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VIA EMAIL

July 22, 2026

Jonathan Hershey, Associate Zoning Administrator
Rony Giron, City Planner
Los Angeles Department of City Planning
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Re: Case No. ZA-2026-3203-RV, ENV-2026-3204-CE regarding the Murphy Oil Drill Site located at 2126 W. Adams Boulevard

Dear Mr. Hershey and Mr. Giron,

On behalf of E&B Natural Resources Management Corporation ("E&B"), we are submitting this correspondence in response to the Notice of Public Hearing ("Notice") noticing a hearing on July 23, 2026. E&B requests that the Associate Zoning Administrator deny the request to revoke the established land use or impose additional land use conditions at the Murphy Oil Drill Site located at 2126 West Adams Boulevard ("Murphy Site"). We incorporate by reference our previous objection to the sufficiency of the Notice dated July 3, 2026.

Moreover, having now had approximately 48 hours to review the staff report for the July 23rd hearing, we are dismayed at the blatant mischaracterizations, misleading assertions, reliance on questionable information to make definitive compliance determinations, and even outright falsehoods contained in the staff report. Given the impossibly vague hearing notice, and the extremely limited time to respond to a lengthy staff report replete with distorted, incomplete and incorrect information, E&B reserves the right to supplement the information provided here to begin to address these serious but unsupported allegations.

I. The Murphy Site is not a Nuisance.

The City has no basis to assert that E&B's operations at the Murphy Site have ever constituted a nuisance. The City's vague assertion of "possible" violations of conditions, or citation of regulatory notices without even comprehending their implications or legal effects while asserting "regulatory noncompliance," does not rise to the level a of nuisance under California law.

"In determining whether something is a public nuisance, the focus must be upon whether ***an entire neighborhood or community or at least a considerable number of persons are affected*** . . . ." *Beck Dev. Co. v. S. Pac. Transp.* Co., 44 Cal. App. 4th 1160, 1209, 52 Cal. Rptr. 2d518, 551 (1996) (emphasis added). While a "considerable number of persons" does not necessarily mean hundreds of people, the law is clear that an alleged nuisance affecting only a handful of neighboring individuals does not constitute a public nuisance. (See id. [reversing the trial court's finding of a public nuisance because oil contamination was limited to one adjacent property; See *Norton-Meyer v. Creekside Holdings*, 2023 Cal. Super. LEXIS 6132, *4 [sustaining demurrer to public nuisance claim where "only ten individual residents" of an apartment complex were affected]).

E&B is in compliance with applicable rules and permit conditions. Where the City makes any assertions to the contrary, they are not based on the City's own diligence or investigation but instead take at face value the assertions of an active group of complainants. Indeed, as discussed below, many incidents identified in the staff report are not findings of violation at all, or reflect minor administrative issues that were quickly remedied. These few incidents span a period of at least 4 years. None had any meaningful effect on "a considerable number of persons," and all have been resolved both administratively and operationally. However, for the benefit of the public and the decisionmakers, a comprehensive explanation of the context, circumstances and legal effect of the cited notices are set forth below.

Furthermore, a third-party scientific analysis (the "Roux Analysis") of materials maintained by the City as well as health-related studies cited in this proceedings confirms there is no evidence to support any claim that the Murphy Site adversely affects public health or safety of anyone working or residing in the vicinity.[1] Applying the established Environmental Protection Agency ("EPA") and California Office of Environmental Health Hazard ("OEHHA") human health risk assessment frameworks, Roux finds that no scientific analysis in the record demonstrates a complete exposure pathway between the Site and any health outcome, and that the regulatory agencies with jurisdiction over the Site—including Southern California Air Quality Management District ("SCAQMD"), Los Angeles County Department of Public Health ("DPH"), and California Geologic Energy Management Division ("CalGEM")—have no investigative or enforcement record reflecting a finding that the Site caused widespread or recurring odor or health impacts. The Roux Analysis also evaluates the only community health study referencing the area, Johnston et al. (2021), and concludes that its cross-sectional design, reliance on an unmeasured proxy for exposure, uncorrected multiple statistical comparisons, and lack of any clinically meaningful benchmark for its lung-function findings preclude it from establishing that the Site causes or is likely to cause adverse health effects. To the extent the City would rely at all on the Johnston 2021 study in support of any finding, such reliance would be entirely misplaced. In short, it does not establish any evidence that would support a nuisance finding. Moreover, the Roux Analysis confirms what the City should already understand – that while the record contains reports of odors, the record also lacks source-attribution and odor-characterization evidence necessary to establish that the Murphy Site is the source of verified, recurring nuisance odors, and notes that the majority of the complaints in connection with the Murphy Site did not identify the Site as the actual source of the complaint. The Roux Analysis concludes that the administrative record for the Murphy Site contains no scientific evidence to support any claim that the Site jeopardizes or adversely affects

[1] See Attachment 1.

the public health, peace, or safety of persons residing or working on the premises or in the surrounding area.

II. The Zoning Administrator Cannot Make any of the Findings Required to Revoke an Established Land Use.

The Notice states that the Zoning Administrator may require the discontinuance of the land use or impose additional conditions at the Murphy Site, in order to abate nuisance and mitigate land use impacts, pursuant to Chapter 1A Section 13B.6.2 of the Los Angeles Municipal Code. Revoking a longstanding and lawfully established land use requires far more than a generalized finding of nuisance. Such an action represents an extraordinary exercise of governmental power, particularly where it is narrowly directed at a single site. Before extinguishing vested rights and terminating an established operation, the Zoning Administrator must satisfy a substantial evidentiary burden demonstrating that such an exceptional measure is justified.

Subdivision E of Section 13B. 6.2 of Los Angeles Municipal Code provides the standard of proof to revoke an established land use --- the Zoning Administrator ***shall*** make all three of the following findings: (1) the determination does not impair the constitutional rights of any person; (2) prior governmental efforts to cause the owner or operator to eliminate the problems associated with the land use or discretionary zoning approval have failed; and (3) the owner or operator has failed to demonstrate, to the satisfaction of the Zoning Administrator, the willingness or ability to eliminate the problems associated with the land use or discretionary zoning approval. The Zoning Administrator cannot make any of the required findings here.

A. Revoking the long-standing land use for the Murphy Site impairs the fundamental vested rights of its operator and owner.

"[T]he right to continue to operate existing oil wells and to extract oil is a fundamental right, of particular importance in the current economic climate." (See *The Termo Co. v. Luther* (2008)169 Cal. App. 4th 394, 398 [holding that an existing oilfield's right to produce oil is a fundamental vested right]; see also *Goat Hill Tavern v. City of Costa Mesa* (1992) 6 Cal. App. 4th 1519, 1529 ("*Goat Hill Tavern*") [holding that "the right to continue operating an established business in which [the operator] has made a substantial investment" is a fundamental vested right].) Revoking an existing land use and shutting down a long-established business is "far more serious than the interference a property owner experiences when denied a conditional use permit in the first instance." (*Goat Hill Tavern,* 6 Cal. App. 4th at 1529 [holding that the denial of the renewal of a conditional use permit to an established tavern is similar to revocation of a land use, which "merits a heightened judicial review"].) Indeed, "[o]nce a use permit has been properly issued the power of a municipality to revoke it is limited… Where a permit has been properly obtained and in reliance thereon the permittee has incurred material expense, he acquires a vested property right to the protection of which he is entitled." (*Id.*, at 1530.)

Here, the Murphy Site was first drilled in 1961 and has a long operating history as an established oil and gas production facility. It obtained all necessary authorization for oil extraction and production. Over the past six decades, E&B and its predecessors have made material investments in building and maintaining the Site's oil and gas infrastructure in reliance upon the land use authorization. The Murphy Site is not a newly proposed or speculative use; it is an existing,

long-standing industrial land use whose continued operation reflects prior governmental authorization, settled reliance interests, and an established regulatory record. The operator and owner of the Murphy Site have fundamental vested rights in the continued operation of the Murphy Site.

To divest a fundamental vested right, the Zoning Administrator is required to show compelling public necessity, i.e., the continued operation of the business constitutes a nuisance based upon preponderance of record evidence. (*Goat Hill Tavern*, 6 Cal. App. 4th at 1530-1531.) To prove that an oilfield is a public nuisance, the Zoning Administrator must prove that the Murphy Site causes *substantial* and *unreasonable* interference with the public health, peace, or safety of a community. (See *San Diego Unified Port Dist. v. Monsanto Co.* (S.D. Cal. 2020) 445 F. Supp. 3d 1098, 1106 ("*Monsanto Co.*"), citing *People ex rel. Gallo v. Acuna* (1997) 14 Cal. 4th 1090, 1105; see also Civ. Code Sec. 3480; Los Angeles Municipal Code, Sec. 13B. 6.2, Subd. A. 1.)

The "substantiality" requirement requires "proof of 'significant harm,' defined as a 'real and appreciable invasion of the plaintiff's interests,' one that is 'definitely offensive, seriously annoying or intolerable.'" (*Monsanto Co.*, 445 F. Supp. 3d at 1106.) The "unreasonableness" requirement is an objective inquiry of "whether reasonable persons generally, looking at the whole situation impartially and objectively, would consider it unreasonable." (*Ibid.*) In *Monsanto Co.*, the court held that short of showing physical harm to the plaintiff, mere presence of the alleged contaminants is neither substantial nor unreasonable. (*Id.*, at 1111.) Similarly, in *Beck Development Co. v. Southern Pacific Transportation Co.*, the court held that underground oil contamination is not a public nuisance because it "poses no risk to health through personal proximity if it is left where it is now." ((1996) 44 Cal.App.4th 1160, 1210.)

Further, the Zoning Administrator must also prove that the Murphy Site actually caused the alleged impact. (See *In re Firearm Cases* (2005) 126 Cal. App. 4th 959, 988 ["Merely engaging in what plaintiffs deem to be a risky practice, without a connecting causative link to a threatened harm, is not a public nuisance."].)

Here, E&B has been operating the Murphy Site in compliance with all applicable rules and regulations. There is no site-specific health study demonstrating any substantial and unreasonable impacts caused by the Murphy Site. The Notice of Public Hearing vaguely mentioned certain "complaints," "notices of violations," and "reports of … nuisance activities." However, mere existence of complaints and reports is not sufficient to establish a substantial and unreasonable health impact that rises to the level of compelling public necessity, nor a causal relationship linking the Murphy Site to such harm. In *Goat Hill Tavern*, although the city presented complaints from neighboring residents and businesses, those complaints did not establish a public nuisance. (*Goat Hill Tavern,* 6 Cal. App. 4th at 1531.) Therefore, the Zoning Administrator should not find the Murphy Site to be a public nuisance, and hence cannot deprive the fundamental vested right of its operator and owner to continue the long-standing oil operations.

B. E&B is in compliance with regulatory requirement and its conditions, and has worked diligently and proactively with the City to address any questions.

The City cannot make any of the findings required to justify a use revocation at the Murphy Site. As explained above, such a determination would abrogate the E&B's constitutional rights. And as explained below, the City cannot show the remaining two findings, which are that:

2. *Prior governmental efforts to cause the owner or operator to eliminate the problems associated with the land use or discretionary zoning approval have failed (examples include formal action, such as citations, orders, or hearings by the Police Department, Department of Building and Safety, the Zoning Administrator, the City Planning Commission, or any other governmental agency); and*

3. *The owner or operator has failed to demonstrate, to the satisfaction of the Zoning Administrator, the willingness or ability to eliminate the problems associated with the land use or discretionary zoning approval.*

E&B is in compliance with all rules and regulations of its oversight agencies. Moreover, E&B is in compliance with its use permit conditions. E&B understands that there have been specific individuals and groups that have repeatedly made frivolous complaints about the site, and that the City has conducted its own diligence in responding to those meritless complaints. However, as evidenced by the extensive record maintained by the City and specific examples below, there is absolutely no evidence on which to make the findings above, notwithstanding the several erroneous determinations and narratives in the staff report.

Under the language of the City's own ordinance, the severe penalty of use permit revocation cannot be based on vague allegations of "possible violations" of regulatory requirements or permit conditions, particularly where none exist. Nor can a decision be based on the City's staff report, which reflects a lack of diligence and understanding of both operations and relevant legal authorities. Moreover, since there are no violations and any public complaints are meritless, the City's citations to the regulatory notices and permit conditions cannot support a finding that E&B has not demonstrated a willingness or ability to address concerns the City has raised. We address below the regulatory notices and conditions in listed in the notice of hearing and staff report below, though E&B reserves the right to add further information to the record given the limited time to review the staff report prior to submittal of this letter.

i. <u>Compliance with State and Regional Requirements</u>

1. CalGEM

The Murphy site is currently in compliance with all CalGEM rules and regulations. As the state oversight agency for oil and gas operations, CalGEM routinely inspects to assess the facility for compliance. CalGEM conducted a comprehensive inspection on January 28, 2026 of the 29 wells and facility at the Murphy Site and identified *no violations*.[2]

In its notice, the City cites to two "Notices of Compliance" issued by CalGEM Contrary to the implication in the City's misleading notice, CalGEM's "Notice of Compliance" is actually *confirmation* that compliance has been achieved by the operator. The City provides no context for these citations. In fact, both concern minor administrative issues that were quickly remedied: one concerned a missed deadline to schedule a simple test which was resolved by scheduling and performing the test within the month, and the other concerned a housekeeping

[2] See Attachment 2.

matter called a "clean out tag" that was appropriately addressed by decomissioning the well.[3] Both of these issues were identified and resolved – one in 2022 and the other in 2024 – and cannot form a basis for any nuisance allegation by the City, nor does this provide any support for the findings the City must make under its own ordinance.

2. South Coast Air Quality Management District

The Murphy Site is in compliance with all SCAQMD rules, regulations and permit conditions. Moreover, SCAQMD is the agency charged with oversight of odor enforcement, and notably ***SCAQMD has not issued any NOV in connection with odors at the facility***. And, at the outset, an NOV is merely an allegation – it is not evidence of a violation.[4] Indeed, in several cases the merits of the alleged incidents cited by the City have been disputed by E&B and all have been resolved without any finding of a violation by SCAQMD. Likewise, a "notice to comply" is not a violation: it is a direction to demonstrate compliance if an inspector needs more information to confirm compliance. SCAQMD's own website explains it as a "fix it ticket" that is issued for minor administrative or paperwork issues that involve no, or minimal, emissions.[5]

The mere fact that someone may phone in a complaint does not mean there has been a violation of any law – this is why SCAQMD typically requires that complaints not only be verified by its staff but that there be at least six to ten *verified* complaints before it takes any enforcement action.[6] The City has not indicated whether any of the alleged complaints over the referenced 2.5-year period have even been verified by the oversight agency. In carrying out its duties, SCAQMD investigators are trained to make observations that inform whether there may be a nuisance-related violation, including wind speed and direction or other potential sources of an odor – along with verifying whether an odor actually persists. There is no evidence that complaints of odors were verified by SCAQMD or attributed to the Murphy Site; indeed the evidence points to the contrary.[7] SCAQMD routinely issues NOVs as part of its robust enforcement program, and it is particularly noteworthy that despite receiving the alleged complaints, SCAQMD has determined that there has

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[3] E&B's July 22, 2024 Letter re: *Response to Letter of Communication Dated June 7, 2024, Request for Additional Information, Case number ZA-1959-15227-O-PA6-1A, Murphy Site* (Attachment 3).

[4] Indeed, under the Health & Safety Code, the air district issuing the NOV would bear the burden of proof in superior court to show that there was, indeed, a violation – a showing that would need to be supported by evidence. *See, e.g.,* Cal. Health & Saf. Code § 42403.

[5] See SCAQMD webpage "*Public Inquiry System for Notices of Violation and Notices to Comply,*" available at https://www.aqmd.gov/home/rules-compliance/compliance/compliance-notices/public-inquiry-system-for-novs-and-ncs and last accessed July 8, 2026 (Attachment 4).

[6] See, e.g., SCAQMD presentation on public nuisance investigations (Attachment 5).

[7] See Attachment 1. Additionally, the complaint log referenced by the City includes dispositions of each complaint – nearly all of them are "OC" ("operating in compliance"), "TEL" ("complaint resolved by telephone") or "SUNK" (source not detected) (See Attachment 6). The three that are not so resolved are not odor-related issues attributed to the Murphy Site and are addressed in this letter.

been insufficient evidence of a nuisance to warrant taking any enforcement action.[8] Unverified odor complaints cannot form the basis of an action by the appropriate oversight agency, and cannot support any action by the City to assert a nuisance allegation.

Inexplicably, the City's notice and staff report also cite a SCAQMD NOV *that was not even issued to E&B's facility*, but rather to the owner and operator of equipment that is unaffiliated with E&B's operations. This unaffiliated company – Crimson Midstream LLC ("Crimson") – maintains a pipeline through the Murphy Site and thus is required to conduct certain pipeline operations at the site. As part of these activities, Crimson or its agents apparently deployed a temporary, portable vapor control system and did not operate it as required by the permit, which prohibited its use within 1,000' of a school. Accordingly, SCAQMD issued NOV P80684 to Crimson and to the equipment owner/operator Vapor Point, LLC. According to readily available public information, the equipment was removed from the site the same day the NOV was issued.[9] In fact, both Crimson and SoCal Gas operate their own pipeline facilities in the vicinity of E&B's facility at 2126 W. Adams Boulevard. Various agencies oversee pipeline operations, including SCAQMD.[10] The City has already investigated Crimson's pipeline activities at the Murphy Site and acknowledged that these operations are not associated with E&B's operations.[11] Therefore, it is irresponsible and disingenuous for the City or anyone else to perpetuate misinformation and mislead the public by ascribing this violation to E&B.

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[8] One need only look at SCAQMD's enforcement action against the City's Hyperion Water Reclamation Plant to see the type of swift and severe action that SCAQMD takes in the face of a facility it has determined to be a public nuisance. In 2021, SCAQMD issued 47 NOVs asserting violations of its public nuisance rule 402 and ultimately, after receiving 3,000 complaints, initiated administrative enforcement in 2022 by filing for an abatement order before the SCAQMD Hearing Board to force the facility to comply with rules and cease the nuisance or shut down. The City's facility was under SCAQMD Hearing Board oversight for over three years as it continued to struggle with compliance. (See, e.g., SCAQMD's website at https://www.aqmd.gov/home/news-events/community-investigations/hyperion-water-reclamation-plant). Similarly, the SCAQMD cited 3,000 odor complaints over a nearly three-year period in the matter at issue in B*rowning-Ferris Indus. of Cal. v. S. Coast Air Quality Mgmt. Dist*., while another SCAQMD investigation into the All American Asphalt plant involved more than 1,400 complaints. See https://www.aqmd.gov/home/newsevents/ community-investigations/all-american-asphalt. These investigations all stand in stark contrast with the actions here, where the 27 unverified complaints over a 2.5 year period have not warranted issuance of even a single nuisance NOV.

[9] See SCAQMD Press Release dated November 21, 2025 (Attachment 7).

[10] Notably, pipeline activities can also be a source of potential odors. For example, under SCAQMD jurisdiction, SoCal Gas operates several SCAQMD-permitted natural gas odorizing units, including associated odorant storage tanks (See Attachment 8); However, SCAQMD has not issued ***any*** nuisance-related NOV to any operator at this address. (SCAQMD assigns unique facility IDs to Crimson (209203), SoCal Gas (9480) and E&B (191119), recognizing that these operations are distinct from one another even if there is a common street address.)

[11] See January 5, 2026 *Note to File: Case No. ZA-1959-15227-O-PA6-1A; Subject: Hydrostatic Pipeline Testing by Crimson Pipeline LP* (Attachment 9).

As described above, a notice to comply is issued by SCAQMD for minor administrative items to ensure a facility is achieving compliance. It is not evidence of a violation. Yet the City cites a 2024 notice to comply (E61263) as a basis for alleging regulatory noncompliance, which is disingenuous. The facility had, at times, been deploying what is essentially a consumer-grade air freshener, similar to those used in restaurants or shopping centers. As part of a larger suite of rule revisions, SCAQMD amended a rule provision to disallow application via atomization, noting in the staff report that application via liquid or droplet form is preferable to avoid potential unintended odors from the atomization.[12] Ensuring the facility was aware of this recent rule change, a notice was provided to E&B by an SCAQMD inspector shortly after the rule amendment when the inspector noticed the atomizing equipment at the facility, even though E&B was not deploying it at the time of the inspection. Compliance was confirmed by the inspector the same day.[13]

Other SCAQMD issues cited by the city are minor and were quickly resolved and did not even implicate emissions in some cases. NOV P78161 cited a vapor leak that was identified on January 15, 2025, and records show that this was repaired on the same day.[14] Similarly, P73327 stemmed from a 2021 occurrence where a leak was discovered and promptly repaired. The SCAQMD rules and E&B's permits include leak detection and repair provisions to ensure that any leaks that may occur during the course of operating complex industrial equipment are identified and promptly repaired within the relevant timeframes. E&B has and continues to maintain a robust program that includes both in-house inspections as well as third-party inspections of equipment for potential leaks, in addition to SCAQMD oversight, and together these programs are working as intended.

NOV P73334 involved administrative requirements to follow procedures when equipment ceased operating during an unexpected, widespread power failure in 2022 (a "breakdown" under SCAQMD rules). This caused not only certain emissions control equipment to lose power, but the emissions-generating equipment also lost power – meaning that there were not emissions associated with this event. Sometimes a breakdown or equipment malfunction can lead SCAQMD to assert that equipment was not maintained – as occurred with the 2023 NOV P74382 – but that is not necessarily accurate, which is why SCAQMD follows up NOVs with the opportunity for a facility to provide additional facts and information that SCAQMD may not have had when its field inspector first issued an NOV. This process underscores that an NOV is merely an allegation of non-compliance – it is not evidence of a violation. SCAQMD even cautions on its website that since NOVs are publicly available, they may be misused or misconstrued by third parties.[15]

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[12] See Attachment 10, which includes the SCAQMD Governing Board Agenda and package for the proposed revisions to Rule 1148.1 (also available at: https://www.aqmd.gov/home/news-events/meeting-agendas-minutes/agenda?title=governing-board-meeting-agenda-august-2-2024 and Governing Board package with draft rule language: https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-025.pdf?sfvrsn=6dd78861_6)

[13] See SCAQMD website showing information on NTC (Attachment 11).

[14] See *CARB Methane Task Force Inspection Report for the South Los Angeles Community*, p. 11 (Attachment 12).

[15] See Attachment 4, SCAQMD webpage "*Public Inquiry System for Notices of Violation and Notices to Comply,*" also available at https://www.aqmd.gov/home/rules-compliance/compliance/compliance-notices/public-inquiry-system-for-novs-and-ncs and last accessed July 8, 2026..

There are no outstanding SCAQMD compliance issues at E&B's Murphy Site which have not been resolved physically with the equipment as well as administratively with the SCAQMD. The SCAQMD regulations contemplate that in the ordinary course of operating a complex industrial facility, there should be mechanisms for correcting non-compliance without abrogating due process and imposing penalties that are disproportionate to any alleged violations. This is embodied in state statute setting forth SCAQMD authority.[16] The City would be setting a dangerous precedent to be rescinding use permits based on minor, resolved incidents within the purview of another agency.

And the "complaints" on which the City heavily relies are generally nothing but disgruntled individuals attempting to exploit agency resources to manufacturer a "violation" that the relevant oversight agency has repeatedly determined does not exist. Moreover, the complaints are nothing but hearsay and cannot be used as evidence to support any finding the City might make in support of a change to the permit. "Hearsay evidence may be used for the purpose of supplementing or explaining other evidence but over timely objection shall not be sufficient in itself to support a finding unless it would be admissible over objection in civil actions. An objection is timely if made before submission of the case or on reconsideration." Cal. Govt Code 11513 (d). The City cannot turn a blind eye to the information here without acting with arbitrary and capricious disregard to evidence that wholly rebuts the staff report's misleading narrative on this topic.

3. California Air Resources Board

In its notice, the City intimates that there is regulatory noncompliance with CARB rules by referencing the CARB Methane Task Force Inspection Report for the South Los Angeles Community, and a reported leak on E&B well no. 5. In fact, there is no CARB violation at all. The incident is merely reporting the occurrence referenced in the January 15, 2025 SCAQMD NOV – noting that the repair was conducted the same day on the spot.

The Methane Task Force is a joint effort carried out by CalGEM and CARB to inspect methane leaks as part of CARB's Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities, also known as CARB's Oil and Gas Regulation ("COGR").[17] SCAQMD has the authority to address leaks from oil and gas operations under its rules and has been delegated authority through a Memorandum of Agreement to implement and enforce COGR within the South Coast Air Basin.[18] When the task force inspected E&B's site, inspectors from all three agencies were present. The well identified as Murphy 5 had been inspected by CARB and CalGEM without any leaks identified, but shortly thereafter a SCAQMD inspector identified the potential leak which was addressed by E&B on the spot. This is another example of the stringent oversight under which E&B's facility operates.

Notably, there are numerous other agencies with oversight of the facility. For the record, the facility is in compliance with *all* applicable federal, state and local regulations.

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[16] *See, e.g.,* Cal. Health & Saf. Code § 42403.

[17] 17 Cal. Code Regs. §§ 95665-95677.

[18] See Attachment 12 at p. 12.

ii. Compliance with Use Permit Conditions

For the reasons set forth above, the City is unjustified in making assertions of "regulatory noncompliance" as a basis for any "possible violations" of Condition of Approvals of Case No. ZA-1959-15227-O-PA6-1A.

To the extent the City relies on other information as a basis for the "possible violations," we reiterate the points made in our July 3, 2026 letter that we and E&B have no meaningful notice of the basis for the City's assertions that there are "possible violations," given that the notice simply lists the condition numbers with no information as to the grounds for the alleged violation. In the limited time we have reviewed the staff report, it is clear that the City has acknowledged E&B is "in compliance" with most of the conditions. Those instances where the staff report states otherwise reflect a lack of information, context, or communication with E&B – crucial knowledge for the City to have as it weighs a severe action. Accordingly, the City must take into account the information provided here, and any information E&B subsequently provides in response to the staff report. Despite the misleading information in the staff report, E&B has been and remains in compliance with all of its conditions, consistent with Conditions 2 and 3 of the Use Permit, as acknowledged in the staff report, and additionally as set forth below.

1. Condition 4

Condition 4 requires landscaping to be maintained as specified in the permit, confirmed by an annual landscaping inspection performed by the City. E&B has been in compliance with this condition, as evidenced by records of the most recent landscape inspections and the staff report.[19]

The City references a condition within the landscaping provision regarding lighting as evidence of "partial compliance." The obscure condition reads in pertinent part: "With respect to that portion of the drill site east of the cement block wall and fronting on Adams Boulevard, the applicant shall:…(6) install and/or maintain parking lot lighting." First, there is no "parking lot" in the area described by this condition. Rather, it is a narrow, empty lot between the Murphy Site and an actual paved, striped parking lot associated with neighboring apartments (as seen in the below photo from Attachment 19). The area is gravel and vegetated, and the vegetation has been maintained and inspected. Moreover, the area is gated and inaccessible to the general public, and not an area that would ordinarily require lights. Indeed, Condition 15 specifies lighting at the Murphy Site that is directed away from property lines in order to minimize light pollution.

This is evidence of the City's apparent pattern of reading unstated requirements into an already vague condition, surprising E&B with shifting expectations, and then accusing them of noncompliance. It is not at all clear that this condition refers to that vegetated and graveled area. While this may have been a legacy condition carried over from a previous approvals under different circumstances, the lot is not a "parking lot." It is also not at all clear that there is any issue to resolve, nor that the City has ever sought to resolve it. The City can hardly point to any "unwillingness or inability" on E&B's part to resolve an issue that the City has never once raised about a site feature that the City has inspected multiple times.

[19] See Attachment 13.



Photo 1 – Overview Map

2. Condition 6

This condition sets forth various requirements concerning hours of operations as 7:00 a.m. to 7:00 p.m. Monday through Saturday, during which "no work shall be conducted on the property" except for actual drilling operations which may take place 24-hours, seven days per week. The condition also allows for expanded hours of operation under certain circumstances:

> … during the period to set up and move the drilling or workover rig off the premises, and to conduct drilling or re-drilling operations as herein authorized, heavy ('permitted' oversized/overweight load) truck deliveries shall be permitted from 7:00am to 9:30pm, on week-days and none during week-ends and holidays.
>
> Except for the four days required to move the drilling rig on and off the premises, the number of "permitted" truck deliveries per day (week-days only, none on week-ends and holidays) shall be limited to a maximum of ten. The number of "non-permitted" truck deliveries per day (week-days only) shall be limited to a maximum of ten. The number of "non-permitted" truck deliveries per day (week-ends and holidays only) shall be limited to a maximum of five.

The permit does not expressly define what a "'permitted' oversized/overweight" load is. However, Caltrans must issue permits for certain vehicle loads that travel on state highways at

weights above the thresholds set by the regulations.[20] Similarly, Los Angeles Municipal Code references the Vehicle Code when defining "overweight" in the context of vehicles.[21] Accordingly, the permit acknowledges that activities, expressly including oversized/overweight truck deliveries, may take place during extended hours under certain circumstances.

E&B proactively reached out to the City in July 2024 to confirm that its understanding of "'permitted' oversized/overweight" was consistent with the City's intent. The City responded by e-mail, without citation to legal authority, that it had intended to include a much broader swath of vehicles than the referenced regulations include. Specifically, the City responded:

> "The reference to heavy duty truck vehicles encompass [*sic*] the type that are intended for transportation of construction and petroleum equipment, materials, chemical treatment, and related material for the oil wells and any area within the production site (pipelines, aboveground storage tanks, microturbines, etc). This would also include vehicles arriving with informative placards indicating hazardous materials and/or waste onboard the truck."[22]

Under the City's interpretation, which is neither grounded in any regulation or municipal code nor understood from the Zoning Administrator proceedings, the City's interpretation includes <u>any</u> vehicle, regardless of size or weight, if it appears to be related to transport of petroleum or construction equipment – even if that is a simple commercial van or box truck that would ordinarily be considered a medium-duty vehicle under most California and Federal regulations.[23] While this post-hoc requirement is legally questionable, having not been part of the administrative process, E&B nonetheless acknowledged the City's departure from the commonly understood meaning and promised to make adjustments accordingly.[24]

The City's unfounded interpretation indicates they have decided that any vehicle displaying a "placard" is a "permitted" vehicle. A "placard" is not a "permit." Vehicles may display placards without needing a specific permit. There are a couple of reasonable interpretations of the meaning of "permitted" in Condition 6 – which appears in quotation marks. One is that a "permitted" load – appearing in the context of oversized or overweight loads – is a load that needs a permit to travel the roadways due to the fact that it is oversize or overweight. Another interpretation from the context, which sets forth numerical limits on types of trucks, is that "permitted" means those types of trucks allowed by the permit itself. Trucks within the numerical limit are "permitted," trucks beyond the limit are not permitted. There is no reasonable interpretation, from context, ordinance,

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[20] *See, e.g.,* Cal. Veh. Code § 35000 *et seq.*

[21] L.A.M.C. Sec. 62.135.

[22] See Attachment 14.

[23] The City's broad definition would include vehicles that are not overweight and more typically characterized as "medium-duty" vehicles between 8,501 and 14,000 gross vehicle weight rating (GVWR). See, .e.g, Cal. Health & Saf Code § 39037.5; 17 Cal. Code Regs. § 95481(a); 49 U.S.C. 32901(a)(7); and Attachment 15.

[24] See E&B's July 22, 2024 Letter re: *Response to Letter of Communication Dated June 7, 2024, Request for Additional Information, Case number ZA-1959-15227-O-PA6-1A, Murphy Site* (Attachment 3).

regulation or otherwise, that this condition was intended to apply to trucks displaying placards. The City's response to E&B's earnest query was a convenient post-hoc justification to expand the condition beyond its original intent without the proper administrative procedure – and thus without notice and due process to E&B. The fact that E&B responded cooperatively does not excuse the City's overreach on this condition; to the contrary, it demonstrates their willingness to try and accommodate the City even in the face of this dubious interpretation. And the City's unsupported justification cannot form any basis for asserting noncompliance.

Finally, E&B is in compliance with the conditions hours of operation. E&B has previously reviewed the video recording referenced in the staff report alleging 67 incidents and disagrees that this demonstrates non-compliance. The arrival of some trucks at the facility outside of specified hours does not mean that work is occurring, and thus does not indicate a violation of the condition. For example, the City's waste hauling contractor is included in the staff report's list of alleged incidents of noncompliance. E&B has no control over that operator but cannot refuse them entry.

As explained in a letter to the City,[25] E&B is and has been in compliance with the work on site during hours of operation as well as the limitation on the numbers of "permitted" and "unpermitted" delivery trucks.

3. Condition 7

This condition sets forth provisions related to the installation and maintenance of temporary sound wall barriers (acoustical blankets) along property lines during activities involving workover, maintenance or drilling rigs taller than 45 feet in order to reduce potential noise levels to acceptable levels based on noise monitoring results.

There is an existing sound wall along the east property line, and E&B has been diligently advancing a project to construct a permanent soundwall (a project which has been delayed due to City permitting processes and timelines, as explained further in connection with Condition 23). E&B regularly erects temporary sound walls as required pursuant to the condition, which are removed when the specified work is completed. Additionally, E&B conducts noise monitoring to confirm that noise levels during the activities specified in the permit remain at acceptable levels. These noise monitoring results are published on the site's public website, along with the air monitoring reports: https://www.ebresources.com/murphy-site.[26]

The staff report cites to a single incident on March 13, 2026 where the temporary sound wall was not installed in a manner that optimized coverage. The L-shaped installation of the soundwall on that occasion resulted in a gap in coverage along the south side of the operation. Although there is an existing permanent soundwall in that area, and E&B's noise monitors recorded noise data within acceptable limits,[27] E&B acknowledged the incident and conducted additional

[25] See E&B's November 24, 2025 Letter re: *Response to Letter of Communication Dated September 2, 2025, Request for Additional Information, Case number ZA-1959-15227-O-PA6-1A, Murphy Site* (Attachment 16).

[26] See .e.g., page 4 of the most recent report published on this website as of the date of this letter showing the sound levels recorded (Attachment 17).

[27] See e.g., page 4 of the March 16, 2026, Sound Intensity Level Report (Attachment 18.).

training of employees and contractors to ensure there is consistent and appropriate deployment of the temporary barriers. Indeed, E&B has deployed the temporary soundwalls dozens of times over the last couple of years, both before and after the March incident. One isolated occurrence – particularly one that had no adverse noise impacts – out of dozens of compliant occurrences cannot support the findings that justify revocation of the use permit.

4. **Condition 10**

Condition 10 prohibits nuisance impacts from oil drilling-related activities, including impacts from noxious odors, dust, noise and vibration. As discussed above, there have been no incidents of any potential nuisance impacts identified by the SCAQMD, the agency with oversight over noxious odors, dust, emissions, and compliance with various other oil and gas drilling related activities. Noise and vibration levels have remained within acceptable limits as shown in E&B's public data. There have been no activities which could constitute a nuisance as defined by California law, and thus E&B remains in compliance with this condition.

5. Condition 12

This condition requires E&B to conduct daily inspections of the premises, including the exterior, and requires that all trash and debris be removed from the site daily. Although this condition was not in the notice, the staff report mentions that compliance is "inconclusive" because although it has had "no complaints regarding trash or debris," nor has any trash or debris been observed, staff "has not received documentation demonstrating that the required daily inspections were conducted."

This is another instance of the City reading requirements into a condition that simply are not there. Nothing in the condition requires E&B to *document* its inspections. Under the canons of construction, terms cannot be inserted where they have been omitted. The City knows how to draft requirements into a condition, and they did not do so here. And the fact that there have been no complaints or observations of trash – despite the scrutiny on the facility – is an indication the inspections are being conducted. That the City would try to include something like this non-existent requirement to support its findings is evidence of how far they are reaching in their spurious claims. E&B is in compliance with this condition

6. Condition 13

This condition requires removal or painting over of graffiti within 24 hours. E&B works diligently to maintain the site and conducts regular housekeeping activities. On the rare occasions graffiti has been encountered, E&B has cleaned it promptly. The staff report refers to an occurrence where community members photographed graffiti that was located in an obscure area of a low block wall, not facing the street or sidewalk, and almost completely out of view. Indeed, one had to specifically go looking for this graffiti to find it. Once E&B identified the graffiti, it promptly cleaned it. E&B is in compliance.

7. Condition 18

Under this condition, which E&B itself voluntarily proposed,[28] E&B must conduct Annual On-site Safety Inspection Reports ("Annual Safety Report") and submit them to the City. The report must list an inventory of equipment on site, any repair work, and/or maintenance. The reports must include a technology assessment report that incorporates input from other stakeholders including the community.

Notably, it is only the technology assessment component that incorporates feedback from stakeholders. The staff report incorrectly asserts that E&B has not adequately documented its outreach to stakeholders in developing the technology assessment. First, this is yet another instance of the City reading requirements into a condition that are not there. The condition does not require publication of an outreach plan, it simply requires that there be outreach. Second, the substance technology assessment is informed by feedback from stakeholders, directly and indirectly. E&B takes into account the requests, demands and recommendations that the City conveys through third parties. E&B also publishes the technology assessment on its website, where there is an e-mail published for anyone to submit e-mails or subscribe to updates.f And E&B has directly solicited direct feedback via e-mail.[29]

Additionally, E&B has always provided comprehensive information as required by the condition, and every required component specified in the condition is included in the Annual Safety Report. The City has often responded with a list of items on which it requests further information or clarification within the report and generally redundant of its other oversight mechanisms. Nonetheless, E&B has always taken the substantial time to provide comprehensive responses, whether in through meetings, by e-mail or by letter to the City, and has always done so in a forthcoming and cooperative manner.[30] It is not uncommon for an oversight agency to engage in dialogue with a regulated entity regarding complex operations described in an annual report. That the City has questions about the report (some of which go beyond any oversight requirements or are the purview of other oversight agencies) does not indicate inadequacy of the report in any way.

The most recent Annual Inspection Report was completed by a third party engineering firm, SCS Engineers, on March 11, 2026 and submitted by E&B to the City on March 16, 2026. In completing the report, E&B worked diligently to include input from the City after submission of an initial draft. The report included the required technology assessment, as well as a table of compliance with relevant requirements, including City ordinance, use permit and lease conditions.[31]

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[28] See July 22, 2024 letter from E&B Re: *Response to Letter of Communication Dated June 7, 2024, Request for Additional Information, Case number ZA-1959-15227-O-PA6-1A, Murphy Site.* (Attachment 3.)

[29] See Attachment 19.

[30] See e.g., City's Letter of Communication dated September 2, 2025, in response to the March 14, 2025 submittal of the second Annual Safety Report, and E&B's requests for additional time to respond and comprehensive response (Attachment 20).

[31] See Attachment 19, Table 1 and p. 8.

8. Condition 19

Condition 19 requires fenceline air monitoring with quarterly monitoring reports submitted to SCAQMD and information published to a website. This condition was proactively volunteered by E&B, and they worked collaboratively with the city council, neighborhood council and community on this initiative.

E&B invested over $300,000 to install a system unique to this facility, and spends $3,000-$5,000 monthly to maintain it, providing an unprecedented level of transparency and data sharing compared to other urban drilling and production sites. The monitors measure ambient hydrogen sulfide, Sulfur dioxide, VOCs, and Sound Intensity Level - Class II. E&B is in compliance. Data from the monitoring system is available to the public at https://www.ebresources.com/murphy-site. The system comprises sensors located at the fenceline, generally downwind from the facility to ensure ambient air emissions are capture. Reports are generated directly from the manufacturer Scentroid; E&B has no influence or control over the reports generated. The reports are published weekly on the public website, and historical reports are maintained on the website.

Moreover, as part of its annual technology assessment, E&B continues to actively engage in developments at the state level concerning monitoring for certain types of facilities, including production sites. This is relevant not only to the types of technologies available but also to potential statewide regulation on the horizon. E&B remains in compliance with its permit condition while anticipating that there may be future regulatory requirements that may affect local regulation, whether through preemption or a need to harmonize requirements. In the meantime, E&B is in compliance with this condition.

9. Condition 21

This requires E&B to create a website landing page with information on monthly reporting on noise and emission levels at the production site, current and planned operations, emergency contact information, emergency reporting instructions, and fence line air monitoring data.

E&B has completed this landing page https://www.ebresources.com/murphy-site and maintains and updates it regularly. Additionally, the webpage is easily translated by Google translate into any number of languages, including the language specified in the condition. [32] Accordingly, E&B is in compliance with this condition.

10. Condition 23

This condition requires completion of a structure surrounding the oil production area within a specified timeframe of two years from the 2024 project approval. Recognizing that such construction requires securing third-party approvals whose timing is outside of E&B's control, the condition also sets forth provisions for compliance when such delays are encountered.

[32] See Attachment 21.

As the City well knows, construction of a 30-45-foot-tall structure on a sloping lot in a historic preservation overlay zone is not a quick or straightforward process. Indeed, the project has been delayed precisely because of City-related permitting processes, including the City's own historic preservation review process (which must be completed before further submittals). It is ironic that the staff report goes to extreme lengths to highlight concerns about noise (even where they are without merit) while simultaneously being responsible for delaying the forward progress of the permanent soundwall project and ignoring for *8 months* E&B's request for an extension of the time allowed to complete the wall. E&B is in compliance with this condition and has been proactive and diligent in its pursuit of the necessary approvals.

E&B expended substantial resources on engineering and design of the structure during 2024 after reaching out in late 2023 – before the last approval – to begin getting an understanding of the various components to the approval process.[33] Given the unique considerations of the site, including the surrounding neighborhood, it had to develop multiple conceptual plans that accounted for applicable code requirements and limitations, neighborhood aesthetics, the existing structures, and appropriate materials – along with feedback from communication with neighborhood groups. For example, E&B hired a masonry specialist to evaluate whether the existing masonry could be matched in a new structure, and whether the existing structure could be made taller. E&B reviewed and considered the variety of materials that would be appropriate for and further enhance the site, including sound dampening material, and how that could be incorporated into the design. It had to consider the structural engineering required to support a 30-45-foot tall structure. It obtained a licensed survey to ascertain the appropriate base, a determination made more complex by the sloping site. This work, conducted throughout 2024,[34] was necessary to get to the point where it could begin the City's application and approval process.

Finally, E&B had to develop the conceptual and engineering plans to produce accurate renderings to provide to the Jefferson Park Historical Preservation Overlay Zone (HPOZ) Board, and engineering plans to submit to the City's Department of Building Services (LADBS).

E&B has shared the site plans, drawings and designs with the Planning staff at the Office of Historic Resources. Only after the engineering plans and renderings were complete could E&B move forward with securing the required approval from the Jefferson Park HPOZ Board. E&B completed the required initial consultation with an agendized public presentation to the HPOZ Board on November 18, 2025 and acted swiftly to submit the required information to be heard by the Board at the soonest date thereafter. The HPOZ Board held a public hearing on December 2, 2025 and approved the wall plans, although an approval is not official until the issuance of a decision letter.. City Planning issued its decision letter on March 11, 2026. Only then could E&B submit the project application to LADBS. E&B proactively coordinated with LADBS to go through the plan check process, including submittal of soil reports which it was not previously informed would be required, and the application is complete and pending review. An elapsed time of three months between a first required approval (HPOZ) and the next step in the process (LADBS submittal) is not unusual given the nature of permitting in Los Angeles. Throughout this period, E&B was proactive and accommodated the unexpected requests as quickly as they could.

[33] See Attachment 22

[34] See Attachment 23.

In compliance with the condition, E&B has made significant good faith efforts to timely advance the project and notified the City before the end of the initial 24-month timeframe that it would require additional time to complete the project due to circumstances beyond E&B's control, including the timing of third party reviews. [35] E&B followed up by e-mails in December, January and February 2026 further updating the City and also requesting the City acknowledge the delays and good faith efforts and grant the extension. The City never responded as to the extension, but addressed process-related queries. In March and July of 2026, E&B further advised the City they were making progress with submissions and approvals needed from LADBS.[36] The fact that the City never responded directly to this request should not prejudice E&B, and E&B continues to move the project forward despite delays by the City on both communication and application processing.

The staff report unbelievably indicates the City lacked documentation of good faith efforts: the fact that E&B's project was sufficiently advanced that it was able to proceed through the HPOZ process was indication enough of the good faith progress they had made. E&B should not have been expected to have to apprise the City of its backend work in 2024 to meet with and hire consultants, analyze materials, or iterate engineering drawings and conceptual renderings. E&B kept the City apprised of key milestones when it achieved them, and reasonably sought the extension before the 24-month time period. E&B remains in compliance with the condition. Moreoever, E&B's actions in progressing the soundwall project demonstrate that they were consistently working towards achieving the project, working collaboratively with the City (in all of its roles, including HPOZ and LADBS), and making progress despite delays outside of its control. The City cannot base any finding of noncompliance or justify action on the permit based on the record here.

11. Condition 24

This condition requires submission of a Spill Prevention, Control and Countermeasure (SPCC) Plan annually, and sets forth parameters by which the SPCC plan will be reviewed.

The SPCC Plan is but one of the oversight mechanism applicable to safe storage, handling and contingency plans to manage hazardous materials and hazardous waste in accordance with state and federal requirements. The US EPA promulgated regulations to governing the development of SPCC Plans.[37] As confirmed in the 2026 Annual Safety Report, materials are being managed pursuant to these plans, including the SPCC Plan.

Condition 24 also purports to set forth additional requirements such as requiring the facility to be staffed 7 days a week, 24-hours a day. While this is not required nor appropriate to be included in an SPCC Plan under USEPA regulations, E&B nonetheless adheres to the requirements of these provisions. Accordingly, E&B is in compliance with this condition.

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[35] See E&B's November 24, 2025 Letter re: *Response to Letter of Communication Dated September 2, 2025, Request for Additional Information, Case number ZA-1959-15227-O-PA6-1A, Murphy Site* (Attachment 16).

[36] See Attachment 24.

[37] 40 Code Fed. Reg. 112.

12. Condition 25

This condition generally concern equipment and energy usage including providing for power generation through the use of microturbines powered by natural gas produced as a byproduct from oil production, and states that while natural gas from the utility may be used, it should not be the "primary" source of fuel for these microturbines. The condition also contemplates the use of methane from production, as well as requiring the use of Tier 4 engines for diesel-fueled equipment. It also requires that they be enclosed.

E&B explained to the City in late November 2025 that it monitors the microturbines' fuel usage and sources of that fuel to ensure compliance, and notes that utility-provided natural gas is not the primary source of fuel for the microturbines. Additionally, E&B has installed fuel meters so that it can accurately track fuel supplied from natural gas from production and fuel supplied from the utility. The microturbines are housed in what is essentially a closed shipping container, which in turn are enclosed in a larger structure.[38] Accordingly, E&B is in compliance with the condition.

The staff report and presentation misleadingly suggests that microturbines are not being used for their intended purpose, or that there is a "new" microturbine being considered or proposed. This is willful ignorance on the City's part: a decision by the right hand to ignore what the left hand is doing. There is no new microturbine, and the existing microturbines are being used appropriately. The City's apparent confusion stems from the recent application submittal for new switchgear for the *existing* microturbines. This submittal was requested by the Los Angeles Department of Water and Power (LADWP), because the existing switchgear does not allow the microturbines to run at their nameplate capacity. That the City as an entity is aware of these facts; that individuals this department are not should not prejudice E&B and cannot support any adverse action against E&B.

13. Condition 26

This condition provides for the use of Tier 4 diesel fueled equipment on site, and encourages the use of electric workover rigs when they become "commercially available." Electric rigs are not yet commercially available, particularly for a site like E&B's, which only uses a workover rig for a portion of any given year. The City appears to be making its determination based on a wholesale reliance of what other parties have said, without doing any of its own due diligence and without giving any weight to E&B's prior communications to the City on this topic.

Indeed, E&B has and continues to investigate and assess emerging technologies, such as electric workover rigs, which are in various stages of development. Those technologies are not yet widely commercially available, whether in California or elsewhere. For example, while there may be an electric workover rig in use in Texas, that does not mean that it is "commercially available" in California. And, as E&B has already indicated, [39] based on its outreach to the company, the couple of electric workover rigs in California are located in Kern County, contractually committed

[38] See, e.g., Attachment 19.

[39] See Attachment 16.

to another operator, and thus not available at all.[40] And whether a rig is "commercially available" must take into account the particular operation. These rigs are not widely available and thus remain extremely expensive. First, E&B does not own workover rigs; rather, it contracts with a service company who owns them. E&B cannot force a service company to purchase an extremely expensive electric rig, even if one were available. Second, it would not make commercial sense for E&B to buy its own workover rig since it only uses one 3-4 months per year, compared to a service company who would typically use it daily. In short, electric drill rigs are not commercially available in California, nor for E&B's application. However, technology assessments are part of the Annual Safety Report and E&B continues to monitor developments in this area. E&B is in compliance with the condition.

14. Condition 27

This condition is a redundant condition requiring compliance with city, county, state and federal regulations "specifically regulating idle wells, including CalGEM's Idle Well Program." E&B is and has been in compliance with this condition.

The City has, in the past, requested clarification as to the status of certain wells due in part because of at least one error reflected on CalGEM's database, Wellstar. For example, the City requested clarification as to Murphy Well 18, which Wellstar lists as an "idle" well. E&B has explained that, due to a data entry issue on CalGEM's side, the well is incorrectly shown on Wellstar as "idle."[41] Further, the well is not idle – it is in fact still producing – and they have been working with CalGEM to get the status corrected in the Wellstar database.[42] Accordingly, E&B is in compliance with applicable authorities governing idle wells, and is in compliance with this condition.

III. Conclusion

The City has an extraordinarily high bar it must meet in order to take the severe action of permit revocation or modification. The record of proceedings in this case, including the information highlighted in this submittal, demonstrates that the City lacks evidence to make the required findings. While the record shows that the City is beset by persistent complainants, the quantity and volume of meritless complaints cannot trump a holistic consideration of the circumstances when considering such a grave action. If the City were to take revocation action in the face of the evidence, that determination would be an egregious infringement on E&B's constitutional rights, depriving E&B of its vested rights at the Murphy Site in an impermissible and unconstitutional taking.

The evidence shows that E&B and the City have communicated frequently, and E&B has always been proactive and forthcoming with not only the City but also neighboring stakeholders. To the extent the City has relayed concerns or complaints made by individuals or groups, E&B has promptly responded. The evidence further shows that the vast majority of the issues raised with

[40] See Attachment 25.

[41] Attachment 16

[42] Attachment 26.

E&B do not rise to the level of noncompliance, but are concerns or questions that were addressed with detailed explanations that had been missing from the equation. This is precisely how agency oversight should work. But the record also shows, with the recent staff report, a troubling pattern in which the City reads unstated requirements into conditions, moves the goal posts on E&B, and then accuses them of noncompliance – whether it has alerted E&B to the putative issues or not.

The record also demonstrates E&B's cooperativeness and ever-present good faith efforts to comply with its conditions and applicable rules and regulations. In the few instances over the years where there has been any noncompliance, it has been temporary, remedied quickly, not recurring and has not amounted to anything close to a nuisance. Nor do minor, one-time incidents rise to the level of noncompliance that the City's ordinance is designed to address. There are challenges associated with running a 24/7 complex industrial operation, and the oversight agencies' rules and regulations contemplate that while there may be instances of noncompliance, there are mechanisms to cure the noncompliance, and facilities who do so and operate responsibly will not be subject to disproportionate punishment. The record demonstrates that E&B is eager and able to comply with the myriad rules and regulations applicable to the Murphy Site, including land use approvals.

Any findings made to the contrary would be arbitrary, capricious, and not based on evidence in the record.

E&B has taken a proactive and diligent approach to compliance and communications with the City, has been a responsible neighbor within the community, and intends to continue operating accordingly. We trust that the City will abide by its own ordinances, recognize that no adverse determinations can be supported, and close the hearing without further action on the permit.

Sincerely,



Maya Lopez Grasse

cc: planning.oildrilling@lacity.org

Attachments:

1. Roux Expert Report, July 20, 2026
2. CalGEM Inspection Reports
3. E&B's July 22, 2024 Letter re: *Response to Letter of Communication Dated June 7, 2024, Request for Additional Information, Case number ZA-1959-15227-O-PA6-1A, Murphy Site*.
4. SCAQMD webpage "*Public Inquiry System for Notices of Violation and Notices to Comply*"
5. SCAQMD presentation on public nuisance investigations
6. SCAQMD email to Maya Grasse re odor log
7. SCAQMD Press Release dated November 21, 2025
8. SCAQMD Permits to SoCal Gas for natural gas odorizing units
9. January 5, 2026 *Note to File: Case No. ZA-1959-15227-O-PA6-1A; Subject: Hydrostatic Pipeline Testing by Crimson Pipeline LP*

10. SCAQMD Governing Board Agenda and Draft Rule 1481.1 Language
11. SCAQMD Resolution of Notice to Comply
12. *CARB Methane Task Force Inspection Report for the South Los Angeles Community*
13. E-mail showing annual landscape inspection log
14. E-mail from City regarding interpretation of "Permitted Oversize/overweight" trucks
15. Vehicle Class Chart from Department of Energy ("DOE")
16. E&B's November 24, 2025 Letter re: *Response to Letter of Communication Dated September 2, 2025, Request for Additional Information, Case number ZA-1959-15227-O-PA6-1A, Murphy Site*.
17. Murphy Sound Intensity Level Report July 6, 2026
18. Murphy Sound Intensity Level Report March 16, 2026.[
19. E-Mail from E&B regarding Annual Safety Inspection Report and March 11, 2026 Annual Inspection Report
20. City's letter of Communication dated 9/2/25, E&B email requesting time to respond, and e-mail response 11/25/2025.
21. E&B website landing page in English and Spanish
22. City's e-mail (with attachments) responding to E&B e-mail regarding October 2023 query on soundwall approval process
23. E&B e-mails and associated documents regarding soundwall evaluation in 2024
24. E&B e-mail regarding LADBS application progress
25. E&B e-mail regarding electric hybrid workover rig
26. CalGEM e-mail regarding wellbore code

Attachment 1

Expert Report of Katelyn Hall, PhD, MPH, and Tami McMullin, PhD

Case Number ZA-2026-3203-RV

July 20, 2026

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Table of Contents

1.0 INTRODUCTION 1
Scope of Assignment 2
Materials Considered 2
2.0 SUMMARY OF OPINIONS 3
3.0 BASIS OF OPINIONS 4
4.0 SUMMARY 12

Attachments

A. Curricula Vitae of Dr. Katelyn Hall and Dr. Tami McMullin
B. Materials Relied On
C. Figure S1 from Johston 2021 Study

1.0 INTRODUCTION

Roux is an employee-owned environmental and engineering consulting company with more than 450 environmental professionals, Roux applies sophisticated scientific, technical, and managerial resources to develop and implement effective, efficient, and sustainable solutions. Roux provides advisory, compliance, and field services to a broad spectrum of both private and public sector clients nationwide and their associated law firms, including numerous Fortune 500 companies. Roux's clients span sectors in industrial; utilities and energy; real estate; financial; legal; insurance; government/municipal; environmental, social, and governance (ESG); and water resources. Roux provides a broad range of technical, consultation, regulatory, and field services related to site assessment and remediation throughout the United States. Founded over 40 years ago, Roux was built upon management and cleanup of large, complex environmental remediation projects, including Superfund and state-led sites impacted by chemical and manufacturing plants, manufactured gas plants (MGPs) and petroleum refineries and distribution terminals, and has expanded services into such areas as human health and ecological risk, commercial economic damages, natural resources valuation, industrial hygiene, health and safety, and engineered natural/sustainable systems.

Katelyn Hall, PhD, MPH, serves as a Principal Epidemiologist and Biostatistician at Roux with over a decade of experience in environmental epidemiology, public health research, biostatistical analysis, and exposure science across the non-profit, state government, federal government, and private sectors. Dr. Hall holds a Ph.D. in Epidemiology with a specialization in toxicology from the University of Colorado Denver Anschutz Medical Campus, a Master of Public Health from the Colorado School of Public Health, and a Bachelor of Science in pre-medical biology with a minor in chemistry from Harding University. Dr. Hall is a nominated council member of the International Society of Regulatory Toxicology and Pharmacology and holds an Adjunct Assistant Professor appointment in the Department of Epidemiology at the Fay W. Boozman College of Public Health, University of Arkansas for Medical Sciences. Dr. Hall is also a member of the American Public Health Association and the Council for State and Territorial Epidemiologists and has authored or co-authored more than 25 peer-reviewed publications and technical reports on topics including cannabis and public health, exposure science, systematic literature reviews, and environmental epidemiology. Prior to consulting, Dr. Hall served as an Epidemiologist and Statistical Analyst at the Colorado Department of Public Health and Environment's Environmental Epidemiology, Occupational Health, and Toxicology Branch, conducting large-scale analyses of population-level health impacts from policies, performed GRADE-adapted systematic reviews, assisted with the epidemiology and statistical evaluation of emerging environmental concerns, and helped develop the framework for systematic reviews of epidemiological literature related to oil and gas activities.

Tami McMullin, PhD, serves as a Principal Toxicologist at Roux with over 20 years of multidisciplinary experience applying risk-based frameworks to support regulatory and legislative policies involving chemical risk management, product stewardship, and public health protection. Dr. McMullin holds a B.S. in biology from the University of California, San Diego, and a Ph.D. in toxicology from the Department of Environmental and Radiological Health Sciences at Colorado State University. Dr. McMullin is a full member of the Society of Toxicology, the Risk Assessment and Occupational and Public Health Specialty Sections and a council member for the International Society of Regulatory Toxicology and Pharmacology (ISRTP). She currently serves on the U.S. Environmental Protection Agency's (USEPA) Science Advisory Board (SAB) and its Chemical Assessment and Safety Committee, including the SAB Drinking Water Committee (DWC) Contaminant Candidate List (CCL) 6 Review Committee. Additionally, Dr. McMullin has participated on other state and federal scientific committees, including Colorado's Scientific Community Technical Working Group, Society for Advancement of Risk Assessment (SRA) and the ISLI-Health and Environmental Science Institute (HESI) Risk 21 Committee, and USEPA's advisory panel evaluating the applicability of a physiologically based pharmacokinetic (PBPK) model for establishing a substance-specific reference concentration within

the Integrated Risk Information System (IRIS) Program. Dr. McMullin has held academic appointments as an Adjunct Instructor at the Colorado School of Mines and an Adjunct Professor at the University of Arkansas for Medical Sciences and has served as a visiting lecturer at Colorado State University. Prior to consulting, Dr. McMullin worked for over a decade as a regulatory and product safety toxicologist and served as the State Toxicologist at the Colorado Department of Public Health and Environment, where she led an interdepartmental program under the governor's directive to promote responsible, health-protective development of oil and gas. Finally, Dr. McMullin has published over 30 peer-reviewed studies, abstracts, or presentations spanning chemical exposure and risk, dose-response, and public health.

The combination of our public health experiences in the public, private, and academic sectors, and our education make us well-qualified to assess and synthesize the body of scientific evidence related to environmental exposures and public health outcomes. We have attached copies of our curriculum vitae (CV) in **Attachment A**.

Scope of Assignment

Roux was retained by Alston & Bird on behalf of E&B Natural Resources to review the Case Summary & Documents for Case Number ZA-2026-3203-RV to determine if there was scientific evidence in the administrative record to support the claim that the Murphy Drilling Site located at 1211 West Adams Boulevard may jeopardize or adversely affect the public health, peace, and safety of persons residing or working on the premises or in the surrounding area, and has documented reports of repeated nuisance activities.[1]

Materials Considered

The opinions stated in this report are based on the culmination of our education, training, experience, and an expert review of the referenced information and case materials. In formulating our opinions in this case, we have reviewed the publicly available case materials, including, but not limited to all documents made publicly available on the Los Angeles City Planning Case Summary & Documents website for Case Number ZA-2026-3203-RV. A list of the documents we have relied upon in the case is presented in **Attachment B**.

As additional information is made available or becomes known to us, we reserve the right to supplement this report, as necessary. All our opinions in this report are stated to a reasonable degree of epidemiological, toxicological, and scientific certainty.

[1] Notice of Public Hearing for Murphy Drill Site. Los Angeles Department of City Planning. https://planning.lacity.gov/dcpapi2/meetings/document/81033.

2.0 SUMMARY OF OPINIONS

In addition to the case documents in the administrative record, our opinions are based on our experience as a practicing public health epidemiologist or toxicologist, exposure scientists, and risk communicators. Based on our analysis of the administrative record, we have reached the opinion summarized below. The bases for these opinions are further detailed in the following section.

1. The administrative record contains no scientific evidence to support the claim that the Murphy Oil Drill Site jeopardizes or adversely affects the public health or safety of persons residing or working on the premises or in the surrounding area.
2. The administrative record does not contain the scientific evidence of source-attribution or odor characterization data necessary to support that the Murphy Oil Drill Site is the source of documented reports of repeated nuisance activities.
3. Health studies in the area do not show evidence that the Murphy Oil Drill Site may jeopardize or adversely affect the public health, peace, and safety of persons residing or working on the premises or in the surrounding area and has documented reports of repeated nuisance activities.

3.0 BASIS OF OPINIONS

Opinion 1. The administrative record contains no scientific evidence to support the claim that the Murphy Oil Drill Site jeopardizes or adversely affects the public health or safety of persons residing or working on the premises or in the surrounding area.

Established frameworks exist for determining, with scientific evidence, whether a source such as the Murphy Oil Drill Site adversely affects public health, and the administrative record contains no indication that any such framework was applied to this Site.

The US Environmental Protection Agency (EPA) guidance recommends following their environmental public health paradigm, which requires scientific evidence across the steps to demonstrate a complete pathway between an emitting source and a plausible health effect (Figure 1). [2,3,4,5]

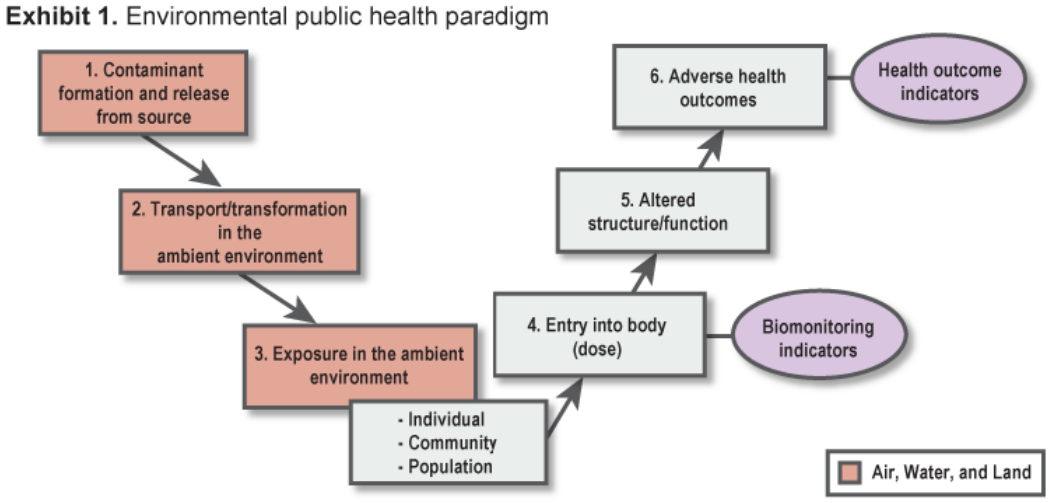


Figure 1. EPA's Environmental Public Health Paradigm to Represent the Pathway from an Industrial Source like the Murphy Oil Drill Site to a Health Outcome[6]

[2] USEPA, 2024. Interim Framework for Advancing Consideration of Cumulative Impacts. November.
[3] USEPA, 2004. Air Toxics Risk Assessment Reference Library. Volume 1 – Technical Resource Manual. April.
[4] USEPA, 2004. Air Toxics Risk Assessment Reference Library. Volume 2 – Facility Specific Assessment. April.
[5] USEPA, 2004. Air Toxics Risk Assessment Reference Library. Volume 3 – Community Scale Assessment. April.
[6] USEPA, 2026. Human Exposure and Health. July 6. https://www.epa.gov/report-environment/human-exposure-and-health#note1

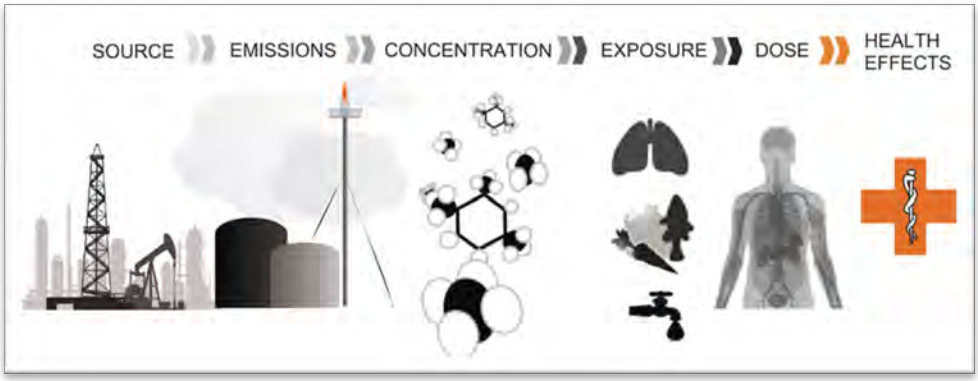


Figure 2. Shonkoff's 2014 Source to Health Outcome Pathway[7]

When it comes to concerns regarding adverse effects to public health from releases from a source, federal and state public health and environmental agencies use a method called a human health risk assessment (HRA). This methodology directs the type of scientific evidence needed to make determinations about potential health risks from a source, such as the Murphy Oil Drill Site. As DTSC's figure shows, an HRA is organized into four steps that require data collection and analyses at each step (**Figure 2**).

In California, the Office of Environmental Health Hazard Assessment (OEHHA) is "*the lead state agency for the assessment of health risks posed by environmental contaminants*."[8] OEHHA's HRA guidance documents form the standard of practice for quantifying health risks in California. According to OEHHA, the HRAs are codified in California's Health and Safety Code and are used to "*inform, support and guide regulatory and other actions*," including other state and local agency regulatory risk management.[9] CA agencies, such as DTSC and South Coast Air Quality Management District (SCAQMD), use this HRA framework to guide evaluations of potential health risks associated with facility releases and provide evidentiary basis for informing regulatory or other risk management actions.

7 California Council on Science & Technology. (2015, July). An independent scientific assessment of well stimulation in California, Volume II: Potential environmental impacts of hydraulic fracturing and acid stimulations. https://ccst.us/reports/an-independent-scientific-assessment-of-well-stimulation-in-california-volume-2/

8 Department of Toxic Substances Control. (2025). Human Health Risk Assessments quick reference guide. https://dtsc.ca.gov/brownfields/human-health-risk-assessments-quick-reference-guide/

9 California Health and Safety Code, § 59000-59017 (2019).

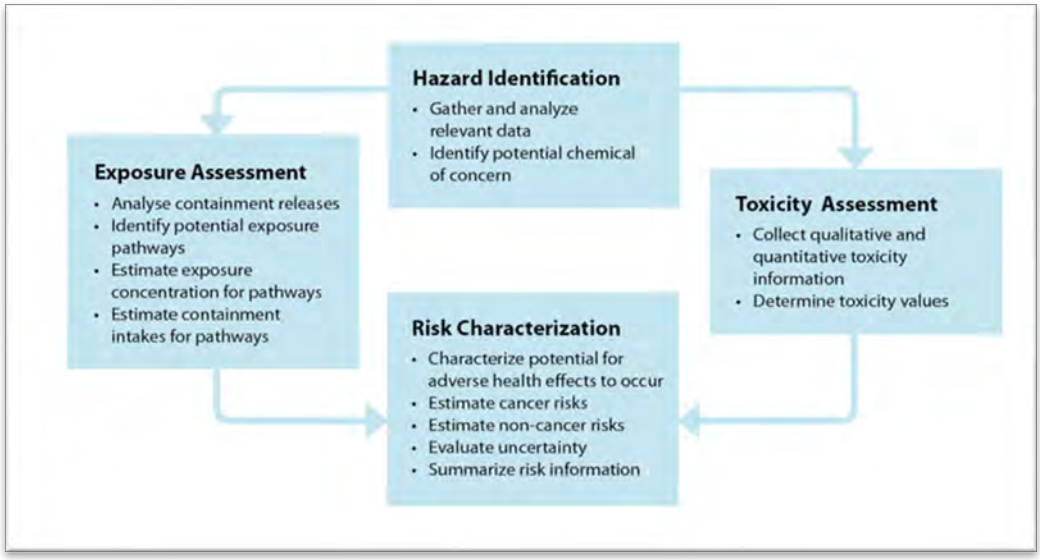


Figure 2. The Four Steps of a Quantitative Health Risk Assessment (HRA).[10]

A claim that the Murphy Oil Drill Site jeopardizes or adversely affects the public health or safety of persons residing or working on the premises or in the surrounding area, under the established scientific frameworks described above, would be expected to be supported by scientific evidence in the administrative record. The administrative record contains no such evidence.

The regulatory and public health agencies with jurisdiction over the Murphy Oil Drill Site possess broad authority, technical resources, and a documented practice of investigating, monitoring, and acting on facilities they determine to present a public health concern. Were the Murphy Oil Drill Site causing the widespread, ongoing odor or health impacts alleged, it would be expected that regulatory and public health response would be reflected in an investigative and enforcement record. That record is not present.

The SCAQMD, Los Angeles County Department of Public Health (DPH), and CalGEM each hold statutory authority to investigate air quality, odor, and public health conditions and to take enforcement or protective action when warranted. These agencies have exercised that authority at comparable neighborhood oil and gas facilities in Los Angeles County, and their actions in those instances generated a substantial and locatable documentary record, including site-specific health investigations, community air monitoring, inter-agency coordination, and, in appropriate cases, abatement or cessation of operations.[11]

The administrative record itself reflects that multiple agencies with substantial authority over the Murphy Oil Drill Site were actively engaged in oversight during the relevant period. The Murphy Oil Drill Site is regulated under multiple government agencies including the City of Los Angeles, Los Angeles Fire Department (LAFD), Los Angeles Department of Building and Safety (LADBS), California Geologic Energy Management Division (CalGEM), California Department of Toxic Substances Control (DTSC), South Coast Air Quality Management Division (SCAQMD), California Environmental Reporting System (CERS), Environmental Protection Agency (EPA), and Pipeline and Hazardous Materials Safety Administration (PHMSA).12 These agencies are charged with protecting aspects of public health and safety, and several are specifically charged with

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[10] Department of Toxic Substances Control. (2025). Human Health Risk Assessments quick reference guide. https://dtsc.ca.gov/brownfields/human-health-risk-assessments-quick-reference-guide/

[11] South Coast Air Quality Management District. (n.d.). *Community investigations*. Retrieved July 16, 2026, from https://www.aqmd.gov/home/news-events/community-investigations

[12] Murphy Drill Site Annual Inspection Reports 2024, 2025, 2026. March 11, 2026.

determining whether a regulated source poses nearby impacts to public health and safety. The record reflects that these agencies have continued to approve operating permits for the Murphy Oil Drill Site.

The record identifies enforcement activity by the South Coast Air Quality Management District (SCAQMD), and the California Geologic Energy Management Division (CalGEM).[13] The specific agency actions documented in the administrative record, however, concern discrete operational and equipment matters, no documented actions that constitute a finding that the Murphy Oil Drill Site caused a widespread or recurring odor or health nuisance affecting the surrounding community.

One document in the administrative record warrants specific comment with respect to health and safety: the Methane Task Force Inspection Report for the South Los Angeles Community. The Methane Task Force Inspection Report documents that the SCAQMD issued a Notice of Violation (NOV) to E&B Natural Resources Management for one methane leak detected above 50,000 ppm (API Number 403700373) documented by the joint inspections between SCAQMD and the Methane Task Force (MTF). A NOV reflects a regulatory compliance exceedance and does not provide evidence of a completed exposure pathway or an adverse health effect, which was supported by the MTF's own findings. In the Inspection Report, the MTF stated that these leaks found at the source (which includes the E&B Natural Resources leak) "*dissipated to background levels, rendering them undetectable within three inches of the source and negating the need to collect a sample or notify first responders.*" (pg. 3) This characterization indicates that the leak did not present a public exposure, adverse health risk or safety concern to workers or nearby residents.

There were no such documents located in the administrative record indicating these agencies have concluded that the Murphy Oil Drill Site is jeopardizing or adversely affecting public health or safety of persons residing or working on the premises or in the surrounding area.

Opinion 2. The administrative record does not contain the scientific evidence of source-attribution or odor characterization data necessary to support that the Murphy Oil Drill Site is the source of documented reports of repeated odor nuisance activities.

Evaluating whether a recurring odor nuisance is attributable to a particular source requires at least two categories of evidence: whether the odors in fact originated at that source, and how the odors are characterized (frequency, duration, intensity, and hedonic tone (the degree of pleasantness or offensiveness). The record is insufficient on both.

The table titled "Murphy Odor Complaint Records from SCAQMD" is the only evidence located in the administrative record pertaining to odor nuisance. It appears to be an extract from SCAQMD's internal complaint-tracking system. The record provides limited explanatory detail and does not include the categories of information that would be expected, and that SCAQMD has historically collected, in a regulatory nuisance investigation: confirmation of an odor by an inspector and its characterization, evidence of odors at multiple complainants' own locations, verification of odors at multiple complainants' own residences or workplaces, tracing of the odor to a specific source, and exclusion of other potential sources through upwind/downwind surveillance[14]. On the limited information the table does contain, it does not provide supporting evidence of an ongoing odor nuisance in the community attributable to Murphy Oil Drill Site activity:

[13] CalGEM and SCAQMD Notice Of Violations Case Number: ZA-2026-3203-RV
[14] https://www.aqmd.gov/home/news-events/community-investigations/sunshine-canyon-landfill/odor-complaints

1. For approximately two-thirds of the complaints alleging the Murphy Oil Drill Site as the odor source, SCAQMD did not identify the Site as the actual source[15]. In two instances (November 13, 2025), SCAQMD attributed the odor to a different operator (Crimson Midstream LLC) rather than to E&B Natural Resources Management Corp, the Site's operator.
2. Of the nine complaints in which the recorded source was the Site or its operator, two-thirds (6 of 9) were reported on a single day, November 12, 2025, reflecting an isolated episode rather than a sustained or recurring condition.
3. The record contains no evidence that odors associated with Murphy Oil Drill Site emissions are a current nuisance; the most recent complaints attributed to the Site's operator date to November 2025.
4. The record contains no evidence that the complaints potentially linked to the Site originated from distinct individuals (each complaint could reflect the same person or household reporting repeatedly), or that the odors were reported from locations near the Site. It therefore does not establish that the complaints reflect a "considerable number of persons," as Rule 402 and Health & Safety Code § 41700 contemplate.

Opinion 3. A health study in the area does not show evidence that the Murphy Oil Drill Site may jeopardize or adversely affect the public health, peace, and safety of persons residing or working on the premises or in the surrounding area.

The Johnston 2021 study did not measure or evaluate any air pollutant, odor, or noise attributable to a specific oil operation, and it therefore does not, and by its design cannot, establish that operations at the Murphy Oil Drill Site cause or are likely to cause adverse effects on the public health, peace, or safety of the surrounding community. The Johnston et al. (2021) study, titled *Respiratory Health, Pulmonary Function and Local Engagement in Urban Communities Near Oil Development*, is an observational, cross-sectional community driven study of self-reported health symptoms and lung function among residents living within 1,000 meters of two oil well sites in South Los Angeles.[16] The study did not name its sites or operators, but described one as active and one as idle. The active site was a 28-well site in the Jefferson Park neighborhood, drawing from the Las Cienegas oil field and operating continuously throughout the January 2017 to August 2019 study period. This location has been publicly identified, separately from the study, as the Murphy Oil Drill Site.[17] Even accepting that identification, several methodological limitations of the study preclude a conclusion that operations at the site cause adverse health effects: 1) the study does not represent emissions or exposures from the Murphy Oil Drill Site; 2) its study design cannot support that the Murphy Oil Drill Site causes adverse health symptoms or diminished lung function; and 3) lung function measurements cannot be anchored to normal or clinically meaningful benchmarks for lung health.

1. The study does not represent emissions or exposures from the Murphy Oil Drill Site.

The study did not measure exposure in participants. It assigned exposure as the distance and predominant wind direction from each participant's residence relative to the well site. The study did not

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[15] The column labeled "Actual Source" was assumed to represent the determined source of the odor from an investigation by SCAQMD or equivalent regulatory agency. The column labeled "Alleged Source" was assumed to represent the source alleged by the reported complainant.

[16] Jill E. Johnston, Temuulen Enebish, Sandrah P. Eckel, Sandy Navarro, and Bhavna Shamasunder, "Respiratory Health, Pulmonary Function and Local Engagement in Urban Communities Near Oil Development," *Environmental Research* 197 (2021): 111088, https://doi.org/10.1016/j.envres.2021.111088.

[17] Lindenfeld, Jeremy. "In a Largely Black and Latino Community, Neighbors Worry About the Oil Wells in Their Midst." Capital & Main, March 3, 2023. https://capitalandmain.com/in-a-largely-black-and-latino-community-neighbors-worry-about-the-oil-wells-in-their-midst.

collect air quality data, air measurement of any specific emission, and did not characterize any odor, noise, or other nuisance from the active site (the Murphy Oil Drill Site). The authors acknowledge that this exposure metric is a proxy stating that *"wind direction and proximity is used as a proxy for exposure to pollution associated with the well sites and may not represent true oil-related exposure."* Because no emissions from the site and their potential subsequent air concentrations in the nearby community were measured, health outcomes cannot be attributed to the Murphy Oil Drill Site emissions as opposed to being from other explanations like freeway and traffic-related emissions, other industrial land uses, or differences between the two neighborhood populations.

There is evidence in the study's own reporting that comparisons made between the two neighborhoods (active v. idle well site) are confounded by systematic differences between the populations that have nothing to do with oil operations. The participant characteristics reported in Table 1 show that the active site neighborhood was older (33.1% of participants over age 60, versus 13.6% at the idle site), more racially and ethnically diverse (69.0% Latinx, 21.0% Black, and 10.0% Asian, versus 98.2% Latinx at the idle site), and had a higher proportion of ever-smokers (26.5% versus 15.9% at the idle site). These differences likely confound self-reported symptoms and lung function like forced expiratory volume (FEV1) and forced vital capacity (FVC) that were measured in this study. Thus, a higher prevalence of reported symptoms in the active site neighborhood may simply reflect who lives there and not be due to any other factor.

2. **Study design cannot support that the Murphy Oil Drill Site caused or causes adverse health symptoms or diminished lung function.**

The cross-sectional design cannot establish causation. Because each participant's proximity, self-reported symptoms, and lung function were all recorded at a single point in time, the study cannot establish that exposure preceded the reported health effect or lung function measurements. That temporal sequence is a necessary condition for determining causation, and a cross-sectional design cannot establish it.

The community driven approach likely introduced selection and reporting bias which could explain the reported associations. In a community-driven study of this kind, residents that are aware of a perception that the active site may be associated with health effects tend to enroll at higher rates than those who are unaware or less concerned. That same awareness tends to influence how participants report subjective symptoms. Together these biases can create an apparent association where none exists (differential misclassification). The authors recognized this risk, stating that they *"cannot rule out potential confounding by unmeasured covariates or differential participation rates based on concerns about neighborhood health or environmental quality."* The pattern of results is consistent with such biases being present. The subjective, self-reported symptoms of irritation of eyes, dizziness, fatigue, diarrhea, backache, and rash were elevated near the active site compared to the idle, whereas the objective lung function measurements (FEV1 and FVC) showed a broadly similar pattern near both the active and the idle sites (Figure 6 in Johnston 2021). This pattern would be expected if enrollment and symptom reporting were being driven by awareness, and not physiology.

Dichotomizing proximity at 200 meters lacks a biological and justifiable explanation. The authors chose to dichotomize proximity at less than 200 meters and greater than 200 meters to 1,000 meters from the sites. There was no explanation for this categorization provided other than this statement, *"The selection of 200m for the main analysis was chosen based on a changing relationship observed between distance and lung function among study participants."* This statement references the Figure S1 in Attachment C. A continuous distance in meters was not presented or summarized by the groups.

The idle, non-producing well was associated with comparable decrements in lung function. Among residents near the idle site, which the authors note "is impacted by multiple freeways," living downwind and close (<200 m) was associated with lower lung function (FVC: β= −297 mL, 95% CI: −577 to −18; FEV1 β= −284 mL, 95% CI −490 to −76), a magnitude similar to that seen at the active site (Figure 6 in Johnston 2021). The idle site was not producing any oil or gas during the study period and cannot plausibly be the cause of a respiratory effect. This trend points to a potential shared alternative source, plausibly traffic.

The study performed a large number of statistical tests without correcting for multiple comparisons, so the scattered reported significant findings cannot be distinguished from random chance. The study conducted a large number of statistical tests to examine possible connections between the proximity to the sites without using safeguards against false positives.[18] It modeled 17 different reported symptoms plus two lung function measures, each health endpoint was modeled against several different definitions of "exposure" (proximity or proximity and wind direction) all adding up to over a hundred separate statistical tests. The difficulty is that the study treated each test as significant at the common p value of 0.05, meaning that even if the wells had no real effect at all, roughly 1 in every 20 tests would be expected to have a p value below 0.05 or significant finding purely by chance.[19,20] With that many tests, it is expected to find a handful of significant results by chance alone. That is why a standard practice is to apply a statistical correction to account for this, like lowering the p value to determine statistical significance. The authors applied no corrections for these multiple statistical tests. As a result, the reported scattered significant findings are what would be expected with uncorrected multiple comparisons.

3. The study lung function measurements cannot be anchored to any normal or clinically meaningful benchmarks for lung health.

This study measured lung-function using a spirometer and reported the results as absolute differences in milliliters relative to another group. For example, −112 mL FEV1 and −128 mL FVC for residents within 200 m versus farther away (95% CI −213 to −10 and −282 to −5, respectively). The averages for the study population were reported as, *"Mean FEV1 and FVC for males were 2773 mL and 3654 mL, respectively, and the corresponding means for females were 2220 mL and 2875 mL."* The study did not express these results as a percentage of predicted value, z-score, or in relation to the lower limit of normal. Furthermore, the study never sampled or compared these measurements to an unexposed reference population or compare measured ranges to what would normally be found in a healthy population. As a result, the study provides no comparison against which the biological or clinical significance of its findings can be determined.

Lung function measured as FEV1 and FVC in mL has no single "normal" value or range. Normal FEV1 and FVC have wide variability with age, sex, weight, and height. The American Thoracic Society and European Respiratory Society recommend that spirometry be interpreted against population-based reference equations rather than as raw volumes.[21] Meaning a measured value (of FEV1 or FVC) is

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18 Johnston, J. E., Enebish, T., Eckel, S. P., Navarro, S., & Shamasunder, B. (2021). Respiratory health, pulmonary function and local engagement in urban communities near oil development [Supplemental material]. *Environmental Research*, *197*, Article 111088. https://doi.org/10.1016/j.envres.2021.111088

19 Shaffer JP. Multiple Hypothesis Testing. Annu Rev Psychol. 1995;46:561-584.

20 Bland JM, Altman DG. Multiple significance tests: the Bonferroni method. BMJ. 1995;310.

21 Stanojevic, S., Kaminsky, D. A., Miller, M. R., Thompson, B., Aliverti, A., Barjaktarevic, I., Cooper, B. G., Culver, B., Derom, E., Hall, G. L., Hallstrand, T. S., Leuppi, J. D., MacIntyre, N., McCormack, M., Rosenfeld, M., & Swenson, E. R. (2022). ERS/ATS technical standard on interpretive strategies for routine lung function tests. European Respiratory Journal, 60(1), Article 2101499. https://doi.org/10.1183/13993003.01499-2021

compared to the predicted value for a person of the same age, sex, height, and ancestry, and is considered abnormal only when it falls below the lower limit of normal (the 5th percentile). This is usually expressed in z-score not absolute mL. As a demonstration of magnitude and variability only, for a man of average height (aged 25-55) FVC values can range between 4.66-5.32 liters (4,660-5,320 mL a difference of 660 mL), while FEV1 values can range between 3.65-4.46 liters (3,650-4,460 mL a difference of 810 mL).[22] Although dependent on age and height, women tend to have lower predicted values compared to men, a difference which can increase with age. The study only reported spirometry results across the entire sample categorized by men and women and did not provide a table of the average FEV1 or FVC and their variability by proximity (<200 m v. >200 m-1,000 m) or the four proximity and wind direction groups. Therefore, these findings cannot be compared to normal variation in the population. Not appropriately reporting FEV1 or FVC in a manner to determine if lung function was actually abnormal for the groups analyzed means the study does not and cannot show whether any participant, near or far, upwind or downwind from the active site had abnormal lung function.

In summary, the Johnston 2021 study measured relative contrasts within and between two south Los Angeles neighbor communities, using an unmeasured proxy for exposure, in a design incapable of establishing causation, and reported the results in a form that cannot be anchored to any normal or clinically significant benchmark. It does not provide evidence that the Murphy Oil Drill Site may jeopardize or adversely affect the public health, peace, and safety of persons residing or working on the premises or in the surrounding area.

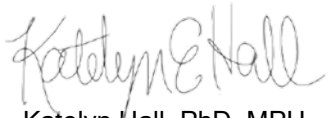
[22] Quanjer, P. H., Stanojevic, S., Cole, T. J., Baur, X., Hall, G. L., Culver, B. H., Enright, P. L., Hankinson, J. L., Ip, M. S. M., Zheng, J., & Stocks, J. (2012). Multi-ethnic reference values for spirometry for the 3–95-yr age range: The Global Lung Function 2012 equations. *European Respiratory Journal*, *40*(6), 1324–1343. https://doi.org/10.1183/09031936.00080312

4.0 SUMMARY

In summary, the record contains no scientific evidence that the Murphy Oil Drill Site jeopardizes or adversely affects the health or safety of persons residing or working on the premises or in the surrounding area. Separately, while the record reflects that odors were reported, it lacks the source-attribution and odor-characterization evidence necessary to establish that the Site is the source of a documented, recurring nuisance.

Respectfully submitted,

ROUX ASSOCIATES, INC.



Katelyn Hall, PhD, MPH
Principal Epidemiologist and Biostatistician



Tami McMullin, PhD
Principal Toxicologist

ATTACHMENTS

A. Curricula Vitae of Dr. Katelyn Hall and Dr. Tami McMullin
B. Materials Relied On
C. Figure S1 from Johston 2021 Study

ATTACHMENT A

Curricula Vitae of Dr. Katelyn Hall and Dr. Tami McMullin

PROFESSIONAL PROFILE



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Ph.D., Toxicology
Department of Environmental and Radiological Health Sciences
Colorado State University
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BS, Biology
University of California San Diego
CA, La Jolla, CA 1998

PROFESSIONAL TRAININGS

OSHA 29 CFR 1910.120 40-Hour Safety Training

OSHA 29 CFR 1910.120€ (8) 8-Hour Refresher Training

TWIC Clearance

Crisis Risk Communication Training, Center for Risk Communication

Health Impact Assessment Training

Tami McMullin, PhD

Principal Scientist | Toxicologist | Risk Assessor

EXPERIENCE SUMMARY

Dr. Tami McMullin is a toxicologist and human health risk assessor with more than 20 years of multidisciplinary experience across state government, the chemical industry, academia, and consulting. Her work spans community, residential, and occupational exposure scenarios across air, water, and soil/dust, with particular depth in air toxics. She applies weight-of-evidence and systematic-review methodologies to characterize environmental exposures and health effects, with engagements spanning government agencies, industry, and community contexts. She has served as a testifying and consulting expert in regulatory hearings and litigation, providing independent scientific evaluation of exposure, dose, and health risk evidence.

PROFESSIONAL POSITIONS

- Principal Toxicologist, Roux, 2026 – Present
- Principal Toxicologist, CTEH, 2018 – 2025
- State Toxicologist and ATSDR APPLETREE Program Lead, Colorado Department of Public Health and Environment, 2017 – 2018
- Oil and Gas Health Information and Response Program Lead, Colorado Department of Public Health and Environment, 2015 – 2018
- Product Toxicologist, Dow Corning Corporation, 2007 – 2015
- Toxicology Specialist, Dow Chemical Company, 2005 – 2007

ACADEMIC & ADVISORY APPOINTMENTS

- Member, U.S. EPA Science Advisory Board (SAB), 2026 – Present
- Member, U.S. EPA SAB Chemical Assessment Advisory Committee (CAAC), 2026 – Present
- Peer Reviewer, U.S. EPA External Peer Review — Atrazine PBPK/PD Model, June 2016
- Adjunct Assistant Professor, University of Arkansas for Medical Sciences, 2024 – Present
- Member, Scientific Community Technical Working Group, Colorado Air Toxics Bill (HB22-1244), Colorado Department of Public Health and Environment, 2024 – 2025
- Adjunct Instructor, Colorado School of Mines, 2012 – 2014

TECHNICAL SPECIALTIES

- Public Health Regulatory and Permitting Decision Support
- Exposure Science and Exposure Assessment
- Evaluation of Historical Monitoring, Emissions, and Exposure Data
- Human Health Risk Assessment
- Air Toxics
- Pharmacokinetics, Dosimetry, and Dose Reconstruction
- Weight-of-Evidence and Uncertainty Characterization
- Risk Communication and Stakeholder Engagement
- Regulatory Toxicology and Product Safety
- Cumulative Impact and Multi-Pathway Risk Evaluation

REPRESENTATIVE PROJECTS

Legislation, Rulemaking, and Permitting Consulting

- Provided technical public health expertise on drafting legislation, rulemaking, and permitting across multiple state and local public health initiatives in Colorado, California, and New Mexico, in both government and private-sector consulting roles.
- Subject-matter areas have included air toxics, cumulative impacts and environmental justice, oil and gas operations, fenceline monitoring requirements, water quality standards, and chemical-specific public health standards. Consulting has covered both enacted and proposed legislation, including matters that did not advance through the legislative process.
- Provided expert scientific testimony in regulatory rulemaking and permit proceedings before state air quality and energy commissions, county boards, and air quality boards.
- Provided implementation consulting to industry stakeholders on emerging state-level regulatory programs, including air monitoring plan development, derivation of health-based exposure thresholds, and interpretation of new regulatory requirements.
- Conducted environmental justice screening analyses for industry clients in support of permit applications and commissioner deliberations, characterizing potential cumulative impact and exposure patterns in proximate communities.
- Conducted scientific evidence review of arsenic toxicology and exposure in surface and groundwater in connection with state surface water quality standard-setting.
- As program lead at CDPHE, conducted weight-of-evidence evaluation of the scientific literature on environmental exposures and health effects associated with oil and gas exploration and development, integrating community air monitoring data, epidemiologic studies, and toxicological evidence to inform setback-distance rulemaking by the state oil and gas commission.
- Developed permissible levels of pesticides and solvents in cannabis products as State Toxicologist, which informed Colorado state regulatory standards.

Air Toxics: Oil and Gas, Refineries, and Fenceline Monitoring

- Provided technical consulting on the development of a fenceline and community air monitoring program at a refinery, including program plan development and ongoing analysis of monitoring data in a health risk context.
- Evaluated 40 CFR 63 Subpart CC (Refinery MACT) fenceline benzene monitoring data in a human health risk context for a refinery in a community designated by the state agency as disproportionately impacted.
- Provided technical consulting to industry stakeholders on implementation of Colorado Senate Bill 1189 fenceline air toxics monitoring requirements, including air monitoring plan development and derivation of health-based exposure levels.
- Designed air monitoring and sampling studies and conducted health risk assessments characterizing community exposures to oil and gas-related VOCs across phases of extraction.
- Conducted exposure characterization and risk assessment for additional air toxics emissions from oil and gas and refinery operations, including hydrogen cyanide, hydrogen sulfide, carbon dioxide, and VOC emissions from drilling, production, and produced water facilities.

Air Toxics: Industrial and Community Sources

- As State Toxicologist, served on the CDPHE response team for an ethylene oxide source identified through U.S. EPA's National Air Toxics Assessment, providing technical input on the design and interpretation of follow-up community air monitoring, public health risk assessment, and risk communication.
- Evaluated the toxicological, exposure, and epidemiologic evidence on ethylene oxide and human health effects, including mode-of-action analysis, dose-response evaluation, and characterization of exposure-response relationships across occupational and community settings.
- Interpreted U.S. EPA NATA / AirToxScreen modeled risk estimates in the context of available monitoring data, source characterization, and exposure assessment, including evaluation of the appropriate use and limitations of screening-level estimates.
- Synthesized the scientific literature on environmental exposures and health effects related to natural gas appliance emissions, including indoor air quality and respiratory endpoints.
- Conducted exposure characterization and risk assessment for additional industrial air emissions, including respirable silica from a cement plant and formaldehyde off-gassing from building materials.

Exposure Characterization, Human Health Risk Assessment, and Risk Communication

Provided exposure and risk assessment and risk communication expertise for multiple public health projects. Representative projects include:

- Heavy metals at Superfund mining sites in Colorado.
- Residual lead and arsenic in soil and indoor dust at Colorado Smelter Superfund Site.
- Contaminated steel slag used as driveway material.
- Uranium contamination in drinking water.
- Community exposures associated with a chemical weapons storage facility.

- Hydrogen cyanide emissions from oil refinery.
- Hydrogen sulfide emissions.
- Carbon dioxide emissions from a well.
- Volatile organic compound (VOC) emissions from upstream oil and gas drilling and production; produced water facilities.
- Respirable silica emissions from cement plant.
- Uranium contamination in drinking water.
- Chemical weapons storage facilities.
- Formaldehyde off gassing from building materials.
- Siloxane materials in consumer and industrial products.
- Agrochemicals, including glyphosate and triazine herbicides.
- PFAS contamination in drinking water, produce, and livestock in the Security, Widefield, and Fountain areas of El Paso County. Served on the CDPHE response team, providing technical input on application of health advisory levels, risk communication to affected communities and water providers, and coordination with El Paso County Public Health.

Worker and Occupational Exposures

- Derived occupational exposure limits (OELs) for industrial chemicals and consumer product ingredients, including cyclic and linear volatile methyl siloxanes, applying benchmark dose (BMD) modeling, dose-response analysis, and uncertainty factor methodology.
- Developed OELs for airborne linear siloxanes for astronauts during spaceflight.
- Provided toxicology and risk communication expertise as part of a multi-year project addressing chemical vapor exposures to workers at the U.S. Department of Energy Hanford site.

Regulatory Toxicology and Product Safety

- Directed GLP guideline toxicity studies for industrial, consumer, and agricultural chemicals registered in U.S. and global markets under TSCA, REACH, and other frameworks, including general toxicity (acute through chronic), developmental and reproductive toxicology, endocrine disruption, and pharmacokinetics. Responsibilities included study design, protocol development, data analysis, and technical reporting.
- Authored portions of REACH registration dossiers and Globally Harmonized System (GHS) hazard classifications for chemicals submitted to the European Chemicals Agency (ECHA).
- Provided product-safety consultation to internal corporate businesses and downstream customers for chemical usage scenarios such as personal care, industrial, agricultural, and healthcare product lines.

Pharmacokinetics and Dosimetry

- Developed perinatal physiologically based pharmacokinetic (PBPK) modeling methods to incorporate pharmacokinetic profiles into dose selection and interpretation of developmental and reproductive toxicology studies.
- Designed kinetic testing strategies for agrichemicals using pharmacokinetic modeling to characterize species and life-stage differences in chemical disposition and toxicity.
- Developed and applied PBPK models to interpret biomonitoring data for atrazine, sulfuryl fluoride, chlorpyrifos, cyclic and linear siloxanes, and benzene in general and worker populations.

COMMITTEES AND MEMBERSHIPS

Society of Toxicology, 1998 – Present

Council Member, International Society of Regulatory Toxicology and Pharmacology (ISRTP), 2024 – Present

Society for Risk Analysis, 2016 – Present

Risk 21 Committee, ILSI-Health and Environmental Science Institute, 2013 – 2015

PUBLICATIONS

Bamber, A., Hasanali, S.H., Nair, A.S., Watkins, S.M., Vigil, D.I., Van Dyke, M., McMullin, T.S., and Richardson, K. (2019). A systematic review of the epidemiologic literature assessing health outcomes in populations living near oil and natural gas operations: study quality and future recommendations. Int J Environ Res Public Health. 2019 Jun 15;16(12). pii: E2123.

McMullin, T.S., Bamber, A., Vigil, D., Bon, D., and Van Dyke, M. (2018). Exposures and health risks from volatile organic compounds in communities located near oil and gas exploration and production activities in Colorado. International Journal of Environmental Research and Public Health, Jul 16, 15(7).

McMullin, T.S., Yang, Y., Campbell, J., Clewell, H.J., Plotzke, K.P., and Andersen, M.E. (2016). Development of an integrated multi-species and multi-dose route PBPK model for volatile methyl siloxanes – D4 and D5. Regulatory Toxicology and Pharmacology, 74 Suppl: S1–S13.

