

# Methane Task Force Inspection Report for the Arvin/Lamont Community

## Executive Summary

The Methane Task Force (MTF), a joint effort led by the Department of Conservation California Geologic Energy Management Division (CalGEM) and the California Air Resources Board (CARB), seeks to identify and respond to methane leaks from oil infrastructure near communities, as well as address the outsized impact methane has on climate change. Called for by Governor Newsom in a July 2022 letter to CARB Chair Liane Randolph, the Task Force was formed in October 2022 and convenes on a regular basis to share with the public updates on efforts underway at CalGEM and CARB aimed at addressing methane leaks from oil and gas infrastructure, and to elevate opportunities for deeper public and local agency engagement across these programs and efforts. The MTF is made up of representatives from CARB, CalGEM, California Natural Resources Agency (CNRA), and California Environmental Protection Agency (CalEPA).<sup>1</sup> The MTF collaborates with air districts, community members, and local governments. To date, the MTF has held four public meetings.

- The September 2022 meeting discussed CARB's Oil and Gas Methane Regulation, upcoming satellite data, CARB enforcement, and an overview of CalGEM's programs.
- The October 2022 meeting provided a review of feedback received from the first meeting, Bakersfield well updates, a deeper dive on orphan wells, and a discussion on SB 1137.
- The February 2023 MTF meeting covered CalGEM's orphan well program screening methodology, an overview of the CARB satellite monitoring partnership, and an update on CARB's amendments to the Oil and Gas Methane Regulation.
- The June 27, 2023 meeting included an update on CARB's Oil and Gas Methane Regulation and the Arvin/Lamont inspection findings.

More information, including presentations can be found at the [Methane Task Force](#) web page.

A key effort of the MTF is enforcement of requirements governing oil and gas wells. In addition to each agency's respective inspection and enforcement programs, the MTF partnered with the San Joaquin Valley Air Pollution Control District (APCD) to carry out a joint inspection and enforcement effort focused on

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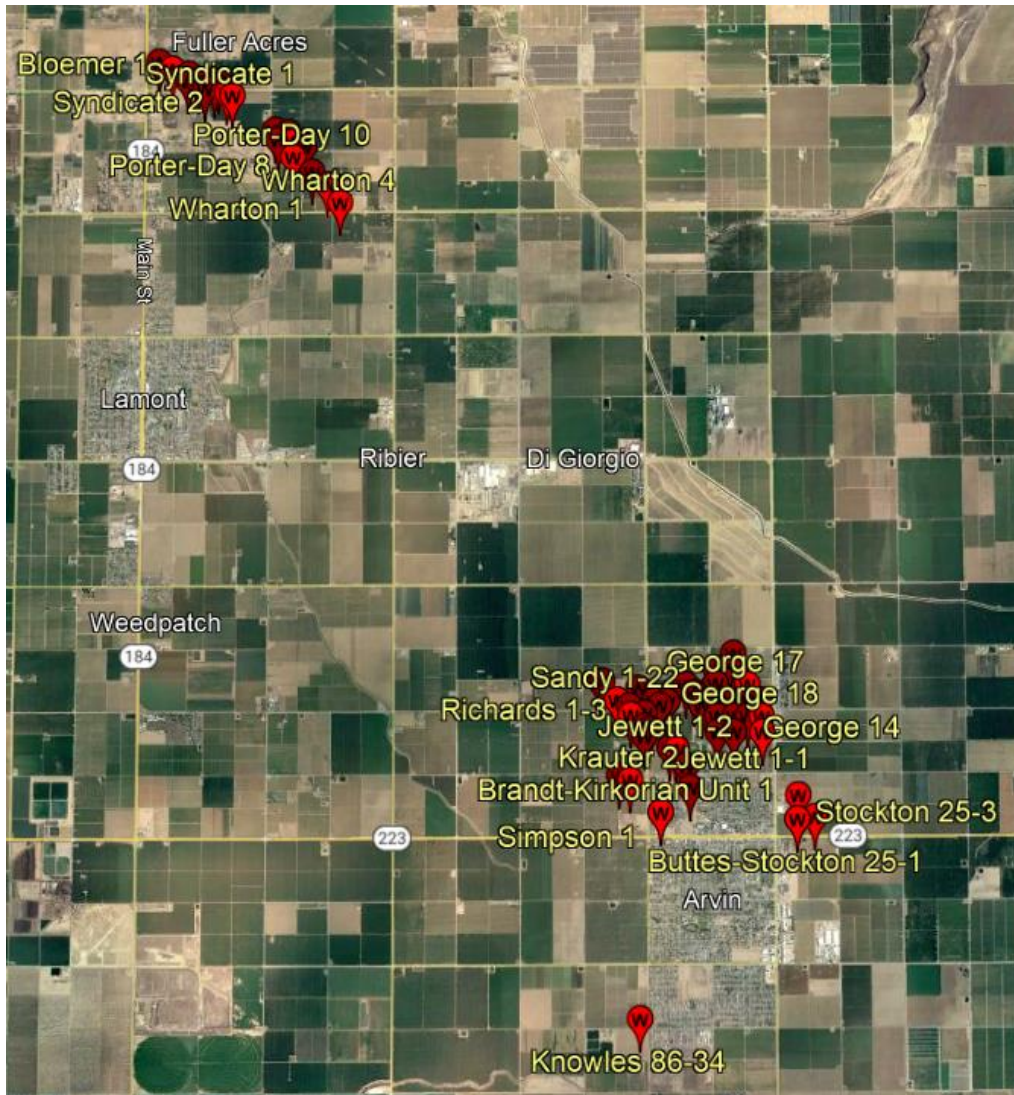
<sup>1</sup> <https://www.conservation.ca.gov/calgem/Pages/Methane-Task-Force.aspx>

