



# United States Department of the Interior

BUREAU OF LAND MANAGEMENT  
Colorado State Office  
2850 Youngfield Street  
Lakewood, Colorado 80215-7210  
[www.co.blm.gov](http://www.co.blm.gov)



In Reply Refer To:  
3165(CO-922)

DEC 29 2016

Dear Colorado Oil and Gas Lessee/Operator:

Enclosed is a copy of Colorado Notice to Lessees (NTL) 2016-01, Modular Large Volume Tanks (MLVT) and NTL 2016-02, Mechanical Integrity Tests (MIT). Effective immediately, installation, operation and maintenance of MLVTs and MITs shall meet these standards and requirements on all Federal and Indian oil and gas leases located within the jurisdiction of the BLM Colorado.

Drafts of these two NTLs were posted for public review and comment in local Colorado papers for 30 days. No comments were received. The final versions reflect only minor editing and format changes from the original drafts. Copies of these NTLs can be obtained at any BLM office in Colorado or at our website:

[https://www.blm.gov/co/st/en/BLM\\_Programs/oilandgas/leasing\\_regulations.html](https://www.blm.gov/co/st/en/BLM_Programs/oilandgas/leasing_regulations.html).

If you have any questions regarding the MLVT NTL, please contact Peter Cowan, Petroleum Engineer, at (303) 239-3753. If you have any questions regarding the MIT NTL, please contact Victor Xuan, Petroleum Engineer, at (303) 239-3797.

Sincerely,

Acting

Ruth Welch  
State Director

## Enclosures

1 -- NTL CSO-2016-01 (4 pp)

2 -- NTL CSO-2016-02 (3 pp)

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

Notice to Lessees/Operators of Onshore Federal and Indian  
Oil and Gas Leases in Colorado  
Modular Large Volume Tanks  
NTL CSO-2016-01

Introduction

Oil and gas operators use Modular Large Volume Tanks (MLVT) to hold large volumes of fresh water associated with new well drilling and/or completions. MLVTs are aboveground tanks typically comprised of a freestanding steel structure with a synthetic liner. MLVTs are capable of storing 50,000 barrels or more of water and are used in lieu of in-ground pits or multiple mobile 500-barrel steel tanks.

On June 13, 2014, the Colorado Oil and Gas Conservation Commission (COGCC) issued a policy on the use of MLVTs. This notice provides the Bureau of Land Management's (BLM) guidance to operators using MLVTs on Federal oil and gas leases. This Notice to Lessees (NTL) implements the existing requirements in Onshore Oil and Gas Order (OO) #1, specifically section III.D.4. This NTL does not alter the standards and requirements of OO #1, or approved variances.

Permissible Use of Modular Large Volume Tanks

For the purpose of this NTL, "*fresh water*" excludes oil and gas exploration and production (E&P) wastes such as produced water, flowback fluids, or recycled or treated produced water or flowback. The term "*Modular Large Volume Tanks*" includes any aboveground tank, field-assembled from multiple uniform factory-prepared components, which supports a synthetic liner that provides primary containment for 5,000 barrels or more of fresh water within the assembled tank structure.

Operators may store fresh water in MLVTs in support of oil and gas operations.

Operators may not store E&P waste in MLVTs.

Approval Process

Operators must obtain BLM's approval prior to placing a MLVT into service on a Federal oil and gas lease, as follows:

1. For use on a well proposed in a new Application for Permit to Drill (APD), an Operator must include the MLVT in the Surface Use Plan of Operations (SUPO) for the APD. The Operator shall not place the MLVT into service until the BLM has approved the APD.

2. For use under an approved APD or at an existing well pad, an Operator must submit a Sundry Notice, BLM Form 3160-5, indicating the intent to use a MLVT. The Operator shall not place the MLVT into service until the BLM has approved the Sundry Notice.

BLM's review of proposed MLVTs will comply with the National Environmental Policy Act.

