

From: [Ken Eklund](#)
To: [Coffin Butte Landfill Appeals](#)
Subject: Explainer 1 of 12: Why Are There So Many Gas Wells at Coffin Butte Landfill? The Secret Story!
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Attachments: [Explainer - Why so many landfill gas wells at Coffin Butte.pdf](#)

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Dear Chair Wyse and Commissioners Malone and Shepherd:

I've developed a set of "explainers" first for myself, to try to make sense of these complex subjects (and to get all the things learned into one place) and to pass this info along to others. And now I'm sending them along to you.

The one attached here is about the high number of landfill gas wells at Coffin Butte Landfill – Republic often touts having three times as many as your average landfill – and also about the considerable \$\$\$ they spend on the gas collection system. Not to spoil my own explainer, but it turns out that these are a sign of multiple failures of the system and the expensive attempts to correct that, which in reality are not things to brag about.

I hope you find it useful –

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– An Explainer –
Updated October 15, 2025



Gas well 3V81, flagged by the EPA for leaking landfill gas, June 2024. The liner has pulled away from the support on the left and landfill gas is coming out at over 14,000 ppmv, over 28 times the actionable limit.

Landfills have wells bored into their interiors, to try to capture landfill gas as it's generated through microbial action.

Coffin Butte Landfill has over three times the number of wells you'd expect to find. Republic says this openly, while implying it's a sign of their environmental stewardship.

They often cite how much they spend on the gas collection system at Coffin Butte as further green credentials.

The truth is, this high number of wells says the exact opposite: it's the result of having landfill gas leaks that Republic was unwilling or unable to fix directly.

The money spent to drill these wells is in effect a regulatory fine for being unwilling or unable to stop landfill gas from leaking out at high levels.

Let's walk through the regulatory process and you'll see what I mean.

Or. Admin. Code § 340-239-0600 - Monitoring Requirements

When required as provided in OAR [340-239-0100](#) through [340-239-0800](#), the owner or operator of a landfill must comply with the monitoring requirements in this rule.

(1) Surface Emissions Monitoring Requirements. The owner or operator of a landfill with a gas collection and control system must conduct quarterly instantaneous and integrated surface monitoring of the landfill surface using the procedures specified in OAR [340-239-0800\(3\)](#). All of the following requirements apply to such monitoring:

(a) Instantaneous Surface Monitoring. Any reading exceeding a limit specified in OAR [340-239-0100\(6\)\(b\)](#), [340-239-0200\(1\)\(a\)](#), or [340-239-0400\(2\)\(c\)](#) must be recorded as an exceedance and all of the following actions must be taken:

(A) The owner or operator must record the name of the individual that conducted SEM, date, location, and value of each exceedance, along with retest dates and results. The location of each exceedance must be clearly marked and identified on a topographic map of the landfill, drawn to scale with the location of both the grids and the gas collection system clearly identified. The documentation required under this subsection must be retained in the landfill's files and reported to DEQ as provided in OAR [340-239-0700](#).

(B) The owner or operator must take corrective action such as, but not limited to, cover maintenance or repair, or well vacuum adjustments.

(C) The owner or operator must remonitor the location of the exceedance, and the location must be remonitored within ten days of a measured exceedance. The owner or operator must comply with all of the following requirements:

(i) If the remonitoring of the location shows a second exceedance, the owner or operator must take additional corrective action and the location must be re-monitored again no later than 10 days after the second exceedance.

Here's the chapter in the Oregon Administrative Rules pertaining to monitoring landfills. A quick summary of the core process:

The landfill operator (Republic) must conduct quarterly monitoring, and when leaks above the threshold are found, Republic must record and report them and then take action to fix them.

First action: remediate, then test again in 10 days.

If it's still leaking above the threshold, then the landfill operator must take "additional corrective action" and test again in another 10 days.

If it's still leaking above the threshold, then the landfill operator must again take "additional corrective action" and test a third time 10 days later.

If this third test still shows a leak above the threshold, then the landfill operator "must install a new or replacement collection device" – i.e., they must put in a new well.

So, in plain language: if Republic has a leak that they just can't seem to fix, then beyond a certain point the DEQ regulations allow them to stop trying and just install a whole new well instead. The hope is that the new well will draw off some of the gas that would otherwise be escaping out the leak.