oil and gas wells in the Arvin/Lamont area in May of 2023. This report provides an overview of this joint-inspection effort.

## Community Engagement and Well Selection

The MTF coordinated with the San Joaquin Valley APCD to support joint oil and gas well inspections that were informed by engagement with the Arvin/Lamont Community Steering Committee (CSC). The selection of Arvin/Lamont represented an opportunity to engage with an Assembly Bill (AB) 617 community that identified oil wells as a top air quality priority. AB 617 communities represent some of the most pollution-burdened communities in the State of California. On April 26, 2023, the MTF engaged with the CSC to provide an overview of key efforts underway aimed at addressing leaks from oil and gas wells, and to seek input on proposed joint inspections planned for the week of May 22, 2023. Figure 1 displays a picture of the 68 wells selected for this inspection effort located within 3,200 feet of the Arvin/Lamont community boundary. These wells were selected for inspection with community input. After the inspections occurred, on May 31, 2023, the MTF engaged with the oil and gas subcommittee of the CSC to discuss initial inspection results. By that date, most of the leaking wells had been addressed except for the 11 leaking wells belonging to Sunray Petroleum, Inc. and Blackstone Oil and Gas, LLC. In addition, status updates written in English and Spanish were provided to the CSC on June 5, June 19, and July 7. Up-to-date information on the status of well repairs and inspections conducted as part of this effort can be found at the following link: <https://www.conservation.ca.gov/calgem/Pages/Arvin-and-Lamont-Well-Inspections-.aspx> .