The APD or Sundry Notice must include the following information regarding each proposed MLVT:

- MLVT Manufacturer or vendor;
- MLVT size;
- Number of MLVTs to be used at the site;
- Anticipated timeframe of MLVT use at the site;
- A drawing indicating location of the MLVT(s) with respect to other facility equipment and property boundaries; and
- A design package for the MLVT, which includes the following components:
  - Detailed tank design;
  - Specific tank installation and assembly procedures;
  - Documentation of appropriate site conditions for installation, which includes grades, bedding material, and potential weather impacts,
  - Appropriate site preparation;
  - Required type of liner material and minimum thickness, along with applicable standards for the liner;
  - Liner installation procedures and quality control measures;
  - Periodic testing or re-inspection requirements, including what to perform, when to perform, and testing guidelines/protocols; and
  - Detailed Standard Operating Procedures (SOP) for all of the above items.

An Operator proposing to locate a MLVT within 1,000 feet of a building must include in its proposal appropriate best management practices (BMP) to mitigate noise, lights, and dust associated with the use of the MLVT. Additionally, if a building is located down gradient from a proposed MLVT, the Operator must include BMPs to eliminate or minimize potential adverse impacts to the building, such as berming, diversions, or secondary containment.

A Licensed Professional Engineer must certify and seal the design package, stating that design specifications are adequate to withstand the loads proposed for the tank's use. The Engineer must be licensed either in Colorado or in the State where the MLVT was designed or manufactured. Operators may obtain individually certified and sealed design package components, as listed above, instead of a fully certified design package.

Finally, the operator must certify, in writing, that the MLVT(s) will be designed and implemented consistent with all proposed BMPs, the design package components, and this policy.

In addition to the information submitted in the APD or Sundry Notice, each Operator must develop a contingency plan/emergency response plan for any MLVT leak or catastrophic failure of the tank integrity and resulting loss of fluid. The contingency plan should include procedures for notifying all required regulatory agencies, and local emergency authority (municipality, county or both). Upon BLM's request, the operator must provide the contingency plan to the BLM.

#### MLVT Installation and Filling

MLVTs must be located in compliance with the following safety setbacks: seventy-five (75) feet from a wellhead, fired vessel, heater-treater, or a compressor with a rating of 200 horsepower or more; and fifty (50) feet from a separator, well test unit, or other heat producing equipment.

The operator must weld and test all liner seams in accordance with applicable American Society for Testing and Materials International standards. The operator must make any repairs to the liner using acceptable practices and applicable standards. The operator must document any repairs and provide the repair records to the BLM upon BLM's request.

The operator must be present during the initial filling of a MLVT, will have Stop Work authority, and must stop work if the operator observes unsafe or upset conditions. The contractor who installs the MLVT must supervise and inspect the tank and liner for leaks during filling, will have Stop Work authority, and must stop work if the contractor observes unsafe or upset conditions. If the operator or contractor observes leaks, the operator or contractor must cease filling, repair the leaks, evaluate tank integrity, and confirm tank integrity prior to continuing to fill or otherwise use the MLVT. A contractor may observe all subsequent fillings without the Operator present, provided the operator grant the contractor Stop Work authority.

The Operator is responsible for maintaining all records from the contractor who installs the MLVT, documenting that site preparation and MLVT installation were performed in accordance with the design package specifications and SOPs, as well as any conditions of approval, and that the MLVT is being used for its intended purpose.

#### MLVT Operations and Contingency Planning

Operators employing MLVTs on Federal leases must comply with testing and re-inspection requirements and the SOPs listed in the design package. However, testing and re-inspection must be performed at least every 50 set-ups, regardless of what the design package states. The operators must maintain records of these inspections and tests, and provide the records to the BLM upon request.

The operator must post signs on each MLVT to indicate that the contents are fresh water and that no E&P waste fluids are allowed. Location and additional signage must include name of Operator, Operator's emergency contact telephone number, and tank capacity.

