |
| Olympia, WA 98504 | POC Phone.....: 360-596-6000 |

Artifact Calibration Results

| Weight Description | Serial Number | Manufacture | Correction As found (g) | Correction As Left (g) | Specification Class Tolerance ± (g) | Uncertainty k=2 (g) |
|--------------------|---------------|-----------------|-------------------------|------------------------|-------------------------------------|---------------------|
| 1000 lb | SP17 | Hern Iron Works | -4.6 | -4.6 | 45 | 5.1 |
| 1000 lb | SP18 | Hern Iron Works | 24.0 | 24.0 | 45 | 5.1 |
| 1000 lb | SP19 | Hern Iron Works | 26.1 | 26.1 | 45 | 5.1 |
| 1000 lb | SP20 | Hern Iron Works | 36.4 | 36.4 | 45 | 5.1 |
| 1000 lb | SP21 | Hern Iron Works | 10.8 | 10.8 | 45 | 5.1 |
| 1000 lb | SP22 | Hern Iron Works | -3.3 | -3.3 | 45 | 5.1 |
| 1000 lb | SP23 | Hern Iron Works | 27.6 | 27.6 | 45 | 5.1 |
| 1000 lb | SP24 | Hern Iron Works | 31.0 | 31.0 | 45 | 5.1 |
| 1000 lb | SP25 | Hern Iron Works | 39.4 | 39.4 | 45 | 5.1 |
| 1000 lb | SP26 | Hern Iron Works | 8.2 | 8.2 | 45 | 5.1 |
| 1000 lb | SP27 | Hern Iron Works | 9.4 | 9.4 | 45 | 5.1 |
| 1000 lb | SP28 | Hern Iron Works | -11.0 | -11.0 | 45 | 5.1 |
| 1000 lb | SP29 | Hern Iron Works | 38.7 | 38.7 | 45 | 5.1 |
| 1000 lb | SP30 | Hern Iron Works | 26.4 | 26.4 | 45 | 5.1 |
| 1000 lb | SP31 | Hern Iron Works | 20.6 | 20.6 | 45 | 5.1 |
| 1000 lb | SP32 | Hern Iron Works | 12.7 | 12.7 | 45 | 5.1 |



Inspection Division
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Calibration Notes

- The artifact(s) listed above have been found and/or left within the stated tolerances for the classification(s) stated above, except as noted. An artifact is considered in-tolerance when the correction plus the measurement uncertainty is equal to or less than the specified tolerance. **Bold** print indicates an out-of-tolerance reading.
- 1 avoirdupois pound equals 453.59237 grams exactly.
- All corrections stated in this report correlate to a "conventional mass" (also known as 'apparent mass') scale verses 8.0 g/cm³ reference mass density and an air density of 1.2 mg/cm³ at 20 °C.

Calibration Conditions

Technician.....: Dan Wright Procedure: NIST HB 145, SOP 8
 Condition of Artifact: Good
 Temperature.....: 21.6 °C Pressure: 753.5 mm Hg Humidity: 47.7 % RH

Laboratory Mass Standard(s) Used

| Description | Serial Number | Report Number | Date Calibrated | Date Calibration Due |
|-----------------|---------------|---------------|-----------------|----------------------|
| 1000 lb - 20 lb | SET WC | L2537-1 | 10/16/2006 | 10/16/2008 |

Relevant Information

- The results listed in this report relate only to the artifacts described and extent of calibrations performed.

Traceability Statement

The item(s) listed above have been compared to the Standards of the State of Washington. The Standards of the State of Washington are traceable to the National Institute of Standards and Technology (NIST) and are part of a comprehensive measurement assurance program for ensuring continued accuracy and measurement traceability within the level of uncertainty reported by this laboratory. The report of calibration number identified in the title of this report is the unique report number to be used in referencing measurement traceability for the artifact(s) identified in this report only.

Uncertainty Statement

The combined standard uncertainty includes uncertainties reported for the standard, uncertainties associated with the measurement process, uncertainties for any observed deviations from reference values which are less than surveillance limits, and other uncertainties associated with the particular artifact (i.e., reading meniscus, air buoyancy corrections, etc.). The combined standard uncertainty is multiplied by k, a coverage factor of 2, to give the expanded uncertainty (which defines an interval with an approximate 95 percent level of confidence). The expanded uncertainty presented in this report is consistent with NIST Technical Note 1297. Stated uncertainties are less than 1/3 of the applicable tolerances.



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Certification Statement

Accredited by the National Institute of Standards and Technology (NIST) through the National Voluntary Laboratory Accreditation Program (NVLAP) for the specified scope of accreditation under lab code 200446-0. This laboratory meets the requirements of ISO/IEC 17025 and ANSI/NCSL Z540-1. This report may not be used to claim product endorsement by NVLAP or any other government agency, and may not be reproduced, except in full, without written approval from the laboratory.

I certify (or declare) under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

Executed this 16th day of November at Tumwater, Thurston County, Washington

Dan Wright
Dan Wright, State Metrologist