**Figure 1:** Map of all inspected wells.



## Inspection Summary

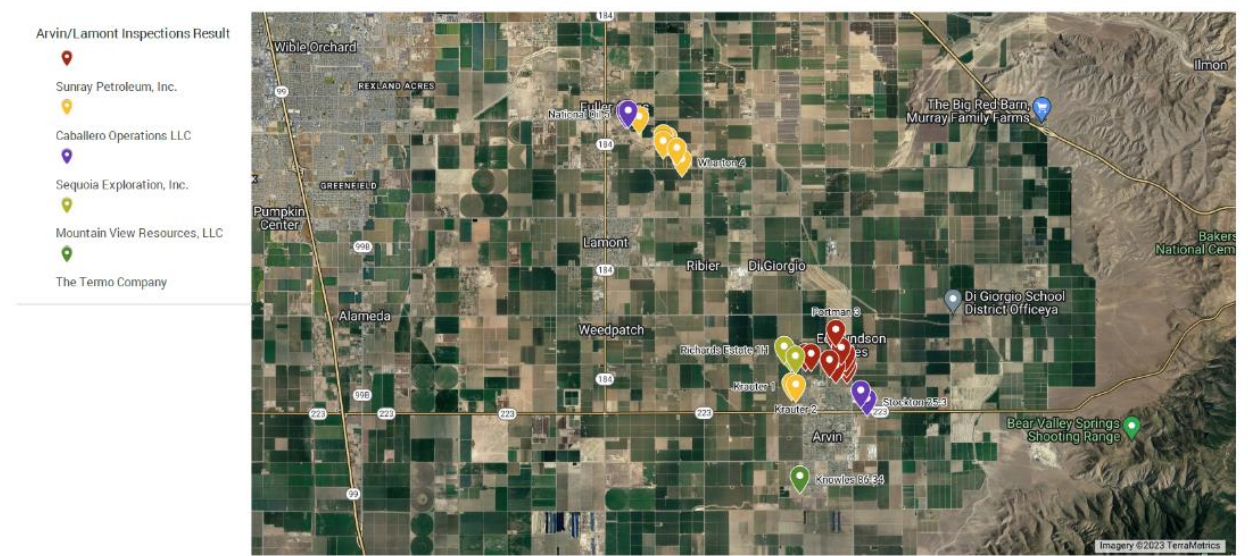
On May 23-25, 2023, CARB, CalGEM, and SJVAPCD staff inspected 68 wells in the Mountain View oilfield using instrumentation mentioned at the end of this report. Operator representatives were present for the inspections, except for wells with leaks belonging to Sunray Petroleum Inc. In total, 27 out of the 68 wells were found to be leaking during the inspections. Fifteen (15) of the 27 leaking wells had leaks exceeding 50,000 parts per million, the lowest concentration at which the gas could potentially ignite if there is an ignition source. Fourteen (14) of these wells had leaks exceeding 50,000 parts per million but which dissipated to background levels (no longer detectable) within two to three feet of the source. The remaining well took up to 15 feet to dissipate. However, this well was

located approximately one thousand feet from any occupied residence or school and therefore not an immediate public safety risk. None of these leaks were occurring under high pressure or in an enclosed space. As such, the risk of explosion was found to be extremely minimal. If an ignition occurred, the result would be a slow burn similar to gas on a stove. Despite dissipation to background levels within feet of the well, in an abundance of caution, three of these wells were reported by the San Joaquin Valley APCD to the California Governor's Office of Emergency Services (CalOES) due to being within 1,000 feet of a school and having a concentration exceeding 50,000 parts per million. These three wells included:

- Arvin Waterflood Unit G5
  - API# 0402914577
  - GPS coordinates: 35.2172699 / -118.8300781
  - Distance to school: 1020' (388' from a residence)
- George 4
  - API# 0402914587
  - GPS coordinates: 35.22077942 / -118.8394928
  - Distance to school: 400' (448' from a residence)
- George 20
  - API# 0402914596
  - GPS coordinates: 35.2208985 / -118.8412128
  - Distance to school: 800' (419' from a residence)

All operators were contacted to repair leaks. Four of the wells were repaired during the initial inspections.