(ii) If the remonitoring shows a third exceedance, the owner or owner or operator must **install a new or replacement collection device** and must demonstrate compliance no later than 120 days after detecting the third exceedance.

(iii) Any location that initially showed an exceedance but has a methane concentration at the 10-day remonitoring of less than 500 ppmv methane, or 200 ppmv methane if this is to determine compliance with OAR 340-239-0100(6)(b), must be re-monitored one month from the initial exceedance. If the one-month re-monitoring shows a concentration less than 500 ppmv methane, or 200 ppmv methane if this is to determine compliance with OAR 340-239-0100(6)(b), no further monitoring of that location is required until the next quarterly monitoring period. If the one-month re-monitoring shows an exceedance, the owner or operator must **install a new or replacement well** to achieve compliance no later than 120 days after detecting the third exceedance.

(iv) For any location where monitored methane concentration equals or exceeds 500 ppmv, or 200 ppmv methane if this is to determine compliance with OAR 340-239-0100(6)(b), three times within a quarterly period, **a new well or other collection device must be installed** within 120 days of the initial exceedance. An alternative remedy to the exceedance, such as upgrading the blower, header pipes or control device, and a corresponding timeline for installation may be submitted to DEQ for approval pursuant to OAR 340-239-0500.

...

(b) Integrated Surface Monitoring. Any reading exceeding the limit specified in OAR 340-239-0200(1)(b) must be recorded as an exceedance and all of the following actions must be taken:

(A) The owner or operator must record the average surface concentration measured as methane for each grid along with retest dates and results. The location of the grids and the gas collection system must be clearly marked and identified on a topographic map of the landfill drawn to scale. The documentation required

The penalty of having to install a new well occurs in several other places in the regulations; I've marked those places with **yellow highlighting**.

In each instance, the installation of an additional well is DEQ's measure of last resort: each one signifies a leak that Republic, for whatever reason, did not fix.

under this subsection must be retained in the landfill's files and reported to DEQ as provided in OAR [340-239-0700](#).

(B) Within 10 days of a measured exceedance, corrective action must be taken by the owner or operator such as, but not limited to; cover maintenance or repair, or well vacuum adjustments and the grid must be remonitored. The owner or operator must comply with all of the following requirements:

(i) If the remonitoring of the grid shows a second exceedance, additional corrective action must be taken and the location must be re-monitored again no later than 10 days after the second exceedance.

(ii) If the remonitoring in subparagraph (1)(b)(B)(i) of this rule shows a third exceedance, the owner or operator must install a new or replacement well to achieve compliance no later than 120 days after detecting the third exceedance.

The basic timeline for unfixed/unfixable wells is: initial test is day 0; first retest is day 10; second retest is day 20; third retest is day 30; installation of the well is day 150 (generally, the well is required to be installed 120 days after the leak has failed its third retest).

Negative feedback loop

I have doubts that DEQ's protocol was designed to handle a case like Coffin Butte Landfill, with its large number of leaks. The core problem with this protocol in this situation is that, at scale, it creates a negative feedback loop. Each new well punctures the landfill's gas envelope, thus creating a new potential leak site. In time the landfill looks like a pincushion, with multiple wells going unfixed or proving to be unfixable at any one time, and thus generating even more new wells, etc. Each solution creates a new opportunity for trouble to emerge.

Response: *active leak detection avoidance*

Given this escalating problem, you might expect Republic to look for some other way out of it, which brings up the simple and expedient idea of *just not looking for those leaks* in the first place. Elsewhere in the public testimony you'll find an analysis of how Republic is

now self-declaring most of their landfill (up to 93%!) exempt from monitoring – without attempting to file the necessary rationales for those exemptions with DEQ. I'll attach an article from the Salem Statesman Journal about the analysis by Beyond Toxics and DEQ's subsequent investigation of the landfill on this issue; that article is at the end of this Explainer.

For comparison, Short Mountain Landfill outside Eugene exempts about 10% of its surface from monitoring.

“the system is operating normally”

It's standard operating procedure for the Environmental Manager at Coffin Butte Landfill to respond to odor complaints by saying, “I checked the system and everything is normal.” By which we can understand that large gas leaks are normal for the system.