Wolf, D.C., Bachman, A., Barrett, G., Bellin, C., Goodman, J., Jensen, E., McMullin, T.S., Pastoor, T.P., Schoeny, R., Slezak, B., Wend, K., and Embry, M.R. (2016). Illustrative case using the RISK21 roadmap and matrix: prioritization for evaluation of chemicals found in drinking water. Critical Reviews in Toxicology, 46(1), 43–53.

Simon, T.W., Simons, S.S., Jr., Preston, R.J., Boobis, A.R., Cohen, S.M., Doerrer, N.G., Fenner-Crisp, P.A., McMullin, T.S., McQueen, C.A., and Rowlands, J.C. (2014). The use of mode of action information in risk assessment: quantitative key events/dose-response framework for modeling the dose-response for key events. Critical Reviews in Toxicology, 44 Suppl 3, 17–43.

Meyers, V.E., García, H.D., McMullin, T.S., Tobin, J.M., and James, J.T. (2013). Safe human exposure limits for airborne linear siloxanes

during spaceflight. Journal of Inhalation Toxicology, 25(13), 735–746.

McMullin, T.S., Lowe, E., Bartels, M.J., and Marty, M.S. (2008). Dynamic changes in lipids and proteins of maternal, fetal, and pup blood and milk during perinatal development in CD and Wistar rats. Toxicological Sciences, 105, 260–274.

McMullin, T.S., Andersen, M.E., Tessari, J.D., Cranmer, B.K., and Hanneman, W.H. (2007). Estimating constants for metabolism of atrazine in freshly isolated rat hepatocytes by kinetic modeling. Toxicology In Vitro, 21, 492–501.

McMullin, T.S., Nagahara, A., Lund, T., Pak, T., Handa, R.J., Hanneman, W.H., and Andersen, M.E. (2004). Evidence that atrazine and diaminochlorotriazine inhibit the estrogen/progesterone-induced surge of luteinizing hormone in female Sprague-Dawley rats without changing estrogen receptor action. Toxicological Sciences, 79, 278–286.

BOOK CHAPTERS

McMullin, T.S. and O'Brien, W. (2004). Pharmaceutical applications of PBPK modeling: Drugs. In: Physiologically Based Pharmacokinetic (PBPK) Modeling: Science and Applications, eds. M.B. Reddy, R.S.H. Yang, H.J. Clewell, III, and M.E. Andersen, John Wiley & Sons.

Hanneman, W.H., Andersen, M.E., Legare, M.E., French, C.T., McMullin, T.S., Broccardo, C., and Billings, R. (2004). The Exposure-Dose-Response Paradigm as it Relates to Toxicogenomics. In: In Vitro Neurotoxicology: Principles and Challenges (Mannfred Hollinger, Ed.), Humana Press Inc.

EXPERT TESTIMONY

In the United States District Court, Middle District of Florida: Joseph Pavone and Pamela Lang v. American Contract Systems, Inc. Case No. 2:24-cv-01054-KCD-NPM. Deposition testimony, June 16, 2026.

In the District Court, County of Jefferson, State of Colorado: Jordan et al. v. Terumo BCT Sterilization Services, Inc. Case No. 2020CV031457. Trial testimony, February 13, 2026.

In the Superior Court, County of Kern, State of California: Aera Energy, LLC and Chevron U.S.A. Inc. v. Gavin Newsom et al. Case Nos. BCV-22-100748 and BCV-22-100636. Trial testimony, January 29, 2026.

In the Superior Court, County of Kern, State of California: Aera Energy, LLC and Chevron U.S.A. Inc. v. Gavin Newsom et al. Case Nos. BCV-22-100748 and BCV-22-100636. Deposition testimony, January 13, 2026.

In the District Court, County of Jefferson, State of Colorado: Jordan et al. v. Terumo BCT Sterilization Services, Inc. Case No. 2020CV031457. Deposition testimony, November 5, 2025.

In the District Court, County of Jefferson, State of Colorado: Eve Isaacks, Victoria Anderson et al. v. Terumo BCT Sterilization Services, Inc. Case No. 2022CV031124. Trial testimony, March 6–7, 2025.

In the District Court, County of Jefferson, State of Colorado: Eve Isaacks, Victoria Anderson et al. v. Terumo BCT Sterilization Services, Inc. Case No. 2022CV031124. Deposition testimony, November 19, 2024.

In the District Court, County of Jefferson, State of Colorado: Ann Jordan, Bruce Howard Brown, David Gutierrez et al. v. Terumo BCT Sterilization Services, Inc. Case No. 2020CV031457. Deposition testimony, March 20, 2023.

PROFESSIONAL PROFILE



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200 Summit Drive, Suite 500
Burlington, MA 01803

EDUCATION

Doctor of Philosophy, Epidemiology, The University of Colorado Denver Graduate School, Anschutz Medical Campus Denver, CO, 2020

Master of Public Health, Epidemiology, The University of Colorado Denver, Anschutz Medical Campus, Aurora, CO, 2014

Bachelor of Science, Pre-Medical Biology, Harding University, Searcy, AR, 2011

Katelyn Hall, PhD, MPH

Principal Scientist | Epidemiologist | Biostatistician

EXPERIENCE SUMMARY

Dr. Hall is an epidemiologist and biostatistician with over a decade of experience in environmental epidemiology, public health research, biostatistical analysis, and exposure science across the non-profit, state government, federal government, and private sectors.

- Principal Epidemiologist and Biostatistician, Roux, Burlington, MA, 2025–Present
- Adjunct Assistant Professor, Department of Epidemiology, Fay W. Boozman College of Public Health, UAMS, Little Rock, AR, 2024–Present
- Senior Epidemiologist and Biostatistician, Supervising Health Scientist, CTEH, LLC, Little Rock, AR, 2019–2025
- Epidemiology and Biostatistics Consultant, Hall Consulting, LLC, Pine, CO, 2019
- Epidemiologist and Statistical Analyst, Marijuana Health Monitoring and Research, Environmental Epidemiology, Occupational Health, and Toxicology, Colorado Department of Public Health and Environment, Denver, CO, 2014–2019
- ACOG Maternal Influenza Review Program Interviewer, Contracted Employee, Colorado Department of Public Health and Environment, Denver, CO, 2014
- Graduate Teaching Assistant, GIS for Public Health Research, Chronic Disease Epidemiology, Research Methods, Colorado School of Public Health, 2014–2016
- Emerging Infections Program-Graduate Internship, Colorado Department of Public Health and, Environment, Denver, CO, 2013–2014
- Epidemiology and Biostatistics Consultant, CUPeru, Denver, CO, 2012–2014

TECHNICAL SPECIALTIES

Dr. Hall's strategic consulting in environmental epidemiology and biostatistics has aided both public and private sector clients in data-driven decision-making in the energy, chemical, agricultural, entertainment, waste management, and tech industries. Dr. Hall's areas of expertise include:

- Systematic Literature Reviews
- Epidemiology Study Design
- Secondary Data Analysis
- Human Exposure Metrics
- Health Impacts Assessments
- Survey Design, Collection, and Analysis
- Regression Modeling
- Network Analyses
- Environmental Justice Data Sources and Tools
- Environmental Field Sampling Study Designs
- General Causation Analysis
- Primary Data Collection
- Public Health Surveillance Systems
- Environmental Data Analysis
- Source to Health Outcome Paradigms
- Sensitivity and Specificity Analyses
- Research Methods
- Infectious Disease Epidemiology
- Infection Control Protocols and Contact Tracing

Dr. Hall has been an invited speaker at several scientific conferences and has published over 25 manuscripts and abstracts in technical journals and gray literature.

REPRESENTATIVE PROJECTS

- **Technical Director, Tontitown, Arkansas Air Sampling Study (May 2–May 12, 2025).** Dr. Hall was contracted by the Arkansas Department of Energy and Environment to design and lead an air sampling study near a landfill in Tontitown, Arkansas. The objective was to determine if there were compounds of potential concern that the landfill was likely or possibly contributing to the community. https://adeq.state.ar.us/tontitown/pdfs/tontitown-air-sampling-study.pdf

- **Testimony-Wisconsin Electric Power Company.** Dr. Hall provided expert epidemiology rebuttal testimony on the interpretation and use of EPA's Co-Benefits Risk Assessment health Impacts Screening and Mapping Tool (COBRA) in the context of public health at the Public Service Commission of Wisconsin Hearing (Docket No. 6630-CE-317) for the Certificate of Public Convenience and Necessity for the Oak Creek Combustion Turbine Project.
- **Testimony-Colorado Petroleum Association.** Dr. Hall provided expert epidemiology and biostatistics testimony on the scientific methods of Colorado EnviroScreen at the Colorado Air Pollution Control Division Regulation 3 hearings in Denver, Colorado on May 17, 2023.
- **Testimony, CIVITAS, Resources Inc.** Dr. Hall provided expert epidemiology and biostatistics testimony on the study design and analytic methods of the Broomfield Health Survey at the Colorado Oil and Gas Conservation Commission contested Coslette Wellpad hearings virtually on October 26, 2022.
- **Applied Public Health, Various Energy, Chemical, and Agricultural Industry Clients.** Dr. Hall provided data-driven solutions for clients that have environmental justice concerns by designing boots-on-the-ground studies, assessments of epidemiology literature, and risk communication of the science.
- **American Petroleum Institute.** Dr. Hall leveraged her experience and expertise to develop guidance documents to assist clients with navigating environmental justice concerns, cumulative impacts, and assessing the risk of chemical and non-chemical stressors on a community.
- **Epidemiology Expert Consulting, Systematic Literature Reviews.** Various Energy and Chemical Industry Clients and the Oil and Gas Health Information and Response Program Colorado Department of Public Health and Environment: Dr. Hall has developed novel methods for systematic literature reviews that apply quantitative methods to weigh the quality of the body of evidence. She has applied these reviews to general causality analyses, rulemaking support, and published systematic literature reviews. The majority of this work has covered the potential health outcomes in populations living near oil and natural gas operations, but Dr. Hall has also applied these methods to ethylene oxide and PFAS exposures and potential health effects.
- **Biostatistics Expert Consulting, Statistical Analyses, Various Energy, Agriculture, Forrest Products, and Chemical Industry Clients.** Dr. Hall serves as a technical director, developing and overseeing the statistical analysis of various air quality assessments.
- **Epidemiology Expert Consulting, Toxic Tort Litigation, Various Energy, Manufacturing, and Sterilization Clients.** Dr. Hall has provided epidemiology expertise on chemical environmental exposures and various health outcomes. She has provided consulting support on expert reports on ethylene oxides, PFAS, asbestos, and talc and numerous alleged health outcomes
- **Project Technical Director, COVID-19 Epidemiology Services.** Various Energy, Entertainment, Packaging, Hospitality, Live Events, Emergency Response, and Food Industry Clients.
- **COVID-19 Vaccine Effectiveness Studies Reviews.** Dr. Hall directed weekly updates on the current science of U.S. and United Kingdom approved COVID-19 vaccine effectiveness. Dr. Hall technically reviewed literature and government reports and made data-driven vaccination recommendations to clients' workforces.
- **Epidemiological Tracking of COVID-19 Variants.** Dr. Hall directed a team charged with tracking emerging COVID-19 variants and their characteristics. Dr. Hall technically reviewed reports to clients containing WHO, CDC, and PHE variants of concern epidemiology and characteristics and made recommended adjustments to infection control measures based on changes in emerging variants' characteristics.
- **COVID-19 Epidemiology Services, Disease Tracking.** Dr. Hall directed a team charged with tracking the spread of COVID-19 and providing an epidemiology assessment of the risk of COVID-19 entering a workplace through community exposures to the workforce for over 100 client facilities and projects. Dr. Hall oversaw regular risk assessment reports to clients to inform their level of infection controls that included COVID-19 cases, deaths, vaccinations, and calculated risk metrics like reproductive numbers and percent of the population infectious.
- **Epidemiologist and Statistical Analyst, Public Health Impacts of Retail Cannabis Legalization, Marijuana Health Monitoring and Research Program, Colorado Department of Public Health and Environment.** Dr. Hall conducted epidemiological and statistical analyses on the public health effects of retail cannabis legalization. She analyzed secondary healthcare administrative datasets for cannabis exposures and adverse health outcomes. She analyzed national and state survey data to monitor trends in the amount and type of cannabis products used. Dr. Hall was responsible for annual systematic literature reviews of peer-reviewed publications on cannabis-related health outcomes and trends in cannabis use.
- **Contract Tracing and Infection Control Plans and Implementation.** Dr. Hall developed custom COVID-19 contact tracing plans integrated into clients' infection control plans that included novel testing and symptom monitoring strategies. Dr.

Hall directed a team of contact tracers, occupational nurses, and physicians to implement these plans 24 hours a day, seven days a week for hundreds of clients. Dr. Hall provided reporting and analysis of COVID-19 outbreaks and spread including epidemic curves and network analyses.

- **COVID-19 Litigation.** Dr. Hall has provided epidemiology expertise on evaluating community level COVID-19 data, considerations for spread in the workplace and community, contact tracing, infection control protocols, and return to work practices. She has compiled expert reports for these opinions in COVID-19 related litigation on workman's compensation claims, in response to a congressional investigation, and local municipality lawsuits against energy industry.
- **Epidemiologist, Cannabis User Survey on Health (CUSH), Marijuana Health Monitoring and Research Program, Colorado Department of Public Health and Environment.** Dr. Hall developed, validated, and administered a survey on frequencies and methods of cannabis use, the Cannabis User Survey on Health funded by the Council for State and Territorial Epidemiologists. Dr. Hall analyzed and published the results in a peer-reviewed publication of the findings.
- **Lead Epidemiologist, E-cigarette or Vaping product use-Associated Lung Injury (EVALI) Outbreak, Colorado Department of Public Health and Environment.** Dr. Hall was responsible for managing the epidemiology response to the EVALI outbreak in Colorado. She worked closely with the CDC, FDA, and DEA in identifying, describing, reporting, and tracking new cases. Dr. Hall developed the case interviews in RedCap and administered case investigations. Dr. Hall set up an on-call team to respond to reports of cases. Dr. Hall worked with a team of toxicologists to assist with research of potential chemicals or toxins that could have resulted in the lung injuries described in the cases. Dr. Hall worked with industry and government stakeholders to collect and send products to the CDC for testing.
- **Cannabis Flower, Concentrates, and Edibles Potency Beta Homogeneity and Proficiency Testing, Laboratory Services Division, Colorado Department of Public Health and Environment.** Dr. Hall developed a statistical protocol for cannabis flower, concentrates, and edibles homogeneity and proficiency testing based on the ISO 15328 protocols and pilot studies by the Colorado Department of Agriculture. She applied these results to Colorado cannabis flower, concentrate, and edible potency beta homogeneity and proficiency testing. She completed reports of the statistical analysis of the homogeneity and proficiency testing results to the participating laboratories, the Colorado Department of Agriculture, the Laboratory Services Division, the Colorado Department of Public Health and Environment, and the Marijuana Enforcement Division.
- **Lead Epidemiologist, Cannabis Use and Snow Sport Injuries, Colorado Department of Public Health and Environment, Vail Valley Medical Center.** Dr. Hall analyzed cannabis use as a predictor of snow sports injuries from data collected at Vail Valley Medical Center during the 2013-2014 snow season. She applied regression models that showed cannabis use prior to injury led to an increased risk of a collision vs. a fall resulting in a snow sport injury. Dr. Hall reported cannabis use was related to not wearing a helmet and snowboarding.
- **Geospatial Analysis of Age-Adjusted Pertussis Rates, Poverty, and Vaccine Exemption Rates in Colorado, Colorado Department of Public Health and Environment, Colorado School of Public Health (2007–2014).** Dr. Hall examined CDPHE's Colorado Electronic Disease Reporting System (CEDRS) pertussis cases from 2007 to 2014 with percent below poverty at the census tract level and school vaccine exemption rates at the school district level. She created maps and performed statistical and geospatial analyses to assess associations.
- **ACOG Maternal Influenza Review Program Interviewer, Colorado Department of Public Health and Environment.** Dr. Hall organized, managed, and administered in-person interviews for the American Congress of Obstetricians and Gynecologists Maternal Influenza Review Program. She performed data collection and management, compiled case review summaries, reported to a case review team of medical professionals, and completed a descriptive summary of the findings and recommendations.
- **CDC Emerging Infections Program, Graduate Internship, Colorado Department of Public Health and Environment, University of Colorado Health Sciences Center.** Dr. Hall worked as a Surveillance Officer with the Centers for Disease Control and Prevention's Emerging Infections Program. She performed medical record abstraction for influenza-associated hospitalization, invasive MRSA, and pertussis surveillance projects. She collected and entered data for influenza antiviral and PCV13 vaccine effectiveness surveillance.
- **Lead Epidemiologist and Biostatistician, Comunidades Unidas, Peru.** Dr. Hall worked as an epidemiologist and biostatistician in a global health project in remote villages on the Napo River, Loreto Region, Peru. The project aimed to train local leaders in remote communities to be Community Health Workers who could act as first responders for traumas, seasonal and regional illnesses, and malaria. Leaders were also trained in sanitation and hygiene. Dr. Hall developed a curriculum for these trainings and helped to implement WHO Integrated Management of Childhood Illness-based patient history loggers for Community Health Workers to track patient care and for CU Peru to collect and evaluate. She also worked with the

Ministerio de Salud, Dirección Regional de Salud Loreto (DIRESA Loreto), and the local Mayors to distribute malaria test kits, teach Health Workers how to test community members, and developed logistical strategies for sending the tests to labs for diagnostics and surveillance. Dr. Hall designed a pre/post survey tool to assess the knowledge, attitudes, and practices of the community health workers who attended CU Peru's training. Dr. Hall completed IRBs and IRB exemptions for all projects. She managed the data collection, database creation, and analysis of data. Dr. Hall prepared a manuscript for publication and posters for presentations at global health conferences.

EXPERT TESTIMONY

In the Superior Court, County of Kern, State of California Aera Energy, LLC and Chevron U.S.A. Inc. v. Gavin Newsom et al. Case Nos. BCV-22-100748 and BCV-22-100636. Deposition Monday, January, 12, 2026 Trial Testimony Thursday, January 29, 2026.

ADDITIONAL OUTBREAK EXPERIENCE

E. coli O157:H7 Outbreak, 2013, Colorado Department of Public Health and Environment.

Stevens Johnson's Syndrome Cluster at Children's Hospital Colorado, 2013, Centers for Disease Control and Prevention.

Synthetic Marijuana Outbreak, 2013, Colorado Department of Public Health and Environment.

Gunnison Raw Milk Campylobacter Outbreak, 2013 Colorado Department of Public Health and Environment.

PROFESSIONAL AFFILIATIONS

Nominated Council Member, International Society of Regulatory Toxicology and Pharmacology (ISRTP), 2025–Present

American Public Health Association, 2021–Present

Council for State and Territorial Epidemiologist, 2014–Present

Cannabis Subcommittee Co-chair, 2018–2019

ICD-10-CM Drug Poisoning Indicators Working Group Case Definition Subcommittee Co-chair, 2017–2019

ICD-10-CM Drug Poisoning Indicators Working Group

International Society for Infectious Diseases, 2013–Current

Member, Health eMoms Advisory Board, 2017–2019

Marijuana Data Working Group Chair, 2017–2019

Colorado State Epidemiology Outcomes Working Group, 2015–2019

Colorado Environmental Health Association, 2013–2014

PUBLICATIONS

Bonner E, Costa A, Miller M, Celente M, Hall K, Farstad E, McMullin T. Understanding ethylene oxide background concentrations in the US. The Toxicologist Supplement to Toxicological Sciences. At the 65th Annual SOT Meeting and ToxExpxo. March 22-25, 2026 San Diego, CA. https://www.toxicology.org/pubs/docs/Tox/2026Tox.pdf

Hall K and McMullin T. Air Toxics, Health Risk, and Regulatory Reality - Using Data to Navigate Public Health Concerns and Policy in Oil & Gas. Air Quality Regulation of the Oil and Gas Industry 4-1 (Found. For Nat. Resources & Energy L. 2026).

Hall KE, Miller M, Costa A, and Mahoney L. Tontitown, Arkansas Air Sampling Study: May 2, 2025 to May 12, 2025. 2025 September. Arkansas Energy & Environment, Environmental Quality https://www.adeq.state.ar.us/tontitown/.

Crawford KA, Gardner JA, Meyer EA, Hall KE, Gary DS, Esser MB. Current marijuana use and alcohol consumption among adults following the legalization of nonmedical retail marijuana sales — Colorado, 2015-2019. CDC Weekly. 2021 October; 70(43);1505-1508. https://www.cdc.gov/mmwr/volumes/70/wr/mm7043a3.htm?s_cid=mm7043a3_w.

Hall KE. Evaluation of Cannabis ICD-10-CM Codes' Performance to Predict Emergency Department Visits Partially Attributable to Cannabis. 2020 August. University of Colorado, Anschutz Medical Campus. https://dl.acm.org/doi/10.5555/AAI28086241.

Shelton SK, Mills E, Saben JL, Devivo M, Williamson K, Abbott D, Hall KE, Monte AA. Why do patients come to the emergency department after using cannabis? Clin Toxicol (Phila). 2020 Jun;58(6):453-459. doi: 10.1080/15563650.2019.1657582. Epub 2019 Sep 16. PMID: 31526057; PMCID: PMC7073292.

Hall KE, Yang H, Contreras AE, James KA. Cannabis Coding in Colorado during the ICD-10-CM Transition. Injury Prevention 2021;27:i66-i70. https://injuryprevention.bmj.com/content/27/S1/i66.

Tyndall Snow LM, Hall KE, Custis C, Rosenthal A, Pasalic E, Nechuta S, Davis JW, Jacquemin BJ, Jagroep SR, Rock P, Contreras AE, Gabella B, James KA. Exploring the Impact of Drug Poisoning Surveillance Definitions Based on ICD-10-CM Codes. Inj Prev 2021;27:i27-i34. https://injuryprevention.bmj.com/content/27/S1/i27.

Wang GS, Banerji S, Contreras AE, Hall KE. Marijuana exposures in Colorado, reported to regional poison centre, 2000-2018. Inj Prev. 2020 Apr;26(2):184-186. doi: 10.1136/injuryprev-2019-043360. Epub 2019 Nov 1. PMID: 31676510.

Brooks-Russell A, Hall K, Peterson A, Graves J, Van Dyke M. Cannabis in homes with children: use and storage practices in a legalised state. Inj Prev. 2020 Feb;26(1):89- 92. doi: 10.1136/injuryprev-2019-043318. Epub 2019 Aug 1. PMID: 31371385.

Binkin N, Dilley J, Hurst S, Hall K, Sorrells N. CSTE Marijuana Surveillance Environmental Scan Report 2018 (2019). https://www.cste.org/members/group.aspx?id=150877.

Vigil DI, Van Dyke M, Hall KE, Contreras AE, Ghosh TS, Wolk L. Marijuana Use and Related Health Care Encounters in Colorado

Before and After Legalization. Int J Ment Health Addiction (2018) 16(4): 806-812.

Contreras AE, Hall KE, Vigil DI, Rosenthal A, Asofeifa A, Van Dyke M. Results from the Colorado Cannabis Users Survey on Health (CUSH), 2016. Int J Ment Health Addiction (2019).

Hall KE, Monte AA, Chang T, et al. Mental Health-Related Emergency Department Visits Associated with Cannabis in Colorado. Acad Emerg Med 2018; 25(5). doi:10.1111/ acem.13393.

Smith R, Hall KE, Etkind P, Van Dyke M. Reported Marijuana Use by Industry and Occupation — Colorado, 2014–2015. MMWR Morb Mortal Wkly Rep 2018; 67:409- 413. doi: 10.15585/mmwr.mm6714a1.

Crume TL, Juhl AL, Brooks-Russell A, Hall KE, Wymore E, Borgelt LM. Cannabis use during the perinatal period in a state with legalized recreational and medical marijuana: the association between maternal characteristics, breastfeeding patterns, and neonatal outcomes. J Pediatr 2018; 197:90-96.

Wang GS, Hall K, Vigil D, Banerji S, Monte A, VanDyke M. Marijuana and acute health care contacts in Colorado. Prev Med (Baltim). 2017;104. doi:10.1016/j. ypmed.2017.03.022.

Hall KE, Banerji S, Contreras E, Barker L, Vigil DI, Van Dyke M. Monitoring Possible Marijuana-Related Health Effects in Colorado: Rocky Mountain Poison and Drug Center (RMPDC) Data, 2000-2016. Denver; 2017.

Hall KE, Vigil DI, Contreras E, et al. Monitoring Possible Marijuana-Related Health Effects in Colorado: Colorado Hospital Association (CHA) Data, 2000-September 2015. Denver; 2017.

Vigil DI, Hall KE, Contreras E, et al. Monitoring Changes in Marijuana Use Patterns: Behavioral Risk Factor Surveillance System (BRFSS) 2014-2015 Survey Results. Denver; 2017.

Vigil DI, Hall KE, Contreras E, et al. Monitoring Changes in Marijuana Use Patterns: Child Health Survey (CHS) 2014–2015 Survey Results. Denver; 2017.

Vigil DI, Hall KE, Contreras E, et al. Monitoring Changes in Marijuana Use Patterns: Healthy Kids Colorado Survey (HKCS) 2005–2015 Survey Results. Denver; 2017.

Vigil DI, Hall KE, Contreras E, et al. Monitoring Changes in Marijuana Use Patterns: Pregnancy Risk Assessment Monitoring System (PRAMS) 2014 Survey Results. Denver; 2017.

Kim HS, Hall KE, Genco EK, Van Dyke M, Monte AA. Marijuana Tourism and Emergency Department Visits in Colorado. N Engl J Med. 2016;374(8):797-798. doi:10.1056/NEJMc1513610.

Hall, K., Barker, L., Williford, D., Vigil, D. & Van Dyke, M. (2016) Monitoring Health Concerns Related to Marijuana in Colorado: 2015 Update: Colorado Hospitalization Association Data, 2000-June 2015. Hall, K., Barker, L., & Van Dyke, M. (2015) Colorado Hospitalization Association Data, 2000–2014. Monitoring Health Concerns Related to Marijuana in Colorado: 2014-Changes in Marijuana Use Patterns, Systematic Literature Review, and Possible Marijuana-Related Health Effects (pp. 164–181).

Barker, L., Hall, K., & Van Dyke, M. (2015) Monitoring Possible Marijuana Related Health Effects: Summary and Key Findings. Monitoring Health Concerns Related to Marijuana in Colorado: 2014-Changes in Marijuana Use Patterns, Systematic Literature Review, and Possible Marijuana-Related Health Effects (pp. 151–157).

Barker, L., Bronstein, A., & Hall, K. (2015) Rocky Mountain Poison and Drug Center (RMPDC) Data, 2000–2014. Monitoring Health Concerns Related to Marijuana in Colorado: 2014-Changes in Marijuana Use Patterns, Systematic Literature Review, and Possible Marijuana- Related Health Effects (pp. 158–163).

Barker, L., Hall, K., & Morris, M. (2015) Marijuana Use and Extrapulmonary Effects: Systematic Literature Review. Monitoring Health Concerns Related to Marijuana in Colorado: 2014-Changes in Marijuana Use Patterns, Systematic Literature Review, and Possible Marijuana- Related Health Effects (pp. 135–141).

Hall, K., Frederiksen, B., Rewers, M., & Norris, J. M. (2015). Daycare Attendance, Breastfeeding, and the Development of Type I Diabetes: The Diabetes Autoimmunity Study in the Young. BioMed Research International, 2015 (203947), 1–5.

Hall, K. E., Miller, M. A., Fialkowski, V. A., Cole, M. L., Boat, J. A., Bellows, J. W., & Shumskiy, I. (2014). Assessment of a community health worker training program in the Peruvian Amazon demonstrates effective learning retention: Implications for health care education in a resource-limited setting. Annals of Global Health, 80(3), 163. doi:10.1016/j.aogh.2014.08.024

PRESENTATIONS

Assessing the Adequacy of Environmental Risk Management Framework for Oil and Gas Operations through a Public Health Risk Lens; Katelyn E Hall, Tami McMullin; Public Health in the Rockies, Keystone, CO. September 2022.

Emergency Response during a Pandemic: COVID-19 Case Study; Katelyn E Hall, Scott Malm, Lourdes Mahoney, Ashley Reardon; Coastal Bend Hurricane Conference, Robstown, TX. May 2022.

Worker Safety during a Pandemic: Case Study COVID-19; Katelyn E Hall; The National Forum for Environmental & Toxic Tort Issues, Chicago, IL. September 2021.

Marijuana Use among Adults Who Report Binge Drinking in Colorado from 2014-2017; Kacy Crawford, Elisabeth Meyer, Katelyn E Hall, Dahsan S Gary; 2019 Council of State and Territorial Epidemiologists, Raleigh, NC. June 2019.

Cannabis-Related Surveillance: Changes in Patterns of Cannabis Use since State Legalization; Julia Dilley, Katelyn E Hall; 2019 Council of State and Territorial Epidemiologists, Raleigh, NC. June 2019.

Cannabis-Related Surveillance: Changes in Public Health Outcomes since State Legalization; Katelyn E Hall, Julia Dilley 2019 Council of State and Territorial Epidemiologists, Raleigh, NC. June 2019.

Cannabis Discharge Coding in the ICD-10-CM Transition; 2018 Council of State and Territorial Epidemiologists, West Palm Beach, FL. June 2018.

Increased Prevalence of Mental Illness Primary Diagnoses Among Hospitalizations and Emergency Department Visits with Marijuana Associated Administrative Codes; 2016 Council of State and Territorial Epidemiologists, Anchorage, AK. June 2016.

Increases in Rates of Hospitalizations and Emergency Department Visits with Marijuana Associated Administrative Codes in Colorado from 2000 to 2014; 2015 Public Health in the Rockies, Vail, CO. September 2015; 2015 CSTE Annual Conference, Boston, MA. June 2015.

Assessment of community health worker training program in the Peruvian Amazon demonstrates effective learning retention: implications for health care education in a resource-limited setting; 2014 CSTE Annual Conference, Nashville, TN/ Jun 2014; Consortium of University for Global Health, Washington D.C.: 5th Annual CUGH Conference: Universities 2.0: Advancing Global Health in the Post-MDG Era/ May 2014; University of Colorado Denver, Anschutz Medical Campus: 28th Annual Student Research Forum. December 2013.

Cannabis-Related Surveillance: Changes in Public Health Outcomes since State Legalization; Katelyn E Hall, Julia Dilley 2019 Council of State and Territorial Epidemiologists, Raleigh, NC. June 2019.

Cannabis Discharge Coding in the ICD-10-CM Transition; 2018 Council of State and Territorial Epidemiologists, West Palm Beach, FL. June 2018.

Increased Prevalence of Mental Illness Primary Diagnoses Among Hospitalizations and Emergency Department Visits with Marijuana Associated Administrative Codes; 2016 Council of State and Territorial Epidemiologists, Anchorage, AK. June 2016.

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Assessment of community health worker training program in the Peruvian Amazon demonstrates effective learning retention: implications for health care education in a resource-limited setting; 2014 CSTE Annual Conference, Nashville, TN. June 2014; Consortium of University for Global Health, Washington D.C.: 5th Annual CUGH Conference: Universities 2.0: Advancing Global Health in the Post-MDG Era. May 2014; University of Colorado Denver, Anschutz Medical Campus: 28th Annual Student Research Forum. December 2013.

SPEAKING ENGAGEMENTS

ICD-10-CM Drug Overdose Indicators; CSTE Conference 2019. June 2019; Provided an instructional presentation on the new CSTE and CDC national guidance on counting drug overdoses in ICD-10-CM.

What Has Happened to State Public Health after Retail Cannabis Legalization, So Far? Denver Marijuana Management Symposium. November 2018; Described state prevalence of marijuana use and potential marijuana related adverse health outcomes across multiple states that have legalized recreational marijuana.

Colorado Marijuana and Public Health; Society of Women Environmental Professionals. January 2018; Described the impacts of recreational marijuana legalization on marijuana use prevalence and adverse health outcomes in Colorado.

Data Limitations, Historical Perspective, and Colorado Hospital Association Discharge Data; Denver Marijuana Management Symposium. October 2017; Described the limitations surrounding marijuana surveillance data and examined health outcomes data surrounding alcohol prohibition and the release of e-Cigs to the market for guidance on what to expect with recreational marijuana legalization and the diversity of the marijuana market. Examined trends in hospital and emergency department visits with marijuana ICD-9-CM coding over legalization time points.

Cannabis Discharge Coding in the ICD-10- CM Transition; CSTE Marijuana Subcommittee. August 2017; We aimed to examine trends in the rates of emergency department and hospital discharges with cannabis coding before and after the transition to ICD-10-CM. Time series analysis confirmed no differences in the quarterly counts of discharges with cannabis codes before and after transition to ICD-10-CM in both hospital and emergency department discharges.

What is happening in states that have legalized non-medical marijuana? CSTE Conference 2017. June 2017; Examined marijuana use trends among youth and adults in Colorado, Oregon, and Washington. Analyzed marijuana related adverse health effects in Oregon and Colorado

ATTACHMENT B

Materials Relied On

Attachment B: Materials Relied On

1. Bhavna Shamasunder, Ashley Collier-Oxandale, Jessica Blickley, James Sadd, Marissa Chan, Sandy Navarro, Michael Hannigan, and Nicole J. Wong, "Community-Based Health and Exposure Study around Urban Oil Developments in South Los Angeles," *International Journal of Environmental Research and Public Health* 15, no. 1 (2018): 138, https://doi.org/10.3390/ijerph15010138.
2. Bland JM, Altman DG. Multiple significance tests: the Bonferroni method. BMJ. 1995;310.
3. California Council on Science & Technology. (2015, July). An independent scientific assessment of well stimulation in California, Volume II: Potential environmental impacts of hydraulic fracturing and acid stimulations. https://ccst.us/reports/an-independent-scientific-assessment-of-well-stimulation-in-california-volume-2/
4. California Health and Safety Code, § 59000-59017 (2019)
5. City of Los Angeles Notice of Fee for CASE NO. ZA-2026-3203-RV. June 25, 2026.
6. City of Los Angeles Office of Zoning Administration. Communication Letters to E&B Natural Resources Management Corporation. June 7, 2024.
7. Compiled CalGEM and SCAQMD Violations and Complaints for the Murphy Drill Site. April 22, 2024.
8. Department of Toxic Substances Control. (2025). Human Health Risk Assessments quick reference guide. https://dtsc.ca.gov/brownfields/human-health-risk-assessments-quick-reference-guide/
9. Department of Toxic Substances Control. (2025). Human Health Risk Assessments quick reference guide. https://dtsc.ca.gov/brownfields/human-health-risk-assessments-quick-reference-guide/
10. Email from EarthJustice: Request to Present at OZA Public Hearing. Nikki Bordokas. June 29, 2026.
11. Formal Responses from E&B Natural Resources to OZA Letters of Communication. July 22, 2024.
12. Hopper, Leigh. L.A.'s legacy of oil drilling impacts lung function in residents living near active and inactive wells. April 15, 2021.
13. Jill E. Johnston, Arbor J. L. Quist, Sandy Navarro, Shohreh F. Farzan, and Bhavna Shamasunder, "Cardiovascular Health and Proximity to Urban Oil Drilling in Los Angeles, California," *Journal of Exposure Science & Environmental Epidemiology* 34, no. 3 (2024): 505–511, https://doi.org/10.1038/s41370-023-00589-z.
14. Jill E. Johnston, Temuulen Enebish, Sandrah P. Eckel, Sandy Navarro, and Bhavna Shamasunder, "Respiratory Health, Pulmonary Function and Local Engagement in Urban Communities Near Oil Development," *Environmental Research* 197 (2021): 111088, https://doi.org/10.1016/j.envres.2021.111088.
15. Johnston, J. E., Enebish, T., Eckel, S. P., Navarro, S., & Shamasunder, B. (2021). Respiratory health, pulmonary function and local engagement in urban communities near oil development [Supplemental material]. *Environmental Research*, *197*, Article 111088. https://doi.org/10.1016/j.envres.2021.111088
16. Letter from Colorado University on Recommendations Regarding E&B Air Monitoring Practices. May 29, 2025.
17. Letter from EarthJustice to City Planner Re: E&B's Annual Safety Inspection Report for the Murphy Drill Site. January 30, 2026.
18. Letter from EarthJustice to Office of Zoing Administration. June 1, 2026.
19. Letter from EarthJustice to OZA Requesting Nuisance Abatement Proceeding for Murphy Drill Site. May 28, 2025.
20. Letter from University of California Irvine Re: Review of E&B's Murphy Drill Site Fenceline Monitoring System. February 9, 2026.
21. Letter of Determination for Case No. ZA-1959-15227-O-PA6-1A. South Los Angeles Area Planning Commission. January 31, 2024.
22. Lindenfeld, J. (2023, March 3). In a largely Black and Latino community, neighbors worry about the oil wells in their midst. *Capital & Main*. https://capitalandmain.com/in-a-largely-black-and-latino-community-neighbors-worry-about-the-oil-wells-in-their-midst
23. Los Angeles Department of Building and Safety Permit Application. June 9, 2026.

Attachment B: Materials Relied On

24. Murphy Drill Site Annual Inspection Reports 2024, 2025, 2026. March 11, 2026.
25. Murphy Drill Site Map. February 2, 2026.
26. Notice of Public Hearing for Murphy Drill Site. Los Angeles Department of City Planning. https://planning.lacity.gov/dcpapi2/meetings/document/81033.
27. Proof of Mailing Statement for CASE NO. ZA-2026-3203-RV Notice of Public Hearing. June 25, 2026.
28. Quanjer, P. H., Stanojevic, S., Cole, T. J., Baur, X., Hall, G. L., Culver, B. H., Enright, P. L., Hankinson, J. L., Ip, M. S. M., Zheng, J., & Stocks, J. (2012). Multi-ethnic reference values for spirometry for the 3–95-yr age range: The Global Lung Function 2012 equations. European Respiratory Journal, 40(6), 1324–1343. https://doi.org/10.1183/09031936.00080312.
29. Shaffer JP. Multiple Hypothesis Testing. Annu Rev Psychol. 1995;46:561-584.
30. South Coast Air Quality Management District. (n.d.). *Community investigations*. Retrieved July 16, 2026, from https://www.aqmd.gov/home/news-events/community-investigations
31. Stanojevic, S., Kaminsky, D. A., Miller, M. R., Thompson, B., Aliverti, A., Barjaktarevic, I., Cooper, B. G., Culver, B., Derom, E., Hall, G. L., Hallstrand, T. S., Leuppi, J. D., MacIntyre, N., McCormack, M., Rosenfeld, M., & Swenson, E. R. (2022). ERS/ATS technical standard on interpretive strategies for routine lung function tests. European Respiratory Journal, 60(1), Article 2101499. https://doi.org/10.1183/13993003.01499-2021.
32. USEPA, 2004. Air Toxics Risk Assessment Reference Library. Volume 1 – Technical Resource Manual. April.
33. USEPA, 2004. Air Toxics Risk Assessment Reference Library. Volume 2 – Facility Specific Assessment. April.
34. USEPA, 2004. Air Toxics Risk Assessment Reference Library. Volume 3 – Community Scale Assessment. April.
35. USEPA, 2024. Interim Framework for Advancing Consideration of Cumulative Impacts. November.
36. USEPA, 2026. Human Exposure and Health. July 6. https://www.epa.gov/report-environment/human-exposure-and-health#note1

ATTACHMENT C

Figure S1 from Johston 2021 Study

Attachment C. Figure S1 from the Johnston 2021 study.

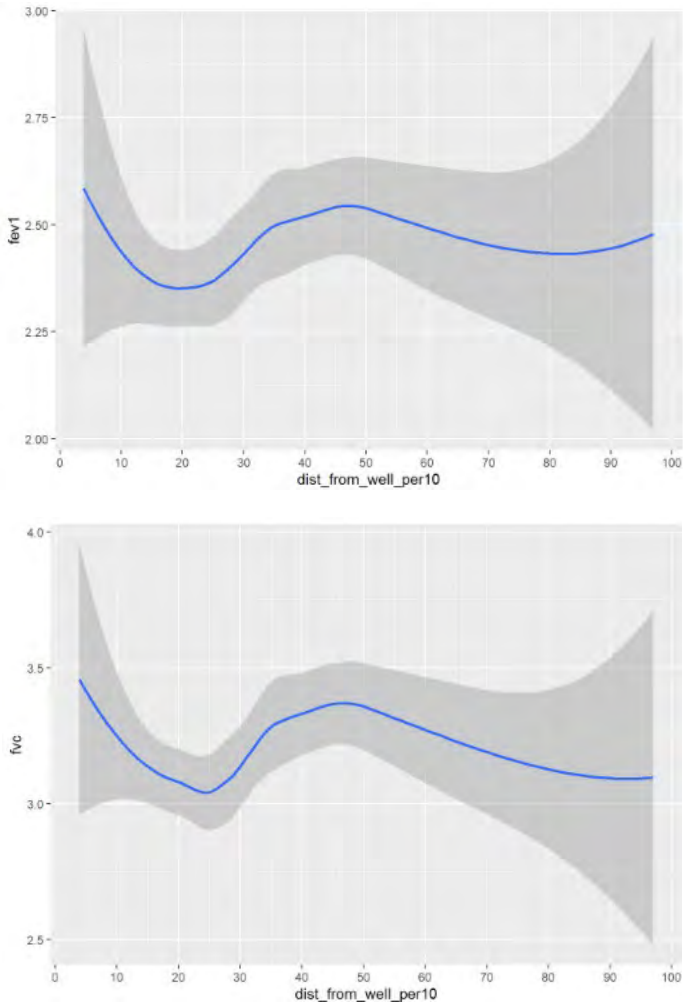


Figure S1: This plot shows a smooth function between distance from oil wells (in 10 m) and a) FEV1 and b) FVC measurements among study participants. We observe a change in the relationship about 200m from the well site.

Attachment 2

California
Department of Conservation
Geologic Energy Management Division

Gavin Newsom, Governor
Jennifer Lucchesi, Director
715 P Street, MS 1803
Sacramento, CA. 95814
T: (916) 445-5986

Inspection Summary

Inspection Information

Inspection ID	Inspection Type	Inspection Date	Inspection Name	No. of Violations	Follow-Up Date
12452340	Environmental Lease Inspection	1/28/2026	Javier Vasquez	0	

Compliance Summary

New Violation(s)	Resolved Violation(s)	Unresolved Violation(s)
0	0	0

Operator Information

Operator Code	Operator Name
E0100	E & B Natural Resources Management Corporation
Agent Name	Greg Youngblood
Agent Address	1608 Norris Road

City	Bakersfield	State	CA	Zip Code	93308

Inspected Subject(s)

See list of Inspected Subjects on subsequent page.

Inspection Document(s)

No documents were uploaded during this inspection.

New Violation(s)

No violations were identified during this inspection.

California
Department of Conservation
Geologic Energy Management Division

Gavin Newsom, Governor
Jennifer Lucchesi, Director
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Inspected Subject(s)					
Field	**Lease**	**Subject ID**	**Subject Name**	**Subject Type**	**Form Name**
Las Cienegas	Murphy	0403700374	Murphy 6	Well	Gas Leak Detection
Las Cienegas	Murphy	0403700379	Murphy 12	Well	Gas Leak Detection
Las Cienegas	Murphy	0403700384	Murphy 17	Well	Gas Leak Detection
Las Cienegas	Murphy	0403721221	Murphy 24	Well	Gas Leak Detection
Las Cienegas	Murphy	0403700322	Murphy 19	Well	Gas Leak Detection
Las Cienegas	Murphy	0403700381	Murphy 14	Well	Gas Leak Detection
Las Cienegas	Murphy	0403721224	Murphy 27	Well	Gas Leak Detection
Las Cienegas	Murphy	0403700375	Murphy 7	Well	Gas Leak Detection
Las Cienegas	Murphy	0403721072	Murphy 22	Well	Gas Leak Detection
Las Cienegas	Murphy	0403726957	Murphy 30	Well	Gas Leak Detection
Las Cienegas	Murphy	0403700377	Murphy 9	Well	Gas Leak Detection
Las Cienegas	Murphy	0403700291	Murphy 10	Well	Gas Leak Detection
Las Cienegas	Murphy	0403726956	Murphy 28	Well	Gas Leak Detection
Las Cienegas	Murphy	0403730170	Murphy 33	Well	Gas Leak Detection
Las Cienegas	Murphy	0403727007	Murphy 31	Well	Gas Leak Detection
Las Cienegas	Murphy	0403700385	Murphy 18	Well	Gas Leak Detection
Las Cienegas	Murphy	0403700369	Murphy 1	Well	Gas Leak Detection
Las Cienegas	Murphy	0403700380	Murphy 13	Well	Gas Leak Detection
Las Cienegas	Murphy	0403720967	Murphy 23	Well	Gas Leak Detection
Las Cienegas	Murphy	0403700371	Murphy 3	Well	Gas Leak

					Detection
Las Cienegas	Murphy	0403700370	Murphy 2	Well	Gas Leak Detection
Las Cienegas	Murphy	0403721223	Murphy 26	Well	Gas Leak Detection
Las Cienegas	Murphy	0403720954	Murphy 20	Well	Gas Leak Detection
Las Cienegas	Murphy	0403700373	Murphy 5	Well	Gas Leak Detection
Las Cienegas	Murphy	0403700378	Murphy 11	Well	Gas Leak Detection
Las Cienegas	Murphy	0403700383	Murphy 16	Well	Gas Leak Detection
Las Cienegas	Murphy	0403700372	Murphy 4	Well	Gas Leak Detection
Las Cienegas	Murphy	0403721222	Murphy 25	Well	Gas Leak Detection
Las Cienegas	Murphy	0403730129	Murphy 37	Well	Gas Leak Detection

California
Department of Conservation
Geologic Energy Management Division

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Jennifer Lucchesi, Director
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Inspection Summary

Inspection Information

Inspection ID	Inspection Type	Inspection Date	Inspection Name	No. of Violations	Follow-Up Date
12452349	Environmental Lease Inspection	1/28/2026	Javier Vasquez	0	

Compliance Summary

New Violation(s)	Resolved Violation(s)	Unresolved Violation(s)
0	0	0

Operator Information

Operator Code	Operator Name
E0100	E & B Natural Resources Management Corporation
Agent Name	Greg Youngblood
Agent Address	1608 Norris Road

City	Bakersfield	State	CA	Zip Code	93308

Inspected Subject(s)

See list of Inspected Subjects on subsequent page.

Inspection Document(s)

No documents were uploaded during this inspection.

New Violation(s)

No violations were identified during this inspection.

California
Department of Conservation
Geologic Energy Management Division

Gavin Newsom, Governor
Jennifer Lucchesi, Director
715 P Street, MS 1803
Sacramento, CA. 95814
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Inspected Subject(s)					
Field	**Lease**	**Subject ID**	**Subject Name**	**Subject Type**	**Form Name**
Las Cienegas	Murphy	90299423	Murphy Drill Site	Setting	Gas Leak Detection
Las Cienegas	Murphy	24305	V-320 Amine Surge Vessel	Vessel	Gas Leak Detection
Las Cienegas	Murphy	19164	Baker Tank 1	Tank	Gas Leak Detection
Las Cienegas	Murphy	8373	T15 Glycol	Tank	Gas Leak Detection
Las Cienegas	Murphy	24303	V-300 Outlet Gas Scrubber	Vessel	Gas Leak Detection
Las Cienegas	Murphy	24302	V-100 Inlet Gas Scrubber	Vessel	Gas Leak Detection
Las Cienegas	Murphy	8379	T23 PhaseTreat - plastic	Tank	Gas Leak Detection
Las Cienegas	Murphy	24296	V90 Fuel Gas Scrubber	Vessel	Gas Leak Detection
Las Cienegas	Murphy	24289	V80 Cold Separator	Vessel	Gas Leak Detection
Las Cienegas	Murphy	24290	V81 Stabilizer Reboiler	Vessel	Gas Leak Detection
Las Cienegas	Murphy	8372	T14 Glycol	Tank	Gas Leak Detection
Las Cienegas	Murphy	24284	V71 PSA Absorber	Vessel	Gas Leak Detection
Las Cienegas	Murphy	24285	V72 PSA Absorber	Vessel	Gas Leak Detection
Las Cienegas	Murphy	8388	V8 Glycol Regenerator	Vessel	Gas Leak Detection
Las Cienegas	Murphy	8387	V6 Test Separator	Vessel	Gas Leak Detection
Las Cienegas	Murphy	24300	V-1500 Amine Contactor	Vessel	Gas Leak Detection
Las Cienegas	Murphy	8364	T1 Stock Tank	Tank	Gas Leak Detection
Las Cienegas	Murphy	8386	V5 Test Separator	Vessel	Gas Leak Detection
Las Cienegas	Murphy	8371	T10 Mercaptin Odorant vessel	Tank	Gas Leak Detection
Las Cienegas	Murphy	19160	V10 HP Scrubber	Vessel	Gas Leak

					Detection
Las Cienegas	Murphy	24283	V70 PSA Absorber	Vessel	Gas Leak Detection
Las Cienegas	Murphy	19449	V65 3rd Stage Discharge Scrubber	Vessel	Gas Leak Detection
Las Cienegas	Murphy	24297	V91 NGL Tank	Vessel	Gas Leak Detection
Las Cienegas	Murphy	24307	H-770 Amine Still Reboiler	Vessel	Gas Leak Detection
Las Cienegas	Murphy	8378	T21 FlocTreat - plastic	Tank	Gas Leak Detection
Las Cienegas	Murphy	8375	T17 Green Apple Odorant - Plastic	Tank	Gas Leak Detection
Las Cienegas	Murphy	19450	V66 PSA Inlet Scrubber	Vessel	Gas Leak Detection
Las Cienegas	Murphy	8389	V9 Glycol Scrubber	Tank	Gas Leak Detection
Las Cienegas	Murphy	8385	V4 Test Separator	Vessel	Gas Leak Detection
Las Cienegas	Murphy	8384	V1 Free Water Knockout	Vessel	Gas Leak Detection
Las Cienegas	Murphy	8369	T7	Tank	Gas Leak Detection
Las Cienegas	Murphy	24287	V74 PSA Absorber	Vessel	Gas Leak Detection
Las Cienegas	Murphy	24304	V-310 Amine Flash Vessel	Vessel	Gas Leak Detection
Las Cienegas	Murphy	8381	T32 - Deionized Water - plastic	Tank	Gas Leak Detection
Las Cienegas	Murphy	8382	T33 Diethanolamine - plastic tote	Tank	Gas Leak Detection
Las Cienegas	Murphy	19161	V11 Suction Scrubber	Vessel	Gas Leak Detection
Las Cienegas	Murphy	8374	T16 Lube Oil	Tank	Gas Leak Detection
Las Cienegas	Murphy	8383	T43 MultiTreat - plastic	Tank	Gas Leak Detection
Las Cienegas	Murphy	19163	V17 Sales Gas Scrubber	Vessel	Gas Leak Detection
Las Cienegas	Murphy	8368	T6 Degreaser - plastic	Tank	Gas Leak Detection
Las Cienegas	Murphy	8370	T8 Sulfuric Acid - plastic	Tank	Gas Leak Detection
Las Cienegas	Murphy	19162	Baker Tank 2	Tank	Gas Leak Detection

Las Cienegas	Murphy	24299	V96 Scrubber	Vessel	Gas Leak Detection
Las Cienegas	Murphy	8366	T3 Produced Water	Tank	Gas Leak Detection
Las Cienegas	Murphy	24301	V-1600 Amine Still	Vessel	Gas Leak Detection
Las Cienegas	Murphy	24286	V73 PSA Absorber	Vessel	Gas Leak Detection
Las Cienegas	Murphy	24288	V75 PSA Absorber	Vessel	Gas Leak Detection
Las Cienegas	Murphy	8365	T2 Produced Water	Tank	Gas Leak Detection
Las Cienegas	Murphy	24306	V-330 Still Overhead Condenser	Vessel	Gas Leak Detection
Las Cienegas	Murphy	24282	V67 Gas Scrubber	Vessel	Gas Leak Detection
Las Cienegas	Murphy	24298	V95 Scrubber	Vessel	Gas Leak Detection
Las Cienegas	Murphy	8376	T18 Scavenger - plastic	Tank	Gas Leak Detection
Las Cienegas	Murphy	8380	T25	Tank	Gas Leak Detection

Attachment 3

NATURAL RESOURCES

1608 Norris Road • Bakersfield, CA 93308

July 22, 2024

Associate Zoning Administrator Courtney Shum
Los Angeles Department of City Planning, Office of Zoning Administration
Sent via email

Re: Response to Letter of Communication Dated June 7, 2024, Request for Additional Information, Case number ZA-1959-15227-O-PA6-1A, Murphy Site.

Dear Ms. Shum:

E&B Natural Resources (E&B) has received the Letter of Communication dated June 7, 2024, from the Los Angeles Department of City Planning, Office of Zoning Administration (the Department) asking for additional information. E&B provides the following responses for the Department.

Annual Safety Inspections Report – Idle Well

Prior to becoming the new operator of the Murphy site and making upgrades and enhancements to the site, E&B Natural Resources proactively committed to the community and to the city "annual inspections." E&B consequently volunteered for a new condition to the City / Zoning Administrator that would require an annual inspection of the Murphy site. The request was granted and adopted as Condition 18, Case number ZA-1959-15227-O-PA6-1A, as outlined in the Letter of Communication. Under California's strict regulatory environment, regular inspections done by agencies and third-party entities are best practice and we have been supportive of all inspections.

In our March 15, 2024, Annual Inspection Report done by a third-party firm, 2H, the report correctly labeled well "Murphy 21" as "idle" under the definition from CalGEM, our state agency. E&B does have a permit to plug and abandon Murphy 21 and that permit is good for a total of two years. While we would have done the work earlier, under our new set of conditions, we were required to build a temporary wall solution that meets updated city zoning requirements. Regardless, we anticipate securing the remaining approvals and the equipment and completing the work within the CalGEM permit window.

We have updated the remaining labeling corrections to the report on all other wells.
There are no other idle wells at the Murphy site. E&B Natural Resources is in compliance with all of its wells (both active and idle) at the Murphy site.

Annual Safety Inspections Report – Microturbines

The microturbines used on site are pre-certified by the California Air Resources Board. They come in a sound proofed structure and are also housed in an additional layered building-like structure for further mitigations. The South Coast Air Quality Management District has inspected our site for odors on a regular basis and the microturbines have never registered as an odor causing piece of equipment. An on-site technician inspects the machines on a regular daily basis as well as other onsite equipment and maintains good maintenance records as indicated by the third-party report. For photos, please see the Annual Inspection report page 15.

Annual Safety Inspections Report – Fenceline Monitoring

E&B worked with the community, Council District Office, local neighborhood council leadership and others on several proactive measures. E&B volunteered to put in the first fence line monitoring system in the City of LA at an oil and gas producing site. We implemented fence line air monitors post-acquisition as referenced in the report and prior to any condition by the Zoning Administrator.

The air monitoring units measure and record air emissions including H2S, VOC and SO2, wind speed (mph) and direction, temperature (F°), and relative humidity. Additional information about our air monitoring has been provided in our Annual Inspection reports and has been provided to the LA City Petroleum Administrator.

Regarding the landing website page and per Condition 21 which outlines six calendar months from the January 31, 2024, date of our Letter of Determination for completion and in operation of the web page, E&B has a landing page for the public and agencies. On June 6, 2024, E&B made the website address available to the Planning Department:
https://www.ebresources.com/murphy-site

While the web page is live, we are in the process of posting the fenceline monitoring measurements for the facility and will update the Office of Zoning Administration's Oil Unit, LA City Petroleum Administration, and others shortly.

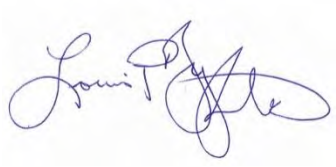
Annual Safety Inspections Report – Hours of Operation

E&B adheres to its hours of operation at the site. After receiving the City's letter, E&B reached out to the Planning Department and asked for clarification regarding their understanding of the

definition of heavy, permitted oversized/overweight loads. We received a different response than what we believe meets the standard definition of heavy, permitted oversized, overweight loads. However, in the spirit of cooperation and working together towards the same goals, E&B will adhere to the City's response and make adjustments accordingly.

Thank you for the opportunity to provide additional information to the case file. Please do not hesitate to call upon us for additional information. Thank you for your time and consideration of our comments.

Best regards,



Louis Zylstra, PE
Senior Vice President, Los Angeles Basin
E&B Natural Resources
Tel: 714.968.4770
Email: lou.zylstra@ebresources.com

Attachment 4

Public Inquiry System for Information About Notices of Violation and Notices to Comply

Share:

As part of the SCAQMD's compliance program, inspectors visit facilities to determine if they are meeting clean air rules and regulations. If a facility is not in compliance, there are two types of tickets that the inspector may issue. One is called a Notice of Violation (NOV), the other is a Notice to Comply (NC). The following information explains each type of ticket, and by clicking on the one you are interested in, you can gain access to our on-line database of validated NOVs or NCs.

- **Notice of Violation (https://xappp.aqmd.gov/webappl/nov/nov.aspx?notice_type=NOV)** – this type of ticket is issued if the facility has failed to comply with an SCAQMD rule or permit, or a state air pollution regulation. Often, these violations involve emissions of some kind. The facility is required to correct the problem, and there is usually a fine or penalty associated with this ticket.

- **Notice to Comply (https://xappp.aqmd.gov/webappl/nov/nov.aspx?notice_type=nc)** – this is a "fix it" ticket that is issued for minor administrative or paperwork violations that involve no, or minimal, emissions. Examples would include having incomplete records, or not posting a copy of the permit near the equipment. The facility is typically given two weeks to comply. If the recipient fixes the problem, SCAQMD does not take additional action. There is no fine associated with a Notice to Comply. However, if the problem is not fixed by the deadline, SCAQMD may issue a Notice of Violation.

All you need to do is enter dates for the time period you wish to search (and fill out any other applicable field) - then click Search. If your search produces any notices, you can then click on their Notice Number link to get more detailed information. There are also links on these pages if you want to learn more about the NOV/NC process.

Notices of Violation and Notices to Comply are Public Records. Beware of Possible Abuse.

Under California law, SCAQMD Notices of Violation and Notices to Comply are considered public information. They are available to anyone who submits a public records request, and they are listed on the SCAQMD's Internet web site. This information is made available to the public because they have a legal right to know about air pollution sources in their communities.

According to the California Attorney General's Office, however, there are several law firms and organizations that send letters threatening businesses with abusive lawsuits based on information obtained from regulatory agencies. Some of these "bounty hunter" lawsuits may have no basis in fact or law, but are filed in hopes that the business owner will be frightened into paying a nuisance settlement.

If you receive a Notice of Violation or Notice to Comply, you should make every effort to comply as quickly as possible, but it does not mean that you have to be subjected to unethical conduct. If you receive any letters threatening to sue your business because of air pollution information obtained from the SCAQMD, we recommend you contact your private attorney, trade association, or local chamber of commerce.

Concerns regarding possibly fraudulent lawsuits may also be reported to the California Department of Justice - Public Inquiry Unit (800-952-5225 (tel:+18009525225)), or the State Bar of California (800-843-9053 (tel:+18008439053)). The District will assist, whenever possible, these agencies in their efforts to take action against these abuses.

Please feel free to contact the SCAQMD Public Advisor, Mr. Derrick Alatorre 909-396-3122 (tel:+19093963122) if you have any questions or need additional information.

YOU MAY ALSO LIKE ...

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Periodic newsletter updates via Email on a variety of air quality-related topics

Enter your email address here

SUBMIT

South Coast Air Quality Management District

21865 Copley Dr, Diamond Bar, CA 91765

909-396-2000 (tel:+19093962000)

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Questions/Need Info? (mailto:webinquiry@aqmd.gov) Report Website Problem (mailto:webeditor@aqmd.gov)

Attachment 5

Complaints and Nuisance Violations

David Jones
Air Quality Analysis and Compliance Supervisor

Complaint and Public Nuisance Investigations

- Complaints and Notices of Violations
  - Greenwaste/composting complaints and frequency of issuance of Notices of Violation have decreased in recent years
  - Complaints
    - Fugitive Dust
    - Odors
      - Rotting greenwaste
      - Manure or sludge
      - 1-800-CUT-SMOG

Public Nuisance Investigation

- AQMD Rule 402 and California Health and Safety Code 41700 - Nuisance

  “A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public . . . “

AQMD Public Nuisance Investigation

- Inspector responds to air quality related complaint received by the District:
  - Proceeds to general area where incident is allegedly occurring
  - Conducts surveillance activities in an effort to detect / confirm the presence of the contaminant
  - Checks / records wind speed and direction. Makes relevant observations
  - Attempts to verify alleged odor or other reported nuisance situation
  - Traces complaint of odor to likely potential source
  - Investigates / eliminates other potential sources
  - Inspects likely source; verifies or eliminates as a source

Public Nuisance Investigation

- AQMD Public Nuisance Investigation
  - Need a minimum from 6 to 10 complainants (verified) for issuance of a public nuisance Notice of Violation
  - Inspector obtains signed affidavits from each confirmed complainant
  - Inspector reviews investigation with supervisor
  - Notice of Violation issued to verified source facility
  - Notice of Violation referred to AQMD legal division for follow up

Nuisance Odors from Composting

- Health and Safety Code 41705 – Agricultural Odors

(a) Section 41700 does not apply to odors emanating from any of the following:

(2) Operations that produce, manufacture, or handle compost as defined in Section 40116 of the Public Resources Code if the odors emanate directly from the compost facility or operations

(3) Operations that compost green material or animal waste products derived from agricultural operations . . .

(b) District refers the complaint to the enforcement agency

Nuisance Odors from Composting

- Determining composting facilities for odor complaint referral to LEA
  - SWIS Database, CalRecycle website
  - (http://www.calrecycle.ca.gov/SWFacilities/Directory/Search.aspx)LEA notifications and permits
  - Consultation with LEA

- AQMD still investigates odor complaints for greenwaste operations

Attachment 6

Grasse, Maya

From: Christina Lajos <clajos@aqmd.gov>
Sent: Thursday, July 16, 2026 10:09 AM
To: Grasse, Maya
Subject: RE: SCAQMD complaint disposition codes

EXTERNAL SENDER – Proceed with caution

Hi Maya,

I was able find the following:

NC – Notice to Comply issued.
NV – Notice of Violation issued.
OC – Operating in Compliance at the time of Inspection.
SUNK – Source not detected..
TEL – Compliant resolved via telephone.

Please feel free to reach out if you need anything else.

Thank you,
Christina

Christina Lajos
Senior Paralegal
South Coast Air Quality Management District
Office of the General Counsel
21865 Copley Drive, Diamond Bar, California 91765
Telephone (909) 396-3400 | Direct (909) 396-2315 | Fax (909) 396-2961
The District's normal business hours are Tuesday-Friday, 7:30am-6:00pm

From: Grasse, Maya <Maya.Grasse@alston.com>
Sent: Thursday, July 16, 2026 9:05 AM
To: Christina Lajos <clajos@aqmd.gov>
Subject: [EXTERNAL] SCAQMD complaint disposition codes

Hi Christina,

Thanks again for speaking with me earlier. Attached is the complaint log I was mentioning (it's actually not related to Sterigenics but rather another PRA for a different facility). I would very much appreciate if you could enlighten me as to the disposition codes here:

- NC = notice to comply
- NV = notice of violation or not verified?
- SUNK = source unknown?

- TEL = ?
- OC = ?

Below is a screenshot of some of the same complaints in a different format.

COMPLAINT RECEIVED DATE	COMPLAINT NO.	TEAM	SECTOR (ALLEGED)	INSPECTION DATE	DISPATCHED DATE	COMPLAINT TYPE	DISPOSITION	ALLEGED SOURCE	STREET NO.
8/14/2024	393376	Z	WG	8/14/2024		963	NC	THE MURPHY DRILL SITE.	2126
10/22/2024	401149	Z	WG	10/22/2024	10/22/2024	963	SUNK	MURPHY OIL SITE	
11/10/2024	404082	Z	WG	11/14/2024	11/19/2024	963	SUNK	MURPHY DRILL SITE	
11/14/2024	403916	Z	WG	11/14/2024	11/14/2024	963	SUNK	MURPHYS OIL	2126
12/7/2024	405417	Z	WG	12/10/2024	12/10/2024	963	TEL	MURPHY DRILL SITE	
12/12/2024	405573	Z	WG	12/12/2024	12/12/2024	963	SUNK	MURPHY OIL SITE	2040
3/18/2025	410759	Z	WG	3/18/2025	3/18/2025	963	SUNK	UNKNOWN POSSIBLY OIL RIGS	
4/21/2025	412822	Z	WG	4/22/2025		963	TEL	MURPHYS DRILL SITE	2126
6/10/2025	415675	Z	WG	6/13/2025	6/12/2025	963	SUNK	OIL DRILLING SITE	
11/5/2025	425000	Z	WG	11/6/2025		963	OC	MURPHY DRILL SITE	2126
11/11/2025	425593	Z	WG	11/11/2025	11/12/2025	963	SUNK	MURPHY OIL	2126
11/11/2025	425591	Z	WG	11/11/2025	11/12/2025	963	SUNK	MURPHY OIL	2126
11/11/2025	425505	Z	WG	11/11/2025	11/12/2025	963	SUNK	MURPHY DRILL SITE	
11/11/2025	425589	Z	WG	11/11/2025	11/12/2025	963	SUNK	MURPHY OIL	
11/11/2025	425587	Z	WG	11/11/2025	11/12/2025	963	SUNK	MURPHY OIL	2126
11/11/2025	425579	Z	WG	11/11/2025	11/12/2025	963	SUNK	MURPHY OIL	
11/11/2025	425578	Z	WG	11/11/2025	11/12/2025	963	SUNK	MURPHY OIL	
11/11/2025	425575	Z	WG	11/11/2025		963	SUNK	MURPHY OIL	2126
11/12/2025	425656	Z	WG	11/12/2025		963	OC	MURPHY OIL	
11/12/2025	425555	Z	WG	11/12/2025		963	OC	MURPHY DRILL SITE	2126
11/12/2025	425488	Z	WG	11/12/2025		963	OC	ENB NATURAL RESOURCE/ MURPHY DRILL SITE	2126
11/12/2025	425453	Z	WG	11/12/2025		963	OC	MERCY DRILL SITE	
11/12/2025	425444	Z	WG	11/12/2025		963	OC	B& B NATURAL GAS	
11/12/2025	425445	Z	WG	11/12/2025		963	OC	MURPHY OIL	2126
11/13/2025	425673	Z	WG	11/13/2025		963	NV	MURPHY OIL	2126
11/13/2025	425672	Z	WG	11/13/2025		963	NV	MURPHY DRILL SITE	2126
11/14/2025	425728	Z	WG	11/14/2025		963	TEL	MURPHY OIL	2126

Thanks so much for your help.

Best,
Maya

[Maya Lopez Grasse]
Counsel
ALSTON & BIRD
350 South Grand Avenue
51st Floor
Los Angeles, CA 90071
213-576-2526 (O)
562-547-3051 (M)
maya.grasse@alston.com

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Attachment 7

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

PRESS RELEASE

www.aqmd.gov @SouthCoastAQMD

FOR IMMEDIATE RELEASE: November 21, 2025

MEDIA CONTACT:
Nahal Mogharabi, (909) 396-3773, Cell: (909) 837-2431
Rainbow Yeung, (909) 396-3373, Cell: (909) 967-2477
press@aqmd.gov

South Coast AQMD Issues Violations at Oil Sites in Los Angeles

DIAMOND BAR – The South Coast Air Quality Management District (South Coast AQMD) has taken enforcement action at three oil and gas facilities in Los Angeles following public complaints and confirmed violations of air quality regulations. Two of these incidents occurred near schools within overburdened communities, prompting an immediate response to protect public health.

Allenco Energy Co., St. James Drill Site, at 814 West 23rd St.

On November 12, inspectors responded to strong crude-oil odor complaints from faculty at the Girls Academic Leadership Academy. The odors were traced back to a disposal bin located at the St. James Drill Site that contained residual crude oil from a different job site. A Notice of Violation (NOV) was issued to Driltek, the contractor performing emergency well abandonment work, for causing a public nuisance. South Coast AQMD will continue to closely follow remediation activities at the location and respond to complaints from community members.

Crimson Resources, Murphy Drill Site, at 2126 West Adams Blvd.

From November 5 to 13, multiple complaints were received regarding operations at the Murphy Drill Site and their proximity to the nearby 24th Street Elementary School. Inspectors conducted several on-site inspections and found a portable vapor control system operating within 1,000 feet of the school, violating a condition of the equipment's air quality permit. An NOV was issued to both Crimson Resources and its contractor, Vapor Point, LLC. Since then, inspectors have verified that the portable vapor control system – which was being used to control emissions during pipeline pressure testing – was removed from the site on November 13, and no further complaints were received.

Rosecrans Energy, at 14147 South Figueroa St.

On November 6, during routine monitoring by South Coast AQMD in the AB 617 community of South Los Angeles, benzene and alkanes were detected near the Rosecrans Energy facility. South Coast AQMD inspectors were promptly deployed, and an on-site inspection confirmed a minor hydrocarbon leak from equipment associated with a storage tank. A Notice to Comply was issued requiring immediate repairs, and the facility was able to fix the leak while inspectors were at the location.

NOVs can result in civil penalties. Facilities may also take voluntary steps to reduce emissions. If a settlement is not reached, South Coast AQMD may pursue civil actions in court. All three of these incidents remain active, ongoing investigations.

South Coast AQMD responds to all air quality complaints. Members of the public can report odors, dust, smoke, or other air quality concerns by:

- Calling 1-800-CUT-SMOG (288-7664);
- Filing a report via the online complaint portal at www.aqmd.gov; or
- Using the South Coast AQMD mobile app.

South Coast AQMD is the regulatory agency responsible for improving air quality for large areas of Los Angeles, Orange, Riverside and San Bernardino counties, including the Coachella Valley. For news, air quality alerts, event updates and more, please visit us at www.aqmd.gov, download our award-winning app, or follow us on Facebook, X (formerly known as Twitter) and Instagram.

# # #

Attachment 8

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
21865 East Copley Drive, Diamond Bar, CA 91765

Permit No.
F31743
~~**A/N 345523**~~

PERMIT TO CONSTRUCT/OPERATE

This initial permit must be renewed ANNUALLY unless the equipment is moved, or changes ownership.
If the billing for annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

LEGAL OWNER
OR OPERATOR: SO CAL GAS CO
2424 E OLYMPIC BLVD MARY HOWA
LOS ANGELES, CA 90021

ID 009480

Equipment Location: 2126 W ADAMS BLVD, LOS ANGELES, CA 90018-2039

Equipment Description:

NATURAL GAS ODORIZING UNIT:

1. NJEX-6200 INJECTION SYSTEM.

2. ODORANT STORAGE TANK, 18 GALLON CAPACITY

3. GAS ADSORBER FILTER, WITH 3 POUNDS OF ACTIVATED CARBON

4. CONTROL LOOP WITH ASSOCIATED VALVES, PIPING AND INSTRUMENTATION

Conditions:

1) OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

2) THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.

3) THE OPERATOR SHALL NOT USE THIS EQUIPMENT UNLESS ALL EXHAUST AIR PASSES THROUGH THE ACTIVATED CARBON FILTER WHICH IS IN PROPER OPERATING CONDITIONS.

4) FOR THE PURPOSE OF CONDITION NUMBER 3, EXHAUST AIR SHALL BE DEFINED AS (A) THE GASES DISPLACED DURING ALL PHASES OF ODORANT TRANSFER, AND (B) THE GASES DISPLACED DURING DEPRESSURIZING OF ANY EQUIPMENT.

5) THE OPERATOR SHALL PREVENT THE RELEASE OF ODORANT INTO THE ATMOSPHERE DURING ALL PHASES OF THE OPERATION SO THAT, WHENEVER ANY SMELL OF ODORANT IS DETECTED, ODORANT TANK FILL SHALL CEASE, AND THE CARBON FILTER SHALL BE REPLACED WITH AT LEAST 3 POUNDS OF FRESH ACTIVATED CARBON.

South Coast Air Quality Management District
Certified Copy

FILE COPY

PERMIT TO CONSTRUCT/OPERATE

CONTINUATION OF PERMIT TO CONSTRUCT/OPERATE

6) WHENEVER A GIVEN BATCH OF CARBON ADSORBER UNDERGOES 15 CONSECUTIVE ODORANT TANK REFILLS, THE CARBON FILTER SHALL BE REPLACED WITH AT LEAST 3 POUNDS OF FRESH ACTIVATED CARBON.

7) RECORDS SHALL BE MAINTAINED TO SHOW:
A) THE ODORANT REFILL DATE,
B) THE AMOUNT OF ODORANT ADDED TO THE TANK,
C) THE CARBON FILTER REPLACEMENT DATE, AND
D) THE AMOUNT OF REPLACEMENT FRESH ACTIVATED CARBON.

8) RECORDS SHALL BE MAINTAINED TO PROVE COMPLIANCE WITH CONDITIONS 5 AND 6. THE RECORDS SHALL BE KEPT IN A FORMAT APPROVED IN WRITING BY THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD). THE RECORDS SHALL BE KEPT FOR AT LEAST TWO YEARS AND MADE AVAILABLE TO SCAQMD PERSONNEL UPON REQUEST.

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY SHALL BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

Dorris M. Bailey

By Dorris M. Bailey/hn01
6/09/2000

South Coast Air Quality Management District
Certified Copy

FILE COPY

PERMIT TO CONSTRUCT/OPERATE

This initial permit must be renewed ANNUALLY unless the equipment is moved, or changes ownership.
If the billing for annual renewal fee (Rule 301.f) is not received by the expiration date, contact the District.

Legal Owner or Operator: SO CAL GAS CO
P.O. BOX 2300, NORMA COBB M/L 9314
CHATSWORTH, CA 91313-2300

ID 9480

Equipment Location: 2126 W. ADAMS BLVD., LOS ANGELES, CA 90018-2039

Equipment Description:

NATURAL GAS ODORIZING UNIT:

1) NJEX-6200 INJECTION SYSTEM.

2) ODORANT STORAGE TANK, 60 GALLON CAPACITY.

3) CONTROL LOOP WITH ASSOCIATED VALVES, PIPING AND INSTRUMENTATION.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.

3. THE OPERATOR SHALL NOT OPERATE THIS EQUIPMENT DURING FILLING OR BLOW-DOWN OPERATIONS UNLESS THE ODORANT TANK IS VENTED TO A CLOSED LOOP VAPOR RECOVERY SYSTEM OR A SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) PERMITTED CONTROL DEVICE.

4. THE OPERATOR SHALL PREVENT THE RELEASE OF ODORANT INTO THE ATMOSPHERE DURING ALL PHASES OF THE EQUIPMENT OPERATION. IF ANY ODORANT SMELL IS DETECTED, THE EQUIPMENT SHALL BE SHUT DOWN AND REPAIRED BEFORE ANY MORE USAGE OR OPERATION.

5. RECORDS SHALL BE MAINTAINED TO SHOW:

   A. THE ODORANT REFILL DATE AND TIME,
   B. THE AMOUNT OF ODORANT ADDED TO THE TANK, AND
   C. THE SCAQMD PERMIT NUMBER OF THE CONTROL DEVICE USED DURING REFILL OF THE TANK.

South Coast Air Quality Management District
Certified Copy

FILE COPY

6. RECORDS SHALL BE MAINTAINED TO PROVE COMPLIANCE WITH CONDITIONS 4 AND 5. THE RECORDS SHALL BE KEPT IN A FORMAT APPROVED IN WRITING BY THE SCAQMD. THE RECORDS SHALL BE KEPT FOR AT LEAST THREE YEARS AND MADE AVAILABLE TO SCAQMD PERSONNEL UPON REQUEST.

THE PERMIT TO CONSTRUCT/OPERATE R-F66398 SUPERSEDES PERMIT TO CONSTRUCT/OPERATE R-66398 ISSUED 05/25/04

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR COPY SHALL BE POSTED ON OR WITHIN 8 METERS OF THE EQUIPMENT.

THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26 OF THE HEALTH AND SAFETY CODE OF THE STATE OF CALIFORNIA OR THE RULES OF THE AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT CANNOT BE CONSIDERED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF OTHER GOVERNMENT AGENCIES.

EXECUTIVE OFFICER

By Dorris M. Bailey/nd
01/07/2005

South Coast Air Quality Management District
Certified Copy

FILE COPY

Attachment 9

Note to File: Case No. ZA-1959-15227-O-PA6-1A
Date: January 5, 2026
Operator: E&B Natural Resources Management Corporation
Facility: Murphy Oil Drill Site
Address: 2126 West Adams Boulevard, 90018
Subject: Hydrostatic Pipeline Testing by Crimson Pipeline LP

Executive Summary

- An oil pipeline test was conducted at the Murphy Drill Site and this activity generated numerous complaints. Complaints to City Planning were received via email correspondence and via telephonic conversations.
- Several complaints were submitted to the South Coast Air Quality Management District which resulted in a Notice of Violation being issued each to an oil pipeline company and a third-party equipment contractor.
- The Murphy Drill Site operator, E&B Natural Resources, clarified that they had no control or communication with the oil pipeline company. E&B Natural Resources did not receive a Notice of Violation from the South Coast Air Quality Management District.
- OZA staff discussed this pipeline test with a variety of parties: E&B Natural Resources, Crimson Pipeline LP, South Coast Air Quality Management District, and the Office of the State Fire Marshal (Cal Fire).
- OZA staff submitted five different CA Public Records Act requests to various agencies in order to learn more information about the pipeline testing.
- The details of this pipeline test, including the complaints received and collected information from regulatory agency staff, suggest potential violation of several Conditions of Approval for Case No. ZA-1959-15527-O-PA6-1A. The potential violations are related to ZA requirements concerning hours of operation, use of diesel equipment, and air quality/odors.

Pipeline Test Timeline

November 5, 2025
- Received first complaints from constituents concerning extensive truck and storage trailer activity at the Drill Site.

November 11, 2025
- Pipeline testing begins on Veterans Day holiday – all City offices and most state offices, including CalGEM, Cal Fire, and SCAQMD are closed.

November 13, 2025
- SCAQMD inspectors confirmed that the pipeline testing activity has concluded.

Background

On November 5, 2025, I was informed by a constituent that lives in the vicinity of the Murphy Drill Site (Drill Site) of extensive truck traffic entering the Drill Site. The truck traffic also included flatbed trucks bringing in large-scale equipment, somewhat resembling pumps, and large storage trailers. The constituent informed me that this equipment looks similar to a pipeline testing activity that occurred five years ago in 2020.

On December 14, 2020, the Drill Site operator, E&B Natural Resources Corporation, emailed the OZA sharing information about a pipeline test project. At that time, E&B did confirm that the pipeline operator, Crimson Pipeline LP, was conducting the test activity. E&B also clarified in 2020 that they could not forward any test permits or related documents because Crimson Pipeline LP declined to share that information with them. As far as compliance actions from that December 2020 activity, according to state records, South Coast Air Quality Management District (SCAQMD) issued a Notices of Violation (NOV P73309) to the third-party contractor conducting the pipeline testing. The Notice of Violation was for operating equipment, specifically, an air pollution control device within 1,000 feet of a K-12 school.

Returning to the recent events, on November 5, 2025, I contacted Ted Cordova of E&B Natural Resources to learn more information about the ongoing Drill Site activity. Ted confirmed that the truck vehicles, equipment, and storage trailers were being used for a hydrostatic testing operation for the pipelines that transport crude oil from the Murphy Drill Site to an unknown destination. These oil pipelines are located underground in the public right-of-way. For context, pipelines from oil well facilities are usually transported to either a temporary holding facility, sometimes known as a “tank farm”, or sometimes transported directly to a local refinery.

Crimson Pipeline LP, the company that operates the pipeline connecting the Drill Site to the local pipeline segment, conducted the pipeline testing activity. This pipeline test required notification and permits from two agencies: SCAQMD and Cal Fire. E&B confirmed via email correspondence that he could not share project information because E&B has no role in the pipeline testing and thus, E&B had no project details regarding the test. The only role, according to E&B, was giving access to Crimson Pipeline LP to stage their equipment and use the pipeline connection at the Drill Site. E&B shared the contact information of an engineer at Crimson Pipeline LP with me in order to receive additional details about the pipeline test.

The pipeline test, according to Cal Fire, is required every five years as required by both federal and state safety standards. The pipeline test involves the use of five large storage trailers (roughly the size of goods movement shipping containers) to hold water that will be used for the pipeline test. The pipeline test involves using hundreds of gallons of water to flush out the pipelines. Using pressure tests and pipeline equipment, Crimson Pipeline LP staff are able to analyze if there are any weak points within the pipeline that are susceptible to disintegration such as a slow flow of crude oil, or, in a worst case scenario, a burst pipeline. The water used in the oil pipelines are then rerouted back to the storage trailers at the Drill Site. The storage trailers have large hatches that are then opened to allow excess gases and vapors to be

released from the water. In most hydrostatic tests at oil well facilities, the produced water is then rerouted through the Drill Site's production equipment to be repurposed for injection wells. Constituents shared with OZA staff that the degassing of the storage trailers is what created odor events in December 2020.

Community Concerns

On November 10, 2025, and November 11, 2025, OZA staff received various email correspondence from different constituents sharing their concerns about the pipeline test and the surrounding sensitive receptors in the vicinity. On November 11, 2025, a constituent highlighted their account of how trucks were leaving the Drill Site a little before midnight. Additional constituent testimony highlighted the lack of transparency surrounding the Drill Site. One constituent pointed out the lack of updates on E&B's publicly accessible webpage where project and activity information is shown for the interested parties' awareness.

Interviews

SCAQMD

I spoke with three SCAQMD inspectors concerning the matter, including the inspector that conducted in-person site visits for the pipeline test activities. SCAQMD inspectors shared that the pipeline test itself did not require any specific permits or project approvals. There were no hours of operation, project duration, or additional land use requirements (besides air quality) associated with SCAQMD regulations. The pipeline test, however, required the use of air pollution control devices, also known as air scrubbers or water scrubbers. This equipment carries large storage tanks that collect gases and vapors that are either environmentally hazardous and/or toxic to human health. Sensitive equipment such as air pollution control devices are required by SCAQMD to be staged more than 1,000 feet away from a K-12 institution. This distance restriction is outlined in SCAQMD's conditions for this equipment's "Permit to Operate." Both Crimson Pipeline LP and its third party contractor, Vapor Point LLC, obtained this permit and are subject to all of its requirements. These devices are connected to storage tanks, or in this case, the water storage trailers.

The SCAQMD inspector assigned to the complaints visited the Drill Site a total of three times within the span of nine days. During the second visit, the inspector used a thermal imaging camera device to examine if there were any vapor leaks or fugitive emission leaks from the storage trailers carrying hundreds of gallons of produced water. The SCAQMD inspector identified that the air pollution control device was located 1,050 feet away from the nearest K-12 institution. While there are two pre-kindergarten day care and educational centers within 1,000 feet of the equipment, the Permit to Operate regulations explicitly identify only K-12 institutions as being part of that distance regulation. At this same site visit, the SCAQMD inspector communicated to Crimson Pipeline LP and to Vapor Point LLC to inform SCAQMD when the hatches would be opened for the water storage trailers. The inspector wished to be present in order to ensure that there weren't any noticeable odor nuisances. A constituent submitted a

complaint to SCAQMD that water storage trailers were leaving the site before 7:00 AM on Thursday, November 13, 2025. By the time the SCAQMD inspector arrived that Thursday morning, the pipeline company had already degassed the containers and failed to notify SCAQMD in a timely manner as requested.

Following a SCAQMD investigation, the inspector noticed that there were two air pollution control devices onsite. One of these devices was located to the north entrance of the Drill Site abutting Adams Boulevard. The inspector tabulated the distance to now be less than 1,000 feet and was now in violation of SCAQMD rules. Two notices of violation were issued – one to Crimson Pipeline LP and one to Vapor Point LLC.

Cal Fire

OZA staff spoke with a supervising pipeline engineer from the Long Beach office of the Office of the State Fire Marshal (Cal Fire). The Cal Fire pipeline engineer shared additional background information about the pipeline test at the Murphy Drill Site.

- Crimson Pipeline LP is required by state and federal law to conduct a comprehensive safety testing every five years.
- E&B has to temporarily shut down operations for a portion of the pipeline testing.
- The pipeline company is required to notify the local Los Angeles Fire Department station of the pipeline test in case any emergency should arise from the pipeline test.
- Cal Fire defers the specific logistics as well as the specific approach to the pipeline test to the pipeline company conducting the testing. That is, Crimson Pipeline LP assumes a high degree of discretion and flexibility for how the test is conducted.
- Cal Fire does require Crimson Pipeline LP to use the Murphy Drill Site as the staging site. Cal Fire also does not require Crimson Pipeline LP to carry out a hydrostatic testing approach.
- The supervising pipeline engineer explained that some pipeline operators use a different type of pipeline test option that is commonly referred as "in-line pipeline testing" and does not require the use of thousands of gallons of water. Various pipeline testing methods are successful at detecting wall loss in pipelines and discovering potential anomalies in the oil pipeline.
- Cal Fire does not oppose the use of in-line testing for any pipeline and approves of any mixed-methods including both less-intensive in-line testing and hydrostatic testing.
- Crimson Pipeline LP must hire an independent third-party contractor to review and certify the pipeline test engineering results. These results are then submitted by the contractor to Cal Fire.
- Cal Fire confirmed that as a regulatory agency they can only review and approve the engineering aspects of the pipeline test. They do not analyze nor respond to environmental effects or potential descriptions caused by pipeline testing.

E&B Natural Resources

E&B Natural Resources confirmed in both email correspondence and in a phone conversation that their company had very limited details about the pipeline test. The Drill Site operator clarified that they were only providing staging access to Crimson Pipeline LP and no additional details were available to OZA staff.

Crimson Pipeline LP

In a conference call meeting, an environmental services manager and a pipeline safety engineer from Crimson Pipeline LP answered questions about the pipeline test. The pipeline company staff shared limited project details including:

- They hired a third party contractor that specializes in handling potential air quality impacts. This third party contractor, Vapor Point LLC, was hired and brought onsite during the pipeline test. Vapor Point LLC is required to collect air quality data and vapor leak data that may correspond to any local air quality impacts.
- The pipeline company identified that hydrostatic testing is a temporary activity and is considered a reliable method of testing. The pipeline engineer did identify “in-line testing” as another viable option but that type of testing is costlier than hydrostatic testing. Crimson Pipeline LP staff described the local gas utility, SoCalGas, as a well-resourced company that can afford to conduct “in-line testing” across the City.
- Crimson Pipeline LP described that due to local weather events (rain storms) that this may affect the timeline of the pipeline test. The company staff were not able to share an approximate date(s) of when the test would conclude.
- OZA staff inquired whether E&B Natural Resources Management had notified Crimson Pipeline LP of operating Conditions of Approval required in Case No. ZA-1959-15227-O-PA6-1A. Crimson Pipeline LP staff confirmed that they were not aware of any local rules or requirements.

Recommendations

Based on this most recent pipeline test activity at the Murphy Drill Site, the City (Office of Petroleum Administration) should consider potential requirements for any new pipeline franchise agreements. These requirements would not conflict with any federal or state standards and instead would serve to enhance transparency as well as communication with facility operators concerning pipeline test activities. These recommendations are referenced here as initial suggestions for consideration for any agency with some oversight for pipeline operations, including but not limited to: the California Geologic Energy Management Division, the Office of the State Fire Marshal, the Los Angeles City Fire Department, and the City’s Office of Petroleum and Natural Gas Administration and Safety.

- Require the midstream operator to sign an acknowledgement form highlighting that the pipeline company has read and understood to follow all land use Conditions and environmental mitigation measures imposed onto the oil well facility

- Require email notification to all relevant City agencies (including Petroleum Administration, LAFD CUPA, LAFD Oil Wells Unit, and City Planning) with advanced notice (e.g. no later than 4 calendar weeks notice of when activities are scheduled to take place)
- Require the midstream operator to send via certified mail (or a third party mailing contractor) written notice of a proposed pipeline activity no later than 4 calendar weeks to all owners and occupants within a 500-ft radius of the oil well facility's property boundaries where the pipeline testing will take place.
- Operators shall allow City agency staff to observe pipeline test activities from a reasonable and safe placement within the staging location at an oil well facility
- Require that all pipeline test permits, approval letters, test results, and additional pipeline test documents be submitted to relevant City agencies both prior and after the pipeline test activities.
- Require that all pipeline test activities take place between the hours of 9:00 AM and 5:00 PM Monday through Friday. In this same regard, all pipeline test activities (including preparation) would be prohibited outside of regular business hours and prohibited on weekends as well as all holidays.
- Require that emergency hotline numbers and staff complaint contact numbers be posted on the oil well facility's various entrances and visible from the public sidewalk.
- Require air monitoring (e.g. for volatile organic compounds, hydrogen sulfide gas) during all pipeline staging activities and testing operations and submit all monitoring reports to relevant City and state regulatory agencies.

Conclusion

The OZA continues to research and analyze the potential land use impacts related to pipeline tests and the feasible best practices to lessen negative impacts to both the environment and to the local community, particularly sensitive receptors.There also appears to be future opportunities for the various agencies and operators to work together with City Planning to address concerns surrounding these pipeline tests, including but not limited to: satisfying both local land use regulations and state and federal testing requirements.

The OZA will also continue to incorporate records obtained from over six California Public Records Act requests into the Administrative Record for Case No. ZA-1959-15227-O-PA6-1A. The records will be added to the physical case file and made readily available to the public upon request. The records range from copies of notices of violations issued to SCAQMD permit conditions to Cal Fire testing details.

To reiterate, this email serves as a summary of initial inquiries into the pipeline testing activity and is not a conclusion to any outstanding questions concerning the item.

- Description of Pipeline Testing Methods - California Legislature Natural Resources Committee (link)
- City Planning GIS and Data Portal Dashboard with Pipeline Information (link)

- Most Recent L.A. City Pipeline Franchise for Crimson Pipeline LP (link)
- Pipeline Franchise Agreement for Crimson Pipeline LP's Connection to the Murphy Drill Site dated June 02, 2017 for Ordinance No. 184,958 (link)

Edber Macedo, City Planning Associate
edber.macedo@lacity.org
Oil Regulation Unit - Office of Zoning Administration
Los Angeles City Planning

Attachment 10

Governing Board Meeting Agenda: August 2, 2024

Share:

A meeting of the South Coast Air Quality Management District Board will be held at 9:00 a.m. on Friday, August 2, 2024 through a hybrid format of in-person attendance in the Dr. William A. Burke Auditorium at the South Coast AQMD Headquarters, 21865 Copley Drive, Diamond Bar, California, and/or virtual attendance via videoconferencing and by telephone. Please follow the instructions below to join the meeting remotely.

Please refer to South Coast AQMD's website for information regarding the format of the meeting, updates, and details on how to participate at:

http://www.aqmd.gov/home/news-events/meeting-agendas-minutes (http://www.aqmd.gov/home/news-events/meeting-agendas-minutes)

ELECTRONIC PARTICIPATION INFORMATION

(Instructions provided at bottom of the agenda)

Join Zoom Meeting - from PC, Laptop or Phone
https://scaqmd.zoom.us/j/93128605044 (https://scaqmd.zoom.us/j/93128605044)
Meeting ID: **931 2860 5044** (applies to all)
Teleconference Dial In +1 669 900 6833 (tel:+16699006833) or +1 253 215 8782 (tel:+12532158782)
One tap mobile +16699006833 (tel:+16699006833), 93128605044 (tel:+13128605044)# or
+12532158782 (tel:+12532158782), 93128605044 (tel:+13128605044)#

Spanish Language Only Audience (telephone)
Número Telefónico para la Audiencia que Habla Español
Teleconference Dial In/Numero para llamar: +1 669 900 6833 (tel:+16699006833)
Meeting ID/Identificación de la reunión: **932 0955 9643**
One tap mobile: +16699006833 (tel:+16699006833), 93209559643 (tel:+13209559643)#

PUBLIC COMMENT WILL STILL BE TAKEN

Audience will be allowed to provide public comment in person and through Zoom connection or telephone. Comments are limited to three minutes per person for all items on the Consent and Board Calendars and may be further limited by the Chair to ensure all can be heard

Phone controls for participants:
The following commands can be used on your phone's dial pad while in Zoom Webinar meeting:
- *6 - Toggle mute/unmute
- *9 - Raise hand

Questions About an Agenda Item

- The name and telephone number of the appropriate staff person to call for additional information or to resolve concerns is listed for each agenda item.
- In preparation for the meeting, you are encouraged to obtain whatever clarifying information may be needed to allow the Board to move expeditiously in its deliberations.

Meeting Procedures

- The public meeting of the South Coast AQMD Governing Board begins at 9:00 a.m. The Governing Board generally will consider items in the order listed on the agenda. However, any item may be considered in any order.
- After taking action on any agenda item not requiring a public hearing, the Board may reconsider or amend the item at any time during the meeting.

All documents (i) constituting non-exempt public records, (ii) relating to an item on the agenda, and (iii) having been distributed to at least a majority of the Governing Board after the agenda is posted, are available prior to the meeting for public review at South Coast AQMD's Clerk of the Boards Office, 21865 Copley Drive, Diamond Bar, CA 91765 or web page at www.aqmd.gov (http://www.aqmd.gov/)

Americans with Disabilities Act and Language Accessibility

Disability and language-related accommodations can be requested to allow participation in the Governing Board meeting. The agenda will be made available, upon request, in appropriate alternative formats to assist persons with a disability (Gov. Code Section 54954.2(a)). In addition, other documents may be requested in alternative formats and languages. Any disability or language-related accommodation must be requested as soon as practicable.

Requests will be accommodated unless providing the accommodation would result in a fundamental alteration or undue burden to the South Coast AQMD. Please contact the Clerk of the Boards Office at (909) 396-2500 (tel:+19093962500) from 7:00 a.m. to 5:30 p.m., Tuesday through Friday, or send the request to cob@aqmd.gov (mailto:cob@aqmd.gov)

A webcast of the meeting is available for viewing at:
http://www.aqmd.gov/home/news-events/webcast (http://www.aqmd.gov/home/news-events/webcast)

Call To Order

- Pledge of Allegiance
- Roll Call
- Opening Comments:

  Vanessa Delgado, Chair
  Other Board Members
  Wayne Nastri, Executive Officer

PUBLIC COMMENT PERIOD – (Public Comment on Non-Agenda Items, Pursuant to Government Code Section 54954.3) The public may comment on any subject within the South Coast AQMD's authority that does not appear on the agenda, during the Public Comment Period. Each speaker addressing non-agenda items may be limited to a total of (3) minutes.

CONSENT AND BOARD CALENDAR (Items 1 through 23)

Note: Consent and Board Calendar items held for discussion will be moved to Item No. 24

Download (https://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2024/2024-Aug2-agenda.pdf) the agenda only (PDF, no attachments)

Download (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/brdpkg-2024-aug2.pdf?sfvrsn=b4de8861_12)the complete agenda here.