**Figure 2:** Map of all inspected wells that were leaking





**Table 1** Critical data on the 68 wells inspected from May 23-25

Ref. #	API Well Number	Well Designation	API Gravity	Well Status	Leaks (PPM)	Operator	Inspection Date
1	0402972992	Cauzza et al Pool 1-3*	23-24	Plugged	0	GER	5/23/2023
2	0402914358	Knowles 86-34	23-24	Active	>50,000	Termo	5/23/2023
3	0402947579	Richards 72X-22	23-24	Idle	>50,000	MVR	5/23/2023
4	0403049716	Sandy 1-22	23-24	Active	44,000	MVR	5/23/2023
5	0402914569	Richards Estate 8	23-24	Active	0	MVR	5/23/2023
6	0402914567	Richards Estate 6	23-24	Active	0	MVR	5/23/2023
7	0403056414	Richards Estate 1H	23-24	Idle	21,000	MVR	5/23/2023
8	0402914432	Simpson 1	23-24	Active	0	Sequoia	5/23/2023
9	0402914431	Jewett 3	23-24	Active	0	Sequoia	5/23/2023
10	0402946808	Jewett 1-23	23-24	Active	0	Sequoia	5/23/2023
11	0402961844	Brandt-Kirkorian Unit 1	23-24	Active	9,300	Sequoia	5/23/2023
12	0402958875	Buttes-Stockton 25-1	23-24	Active	0	Sequoia	5/23/2023
13	0402960289	Stockton 25-3	23-24	Active	4,900	Sequoia	5/23/2023
14	0402948847	National Oil 9	23-24	Idle	0	Sequoia	5/23/2023
15	0402914690	Cowan 1	23-24	Idle	0	Sequoia	5/23/2023
16	0402947535	National Oil B 6	23-24	Idle	18,000	Sequoia	5/23/2023
17	0402947379	National Oil 5	23-24	Idle	21,000	Sequoia	5/23/2023
18	0402948728	National Oil 8	23-24	Idle	0	Sequoia	5/23/2023
19	0402948459	National Oil 7	23-24	Idle	0	Sequoia	5/23/2023
20	0402914540	AWU D1	23-24	Idle	0	Sunray	5/24/2023
21	0402914551	Portman 1	23-24	Idle	0	Sunray	5/24/2023
22	0402914552	Portman 2	23-24	Idle	>50,000	Sunray	5/24/2023
23	0402914553	Portman 3	23-24	Idle	30,000	Sunray	5/24/2023
24	0402914580	AWU G9	23-24	Idle	0	Sunray	5/24/2023
25	0402914592	George 16	23-24	Idle	0	Sunray	5/24/2023
26	0402914593	George 17	23-24	Idle	>50,000	Sunray	5/24/2023
27	0402954044	George 21	23-24	Idle	21,000	Sunray	5/24/2023
28	0402914595	George 19	23-24	Idle	0	Sunray	5/24/2023
29	0402914581	AWU G10	23-24	Idle	0	Sunray	5/24/2023
30	0402914576	AWU G3	23-24	Idle	10,000	Sunray	5/24/2023
31	0402914583	AWU G13	23-24	Idle	0	Sunray	5/24/2023
32	0402914591	George 15	23-24	Idle	>50,000	Sunray	5/24/2023

Ref. #	API Well Number	Well Designation	API Gravity	Well Status	Leaks (PPM)	Operator	Inspection Date
33	0402914594	George 18	23-24	Idle	>50,000	Sunray	5/24/2023
34	0402914590	George 14	23-24	Idle	10,000	Sunray	5/24/2023
35	0402914577	AWU G5	23-24	Idle	>50,000	Sunray	5/24/2023
36	0402914579	AWU G8	23-24	Idle	0	Sunray	5/24/2023
37	0402914582	AWU G11	23-24	Idle	0	Sunray	5/24/2023
38	0402914575	AWU G2	23-24	Idle	0	Sunray	5/24/2023
39	0402914574	AWU G1	23-24	Idle	0	Sunray	5/24/2023
40	0402914578	AWU G7	23-24	Idle	0	Sunray	5/24/2023
41	0402914587	George 4	23-24	Idle	>50,000	Sunray	5/24/2023
42	0402946852	George 20X	23-24	Idle	0	Sunray	5/24/2023
43	0402914596	George 20	23-24	Idle	>50,000	Sunray	5/24/2023
44	0402947968	Kirkorian 14X-23	23-24	Idle	0	Sunray	5/24/2023
45	0402947703	Jewett 1-3	23-24	Active	0	Petro	5/25/2023
46	0402944449	Jewett 1-1	23-24	Active	0	Petro	5/25/2023
47	0402944679	Jewett 1-2	23-24	Active	0	Petro	5/25/2023
48	0402948361	Richards 1-4	23-24	Active	0	Petro	5/25/2023
49	0402947359	Richards 1-2	23-24	Active	0	Petro	5/25/2023
50	0402946454	Richards 1-1	23-24	Active	0	Petro	5/25/2023
51	0402947652	Richards 1-3	23-24	Active	0	Petro	5/25/2023
52	0402908057	Krauter 2	23-24	Idle	30,000	Caballero	5/25/2023
53	0402908056	Krauter 1	23-24	Active	>50,000	Caballero	5/25/2023
54	0402914217	Wharton 4	23-24	Active	15000	Caballero	5/25/2023
55	0402914214	Wharton 1	23-24	Active	0	Caballero	5/25/2023
56	0402914182	Porter-Day 2	23-24	Active	>50,000	Caballero	5/25/2023
57	0402904175	Porter-Day 9	23-24	Active	0	Caballero	5/25/2023
58	0402914188	Porter-Day 10	23-24	Idle	>50,000	Caballero	5/25/2023
59	0402904062	Porter-Day B-2	23-24	Active	>50,000	Caballero	5/25/2023
60	0402900531	Porter-Day 8	23-24	Idle	>50,000	Caballero	5/25/2023
61	0402914181	Porter-Day A-1	23-24	Idle	0	Caballero	5/25/2023
62	0402914185	Porter-Day 5	23-24	Idle	0	Caballero	5/25/2023
63	0402914186	Porter-Day 6	23-24	Active	0	Caballero	5/25/2023
64	0402900532	Syndicate 1	23-24	Idle	>50,000	Caballero	5/25/2023
65	0402914204	Syndicate 2	23-24	Active	0	Caballero	5/25/2023
66	0402940629	Cowan 2	23-24	Active	0	Caballero	5/25/2023
67	0402900929	Bloemer 1	23-24	Idle	0	Caballero	5/25/2023
68	0402914192	Clendenen 1	23-24	Idle	0	Caballero	5/25/2023