The operator will operate the MLVT with a minimum of 1-foot freeboard at all times. Access to the tanks must be limited to operational personnel and authorized regulatory agency personnel. The operator, contractor, or MLVT owner must conduct daily visual inspections of the exterior wall of a MLVT and the surrounding area, for any integrity deficiencies. If deficiencies are noted, the operator must address the deficiencies as soon as practicable. The operator must maintain records of these inspections and tests, and provide the records to the BLM upon request.

### Variances

The operator may make a written request for a variance from this NTL to the BLM Field Office in accordance with OO #1. OO #1 states, "A request for a variance must explain the reason the variance is needed and demonstrate how the operator will satisfy the intent of the Order. The operator may include the request in the APD package. A variance from the requirements of this Order does not constitute a variance to provisions of other regulations, laws, or orders. When the BLM is the decision maker on a request for a variance, the decision whether to grant or deny the variance request is entirely within the BLM's discretion. The decision on a variance request is not subject to administrative appeals either to the State Director or pursuant to 43 C.F.R. part 4."

APPROVED:

  /s/ Gregory P. Shoop Acting  
12-29-16

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State Director Date

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT**

Notice to Lessees/Operators of Onshore Federal and Indian  
Oil and Gas Leases in  
Colorado State  
Mechanical Integrity Tests  
NTL CSO-2016-02

For the purpose of this Notice to Lessees (NTL), a mechanical integrity test of a well is a test to determine if there is a significant leak in the well's casing, tubing, or mechanical isolation device, or if there is significant fluid movement into an underground source of drinking water through vertical channels adjacent to the wellbore. Pursuant to nationwide Bureau of Land Management (BLM) policy, this NTL shall be implemented for onshore Federal leases in Colorado, thereby reducing the potential for future government liability to plug and abandon wells on BLM-supervised lands. This NTL will improve coordination with the Colorado Oil and Gas Conservation Commission MIT guidance, Rule 326.

**a. Injection Wells<sup>1</sup>** - A mechanical integrity test shall be performed on all injection wells.

- (1) The mechanical integrity test shall include one of the following tests to determine whether significant leaks are present in the casing, tubing, or mechanical isolation device:
  - A. Isolation of the tubing-casing annulus with a packer set at 100 feet or less above the highest open injection zone perforation, unless an alternate isolation distance is approved in writing by the BLM Authorized Officer (AO). The pressure test shall be with liquid or gas at a pressure of not less than 300 psi or the average injection pressure, whichever is greater, and not more than the maximum permitted injection pressure; or
  - B. The monitoring and reporting to the AO, on a monthly basis for 60 consecutive months, of the average casing-tubing annulus pressure, following an initial pressure test; or
  - C. Any equivalent test or combination of tests approved by the AO.
- (2) The mechanical integrity test shall include one of the following tests to determine whether there are significant fluid movements in vertical channels adjacent to the well bore:
  - A. Cementing records shall only be valid for injection wells in existence prior to July 1, 1986;
  - B. Tracer surveys;
  - C. Cement bond log or other acceptable cement evaluation log;
  - D. Temperature surveys; or
  - E. Any other equivalent test or combination of tests approved by the AO.
- (3) No person shall inject fluids via a new injection well unless a mechanical integrity test on the well has been performed and supporting documents including Mechanical Integrity Test, Sundry Notice (Form 3160-5), submitted and approved by the BLM AO. Verbal approval may be granted for continuous injection following a successful test.

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<sup>1</sup> Injection Well: A well used for the disposal of produced water or for enhanced recovery operations.

- (4) Following the performance of the initial mechanical integrity test required by subparagraph (3), additional mechanical integrity tests shall be performed on each type of injection well as follows:
- A. Dedicated injection well. As long as it is used for the injection of fluids, mechanical integrity tests shall be performed at the rate of not less than one test every five years, except as specified by subparagraph C below. Five year periods shall commence on the date the initial mechanical integrity test is performed or the date of any mechanical integrity test specified in subparagraph C below.
  - B. Simultaneous injection well. No additional tests will be required after the initial mechanical integrity test.
  - C. All injection wells. A new mechanical integrity test shall be performed after any casing repairs, after resetting the tubing or mechanical isolation device, or whenever the tubing and/or mechanical isolation device is moved during workover operations.

