

Condensate Definition Types



COQA/CCQTA Joint meeting

October 30-31, 2014 | San Francisco, California

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Potential condensate definition types

- OPEC definition/State definitions
- Chemical composition/properties
- Production well characteristics
- Other suggestions

OPEC definition/State definition

- OPEC
 - API of 50 or more or
 - Liquid production from a well with a 5,000 SCF/bbl or greater gas-to-oil ratio (GOR) or
 - 3.5 mole percent or less C₇ (7 carbon atoms) and heavier material
- Most state definitions
 - Based on the original OPEC definition of hydrocarbons which are in the gaseous state under reservoir conditions and which become liquid when temperature or pressure is reduced.
 - Texas uses a definition that condensates are liquids from a gas well; gas wells are defined as a well that produces more than 100,000 SCF/bbl of liquid production. However, the alternate definition reverts to the original OPEC definition.

Chemical composition/properties

- API Gravity
 - Easy to verify (simple test)
 - Could blend to API gravity
 - OPEC and Oklahoma use 50+ API as the cutoff
 - Others have recommended different API cutoffs
- Chemical composition
 - Mole percent of C₇ and heavier material
 - Difficult (and time consuming) to test; usually determined by correlation
 - Distillation criteria (percent evaporated at a specific temperature)
 - Straight forward time consuming test

Production well characteristics

- Texas
 - Condensate is liquid production from a gas well
 - Gas wells are wells that produce 100,000 SCF or more gas per bbl of liquid
- Requires identification of the source and tracking of the condensate flows
- Relies on certification by the industry (self reporting)

Other

- Color
 - Easy to test
 - Crude has dark bodies that would show up in a nearly colorless condensate
 - Some condensates are not water white
 - Color may not correctly delineate condensates versus crudes

- Other physical properties

- Purpose of use

- Location

Other

- **EIA definitions (location dependent)**
- **Condensate (lease condensate):** Light liquid hydrocarbons recovered from lease separators or field facilities at associated and non-associated natural gas wells. Mostly pentanes and heavier hydrocarbons. Normally enters the crude oil stream after production.
- **Plant condensate:** Liquid hydrocarbons recovered at inlet separators or scrubbers in natural gas processing plants at atmospheric pressure and ambient temperatures. Mostly pentanes and heavier hydrocarbons.

State condensate definitions

State	Definition
Colorado	Hydrocarbons which are in the gaseous state under reservoir conditions and which become liquid when temperature or pressure is reduced. A mixture of pentanes and higher hydrocarbons. https://cogcc.state.co.us/COGIS_Help/glossary.htm
Louisiana	Liquid production from non-crude wells as classified by the commissioner of conservation http://www.legis.state.la.us/lss/lss.asp?doc=102399
Montana	(15) "Condensate" means the liquid produced by the condensation of a vapor or gas either after it leaves the reservoir or while still in the reservoir. Condensate is often called distillate, drips, or white oil. 36.22.302 DEFINITIONS
North Dakota	c. "Condensate" means the liquid hydrocarbons recovered at the surface that result from condensation due to reduced pressure or temperature of petroleum hydrocarbons existing in a gaseous phase in the reservoir http://www.legis.nd.gov/information/acdata/pdf/33-15-20.pdf?20140812151019
Oklahoma	"Condensate" means a liquid hydrocarbon which: <ul style="list-style-type: none"> (A) Was produced as a liquid at the surface, (B) Existed as gas in the reservoir, and (C) Has an API gravity greater than or equal to fifty degrees, unless otherwise proven. ftp://204.87.70.98/occrules/Ruleshtm/forweb04newrules.htm Title 165:10-1-2. Definitions.
South Dakota	45-9-2 (2) "Condensate," liquid hydrocarbons that were originally in the gaseous phase in the reservoir; http://legis.sd.gov/Statutes/Codified_Laws/DisplayStatute.aspx?Type=Statute&Statute=45-9-2
Texas	Condensate is liquid produced from a gas well. A gas well is a well that produces more than 100,000 SCF of gas for every barrel of liquids Texas Natural Resources Code - Section 86.002. Definitions http://www.statutes.legis.state.tx.us/Docs/NR/htm/NR.86.htm
Wyoming	(xiii) "Lease condensate" means liquid hydrocarbons which are separated from other components of the natural gas production stream on the lease or before the inlet to a natural gas processing facility; Title 39, Chapter 11, ARTICLE 2 - OIL AND GAS 39-14-201. Definitions. http://legisweb.state.wy.us/statutes/titles/Title39/T39CH11AR2.htm