Items 1 and 2 – Action Items/No Fiscal Impact

1. Approve Minutes of June 7, 2024 (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-001.pdf?sfvrsn=68d78861_6)
Faye Thomas (mailto:fthomas@aqmd.gov)

(909) 396-3268 (tel:+19093963268)

2. Set Public Hearing September 6, 2024 to Consider Adoption of and/or Amendments to South Coast AQMD Rules and Regulations: (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-002.pdf?sfvrsn=17d68861_6)

Wayne Nastri (mailto:wnastri@aqmd.gov)
(909) 396-3131 (tel:+19093963131)

Michael Krause (mailto:mkrause@aqmd.gov)
(909) 396-2706 (tel:+19093962706)

Determine That Proposed Rule 1165 – Control of Emissions from Municipal Solid Waste Incinerators, Is Exempt from CEQA and Adopt Rule 1165

Proposed Rule 1165 (PR 1165) establishes NOx, PM, and CO emission limits from municipal solid waste incinerators. Additionally, PR 1165 will include provisions for housekeeping, monitoring, reporting, and recordkeeping. This action is to adopt the Resolution: 1) Determining that the Proposed Rule 1165 – Control of Emissions from Municipal Solid Waste Incinerators, is exempt from the requirements of the California Environmental Quality Act, and 2) Adopting Rule 1165 – Control of Emissions from Municipal Solid Waste Incinerators. (Reviewed: Stationary Source Committee, August 16, 2024)

Items 3 through 9 – Budget/Fiscal Impact

3. Issue RFP to Replace Electric Vehicle Charging Infrastructure at South Coast AQMD Headquarters (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-003.pdf?sfvrsn=53d68861_2)

Aaron Katzenstein (mailto:akatzenstein@aqmd.gov)
(909) 396-2219 (tel:+19093962219)

South Coast AQMD headquarters' EV charging infrastructure is outdated and many chargers are no longer repairable. To continue to provide electric vehicle charging to staff and the public it is necessary to upgrade the EV charging infrastructure and add features to include remote monitoring and integrating the charging network into the building energy management system. This action is to issue an RFP to solicit proposals to replace the EV charging infrastructure at South Coast AQMD headquarters. (Reviewed: Technology Committee, June 21, 2024; Recommended for Approval)

4. Adopt Resolution Recognizing Funds for FY 2023-24 Carl Moyer State Reserve, Enhanced Fleet Modernization Program and Clean Cars 4 All,

Reimburse General Funds for Administrative Costs, Issue Program Announcement, Amend Carl Moyer Program Awards and Execute Contract to Deploy Zero Emission Equipment (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-004.pdf?sfvrsn=4fd68861_2)

Aaron Katzenstein (mailto:akatzenstein@aqmd.gov)
(909) 396-2219 (tel:+19093962219)

This Board item covers three separate programs including the Carl Moyer, the Replace Your Ride Programs (RYR) and the U.S. EPA Targeted AirShed Grant. In April 2024, CARB allocated $5.9 million in Enhanced Fleet Modernization Program (EFMP) and Clean Cars 4 All (CC4A) to continue implementing the RYR Program. Also, in April, CARB approved allocations for the FY 2023-24 Carl Moyer "Year 26" State Reserve Program to fund zero-emission projects. In July 2019, the Board approved a $2,100,000 U.S. EPA award under the FY 2018-19 Targeted AirShed Grant to develop and demonstrate battery electric excavators and wheel loaders. In March 2024, U.S. EPA agreed to amend award to utilize unspent project and administrative funds to deploy zero-emission equipment and extend the project to December 2025. These actions are to: 1) recognize up to $5.9 million in EFMP and CC4A into HEROS II Special Revenue Fund (56); 2) adopt a resolution recognizing up to $5.3 million in FY 2023-24 Carl Moyer State Reserve funds into Carl Moyer Program Fund (32); 3) reimburse General Fund for administrative costs to implement RYR; 4) issue a Program Announcement for eligible zero-emission off-road projects; 5) execute agreements for eligible projects resulting from the Program Announcement; 6) amend Carl Moyer Program awards approved in February 2024; and 7) execute contract with Volvo Technology of America, LLC in an amount not to exceed $1,296,388, including $60,000 of unused administrative fund to develop, demonstrate and deploy up to 13 zero emission off-road equipment from Clean Fuels Program Fund (31). (Reviewed: Technology Committee, June 21, 2024; Recommended for Approval)

5. Adopt Resolution to Recognize Funds and Accept Terms and Conditions of 2022 Port and Freight Infrastructure Program Award from California State Transportation Agency (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-005.pdf?sfvrsn=57d68861_2)

Aaron Katzenstein (mailto:akatzenstein@aqmd.gov)
(909) 396-2219 (tel:+19093962219)

In December 2023, the Board recognized an award of $76,250,003 from California State Transportation Agency (CalSTA) under the 2022 Port and Freight Infrastructure Program (PFIP) to demonstrate a short line hydrogen fuel cell locomotive and deploy direct current fast chargers and hydrogen refueling dispensers for heavy duty trucks. The Board also established the CalSTA Special Revenue Fund (89) to receive the funds. CalSTA requires a resolution of the Board in order to release the funds. The Board also recognized $500,000 from the Department of Energy (DOE)

through a FY 2023 Congressional Direct Spending Request for the project. These actions are to: 1) Adopt a Resolution to recognize funds, accept terms and conditions of the 2022 PFIP award from CalSTA and authorize the Executive Officer to execute the necessary agreements with CalSTA and the California Department of Transportation (Caltrans) to receive the award; 2) Reimburse the General Fund up to $24,000 for administering the DOE grant and 3) Temporary loan up to $10 million from the Clean Fuels Program Fund (31) to the CalSTA Special Revenue Fund (89) until PFIP grant funds are received. (Reviewed: Technology Committee, June 21, 2024; Recommended for Approval)

6. Issue RFP and Execute Contracts for New Go Zero Incentive Program to Incentivize Installation of Zero-Emission Appliances (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-006.pdf?sfvrsn=71d78861_6)

Michael Krause (mailto:MKrause@aqmd.gov)
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The 2022 AQMP includes control measures that are based on accelerated deployment of zero-emissions technologies. One hurdle to the implementation is the high upfront costs. To help mitigate the cost, the 2022 AQMP Resolution directed staff to incentivize the installation of zero-emission technologies. Staff proposes to establish Go Zero to provide incentives to consumers, multifamily property owners, and small business owners to install zero-emission appliances and to fund installer training. The program would be funded by mitigation fees collected under the alternative compliance options for residential space and water heating appliances maintained in the Air Quality Investment Fund (Fund 27). Staff recommends having a third-party contractor(s) administer the rebate program. These actions are to 1) authorize funding Go Zero with $20.5 million from Fund 27; 2) authorize the Procurement Manager, in accordance with South Coast AQMD Procurement Policy and Procedure, to issue an RFP to solicit proposals for third-party contractor(s) to administer Go Zero to incentivize the purchase and installation of zero-emission appliances in the South Coast AQMD, to organize and conduct trainings for installers of zero-emission appliances, and to offer application assistance for consumers in overburdened communities; and 3) authorize the Chair (or by the Chair's designation, the Executive Officer) to execute contracts, based on the results of the RFP, with the selected contractor(s) to implement the rebate program. (Reviewed: Stationary Source Committee, June 21, 2024; Recommended for Approval)

7. Execute Contract to Determine Brake and Tire Wear Exposure Concentrations in South Coast Air Basin and Coachella Valley (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-007.pdf?sfvrsn=5bd68861_2)

Sarah Rees (mailto:srees@aqmd.gov)

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In December 2023, the Board approved $850,000 from the Clean Fuels Fund for a study on brake and tire wear particulate matter levels in the South Coast AQMD jurisdiction as part of MATES VI. This action is to authorize the Executive Officer to execute a contract with Emissions Analytics, LLC selected with South Coast AQMD's RFP process to conduct the brake and tire wear study in an amount not to exceed $850,000. (Reviewed: Administrative Committee, June 14, 2024; Recommended for Approval)

8. Appropriate Funds from Undesignated (Unassigned) Fund Balance for Permitting Enhancement Program (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-008.pdf?sfvrsn=5fd68861_2)

Jillian Wong (mailto:jwong1@aqmd.gov)

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The Board previously approved $400,000 to be appropriated and used for retiree assistance. Due to the San Bernardino County Employees Retirement Association limitations and retiree availability, there will be unspent funds of approximately $100,000, and this amount is requested to be used in FY 2024-25 with an additional $200,000 requested. This action is to appropriate a total of $300,000 from the General Fund Undesignated (Unassigned) Fund Balance into Engineering and Permitting's FY 2024-25 Budget for retiree or consultant assistance to reduce the pending permit application inventory. (Reviewed: Administrative Committee, June 14, 2024; Recommended for Approval)

9. Approve Contract Modification as Approved by MSRC (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-009.pdf?sfvrsn=13d68861_2)

(mailto:)

McCallon

As part of their FYs 2018-21 Work Program, the MSRC approved a contract modification with SCAG. The MSRC seeks Board approval of the contract modification as part of the FYs 2018-21 Work Program. (Reviewed; Mobile Source Air Pollution Reduction Review Committee, June 20, 2024; Recommended for Approval)

Items 10 through 16 – Information Only/Receive and File

10. Legislative, Public Affairs and Media Report (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-010.pdf?sfvrsn=fd68861_2)

Derrick Alatorre (mailto:dalatorre@aqmd.gov)
(909) 396-3122 (tel:+19093963122)
This report highlights the May and June 2024 outreach activities of the Legislative, Public Affairs and Media Office, which includes: Major Events, Community Events/Public Meetings, Environmental Justice Update, Speakers Bureau/Visitor Services, Communications Center, Public Information Center, Business Assistance, Media Relations and Outreach to Business and Federal, State and Local Government. (No Committee Review)

11. Hearing Board Report (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-011.pdf?sfvrsn=62d78861_8)

(mailto:)

Ali

This reports the actions taken by the Hearing Board during the period of May 1 through June 30, 2024. (No Committee Review)

12. Civil Filings and Civil Penalties Report (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-012.pdf?sfvrsn=bd68861_2)

Bayron Gilchrist (mailto:bgilchrist@aqmd.gov)
(909) 396-3459 (tel:+19093963459)
This report summarizes monthly penalties and legal actions filed by the General Counsel's Office from May 1, 2024 through May 31, 2024. An Index of South Coast AQMD Rules is attached with the penalty report. (Reviewed: Stationary Source Committee, June 21, 2024)

13. Intergovernmental Review of Environmental Documents and CEQA Lead Agency Projects (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-013.pdf?sfvrsn=7d68861_2)

Michael Krause (mailto:MKrause@aqmd.gov)
(909) 396-2706 (tel:+19093962706)

14. Rule and Control Measure Forecast (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-014.pdf?sfvrsn=3d68861_2)

Sarah Rees (mailto:srees@aqmd.gov)
(909) 396-2856 (tel:+19093962856)
This report highlights South Coast AQMD rulemaking activities and public hearings scheduled for 2024. (No Committee Review)

15. Audit Reports of AB 2766 Fee Revenue Recipients for Fiscal Years Ending June 30, 2020 and 2021 (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-015.pdf?sfvrsn=7fd68861_2)

Sujata Jain (mailto:SJain@aqmd.gov)

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16. Status Report on Major Ongoing and Upcoming Projects for Information Management (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-016.pdf?sfvrsn=7bd68861_2)

Ron Moskowitz (mailto:rmoskowitz@aqmd.gov)

(909) 396-3329 (tel:+19093963329)

Information Management is responsible for data systems management services in support of all South Coast AQMD operations. This action is to provide the monthly status report on major automation contracts and planned projects. (Reviewed: Administrative Committee, June 14, 2024)

Items 17 through 23 -- Reports for Committees and CARB

The June 14, 2024 Legislative Committee was cancelled. The next regularly scheduled Legislative Committee meeting is August 9, 2024

17. Administrative Committee (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-017.pdf?sfvrsn=77d68861_2)

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Chair: Delgado

(Receive & File)

18. Investment Oversight Committee (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-018.pdf?sfvrsn=73d68861_2)

Sujata Jain (mailto:SJain@aqmd.gov)

(909) 396-2804 (tel:+19093962804)

Chair: Cacciotti

(Receive & File)

19. Mobile Source Committee (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-019.pdf?sfvrsn=6fd68861_2)

Sarah Rees (mailto:srees@aqmd.gov)

(909) 396-2856 (tel:+19093962856)

Chair: Kracov

(Receive & File)

20. Stationary Source Committee (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-020.pdf?sfvrsn=6bd68861_2)

Jason Aspell (mailto:jaspell@aqmd.gov)

(909) 396-2491 (tel:+19093962491)

Chair: McCallon

(Receive & File)

21. Technology Committee (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-021.pdf?sfvrsn=67d68861_2)

Aaron Katzenstein (mailto:akatzenstein@aqmd.gov)

(909) 396-2219 (tel:+19093962219)

Chair: Rodriguez

(Receive & File)

22. Mobile Source Air Pollution Reduction Review Committee Report (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-022.pdf?sfvrsn=63d68861_2)

Aaron Katzenstein (mailto:akatzenstein@aqmd.gov)

(909) 396-2219 (tel:+19093962219)

Board Rep.: Hagman

(Receive & File)

23. California Air Resources Board Monthly Report (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-023.pdf?sfvrsn=67d78861_6)

Faye Thomas (mailto:fthomas@aqmd.gov)

(909) 396-3268 (tel:+19093963268)

Board Rep.: Kracov

(Receive & File)

24. Items Deferred from Consent and Board Calendar

(mailto:)

PUBLIC HEARINGS

25. Determine That Proposed Amended Rule 1148.1 – Oil and Gas Production Wells, Is Exempt from CEQA and Amend Rule 1148.1 (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-025.pdf?sfvrsn=6dd78861_6)

Michael Krause (mailto:MKrause@aqmd.gov)
(909) 396-2706 (tel:+19093962706)

Rule 1148.1 – Oil and Gas Production Wells applies to facilities that operate oil and gas wells. Proposed Amended Rule 1148.1 (PAR 1148.1) will address objectives of the Community Emission Reduction Plan for the AB 617 community, Wilmington, Carson, and West Long Beach. PAR 1148.1 enhances leak detection provisions, establishes NOx limits for equipment that uses produced gas, and establishes requirements for workover rigs. PAR 1148.1 also bans the use of odorants, requires leak notifications, and updates signage requirements. This action is to adopt the Resolution: 1) Determining that Proposed Amended Rule 1148.1 – Oil and Gas Production Wells, is exempt from the requirements of the California Environmental Quality Act, and 2) Amending Rule 1148.1 - Oil and Gas Production Wells. (Reviewed: Stationary Source Committee, May 17, 2024, Reviewed)

26. Determine That Proposed Rule 2306 – Freight Rail Yards, Does Not Require a New Environmental Document; Determine That Proposed Rule 316.2 – Fees for Rule 2306, Is Exempt From CEQA; and Adopt Rules 2306 and 316.2 (https://www.aqmd.gov/docs/default-source/agendas/governing-board/2024/2024-aug2-026.pdf?sfvrsn=83d78861_6)

Ian MacMillan (mailto:imacmillan@aqmd.gov)
(909) 396-3244 (tel:+19093963244)

Proposed Rule 2306 (PR 2306) establishes emission reductions targets to ensure that NOx reductions from freight rail yards within the South Coast AQMD jurisdiction will be achieved at levels that are proportional or more-than-proportional to reductions throughout California from implementation of state regulations affecting freight rail yard emission sources. PR 2306 further requires facility-reporting on zero emission infrastructure, and for non-federal public agencies to include PR 2306 compliance requirements in contracting with a freight rail yard owner or operator. Proposed Rule 316.2 (PR 316.2) establishes fees to recover reasonable costs for South Coast AQMD in implementing PR 2306. This action is to adopt the Resolution: 1) Determining that Proposed Rule 2306 – Freight Rail Yards is a later activity within the scope of the Final Program Environmental Impact Reports for the 2022 and 2016 AQMPs such that no new environmental document is required; 2) Determining that Proposed Rule 316.2 – Fees for Rule 2306 is exempt from CEQA; 3) Adopting Rule 2306 and Rule 316.2; and 4) Approving Rule 2306 Calculation Methodology and Data Appendix. (Reviewed: Mobile Source Committee, January 19, April 19, and June 21, 2024)

Board Member Travel

(No Written Material) Board member travel reports have been filed with the Clerk of the Boards, and copies are available upon request.

Closed Session

Bayron Gilchrist (mailto:bgilchrist@aqmd.gov) (909) 396-3459 (tel:+19093963459) (No Written Material)

CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION

It is necessary for the Board to recess to closed session pursuant to Government Code sections 54956.9(a) and 54956.9(d)(1) to confer with its counsel regarding pending litigation which has been initiated formally and to which the South Coast AQMD is a party. The actions are:

- In the Matter of South Coast Air Quality Management District v. Southern California Gas Company, Aliso Canyon Storage Facility, South Coast AQMD Hearing Board Case No. 137-76 (Order for Abatement); People of the State of California, ex rel South Coast Air Quality Management District v. Southern California Gas Company, Los Angeles Superior Court Case No. BC608322; Judicial Council Coordinated Proceeding No.4861;

- South Coast Air Quality Management District, et al. v. EPA, United States Court of Appeals, D.C. Circuit, Case No. 19-1241 (consolidated with Union of Concerned Scientists v. NHTSA, No. 19-1230);

- South Coast Air Quality Management District, et al. v. NHTSA, EPA, et al., United States Court of Appeals, D.C. Circuit, Case No. 20-1173 (consolidated with Competitive Enterprise Institute, et al. v. NHTSA, No. 20-1145);

- Natural Resources Defense Council, et al. v. City of Los Angeles, et al., San Diego Superior Court, Case No. 37-2021-00023385-CU-TT-CTL (China Shipping Case) (transferred from Los

Angeles Superior Court, Case No. 20STCP02985); Fourth District Court of Appeal, Division One, No. D080902;

- In the Matter of South Coast Air Quality Management District v. Baker Commodities, South Coast AQMD Hearing Board Case No. 6223-1 (Order for Abatement); Baker Commodities, Inc. v. South Coast Air Quality Management District Hearing Board; South Coast Air Quality Management District; South Coast Air Quality Management District Hearing Board Members: Cynthia Verdugo-Peralta, Robert Pearman, Micah Ali, and Allan Bernstein, DPM MBA, in their official capacities only: and 100 Does and Roes, Los Angeles County Superior Court, Case No. 22STCP03597;

- South Coast Air Quality Management District v. EPA, U.S. District Court for the Central District of California, Case No. 2:23-cv-02646;

- East Yard Communities for Environmental Justice, et al. v. South Coast Air Quality Management District, the Governing Board of the South Coast Air Quality Management District, the California Air Resources Board, and Does 1 through 25, Inclusive, U.S. District Court for the Central District of California, Case No. 2:23-cv-06682;

- Western States Trucking Association, Inc. v. EPA, et al., Unites States Court of Appeals, D.C. Circuit, Case No. 23-1143 (amicus brief).

CONFERENCE WITH LEGAL COUNSEL – INITIATING LITIGATION

It is also necessary for the Board to recess to closed session pursuant to Government Code section 54956.9(a) and 54956.9(d)(4) to consider initiation of litigation (two cases).

CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION

Also, it is necessary for the Board to recess to closed session pursuant to Government Code section 54956.9(d)(2) to confer with its counsel because there is a significant exposure to litigation against the South Coast AQMD (two cases).

ADJOURNMENT

*****PUBLIC COMMENTS*****

Members of the public are afforded an opportunity to speak on any agenda item before consideration of that item. Persons wishing to speak may do so in person or remotely via Zoom or telephone. To provide public comments via a Desktop/Laptop or Smartphone, click

on the “Raise Hand” at the bottom of the screen, or if participating via Dial-in/Telephone Press *9. This will signal to the host that you would like to provide a public comment and you will be added to the list.

All agendas are posted at South Coast AQMD Headquarters, 21865 Copley Drive, Diamond Bar, California, and website, http://www.aqmd.gov/home/news-events/meeting-agendas-minutes (http://www.aqmd.gov/home/news-events/meeting-agendas-minutes), at least 72 hours in advance of the meeting. At the beginning of the agenda, an opportunity is also provided for the public to speak on any subject within the South Coast AQMD's authority. Speakers may be limited to a total of three (3) minutes for the entirety of the Consent Calendar plus Board Calendar, and three (3) minutes or less for each of the other agenda items.

Note that on items listed on the Consent Calendar and the balance of the agenda any motion, including action, can be taken (consideration is not limited to listed recommended actions). Additional matters can be added and action taken by two-thirds vote, or in the case of an emergency, by a majority vote. Matters raised under the Public Comment Period may not be acted upon at that meeting other than as provided above.

Written comments will be accepted by the Board and made part of the record. Individuals who wish to submit written or electronic comments must submit such comments to the Clerk of the Board, South Coast AQMD, 21865 Copley Drive, Diamond Bar, CA 91765-4178, (909) 396-2500 (tel:+19093962500), or to cob@aqmd.gov (mailto:cob@aqmd.gov), on or before 5:00 p.m. on the Tuesday prior to the Board meeting.

ACRONYMS

AQ-SPEC = Air Quality Sensor Performance Evaluation Center
AQIP = Air Quality Investment Program
AQMP = Air Quality Management Plan
AVR = Average Vehicle Ridership
BACT = Best Available Control Technology
BARCT = Best Available Retrofit Control Technology
Cal/EPA = California Environmental Protection Agency
CARB = California Air Resources Board
CEMS = Continuous Emissions Monitoring Systems
CEC = California Energy Commission
CEQA = California Environmental Quality Act
CE-CERT = College of Engineering-Center for Environmental Research and Technology
CNG = Compressed Natural Gas

CO = Carbon Monoxide

DOE = Department of Energy

EV = Electric Vehicle

EV/BEV = Electric Vehicle/Battery Electric Vehicle

FY = Fiscal Year

GHG = Greenhouse Gas

HRA = Health Risk Assessment

LEV = Low Emission Vehicle

LNG = Liquefied Natural Gas

MATES = Multiple Air Toxics Exposure Study

MOU = Memorandum of Understanding

MSERCs = Mobile Source Emission Reduction Credits

MSRC = Mobile Source (Air Pollution Reduction) Review Committee

NAAQS = National Ambient Air Quality Standards

NATTS = National Air Toxics Trends Station

NESHAPS = National Emission Standards for Hazardous Air Pollutants

NGV = Natural Gas Vehicle

NOx = Oxides of Nitrogen

NSPS = New Source Performance Standards

NSR = New Source Review

OEHHA = Office of Environmental Health Hazard Assessment

PAMS = Photochemical Assessment Monitoring Stations

PEV = Plug-In Electric Vehicle

PHEV = Plug-In Hybrid Electric Vehicle

PM10 = Particulate Matter £ 10 microns

PM2.5 = Particulate Matter < 2.5 microns

RECLAIM = Regional Clean Air Incentives Market

RFP = Request for Proposals

RFQ = Request for Quotations

RFQQ = Request for Qualifications and Quotations

SCAG = Southern California Association of Governments

SIP = State Implementation Plan

SOx = Oxides of Sulfur

SOON = Surplus Off-Road Opt-In for NOx

SULEV = Super Ultra Low Emission Vehicle

TCM = Transportation Control Measure

ULEV = Ultra Low Emission Vehicle

U.S. EPA = United States Environmental Protection Agency
VOC = Volatile Organic Compound
ZEV = Zero Emission Vehicle

INSTRUCTIONS FOR ELECTRONIC PARTICIPATION

Instructions for Participating in a Virtual Meeting as an Attendee

As an attendee, you will have the opportunity to virtually raise your hand and provide public comment.

Before joining the call, please silence your other communication devices such as your cell or desk phone. This will prevent any feedback or interruptions during the meeting.

For language interpretation:

Click the interpretation Globe icon at the bottom of the screen
Select the language you want to hear (either English or Spanish)
Click “Mute Original Audio” if you hear both languages at the same time.

Para interpretación de idiomas:

Haga clic en el icono de interpretación el globo terráqueo en la parte inferior de la pantalla
Seleccione el idioma que desea escuchar (inglés o español)
Haga clic en "Silenciar audio original" si escucha ambos idiomas al mismo tiempo

Please note: During the meeting, all participants will be placed on Mute by the host. You will not be able to mute or unmute your lines manually.

After each agenda item, the Chairman will announce public comment.

Speakers may be limited to a total of 3 minutes for the entirety of the consent calendar plus board calendar, and three minutes or less for each of the other agenda items.

A countdown timer will be displayed on the screen for each public comment.

If interpretation is needed, more time will be allotted.

Directions to provide public comment on ZOOM from a DESKTOP/LAPTOP or SMARTPHONE:

- Click on the **“Raise Hand”** feature on the bottom of the screen.

- This will signal to the host that you would like to provide a public comment and you will be added to the list.

Directions to provide public comment via TELEPHONE:

- **Dial *9** on your keypad to signal that you would like to comment.

Directions for Spanish Language TELEPHONE line only:

- The call in number is the same (+1 669 900 6833 (tel:+16699006833))
- The meeting ID number is 932-0955-9643
- If you would like to make public comment, please dial *9 on your keypad to signal that you would like to comment.

Instrucciones para la línea de TELÉFONO en español únicamente:

- El número de llamada es el mismo (+1 669900 6833 (tel:+16699006833) o +1 93209559643 (tel:+13209559643))
- El número de identificación de la reunión es 932-0955-9643
- Si desea hacer un comentario público, marque *9 en su teclado para indicar que desea comentar.

South Coast Air Quality Management District

21865 Copley Dr, Diamond Bar, CA 91765

909-396-2000 (tel:+19093962000)

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BOARD MEETING DATE: August 2, 2024 AGENDA NO. 25

PROPOSAL: Determine That Proposed Amended Rule 1148.1 – Oil and Gas Production Wells, Is Exempt from CEQA; and Amend Rule 1148.1

SYNOPSIS: Rule 1148.1 – Oil and Gas Production Wells applies to facilities that operate oil and gas wells. Proposed Amended Rule 1148.1 (PAR 1148.1) will address objectives of the Community Emission Reduction Plan for the AB 617 community, Wilmington, Carson, and West Long Beach. PAR 1148.1 enhances leak detection provisions, establishes NOx limits for equipment that uses produced gas, and establishes requirements for workover rigs. PAR 1148.1 also bans the use of odorants, requires leak notifications, and updates signage requirements.

COMMITTEE: Stationary Source, May 17, 2024, Reviewed

RECOMMENDED ACTIONS:
Adopt the attached Resolution:
1. Determining that Proposed Amended Rule 1148.1 – Oil and Gas Production Wells, is exempt from the requirements of the California Environmental Quality Act; and
2. Amending Rule 1148.1 – Oil and Gas Production Wells.

Wayne Nastri
Executive Officer

SR:MK:MM

Background

Rule 1148.1 was adopted on March 5, 2004, to reduce VOC emissions from wellheads and well cellars located at oil and gas production facilities. The rule requires increased inspection and maintenance, and control of produced gas emissions, with additional regulatory considerations when located within 100 meters of sensitive receptors.

Rule 1148.1 was amended on September 4, 2015, to provide enforceable mechanisms to reduce odor nuisance potential from emissions associated with oil and gas production facility operations. The 2015 amendment focused on the use of odor mitigation best practices; required facilities located within 1,500 feet of a sensitive receptor to conduct

and submit a specific cause analysis for any confirmed odor event; and required facilities with continuing odor issues to develop and implement an approved Odor Mitigation Plan.

Two AB 617 communities, Wilmington, Carson, West Long Beach (WCWLB) and South Los Angeles (SLA), included objectives to address oil and gas well activities in their Community Emissions Reduction Plans (CERP). Proposed Amended Rule 1148.1 (PAR 1148.1) was developed to address CERP objectives related to increased monitoring of well activities, the use of lower emission or zero-emission equipment, and the elimination of odorants. PAR 1148.1 also addresses the 2022 Air Quality Management Plan Control Measure FUG-01: Improved Leak Detection and Repair by requiring enhanced monitoring of well sites.

Public Process

The development of PAR 1148.1 was conducted through a public process. Four Working Group Meetings were held on: April 20, 2023, September 14, 2023, December 14, 2023, and April 11, 2024. In addition, staff participated in AB 617 Community Steering Committee (CSC) Meetings to notify and update CSC members on the rule development process and progress on CERP objectives. Stakeholders include representatives from the community, environmental organizations, industry representatives, and government agencies. Staff also met individually with industry stakeholders and visited sites affected by the rule development process. A Public Workshop was held on February 1, 2024, where staff presented the proposed rule to the general public and stakeholders, and received comments related to the proposal.

Proposal

PAR 1148.1 will require the use of enhanced leak detection technology with Optical Gas Imaging (OGI) inspections monthly, establish NOx limits for equipment that uses produced gas, and source tests requirements. PAR 1148.1 will also require that workover rigs meet Tier 4 Final diesel engine standards, bans the use of odorants that are used to mask odors emanating from oil production sites, require submitting a notification for quantified leaks greater than 25,000 ppm VOC, adds new definitions to add clarity, updates signage requirements, and makes minor changes to rule language for consistency and clarity. Implementation of PAR 1148.1 is expected to result in emission reductions of 0.27 tons per day of VOC by 2025 and 0.51 tons per day of NOx by 2027.

Key Issues

Through the rulemaking process, staff has worked with stakeholders to address and resolve issues. Staff is not aware of any remaining key issues.

California Environmental Quality Act

Pursuant to the CEQA Guidelines sections 15002(k) and 15061, PAR 1148.1 is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3). A Notice of Exemption has been prepared pursuant to CEQA Guidelines section 15062 and is included as Attachment H to this Board letter. If PAR 1148.1 is approved, the Notice of Exemption

will be filed for posting with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino counties, and with the State Clearinghouse of the Governor's Office of Planning and Research.

Socioeconomic Impact Assessment

Approximately 323 facilities are subject to PAR 1148.1 with all belonging to the Oil and Gas Extraction (NAICS 211) sector. Out of the 323 facilities, up to 255 facilities may qualify as a small business based on various small business definitions. The key requirements of PAR 1148.1 that would have cost impacts for the affected facilities include: 1) conducting periodic OGI inspections; 2) purchasing and installing 3-way catalysts; 3) retrofitting workover rigs with Tier 4 Final engines; and 4) conducting periodic maintenance on equipment. The total present value of compliance costs of implementing PAR 1148.1 during the 2025-2046 period is estimated to be $92.0 million and $66.4 million at a 1% and 4% discount rate, respectively. The annual average compliance costs of PAR 1148.1 are estimated to range from $4.1 million to $4.7 million at a 1% to 4% real interest rate, respectively. When the compliance costs are amortized using a 4% real interest rate, 28 net jobs are forecasted to be foregone annually in the four-county region during the 2025-2046 period, relative to the baseline scenario. The impact of PAR 1148.1 on production costs and delivered prices in the South Coast AQMD region is expected to be minimal. The details of the Final Socioeconomic Impact Assessment can be found in Attachment I to this Board Letter.

AQMP and Legal Mandates

Under Health and Safety Code section 40460(a), the South Coast AQMD is required to adopt an AQMP demonstrating compliance with all federal regulations and standards. The South Coast AQMD is required to adopt rules and regulations that carry out the objectives of the AQMP. PAR 1148.1 addresses the 2022 Air Quality Management Plan Control Measure FUG-01: Improved Leak Detection and Repair by requiring monthly monitoring of well sites with the use of OGI technology.

Implementation and Resource Impact

Existing staff resources are adequate to implement the proposed amended rule.

Attachments

A. Summary of Proposal
B. Key Issues and Responses
C. Rule Development Process
D. Key Contacts List
E. Resolution
F. Proposed Amended Rule 1148.1
G. Final Staff Report
H. Notice of Exemption from CEQA
I. Final Socioeconomic Impact Assessment
J. Board Presentation

ATTACHMENT A

SUMMARY OF PROPOSAL

Proposed Amended Rule 1148.1 – Oil and Gas Production Wells

Applicability

- Deleted the phrase "processed gas" and added the phrase "produced gas" for clarity and consistency

Requirements

- Updated signage requirements for specific installation locations and lettering size
- Maintain equipment free of visible vapors
- Establish emission limits for NOx of 11 ppmv at 15% oxygen for any engine that is powered by produced gas that is used to operate an oil producing or injection well
- Establish emission limits for NOx of 9 ppmv at 15% oxygen for any stationary gas turbine or fuel cell that is powered by produced gas
- Emissions from workover rig meet at least a Tier 4 Final standard
- Ban odorants and limit use of neutralizing agents to products that do not contain air toxics
- Notification for leaks greater than 25,000 ppm VOC

Operator Inspection Requirements

- Monthly Optical Gas Imaging inspections

Testing Requirements

- Source testing requirements and frequency for engines and microturbines

Exemptions

- Added exemption from source testing of microturbines that are certified by CARB's Distributed Generation Certification Program

ATTACHMENT B

KEY ISSUE AND RESPONSE

Proposed Amended Rule 1148.1 – Oil and Gas Production Wells
Throughout the rulemaking process, staff worked with stakeholders to resolve key issues. Staff is not aware of any key remaining issues.

ATTACHMENT C

RULE DEVELOPMENT PROCESS

Proposed Amended Rule 1148.1 – Oil and Gas Production Wells



Seventeen (17) months spent in rule development

Four (4) Working Group Meetings

One (1) Public Workshop

One (1) Stationary Source Committee Meeting

ATTACHMENT D

KEY CONTACTS LIST

Proposed Amended Rule 1148.1 – OIL AND GAS PRODUCTION WELLS
(*listed alphabetically*)

- Bridge Energy
- California Geologic Energy Management Division
- California Resources Corporation
- Center for Biological Diversity
- Communities for a Better Environment
- City of Los Angeles Planning Department
- E&B Natural Resources
- Esperanza Community Housing Corporation
- FracTracker Alliance
- Pacific Coast Energy Company, LP
- Redeemer Community Partnership
- Signal Hill Petroleum
- STAND-LA
- Warren Resources
- WG Holdings

ATTACHMENT E

RESOLUTION NO. 24-____

A Resolution of the Governing Board of the South Coast Air Quality Management District (South Coast AQMD) determining that Proposed Amended Rule 1148.1 – Oil and Gas Production Wells, is exempt from the requirements of the California Environmental Quality Act (CEQA).

A Resolution of the South Coast AQMD Governing Board amending Rule 1148.1 – Oil and Gas Production Wells.

WHEREAS, the South Coast AQMD Governing Board finds and determines that Proposed Amended Rule 1148.1 is considered a "project" as defined by CEQA; and

WHEREAS, the South Coast AQMD has had its regulatory program certified pursuant to Public Resources Code Section 21080.5 and CEQA Guidelines Section 15251(l) and has conducted a CEQA review and analysis of the proposed project pursuant to such program (South Coast AQMD Rule 110); and

WHEREAS, the South Coast AQMD Governing Board finds and determines that after conducting a review of the proposed project in accordance with CEQA Guidelines Section 15002(k) – General Concepts, the three-step process for deciding which document to prepare for a project subject to CEQA, and CEQA Guidelines Section 15061 – Review for Exemption, procedures for determining if a project is exempt from CEQA, that Proposed Amended Rule 1148.1 is exempt from CEQA; and

WHEREAS, the South Coast AQMD Governing Board finds and determines that because the analysis of the anticipated physical changes that may occur as a result of implementing the proposed project indicates that minimal to no construction activities are expected, it can be seen with certainty that Proposed Amended Rule 1148.1 would not cause a significant adverse effect on the environment, and is therefore, exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption; and

WHEREAS, the South Coast AQMD staff has prepared a Notice of Exemption for the proposed project, that is completed in compliance with CEQA Guidelines Section 15062 – Notice of Exemption; and

WHEREAS, the South Coast AQMD Governing Board has determined that the Final Socioeconomic Impact Assessment of Proposed Amended Rule 1148.1 is consistent with the March 17, 1989 Governing Board Socioeconomic Resolution for rule amendment; and

WHEREAS, the South Coast AQMD Governing Board has determined that the Final Socioeconomic Impact Assessment for Proposed Amended Rule 1148.1 is

consistent with the provisions of Health and Safety Code Sections 40440.8, 40728.5, and 40920.6; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1148.1 will result in increased costs to the affected industries, yet such costs are considered to be reasonable, with a total annualized cost as specified in the Final Socioeconomic Impact Assessment; and

WHEREAS, the South Coast AQMD Governing Board has actively considered the Final Socioeconomic Impact Assessment for Proposed Amended Rule 1148.1 and has made a good faith effort to minimize such impacts; and

WHEREAS, the South Coast AQMD staff conducted a Public Workshop on February 1, 2024 regarding Proposed Amended Rule 1148.1; and

WHEREAS, Proposed Amended Rule 1148.1 and supporting documentation, including but not limited to, the Notice of Exemption, Final Staff Report, and Final Socioeconomic Impact Assessment were presented to the South Coast AQMD Governing Board and the South Coast AQMD Governing Board has reviewed and considered this information, as well as has taken and considered staff testimony and public comment prior to approving the project; and

WHEREAS, the South Coast AQMD Governing Board finds and determines, taking into consideration the factors in Section (d)(4)(D) of the Governing Board Procedures (codified as Section 30.5(4)(D)(i) of the Administrative Code), that modifications to Proposed Amended Rule 1148.1 clause (e)(6)(B)(ii) since the Notice of Public Hearing was published, clarify the reference to Rule 1173 subdivision (g) and change the formatting of numeric value for consistency are not so substantial as to significantly affect the meaning of Proposed Amended Rule 1148.1 within the meaning of Health and Safety Code Section 40726 because: (a) the changes do not impact emission reductions, (b) the changes do not affect the number or type of sources regulated by the rule, (c) the changes are consistent with the information contained in the Notice of Public Hearing, and (d) the consideration of the range of CEQA alternatives is not applicable because the proposed project is exempt from CEQA; and

WHEREAS, Proposed Amended Rule 1148.1 will be submitted to California Air Resources Board (CARB) and United States Environmental Protection Agency (U.S. EPA) for inclusion into the State Implementation Plan; and

WHEREAS, Health and Safety Code Section 40727 requires that prior to adopting, amending, or repealing a rule or regulation, the South Coast AQMD Governing Board shall make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the public hearing and in the Final Staff Report; and

WHEREAS, the South Coast AQMD Governing Board has determined that a need exists to amend Rule 1148.1 to implement Best Available Retrofit Control

Technology, partially implement Control Measure FUG-01 of the 2022 Final Air Quality Management Plan, and fulfill commitments contained in the Wilmington, Carson, West Long Beach and South Los Angeles Community Emission Reduction Plans; and

WHEREAS, the South Coast AQMD Governing Board has determined that there is a problem that the proposed amended rule will alleviate, namely the failure to attain national ambient air quality standards for ozone and PM2.5, and that the rule will promote the attainment of state and federal ambient air quality standards; and

WHEREAS, the South Coast AQMD Governing Board obtains its authority to adopt, amend, or repeal rules and regulations from Health and Safety Code Sections 39002, 39650 et. seq., 40000, 40001, 40440, 40441, 40702, 40725 through 40728.5, 40920.6, and 41508; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1148.1 is written and displayed so that its meaning can be easily understood by persons directly affected by it; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1148.1 is in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, or state or federal regulations; and

WHEREAS, the South Coast AQMD Governing Board has determined that Proposed Amended Rule 1148.1 does not impose the same requirements as any existing state or federal regulations, and the proposed amended rule is necessary and proper to execute the powers and duties granted to, and imposed upon, the South Coast AQMD; and

WHEREAS, the South Coast AQMD Governing Board, in amending Rule 1148.1, references the following statute which the South Coast AQMD hereby implements, interprets or makes specific: Assembly Bill 617, Health and Safety Code Sections 39002, 40001, 40406, 40702, 40440(a), 40725 through 40728.5, 40920.6, and 41511; and

WHEREAS, Health and Safety Code Section 40727.2 requires the South Coast AQMD to prepare a written analysis of existing federal air pollution control requirements applicable to the same source type being regulated whenever it adopts, or amends a rule, and the South Coast AQMD's comparative analysis of Proposed Amended Rule 1148.1 is included in the Final Staff Report; and

WHEREAS, the Public Hearing has been properly noticed in accordance with all provisions of Health and Safety Code Sections 40725 and 40440.5; and

WHEREAS, the South Coast AQMD Governing Board has held a Public Hearing in accordance with all provisions of law; and

WHEREAS, the South Coast AQMD Governing Board specifies the Planning, Rule Development, and Implementation Manager overseeing the rule development for Proposed Amended Rule 1148.1 as the custodian of the documents or other materials which constitute the record of proceedings upon which the adoption of this

proposed project is based, which are located at the South Coast Air Quality Management District, 21865 Copley Drive, Diamond Bar, California; and

NOW, THEREFORE BE IT RESOLVED, that the South Coast AQMD Governing Board does hereby determine, pursuant to the authority granted by law, that Proposed Amended Rule 1148.1 is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption. This information has been presented to the South Coast AQMD Governing Board, whose members exercised their independent judgment and reviewed, considered, and approved the information therein prior to acting on the proposed project; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board does hereby adopt, pursuant to the authority granted by law, Proposed Amended Rule 1148.1 as set forth in the attached, and incorporated herein by reference; and

BE IT FURTHER RESOLVED, that the South Coast AQMD Governing Board requests that Proposed Amended Rule 1148.1 be submitted for inclusion in the State Implementation Plan; and

BE IT FURTHER RESOLVED, that the Executive Officer is hereby directed to forward a copy of this Resolution and Proposed Amended Rule 1148.1 and supporting documentation to CARB for approval and subsequent submittal to the U.S. EPA for inclusion into the State Implementation Plan.

DATE: _____ _____

CLERK OF THE BOARDS

PROPOSED AMENDED RULE 1148.1. OIL AND GAS PRODUCTION WELLS

(a) Purpose

The purpose of this rule is to reduce emissions of volatile organic compounds (VOCs), toxic air contaminants (TAC) emissions and Total Organic Compounds (TOC) from the operation and maintenance of wellheads, well cellars, and the handling of produced gas at oil and gas production facilities to assist in reducing regional ozone levels and to prevent public nuisance and possible detriment to public health caused by exposure to such emissions.

(b) Applicability

This rule applies to onshore oil producing wells, well cellars and produced gas handling operation and maintenance activities at onshore facilities where petroleum and ~~processed~~ produced gas are produced, gathered, separated, processed and stored. These facilities are also subject to additional rule requirements, including, but not limited to: the storage of organic liquids is subject to Rule 463 – Organic Liquid Storage; wastewater systems, including sumps and wastewater separators are subject to Rule 1176 – VOC Emissions from Wastewater Systems; and leaks from components are subject to Rule 1173 – Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants. Natural gas distribution, transmission and associated storage operations are not subject to the requirements of this rule.

(c) Definitions

For the purpose of this rule, the following definitions shall apply:

(1) ABANDONED WELL is a well that has been certified by the California ~~Department of Conservation, Division of Oil, Gas and Geothermal Resources~~ Geologic Energy Management Division as permanently closed and non-operational.

(2) CENTRAL PROCESSING AREA is any location within an oil and gas production facility where pressurized phase separation or treatment of produced well fluids, including any produced oil, water or gas, occurs. A location that includes only oil producing wells and associated equipment not involved in pressurized phase separation or treatment, is not considered to be a central processing area.

(3) COMPONENT is any valve, fitting, pump, compressor, pressure relief device, diaphragm, hatch, sight-glass, wellhead, stuffing box, or meter in VOC service. Components are further classified as:

(A) MAJOR COMPONENT is any 4-inch or larger valve, any 5-hp or larger pump, any compressor, and any 4-inch or larger pressure relief device.

(B) MINOR COMPONENT is any component which is not a major component.

(4) CONFIRMED ODOR EVENT is an occurrence of odor resulting in three or more complaints by different individuals from different addresses, and the source of the odor is verified by ~~District~~ South Coast AQMD personnel.

(5) CONFIRMED OIL DEPOSITION EVENT is an occurrence of property damage due to the airborne release of oil or oil mist from an oil and gas production facility, as verified by ~~District~~ South Coast AQMD personnel.

(6) ENGINE is any spark- or compression-ignited internal combustion engine, including engines used for control of VOC's.

(~~6~~7) FACILITY is any equipment or group of equipment or other VOC-, TOC- or TAC-emitting activities, which are located on one or more contiguous properties within the ~~District~~South Coast AQMD, in actual physical contact or separated solely by a public roadway or other public right-of-way, and are owned or operated by the same person (or by persons under common control). Such above-described groups, if noncontiguous, but connected only by land carrying a pipeline, shall not be considered one facility.

(8) FUEL CELL is a device that generates electricity through an electrochemical reaction, not combustion.

(9) GAS HANDLING is the control or processing of produced gas for on-site or off-site use.

(~~7~~10) HEAVY LIQUID is any liquid with 10 percent or less VOC by volume evaporated at 150ºC (302ºF), determined according to test methods specified in paragraph ~~(i)(3)~~(j)(3) or ~~(i)(4)~~(j)(4).

(~~8~~11) LEAK is the dripping of either heavy or light liquid; or the detection of a concentration of TOC above background, determined according to the test method in paragraph ~~(i)(1)~~(j)(1).

(~~9~~12) LIGHT LIQUID is any liquid with more than 10 percent VOC by volume evaporated at 150ºC (302ºF), determined according to the test method specified in paragraph ~~(i)(3)~~(j)(3).

(13) NEUTRALIZING AGENTS are chemical substances applied directly to the surface of the source of the odors in droplet or liquid form and are used to capture, destroy, and remove odorous molecules through a physio-chemical process that does not simply mask the odor.

(~~10~~14) ODOR is the perception experienced by a person when one or more chemical substances in the air come into contact with the human olfactory nerves.

(15) ODORANT is one or more chemical substances giving off a smell and that is deliberately used to mask another chemical substance's smell.

(~~11~~16) OIL PRODUCING WELL is a well which produces crude oil.

(17) OPTICAL GAS IMAGING (OGI) DEVICE is an infrared camera with a detector capable of visualizing gases in the 3.2-3.4 micrometer waveband.

(~~12~~18) ORGANIC LIQUID is any liquid containing VOC.

(~~13~~19) PRODUCED GAS is organic compounds that are both gaseous at standard temperature and pressure and are associated with the production, gathering, separation or processing of crude oil.

(~~14~~20) RESPONSIBLE PARTY for a corporation is a corporate officer. A responsible party for a partnership or sole proprietorship is the general partner or proprietor, respectively.

(~~15~~21) SENSITIVE RECEPTOR ~~means~~ is any residence including private homes, condominiums, apartments, and living quarters; education resources such as preschools and kindergarten through grade twelve (k-12) schools; licensed daycare centers; and health care facilities such as hospitals or retirement and nursing homes. A sensitive receptor includes long term care hospitals, hospices, prisons, and dormitories or similar live-in housing.

(~~16~~22) SPECIFIC CAUSE ANALYSIS is a process used by an owner or operator of a facility subject to this rule to investigate the cause of a confirmed odor event or confirmed oil deposition event, identify corrective measures and prevent recurrence of a similar event.

(23) STATIONARY GAS TURBINE is any gas turbine that is gas and/or liquid fueled with or without power augmentation. This gas turbine is either attached to a foundation at a facility or is portable equipment that will reside at the same location for more than 12 consecutive months.

(~~17~~24) STUFFING BOX is a packing gland, chamber or "box" used to hold packing material compressed around a moving pump rod to reduce the escape of gas or liquid.

(25) TIER 4 FINAL ENGINE is an engine subject to the final aftertreatment based Tier 4 emission standards in Title 13, Cal. Code Regs., Section 2423(b)(1)(B) and/or Title 40, CFR, Part 1039.101. This also includes engines certified under the averaging, banking, and trading program with respect to the Tier 4 FEL listed in Title 13, Cal. Code Regs., Section 2423(b)(2)(B) and/or Title 40, CFR, Part 1039.101.

(~~18~~26) TOTAL ORGANIC COMPOUNDS (TOC) is the concentration of gaseous organic compounds determined according to the test method in paragraph (i)(1).

(~~19~~27) TOXIC AIR CONTAMINANT (TAC) is an air contaminant that has been identified as a hazardous air pollutant pursuant to Section 7412 of Title 42 of the United States Code; or has been identified as a TAC by the California Air Resources Board (CARB) pursuant to Health and Safety Code Section 39655 through 39662; or which may cause or contribute to an increase in mortality or an increase in serious illness, or potential hazard to human health.

(28) VISIBLE VAPORS are any VOC vapors detected visually by an operator or detected with an OGI device during a well cellar, wellhead, oil producing well, or water injection well inspection.

(~~20~~29) VOLATILE ORGANIC COMPOUND is as defined in Rule 102 – Definition of Terms.

(~~21~~30) WASTEWATER is a water stream or other liquid waste stream generated in a manner which may contain petroleum liquid, emulsified oil, VOC, or other hydrocarbons.

(~~22~~31) WATER INJECTION WELL is a bored, drilled, or driven shaft, or a dug hole that is deeper than it is wide, or an improved sinkhole, or a subsurface fluid distribution system used to inject fluid consisting primarily of water into a reservoir typically to create fluid lift of product or maintain reservoir pressure.

(~~23~~32) WELL CELLAR is a lined or unlined containment surrounding one or more oil wells, allowing access to the wellhead components for servicing and/or installation of blowout prevention equipment.

(~~24~~33) WELLHEAD is an assembly of valves mounted to the casing head of an oil well through which a well is produced. The wellhead is connected to an oil production line and in some cases to a gas casing line.

(34) WORKOVER RIG is a mobile piece of equipment used to perform one or more operations on an oil producing well or water injection well.

(d) Requirements

(1) The operator of an oil and gas production facility shall not allow a concentration of a TOC in the well cellar greater than 500 ppmv, according to the test method in paragraph ~~(i)(1)~~(j)(1).

(2) The operator of an oil and gas production facility shall not allow any valve to be opened at the wellhead unless a portable container is used to catch and contain organic liquid that would otherwise drop into the well cellar or onto the ground. Such container shall be kept closed to the atmosphere when it contains organic liquid and is not in use.

(3) If a well cellar is verified by ~~District~~ South Coast AQMD personnel as the source of odors associated with three or more complaints by different individuals from different addresses in a single day, the operator of an oil and gas production facility shall pump out or remove organic liquid accumulated in the well cellar as soon as possible but no later than by the end of the day.

(4) The operator of an oil and gas production facility shall not allow organic liquid to be stored in a well cellar, except as provided by paragraph (d)(5). During any period of equipment maintenance, drilling, well plugging, abandonment operations, or well workover, the operator shall pump out or remove organic liquid that accumulates in the well cellar no later than two (2) days after the maintenance, drilling, well plugging, abandonment or workover activity at the well is completed.

(5) The operator may only store organic liquid in a portable enclosed storage vessel if the vessel is equipped with air pollution control equipment to reduce the TOC emissions to less than 250 ppmv outlet concentration according to the test method in paragraph ~~(i)(1)~~(j)(1), except use of air pollution control equipment is not required during activities determined to meet the exemption criteria of paragraph ~~(j)(2)~~(k)(2). The operator shall conduct a TOC measurement according to the test method in paragraph ~~(i)(1)~~(j)(1) at the time of filling, and weekly thereafter to ensure that the air pollution control system achieves the emission standard of 250 ppmv.

(6) The operator of an oil and gas production facility shall pump out any organic liquid accumulated in the well cellar immediately before a well is steamed or after a wellhead is steam cleaned.

(7) The operator of an oil and gas production facility shall pump out or remove organic liquid accumulated in the well cellar when the TOC concentration in the well cellar is greater than 250 ppmv as determined by the test method in paragraph ~~(i)(1)~~(j)(1) within five (5) calendar days following the determination, or if the well cellar is located within 1,500 feet of a sensitive receptor, by close of the following ~~business~~ day. In lieu of the method in paragraph ~~(i)(1)~~(j)(1), an operator may measure the depth of accumulated organic liquid and pump-out the liquid when the depth exceeds two (2) inches. The organic liquid depth may be measured using a "copper coat" gauge or any other measuring instrument determined to be acceptable by the Executive Officer.

(8) The operator of an oil and gas production facility shall not allow natural gas or produced gas to be vented into the atmosphere. The emissions of produced gas shall be collected and controlled using one of the following:

(A) A system handling gas for fuel, sale, or underground injection; or

(B) A device, approved by the Executive Officer, with a VOC vapor removal efficiency demonstrated to be at least 95% by weight per test method of paragraph ~~(i)(2)~~(j)(2) or by demonstrating an outlet VOC concentration of 50 ppmv according to the test method in paragraph ~~(i)(1)~~(j)(1) or by an equivalent demonstration identified in an approved permit issued on or after March 5, 2004, pursuant to Rule 203 – Permit to Operate. If the control device uses supplemental natural gas to control VOC, it shall be equipped with a device that automatically shuts off the flow of natural gas in the event of a flame-out or pilot failure.

(9) Except as Rule 1173 – Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants applies to components of produced gas handling equipment located within 100 meters of a sensitive receptor, the operator shall repair any gaseous leaks of 250 ppmv TOC or greater by the close of the ~~business~~ day following the leak discovery or take actions to prevent the release of TOC emissions to the atmosphere until repairs have been completed.

(10) Unless approved in writing by the Executive Officer, CARB, and United States Environmental Protection Agency (U.S. EPA) as having no significant emissions impacts, no person shall:

(A) Remove or otherwise render ineffective a well cellar at an oil and gas production well except for purposes of well abandonment to be certified by the California ~~Department of Conservation, Division of Oil, Gas and Geothermal Resources~~ Geologic Energy Management Division; or

(B) Drill a new oil and gas production well unless a well cellar is installed for secondary containment of fluids.

(11) ~~Effective October 4, 2015, t~~The operator of an oil and gas production facility shall utilize a rubber grommet designed for drill piping, production tubing or sucker rods to remove excess or free flowing fluid from piping, tubing or rods that are removed during any maintenance or piping, tubing or rod replacement activity that involves the use of a workover rig.

(12) ~~Effective March 2, 2016, t~~The operator of an oil and gas production facility shall, for any central processing area located within 1,500 feet of a sensitive receptor, operate and maintain a monitoring system that alarms or notifies operators of key process conditions, such as operating pressure, liquid level or on/off operating status, or a monitoring system that is required in accordance with applicable local fire regulations, in order to ensure proper facility operation. The monitoring system shall alarm or notify operators at a central location, control center, or other common area. The owner or operator shall identify and document the monitored process parameters or monitoring system required by applicable local fire regulations and shall make such documentation available for inspection upon request.

(13) Effective [six months from date of rule amendment]~~October 4, 2015~~, the operator of an oil and gas production facility shall ~~post instructions~~ install and maintain signage. Unless otherwise approved in writing by the Executive Officer, signage shall:~~for reporting odor complaints. The posted instructions shall be provided in a conspicuous manner and under such conditions as to make it likely to be read or seen and understood by an ordinary individual during both normal operating and non-operating hours. The instructions shall include the following minimum information in English and Spanish:~~

(A) Be installed within 50 feet of the main entrance to the facility and in a location that is visible to the public;

(B) Measure at least 30 inches wide by 30 inches tall;

(C) Display lettering at least 2 inches tall with text color contrasting with the sign background;

(D) Located at least 4 feet above grade from the bottom of the sign;

(E) Display the following information in English and Spanish:

(~~A~~i) ~~Name of the facility~~Local or toll-free phone number for the site contact that is accessible 24 hours a day;

(~~B~~ii) ~~Facility call number; and,~~Notification statement:

"TO REPORT AIR QUALITY ISSUES SUCH AS ODORS, DUST, OR SMOKE FROM THIS FACILITY, PLEASE CALL [FACILITY CONTACT AND PHONE NUMBER] OR THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT AT 1-800-CUT-SMOG®"; and

(~~C~~iii) ~~Instructions to call the South Coast Air Quality Management District complaint hotline at the toll-free number 1-800-CUT-SMOG or equivalent information approved in writing by the Executive Officer.,~~Notification statement:

"PARA REPORTAR PROBLEMAS DE CALIDAD DEL AIRE COMO OLORES, POLVO O HUMO DE UNA INSTALACIÓN, LLAME A [CONTACTO DE LA INSTALACIÓN Y NÚMERO DEL TELÉFONO] O AL EL DISTRITO DE ADMINISTRACIÓN DE LA CALIDAD DEL AIRE DE LA COSTA SUR AL 1-800-CUT-SMOG®"; and

(iv) Instructions to access additional information electronically: https://www.aqmd.gov/home/rules-compliance/compliance/1148-2

(14) The operator of an oil and gas production facility shall maintain well cellar, wellhead, oil producing well, water injection well and associated lines free of visible vapors resulting from a defect in equipment as determined pursuant to the schedule and inspection requirements specified in paragraph (e)(6).

(15) Effective [Two years from date of rule amendment], any engine that is powered by produced gas that is used to operate an oil producing or injection well shall comply with a NOx emission limit of 11 ppmv at 15% oxygen on a dry basis.

(16) Effective [Two years from date of rule amendment], any stationary gas turbine or fuel cell that is powered by produced gas, at an oil and gas production facility, shall comply with a NOx emission limit of 9 ppmv at 15% oxygen on a dry basis

(17) Effective [Three years from date of rule amendment], workover rigs operated at an oil and gas production facility shall be equipped with an engine that meets the minimum emissions standards of a Tier 4 Final engine.

(18) The operator of an oil and gas production facility shall not use odorants.

(19) The operator of an oil and gas production facility shall not:

(A) Use a neutralizing agent that contains more than 0.1 % by weight of toxic air contaminants pursuant to South Coast AQMD Rule 1401 – New Source Review of Toxic Air Contaminants; and

(B) Atomize or spray any neutralizing agent.

(20) Effective January 1, 2025, for any leaks that are detected within a well cellar or from a wellhead that are greater than 25,000 ppm VOC with a calibrated analyzer per EPA Method 21, the operator shall electronically notify the Executive Officer, using a format approved by the Executive Officer, of the following information within 24 hours of the leak quantification:

(A) name and contact information of the owner and operator of the subject wellhead(s) and/or well cellar(s);

(B) leak concentration(s) in parts per million (PPM);

(C) date of discovery; and

(D) status of any repairs.

(e) Operator Inspection Requirements

(1) The operator of an oil and gas production facility shall visually inspect:

(A) Any stuffing box not located in or above a well cellar daily;

(B) Any stuffing box located in or above a well cellar weekly; or

(C) Any stuffing box or produced gas handling and control equipment located 328 feet (100 meters) or less from a sensitive receptor daily. Receptor distance shall be determined as the distance measured

from the stuffing box or produced gas handling and control equipment to the property line of the nearest sensitive receptor.

(D) Any stuffing box or produced gas handling and control equipment located between 328 feet (100 meters) and 1,500 feet from a sensitive receptor daily for any facility receiving Notice(s) of Violation for Rule 402 and/or H&S Code § 41700 for odor nuisance occurring on two (2) or more days. Receptor distance shall be determined as the distance measured from the stuffing box or produced gas handling and control equipment to the property line of the nearest sensitive receptor.

(2) Notwithstanding the requirements of subparagraphs (e)(1)(A) and (e)(1)(B), the operator shall perform monthly visual inspections of any stuffing box fitted with a stuffing box adapter, any closed crude oil collection container, and any well shut off switch that will shut down the well when the container is full.

(3) Except for well cellars listed under subdivision (~~i~~j), the operator shall quarterly, perform an inspection of all well cellars according to the test method in paragraph ~~(i)(1)~~(j)(1).

(4) Within two (2) days of discovery of organic liquid leakage observed from the inspections pursuant to subparagraph (e)(1)(A), (e)(1)(B), or paragraph (e)(2), and within eight (8) hours pursuant to subparagraph (e)(1)(C), the operator shall conduct an inspection of the stuffing box and well cellar according to the test method in paragraph ~~(i)(1)~~(j)(1) or measure the organic liquid depth using a "copper coat" gauge or any other measuring instrument determined to be acceptable by the Executive Officer.

(5) Notwithstanding the provisions of Rule 1173 – Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants, the operator of an oil and gas production facility shall conduct a monthly TOC measurement on any component that has been identified as causing or likely to have caused the confirmed odor event through a submitted specific cause analysis report submitted in accordance with the provisions of subdivision (f). The TOC measurement shall be conducted monthly according to the test method in paragraph ~~(i)(1)~~(j)(1) following submittal of the specific cause analysis report, until the measurement fails to exceed the leak rates identified in subparagraphs (e)(5)(A) and (e)(5)(B) for six consecutive months. The operator shall

repair, replace or remove from service the component in accordance with the requirements of subparagraphs (e)(5)(A) and (e)(5)(B).

(A) Any heavy liquid component leak of more than three drops per minute and greater than 100 ppmv shall be repaired, replaced or removed from service in one (1) calendar day.

(B) Any light liquid/gas/vapor/component leak greater than 500 ppmv but no more than 10,000 ppmv shall be repaired, replaced or removed from service in one (1) calendar day.

(6) Optical Gas Imaging Inspections

Effective [six months from rule amendment], the operator of an oil and gas production site shall demonstrate compliance with subparagraph (d)(14), by conducting OGI inspections in accordance with the following requirements:

(A) The person conducting an OGI inspection shall:

(i) Complete a manufacturer's certification or training program for the OGI Device used to conduct the inspection, and

(ii) Operate and maintain the OGI Device in accordance with the manufacturer's specifications and recommendations.

(B) Oil and Gas Production Facility Inspections

A person meeting the requirements of subparagraph (e)(6)(A) shall:

(i) Conduct an inspection at an oil and gas production facility at least once per calendar month on all components and well cellars; and

(ii) When visible vapors are detected using an OGI Device, and the leak cannot be repaired within ~~twenty-four~~ 24 hours from time of discovery, the use of an appropriate analyzer in compliance with paragraph (j)(1) shall be used to quantify the visible vapors in ppmv concentration within 48 hours of when the vapors are detected and the leak shall be repaired pursuant to Rule 1173 subdivision (g)~~the Repair Period Table from Rule 1173~~. Quantification of visible vapors is not required if the leak is repaired within ~~twenty-four~~ 24 hours from time of discovery.

(f) Specific Cause Analysis and Report

Effective September 4, 2015, the owner or operator of any oil and gas production facility with any sensitive receptor within 1,500 feet of any well located on the

facility property shall conduct a Specific Cause Analysis for each confirmed odor event and for each confirmed oil deposition event. The Specific Cause Analysis shall describe the steps taken to identify the source and cause of the odor or confirmed oil deposition event, and any mitigation and corrective actions taken or identified. The owner or operator shall, within 30 calendar days following receipt of written notification of a confirmed odor event or confirmed oil deposition event from the Executive Officer, submit the Specific Cause Analysis report to the Executive Officer, certified by the Responsible Party that all information submitted is true and correct.

(1) The submitted Specific Cause Analysis report shall include the following:

(A) Identification of the equipment or activity causing or likely to have caused the confirmed odor event or confirmed oil deposition event, including any equipment or activity identified in the written notification of a confirmed odor event or confirmed oil deposition event by the Executive Officer.

(B) Any ~~SCAQMD~~ South Coast AQMD regulatory requirement associated with the equipment or activity causing or likely to have caused the confirmed odor event or confirmed oil deposition event, including but not limited to, any permit condition and any other ~~SCAQMD~~ South Coast AQMD rule, including this rule.

(C) Identification of any Standard Operating Procedure, emergency or leak prevention plan, including any spill prevention plan, preventative maintenance scheduling or procedure associated with the source of the confirmed odor event or confirmed oil deposition event and any corrective action identified as part of the review and update pursuant to paragraph (f)(2) and schedule for completion of the corrective action.

(2) The owner or operator shall review and update the following as part of the Specific Cause Analysis:

(A) Any Standard Operating Procedures associated with normal production operations and the leak history of inspections associated with the source of the confirmed odor event or confirmed oil deposition event.

(B) Any emergency or leak prevention plans, including any spill prevention plans associated with the source of the confirmed odor event or confirmed oil deposition event.

(C) Any preventative maintenance scheduling or procedures associated with the source of the confirmed odor event or confirmed oil deposition event.

(g) Odor Mitigation Plan

Effective September 4, 2015, the owner or operator of any oil and gas production facility shall submit for approval an Odor Mitigation Plan, or an update to an existing Odor Mitigation Plan, to the Executive Officer within 90 calendar days following receipt of written notification from the Executive Officer.

(1) Requirement for a Plan Submittal

The Executive Officer shall notify the owner or operator of any oil and gas production facility with any sensitive receptor within 1,500 feet of any well located on the facility property of the requirement for an Odor Mitigation Plan if any of the following thresholds are met or exceeded:

(A) Receipt of Notice(s) of Violation for Rule 402 and/or H&S Code § 41700 for odor nuisance occurring on two (2) or more days; or

(B) Three (3) confirmed odor events within the previous six (6) consecutive calendar months.

(C) Subsequent to approval of an Odor Mitigation Plan:

(i) Receipt of a Notice of Violation for Rule 402 – Nuisance, as a result of odors; or

(ii) Three (3) confirmed odor events within the most recent six (6) consecutive calendar months following the date of approval of a previous Odor Mitigation Plan.

(2) Odor Mitigation Plan Elements

An approved Odor Mitigation Plan must include and address the following activities and equipment:

(A) Oil and gas production and wastewater generation, including both normal and spill or release management control operations, with corresponding identification of potential or actual sources of emissions, odors, frequency of operator inspection and history of leaks.

(B) Activity involving drilling, well completion or rework, repair or maintenance of a well, which notes the sources of emissions, odors, odor mitigation measures for responding to odors and odor

complaints, and procedures used for odor monitoring at the site and fence line.

(C) Identification of emission points and emission or leak monitoring used for all wastewater tanks, holding, knockout, and oil/water separation vessels, including any pressure relief devices or vacuum devices attached to the vessels, with provisions for recording of releases from such devices.

(D) Any equipment or activity identified as part of any previous Specific Cause Analysis.

(3) Odor Monitoring and Mitigation Requirements

An approved Odor Mitigation Plan must include the following odor monitoring and mitigation provisions:

(A) The owner or operator shall conduct continual odor surveillance downwind at the perimeter of the property during drilling, well completion, or rework, repair or maintenance of any well, including water injection wells. Observations shall be recorded hourly. Equivalent odor monitoring equipment may be used in lieu of odor surveillance, subject to approval by the Executive Officer.

(B) If odors are detected from odor surveillance or odor monitoring at the perimeter of the facility, pursuant to subparagraph (g)(3)(A) and confirmed from drilling, well completion, or rework, repair or maintenance of any well, the associated activity will discontinue until the source or cause of odors is determined and mitigated in accordance with measures previously approved unless the source or cause of the detected odors is determined to not be associated with the activity under surveillance.

(C) The oil and gas production facility shall store any removed drill piping, production tubing or sucker rods in a manner that minimizes emissions from crosswinds by storing within an enclosed area or other equivalent method.

(D) Notwithstanding the provisions of Rule 1173 - Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants, the operator of any oil and gas production facility shall repair, replace or remove from service any leaking component located within 1,500 feet of a sensitive receptor in accordance with the requirements of clauses (g)(3)(D)(i)

and (g)(3)(D)(ii). For each calendar quarter, the operator may extend the repair period, as indicated below, for a total number of leaking components not to exceed 0.05 percent of the number of components inspected during the previous quarter, by type, rounded upward to the nearest integer where required.

(i) Any heavy liquid component leak of more than three drops per minute and greater than 100 ppmv shall be repaired, replaced or removed from service in one (1) calendar day with an extended repair period of three (3) calendar days.

(ii) Any light liquid/gas/vapor component leak greater than 500 ppmv but no more than 10,000 ppmv shall be repaired, replaced or removed from service in one (1) calendar day with an extended repair period of three (3) calendar days.

(E) Any corrective action identified in a Specific Cause Analysis report previously submitted by the facility.

(F) The owner or operator shall evaluate the cause or likely cause of any confirmed odor event as identified in any Specific Cause Analysis report previously submitted by the facility and identify either improvements to existing monitoring systems required pursuant to paragraph (d)(12) or parameters for a new monitoring system installation. The owner or operator shall establish an installation and implementation schedule for any monitoring system improvements or new installations, subject to Executive Officer approval.

If any provision of paragraph (g)(3) is not included in the Odor Mitigation Plan, an evaluation and documentation must be provided in the Odor Mitigation Plan that states the reason why such provision is not feasible or would not be effective in addressing the specific cause of the confirmed odor events or notice(s) of violation that resulted in the requirement for plan submittal, subject to approval by the Executive Officer.

(4) The owner and operator of an oil and gas production facility shall comply with all provisions of an approved Odor Mitigation Plan, except as provided by paragraph ~~(j)(2)~~(k)(2). Violation of any of the terms of the plan is a violation of this rule.

(h) Recordkeeping Requirements

(1) The operator shall maintain all records that document the purchase and installation of the stuffing box adapter(s) to demonstrate compliance with paragraph (e)(4) at the facility or facility headquarters and such records shall be made available to the Executive Officer upon request.

(2) The operator shall maintain all records of inspection, measurements, repair, cleaning and pump-outs required by this rule, and of any activities performed under the exemption provided by (~~j~~k)(2), in a form approved by the Executive Officer at the facility or facility headquarters for a period of three years or a period of five years for a Title V facility and such records shall be made available to the Executive Officer upon request.

(3) The operator shall maintain production records and other applicable information and documents, including any referenced established written company safety manual or policy, sufficient to demonstrate eligibility for any exemption claimed pursuant to subdivision ~~(i)~~(j) and make them available to the Executive Officer upon request.

(4) The operator shall maintain all records and other applicable documents required as part of an Odor Mitigation Plan approved in accordance with subdivision (g) in a form approved by the Executive Officer at the facility or facility headquarters for a period of three years or a period of five years for a Title V facility and such records and applicable documents shall be made available to the Executive Officer upon request.

(i) Testing Requirements

(1) For any engine subject to paragraph (d)(15), the operator shall demonstrate compliance to the emission limit in paragraph (d)(15) by:

(A) Conducting an initial source test within [24 months of rule amendment]; and

(B) Subsequent source testing within 5 years of the previous source test.

(2) For any stationary turbine subject to paragraph (d)(16), the operator shall demonstrate compliance to the emission limit in paragraph (d)(16) by:

(A) Conducting an initial source test within [24 months of rule amendment]; and

(B) Subsequent source testing within 5 years of the previous source test.

(~~i~~j) Test Methods

The following test methods and procedures shall be used to determine compliance with this rule. Other test methods determined to be equivalent after review by the staffs of the ~~District~~South Coast AQMD, ~~the Air Resources Board~~CARB, and the U.S. EPA, and approved in writing by the ~~District~~ Executive Officer may also be used.

(1) Measurement of TOC or VOC concentrations shall be conducted according to the ~~United States Environmental Protection Agency (~~U.S. EPA~~)~~ Reference Method 21 using an appropriate analyzer calibrated with methane. The analyzer shall be calibrated before inspection each day prior to use. For the purpose of demonstrating compliance with the TOC concentration requirements in paragraphs (d)(1) and (d)(7), measurement of the TOC concentrations shall be conducted at a distance of no more than three (3) inches above the organic liquid surface in the well cellar.

(2) Determination of Efficiency of Emission Control Systems

The control equipment efficiency of an emission control system, on a mass emissions basis, and the VOC concentrations in the exhaust gases, measured and calculated as carbon, shall be determined by U.S. EPA Test Methods 25, 25A, or ~~District~~ South Coast AQMD Method 25.1 - Determination of Total Gaseous Non-Methane Organic Emissions as Carbon or ~~District~~ South Coast AQMD Method 25.3 Determination of Low Concentration Non-Methane Non-Ethane Organic Compound Emissions from Clean Fueled Combustion Sources, as applicable. U.S. EPA Test Method 18 or CARB Method 422 shall be used to determine emissions of exempt compounds.

(3) The VOC content shall be determined according to ASTM Method D 1945 for gases, ~~SCAQMD~~ South Coast AQMD Method 304-91 for liquids. The percent VOC of a liquid evaporated at 150ºC (302ºF) shall be determined according to ASTM Method D 86.

(4) The flash point of heavy liquids shall be determined according to ASTM Method D 93.

(5) Laboratory Approval

Sampling, analysis, and reporting shall be conducted by a laboratory that has been approved under the ~~District~~ South Coast AQMD Laboratory Approval Program (LAP) for the cited ~~District~~ South Coast AQMD reference test methods, where LAP approval is available. For ~~District~~ South

Coast AQMD reference test methods for which no LAP program is available, the LAP approval requirement shall become effective one year after the date that the LAP program becomes available for that ~~District~~ South Coast AQMD reference test method.

(6) Source testing for compliance demonstration of NOx emission limits shall be conducted per South Coast AQMD Method 100.1.

(~~j~~k) Exemptions

(1) This rule shall not apply to well cellars associated exclusively with:

(A) Oil and gas production wells that have been idle and out of operation for more than six months, as indicated by production records, with no liquid leaks or accumulation of crude oil in the well cellar. All provisions of this rule shall apply upon commencement of operation of the idle well.

(B) Wells that have been certified as an abandoned well by the California ~~Department of Conservation, Division of Oil, Gas and Geothermal Resources~~ Geologic Energy Management Division.

(C) Water, gas or steam injection wells.

(2) The provisions of paragraphs (d)(3), (d)(5), (d)(7), (d)(8), (d)(9) and paragraph (g)(3) shall not apply to any well, produced gas handling system, or portable enclosed storage vessel and associated air pollution control equipment undergoing maintenance and repair, well drilling, or well abandonment operations, if the owner or operator can demonstrate to the Executive Officer that: performing the maintenance and repair, drilling, or abandonment operation to meet paragraph (d)(3), (d)(5), (d)(7), (d)(8), (d)(9), or paragraph (g)(3), as applicable, would cause the facility to operate in a manner that violates state or federal regulations, applicable industry safety standards, or a written company safety manual or policy that was developed to comply with applicable industry safety standards; and that the maintenance and repair, drilling, or abandonment operation is conducted in a manner that minimizes, as much as possible under the circumstances, emissions to the atmosphere.

(3) The provisions of paragraph (d)(1), (d)(2) and (d)(7) shall not apply to any well cellar used in emergencies at oil production facilities, if clean-up procedures are implemented within 24 hours after each emergency occurrence and completed within ten (10) calendar days.

(4) The provisions of paragraph (d)(8) of this rule shall not apply to oil and gas production wells in operation as of March 5, 2004, that produce no more than one (1) barrel per day of oil or 200 standard cubic feet per day of produced gas per facility, provided that such production wells are not located within 100 meters of a sensitive receptor, and provided the production can be demonstrated from annual production records. Demonstration of produced gas production shall be based on metered measurement of the gas.

(5) The provisions of paragraph (i)(2) shall not apply to a stationary turbine certified by the CARB Distributed Generation Certification Program.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Staff Report
Proposed Amended Rule 1148.1 – Oil and Gas Production Wells

July 2024

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TABLE OF CONTENTS

EXECUTIVE SUMMARY …… EX-1

CHAPTER 1: BACKGROUND

INTRODUCTION …… 1-1
REGULATORY BACKGROUND ……... 1-1
AB 617 and Concerns with Oil and Gas Activities …….. 1-2
AFFECTED FACILITIES …… 1-3
PUBLIC PROCESS ……..……. 1-3

CHAPTER 2: BARCT ASSESSMENT

INTRODUCTION ……. 2-1
BARCT ANALYSIS APPROACH …… 2-2

CHAPTER 3: PROPOSED AMENDMENTS TO RULE 1148.1

INTRODUCTION ……. 3-1
PROPOSED AMENDMENTS TO RULE 1148.1
(c) Definitions ……. 3-1
(d) Requirements …….. 3-2
(e) Operator Inspection Requirements ……..…….. 3-6
(i) Testing Requirements …… 3-7
(j) Test Methods …….. 3-7
(k) Exemptions …… 3-7
Other Revisions …… 3-7

CHAPTER 4: IMPACT ASSESSMENTS

INTRODUCTION …… 4-1
EMISSION REDUCTIONS …… 4-1
COST-EFFECTIVENESS ……... 4-6
INCREMENTAL COST-EFFECTIVENESS …….. 4-12
SOCIOECONOMIC IMPACT ASSESSMENT ……... 4-13
CALIFORNIA ENVIRONMENTAL QUALITY ACT ANALYSIS ……..……. 4-13
DRAFT FINDINGS UNDER HEALTH AND SAFETY
CODE SECTION 40727 …….. 4-14
COMPARATIVE ANALYSIS …… 4-15

APPENDIX A – RESPONSES TO COMMENT LETTERS

~~APPENDIX B – SAFETY DATA SHEETS~~

EXECUTIVE SUMMARY

The purpose of South Coast AQMD Rule 1148.1 – *Oil and Gas Production Wells* (Rule 1148.1) is to reduce emissions of volatile organic compounds (VOC), toxic air contaminants (TAC) and total organic compounds (TOC) from the operation and maintenance of wellheads, well cellars, and the handling of produced gas and oil and gas production facilities. Rule 1148.1 applies to approximately 330 onshore oil or gas well facilities that conduct operations including drilling, well completion, well rework, and well injection activities.

~~PAR 1148.1 iswill also seek to further reduce VOC emissions from wellheads, well cellars, and the handling of produced gas through use of enhanced leak detection technology.~~

Rule requirements reduce VOC emissions from the wellheads and the well cellars through inspection and maintenance, and control of produced gas emissions. The rule also establishes work practices and odor mitigation procedures.

Proposed Amended Rule 1148.1 (PAR 1148.1) will seek to further reduce VOC emissions from wellheads, well cellars, and the handling of produced gas through use of enhanced leak detection technology, among other requirements.

~~In response to concerns raised by Assembly Bill (AB) 617 communities located in the Wilmington, Carson, West Long Beach (WCWLB) area and South Los Angeles (SLA) area and the 2022 Air Quality Management Plan Control Measure FUG-01: Improved Leak Detection and Repair, Proposed Amended Rule (PAR) 1148.1 will further reduce and control VOC emissions.~~ Proposed Amended Rule ~~(~~PAR~~)~~ 1148.1 was developed in response to priorities identified in the Wilmington, Carson, West Long Beach (WCWLB) Community Emission Reduction Plan (CERP), the South Los Angeles~~²~~ (SLA) CERP, and to partially implement the 2022 Air Quality Management Plan (AQMP) control measure FUG-01: Improved Leak Detection and Repair. PAR 1148.1 will: 1) add new definitions to further clarify the amendments being proposed, 2) require the use of enhanced leak detection technology, 3) require equipment that uses produced gas to meet specific NOx limits and to verify compliance via source tests, 4) require workover rigs to use Tier 4 Final diesel engines, 5) ban the use of odorants that are used to mask odors emanating from oil production sites, 6) require submitting a notification for quantified leaks greater than 25,000 ppm VOC, and ~~6~~7) update signage requirements. Additional minor changes to rule language will be made for consistency and clarity.

Implementation of PAR 1148.1 is expected to reduce VOC emissions by approximately 100 tons per year (0.27 tons per day) starting in year 2025~~ when the OGI inspections begin~~, and is expected to reduce NOx emissions by approximately 200 tons per year (0.55 tons per day) by year 2027 ~~when workover rigs are required to meet Tier 4 Final engine standards.~~

Development of PAR 1148.1 was conducted through a public process. Four Working Group Meetings were held on: April 20, 2023, September 14, 2023, December 14, 2023, and April 11,

2024. The working group meetings consists of stakeholders including representatives from the communities, environmental organizations, industry representatives, and government agencies. In addition, staff participated in AB 617 meetings to notify and update stakeholders on the rule development process. Staff also met individually with industry stakeholders and visited sites affected by the rule development process. Working group meeting notices were provided to operators, suppliers and participants of AB 617 meetings that signed up for notifications of AB 617 updates or oil and gas well rule development. A Public Workshop meeting was held on February 1, 2024, where staff presented the proposed amended rulePAR 1148.1 to the general public and stake-holders, and received comments related to the proposals.

CHAPTER 1: BACKGROUND

INTRODUCTION

BACKGROUND

AFFECTED FACILITIES

PUBLIC PROCESS

INTRODUCTION

Rule 1148.1 – *Oil and Gas Production Wells* requires operators of oil and gas wells to reduce emissions of volatile organic compounds (VOCs), toxic air contaminants (TAC) emissions and Total Organic Compounds (TOC) from the operation of wellheads, well cellars, and the handling of produced gas at oil and gas production facilities. Well activity occurs at multiple sites throughout the South Coast AQMD and may be found near residential communities as shown in Figure 1.1.



Figure 1.1 – Example of Urban Oil Well

Concerns have been raised by AB 617 communities located in the Wilmington, Carson, West Long Beach (WCWLB) area and South Los Angeles (SLA) area about the need for additional, timely and reliable requirements to further control VOC emissions coming from oil and gas production facilities. In response, staff proposes to modify requirements in Rule 1148.1 to add the use of enhanced leak detection technology, require Tier 4 Final diesel engines in the use of workover rigs engaged in general maintenance activities, and source test requirements for stationary equipment that uses produced gas to verify emission limits. Staff also proposes to ban the use of odorants used to mask odors and update signage requirements. Additional definitions and minor changes to rule language are made for consistency and clarity.

REGULATORY BACKGROUND

Rule 1148.1 was adopted on March 5, 2004, to implement Control Measure FUG-05 of the 2003 AQMP by reducing VOC emissions from the wellheads and the well cellars located at oil and gas production facilities through increased inspection and maintenance, and control of produced gas emissions, with additional regulatory considerations when located within 100 meters to sensitive receptors. See Figure 1.2 for an example of wellheads inside a well cellar.



Figure 1.2 – Example of Wellheads Inside a Well Cellar

Rule 1148.1 was amended on September 4, 2015 to minimize environmental impacts on neighboring communities and sensitive receptors from ongoing operations, including well stimulation techniques such as hydraulic fracturing. Between 2010 and 2014, operations at an urban oil and gas production facility were the subject of numerous public complaints and received multiple Notices of Violations (NOV) from the South Coast AQMD. The amendment focused on improving work practices and established odor mitigation procedures.

AB 617 and Concerns with Oil and Gas Well Activities

In 2017, Governor Brown signed AB 617 (C. Garcia, Chapter 136, Statutes of 2017) to develop a new community-focused program to potentially reduce exposure to air pollution and preserve public health. AB 617 directed the California Air Resources Board (CARB) and all local air districts, including the South Coast AQMD, to enact measures to protect communities disproportionally impacted by air pollution. On September 27, 2018, CARB designated 10 communities across the state to implement community plans for the first year of the AB 617 program. Local air districts were tasked with developing and implementing community emissions reduction and community air monitoring plans in partnership with residents and community stakeholders. The Community Air Monitoring Plan (CAMP) includes actions to enhance the understanding of air pollution in the designated communities and to support effective implementation of the Community Emissions Reduction Plan (CERP). A CERP provides a blueprint for achieving air pollution emission and exposure reductions, addressing the community's highest air quality priorities. The CERP includes actions to reduce emissions and/or exposures in partnership with community stakeholders.

During their CERP development process, the WCWLB and SLA communities raised numerous concerns related to oil and gas well activity and current South Coast AQMD rules.

The CERP for WCWLB listed four main air quality priorities related to oil drilling and production. These priorities focused on:

- The need for near-facility air measurements and inspections to address leaks and odors from oil drilling and production;
- Fenceline air monitoring;
- Vapor recovery systems and leak detection technologies; and
- The use of lower or zero-emission equipment for on-site operations.

The CERP for SLA also listed multiple priorities related to oil drilling and production. These priorities focused on:

- Identification of potential elevated emissions through air measurement surveys around oil drilling sites;
- Determination of which oil well sites and activities may require additional monitoring;
- Explore limiting/eliminating odorant use;
- Explore requirements for lower emission or zero-emission equipment;
- Reduction emissions and exposure to oil and gas operations through rule amendments to the Rule 1148 Series;
- Incentive funding opportunities for best management practices and/or installation of emission reduction technologies at oil and gas facilities.

Note that some other community concerns have been addressed in the February 2023 amendment to *Rule 1148.2 – Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers* (Rule 1148.2) such as providing notifications for activities such as acidizing of water injection wells. In addition, Rule 1148.2 has requirements for mailers to be sent out to sensitive receptors within 1,500 feet of an oil and gas or injection well prior to the commencement of an acidizing event.

AFFECTED FACILITIES

Proposed Amended Rule 1148.1 affects any operator of an oil or gas production facility located within the jurisdiction of the South Coast AQMD and its operation and maintenance of wellheads, well cellars, and the handling of produced gas. There are approximately three hundred and thirty facilities potentially affected by this amendment.

PUBLIC PROCESS

The development of PAR 1148.1 was conducted through a public process. Four Working Group Meetings were held on: April 20, 2023, September 14, 2023, December 14, 2023, and April 11, 2024. In addition, staff participated in AB 617 meetings to notify and update stakeholders on the rule development process. Stakeholders include representatives from the community, environmental organizations, industry representatives, and government agencies. Staff also met individually with industry stakeholders and visited sites affected by the rule development process.

Working group meeting notices were provided to operators, suppliers and participants of AB 617 meetings that signed up for notifications of AB 617 updates or oil and gas well rule development. A Public Workshop meeting was held on February 1, 2024, where staff presented the proposed amended rule to the general public and stake holders, and received comments related to the proposal.

CHAPTER 2: BARCT ASSESSMENT

INTRODUCTION

BARCT ANALYSIS APPROACH

INTRODUCTION

As part of the rule development process, staff conducted a Best Available Retrofit Control Technology (BARCT) assessment of equipment subject to PAR 1148.1. The purpose of a BARCT assessment is to identify potential emission reductions from specific equipment and to establish an emission limit consistent with state law.

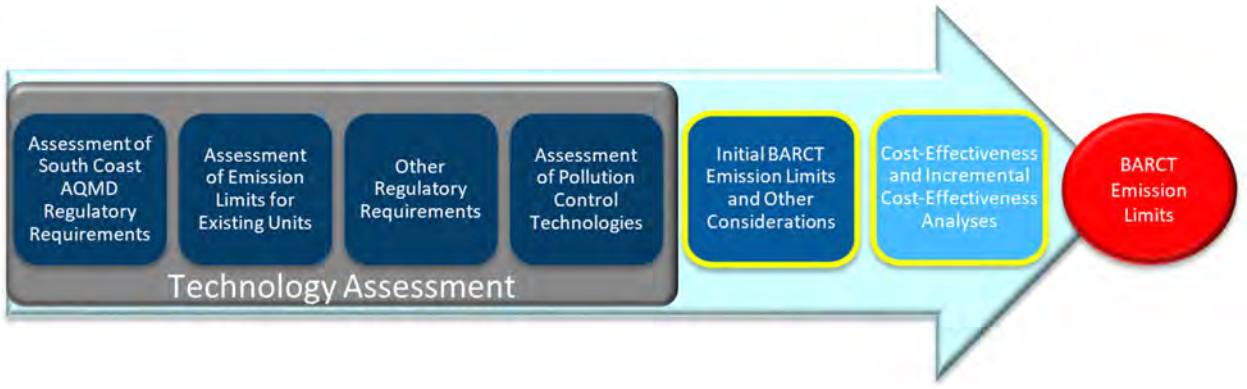
Under Health and Safety Code Section 40406, BARCT is defined as:

> "… an emission limitation that is based on the maximum degree of reduction achievable, taking into account environmental, energy, and economic impacts by each class or category of source."

The BARCT assessment for this rule development consisted of a multi-step analysis. The first four steps represent the technology assessment. First, staff evaluated current South Coast AQMD regulatory requirements with an applicability to this rule development. Second, staff then assessed emission limits for existing units. Third, staff next surveyed other air districts and agencies outside of the South Coast AQMD's jurisdiction to identify emission limits that exist for similar equipment. In the final step of the technology assessment, staff assessed pollution control technologies to determine what degree of reduction could be achievable for the affected sources. Based on the technology assessment, initial emission limits and other considerations were proposed.

Once initial emission limits have been proposed, staff then calculated the cost-effectiveness of the proposals. The calculations consider the cost to meet the initial BARCT emission limit and the emission reductions that would occur from implementing technology that could meet the initial BARCT emission limit. An incremental cost-effectiveness analysis is conducted if multiple cost-effective control technology options are identified. Options are compared to determine costs of emission reductions. Based on the evaluation of the information, BARCT emission limits are recommended. See Figure 2-1 below for a graphical representation of the BARCT assessment process.

Figure 2.1 – BARCT Assessment Process



BARCT ANALYSIS APPROACH

In this rulemaking effort, staff is considering the following proposals to be incorporated into the rule:

(1) Adding the use of enhanced monitoring and leak detection techniques
(2) Establishing emission limits for internal combustion engines used to operate wellhead pumps
(3) Establishing emission limits for stationary gas turbines using produced gas for fuel
(4) Requiring electrification or the use of cleaner engines for workover rigs

(1) Adding the use of enhanced monitoring and leak detection techniques

- *Assessment of Current South Coast AQMD Regulatory Requirements*

Currently, Rule 1148.1(i)(1) requires the use of an appropriate analyzer calibrated with methane per U.S. EPA Reference Method 21 to inspect components and equipment regulated by the rule. Typically, the analyzer used is a Toxic Vapor Analyzer (TVA) (See Figure 2.2). A TVA is capable of measuring a variety of organic vapors using flame ionization detection (FID) technology and it provides a concentration value of the organic vapor.



Figure 2.2 – Example of a Toxic Vapor Analyzer

Other South Coast AQMD Rules also require the use of an appropriate analyzer calibrated with methane per U.S. EPA Reference Method 21 to conduct inspections including but not limited to: Rule 1149 – *Storage Tank and Pipeline Cleaning and Degassing*; Rule 1173 – *Control of Volatile Organic Compound Leaks and Releases from Components at Petroleum Facilities and Chemical Plants*; Rule 1176 – *VOC Emissions from Wastewater Systems*; and Rule 1178 – *Further Reductions for VOC Emissions from Storage Tanks at Petroleum Facilities*.

In September 2023, Rule 1178 was amended to include optical gas imaging (OGI) inspections for equipment subject to the rule. In June 2024, Rule 463 was also amended to require OGI inspections.

- *Assessment of Emission Limits of Existing Units*

The use of OGI equipment does not have an emission limit relevant to this analysis. As such, no assessment of emission limits of existing units is required.

- *Other Regulatory Requirements*

Staff reviewed rules and regulations from other air districts and agencies and noted that the use of enhanced monitoring techniques utilizing OGI was limited.

San Joaquin Valley Air Pollution Control District (SJVAPCD) Rule 4409 – *Components at Light Crude Oil Production Facilities, Natural Gas Production Facilities, and Natural Gas Processing Facilities*, subsection 6.3, after June 30, 2024, requires that all leaks detected with the use of an OGI instrument shall be measured using U.S. EPA Reference Method 21 within two calendar days of initial OGI leak detection or within 14 calendar days of initial OGI leak detection of an inaccessible or unsafe to monitor component to determine compliance with the leak thresholds and repair timeframes specified in the rule.[1]



Figure 2.3 – Example of an OGI camera

Under Colorado Air Quality Control Commission Regulation Number 7 – *Control of Emissions from Oil and Gas Emissions Operations*, the use of an OGI camera can be utilized as part of an approved leak detection and repair plan.[2] Leak detection thresholds are quantified using a TVA or equivalent device.

- *Assessment of Pollution Control Technologies*

OGI equipment does not control pollution directly but is a tool that can be used to identify emissions. As such, no assessment of pollution control technology is required for adding the use of enhanced monitoring and leak detection techniques. However, a discussion on current enhanced monitoring and leak detection technologies is included.

Optical Gas Imaging

An optical gas imaging camera uses infrared technology capable of visualizing vapors. OGI cameras have different detectors capable of visualizing a variety of gas wavelengths. VOC wavelengths are in the 3.2-3.4 micrometer waveband.

The cameras are widely used as a screening tool for leak detection purposes and have continuous monitoring capability.



Figure 2.4 – OGI Camera Imaging

[1] San Joaquin Valley Air Pollution Control District (SJVAPCD) Rule 4409 – *Components at Light Crude Oil Production Facilities, Natural Gas Production Facilities, and Natural Gas Processing Facilities*, subsection 6.3: https://ww2.valleyair.org/media/z11dynbx/rule-4409.pdf, p. 4409-21, accessed on November 1, 2023.

[2] Colorado Air Quality Control Commission Regulation Number 7 – *Control of Emissions from Oil and Gas Emissions Operations*: https://drive.google.com/file/d/1P6pRmNYx5KwEK6qDReYFL11-K-URI33J/view, p. 36, accessed on November 1, 2023.

Handheld OGI cameras are used widely by leak detection service providers as well as facilities for periodic monitoring.

Open Path Sensors

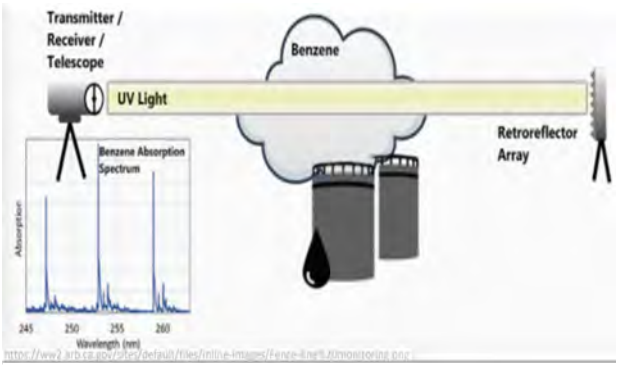


Figure 2.5 – Example of Open Path Technology

Open path detection devices emit beams that detect VOCs (See Figure 2.5). For VOC to be detected with an open path device, the VOCs must contact the beam. Open path detection devices can detect gas concentrations in the parts per billion range and from distances as far as 300 meters away from a source, with some models advertised as having a range of 1,000 meters. One open path device can cover multiple paths. Open path devices can detect small concentrations of VOC in the parts per billion by volume (ppbv) range and can also speciate VOC. A significant limitation to leak detection of these devices is the requirement for VOCs to contact the emitted beam. This provides a chance for VOCs to go undetected if travelling on a path that does not intercept the beam. Another drawback to open path detection is the dilution factor. VOCs originating from a tank may need to travel hundreds of feet before contacting the emitted beam. The concentration of VOC may dilute so significantly that VOCs are undetectable by the time the VOCs reach the emitted beam.

Fixed Gas Sensors


Figure 2.6 – Example of a Fixed Gas Sensor

Fixed gas sensors have the capability to continuously monitor for VOC emissions and are installed as fixed applications (See Figure 2.6). Concentrations of VOC detected with fixed gas sensors are in the parts per million by volume (ppmv) range depending on the sensor and have a maximum detection range of about 50-100 ppmv. Like open path devices, gas sensors can only detect emissions when VOCs contact the fixed sensor. Leaks from a source must be significant to be detected by a fixed gas sensor due to the dilution factor. According to one supplier, it is estimated that a leak with a concentration of 72,000 ppmv is detectable by a gas sensor 100 feet away. A leak with a concentration of 18,000 ppmv is detectable by a gas sensor 50 feet away.

(2) Establishing emission limits for internal combustion engines used to operate wellhead pumps

- *Assessment of Current South Coast AQMD Regulatory Requirements*

Currently, Rule 1148.1 does not have any emission limits for engines operated at facilities subject to this rule. However, other South Coast AQMD rules do regulate internal combustion engines. South Coast AQMD Rules 1110.2 – *Emissions from Gaseous- and Liquid-Fueled Engines* and

1470 – *Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines* regulate emissions from internal combustion engines that are rated greater than 50 bhp. In addition, stationary engines that are greater than 50 bhp are required to be permitted by the South Coast AQMD. Some engines, however, that are less than 50 bhp but are operated by facilities subject to the South Coast AQMD Regional Clean Air Incentives Market (RECLAIM) program are also subject to permitting requirements. Portable engines that are greater than 50 bhp are required to be either registered by the California Air Resources Board (CARB) through their Portable Equipment Registration Program (PERP) or permitted by the South Coast AQMD.

- *Assessment of Emission Limits of Existing Units*



Figure 2.7 – Example of an ICE

During the rule development process, staff visited multiple sites where internal combustion engines were observed to be operating wellhead pumps (See Figure 2.7). The sites were not part of the RECLAIM program. In general, these engines were rated under 50 bhp and were powered by produced gas from the individual sites. The engines were not observed to have any emission controls on their exhaust. As long as the supply of produced gas was available or as necessary, the engines were operated continuously 24 hours a day, 7 days a week. Because the observed engines were rated at less than 50 bhp, Rules 1110.2 and 1470 do not apply. Thus, the engines used to operate wellhead pumps generally do not have an emission limit unless the engine is rated greater than 50 bhp.

- *Other Regulatory Requirements*

Staff reviewed rules and regulations from other air districts and agencies and noted that for rules that similarly regulate oil and gas production sites, engines are not included in their respective regulations. However, in their suite of rules, other regulatory agencies do regulate emissions from stationary internal combustion engines such as: BAAQMD Regulation 9 – *Inorganic Gaseous Pollutants*, Rule 8 – *Nitrogen Oxides and Carbon Monoxide from Stationary Internal Combustion Engines* and SJVAPCD Rule 4702 – *Internal Combustion Engines.*

- *Assessment of Pollution Control Technologies*

Application of Nonselective Catalytic Reduction Technology

During site visits, staff noted that the internal combustion engines observed were engines that are classified as rich-burn engines. Rich-burn engines operate at a higher concentration of fuel to air in its combustion chamber compared to lean-burn engines which operate at a higher concentration of air to fuel in its combustion chamber. With a higher concentration of fuel to air, rich-burn engines respond to varying loads more effectively compared to lean-burn engines. On oil field and gas production sites, the supply of produced gas to an engine can vary making the rich-burn engine one of choice and necessity.

Although no exhaust emission controls were observed on engines used to operate wellhead pumps, there exists commercially available air pollution control equipment that can be installed on rich-burn engines such that if operated properly can achieve emission reduction compliant to the NOx emission limit established in Rule 1110.2.

Nonselective Catalytic Reduction (NSCR) technology is applicable to all rich-burn engines and is a common control method for rich-burn engines (See Figure 2.8). The first wide scale application of NSCR technology occurred in the mid- to late-1970s, when 3-way NSCR catalysts were applied to motor vehicles with gasoline engines. Since then, this control method has found widespread use on stationary engines. Improved NSCR catalysts, called 3-way catalysts because CO, VOC, and NOx are simultaneously controlled, have been commercially available for stationary engines for over 20 years.



Figure 2.8 – Example of an NSCR Device

The NSCR catalyst promotes the chemical reduction of NOx in the presence of CO and VOC to produce oxygen and nitrogen. The 3-way NSCR catalyst also contains materials that promote the oxidation of VOC and CO to form carbon dioxide and water vapor. To control NOx, CO, and VOC simultaneously, 3-way catalysts must operate in a narrow air/fuel ratio band (15.9 to 16.1 for natural gas-fired engines) that is close to stoichiometric.