**b. Shut-in Wells<sup>2</sup>** - All shut-in wells shall pass a mechanical integrity test.

- (1) A mechanical integrity test shall be performed on each shut-in well within two years of the initial shut-in date.
- (2) Subsequently, a mechanical integrity test shall be performed on each shut-in well at five year intervals from the date the initial mechanical integrity test was performed, as long as the well remains shut-in.
- (3) A mechanical integrity test for a shut-in well shall be performed after isolating the wellbore with a bridge plug or similar approved isolating device set 100 feet or less above the highest open perforation. The pressure test shall be with liquid or gas at an initial, stabilized surface pressure of not less than 300 psi surface pressure or any equivalent test or combination of tests approved by the BLM AO.

**c. Temporarily Abandoned Wells<sup>3</sup>** – All temporarily abandoned wells shall pass a mechanical integrity test.

- (1) A mechanical integrity test shall be performed on each temporarily abandoned well within 30 days of temporarily abandoning the well.
- (2) Subsequently, a mechanical integrity test shall be performed on each temporarily abandoned well at five year intervals from the date of the initial mechanical integrity test was performed, as long as the well remains temporarily abandoned.
- (3) A mechanical integrity test for a temporarily abandoned well shall be performed after isolating the wellbore with a bridge plug or similar approved isolating device set 100 feet or less above the highest open perforation. The pressure test shall be liquid or gas at an initial, stabilized surface pressure of not less than 300 psi surface pressure or any equivalent test or combination of tests approved by the BLM AO.

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<sup>2</sup> Shut-in Well: A well that is physically and mechanically capable of producing oil and/or gas in paying quantities or capable of service use but had no volumes of oil and/or gas produced or fluids injected during the month.

<sup>3</sup> Temporarily Abandoned Well: A well that is physically or mechanically incapable of producing oil and/or gas of sufficient value to exceed direct operating costs but may have value for a future oil/gas completion or as a service completion for enhanced recovery or water disposal. In addition, an idle well is any well that has been non-operational for at least 7 years and has no anticipated beneficial use during the lease term.

**d. Waiting-on-completion and Suspended Operations Wells** – A mechanical integrity test shall be performed on each waiting-on-completion well within two years of setting the production casing. A mechanical integrity test shall be performed on each suspended operations well within two years of setting any casing string and suspending operations prior to reaching permitted total depth.

e. Not less than 10 days prior to the performance of any mechanical integrity test required by this rule, any person required to perform the test shall notify the BLM AO with a Sundry Notice (Form 3160-5), of the scheduled date and time when the test will be performed.

f. All wells shall maintain mechanical integrity.

(1) All non-injection wells that lack mechanical integrity, as determined through a mechanical integrity test or other means, shall be repaired or plugged and abandoned within six months. If an operator has performed a mechanical integrity test within the two years required for shut-in wells or the 30 days required for temporarily abandoned wells by this NTL, they will have six months from the date of the unsuccessful test to make repairs or plug and abandon the well. If the operator has not performed a mechanical integrity test within the required time frames in b.(1) and c.(1), they will not be given an additional six months in the event of an unsuccessful test.

(2) All injection wells that fail a mechanical integrity test, or are determined through any other means to lack mechanical integrity, shall be shut-in immediately.

g. Mechanical integrity test pressure loss or gain must not exceed 10 percent of the initial stabilized surface pressure over a test period of 30 minutes. The test may be repeated if the pressure loss or gain is determined to be the result of compression related to gas dissolution from the fluid column or temperature effects related to the fluid used to load the column. Wells that do not satisfy this test requirement are considered to lack mechanical integrity and are subject to the requirements of f.

APPROVED:



/s/ Gregory P. Shoop

Acting

State Director

Date

12-29-16