## Status of Well Repairs

By May 30, except for the 11 deserted wells described below, all other leaking wells were reported as being repaired. Re-inspections occurred on May 31st and June 1st for eight wells and one storage tank. During re-inspections, one well was discovered to have a new leak greater than 50,000 PPM, and an existing leak over 50,000 PPM was reduced to 10,000 PPM. All of these leaks have been repaired.

For 11 of the leaking wells, CalGEM had previously determined that the operators, Sunray Petroleum, Inc. and Blackstone Oil and Gas Co., deserted the wells and CalGEM ordered the operators to plug and abandon the wells, decommission production equipment, and restore well sites. Because the wells are deserted and the operators did not repair the leaks, CalGEM prepared an emergency contract to have the leaks repaired.

As of July 5, all of the 27 wells found leaking in the Arvin/Lamont community in May had been repaired. However, on July 14, during CalGEM's routine follow-up inspections, it was discovered that 4 of the wells belonging to Blackstone Oil and Gas Co. had leaks initiate again at concentrations in the range of 1000 PPM. CalGEM was able to get Blackstone Oil and Gas Co. to send out a contractor to fix these leaks, and on July 19, conducted inspections that confirmed the leaks are repaired.

As of July 20, all of the 27 wells found leaking in the Arvin/Lamont community in May have been repaired.

### Additional information on the 11 Sunray Petroleum and Blackstone wells:

As of July 5, all 11 wells were repaired and passed inspection; however, on July 14, CalGEM inspections discovered additional leaks at four wells. Greater detail is provided below. These wells were inspected on July 19 and confirmed to be repaired. A previous report indicated one repaired well, George 4, had a methane leak over 80,000 ppm. This was a typo. The leak for George 4 was recorded to be over 50,000 ppm. There are no further corrections to previous reports.

- George 14: Repaired. This well was first determined to be leaking on May 24. After an initial reinspection on June 15, the Air Pollution Control District reinspected the well on June 27 and reported the well to be leaking from the flange. Drilltek was onsite fixing the well on July 3, and the well passed reinspection on July 5.



- George 15: Repaired. This well was first detected as leaking on May 24. Driltek fixed the well on June 7, and it passed reinspection the same day and again on June 20. On June 27, the San Joaquin Valley APCD discovered an open-ended line shown below, from which no gas leak was detected. On June 29, CalGEM confirmed this report. The well passed reinspection on July 5.





- George 18: Repaired. This well was first detected as leaking on May 24, with a methane leak of over 50,000 ppm. Drilltek reported the well as fixed on June 15. On a second reinspection on June 20, forward-looking infrared cameras detected additional leaking. Drilltek fixed the well on June 21, and the well passed reinspection that same day. On June 28, the Air Pollution Control District reported that the well was missing a plug, and on June 29, CalGEM verified that the well is not leaking but has one open line. The well passed reinspection on July 5.