This is confirmed by the EPA's unannounced inspection of Coffin Butte Landfill in June 2024. When the EPA Enforcement team arrived, they noticed a strong landfill odor. The Environmental Manager told them the system was operating normally.

Then the EPA Enforcement team went out onto the landfill surface and immediately started finding reportable leaks – 41 in all. One of those leaks was *an uncapped well*. There was landfill gas pouring out of that uncapped well at 230x the reportable limit. Right at the optimum explosive point for methane.

Again, by which we understand that even if there are dozens of leaks and uncapped wells, *Republic's system is operating normally*.

The EPA's investigation of the landfill has now escalated to the “let's see all your records” for the operations of its gas system. That's where it sits now.

Link to the 2024 Inspection Report by EPA Enforcement
in the LU-24-027 Record:

[https://www.bentoncountyor.gov/wp-content/uploads/LU-24-027/BoardOfCommissioners/
Written%20Testimony/BOC1_T0010_08192025_Email_EKLUND_Ken.pdf](https://www.bentoncountyor.gov/wp-content/uploads/LU-24-027/BoardOfCommissioners/Written%20Testimony/BOC1_T0010_08192025_Email_EKLUND_Ken.pdf)

All those gas wells aren't solving anything: confirmation from space

Mr. Leavitt's analysis and the DEQ and EPA investigations dovetail in turn with the aerial reconnaissance data from Carbon Mapper. As set out in my explainer "Carbon Mapper and Coffin Butte Landfill," Coffin Butte Landfill has shown large-scale methane leaks creating plumes of landfill gas that originate from the same spots on the landfill over weeks, months or even years. Hand-in-hand with that, Carbon Mapper documents that Coffin Butte's landfill gas emissions are rising over time. All those gas wells aren't solving the problem.

Summary:

The large number of gas wells at Coffin Butte are a sign of environmental and compliance problems at the site. They are artifacts of increased regulatory activity due to infractions, and certainly not indicators of good environmental stewardship. They also do not translate into good gas collection efficiency, as aerial surveys show gas leaks growing in both number and volume even as the number of wells grow.

Landfill gas wells and the land use criteria

Commissioners, your citation for this is BCC 53.215(1) and (2): The Applicant's inability to control leaks of landfill gas constitutes **SERIOUS INTERFERENCE** with adjacent land uses and with the character of the area, and also **AN UNDUE BURDEN** on services available to the area – specifically, environmental monitoring and enforcement services by the EPA and Oregon DEQ. It's established by common sense, and confirmed in LUBA findings, that a landfill's current operations are a good indicator of its operations going forward into the future.

The Tale Told by Gas Wells is also failure of the Applicant to meet both the "deliver evidence" and "deliver a convincing narrative" components of their Burden of Proof. The Applicant has not shown any evidence that the levels of landfill gas leaking from the dump are decreasing – and has likewise not countered the plentiful evidence that those levels are significant and growing more significant. The Applicant has not presented any convincing narrative about its ability or desire to decrease the levels of landfill gas leaking from the dump; indeed, by posturing that the high number of gas wells at the dump is actually a good thing, the Applicant has created a convincing narrative that they have no ability or desire for anything other than to continue the status quo.

In the status quo, both Oregon DEQ and the EPA are already engaged in investigations into possible air quality violations at the dump. For the EPA, its investigation is well into its fourth year. Approval of an expansion would give both organizations what amounts to an entire new landfill to monitor and enforce – and would bring in Benton County government as an enforcement body, too. As is established in other testimony, the Applicant has a history of non-compliance, so expanded landfiling would impose an undue burden on Oregon DEQ and on the EPA, and especially, on Benton County government. The Planning Commission spoke at length about the burden upon the County's resources and community goodwill.

Commissioners, since the Applicant cannot or will not control its leaks of landfill gas, you must deny LU-24-027. The very existence of Conditions of Approval related to odor and other impacts are testimony admitting to serious interference and harmful impacts that expanded landfilling would have on neighbors' land uses and on the character of the area, and which would in turn create an undue burden on regulatory agencies and county government itself to monitor compliance, document infractions and violations, and enforce mitigation.