Removal efficiencies for a 3-way catalyst are greater than 90% for NOx, greater than 80% for CO, and greater than 50% for VOC. Greater efficiencies, below 10 parts per million NOx, are possible through use of an improved catalyst containing a greater concentration of active catalyst materials, use of a larger catalyst to increase residence time, or through use of a more precise air/fuel ratio controller.

NSCR catalysts are subject to masking, thermal sintering, and chemical poisoning. In addition, NSCR is not effective in reducing NOx if the CO and VOC concentrations are too low. NSCR is also not effective in reducing NOx if significant concentrations of oxygen are present. In this latter case, the CO and VOC in the exhaust will preferentially react with oxygen instead of the NOx. For this reason, NSCR is an effective NOx control method only for rich-burn engines.

When applying NSCR to an engine, care must be taken to ensure that the sulfur content of the fuel gas is not excessive. The sulfur content of pipeline-quality natural gas and LPG is very low, but some oil field gases and waste gases can contain high concentrations. Sulfur tends to collect on the catalyst, which causes deactivation. This is generally not a permanent condition and can be reversed by introducing higher temperature exhaust into the catalyst or simply by heating the catalyst. Even if deactivation is not a problem, the water content of the fuel gas must be limited when significant amounts of sulfur are present to avoid deterioration and degradation of the catalyst from sulfuric acid vapor.

In cases where an engine operates at idle for extended periods or is cyclically operated, attaining and maintaining the proper temperature may be difficult. In such cases, the catalyst system can be designed to maintain the proper temperature, or the catalyst can use materials that achieve high efficiencies at lower temperatures. For some cyclically operated engines, these design changes may be as simple as thermally insulating the exhaust pipe and catalyst. Most of these limitations can be eliminated or minimized by proper design and maintenance.

Electrification of All Engines

During site visits, staff observed that most wellhead pumps are electrically driven. However, on a few sites, some wellhead pumps were being powered by engines fueled by produced gas. Staff noted that on these few sites, the produced gas could not be routed offsite for further processing or collection. In order to maintain operation of the site, the operator could either vent the produced gas to the atmosphere, install a combustion device to flare it, install a boiler or heater to consume it, or utilize an internal combustion engine or a stationary turbine to produce power to run a wellhead pump. In the past, another option included potentially reinjecting the produced gas back into the oil formation; however, staff has learned that other regulatory agencies such as the City of Los Angeles Zoning Administrator severely restrict this practice and it is no longer common.

(3) Establishing emission limits for stationary gas turbines using produced gas for fuel

- *Assessment of Current South Coast AQMD Regulatory Requirements*

During the rule development process, staff visited multiple sites where stationary gas turbines were operated using process gas as their fuel source. Currently, Rule 1148.1 does not have an emission limit for turbines operated at facilities subject to this rule. However, for turbines that are rated at 0.3 MW and larger, South Coast AQMD Rule 1134 – *Emissions of Oxides of Nitrogen from Stationary Gas Turbines* applies.



Figure 2.9 – Example of a Stationary Gas Turbine

- *Assessment of Emission Limits of Existing Units*

Rule 1134 limits NOx emissions from stationary gas turbines that are fueled by produced gas to 9 ppmv at 15% O_2 on a dry basis. For engines rated at less than 0.3 MW, there is currently no emission limit set by the South Coast AQMD.

- *Other Regulatory Requirements*

Staff reviewed rules and regulations from other air districts and agencies and noted that for rules that similarly regulate oil and gas production sites, stationary gas turbines are not included in their respective regulation. However, in their suite of rules, other regulatory agencies do regulate the emissions from stationary gas turbines engines such as: BAAQMD Regulation 9 – *Inorganic*

Gaseous Pollutants, Rule 9 – *Nitrogen Oxides Stationary Gas Turbines* and SJVAPCD Rule 4703 – *Stationary Gas Turbines*. These rules also exempt smaller turbines such as those used at oil and gas well production sites.

The CARB Distributed Generation (DG) Certification Regulation is available to smaller gas turbines that are exempt from air district permitting requirements. These units must demonstrate that they meet or exceed the following emission standards:

Table 2.1: DG Emission Standards

Pollutant	Emission Standard (lb/MW-hr)
NOx	0.07
CO	0.10
VOCs	0.02

- *Assessment of Pollution Control Technologies*

To control NOx emissions, Selective Catalytic Reduction (SCR) technology is often used. SCR is a commercially available air pollution control system used to reduce NOx emissions from stationary gas turbines. SCR technology injects ammonia into a turbine's exhaust. The exhaust is then passed through a fixed catalyst bed where NOx reacts with the ammonia and is converted into nitrogen. If CO and VOCs are also to be controlled, then an oxidation catalyst is added to the exhaust stream typically upstream of the SCR. Catalyst efficiency relies on good dispersion and mixing. Typical conversion efficiencies for SCR systems range between 90 – 95% for NOx.

Dry Low NOx controls NOx by combusting gas at lower temperatures using a lean premixed combustion. An advanced control system in also utilized. Low NOx levels are achieved as the process requires less fuel and air resulting in lower combustion temperatures.

(4) Requiring electrification or the use of cleaner engines for workover rigs

- *Assessment of Current South Coast AQMD Regulatory Requirements*

Currently, the electrification or the use of cleaner engines for workover rigs is not required by Rule 1148.1. Other South Coast AQMD rules do not mandate the use of electrified or cleaner engines. However, Rule 1148.2 requires the operator of a workover rig where the engine does not meet a minimum Tier 4 Final emissions standards of Title 40 of the Code of Federal Regulations Part 1039 Subpart B, Section 1039.101, Table 1 and the engine is not powered by a non-combustion source, to notify the Executive Officer no more than 10 calendar days and no less than 24 hours prior to the use of the workover rig on either an onshore oil or gas well, or an injection well. This engine standard shall also apply to any engine that connects to, and assists, the workover rig with any well activity.

- *Assessment of Emission Limits of Existing Units*

Typically, workover rigs use engines that are considered to be off-road compression-ignition diesel engines and are registered through CARB's PERP. Depending on the age and the rated bhp of the engine, an engine is assigned to a Tier category. Based on the tier level, emission limits vary. For example, a 2008 engine rated between 75 – 100 bhp falls under the Tier 3 category and it has a NOx emission limit of 3.5 g/bhp-hr (~ 234 ppmv at 15% O_2). In comparison, a 2015 engine rated similarly falls under the Tier 4 Final category and it has a NOx emission limit of 0.14 g/bhp-hr (~ 9 ppmv at 15% O_2). It should be noted that engines which are integrated with the propulsion of the rig itself is not included in CARB's PERP.



Figure 2.10 – A Workover Rig in Operation

- *Other Regulatory Requirements*

U.S. EPA has developed Tier 4 standards for nonroad diesel engines to reduce emissions. Exhaust emissions from Tier 4 engines decrease emissions from older engines by more than 90%.[3] The Tier 4 standards took effect for new engines beginning in 2008 and were fully phased in for most diesel engines by 2014. Thus, new engines manufactured after 2008 are required to meet the applicable standard effective when the engine is built. Staff has noted that engines used on workover rigs range between $175 \leq hp < 750$ and widely range in age. Staff has observed during site visits that only some engines used on workover rigs are currently required to meet Tier 4 standards.

The Tier 4 emission standards are provided in the following table.

[3] U.S. EPA, Summary and Analysis of Comments: Control of Emissions from Nonroad Diesel Engines, May 2004: https://nepis.epa.gov/Exe/ZyPDF.cgi/P10003DS.PDF?Dockey=P10003DS.PDF, accessed on November 2, 2023.

Table 2.2 – Tier 4 Final Emission Standards in grams per horsepower-hour (g/hp-hr)

Rated Power	First Year that Standards Apply	PM	NOx
hp < 25	2008	0.30	-
25 ≤ hp < 75	2013	0.02	3.5*
75 ≤ hp 175	2012-2013	0.01	0.30
175 ≤ hp < 750	2011-2013	0.01	0.30
hp ≥ 750	2011-2014 2015	0.075 0.02/0.03**	2.6/0.50† 050††

* The 3.5 g/hp-hr standard includes both NOx and nonmethane hydrocarbons
† The 0.05 g/hp-hr standard applies to gensets over 1200 hp
** The 0.02 g/hp-hr standard applies to gensets; the 0.03 g/hp-hr standard applies to other engines
†† Applies to all gensets only.

- *Assessment of Pollution Control Technologies*

SCR Technology

To achieve Tier 4 Final NOx emission levels, engine manufacturers will use small-scaled SCR units on the exhaust of these engines. SCR technology injects ammonia into a turbine's exhaust. The exhaust is then passed through a fixed catalyst bed where NOx reacts with the ammonia and is converted into nitrogen. If CO and VOCs are also to be controlled, then an oxidation catalyst is added to the exhaust stream typically upstream of the SCR. Catalyst efficiency relies on good dispersion and mixing. Typical conversion efficiencies for SCR systems range between 90 – 95% for NOx.

Electrification of Engines Used for Workover Rigs

Staff observed the use of an electrified workover rig at two different sites and is aware of another electrified workover rig that had once been installed and operated at another site. At the two sites where there was an electrified rig, staff noted that the units were not capable of leaving the site and were confined to move on a fixed rail system within the facility. In addition, each site had been retrofitted with a robust electrical substation to meet the electrical demand required by a workover rig. The fixed rail system would also be especially challenging for oil and gas well sites that are difficult to access due to terrain and location. See Figure 2.11 for photos on an electrically powered drilling/workover rig.



Figure 2.11 – Photo on left shows electrified drilling/workover rig and photo on right shows inside view. Note that this drilling/workover rig is on a rail and can only be used at this specific site

CHAPTER 3: PROPOSED AMENDMENTS TO RULE 1148.1

INTRODUCTION

PROPOSED AMENDMENTS TO RULE 1148.1

INTRODUCTION

Staff participated in multiple meetings with WCWLB and SLA community residents, acknowledged the CERP, conducted multiple site visits to oil and gas production sites, conducted a BARCT assessment, and presented our findings in a public process. The following proposals address the concerns raised in these communities.

PROPOSED AMENDMENTS TO RULE 1148.1

Subdivision (c) – Definitions

The definitions listed below are being revised or added due to the proposed amendments to Rule 1148.1:

- **COMPONENT** – The definition is updated to include the wellhead and stuffing box as recognized components.

- **ENGINE** – During the rule development process, staff noted that produced gas was being utilized to power engines used to operate wellheads. Staff has added this definition as part of introducing emission limits onto engines that are powered and consuming produced gas from oil field and production sites. Staff referenced South Coast AQMD Rule 1110.2 for development of this definition.

- **FUEL CELL** – The definition is added to recognize the technology as an alternate to engines. U.S. EPA describes fuel cells as follows. A fuel cell is an electrochemical device similar to a battery. While both batteries and fuel cells generate power through an internal chemical reaction, a fuel cell differs from a battery in that it uses an external supply that continuously replenishes the reactants in the fuel cell. A battery, on the other hand, has a fixed internal supply of reactants. The fuel cell can supply power continuously as long as the reactants are replenished, while the battery can only generate limited power before it must be recharged or replaced.[4]

- **GAS HANDLING** – Staff discussed the intent of gas handling operations within the Applicability section of the rule and discovered a potential misunderstanding of using the term "processed gas" instead of "produced gas." Staff updated rule language to state "produced gas" in the first sentence of the Applicability section and created a definition for "gas handling" to further clarify the intent of this rule.

- **NEUTRALIZING AGENTS** – Staff has added this definition as part the proposal to remove the use of odorants from oil and gas production sites. AB 617 communities have expressed concern that odorants may be masking chemicals that can be harmful to the environment and to members of the public. Staff is making a distinction between neutralizing agents and odorants, which are specifically designed to mask an odor.

[4] U.S. EPA Auxiliary and Supplemental Power Fact Sheet: Fuel Cells: https://www.epa.gov/sites/default/files/2019-08/documents/fuel_cells_fact_sheet_p1004xfm.pdf, accessed on June14, 2023.

- **ODORANT** – Staff has added this definition as part the proposal to remove the use of odorants from oil and gas production sites. AB 617 communities have expressed concern that odorants may be masking chemicals that can be harmful to the environment and to members of the public.

- **OPTICAL GAS IMAGING DEVICE** – Staff has added this definition as part of introducing enhanced monitoring technology into the rule. Staff referenced South Coast AQMD Rule 1178 for development of this definition.

- **STATIONARY GAS TURBINE** – During the rule development process, staff noted that produced gas was being utilized to power stationary gas turbines that produce electricity to either power the site or supply the local electrical power grid. Staff has added this definition as part of introducing emission limits onto turbines that are powered and consuming produced gas from oil field and production sites. Staff referenced South Coast AQMD Rule 1134 for development of this definition.

- **TIER 4 FINAL ENGINE** – U.S. EPA established Tier 4 Final standards for nonroad diesel engines that reduce emissions by integrating engine and fuel controls as a system. Exhaust emissions of PM and NOx from these engines will decrease by more than 90%. These standards are achieved through the use of advanced exhaust gas after-treatment technologies such as urea-selective catalyst reduction (SCR) catalysts for NOx control, and diesel particulate filters (DPFs) for PM control. The use of ultra-low sulfur diesel (ULSD) fuel with a maximum sulfur content of 15 ppmv or less is also generally required.

- **VISIBLE VAPORS** – Staff has added this definition as part of introducing enhanced monitoring technology into the rule. Staff referenced South Coast AQMD Rule 1178 for development of this definition.

- **WORKOVER RIG** – Staff has added this definition to describe what a workover rig is. Staff developed this definition by researching various oil field industry websites that listed workover rigs, and from first-hand observations of workover rigs used in the local oil field production facilities.

Subdivision (d) – Requirements

The requirements listed below are being revised or added due to the proposed amendments to Rule 1148.1.

- Paragraphs (d)(7) and (d)(9) – The word “business” was removed from these paragraphs for consistency. The oil and gas production facilities operate 24 hours a day and 7 days a week. Therefore, there is no need to distinguish a business day from a regular day.

- Paragraph (d)(13) – During the amendment to Rule 1148.2 – *Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers*, concerns were raised about signs

installed at oil field and production sites. AB 617 stakeholders requested that instructions be provided on how to make odor complaints and electronically access information on well activities. Staff referenced South Coast AQMD Rule 1460 –*Control of Particulate Emissions from Metal Recycling and Shredding Operations* for development of this requirement. Figure 3.1 shows a typical sign for an oil and gas facility.



Figure 3.1 - Example of Signage Prior to Amendment

- Paragraph (d)(14) – Staff has added this requirement as part of introducing enhanced monitoring technology using an OGI camera as part of the inspection process.

- Paragraph (d)(15) – Staff has added a NOx emission limit to engines that are powered by produced gas. During site visits, staff discovered engines being used to process produced gas from oil field sites. These engines were observed in the operation of wellheads and similar production equipment.

  Generally, produced gas can be collected and routed from an oil field to another location offsite to be further processed into a usable stream. For example, some produced gas can be sent to supply the Southern California Gas Company or similar company. Alternatively, produced gas can be collected from an oil field and used onsite to power combustion equipment such as a stationary gas turbine, an engine. If the gas cannot be sent offsite or used to power combustion equipment, then it is vented to a flare.

  In the case of engines using produced gas, staff discovered that these engines were typically rated at less than 50 bhp. By using engines that are rated less than 50 bhp, an engine is not subject to the emission limits established in Rule 1110.2. Rule 1110.2 applies only to engines rated greater than 50 bhp. In addition, the South Coast AQMD does not require a permit to operate for an engine rated less than 50 bhp unless the engine is located at a facility subject to the South Coast AQMD RECLAIM program. Rule 1110.2 may be amended in future rulemaking activity to include engines that are rated at less than 50 bhp. However, since these

engines are currently operated at oil and gas production facilities, staff has included them under this rule to address air quality concerns and potential health impacts to the community.

Staff is concerned that this type of engine is an uncontrolled source of emissions. Staff visited sites where these engines were observed in operation and noted that these engines can operate continuously 24 hours a day, 7 days a week based on produced gas supply and/or electrical demand. Upon observing these engines, staff did not see any emission control devices on them. Staff also has observed that multiple engines can operate within close proximity to each other where although a single engine may be rated at less than 50 bhp, the aggregate horsepower of all of the engines on the site exceeds 50 bhp. In addition, staff has observed that some of these engines are located within less than 1000 feet of sensitive receptors such as residences and other dwellings.

During the third working group meeting that was held on December 14, 2023, staff received a comment inquiring if the produced gas could be reinjected back into the ground. Staff researched the inquiry and held a meeting with an LA City Planning employee and discovered that reinjecting gas back into the ground is discouraged due to safety concerns of having gas stored below residential neighborhoods. Additionally, LA City prefers to have the produced gas used in microturbines that meet certain emission standards. Staff also recognizes that CalGEM already regulates injection wells, including underground gas storage.

To address concerns over these engines, staff is proposing that engines meet the NOx emission limit applicable to engines regulated by Rule 1110.2 irrespective of rating. Currently, the NOx emission limit for Rule 1110.2 engines is established at 11 ppmv at 15% O2, on a dry basis with limited exceptions. To phase in compliance with this proposal, staff proposes a two-year implementation period from the date of the rule amendment to be reasonable amount of time for operators of such equipment to either retrofit existing equipment, install new equipment, or find alternative solutions.

- Paragraph (d)(16) – Staff has added a NOx emission limit to stationary turbines that are powered by produced gas. During site visits, staff observed stationary turbines being used to process produced gas from oil field sites generating electricity that was either being used onsite or was exported to the electrical power grid. For stationary turbines rated greater than 0.3 MW, Rule 1134 applies; however, for units rated less than 0.3 MW, no emission limits are applicable. Staff has generally observed microturbines that are rated at 65 kW (0.065 MW) at various oil and gas production sites with some larger ones rated at 200 kW (0.2 MW).

  To address concerns over turbines that are not subject to Rule 1134, staff is proposing that all stationary turbines meet the NOx emission limit applicable to stationary turbines as regulated by Rule 1134 irrespective of rating. Staff considers that the amount of microturbines installed and operated at oil and gas production sites to be a small number. Thus, rather than amend Rule 1134, staff is including this subset of turbines in this rule. Currently, the NOx emission limit for Rule 1134 turbines fueled by produced gas engines is established at 9 ppmv at 15% O2, on a dry basis with limited exceptions. To phase in compliance with this proposal, staff proposes a two-year implementation period from the date of the rule amendment to be

reasonable amount of time for operators of such equipment to either retrofit existing equipment, install new equipment, or find alternative solutions.

- Paragraph (d)(17) – Staff is proposing that workover rigs used at oil and gas well sites be equipped with at least a Tier 4 Final engine. Based on AB 617 community concerns over emissions from diesel workover rigs, staff conducted site visits and also researched the potential emission reductions and feasibility of requiring electrified workover rigs. Part of the research included conducting a cost-effectiveness analysis. The results indicated that electrifying the workover rigs would exceed the cost-effectiveness threshold and take many more years to implement due to lack of infrastructure that would be needed.

  To address concerns over emissions from workover rigs, staff is proposing requiring all workover rigs to meet Tier 4 Final standards. While conducting research on this proposal staff found that the emission reductions on a Tier 4 Final engine are significant compared to Tier 2 level engines and this requirement was found to be cost-effective. Staff is proposing a three-year implementation period from the date of this rule amendment to either upgrade or replace their fleet of workover rigs. In addition, staff has found that some oil and gas operators have already upgraded part of their workover fleet to meet Tier 4 Final engine standards.

- Paragraph (d)(18) – Staff is proposing to ban the use of odorants, specifically odorants that are used to mask another chemical substance's smell. AB 617 community stakeholders have expressed concerns about the use of odorants and the potential exposure to unknown chemicals.

  Staff researched and found that some oil and gas production site operators are using odorants with strong fruit fragrances like guava or cherry. These operators have attempted to mask petroleum and oily-type odors with these odorants but it has led to several public nuisance violations with complaints of rotten fruit-type odors mixed with petroleum odors. Some complainants described having headaches. Mistrust has been created among community members due to the lack of knowledge about an odorant's chemicals and the substance that is being masked with the odorant. Odorants are generally composed of hydrocarbons such as alcohols and glycols but may also contain phenols or aromatics. These chemicals contribute to ozone formation and public nuisance complaints. They may also have health impacts depending on the type and quantity of the odorant substance.

  Paragraph (d)(19) - Staff recognizes that oil and gas operators may use neutralizing agents as an alternative to odorants for maintenance of their wells, including during the removal of well tubing as the well tubing may have its own odors. Neutralizing agents work to "knock out" or eliminate the odors, as opposed to masking the odors. Staff has proposed to allow the continued use of neutralizing agents that do not contain any toxics listed in Rule 1401 in quantities greater than 0.1% by weight. Staff also suggests that neutralizing agents be applied in liquid or droplet form and should not be atomized. If a neutralizing agent were atomized into the air, these

chemicals may create odors. Staff has added definitions to clarify the differences in this requirement by adding the word 'odorant' and the word 'neutralizing agent' to the list of definitions.

It should be noted that this requirement does not affect the use of mercaptans or other chemicals that are purposefully injected into specific gas lines for safety purposes such as for detecting a gas leak in gas lines that are used, for example, in sales.

- Paragraph (d)(20) – Staff is proposing to require operators to submit a notification within twenty-four hours of discovering a leak greater than 25,000 ppmv VOC. Notifications were requested by community stakeholders that are interested in knowing when a leak has been found so that they can choose their next course of action.

  Operators will report leaks using the existing portal that is currently being used to submit notifications under Rule 1148.2. Interested parties that have signed up to receive Rule 1148.2 notifications will also receive notifications of reported leaks. The proposed data to be submitted will include facility information, leak concentration, date of discovery, and status of any repairs.

Subdivision (e) – Operator Inspection Requirements

- Paragraph (e)(6) – Staff has added an enhanced leak detection requirement using an OGI camera. The requirement has been modeled after the OGI requirement found in SJVAPCD Rule 4409. Comparing the use of an OGI camera with the use of a TVA, staff recognizes differences between the two applications. The OGI camera is expected to be used as a screening tool. With its current technological capabilities, an OGI camera cannot quantify an emission concentration whereas a TVA can report an emission in a concentration value. However, an OGI camera can scan more components quicker than a TVA, which can only inspect one component at a time. Used together, this technology is expected to give an operator the ability to identify leaks faster and to repair them sooner, compared with not using both in unison.

  Staff has added two options that operators can choose from when conducting their monthly OGI inspections and repairs under (e)(6)(B)(ii). If only using an OGI camera and quantification through use of a TVA is not initially made, operators will be required to repair any discovered leaks within twenty-four hours of discovery. Additionally, if any leak cannot be repaired within twenty-four hours, then the operator will be required to quantify the leak within forty-eight hours of leak discovery and to follow Rule 1173 subdivision (g) ~~the Repair Period Table in Rule 1173~~. Note the repair period timing pursuant to Rule 1173 starts once quantification is made and the concentration of the leak is known.

  If using both an OGI camera and an appropriate analyzer, operators will be required to repair any discovered quantified leaks within the time allowed pursuant to Rule 1173 subdivision (g)

~~the Repair Period Table in Rule 1173~~. In either option where quantification is needed, an appropriate analyzer that complies with paragraph (j)(1) shall be used. The intent of these two options is to give operators flexibility in conducting their monthly inspections. Staff recognizes that operators may not have ready access to a TVA; so, if an operator uses an OGI camera, identifies a leak, and repairs the leak below an OGI visible threshold, rather than wait for a TVA, then staff encourages a repair sooner than later.

Subdivision (i) – Testing Requirements

New subdivision (i) was added to demonstrate compliance with emission limits proposed in the amendment to the rule.

- Paragraph (i)(1) – Staff added a source testing requirement for engines that use produced gas as a fuel source in order to demonstrate compliance with its emission limit. Prior to this amendment, many engines that fell under this category were rated under 50 bhp and no testing requirement was in place. Although these engines may be considered small, they can operate 24 hours a day, 7 days a week and cumulatively, the amount of emissions can be significant.

- Paragraph (i)(2) – Staff added a source testing requirement for stationary turbines that use produced gas as a fuel source in order to demonstrate compliance with its emission limit. Although this provision is identical to the provision in paragraph (i)(1), it is included to distinguish turbines from engines. Specifically, an exemption from source testing is provided in paragraph (k)(5) if the turbine is certified through CARB's Distributed Generation program. No similar program is available for engines using produced gas.

Subdivision (j) – Test Methods

- Paragraph (j)(6) – Since emission limits for equipment have been included in this amendment, staff is adding that any source testing be completed per South Coast AQMD Method 100.1.

Subdivision (k) – Exemptions

- Paragraph (k)(5) – Staff added an exemption for a stationary turbine that has been certified by CARB Distributed Generation Certification program such that no source test of the engine shall be required. For engines that have not been certified as such, they will be required to demonstrate compliance via a periodic source test.

Other Revisions

- Since the 2015 Amendment to the rule, the California Department of Conservation, Division of Oil, Gas and Geothermal Resources (DOGGR) has been replaced by the California Geologic Energy Management (GEM) Division. Reference to DOGGR has been replaced with GEM.

- The name of the agency such as AQMD or District has been replaced by the South Coast AQMD.

- Staff updated references within the rule to account for amendments and deleted obsolete wording and provisions.

- Staff considered revisions to paragraph (d)(8) but believes that the current language allows flexibility to address leaks from equipment associated with well heads and well cellars. For example, produced gas from a tank that has been blocked-in but contains inventory from oil and gas field production activities shall be routed to a system handling gas for fuel, sale, or underground injection or to a control device so as to avoid leaks.

CHAPTER 4: IMPACT ASSESSMENTS

INTRODUCTION

EMISSION REDUCTIONS

COST-EFFECTIVENESS

INCREMENTAL COST-EFFECTIVENESS

SOCIOECONOMIC IMPACT ASSESSMENT

CALIFORNIA ENVIRONMENTAL QUALITY ACT ANALYSIS

DRAFT FINDINGS UNDER HEALTH AND SAFETY CODE SECTION 40727

COMPARATIVE ANALYSIS

INTRODUCTION

Impact assessments were conducted as part of PAR 1148.1 rule development to assess the environmental and socioeconomic implications of PAR 1148.1. These impact assessments include emission reduction calculations, cost-effectiveness and incremental cost-effectiveness analyses, a socioeconomic assessment, and a California Environmental Quality Act (CEQA) analysis. Staff prepared draft findings and a comparative analysis pursuant to Health and Safety Code Sections 40727 and 40727.2, respectively.

EMISSION REDUCTIONS

PAR 1148.1 will establish more stringent control and monitoring requirements at oil and gas production sites that will result in emission reductions.

OGI Monitoring

Staff is proposing the monthly use of OGI as a tool to find leaks from equipment regulated by this rule. By using OGI, leaks can be discovered and repaired sooner than through current inspection frequency and technique. Emission reductions from this proposal were calculated based on estimated baseline emissions and assumed one major leak per year from 10% of the 330 affected facilities. Staff used a leak rate of 200 lbs/day of VOC for each assumed major leak rate. This assumed leak rate is 98% smaller than the leak rate used in Rule 1178 but is expected to be consistent with the type of facilities regulated by this rule. Rule 1178 estimated approximately 8,000 lbs/day of emission losses based on U.S. EPA's 2016 Control Technology Guidelines for Oil and Gas Industry.[5]

Based on the current quarterly inspection frequency, staff assumes that an undiscovered leak occurs at a midpoint between inspections of 45 days. If the inspection frequency is increased to monthly, then staff assumes that an undiscovered leak occurs at a midpoint of 15 days. Comparing the current quarterly inspection frequency using the TVA to the proposed monthly frequency using OGI equipment, staff predicts that a potential leak may be discovered and repaired approximately 30 days sooner, a difference between 45 and 15 days.

To establish a baseline rate of potential emission, staff performed the following calculation:

- One leak per year from 10% of 330 affected facilities
- A leak rate of 200 lbs/day of VOC
- 45 days before a leak is identified

[5] South Coast AQMD Rule 1178 – Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities: https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1178/par-1178-draft-staff-report--final.pdf, p. 4-2, accessed on September 19, 2023.

- Calculation – (1 leak/yr) x (33 facilities) x (200 lbs VOC/day) x (45 days) x (1 yr/365 day) x (1 ton/2000 lb) = 0.40 ton VOC/day
- Using these assumptions, a potential baseline of 0.40 ton per day of VOC is attributable to Rule 1148.1 related equipment.

With OGI monthly inspections, staff anticipates a reduction in VOC emissions compared to the baseline. To determine the reduction, staff performed the following calculation:

- One leak per year from 10% of 330 affected facilities
- A leak rate of 200 lbs/day of VOC
- Discovery of a leak 30 days sooner
- Calculation – (1 leak/yr) x (33 facilities) x (200 lbs VOC/day) x (30 days) x (1 yr/365 day) x (1 ton/2000 lbs) = 0.27 ton VOC/day
- Using these assumptions, a potential reduction of 0.27 ton per day of VOC is attributable to OGI monthly inspections.

Fenceline Monitoring

Stationary Gas Sensors

Staff researched different types of fenceline monitoring systems and found that several oil and gas facilities had stationary gas sensors installed, primarily as a trial run for data collection. Staff found that that stationary gas sensors detect the targeted gas/emission such as VOCs once it makes contact with its sensor. During the research of fenceline monitors staff found that the number of sensors needed at each site varied depending on the size and terrain.

To determine potential emission reductions through fenceline monitoring using stationary gas sensors, staff used a similar approach to that used for OGI monitoring. In this case, since stationary monitors operate continuously, the emission reduction is credited as saving 45 days of undiscovered emissions. To quantify the reduction, staff performed the following calculation:

- One leak per year from 10% of 330 affected facilities
- A leak rate of 200 lbs/day of VOC
- 45 days of a leak that was identified
- Calculation – (1 leak/yr) x (33 facilities) x (200 lbs VOC/day) x (45 days) x (1 yr/365 day) x (1 ton/2000 lbs) = 0.40 ton VOC/day
- Using these assumptions, a potential reduction of 0.40 ton per day of VOC is attributable to stationary gas sensors.

Open Path Sensors

As an alternative to stationary gas sensors staff researched open path sensors and found that they use a transmitter to transmit a beam to a reflector that sends the beam back. Detection of a targeted

gas/emission such as VOCs is made when it makes contact with the beam. Staff did not find any oil and gas production sites using open path sensors but included this as an option. Since open path sensors operate continuously like stationary gas sensors, a potential emission reduction equivalent of 0.40 ton per day of VOC would be expected. See calculation performed in the previous section for additional details.

Engines Powered by Produced Gas

Staff is proposing requiring facilities that use their produced gas to power engines that drive oil producing wells to meet a NOx emission standard of 11 ppmv @ 15% O_2 on a dry basis. This emission limit was obtained from South Coast AQMD Rule 1110.2 Table 2 for stationary engines. Emission reductions from this proposal were calculated based on the assumption that an unregulated engine used in this service has equivalent emissions of a spark ignition engine.[6] The reason that staff assumed a spark ignition engine is that these engines were powered by produced gas versus diesel as with typical compression ignition engines. With the proposed exhaust emission controls using a 3-way catalyst with an air-to-fuel ratio control, staff expects a reduction in NOx emissions of approximately 90% based on current technology performance of a 3-way catalyst.

To determine potential reductions in NOx emissions through the installation of exhaust emission controls, staff performed the following calculation:

- Uncontrolled emission factor for spark ignition engine of 1.5 g/hp-hr NOx (CARB reference emission data)
- Engine rated at 50 bhp
- Engine operates continuously: 24 hours, 365 days
- 90% reduction efficiency for catalyst system
- Calculation – (90% reduction) x (1.5 g/hp-hr) x (50 hp) x (365 days/yr) x (24 hr /day) x (1 lb/453 g) x (1 ton/2000 lbs) x (1 yr/365 days) = 0.0018 ton NOx/day
- Using these assumptions, a potential reduction of 0.0018 ton per day of NOx is attributable to the installation of exhaust emission controls

It should be noted that this calculation is on a per engine basis and the total emissions reduced will vary by the actual number of engines retrofitted and used at oil and gas production sites.

Microturbines Powered by Produced Gas

As an alternative to routing produced gas to engines, staff acknowledges that stationary gas turbines can also use produced gas resulting in a similar NOx emission reduction of approximately 90%. Staff is proposing that the NOx emission limit for microturbines be 9 ppmv @ 15% O_2 on a dry basis, which was obtained from Table 1 from Rule 1134 for stationary gas turbines. Emission

[6] California Air Resources Board – PERP Regulation : https://ww2.arb.ca.gov/sites/default/files/2020-03/PERP_Reg_12.5.18R.pdf, p. 21, accessed on November 1, 2023.

reductions from this proposal were calculated based on the assumption that one microturbine would replace three unregulated engines with equivalent emissions of spark ignition engines, as referenced above in the "Engines Powered by Produced Gas" section. Staff selected this ratio as representative of the amount of gas needed to sustain operation of a small microturbine relative to the amount of gas needed to sustain operation of an engine.

To determine potential reductions in NOx emissions through the installation of a microturbine replacing engines operating on produced gas, staff performed the following calculation:

- Uncontrolled emission factor for spark ignition engine of 1.5 g/hp-hr NOx (CARB reference emission data)
- Engines rated at 50 bhp (3 engines = 150 hp capacity)
- Engine operates continuously: 24 hours, 365 days
- Emission factor for a microturbine of 0.16 g/hp-hr (from manufacturer datasheet)
- Calculation – (1.5 g/hp-hr – 0.16 g/hp-hr) x (150 hp) x (365 days/yr) x (24 hr /day) x (1 lb/453 g) x (1 ton/2000 lbs) x (1 yr/365 days) = 0.005 ton NOx/day
- Using these assumptions, a potential reduction of 0.005 ton per day of NOx is attributable to the installation of one microturbine in lieu of three engines

It should be noted that this calculation is on a per microturbine basis and the total emissions reduced will vary by the actual number of microturbines installed and used at oil and gas production sites.

Use of Tier 4 Final Workover Rigs

Staff is proposing that workover rigs be powered by engines that are at least rated as Tier 4 Final. By requiring the use of Tier 4 Final engines on workover rigs, staff expects a significant reduction in emissions whenever the use of workover rigs is required. Staff assumed that the emissions from current workover rigs to be at Tier 2 levels. Staff also assumed that a workover rig is required four times per year at each site, is used four days per week, and eight hours per day. Workover rig engine size will vary. Staff assumed a rating of 600 hp to be representative of a typical engine. As noted previously, staff identified that there are approximately three hundred and thirty sites. To service these sites, staff estimated that approximately 40 rigs may be needed to cover potential demand.

To determine potential reductions in NOx emissions through the requirement of using Tier 4 Final rated engines relative to Tier 2 engines on a workover rig, staff performed the following calculation:

- Tier 2 NOx emission factor of 4.5 g/bhp-hr
- Tier 4 Final NOx emission factor of 0.30 g/bhp-hr
- Approximately 40 rigs may be needed
- Operation of a rig is 4 days per week, 8 hours per day

- Typical engine size is 600 bhp
- Calculation – (4.5 g/hp-hr – 0.30 g/hp-hr) x (40 rigs) x (600 hp) x (8 hrs/day) x (4 days/week) x (52 weeks/yr) x (1 lb/453 g) x (1 ton/2000 lbs) x (1 yr/365 days) = 0.51 ton NOx/day
- Using these assumptions, a potential reduction of 0.51 tons per day of NOx is attributable to the requirement of using Tier 4 Final rated engines relative to Tier 2 engines on a workover rig

Electrification of Workover Rigs

Staff researched the feasibility of requiring oil and gas production facilities to use electrified workover rigs instead of workover rigs equipped with diesel engines. During the rule development process, staff visited multiple oil and gas production sites and spoke to industry representatives and vendors. From these discussions and interaction, staff was made aware that the use of an electrically powered drilling/workover rig was only available at two sites. Staff visited these sites and found that these two sites were unique in that each had dedicated infrastructure installed to meet the electrical demands of these electrified drilling/workover rigs. Staff noted that these electrified drilling/workover rigs were designed to only operate at their respective sites and were not mobile.

To determine potential reductions in NOx emissions through the use of an electrified rig, staff performed a calculation similar to one comparing using Tier 4 Final rated engines relative to Tier 2 engines on a workover rig. In this case, however, an electrified rig is assumed to emit zero NOx emissions.

- Tier 2 NOx emission factor of 4.5 g/bhp-hr
- Approximately 40 rigs may be needed
- Operation of a rig is 4 days per week, 8 hours per day
- Typical engine size is 600 bhp
- Calculation – (4.5 g/hp-hr) x (40 rigs) x (600 hp) x (8 hrs/day) x (4 days/week) x (52 weeks/yr) x (1 lb/453 g) x (1 ton/2000 lbs) x (1 yr/365 days) = 0.54 ton NOx/day
- Using these assumptions, a potential reduction of 0.54 ton per day of NOx is attributable to the requirement of using an electrified rig versus a rig equipped with Tier 2 engines

Elimination of Odorants

Due to concerns raised by stakeholders, staff proposes to eliminate the use of odorants. Although some odorants may contain VOC material, the overall reduction in VOC emissions associated with this activity is not expected to be significant.

Improved Signage

By producing and installing new signs at oil and gas production sites, some additional emission reductions may be generated, but these are expected to be one-time occurrences and are not expected to be significant.

COST-EFFECTIVENESS

Health and Safety Code Section 40920.6 requires a cost-effectiveness analysis when establishing BARCT requirements. The cost-effectiveness of a control is measured in terms of the control cost in dollars per ton of air pollutant reduced. The costs for the control technology include purchasing, installation, operation, maintenance, and permitting. Emission reductions were calculated for each requirement and based on estimated baseline emissions. The 2022 AQMP established a cost-effectiveness threshold of $36,000 per ton of VOC reduced. A cost-effectiveness that is greater than the threshold of $36,000 per ton of VOC reduced requires additional analysis and a hearing before the Governing Board on costs. The 2022 AQMD also established a cost-effectiveness threshold of $325,000 per ton of NOx reduced. A cost-effectiveness that is greater than the threshold of $325,000 per ton of NOx reduced would also require additional analysis and a hearing before the Governing Board on costs.

The cost-effectiveness is estimated based on the present value of the retrofit cost, which was calculated according to the capital cost (initial one-time equipment and installation costs) plus the annual operating cost (recurring expenses over the useful life of the control equipment multiplied by a present worth factor).

$$\text{Cost-Effectiveness (CE)} = \text{Present Worth Value (PWV)} / \text{Emission Reduction (ER)}$$

$$\text{PWV} = \text{Total Install Cost (TIC)} + \text{Present Worth Factor (PWF)} \times \text{Annual Cost (AC)}$$

Capital costs are one-time costs that cover the components required to assemble a project. Annual costs are any recurring costs required to operate equipment. Costs were obtained for OGI monitoring, retrofitting an existing engine powered by produced gas to drive a well, microturbines powered by produced gas, Tier 4 Final equipped workover rigs, and electrification of workover rigs.

OGI Monitoring

Staff is proposing the monthly use of OGI equipment as a tool to find leaks from equipment regulated by this rule. Costs for this proposal were obtained from vendors and facilities. Some oil and gas companies already use an OGI camera and staff was able to obtain further cost information

such as maintenance and labor. In addition, South Coast AQMD retains OGI cameras, and training and maintenance cost information was available.

The following information was used to calculate the cost-effectiveness of purchasing and using an OGI camera:

- Number of oil and gas companies to be at approximately 80
- Cost of an OGI camera = $120,000 with a 10-year life span
- Annual maintenance = $1000
- Training = $1,000 every two years ($500 per year)
- In-House labor 1 person working 8 hours/day at $50/hr = $400/day
- Monthly inspections = 12/year
- Emission reduction based on analysis conducted previously = 0.27 tpd VOC

- PWF = 8.111 for a 10-year life expectancy at 4% interest rate
- TIC = $120,000 x 80 cameras = $9,600,000
- AC = $1000 [maintenance] + $500 [training] + (1 person x 8 hr/day x $50/hr x 12 inspections/yr) [labor] = $6300 per OGI camera or $504,000 for 80 cameras
- PWV = $9,600,000 + 8.111 x $540,000 = $13,688,000
- ER = (0.27 tpd VOC) x (365 day/yr) x (10 years) = 990 tons VOC
- CE = $13,688,000 / 990 tons VOC reduced = $13,800/ton VOC reduced

Based on these assumptions, the cost-effectiveness for requiring monthly inspections using OGI cameras is calculated to be $13,800/ton VOC reduced.

Fenceline Monitoring

Stationary Gas Sensors

As an alternative to OGI cameras, staff researched the use of stationary gas sensors for the monitoring of VOCs. Costs used in this analysis were obtained from oil and gas facilities that have already installed stationary gas sensors.

The following information was used to calculate the cost-effectiveness of purchasing and installing fenceline monitoring equipment:

- Number of oil and gas sites is approximately 330
- Cost of each sensor = $3,115
- Number of sensors at a site = 14
- Installation cost of $30,000

- Estimated life span of 10 years
- Annual maintenance = $10,000
- Emission reduction based on analysis conducted previously = 0.40 tpd VOC

- PWF = 8.111 for a 10-year life expectancy at 4% interest rate
- TIC = (14 sensors x $3,115 + $30,000), all multiplied by 330 sites = $24,291,300
- AC = $10,000 x 330 sites = $33,000,000
- PWV = $24,291,300 + 8.111 x $33,000,000 = $51,057,600
- ER = (0.40 tpd VOC) x (365 day/yr) x (10 years) = 1,460 tons VOC
- CE = $51,057,600 / 1,496 tons VOC reduced = $34,971/ton VOC reduced

Based on these assumptions, the cost-effectiveness for the use of stationary gas sensors is calculated to be $34,971/ton VOC reduced.

Staff considered both stationary gas sensors and the use of OGI cameras and calculated the incremental cost-effectiveness for both options. This analysis is included in the section "Incremental Cost-Effectiveness".

Open Path Sensors

Open path sensors are an alternative to stationary gas sensors and work in a different way by having a beam projected from a transmitter to a reflector. Staff did not find an oil and gas site using this type of technology; however, staff is aware that it is being used at oil refineries. The staff report from South Coast AQMD Rule 1178 included cost-effective data which was used for this staff report.

The following information was used to calculate the cost-effectiveness of purchasing and installing fenceline monitoring equipment:

- Number of oil and gas sites to be at approximately 330
- Cost of each sensor = $190,000
- Installation cost per sensor = $190,000
- Number of sensors at a site = 4
- Estimated life span of 20 years
- Annual maintenance = $5,000
- Emission reduction based on analysis conducted previously = 0.40 tpd VOC

- PWF = 13.59 for a 20-year life expectancy at 4% interest rate
- TIC = (4 sensors x $380,000), all multiplied by 330 sites = $501,600,000
- AC = $5,000 x 330 sites = $1,650,000

- PWV = $501,600,000 + 13.59 x $1,650,000 = $503,250,000
- ER = (0.40 tpd VOC) x (365 day/yr) x (20 years) = 2,920 tons VOC
- CE = $503,250,000 / 2,920 tons VOC reduced = $172,346/ton VOC reduced

Based on these assumptions, the cost-effectiveness for the use of open path sensors is calculated to be $172,346/ton VOC reduced.

It should be noted that this type of enhanced leak detection technology exceeds the cost-effective VOC threshold.

Engines Powered by Produced Gas

Staff is proposing that engines that are powered by produced gas and are used to drive an oil producing meet a NOx standard of 11 ppmv @ 15% O_2 on a dry basis. Staff researched technologies that could be used to meet this standard and also the option to replace these engines with microturbines which is discussed in the next section. Staff obtained cost information for the technology upgrades from vendors that supply and service engines to oil and gas facilities. Staff also used cost information for exhaust emission controls that was collected for the November 2019 amendment to Rule 1110.2.

The following information was used to calculate the cost-effectiveness of upgrading engines powered by produced gas used to drive an oil producing well:

- Cost of 3-way catalyst = $5,000
- Cost of air/fuel ratio controller = $1,000
- Cost of installation of parts = $5,000
- Estimated life span of 3 years for parts operating 24 hrs/day
- Annual maintenance = $1,000
- Emission reduction based on analysis conducted previously = 0.0018 tpd NOx

- PWF = 2.78 for a 3-year life expectancy at 4% interest rate
- TIC = $11,000
- AC = $1,000
- PWV = $11,000 + 2.78 x $1,000 = $13,775
- ER = (0.0018 tpd NOx) x (365 day/yr) x (3 years) = 1.971 tons NOx
- CE = $13,775 / 1.971 tons NOx reduced = $7,000/ton NOx reduced

Based on these assumptions, the cost-effectiveness for upgrading engines powered by produced gas used to drive an oil producing well is calculated to be $7,000/ton NOx reduced.

Microturbines Powered by Produced Gas

As an alternative to requiring emissions controls on engines, staff is proposing that microturbines replace engines that use produced gas. The NOx emission standard for microturbines is 9 ppmv @ 15% O_2 on a dry basis. It is assumed that one microturbine would replace three engines that are each being used to drive three wells. Staff obtained cost information on microturbines from a local vendor that offers them for sale with South Coast AQMD's jurisdiction.

The following information was used to calculate the cost-effectiveness of purchasing a microturbine rated at 65 kilowatts (kW):

- Cost of microturbine = $150,000
- Microturbine installation cost = $300,000
- Cost of electric motor = $5,000 (x 3 for 3 electric motors) needed to drive wells
- Installation of electric motors = $5,000 (x3 for 3 electric motors) needed to drive wells
- Estimated life span of 10 years
- Annual maintenance = $10,000
- Emission reduction based on analysis conducted previously = 0.005 tpd NOx

- PWF = 8.111 for a 10-year life expectancy at 4% interest rate
- TIC = $480,000
- AC = $10,000
- PWV = $480,000 + 8.111 x $10,000 = $561,110
- ER = (0.005 tpd NOx) x (365 day/yr) x (10 years) = 18.25 tons NOx
- CE = $561,110 / 18.25 tons NOx reduced = $30,700/ton NOx reduced

Based on these assumptions, the cost-effectiveness for installing a microturbine powered by produced gas used to drive an oil producing well is calculated to be $30,700/ton NOx reduced.

Use of Tier 4 Final Workover Rigs

Staff is proposing that engines on workover rigs be at least rated as Tier 4 Final. Staff obtained cost data from several operators that have either upgraded or replaced their workover rigs to be equipped with Tier 4 Final engines.

The following information was used to calculate the cost-effectiveness of purchasing a Tier 4 Final engine equipped workover rig:

- Cost of Tier 4 Final engine equipped workover rig = $1,000,000
- Estimated life span of 20 years
- Estimated number of Tier 4 Final engine equipped workover rigs needed to meet demand throughout South Coast AQMD's jurisdiction = 40

- Annual maintenance = $20,000
- Emission reduction based on analysis conducted previously = 0.51 tpd NOx

- PWF = 13.59 for a 20-year life expectancy at 4% interest rate
- TIC = 40 rigs x $1,000,000 = $40,000,000
- AC = 40 rigs x $20,000 = $80,000
- PWV = $40,000,000 + 13.59 x $800,000 = $50,872,000
- ER = (0.51 tpd NOx) x (365 day/yr) x (20 years) = 3,723 tons NOx
- CE = $50,872,000 / 3,723 tons NOx reduced = $13,700/ton NOx reduced

Based on these assumptions, the cost-effectiveness for replacing older model workover rigs with engines that are at least rated as Tier 4 Final is calculated to be $13,700/ton NOx reduced.

Electrification of Workover Rigs

Staff researched the feasibility of oil and gas production facilities using electrified workover rigs instead of workover rigs equipped with diesel engines. During the rule making process staff received cost information from the only two operators that currently have an electrified workover rig on their respective sites. No other facility was found to have an existing electrified rig. Staff found that a substation would need to be installed at *each* site in order to meet the electrical demands that an electrified workover rig would require.

The following information was used to calculate the cost-effectiveness of requiring an electrified workover rig:

- Number of oil and gas sites to be at approximately 330
- Cost of electrified workover rig = $10,000,000
- Cost of substation per site = $5,000,000
- Estimated life span of 20 years
- Estimated number of electrified workover rigs needed to meet demand throughout South Coast AQMD's jurisdiction = 40
- Annual Maintenance for the rigs = $20,000
- Annual Maintenance for the substations = $10,000
- Emission reduction based on analysis conducted previously = 0.54 tpd NOx

- PWF = 13.59 for a 20-year life expectancy at 4% interest rate
- TIC = 40 rigs x $10,000,000 + 330 substations x $5,000,000 = $2,050,000,000
- AC = 40 rigs x $20,000 + 330 substations x $10,000 = $4,100,000
- PWV = $2,050,000,000 + 13.59 x $4,100,000 = $2,054,100,000
- ER = (0.54 tpd NOx) x (365 day/yr) x (20 years) = 3,942 tons NOx

- CE = $2,054,100,000/ 3,942 tons NOx reduced = $521,080/ton NOx reduced

Based on these assumptions, the cost-effectiveness for replacing older model workover rigs with an electrified rig (and the installation of the requisite infrastructure) is calculated to be $521,080/ton NOx reduced.

It should be noted that the electrification of workover rigs exceeds the cost-effective NOx threshold.

Elimination of Odorants

The elimination of odorants is not expected to produce any significant reductions in VOC emissions. Moreover, the elimination of odorants does not result in any new cost incurred by operators, but rather it is a cost that is no longer spent. Therefore, no cost-effective analysis was conducted for this proposal.

Improved Signage

By producing and installing new signs at oil and gas production sites, some additional emission reductions may be generated, but these are expected to be one-time occurrences and are not expected to be significant. Staff acknowledges that there will be one-time costs associated with this proposal but does not consider these costs to be significant. Therefore, no cost-effective analysis was conducted for this proposal.

INCREMENTAL COST-EFFECTIVENESS

Health and Safety Code Section 40920.6 requires an incremental cost-effectiveness analysis for BARCT rules or emission reduction strategies when there is more than one control option which would achieve the emission reduction objective of the proposed amendments, relative to ozone, CO, SOx, NOx, and their precursors.

Options for Enhanced Monitoring

Staff conducted an incremental cost-effectiveness for OGI camera usage and stationary gas sensor monitoring as they both use enhanced technology for the detection of fugitive VOC emissions. Staff used the following formula to calculate incremental cost-effectiveness where option 1 is OGI monitoring and option 2 is stationary gas monitoring:

$$\text{Incremental Cost-Effectiveness} = \frac{\text{Cost of Option 2} - \text{Cost of Option 1}}{\text{Benefit of Option 2} - \text{Benefit of Option 1}}$$

$$\text{Incremental Cost-Effectiveness} = \frac{\$51{,}057{,}600 - \$13{,}688{,}000}{1{,}460 \text{ tons} - 990 \text{ tons}}$$

The incremental cost-effectiveness of using stationary gas sensors compared to OGI technology is calculated to be $79,510/ton VOC reduced.

Staff found that it was not cost-effective to use stationary gas sensors relative to OGI technology and therefore recommends the use of OGI technology as it is a more active and robust use of enhanced leak detection technology.

Options for Tier 4 Final Engine versus Electrification

Staff conducted an incremental cost-effectiveness for Tier 4 Final workover rigs versus electrified workover rigs where option 1 is the use of Tier 4 Final workover rigs and option 2 is the use of electrified workover rigs:

$$\text{Incremental Cost-Effectiveness} = \frac{\$2{,}050{,}000{,}000 - \$50{,}872{,}000}{3{,}942 \text{ tons} - 3{,}723 \text{ tons}}$$

The incremental cost-effectiveness of using electrified workover rigs compared to Tier 4 Final workover rigs is calculated to be $9,100,000/ton VOC reduced.

Staff found that it was not cost-effective to use electrified workover rigs relative to Tier 4 Final workover rigs.

SOCIOECONOMIC IMPACT ASSESSMENT

Health and Safety Code Section 40440.8 requires a socioeconomic impact assessment for proposed and amended rules resulting in significant impacts to air quality or emission limitations. A Draft Socioeconomic Impact Assessment for PAR 1148.1 has been prepared and released for public review and comment on July 2, 2024. The Final Socioeconomic Impact Assessment is available in Attachment I of the August 2, 2024 Governing Board Package.

CALIFORNIA ENVIRONMENTAL QUALITY ACT ANALYSIS

Pursuant to the California Environmental Quality Act (CEQA) Guidelines Sections 15002(k) and 15061, the proposed project (PAR 1148.1) is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3). A Notice of Exemption has been prepared pursuant to CEQA Guidelines Section 15062, and if the proposed project is approved, the Notice of Exemption will be filed with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino counties, and with the State Clearinghouse of the Governor's Office of Planning and Research.

DRAFT FINDINGS UNDER HEALTH AND SAFETY CODE SECTION 40727

Requirements to Make Findings

Health and Safety Code Section 40727 requires that the Board make findings of necessity, authority, clarity, consistency, non-duplication, and reference based on relevant information presented at the public hearing and in the staff report. In order to determine compliance with Health and Safety Code Sections 40727 and 40727.2, a written analysis is required comparing the proposed amended rule with existing regulations.

Necessity

A need exists to amend PAR 1148.1 to implement best available retrofit control technology and emission reduction strategies recommended in the WCWLB and SLA CERPs as part of the AB 617 commitment.

Authority

The South Coast AQMD obtains its authority to adopt, amend, or repeal rules and regulations pursuant to Health and Safety Code Sections 39002, 40000, 40001, 40440, 40702, 40725 through 40728, 40920.6, and 41508.

Clarity

PAR 1148.1 is written or displayed so that its meaning can be easily understood by the persons directly affected by them.

Consistency

PAR 1148.1 is in harmony with and not in conflict with or contradictory to existing statutes, court decisions, or state or federal regulations.

Non-Duplication

PAR 1148.1 will not impose the same requirements as any existing state or federal regulations. The proposed amended rule is necessary and proper to execute the powers and duties granted to, and imposed upon, the South Coast AQMD.

Reference

In amending this rule, the following statutes which the South Coast AQMD hereby implements, interprets, or makes specific are referenced: Health and Safety Code Sections 39002, 40001, 40406, 40702, 40440(a), and 40725 through 40728.5.

COMPARATIVE ANALYSIS

Under Health and Safety Code Section 40727.2, the South Coast AQMD is required to perform a comparative written analysis when adopting, amending, or repealing a rule or regulation. The comparative analysis is relative to existing federal requirements, existing or proposed South Coast AQMD rules and air pollution control requirements and guidelines which are applicable to oil and gas production activities. Because PAR 1148.1 does impose new inspection and reporting requirements, a comparative analysis was conducted.

Table 4-1: Comparative Analysis

Topic	South Coast AQMD Rule 1148.1 Oil and Gas Notification Rule	San Joaquin Valley Air Pollution Control District	CalGEM	State of Colorado, Air Quality Control Commission	U.S. EPA
Newly Added Inspection Requirements	• Inspections with OGI camera • Use of Tier 4 Final diesel engines on workover rigs • Establish NOx limits for combustion equipment	• OGI usage requires quantification within 2 days of leak detection • No relevant requirements for Tier 4 Final engines or NOx limits observed	• OGI usage allowed for inspections • No relevant requirements for Tier 4 Final engines or NOx limits observed	• OGI allowed as alternative instrument monitoring and on drones • Tier 4 engines required in impacted communities • No relevant NOx limits observed	• OGI usage allowed with specific requirements for operator and equipment • No relevant requirements for Tier 4 Final engines or NOx limits observed
Other amendments	• Notification when leak >25,000 ppmv detected • Banning use of odorants	• Notification required to request extension for repair of leaking component • No relevant requirements on odorant use observed	• Notification required for leaks > 50,000 ppmv or for leaks >10,000 ppmv persisting more than 5 days • No relevant requirements on odorant use observed	• Notification within 5 days of discovery for unrepaired leaks • No relevant requirements on odorant use observed	• No relevant requirements for notification or odorant use observed
Notes		Reviewed Rule 4401 – Steam-Enhanced Crude Oil Production Wells	Reviewed Subarticle 13. Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities	Reviewed Regulation Number 7 of Colorado state Air Quality Control Commission regulations	Reviewed Appendix K "Determination of VOC and Greenhouse Gas Leaks Using Optical Gas Imaging" document
Links	https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1148-1	https://ww2.valleyair.org/media/be1niqvx/rule-4401.pdf	https://ww2.arb.ca.gov/sites/default/files/2024-05/2024OilandGasRegulationunofficial.pdf	https://cdphe.colorado.gov/aqcc-regulations	https://www.epa.gov/system/files/documents/2021-11/40-cfr-part-60-appendix-k-proposal_0.pdf

APPENDIX A – RESPONSES TO COMMENT LETTERS

Responses to Comments - Table of Contents

Comments from Public Workshop, Received 2/1/2024

Comment Letter 1: Shannon Smith, Signal Hill Petroleum, Received 2/9/2024

Comment Letter 2: STAND LA, Received 2/15/2024

Comment Letter 3: Center for Biological Diversity, Received 2/15/2024

Comment Letter 4: FracTracker Alliance, Received 4/11/2024

Comments from Public Workshop

Comment PW-1: Shannon Smith, Regulatory Compliance Supervisor from Signal Hill Petroleum had two questions: for OGI inspections, did staff factor in the cost of a toxic vapor analyzer (TVA) as part of the OGI camera cost-effectiveness? Second, did staff do mockup of the proposed signage requirement with four-inch lettering?

Response: Staff did not account for the cost of a TVA since using one during the proposed monthly OGI inspections is optional. Should an owner or operator opt to have a potential repair period consistent with South Coast AQMD Rule 1173, then the use of a TVA would be at their discretion. Second, staff initially proposed to include the signage requirements as promulgated in South Coast AQMD 1460 subdivision (g). However, since the Public Workshop was held, staff met with Signal Hill Petroleum staff and observed that the sign with four-inch lettering is excessively large. Staff is, therefore, proposing that lettering to be two-inches instead of four-inches which is still readable from a public street.

Comment PW-2: Emma Silber, Climate Justice Associate from Physicians for Social Responsibility expressed several concerns. First, by allowing the continued use of neutralizing agents, toxic contaminants would still be released into the air. Second, she was opposed to allowing Tier 4 Final engines to be used rather than requiring electrification. She stated that she had heard of a site that plugged in their workover rig into the electrical grid. Lastly, she expressed a concern over the efficiency of NOx incinerators.

Response: Staff is addressing the concern over the use of neutralizing agents by proposing that no toxic air contaminants listed in South Coast AQMD Rule 1401 would be allowed in any neutralizing agent and that no atomization of any neutralizing agents would be allowed. If a neutralizing agent were used by a site, these prohibitions are intended to prevent the use of air toxics and to keep the chemical from becoming airborne. Second, staff researched the potential electrification of workover rigs. Staff found that although options may exist to use electrically-powered drilling rigs, no commercially available option existed for workover rigs. Lastly, staff noted that NOx incinerators may be used for site-specific, soil remediation projects which would be regulated by South Coast AQMD Rule 1166.

Comment PW-3: Justin Martin, Manager from Pacific Coast Energy Co, asked if detection of visible vapors is in regards with the naked eye or with OGI equipment.

Response: Visible vapors is a new definition for this rule and is defined as VOC vapors detected visually by an operator or with an OGI device.

Comment PW-4: Richard Parks, President from Redeemer Community Partnership, made several comments. First, he commented that Warren E&P had electrified their workover operations and

asked why we did not include this equipment in staff's technology assessment and analysis. Second, Mr. Parks expressed concern that allowing the use of neutralizing agents may not solve the issue of toxic air contaminants causing birth defects and that an odorant called "Chemco Odor Control Jasmine" had an endocrine disruptor. Lastly, Mr. Parks then requested information with whom the South Coast AQMD had spoken with regarding the reinjection of methane because reinjection was what he considered a zero-emission solution to produced gas.

Response: Staff had conducted a site visit to Warren E&P in Wilmington, prior to the Public Workshop, and found that an electrically-powered workover/drilling rig that was on site had been removed several years ago. While on-site, staff witnessed a diesel-powered workover rig conducting general well maintenance. Based on staff's direct observations, it was noted that Warren E&P does not operate an electrified workover nor electrified drilling rig. Second, staff is addressing concern over the use of neutralizing agents by proposing that no toxic air contaminants listed in South Coast AQMD Rule 1401 would be allowed in any neutralizing agent and that no atomization of any neutralizing agents would be allowed. If a neutralizing agent were used by a site, these prohibitions are intended to prevent the use of air toxics and to keep the chemical from becoming airborne. Also, staff reviewed the Safety Data Sheet for "Chemco Odor Control Jasmine" and found that it does contain a prohibited chemical that is listed in Rule 1401. Therefore, under the proposed prohibition, it would no longer be allowed to be used. Lastly, staff has met with staff from the city of Los Angeles Planning Department and found that the City of Los Angeles discourages the practice of gas reinjection within urban areas due to concerns of back pressure buildup underneath residents' homes and also due to the major gas leak that took place at Aliso Canyon a few years ago. In addition, since the Public Workshop took place staff met with CalGEM personnel and found that CalGEM has jurisdiction over the reinjection and storage of gas underground.

Comment PW-5: Mark Abramowitz, President from Community Environmental Services, asked why South Coast AQMD has not done a BARCT analysis for fuel cell technology and if South Coast AQMD had looked at the quality of the produced gas that is generated at oil and gas sites.

Response: Staff contacted several vendors of fuel cell technology and determined based on the information provided that the technology is not readily available for use on workover rigs. Staff acknowledges that this technology could become a viable option in the future. Second, operators that sell the produced gas to local gas companies must clean it up prior to selling it. Operators need to remove, at minimum, excess water prior to being used in microturbines.

Comment PW-6: Tianna (last name not provided), Environmental Justice Program Manager, raised two concerns. First, she questioned why electrified workover rigs were not required to be used. Second, she expressed concern with odorants and neutralizing agents. Tania asked if costs have been used in a cumulative way to include costs to taxpayers and residents due to particulate

emissions for diesel-fueled workover rigs and concerns over endocrine disruptors in neutralizing agents. Concerns over cumulative harm were also raised.

Response: Staff conducted a cost-effectiveness analysis of proposed options and used the guidance for VOC and NOx cost-effectiveness found in the 2022 South Coast Air Quality Management Plan. In determining what is considered cost-effective for NOx, health effects were included. Staff conducted a cost-effective and emission reduction analyses for both Tier-4 Final engine upgrades and for electrification and found that while it was cost-effective to upgrade to Tier-4 Final engines, it was not cost-effective to use electrically-powered engines. Lastly, staff is addressing concern over the use of neutralizing agents by proposing that no toxic air contaminants listed in South Coast AQMD Rule 1401 would be allowed in any neutralizing agent and that no atomization of any neutralizing agents would be allowed.

Comment PW-7: Mark Abramowitz expressed concern over the allowance of 0.1% by weight of banned toxic air contaminants and that that amount would not be allowed in drinking water.

Response: Drinking water has much stricter standards because it is directly ingested. The allowance of 0.1% by weight is included for trace contaminants that are not purposely included in the odor neutralizer.

Comment PW-8: Erica Blyther, Petroleum Administrator for the City of Los Angeles Office of Petroleum and Natural Gas Administration and Safety, stated that she was pleased with South Coast AQMD requiring monthly OGI inspections and inquired on what constitutes a certified inspector for OGI device use.

Response: Thank you for your comment. There are now several vendors of OGI cameras and the intent of requiring the user of an OGI camera to complete a manufacturer's certification or training program is to ensure that the user of such equipment is well versed in the use of such equipment. Staff also recognizes that the training course(s) may differ depending on the manufacturer.

Comment PW-9: Emma Silber asked if detected leaks during inspections would be made public.

Response: Since the Public Workshop was held, staff is proposing to require the operator to submit a notification whenever a leak is quantified and found to be greater than 25,000 ppmv of VOC. For those that have signed up to receive Rule 1148.2 notifications, they will now also receive notifications for reported leaks greater than 25,000 ppmv of VOC.

Comment Letter 1: Signal Hill Petroleum, Received 2/9/2024

SIGNAL HILL PETROLEUM

American Energy.
American Jobs.

February 7, 2024

Jose Enriquez, Air Quality Specialist
South Coast Air Quality Management District
Planning, Rule Development and Area Sources
21865 Copley Dr.
Diamond Bar, CA 91765

RE: Signal Hill Petroleum, Inc.'s comments regarding preliminary draft language of Proposed Amended Rule 1148.1.

Dear Mr. Enriquez and 1148.1 Rulemaking Team,

Signal Hill Petroleum (SHP) is a privately-owned California -based energy company that specializes in the exploration and production of crude oil and natural gas in urban areas. With a set of core values rooted in a transparent business philosophy, honest approach, and concern for the environment, our company strives to be an excellent neighbor and community partner. The SHP Regulatory Team has been following the development of Proposed Rule 1148.1. Per your request, we have drafted comments on the recently released draft rule language. Please see our comments below:

> (c)(34) WORKOVER RIG is a mobile piece of equipment used to perform one or more operations on an oil producing well or water injection well

This definition, while also present in Rule 1148.2, is too broad. A "mobile piece of equipment" could include trucks and other smaller tools. We suggest that you use ARB's definition of workover rig (2449(c)(62)): "a mobile self-propelled rig used to perform one or more remedial operations, such as deepening, plugging back, pulling and resetting liners, on a producing oil or gas well to try to restore or increase the well's production."

1-1

> (d)(17) Effective [Three years from date of rule amendment], the operator of an oil and gas production facility shall use workover rigs that are equipped with an engine that meets the emissions standards of a Tier 4 Final engine.

1-2

2633 Cherry Ave. Signal Hill, CA 90755 | T: 562. 595.6440 | F: 562. 426.4587 | W: shpi.net

While SHP already has all Tier 4 Final Workover Rigs in our fleet, we would like to point out that this is already being regulated by the California Air Resources Board In-Use Off-Road Diesel-Fueled Fleets Regulation, in which every fleet in California phases out older engines for new Tier 4 Final or electric engines.

1-2 Cont.

> (d)(13) …signage shall: (A) Be installed within 50 feet of the main entrance to the facility and in a location that is visible to the public; (B) Measure at least 30 inches wide by 30 inches tall; (C) Display lettering at least 4 inches tall with text color contrasting with the sign background; (D) Located at least 4 feet above grade from the bottom of the sign;

As currently proposed these signs would be nearly impossible to achieve, impractical to maintain, and an eye sore to the community. SHP has made a quick example of what is being proposed and the pictures are an attachment to this letter. The first requirement, (d)(13)(A) which requires the sign to be installed within 50 feet of the entrance, is too specific and impractical. An operator could post the signs across the street or inside their facility and still be fully compliant with the rule. The second requirement (d)(13)(B), which requires the sign to be at least 30" by 30", should be reconsidered. The 4" lettering does not fit on a 30" by 30" poster. This is also not a typical poster size. 24" by 36" would be more standard although still much larger than any other sign SHP currently has. Our company signs with our Facility name and phone number measure 30" by 12" and our neighbors have no problem reading them. The third requirement (c)(13)(C), which requires 4" lettering, is not practical. As you can see from the attached photos, 4" lettering in both English and Spanish would be a billboard rather than an entrance sign. We also created an example of 2" lettering in English only and it is also huge and not practical to post at our facilities. The fourth requirement (d)(13)(D) requires the sign to be 4 feet off the ground minimum. If the signs are posted on the entrance fence (and not 50 feet away) then the sign can be no higher than 2 feet since most standard fences are 6 feet tall. Anything protruding above that could interfere with barbed wires and the security of the enclosure.

1-3

This one-size-fits-all approach does not work for urban upstream oil and gas operations. It may make sense for a large facility distanced from the public view, such as in Rule 1460, but doesn't make sense for production sites next door to businesses and homes. We recommend editing the original language to allow for flexibility among operators while still achieving your goal of having the signs visible and readable by the public. We specifically recommend removing requirements (d)(13)(A) through (d)(13)(D) and either not specifying a size or recommending a standard size for the signage without text size requirements.

> (c)(6)(B)(ii) When visible vapors are detected using an OGI Device, use an appropriate analyzer in compliance with paragraph (j)(1) to quantify the visible vapors in ppmv concentration within 48 hours of when the vapors are detected;

1-4

SHP owns three OGI cameras and currently uses them to detect any potential leaks in our facilities. While monthly OGI inspections and recordkeeping will be challenging, we

believe it is feasible to accomplish this. What makes the OGI camera so useful is that our operators can visit a facility, FLIR the facility, and if they find a leak, they can repair it immediately and move on. If our crew needed to quantify the leak before repairing it, that would require time to (1) acquire a TVA, (2) find and measure the leak with the TVA, (3) report the leak to the district and (4) look up the repair thresholds in accordance with Rule 1173, all before fixing the actual leak. This is time spent allowing the leaks to continue in order to quantify and document the leaks. Also, SHP has looked into and rented a TVA (Total Vapor Analyzer) in compliance with EPA specifications and found that the maintenance and calibration requirements were extremely onerous. Calibration gases would have to be stored on-site and the TVAs calibrated every day. In addition, the TVAs require maintenance more often than a FLIR camera. SHP would have to purchase multiple TVA units to always have two or three units on hand in case of a leak in order to comply with this requirement.

1-4
Cont.

SHP recommends that you adopt the rule language in Rule 1178 (f)(4)(A) "If determined that Visible Vapors are emitted from components required to be maintained in a Vapor Tight Condition or in a condition with no Visible Gaps, the owner or operator shall make necessary repairs or adjustments… within 3 days". This would ensure that leaks are fixed promptly and that all components could be inspected in a timely manner, once a month in compliance with the new proposed rule requirements.

Please let us know if you have any questions or wish to discuss our comments further. You may contact Shannon Smith at (562) 326-5246 or ssmith@shpi.net.

Sincerely,

Shannon Smith
Regulatory Compliance Supervisor

Attachments:
Photo #1 – Proposed signage with 4" lettering in English only
Photo #2 – Proposed signage with 2" lettering in English only

Comment 1-1: The definition for workover rig was incorporated from South Coast AQMD Rule 1148.2 for consistency among rules that use this definition. The definition is somewhat vague so that it may allow for future technologies that could become commercially available such as electrically-powered or fuel-cell powered rigs. In addition, adding that it be self-propelled would not cover all rigs since some exist that use a secondary engine to do well work and the primary engine to drive the rig itself.

Comment 1-2: Staff conducted a cost-effective and emission reduction analyses for both Tier-4 Final engine upgrades and for electrification and found that while it was cost-effective to upgrade to Tier-4 Final engines, it was not cost-effective to require the use of electrically-powered engines. In addition, staff researched a company that already manufactures electric drilling rigs and found that the footprint and power requirements such a rig would require to be too large for the majority of oil and gas sites that are found within South Coast AQMD's jurisdiction as many of these sites are less than a half-acre in size. Additionally, a substation would be necessary as well as power lines and electric grid that could handle the power requirements of 373 kilowatts which is equivalent to a 500-HP diesel engine. Finally, drilling activities represent a small fraction of activities at oil and gas facilities.

CARB already has a requirement for In-Use Off-Road Diesel-Fueled Fleets regulation, however, depending on the size of the operator's fleet, it could take longer than the effective date of this rule before an operator would be required to upgrade their fleet by CARB's compliance date. Therefore, this requirement aims to bridge the gap that may exist between this rule and CARB's rule.

Comment 1-3: Staff reviewed the signage requirements and agreed that the minimum size of the lettering was too large and has since reduced the minimum size from 4 inches to 2 inches. This change will not affect the intent of this updated requirement which aims to have signage be visible from a public street.

Comment 1-4: Staff agrees that it is preferable to repair leaks discovered with an OGI camera sooner rather than later and the proposed amended rule language has been updated such that any leaks found exclusively with an OGI camera shall be repaired within twenty-four hours of discovery. If using an OGI camera in conjunction with a calibrated handheld device that can quantify leaks, the operator can follow Rule 1173 subdivision (g) ~~Repair Period Table~~ which could give the operator additional time to repair those leak(s).

Comment Letter 2: STAND LA, Received 2/15/2024

February 10, 2024

Mr. Wayne Nastri, Executive Officer
South Coast Air Quality Management District
21865 Copley Dr, Diamond Bar, CA 91765

Re: Proposed Amended Rule 1148.1 - Oil and Gas

Dear Mr. Nastri:

Rule 1148.1 - Oil and Gas presents opportunities to substantially reduce nitrogen oxides (NOx) emissions and protect the health of residents, especially those of frontline communities. Southern California still needs to reduce smog-forming NOx by more than 100 tons per day in order to achieve the 1997 standard for ozone.[1]

The Stand Together Against Neighborhood Drilling (STAND-LA) coalition of frontline environmental justice organizations have actively participated in the Air District's AB617 and the 1148.1 rule-making processes to protect communities disproportionately impacted by air pollution.

We remain concerned that the proposed amended Rule 1148.1 does not yet incorporate our recommendations to reduce NOx and protect public health. We seek action in three areas:

1. Zero-emission workover operations
2. Zero toxics in odor counteractants (including neutralizing agents)
3. Zero combustion of produced methane

Zero-emission Workover Operations

We request that the Air District evaluate the cost effectiveness of using electric utility power or other zero-emission auxiliary sources to power the current fleet of mobile, diesel workover rigs. The adaptive electrification of existing mobile equipment may prove far more health and climate

2-1

[1] Los Angeles smog woes worsen as U.S. EPA threatens to reject local pollution plan, Los Angeles Times, (February 4, 2024)

protective than utilizing Tier-4 engines alone, and clearly more cost effective than acquiring $10 million electric rigs at each of 40 oil drill sites.

In 1999, the Breitburn oil company boasted that the use of an electrically-powered derrick at the Pico/Doheny Drill Site would eliminate most diesel emissions.[2] Diesel engine emissions are responsible for about 70% of California's estimated known cancer risk attributable to toxic air contaminants.[3] It is vitally important that the Air District evaluate lower-cost electrification alternatives to protect public health, rather than simply ruling out the most expensive approach.

2-1 Cont.

Zero toxics in odor counteractants

AB617 communities raised concerns about odorants because they contain powerful, toxic chemicals that cause birth defects, damage fertility, and cause multi-generational reproductive harm. Banning odorants while defining a new class of "neutralizing agents" that are permitted to have toxic air contaminants in their formulation up to 0.1%-by weight, does not address our community's concerns. It appears to be a change in words, but not practice.

The National Institute of Environmental Health Sciences notes,

> "Even low doses of endocrine-disrupting chemicals may be unsafe. The body's normal endocrine functioning involves very small changes in hormone levels, yet we know even these small changes can cause significant developmental and biological effects. This observation leads scientists to think that endocrine-disrupting chemical exposures, even at low amounts, can alter the body's sensitive systems and lead to health problems."[4]

The appropriate threshold for any toxics in odor counteractants is zero. We do not want more toxics dispersed in our communities.

2-2

Chemco Odor Control Jasmine is a common odor counteractant used at oil drill sites. It contains 4-no-nyl-pheenol, branched, ethoxylated, a endocrine disrupting chemical (EDC) that causes birth defects. Will the Air District categorize it as an odorant or a "neutralizing agent"? The public needs clarity from the Air District about which odor counteractants will be banned, which will be allowed, and which toxics that the Air District will allow in odor counteractant formulations, if any.

Our position remains that Chemco Odor Control Jasmine and other odor counteractants should not be permitted for use.

The staff report states that "Neutralizing agents work to 'knock out' or eliminate the odors." (page 3-5). That implies some sort of chemical manipulation, for example chemical decomposition. However, the manipulation that happens is often to human olfactory receptors--

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[2] Neighbors Take On Pico Oil Drilling Site, Jewish Journal (November 25, 1999)
[3] Propper et al. 2015. Environmental Science & Technology 49(19):11329–11339.
[4] National Institute of Environmental Health Sciences website. Downloaded 2/6/2024 from https://www.niehs.nih.gov/health/topics/agents/endocrine#:~:text=Even%20low%20doses%20of%20endocrine,significant%20developmental%20and%20biological%20effects.

knocking them out.[5] The presence of toxic gasses such as hydrogen sulfide or benzene are not eliminated, only the ability to detect them. Odor counteractants and "neutralizing agents" solve the wrong problem precisely.

Toxic trespass into the bodies of our children and families must stop. The appropriate threshold for any toxics--including endocrine disruptors--in odor counteractants, odorants, and neutralizing agents is zero.

2-2 Cont.

Zero combustion of produced methane

Reinjection of produced methane is a common zero emission oil field practice. The EPA's Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review affirms reinjection of produced gas into the oil field as an effective strategy for regulating greenhouse gasses (GHGs) and volatile organic compounds (VOCs) emissions for the Crude Oil and Natural gas source category pursuant to the Clean Air Act. We ask the District to evaluate reinjection of produced methane as a viable and cost effective zero emission practice that will enhance air quality and public health, especially for residents living near oil field operations.

2-3

STAND-LA would welcome the opportunity to discuss these concerns with the 1148.1 rule-making team. Thank you for your consideration.

Sincerely,
Richard Parks, President, Redeemer Community Partnership

Maro Kakoussian, Director of Climate and Health Programs, Physicians for Social Responsibility Los Angeles & STAND-LA Coalition Coordinator

Tianna Shaw Wakeman, Environmental Justice Program Manager, Black Women for Wellness

Reverend Louis Chase, Holman United Methodist Church

Rabeya Sen, Policy Director, Esperanza Community Housing

cc:
Mayor Pro Tem Larry McCallon, Chair
Supervisor Holly J. Mitchell, Vice Chair
Councilmember Michael A. Cacciotti

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[5] Yosuke Fukutani, Masashi Abe, Haruka Saito, Ryo Eguchi, Toshiaki Tazawa, Claire A. de March, Masafumi Yohda, Hiroaki Matsunami, Antagonistic interactions between odorants alter human odor perception, Current Biology, Volume 33, Issue 11, 2023, Pages 2235-2245.e4, https://doi.org/10.1016/j.cub.2023.04.072. Accessed 2/8/2024 from https://www.sciencedirect.com/science/article/pii/S0960982223005547/

Senator (Ret.) Vanessa Delgado
Board Member Veronica Padilla-Campos
Mayor José Luis Solache
Trish Johnson, CARB Office of Community Air Protection
Liliana Nunez, CARB Air Pollution Specialist
Michael Krause, SCAQMD Assistant Deputy Executive Officer
Michael Morris, SCAQMD Planning and Rules Manager
Rodolfo Chacon, SCAQMD Program Supervisor
Jose Enriquez, SCAQMD Air Quality Specialist

Comment 2-1: Staff conducted cost-effective and emission reduction analysis for both Tier-4 Final engine upgrades and for electrification and found that while it was cost-effective to upgrade to Tier-4 Final engines it was not cost-effective to upgrade to electrification options. The cost to upgrade to Tier 4 Final engines was found to be $13,700/ton of NOx reduced whereas the cost to electrify was found to be $521,080/ton of NOx reduced.

In addition, staff researched a company that already manufactures electric drilling rigs and found that their footprint and power requirements would be too large for the majority of oil and gas sites that are found within South Coast AQMD's jurisdiction as many of these sites are less than a half-acre in size. Also, a substation would be necessary, as well as power lines and electric grid that could handle the power requirements of 373 kilowatts which is equivalent to a 500-HP diesel engine.

Staff acknowledges that future developments in electrification and other technologies such as fuel cells may mature enough to be usable in a variety of oil and gas sites including smaller urban and remote sites. This rule may be reopened in the future to add the use of cleaner technologies. In addition, CARB's Advanced Clean Fleet Regulation, as of 2024, will require electrification of workover rigs starting in year 2036 which would cover the entire state.

Comment 2-2: Staff has proposed the ban of the use of odorants. Additionally, staff has also restricted the use of neutralizing agents by prohibiting the use of any neutralizing agents that contain more than 0.1% by weight of toxic air contaminants pursuant to South Coast AQMD Rule 1401 – New Source Review of Toxic Air Contaminants. The Safety Data Sheet for the chemical that was referenced, "Chemco Odor Control Jasmine" includes a chemical listed in South Coast AQMD's Rule 1401 and would therefore no longer be allowed to be used once the effective date of this amended rule passes. To further reduce the chance of fugitive odors, staff is also prohibiting the atomizing of neutralizing agents whenever they are used.

Comment 2-3: Staff reviewed how produced gas is handled and recognizes that there are four options to use it: selling to a gas company, using it in onsite equipment such as microturbines or engines, reinjecting back into the ground, or flaring it.

Staff researched the reinjection of the produced gas into the ground and found that the City of Los Angeles discourages the practice of reinjection within urban areas due to concerns of back pressure build up underneath residents' homes and with the major gas leak that took place at Aliso Canyon a few years ago. In addition, CalGEM has jurisdiction over the reinjection and storage of gas underground and carries its own permit requirements.

The use of produced gas in microturbines is more favorable to the City of Los Angeles. Another advantage of using produced gas in microturbines is that it would provide some relief to the area's power grid and is a cleaner way to use it compared to flaring. Staff has added NOx requirements to ensure these emissions remain low. Staff has also added NOx emissions if the facility uses the produced gas in engines that drive oil and gas wells.

Comment Letter 3: Center for Biological Diversity, Received 2/15/2024



CENTER for BIOLOGICAL DIVERSITY

Because life is good.

February 15, 2024

Jose Enriquez
Planning, Rule Development, and Implementation
South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765

Re: Comments on Proposed Amended Rule 1148.1 – Oil and Gas

Dear Mr. Enriquez:

These comments are submitted on behalf of the Center for Biological Diversity regarding the Proposed Amended Rule 1148.1. Though the proposed amendments take positive steps in curbing harmful emissions from oil and gas production facilities, we remain concerned that the proposed amendments do not go far enough, namely in three areas:

1. Establishing zero-emission workover rig operations
2. Eliminating concerns regarding the use of odorants
3. Alerting the public in the event of leak detection

The Stand Together Against Neighborhood Drilling (STAND-LA) coalition is submitting comments with many of the same concerns. We agree with STAND-LA's comments and see our comments as supporting those while contributing added perspective.

1. Establishing Zero-Emission Workover Rig Operations

There is no disputing that electrifying workover rigs would drastically reduce harmful emissions from oil and gas well workover operations, but SCAQMD staff ultimately did not recommend electric rigs because of concerns about cost-effectiveness. It is indeed the case that electrified workover rigs exceed the cost-effectiveness threshold based on SCAQMD staff's analysis. However, it is noted that a "cost-effectiveness that is greater than the threshold of $325,000 per ton of NOx reduced would also require additional analysis and a hearing before the Governing Board on costs."[1] Similar guidance is given for exceeding the cost-effectiveness threshold for VOC reductions. Thus, the initial assessment Staff provided of cost-effectiveness does not preclude further consideration of electrifying workover rigs. Given that maximizing public health benefit should not be relegated to a mere cost equation, it seems appropriate to conduct additional analysis (perhaps including a search for lower-cost electrification alternatives) along with a hearing by the Governing Board to further weigh the merits of electrifying workover operations.

3-1

[1] Staff Report, p. 4-6.

Arizona . California . Colorado . Florida . N. Carolina . Nevada . New Mexico . New York . Oregon . Washington, D.C. . La Paz, Mexico
BiologicalDiversity.org

2. Eliminating Concerns Regarding the Use of Odorants

SCAQMD staff propose eliminating the use of odorants which have been traditionally used to mask odors coming from oil and gas production sites. This is the right action since odorants themselves can be a nuisance to communities and present health harms. However, as a substitute, staff propose what essentially constitutes another category of odorant—neutralizing agent. Purportedly, neutralizing agents "work to 'knock out' or eliminate the odors, as opposed to masking the odors," while containing none of the toxics "listed in Rule 1401 in quantities greater than 0.1 percent by weight."[2] This new category of odorant gives several reasons for concern.

First, the Rule 1401 list is not exhaustive, and could not possibly capture the full list of potential toxics that could be found in neutralizing agents. This is more so the case given that the neutralizing agents to be used are not identified. If neutralizing agents are to be taken as an innocuous alternative to odorants, the neutralizing agents allowed should be limited and clearly identified so that it is certain that none have the potential of yielding toxic emissions.

Second, the proposal limits Rule 1401 toxics to quantities less than 0.1 percent by weight, but this ignores the fact that some toxics have no true safe limit, including some on the Rule 1401 list.[3] For instance, bis(2-ethylhexyl)phthalate is on the Rule 1401 list, but it is part of the chemical group *phthalates*, which are well known endocrine disruptors.[4] Even low doses of endocrine-disrupting chemicals may be unsafe. Phthalates are very common, found in various fragrances, packaging, and cosmetics. Given their ubiquity, it is possible that such a chemical could end up in an unspecified neutralizing agent. Therefore, the provision on limiting neutralizing agents based on the Rule 1401 list is not rigorous enough to ensure non-harmful emissions. 3-2

Third, we are skeptical that a neutralizing agent would truly "knock out" or eliminate odors. To truly eliminate an odor would mean either eliminating the source of the odor or capturing vapors before they reach individuals. If this is truly the function of the proposed neutralizing agents, then great, but otherwise neutralizing agents constitute nothing more than a masking agent, same as classic odorants. And masking agents, rather than lessening the public nuisance posed by noxious fumes, merely cover up the presence of those fumes, thereby hiding the threat posed. Concerns regarding this could at least be partially addressed by providing a list of neutralizing agents to be used and the mechanisms by which they eliminate odors.

3. Alerting the Public in the Event of Leak Detection

SCAQMD staff have proposed the use of optical gas imaging (OGI) cameras to identify leaks at oil and gas production sites. This comes with two requirements: (1) "If a visible vapor is observed while inspecting with an OGI camera, the operator will be required to quantify in parts per million by volume (ppmv), any VOC emissions within 48 hours of when visible vapors are 3-3

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[2] Staff Report, p. 3-6.
[3] SCAQMD, Regulation XIV – Toxics and Other Non-Criteria Pollutants, Rule 1041 – New Source Review of Toxic Air Contaminants (Accessed February 14, 2024), http://www.aqmd.gov/docs/default-source/rule-book/reg-xiv/rule-1401.pdf.
[4] National Institute of Environmental Health Sciences, Endocrine Disruptors (Accessed February 14, 2024), https://www.niehs.nih.gov/health/topics/agents/endocrine.

detected"; and (2) "should a visible vapor be quantified where the emission level triggers a repair, replacement, or removal of a component…then a notification to South Coast AQMD will also be required to be made within 24 hours of such quantification."[5] These requirements should come with additional notifications to the public.

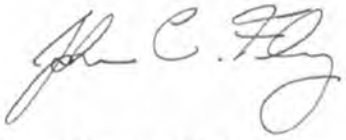
In the event of a leak, the public should be made aware of the leak quantity and composition and be provided with an assessment of whether there is a community threat posed. Further, should a repair be necessary, the public should be made aware of when the issue will be resolved, whether emissions will be ongoing during the repair, and whether there will be any nuisances resulting from the repair, such as noise or further emissions. Similar to the disclosures required under Rule 1148.2 of chemical usage and operations at oil and gas sites, Rule 1148.1 should require disclosures on leaks and measures to repair them.

3-3
Cont.

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We appreciate your engagement thus far on the proposed Rule 1148.1 amendments. We implore you to consider these remaining concerns to make Rule 1148.1 the most robust and the most protective of community health.

Respectfully submitted,



John Fleming, Ph.D.
Senior Scientist
Center for Biological Diversity

[5] Staff Report, p. 3-6.

Comment 3-1: Please see response under comment 2-1.

Comment 3-2: Please see response under comment 2-2.

Comment 3-3: Staff has added an amendment to this rule to require the operator to submit a notification whenever a leak is quantified and found to be greater than 25,000 ppmv VOC. Notifications of reported leaks will be included in Rule 1148.2 notifications, for those who have signed up to receive them.

Comment Letter 4: FracTracker Alliance, Received 4/11/2024

FRACTRACKER ALLIANCE

Oil and Gas Fugitive Emissions from Combustors in the South Coast Air District

Requirements for California Air Resources Board (CARB)-approved emissions reduction technology and infrastructure cannot be a replacement for stringent monitoring and inspections. The existing work of grassroots organizations, including Redeemer Community Partnership, STAND-LA, PSR-LA and research groups like FracTracker Alliance, has monitored the compliance of drill sites in the Los Angeles Basin, and has shown the failures of engineering protections when sites are not regularly and thoroughly inspected.[1] This work includes the filmed documentation of many California Air Resources Board-approved burners observed to be operating poorly, inefficiently combusting methane and other volatile organic compounds (VOCs) that were still observable at concentrated levels in the exhaust streams. This is not an issue limited to southern California, as other geographies such as Colorado are also addressing the issue, as required by recent rulings of the U.S. Environmental Protection Agency.[2] 4-1

The implementation of the California Air Resources Board (CARB) Oil and Gas Methane Regulation in 2018 was the first time that regulators even considered that oil and gas operators should not be directly venting toxic and carcinogenic VOCs from wash and crude tanks. The elimination of venting was the most important regulatory intervention for reducing community exposures to hydrocarbon emissions. Operators were no longer able to completely disregard the uncontrolled release of pollutants and subsequent degradation of local airsheds, due to the establishment of actionable limits to methane concentrations in fugitive emissions. While the rule applies to all fugitive emissions and leaks, tank venting was by far the most widespread source of fugitive emissions, present at nearly every wellsite without existing evaporative emissions control systems (EVAP). 4-2

The various California air districts have taken a range of different approaches to the implementation of the CARB methane regulation. While the Yolo-Solano Air Quality Management District, with natural gas fields in the northern San Joaquin Valley, has largely ignored the rule altogether, districts such as the San Joaquin Valley Air Pollution Control District, Ventura County, and Santa Barbara County have all stepped up inspections and have all issued violations for tank emissions. The South Coast Air Quality Management District has taken a leadership position, utilizing existing local rule 1148.1 to require operators to install EVAP 4-3

[1]https://www.fractracker.org/2022/08/fractracker-finds-widespread-hydrocarbon-emissions-from-active-idle-oil-and-gas-wells-and-infrastructure-in-california/
[2]https://biologicaldiversity.org/w/news/press-releases/epa-rejects-air-pollution-permits-for-oil-gas-wells-in-colorado-2024-02-01/

systems and require the use of CARB-certified combustors to ensure the destruction of methane and other VOCs into carbon dioxide prior to being released into the atmosphere.[3]

4-3 Cont.

Since the implementation of the methane rule, FracTracker has conducted dozens of thermographic inspections of oil and gas facilities in the LA Basin using Forward Looking Infrared (FLIR) optical gas imaging (OGI) cameras. Inspections were completed in collaboration with grassroots organizations by the FracTracker Alliance Western Program Director, a certified thermographer. The installation of EVAP systems and combustors drastically reduced the documented volumes of fugitive emissions, as compared to on-site OGI inspections conducted prior to the installation of combustors.

4-4

While the concentrations and volumes of VOCs emitted from tank venting were vastly reduced, the combustion units themselves were observed to be a new source of methane and VOC releases. The exhaust streams of multiple units had observable concentrations of hydrocarbons.
Example 1: Warren E&P Field
Example 2: Murphy Drill Site
Example 3: Deist Tank Farm
Example 4: Rosecrans Field

Industry and regulators alike often stress the perspective that oil and gas extraction operations can occur in populated areas without degrading the environmental health of communities, if proper engineering protections are in place and best practices followed. Such organizations point to a variety of engineering protections such as EVAP systems and low-NOx burners that, when functioning properly, can prevent leaks from key components of wellhead infrastructure and efficiently combust waste gas. They say that with these engineering standards, hydrocarbons can be extracted from even urban residential environments without harming communities.

4-5

This perspective is patently false. Engineering protections alone are not effective, because oil and gas wellheads are incredibly leak-prone. The many opportunities for large leaks and the combination of many small undetectable leaks provide ample exposure pathways to degrade local and regional air quality with a cocktail of harmful volatile organic compounds. Wellhead infrastructure includes a variety of pipelines, connected by gasketed flanges and valves, all operating under high pressure. Leaks form regularly, and while they are often easily fixed by replacing equipment or just retorquing bolts, they cannot be addressed if they are not identified.

In lieu of eliminating oil and gas extraction operations in communities or requiring all associated gas be collected and refined, FracTracker Alliance urges the South Coast Air District to establish a robust inspection program that increases the oversight of exhaust streams from combustors. In addition to on-site inspections by SCAQMD staff using OGI cameras and methane sniffers, concentrations of methane and VOCs in the inflow and exhaust streams of combustion units should be measured to ensure the units are performing at the maximum possible efficiency. Additionally, these units should be sampled regularly, at least monthly, to ensure the operational efficiency remains within regulatory parameters.

4-6

[3] https://www.aqmd.gov/docs/default-source/rule-book/reg-xi/rule-1148-1.pdf

Comment 4-1: Staff recognizes the challenges involved in creating stringent requirements versus verifying compliance with such requirements and appreciates the involvement of grassroot organizations to verify compliance.

Comment 4-2: South Coast AQMD Rule 463 – Organic Liquid Storage applies to most storage tanks and includes requirements for leak detection and repair, domes, seals, and other control equipment. For tanks that are exempt from Rule 463, Rule 1148.1 covers produced gas emissions from smaller tanks located in oil and gas sites.

Comment 4-3: Thank you for your comment.

Comment 4-4: Staff recognizes the effectiveness of using OGI technology in assisting in locating leaks and has therefore proposed implementing the use of such technology in Rule 1148.1 and other rules.

Comment 4-5: Staff is implementing NOx limits and source tests to the combustion equipment that is used on oil and gas sites, such as microturbines and engines that drive wells. Also, staff is implementing the use of OGI technology and notification submission of quantified leaks greater than 25,000 ppmv VOC.

Comment 4-6: Staff is adding a new requirement to PAR 1148.1 that would require oil and gas operators to perform monthly inspections with an optical gas imaging camera. Additionally, for any leaks that are quantified to be greater than 25,000 ppmv VOC the operator will be required to submit a notification.

ATTACHMENT H

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

SUBJECT: **NOTICE OF EXEMPTION FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT**

PROJECT TITLE: **PROPOSED AMENDED RULE 1148.1 – OIL AND GAS PRODUCTION WELLS**

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, the South Coast Air Quality Management District (South Coast AQMD), as Lead Agency, has prepared a Notice of Exemption pursuant to CEQA Guidelines Section 15062 – Notice of Exemption for the project identified above.

If the proposed project is approved, the Notice of Exemption will be filed for posting with the county clerks of Los Angeles, Orange, Riverside, and San Bernardino Counties. The Notice of Exemption will also be electronically filed with the State Clearinghouse of the Governor's Office of Planning and Research for posting on their CEQAnet Web Portal which may be accessed via the following weblink: https://ceqanet.opr.ca.gov/search/recent. In addition, the Notice of Exemption will be electronically posted on the South Coast AQMD's webpage which can be accessed via the following weblink: http://www.aqmd.gov/nav/about/public-notices/ceqa-notices/notices-of-exemption/noe---year-2024.

NOTICE OF EXEMPTION FROM THE CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

To:	County Clerks for the Counties of Los Angeles, Orange, Riverside, and San Bernardino; and Governor's Office of Planning and Research – State Clearinghouse	**From:**	South Coast Air Quality Management District 21865 Copley Drive Diamond Bar, CA 91765

Project Title: Proposed Amended Rule 1148.1 – Oil and Gas Production Wells

Project Location: The proposed project is located within the South Coast Air Quality Management District's (South Coast AQMD) jurisdiction, which includes the four-county South Coast Air Basin (all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties), and the Riverside County portion of the Salton Sea Air Basin and the non-Palo Verde, Riverside County portion of the Mojave Desert Air Basin.

Description of Nature, Purpose, and Beneficiaries of Project: Rule 1148.1 was developed to reduce emissions of volatile organic compounds (VOC), toxic air contaminants, and total organic compounds from the operation of wellheads, well cellars, and the handling of produced gas at oil and gas production facilities. The objective of Proposed Amended Rule (PAR) 1148.1 is to further reduce and control these emissions. PAR 1148.1 will : 1) add new definitions to clarify rule requirements; 2) require the use of enhanced leak detection technology; 3) require equipment that uses produced gas to meet specific oxides of nitrogen (NOx) limits and to verify compliance via source tests; 4) require workover rigs to use minimum Tier 4 Final diesel engines; 5) ban the use of odorants that are used to mask odors emanating from oil production sites; 6) update signage requirements to include a minimum size and certain instructions; and 7) include additional minor changes to rule language for consistency and clarity. Initial projections indicate that PAR 1148.1 is expected to require some physical modifications involving minimal to no construction activities associated with: 1) upgrading the engines of approximately 30 workover rigs from Tier 2 to Tier 4 Final; 2) retrofitting approximately 17 engines with 3-way catalysts; 3) installing approximately four microturbines; and 4) conducting optical gas imaging inspections. Implementation of PAR 1148.1 is expected to result in emission reductions of 98.55 tons per year of VOC by 2025, 18.47 tons per year of NOx by 2026, and 186.15 tons per year of NOx by 2027 which will benefit public health and ambient air quality.

