

Progress Report: Oilfield Site Restoration using IIJA Funds

Greg Upton¹
March 31, 2023

Project Overview

In November of 2021, President Joe Biden signed into law The Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law. Section 40601 of the IIJA included \$4.6 billion for orphaned well site plugging, remediation and restoration. Louisiana has already received a \$25 million initial grant but is slated to receive significantly more. At the time of the IIJA passage, Louisiana had approximately 4,600 “orphaned” oil and gas wells.

Researchers at LSU, led by the LSU Center for Energy Studies, were requested by DNR to estimate the costs of plugging wells and compare with the methane emitted. While a multi-year process is just getting underway, this short progress report is designed to provide information going into the 2023 Regular Legislative Session of the Louisiana State Legislature.

Two contractors have been chosen to plug and abandon (P&A) wells and conduct site restoration; Dynamic Group, LLC and I Lemoine. Both contractors have hired sub-contractors to conduct a pre-plug environmental assessment of each site, which includes an estimate of methane leaking if any. Postlethwaite & Netterville (P&N) is the professional services firm hired to support DNR’s management of the program. Data presented in this short summary report were provided by a combination of DNR, P&N, the contractors, and environmental subcontractors. Data has been analyzed by CES and summarized.

Progress

Table 1 shows the status of orphan and idle wells in Louisiana. At the beginning of 2023, there were 4,610 orphan wells in Louisiana. As of the end of March, approximately 120 wells have been P&Aed under this program. From January to March, though, an additional 150 wells in net entered into the orphan well program.² Thus, today there are approximately 4,640 orphan wells that have not been permanently P&Aed.³ We estimate there are approximately 16,000 “idle” wells in Louisiana currently that have not been designated as orphans. These are wells that are either designated by the operator as idle or have not produced hydrocarbons in five years, but also have not been P&Aed.

Orphan Wells Counts in January 2023 (A)	4,610
Orphan Wells Plugged (B)	120
Change in Orphan Well Counts Since January (other factors) (C)	150
Current Orphan Well Count (A) + (C) - (B)	4,640
Total Idle Wells in Louisiana	16,000

All numbers rounded to nearest 10 wells based on current estimates.

¹ Interim Executive Director and Associate Research Professor. Center for Energy Studies at Louisiana State University. Sid Narra provided research assistance in compiling numbers, with feedback and input from DNR and P&N.

² Wells can enter or exit the program for various reasons such as OSR abandonment, EPA abandonment, operators using a Cooperative Agreement to abandon wells, operators/landowners taking over wells to restore production, etc.

³ Note there is not perfect consistency over the time period but this provides sufficient perspective.

Table 2 shows the reported costs of the program. Note that cost reporting occurs with a lag, and thus we have only been provided costs on 40 of the P&Aed wells at this time. The total reported amount spent on the program associated with these 40 wells is ~\$1.5 million. Thus, the cost is approximately \$37,500 per well, or about \$24 per foot of measured depth.⁴

Orphan Wells Plugged with Cost Data Reported		40
Costs of Completed P&Aed Wells	\$	1,500,000
Total Measured Depth of All Plugged Wells		62,000
Cost per Foot of Measured Depth	\$	24.0
Cost per Completed Well	\$	37,500

Note: Costs as of January 2023 for one contractor, and February 2023 for the other contractor.

Table 3 provides a summary of the estimated methane leaking from these wells. To date, environmental contractors have conducted a methane measurement on 549 wells and have detected methane leakage from 148 of these wells. Assuming the leak rates are relatively constant over the course of the day of measurement, this sums to 18.6 thousand standard cubic feet (mscf) of leaked gas per day. For perspective, the market value of this natural gas would be about \$46.5 per day (assuming a price of \$2.50 per mscf). Another way to provide perspective is to compare the energy content to that of gasoline utilized in a vehicle; the leaks from these wells include the energy content of approximately 160 gallons of gasoline per day. Although not shown here, over 40 percent of the methane leakages detected come from just five of the more than five hundred wells measured. Thus, there are many wells with very small leaks, but a handful of wells with much larger leaks.

Wells Measured		549
Methane Detected		148
Share with Methane Detected		27%
Methane Detected (mcf/day)		
Total Methane		18.6
Average Methane per Well		0.03

Note: Methane measurements as of beginning of April 2023

About the LSU Center for Energy Studies

The Louisiana State University Center for Energy Studies (LSU-CES) was created by the Louisiana Legislature in 1982 with the stated mission of conducting, encouraging, and facilitating research and analysis to address energy-related problems or issues affecting Louisiana’s economy, environment, and citizenry. The Center’s goal is to provide a balanced, objective, and timely treatment of issues with potentially important consequences for Louisiana. More information on LSU-CES can be found on our webpage [here](#).



⁴ These costs are based on Construction Management at Risk (CMAR) contractor submitted costs. These are interim / estimated and are subject to change over time as more wells are completed and PayApps are finalized. These costs include CMAR General Conditions costs spread across completed wells. Costs do not include other costs such as P&N, LSU, and internal DNR costs.