

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

In accordance with 40 CFR §144.41(f), this Permit is hereby modified to reflect changes in well construction of Live Oak WD-1 (i.e., the reperforated intervals of the well, the new 5 and ½-inches casing addition to the well, and the new well packer).

Portions of pages 5 and 8, and the entirety of Appendix B of the Permit are revised to incorporate the above changes and now read as follows (for clarity, changes are shown with removals struck out and with new additions in **bold and underlined** text):

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...Oil Field at depths ranging between **5,310** ~~5,400~~ and **5,370** ~~5,600~~ feet, **and between 5,380 and 5,540 feet** below ground surface. The Famoso Sand at Well Live Oak WD-1 has greater than 10,000 mg/L total dissolved solids and is confined above by the approximately 150-foot thick Upper Walker Shale and below by the approximately 100-foot thick Lower Walker Shale.

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5. Injection Interval

Well Live Oak WD-1 is currently injecting into the Famoso Sand within the Kern River Oil Field. The Famoso Sand at Well Live Oak WD-1 has greater than 10,000 mg/L total dissolved solids. Injection by Well Live Oak WD-1 is only permitted into the Famoso Sand, within the depth range as depicted in the well schematic in Appendix B (i.e., at depths ranging between **5,310** ~~5,400~~ and **5,370** ~~5,600~~ feet, **and between 5,380 and 5,540 feet** below ground surface).

Appendix B (Current Well Schematic)

Live Oak Limited

WD 1; API # 029-89421

Section 18, T28S, R28E M.D.B.&M.

ELEVATION: KB 1146'

DATUM: KB 11' above ground surface

ID: 5700'

PBTD: 5625'
#6625'

USDW: Base of Olcese: 3,280'

SPUD DATE: 11/02/1991

COMPLETION DATE:

Original: 11/11/1991
5.5" casing: 12/27/2023

WELL STATUS: Active

DIRECTIONALLY DRILLED: No

JUNK: None

PLUGS:
5653' - 5699' cmt
5625' - 5651' cmt

CASING:

10.75" csg @ 1201' w/496 ax cmt, rtns to surf
7" csg @ 5699' w/1065 ax cmt, returns to surf
7" CBL 3/3/1992-good cmt bonding surf to TD
5-1/2" 17# L80 @ 5651' w/100 bble cmt

PERFORATIONS:

4370' - 4604' isolated
5370' - 5310', 5380' - 5540'

HOLE SIZE:

0' - 1201': 14.75"
1201' - 5700': 9-7/8"

MARKERS:

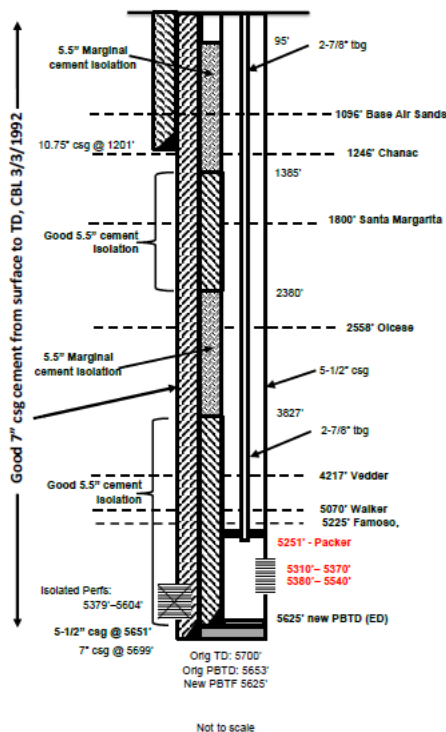
Chanac: 1246'
Santa Margarita: 1800'
Olcese: 2558'
1st Vedder: 4217'
2nd Vedder: 4502'
3rd Vedder: 4835'
Walker: 5070'
Famoso: 5225'

EnviroTech
Consultants, Inc.

INITIAL & DATE:

JLP - 02/21/2017
LAK - 12/29/2023
LAK - 1/21/2024

CURRENT 1/21/2024



All other permit conditions remain unchanged.

This minor modification is effective on

August 27, 2024

/signed/

Tomás Torres, Director
Water Division, EPA Region 9