Public Agency Approving Project:	**Agency Carrying Out Project:**
South Coast Air Quality Management District	South Coast Air Quality Management District

Exempt Status: CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption

Reasons why project is exempt: South Coast AQMD, as Lead Agency, has reviewed the proposed project (PAR 1148.1) pursuant to: 1) CEQA Guidelines Section 15002(k) – General Concepts, the three-step process for deciding which document to prepare for a project subject to CEQA; and 2) CEQA Guidelines Section 15061 – Review for Exemption, procedures for determining if a project is exempt from CEQA. The analysis of the anticipated physical changes that may occur as a result of implementing PAR 1148.1 indicates that since minimal to no construction activities are expected, it can be seen with certainty that implementing the proposed project would not cause a significant adverse effect on the environment. Therefore, the proposed project is exempt from CEQA pursuant to CEQA Guidelines Section 15061(b)(3) – Common Sense Exemption.

Date When Project Will Be Considered for Approval (subject to change):
South Coast AQMD Governing Board Public Hearing: August 2, 2024

CEQA Contact Person:	**Phone Number:**	**Email:**	**Fax:**
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PAR 1148.1 Contact Person:	**Phone Number:**	**Email:**	**Fax:**
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Date Received for Filing: _____ **Signature:** *(Signed and Dated Upon Board Approval)*

Kevin Ni
Program Supervisor, CEQA
Planning, Rule Development, and Implementation

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Socioeconomic Impact Assessment For: Proposed Amended Rule 1148.1 – Oil and Gas Production Wells

August 2024

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TABLE OF CONTENTS

EXECUTIVE SUMMARY 1

INTRODUCTION 1

LEGISLATIVE MANDATES 1

AFFECTED FACILITIES 2

SMALL BUSINESS 2

COMPLIANCE COST 4
Capital/One-Time Costs 4
Recurring Costs 5
Total Compliance Cost 6

MACROECONOMIC IMPACTS ON THE REGIONAL ECONOMY 8
Impact of PAR 1148.1 9
Price Impact and Competitiveness 13

REFERENCES 14

EXECUTIVE SUMMARY

On March 17, 1989, the South Coast Air Quality Management District (South Coast AQMD) Governing Board adopted a resolution which requires an analysis of the economic impacts associated with adopting and amending rules and regulations. In addition, Health and Safety Code Section 40440.8 requires a socioeconomic impact assessment for any proposed rule, rule amendment, or rule repeal which "will significantly affect air quality or emissions limitations." Lastly, Health and Safety Code Section 40920.6 requires an incremental cost-effectiveness analysis for a proposed rule or amendment which imposes Best Available Retrofit Control Technology (BARCT) or "all feasible measures" requirements relating to emissions of ozone, carbon monoxide (CO), sulfur oxides (SOx), nitrogen oxides (NOx), volatile organic compounds (VOC), and their precursors.

Proposed Amended Rule 1148.1 (PAR 1148.1) has been developed to reduce the emissions of volatile organic compounds (VOC), toxic air contaminants (TAC), and total organic compounds (TOC) from wellheads and well cellars located at oil and gas production facilities. A socioeconomic impact assessment has been conducted accordingly, and the following presents a summary of the analysis and findings of the socioeconomic impact assessment conducted for PAR 1148.1.

Key Elements of PAR 1148.1

PAR 1148.1 would require oil and gas production facilities to take measures to reduce VOC, TAC, and TOC emissions from the operation of wellheads and well cellars and improve the handling of produced gas. These emission reductions would be achieved by requiring enhanced leak detection, establishing emission limits for internal combustion engines (ICEs) and microturbines powered by produced gas, and requiring cleaner engines on workover rigs.

Affected Facilities and Industries

PAR 1148.1 affects approximately 323 facilities, with 240 located in Los Angeles County, 81 located in Orange County, and two located in San Bernardino County. All the affected facilities are classified under the Oil and Gas Extraction industry according to the North American Industry Classification System (NAICS) code 211.

A small business analysis was also conducted for the facilities affected by PAR 1148.1. The following table presents the number of affected facilities that qualify as a small business under each definition used in the analysis.

Definition	Number of Facilities
South Coast AQMD Rule 102	59
South Coast AQMD's Small Business Assistance Office	241
U.S. Small Business Administration	255

Assumptions for the Analysis

The key requirements of PAR 1148.1 that have cost impacts include: 1) Optical Gas Imaging (OGI) cameras and inspection for leak detection; 2) NOx emission limits for engines and microturbines that are powered by produced gas; 3) source testing of engine and microturbine emissions; and 4) more stringent engine standards for workover rigs.

Specifically, PAR 1148.1 would likely cause the purchase and maintenance of OGI cameras, as well as training and labor costs to use these cameras for leak detection. Compliance with new emission limits for engines powered by produced gas would likely be achieved by the installation of 3-way catalysts and associated air pollution control equipment which requires annual maintenance and would be verified periodically by source tests. Finally, workover rigs would be retrofitted with Tier 4 Final engines which also require incremental annual maintenance expenditures.

This analysis projects the costs of implementing the control measures from 2025 to 2046. This analysis assumes that affected facilities purchase OGI cameras, 3-way catalysts, and Tier 4 Final engines in 2025, 2026, and 2027, respectively, which are the most cost-effective control strategies to comply with the requirements of PAR 1148.1.

Compliance Costs

The total present value of the compliance cost for PAR 1148.1 is estimated at $92.0 million and $66.4 million for a 1% and 4% discount rate, respectively. The average annual compliance cost of PAR 1148.1 is estimated to range from $4.1 million to $4.7 million for a 1% to 4% real interest rate, respectively. When using a 4% real interest rate, this analysis indicates roughly 53% of the annual average compliance cost would be incurred by Tier 4 Final engine expenses, followed by OGI expenses (43%), 3-way catalyst expenses (3%), and source testing expenses (1%).

The following table presents a summary of the average annual cost of PAR 1148.1 by cost category.

Cost Categories	Annual Average Cost of PAR 1148.1 (2025-2046)	
	1% Real Interest Rate	4% Real Interest Rate
Capital Costs		
OGI Camera	$1,254,441	$1,422,588
3-Way Catalyst & Air/Fuel Controller	$48,203	$49,611
3-Way Catalyst Installation	$40,169	$41,342
Workover Rig with Tier 4 Final Engine	$1,496,363	$1,929,591
Recurring Costs		
OGI Inspection Labor	$480,000	$480,000
OGI Camera Maintenance	$100,000	$100,000
OGI Camera Training	$50,000	$50,000
3-Way Catalyst & Air/Fuel Controller Maintenance	$23,864	$23,864
Tier 4 Final Engine Maintenance	$545,455	$545,455
Source Testing	$64,773	$64,773
Total	**$4,103,267**	**$4,707,223**

Job Impacts

Direct costs and corresponding spending of PAR 1148.1 are used as inputs to the Regional Economic Models, Inc (REMI PI+) model to assess job impacts and secondary/induced impacts for all the industries in the four-county economy on an annual basis from 2025-2046.

When the compliance cost is annualized using a 4% real interest rate, the REMI analysis forecasted 28 net jobs foregone annually in the four-county region on average over the forecast period, relative to the baseline forecast. Note that the jobs foregone mainly implies less job growth compared to the baseline scenario, not necessarily indicating the loss of current jobs. The jobs foregone are mainly attributable to the necessary equipment that facilities would have to install and purchase due to the implementation of PAR 1148.1. The largest job impacts occur in year 2033 when the REMI model forecasts 44 jobs foregone relative to the baseline scenario. However, the model also predicts 35 and 16 jobs gained in 2025 and 2027, respectively, due to the benefits from capital expenditures of affected facilities.

Competitiveness and Price Impacts

The overall impacts of PAR 1148.1 on production cost and delivered prices in the region are expected to be minimal. The REMI model indicates PAR 1148.1 will lead to a maximum increase of 0.44% and 0.02% on production cost and delivered price, respectively, in year 2027.

INTRODUCTION

In 2004, the South Coast AQMD Governing Board adopted Rule 1148.1, which sought to reduce VOC emissions from wellheads and well cellars at oil and gas production facilities through increased inspection and maintenance, and controls for produced gas emissions. Rule 1148.1 applies to facilities engaged in activities like drilling, well completion, well rework, and well injection.

Rule 1148.1 was amended in 2015 after South Coast AQMD took enforcement action at an urban oil and gas production facility due to odor nuisances.~~, in addition to increased concerns in local communities about potential environmental impacts from oil extraction techniques such as hydraulic fracturing.~~ The objectives of these amendments were to: 1) minimize impacts on residents and sensitive receptors; 2) improve work practices; and 3) establish odor mitigation procedures.

PAR 1148.1 was developed to further reduce emissions of volatile organic compound (VOC), toxic air contaminants (TAC), and total organic compounds (TOC) from the operation of wellheads, well cellars, and handling of produced gas at oil and gas production facilities.

LEGISLATIVE MANDATES

The legal mandates directly related to the socioeconomic impact assessment of PAR 1148.1 include South Coast AQMD Governing Board resolutions and various sections of the Health and Safety Code.

South Coast AQMD Governing Board Resolution

On March 17, 1989, the South Coast AQMD Governing Board adopted a resolution that requires an analysis of the economic impacts associated with adopting and amending rules and regulations that considers all of the following elements:

- Affected industries;
- Range of probable costs;
- Cost-effectiveness of control alternatives; and
- Public health benefits.

Health and Safety Code Requirements

The state legislature adopted legislation which reinforces and expands the South Coast AQMD Governing Board resolution requiring socioeconomic impact assessments for rule development projects. Health and Safety Code Section 40440.8, which went into effect on January 1, 1991, requires a socioeconomic impact assessment for any proposed rule, rule amendment, or rule repeal which "will significantly affect air quality or emissions limitations."

To satisfy the requirements in Health and Safety Code Section 40440.8, the scope of the socioeconomic impact assessment should include all of the following information:

- Type of affected industries;
- Impact on employment and the regional economy;
- Range of probable costs, including those to industry;
- Availability and cost-effectiveness of alternatives to the rule;

- Emission reduction potential; and
- Necessity of adopting, amending, or repealing the rule in order to attain state and federal ambient air quality standards.

Health and Safety Code Section 40728.5, which went into effect on January 1, 1992, requires the South Coast AQMD Governing Board to: 1) actively consider the socioeconomic impacts of regulations; 2) make a good faith effort to minimize adverse socioeconomic impacts; and 3) include small business impacts. To satisfy the requirements in Health and Safety Code Section 40728.5, the socioeconomic impact assessment should include the following information:

- Type of industries or business affected, including small businesses; and
- Range of probable costs, including costs to industry or business, including small business.

Finally, Health and Safety Code Section 40920.6, which went into effect on January 1, 1996, requires an incremental cost-effectiveness analysis for a proposed rule or amendment which imposes Best Available Retrofit Control Technology (BARCT) or "all feasible measures" requirements relating to emissions of ozone, carbon monoxide (CO), sulfur oxides (SOx), nitrogen oxides (NOx), VOC, and their precursors. A BARCT assessment has been conducted and can be found in Chapter 2 of the Final ~~Draft~~ Staff Report.[1]

AFFECTED FACILITIES

PAR 1148.1 would affect an estimated 323 onshore oil and/or gas well facilities. Out of these 323 affected facilities, 240 (74%) are located in Los Angeles County, 81 (25%) are located in Orange County, and two (1%) are located in San Bernardino County. All the affected facilities are classified under the Oil and Gas Extraction industry according to the North American Industry Classification System (NAICS) code 211 and either belong to the industries of Crude Petroleum Extraction (NAICS 211120) or Natural Gas Extraction (NAICS 211130). Staff estimated that the 323 affected facilities are owned by approximately 100 parent companies.

SMALL BUSINESS

The South Coast AQMD defines a "small business" in Rule 102 for purposes of fees as one which employs 10 or fewer persons and which earns less than $500,000 in gross annual receipts. The South Coast AQMD also defines "small business" for the purpose of qualifying for access to services from the South Coast AQMD's Small Business Assistance Office (SBAO) as a business with an annual receipt of $5 million or less, or with 100 or fewer employees. In addition to the South Coast AQMD's definition of a small business, the federal Small Business Administration (SBA) and the federal 1990 Clean Air Act Amendments (1990 CAAA) each have their own definition of a small business.

The 1990 CAAA classifies a business as a "small business stationary source" if it: 1) employs 100 or fewer employees; 2) does not emit more than 10 tons per year of either VOC or NOx; and 3) is a small business as defined by the SBA. Based on firm revenue and employee count, the SBA

[1] South Coast AQMD, Preliminary Draft Staff Report for Proposed Amended Rule 1148.1 – Oil and Gas Production Wells, https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1148_2/par-1148-1-preliminary-draft-staff-report-final.pdf, accessed July 16, 2024. The Final Staff Report is located in Attachment G of the August 2, 2024 Governing Board package for PAR 1148.1, which upon posting, will be available 72 hours prior to the Governing Board meeting at https://www.aqmd.gov/home/news-events/meeting-agendas-minutes.

definition of a small business varies by six-digit NAICS codes.[2] For example, facilities in the Crude Petroleum Extraction (NAICS 211120) and Natural Gas Extraction (NAICS 211130) sectors will be considered a small business if they employ 1,250 or fewer people.

South Coast AQMD mostly relies on Dun & Bradstreet data to conduct a small business analysis on privately owned companies. In cases where the Dun & Bradstreet data are unavailable or unreliable, other external data sources such as Manta, Hoover, and LinkedIn data will be used. The determination of data reliability is based on data quality confidence codes in the Dun & Bradstreet data as well as staff's discretion. Revenue and employee data for publicly owned companies is gathered from Securities and Exchange Commission (SEC) filings. Since subsidiaries under the same parent company are interest-dependent, the revenue and employee data of a facility's parent company will be used for the determination of its small business status. Employment and revenue data from 2023 Dun & Bradstreet as well as other external sources are available for only 291 facilities. Note that although the employment and revenue data for some facilities are unknown or missing, the current data used for this small business analysis represent the most thorough and accurate information obtainable as of the date of the final report. However, staff was unable to determine small business classification for the affected facilities using the 1990 CAAA definition because most of these facilities are not required to submit annual emission reports under South Coast AQMD Rule 222 – Filing Requirements for Specific Emission Sources Not Requiring a Written Permit Pursuant to Regulation II and thus, their emissions data are not available.[3] Table 1 presents the number of small businesses based on each definition.

Table 1
Number of Affected Small Business Facilities Based on Various Definitions

Definition	Number of Facilities
South Coast AQMD Rule 102	59
South Coast AQMD's Small Business Assistance Office	241
U.S. Small Business Administration	255

[2] U.S. Small Business Administration, 2023 Small Business Size Standards, https://www.sba.gov/document/support-table-size-standards, accessed July 16, 2024.

[3] South Coast AQMD, Rule 222 – Filing Requirements for Specific Emission Sources Not Requiring a Written Permit Pursuant to Regulation II, https://www.aqmd.gov/docs/default-source/rule-book/reg-ii/Rule-222.pdf, accessed July 16, 2024.

COMPLIANCE COST

The elements of PAR 1148.1 which have potential cost impacts include: 1) enhanced leak detection requirements involving OGI inspections, 2) NOx emission limits for equipment using produced gas and compliance verification through source testing, and 3) Tier 4 Final engine standards for workover rigs.

This analysis assumes equipment purchases and services for control measures required by PAR 1148.1 are paid directly to equipment suppliers and service providers, and that OGI inspections are administered by the facilities using their own staff. Overall, this socioeconomic impact assessment takes a conservative approach to cost estimation, and some of the cost estimates may be slightly higher than the estimates discussed in the Final ~~Draft~~ Staff Report in order to account for uncertainty in certain costs. Capital and other one-time costs include OGI cameras, 3-way catalysts and air/fuel controllers for ICEs powered by produced gas, and Tier 4 Final Engines for workover rigs. Recurring costs include maintenance for OGI cameras, 3-way catalysts, and Tier 4 Final engines, OGI camera inspection labor, OGI camera training, and source testing for ICE engines and microturbines. Manufacturer-provided specifications for microturbines indicate that this equipment can achieve the NOx emission limit of 9 parts per million by volume (ppmv), and this analysis assumes that no additional emissions control technology will be required for these units.

While there are alternative air pollution control technologies discussed in the Final ~~Draft~~ Staff Report which affected facilities could use to comply with the requirements of PAR 1148.1, this analysis assumes that facilities will choose the lowest cost technologies and will purchase equipment in the year the compliance deadline goes into effect. The compliance cost for PAR 1148.1 is forecasted for a 22-year period from 2025 to 2046, reflecting the expected purchase of OGI cameras in 2025 and a 20-year useful life of Tier 4 Final engines, which are expected to be purchased in 2027. The expected purchase dates are based on the proposed compliance deadlines of PAR 1148.1. All estimates of the compliance cost are presented in 2023 dollars.

Many of the costs estimated in this analysis are dependent on site-specific factors and on business decisions made by facilities subject to PAR 1178.[4] Staff strove to represent costs as realistically as possible, given that many factors would ultimately dictate what price a business will pay to implement a control. The estimated cost for each item was either estimated based on quotes from equipment manufacturers or service providers, data provided by affected facilities, or internal South Coast AQMD data. The procedure and assumptions for each cost estimate are discussed in the next section and the costs are presented in 2023 dollars.

Capital/One-Time Costs

OGI Cameras

PAR 1148.1 requires monthly Optical Gas Imaging (OGI) inspection to detect leaks from equipment more promptly than current inspection techniques and frequency allow. OGI cameras can detect vapors from leaking equipment by visualizing a variety of gas wavelengths. Staff

[4] South Coast AQMD Rule 1178 – Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities was amended in September 2023 to include OGI inspections, https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1178, Accessed July 16, 2024.

identified roughly 100 parent companies for the 323 affected facilities. Each parent company is assumed to purchase an OGI camera in 2025, the first year of rule compliance, and that OGI cameras will be used to perform leak inspections at all the affected facilities owned by the parent company. According to vendors and affected facilities, each camera will cost approximately $120,000 and have an anticipated 10-year useful life. Since costs are forecasted until 2046, each parent company is expected to purchase an OGI camera three times within the forecast horizon, with a total cost of $36 million.

3-way Catalyst and Air/Fuel Controller

For the affected facilities that utilize produced gas to power stationary ICEs onsite, PAR 1148.1 would require those engines to comply with a NOx emission standard of 11 ppmv, corrected to 15% oxygen (O2) on a dry basis, which is the same as what is required in Rule 1110.2 for stationary engines. Based on the BARCT analysis discussed in the Final ~~Draft~~ Staff Report, this analysis assumes that 3-way catalysts paired with air/fuel controllers will be installed on the affected equipment to meet this NOx emission standard. Staff obtained cost estimates both from equipment manufacturers and existing cost information on exhaust emission controls collected during the November 2019 amendment to Rule 1110.2. The cost of a 3-way catalyst, air/fuel ratio controller, and installation of these components is estimated to be $5,000, $1,000, and $5,000, respectively. Based on site visits to the affected facilities, an estimated 25 ICEs fueled by produced gas will each need to be retrofitted with a 3-way catalyst and an air/fuel ratio controller. The estimated useful life for this equipment is three years. The 3-way catalysts and air/fuel controllers are assumed to be installed in 2026, with a total of seven replacements over the forecast period, yielding an estimated total cost of $1.9 million.

Tier 4 Final Workover Rigs

PAR 1148.1 would require workover rigs be equipped with an engine that meets the emissions standards of a Tier 4 Final engine. Staff estimated that there are currently 40 workover rigs utilized at the affected facilities to conduct maintenance activities on oil producing wells or water injection wells. Staff was able to obtain costs from several operators that have already retrofitted their workover rigs with Tier 4 Final engines, which is approximately $1,000,000 per workover rig, with an expected useful life of 20 years. On site visits, staff observed that 10 workover rigs have already been retrofitted with Tier 4 Final engines, with 30 remaining workover rigs requiring a retrofit. This analysis assumes the 30 workover rigs will be retrofitted in 2027, with an estimated total cost of $30 million.

Recurring Costs

OGI Camera Training

Training by OGI camera manufacturers is required to ensure proper operation of this equipment. Training is expected to occur every two years and cost approximately $1,000 per trainee. Staff assumed one existing employee at each of the 100 parent companies will receive OGI training, resulting in a total cost of $100,000 every two years. The first training is anticipated to occur in 2025, with 11 total training sessions over the forecast period, yielding a total cost of $1.1 million.

Labor for OGI Inspection

PAR 1148.1 requires monthly OGI inspections at each facility to detect potential leaks. This

analysis assumes that the inspections will be conducted by employees of facilities' parent companies and that the monthly inspection will take one day on average to inspect all the facilities under the same parent company. With an assumed wage rate of $50 per hour, the total annual labor cost associated with the inspection is estimated at $4,800 for each parent company (1 person x 8 hrs/day x $50/hr x 12 inspections/yr). For all 100 parent companies, the total yearly cost will be $480,000. Since inspections will occur once a month over the 22-year forecast period, the total labor cost for OGI inspections is estimated to be $10.6 million.

OGI Camera Maintenance

Annual maintenance is necessary for OGI cameras to ensure that equipment is calibrated and working properly. Each camera has an expected annual maintenance cost of $1,000, yielding a total annual cost of $100,000 for the 100 cameras. Maintenance will begin in 2025, the first year when OGI cameras are purchased, and will occur annually throughout the forecast period, bringing the total cost of OGI camera maintenance to roughly $2.2 million.

3-Way Catalyst and Air/Fuel Controller Maintenance

Annual maintenance and calibration are necessary for 3-way catalysts and air/fuel controllers to ensure the equipment is operating at maximum efficiency. Each 3-way catalyst has an annual maintenance cost of approximately $1,000 and all of the 25 ICEs fueled by produced gas will need to be retrofitted with a 3-way catalyst. As such, maintenance expenses are projected to begin in 2026 with an average annual maintenance cost of $25,000, resulting in a total estimated maintenance cost of $525,000 over the forecast period.

Tier 4 Final Workover Rig Maintenance

Starting in 2027, annual maintenance will be necessary for workover rigs equipped with Tier 4 Final engines to ensure that they continue to meet the more stringent emission standards in PAR 1148.1. Each workover rig has an estimated annual maintenance cost of $20,000, yielding a total annual maintenance cost of $600,000 for all 30 rigs and a total cost of $12 million over the forecast period.

Source Testing

Periodic source testing of ICEs and microturbines powered by produced gas will be required within two years after PAR 1148.1 is adopted and every five years thereafter. According to discussions with vendors and affected facilities, each source test is estimated to cost between $3,000 and $5,000. As a conservative approach, this analysis assumes a cost of $5,000 per source test. Source tests are required on an estimated universe of 32 existing microturbines and 25 ICEs, for a cost of $285,000 in the years when source testing is required, and a total cost of $1.4 million over the forecast period.

Total Compliance Cost

The average annual cost of implementing PAR 1148.1 includes the estimated amortized capital and recurring compliance costs averaged over the period from 2025 to 2046. For the calculation of the present value of total compliance costs, all the annual compliance costs will be discounted

to 2024, the anticipated first year PAR 1148.1 is adopted. [5]

The present value of estimated compliance cost is estimated at $92.0 million and $66.4 million for a 1% and 4% discount rate, respectively. The average annual compliance cost of PAR 1148.1 is estimated to range from $4.1 million to $4.7 million for a 1% to 4% real interest rate, respectively.[6] Table 2 presents the present value of estimated compliance costs and the average annual compliance cost of PAR 1148.1 by cost categories.

Table 2
Total Present Value and Annual Average Estimated Costs of PAR 1148.1

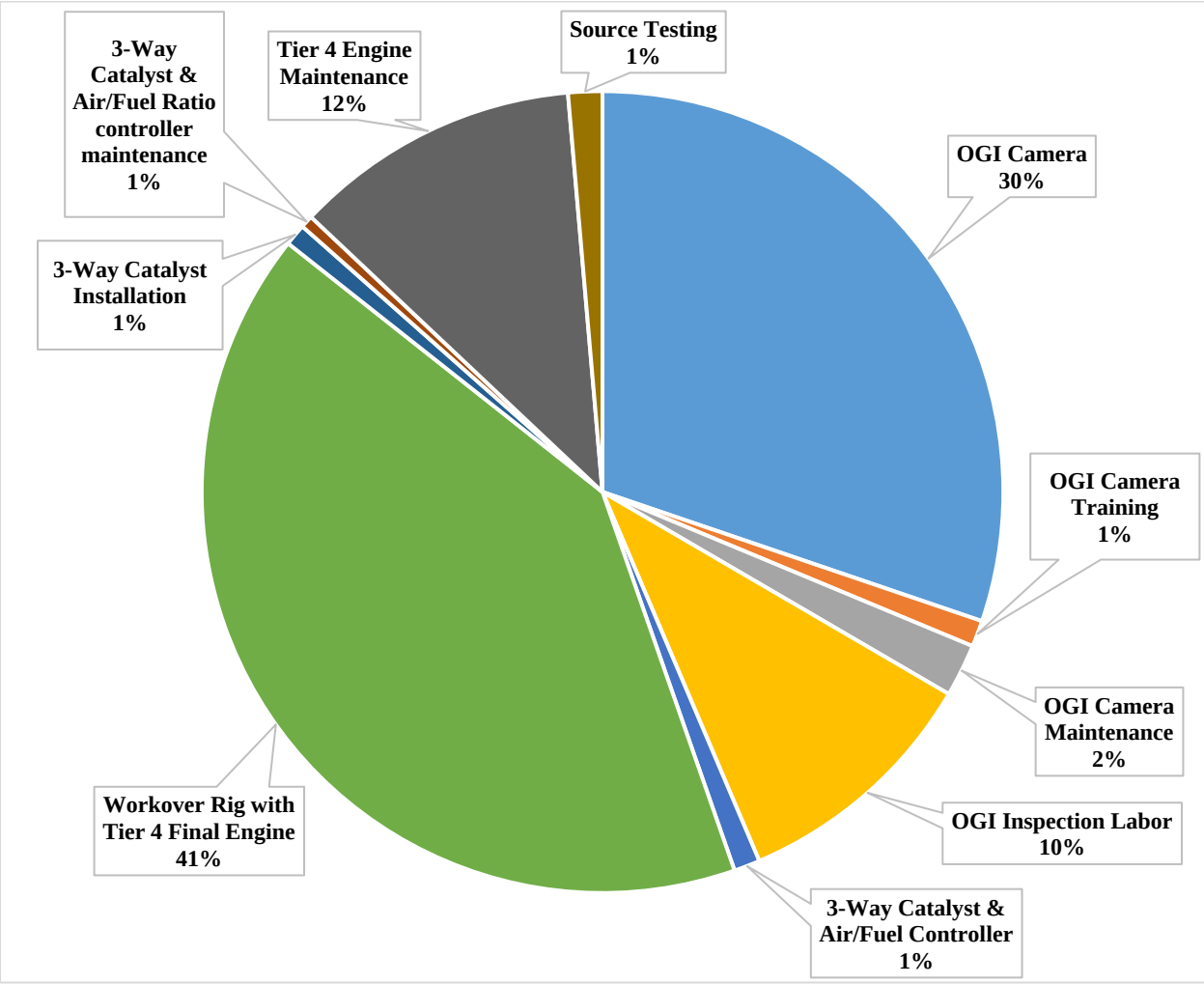
Cost Categories	Present Value (2024)		Annual Average (2025 – 2046)	
	1% Discount Rate	4% Discount Rate	1% Real Interest Rate	4% Real Interest Rate
Capital Costs				
OGI Camera	$27,968,616	$20,557,981	$1,254,441	$1,422,588
3-Way Catalyst & Air/Fuel Controller	$970,357	$701,098	$48,203	$49,611
3-Way Catalyst Installation	$808,631	$584,249	$40,169	$41,342
Workover Rig with Tier 4 Final Engine	$37,547,885	$26,669,891	$1,496,363	$1,929,591
Recurring Costs				
OGI Inspection Labor	$9,436,982	$6,936,535	$480,000	$480,000
OGI Camera Maintenance	$1,966,038	$1,445,112	$100,000	$100,000
OGI Camera Training	$987,910	$736,724	$50,000	$50,000
3-Way Catalyst & Air/Fuel Controller Maintenance	$466,757	$337,239	$23,864	$23,864
Tier 4 Final Engine Maintenance	$10,613,991	$7,539,012	$545,455	$545,455
Source Testing	$1,264,748	$924,654	$64,773	$64,773
Total	**$92,034,913**	**$66,432,495**	**$4,103,267**	**$4,707,223**

Figure 1 presents the estimated average annual compliance costs of PAR 1148.1 by cost category. Maintenance of workover rigs, OGI cameras and Tier 4 Final engines account for the largest portions of the average annual compliance cost at 41%, 30% and 12%, respectively. All the estimated compliance costs will be incurred by the industry of Oil and Gas Extraction (NAICS 211).

[5] A discount rate in is used to find the present value of a stream of future payments, reflecting the idea that costs borne in the future are worth less than costs incurred in the present day.

[6] Real interest rate is defined as the nominal interest rate adjusted for inflation, reflecting the true cost of borrowing.

Figure 1
Total Annual Estimated Costs of the PAR 1148.1 by Expense Category



MACROECONOMIC IMPACTS ON THE REGIONAL ECONOMY

The Regional Economic Models, Inc (REMI) 2024 PI+ v3 model was used to assess the socioeconomic impacts of PAR 1148.1.[7] The model links the economic activities in the counties of Los Angeles, Orange, Riverside, and San Bernardino, and it is comprised of five interrelated blocks: 1) output and demand; 2) labor and capital; 3) population and labor force; 4) wages, prices, and costs; and 5) market shares.[8]

[7] Regional Economic Modeling Inc. (REMI). Policy Insight® for the South Coast Area (70-sector model). Version 3. 2023.

[8] Within each county, producers are made up of 156 private non-farm industries and sectors, three government sectors, and a farm sector. Trade flows are captured between sectors as well as across the four counties and the rest of U.S. Market shares of industries are dependent upon their product prices, access to production inputs, and local infrastructure. The demographic/migration component has 160 ages/gender/race/ethnicity cohorts and captures population changes in births, deaths, and migration. (For details, please refer to REMI online documentation at http://www.remi.com/products/pi.).

It should be noted that the REMI model is not designed to assess impacts on individual operations. The model was used to assess the impacts of the proposed amended rule on various industries that make up the local economy. Cost impacts on individual operations were assessed outside of the REMI model and were aggregated to the 70-sector NAICS code level to be used as inputs into the REMI model.

Impact of PAR 1148.1

This assessment is performed relative to a baseline ("business as usual") forecast where PAR 1148.1 would not be implemented. The analysis assumed that the 323 affected facilities would finance the capital and installation costs of equipment at a 4% real interest rate, and that these one-time costs are amortized and incurred over the useful life of the equipment.

Direct costs of PAR 1148.1 are used as inputs to the REMI model which relies on this information to assess secondary and induced impacts for all the industries in the four-county economy on an annual basis over the 2025-2046 period. Direct effects of PAR 1148.1 include equipment, labor, training, and other costs discussed in the previous compliance cost section.

While the compliance expenditures that are expected to be incurred by the affected facilities would increase their cost of doing business, the purchase of the required equipment and services would increase the sales and subsequent spending of businesses in various sectors, some of which may be located in South Coast AQMD's jurisdiction. Table 3 lists the 70-sector NAICS codes modeled in REMI that would incur either as a direct cost or direct benefit from this anticipated compliance costs/spending.

Table 3
Industries Incurring and Benefitting from Compliance Costs/Spending

Source of Compliance Cost	REMI Industries Incurring Compliance Costs (NAICS)	REMI Industries Benefitting from Compliance Spending (NAICS)
OGI Camera	Oil and Gas Extraction (211)	*Capital & Recurring:* Computer and Electronic Product Manufacturing (334)
OGI Camera Maintenance		
OGI Camera Training		
OGI Inspections		*N/A**
3-Way Catalyst & Air/Fuel Controller		*Capital:* Machinery Manufacturing (333)
3-Way Catalyst Installation		
3-Way Catalyst & Air/Fuel Controller Maintenance		*Recurring:* Repair and Maintenance (811)
Tier 4 Final Engine Maintenance		
Workover Rig with Tier 4 Final Engine		*Capital:* Transportation Equipment Manufacturing (336)
Source Testing		*Recurring:* Professional, Scientific, and Technical Services (541)

*The wage income earned by employees conducting OGI inspections is modeled as an increase in compensation for employees in the Oil and Gas Extraction industry and thus does not directly benefit a single industry.

Regional Job Impacts

In the REMI model, costs were distributed to each county based on the share of affected facilities in that county. Table 4 presents the forecasted jobs foregone and gained in the four-county economy for selected industries and years. When the compliance cost is annualized using a 4% real interest rate, the REMI model projects that there will be 28 jobs foregone on average over the 2025-2046 period relative to the baseline forecast. However, the jobs foregone can be considered minimal as they only represent 0.002% of the average forecasted baseline number of jobs in the regional economy. The largest forecasted jobs foregone occur in 2032 with 42 jobs foregone relative to the baseline forecast. For specific industries, the sectors of Construction (NAICS 23), Professional, Scientific, and Technical Services (NAICS 54), Oil and Gas Extraction (NAICS 211), and State and Local Government are expected to lose seven, four, four and three jobs on average, respectively, relative to the baseline forecast. The anticipated jobs foregone can be attributed to the increased spending that affected facilities have to incur to comply with PAR

1148.1. However, the REMI analysis shows that the sectors of Repair and Maintenance (NAICS 811) and Computer and Electronic Product Manufacturing (NAICS 334) are expected to gain three and two jobs on average, respectively, relative to the baseline forecast. The anticipated job gains are the result of the purchase of capital equipment and maintenance expenditures. Note that in Table 4, the "All Industries" row includes the full set of 70 industrial sectors modeled in the REMI software, including the 10 selected industries.

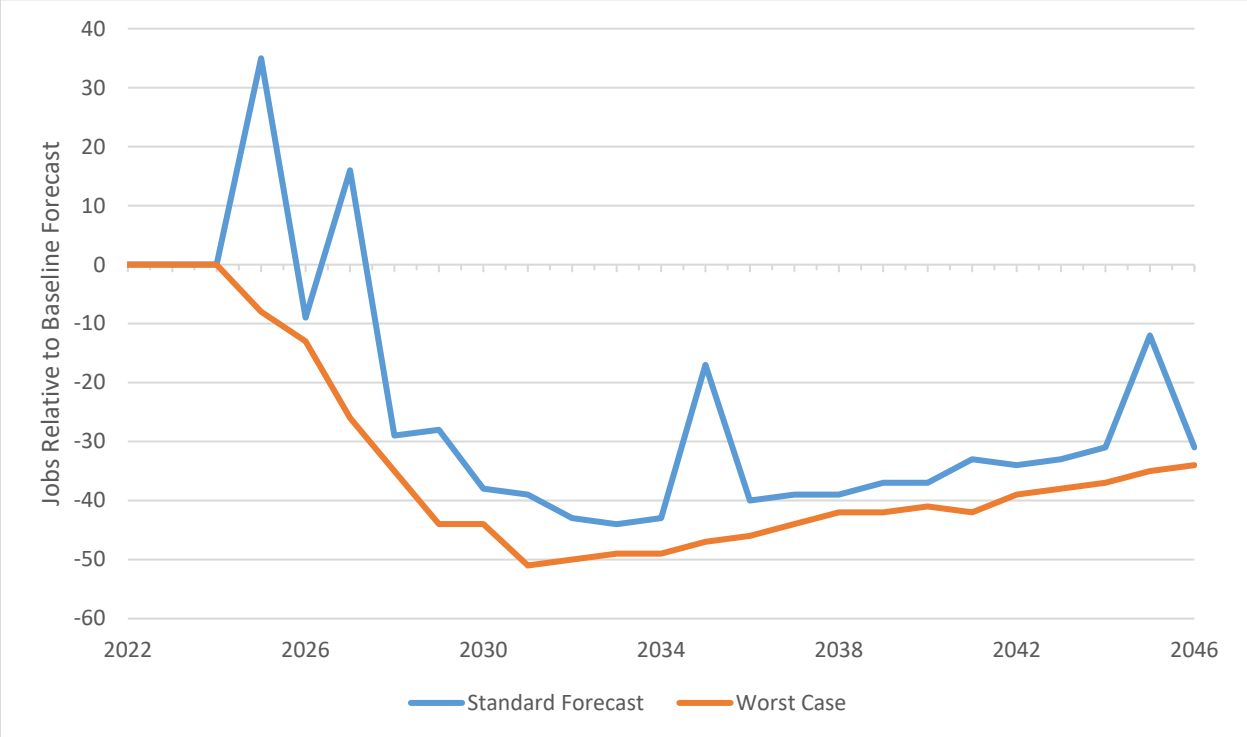
Table 4
Projected Job Impact of PAR 1148.1 for Selected Industries and Years

Industry (NAICS)	2025	2027	2033	2040	2046	Annual Average (2025-2046)	Baseline Number of Jobs (Average, 2024-2046)	Percent Relative to Baseline
Construction (23)	3	-3	-12	-6	-4	-7	514,757	0.0014%
Professional, Scientific and Technical Services (54)	2	0	-5	-6	-5	-4	967,340	0.0004%
Oil and Gas Extraction (211)	-1	-2	-5	-4	-3	-4	2,769	0.1445%
State and Local Government (92)	1	1	-5	-5	-4	-3	948,156	0.0003%
Retail Trade (44-45)	2	1	-3	-3	-3	-2	805,513	0.0002%
Administrative and Support Services (561)	2	1	-3	-3	-3	-2	816,654	0.0002%
Primary Metal Manufacturing (331)	0	1	0	0	0	0	13,132	0%
Motor Vehicles, Bodies and Trailers, and Parts Manufacturing (3361-3363)	0	5	0	0	0	0	9,034	0%
Computer and Product Manufacturing (334)	16	0	0	0	0	2	119,459	0.0017%
Repair and Maintenance (811)	0	5	3	2	2	3	120,046	0.0024%
Other Industries	10	8	-14	-12	-11	-9	7,130,286	0.0002%
All Industries	**35**	**16**	**-44**	**-37**	**-31**	**-28**	**11,447,145**	**0.0002%**

Note: Totals may not sum due to rounding.

In addition, in 2013, South Coast AQMD contracted with Abt Associates Inc. to review the South Coast AQMD socioeconomic assessments for Air Quality Management Plans and individual rules with the goal of providing recommendations that could enhance South Coast AQMD's socioeconomic analyses. In 2014, Abt Associates Inc. published a report which included a recommendation for South Coast AQMD to enhance socioeconomic analyses by testing major assumptions through conducting a scenario analysis. As such, South Coast AQMD generally includes an alternative worst-case scenario in Socioeconomic Impact Assessments which analyzes a scenario that assumes the affected facilities would purchase all feasible monitoring equipment and services from providers located outside of the South Coast AQMD's jurisdiction.[9] In short, this alternative worst-case scenario only models the impacts of the costs of compliance with the proposed amended rule and excludes any market benefits associated with revenue realized by service providers in the four-county region. This also excludes benefits derived from the wages earned by employees performing OGI inspections. This hypothetical scenario is designed to test the sensitivity of the REMI analysis to the assumptions regarding how compliance costs and revenues would be distributed inside and outside of South Coast AQMD's jurisdiction. In practice, however, materials and labor for installation are more likely to be provided by local suppliers. As shown in Figure 2, this worst-case scenario would result in an annual average of approximately 39 jobs foregone relative to the baseline scenario. However, the job impact can be considered as minimal since the 39 jobs foregone only represent 0.0003% of the average forecasted baseline jobs in the regional economy.

Figure 2
Projected Regional Job Impact, 2024 – 2046



[9] Abt Associates Inc., August 2014, Review of the SCAQMD Socioeconomic Impact Assessment Chapter 6, Section 3, https://www.aqmd.gov/docs/default-source/Agendas/aqmp/scaqmd-report---review-socioeconomic-assessments.pdf, accessed July 16, 2024.

Price Impact and Competitiveness

The impact of PAR 1148.1 on production costs and delivered prices in the South Coast AQMD region is not expected to be substantial. According to the REMI Model, PAR 1148.1 is projected to increase the relative delivered price of products in the industry of Oil and Gas Extraction (NAICS 211) by 0.02% in the year 2027 and will have even smaller increases in that industry over the remainder of the forecast period. Similarly, the relative cost of production in the industry of Oil and Gas Extraction is expected to increase by 0.44% in 2027 and will see even smaller increases in the industry throughout the remainder of the forecasted period. Given the minimal potential increase in delivered prices and cost of production, PAR 1148.1 is not expected to affect the ability of firms to compete with producers located outside of South Coast AQMD's jurisdiction.

REFERENCES

Abt Associates Inc., August 2014, Review of the SCAQMD Socioeconomic Assessments, Chapter 6, Section 3, https://www.aqmd.gov/docs/default-source/Agendas/aqmp/scaqmd-report---review-socioeconomic-assessments.pdf.

Regional Economic Modeling Inc. (REMI). Policy Insight® for the South Coast Area (70-sector model). Version 3, 2024.

South Coast AQMD, April 2023, Rule 222 – Filling Requirements for Specific Emission Sources Not Requiring a Written Permit Pursuant to Regulation II, https://www.aqmd.gov/docs/default-source/rule-book/reg-ii/Rule-222.pdf.

South Coast AQMD, August 2023, PAR 1178 - Further Reductions of VOC Emissions from Storage Tanks at Petroleum Facilities, https://www.aqmd.gov/home/rules-compliance/rules/scaqmd-rule-book/proposed-rules/rule-1178

South Coast AQMD, July 2024, Draft Staff Report for Proposed Amended Rule 1148.1 – Oil and Gas Production Wells, https://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1148_2/par-1148-1-preliminary-draft-staff-report-final.pdf?sfvrsn=6

U.S. Small Business Administration, March 2023, Table of Small Business Size Standards, https://www.sba.gov/document/support-table-size-standards.

Proposed Amended Rule 1148.1 - Oil and Gas Production Wells



Board Meeting
August 2, 2024

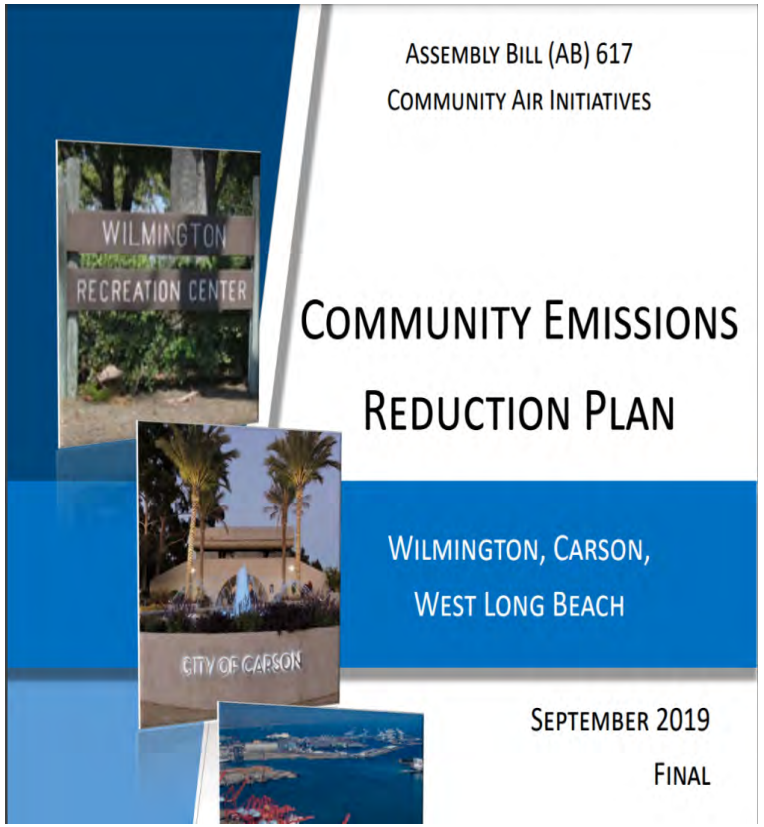
Rule 1148.1 Regulatory History



- Adopted on March 5, 2004
- Purpose: Reduce VOC emissions from wellheads, well cellars, and handling of produced gas
- Applicable to onshore oil producing wells, well cellars and produced gas handling operation and associated maintenance activities
- Approximately 80 companies representing 330 sites are regulated by this rule

AB 617 and Community Emission Reduction Plans

- Two AB 617 communities identified oil and gas production emissions as objectives in their Community Emission Reduction Plans (CERP)
  - Wilmington, Carson, West Long Beach (WCWLB)
  - South Los Angeles (SLA)
- Staff worked with AB 617 community stakeholders and the regulated industry through a public process
  - Multiple site visits conducted to address key issues brought by stakeholders
- PAR 1148.1 also partially implements the 2022 Air Quality Management Plan control measure FUG-01: *Improved Leak Detection and Repair*
- Staff is not aware of any remaining key issues



Summary of Key Proposals



Monthly use of Optical Gas Imaging (OGI) for enhanced leak detection



Use of Tier 4 Final diesel engines on workover rigs



Notification for quantified leaks > 25,000 ppm



Establish NOx limits for combustion equipment



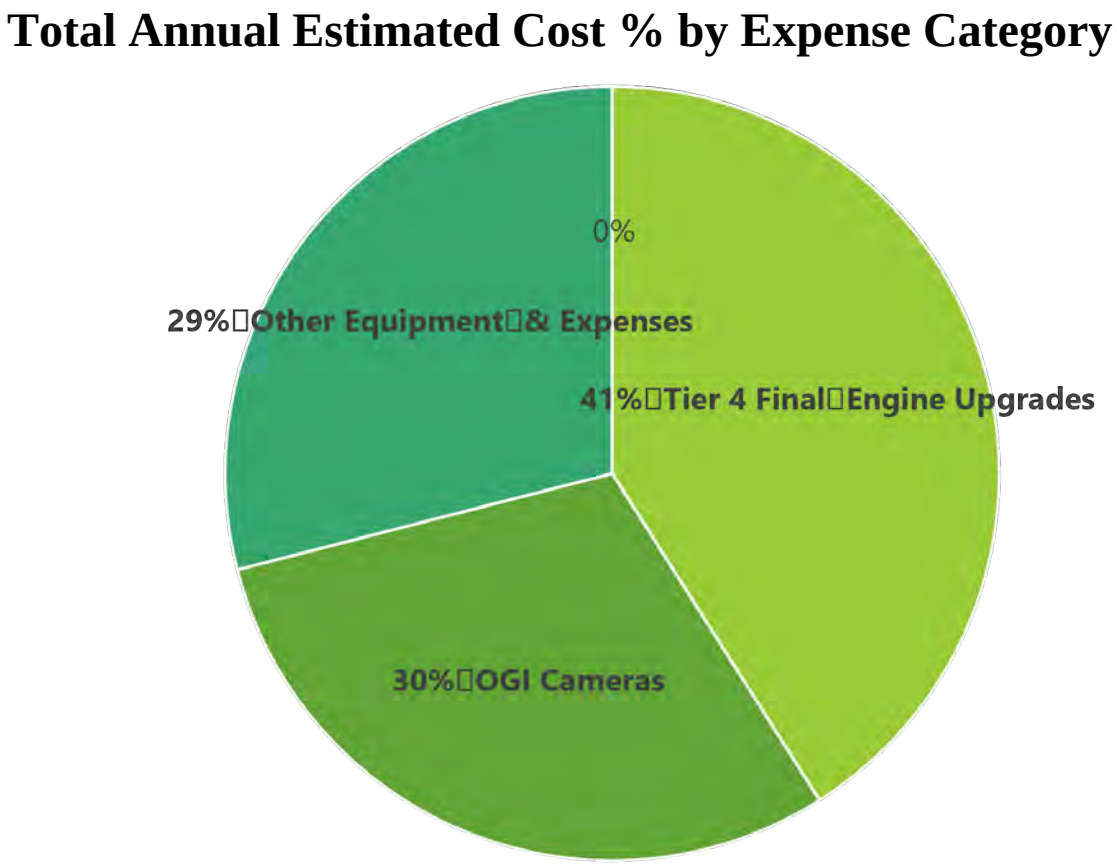
Ban the use of odorants and limit air toxics in odor neutralizers

Emission Reductions & Cost-Effectiveness

Proposed Measure	Emission Reductions (tons/day)	Annual Cost ($)	Cost-Effectiveness ($/ton reduced)
Enhanced Leak Detection	0.27 VOC	$1,369,000	$13,800
NOx Limits for Combustion Equipment	0.005 NOx	$4,600 to $56,100	$7,000 to $30,700
Tier 4 Final Workover Rigs	0.51 NOx	$2,544,000	$13,700
Ban of Odorant Use	N/A	N/A	N/A
Leak Notification	N/A	N/A	N/A

Socioeconomic Impact Assessment and California Environmental Quality Act (CEQA)

- Compliance Costs
  - Average annual cost ranges from ~$4.1 million to ~$4.7 million using a real interest rate from 1% to 4%, respectively
- Job Impacts
  - 28 jobs foregone annually on average from 2025 - 2046
- CEQA
  - Proposed project involves minimal to no construction activities
  - No significant adverse environmental impacts are expected
  - A Notice of Exemption has been prepared

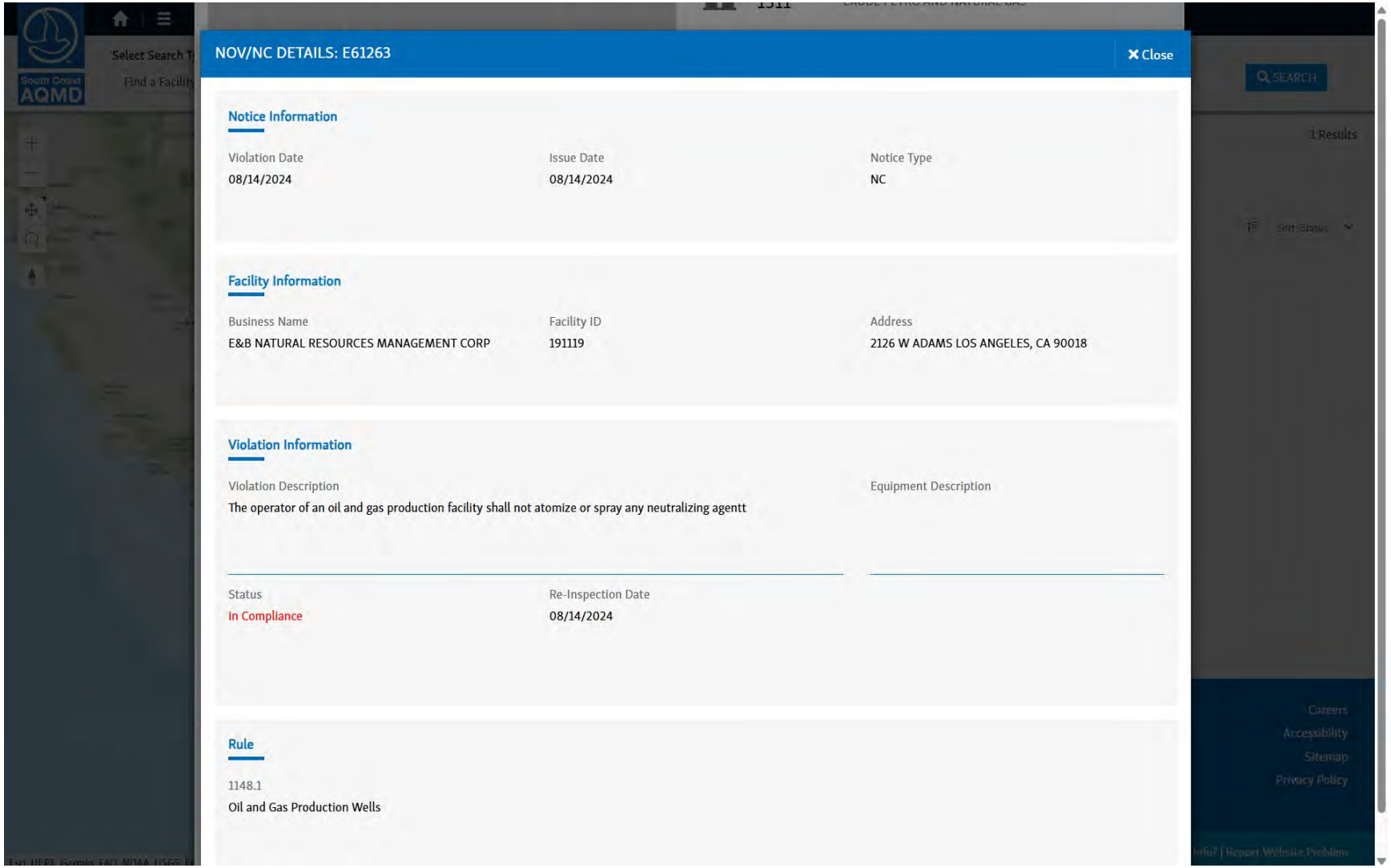


Staff Recommendation

Adopt resolution:

- Determining that PAR 1148.1 is exempt from the requirements of CEQA
- Amending Rule 1148.1

Attachment 11


NOV/NC DETAILS: E61263
Close
Notice Information
Violation Date
08/14/2024
Issue Date
08/14/2024
Notice Type
NC
Facility Information
Business Name
E&B NATURAL RESOURCES MANAGEMENT CORP
Facility ID
191119
Address
2126 W ADAMS LOS ANGELES, CA 90018
Violation Information
Violation Description
The operator of an oil and gas production facility shall not atomize or spray any neutralizing agentt
Equipment Description
Status
In Compliance
Re-Inspection Date
08/14/2024
Rule
1148.1
Oil and Gas Production Wells
SEARCH
1 Results
Careers
Accessibility
Sitemap
Privacy Policy

Attachment 12

Methane Task Force Inspection Report for the South Los Angeles Community

I. Executive Summary

The Methane Task Force (MTF), a collaborative initiative led by the California Air Resources Board (CARB) and the California Department of Conservation's Geologic Energy Management Division (CalGEM), is dedicated to identifying and responding to methane leaks from oil and gas infrastructure near communities. It also aims to address the significant impact that methane has on climate change. This task force was established in response to Governor Newsom's request, outlined in a letter to CARB Chair Liane Randolph in July 2022, and officially formed in October 2022. The MTF regularly convenes public meetings to provide the public with updates on the ongoing efforts of CalGEM and CARB in mitigating methane leaks from oil and gas infrastructure. Additionally, it strives to promote greater public and local agency involvement in these programs and efforts. The MTF consists of representatives from CARB, CalGEM, California Natural Resources Agency (CNRA), and California Environmental Protection Agency (CalEPA).[1] The MTF collaborates closely with air districts, community members, and local governments.

More information, including presentations, can be found on the Methane Task Force web page.

In January 2025, the MTF collaborated with South Coast Air Quality Management District (South Coast AQMD) to inspect oil and gas wells in an Assembly Bill (AB) 617 community of South Los Angeles. The inspections focused on the Inglewood and Murphy Oil field areas, where oil and gas operations were identified as top air quality priorities in the Community Emissions Reduction Plan.[2] This report provides an overview of the South Los Angeles joint inspection effort.

II. Community Engagement

A. Well Selection

The joint inspections conducted by MTF and South Coast AQMD were informed in part by engagement with the South Los Angeles Community Steering Committee (CSC). The selection of South Los Angeles represented an opportunity to engage with an AB 617

[1] https://www.conservation.ca.gov/calgem/Pages/Methane-Task-Force.aspx

[2] https://www.aqmd.gov/docs/default-source/ab-617-ab-134/steering-committees/south-la/cerp/revised-draft/ch5f.pdf?sfvrsn=6

community that identified oil and gas facilities as a top air quality priority. AB 617 communities represent some of the most pollution-burdened communities in the State of California. On October 24, 2024, 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 receive feedback on a proposed inspection plan. Figure 1 (below) displays a picture of the 96 wells inspected during this inspection effort. These wells included wells located within 3,200 feet of the South Los Angeles community boundary and critical wells within a 7-mile radius from center of South Los Angeles. These wells were selected for inspection with community input.

B. Community Notification

- Pre-inspection coordination with local emergency personnel - The MTF coordinated with local first responders, Los Angeles County Fire Department (LACoFD), as part of the inspection planning process to determine when emergency personnel would expect to be notified about leaking oil wells. The MTF would notify LACoFD and the California Governor's Office of Emergency Services if methane is detected at or above 5,000 parts per million (PPM) at a distance of three or more feet from the leak when there is a residence, business, or school fenceline within 300 feet of the well. Additionally, notification would occur if methane is detected at or above 40,000 PPM at the same distance in any surroundings, and the leak cannot be repaired on the day the methane reading was taken. The MTF determined it would defer to local emergency personnel on whether there are any safety risks associated with the aforementioned leaks, and what follow-up actions would be needed, including notification to the local community. Leaks discovered during the inspection did not exceed the leak thresholds established for this effort, therefore notification of emergency personnel was not required.
- Timely and transparent inspection results - The MTF committed to providing near real-time inspection information by publicly posting daily inspection data, such as leak concentrations, on CARB's webpage within 24 hours. That information is included in this final inspection report.

C. Inspection Updates

The final results of the joint inspection were presented at the South Coast AQMD South Los Angeles CSC Co-Lead meeting scheduled for February 19, 2025.

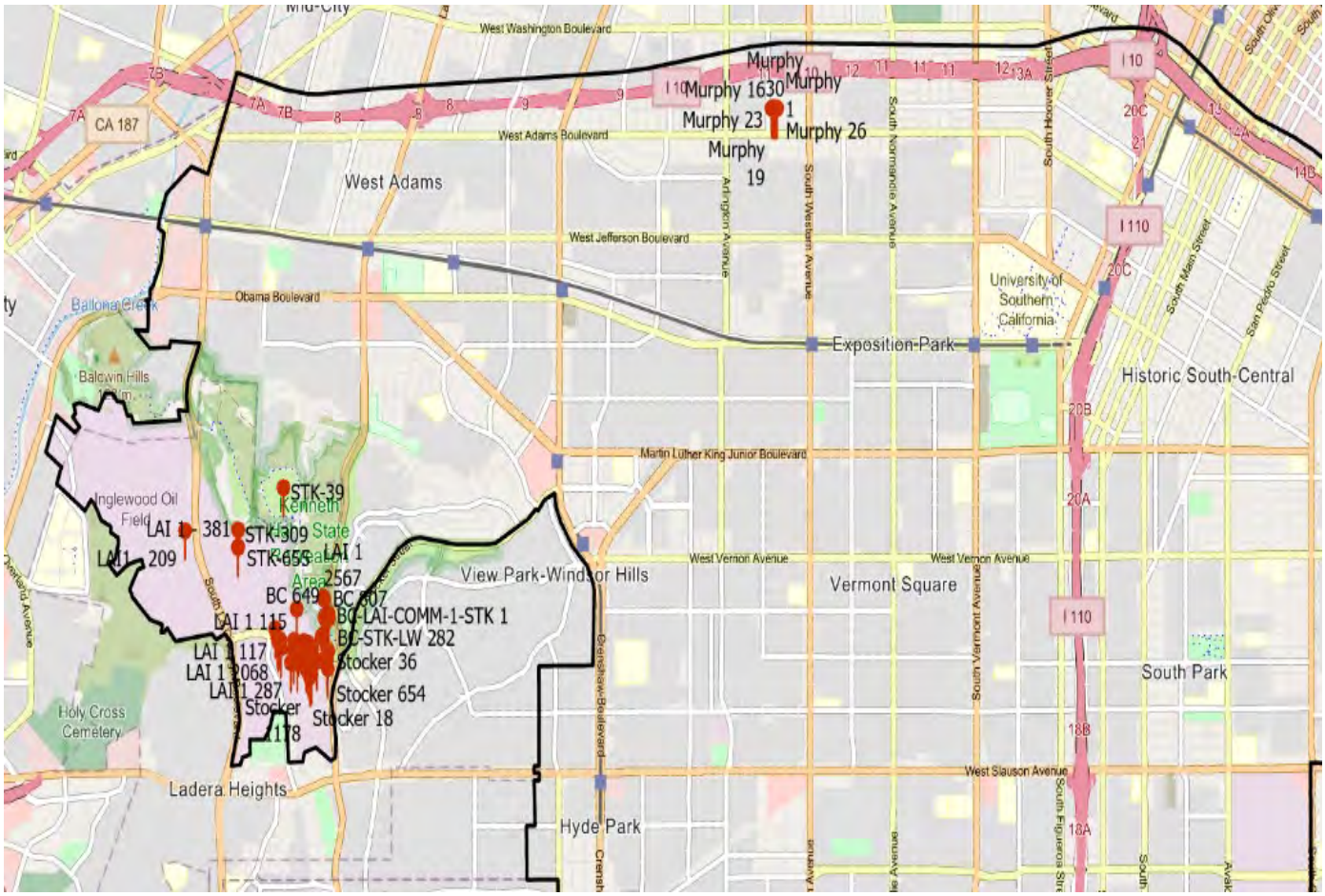


Figure 1: Map of the 96 inspected wells

III. Inspection Summary

From January 14th to January 15th, 2025, MTF staff from CalGEM, CARB, and South Coast AQMD conducted inspections of 96 wells across the Inglewood and Murphy Oilfields. These wells are operated by two companies: Sentinel Peak Resources California, LLC (SPR), for Inglewood and E&B Natural Resources Management Corporation, for Murphy. Of the 96 wells inspected, 73 are considered critical, as they are located within 100 feet of public streets or 300 feet of buildings. During these inspections, operator representatives were present and ready to repair any well found to be leaking.

Out of the 96 wells inspected, six (6) operated by SPR and one (1) operated by E&B were found to have leaks. Figure 2, below, is a map of the leaking wells. Notably, two (2) of these seven (7) wells had leaks exceeding a concentration of 50,000 PPM. However, these leaks dissipated to background levels, rendering them undetectable within three inches of the source and negating the need to collect a sample or notify first responders. Immediate action was taken to promptly repair the two wells. Subsequently, these wells were re-

inspected by South Coast AQMD on the same day to confirm repair and ensure their safety and compliance, and no further leaks were detected.

CARB's Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities, also known as CARB's Oil and Gas Regulation (COGR) [3], mandates that operators repair any methane leaks with concentrations of 1,000 ppm or higher. South Coast AQMD mandates that the operator repairs any methane leaks with a concentration of 500 ppm or higher. In comparison, CalGEM's regulations require production equipment to be maintained in a leak-free condition, and operators are required to address all leaks, even those with concentrations below 1,000 ppm.

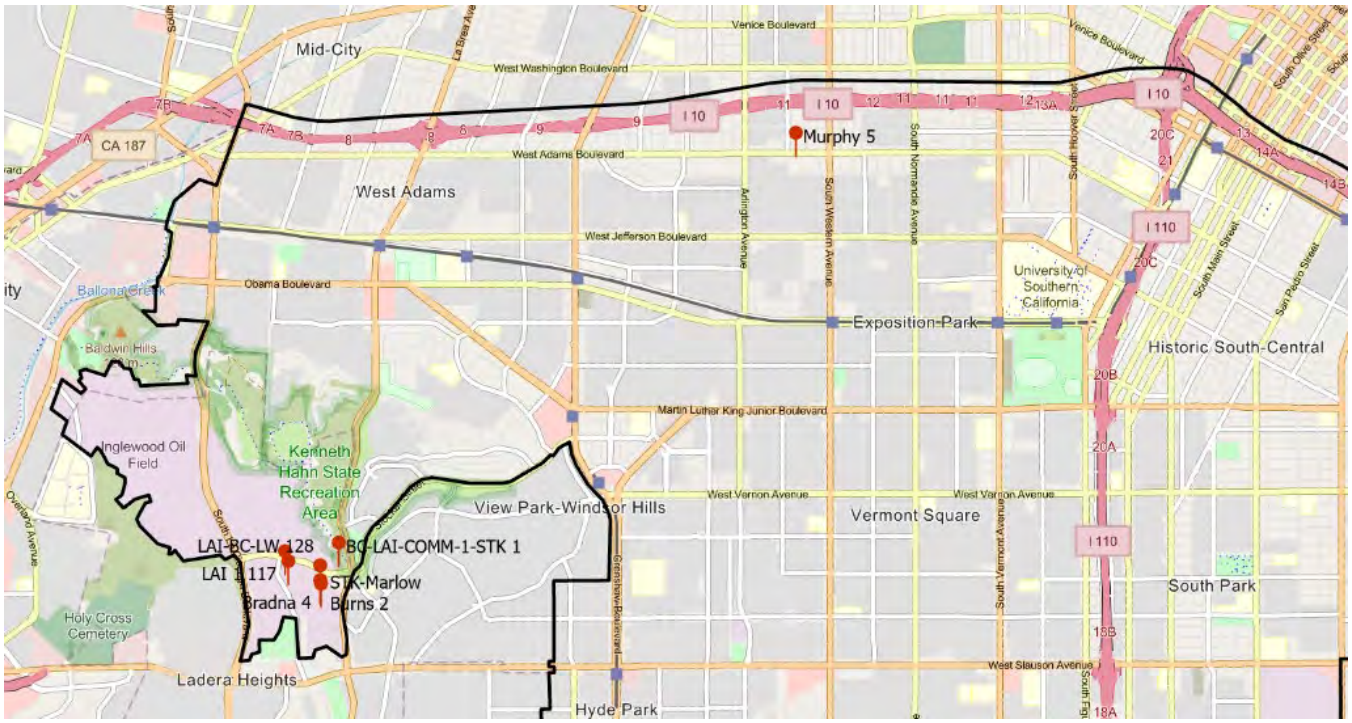


Figure 2: Map of the 7 leaking wells

Table 1: Critical data on the 96 wells inspected from January 14-15, 2025.

[3] https://ww2.arb.ca.gov/sites/default/files/2020-03/2017%20Final%20Reg%20Orders%20GHG%20Emission%20Standards.pdf

Ref #	API Number	Well Designation	Well Status	Leaks (PPM)	Operator	Inspection Date
1	403725351	Stocker 654	Active	-	Sentinel Peak	1/14/2025
2	403725298	Stocker 653	Active	-	Sentinel Peak	1/14/2025
3	403726674	Stocker 208	Active	-	Sentinel Peak	1/14/2025
4	403726675	Stocker 109	Idle	-	Sentinel Peak	1/14/2025
5	403708340	Stocker 36	Active	-	Sentinel Peak	1/14/2025
6	403708341	Stocker 106	Active	-	Sentinel Peak	1/14/2025
7	403708331	Marlow Burns-LAI-Comm-LW 1	Idle	-	Sentinel Peak	1/14/2025
8	403708325	Stocker 18	Active	-	Sentinel Peak	1/14/2025
9	403730038	STK-LAI 1 6961	Active	-	Sentinel Peak	1/14/2025
10	403730037	STK-LAI 1 6864	Active	-	Sentinel Peak	1/14/2025
11	403707882	Marlow Burns 305	Active	-	Sentinel Peak	1/14/2025
12	403707773	Bradna 3	Active	-	Sentinel Peak	1/14/2025
13	403708350	STK-Marlow Burns 2	Active	1,445	Sentinel Peak	1/14/2025
14	403726517	Stocker 1178	Active	-	Sentinel Peak	1/14/2025
15	403726522	Marlow Burns 1678	Active	-	Sentinel Peak	1/14/2025

Ref #	API Number	Well Designation	Well Status	Leaks (PPM)	Operator	Inspection Date
16	403726523	Marlow Burns 1478	Active	-	Sentinel Peak	1/14/2025
17	403726519	Stocker 878	Active	-	Sentinel Peak	1/14/2025
18	403727091	Stocker 460	Active	-	Sentinel Peak	1/14/2025
19	403708101	LAI-Comm-BC 1	Idle	-	Sentinel Peak	1/14/2025
20	403726423	Stocker 768	Idle	-	Sentinel Peak	1/14/2025
21	403727090	LAI 1-STK 3068	Active	-	Sentinel Peak	1/14/2025
22	403707863	LAI 1 338	Active	-	Sentinel Peak	1/14/2025
23	403723436	LAI 1 366	Active	-	Sentinel Peak	1/14/2025
24	403726722	Stocker 2078	Active	-	Sentinel Peak	1/14/2025
25	403725274	STK LAI 501	Idle	-	Sentinel Peak	1/14/2025
26	403707772	Bradna Comm 2	Idle	-	Sentinel Peak	1/14/2025
27	403700205	Bradna 4	Active	>50,000	Sentinel Peak	1/14/2025
28	403726518	STK 978	Active	-	Sentinel Peak	1/14/2025
29	403726741	BC-STK-2168	Idle	-	Sentinel Peak	1/14/2025
30	403725281	STK-BC-LW-414	Active	-	Sentinel Peak	1/14/2025

Ref #	API Number	Well Designation	Well Status	Leaks (PPM)	Operator	Inspection Date
31	403708176	LAI1 - 209	Idle	-	Sentinel Peak	1/14/2025
32	403707859	STK-309	Active	-	Sentinel Peak	1/14/2025
33	403726412	STK-655	Idle	-	Sentinel Peak	1/14/2025
34	403707657	STK-39	Idle	-	Sentinel Peak	1/14/2025
35	403726725	Stocker 2668	Active	-	Sentinel Peak	1/14/2025
36	403726685	Stocker 2468	Active	-	Sentinel Peak	1/14/2025
37	403725306	STK-LAI-BC-LW 1	Active	-	Sentinel Peak	1/14/2025
38	403726876	LAI 1-STK-BC 408	Active	-	Sentinel Peak	1/14/2025
39	403708332	Stocker 28	Active	-	Sentinel Peak	1/14/2025
40	403708111	LAI Comm. 1 3	Active	-	Sentinel Peak	1/14/2025
41	403708203	LAI 1 43	Active	-	Sentinel Peak	1/14/2025
42	403729996	LAI 1 3368	Active	-	Sentinel Peak	1/14/2025
43	403708020	LAI 1 115	Active	-	Sentinel Peak	1/14/2025
44	403726659	LAI 1 449	Active	-	Sentinel Peak	1/14/2025
45	403726856	LAI 1 456	Active	-	Sentinel Peak	1/14/2025
46	403707842	LAI 1 287	Active	-	Sentinel Peak	1/14/2025

Ref #	API Number	Well Designation	Well Status	Leaks (PPM)	Operator	Inspection Date
47	403708174	LAI 1 207	Idle	-	Sentinel Peak	1/14/2025
48	403708075	LAI 1 172	Active	-	Sentinel Peak	1/14/2025
49	403708033	LAI-BC-LW 128	Idle	780	Sentinel Peak	1/14/2025
50	403726688	LAI 1 2068	Active	-	Sentinel Peak	1/14/2025
51	403708022	LAI 1 117	Active	930	Sentinel Peak	1/14/2025
52	403726861	LAI 1 2567	Active	-	Sentinel Peak	1/14/2025
53	403725260	BC 649	Idle	-	Sentinel Peak	1/14/2025
54	403725283	BC-STK-LW 282	Active	-	Sentinel Peak	1/14/2025
55	403725265	BC-LAI-COMM-1-STK 1	Idle	1,980	Sentinel Peak	1/14/2025
56	403725353	BC-STK-LCOM-MB 1	Idle	-	Sentinel Peak	1/14/2025
57	403725371	BC-STK-LW 283	Idle	-	Sentinel Peak	1/14/2025
58	403707762	BC 441	Idle	-	Sentinel Peak	1/14/2025
59	403730106	Stocker 3168	Active	3,877	Sentinel Peak	1/14/2025
60	403727202	Stocker 3568	Active	-	Sentinel Peak	1/14/2025
61	403726874	Stocker 430	Active	-	Sentinel Peak	1/14/2025
62	403725229	LAI 1 - 381	Active	-	Sentinel Peak	1/14/2025
63	403723166	LAI 1 216 RD1	Active	-	Sentinel Peak	1/14/2025

Ref #	API Number	Well Designation	Well Status	Leaks (PPM)	Operator	Inspection Date
64	403726647	BC 807	Active	-	Sentinel Peak	1/14/2025
65	403726648	BC 907	Idle	-	Sentinel Peak	1/14/2025
66	403726421	BC 653	Active	-	Sentinel Peak	1/14/2025
67	403725072	BC 371	Idle	-	Sentinel Peak	1/14/2025
68	403708700	BC 73	Idle	-	Sentinel Peak	1/14/2025
69	403700369	Murphy 1	Active	-	E & B	1/15/2025
70	403700291	Murphy 10	Active	-	E & B	1/15/2025
71	403700378	Murphy 11	Active	-	E & B	1/15/2025
72	403700379	Murphy 12	Active	-	E & B	1/15/2025
73	403700380	Murphy 13	Active	-	E & B	1/15/2025
74	403700381	Murphy 14	Active	-	E & B	1/15/2025
75	403700383	Murphy 16	Active	-	E & B	1/15/2025
76	403700384	Murphy 17	Active	-	E & B	1/15/2025
77	403700385	Murphy 18	Active	-	E & B	1/15/2025
78	403700322	Murphy 19	Active	-	E & B	1/15/2025
79	403700370	Murphy 2	Active	-	E & B	1/15/2025
80	403720954	Murphy 20	Active	-	E & B	1/15/2025
81	403720955	Murphy 21	Abandoned	-	E & B	1/15/2025

Ref #	API Number	Well Designation	Well Status	Leaks (PPM)	Operator	Inspection Date
82	403721072	Murphy 22	Active	-	E & B	1/15/2025
83	403720967	Murphy 23	Active	-	E & B	1/15/2025
84	403721221	Murphy 24	Active	-	E & B	1/15/2025
85	403721223	Murphy 26	Active	-	E & B	1/15/2025
86	403726956	Murphy 28	Active	-	E & B	1/15/2025
87	403700371	Murphy 3	Active	-	E & B	1/15/2025
88	403726957	Murphy 30	Active	-	E & B	1/15/2025
89	403727007	Murphy 31	Active	-	E & B	1/15/2025
90	403730170	Murphy 33	Active	-	E & B	1/15/2025
91	403730129	Murphy 37	Active	-	E & B	1/15/2025
92	403700372	Murphy 4	Active	-	E & B	1/15/2025
93	403700373	Murphy 5	Active	>50,000	E & B	1/15/2025
94	403700374	Murphy 6	Active	-	E & B	1/15/2025
95	403700375	Murphy 7	Active	-	E & B	1/15/2025
96	403700377	Murphy 9	Active	-	E & B	1/15/2025

IV. Status of Well Repairs

All leaks discovered during the inspections were repaired and re-inspected on the same day to confirm repair.

Additional information on the two wells with leaks over 50,000 ppm:

These wells were re-inspected on January 14 and January 15, 2025, and as of January 15, both wells were repaired and passed inspection.

- Bradna 4: Repaired. This well was determined to be leaking on January 14, 2025, with a leak detected at the well collar, measuring 93,000 ppm. The leak was successfully repaired on-site and passed re-inspection on the same day.
- Murphy 5: Repaired. This well was determined to be leaking on January 15, 2025, with a leak detected at the valve (Figure 3), measuring 209,000 ppm. The leak was repaired on-site and passed re-inspection on the same day.



Figure 3: Photograph of the identified leak location on Well Murphy #5

V. Enforcement Actions

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

- CARB has the authority to regulate greenhouse gas emissions from stationary sources under Health and Safety Code sections 38562, 39600, 39601, 39602.5, and 39659. CARB also regulates leaks from oil and gas operations under the Greenhouse Gas Emissions Standards from Crude Oil and Natural Gas facilities, California Code of Regulations, title 17, sections 95665, et seq.[4]
- CalGEM has broad authority to regulate oil and gas production operations and address methane leaks from oil and gas operations. Public Resources Code section 3106 provides the supervisor with broad authority to supervise the drilling, operation, maintenance, and abandonment of wells and facilities to "prevent, as far as possible, damage to life, health, property, and natural resources ..." Additionally, PRC section 3011 provides that CalGEM's mandate includes "protecting public health and safety and environmental quality, including reduction and mitigation of greenhouse gas emissions associated with the development of hydrocarbon ... resources in a manner that meets the energy needs of the state." CalGEM has adopted regulations designed to encourage good oil and gas field practices and to prevent damage to life, health, property, and natural resources. California Code of Regulations, title 14, section 1777, subdivision (a) requires that "operators shall maintain production facilities in good condition and in a manner to prevent leakage or corrosion and to safeguard life, health, property, and natural resources."
- South Coast AQMD has the authority to address leaks from oil and gas operations under its rules and has been delegated authority through a Memorandum of Agreement to implement and enforce COGR within the South Coast Air Basin.

CalGEM issued one Notice of Violation (NOV) to Sentinel Peak Resources for the violation of California Code of Regulation (CCR), Title 14, Section 1777, subdivision (a), which states that: "Operators shall maintain production facilities in good condition and in a manner to prevent leakage or corrosion and to safeguard life, health, property, and natural resources". Furthermore, the Public Resources Code (PRC) Section 3011 subdivision (a) provides that CalGEM's mandate includes "protecting public health and safety and environmental quality, including reduction and mitigation of greenhouse gas emissions associated with the development of hydrocarbon and geothermal resources in a manner that meets the energy needs of the state."

South Coast AQMD issued an NOV to both Sentinel Peak Resources Corporation, LLC and E&B Natural Resources Management for two leaks > 50,000 ppm (one leak at each location) in violation of South Coast AQMD Rule 1173 - Control of Volatile Organic Compound (VOC) Leaks and Releases from Components at Petroleum Facilities and Chemical Plants.

[4] https://ww2.arb.ca.gov/resources/documents/oil-and-gas-regulation

VI. Additional Inspection Information

Inspection staff

Four inspectors from South Coast AQMD, three from CARB, and five from CalGEM participated in the inspections on January 14 and January 15.

Equipment Used

During the inspection, inspectors measured methane leak concentrations from wells using Method 21 (VOC Leaks) approved equipment[5]:

- Eagle 2
- Toxic Vapor Analyzer (TVA)
- Irwin SX Gas Leak Detector

To screen for leaks, inspection staff used:

- Forward Looking Infrared (FLIR) cameras

Works Cited

"Methane Task Force" *CalGEM*, n.d., https://www.conservation.ca.gov/calgem/Pages/Methane-Task-Force.aspx. Accessed 22 Sep 2023.

"WellSTAR" *CalGEM*, n.d., https://wellstar-public.conservation.ca.gov/Well/Well/Index. Accessed 22 Sep 2023

[5] Leaks measured using USEPA Method 21 https://www.epa.gov/emc/method-21-volatile-organic-compound-leaks

Attachment 13

From: Ted.Cordova <Ted.Cordova@ebresources.com>
Sent: Wednesday, December 3, 2025 11:59 AM
To: Edber Macedo <edber.macedo@lacity.org>
Cc: Ted.Cordova <Ted.Cordova@ebresources.com>
Subject: Murphy annual landscape review - 2025

Hi Edber,

Our annual landscape review with CD 10 and UNNC took place yesterday. Please submit to the files for us. Here's the attendee list.

There were no identified issues.

Thanks,

Ted

2025

E&B NATURAL RESOURCES

Murphy Lease Visitor's Log

Date	Time-In	Name of the Visitor	Company	Mobile Phone number	Time-Out	Reason for Visit
12/2/25	10:07	Ted Cordova	E&B	310-489-4972	11:30am	Landscape Review
12/2/25	10:07	PRISCILLA MANNING	E&B	562-706-8252	11:30 AM	LANDSCAPE SERVICE
12/2/25	10:07	Christine Carlson	UNNC	323 356-3428	11:30AM	Landscape review
12/2/25	10:39	Alisa Rivera	CD 10	(213)913-1251	11:29am	Landscape review
	10:39					

Attendee Sheet
Landscape Review for Year 2024
Murphy Site

	Name	Organization	Phone Number	Email
1	Ted Cordova	E&B Natural Resources	310-489-4974	tcordova@ebresources.com
2	CHRIS CARLSON	UNNC	323 356-3428	ccarlson@carlsonpohl.com
3	LAURA MEYERS	UNNC	323-868-0854	LAURAMINK@aol.com
4	JEFF CAMP	CDM		
5	PRISCILLA MANNING	E&B NATURAL RESOURCES	562) 704-8252	PRISCILLA.MANNING@EBRESOURCES.COM
6				
7				
8				
9				
10				

From: Priscilla Manning <Priscilla.Manning@ebresources.com>
Sent: Monday, January 27, 2025 6:04 PM
To: Ted.Cordova <Ted.Cordova@ebresources.com>
Subject: FYI: Accepted: (Confirmed) End of Year Landscape review -

From: C Carlson <ccarlson@carlsonpohl.com>
Sent: Monday, January 27, 2025 2:56 PM
To: Priscilla Manning <Priscilla.Manning@ebresources.com>
Subject: Re: Accepted: (Confirmed) End of Year Landscape review -











Sent from my iPhone

Here are my photos from our landscape review. It was a pleasure meeting you. I will be out of the city until 2/6, but will reach out to explore option for a monarch butterfly garden(s) when I get back.

On Jan 9, 2025, at 12:19 PM, C Carlson <ccarlson@carlsonpohl.com> wrote:

<meeting.ics>

Attachment 14

Edber Macedo <edber.macedo@lacity.org>

Question -

4 messages

Ted.Cordova <Ted.Cordova@ebresources.com> Fri, Jul 5, 2024 at 12:52 PM
To: Edber Macedo <edber.macedo@lacity.org>

Hi Edber,

Happy 4th holiday to you. I hope you are doing well.

I wanted to get information from you in regards to Condition 6 for the Murphy site. In Condition 6 it says in the third paragraph "heavy truck deliveries". And then in parentheses it says "permitted" oversized/overweight load".

Can you clarify for our team what the City believes is the definition of a heavy truck delivery or what is the definition of an oversized/overweight load is?

Happy to discuss on the phone if that is more convenient for you.

Thanks,

Ted

Ted Cordova

E&B Natural Resources

310-489-4972

www.ebresources.com

IMPORTANT NOTICE: The information in this e-mail is confidential and may also be privileged. If you are not the intended recipient, any use or dissemination of the information and any disclosure or copying of this email is unauthorized and strictly prohibited. If you have received this email in error, please promptly inform us by reply email or telephone. You should also delete this email and destroy any hard copies produced immediately.

Edber Macedo <edber.macedo@lacity.org> Mon, Jul 8, 2024 at 7:34 AM
To: "Ted.Cordova" <Ted.Cordova@ebresources.com>

Good morning Ted, I hope your Monday is starting off alright.

Thank you for your question. I can definitely follow up with a clear definition and criteria for those terms and the intention behind that phrasing in the recent Letter of Communication. My goal is to follow up by the end of this week. Thanks for your patience.

Best,
Edber
[Quoted text hidden]

Ted.Cordova <Ted.Cordova@ebresources.com> Tue, Jul 9, 2024 at 2:20 PM
To: Edber Macedo <edber.macedo@lacity.org>

Sounds great, thank you!

[Quoted text hidden]

Edber Macedo <edber.macedo@lacity.org> Mon, Jul 15, 2024 at 3:24 PM
To: "Ted.Cordova" <Ted.Cordova@ebresources.com>

Good afternoon Ted,

I am following up regarding the scope of deliveries made by heavy duty trucks. The reference to heavy duty truck vehicles encompass the type that are intended for transportation of construction and petroleum equipment, materials, chemical treatment, and related material for the oil wells and any area within the production site (pipelines, aboveground storage tanks, microturbines, etc). This would also include vehicles arriving with informative placards indicating hazardous materials and/or waste onboard the truck.

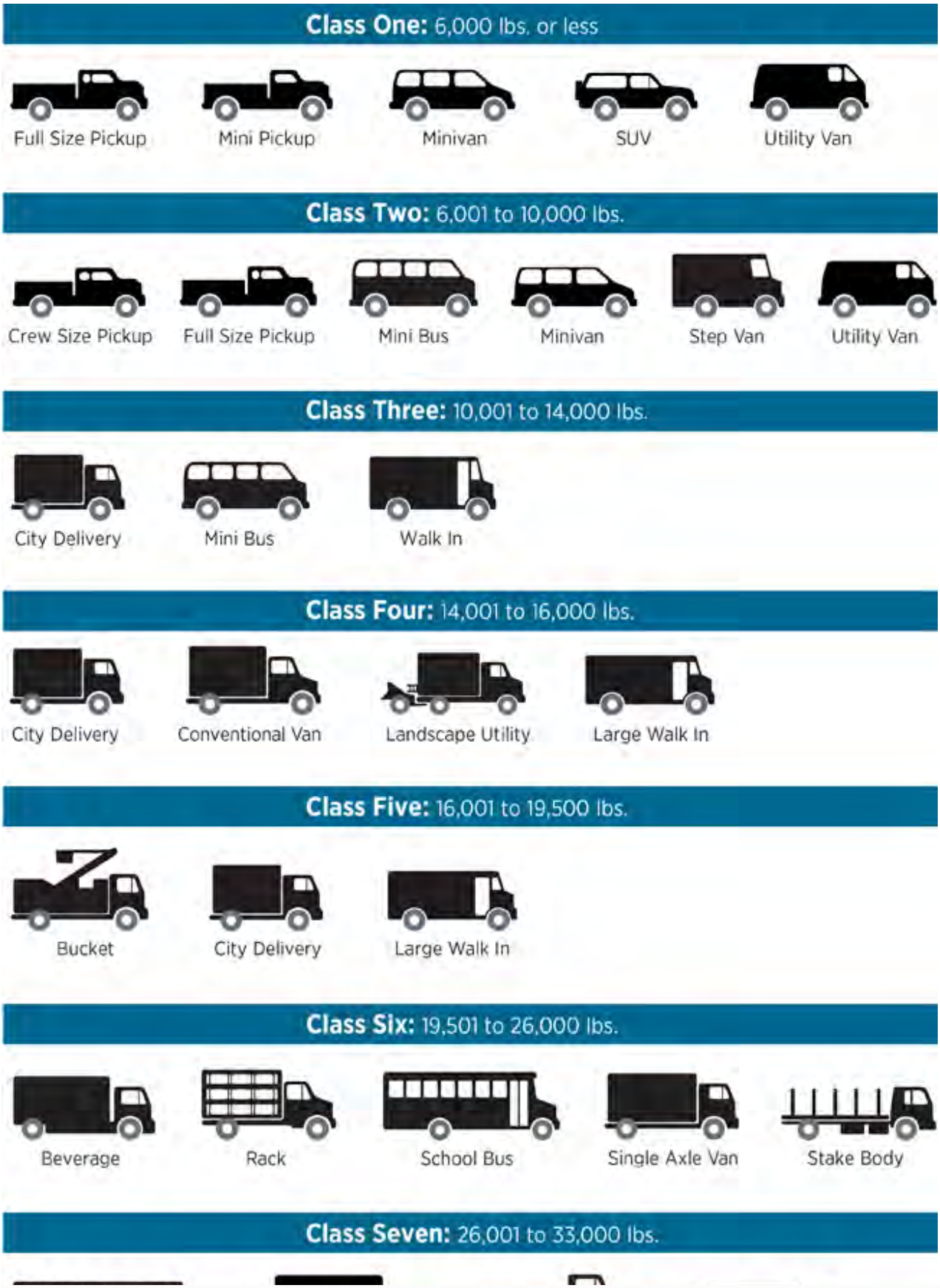
Please note that this does not include an employee's pickup truck, trash refuse pick up trucks, mail/package correspondence trucks (Amazon, UPS delivery), or tow trucks assisting passenger vehicles.

We appreciate E&B's inquiry and we hope this clarifies that language with regards to the ZA's recent Letter of Communication.

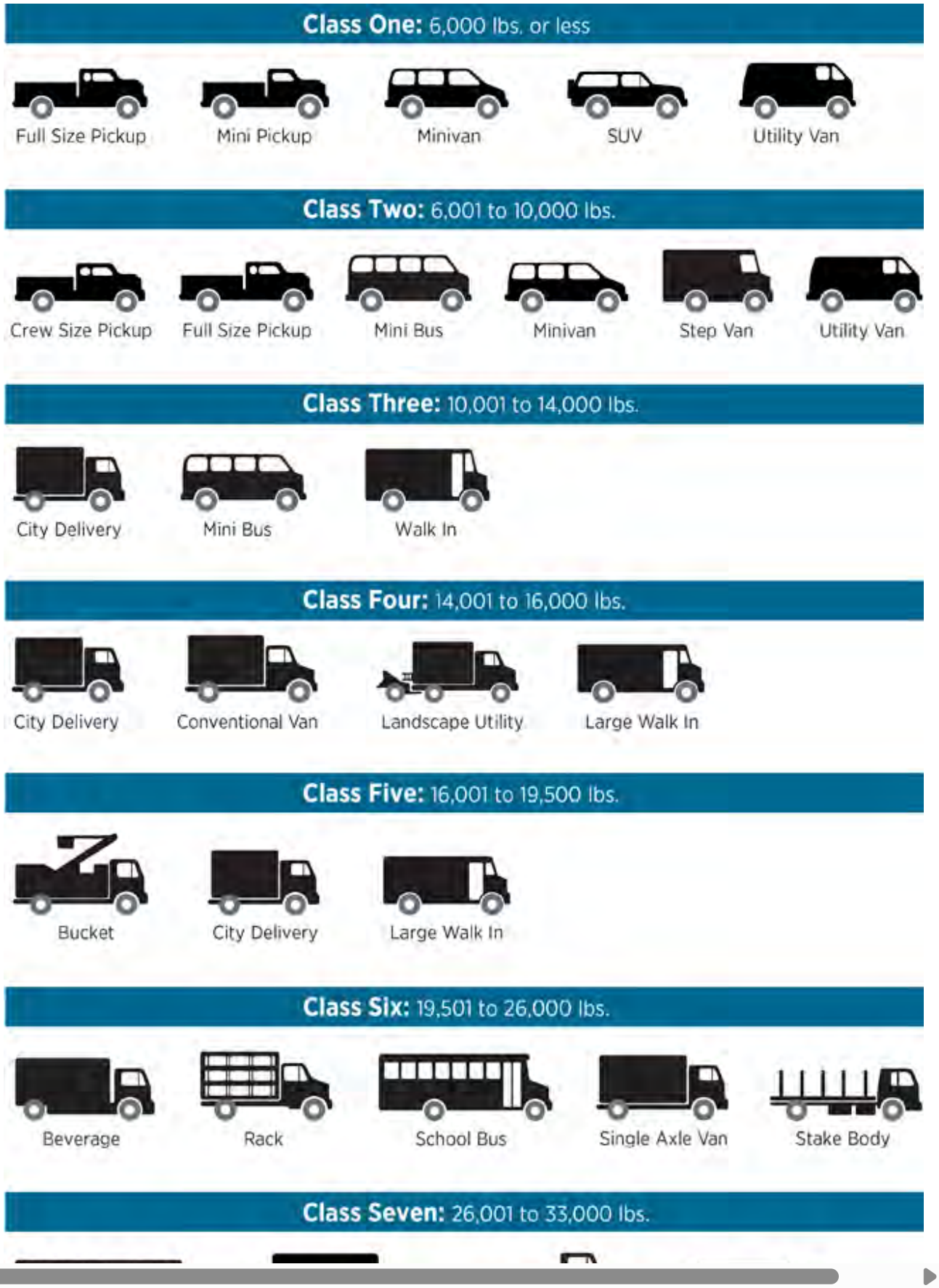
Kind regards,
Edber
[Quoted text hidden]

Attachment 15

Types of Vehicles by Weight Class

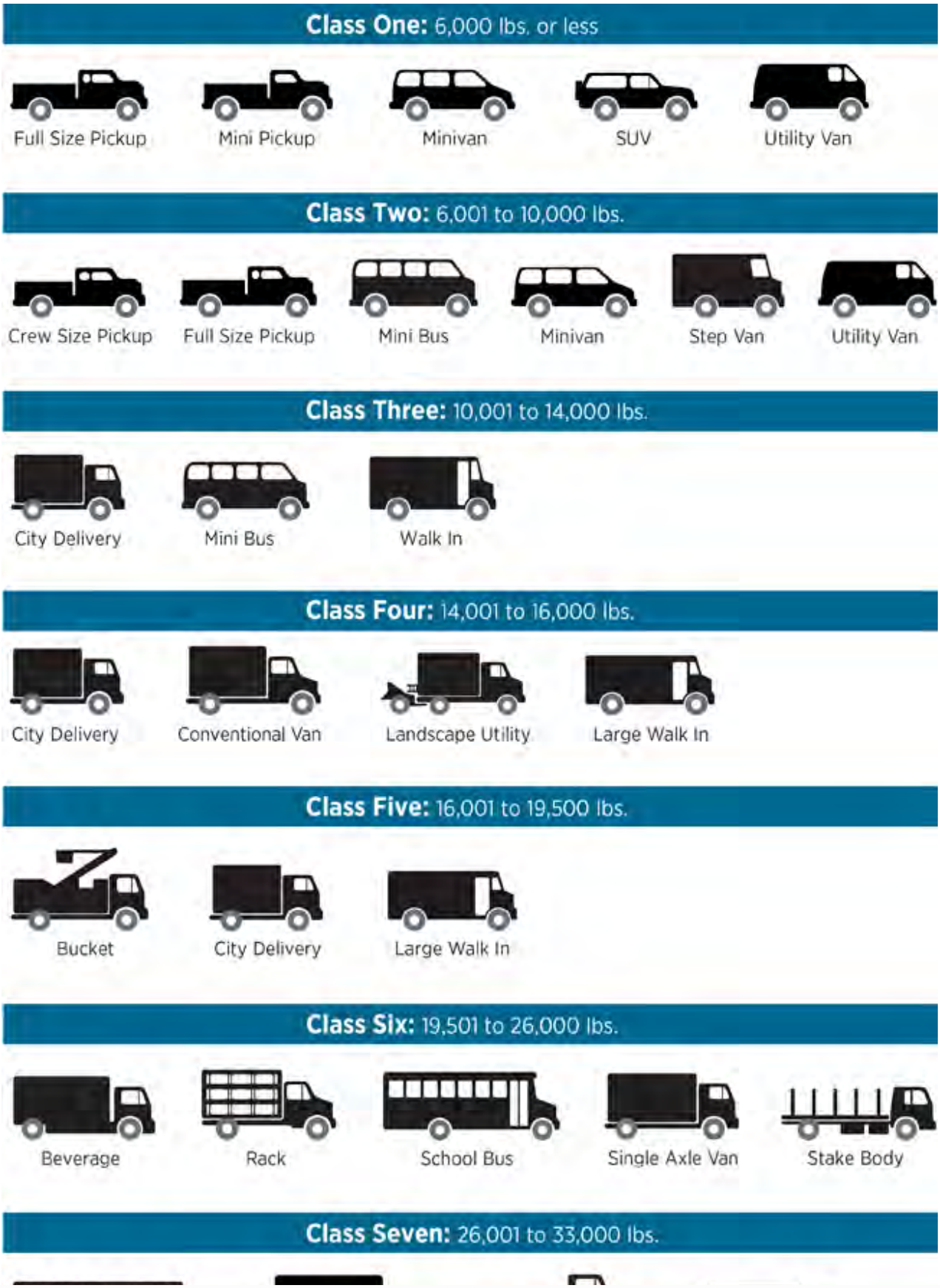


Types of Vehicles by Weight Class



Privacy (https://www.energy.gov/about-us/web-policies/privacy)

Types of Vehicles by Weight Class



Attachment 16

E&B
NATURAL RESOURCES

1608 Norris Road • Bakersfield, CA 93308

November 24, 2025

Matthew Lum, Senior City Planner
Los Angeles Department of City Planning, Office of Zoning Administration
Sent via email

Re: Response to Letter of Communication Dated September 2, 2025, Request for Additional Information, Case number ZA-1959-15227-O-PA6-1A, Murphy Site.

Dear Mr. Lum,

E&B Natural Resources (E&B) has received the Letter of Communication dated September 2, 2025, from the Los Angeles Department of City Planning, Office of Zoning Administration (the Department) asking for additional information regarding a condition E&B Natural Resources volunteered for and later was codified into our site's conditions via Case Number ZA-1959-15227-O-PA6-1A at the request of our company. The condition, "Annual Safety Inspection Report" for the Murphy production site, is a best practice and serves as an annual opportunity for E&B to report on compliance. We understand that the Department would like additional information. The request for information has taken a significant amount of time and resources for a small business. We appreciate the additional amount of time given to us.

E&B provides the following responses for the Department.

<u>Condition Number 6 "Adherence to hours of operation and truck delivery"</u>

E&B is in compliance with Condition Number 6.

E&B acknowledges and communicates Condition 6 to its staff and third-party vendors.

Condition 6 states: … "during the period to set up and move the drilling or workover rig off the premises, **and to conduct drilling or re-drilling operations** as herein authorized, **heavy ("permitted" oversized/overweight load)** truck deliveries shall be permitted from 7:00am to 9:30pm, on week-days and none during week-ends and holidays."

E&B's understanding is that this condition is triggered by drilling or re-drilling operations per the stated condition. In addition to the type of operation, we understand this condition is triggered by heavy / permitted oversized/overweight loads.

Since the date of this Letter of Determination, January 31, 2024, to date, E&B has not conducted any drilling or re-drilling operations at the Murphy site.

