

**RULE AMENDMENTS ADOPTED BY THE  
COLORADO OIL AND GAS CONSERVATION COMMISSION  
IN RESPONSE TO HB 07-1180**

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(effective May 30, 2008)

**328. MEASUREMENT OF OIL**

The volume of all oil produced from a lease or a production unit shall be measured and recorded prior to removal from the lease or production unit. The volume of production of oil shall be computed in terms of barrels of clean oil on the basis of properly calibrated meter measurements or tank measurements of oil-level differences, made and recorded to the nearest one-quarter (¼) inch of one hundred percent (100%) capacity tables, subject to the following corrections: in items a., b., and c. below. This rule shall be used consistently with standards established by the American Society for Testing and Materials (ASTM), the American Petroleum Institute (API) Manual of Petroleum Measurement Standards, the American Gas Association (AGA), the Gas Processors Association (GPA), or other applicable standards-setting organizations, and pursuant to contractual rights or obligations. Only those editions of standards cited within this rule shall apply to this rule; later amendments do not apply. The material cited in this rule is available for public inspection during normal business hours from the Public Room Administrator at the office of the Commission, 1120 Lincoln Street, Suite 801, Denver, Colorado, 80203. In addition, these materials may be examined at any state publication depository library.

- a. **Correction for Impurities.** The percentage of impurities (water, sand and other foreign substances not constituting a natural component part of the oil) shall be determined to the satisfaction of the Director, and the observed gross volume of oil shall be corrected to exclude the entire volume of such impurities.
- b. **Temperature Correction.** The observed volume of oil corrected for impurities shall be further corrected to the standard volume of sixty degrees fahrenheit (60°F) in accordance with ASTM D-1250 Table 7, or any revisions thereof and any supplements thereto or any close approximation thereof approved by the Director.
- c. **Gravity Determination.** The gravity of oil at sixty degrees fahrenheit (60°F) shall be determined in accordance with ASTM D-1250 Table 5, or any revisions thereof and any supplements thereto or any close approximation thereof approved by the Director.
- d. **Tank Gauging.** Measurement by tank gauging shall be completed in accordance with industry standards as specified in API CH. 3 Gauging of Tanks (Section 3.1a Second Edition August 2005 and Section 3.1b Second Edition June 2001) and the API CH. 18.1, Measure Procedures for Crude Oil Gathered from Small Tanks by Truck (Second Edition April 1997).
- e. **Metering Station.** Measurement shall be completed in accordance with industry standards as specified in API CH. 4 Proving Systems (Section 2, Third Edition September 2003 and Section 8, First Edition November 1995), API CH. 5 Metering (CH. 5.1 Fourth Edition October 2005, CH. 5.2 Third Edition October 2005, CH. 5.3 Fifth Edition September 2005, CH. 5.4 Second Edition July 2005, CH. 5.5 Second Edition July 2005, and CH. 5.6 First Edition October 2002), API

CH. 7 Temperature Determination (First Edition June 2001), API CH. 8 Sampling (CH. 8.1 Third Edition October 1995 and CH. 8.2 Second Edition October 1995), and the API CH. 12, Calculation Of Quantities (CH. 12.1 Part 1 Second Edition November 2001).

- f. **Lact Meters.** Measurement utilizing lact units shall be in accordance with industry specifications or standards as specified in API SPEC. 6.1, Lease Automatic Custody Transfer Systems (Second Edition May 1991).
- g. **Sales Reconciliation. RESERVED**

### 329. MEASUREMENT OF GAS

The volume of all gas produced from a lease or a production unit shall be measured and recorded prior to removal from the lease or production unit. Production of gas of all kinds shall be measured by meter unless otherwise agreed to by the Director. For computing volume of gas to be reported to the Commission, the standard pressure base shall be fourteen point seventy-three (14.73) psia, regardless of atmospheric pressure at the point of measurement, and the standard temperature base shall be sixty degrees fahrenheit (60°F). All volumes of gas to be reported to the Commission shall be adjusted by computation to these standards, regardless of pressures and temperatures at which the gas was actually measured, unless otherwise authorized by the Director. This rule shall be used consistently with standards established by the American Society for Testing and Materials (ASTM), the American Petroleum Institute (API) Manual of Petroleum Measurement Standards, the American Gas Association (AGA), the Gas Processors Association (GPA), or other applicable standards-setting organizations, and pursuant to contractual rights or obligations. Only those editions of standards cited within this rule shall apply to this rule; later amendments do not apply. The material cited in this rule is available for public inspection during normal business hours from the Public Room Administrator at the office of the Commission, 1120 Lincoln Street, Suite 801, Denver, Colorado, 80203. In addition, these materials may be examined at any state publication depository library.

- a. **Metering Station.** Installation and operation of gas measurement stations shall be in accordance with industry standards as specified in API CH. 14.3, Orifice Measurement (Part 2, Fourth Edition April 2000 and Part 3, Third Edition August 1992 and Part 4, Third Edition November 1992); API CH. 21.1, Electronic Measurement (gas) (First Edition September 1993); AGA Report #7, Turbine Measurement (January 2006); AGA Report #9, Ultrasonic Measurement (April 2007); and AGA Report #11, Coriolis Measurement (January 2003).
- b. **Metering Equipment.** The devices used to measure the differential, line pressure, and temperature shall have accepted accuracy ratings established in industry standards as specified in API CH. 22, Testing Protocol Standards (CH. 22.1 First Edition November 2006 and CH. 22.2 First Edition August 2005).
- c. **Meter Calibration.** Meters shall be calibrated annually unless more frequent calibration is required by contractual obligations or by the Director. All calibration reports shall be created, maintained, and made available as operation records pursuant to Rule 205. In the event two consecutive meter calibrations exceed a 2% error, the operator shall report the test results to the Director who may require the operator to show cause why the meter should not be replaced.

d. **Gas Quality.** The heating value of produced natural gas shall be representative of the flowing gas stream at the lease or unit boundary, as determined by chromatographic analysis of a sample obtained in close proximity to the volume measurement device and shall be reported on an Operator's Monthly Production Report, Form 7. Gas sampling and analysis shall occur annually unless more frequent sampling is required by contractual obligations or by the Director. Gas sampling, gas chromatography, and the resulting analysis data shall be in accordance with industry standards as specified in API CH. 14.1, Gas Sampling (Fifth Edition February 2006); GPA 2166, Gas Sampling (Revised 2005); GPA 2261, Gas Analysis (Revised 2000); GPA 2286, Extended Analysis; GPA 2145, Gas Physical Properties (Revised 2003); and GPA 2172, Gas Heating Value (Revised 1996).

e. **Sales Reconciliation. RESERVED**