Thank you for your kind attention ~
Deny the application to expand Coffin Butte Landfill.

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Read all the Explainers! Because I'm doing my best to pass on what I've learned in a clear, concise, readable narrative form.

Performance-testing the landfill gas flare: ODEQ's struggle to obtain compliance from Republic

DEQ made a rule in late 2021 and Coffin Butte Landfill complied with it in late 2024. Why did it take so long, and what about that Class 1 Notice of Violation from DEQ?

Explainer - DEQ gas flare compliance.pdf 

Carbon Mapper and landfill gas: an explainer

An award-winning, innovative third-party source sharing data with us about the landfill's performance.

Explainer - Carbon Mapper and methane detection.pdf 

EPA Enforcement: a timeline and explainer

The EPA is investigating Coffin Butte Landfill – why? Is it serious? How did that start and what's happening with it?

Explainer - Coffin Butte and EPA Enforcement.pdf 

Climate Damage and the Land Use Criteria

Evidence shows that Coffin Butte Landfill is large-scale producer of greenhouse gas emissions. How do the impacts from that relate to the land use criteria for LU-24-027?

Explainer - Climate Damage and land use criteria.pdf 

Gas Wells At Coffin Butte: Why So Many?

Republic asserts that all those gas wells are a sign of environmental commitment. What's the true reason?

Explainer - Why so many landfill gas wells at Coffin Butte.pdf 

Elevated Temperatures, Subsurface Landfill Fires

The way Coffin Butte Landfill is operated creates more risk of a dire event.

Explainer - elevated temperatures at Coffin Butte.pdf 

Avoiding Compliance: six narratives

How Republic avoids monitoring at Coffin Butte Landfill: the paper trails.

Explainer - avoiding compliance at Coffin Butte 1.pdf 

How to Find Things in the LU-24-027 Public Record

It's not easy, but here are some tips that may help.

Explainer - How to find things in Public Record.pdf 

Coffin Butte Landfill exempts most of surface from methane monitoring

Tracy Loew

Salem Statesman Journal

Sept. 6, 2025 Updated Sept. 8, 2025, 11:38 a.m. PT



Key Points AI-assisted summary

A new study found Coffin Butte Landfill exempted up to 93% of its surface from required methane leak monitoring.

The landfill's owner, Republic Services, has not received state permission for these exemptions, according to the Oregon Department of Environmental Quality.

The EPA is investigating the landfill for Clean Air Act violations after finding methane leaks exceeding federal limits in 2022 and 2024.

Coffin Butte Landfill last year exempted as much as 93% of its operating surface from required [monitoring for methane leaks](#), claiming exempted areas were too steep, too vegetated or too dangerous for testers to walk on, according to a new study from the Eugene-based environmental group Beyond Toxics.

State law allows landfills to exempt certain areas from monitoring if they document the reasons and request and receive permission in writing ahead of the monitoring.

Coffin Butte has not requested nor received that permission, DEQ spokesman Dylan Darling said.

“If there is no monitoring, there is no data, and problematic leaks won’t be detected,” said Mason Leavitt, an analyst with Beyond Toxics.

Leavitt based his study on quarterly reports Coffin Butte submits to the Oregon Department of Environmental Quality. The Statesman Journal also reviewed the reports.

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In March 2025, DEQ environmental engineer Mike Eisele emailed Coffin Butte officials expressing concern about the increasing number of unapproved exemptions it was reporting.

Eisele asked Coffin Butte to provide DEQ with a deviation report listing all the exemptions it had claimed in emission monitoring reports since 2020 that were not approved or documented appropriately.

The company has not yet done so, Darling said. “DEQ agrees that the amount of unmonitored area is concerning,” he said.

Landfills are among the nation’s largest sources of methane, a greenhouse gas more potent than carbon dioxide and a major contributor to climate change, according to the U.S. Environmental Protection Agency. Regular monitoring ensures that leaks are quickly repaired.

The 178-acre landfill, north of Corvallis, is owned by Phoenix-based Republic Services, the nation’s second-largest waste disposal company. It accepts about a third of the Mid-Willamette Valley’s garbage. Marion County is its biggest customer.

Company officials acknowledged receiving the Statesman Journal’s questions about the exemptions, but did not answer them.

