

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

MEASUREMENT RECORD – OIL By LACT Meter
(Onshore Order No. 4)

Date: _____ Case No.: _____
 Field/Unit: _____ Field Office: _____
 PA/CA: _____ Operator: _____
 County/State: _____ Purchaser: _____
 Facility ID.: _____ Location: ¼¼ _____ S _____ T _____ R _____
 Inspector: _____

PROVER

1. Prover Type _____ Prover Serial No. _____
2. Certified date of last prover calibration: _____ Unique Certification No. _____
3. Runs Made _____ Runs Used _____ Tolerance _____
 Master Meters: Certified operating factor within 0.9900 to 1.0100, and 5 consecutive runs have been matched within a tolerance of 0.0002.
 Pipe or Tank Provers: Certified volume as determined by the water draw method – D.3.a(1)(2)

METER

4. What is the normal Meter Proving Frequency (Per Operator) – (circle one) Monthly Quarterly Other _____
 (Max. 100,000 Bbls. Throughput between provings)
5. Meter Type _____ Serial No. _____
6. Meter Mfr. _____ Size _____
7. Meter replaced: Yes _____ No _____ Reason _____
8. Previous Meter Factor _____ New Meter Factor _____

	Yes	No	N/A
a. At least 6 runs, 5 consecutive runs within a tolerance of 0.0005 between highest and lowest reading – D.3.c.(1)			
b. Arithmetic average of the 5 consecutive runs used – D.3.c.(2)			
c. Meter Factor computations use all correction factors – D.3.c.(3)			
d. Initial meter factor for a new or repaired meter between 0.9950-1.0050 – D.3.c.(4).			
e. Meter factor deviation does not exceed ± 0.0025 since last proving - D.4.(1)			
f. Meter factor shall not exceed ± 1% above or below unity – D.4.(2) (outside range from 0.9900 – 1.0100)			
9. Does each LACT contain the following Units? – D.1.a.(1)-(10)			
a. Charging Pump and Motor			
b. Sampler, composite sampler, container, and mixing system			
c. Strainer			
d. Positive Displacement Meter			
e. Meter Proving Connections			
f. Meter Backpressure Valve and Check Valve			
g. Air Eliminator			
h. Diverter Valve or Shut-off Valve			
i. Sediment and Water Monitor			
j. Automatic Temperature/Gravity Compensator <input type="checkbox"/> ATC <input type="checkbox"/> ATG			
10. Are all components of LACT unit accessible for inspection? - D.1.b.			
11. Are the tests done on the oil samples conducted in accordance with Onshore Order #4 subparts C.5., 6., and 7? –D.1.d.			
12. Is there a By-pass around meter? - OO #3, III.D.1.			
13. Are all Meter Seals in place? - OO #3, III.B.1.			
14. Are all Meter Proving Reports filed with the Authorized Office within 10 working days following the meter proving? – D.5.			

LACT Unit Component Requirements:

- A. **Charging Pump and Motor** - LACT unit shall include an electrically driven pump rated for a discharge pressure and rate that are compatible with rating of the meter used and sized to assure turbulent flow in the LACT main stream piping (major) - D.2.a.
- B. **Sampler**
 - 1. Probe shall extend into center 1/3 of the flow piping in a vertical run, at least 3 pipe diameters downstream of any pipe fitting, always in a horizontal position (major) - D.2.b.
 - 2. Composite Sample Container shall be capable of holding sample under pressure and shall be equipped with a vapor proof top closure and operated to prevent the unnecessary escape of vapor, and the container shall be emptied upon completion of sample withdrawal (major) - D.2.c.
 - 3. Mixing system shall completely blend the sample into a homogeneous mixture before and during the withdrawal of a portion of the sample for testing (major) - D.2.d.
- C. **Strainer** - Shall be constructed so that it may be depressurized, opened, and cleaned, be located upstream of the meter, and be made of corrosion resistant material of a mesh size no larger than 1/4 inch (minor) - D.2.e.
- D. **Positive Displacement Meter** - Shall register volumes of oil passing through said meter determined by a system which constantly and mechanically isolated the flowing oil into segments of known volume, and be equipped with a non-resettable totalizer (major) - D.2.f.
- E. **Meter Proving Connections** - Shall be installed downstream from the LACT meter, with the line valve(s) between the inlet and outlet of the prover loop having a double block and bleed design feature to provide for leak testing during proving operations (major) - D.2.g.
- F. **Meter Backpressure Valve and Check Valve** - Shall be installed downstream from the LACT meter (major) - D.2.h.
- G. **Air Eliminator** - Shall be installed and prevent air/gas from entering the meter (minor) - D.2.i.
- H. **Diverter Valve or Shut-off Valve** - Shall be activated by the Sediment and Water Monitor so that the valve moves to divert flow to the clean oil discharge only when it receives a positive signal, or provide a shut-off valve configured to shut off oil delivery upon failure to receive a positive signal from the Sediment and Water Monitor (minor) - D.2.j.
- I. **Sediment and Water Monitor** - An internally plastic coated capacitance probe, no smaller in diameter than the skid piping, and shall be mounted in a vertical pipe located upstream from the diverter valve and the meter (minor) - D.2.k.
- J. **Automatic Temperature/Gravity Compensator** - Shall be sized according to the fluid characteristics being measured (major) - D.2.l.

LACT Unit Seal Requirements:

Sample probe, Sampler volume control, valves on all lines entering/leaving sampler excluding pop-off valve, meter assembly, ATC, ATG, Temperature Recorder, Back Pressure Valve downstream of meter, any Drain Valves, and the Manual Sampling Valves.

Abatement Periods:

Minor: Generally 30 days.

Major: Prior to Sales or removal.