In the spirit of cooperation as mentioned to the city before, we are making every effort to adhere to no heavy "permitted" oversized/overweight truck deliveries. None of the video footage clips were examples of trucks associated with drilling or re-drilling operations. None of the video footage clips show trucks that meet the definition of a heavy "permitted" oversized/overweight truck delivery.

Every video was reviewed. No "heavy/overweight/overload permitted deliveries" have been made outside of working hours.

None of the deliveries are considered overloads as defined in the Los Angeles Municipal Code: "The word "**overload**" shall mean any vehicle or combination of vehicles exceedingly as to height, width, length, size or weight of vehicle or load the limitations set forth in Division 15 of the "Vehicle Code" of California."

All vehicles in the videos are in compliance. Their dimensions are summarized in the table below, separated for your convenience by vehicle type, as defined in Division 15 of the Vehicle Code.

Type of Vehicle	**Length**	**Height**	**Weight**	**Width**
Single	Less than 40 ft	Less than 14 ft	Less than 80,000lb	Less than 102 inches
Combination	Less than 65 ft	Less than 14 ft	Less than 80,000lb	Less than 102 inches
Semitrailer	Less than 40ft KPRA	Less than 14 ft	Less than 80,000lb	Less than 102 inches

The vehicles were moving for reasons including, but not limited to: meter proving and calibration, staff uniform deliveries, equipment relocation, delivery of consumable or placarded liquids, and crew (including employees) arriving / leaving work. A comprehensive list is also enclosed for your records.

<u>Condition Number 19 "Fenceline monitoring"</u>

E&B is in compliance with Condition Number 19.

E&B is the first company to operate fenceline air monitoring in the City of Los Angeles at a producing oil site. We have worked with Council District 5 and community to test pilot fenceline air monitoring. When we took over the Murphy site, we communicated to Council District 10 and the community that we would do the same fenceline air monitoring. At our first opportunity to solidify the commitment to a Condition, E&B volunteered the condition to the City. E&B continues to post its air monitoring data that is available to the public on a web page.

The air monitoring units measure and record air emissions including H2S, VOC and SO2, wind speed (mph) and direction, temperature (F°), and relative humidity. Additional information about our air monitoring has been provided in our Annual Inspection reports and has been provided to the LA City Petroleum Administrator.

Since we have been posting the data, there has been no significant impacts related to air emissions.

E&B reached out to the manufacturer of the air monitors we utilize at Murphy. We provided them with web page examples given to us by the city. We are making progress towards getting a proposal from Scentroid on a web page that would be more in line with the samples the city sent us. We can keep you posted of this progress as we examine the next steps and feasibility. Scentroid does not have a readily available solution currently to present to E&B.

<u>Condition Number 23 “Production Area Enclosure”</u>

E&B is in compliance with this condition and has been making progress. E&B has spent a lot of time and resources on research, engineering and design. E&B has shared the site plans, drawings and designs with the Planning staff at the Office of Historic Resources. These plans are enclosed for your review. Prior to submittal, E&B has had several on-going engagements with staff to prepare for a board hearing. E&B, with the help of the Office of Historic Resources, secured a date November 18 when we were given the opportunity to have a consultation with the Board. The meeting was productive and informative. The following day, we received communication from City staff about the next steps needed to be taken. E&B does not know what kind of timeline or process we will ultimately be on with the City agencies to get approvals. Due to these unknowns plus the additional time needed post approval from the City to implement the plans, we will need some flexibility from the Zoning Administration on meeting our requirement which the condition does allow for that kind of flexibility. We can keep the Planning Department updated on our progress with the approvals. We would also welcome the opportunity to meet with you and staff to discuss these plans enclosed and next steps.

Condition Number 25 “Microturbines”

E&B is in compliance with Condition Number 25.

Condition states that “refined natural gas may be imported to power microturbines from utility sources but shall not be the primary source of microturbines energy cogeneration.”

The majority of its onsite power is not from utility sources. E&B is in the process of implementing a meter for both the natural gas from E&B operations and from the utility source. This way, E&B’s on-site staff can properly monitor and stay in compliance with this condition.

E&B reviews the utility fuel volumes and the total fuel used for onsite power monthly to ensure compliance. The table below summarizes the latest month:

Oct-2025	MCF	%
Well Gas	2886	72%
SoCal Gas	1104	28%
Microturbine Fuel	3990	100%

Condition Number 25 “Electric powered workover rigs”

E&B is in compliance with condition number 25.

Condition 25 states, “All drilling, workover or maintenance rig operations at the site shall at all times be carried out with engines that are certified pursuant to the Environmental Protection Agency’s Tier 4 Emissions Standards until electric workover rigs shall become commercially available for lease or purchase.”

E&B has reached out to Watson Hopper Inc, Axis Energy and Ranger Energy Services to learn more about their electric work over rigs. Ranger’s announcement came at the end of July 2025. It appears that Watson Hopper Inc’s is also very recent.

It is our understanding that Watson is a manufacturer who builds the electric rigs. We are moving through an NDA (per Watson’s request to get more information) process so that we can learn more about their e-rigs, costs, availability, power / infrastructure needs. However, it is evident to us that this is all very early stage in the development process and that the availability is limited and the costs are significant compared to a non-electric rig. It is very expensive to acquire such a rig, and it takes a significant amount of time to get one delivered. In addition, training would need to be required, or specialty hiring would be required. With Watson, the rigs

are for sale only (not available for leasing) but require a deposit and a wait list to get one built for delivery. There are outstanding technical details with power to work out as well (would need to further analyze with DWP and existing infrastructure).

Please note: Ranger Energy Services and Axis Energy do not serve the California market currently. The very few electric rigs they have are accounted for by very large global operators outside of California.

We are inquiring about the two electric rigs in the Bakersfield area. They are with a company called GPS, which is a well-servicing company. We were told by GPS that these two rigs are accounted for and not available for servicing other operators.

Despite electric rigs not being commercially available for the California market currently, E&B is still pursuing additional information including costs, power needs, manufacturing availability and timelines. We can provide an update on what we learn in our upcoming "Murphy" Annual Report.

Condition Number 27 "Idle well regulations"

We are in compliance with Condition 27. Murphy Well number 18 is not an idle well at this time. E&B has been working with CalGEM staff to correct their production reporting issue. We are waiting for them to make the correction in WellStar at which time, we can send an update and the correction to you and staff.

March 8, 2024 Los Angeles Department Building and Safety Code Enforcement "flat work"

E&B is in compliance with the flat work completed. No permit was required for the flat work.

We were visited and inspected by LA Department of Building and safety (LADBS). On 10/29/2024 three (3) LADBS inspectors visited Murphy site to review the flat work, which was poured to level the area for electrical gear.

The operator led them around the site and showed them the 4' W x 4' L x 6" H slab that was poured. LADBS inspectors took pictures and discussed the work with E&B onsite staff. The inspectors did not have any follow-up questions. It is our understanding that this issue was closed out by the City / LADBS.

NATURAL RESOURCES

1608 Norris Road • Bakersfield, CA 93308

Spill Prevention, Control, and Countermeasures Plan for the Murphy Production Facility (SPCC)

Page 8 – Discharge of produced water
The City's understanding is correct. Produced water does get re-injected back into the reservoir via our water injection wells. This is done under our federal UIC and State (CalGEM) approvals and regulations. No produced water is sent into the City's sewer lines. E&B is in the process of updating the SPCC to reflect such language.

Page 8 – Crude oil tanker trucks

Crude oil is shipped via pipeline and not by truck. It could take place that we transfer oil within the facility, but the oil does not get trucked out of the facility.

Condition Number 24 "Staffing Coverage"

Murphy is in compliance with Condition Number 24. Murphy has someone at the facility 24 hours a day, 7 days-a-week. The SPCC plan is a response to a federal spill plan and does not require that detail of a compliance that exists for us with the city.

Thank you for the opportunity to provide additional information for the case file. Please do not hesitate to call upon us for additional information. Thank you for your time and consideration of our comments.

Best regards,



Louis Zylstra, PE
Senior Vice President, Los Angeles Basin
E&B Natural Resources
Tel: 714.968.4770
Email: lou.zylstra@ebresources.com

Attachment 17

Sensor Report

Hydrogen Sulfide

SENSOR ID: 5546, Facility: Murphy

Equipment ID: SL052301

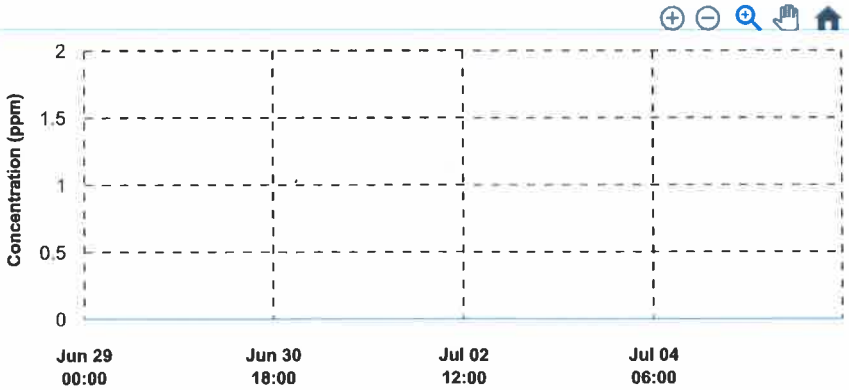
Equip. Name: SL052301

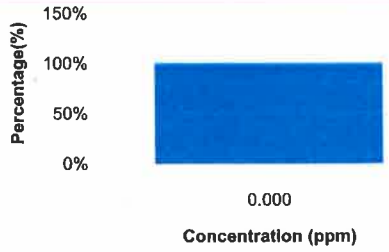
SCENTROID
Future of Sensory Technology

Report Date: 2026.06.29 00:00 - 2026.07.06 00:00

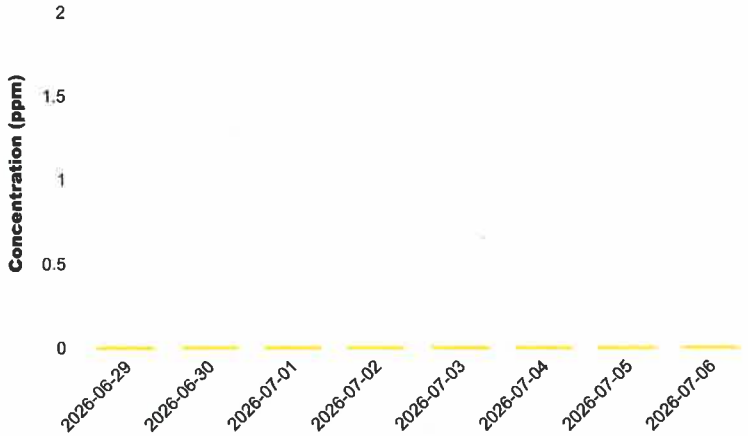
Last Calibration: N/A

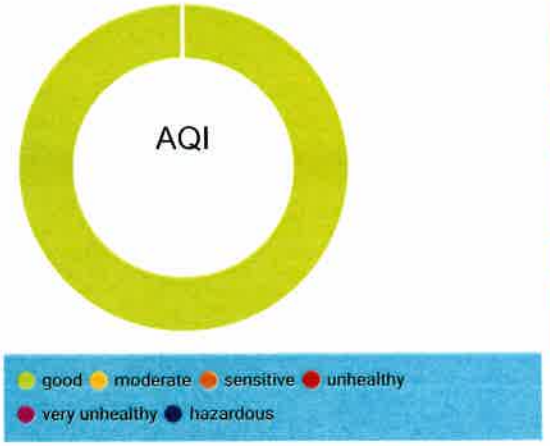
Report Generated: 2026.07.07





Data Trend Shows No Significant Trend →





Exceedances
0

Exceeded Time
0%

Alarm Condition
N/A

Connected Events

Date & Time	Type	Notes	Justifcation	Occurances

Sensor Report

Sulfur Dioxide

SENSOR ID: 5549, Facility: Murphy

Equipment ID: SL052301

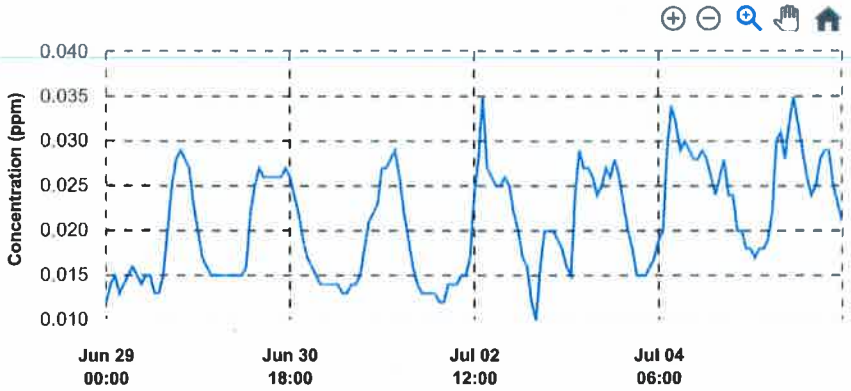
Equip. Name: SL052301

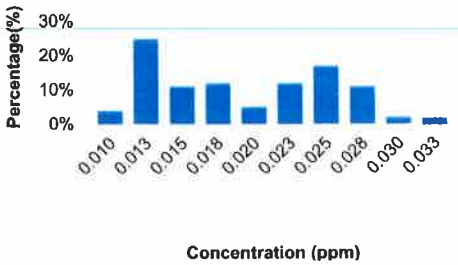
SCENTROID
Future of Sensory Technology

Report Date: 2026.06.29 00:00 - 2026.07.06 00:00

Last Calibration: N/A

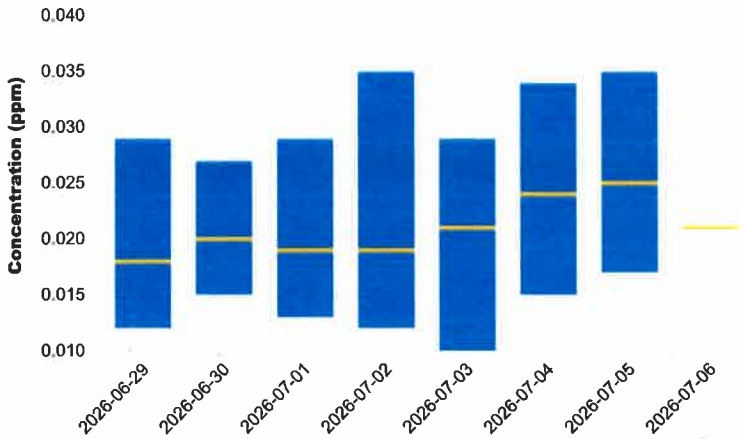
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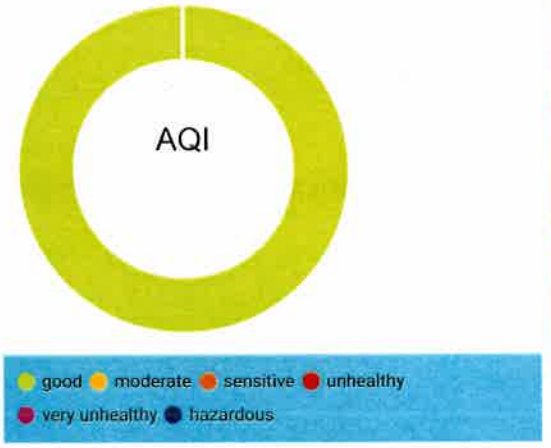




Data Trend Shows No Significant Trend →







Exceedances
0

Exceeded Time
0%

Alarm Condition
N/A

Connected Events

Date & Time	Type	Notes	Justifcation	Occurances

Sensor Report

Total VOC - PID

SENSOR ID: 5556, Facility: Murphy

Equipment ID: SL052301

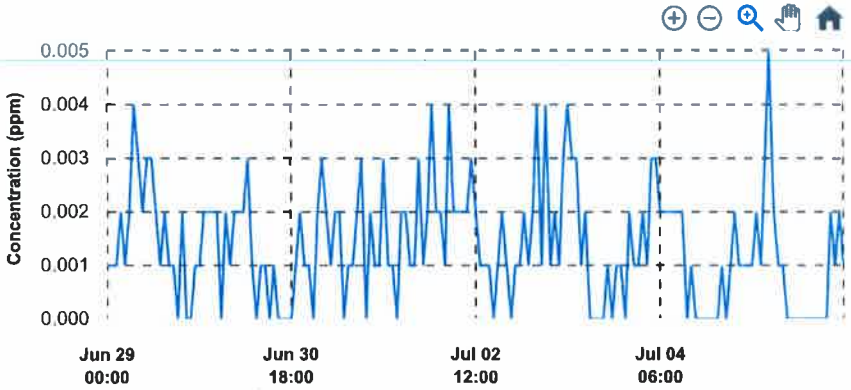
Equip. Name: SL052301

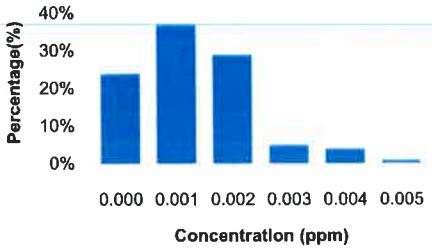
SCENTROID
Future of Sensory Technology

Report Date: 2026.06.29 00:00 - 2026.07.06 00:00

Last Calibration: 2023.08.08

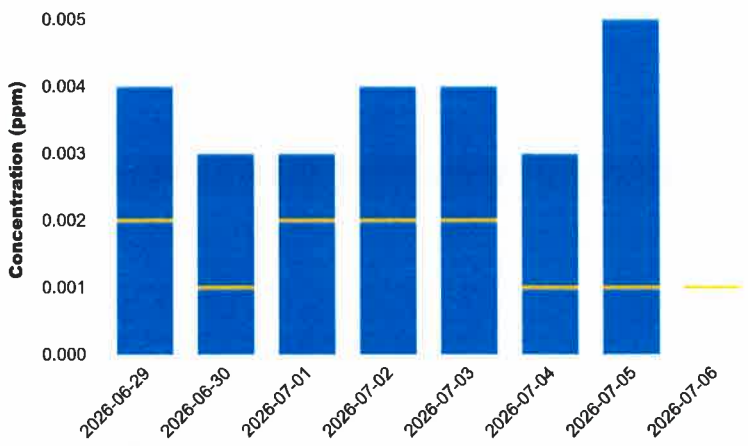
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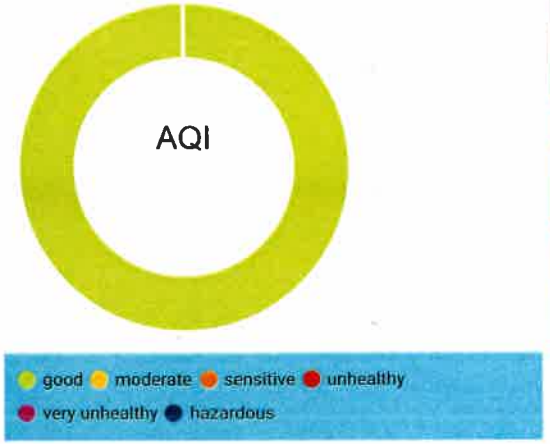




Data Trend Shows No Significant Trend →







Exceedances
0

Exceeded Time
0%

Alarm Condition
N/A

Connected Events

Date & Time	Type	Notes	Justifcation	Occurances

Sensor Report

Sound Intensity Level - Class II

SENSOR ID: 5594, Facility: Murphy

Equipment ID: SL052301

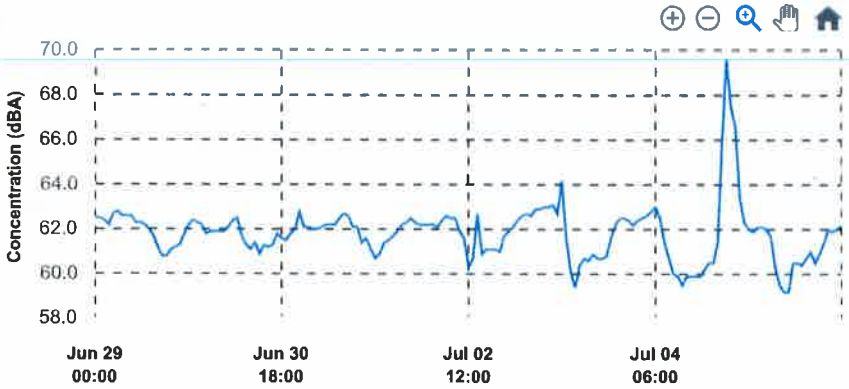
Equip. Name: SL052301

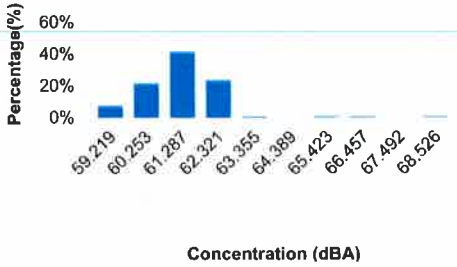
SCENTROID
Future of Sensory Technology

Report Date: 2026.06.29 00:00 - 2026.07.06 00:00

Last Calibration: N/A

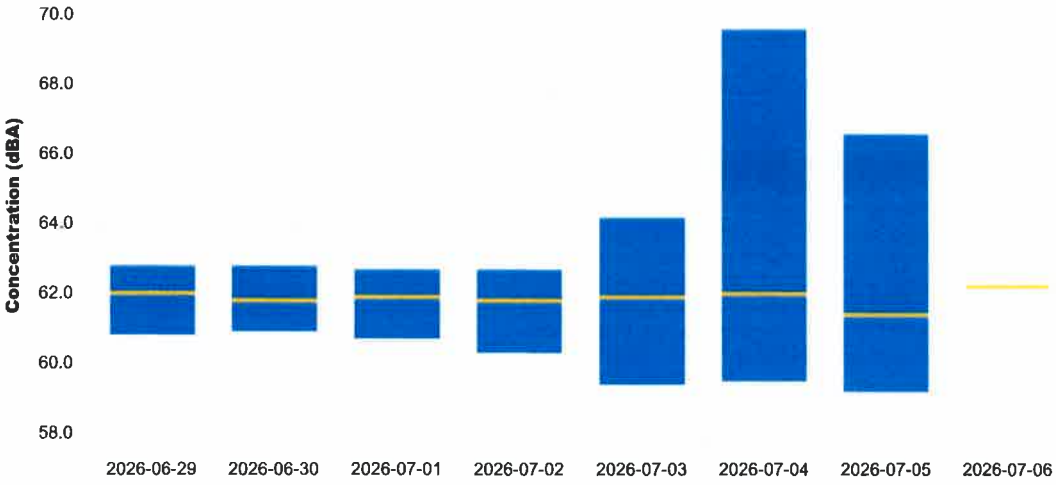
Report Generated: 2026.07.07





Data Trend Shows No Significant Trend →





Exceedances
0

Exceeded Time
0%

Alarm Condition
N/A

Connected Events

Date & Time	Type	Notes	Justifcation	Occurances

Sensor Report

Hydrogen Sulfide

SENSOR ID: 5559, Facility: Murphy

Equipment ID: SL052302

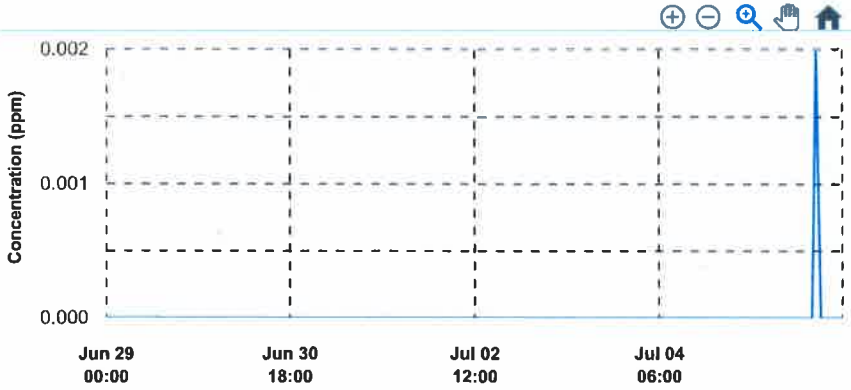
Equip. Name: SL052302

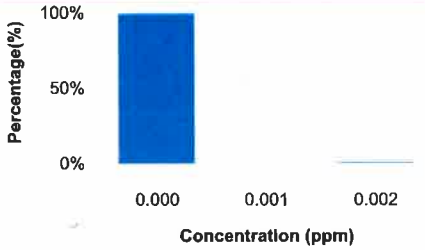
SCENTROID
Future of Sensory Technology

Report Date: 2026.06.29 00:00 - 2026.07.06 00:00

Last Calibration: N/A

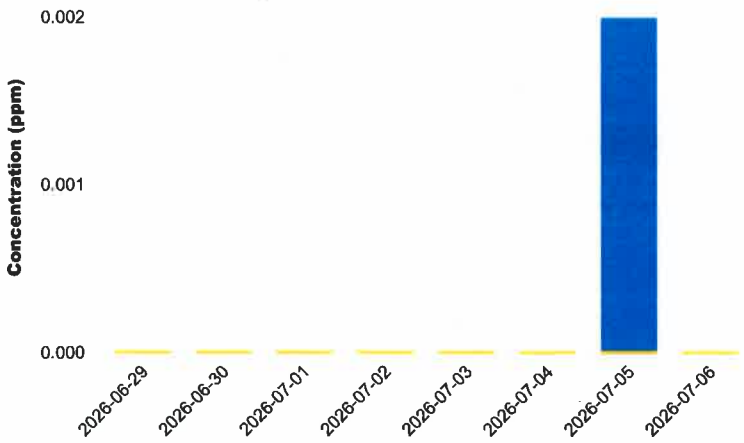
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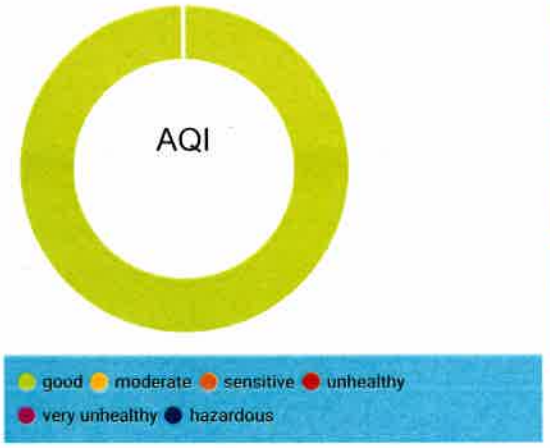




Data Trend Shows No Significant Trend →







Exceedances
0

Exceeded Time
0%

Alarm Condition
N/A

Connected Events

Date & Time	Type	Notes	Justifcation	Occurances

Sensor Report

Sulfur Dioxide

SENSOR ID: 5562, Facility: Murphy

Equipment ID: SL052302

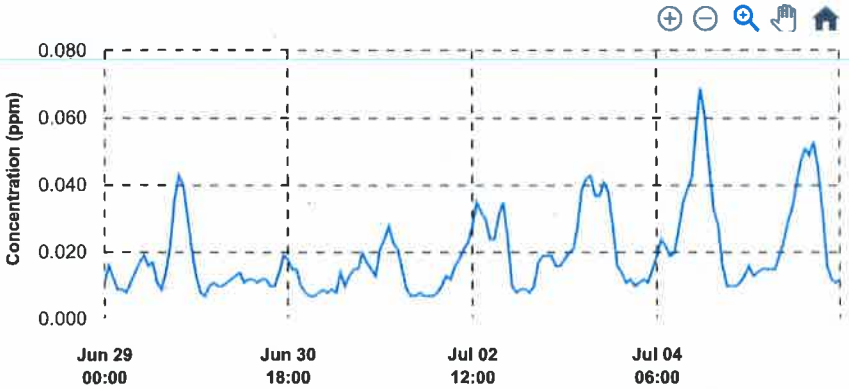
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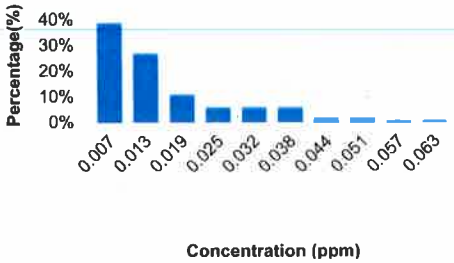
SCENTROID
Future of Sensory Technology

Report Date: 2026.06.29 00:00 - 2026.07.06 00:00

Last Calibration: N/A

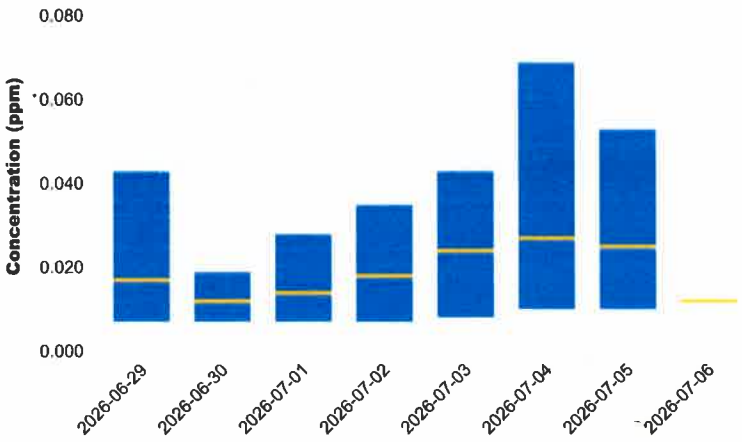
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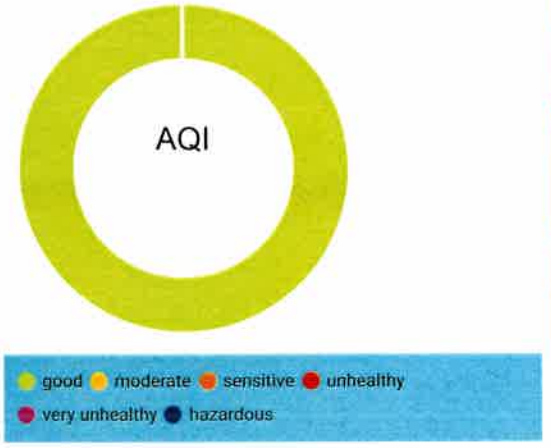




Data Trend Shows No Significant Trend →







Exceedances
0

Exceeded Time
0%

Alarm Condition
N/A

Connected Events

Date & Time	Type	Notes	Justifcation	Occurances

Sensor Report

Total VOC - PID

SENSOR ID: 5569, Facility: Murphy

Equipment ID: SL052302

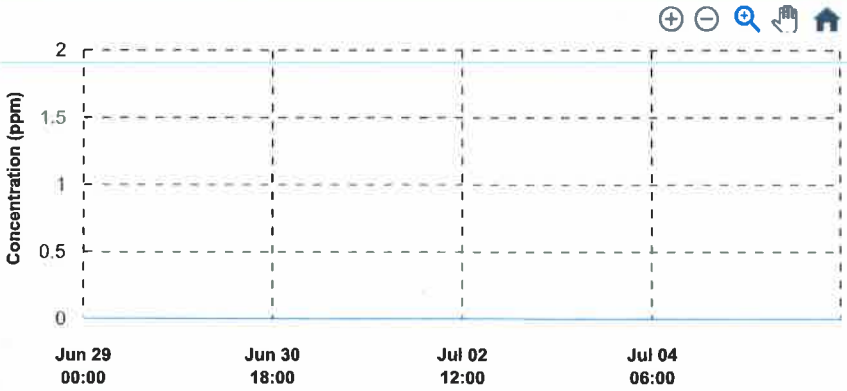
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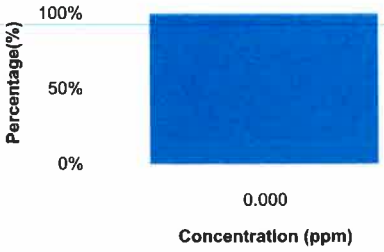
SCENTROID
Future of Sensory Technology

Report Date: 2026.06.29 00:00 - 2026.07.06 00:00

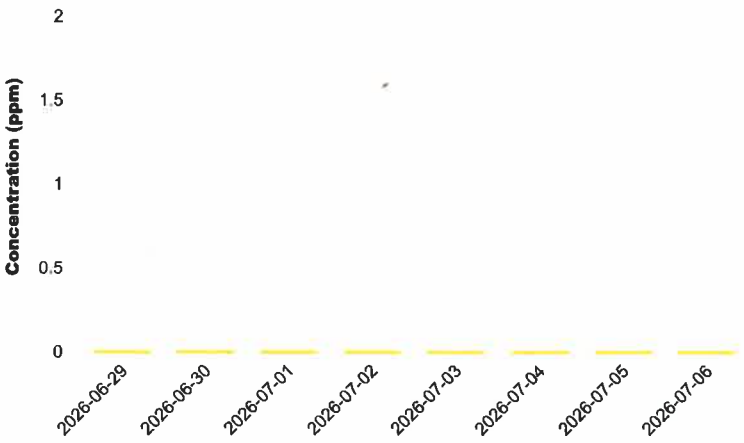
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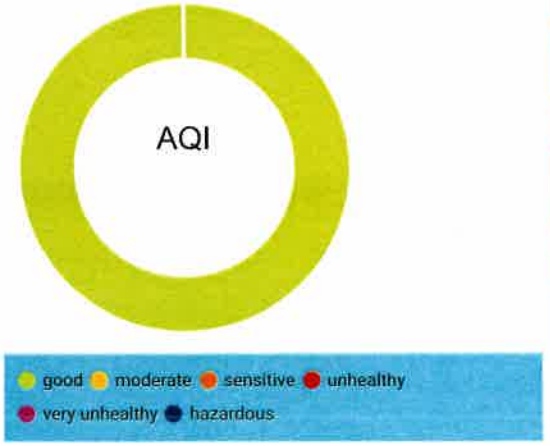
Report Generated: 2026.07.07





Data Trend Shows No Significant Trend →





Exceedances
0

Exceeded Time
0%

Alarm Condition
N/A

Connected Events

Date & Time	Type	Notes	Justifcation	Occurances

Sensor Report

Sound Intensity Level - Class II

SENSOR ID: 5595, Facility: Murphy

Equipment ID: SL052302

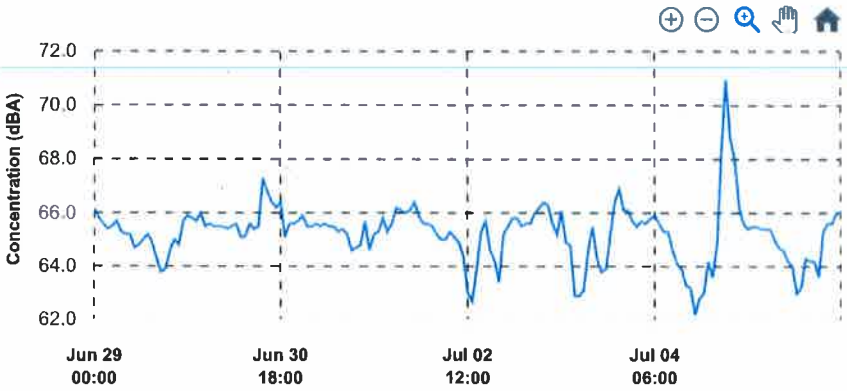
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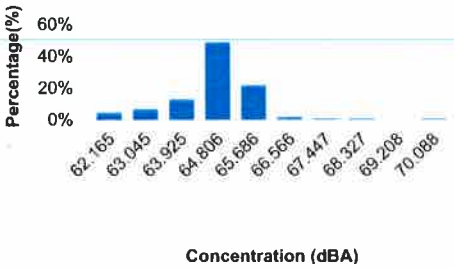
SCENTROID
Future of Sensory Technology

Report Date: 2026.06.29 00:00 - 2026.07.06 00:00

Last Calibration: N/A

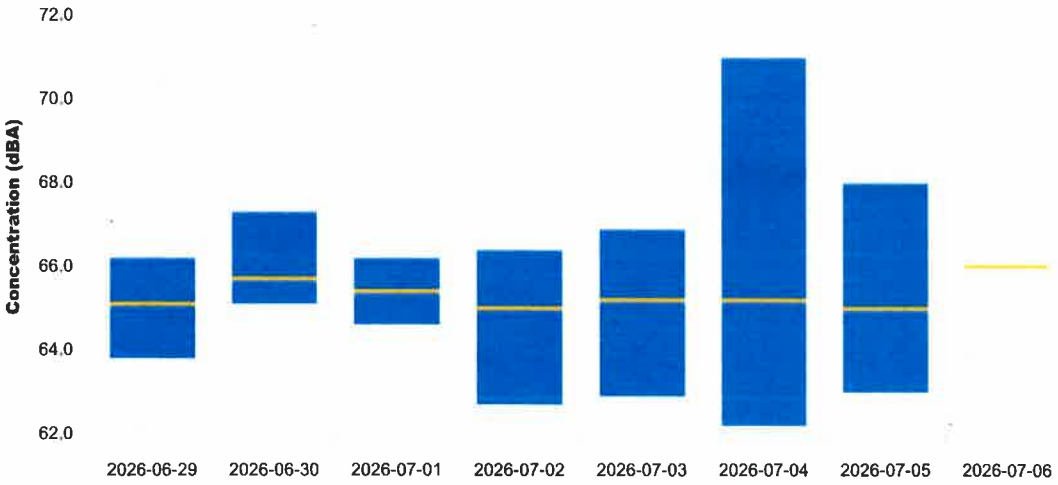
Report Generated: 2026.07.07





Data Trend Shows No Significant Trend →





Exceedances
0

Exceeded Time
0%

Alarm Condition
N/A

Connected Events

Date & Time	Type	Notes	Justifcation	Occurances

Attachment 18

Sensor Report

Hydrogen Sulfide

SENSOR ID: 5559, Facility: Murphy

Equipment ID: SL052302

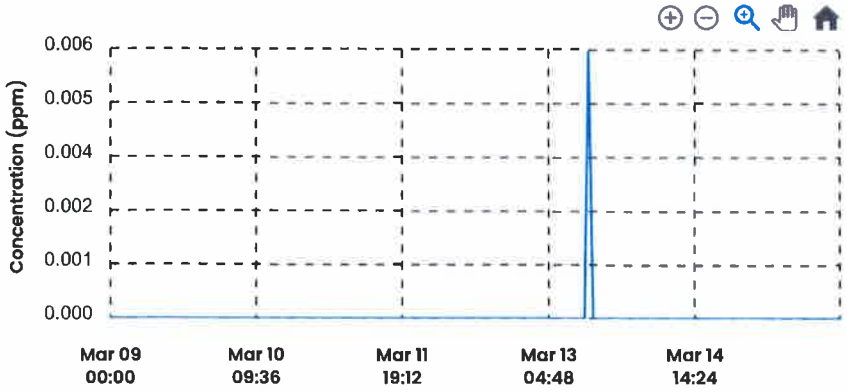
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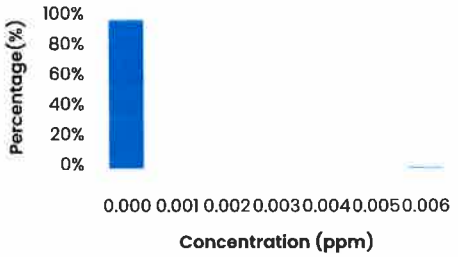
SCENTROID
Future of Sensory Technology

Report Date: 2026.03.09 00:00 - 2026.03.16 00:00

Last Calibration: N/A

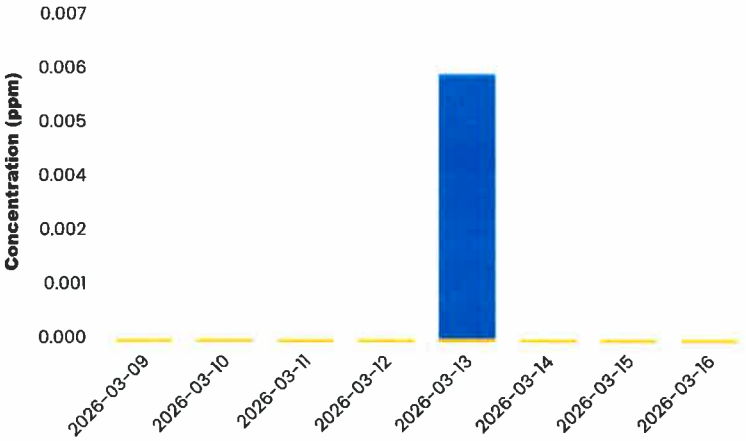
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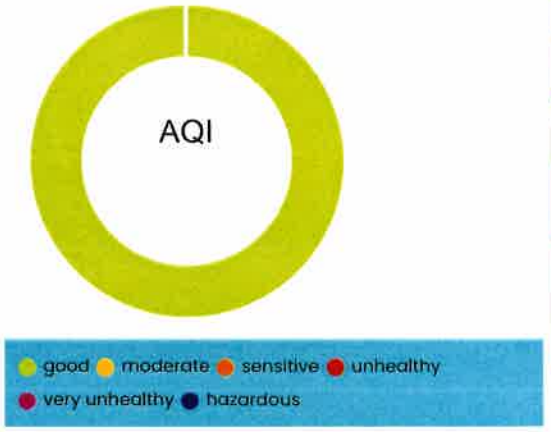




Data Trend Shows No Significant Trend →







Exceedances
0

Exceeded Time
0%

Alarm Condition
N/A

Connected Events

Date & Time	Type	Notes	Justifcation	Occurances

Sensor Report

Sulfur Dioxide

SENSOR ID: 5562, Facility: Murphy

Equipment ID: SL052302

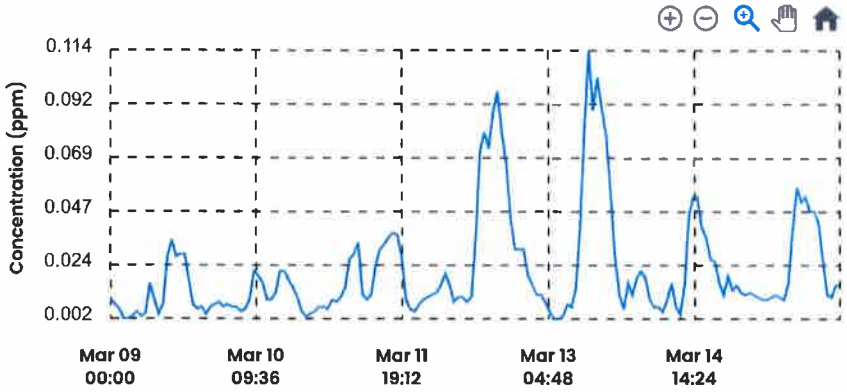
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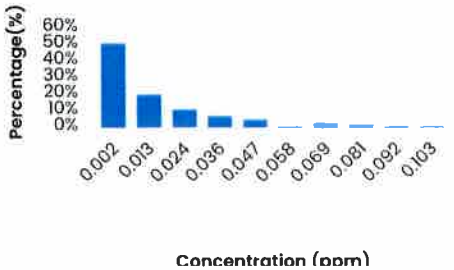
SCENTROID
Future of Sensory Technology

Report Date: 2026.03.09 00:00 - 2026.03.16 00:00

Last Calibration: N/A

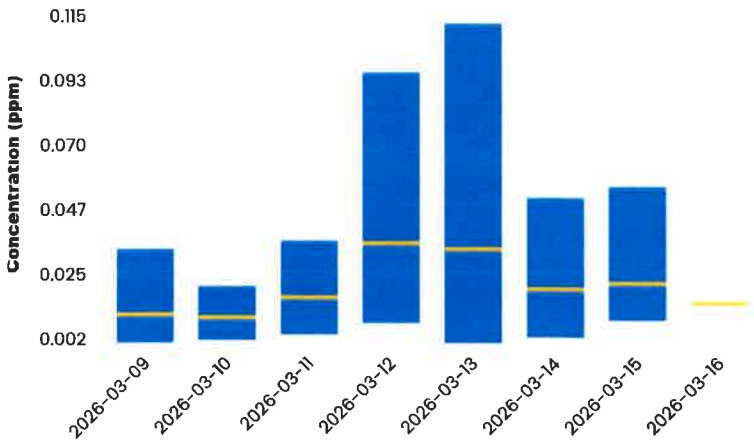
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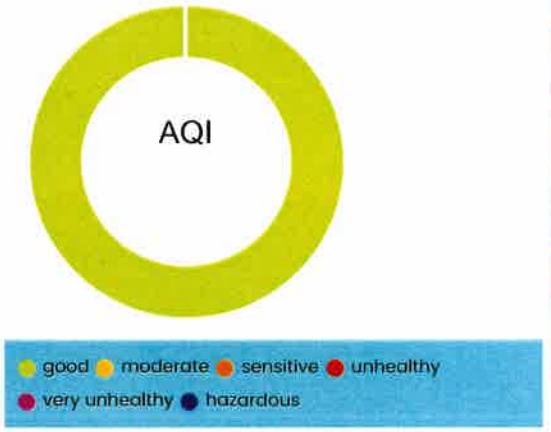




Data Trend Shows No Significant Trend →







Exceedances
0

Exceeded Time
0%

Alarm Condition
N/A

Connected Events

Date & Time	Type	Notes	Justifcation	Occurances

Sensor Report

Total VOC - PID

SENSOR ID: 5569, Facility: Murphy

Equipment ID: SL052302

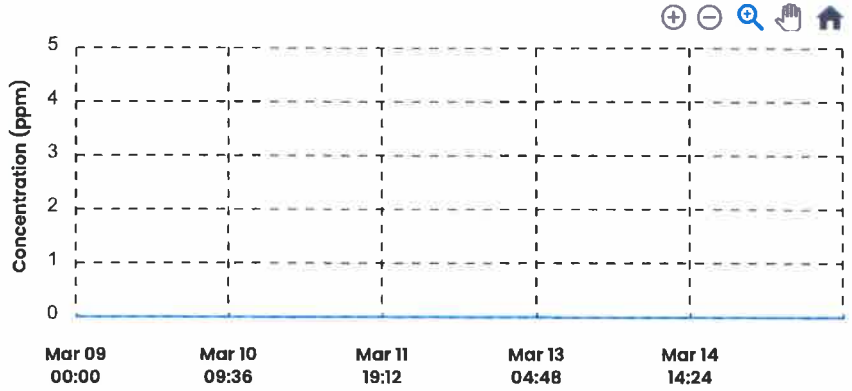
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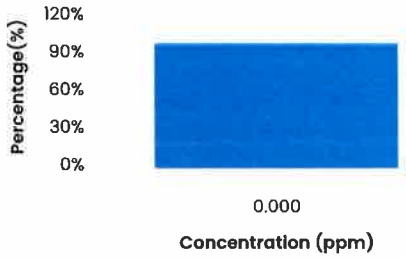
SCENTROID
Future of Sensory Technology

Report Date: 2026.03.09 00:00 - 2026.03.16 00:00

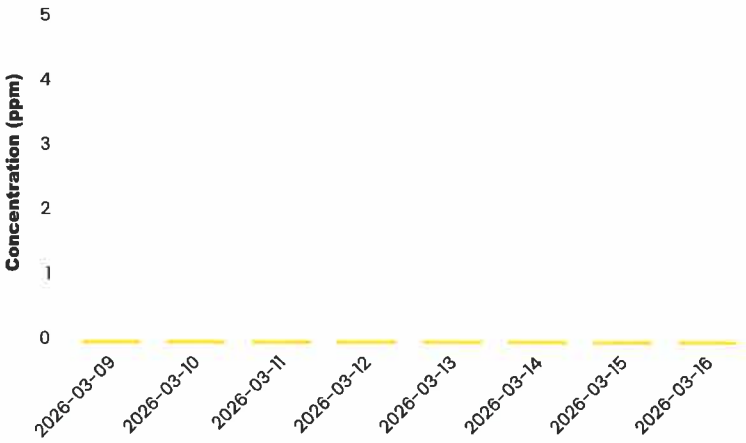
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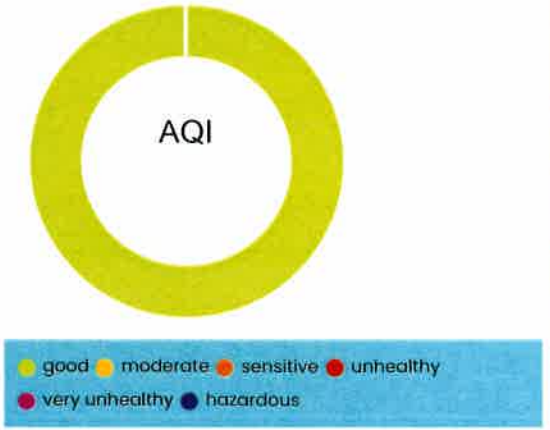
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Exceedances
0

Exceeded Time
0%

Alarm Condition
N/A

Connected Events

Date & Time	Type	Notes	Justifcation	Occurances

Sensor Report

Sound Intensity Level - Class II

SENSOR ID: 5595, Facility: Murphy

Equipment ID: SL052302

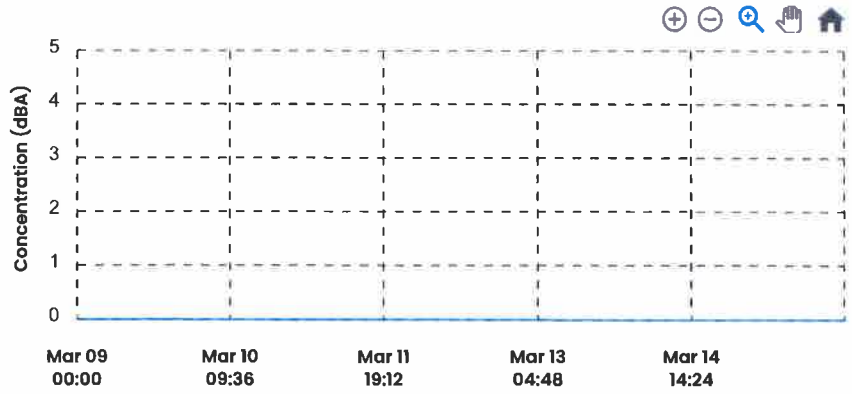
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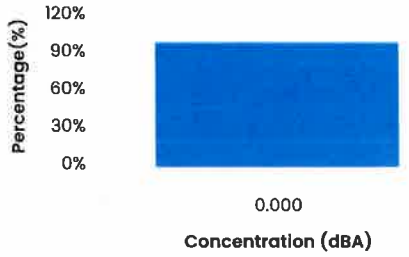
SCENTROID
Future of Sensory Technology

Report Date: 2026.03.09 00:00 - 2026.03.16 00:00

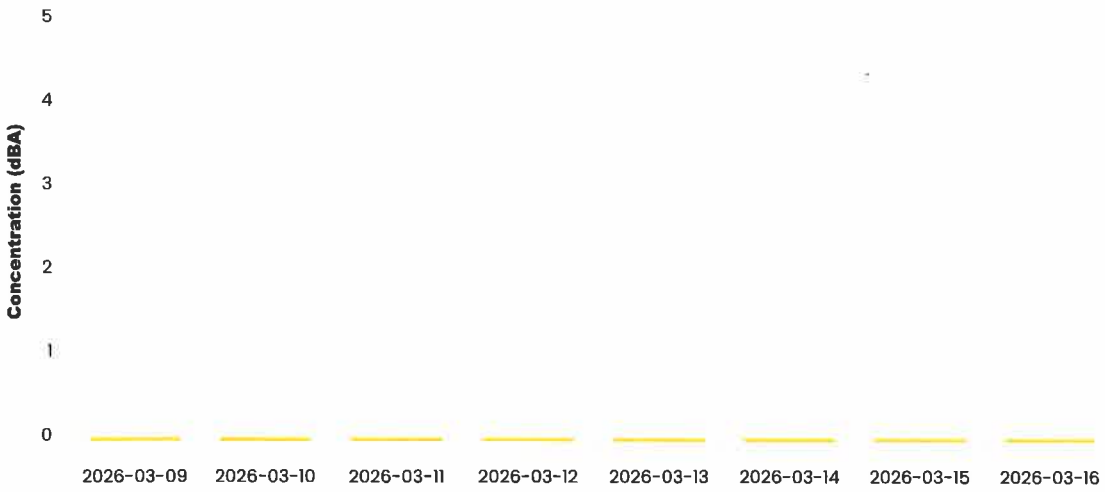
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Data Trend Shows No Significant Trend →



Exceedances
0

Exceeded Time
0%

Alarm Condition
N/A

Connected Events

Date & Time	Type	Notes	Justifcation	Occurances

Sensor Report

Hydrogen Sulfide

SENSOR ID: 5546, Facility: Murphy

Equipment ID: SL052301

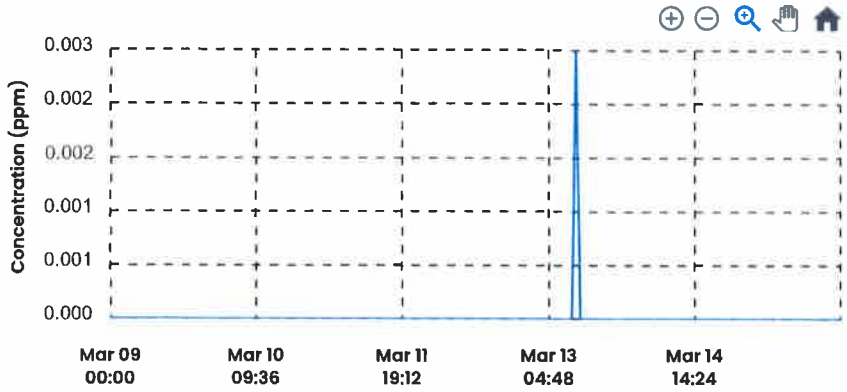
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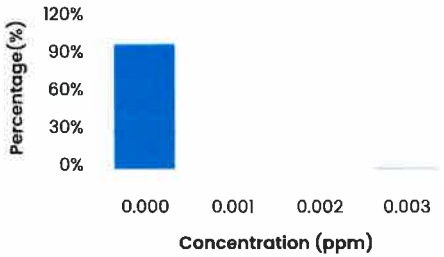
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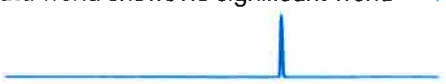
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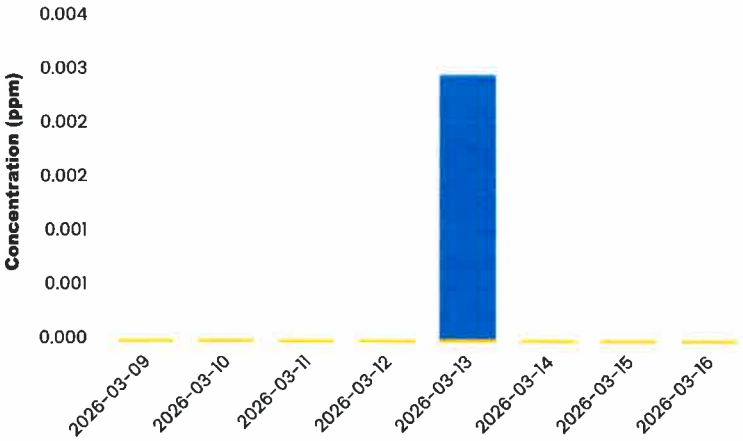
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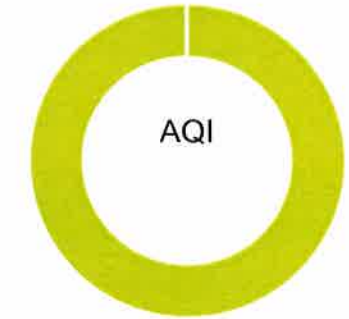




Data Trend Shows No Significant Trend →









Exceedances
0

Exceeded Time
0%

Alarm Condition
N/A

Connected Events

Date & Time	Type	Notes	Justifcation	Occurances

Sensor Report

Sulfur Dioxide

SENSOR ID: 5549, Facility: Murphy

Equipment ID: SL052301

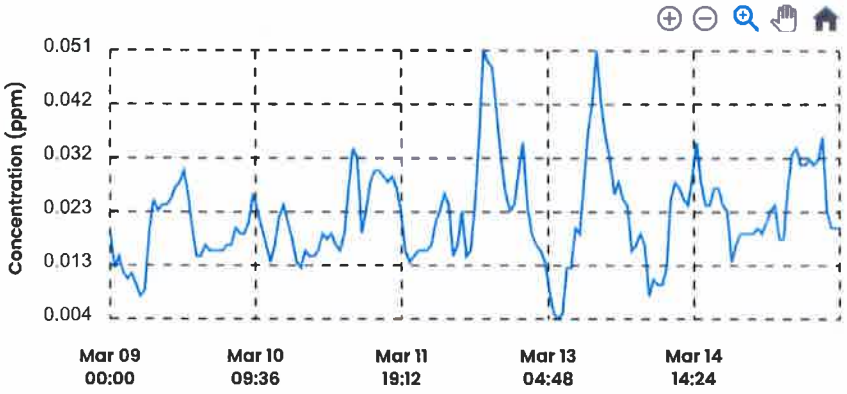
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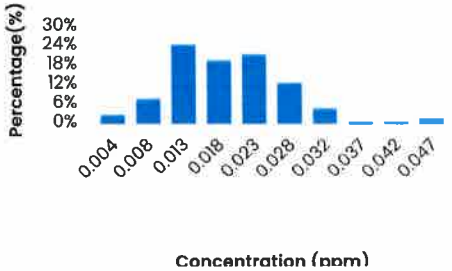
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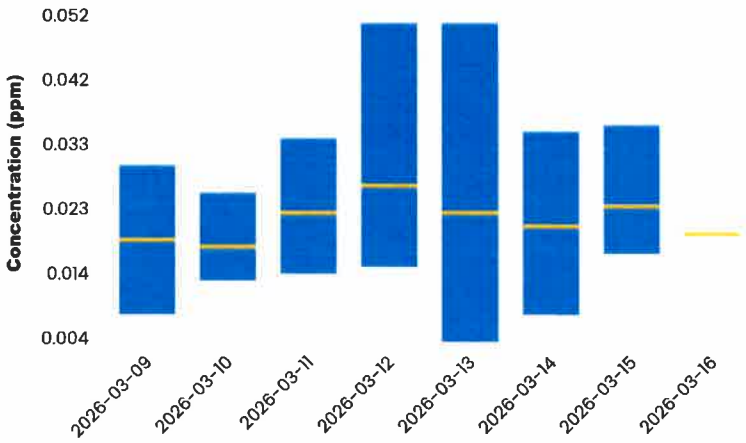
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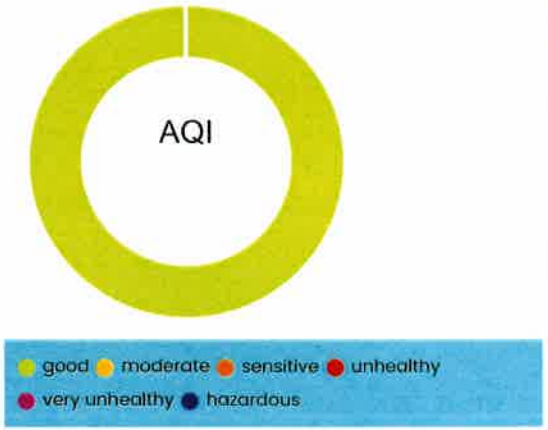




Data Trend Shows No Significant Trend →







Exceedances
0

Exceeded Time
0%

Alarm Condition
N/A

Connected Events

Date & Time	Type	Notes	Justifcation	Occurances

Sensor Report

Total VOC - PID

SENSOR ID: 5556, Facility: Murphy

Equipment ID: SL052301

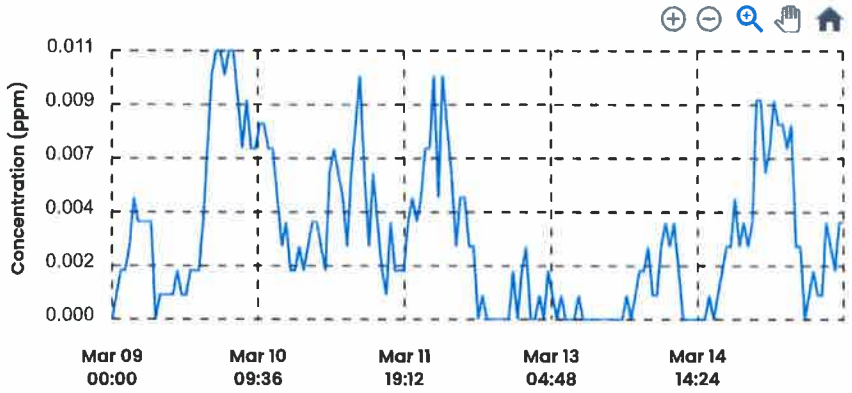
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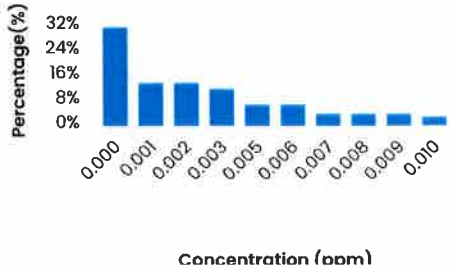
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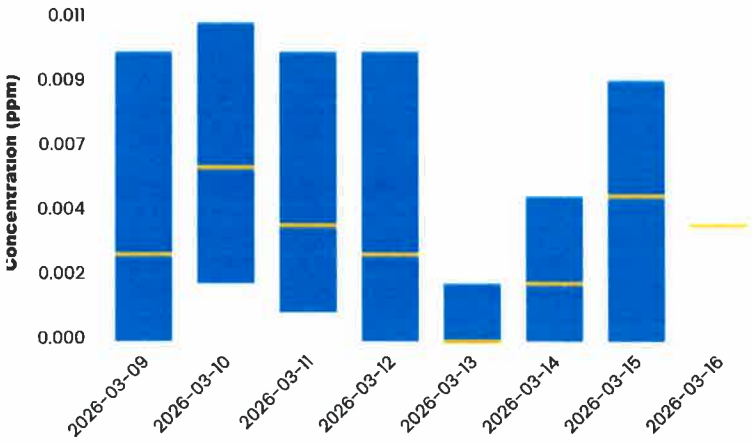
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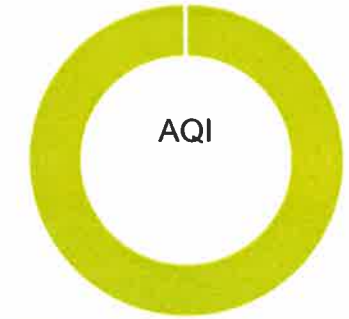




Data Trend Shows No Significant Trend →







good moderate sensitive unhealthy
very unhealthy hazardous

Exceedances
0

Exceeded Time
0%

Alarm Condition
N/A

Connected Events

Date & Time	Type	Notes	Justifcation	Occurances

Sensor Report

Sound Intensity Level - Class II

SENSOR ID: 5594, Facility: Murphy

Equipment ID: SL052301

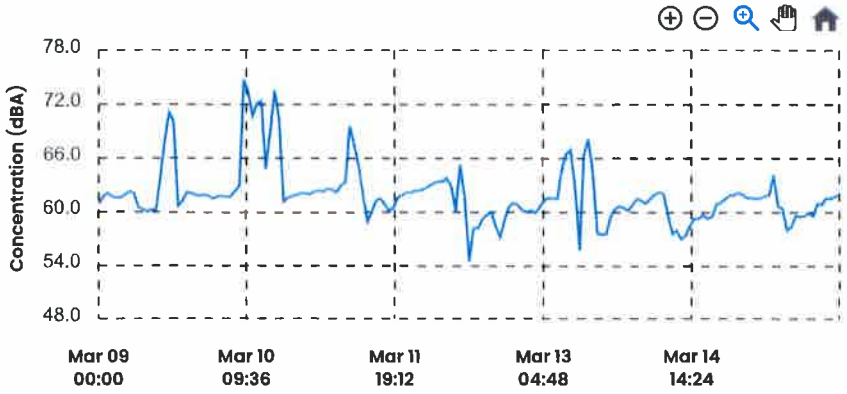
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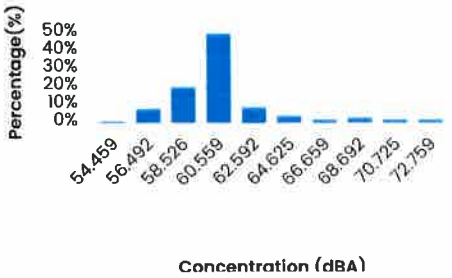
SCENTROID
Future of Sensory Technology

Report Date: 2026.03.09 00:00 - 2026.03.16 00:00

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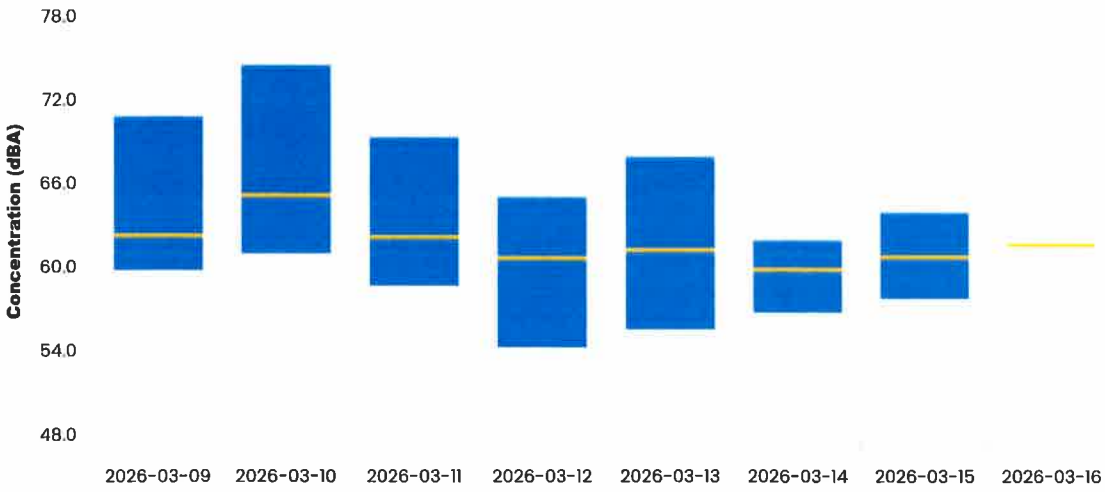
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Data Trend Shows No Significant Trend →





Exceedances
0

Exceeded Time
0%

Alarm Condition
N/A

Connected Events

Date & Time	Type	Notes	Justifcation	Occurances

Attachment 19

From: Ted.Cordova <Ted.Cordova@ebresources.com>
Sent: Monday, February 16, 2026 7:07 PM
To: C Carlson <ccarlson@carlsonpohl.com>
Subject: FW: Murphy - Annual Safety Inspection Report - Case No. ZA-1959-15227-O-PA6-1A

Hi Chris,

I hope you are doing well. As you may recall, we worked together to volunteer E&B Natural Resources to conduct an annual inspection report. We got the City to adopt this condition per our proactive initiative at the Murphy site. Here is last year's report which was conducted by third party environmental and engineer consultants. We also wanted to make sure we were available to receive any comments or feedback from community leaders like yourself.

The next report will be coming out in about a month.

Thanks,

Ted

Third-Party Audit of the Murphy Production Site

2126 West Adams Boulevard
Los Angeles, California, 90018

E&B Natural Resources
Headquarters
1608 Norris Road
Bakersfield, California, 93308

SCS ENGINEERS

Project No. 01226037.00 | March 11, 2026

3900 Kilroy Airport Way, Suite 300
Long Beach, California 90806
(562) 426-9544

Table of Contents

Section		Page
DISCLAIMER		v
1	EXECUTIVE SUMMARY	1
2	INTRODUCTION	2
3	FACILITY DESCRIPTION	2
4	AUDIT	4
5	FINDINGS	5
6	COMPLIANCE WITH CITY ORDINANCE AND LEASES	6
7	DOCUMENTATION REVIEW	6
	South Coast Air Quality Management District (SCAQMD) – Facility ID 191119	7
	Spill Prevention, Countermeasure, and Control (SPCC) Plan	7
	California Geologic Energy Management Division (CALGEM)	8
	Los Angeles Fire Department (LAFD)	8
	Los Angeles Department of Building and Safety (LADBS)	8
	California Environmental Reporting System (CERS)	8
	California Department of Toxic Substances Control (DTSC)	8
8	TECHNOLOGY ASSESSMENT	8
9	EQUIPMENT INVENTORY	9

Figures

Figure 1 Site Location Map
Figure 2 Site Layout

Tables

Table 1 Compliance with Los Angeles City ordinances
Table 2 Murphy Production Site Well List
Table 3 Murphy Production Site Vessel List
Table 4 Murphy Production Site Tank List
Table 5 Murphy Production Site Microturbines List

Appendices

Appendix A Photo Log
Appendix B SCAQMD Forms
Appendix C SPCC Plan
Appendix D Pipeline Management Plan (PMP) and Murphy 21 Well Abandonment Notice
Appendix E LAFD CUPA Documents
Appendix F LADBS Documents
Appendix G CERS Documentation
Appendix H SCS Engineers Memorandum – Electric and Hybrid Workover Rig Availability

This Report, dated March 11, 2026, for property located at 2126 West Adams Boulevard, Los Angeles, California, was prepared and reviewed by the following:



Eli Ortenberg
Senior Project Professional
SCS ENGINEERS



Tim Rathmann
Senior Project Manager
SCS ENGINEERS

DISCLAIMER

This report has been prepared for E&B Natural Resources with application to South Los Angeles Area Planning Commission, Council District 10, Case No. ZA-1959-15227-O-PA6-1A for the 3.2-acre Murphy Site located at 2126 West Adams Boulevard, Los Angeles, California, 90018. This report has been prepared in accordance with the care and skill generally exercised by reputable environmental and petroleum engineering professionals, under similar circumstances, in this or similar localities. No other warranty, express or implied, is made as to the professional opinions presented herein. No other party, known or unknown to SCS Engineers, is intended as a beneficiary of this work product, its content or information embedded therein. Third parties use this report at their own risk.

Changes in site conditions may occur due to natural occurring events. Additional information that was not available to the consultant at the time of this investigation or changes that may occur on the site or in the surrounding area may result in modification to the site that would impact the summary and recommendations presented herein. This report is not a legal opinion.

1 EXECUTIVE SUMMARY

SCS Engineers (SCS) conducted an independent third-party safety and compliance audit of the Murphy Production Site, located at 2126 West Adams Boulevard in Los Angeles, California. The on-site inspection took place on February 5, 2026, and was requested by E&B Natural Resources Management Corporation (E&B) in accordance with City of Los Angeles conditions and ongoing community commitments.

The Murphy Production Site is an existing oil production facility operating in an urban area adjacent to residential neighborhoods. This audit was performed to evaluate whether the site is being operated safely, responsibly, and in compliance with applicable City, County, State, and federal regulations. The review included a physical inspection of the facility and a detailed evaluation of permits, plans, and regulatory records from agencies such as the City of Los Angeles, South Coast Air Quality Management District (SCAQMD), California Geologic Energy Management Division (CalGEM), Los Angeles Fire Department (LAFD), Los Angeles Department of Building and Safety (LADBS), and other relevant authorities.

Based on the inspection and document review, SCS found that the Murphy Production Site is operating in compliance with applicable regulatory requirements and City conditions. At the time of the audit, there were no outstanding Notices of Violation issued by regulatory agencies. Facility equipment was observed to be well maintained, clearly identified, and operated in a clean and orderly manner. Safety systems, including fire protection equipment, gas detection systems, perimeter security, and emergency response measures, were present and functioning as intended.

E&B demonstrates a strong commitment to protecting workers, nearby residents, and the environment. The facility operates under a comprehensive preventative maintenance program, conducts daily site inspections, and follows applicable health and safety standards. Hazardous materials and waste are managed in accordance with State and federal requirements, and required plans—including the Spill Prevention, Countermeasure, and Control (SPCC) Plan and Pipeline Management Plan—are in place and current.

Air quality and odor monitoring are addressed through two advanced, real-time monitoring stations installed along the facility perimeter. These stations continuously collect data for a range of air quality parameters, including hydrogen sulfide and volatile organic compounds. E&B voluntarily provides air monitoring information to regulatory agencies and monitoring data is available to the public via a website (https://www.ebresources.com/murphy-site).

No new oil drilling is proposed at the Murphy Production Site. Planned future construction is limited to the Murphy Sound Wall Project, which will increase the height of the existing perimeter sound wall around the Site in response to City guidance. Engineering plans for the sound wall have been completed, and the project is currently undergoing the City permitting process.

This report represents the third annual on-site safety inspection completed for the Murphy Production Site under City conditions. SCS concludes that the facility meets applicable requirements and is being operated in a manner consistent with public safety, environmental protection, and good oilfield practices. E&B's continued use of an independent third-party auditor reflects an ongoing effort to maintain transparency, regulatory compliance, and constructive engagement with the surrounding community.

2 INTRODUCTION

SCS Engineers (SCS) was retained by E&B Natural Resources to perform this Third-party Inspection Audit Report to ensure the Murphy Production Site is operated and maintained in a safe and environmentally sound manner in compliance with all appliable local and state codes/permits, as well as industry practices and standards. It is also the purpose to identify any specific improvements necessary to ensure the facility's operations do not impose adverse impacts upon E&B Natural Resource employees or the public. Furthermore, this report determines if the facility is compliant with the conditions set by the City of Los Angeles, Zoning Administrators and the South Los Angeles Planning Commission.

This is the third Murphy Production Site report and volunteered by E&B to the Zoning Administrator, along with working with the local community and Council District 10, as part of a good neighbor and best practice condition. The South Los Angeles Planning Commission codified the annual inspection as part of the Letter of Determination issued January 31, 2024. The safety inspection was conducted on February 5, 2026, at E&B's Murphy Site to review safety and compliance practices as required from Condition 18. Prior 2024 and 2025 annual reports were reviewed by SCS Engineers and validated for thoroughness and accuracy.

SCS has assessed the Murphy Oil Production Site facility for compliance with relevant governmental agencies, including but not limited to:

- City of Los Angeles
- Los Angeles Fire Department (LAFD)
- Los Angeles Department of Building and Safety (LADBS)
- California Geologic Energy Management Division (CalGEM)
- California Department of Toxic Substances Control
- South Coast Air Quality Management Division (SCAQMD)
- California Environmental Reporting System (CERS)
- Environmental Protection Agency (EPA)

As a result of the South Los Angeles Planning Commission's conditions, E&B has responded in a constructive manner by contracting SCS, an un-biased third-party, to audit the Murphy Production Site and identify any regulatory and/or on-site compliance issues and to generate E&B's Safety Inspection Report. The decision to have a third party generate a report demonstrates E&B's commitment to maintaining an amenable and transparent relationship with the public, governmental agencies, and relevant stakeholders.

3 FACILITY DESCRIPTION

The Property is located on the southern side of the Interstate 10 highway, to the west of the intersection with West Adams Boulevard and South Western Avenue. It comprises approximately 1.60 acres, developed one main building and associated facility tanks, pipelines, and parking lot. Limited landscaping is present around the perimeters of the Property.

A description of the facility is provided below:

Facility Name	Murphy Production Site
Address	2126 W. Adams Boulevard, Los Angeles, CA 90018
Field	Las Cienegas
Operator	E&B Natural Resources
Facility Representative	Cody Peters
Other attendees	Eli Ortenberg, Tim Rathmann (SCS)
Date of visit	February 5, 2026

The Murphy Site Data is as follows:

Number / Type of Wells	
Active Production	21
Idle	0
Water Injection/Waterflood (WF)	8
Plugged	3
Hydrogen Sulfide (H2S)	
Max. ppm level	<10 ppm
Enhanced Recovery Methods Used	
Water Flood	Yes
Crude Oil Transport System	
Pipeline	Yes
Gas Handling System	
Microturbines	Yes
Historical Activities (Last 12 Months)	
Drilling	None
Construction	None
Future Plans	
Drilling	None
Construction	"Murphy Sound Wall Project". Increase perimeter sound wall height per City's guidance

Site photos of the Facility were taken during the site visit. Refer to **Appendix A** for the photo log.

4 AUDIT

The were two components to this audit: An on-site inspection of the facility, including equipment, and a review of regulatory and permitting compliance.

The on-site inspection of Murphy Production Site occurred on February 5, 2026, initiated by the Letter of Determination (January 31, 2024, issue date) previously mentioned in this report. The inspection involved the visual observation of:

- Equipment in-use and out-of-service located within the facilities boundaries.
- The perimeter fencing and signage postings.
- Onsite/offsite camera monitoring of the facility operations.
- Air quality monitoring devices.
- General maintenance and cleanliness of the facility.
- Onsite documentation
- Safety equipment

At the time of the inspection, there were ongoing normal production activities. There was no construction or well work activities ongoing. The perimeter of the facility was observed along with the level of noise generated from within the facility and noise was not notable beyond the fence- line. The facility exists in an urban location whereby the south, east, and west perimeter lines bordering residentially zoned properties. The northern perimeter is West Adams Boulevard where two entrance/exit gates exist. Residential properties exist on the opposite side of the entrance/exit gates. The entire perimeter is also fenced by CMU walls, further limiting sound propagation. There were no public nuisances identified during the inspection.

The on-site inspection included a guided facility tour from E&B's Facility Operations Engineer. The facility was clean and well maintained.

The review of regulatory and permitting compliance included:

- E&B's compliance documents to ensure approval by the governing agency.
- E&B's permits to confirm approval and validity.
- Surveying the governmental agencies (i.e., CalGEM and SCAQMD) to determine if there are any recent notices of violation (NOV) for the facility and confirm they have been addressed.
- Spill Prevention, Control, and Countermeasure (SPCC) contingency plan.
- Pipeline Management Plan (PMP) – required by the California Geologic Energy Management Division (CalGEM) of the Department of Conservation.
- Confirmation of efficient/effective onsite security measures as well as fire prevention equipment and processed.

5 FINDINGS

California Department of Conservation has an Office of Enforcement in the Geologic Energy Management Division (CalGEM). The office is to ensure oil and gas operators comply with California statutes and regulations.

CalGEM has not issued any Notice(s) of Violation (NOV) since E&B assumed operator status. E&B is in the process of increasing the size of the boundary fencing/walls per City's request. That modification will take some time to complete due to the City's permitting processes, contractor availability, design, and technical studies. The facility Engineer is in the process of designing the wall extension. The Murphy Site produces no notable noise outside the facility. The facility has two modern air monitoring stations on site at opposite corners of the property which collect a variety of gas measurements, if they are present. Hazardous waste is managed and handled per the California EPA as well as the California Department of Toxic Substances Control guidance. All Micro-Turbines, the oil separation equipment, amine plant and pressure washer(s) are registered and adhere to requirements set forth by the South Coast Air Quality Management District (AQMD). There are no outstanding NOVs under AQMD Facility Information Detail. Refer to **Appendix A** for the photos of the findings listed below that were inspected during the site visit.

E&B operates in compliance with Cal/OSHA, City, County and State directives on all Health & Safety matters.

Equipment appears well maintained, and facility well labelled and is kept clean and neat. Spot checked fire equipment was inspected and up to date. E&B conducts daily site inspections which SCS spot checked. E&B's preventative maintenance program appears to meet or exceed industry standards.

Some of the turbines were onsite when E&B acquired the Murphy site asset in 2019. The C600s were installed in early 2020 which are properly maintained and located in a well-maintained environment. SCS has no concerns about the property, equipment, procedures, processes, or operation.

Gas sensors and alarms, vapor recovery system, general site security, proper site housekeeping, windsocks, and 24/7 manned operations are part of the overall processes and safety system that demonstrate a comprehensive commitment to safety and environmental stewardship.

E&B has air monitoring equipment to continuously measure reactive volatile organic compounds (VOCs), H2S (ppm), and SO2 concentrations at the property fenceline. The continuous collection of the raw data provides an objective insight into the air quality standards at the Murphy Site. In addition, E&B is providing air emission reports to select agencies on an on-going basis per updated City conditions. The data is also available to the public online.

E&B has posted the appropriate signs in various languages which include English, Spanish, Korean, Simplified and Traditional Chinese, Arabic, Russian, Vietnamese, and Tagalog and has posted contact information for the site supervisor for reporting.

6 COMPLIANCE WITH CITY ORDINANCE AND LEASES

This report addresses the Conditions of Approval per the Letter of Determination issued January 31, 2024, as well as the additional information and inquiries listed in the Letter of Communication issued on September 2, 2025.

All applicable conditions from Los Angeles City ordinances are provided in **Table 1**.

The newest comments have been added to **Table 1** and are also stated below:

Condition 6 – E&B responds timely and comprehensively to any concerns raised by the community. E&B ensures that truck access to the site is restricted.

Condition 18 – In compliance. This 2026 report is the third On-site Safety Inspection Report for the Murphy Site. A technology assessment has been completed which now includes more information about electric powered rigs (**Appendix H**), microturbines, air emissions and sound monitoring and buffering solutions.

Condition 19 – In compliance. Two Scentroid SL50 Scentinal advanced air quality and odour monitoring stations are installed and collecting real-time data via a secure web platform. One station is located along the northwest corner of the fence line, and the other along the southwest corner. SCS has validated both the real-time data and the exported data reports.

Note: The data is publicly available.

Condition 23 – In progress. Engineering design and construction plans are complete for the Murphy Sound Wall project in Los Angeles, detailing site layout, wall elevations, pile foundations, materials, and structural connections. The plans provide the technical specifications and drawings necessary for review, permitting, and construction of the sound wall system along the entirety of the Property. Most recent revision is from November 2025. Building permits are in process with LA City Department of Building & Safety. An estimated timeline for any construction to start and be completed is pending the City agency's response to the application.

Condition 24 - An existing SPCC Plan has been provided.

Condition 25 – Acknowledged. No new drilling operations are planned. Additional details regarding microturbines and electric workover rigs are provided in **Appendix H** and in Section 8, **Technology Assessment**, of this report.

Condition 27 – In compliance. 21 Active producers. 0 Idle. 3 Injectors. 3 P&A'd. Murphy 21 was P&A'd in December 2024 and received approval from CalGEM via a letter in August 2025. E&B actively maintains the Idle Well Management Plan per regulatory requirements and is planning well maintenance operations.

Condition 28 - In progress. E&B has coordinated with LAFD concerning Condition 28 and is awaiting LAFD's response to submittals. In compliance with LAFD's Regulation No. 4.

7 DOCUMENTATION REVIEW

After the inspection on February 5, 2026, SCS continued to review the applicable regulations and requested additional documentation to determine the compliance status of the Murphy Drill Site,

with all agencies mentioned herein. Additionally, SCS reviewed regulatory databases. This section of the report is a summary of any documentation or databases reviewed.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) – FACILITY ID 191119

South Coast Air Quality Management District (SCAQMD)		
Permit No.	**Description**	**Date**
G59304 A/N 616598	Amine plant - Natural gas treating/carbon dioxide removal system	10/25/2019
G59305 A/N 616597	Crude oil/gas/water separation system	10/25/2019
Other Forms	**Description**	**Date**
Application 623946 / Form 111-PW	Power pressure washers, hot water, steam, and cleaners	09/1/2020
Form 222-MT	Micro-Turbine (C65R-SG4-BU00) registration	02/06/2020
Application 629268 / Form 222-MT	Micro-Turbine (C200S-HG4-BU00) registration	05/07/2021
Application 629269 / Form 222-MT	Micro-Turbine (C200S-HG4-BU00) registration	05/07/2021
Application 629270 / Form 222-MT	Micro-Turbine (C200S-HG4-BU00) registration	05/07/2021

Permit and forms are provided in Appendix B.

The South Coast Air Quality Management District (AQMD) provides an online database to review an operator's facility compliance. As of March 2026, there are no outstanding Notices of Violation with AQMD. AQMD's online database can be found at the following link: https://xappprod.aqmd.gov/find//facility/AQMDsearch?facilityID=191119

Based on the documentation provided, E&B appears to be in full compliance with all SCAQMD requirements.

SPILL PREVENTION, COUNTERMEASURE, AND CONTROL (SPCC) PLAN

Appendix C – Plan approved in February of 2025 and prepared by a registered professional engineer. Plan was submitted to EPA and CalGEM. It is not the regulators' policy to issue acceptance letters upon submittal. The next update to the SPCC plan is due in 2030 or if material changes are made to the facility.

Based on the documentation provided, E&B appears to be in full compliance with all SPCC requirements.

CALIFORNIA GEOLOGIC ENERGY MANAGEMENT DIVISION (CALGEM)

Appendix D – Pipeline Management Plan (PMP) – This document was developed to comply with CalGEM guidelines regulation CCR 1774.2. This was originally submitted to CalGEM in 2019. E&B is in compliance with state regulations under CalGEM's authority.

Murphy 21 A.P.I No. 0403720955 is plugged and abandoned. A Report of Well Abandonment Notice approving the operation was issued to E&B on August 20, 2025.

LOS ANGELES FIRE DEPARTMENT (LAFD)

Appendix E - Documents Received:

CUPA Hazardous Waste and Hazardous Material Permit for CERS ID: 10398883 – Valid through 9/30/2026.

Based on the documentation provided, E&B appears to be in full compliance with all LAFD requirements.

LOS ANGELES DEPARTMENT OF BUILDING AND SAFETY (LADBS)

Appendix F – Los Angeles Department of Building and Safety (LADBS) includes:

Permit to operate a boiler or pressure vessel.

CALIFORNIA ENVIRONMENTAL REPORTING SYSTEM (CERS)

Appendix G - submittal summary as of March 3rd, 2026:

Facility Information including Business Activities and Owner/Operator Identification (submitted November 21st, 2025)

Hazardous Material Inventory and Site Map (Submitted November 21st, 2025)

Emergency Response / Contingency Plans (Submitted November 21st, 2025)

Aboveground Petroleum Storage Act (November 21st, 2025).

CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL (DTSC)

Documents titled "Information for Hazardous Waste Permanent State EPA Identification (ID) Number Holders and Hazardous Waste Fee Information" have been reviewed and accepted by E&B.

These documents demonstrate E&B's commitment to follow good oilfield practices, commitment to the safety of staff and the community, and exceed the minimum standards set forth within the regulatory requirements.

8 TECHNOLOGY ASSESSMENT

The topic of using the latest technology continues to be addressed in the annual teach assessment report by SCS. E&B also continues the information sharing process with all stakeholders. SCS

discussed making a document available via a public website to provide an opportunity for feedback from the community.

Electric Powered Rigs:

SCS Engineers conducted a detailed evaluation this year of electric-powered rigs in California, specifically available to the Los Angeles Basin. Refer to **Appendix H**. As of early 2026, the Los Angeles Basin market offers extremely limited options for electrified workover operations. SCS concluded that based on current market conditions and equipment availability, E&B Natural Resources has limited ability to deploy fully electric workover rigs in the Los Angeles Basin. The California service rig market does not presently provide a turnkey, fully electric workover solution that is commercially available and permitted for near-term use.

Microturbines:

E&B continues to improve operations by using the latest commercially available technology. They utilize micro-turbines which operate from the extract by product produced onsite. The microturbines are hard-piped directly to the site's produced-gas collection system, upstream of any export or disposal point. This piping configuration is visible in permitting diagrams reviewed by regulators during enforcement actions and inspections.

Air Emissions Monitoring:

As mentioned previously in the report, two Scentroid SL50 Scentinal advanced air quality and odor monitoring stations are installed to continuously measure reactive volatile organic compounds (VOCs), H2S (ppm), and SO2 concentrations at the property fenceline.

9 EQUIPMENT INVENTORY

E&B Well list is provided in **Table 2**.

Preventative Maintenance of wells includes:

Daily visual inspections, replacement of surface grates, handrails, worn rods, tubing, seals, fittings, valves, grease, hydraulic oil, etc. SCS personnel also inspected the sub ground well cellars.

List of Vessels is provided in **Table 3**.

Maintenance including but not limited to - Daily visual inspection, replacement of worn gaskets, seals, fittings, transducers, valves, exterior coating, ice on the pipes/valves etc.

List of Tanks is provided in **Table 4**.

Preventative Maintenance including but not limited to:

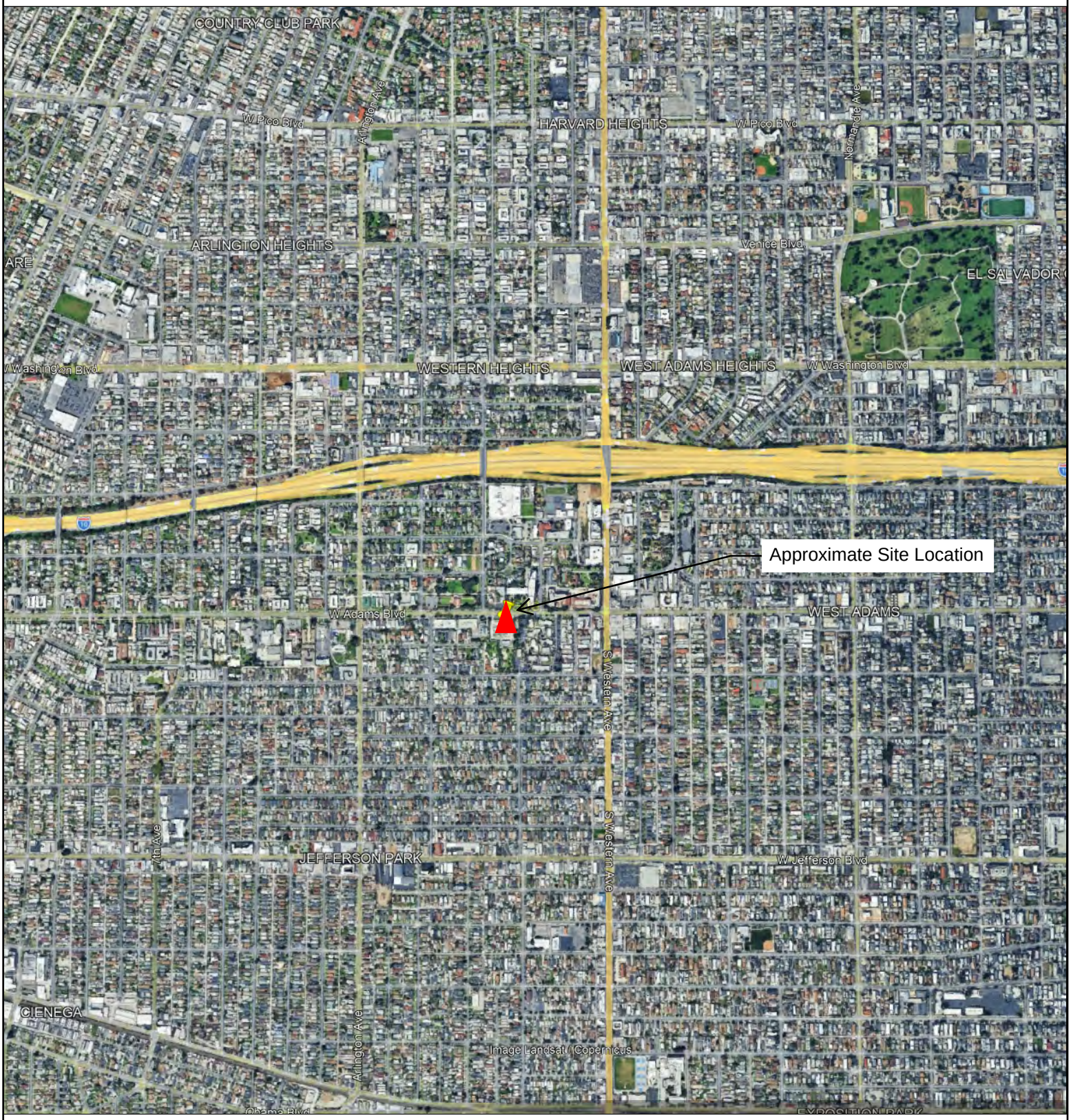
Daily visual inspection; replacement of worn gaskets, seals, fittings, transducers, valves, exterior coating etc.

A list of the Micro Turbines is provided in **Table 5**.

Preventative Maintenance including but not limited to:

Daily visual inspection: Routine Maintenance conducted by third-party under service agreement.

