

IN THE PITS

Oil and Gas Wastewater Disposal into Open Unlined Pits and the Threat to California's Water and Air

The expansion of fracking in California has led to renewed scrutiny of our state's regulations on the disposal of oil and gas wastewater. California's oil wells produce, on average, 15 times more water than oil. This wastewater commonly contains heavy metals, radioactive materials, known carcinogens, and high levels of salt. **For decades, oil companies have been discharging this massive stream of toxic oilfield wastewater into open-air, unlined pits, also known as sumps.** These pits are designed to percolate low-quality water into the soil, a practice that inherently presents a risk of degrading any nearby and connected water resources. The exact volume of waste disposed into unlined pits is unknown because, until the implementation of SB 1281 on January 1, 2015, oil companies do not have to report where they dispose of their wastewater.

Clean Water Action's analysis of publicly available documents, combined with independent air and water sampling, suggests that state regulatory agencies are failing to adequately address the threats to air and water from oil and gas wastewater disposal. This report, *In the Pits: Oil and Gas Wastewater Disposal into Open Unlined Pits and the Threat to California's Water and Air*, highlights the threats to water, air and health, and the regulatory failures that led to this situation and proposes solutions that should be enacted immediately.

The McKittrick Pits:

On April 26, 2014, Clean Water Action organized a tour of oil & gas waste disposal sites in Kern County. The tour included a visit to the massive McKittrick Waste Pits (*pictured right*). The site consisted of a few dozen long narrow ponds, some with standing liquids of different shades of green, brown and black. The closest pond contained two thick pipes that were discharging steaming black and green fluids to the pond, while noxious vapors visibly rose off the surface of the ponds, which were covered in a layer of oil. Pipes connected the first pond receiving the discharge to other, larger ponds stretching out hundreds of yards into the distance.

In response to concerns raised following the tour, the Central Valley Water Board conducted water quality tests of the discharged fluid at the McKittrick Pits and confirmed high levels of hazardous constituents in the wastewater, including boron and chlorides well in excess of allowable levels, as well as dangerous amounts of cancer-causing BTEX compounds (including benzene), naphthalene, and diesel. Despite these findings, **the Water Board has not issued a single violation or halted discharge while threats to groundwater are investigated — a failure to implement the Tulare Lake Basin Plan requirements for oil field waste.**

REPORT FINDINGS

1. Of the 432 known unlined pits which are classified as active, 85% are located within 1 mile of a surface waterway.
2. There has been no comprehensive evaluation of the location of pits in relation to the state's aquifers. Water Board staff confirmed that there are pits currently operating directly above and adjacent to high quality groundwater.
3. For over a decade, Central Valley Water Board staff has known about a plume of wastewater that has migrated from some of the largest pits in Kern County, yet has issued ZERO violations to the operator.
4. Air sampling near open pits detected elevated levels of volatile organic compounds (VOC's) and methane, the powerful greenhouse gas.
5. Initial investigation into 20 of the 432 known pits (4.6%), found several cases of pits operating with out of date or nonexistent permits. Further inspections are on hold due to staffing shortages.





The McKittrick Pits near the South Belridge, Cymric and Elk Hills oil fields are situated just a few miles from the Kern River Flood Channel, fertile farmland, and high quality groundwater. They receive an average of 4.6 million gallons of oil field wastewater daily, mostly from the Belridge Oil Field, the site of the majority of hydraulic fracturing in California.

POLICY AND ACTION RECOMMENDATIONS

1. **The State Water Board should immediately prohibit discharge of any oil and gas wastewater into unlined pits.**
2. State regulators should develop a historical inventory of pit locations in relation to ground and surface waters, determine where groundwater has been degraded, and develop a plan for remediation by responsible parties.
3. Regulatory agencies must increase staffing to adequately carry out the necessary oversight. **At current staffing levels, it will take years to examine all wastewater sumps in the Central Valley,** let alone go through the process of amending or revoking their permits and issue enforcement actions for remediation of polluted groundwater.
4. The California Air Resources Board (ARB) must increase oversight of open-air pits to prevent off-gassing of dangerous air pollutants and greenhouse gases.

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