- Portman 2: Repaired. This well was first detected as leaking on May 24, with a methane leak of over 50,000 ppm detected. Drilltek reported the well as fixed on June 15. The well passed three rounds of reinspection on June 15, 20, and 29. The well passed an additional reinspection on July 5.





- George 21: Repaired. This well was first detected as leaking on May 24th, with two sources of leakage and a methane leak of over 50,000 ppm. Initial repairs were made on June 15. On a second reinspection on June 20, an additional leak source was found. Driltek fixed the leak on June 26, and the well passed an initial reinspection that same day and an inspection by the Air Pollution Control District on June 27. The well passed an additional reinspection on July 5.



- Arvin Waterflood Unit G5: Repaired. This well was first detected to be leaking on May 24 at a concentration of over 50,000 ppm of methane, and Driltek confirmed the well as fixed on June 13. The well passed three rounds of reinspection on June 15, 20, and 29. The well passed additional reinspection on July 5.





- George 17: Repaired. This well was first detected on May 24th, with a leak detectable 15 feet from the wellhead. Driltek tightened the wellhead on June 12, and Blackstone was confirmed to have a rig onsite working on the wellhead on June 16. Driltek confirmed on June 19 that the well was still leaking at connections to the casing. Driltek completed a series of repairs to the connectors and underground casing valves on June 20 and 28 to stop the leak. The well passed reinspection on July 5. On July 14, CalGEM conducted a reinspection of the well and discovered that it was leaking at a rate of around 1000 ppm of methane from a different component of the wellhead. On July 19, CalGEM inspectors confirmed the leak had been repaired.



- Arvin Waterflood Unit G3: Repaired. This well was first detected to be leaking from the well head on May 24 at a volume of over 50,000 ppm of methane. Despite a fix on June 9, the San Joaquin Valley APCD found the well to be leaking again on a June 27 inspection, which CalGEM confirmed on June 29. Driltek worked with a third-party contractor to complete a hot tap of the well in order to conduct repairs, and on July 3 they reported the well as repaired and ready for reinspection. The well passed reinspection on July 5. On July 14, CalGEM conducted a reinspection of the well and discovered that it was leaking at a rate of around 1000 ppm of methane from a different component of the wellhead. On July 19, CalGEM inspectors confirmed the leak had been repaired.



- George 20: Repaired. This well was first detected as leaking on May 24, with a methane leak of over 50,000 ppm detected. The well was fixed on June 15 and passed initial reinspection that same day. Additional leaks were found on June 20 and 26 and both subsequently fixed. The San Joaquin Valley APCD reinspected the well on June 27 and reported no further leaking, which CalGEM confirmed on June 29.





- George 4: Repaired. This well was first detected to be leaking on May 24 at a concentration of over 50,000 ppm of methane. Initial repairs were made on June 9, and the well had to be bled several times during the repair to release pressure. The well passed reinspection on June 15, but a different leak source was discovered on June 20 and fixed the next day. The well passed three rounds of reinspection on June 21, 26, and 29.





- Portman 3: Repaired This well was first detected as leaking on May 24, with a methane leak of about 30,000 ppm detected. The well was initially repaired on June 13 and passed two rounds of reinspection before additional leaks were detected on a June 28 inspection by the Air Pollution Control District. Driltek completed another round of repairs on June 30. The well passed reinspection on July 5. On July 14, CalGEM conducted a reinspection of the well and discovered that it was leaking at a rate of around 1000 ppm of methane from a different component of the wellhead. On July 19, CalGEM inspectors confirmed the leak had been repaired.



## Enforcement Actions

Each agency has specific authority to address leaks from oil and gas wells. These authorities are the basis for all enforcement actions taken.

- CalGEM has broad authority to address leaks from oil and gas operations under Public Resources Code section 3106 and 3011.
- CARB has authority to regulate greenhouse gas emissions from stationary sources under Health and Safety Code sections 38562, 39600, 39601, 39602.5, and 39659. CARB regulates leaks from oil and gas operations under the Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities, California Code of Regulations, title 17, sections 95665, et seq.<sup>2</sup>
- San Joaquin Valley APCD has authority to address leaks from oil and gas operations under District Rules and has been delegated authority through a Memorandum of Agreement to implement and enforce CARB's Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities within the San Joaquin Valley.