Figures 1 and 2



Imagery Source from Google Images, 2026

Legend

N
W E
S

0 1450

Feet

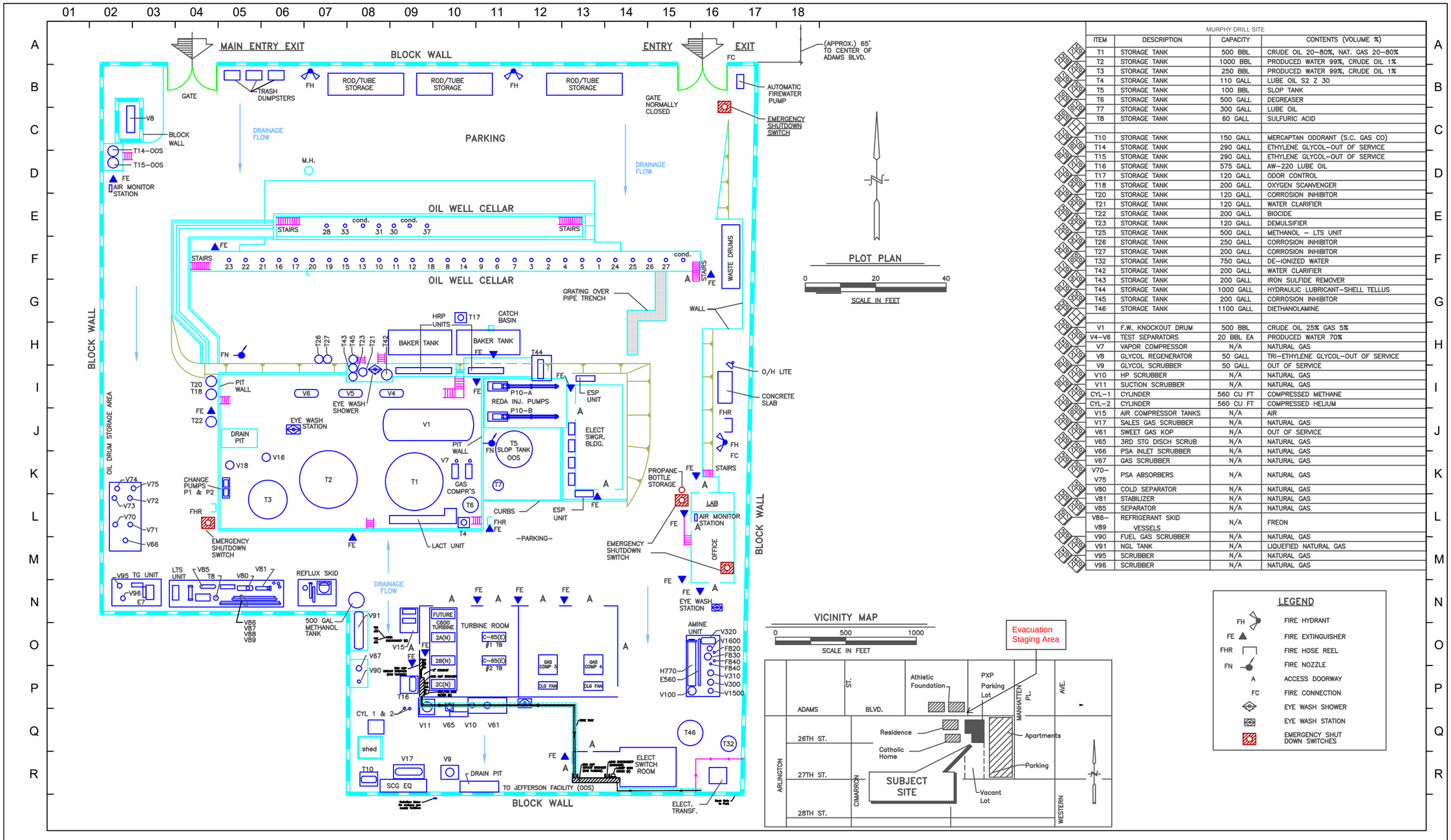
1 in = 1450 feet

Site Location Map

2126 W Adams Boulevard
Los Angeles, California
Project No. 01226037.00

Figure 1 March 2026

SCS ENGINEERS



PLOT PLAN

0 20 40

SCALE IN FEET

MURPHY DRILL SITE

ITEM	DESCRIPTION	CAPACITY	CONTENTS (VOLUME %)
T1	STORAGE TANK	500 BBL	CRUDE OIL 20–80%, NAT. GAS 20–80%
T2	STORAGE TANK	1000 BBL	PRODUCED WATER 99%, CRUDE OIL 1%
T3	STORAGE TANK	250 BBL	PRODUCED WATER 99%, CRUDE OIL 1%
T4	STORAGE TANK	110 GALL	LUBE OIL S2 Z 30
T5	STORAGE TANK	100 BBL	SLOP TANK
T6	STORAGE TANK	500 GALL	DEGREASER
T7	STORAGE TANK	300 GALL	LUBE OIL
T8	STORAGE TANK	60 GALL	SULFURIC ACID
T10	STORAGE TANK	150 GALL	MERCAPTAN ODORANT (S.C. GAS CO)
T14	STORAGE TANK	290 GALL	ETHYLENE GLYCOL–OUT OF SERVICE
T15	STORAGE TANK	290 GALL	ETHYLENE GLYCOL–OUT OF SERVICE
T16	STORAGE TANK	575 GALL	AW–220 LUBE OIL
T17	STORAGE TANK	120 GALL	ODOR CONTROL
T18	STORAGE TANK	200 GALL	OXYGEN SCANVENGER
T20	STORAGE TANK	120 GALL	CORROSION INHIBITOR
T21	STORAGE TANK	120 GALL	WATER CLARIFIER
T22	STORAGE TANK	200 GALL	BIOCIDE
T23	STORAGE TANK	120 GALL	DEMULSIFIER
T25	STORAGE TANK	500 GALL	METHANOL – LTS UNIT
T26	STORAGE TANK	250 GALL	CORROSION INHIBITOR
T27	STORAGE TANK	200 GALL	CORROSION INHIBITOR
T32	STORAGE TANK	750 GALL	DE–IONIZED WATER
T42	STORAGE TANK	200 GALL	WATER CLARIFIER
T43	STORAGE TANK	200 GALL	IRON SULFIDE REMOVER
T44	STORAGE TANK	1000 GALL	HYDRAULIC LUBRICANT–SHELL TELLUS
T45	STORAGE TANK	200 GALL	CORROSION INHIBITOR
T46	STORAGE TANK	1100 GALL	DIETHANOLAMINE
V1	F.W. KNOCKOUT DRUM	500 BBL	CRUDE OIL 25% GAS 5%
V4–V6	TEST SEPARATORS	20 BBL EA	PRODUCED WATER 70%
V7	VAPOR COMPRESSOR	N/A	NATURAL GAS
V8	GLYCOL REGENERATOR	50 GALL	TRI–ETHYLENE GLYCOL–OUT OF SERVICE
V9	GLYCOL SCRUBBER	50 GALL	OUT OF SERVICE
V10	HP SCRUBBER	N/A	NATURAL GAS
V11	SUCTION SCRUBBER	N/A	NATURAL GAS
CYL–1	CYLINDER	560 CU FT	COMPRESSED METHANE
CYL–2	CYLINDER	560 CU FT	COMPRESSED HELIUM
V15	AIR COMPRESSOR TANKS	N/A	AIR
V17	SALES GAS SCRUBBER	N/A	NATURAL GAS
V61	SWEET GAS KOP	N/A	OUT OF SERVICE
V65	3RD STG DISCH SCRUB	N/A	NATURAL GAS
V66	PSA INLET SCRUBBER	N/A	NATURAL GAS
V67	GAS SCRUBBER	N/A	NATURAL GAS
V70–V75	PSA ABSORBERS	N/A	NATURAL GAS
V80	COLD SEPARATOR	N/A	NATURAL GAS
V81	STABILIZER	N/A	NATURAL GAS
V85	SEPARATOR	N/A	NATURAL GAS
V86–V89	REFRIGERANT SKID VESSELS	N/A	FREON
V90	FUEL GAS SCRUBBER	N/A	NATURAL GAS
V91	NGL TANK	N/A	LIQUEFIED NATURAL GAS
V95	SCRUBBER	N/A	NATURAL GAS
V96	SCRUBBER	N/A	NATURAL GAS

VICINITY MAP

0 500 1000

SCALE IN FEET

LEGEND

FH	FIRE HYDRANT
FE	FIRE EXTINGUISHER
FHR	FIRE HOSE REEL
FN	FIRE NOZZLE
A	ACCESS DOORWAY
FC	FIRE CONNECTION
	EYE WASH SHOWER
	EYE WASH STATION
	EMERGENCY SHUT DOWN SWITCHES

MURPHY SITE

A	2/2/2026	LABEL VESSELS 85 & 86–89
A	12/8/25	ADD PROPANE BOTTLE LOCATION
A	1/22/24	UPDATED EQUIPMENT LOCATION & LIST
A	1/10/23	UPDATED EQUIPMENT LOCATION & LIST

Emergency Phone: (800) 926–6370 (24 HRS)

E&B Natural Resources
1608 Norris Road
Bakersfield, CA 93308
Tel. (714) 968-4770

MURPHY DRILLSITE
2126 W. ADAMS BLVD, LOS ANGELES, CA 90018
Office 323-732-6153 Operator 323-816-1528
PLOT PLAN

SCALE: APPROX. (USE SCALE BAR)

DWG NO. PMP-M-GAS-2020

CMN | SH NO. 1 | REV. NO. A

Tables

TABLE 1
COMPLIANCE WITH CITY ORDINANCES AND LEASES
2126 WEST ADAMS BOULEVARD
LOS ANGELES, CALIFORNIA

E&B is compliant with all applicable Los Angeles City ordinances as outlined in the following table:		
Condition	**Description**	**Compliance**
ZA Case No. 1959-15227-O-PA6-1A Condition 1; CEQA – ENV-2021-7445-CE	Prior to any clearance on a building permit per Condition No. 23, a revised plot plan shall be provided showing the current production equipment locations on-site. Plot plan shall provide a detailed description and inventory of production equipment, such as tanks, vessels, compressors, scrubbers, separators, micro-turbines, etc.	In compliance. There are no plans for new building(s) on the site. E&B also has all the documents required.
ZA Case No. 1959-15227-O-PA6-1A Condition 2; CEQA – ENV-2021-7445-CE	All terms and conditions specified under extant ZA Case No. 15227, dated April 5, 1961, shall be strictly complied with, except as modified/clarified as follows:	In compliance. The wells were drilled many years ago and appear to have been strictly complied to.
ZA Case No. 1959-15227-O-PA6-1A Condition 3; CEQA – ENV-2021-7445-CE	All the conditions set forth in Section 13.01-E, 2 as well as Condition Nos. 3, 4, 5, 8, 9, 17, 18, 19, 22, 23, 33, 37, 40, 50, 54, 58, and 59 of Subsection F of Section 13.01 of the Municipal Code are included in and by reference made a part of this approval and shall be complied with to the same extent as if herein restated in detail.	In compliance.
ZA Case No. 1959-15227-O-PA6-1A Condition 4; CEQA – ENV-2021-7445-CE	That driveway access for ingress and egress to the drilling site shall be provided through the existing driveways fronting on Adams Boulevard. Furthermore, that the existing parking area on the enclosed drilling site area for use by vehicles employed in drilling and maintaining of oil wells on the property and for parking of automobiles of employees engaged in the drilling and production activities shall be augmented by additional parking on the area on the East of the drill site, outside of the enclosed area, which area shall be levelled and covered with a gravel surface to approximately one-half the depth of the lot for use as additional parking for employees. Parking on the east side of the drill-site, outside of the enclosed area, shall not be used for heavy trucking operations or staging or storage of any. All such driveways and parking areas shall be regularly washed down, swept or otherwise kept free of accumulated cement, dust, or other materials which would produce dust in the use of said facilities. There shall be no access to the site from 27th Street except for maintenance of the landscaped area fronting on 27th Street and south of the wall separating the landscaped area from the production site. Additionally, there shall be no parking of any vehicles by workers or equipment servicing the site on 27th Street. Except for access by SoCalGas Company to service or operate its equipment, any access for the maintenance of any infrastructure for the production site.	In compliance at the time of the site visit.
ZA Case No. 1959-15227-O-PA6-1A Condition 6; CEQA – ENV-2021-7445-CE	As further amplification of Condition No. 49 of Section 13.01-F of the Municipal Code, except for actual drilling and production operations, which may be conducted 24 hours a day, seven days a week, no work shall be conducted on the property between the hours of 7:00 p.m. of one day and 7:00 a.m. of the following day or on Sundays. While actual drilling operations are being conducted between the hours of 7:00 p.m. and 7:00 a.m., the applicant shall operate its facility in “Quiet Mode”. “Quiet Mode” shall mean that where possible, operation components shall be covered with acoustical shields/material, that all audible backup alarms shall be disabled and replaced with a spotter for safety purposes; operation of the cellar pump shall cease; the applicant's employees and contractors shall be prohibited from yelling, and the Derrick Man and Driller shall communicate by walkie-talkie only when the Derrick Man is on the derrick; no horns shall be used to signal for time for connection or to summon crew (except that a horn may be used for emergency purposes only). The applicant shall conduct on-site meetings to inform all personnel of quiet mode operations. In case of an emergency, all restrictions on the hours of operations shall be suspended for as long as is necessary to resolve the emergency situation, and for no longer.	In compliance. No drilling or workover rigs were onsite during visit. E&B responds timely and thoroughly to any concerns raised by the community.
	Notwithstanding the foregoing, during the period necessary to set up and move the drilling or workover rig off the premises, and to conduct drilling or re-drilling operations as herein authorized, heavy ("permitted” oversized/overweight load) truck deliveries shall be permitted from 7:00 a.m. to 9:30 p.m., on week-days and none during week-ends and holidays. Deliveries shall be made by approaching the facility off of Adams Boulevard exclusively. Delivery trucks are to be staged offsite so as to reduce the time that trucks need to wait to enter the facility. If there is not sufficient room within the interior of the facility to accommodate a given heavy delivery truck, the applicant shall not call for the delivery of such heavy truck unless and until another heavy delivery truck parked within the facility is scheduled to leave the facility within 15 minutes. The maximum number of heavy truck deliveries allowed for moving the drilling rig on and off the premises shall not exceed20 loads per day for a period of four days. Except for the four days required to move the drilling rig on and off the premises, the number of “permitted” truck deliveries per day (week-days only, none on week-ends and holidays) shall be limited to a maximum of ten. The number of "non-permitted" truck deliveries per day (week-days only) shall be limited to a maximum of ten. The number of "non-permitted” truck deliveries per day (week-ends and holidays only) shall be limited to a maximum of five.	

TABLE 1
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2126 WEST ADAMS BOULEVARD
LOS ANGELES, CALIFORNIA

E&B is compliant with all applicable Los Angeles City ordinances as outlined in the following table:		
	The applicant shall give all abutting property owners written notice (in both English and Spanish), served by mail at least seven days prior to the dates when heavy truck traffic will commence related to moving the rig in for the drilling or re-drilling of wells. The operator shall also provide a landing page on a publicly available website where interested parties can sign up for email alerts as a supplemental effort for notification purposes. The operator shall provide the web address for the publicly accessible website within six (6) calendar months of the final determination of Case No. ZA-1959-15227-O-PA6. This information shall be posted on the website in the following languages that are the threshold languages, which are subject to change at any time, for a 1,500-foot radius of the Murphy Drill Site in Los Angeles County: English, Spanish, Korean, Simplified and Traditional Chinese, Arabic, Russian, Vietnamese, Tagalog.	
ZA Case No. 1959-15227-O-PA6-1A Condition 7; CEQA – ENV-2021-7445-CE	Until a permanent structure, set at a minimum of 30 feet in height to a maximum of 45 feet in height, is built enclosing the production area on four sides, in accordance with Condition No. 23, and, afterward for any portion of a workover, maintenance or drilling rig which exceeds 45 feet in height, the applicant shall install the following sound mitigation systems and implement administrative noise controls as follows: a) Erect a 30-foot high blanket sound wall on the west, south and east side of the any workover, maintenance or drilling rig at the Murphy drilling site (west, south and east side property line), with the layout and wall lengths determined after the drilling, workover or maintenance rig and equipment positioning has been established. Install the sound wall as close as possible to the drilling, workover or maintenance rig and associated equipment with no gaps or openings in the walls. The sound wall material should have a minimum STC rating of 25. Sound wall gates shall be installed with the same sound loss rating as the wall material and the gates shall be closed at all times except for material delivery or pick up. The sound wall shall not be maintained for more than 120continuous days. Should unforeseeable mechanical problems warrant the maintenance of the sound wall for a period exceeding the 120 continuous days, the applicant shall notify the Office of Zoning Administration and Council Office and inform the owners and occupants of surrounding property of the reasons for and estimated duration of the delay in the dismantlement of the wall. b) [Condition 7.b was deleted in Case No. ZA-1959-15227-O-PA4] c) To reduce sound from the drilling, workover or maintenance rig's sub-structure, acoustical blankets shall be hung from the exterior of the rig floor down to the ground, covering the open area of the rig sub-structure on the side of the rig facing the west property line until the completion of the minimum of 30 feet and maximum of 45 feet in height enclosure that shall be open to the sky. d) The stabbing platform on the rig's derrick shall be enclosed with STC-25 rated acoustical blankets. e) To mitigate the drilling, workover or maintenance rig draw works and brake noise level, sound damping acoustical material shall be installed and maintained during drilling activities. f) Position all ancillary noise generation equipment away from the nearest critical receptors when feasible and install temporary sound enclosures, where possible on all noise generation equipment and operations. g) Install vibration isolation pads on shaker units and provide low frequency designed sound absorption and barring panels adjacent to the shaker units. h) Implement Drill Site "quiet mode" operation procedures including limitation of material delivery schedules and other sound mitigation requirements.	In compliance. No drilling or workover activity at the time of the site visit.

TABLE 1
COMPLIANCE WITH CITY ORDINANCES AND LEASES
2126 WEST ADAMS BOULEVARD
LOS ANGELES, CALIFORNIA

E&B is compliant with all applicable Los Angeles City ordinances as outlined in the following table:		
	i) To ensure adequate sound mitigation has been installed, and to identify any unusual or unique noise problems, sound level measurement and testing shall be complete as the rig starts up operations. To verify and document sound level compliance, continuous sound level measurement and monitoring may be considered during all drilling, workover or maintenance activity to ensure adequate sound mitigation has been installed, and to identify any unusual or unique noise problems, sound level measurement and testing shall be complete as the rig starts up operations. To verify and document sound level compliance, continuous sound level measurement and monitoring shall be considered during all drilling, workover or maintenance activity. The operator shall make known through website communication the results of such measurement and monitoring.	
ZA Case No. 1959-15227-O-PA6-1A Condition 9; CEQA – ENV-2021-7445-CE	All drilling, workover or maintenance rigs and equipment shall be removed from the premises immediately after drilling is completed, sump holes filled and derricks removed within sixty dates after the completion of the work.	In compliance. No drilling or workover activity at the time of the site visit.
ZA Case No. 1959-15227-O-PA6-1A Condition 10; CEQA – ENV-2021-7445-CE	All oil drilling, production and maintenance operations shall be conducted in such a manner as to eliminate, as far as practicable, dust, noise, vibration and noxious odors and shall be in accordance with the best accepted practices incident to drilling for and production of oil, gas, and other hydrocarbon substances. Proven technological improvements in drilling, production and maintenance methods shall be adopted as they may become available, from time to time, if capable of reducing factors of nuisance and annoyance.	In compliance. The wells were drilled many years ago. Production activities are being monitored by high-end and reliable surveillance tools and advanced technology.
ZA Case No. 1959-15227-O-PA6-1A Condition 11; CEQA – ENV-2021-7445-CE	The operator shall permanently post at all of the site's entry gates (including those facing West Adams Boulevard and West 27th Street), the direct telephone number to the supervisor of the site at that time for residents to call and report any ongoing problem or odors. A call log shall be maintained including date and time of call and subject, and date and time of response and action. Said log shall be made available at the request of the Office of Zoning Administration. Signage shall include instructions to call 911, the SCAQMD or the operator's hotline number in case of noxious odors caused by the operation. Signage shall also include the company's publicly available website where more information about activities are made available. Signage shall be translated and posted in the following languages that are the threshold languages, which are subject to change at any time, for a 1,500-foot radius of the Murphy Drill Site in Los Angeles County: English, Spanish, Korean, Simplified and Traditional Chinese, Arabic, Russian, Vietnamese, Tagalog.	In compliance. Signs meet conditions.
ZA Case No. 1959-15227-O-PA6-1A Condition 12; CEQA – ENV-2021-7445-CE	The applicant shall conduct daily inspections of the premises, including the exterior of the concrete block wall and the open areas on the east side of the premises and the south side, facing 27th Street. All trash and debris shall be removed from the site daily.	In compliance.
ZA Case No. 1959-15227-O-PA6-1A Condition 13; CEQA – ENV-2021-7445-CE	All graffiti on the site shall be removed or painted over to match the color of the surface to which it is applied within 24 hours of its occurrence.	No graffiti observed during site visit.
ZA Case No. 1959-15227-O-PA6-1A Condition 14; CEQA – ENV-2021-7445-CE	The authorized use shall be conducted at all times with due regard for the character of the surrounding district, and the right is reserved to the Zoning Administrator to impose additional corrective conditions, if, in the opinion of the Zoning Administrator, such conditions are proven necessary for the protection of persons in the neighborhood or occupants of adjacent property.	No negative issues observed.
ZA Case No. 1959-15227-O-PA6-1A Condition 15; CEQA – ENV-2021-7445-CE	All lighting on the site shall be shielded and directed onto the site and no floodlighting shall be located so as to be seen directly from any adjacent residential area. Any new exterior lighting at the project site shall be located below the top of the surrounding containment structure and property line walls and shall be directed onto the site. Except as directed otherwise by the Office of Zoning Administration or other public agency, no lights shall be located on the enclosure structure above the height of the surrounding exterior and property line walls. These lights shall be placed and designed to minimize their impact on neighboring properties.	The site visit was during the daytime, so the lighting facilities were not observed in relation to the adjacent residential areas.
ZA Case No. 1959-15227-O-PA6-1A Condition 16; CEQA – ENV-2021-7445-CE	At any time during the period of validity of this grant, should documented evidence be submitted showing continued violation of any condition of this grant, resulting in an unreasonable level of disruption or interference with the peaceful enjoyment of the adjoining and neighboring properties, the Zoning Administrator reserves the right to require the applicant to review the applicant's compliance with and the effectiveness of these conditions.	*Acknowledged. SCS staff did not observe any unreasonable levels of disruption or interference with the peaceful use of neighboring properties. The microturbines produce a consistent, low decibel white noise that is not disruptive either inside or outside the site boundaries. E&B responds promptly and thoroughly to any community concerns. There was not a workover rig on location also.*

TABLE 1
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2126 WEST ADAMS BOULEVARD
LOS ANGELES, CALIFORNIA

E&B is compliant with all applicable Los Angeles City ordinances as outlined in the following table:		
ZA Case No. 1959-15227-O-PA6-1A Condition 17; CEQA – ENV-2021-7445-CE	As further required by Section 13.01-H and I or Section 12.23-C,4 of the Municipal Code, no maintenance shall be performed unless a determination has been made by the Zoning Administrator.	Acknowledged.
ZA Case No. 1959-15227-O-PA6-1A Condition 18; CEQA – ENV-2021-7445-CE	An Annual On-site Safety Inspection Report shall be performed by the applicant/operator and sent to the Petroleum Administrator and the Office of Zoning Administration, listing the inventory of equipment on site, any repair work, and / or maintenance done to keep the equipment in good operating condition at all times and any safety protocols of the responsible State, regional and City agencies. The first Annual Safety Inspection report shall be submitted within 45 days of the effective date of this action. All Annual Reports shall include a technology assessment report. The assessment report shall be collaboratively generated by the operator with input from environmental and petroleum engineering consultants and community stakeholders to identify better operating technologies, such as electric workover rigs.	*In compliance.* *This 2026 report is the On-site Safety Inspection Report for the Murphy Site. A technology assessment has been completed which now includes more information about electric powered rigs (Appendix H), microturbines, air emissions and sounds monitoring and buffering solutions.*
ZA Case No. 1959-15227-O-PA6-1A Condition 19; CEQA – ENV-2021-7445-CE	Within 90 days of the effective date of this action, the applicant shall install a fence line air monitoring system which presents real-time air monitoring data, along the fence line between the oil drilling and production facility and the community. The system shall be designed and installed to provide, as feasible, real-time data on-line via a website and provide quarterly reports to the SCAQMD, the Petroleum Administrator and the Office of Zoning Administration for up to three years from the effective date of this action. Monthly reports shall also be submitted to the Office of Zoning Administration via e-mail to planning.oildrilling@lacity.org. The fence line air monitoring system shall be designed to the satisfaction of the Petroleum Administrator and submitted to the Department of City Planning for inclusion in the case file prior to the upgrade of the existing fenceline monitoring system. The monitoring equipment shall continuously measure reactive organic compounds, hydrogen sulfide, and sulfur dioxide at the facility fence line.	*In compliance.* *Two Scentroid SL50 Scentinal advanced air quality and odour monitoring stations are installed and collecting real-time data via a secure web platform. One station is located along the northwest corner of the fence line, and the other along the southwest corner. SCS has validated both the real-time data and the exported data reports. E&B is coordinating with Scentroid to make this data publicly accessible through a website for community stakeholders to view and review.*
ZA Case No. 1959-15227-O-PA6-1A Condition 20; CEQA – ENV-2021-7445-CE	The applicant shall immediately notify the Los Angeles Fire Department, the Petroleum Administrator, the Office of Zoning Administration, the Department of Building and Safety and the local City Council office of an emergency, any incident, and/or spill that requires reporting to any State, County, or regional agency. In addition, the operator shall notify the Office of Zoning Administration's Oil Drilling Unit via email to planning.oildrilling@lacity.org within 24 hours whenever there is an emergency event that includes, but is not limited to: 911 calls for emergency services or CalOES hazardous event notifications. Operator staff can email planning.oildrilling@lacity.org for notifications.	Acknowledged.
ZA Case No. 1959-15227-O-PA6-1A Condition 21; CEQA – ENV-2021-7445-CE	The applicant shall create a landing page for the public on the company website with information on monthly reporting on noise and emission levels at the drill site, current and planned operations, emergency contact information, emergency reporting instructions, and, as feasible, real time fence line air monitoring data. The operator shall have this website completed and in operation within six calendar months of the effective date of this action and provide the website address information to planning.oildrilling@lacity.org to be included in the administrative record. This information shall be posted on the website in the following languages that are the threshold languages, which are subject to change at any time, for a 1,500-foot radius of the Murphy Drill Site in Los Angeles County: English, Spanish, Korean, Simplified and Traditional Chinese, Arabic, Russian, Vietnamese, Tagalog.	In compliance. The reporting is on-going and data can be found on the company's website.
ZA Case No. 1959-15227-O-PA6-1A Condition 22; CEQA – ENV-2021-7445-CE	The operator shall use the landing page on their website in order to notify the public when permitted and approved drilling, redrilling, deepening, plugging and abandonment and well maintenance activities will commence for any well(s) at the drill site. Notification shall be provided at least one calendar week prior to the anticipated start date of the project. This information shall be posted in languages that are the threshold languages for Los Angeles County, which are subject to change at any time. The following threshold languages found within a 1,500-foot radius of the Murphy Drill Site are the following: English, Spanish, Korean, Chinese (Simplified and Traditional), Arabic, Russian, Vietnamese, and Tagalog.	Acknowledged. No drilling, redrilling, deepening, plugging and abandonment operations are planned.
	Within 24 months of the effective date of this Case No. ZA-1959-15227-O-PA6-1A determination, completion of all required work shall be verified during the final inspection of the building permit and the building permit shall be finalized for a structure to be a minimum of 30 feet in height to a maximum of 45 feet in height that will enclose the oil production area of the site on all four sides.	

TABLE 1
COMPLIANCE WITH CITY ORDINANCES AND LEASES
2126 WEST ADAMS BOULEVARD
LOS ANGELES, CALIFORNIA

E&B is compliant with all applicable Los Angeles City ordinances as outlined in the following table:		
ZA Case No. 1959-15227-O-PA6-1A Condition 23; CEQA – ENV-2021-7445-CE	The structure shall be open to the sky with no roof. No oil, gas or other hydrocarbon substances may be produced from any well hereby permitted unless all equipment necessarily incident to such production is enclosed within the up to 45-foot in height structure. Plans for said enclosure need to be submitted to the Department of Building and Safety for all necessary reviews, including reviews by other departments, agencies, as appropriate, and building permits secured prior to any construction. This structure, for the oil production area, shall be of a permanent type, of attractive design and constructed in a manner that will minimize, as far as practicable, dust, noise, noxious odors and vibrations or other conditions which are offensive to the senses, and shall be equipped with such devices as are necessary to minimize the objectionable features mentioned above. The architectural treatment of the exterior of such structure shall be subject to issuance of a Certificate of Compatibility with the approval of the Director of Planning, or their designee, after a maximum of two hearings by the Jefferson Park Historic Preservation Overlay Zone's Historic Preservation Board (Jefferson Park HPOZ Board).	*In progress. Engineering design and construction plans are complete for the Murphy Sound Wall project in Los Angeles, detailing site layout, wall elevations, pile foundations, materials, and structural connections. The plans provide the technical specifications and drawings necessary for review, permitting, and construction of the sound wall system along the entirety of the Property. Most recent revision is from November 2025. Building permits are in process with LA City Department of Building & Safety. An estimated timeline for any construction to start and be completed is pending the City agency's response to the application.*
	If causes beyond the reasonable control of the operator, including, but not limited to, permitting delays, litigation, and administrative proceedings against the determination, the operator shall submit in writing a request to the Zoning Administrator with evidence of their good faith effort to complete the required work within a 24-month timeframe. It is at the Zoning Administrator's discretion to allow any extensions beyond 24 months. See Exhibit B for the area that shall be enclosed on all four sides. This area includes, but is not limited to: the well cellar, storage tanks, slop tank, compressors, and the microturbines.	
	a) Tanks and other equipment and buildings used in extraction and production activities shall be maintained on the site in such a manner that no portion of the tanks, equipment or buildings other than the upper portion of the rig shall extend above the height of the up to 45-foot permanent enclosure. In addition, no portions of the draw-works house, drilling equipment buildings, temporary mud and water storage tanks and future portable drilling mast used for servicing activities shall extend above the height of the up to 45-foot permanent enclosure. b) In addition, the workover, maintenance or drilling rigs that measure up to a height of 45 feet and the micro-turbines shall be within the up to 45-foot in height structure.	
	c) An enhanced vapor recovery system shall be attached to equipment such as the stock tanks, clarifiers, and other aboveground storage tanks in the oil production area. The vapor recovery recordings or report shall be submitted to the Office of Zoning Administration (via email to planning.oildrilling@lacity.org), the Petroleum Administrator, the State Fire Marshal, the California State Resources Board and the South Coast Air Quality Management District as required pursuant to city, county, state, and federal rules and regulations. d) It is the applicant's responsibility to act in a timely manner to submit a building permit application and comply with all rules and requirements in order to secure and final the building permit for the up to 45-foot in height structure. It is also the applicant's responsibility to act in a timely manner	

TABLE 1
COMPLIANCE WITH CITY ORDINANCES AND LEASES
2126 WEST ADAMS BOULEVARD
LOS ANGELES, CALIFORNIA

E&B is compliant with all applicable Los Angeles City ordinances as outlined in the following table:		
ZA Case No. 1959-15227-O-PA6-1A Condition 24; CEQA – ENV-2021-7445-CE	A Spill Prevention, Control and Countermeasure (SPCC) Plan shall be submitted via email to planning.oildrilling@lacity.org, annually. If any amendments are to be made, the operator shall submit the updated SPCC within six months of any new amendment(s). The updated document shall be submitted to the file to the satisfaction of the Bureau of Sanitation Watershed Protection Division, the Petroleum Administrator and the Office of Zoning Administration. This review shall include at a minimum, the following: ● Applicability of new prevention and control technology, which may significantly reduce the likelihood of a spill event from the Facility if such technology has been field proven at the time of the review;	*An existing SPCC Plan has been provided.*
	● Accuracy of the SPCC Plan as compared to the current facility operation and SPCC Regulations; ● Capacity and structural integrity of secondary containment structures; and ● SPCC inspections and records retention to ensure continuity for a minimum period of three years. ● The site shall be staffed 24 hours a day, seven days a week. There shall be a minimum of two operators per shift so that meal and other breaks do not result in the site being unoccupied by staff. ● The dispersal system for any required odor control product shall be placed as far as practicable from any adjacent residential structures to the site. The current location of the system shall be moved to a more remote location in the drill site, but away from any open flames or ignition sources.	
ZA Case No. 1959-15227-O-PA6-1A Condition 25; CEQA – ENV-2021-7445-CE	All drilling, workover, or maintenance rig operations at the site shall at all times be carried out with engines that are certified pursuant to the Environmental Protection Agency's Tier 4 Emissions Standards until electric workover rigs shall become commercially available for lease or purchase. Power may be generated on site by solar voltaic generates or natural gas powered microturbines placed within sound proofed and odor proofed buildings or structures. Refined natural gas from utility sources may be imported to power microturbines, but shall not be the primary source of microturbines energy cogeneration. Natural gas, produced as a byproduct from oil extraction, shall be the primary source for microturbines energy cogeneration.	*Acknowledged. No new drilling operations are planned. Additional detail regarding microturbines and electric workover rigs is provided in Appendix H and in Section 8, Technology Assessment, of this report.*
	All drilling, workover, or maintenance rig operations at the site shall at all times be carried on only by engines that are certified pursuant to the U.S. Environmental Protection Agency's (USEPA) Tier 4 Final emissions standards, or, if available, diesel engines with a higher emissions standard than Tier 4 Final, until electric powered workover rigs shall become commercially available for lease or purchase. Power may be generated on site by solar voltaic generators or natural gas powered micro-turbines placed within sound and odor proofed buildings or structures. Any methane used for the micro-turbines must come from methane produced as a byproduct from oil extraction. Refined natural gas may be imported to power microturbines from utility sources, but shall not be the primary source of microturbines energy cogeneration.	
ZA Case No. 1959-15227-O-PA6-1A Condition 26; CEQA – ENV-2021-7445-CE	The use of diesel fueled equipment, including any drilling, workover or maintenance rig, is permitted on the site as long as the equipment is equipped with engines that are certified pursuant to the U.S. Environmental Protection Agency's (USEPA) Tier 4 Final emissions standards or, if available, diesel engines with a higher emissions standard than Tier 4 Final, until electric workover rigs shall become commercially available for lease or purchase. Diesel powered vehicles are permitted on the site. Said vehicles, however, may not idle when on-site and must shut off their engines until they are to be moved off of the site or to another position on the site.	*In compliance. There is currently no drilling at the site. Electric workover rigs are not commercially available for lease or purchase at this time.Additional detail regarding electric workover rigs is provided in Appendix H and in Section 8, Technology Assessment, of this report.*
ZA Case No. 1959-15227-O-PA6-1A Condition 27; CEQA – ENV-2021-7445-CE	The operator shall remain in compliance with city, county, state and federal regulations specifically regulating idle wells, including CalGEM's Idle Well Program. The operator shall plug and abandon idle wells as required by and in accordance with any city, county, state and federal regulations.	*In compliance. 21 Active producers. 0 Idle. 3 Injectors. 3 P&A'd. Murphy 21 was P&A'd in December 2024 and received approval from CalGEM via a letter in August, 2025. Murphy 18 is Idle and the last production reported was in February 2023. E&B actively maintains the Idle Well Management Plan per regulatory requirements.*

TABLE 1
COMPLIANCE WITH CITY ORDINANCES AND LEASES
2126 WEST ADAMS BOULEVARD
LOS ANGELES, CALIFORNIA

E&B is compliant with all applicable Los Angeles City ordinances as outlined in the following table:		
ZA Case No. 1959-15227-O-PA6-1A Condition 28; CEQA – ENV-2021-7445-CE	Monitoring Program. The following measures shall be utilized by the operator to maintain regular and assured oversight of the well site in a residential neighborhood. a) The operator shall install an early alert detection system which will alert the Los Angeles City Fire Department (LAFD) of hydrogen sulfide and methane leaks. A protocol for the construction, installation and operation of the system shall be established to the satisfaction of the LAFD and CalGEM within 90 days of the effective date of this Determination letter and submitted to the Office of Zoning Administration for placement in the case file. Such system shall remain in operation during the lifetime of the drill site operation.	Acknowledged.
	b) The operator shall install a state-of-the-art fire suppression system which shall use, but not be limited to, more effective fire suppressants such as foam. The system shall be constructed to the satisfaction of the LAFD; with the clearance from the LAFD for its design. c) The operator shall formally arrange with the LAFD Oil Wells Unit and the LAFD CUPA Program, for annual monitoring of the operation at the subject site, including but not limited to inspection of the systems described above. Copies of all monitoring inspection reports shall be filed with the Office of Zoning Administration and the Petroleum Administrator.	
Condition 29; CEQA – ENV-2021-7445-CE	The operator, in the event of ceasing and/or decommissioning the drill site, shall test for potential hydrocarbon contamination in specific areas. The operator, or responsible party, shall test for soil data under the well cellar and tank battery area of the drill site. If contamination is found to be present then the area shall be remediated according to the standards and satisfaction of the Los Angeles Regional Water Quality Control Board. All excavations and depressions shall be filled with clean soil. All oil, refuse and waste shall be removed from the drill site pursuant to city, county, state and federal laws and regulations. The operator, or responsible party, shall remove all underground and above-ground storage tanks in accordance with city, county, state and federal laws and regulations.	Acknowledged.
ZA Case No. 1959-15227-O-PA6-1A Condition 30; CEQA – ENV-2021-7445-CE	All production installations or facilities shall be removed and the premises restored to its original condition after all oil and gas wells have been abandoned in accordance with city, county, state, and federal regulations.	Acknowledged.
ZA Case No. 1959-15227-O-PA6-1A Condition 31; CEQA – ENV-2021-7445-CE	The operator shall record a covenant acknowledging and agreeing to comply with all the terms and conditions established herein shall be recorded in the County Recorder's Office. The agreement (standard main covenant and agreement form CP-6770) shall run with the land and shall be binding on any subsequent owners, heirs or assigns. The agreement with the conditions attached must be submitted to the Department of City Planning for approval before being recorded. After recordation, a certified copy bearing the Recorder's number and date shall be provided for inclusion in case file.	Acknowledged and corresponding documentation has been submitted to the city.
ZA Case No. 1959-15227-O-PA6-1A Condition 32; CEQA – ENV-2021-7445-CE	When a Condition of ZA-1959-15227-O-PA6 conflicts with Los Angeles Municipal Code Section 12.23-C,4, as recently adopted by Ordinance No. 187,709, and effective on January 18, 2023, Section 12.23-C,4 shall supersede on matters regarding the drilling of new wells or the redrilling of existing wells to increase extraction. All other conditions in ZA-1959-15227-O-PA6 shall remain in effect.	Acknowledged.

TABLE 1
COMPLIANCE WITH CITY ORDINANCES AND LEASES
2126 WEST ADAMS BOULEVARD
LOS ANGELES, CALIFORNIA

E&B is compliant with all applicable Los Angeles City ordinances as outlined in the following table:		
ZA Case No. 1959-15227-O-PA6-1A Condition 33; CEQA – ENV-2021-7445-CE	Indemnification and Reimbursement of Litigation Costs. Applicant shall do all of the following: i. Defend, indemnify and hold harmless the City from any and all actions against the City relating to or arising out of the City's processing and approval of this entitlement, including but not limited to, an action to attack, challenge, set aside, void, or otherwise modify or annul the approval of the entitlement, the environmental review of the entitlement, or the approval of subsequent permit decisions, or to claim personal property damage, including from inverse condemnation or any other constitutional claim.	Acknowledged.
	ii. Reimburse the City for any and all costs incurred in defense of an action related to or arising out of the City's processing and approval of the entitlement, including but not limited to payment of all court costs and attorney's fees, costs of any judgments or awards against the City (including an award of attorney's fees), damages, and/or settlement costs.	
	iii. Submit an initial deposit for the City's litigation costs to the City within 10 days' notice of the City tendering defense to the Applicant and requesting a deposit. The initial deposit shall be in an amount set by the City Attorney's Office, in its sole discretion, based on the nature and scope of action, but in no event shall the initial deposit be less than $50,000. The City's failure to notice or collect the deposit does not relieve the Applicant from responsibility to reimburse the City pursuant to the requirement in paragraph (ii). iv. Submit supplemental deposits upon notice by the City. Supplemental deposits may be required in an increased amount from the initial deposit if found necessary by the City to protect the City's interests. The City's failure to notice or collect the deposit does not relieve the Applicant from responsibility to reimburse the City pursuant to the requirement in paragraph (ii). v. If the City determines it necessary to protect the City's interest, execute an indemnity and reimbursement agreement with the City under terms consistent with the requirements of this condition.	

TABLE 2
MURPHY PRODUCTION SITE WELL LIST
2126 WEST ADAMS BOULEVARD
LOS ANGELES, CALIFORNIA

Well Name	API	Status	LAFD Permit #	Major Repairs or Modifications	Visual Observation
Murphy-1	0403700369	Active Producer	0002621899-0004-4	None	No concerns based on visual inspection
Murphy-2	0403700370	Injector - Waterflood	000262 1899-0005-2	None	No concerns based on visual inspection
Murphy-3	0403700371	Active Producer	000 26 21899-0006-1	None	No concerns based on visual inspection
Murphy-4	0403700372	Active Producer	0002621899-0009-7	None	No concerns based on visual inspection
Murphy-5	0403700373	Active Producer	000 26 21899-0008-7	None	No concerns based on visual inspection
Murphy-6	0403700374	Active Producer	0002621899-0009-5	None	No concerns based on visual inspection
Murphy-7	0403700375	Active Producer	0002621899-0010-9	None	No concerns based on visual inspection
Murphy-8	0403700376	Plugged and abandoned			
Murphy-9	0403700377	Injector - Waterflood	000 26 21899-0011-7	None	No concerns based on visual inspection
Murphy-10	0403700291	Injector - Waterflood	0002621899-0012-5	None	No concerns based on visual inspection
Murphy-11	0403700378	Active Producer	0002621899-0013-3	None	No concerns based on visual inspection
Murphy-12	0403700379	Active Producer	0002621899-0014-1	None	No concerns based on visual inspection
Murphy-13	0403700380	Active Producer	0002621899 -0015-0	None	No concerns based on visual inspection
Murphy-14	0403700381	Active Producer	0002621899 -0016-8	None	No concerns based on visual inspection
Murphy-15	0403700382	Plugged and Abandoned			
Murphy-16	0403700383	Active Producer	0002621899-0016-7	None	No concerns based on visual inspection
Murphy-17	0403700384	Active Producer	0002621 899-0018-4	None	No concerns based on visual inspection
Murphy-18	0403700385	Active Producer	000 2621899-0019-2	None	No concerns based on visual inspection
Murphy-19	0403700322	Active Producer	0002621899-0020-6	None	No concerns based on visual inspection
Murphy-20	0403720954	Injector - Waterflood	0002621899-0021-4	None	No concerns based on visual inspection
Murphy-21	0403720955	Plugged and Abandoned			
Murphy-22	0403721072	Active Producer	0002621 B99-0023-1	None	No concerns based on visual inspection
Murphy-23	0403720967	Active Producer	0002 621899-0024-9	None	No concerns based on visual inspection
Murphy-24	0403721221	Active Producer	0002621899-0025-7	None	No concerns based on visual inspection
Murphy-25	0403721222	Injector - Waterflood	0002621899-0026-5	None	No concerns based on visual inspection
Murphy-26	0403721223	Active Producer	0002621899-0023-7	None	No concerns based on visual inspection
Murphy-27	0403721224	Injector - Waterflood	0002621899-0028-1	None	No concerns based on visual inspection
Murphy-28	0403726956	Active Producer	000 26 21899-0029-0	None	No concerns based on visual inspection
Murphy-30	0403726957	Injector - Waterflood	000 26 21899-0030-3	None	No concerns based on visual inspection
Murphy-31	0403727007	Active Producer	0002621899-0031-1	None	No concerns based on visual inspection
Murphy-33	0403730170	Active Producer	0002621899-0032-0	None	No concerns based on visual inspection
Murphy-37	0403730129	Injector - Waterflood	0002621899-0033-8	None	No concerns based on visual inspection

TABLE 3
MURPHY PRODUCTION SITE VESSEL LIST
2126 WEST ADAMS BOULEVARD
LOS ANGELES, CALIFORNIA

Designation	Description	AQMD Permit	Major Repairs or Modifications	Visual Observation
V-1 FWKO	Free Water Knockout – Oil/Water/Gas	G59305 A/N 616597	None	No concerns based on visual inspection
V-4 to V-6 Testers	Oil/Water/Gas	G59305 A/N 616597	None	No concerns based on visual inspection
V-7	Vapor compressor – natural gas		None	No concerns based on visual inspection
V-8	Glycol regenerator – Tri- ethylene glycol		None	OUT OF SERVICE
V-9	Glycol scrubber			OUT OF SERVICE
V-10	HP scrubber – natural gas		None	No concerns based on visual inspection
V-11	Suction scrubber – natural gas		None	No concerns based on visual inspection
CYL-1	Cylinder – compressed methane		None	No concerns based on visual inspection
CYL-2	Cylinder – compressed helium		None	No concerns based on visual inspection
V-15	Air compressor tank(s)		None	No concerns based on visual inspection
V-17	Sales gas scrubber – natural gas		None	No concerns based on visual inspection
V-61	Sweet gas KOP – natural gas		None	OUT OF SERVICE
V-65	3rd Stage discharge scrubber – natural gas		None	No concerns based on visual inspection
V-66	PSA inlet scrubber– natural gas		None	No concerns based on visual inspection
V-67	Gas scrubber – natural gas		None	No concerns based on visual inspection
V-70 to V-75	PSA absorbers – natural gas		None	No concerns based on visual inspection
V-80	Cold separator – natural gas		None	No concerns based on visual inspection
V-81	Stabilizer & reboiler – natural gas		None	No concerns based on visual inspection
V-85	Separator – natural gas		None	No concerns based on visual inspection
V-86 to V-89	Refrigerant skid vessels – Freon		None	No concerns based on visual inspection
V-90	Fuel gas scrubber – natural gas		None	No concerns based on visual inspection
V-91	NGL tan – liquified natural gas		None	No concerns based on visual inspection
V-95 & 96	Scrubber – natural gas		None	No concerns based on visual inspection

TABLE 4
MURPHY PRODUCTION SITE TANK LIST
2126 WEST ADAMS BOULEVARD
LOS ANGELES, CALIFORNIA

Designation	Status	Description	Container Capacity (bbls or gal)	AQMD Permit	Major Repairs or Modifications	Visual Observation
T-1	Active	CRUDE OIL 20-80" NAT. GAS	500	G59305 A/N 616597	None	No concerns based on visual inspection
T-2	Active	PRODUCED WATER 99" CRUDE OIL 1"	1000	G59305 A/N 616597	None	No concerns based on visual inspection
T-3	Active	PRODUCED WATER 99" CRUDE OIL 1"	250	G59305 A/N 616597	None	No concerns based on visual inspection
T-4	Active	LUBRICANT OIL	300		None	No concerns based on visual inspection
T-5	Active	SLOP TANK	100		None	OUT OF SERVICE
T-6	Active	DEGREASER	500 gal		None	No concerns based on visual inspection
T-7	Active	LUBE OIL	300 gal		None	No concerns based on visual inspection
T-8	Active	SULFURIC ACID	60 gal		None	No concerns based on visual inspection
T-10	Active	MERCAPTAN ODORANT (S.C. GAS CO)	150 gal		None	No concerns based on visual inspection
T-14 & T-15	Active	ETHYLENE GLYCOL	290 gal		None	No concerns based on visual inspection
T-16	Active	AW-220 LUBE OIL	550 gal		None	No concerns based on visual inspection
T-17	Active	ODOR CONTROL	120 gal	G59305 A/N 616597	None	No concerns based on visual inspection
T-18	Active	OXYGEN SCANVENGER	200 gal		None	No concerns based on visual inspection
T-19	Active	BIOCIDE	200 gal		None	No concerns based on visual inspection
T-20	Active	CORROSION INHIBITOR	120 gal		None	No concerns based on visual inspection
T-21	Active	WATER CLARIFIER	200 gal		None	No concerns based on visual inspection
T-23	Active	DEMULSIFIER	120 gal		None	No concerns based on visual inspection
T-25	Active	GAS CLEANER	120 gal		None	No concerns based on visual inspection
T-32	Active	DE-IONIZED WATER	750 gal		None	No concerns based on visual inspection
T-42	Active	WATER CALRIFIER	200 gal		None	No concerns based on visual inspection
T-43	Active	IRON SULFIDE REMOVER	200 gal		None	No concerns based on visual inspection
T-44	Active	HYDRAULIC LUBRICANT-SHELL TELLUS	1,000 gal		None	No concerns based on visual inspection
T-45	Active	CORROSION INHIBITOR	200 gal		None	No concerns based on visual inspection
T-46	Active	DIETHANILAMINE	1,100 gal		None	No concerns based on visual inspection
T-26	Active	CORROSION INHIBITOR WELL TREATMENT	200 gal		None	No concerns based on visual inspection
T-27	Active	CORROSION INHIBITOR WELL TREATMENT	200 gal		None	No concerns based on visual inspection

TABLE 5
MURPHY PRODUCTION SITE MICROTURBINES LIST
2126 WEST ADAMS BOULEVARD
LOS ANGELES, CALIFORNIA

Designation	Description	Serial No.	LADBS Permit #	Major Repairs or Modifications	Visual Observation
C-65 (two units onsite)	Capstone – 65R- SG4-BU00	9345	N/A	None	No concerns based on visual inspection.
C-200 (three units onsite)	Capstone – C200S-HG4- BU00	10390-B	N/A	None	No concerns based on visual inspection

Appendix A

Photo Log



Photo 1 – Overview Map



Photo 2 – West Main Gate Entrance



Photo 3 – East Main Gate Entrance

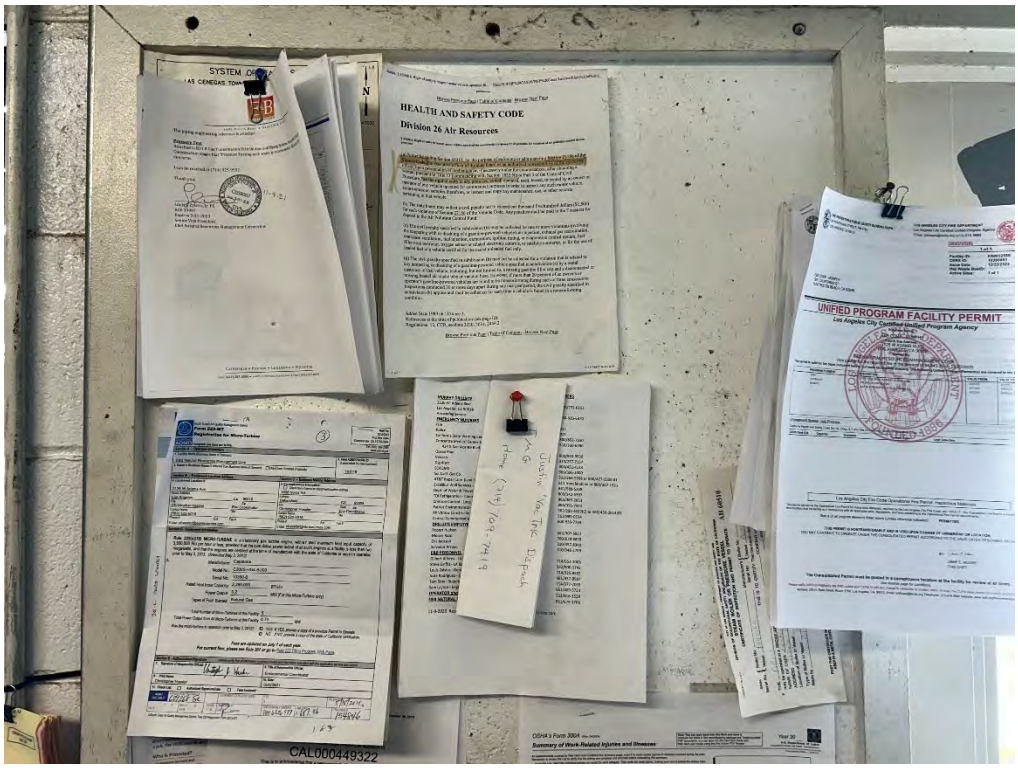


Photo 4 – Permits displayed in the Main Office



Photo 5 – A.T.M. Tank and associated piping



Photo 6 – Well Cellar



Photo 7 – Facility Overview



Photo 8 – Pipeline Overview



Photo 9 – Outside C600S Capstone microturbine permitted to operate per AQMD.



Photo 10 – Breaker box, Panels, and Air monitoring device



Photo 11 – Sound wall behind entrance to Well Cellar



Photo 12 – Alarm equipment – Air quality and odor monitoring station/system which allows live monitoring of emissions.



Photo 13 – 500-barrel capacity Baker tanks, BT-1 and BT-2, which store water and assist to control rainwater on the property during the rainy season. Tanks are properly labelled and comply with all safety requirements.



Photo 14 – LTS Stabilizer



Photo 15 – T-5 100 bbl. Tank is Out of Service as marked in center.



Photo 16 – Additional documentation displayed in site office with proper procedures and regulatory plans on shelf below.



Photo 17 – Signage displayed for public awareness in different languages for the surrounding community.



Photo 18 – View of northern wall from Site exterior.



Photo 19 – View of southern wall from Site exterior



Photo 20 – View of eastern wall from Site exterior

Appendix B

South Coast Air Quality Management District (SCAQMD) Forms

17. AMINE PUMP, HYDROSEL MODEL 25-H, WITH A 7 HP MOTOR.

18. AMINE PUMP (SPARE), HYDROSEL MODEL 25-H, WITH A 7 HP MOTOR.

19. IRON SPONGE/CO2 SCRUBBER, UO-405C, 3' DIA. X 8' H.

Conditions :

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.

3. THE OPERATOR SHALL COMPLY WITH THE APPLICABLE REQUIREMENTS OF RULE 431.1.

4. THE OPERATOR SHALL COMPLY WITH THE NOX AND CO EMISSION LIMITS OF RULE 1146.2 AND PERFORM MAINTENANCE IN ACCORDANCE WITH THE MANUFACTURER'S SCHEDULE AND SPECIFICATIONS.

5. ALL REQUIRED INSPECTION, MAINTENANCE AND REPAIR RECORDS SHALL BE MAINTAINED IN A FORMAT APPROVED BY THE EXECUTIVE OFFICER, KEPT ON FILE FOR A MINIMUM PERIOD OF TWO YEARS, AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.

NOTICE

In accordance with Rule 206, this Permit to Operate or copy shall be posted on or within 8 meters of the equipment.

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26 of the Health and Safety Code of the State of California or the applicable Rules and Regulations of the South Coast Air Quality Management District (SCAQMD). This permit cannot be considered as permission to violate existing laws, ordinances, regulations or statutes of other government agencies.

Executive Officer

Amir Dejbakhsh

BY AMIR DEJBAKHSH/LK04
10/25/2019

ORIGINAL

South Coast Air Quality Management District

Form 222-MT
Registration for Micro-Turbine

South Coast AQMD

Complete one form per equipment.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator): E&B Natural Resources Management Corp

2. Valid AQMD Facility ID (Leave blank if a new business): 191119

3. Owner's Business Name (If different from Business Name of Operator): ☐ Check here if change of operator

Section B - Equipment Location Address

4. Equipment Location Is:

2126 W Adams Blvd
Street Address

Los Angeles, CA 90018
City Zip

Christopher Hassler — Env Coordinator
Contact Name Title

(562) 522-5016 — — —
Phone # Ext. Fax #

E-Mail: chassler@ebresources.com

Section C - Business Mailing Address

5. Correspondence Information:
☐ Check here if same as equipment location address

249 E Ocean Blvd, Suite 900
Address

Long Beach, CA 90802
City State Zip

Christopher Hassler — Env Coordinator
Contact Name Title

(562) 522-5016 — —
Phone # Ext. Fax #

E-Mail: chassler@ebresources.com

Section D - Equipment Information

Rule 222(c)(18) MICRO-TURBINE is a stationary gas turbine engine, with a rated maximum heat input capacity of 3,500,000 Btu per hour or less, provided that the cumulative power output of all such engines at a facility is less than two megawatts, and that the engines are certified at the time of manufacture with the state of California or were in operation prior to May 3, 2013. *(Amended May 3, 2013)*

6.

Manufacturer: Capstone

Model No.: 65R-SG4-BU00

Serial No.: 9120

Rated Heat Input Capacity: 842,000 BTU/hr

Power Output: 0.065 MW (For this Micro-Turbine only)

Types of Fuel Burned: Natural Gas

Total Number of Micro-Turbines at this Facility: 2

Total Power Output from All Micro-Turbines at this Facility: 0.13 MW

Was the micro-turbine in operation prior to May 3, 2013?
○ YES *If YES, provide a copy of a previous Permit to Operate.*
◉ NO *If NO, provide a copy of the state of California certification.*

Fees are updated on July 1 of each year.
For current fees, please see Rule 301 or go to Rule 222 Filing Program Web Page.

Section E - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

7. Signature of Responsible Official:

8. Title of Responsible Official: Environmental Coordinator

9. Print Name: Christopher Hassler

10. Date: 02/06/2020

11. Check List: ☐ Authorized Signature/Date ☐ Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING #		EQUIPMENT CATEGORY CODE:	FEE $	VALIDATION
DATE A R	ENG.A R DATE	CLASS I III	ASSIGNMENT Unit Engineer	CHECK/MONEY ORDER #	AMOUNT $	TRACKING #

South Coast Air Quality Management District

Form 222-MT
Registration for Micro-Turbine

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

Complete one form per equipment.

Section A - Operator Information

1. **Facility Name** (Business Name of Operator): E&B Natural Resources Management Corp

2. **Valid AQMD Facility ID** (Leave blank if a new business): 191119

3. **Owner's Business Name** (If different from Business Name of Operator): ☐ Check here if change of operator

Section B - Equipment Location Address

4. Equipment Location Is:

2126 W Adams Blvd
Street Address

Los Angeles , CA 90018
City Zip

Christopher Hassler — Env Coordinator
Contact Name — Title

(562) 522-5016 — — —
Phone # — Ext. — Fax #

E-Mail: chassler@ebresources.com

Section C - Business Mailing Address

5. Correspondence Information:
☐ Check here if same as equipment location address

249 E Ocean Blvd, Suite 900
Address

Long Beach , CA 90802
City State Zip

Christopher Hassler — Env Coordinator
Contact Name — Title

(562) 522-5016 — — —
Phone # — Ext. — Fax #

E-Mail: chassler@ebresources.com

Section D - Equipment Information

Rule 222(c)(18) MICRO-TURBINE is a stationary gas turbine engine, with a rated maximum heat input capacity of 3,500,000 Btu per hour or less, provided that the cumulative power output of all such engines at a facility is less than two megawatts, and that the engines are certified at the time of manufacture with the state of California or were in operation prior to May 3, 2013. *(Amended May 3, 2013)*

6.

Manufacturer: Capstone

Model No.: 65R-SG4-BU00

Serial No.: 9345

Rated Heat Input Capacity: 842,000 BTU/hr

Power Output: 0.065 MW (For this Micro-Turbine only)

Types of Fuel Burned: Natural Gas

Total Number of Micro-Turbines at this Facility: 2

Total Power Output from All Micro-Turbines at this Facility: 0.13 MW

Was the micro-turbine in operation prior to May 3, 2013?
- ○ YES *If YES, provide a copy of a previous Permit to Operate.*
- ◉ NO *If NO, provide a copy of the state of California certification.*

Fees are updated on July 1 of each year.
For current fees, please see Rule 301 or go to Rule 222 Filing Program Web Page.

Section E - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

7. Signature of Responsible Official:

8. Title of Responsible Official: Environmental Coordinator

9. Print Name: Christopher Hassler

10. Date: 02/06/2020

11. Check List: ☐ Authorized Signature/Date ☐ Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING #		EQUIPMENT CATEGORY CODE:	FEE $		VALIDATION
DATE A R	ENG.A R DATE	CLASS I III	ASSIGNMENT Unit Engineer	CHECK/MONEY ORDER #	AMOUNT $	TRACKING #

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

Application No.
629268

E&B Natural Resources Management Corp.
2126 W. Adams Blvd.
Los Angeles, CA 90018

Facility ID # 191119

Operating Parameters for Rule 222

Micro-Turbine

Retain these operating parameters and your filing receipt on site.

1. Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this filing is issued unless otherwise noted below.

2. This equipment shall be properly maintained and kept in good operating condition at all times.

3. An identification tag or nameplate shall be displayed on the equipment to show the manufacturer, model number, serial number, rated maximum heat input capacity, and power output of the equipment. The tag or nameplate shall be affixed to the equipment in a permanent and conspicuous position.

4. This equipment shall be fired with gaseous fuel only.

5. The maximum rated heat input capacity of each gas turbine shall not exceed 3,500,000 Btu per hour and the cumulative power output of all such gas turbines at this facility shall be less than two megawatts.

6. Each gas turbine that is in operation on or after May 3, 2013 shall be certified with the State of California at the time of manufacture. Records of each applicable certification and date of each gas turbine initial operation shall be retained and shall be made available to the Executive Officer or representative upon request.

South Coast Air Quality Management District

Form 222-MT
Registration for Micro-Turbine

(3)

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

South Coast AQMD

Complete one form per facility.

Section A - Operator Information

1. Facility Name (Business Name of Operator): E&B Natural Resources Management Corp

2. Valid AQMD Facility ID (Leave blank if a new business): 191119

3. Owner's Business Name (If different from Business Name of Operator): ☐ Check here if change of operator

Section B - Equipment Location Address

4. Equipment Location Is:

2126 W Adams Ave
Street Address

Los Angeles, CA 90018
City Zip

Christopher Hassler — Env Coordinator
Contact Name Title

(562) 522-5016 — — —
Phone # Ext. Fax #

E-Mail: chassler@ebresources.com

Section C - Business Mailing Address

5. Correspondence Information:
☐ Check here if same as equipment location address

1608 Norris Rd
Address

Bakersfield, CA 93308
City State Zip

Christopher Hassler — Env Coordinator
Contact Name Title

(562) 522-5016 — — —
Phone # Ext. Fax #

E-Mail: chassler@ebresources.com

Section D - Equipment Information

Rule 222(c)(18) MICRO-TURBINE is a stationary gas turbine engine, with a rated maximum heat input capacity of 3,500,000 Btu per hour or less, provided that the cumulative power output of all such engines at a facility is less than two megawatts, and that the engines are certified at the time of manufacture with the state of California or were in operation prior to May 3, 2013. *(Amended May 3, 2013)*

6.

Manufacturer: Capstone

Model No.: C200S-HG4-BU00

Serial No.: 10390-B

Rated Heat Input Capacity: 2,280,000 BTU/hr

Power Output: 0.2 MW (For this Micro-Turbine only)

Types of Fuel Burned: Natural Gas

Total Number of Micro-Turbines at this Facility: 5

Total Power Output from All Micro-Turbines at this Facility: 0.73 MW

Was the micro-turbine in operation prior to May 3, 2013?
- ○ YES *If YES, provide a copy of a previous Permit to Operate.*
- ◉ NO *If NO, provide a copy of the state of California certification.*

Fees are updated on July 1 of each year.
For current fees, please see Rule 301 or go to Rule 222 Filing Program Web Page.

Section E - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

7. Signature of Responsible Official: Christopher J Hassler

8. Title of Responsible Official: Environmental Coordinator

9. Print Name: Christopher Hassler

10. Date: 05/07/2021

11. Check List: ☐ Authorized Signature/Date ☐ Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING # 629268 SC		EQUIPMENT CATEGORY CODE:	FEE $	VALIDATION 5/18/2021
DATE A R	ENG DATE A R	CLASS I III	ASSIGNMENT Unit Engineer	CHECK/MONEY ORDER # 380 6806 933	AMOUNT $ 657.96	TRACKING # 154846

©South Coast Air Quality Management District, Rule 222 Registration Form (2015.07)

1 of 3

222-C (Amended 5/3/2013)

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

Application No.
629269

E&B Natural Resources Management Corp.
2126 W. Adams Blvd.
Los Angeles, CA 90018

Facility ID # 191119

Operating Parameters for Rule 222

Micro-Turbine

Retain these operating parameters and your filing receipt on site.

1. Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this filing is issued unless otherwise noted below.

2. This equipment shall be properly maintained and kept in good operating condition at all times.

3. An identification tag or nameplate shall be displayed on the equipment to show the manufacturer, model number, serial number, rated maximum heat input capacity, and power output of the equipment. The tag or nameplate shall be affixed to the equipment in a permanent and conspicuous position.

4. This equipment shall be fired with gaseous fuel only.

5. The maximum rated heat input capacity of each gas turbine shall not exceed 3,500,000 Btu per hour and the cumulative power output of all such gas turbines at this facility shall be less than two megawatts.

6. Each gas turbine that is in operation on or after May 3, 2013 shall be certified with the State of California at the time of manufacture. Records of each applicable certification and date of each gas turbine initial operation shall be retained and shall be made available to the Executive Officer or representative upon request.

South Coast Air Quality Management District

Form 222-MT
Registration for Micro-Turbine

South Coast AQMD

Complete one form per facility.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator): E&B Natural Resources Management Corp

2. Valid AQMD Facility ID (Leave blank if a new business): 191119

3. Owner's Business Name (If different from Business Name of Operator): ☐ Check here if change of operator

Section B - Equipment Location Address

4. Equipment Location Is:

2126 W Adams Ave
Street Address

Los Angeles, CA 90018
City Zip

Christopher Hassler — Env Coordinator
Contact Name Title

(562) 522-5016
Phone # Ext. Fax #

E-Mail: chassler@ebresources.com

Section C - Business Mailing Address

5. Correspondence Information:
☐ Check here if same as equipment location address

1608 Norris Rd
Address

Bakersfield, CA 93308
City State Zip

Christopher Hassler — Env Coordinator
Contact Name Title

(562) 522-5016
Phone # Ext. Fax #

E-Mail: chassler@ebresources.com

Section D - Equipment Information

Rule 222(c)(18) MICRO-TURBINE is a stationary gas turbine engine, with a rated maximum heat input capacity of 3,500,000 Btu per hour or less, provided that the cumulative power output of all such engines at a facility is less than two megawatts, and that the engines are certified at the time of manufacture with the state of California or were in operation prior to May 3, 2013. *(Amended May 3, 2013)*

6.

Manufacturer: Capstone

Model No.: C200S-HG4-BU00

Serial No.: 10390-C

Rated Heat Input Capacity: 2,280,000 BTU/hr

Power Output: 0.2 MW (For this Micro-Turbine only)

Types of Fuel Burned: Natural Gas

Total Number of Micro-Turbines at this Facility: 5

Total Power Output from All Micro-Turbines at this Facility: 0.73 MW

Was the micro-turbine in operation prior to May 3, 2013?
- ○ YES *If YES, provide a copy of a previous Permit to Operate.*
- ◉ NO *If NO, provide a copy of the state of California certification.*

Fees are updated on July 1 of each year.
For current fees, please see Rule 301 or go to Rule 222 Filing Program Web Page.

Section E - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

7. Signature of Responsible Official: Christopher J Hassler

8. Title of Responsible Official: Environmental Coordinator

9. Print Name: Christopher Hassler

10. Date: 05/07/2021

11. Check List: ☐ Authorized Signature/Date ☐ Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING # 629269		EQUIPMENT CATEGORY CODE:	FEE $	VALIDATION 5/18/2021
DATE A R	ENG DATE A R	CLASS I III	ASSIGNMENT Unit Engineer	CHECK/MONEY ORDER # 3806806933	AMOUNT $ 657.96	TRACKING # 154846

©South Coast Air Quality Management District, Rule 222 Registration Form (2015.07)

2a-c From revised application

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

Application No.
629270

E&B Natural Resources Management Corp.
2126 W. Adams Blvd.
Los Angeles, CA 90018

Facility ID # 191119

Operating Parameters for Rule 222

Micro-Turbine

Retain these operating parameters and your filing receipt on site.

1. Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this filing is issued unless otherwise noted below.

2. This equipment shall be properly maintained and kept in good operating condition at all times.

3. An identification tag or nameplate shall be displayed on the equipment to show the manufacturer, model number, serial number, rated maximum heat input capacity, and power output of the equipment. The tag or nameplate shall be affixed to the equipment in a permanent and conspicuous position.

4. This equipment shall be fired with gaseous fuel only.

5. The maximum rated heat input capacity of each gas turbine shall not exceed 3,500,000 Btu per hour and the cumulative power output of all such gas turbines at this facility shall be less than two megawatts.

6. Each gas turbine that is in operation on or after May 3, 2013 shall be certified with the State of California at the time of manufacture. Records of each applicable certification and date of each gas turbine initial operation shall be retained and shall be made available to the Executive Officer or representative upon request.

South Coast Air Quality Management District

Form 222-MT
Registration for Micro-Turbine

South Coast AQMD

Complete one form per facility.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator): E&B Natural Resources Management Corp

2. Valid AQMD Facility ID (Leave blank if a new business): 191119

3. Owner's Business Name (If different from Business Name of Operator): ☐ Check here if change of operator

Section B - Equipment Location Address

4. Equipment Location Is:

2126 W Adams Ave
Street Address

Los Angeles, CA 90018
City Zip

Christopher Hassler — Env Coordinator
Contact Name Title

(562) 522-5016 — Ext. — Fax #
Phone #

E-Mail: chassler@ebresources.com

Section C - Business Mailing Address

5. Correspondence Information:
☐ Check here if same as equipment location address

1608 Norris Rd
Address

Bakersfield, CA 93308
City State Zip

Christopher Hassler — Env Coordinator
Contact Name Title

(562) 522-5016 — Ext. — Fax #
Phone #

E-Mail: chassler@ebresources.com

Section D - Equipment Information

Rule 222(c)(18) MICRO-TURBINE is a stationary gas turbine engine, with a rated maximum heat input capacity of 3,500,000 Btu per hour or less, provided that the cumulative power output of all such engines at a facility is less than two megawatts, and that the engines are certified at the time of manufacture with the state of California or were in operation prior to May 3, 2013. *(Amended May 3, 2013)*

6.

Manufacturer: Capstone

Model No.: C200S-HG4-BU00

Serial No.: 10390-D

Rated Heat Input Capacity: 2,280,000 BTU/hr

Power Output: 0.2 MW (For this Micro-Turbine only)

Types of Fuel Burned: Natural Gas

Total Number of Micro-Turbines at this Facility: 5

Total Power Output from All Micro-Turbines at this Facility: 0.73 MW

Was the micro-turbine in operation prior to May 3, 2013?
○ YES *If YES, provide a copy of a previous Permit to Operate.*
◉ NO *If NO, provide a copy of the state of California certification.*

Fees are updated on July 1 of each year.
For current fees, please see Rule 301 or go to Rule 222 Filing Program Web Page.

Section E - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

7. Signature of Responsible Official: Christopher J Hassler

8. Title of Responsible Official: Environmental Coordinator

9. Print Name: Christopher Hassler

10. Date: 05/07/2021

11. Check List: ☐ Authorized Signature/Date ☐ Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING # 629270 SC		EQUIPMENT CATEGORY CODE:	FEE $	VALIDATION 5/18/2021
DATE A R	ENG DATE A R	CLASS I III	ASSIGNMENT Unit Engineer	CHECK/MONEY ORDER # 3806806933	AMOUNT $ 657.96	TRACKING # 154846

©South Coast Air Quality Management District, Rule 222 Registration Form (2015.07)

3 of 3

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

PERMIT TO OPERATE

Permit No.
G59305
A/N 616597

This initial permit must be renewed ANNUALLY unless the equipment is moved, or changes ownership.
If the billing for the annual renewal fee (Rule 301(d)) is not received by the expiration date, contact the District.

Legal Owner or Operator:

ID 191119

E&B NATURAL RESOURCES MANAGEMENT CORP
249 E OCEAN BLVD, STE 900
LONG BEACH, CA 90802-8806

Equipment Location: 2126 W ADAMS BLVD, LOS ANGELES, CA 90018-2039

Equipment Description :

CRUDE OIL/GAS/WATER SEPARATION SYSTEM CONSISTING OF:

1. FIVE LOW PRESSURE TEST SEPARATORS, V2, V3, V4, VS AND V6, EACH 3'-0" DIA. X 12'-0" L., 20 BBL CAPACITY, VENTED TO A VAPOR RECOVERY SYSTEM.
2. UNFIRED HEATER TREATER, V1, 10'-0" DIA. X 30'-0" L., 500 BBL CAPACITY, VENTED TO A VAPOR RECOVERY SYSTEM.
3. WASTEWATER HOLDING TANK, T2, 22' DIA. X 16' H., 1000 BBL CAPACITY, FIXED ROOF, VENTED TO A VAPOR RECOVERY SYSTEM.
4. CRUDE OIL SHIPPING TANK, T1, 22'-0" DIA. X 8'-0" H., 500 BBL CAPACITY, FIXED ROOF, VENTED TO A VAPOR RECOVERY SYSTEM.
5. WASTEWATER HOLDING TANK, T3, 16'-0" DIA. X 8'-0" H., 250 BBL CAPACITY, FIXED ROOF, VENTED TO A VAPOR RECOVERY SYSTEM.
6. PRODUCED WATER TANK, T5, 9'-0" DIA. X 16'-0 H., 250 BBL CAPACITY, FIXED ROOF, VENTED TO A VAPOR RECOVERY SYSTEM.
7. WASTEWATER TANK, TI7, 8'-0" W. X 36'-0" L. X 8'-0" H., 500 BBL CAPACITY, FIXED ROOF, VENTED TO A VAPOR RECOVERY SYSTEM.
8. LOW PRESSURE MAIN INTAKE SCRUBBER, VI 1, 4'-0" DIA. X 10'-0" H.
9. NO. 3 GAS COMPRESSOR, WHITE-WESTINGHOUSE, RECIPROCATING, FOUR STAGE WITH A 500 HP ELECTRIC MOTOR, FOUR INTAKE SCRUBBERS, A 5 HP FIN-FAN COOLER, A 1 HP JACKET WATER PUMP, AND A 3/4 HP LUBE OIL PUMP.
10. NO. 4 GAS COMPRESSOR, WHITE-WESTINGHOUSE, RECIPROCATING, FOUR STAGE WITH A 500 HP ELECTRIC MOTOR, FOUR INTAKE SCRUBBERS, A 5 HP FIN-FAN COOLER, A 1 HP JACKET WATER PUMP, AND A 1 HP LUBE OIL PUMP.
11. TWO VAPOR RECOVERY COMPRESSORS, #1 AND #2, INGERSOLL-RAND, EACH 10 HP.

ORIGINAL

12. VAPOR RECOVERY COMPRESSOR, #3, INGERSOLL-RAND, 10 HP, WITH A SCRUBBER, 2'-0" DIA. X 6'-0" H.

13. VAPOR RECOVERY COMPRESSOR, #4, INGERSOLL-RAND, 10 HP, WITH A MUFFLER, ALARM SYSTEM AND SCRUBBER.

14. TWO VAPOR RECOVERY COMPRESSORS, #5 AND #6, INGERSOLL-RAND, EACH 10 HP.

15. GLYCOL REGENERATOR, 3'-0" DIA. X 10'-0" L., 1,000,000 BTU/HR, PROCESS GAS FIRED, WITH 1'-0" DIA. X 6'-0" STILL SECTION.

16. PRESSURE RELIEF STACK, 2'-0" DIA. X 12'-0" H., WITH LINE SCRUBBER, MUFFLER AND ALARM SYSTEM.

17. FOUR INDUCED-GAS FLOATATION CELLS, ANDERSONICS, MODEL X-CELL 3000, EACH 3'-6" DIA. X 5'-0" H., 300 GALLON CAPACITY EACH, EACH VENTED TO A VAPOR RECOVERY SYSTEM.

18. EFFLUENT WATER SUMP, 7'-0" W. X 7'-0" L. X 7'-0" H., WITH COVERED HATCH.

19. SKIM OIL TANK, ABOVEGROUND, 3'-8" W. X 11'-0" L. X 6'-3" H., VENTED TO A VAPOR RECOVERY SYSTEM.

20. SALES GAS SCRUBBER, 1'-6" DIA. X 6'-6" H.

21. DISCHARGE SCRUBBER, V65, 1'-2" DIA. X 6'-0" H.

22. GAS PURIFICATION SYSTEM, QUESTAIR M-3100, FAST CYCLE PRESSURE SWING ADSORPTION, WITH AN INLET SCRUBBER, V66, 12'-0" DIA. X 6'-10" H., AND SIX ADSORBER BEDS, V70, V71, V72, V73 V74 AND V75, EACH 2'-0" DIA. X 10'-0" H.

23. RECOMPRESSION GAS COMPRESSOR, GC6, LEROI, SCREW, MODEL HGS 17222 VIE, WITH A 200 BHP ELECTRIC MOTOR, A SUCTION SCRUBBER, V95, 2'-0" DIA. X 5'-0" H., AND A TAIL GAS/LUBE OIL COOLER, E6, 10 HP.

24. EXHAUST GAS SCRUBBER, V67, 1'-8" DIA. X 8'-0" H.

25. REFLUX STABILIZATION SYSTEM, CONSISTING OF:

    A. GAS/GAS EXCHANGER, E11

    B. CHILLER (R-22), E10

    C. SEPARATOR, V85

    D. REFLUX PUMP, P13, 1 HP

    E. CHILLER COMPRESSOR, GC7

    F. OIL SEPARATOR, V89

26. GAS LOW TEMPERATURE SEPARATION SYSTEM CONSISTING OF:

A. HEAT EXCHANGER, GAS/GAS, E-1

B. HEAT EXCHANGER, GAS/LIQUID, E-2

C. HEAT EXCHANGER, GAS CHILLER (R-22), E-3

D. VESSEL, COLD SEPARATOR, V-1, 2'-6" DIA. X 8'-0" L., WITH A GLYCOL DRAIN BOOT, 1'-6" DIA.,

E. TOWER, PRODUCT STABILIZER, C-1, 1'-4" DIA. X 8'-0" H.

F. HEAT EXCHANGER, STABILIZER TOWER REBOILER (UNFIRED), E-5, 1'-6" DIA. X 8'-6" L.

G. STORAGE TANK, NATURAL GAS LIQUIDS, 3'-0" DIA. X 18'-0" L., 200 BBL CAPACITY, VENTED TO A VAPOR RECOVERY SYSTEM.

Conditions :

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.

3. THE FACILITY SHALL NOT BE OPERATED UNLESS THE LOW PRESSURE TEST SEPARATORS, THE UNFIRED HEATER TREATER, THE GAS FLOATING CELLS, THE NATURAL GAS LIQUIDS STORAGE TANK, THE WASTE WATER HOLDING TANK, SKIM OIL TANK, PRODUCED WATER HOLDING TANKS, CRUDE OIL SHIPPING TANK, ARE ALL VENTING TO THE VAPOR RECOVERY SYSTEM WHICH HAS BEEN ISSUED AN OPERATING PERMIT BY THE EXECUTIVE OFFICER.

4. THE OPERATOR SHALL COMPLY WITH ALL THE APPLICABLE REQUIREMENTS OF RULES 463, 464, 466, 466.1, 1148.1, 1173 AND 1176.

5. DURING OPERATION, THE SUMP OIL TANK SHALL ONLY VENT TO THE VAPOR RECOVERY SYSTEM.

6. RECORDS REQUIRED BY RULE 1173 SHALL BE MAINTAINED IN A FORMAT APPROVED BY THE EXECUTIVE OFFICER. THE RECORDS SHALL BE KEPT IN A FILE FOR A MINIMUM OF TWO YEARS AND MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.

NOTICE

In accordance with Rule 206, this Permit to Operate or copy shall be posted on or within 8 meters of the equipment.

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26 of the Health and Safety Code of the State of California or the applicable Rules and Regulations of the South Coast Air Quality Management District (SCAQMD). This permit cannot be considered as permission to violate existing laws, ordinances, regulations or statutes of other government agencies.

Executive Officer

Amir Dejbakhsh

BY AMIR DEJBAKHSH/LK04
10/25/2019

ORIGINAL

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

Application No.
623946

E&B NATURAL RESOURCES MANAGEMENT CORP
2126 W ADAMS BLVD
LOS ANGELES, CA 90018

Facility ID # 191119

Operating Parameters for Rule 222

Power Pressure Washers and Hot Water or Steam Washers and Cleaners

Retain these operating parameters and your filing receipt on site.

1. Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this filing is issued unless otherwise noted below.
2. This equipment shall be properly maintained and kept in good operating condition at all times.
3. An identification tag or nameplate shall be displayed on the equipment to show the manufacturer, model number, serial number, and rated maximum heat input capacity of the equipment. The tag or nameplate shall be affixed to the equipment in a permanent and conspicuous position.
4. The amount of diesel fuel used for the heater or burner shall not exceed 50 gallons per day.
5. The sulfur content of the diesel fuel supplied to the heater or burner shall not exceed 15 ppmv by weight.
6. An operational non-resettable totalizing time meter or chronometer shall be installed and maintained to indicate the equipment's elapsed operating time.
7. An operating log listing the date of operation, the elapsed time in hours, and daily fuel usage shall be kept and maintained on file with the equipment for a minimum of five (5) years and shall be made available to South Coast AQMD personnel upon request.

South Coast Air Quality Management District

Form 222-PW

Registration for Power Pressure Washer and Hot Water or Steam Washer and Cleaner

Complete one form per equipment.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator): E&B Natural Resources Management Corp

2. Valid AQMD Facility ID (Leave blank if a new business): 191119

3. Owner's Business Name (If different from Business Name of Operator): ☐ Check here if change of operator

Section B - Equipment Location Address

4. Equipment Location Is: ○ Fixed Location ◉ Various Location
(For equipment operated at various locations, provide main facility address.)

2126 W Adams Blvd
Street Address

Los Angeles, CA 90018
City Zip

Christopher Hassler — Env. Coordinator
Contact Name Title

(562) 522-5016 — — —
Phone # Ext. Fax #

E-Mail: chassler@ebresources.com

Section C - Business Mailing Address

5. Correspondence Information:
☐ Check here if same as equipment location address

249 E Ocean Blvd
Address

Long Beach, CA 90802
City State Zip

Christopher Hassler — Env. Coordinator
Contact Name Title

(562) 522-5016 — — —
Phone # Ext. Fax #

E-Mail: chassler@ebresources.com

Section D - Equipment Information

Rule 222(c)(22) POWER PRESSURE WASHER AND HOT WATER OR STEAM WASHER AND CLEANER is any equipment equipped with a heater or burner that is designed to be fired on diesel fuel, has a rated maximum heat input capacity of 550,000 Btu per hour or less, is equipped with a non-resettable chronometer, has a maximum NOx emission output of less than one pound per day and uses no more than 50 gallons of fuel per day. *(Amended May 3, 2013)*

6. Choose one of the following:

○ Power Pressure Washer ◉ Hot Water Washer/Cleaner ○ Steam Washer/Cleaner

Manufacturer: Hydro Tek

Model No.: SS30005VS

Serial No.: 201802463

Rated Maximum Heat Input: 440,000 BTU/Hr

Fuel Usage: 1.5 Gallons/Day

Equipped with a non-resettable chronometer? ◉ YES ○ NO

Fees are updated on July 1 of each year.
For current fees, please see Rule 301 or go to Rule 222 Filing Program Web Page.

Section E - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

7. Signature of Responsible Official: [signature]

8. Title of Responsible Official: Environmental Coordinator

9. Print Name: Christopher Hassler

10. Date: 08/18/2020

11. Check List: ☐ Authorized Signature/Date ☐ Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING # 623946 Sc		EQUIPMENT CATEGORY CODE:	FEE $		VALIDATION 9/1/2020 MJ
DATE A R	ENG.A R DATE	CLASS I III	ASSIGNMENT Engineer	CHECK/MONEY ORDER # 48572	AMOUNT $ 217.32	TRACKING # 151630

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

PERMIT TO OPERATE

Permit No.
G59303
A/N 616599

This initial permit must be renewed ANNUALLY unless the equipment is moved, or changes ownership.
If the billing for the annual renewal fee (Rule 301(d)) is not received by the expiration date, contact the District.

Legal Owner or Operator:

ID 191119

E&B NATURAL RESOURCES MANAGEMENT CORP
249 E OCEAN BLVD, STE 900
LONG BEACH, CA 90802-8806

Equipment Location: 2126 W ADAMS BLVD, LOS ANGELES, CA 90018-2039

Equipment Description :

GAS TURBINE, UNIT NO. 1, INGERSOLL-RAND, MODEL NO. 70L SERIES, PROCESS GAS FIRED, 70 KW.

Conditions :

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.

3. THE OPERATOR SHALL NOT OPERATE THIS EQUIPMENT UNLESS THE EMISSIONS FROM THE EQUIPMENT DO NOT EXCEED THE FOLLOWING EMISSION LIMITS:

POLLUTANT	CONCENTRATION
NOX	12 PPMV @ 15% O2, 1-HOUR AVERAGE
CO	20 PPMV @ 15% O2, 1-HOUR AVERAGE
VOC	50 PPMV @ 15% O2, 1-HOUR AVERAGE

4. ON OR AFTER JANUARY 1, 2006, THE OPERATOR SHALL COMPLY WITH THE REQUIREMENTS OF RULE 1148.1 (D)(6) BY DEMONSTRATING THROUGH A SOURCE TEST (IN ACCORDANCE WITH SCAQMD APPROVED TEST METHODS) OF AT LEAST ONE MICROTURBINE, THAT THE OUTLET VOC CONCENTRATION IS LESS THAN OR EQUAL TO 50 PPMV CORRECTED TO 15% O2, OR, THAT THE VOC REMOVAL EFFICIENCY IS AT LEAST 95% BY WEIGHT. THE OPERATOR SHALL RETAIN A COPY OF THIS SOURCE TEST ON FILE AND MAKE IT AVAILABLE FOR INSPECTION BY DISTRICT PERSONNEL UPON REQUEST.

ORIGINAL

5. THE OPERATOR SHALL CONDUCT A GAS COMPOSITION ANALYSIS OF THE PROCESS GAS AT LEAST ONCE EVERY CALENDAR MONTH TO DEMONSTRATE COMPLIANCE WITH RULE 431.1 THE TEST RESULT SHALL ALSO INCLUDE THE HIGHER HEATING VALUE (HHV) OF THE GAS IN BTU/SCF. RECORDS OF GAS COMPOSITION ANALYSES SHALL BE KEPT ON FILE FOR AT LEAST TWO YEARS AND BE MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.

6. THIS FACILITY SHALL EMIT LESS THAN 5 POUNDS PER DAY TOTAL SULFUR COMPOUNDS, CALCULATED AS H2S, FROM THE BURNING OF GASEOUS FUEL OTHER THAN NATURAL GAS. THE COMBUSTION OF PROCESS GAS IN ALL THE MICROTURBINES AND ANY OTHER EQUIPMENT IN THE FACILITY THAT IS BURNING GASEOUS FUEL OTHER THAN NATURAL GAS, SHALL BE INCLUDED IN THIS CALCULATION. EMISSIONS OF TOTAL SULFUR COMPOUNDS SHALL BE CALCULATED BASED ON GAS ANALYSIS (CONDUCTED MONTHLY IN ACCORDANCE WITH CONDITION NO. 5), USING SCAQMD METHOD 307-91, AND THE MAXIMUM DAILY GASEOUS FUEL CONSUMPTION. THE OPERATOR SHALL KEEP RECORDS OF THE MONTHLY GAS ANALYSES, THE DAILY RECORDS OF FUEL GAS USAGE AND THE CALCULATED TOTAL SULFUR COMPOUND EMISSIONS, FOR A MINIMUM OF TWO YEARS.

NOTICE

In accordance with Rule 206, this Permit to Operate or copy shall be posted on or within 8 meters of the equipment.

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26 of the Health and Safety Code of the State of California or the applicable Rules and Regulations of the South Coast Air Quality Management District (SCAQMD). This permit cannot be considered as permission to violate existing laws, ordinances, regulations or statutes of other government agencies.

Executive Officer



BY AMIR DEJBAKHSH/LK04
10/25/2019

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

PERMIT TO OPERATE

Permit No.
G59302
A/N 616600

This initial permit must be renewed ANNUALLY unless the equipment is moved, or changes ownership.
If the billing for the annual renewal fee (Rule 301(d)) is not received by the expiration date, contact the District.

Legal Owner or Operator:

ID 191119

E&B NATURAL RESOURCES MANAGEMENT CORP
249 E OCEAN BLVD, STE 900
LONG BEACH, CA 90802-8806

Equipment Location: 2126 W ADAMS BLVD, LOS ANGELES, CA 90018-2039

Equipment Description :

GAS TURBINE, UNIT NO. 3, INGERSOLL-RAND, MODEL NO. 70L SERIES, PROCESS GAS FIRED, 70 KW.

Conditions :

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.

3. THE OPERATOR SHALL NOT OPERATE THIS EQUIPMENT UNLESS THE EMISSIONS FROM THE EQUIPMENT DO NOT EXCEED THE FOLLOWING EMISSION LIMITS:

POLLUTANT	CONCENTRATION
NOX	12 PPMV @ 15% O2, 1-HOUR AVERAGE
CO	20 PPMV @ 15% O2, 1-HOUR AVERAGE
VOC	50 PPMV @ 15% O2, 1-HOUR AVERAGE

4. ON OR AFTER JANUARY 1, 2006, THE OPERATOR SHALL COMPLY WITH THE REQUIREMENTS OF RULE 1148.1 (D)(6) BY DEMONSTRATING THROUGH A SOURCE TEST (IN ACCORDANCE WITH SCAQMD APPROVED TEST METHODS) OF AT LEAST ONE MICROTURBINE, THAT THE OUTLET VOC CONCENTRATION IS LESS THAN OR EQUAL TO 50 PPMV CORRECTED TO 15% O2, OR, THAT THE VOC REMOVAL EFFICIENCY IS AT LEAST 95% BY WEIGHT. THE OPERATOR SHALL RETAIN A COPY OF THIS SOURCE TEST ON FILE AND MAKE IT AVAILABLE FOR INSPECTION BY DISTRICT PERSONNEL UPON REQUEST.

ORIGINAL

5. THE OPERATOR SHALL CONDUCT A GAS COMPOSITION ANALYSIS OF THE PROCESS GAS AT LEAST ONCE EVERY CALENDAR MONTH TO DEMONSTRATE COMPLIANCE WITH RULE 431.1 THE TEST RESULT SHALL ALSO INCLUDE THE HIGHER HEATING VALUE (HHV) OF THE GAS IN BTU/SCF. RECORDS OF GAS COMPOSITION ANALYSES SHALL BE KEPT ON FILE FOR AT LEAST TWO YEARS AND BE MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.

6. THIS FACILITY SHALL EMIT LESS THAN 5 POUNDS PER DAY TOTAL SULFUR COMPOUNDS, CALCULATED AS H2S, FROM THE BURNING OF GASEOUS FUEL OTHER THAN NATURAL GAS. THE COMBUSTION OF PROCESS GAS IN ALL THE MICROTURBINES AND ANY OTHER EQUIPMENT IN THE FACILITY THAT IS BURNING GASEOUS FUEL OTHER THAN NATURAL GAS, SHALL BE INCLUDED IN THIS CALCULATION. EMISSIONS OF TOTAL SULFUR COMPOUNDS SHALL BE CALCULATED BASED ON GAS ANALYSIS (CONDUCTED MONTHLY IN ACCORDANCE WITH CONDITION NO. 5), USING SCAQMD METHOD 307-91, AND THE MAXIMUM DAILY GASEOUS FUEL CONSUMPTION. THE OPERATOR SHALL KEEP RECORDS OF THE MONTHLY GAS ANALYSES, THE DAILY RECORDS OF FUEL GAS USAGE AND THE CALCULATED TOTAL SULFUR COMPOUND EMISSIONS, FOR A MINIMUM OF TWO YEARS.

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Executive Officer

BY AMIR DEJBAKHSH/LK04
10/25/2019

ORIGINAL

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

PERMIT TO OPERATE

Permit No.
G59301
A/N 616601

This initial permit must be renewed ANNUALLY unless the equipment is moved, or changes ownership.
If the billing for the annual renewal fee (Rule 301(d)) is not received by the expiration date, contact the District.

Legal Owner or Operator:

ID 191119

E&B NATURAL RESOURCES MANAGEMENT CORP
249 E OCEAN BLVD, STE 900
LONG BEACH, CA 90802-8806

Equipment Location: 2126 W ADAMS BLVD, LOS ANGELES, CA 90018-2039

Equipment Description :

GAS TURBINE, UNIT NO. 4, INGERSOLL-RAND, MODEL NO. 70L SERIES, PROCESS GAS FIRED, 70 KW.

Conditions :

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.

3. THE OPERATOR SHALL NOT OPERATE THIS EQUIPMENT UNLESS THE EMISSIONS FROM THE EQUIPMENT DO NOT EXCEED THE FOLLOWING EMISSION LIMITS:

POLLUTANT	CONCENTRATION
NOX	12 PPMV @ 15% O2, 1-HOUR AVERAGE
CO	20 PPMV @ 15% O2, 1-HOUR AVERAGE
VOC	50 PPMV @ 15% O2, 1-HOUR AVERAGE

4. ON OR AFTER JANUARY 1, 2006, THE OPERATOR SHALL COMPLY WITH THE REQUIREMENTS OF RULE 1148.1 (D)(6) BY DEMONSTRATING THROUGH A SOURCE TEST (IN ACCORDANCE WITH SCAQMD APPROVED TEST METHODS) OF AT LEAST ONE MICROTURBINE, THAT THE OUTLET VOC CONCENTRATION IS LESS THAN OR EQUAL TO 50 PPMV CORRECTED TO 15% O2, OR, THAT THE VOC REMOVAL EFFICIENCY IS AT LEAST 95% BY WEIGHT. THE OPERATOR SHALL RETAIN A COPY OF THIS SOURCE TEST ON FILE AND MAKE IT AVAILABLE FOR INSPECTION BY DISTRICT PERSONNEL UPON REQUEST.

ORIGINAL

5. THE OPERATOR SHALL CONDUCT A GAS COMPOSITION ANALYSIS OF THE PROCESS GAS AT LEAST ONCE EVERY CALENDAR MONTH TO DEMONSTRATE COMPLIANCE WITH RULE 431.1 THE TEST RESULT SHALL ALSO INCLUDE THE HIGHER HEATING VALUE (HHV) OF THE GAS IN BTU/SCF. RECORDS OF GAS COMPOSITION ANALYSES SHALL BE KEPT ON FILE FOR AT LEAST TWO YEARS AND BE MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.

6. THIS FACILITY SHALL EMIT LESS THAN 5 POUNDS PER DAY TOTAL SULFUR COMPOUNDS, CALCULATED AS H2S, FROM THE BURNING OF GASEOUS FUEL OTHER THAN NATURAL GAS. THE COMBUSTION OF PROCESS GAS IN ALL THE MICROTURBINES AND ANY OTHER EQUIPMENT IN THE FACILITY THAT IS BURNING GASEOUS FUEL OTHER THAN NATURAL GAS, SHALL BE INCLUDED IN THIS CALCULATION. EMISSIONS OF TOTAL SULFUR COMPOUNDS SHALL BE CALCULATED BASED ON GAS ANALYSIS (CONDUCTED MONTHLY IN ACCORDANCE WITH CONDITION NO. 5), USING SCAQMD METHOD 307-91, AND THE MAXIMUM DAILY GASEOUS FUEL CONSUMPTION. THE OPERATOR SHALL KEEP RECORDS OF THE MONTHLY GAS ANALYSES, THE DAILY RECORDS OF FUEL GAS USAGE AND THE CALCULATED TOTAL SULFUR COMPOUND EMISSIONS, FOR A MINIMUM OF TWO YEARS.

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Executive Officer

BY AMIR DEJBAKHSH/LK04
10/25/2019

ORIGINAL

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

PERMIT TO OPERATE

Permit No.
G59298
A/N 616603

This initial permit must be renewed ANNUALLY unless the equipment is moved, or changes ownership.
If the billing for the annual renewal fee (Rule 301(d)) is not received by the expiration date, contact the District.

Legal Owner or Operator:

ID 191119

E&B NATURAL RESOURCES MANAGEMENT CORP
249 E OCEAN BLVD, STE 900
LONG BEACH, CA 90802-8806

Equipment Location: 2126 W ADAMS BLVD, LOS ANGELES, CA 90018-2039

Equipment Description :

GAS TURBINE, UNIT NO. 5, INGERSOLL-RAND, MODEL NO. 70L SERIES, PROCESS GAS FIRED, 70 KW.

Conditions :

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN ACCORDANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATION UNDER WHICH THIS PERMIT IS ISSUED UNLESS OTHERWISE NOTED BELOW.

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.

3. THE OPERATOR SHALL NOT OPERATE THIS EQUIPMENT UNLESS THE EMISSIONS FROM THE EQUIPMENT DO NOT EXCEED THE FOLLOWING EMISSION LIMITS:

POLLUTANT	CONCENTRATION
NOX	12 PPMV @ 15% O2, 1-HOUR AVERAGE
CO	20 PPMV @ 15% O2, 1-HOUR AVERAGE
VOC	50 PPMV @ 15% O2, 1-HOUR AVERAGE

4. ON OR AFTER JANUARY 1, 2006, THE OPERATOR SHALL COMPLY WITH THE REQUIREMENTS OF RULE 1148.1 (D)(6) BY DEMONSTRATING THROUGH A SOURCE TEST (IN ACCORDANCE WITH SCAQMD APPROVED TEST METHODS) OF AT LEAST ONE MICROTURBINE, THAT THE OUTLET VOC CONCENTRATION IS LESS THAN OR EQUAL TO 50 PPMV CORRECTED TO 15% O2, OR, THAT THE VOC REMOVAL EFFICIENCY IS AT LEAST 95% BY WEIGHT. THE OPERATOR SHALL RETAIN A COPY OF THIS SOURCE TEST ON FILE AND MAKE IT AVAILABLE FOR INSPECTION BY DISTRICT PERSONNEL UPON REQUEST.

ORIGINAL

5. THE OPERATOR SHALL CONDUCT A GAS COMPOSITION ANALYSIS OF THE PROCESS GAS AT LEAST ONCE EVERY CALENDAR MONTH TO DEMONSTRATE COMPLIANCE WITH RULE 431.1 THE TEST RESULT SHALL ALSO INCLUDE THE HIGHER HEATING VALUE (HHV) OF THE GAS IN BTU/SCF. RECORDS OF GAS COMPOSITION ANALYSES SHALL BE KEPT ON FILE FOR AT LEAST TWO YEARS AND BE MADE AVAILABLE TO DISTRICT PERSONNEL UPON REQUEST.

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NOTICE

In accordance with Rule 206, this Permit to Operate or copy shall be posted on or within 8 meters of the equipment.

This permit does not authorize the emission of air contaminants in excess of those allowed by Division 26 of the Health and Safety Code of the State of California or the applicable Rules and Regulations of the South Coast Air Quality Management District (SCAQMD). This permit cannot be considered as permission to violate existing laws, ordinances, regulations or statutes of other government agencies.

Executive Officer

Amir Dejbakhsh

BY AMIR DEJBAKHSH/LK04
10/25/2019

Appendix C

Spill Prevention, Countermeasure and Control (SPCC) Plan

E&B NATURAL RESOURCES MANAGEMENT CORP.

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE (SPCC) PLAN

Murphy Production Facility

2126 W Adams Boulevard
Los Angeles, CA 90018

Date of Certification: February 2025

Mailing Address
E&B NATURAL RESOURCES MANAGEMENT CORP.
1608 Norris Road
Bakersfield, CA 93308
(661) 679-1700

Table of Contents

Certification Page 3
Certification of Substantial Harm Determination 4
Plan Review 5
Distribution List 6
SECTION 1.0 General Facility Information 7
1.1 Facility Location and Operations 7
1.2 Oil Storage and Handling 7
1.3 Conformance with Applicable State and Local Requirements 8
SECTION 2.0 Spill Response and Reporting 9
2.1 Discharge Discovery and Reporting 9
2.2 Spill Response Materials 9
2.3 Spill Mitigation Procedures 10
2.4 Disposal Plan 11
SECTION 3.0 Spill Prevention, Control, and Countermeasure Provisions 12
3.1 Potential Discharge Volume and Direction of Flow 12
3.2 Containment and Diversionary Structures 12
3.3 Other Spill Prevention Measures 14
3.4 Inspections, Tests, and Records 14
3.5 Personnel, Training, and Discharge Prevention Procedures 16
Appendix A Facility Diagram A-1
Appendix B Discharge Notification Procedures B-1
Appendix C Contact List and Quick Action Checklist for Operators C-1
Appendix D Sample Inspection Forms D-1
Appendix E SPCC Cross Reference E-1

Certification Page
Facility Information

- Name of Facility: Murphy Production Facility
- Type of Facility: Onshore Oil Production Facility
- Location of Facility: 2126 W Adams Boulevard, Los Angeles, CA 90018
- Owner/Operator: E&B Natural Resources Management Corp.
  1608 Norris Road, Bakersfield, CA 93308
- Designated Person Accountable for Spill Prevention at this Facility:
  Louis P. Zylstra, Jr., Senior VP

Management Approval

This SPCC Plan has the full approval of E&B Natural Resources (E&B) management. E&B's management has committed the necessary resources to implement the measures described in this Plan.

Louis P. Zylstra, Jr. is the Designated Person Accountable for Oil Spill Prevention at this E&B facility and has the authority to commit the necessary resources to implement the Plan as described.