Concerns about Coffin Butte’s methane releases have been mounting

The increased monitoring exemptions come as the EPA is investigating Coffin Butte for violations of the federal Clean Air Act.

The EPA launched its investigation in 2022 after its own testing found Coffin Butte was [leaking methane](#) at levels that exceeded state and federal limits and were higher than what the landfill had reported to DEQ.

The levels EPA measured could cause health problems for neighbors, and in some cases were high enough to potentially cause an explosion and fire, experts said.

EPA investigators returned in 2024 and found 41 locations where methane exceeded limits, including at holes in the cover material. Coffin Butte's own monitoring, conducted around the same time over a larger area, found just 22 exceedances.

DEQ is reviewing Coffin Butte's methane monitoring records, as well as other records the landfill has provided in response to the EPA's ongoing investigation, Darling said.

“We are coordinating with EPA to evaluate compliance with both state and federal requirements intended to control methane emissions and to develop a

potential enforcement response that will address any violations and ensure the landfill stays in compliance going forward,” he said. “This includes the extent of surface emissions monitoring for methane.”

The non-profit Carbon Mapper, which uses remote sensing technology to detect and quantify methane leaks globally, said it has found at least one methane plume each of the 10 times it has flown over Coffin Butte since 2023.

One of the plumes Carbon Mapper detected, on July 18, 2025, was three miles wide. Carbon Mapper estimates all of the plumes it detected originated in areas Coffin Butte claims as exempt from monitoring.

The growing number of monitoring exemptions also comes as Republic Services [appeals](#) the Benton County Planning Commission’s July 29 denial of an application to expand the landfill.

Among the reasons the commission cited for denying the expansion was prior evidence of uncontrolled methane gas plumes.

The appeal goes to the Benton County Board of Commissioners, which plans to hold a public hearing on it in late October. Public participation will be available remotely via Zoom, the county said in a news release.

Exemptions skirt Oregon's new landfill methane emission standards

In 2021, the Oregon Environmental Quality Commission adopted new [landfill methane emission standards](#) that were the strictest in the nation.

Earlier this year, Beyond Toxics set out to determine how well those rules were working.

[The rules](#), which apply to the state's 11 largest landfills, require quarterly methane monitoring by walking the landfill surface with a handheld gas analyzer. Identified leaks measuring more than 500 parts per million must be fixed within 10 days.

Landfill owners typically hire and pay for a scientific consultant to do the monitoring.

In a report released in February, Beyond Toxics [found](#) that, through 2023, Oregon's corporate-owned landfills exempted an average of about half of their operating surfaces from monitoring. County-owned landfills, meanwhile, exempted about 10% of their surfaces.

It also found no evidence that landfills were submitting exemption requests in writing, and receiving written approval, as required by the law.

The study found that in 2023, Coffin Butte exempted between 54% and 62% of the landfill, depending on the quarter.

The new reports show Coffin Butte's exemptions grew in 2024, to 66% in the first quarter, 71% in the second and third quarters, and 93% in the fourth quarter.

In its report to DEQ for the fourth quarter of 2024, the company said that about 50% of the landfill was too steep or otherwise dangerous to monitor; about 28% was active area, or the area where waste is currently being placed or stored; and about 12% was obstructed by high vegetation.

In all, only seven of 106 monitoring areas at Coffin Butte have been consistently monitored over the past nine quarters. Fourteen of those areas have been consistently designated exempt during that time.

The other 85 areas have fluctuated between being monitored and being exempt, with the reason for the exemption sometimes changing as well.

New law targets Coffin Butte's methane monitoring

In June, the Oregon Legislature passed [Senate Bill 726](#) in response to ongoing concerns about methane leaks at Coffin Butte Landfill.

Beginning in 2027, Coffin Butte will have to improve monitoring and reporting of methane leaks.

The new law requires Coffin Butte to use advanced technology, such as drones, planes or satellites, to measure methane releases.

It requires the company to report the results to the state Department of Environmental Quality using GIS software, which would make it easier to visualize.

And it requires the landfill to fix any areas exceeding limits, and monitor those areas again.

The rules will take effect on Jan. 1, 2027. They only apply to Coffin Butte.

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