

PETROLEUM QUALITY & MEASUREMENT MANUAL

This manual is designed for employees who assess petroleum quality and perform liquid measurement tasks. It is used by field-based operations employees and engineering staff as a reference guide for topics related to measurement and quality and contains numerous procedures, charts, and tables.

This manual consists of five sections:

1. Variable Affecting Volume
2. Custody Transfer by Meter
3. Quality
4. Measurement Documentation
5. Custody Transfer by Tank Gauge

Section	Section Title	Section Description
1	Variable Affecting Volume	<ul style="list-style-type: none"> • Explains how three variables affect volumetric measurement (temperature, density, and pressure), and describes why these variables must be taken into account whenever petroleum liquid volumes are measured. • Provides procedures for checking thermometer calibrations and calculating pressure corrections for various commodities (such as NGLs and crudes). • Contains information in the Appendices regarding correction factors and thermometer specifications.
2	Custody Transfer by Meter	<ul style="list-style-type: none"> • Identifies requirements for meter provings, how the meter factor is established, how often provers are calibrated via water draw, and how statistical measurement works.

		<ul style="list-style-type: none"> • Provides procedures for calculating standard deviation, using statistical charts, checking block and bleed valves, proving meters manually, and more. • Contains a variety of reports and tables in the Appendices (examples: scheduled equipment checks, inspection and repair reports, operating rates for meters, and more).
3	Quality	<ul style="list-style-type: none"> • Identifies requirements for sampling, sediment and water, viscosity, compatibility, and quality standards for NGL and refined products. • Provides procedures for quality tests, including testing refined products, testing NGL, testing crude and condensate by KF titration, testing for sediment and water via centrifuge, and more. • Contains a number of quality specification summaries and required reports.
4	Measurement Documentation	<ul style="list-style-type: none"> • Identifies requirements for custody transfer ticketing and prover reports. • Provides procedures for preparation of manual custody transfer tickets and proving reports for non-compensated meters. • Contains examples of reports, conversion tables, and a description of how the flow computer works.
5	Custody Transfer by Tank Gauge	<ul style="list-style-type: none"> • Identifies requirements for tank gauging, automatic gauging devices, tank temperature, tank sampling, tank shrinkage, and tank bottom surveys. • Provides procedures for using gauging platforms, gauging tanks, taking tank samples and temperature, calculating shrinkage, draining water from tanks, and more.