



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105-3901

**MINOR MODIFICATION TO PERMIT NO. R9UIC-CA1-FY17-2  
ISSUED TO LIVE OAK LIMITED**

In accordance with 40 CFR §144.41(e), this Permit is hereby modified to establish a maximum allowable injection pressure (MAIP) and a maximum allowable injection rate (MAIR), based on results of a step-rate test conducted on April 13, 2020.

Portions of pages 14 and 15 of the Permit are revised to incorporate the above changes and now read as follows (for clarity, changes are shown below with removals struck out and with new additions **emboldened and underlined**):

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3. Injection Pressure Limitation

For Well Live Oak WD-1:

- a. Maximum allowable injection pressure (MAIP) will be set at 80% of the calculated fracture pressure at the surface without consideration of friction losses, or the maximum safe operating pressure of the injection equipment, whichever is less. The applicable fracture gradient will be based on results of the SRT conducted in Well Live Oak WD-1 in the Famoso Sand injection zone pursuant to Section II.B.4.a. EPA will provide the Permittee written notification of the MAIP once it has been calculated pursuant to the above restrictions, which will become the enforceable MAIP pursuant to this Permit. Once established, the approved MAIP will be added to this Permit as an attachment. ~~The Permittee shall limit injection pressure to the lesser of MAIP or the safe operating pressure, as described in Appendix H of this Permit, until the SRT is conducted and evaluated by EPA.~~ **Based on results of the SRT conducted on April 13, 2020 under Section II.B.4.a. of this Permit, injection pressure measured at the Well Live Oak WD-1 wellhead shall not exceed three hundred and fourteen (314) pounds per square inch (psi).**

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4. Injection Volume (Rate) Limitation

For Well Live Oak WD-1:

- a. An injection rate limit shall be determined along with EPA's establishment of a maximum allowable injection pressure, based on a SRT(s) and an annual ZEI recalculation. Once the injection rate limit is established based on the testing

requirements outlined in this Permit, the Permittee shall not inject at a rate above the limit. This rate will be subject to an annual review based on the annual ZEI determinations performed as described in ~~Paragraph~~ **Section II.C.1.** ~~The current injection rate, as described in Appendix H, may continue until the SRT is conducted and evaluated by EPA.~~ **Based on results of the SRT conducted on April 13, 2020 under Section II.B.4.a. of this Permit, the injection rate shall not exceed one thousand three hundred and seventy five (1,375) barrels per day at any time.**

All other permit conditions remain unchanged.

This minor modification is effective on \_\_\_\_\_

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Gullatt, Kristin  
Tomás Torres, Director  
Water Division, EPA Region 9