

Michigan Department of Agriculture & Rural Development
LABORATORY DIVISION
METROLOGY LABORATORY



Manager: Craig VanBuren, 517-655-7223, vanburenc9@michigan.gov

Legal Authority: [The Weights and Measures Act, Public Act 283 of 1964, as amended](#)

Description of the Program:

The E.C. Heffron Metrology Laboratory directly supports all legal metrology activities of the W&M programs. The Lab houses Michigan’s primary standards for weight, measure, and temperature, and is accredited by the NVLAP to conduct Echelon I mass calibrations. The Lab supports state/county/city highway weight-limit enforcement programs by certifying vehicle axle scales (wheel load weighers). The Lab also provides traceability to national standards for Michigan’s wide variety of high-tech, manufacturing, and heavy industries by offering fee-based testing and calibration services. The Lab’s high level of accreditation, expertise, and accessibility makes it one of the busiest precision mass laboratories in the nation.



NVLAP Lab Code 200408-0

Why it matters:

Benefits of the Lab include: ensuring accuracy and stability in the commercial measurement system; technical support of other state agencies; the facilitation of high tech and precision manufacturing; protecting Michigan’s roads from overweight vehicles through the use of portable wheel load scales; and the promotion of safety.

Key Stakeholders

- Michigan Public (ensuring correct weights and measures in the marketplace)
- Weights & Measures/Motor Fuel Quality Programs
- Multiple Michigan Industries

Deliverables

- Maintain ISO/IEC 17025 Accreditation
- Maintain NIST Traceability
- Calibration of State Field Standards
- Calibration of Registered Service Agency Equipment
- Support Michigan’s Manufacturing Industry

Michigan Department of Agriculture & Rural Development
LABORATORY DIVISION
METROLOGY LABORATORY



Accomplishments:

- NIST Certificate of Measurement Traceability renewed
- National Voluntary Laboratory (NVLAP) Accreditation
- Conformance with the International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC), including ISO/IEC 17025 and Guide 58

All three of the above allow the lab to support many Michigan industries and businesses. Without the accomplishments above, many businesses would be forced to look for the Lab's services out of state, which would increase their down-time and cost the businesses significantly more.

Measuring Success:

| Metric – Testing | | | | | |
|-------------------------|-------------|--------|----------------------|---------------------|------------|
| Mass Standards | | | Echelon 1 | Echelon 2 | Echelon 3 |
| Internal | | | 30 | - | 112 |
| External | | | - | 1732 | 6753 |
| Volumetric Standards | Gravimetric | LP Gas | Small Volume Provers | </= 5 Gallon | > 5 Gallon |
| Internal | - | 4 | - | 6 | 11 |
| External | 6 | 9 | 15 | 146 | 34 |
| Other | | | | Wheel Load Weighers | |
| External | | | | 727 | |

Program Goals:

- Renew NIST Certificate of Traceability
- Maintain NVLAP Accreditation
- Retain ISO and IEC conformance

Michigan Department of Agriculture & Rural Development

LABORATORY DIVISION

WEIGHTS & MEASURES PROGRAM



Manager: Robert DeRubeis, 517-655-7227, derubeisr@michigan.gov

Legal Authority: [The Weights and Measures Act, Public Act 283 of 1964, as amended](#)
[Shopping Reform and Modernization, Public Act 15 of 2011](#)

Description of the Program:

- The state **Weights and Measures Program** is the only program charged with protecting both consumers and industry from economic harm caused by unfair, unscrupulous, or fraudulent business practices for goods and services based on weight, measure, or count. The program enforces well established, uniform weights and measures practices; investigates complaints; ensures the proper operation of commercial weighing and measuring devices; ensures net content of packaged commodities; conducts undercover investigations; and initiates civil or criminal actions when necessary.



The W&M program registers servicepersons to ensure that industry “best practices” are used and provides trade assistance when exporters require state weight, measure, or device certification for export. Through participation in regional and national weights and measures associations, the W&M program works cooperatively with industry to promote weights and measures uniformity, while promoting new business technologies. Every consumer and business benefits because consumer confidence in the commercial marketplace is ensured of a level playing field on which to compete for businesses.

- **Why it matters:**

It is estimated that the sales of products and services impacted by weights and measures represents approximately 50% of Michigan’s GDP. The Weights and Measures Program ensures equity and a level playing field within the market between both business to business transactions and the business to consumer transactions.

| Key Stakeholders | Deliverables |
|---|---|
| <ul style="list-style-type: none"> • Consumers and Producers in Michigan • Associated Food and Petroleum Dealers • Michigan Grocers Association • Michigan Agri-business Association • Michigan Propane Gas Association • Michigan Petroleum Association/Michigan Association of Convenience Stores • Petroleum Quality Institute of America | <ul style="list-style-type: none"> • Commercial Device Inspections* 4,345 • Unique Devices Inspected* 19,797 • Total Device Tests* 76,810 • Total Packages Checked 16,218 • Registered Service Agencies 130 • Registered Service Persons 495 <p>*Does not include the re-inspection of condemned devices.</p> |

Michigan Department of Agriculture & Rural Development

LABORATORY DIVISION

WEIGHTS & MEASURES PROGRAM



Accomplishments:

- MDARD's Weights and Measures Program continues to monitor the marketplace in order to protect Michigan businesses and consumers from fraud. An example of this effort was the development of inspection protocols to focus on the credit card systems inside gas dispensers. As a result Weights and Measures staff working alongside the FBI, Secret Service, local law enforcement, service companies and station operators, have removed fifteen skimmer or filter devices from across the State. These devices are used to capture the personal information of the customer. This organized crime is seen throughout the United States. Information and evidence collected by Weights and Measures is being used to prosecute individuals at the Federal level.
- Outreach initiatives continue to develop with industry training in the class room; web based training presentations; and a Weights and Measures Open House attended by many key stakeholders. All efforts provide needed information to businesses operating within the State.