On June 07, 2023, CalGEM issued a Notice of Violation (NOV) to Sunray Petroleum, Inc., and Caballero Operations LLC for failing to timely remediate leaking wells found on May 24, 2023 and May 25, 2023, respectively. No other operator received an NOV from CalGEM because of their timely remediation response.

The San Joaquin Valley APCD issued Notices of Violation to the following companies:

- The Termo Co, for one open-ended line on a subject component (from which no gas leak was detected), for two leaking gas components, and for not repairing one leak within the required timeframe. On June 8th, 2023, District staff confirmed that all repairs had been completed.
- Caballero, for five leaking gas components. On June 6th, 2023, District staff confirmed that all repairs had been completed.
- Petro Capital Resources, for one leaking gas component. On June 1st, 2023, District staff confirmed that the repair had been completed.
- Mountain View Resources LLC, for five leaking gas components. On June 7th, 2023, District staff confirmed that all repairs had been completed.
- Sunray Petroleum and Blackstone Oil & Gas LLC, for nine leaking gas components, for eight open-ended lines on subject components (from which no gas leaks were detected), and for not repairing leaks within the required timeframes. On July 5th, 2023, District staff confirmed that all repairs had been completed.

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<sup>2</sup> <https://ww2.arb.ca.gov/resources/documents/oil-and-gas-regulation>

## Discussion on the Methane Task Force Inspections for Arvin/Lamont

The joint inspections around these communities have established strong working relationships among the agencies. The agencies have reviewed their authorities and enforcements tools. Additionally, the Methane Task Force meets weekly to discuss the inspection efforts and outcomes. From the perspective of the Methane Task Force, open communication with the affected communities has been extremely valuable. These discussions have emphasized the need for the Methane Task Force to develop communication protocols and to conduct additional sampling.

Related, on July 18 CalGEM released its State Abandonment Draft Expenditure Plan which proposes a list of orphan wells to be permanently sealed as part of the first wave of such projects to be supported by new state and federal funding. This proposal includes sealing 59 wells belonging to Sunray Petroleum Inc. and Blackstone Oil Co located in Bakersfield, Arvin, and Lamont, which includes the 11 wells belonging to them found to be leaking as part of this joint inspection effort. More information on this effort can be found here: <https://www.conservation.ca.gov/calgem/Pages/State-Abandonments.aspx>

### Additional Inspection Information

#### Inspection Staff

- Leng Mut (CARB)
- Eric Walton (CARB)
- Terry Allen (CARB) (May 23)
- Dustin Leavitt (CalGEM)
- Sade Haake (CalGEM)
- David Cooke-Gam (CalGEM) (May 23, 25)
- David Kong (CalGEM) (May 23)
- Marvelous Egboro (CalGEM) (May 25)
- Victor Medrano (CalGEM) (May 24)
- Daniel Woldemariam (CalGEM) (May 23)
- Ellie Rodriguez (SJVAPCD) (May 24-25)
- Jaylynn Franco-Hackler (SJVAPCD) (May 23-24)
- Josue Gonzalez (SJVAPCD) (May 23-24)
- Dylan Born (SJVAPCD) (May 23)

#### Equipment Used

During the inspection, inspection staff measured methane leak concentrations from the wells using Method 21 - (Method 21 - Volatile Organic Compound Leaks) approved equipment:



- Eagle 2
- Detecto-Pak Infrared (DP-IR)
- Toxic Vapor Analyzer (TVA)

To screen for leaks, inspection staff used:

- FLIR cameras
- Irwin
- Remote Methane Leak Detector

## Works Cited

“Methane Task Force” *CalGEM*, n.d., <https://www.conservation.ca.gov/calgem/Pages/Methane-Task-Force.aspx>. Accessed 6 Jul 2023.

“WellSTAR” *CalGEM*, n.d., <https://wellstar-public.conservation.ca.gov/Well/Well/Index>. Accessed 25 May 2023.