A credit card skimmer found concealed inside a retail gas pump is displayed.

Measuring Success:

| Inspections | Approved | Condemned | Compliance |
|--|----------|-----------|----------------|
| Net Content Packages | 1,2350 | 3,868 | 76.15% |
| Retail Motor Fuel Dispensers** | 52,400 | 2,833 | 94.87% |
| Non-Gas Weighing and Measuring Devices | 4,237 | 257 | 94.28% |
| Complaints | | | Investigations |
| Gasoline Short Measure** | | | 1,244 |
| Other Weights and Measures | | | 75 |
| Item Pricing / Shopping Reform | | | 100 |
| Enforcement | | | |
| Compliance Meetings | | | 15 |
| Warning Letters | | | 41 |
| Fines | | | (66) \$894,760 |
| Number of Seizures | | | 13 |
| Product Value | | | \$63,640 |
| Product Volume | | | 12,723 lbs. |

Program Goals:

- Test 25% of all retail gasoline dispensers annually while maintaining a 97% compliance rate and promoting consumer confidence.
- Test 12,000 packages every year for accuracy of net content.
- Conduct 250 audits of work conducted by registered service persons.

** Motor Fuel complaints were jointly investigated with MDARD's Motor Fuels Quality Program

Michigan Department of Agriculture & Rural Development

LABORATORY DIVISION

MOTOR FUELS QUALITY PROGRAM



Manager: Tim White, 517-655-7226, whitet@michigan.gov

Legal Authority: [The Motor Fuels Quality Act, Public Act 44 of 1984](#), as amended and applicable regulations

Description of the Program:

The Motor Fuels Quality Program ensures Michigan’s motoring public can be confident they are receiving quality motor fuels that meet minimum state standards. Further, the Motor Fuels Quality Program ensures gasoline sold in the eight county Southeast Michigan Region meets the low vapor pressure requirement for summertime gasoline; helping the region to maintain compliance with the Federal Clean Air Act. The Motor Fuels Quality program investigates complaints related to motor fuel quality, randomly samples retailers to ensure motor fuels meet state standards, monitors the entire motor fuel distribution chain from refinery to distributor/wholesaler to retail, provides technical guidance and assistance to motor fuel retailers as necessary, and licenses over 4700 motor fuel retailers.



Why it matters:

Michigan’s motoring public purchases more than 5 billion gallons of Motor Fuel annually, sight unseen. Receiving sub-standard motor fuel can damage automobile engines resulting in significant repair costs. The low vapor pressure program assists the Southeast Michigan region in maintaining compliance with the Clean Air Act; enabling people in Southeast Michigan to breathe clean air.

Key Stakeholders

- Michigan Consumers and Producers of Fuel
- Associated Food and Petroleum Dealers
- Michigan Petroleum Association/Michigan Association of Convenience Stores
- Associated Petroleum Industries of Michigan
- Michigan Retailers Association

Deliverables

- Official Samples Procured 3,634
- Vapor Recovery Samples..... 654
- Field Octane Audits 2,679
- 1-800-MDA-Fuel Complaints* 1,481
- Licensed Establishments..... 4,762

*Motor Fuel Quantity complaints were jointly investigated with MDARD’s Weights & Measures Program

Note: Complaints outside the Program’s area of responsibility received via the MFQ Hotline were forwarded to the appropriate agency.

Michigan Department of Agriculture & Rural Development
LABORATORY DIVISION
MOTOR FUELS QUALITY PROGRAM



Accomplishments:

- Maintained a 96.1 percent compliance rate for gasoline sold throughout Michigan; and a 96.7 percent compliance rate for gasoline meeting the low vapor pressure standard in Southeast Michigan. This ensured those purchasing fuels were getting the product they paid for and helped reduce smog producing emissions by 28 tons per day, respectively.
- Through testing and sampling of product, embargoed 13,000 gallons of substandard or contaminated motor fuels with a value of over \$48,000. This prevented the product from being used in the public's vehicles and potentially causing both vehicle and monetary damage.

Measuring Success:

| Metric | | | |
|--|--------|--------|-----------------------|
| Motor Fuels Samples | Passed | Failed | Compliance |
| Sub Regular – 86 Octane | 5 | 0 | 100% |
| Regular – 87 Octane | 1,548 | 32 | 98% |
| Midgrade - 88 Octane | 1 | - | 100% |
| Midgrade – 89 Octane | 894 | 26 | 97.2% |
| Premium – 90 Octane | 42 | 5 | 89.4% |
| Premium – 91 Octane | 80 | 12 | 87% |
| Premium – 92 Octane | 80 | 8 | 90.9% |
| Premium – 93 Octane | 768 | 52 | 93.7% |
| Premium – 94 Octane | - | - | - |
| Other | 70 | 8 | 89.7% |
| Vapor Recovery Field Samples | 561 | 19 | 96.7% |
| Complaints | | | Investigations |
| Motor Fuels Quality | | | 237 |
| Enforcement Actions | | | |
| Compliance Meetings | | | 19 |
| Warning Letters | | | 958 |
| Administrative Fines | | | (77) \$77,450 |
| Stop Sales / Estimated Retail Value of Embargoed Product | | | (13) \$47,957 |

Program Goals:

- Obtain motor fuel samples at 25% of motor fuel retailers annually.
- Conduct low vapor pressure testing at 20% of the retailers in the Southeast Michigan region.
- Obtain 2500 motor fuel samples.