Signature: _____ Date: 2-17-25

Title of Manager: SR VICE PRESIDENT

Certification

Pursuant to 40 CFR § 112.3(d), I hereby certify and attest that:

1. I am familiar with the requirements of 40 CFR Part 112;
2. I, or my agent, have visited and examined the facility;
3. This SPCC Plan has been prepared in accordance with good engineering practices, with the consideration of applicable industry standards and the requirements of Part 112;
4. Procedures for required inspections and testing have been establish; and
5. This plan is adequate for the facility.

This certification shall in no way relieve the owner/operator of the duty to prepare and fully implement this Plan in accordance with the provisions of 40 CFR Part 112.

Registered Professional Engineer

Date: 2-17-25

State of California Registration No: _____

REGISTERED PROFESSIONAL ENGINEER LOUIS P. ZYLSTRA, JR. C039007 EXP. 3-31-25 CIVIL STATE OF CALIFORNIA

_____
Louis P. Zylstra, Jr.

Certification of Substantial Harm Determination

40 CFR 112.20(e), 40 CFR 112.20(f)(1)

Facility Name: E&B Natural Resources, Murphy Production Facility

Does the facility transfer oil-water to or from vessels and does the facility have a total storage capacity greater or equal to 42,000 gallons?

Yes [X] No [ ]

Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons and within any aboveground storage tank area, does the Facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tanks plus sufficient freeboard to allow for precipitation?

Yes [ ] No [X]

Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?

Yes [ ] No [X]

Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance such that a discharge from the facility would shut down a public drinking water intake?

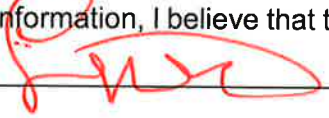
Yes [ ] No [X]

Does the Facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spin in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes [ ] No [X]

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Signature: 

Printed Name: SR VP — LOUIS P. ZYLSTRA

Title: SR VICE PRESIDENT

Date: 2-17-25

Plan Review

40 CFR 112.5

In accordance with 40 CFR 112.5, E&B Natural Resources Management Corp. periodically reviews and evaluates this SPCC Plan for any change in the facility design, construction, operation, or maintenance that materially affects the facility's potential for an oil discharge. E&B reviews this SPCC Plan at least once every five years. Revisions to the Plan, if any are needed, are made within six months of this five-year review. E&B will implement any amendment within six months following preparation of any amendment. A registered PE certifies any technical amendment to the Plan, as described above, in accordance with 40 CFR 112.3(d).

Scheduled five-year reviews and Plan amendments are recorded in Table 0-1. This log must be completed even if no amendment is made to the Plan. Unless a technical or administrative change prompts an earlier review, the next scheduled review of this Plan must occur by October 22, 2025.

Table 0-1: Record of Plan Review and Changes

Date	Authorized Individual	Review Type	PE Certification Required	Summary of Changes
10/22/20	Lou Zylstra	Five-Year Review	No	Formatting and plan organization.
2/7/25	Lou Zylstra	Five-Year Review	No	Personnel and Address changes

Distribution List

In accordance with 40 CFR 112.3(e), a complete copy of this SPCC is maintained at the locations listed in Table 0-2.

Table 0-2: Locations of SPCC Plan

COPY NUMBER	PLAN HOLDER	LOCATION
1	E&B Natural Resources Mgmt Corp 1608 Norris Rd Bakersfield, CA 93308	Bakersfield Office
2	2126 W Adams Boulevard Los Angeles, CA 90018	Field Office
3	E&B Natural Resources Mgmt Corp 10661 Ellis Ave Ste D Fountain Valley, CA 92708	LA Basin Office

SECTION 1.0 General Facility Information [40 CFR 112.7(a)(3)]

1.1 Facility Location and Operations

E&B Natural Resources owns and operates the Murphy production facility, which is located in Los Angeles, California in Los Angeles County. The production site is accessed from a driveway at 2126 W Adams Blvd, Los Angeles, CA 90018.

As illustrated in **Appendix A**, the facility is comprised of three main areas: well cellars, flowlines, and a tank battery.

At 2126 W Adams Blvd, the tank battery includes 6 oil and produced water storage tanks, with a total capacity of 3,060 barrels, wells in two cellars, and associated flowlines and piping. Tanks T-2 and T-3 contain an oil/produced water mixture. They are subject to 40 CFR part 112 and are covered by this SPCC Plan.

The facility's field office is located on-site. Field operations personnel record production rates and ensure proper functioning of wellhead equipment and hydraulic pumps, storage tanks, flowlines, and separation vessels. This includes performing equipment inspections and maintenance as needed.

1.2 Oil Storage and Handling

1.2.1 Production Equipment

Oil storage at the facility consists of three (3) free water knockout vessels, one (1) unfired heater treater, two (2) wastewater holding tanks, one (1) produced water tanks, one (1) crude oil shipping tank, and associated piping, as summarized in Table 1-1. The total oil capacity at this facility is 3,060 barrels (128,520 gallons).

All oil storage tanks are shop-built and meet the American Petroleum Institute (API) tank construction standard. Their design and construction are compatible with the oil they contain and the temperature and pressure conditions of storage.

Other production equipment at the facility include the pumps at each well. These store a minimal amount of oil (less than 55 gallons). Table 1-1 lists all oil containers present at the facility with capacity of 55 gallons or more.

Table 1-1: Characteristics of oil containers

ID	Type	Construction	Primary Content	Capacity (barrels)	Capacity (gallons)
V-1	Heater Treater	Steel	Oil / Produced Water	500	21,000
V-4	FWKO	Steel	Oil / Produced Water	20	840
V-5	FWKO	Steel	Oil / Produced Water	20	840
V-6	FWKO	Steel	Oil / Produced Water	20	840
T-1	Shipping Tank	Steel	Oil	1,000	42,000
T-2	Wastewater Tank	Steel	Produced water	1,000	42,000
T-3	Wastewater Tank	Steel	Produced water	250	10,500
T-5	Produced Water Tank	Steel	Not in Use	250	10,500
			TOTAL	3,060	128,520

1.2.2 Transfer Activities

Wells produce crude oil, produced water, and small amounts of natural gas. The oil and water are produced through the tubing, while the natural gas is produced through the casing. Well liquids are then routed via underground steel flowlines to the free water knockout vessels for separation while the gas is sent to compressors before being burned at two heaters. Produced water is routed from the free water knockout vessels to the produced water tanks, and then discharged to the municipal sewer line.

Crude oil from the lease is transported from the facility by pipeline. The largest tanker truck visiting the facility has a total capacity of 210 bbl (8,820 gallons). Tanker trucks come to the facility only to transfer crude oil and do not remain at the facility.

1.3 Conformance with Applicable State and Local Requirements [112.7(j)]

This SPCC Plan was written to conform with 40 CFR part 112 requirements, as demonstrated by the cross reference provided in **Appendix E**. All discharge notifications are made in compliance with local, state, and federal requirements.

SECTION 2.0 Spill Response and Reporting [40 CFR 112.7]

2.1 Discharge Discovery and Reporting [112.7(a)(3)]

Several individuals and organizations must be contacted in the event of an oil discharge. The Field Operations Supervisor is responsible for contacting the HSE Spill Line so that all required discharge notifications can be made.

All discharges should be reported to the Field Operations Supervisor.

A list of agencies to be contacted under different circumstances is included in **Appendix B** to this SPCC Plan. Discharges would typically be discovered during the inspections conducted at the facility in accordance with the procedures set forth in Section 3.4.1 of this SPCC Plan and on the checklist of **Appendix D**.

The information that must be provided when reporting a discharge, including contact lists and phone numbers, is included in **Appendix B** of this Plan.

2.1.1 Verbal Notification Requirements [40 CFR part 110]

Appendix B explains verbal notification requirements.

2.1.2 Written Notification Requirements [40 CFR part 112]

Appendix B explains written notification requirements.

2.1.3 Submission of SPCC Information

Whenever the facility experiences a discharge into navigable waters of more than 1,000 gallons, or two discharges of 42 gallons or more within a 12-month period, E&B will provide information in writing to the EPA Region 9 office within 60 days of a qualifying discharge. The required information is described in **Appendix B** of this SPCC Plan.

2.2 Spill Response Materials

Sorbent and other spill response materials are available at the on-site spill response trailer. The response equipment inventory includes:

- Absorbent pads
- Boom
- Brooms
- Bins and totes
- Coveralls
- Shovels

Once notified of a discharge, the Field Operations Supervisor will deploy additional materials from the trailer to the facility as needed.

2.3 Spill Mitigation Procedures

The following is a summary of actions that must be taken in the event of a discharge. It summarizes the distribution of responsibilities among individuals and describes procedures to follow in the event of a discharge.

In the event of a discharge, field personnel and the Field Operations Supervisor shall be responsible for the following:

2.3.1 Shut Off Ignition Sources

Field personnel must shut off all ignition sources, including motors, electrical circuits, and open flames.

2.3.2 Stop Oil Flow

Field personnel should determine the source of the discharge, and if safe to do so, immediately shut off the source of the discharge. Shut in the well(s) if necessary.

2.3.3 Stop the Spread of Oil and Call the Field Operations Supervisor

If safe to do so, field personnel must use resources available at the field office (see spill response material and equipment listed in Section 2.2) to stop the spilled material from spreading.

Field personnel must then contact the Field Operations Supervisor.

2.3.4 Gather Spill Information

The Field Operations Supervisor will ensure that notifications have been made to the appropriate authorities. The Field Operations Supervisor may ask for assistance in gathering the following spill information for such notifications:

- Reporter's name
- Exact location of the spill
- Date and time of spill discovery
- Material spilled (e.g., oil, produced water containing a reportable quantity of oil)
- Total volume spilled
- Weather conditions
- Source of spill
- Actions being taken to stop, remove, and mitigate the effects of the discharge
- Whether an evacuation may be needed
- Spill impacts (injuries; damage; environment)
- Names of individuals and/or organizations who have also been contacted

2.3.5 Notify Agencies Verbally

Some notifications must be completed immediately upon discovering the discharge. It is important to immediately contact the HSE Spill Line so that timely notifications can be made. The required notifications to government agencies and Notification List are included in **Appendix B** of this

SPCC Plan. The Health, Safety, and Environmental Team must also ensure that written notifications, if needed, are submitted to the appropriate agencies.

2.4 Disposal Plan

E&B personnel, and/or the cleanup contractor will handle the disposal of any recovered product, contaminated soil, contaminated materials and equipment, decontamination solutions, sorbents, and spent chemicals collected during a response to a discharge incident.

Any recovered product that can be recycled will be placed into the wash tank to be separated and recycled. Any recovered product not deemed suitable for on-site recycling will be properly disposed of with the rest of the waste collected during the response efforts.

If the facility responds to a discharge without involvement of a cleanup contractor, E&B will contract a licensed transportation/disposal company to dispose of waste according to regulatory requirements. E&B will characterize the waste and arrange for the use of certified waste containers.

All facility personnel handling hazardous wastes must have received both the initial 40-hour and annual 8-hour refresher training in the Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) of the Occupational Health and Safety Administration (OSHA). This training is included as part of the initial training received by all field personnel. Training records and certificates are kept at the field office.

SECTION 3.0 Spill Prevention, Control, and Countermeasure Provisions

3.1 Potential Discharge Volume and Direction of Flow [112.7(b)] and Containment [112.7(a)(3)(iii)]

Table 3-1, below, summarizes potential oil discharge scenarios.

Table 3-1: Potential discharge volume and direction of flow

Source	Type of Failure	Maximum Volume (gal)	Maximum Discharge Rate (gal/hr)	Direction of Flow	Secondary Containment
Tank Battery					
Largest storage tank	Rupture/leak	42,000	42,000	North	Containment walls
Flowlines and Piping					
Flowlines and piping adjacent to storage tanks	Leak	528	60	North	Containment walls
Flowlines and piping associated with wells	Leak	150	60	North	Well cellars
Well					
Head, valves, fitting, gauges	Leak	24	1	North	Well cellars
Transfer and Loading Operations					
Transport truck loading hose	Rupture	189	3,780	North	Containment walls and berm
Transfer valve	Rupture, leak of valve packing	189	3,780	North	Containment walls and berm

3.2 Containment and Diversionary Structures [112.7(c) and 112.7(a)(3)(iii)]

The facility is configured to minimize the likelihood of a discharge reaching navigable waters. The following measures are provided:

- Secondary containment for the oil storage tanks is provided by a retaining wall that provides a total containment volume of 2,155 barrels (90,529 gallons), as described in Section 3.2.2 below.

- The tank truck loading area is graded such that any potential spills from tanker transport trucks will be directed to and held by the retaining wall. Berms are placed at each of the facility's gates to further prevent a spill from reaching the street. In addition, the end of the load line is equipped with a load line drip bucket designed to prevent small discharges that may occur when disconnecting the hose.
- Sorbents, shovels, and other discharge response materials are stored at the field office.

These measures are described in more details in the following sections.

3.2.1 Oil Production Facility Drainage [112.9(b)]

The tank battery retaining wall does not have drainage valves allowing the discharge of fluids, whether contaminated stormwater or spilled process fluids, to offsite areas. All fluids released in the tank farm are collected on-site and reintroduced into the production system.

Discharges occurring during transfer operations will be contained at the well by its cellar. Accumulated fluids in the cellars will be collected by the cellars' sump pumps and reintroduced into the production system.

3.2.2 Secondary Containment for Bulk Storage Containers

In order to further minimize the potential for a discharge to navigable waters, the tank farm has a retaining wall with a height of 2.33 ft. The tank farm site is graded such that any potential spill will be directed to and held by the retaining wall. The retaining wall capacity exceeds SPCC requirements. It provides secondary containment sufficient for the size of the largest tank, plus at least 0.5 ft of freeboard to contain precipitation. This secondary containment is equivalent to 216% percent of the capacity of the largest tank within the containment area (2,155 barrels) and exceeds the 10 percent freeboard recommended by API for walls around production tanks (API-12R1). The amount of freeboard also exceeds the amount of precipitation anticipated at this facility, which is estimated to average 5.1 inches for a 24-hour, 25-year storm, based on data from the National Weather Service. Table 3-2 provides secondary containment calculations.

Table 3-2: Retaining wall capacity calculations

Tank Farm Retaining Wall Capacity	
Retaining wall height	2.33 ft
Retaining wall dimensions	105 ft x 55 ft = 5,775 ft^2
Tank footprint	2 tanks @ 22 ft dia. each = 2 x (π $22^2/4$) = 760 ft^2
	1 tank @ 16 ft dia. each = 1 x (π $16^2/4$) = 201 ft^2
	Total 201+760 = 961 ft^2
Net volume	2.33 ft x (5,775 ft^2 – 961 ft^2) = 11217 ft^3 = 83909 gallons
Ratio to largest tank	(83909 / 42,000) x 100% = 199.78%
Corresponding Amount of Freeboard	
100% of tank volume	42,000 gallons = 5,615 ft^3
Net area (minus tank footprint)	11217 ft^2 – 5,615 ft^2 = 5602 ft^2

Minimum height for 100% of tank volume	5,615 ft^3 / 5,602 ft^2 = 1 ft
Freeboard	2.33 ft – 1 ft = 1.33 ft

3.3 Other Spill Prevention Measures

3.3.1 Bulk Storage Containers Overflow Prevention [112.9(c)(4)]

The tank battery is designed with a system to prevent discharge, as follows:

- The capacity of the oil storage tanks is sufficient to protect against overfilling. The maximum capacity of the wells linked to the tank battery is approximately 266 barrels of oil per day. The oil tanks are sized to provide sufficient oil storage for at least 10 days.
- The tanks are connected with overflow equalizing lines to ensure that a full tank can overflow to an adjacent tank.
- Vacuum protection adequate to prevent tank collapse during transfer operations.

3.3.2 Transfer Operations [112.9(d)]

All aboveground valves and piping associated with transfer operations are inspected daily by the operator and/or tank truck driver, as described in Section 3.4 of this Plan. The inspection procedure includes observing flange joints, valve glands and bodies, drip pans, and pipe supports. The conditions of the pumping wells' polished rod stuffing boxes, and bleeder and gauge valves, are inspected monthly.

3.4 Inspections, Tests, and Records [112.7(e)]

This Plan outlines procedures for inspecting the facility equipment in accordance with SPCC requirements. Records of inspections performed are a part of this Plan and are maintained with this Plan at the field office for a minimum of three years. The reports include a description of the inspection procedure, the date of inspection, and are signed by the inspecting employee.

The program established in this SPCC Plan for regular inspection of all oil storage tanks and related production and transfer equipment follows the American Petroleum Institute's *Recommended Practice for Setting Maintenance, Inspection, Operation, and Repair of Tanks in Production Service* (API RP 12R1, Fifth Edition, August 1997).

Each tank is inspected monthly by field operation personnel as described in Section 3.4.2 and following the checklist provided in **Appendix D** of this SPCC Plan. The monthly inspection is aimed at identifying signs of deterioration and maintenance needs, including the foundation and support of each container. Any leak from tank seams, gaskets, rivets, and bolts is promptly corrected.

The inspection program is comprised of CalGEM daily examinations, monthly inspections, and periodic wall thickness inspections. Additional inspections and/or examinations are performed

whenever an operation alert, malfunction, shell or deck leak, or potential bottom leak is reported following a scheduled examination. Monthly examination/inspection reports are signed by the inspecting employee and are maintained at the field office for a period of at least three years.

3.4.1 Daily Examinations

The facility is examined hourly by field operations personnel. The visual examination consists of a walkthrough of the tank battery and around the wells. Field operations personnel check the wells and production equipment for leaks and proper operation. They examine all aboveground valves, polished rod stuffing boxes, wellheads, fittings, gauges, and flowline piping at the wellhead. Personnel inspect pumps to verify proper function and check for damage and leakage. They look for accumulation of water within the tank battery berms.

The storage tanks are equipped with level gauges. A daily production report is maintained. All malfunctions, improper operation of equipment, evidence of leakage, stained or discolored soil, etc. are logged and communicated to the E&B Field Operations Supervisor.

3.4.2 Monthly Inspections

The checklist provided in **Appendix D** is used during monthly inspections. These inspections are performed in accordance with written procedures such as API standards (e.g., API RP 12R1), engineering specifications, and maintenance schedule developed by the equipment manufacturers.

3.4.3 Periodic Inspection of Bulk Storage Containers

A wall thickness test of a tank is performed by an inspector according to the schedule and scope specified in 14 CCR § 1773.4. The schedule is determined based on the corrosion rate. If the corrosion rate is known, the inspection shall be performed once every 15 years.

3.4.4 Brittle Fracture Evaluation [112.7(i)]

All of the tanks are low carbon composition at low temperature; thus a brittle facture will not occur. Therefore, no brittle fracture evaluation is required.

3.4.5 Flowline Maintenance Program [112.9(d)(3)]

The flowline maintenance program is specifically implemented to maintain the integrity of the primary container (in this case piping) to minimize releases of oil from this part of the production facility. The facility's gathering lines and flowlines are configured, inspected monthly for leaks at connections and corrosion, and maintained to minimize the potential for a discharge as summarized in Table 3-3.

Records of integrity inspections, mechanical integrity tests, repairs, and part replacements are kept at the field office for at least five years in accordance with 14 CCR § 1777.3.

Table 3-3: Components of flowline maintenance program

Component	Measures/Activities

Configuration	• With the exception of the underground lines, flowlines and appurtenances (valves, flange joints, supports) can be visually observed for signs of leakage, deterioration, or other damage.
Inspection	• Lines are visually inspected for leaks and corrosion as part of the daily rounds by field personnel, as discussed in Section 3.4 above. • The buried portions of the well flowlines are coated/wrapped and visually observed for damage of coating condition whenever they are repaired, replaced, or otherwise exposed. • Every two years, flowlines are tested using ultrasonic techniques to determine remaining wall thickness and mechanical integrity. Copies of test results are maintained at the field office for five years to allow comparison of successive tests.
Maintenance	• Any leak in the flowline or appurtenances is promptly addressed by isolating the damaged portion and repairing or replacing the faulty piece of equipment. • Any portion of a flowline that fails the mechanical integrity test is repaired and retested, or replaced. • Chemical anti-corrosion treatment is used in pipelines.

3.5 Personnel, Training, and Discharge Prevention Procedures [112.7(f)]

The Field Operations Supervisor has been designated as the point of contact for all oil discharge prevention and response at this facility.

All E&B field personnel receive training on proper handling of oil products and procedures to respond to an oil discharge prior to entering the Murphy Production Facility. The training ensures that all facility personnel understand the procedures described in this SPCC Plan and are informed of the requirements under applicable pollution control law, rules and regulations. The training also covers risks associated with potential exposure to hydrogen sulfide gas, and confined space entry and operations.

3.5.1 Spill Prevention Briefing

The Operations Superintendent Team conducts Spill Prevention Briefings annually to ensure adequate understanding and effective implementation of this SPCC Plan. These briefings highlight and describe known spill events or failures, malfunctioning components, and recently developed precautionary measures. The briefings are conducted in conjunction with the company safety meetings. Sign-in sheets, which include the topics of discussion at each meeting, are maintained with this Plan at E&B's Bakersfield Office.

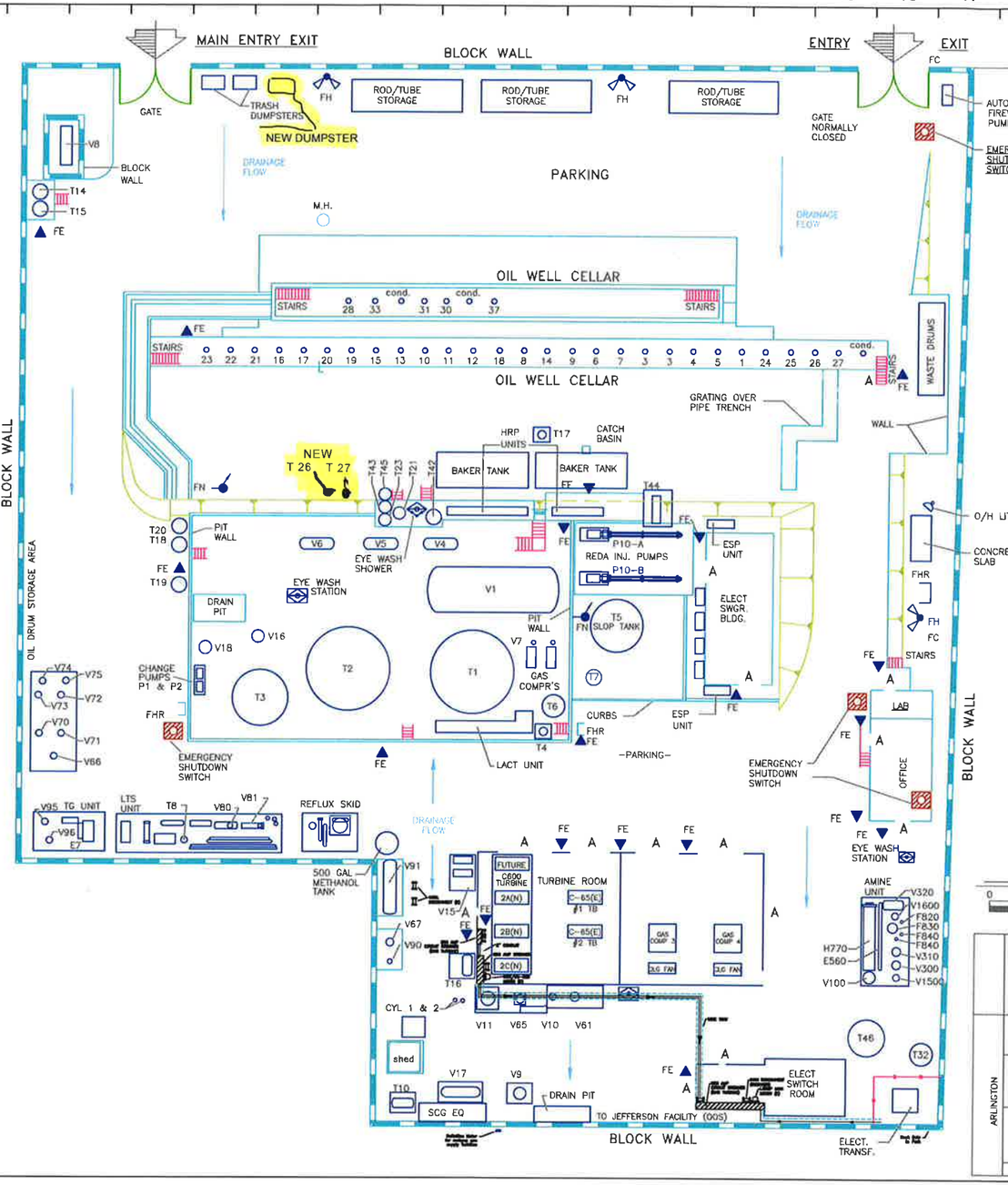
The scheduled annual briefing includes a review of E&B policies and procedures relating to spill prevention, control, cleanup, and reporting; procedures for routine handling of products (e.g., loading, unloading, transfers); SPCC inspections and spill prevention procedures; spill reporting procedures; spill response; and recovery, disposal, and treatment of spilled material.

Personnel are instructed in operation and maintenance of equipment to prevent the discharge of oil, and in applicable federal, state, and local pollution laws, rules, and regulations. Facility operators and other personnel have an opportunity during the briefings to share recommendations concerning health, safety, and environmental issues encountered during facility operations.

The general outline of the briefings is as follows:

- Responsibilities of personnel and Designated Person Accountable for Spill Prevention;
- Spill prevention regulations and requirements;
- Spill prevention procedures;
- Spill reporting and cleanup procedures;
- History/cause of known spill events;
- Equipment failures and operational issues;
- Recently developed measures/procedures; and
- Proper equipment operation and maintenance.

APPENDIX A FACILITY DIAGRAM



PLOT PLAN

0 20 40

SCALE IN FEET

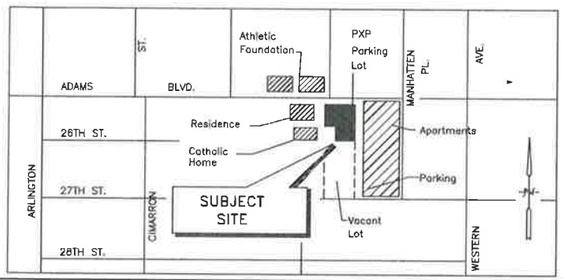
MURPHY DRILL SITE

ITEM	DESCRIPTION	CAPACITY	CONTENTS (VOLUME %)
T1	STORAGE TANK	500 BBL	CRUDE OIL 20–80%, NAT. GAS 20–80%
T2	STORAGE TANK	1000 BBL	PRODUCED WATER 99%, CRUDE OIL 1%
T3	STORAGE TANK	250 BBL	PRODUCED WATER 99%, CRUDE OIL 1%
T4	STORAGE TANK	110 GALL	LUBE OIL S2 Z 30
T5	STORAGE TANK	100 BBL	SLOP TANK
T6	STORAGE TANK	500 GALL	DEGREASER
T7	STORAGE TANK	300 GALL	LUBE OIL
T8	STORAGE TANK	60 GALL	SULFURIC ACID
NEW T28	STORAGE TANK	250 GALL	CORROSION INHIBITOR WELL TREATMENT
T14	STORAGE TANK	290 GALL	ETHYLENE GLYCOL
T15	STORAGE TANK	290 GALL	ETHYLENE GLYCOL
T16	STORAGE TANK	550 GALL	AW-220 LUBE OIL
T17	STORAGE TANK	120 GALL	ODOR CONTROL
T18	STORAGE TANK	200 GALL	OXYGEN SCANVENGER
T19	STORAGE TANK	200 GALL	BIOCIDE
T20	STORAGE TANK	120 GALL	CORROSION INHIBITOR
T21	STORAGE TANK	120 GALL	WATER CLARIFIER
T23	STORAGE TANK	120 GALL	DEMULSIFIER
T25	STORAGE TANK	500 GALL	METHANOL – LTS UNIT
T32	STORAGE TANK	750 GALL	DE-IONIZED WATER
T42	STORAGE TANK	200 GALL	WATER CLARIFIER
T43	STORAGE TANK	200 GALL	IRON SULFIDE REMOVER
T44	STORAGE TANK	1000 GALL	HYDRAULIC LUBRICANT–SHELL TELLUS
T45	STORAGE TANK	200 GALL	CORROSION INHIBITOR
T46	STORAGE TANK	1100 GALL	DIETHANOLAMINE
NEW T 27	STORAGE TANK	200 GALL	CORROSION INHIBITOR WELL TREATMENT
V1	F.W. KNOCKOUT DRUM	500 BBL	CRUDE OIL 25% GAS 5%
V4–V6	TEST SEPARATORS	20 BBL EA	PRODUCED WATER 70%
V7	VAPOR COMPRESSOR	N/A	NATURAL GAS
V8	GLYCOL REGENERATOR	50 GALL	TRI-ETHYLENE GLYCOL–OUT OF SERVICE
V9	GLYCOL SCRUBBER	50 GALL	OUT OF SERVICE
V10	HP SCRUBBER	N/A	NATURAL GAS
V11	SUCTION SCRUBBER	N/A	NATURAL GAS
CYL-1	CYLINDER	560 CU FT	COMPRESSED METHANE
CYL-2	CYLINDER	560 CU FT	COMPRESSED HELIUM
V15	AIR COMPRESSOR TANKS	N/A	AIR
V17	SALES GAS SCRUBBER	N/A	NATURAL GAS
V61	SWEET GAS KOP	N/A	OUT OF SERVICE
V65	3RD STG DISCH SCRUB	N/A	NATURAL GAS
V66	PSA INLET SCRUBBER	N/A	NATURAL GAS
V67	GAS SCRUBBER	N/A	NATURAL GAS
V70–V75	PSA ABSORBERS	N/A	NATURAL GAS
V80	COLD SEPARATOR	N/A	NATURAL GAS
V81	STABILIZER	N/A	NATURAL GAS
V86–V89	REFRIGERANT SKID VESSELS	N/A	FREON
V90	FUEL GAS SCRUBBER	N/A	NATURAL GAS
V91	NGL TANK	N/A	LIQUEFIED NATURAL GAS
V95	SCRUBBER	N/A	NATURAL GAS
V96	SCRUBBER	N/A	NATURAL GAS

VICINITY MAP

0 500 1000

SCALE IN FEET



LEGEND

FH	FIRE HYDRANT
FE	FIRE EXTINGUISHER
FHR	FIRE HOSE REEL
FN	FIRE NOZZLE
A	ACCESS DOORWAY
FC	FIRE CONNECTION
	EYE WASH SHOWER
	EYE WASH STATION
	EMERGENCY SHUT DOWN SWITCHES

MURPHY SITE

Emergency Phone: (800) 926-6370 (24 HRS)

E&B Natural Resources
1608 Norris Road
Bakersfield, CA 93308
Tel. (714) 968-4770

MURPHY DRILLSITE
2126 W. ADAMS BLVD, LOS ANGELES, CA 90018
Office 323-732-6153 Operator 323-816-1528
PLOT PLAN

SCALE: APPROX. (USE SCALE BAR)

DWG NO. PMP-M-GAS-2020

CMN | SH NO. 1 | REV. NO. B

1/10/23 UPDATED EQUIPMENT LOCATION & LIST

APPENDIX B DISCHARGE NOTIFICATION PROCEDURES

Discharge Notification Procedures

Circumstances, instructions, and phone numbers for reporting a discharge to the National Response Center and other federal, state, and local agencies, and to other affected parties, are provided below. They are also posted at the field office.

Qualified Individual: Louis P. Zylstra, Jr. PE	(714) 325-9502 or (714) 968-4770
Superintendent: Steve Griffis	(562) 900-1745
HSE Spill Line	(661) 383-0360
Local Emergency (fire, explosion, or other hazards)	911

Agency/Organization	Agency Contact	Circumstances	When to Notify
Federal Agencies			
National Response Center	1-800-424-8802	Discharge reaching navigable waters.	**Immediately (verbal)**
EPA Region IX Regional Administrator	US EPA Pacific Southwest, Region 9 75 Hawthorne San Francisco, CA 94105 1-800-300-2193	Discharge into navigable waters of 1,000 gallons or more; or second discharge into navigable waters of 42 gallons or more over a 12-month period.	Written notification within 60 days (see Section 2.1 of this Plan)
State Agencies			
California Office of Emergency Services, California State Warning Center	916-845-8911 or 1-800-852-7550	1) Any spill or other release of **one barrel** or more of petroleum, (including crude oil), from an oil production facility or tank facility. 2) Discharges of any quantity of oil or petroleum products, into or on any waters of the state. 3) Hazardous Liquid Pipeline releases and any explosion or fire involving a pipeline.	**Immediately (verbal)** Written follow up report within 30 days (19 CCR §2632).
California Geologic Energy Management Division (CalGEM) Southern District	562-637-4400	1) Any spill or other release of **one barrel** or more of petroleum from an oil production facility. 2) Discharges of any quantity of oil or petroleum products into or on any waters of the state.	**Immediately (verbal)**
California Division of Occupational Safety and Health Administration (OSHA)	559-445-5302	Injury requiring hospitalization or fatality.	**Immediately (verbal)**

California Highway Patrol	911	Spills occurring on the highways of the State of California.	**Immediately (verbal)**
Local Agencies Los Angeles Fire Department	213-893-9840	Any spill or other release of **one barrel** or more of oil or petroleum products.	**Immediately (verbal)**

The person reporting the discharge must provide the following information:

- Name, location, organization, and telephone number;
- Name and address of the owner/operator;
- Date and time of the incident;
- Location of the incident;
- Source and cause of discharge;
- Types of material(s) discharged;
- Total quantity of materials discharged;
- Quantity discharged in harmful quantity (to navigable waters or adjoining shorelines);
- Danger or threat posed by the release or discharge;
- Description of all affected media (e.g., water, soil);
- Number and types of injuries (if any) and damaged caused;
- Weather conditions;
- Actions used to stop, remove, and mitigate effects of the discharge;
- Whether an evacuation is needed;
- Name of individuals and/or organizations contacted; and
- Any other information that may help emergency personnel respond to the incident.

Whenever the facility discharges more than 1,000 gallons of oil into navigable waters in a single event, or discharges more than 42 gallons of oil in each of two navigable water discharge incidents within a 12-month period, the Health, Safety, and Environmental Team must provide the following information to the U.S. Environmental Protection Agency's Regional Administrator within 60 days:

- Name of the facility;
- Name of the owner or operator;
- Location of the facility;
- Maximum storage or handling capacity and normal daily throughput;
- Corrective actions and countermeasures taken, including a description of equipment repairs and replacements;
- Description of facility, including maps, flow diagrams, and topographical maps;
- Cause of the discharge(s) to navigable waters, including a failure analysis of the system and subsystems in which the failure occurred;
- Additional preventive measures taken or contemplated to minimize possibility of recurrence; and
- Other pertinent information requested by the Regional Administrator

APPENDIX C CONTACT LIST AND QUICK ACTION CHECKLIST FOR OPERATORS

Contact List

Name of Operator:	E&B Natural Resources Mgmt Corp
Name of Facility:	Murphy Production Site
Phone Numbers:	Business: (714) 960-8700 Fax: (714) 960-8722
Mailing Address of Operator:	1608 Norris Road, Bakersfield CA 93308
Current Operation:	Onshore Production Petroleum Facility
Name and Telephone Numbers of the Managing Officer:	Louis P. Zylstra, Jr., Sr. Vice President – LA Basin Cell: (714) 325-9502 Alternate: (714) 968-4770
Name and Telephone Number of the Primary Contact:	Steve Griffis, Superintendent Cell: (562) 900-1745
Name and Telephone Number of the Secondary Contact:	Gilbert Alferez, Supervisor Cell: (714) 951-1003
Name, Address, and Telephone Numbers to Whom Correspondence Should be Sent:	Cody Peters, Facility Operations Engineer 10661 Ellis Ave Ste D Fountain Valley, CA 92708 Cell: (949) 903-5339
Vendors:	
Vititow Construction	(562) 244-1199
Patriot Environmental Services	(800) 624-9136

Quick Action Checklist

_____ Take appropriate personal protective measures.

_____ Call for medical assistance if an injury has occurred.

_____ Restrict access to the spill site and adjacent area as the situation demands. Take any other steps necessary to minimize any threat to health and safety.

_____ Verify the type of product and quantity released.

_____ Advise personnel in the area of any potential threat and/or initiate evacuation procedures.

_____ Eliminate possible sources of ignition in the vicinity of the spill.

_____ Identify and isolate the source of the discharge and minimize the loss of product.

_____ Contain and estimate the volume of the spill.

_____ Notify your supervisor.

APPENDIX D SAMPLE INSPECTION FORMS

Monthly Inspection Checklist – Murphy

Further description and comments, if needed, should be provided on a separate sheet of paper and attached to this sheet. Any item answered "YES" needs to be promptly reported, repaired, or replaced, as it may result in non-compliance with regulatory requirements. Records are maintained with the SPCC Plan at the Murphy field office.

Date: _____ Signature: _____

	Yes	No	Description & Comments (Note tank/equipment ID)
Storage Tanks and Separation Equipment			
Tank surfaces show signs of leakage			
Tanks show signs of damage, rust, or deterioration			
Bolts, rivets or seams are damaged			
Aboveground tank foundations have eroded or settled			
Gaskets are leaking			
Level gauges or alarms are inoperative			
Vents are obstructed			
Hatch and vent valve do not seal airtight			
Retaining wall shows discoloration or stains			
Retaining wall is breached or eroded or has vegetation			
Retaining wall drainage valves are open/broken			
Tank area clear of oil, trash, and vegetation			
Equipment protectors, labels, or signs are missing			
Piping/Flowlines and Related Equipment			
Valve seals or gaskets are leaking			
Pipelines or supports are damaged or deteriorated			
Buried pipelines are exposed			
Transfer Equipment			
Loading/unloading lines are damaged or deteriorated			
Connections are not capped or blank-flanged			
Secondary containment is damaged or stained			

Additional Remarks (attach sheet as needed):

APPENDIX E SPCC CROSS REFERENCE

Provision*	Plan Section	Page(s)
112.3(d)	Professional Engineer Certification	3
112.3 (e)	Location of SPCC Plan	6
112.5	Plan Review	5
112.7	Management Approval	3
112.7	Cross-Reference with SPCC Rule	E-2
112.7 (a)(3)	Section 1.0 General Facility Information Appendix A Facility Diagram	6 A-1
112.4 and 112.7(a)(4)	2.1 Discharge Discovery and Reporting Appendix C Discharge Notification Procedures	9 C-1
112.7(a)(5)	2.2 Spill Mitigation Procedures	9
112.7(b)	3.1 Potential Discharge Volume and Direction of Flow	12
112.7(c)	3.2 Containment and Diversionary Structures	12
112.7(e)	3.4 Inspections, Tests, and Records	14
112.7(f)	3.5 Personnel, Training, and Discharge Prevention Procedures	16
112.7(g)	Security – N/A (does not apply to production facilities)	N/A
112.7(h)	Loading/Unloading Rack – N/A (no rack present)	N/A
112.7(i)	Brittle Fracture Evaluation – N/A (no field-erected aboveground tank)	15
112.7(j)	1.5 Conformance with Applicable State and Local Requirements	8
112.9(b)	3.2.1 Oil Production Facility Drainage Record of Dike Drainage	13
112.9(c)(1)	1.2.1 Production Equipment	7
112.9(c)(2)	3.2.2 Secondary Containment for Bulk Storage Containers	13
112.9(c)(3)	3.4 Inspections, Tests, and Records	14
112.9(c)(4)	3.3.1 Bulk Storage Containers Overflow Prevention	14
112.9(d)(1)	3.3.2 Transfer Operations	14
112.9(d)(2)	3.3.2 Transfer Operations	14
112.9(d)(3)	3.4.5 Flowline Maintenance Program	15

*Only relevant rule provisions are indicated. For a complete list of SPCC requirements, refer to the full text of 40 CFR part 112.

Appendix D

Pipeline Management Plan (PMP) and Murphy 21 Well Abandonment Notice

PIPELINE MANAGEMENT PLAN

As required by Geologic Energy Management Division regulations CCR 1774.2

	Operator	Facility
Name:	E&B Natural Resources	E&B Natural Resources
Address:	1600 Norris Rd	2126 W Adams Blvd
City, State, Zip:	Bakersfield, CA 93308	Los Angeles, CA 90018
Phone:	714-325-9502	714-325-9502
Contact:	Lou Zylstra	Lou Zylstra
Email:	lzylstra@ebresources.com	lzylstra@ebresources.com
Field/Lease:	Las Cienegas / Murphy	**County:** Los Angeles
Sec.	2 **Twn:** 02S **Rge:** 14W	**Offshore:** No

Describe preventatitve maintenance performed for associated pipeline appurtenances, instrumentation, and equipment (e.g. valves , gauges, sensors) to ensure safe pipeline operations, per 1774.2(b)(3).

According to the Operator's policy:

All pipeline equipment is properly calibrated by the manufacturer before being put into service. All pipeline equipment is regularly monitored for operability and is promptly replaced when deemed inoperable. All pressure safety valves (PSVs) are routinely recalibrated on a schedule recommended by the manufacturer. When deemed inoperable by the operator, all gauges must be recalibrated per the manufacturer's recommendations before being put back into service.
Daily visual inspections and quarterly leak inspections with a gas analyzer are conducted on all sensitive pipelines.

Repairs for components with detected leaks are carried out as soon as possible.
Analyzer equipment is calibrated before each use.
Chemical anti-corrosion treatment is used throughout the facility.

Ultrasonic testing will be performed for all mechanical integrity tests for pipelines identified as Above Ground ("AG") or Partially Buried ("P") on the Operator's current PMP.
Pipelines identified as Under Ground ("UG") will be tested using either the hydrostatic method according to AMSE B31.3, or the Guided Wave method.

All Ultrasonic thickness tests are carried out by Engineering Technicians qualified in Non-Destructive Testing by ASNT standards. All results and calculations are verified by a licensed Pipeline Engineer.

Note:

All pipelines within the Murphy facility are within urban areas and identified as environmentally sensitive per 1760 (f).

As shown on the Operator's PMP, the maximum operating pressure (MOP) of all pipelines is calculated as twice the value of each pipelines current operating pressure (OP).

Previous MIT tests for a number of pipelines are unavailable and are thus marked as "N/A" under the Last Test Date and Last Test Method columns on the Operator's PMP

Updated pipeline management plans were created according to CalGEM guidelines, including operator workshops on multi-segment pipelines and pipeline nodal representation.

Ultrasonic Pipeline Thickness Test Data

E&B Natural Resources

Field: **Las Cienegas**

Lease: **Murphy**

Equipment Used: All tests were carried out by Engineering Technicians qualified in Non-Destructive Testing by ASNT standards. All results were verified by a licensed Pipeline Engineer.

All tests were completed using Dakota Ultrasonics ZX-6DL UT thickness gauges with max operating temperatures of 650 degrees F and through-paint capabilities, resolution of .001"

Reference Data				
Pipeline Contents	Allowable Stress (psi)	Design Factor	Corrosion Rate (in./yr.)	Corr. Allowance (in.)
Oil/ Production	20000	1	0.00023	0.05
Water	20000	1	0.00025	0.05
Gas	20000	0.6	0.00039	0.05

Pipeline Information									UT Thickness Test Information			Calculations				
Code	Nom. Dia. (in)	Outside Dia. (in.)	Contents	Active	Yr. Install.	AG, UG, UW, P	Op. Press. (psi)	MOP (psi)	Test Date	Test Location	Test Result (in.)	Min. Allow. Thick. (in.)	Pass/ No Pass	MAOP (psi)	Remaining Life (yrs.)	Comments
4OG40/NC-PM1	4	4.500	Pro.	Yes	10+	AG	100	200	7/31/2025	1	0.321	0.073	Pass	2408.889	1080.43	
4OG40/NC-PM1	4	4.500	Pro.	Yes	10+	AG	100	200	7/31/2025	2	0.340	0.073	Pass	2577.778	1163.04	
4OG40/NC-PM1	4	4.500	Pro.	Yes	10+	AG	100	200	7/31/2025	3	0.333	0.073	Pass	2515.556	1132.61	
4OT40/NC-PM2	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.319	0.061	Pass	2391.111	1120.65	
4OT40/NC-PM2	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	2	0.326	0.061	Pass	2453.333	1151.09	
4OT40/NC-PM2	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	3	0.348	0.061	Pass	2648.889	1246.74	
4OT40/NC-PM3	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.340	0.061	Pass	2577.778	1211.96	
4OT40/NC-PM3	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	2	0.355	0.061	Pass	2711.111	1277.17	
4OT40/NC-PM3	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	3	0.338	0.061	Pass	2560.000	1203.26	
2OP40/NC-T2	2	2.375	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.205	0.056	Pass	2610.526	648.10	
2OP40/NC-T2	3	3.500	Pro.	Yes	10+	AG	50	100	7/31/2025	2	0.203	0.059	Pass	1748.571	627.17	
4OP40/SC-T2	2	2.375	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.235	0.056	Pass	3115.789	778.53	
4OP40/SC-T2	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	2	0.237	0.061	Pass	1662.222	764.13	
4OP40/SC-T2	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	3	0.242	0.061	Pass	1706.667	785.87	
6OG40/PM1-V4V5	6	6.625	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.446	0.067	Pass	2390.943	1649.73	
6OG40/PM1-V4V5	6	6.625	Pro.	Yes	10+	AG	50	100	7/31/2025	2	0.280	0.067	Pass	1388.679	927.99	
6OG40/PM1-V4V5	6	6.625	Pro.	Yes	10+	AG	50	100	7/31/2025	3	0.476	0.067	Pass	2572.075	1780.16	
4OT40/PM2-V6	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.310	0.061	Pass	2311.111	1081.52	
4OT40/PM2-V6	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	2	0.376	0.061	Pass	2897.778	1368.48	
4OT40/PM3-V6	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.315	0.061	Pass	2355.556	1103.26	
4OG40/PM4-V4V5	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.328	0.061	Pass	2471.111	1159.78	
4OP40/V4-FWKO	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.344	0.061	Pass	2613.333	1229.35	
4OP40/V4-FWKO	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	2	0.247	0.061	Pass	1751.111	807.61	
4OP40/V5-FWKO	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.325	0.061	Pass	2444.444	1146.74	
2OP40/V6-FWKO	2	2.375	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.222	0.056	Pass	2896.842	722.01	
2WP40/V6-FWKO	2	2.375	Water	Yes	10+	AG	50	100	7/31/2025	1	0.213	0.056	Pass	2745.263	628.25	
4OP40/FWKO-T1	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.241	0.061	Pass	1697.778	781.52	
4OP40/FWKO-T1	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	2	0.233	0.061	Pass	1626.667	746.74	
6OP40/T1-LACTs	6	6.625	Oil	Yes	10+	AG	50	100	7/31/2025	1	0.384	0.067	Pass	2016.604	1380.16	
6OS40/LACTs-OSL	4	4.500	Oil	Yes	10+	AG	100	200	7/31/2025	1	0.232	0.073	Pass	1617.778	693.48	
6OS40/LACTs-OSL	6	6.625	Oil	Yes	10+	AG	100	200	7/31/2025	2	0.273	0.083	Pass	1346.415	825.54	
6OS40/LACTs-OSL	6	6.625	Oil	Yes	10+	AG	100	200	7/31/2025	3	0.275	0.083	Pass	1358.491	834.24	
6OP40/T2-T3	6	6.625	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.281	0.067	Pass	1394.717	932.34	
4OP40/T2T3-T1	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.233	0.061	Pass	1626.667	746.74	
4OP40/T2T3-T1	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	2	0.237	0.061	Pass	1662.222	764.13	
4OP40/T2T3-T1	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	3	0.235	0.061	Pass	1644.444	755.43	
6OP40/T5-sump	6	6.625	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.260	0.067	Pass	1267.925	841.03	
6OP40/T5-sump	6	6.625	Pro.	Yes	10+	AG	50	100	7/31/2025	2	0.269	0.067	Pass	1322.264	880.16	
4OP40/FWKO-sump	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.242	0.061	Pass	1706.667	785.87	
4OP40/FWKO-sump	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	2	0.298	0.061	Pass	2204.444	1029.348	
2OP40/V4-sump	2	2.375	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.155	0.056	Pass	1768.421	430.71	
2OP40/V4-sump	2	2.375	Pro.	Yes	10+	AG	50	100	7/31/2025	2	0.215	0.056	Pass	2778.947	691.576	
2OP40/V5-sump	2	2.375	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.109	0.056	Pass	993.684	230.71	
2OP40/V5-sump	2	2.375	Pro.	Yes	10+	AG	50	100	7/31/2025	2	0.213	0.056	Pass	2745.263	682.880	
2OP40/T2-sump	2	2.375	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.232	0.056	Pass	3065.263	765.49	
4OP40/V16-sump	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.239	0.061	Pass	1680.000	772.83	
4OP40/V16-sump	4	4.500	Pro.	Yes	10+	AG	50	100	7/31/2025	2	0.237	0.061	Pass	1662.222	764.130	
2OP40/T1-sump	2	2.375	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.212	0.056	Pass	2728.421	678.53	
2OP40/T3-sump	2	2.375	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.217	0.056	Pass	2812.632	700.27	
2OP40/T3-sump	2	2.375	Pro.	Yes	10+	AG	50	100	7/31/2025	2	0.203	0.056	Pass	2576.842	639.402	
1OP40/LACTs-sump	1	1.315	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.172	0.053	Pass	3711.027	516.14	
1OP40/LACTs-sump	1	1.315	Pro.	Yes	10+	AG	50	100	7/31/2025	2	0.190	0.053	Pass	4258.555	594.402	
1OP40/VRU-sump	1	1.315	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.180	0.053	Pass	3954.373	550.92	
1OP40/VRU-sump	1	1.315	Pro.	Yes	10+	AG	50	100	7/31/2025	2	0.172	0.053	Pass	3711.027	516.141	
2OP40/sump-T2	2	2.375	Pro.	Yes	10+	AG	50	100	7/31/2025	1	0.219	0.056	Pass	2846.316	708.97	
2OP40/sump-T2	2	2.375	Pro.	Yes	10+	AG	50	100	7/31/2025	2	0.220	0.056	Pass	2863.158	713.32	
2OP40/sump-T2	2	2.375	Pro.	Yes	10+	AG	50	100	7/31/2025	3	0.229	0.056	Pass	3014.737	752.45	

2OP40/sump-T2	3	3.500	Pro.	Yes	10+	AG	50	100	7/31/2025	4	0.221	0.059	Pass	1954.286	705.43	
2OP40/sump-T2	3	3.500	Pro.	Yes	10+	AG	50	100	7/31/2025	5	0.301	0.059	Pass	2868.571	1053.26	
4WP40/FWKO-T2	4	4.500	Water	Yes	10+	AG	50	100	7/31/2025	1	0.237	0.061	Pass	1662.222	703.00	
4WP40/FWKO-T2	4	4.500	Water	Yes	10+	AG	50	100	7/31/2025	2	0.245	0.061	Pass	1733.333	735.00	
6WP40/T2-P1,2	6	6.625	Water	Yes	10+	AG	50	100	7/31/2025	1	0.411	0.067	Pass	2179.623	1377.75	
6WP40/T2-P1,2	6	6.625	Water	Yes	10+	AG	50	100	7/31/2025	2	0.310	0.067	Pass	1569.811	973.75	
6WP40/T2-P1,2	6	6.625	Water	Yes	10+	AG	50	100	7/31/2025	3	0.350	0.067	Pass	1811.321	1133.75	
6WP40/T3-P1,2	6	6.625	Water	Yes	10+	AG	100	200	7/31/2025	1	0.282	0.083	Pass	1400.755	795.50	
6WP40/T1-P1,2	6	6.625	Water	Yes	10+	AG	50	100	7/31/2025	1	0.274	0.067	Pass	1352.453	829.75	
6WP40/T1-P1,2	6	6.625	Water	Yes	10+	AG	50	100	7/31/2025	2	0.253	0.067	Pass	1225.660	745.75	
6WP40/P1,2-REDAs	6	6.625	Water	Yes	10+	AG	100	200	7/31/2025	1	0.405	0.083	Pass	2143.396	1287.50	
6WP40/P1,2-REDAs	3	3.500	Water	Yes	10+	AG	100	200	7/31/2025	2	0.204	0.068	Pass	1760.000	546.00	
6WP40/P1,2-REDAs	6	6.625	Water	Yes	10+	AG	100	200	7/31/2025	3	0.290	0.083	Pass	1449.057	827.50	
3WI80/REDAs-IM	3	3.500	Water	Yes	10+	AG	1200	1,500	7/31/2025	1	0.277	0.181	Pass	2594.286	383.00	
3WI80/REDAs-IM	3	3.500	Water	Yes	10+	AG	1200	1,500	7/31/2025	2	0.312	0.181	Pass	2994.286	523.00	
3WI80/IM-CN	3	3.500	Water	Yes	10+	AG	1200	1,500	11/30/2021	1	0.216	0.181	Pass	1897.143	139.00	
2WI80/IM-M2	2	2.375	Water	Yes	10+	AG	1200	1,500	11/30/2021	1	0.198	0.139	Pass	2492.632	235.75	
2WI80/IM-M9	2	2.375	Water	Yes	10+	AG	1200	1,500	11/30/2021	1	0.214	0.139	Pass	2762.105	299.75	
2WI80/IM-M10	2	2.375	Water	Yes	10+	AG	1200	1,500	11/30/2021	1	0.198	0.139	Pass	2492.632	235.75	
2WI80/IM-M20	2	2.375	Water	Yes	10+	AG	1200	1,500	11/30/2021	1	0.199	0.139	Pass	2509.474	239.75	
2WI80/IM-M25	2	2.375	Water	Yes	10+	AG	1200	1,500	11/30/2021	1	0.221	0.139	Pass	2880.000	327.75	
2WI80/IM-M27	2	2.375	Water	Yes	10+	AG	1200	1,500	11/30/2021	1	0.213	0.139	Pass	2745.263	295.75	
2WI80/IM- M30U	2	2.375	Water	Yes	10+	AG	1200	1,500	11/30/2021	1	0.214	0.139	Pass	2762.105	299.75	
2WI80/IM- M30L	2	2.375	Water	Yes	10+	AG	1200	1,500	11/30/2021	1	0.212	0.139	Pass	2728.421	291.75	
2WI80/IM-M37	2	2.375	Water	Yes	10+	AG	1200	1,500	11/30/2021	1	0.439	0.139	Pass	6551.579	1199.75	
6GG40/CG-V11	4	4.500	Gas	Yes	10+	AG	20	40	11/30/2021	1	0.332	0.058	Pass	2506.667	703.85	
6GG40/CG-V11	2	2.375	Gas	Yes	10+	AG	20	40	11/30/2021	2	0.216	0.054	Pass	2795.789	415.49	
6GG40/CG-V11	4	4.500	Gas	Yes	10+	AG	20	40	11/30/2021	3	0.322	0.058	Pass	2417.778	678.21	
6GG40/CG-V11	6	6.625	Gas	Yes	10+	AG	20	40	11/30/2021	4	0.420	0.061	Pass	2233.962	920.41	
6GP40/V11-1A1B	6	6.625	Gas	Yes	10+	AG	5	10	11/30/2021	1	0.259	0.053	Pass	1261.887	528.82	
6GP40/V11-1A1B	6	6.625	Gas	Yes	10+	AG	5	10	11/30/2021	2	0.288	0.053	Pass	1436.981	603.18	
6GP40/V11-1A1B	6	6.625	Gas	Yes	10+	AG	5	10	11/30/2021	3	0.250	0.053	Pass	1207.547	505.74	
6GP40/1A-GC4	6	6.625	Gas	Yes	10+	AG	5	10	11/30/2021	1	0.282	0.053	Pass	1400.755	587.79	
4GP40/GC4A-CF1	4	4.500	Gas	Yes	10+	AG	50	100	11/30/2021	1	0.245	0.069	Pass	1733.333	451.92	
6GP40/1B-GC4	6	6.625	Gas	Yes	10+	AG	5	10	11/30/2021	1	0.297	0.053	Pass	1491.321	626.26	
4GP40/GC4B-CF1	4	4.500	Gas	Yes	10+	AG	50	100	11/30/2021	1	0.332	0.069	Pass	2506.667	675.00	
4GP40/CF1-V44	4	4.500	Gas	Yes	10+	AG	50	100	11/30/2021	1	0.245	0.069	Pass	1733.333	451.92	
4GP40/V44-GC4	4	4.500	Gas	Yes	10+	AG	40	80	11/30/2021	1	0.345	0.065	Pass	2622.222	717.95	
3GP40/GC4-CF2	3	3.500	Gas	Yes	10+	AG	225	450	11/30/2021	1	0.313	0.116	Pass	3005.714	506.09	
4GP40/CF2-AC725	4	4.500	Gas	Yes	10+	AG	125	250	11/30/2021	1	0.200	0.097	Pass	1333.333	264.42	
4GP40/CF2-AC725	4	4.500	Gas	Yes	10+	AG	125	250	11/30/2021	2	0.239	0.097	Pass	1680.000	364.42	
4GP40/AC725-V300AP	4	4.500	Gas	Yes	10+	AG	125	250	11/30/2021	1	0.352	0.097	Pass	2684.444	654.17	
3GP40/V300AP-V10	4	4.500	Gas	Yes	10+	AG	125	250	11/30/2021	1	0.238	0.097	Pass	1671.111	361.86	
3GP40/V300AP-V10	3	3.500	Gas	Yes	10+	AG	125	250	11/30/2021	2	0.317	0.086	Pass	3051.429	591.13	
4GP40/V10-V43	4	4.500	Gas	Yes	10+	AG	125	250	11/30/2021	1	0.289	0.097	Pass	2124.444	492.63	
4GP40/V10-V43	4	4.500	Gas	Yes	10+	AG	125	250	11/30/2021	2	0.356	0.097	Pass	2720.000	664.42	
4GP40/V43-GC4	4	4.500	Gas	Yes	10+	AG	140	280	11/30/2021	1	0.376	0.103	Pass	2897.778	701.28	
2GP40/GC4-CF3	2	2.375	Gas	Yes	10+	AG	250	500	11/30/2021	1	0.323	0.099	Pass	4597.895	573.13	
2GP40/CF3-V65	2	2.375	Gas	Yes	10+	AG	250	500	11/30/2021	1	0.208	0.099	Pass	2661.053	278.26	
6GP40/V65-PSA	2	2.375	Gas	Yes	10+	AG	250	500	11/30/2021	1	0.222	0.099	Pass	2896.842	314.16	
6GP40/V65-PSA	6	6.625	Gas	Yes	10+	AG	250	500	11/30/2021	2	0.432	0.188	Pass	2306.415	625.59	
6GP40/V65-PSA	6	6.625	Gas	Yes	10+	AG	250	500	11/30/2021	3	0.415	0.188	Pass	2203.774	582.00	
6GP40/PSA-V95TGC	6	6.625	Gas	Yes	10+	AG	10	20	11/30/2021	1	0.438	0.056	Pass	2342.642	980.72	
2GP40/V95TGC-V67	3	3.500	Gas	Yes	10+	AG	175	350	11/30/2021	1	0.257	0.101	Pass	2365.714	399.89	
2GP40/V95TGC-V67	2	2.375	Gas	Yes	10+	AG	175	350	11/30/2021	2	0.278	0.085	Pass	3840.000	495.81	
2GP40/V67-V81	2	2.375	Gas	Yes	10+	AG	200	400	11/30/2021	1	0.212	0.090	Pass	2728.421	313.89	
2GP40/V67-V81	2	2.375	Gas	Yes	10+	AG	200	400	11/30/2021	2	0.137	0.090	Pass	1465.263	121.58	
4GP40/V81-V17	2	2.375	Gas	Yes	10+	AG	25	50	11/30/2021	1	0.223	0.055	Pass	2913.684	430.90	
4GP40/V81-V17	4	4.500	Gas	Yes	10+	AG	25	50	11/30/2021	2	0.373	0.059	Pass	2871.111	804.17	
4GS40/V17-SCGM	4	4.500	Gas	Yes	10+	AG	175	350	11/30/2021	1	0.235	0.116	Pass	1644.444	306.09	
8GP40/PSA-SGL	8	8.625	Gas	Yes	10+	AG	50	100	11/30/2021	1	0.507	0.086	Pass	2119.420	1079.65	
8GP40/PSA-SGL	8	8.625	Gas	Yes	10+	AG	50	100	11/30/2021	2	0.524	0.086	Pass	2198.261	1123.24	
2GP40/V81-V90	2	2.375	Gas	Yes	10+	AG	100	200	11/30/2021	1	0.225	0.070	Pass	2947.368	397.97	
2GP40/V90-Turbines	2	2.375	Gas	Yes	10+	AG	100	200	11/30/2021	1	0.217	0.070	Pass	2812.632	377.46	
2GP40/V90-Turbines	1	1.315	Gas	Yes	10+	AG	100	200	11/30/2021	2	0.163	0.061	Pass	3437.262	261.65	
1GP40/V90-AP	1	1.315	Gas	Yes	10+	AG	100	200	11/30/2021	1	0.173	0.061	Pass	3741.445	287.29	

1GP40/V90-V8	1	1.315	Gas	Yes	10+	AG	100	200	11/30/2021	1	0.176	0.061	Pass	3832.700	294.98	
8GP40/FWKO-V16	8	8.625	Gas	Yes	10+	AG	5	10	11/30/2021	1	0.309	0.054	Pass	1201.159	654.89	
8GP40/V16-V18	8	8.625	Gas	Yes	10+	AG	5	10	11/30/2021	1	0.340	0.054	Pass	1344.928	734.38	
6VR40/T1T2T3-VRM	6	6.625	Gas	Yes	10+	AG	5	10	11/30/2021	1	0.160	0.053	Pass	664.151	274.97	
6VR40/T1T2T3-VRM	6	6.625	Gas	Yes	10+	AG	5	10	11/30/2021	2	0.272	0.053	Pass	1340.377	562.15	
2VR40/T2T3-VRM	2	2.375	Gas	Yes	10+	AG	5	10	11/30/2021	1	0.142	0.051	Pass	1549.474	233.36	
2VR40/T2T3-VRM	2	2.375	Gas	Yes	10+	AG	5	10	11/30/2021	2	0.139	0.051	Pass	1498.947	225.67	
2VR40/sump-T3	2	2.375	Gas	Yes	10+	AG	5	10	11/30/2021	1	0.142	0.051	Pass	1549.474	233.36	
2GP40/VRM-VRU3	2	2.375	Gas	Yes	10+	AG	5	10	11/30/2021	1	0.294	0.051	Pass	4109.474	623.10	
2GP40/VRM-VRU3	2	2.375	Gas	Yes	10+	AG	5	10	11/30/2021	2	0.216	0.051	Pass	2795.789	423.10	
2GP40/VRU3-GG	2	2.375	Gas	Yes	10+	AG	10	20	11/30/2021	1	0.160	0.052	Pass	1852.632	276.98	
2GP40/VRU3-GG	2	2.375	Gas	Yes	10+	AG	10	20	11/30/2021	2	0.215	0.052	Pass	2778.947	418.00	
4VR40/V4-GG	4	4.500	Gas	Yes	10+	AG	50	100	11/30/2021	1	0.215	0.069	Pass	1466.667	375.00	
4VR40/V4-GG	3	3.500	Gas	Yes	10+	AG	50	100	11/30/2021	2	0.295	0.065	Pass	2800.000	590.81	
6VR40/V5-GG	6	6.625	Gas	Yes	10+	AG	50	100	11/30/2021	1	0.268	0.078	Pass	1316.226	488.19	
6VR40/V5-GG	6	6.625	Gas	Yes	10+	AG	50	100	11/30/2021	2	0.268	0.078	Pass	1316.226	488.19	
4VR40/FWKO-GG	4	4.500	Gas	Yes	10+	AG	5	10	11/30/2021	1	0.246	0.052	Pass	1742.222	497.76	
1NGL40/V81-V91	1	1.315	Gas	Yes	10+	AG	10	20	11/30/2021	1	0.178	0.051	Pass	3893.536	325.40	
1NGL40/V81-V91	2	2.375	Gas	Yes	10+	AG	10	20	11/30/2021	2	0.437	0.052	Pass	6517.895	987.23	
1NGL40/V91-LACTs	1	1.315	Gas	Yes	10+	AG	10	20	11/30/2021	1	0.177	0.051	Pass	3863.118	322.83	
1NGL40/V91-LACTs	1	1.315	Gas	Yes	10+	AG	10	20	11/30/2021	2	0.165	0.051	Pass	3498.099	292.06	
2OP40/V8-V81	2	2.375	Oil	Yes	10+	AG	50	100	11/30/2021	1	0.216	0.056	Pass	2795.789	695.92	
2OP40/V8-V81	2	2.375	Oil	Yes	10+	AG	50	100	11/30/2021	2	0.221	0.056	Pass	2880.000	717.66	
2OP40/V81-V8	2	2.375	Oil	Yes	10+	AG	50	100	11/30/2021	1	0.220	0.056	Pass	2863.158	713.32	
2OP40/V81-V8	2	2.375	Oil	Yes	10+	AG	50	100	11/30/2021	2	0.233	0.056	Pass	3082.105	769.84	
2OF40/M1-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	1	0.149	0.056	Pass	1667.368	404.62	
2OF40/M1-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	2	0.218	0.056	Pass	2829.474	704.62	
2OF40/M3-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	1	0.213	0.056	Pass	2745.263	682.88	
2OF40/M3-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	2	0.209	0.056	Pass	2677.895	665.49	
2OF40/M4-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	1	0.204	0.056	Pass	2593.684	643.75	
2OF40/M4-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	2	0.205	0.056	Pass	2610.526	648.10	
2OF40/M5-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	1	0.211	0.056	Pass	2711.579	674.18	
2OF40/M5-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	2	0.191	0.056	Pass	2374.737	587.23	
2OF40/M6-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	1	0.215	0.056	Pass	2778.947	691.58	
2OF40/M6-PM	3	3.500	Pro.	Yes	10+	AG	50	100	11/29/2021	2	0.317	0.059	Pass	3051.429	1122.83	
2OF40/M7-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	1	0.354	0.056	Pass	5120.000	1295.92	
2OF40/M7-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	2	0.212	0.056	Pass	2728.421	678.53	
2OF40/M11-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	1	0.230	0.056	Pass	3031.579	756.79	
2OF40/M11-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	2	0.224	0.056	Pass	2930.526	730.71	
2OF40/M12-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	1	0.208	0.056	Pass	2661.053	661.14	
2OF40/M12-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	2	0.226	0.056	Pass	2964.211	739.40	
2OF40/M13-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	1	0.234	0.056	Pass	3098.947	774.18	
2OF40/M13-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	2	0.343	0.056	Pass	4934.737	1248.10	
2OF40/M14-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	1	0.228	0.056	Pass	2997.895	748.10	
2OF40/M14-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	2	0.229	0.056	Pass	3014.737	752.45	
2OF40/M16-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	1	0.207	0.056	Pass	2644.211	656.79	
2OF40/M16-PM	3	3.500	Pro.	Yes	10+	AG	50	100	11/29/2021	2	0.305	0.059	Pass	2914.286	1070.65	
2OF40/M17-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	1	0.220	0.056	Pass	2863.158	713.32	
2OF40/M17-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	2	0.159	0.056	Pass	1835.789	448.10	
2OF40/M18-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	1	0.237	0.056	Pass	3149.474	787.23	
2OF40/M18-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	2	0.219	0.056	Pass	2846.316	708.97	
2OF40/M19-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	1	0.231	0.056	Pass	3048.421	761.14	
2OF40/M19-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	2	0.222	0.056	Pass	2896.842	722.01	
2OF40/M21-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	1	0.214	0.056	Pass	2762.105	687.23	
2OF40/M21-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	2	0.224	0.056	Pass	2930.526	730.71	
2OF40/M22-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	1	0.214	0.056	Pass	2762.105	687.23	
2OF40/M22-PM	3	3.500	Pro.	Yes	10+	AG	50	100	11/29/2021	2	0.381	0.059	Pass	3782.857	1401.09	
2OF40/M23-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	1	0.223	0.056	Pass	2913.684	726.36	
2OF40/M23-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	2	0.213	0.056	Pass	2745.263	682.88	
2OF40/M24-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	1	0.208	0.056	Pass	2661.053	661.14	
2OF40/M24-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	2	0.231	0.056	Pass	3048.421	761.14	
2OF40/M26-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	1	0.212	0.056	Pass	2728.421	678.53	
2OF40/M26-PM	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	2	0.205	0.056	Pass	2610.526	648.10	
2CG40/NC-GG	2	2.375	Gas	Yes	10+	AG	10	20	11/29/2021	1	0.208	0.052	Pass	2661.053	400.05	
2CG40/NC-GG	2	2.375	Gas	Yes	10+	AG	10	20	11/29/2021	2	0.213	0.052	Pass	2745.263	412.87	
2CG40/NC-GG	2	2.375	Gas	Yes	10+	AG	10	20	11/29/2021	3	0.228	0.052	Pass	2997.895	451.34	

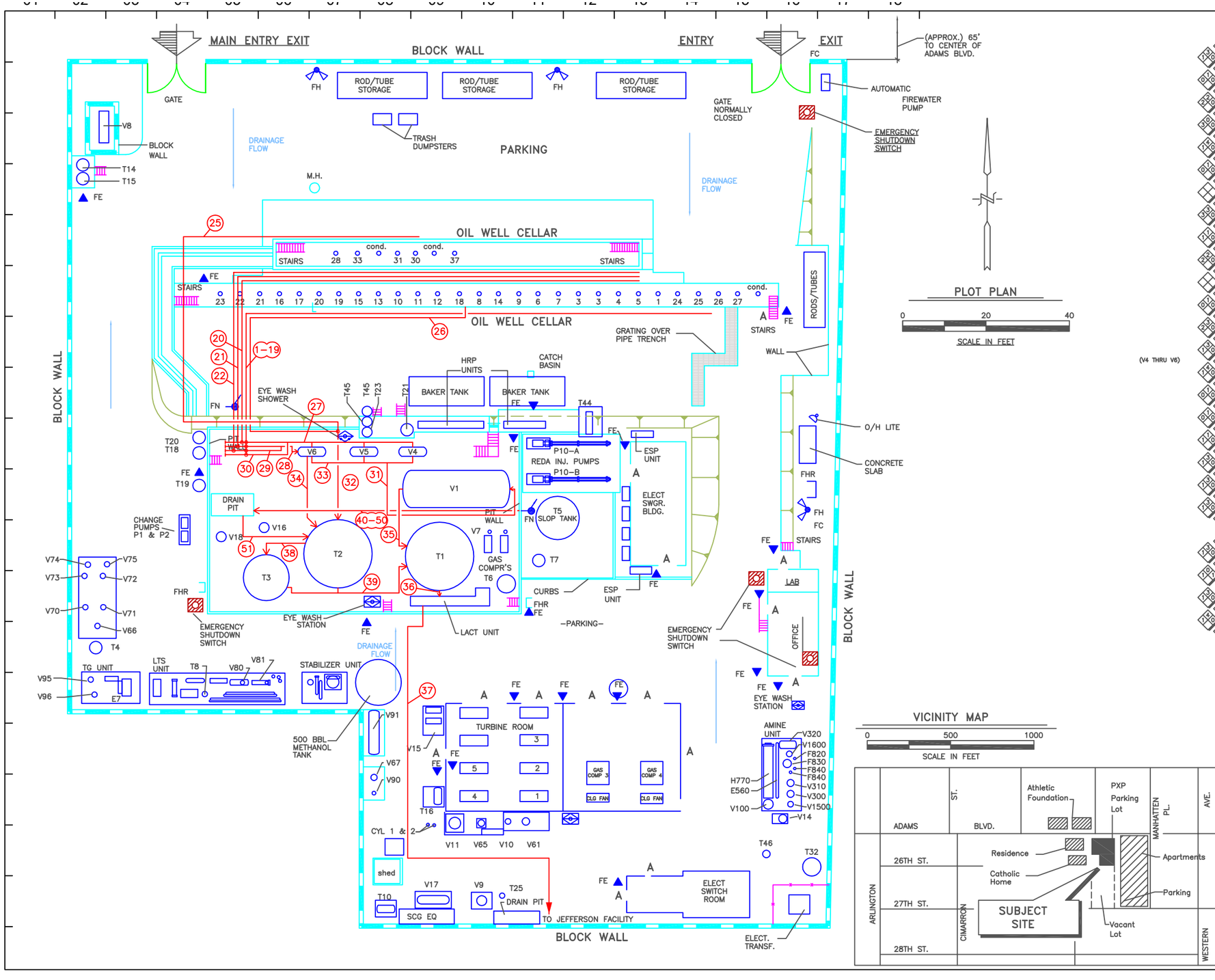
2CG40/SC-GG	2	2.375	Gas	Yes	10+	AG	10	20	11/29/2021	1	0.204	0.052	Pass	2593.684	389.80	
2CG40/SC-GG	2	2.375	Gas	Yes	10+	AG	10	20	11/29/2021	2	0.149	0.052	Pass	1667.368	248.77	
2CG40/SC-GG	2	2.375	Gas	Yes	10+	AG	10	20	11/29/2021	3	0.232	0.052	Pass	3065.263	461.59	
2CG40/SC-GG	4	4.500	Gas	Yes	10+	AG	10	20	11/29/2021	4	0.329	0.054	Pass	2480.000	705.77	
2OP40/V6-sump	2	2.375	Pro.	Yes	10+	AG	50	100	11/29/2021	1	0.110	0.056	Pass	1010.526	235.05	

E&B Natural Resources Murphy Facility - Environmentally Sensitive and Sensitive Area Map



Facility Boundary

0 65 130 260 Feet



PLOT PLAN

0 20 40

SCALE IN FEET

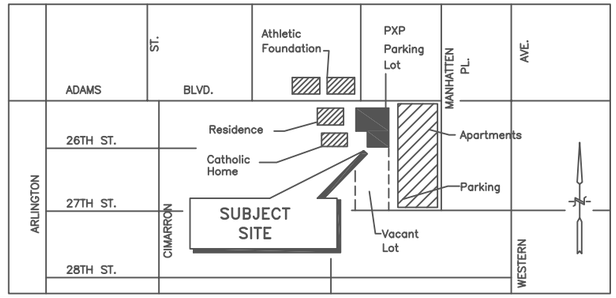
(V4 THRU V6)

ITEM	DESCRIPTION	CAPACITY	CONTENTS (VOLUME %)
T1	STORAGE TANK	500 BBL	CRUDE OIL 20–80%, NAT. GAS 20–80%
T2	STORAGE TANK	1000 BBL	PRODUCED WATER 99%, CRUDE OIL 1%
T3	STORAGE TANK	250 BBL	PRODUCED WATER 99%, CRUDE OIL 1%
T4	STORAGE TANK	110 GALL	LUBRICANT OIL
T5	STORAGE TANK	100 BBL	SLOP TANK
T6	STORAGE TANK	500 GALL	DEGREASER
T7	STORAGE TANK	300 GALL	LUBE OIL
T8	STORAGE TANK	60 GALL	SULFURIC ACID
T10	STORAGE TANK	150 GALL	MERCAPTAN ODORANT (S.C. GAS CO)
T14	STORAGE TANK	290 GALL	ETHYLENE GLYCOL
T15	STORAGE TANK	290 GALL	ETHYLENE GLYCOL
T16	STORAGE TANK	550 GALL	AW–220 LUBE OIL
T18	STORAGE TANK	200 GALL	OXYGEN SCANVENGER
T19	STORAGE TANK	200 GALL	BIOCIDE
T20	STORAGE TANK	120 GALL	CORROSION INHIBITOR
T21	STORAGE TANK	200 GALL	WATER CLARIFIER
T23	STORAGE TANK	120 GALL	DEMULSIFIER
T25	STORAGE DRUM	120 GALL	GAS CLEANER
T32	STORAGE TANK	750 GALL	DE–IONIZED WATER
T43	STORAGE TANK	200 GALL	IRON SULFIDE REMOVER
T44	STORAGE TANK	1000 GALL	HYDRAULIC LUBRICANT–SHELL TELLUS
T45	STORAGE TANK	200 GALL	CORROSION INHIBITOR
T46	STORAGE TANK	70 GALL	DIETHANOLAMINE
V1	F.W. KNOCKOUT DRUM	500 BBL	CRUDE OIL 25% GAS 5%
V4–V6	TEST SEPARATORS	20 BBL EA	PRODUCED WATER 70%
V7	VAPOR COMPRESSOR	N/A	NATURAL GAS
V8	GLYCOL REGENERATOR	50 GALL	TRI–ETHYLENE GLYCOL
V9	GLYCOL SCRUBBER	50 GALL	OUT OF SERVICE
V10	HP SCRUBBER	N/A	NATURAL GAS
V11	SUCTION SCRUBBER	N/A	NATURAL GAS
CYL–1	CYLINDER	560 CU FT	COMPRESSED METHANE
CYL–2	CYLINDER	560 CU FT	COMPRESSED HELIUM
V15	AIR COMPRESSOR TANKS	N/A	AIR
V17	SALES GAS SCRUBBER	N/A	NATURAL GAS
V61	SWEET GAS KOP	N/A	NATURAL GAS
V65	3RD STG DISCH SCRUB	N/A	NATURAL GAS
V66	PSA INLET SCRUBBER	N/A	NATURAL GAS
V67	GAS SCRUBBER	N/A	NATURAL GAS
V70–V75	PSA ABSORBERS	N/A	NATURAL GAS
V80	COLD SEPARATOR	N/A	NATURAL GAS
V81	STABILIZER & REBOILER	N/A	NATURAL GAS
V85	SEPARATOR	N/A	NATURAL GAS
V86–V89	REFRIGERANT SKID VESSELS	N/A	FREON
V90	FUEL GAS SCRUBBER	N/A	NATURAL GAS
V91	NGL TANK	N/A	LIQUEFIED NATURAL GAS
V95	SCRUBBER	N/A	NATURAL GAS
V96	SCRUBBER	N/A	NATURAL GAS

VICINITY MAP

0 500 1000

SCALE IN FEET



LEGEND

- FH — FIRE HYDRANT
- FE — FIRE EXTINGUISHER
- FHR — FIRE HOSE REEL
- FN — FIRE NOZZLE
- A — ACCESS DOORWAY
- FC — FIRE CONNECTION
- EYE WASH SHOWER
- EYE WASH STATION
- EMERGENCY SHUT DOWN SWITCHES

MURPHY SITE

2126 W Adams Blvd.
Los Angeles, CA 90018

Emergency Phone: (800) 926–6370 (24 HRS)

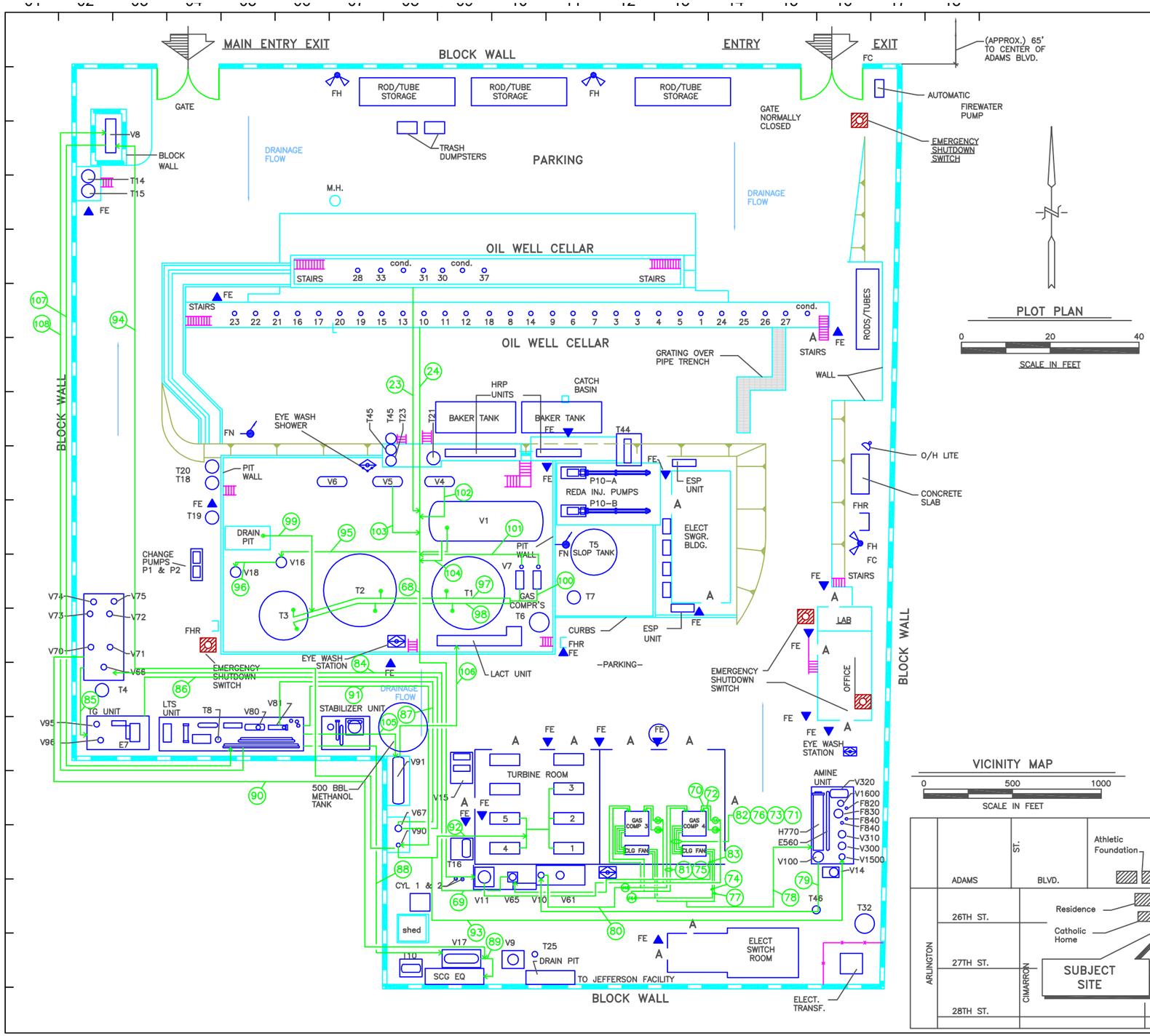
E&B Natural Resources
1600 Norris Road
Bakersfield, CA 93308
Tel. (562) 548-6800

SCALE: APPROX. (USE SCALE BAR)

DWG NO. PMP-M-OIL-202

MURPHY DRILLSITE
2126 W. ADAMS BLVD, LOS ANGELES, CA 90018
PLOT PLAN

CMN | SH NO. 1 | REV. NC A



PLOT PLAN

0 20 40

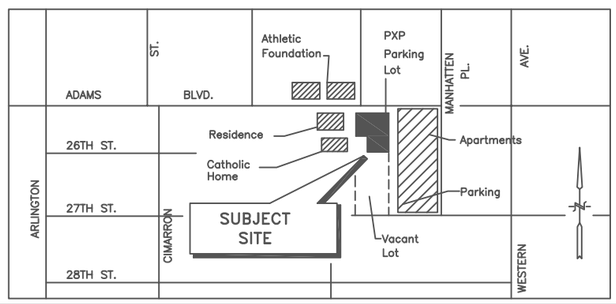
SCALE IN FEET

ITEM	DESCRIPTION	CAPACITY	CONTENTS (VOLUME %)
T1	STORAGE TANK	500 BBL	CRUDE OIL 20–80%, NAT. GAS 20–80%
T2	STORAGE TANK	1000 BBL	PRODUCED WATER 99%, CRUDE OIL 1%
T3	STORAGE TANK	250 BBL	PRODUCED WATER 99%, CRUDE OIL 1%
T4	STORAGE TANK	110 GALL	LUBRICANT OIL
T5	STORAGE TANK	100 BBL	SLOP TANK
T6	STORAGE TANK	500 GALL	DEGREASER
T7	STORAGE TANK	300 GALL	LUBE OIL
T8	STORAGE TANK	60 GALL	SULFURIC ACID
T10	STORAGE TANK	150 GALL	MERCAPTAN ODORANT (S.C. GAS CO)
T14	STORAGE TANK	290 GALL	ETHYLENE GLYCOL
T15	STORAGE TANK	290 GALL	ETHYLENE GLYCOL
T16	STORAGE TANK	550 GALL	AW–220 LUBE OIL
T18	STORAGE TANK	200 GALL	OXYGEN SCANVENGER
T19	STORAGE TANK	200 GALL	BIOCIDE
T20	STORAGE TANK	120 GALL	CORROSION INHIBITOR
T21	STORAGE TANK	200 GALL	WATER CLARIFIER
T23	STORAGE TANK	120 GALL	DEMULSIFIER
T25	STORAGE DRUM	120 GALL	GAS CLEANER
T32	STORAGE TANK	750 GALL	DE–IONIZED WATER
T43	STORAGE TANK	200 GALL	IRON SULFIDE REMOVER
T44	STORAGE TANK	1000 GALL	HYDRAULIC LUBRICANT–SHELL TELLUS
T45	STORAGE TANK	200 GALL	CORROSION INHIBITOR
T46	STORAGE TANK	70 GALL	DIETHANOLAMINE
V1	F.W. KNOCKOUT DRUM	500 BBL	CRUDE OIL 25% GAS 5%
V4–V6 (V4 THRU V6)	TEST SEPARATORS	20 BBL EA	PRODUCED WATER 70%
V7	VAPOR COMPRESSOR	N/A	NATURAL GAS
V8	GLYCOL REGENERATOR	50 GALL	TRI–ETHYLENE GLYCOL
V9	GLYCOL SCRUBBER	50 GALL	OUT OF SERVICE
V10	HP SCRUBBER	N/A	NATURAL GAS
V11	SUCTION SCRUBBER	N/A	NATURAL GAS
CYL–1	CYLINDER	560 CU FT	COMPRESSED METHANE
CYL–2	CYLINDER	560 CU FT	COMPRESSED HELIUM
V15	AIR COMPRESSOR TANKS	N/A	AIR
V17	SALES GAS SCRUBBER	N/A	NATURAL GAS
V61	SWEET GAS KOP	N/A	NATURAL GAS
V65	3RD STG DISCH SCRUB	N/A	NATURAL GAS
V66	PSA INLET SCRUBBER	N/A	NATURAL GAS
V67	GAS SCRUBBER	N/A	NATURAL GAS
V70–V75	PSA ABSORBERS	N/A	NATURAL GAS
V80	COLD SEPARATOR	N/A	NATURAL GAS
V81	STABILIZER & REBOILER	N/A	NATURAL GAS
V85	SEPARATOR	N/A	NATURAL GAS
V86–V89	REFRIGERANT SKID VESSELS	N/A	FREON
V90	FUEL GAS SCRUBBER	N/A	NATURAL GAS
V91	NGL TANK	N/A	LIQUEFIED NATURAL GAS
V95	SCRUBBER	N/A	NATURAL GAS
V96	SCRUBBER	N/A	NATURAL GAS

VICINITY MAP

0 500 1000

SCALE IN FEET



LEGEND

FH	FIRE HYDRANT
FE	FIRE EXTINGUISHER
FHR	FIRE HOSE REEL
FN	FIRE NOZZLE
A	ACCESS DOORWAY
FC	FIRE CONNECTION
	EYE WASH SHOWER
	EYE WASH STATION
	EMERGENCY SHUT DOWN SWITCHES

MURPHY SITE

2126 W Adams Blvd.
Los Angeles, CA 90018

Emergency Phone: (800) 926-6370 (24 HRS)

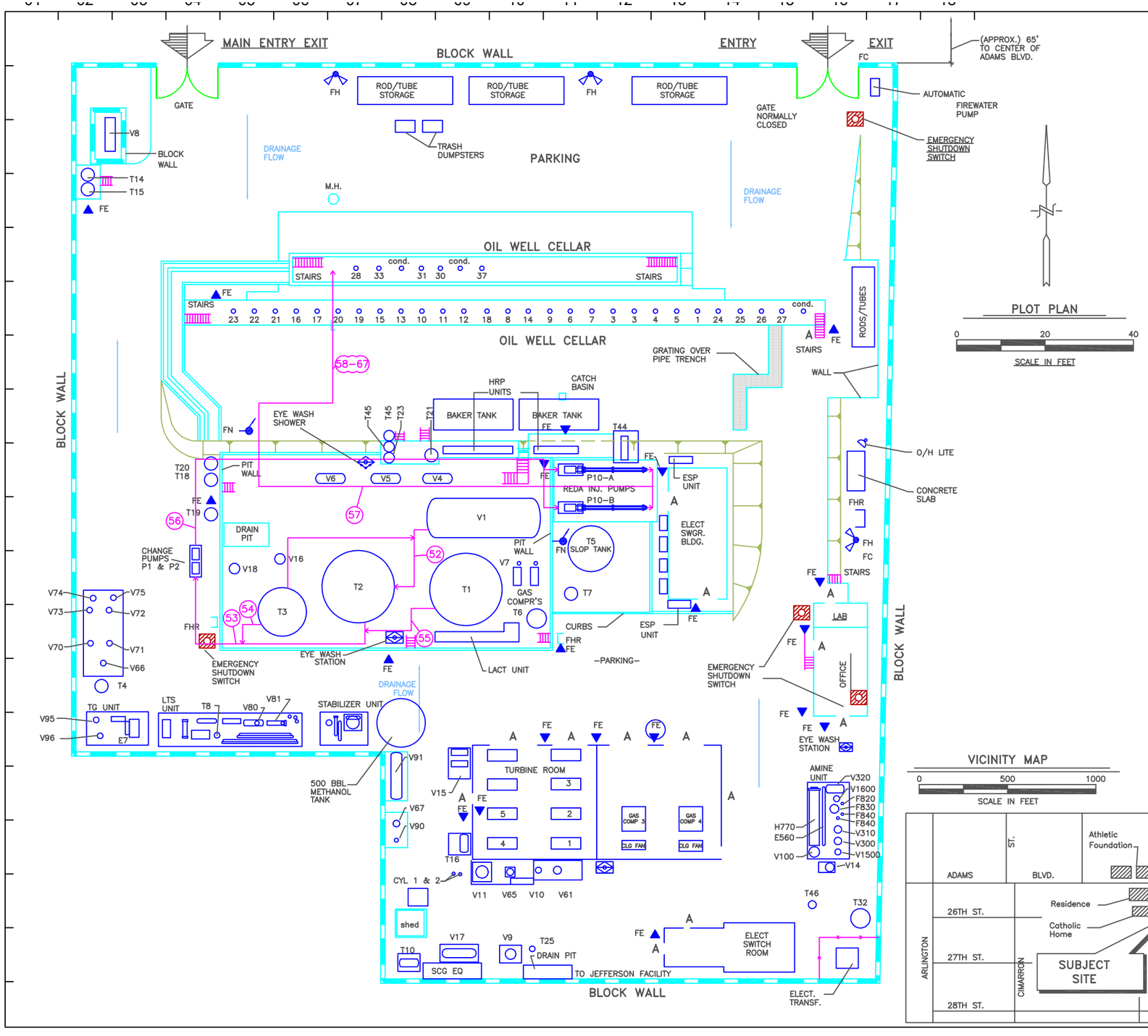
E&B Natural Resources
1600 Norris Road
Bakersfield, CA 93308
Tel. (562) 548-6800

MURPHY DRILLSITE
2126 W. ADAMS BLVD, LOS ANGELES, CA 90018
PLOT PLAN

SCALE: APPROX. (USE SCALE BAR)

DWG NO. PMP-M-GAS-202

CMN | SH NO. 1 | REV. NO. A



PLOT PLAN

0 20 40

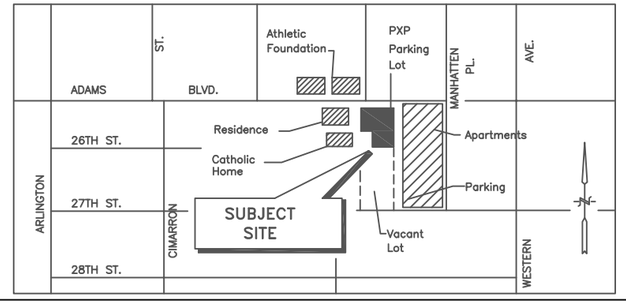
SCALE IN FEET

ITEM	DESCRIPTION	CAPACITY	CONTENTS (VOLUME %)
T1	STORAGE TANK	500 BBL	CRUDE OIL 20–80%, NAT. GAS 20–80%
T2	STORAGE TANK	1000 BBL	PRODUCED WATER 99%, CRUDE OIL 1%
T3	STORAGE TANK	250 BBL	PRODUCED WATER 99%, CRUDE OIL 1%
T4	STORAGE TANK	110 GALL	LUBRICANT OIL
T5	STORAGE TANK	100 BBL	SLOP TANK
T6	STORAGE TANK	500 GALL	DEGREASER
T7	STORAGE TANK	300 GALL	LUBE OIL
T8	STORAGE TANK	60 GALL	SULFURIC ACID
T10	STORAGE TANK	150 GALL	MERCAPTAN ODORANT (S.C. GAS CO)
T14	STORAGE TANK	290 GALL	ETHYLENE GLYCOL
T15	STORAGE TANK	290 GALL	ETHYLENE GLYCOL
T16	STORAGE TANK	550 GALL	AW–220 LUBE OIL
T18	STORAGE TANK	200 GALL	OXYGEN SCANVENGER
T19	STORAGE TANK	200 GALL	BIOCIDE
T20	STORAGE TANK	120 GALL	CORROSION INHIBITOR
T21	STORAGE TANK	200 GALL	WATER CLARIFIER
T23	STORAGE TANK	120 GALL	DEMULSIFIER
T25	STORAGE DRUM	120 GALL	GAS CLEANER
T32	STORAGE TANK	750 GALL	DE–IONIZED WATER
T43	STORAGE TANK	200 GALL	IRON SULFIDE REMOVER
T44	STORAGE TANK	1000 GALL	HYDRAULIC LUBRICANT–SHELL TELLUS
T45	STORAGE TANK	200 GALL	CORROSION INHIBITOR
T46	STORAGE TANK	70 GALL	DIETHANOLAMINE
V1	F.W. KNOCKOUT DRUM	500 BBL	CRUDE OIL 25% GAS 5%
V4–V6 (V4 THRU V6)	TEST SEPARATORS	20 BBL EA	PRODUCED WATER 70%
V7	VAPOR COMPRESSOR	N/A	NATURAL GAS
V8	GLYCOL REGENERATOR	50 GALL	TRI–ETHYLENE GLYCOL
V9	GLYCOL SCRUBBER	50 GALL	OUT OF SERVICE
V10	HP SCRUBBER	N/A	NATURAL GAS
V11	SUCTION SCRUBBER	N/A	NATURAL GAS
CYL–1	CYLINDER	560 CU FT	COMPRESSED METHANE
CYL–2	CYLINDER	560 CU FT	COMPRESSED HELIUM
V15	AIR COMPRESSOR TANKS	N/A	AIR
V17	SALES GAS SCRUBBER	N/A	NATURAL GAS
V61	SWEET GAS KOP	N/A	NATURAL GAS
V65	3RD STG DISCH SCRUB	N/A	NATURAL GAS
V66	PSA INLET SCRUBBER	N/A	NATURAL GAS
V67	GAS SCRUBBER	N/A	NATURAL GAS
V70–V75	PSA ABSORBERS	N/A	NATURAL GAS
V80	COLD SEPARATOR	N/A	NATURAL GAS
V81	STABILIZER & REBOILER	N/A	NATURAL GAS
V85	SEPARATOR	N/A	NATURAL GAS
V86–V89	REFRIGERANT SKID VESSELS	N/A	FREON
V90	FUEL GAS SCRUBBER	N/A	NATURAL GAS
V91	NGL TANK	N/A	LIQUEFIED NATURAL GAS
V95	SCRUBBER	N/A	NATURAL GAS
V96	SCRUBBER	N/A	NATURAL GAS

VICINITY MAP

0 500 1000

SCALE IN FEET



LEGEND

FH	FIRE HYDRANT
FE	FIRE EXTINGUISHER
FHR	FIRE HOSE REEL
FN	FIRE NOZZLE
A	ACCESS DOORWAY
FC	FIRE CONNECTION
	EYE WASH SHOWER
	EYE WASH STATION
	EMERGENCY SHUT DOWN SWITCHES

MURPHY SITE

2126 W Adams Blvd.
Los Angeles, CA 90018

Emergency Phone: (800) 926–6370 (24 HRS)

E&B Natural Resources
1600 Norris Road
Bakersfield, CA 93308
Tel. (562) 548-6800

MURPHY DRILLSITE
2126 W. ADAMS BLVD, LOS ANGELES, CA 90018
PLOT PLAN

SCALE: APPROX. (USE SCALE BAR)

DWG NO. PMP-M-WTR-202

CMN | SH NO. 1 | REV. NC A

California
Department of Conservation
Geologic Energy Management Division

Gavin Newsom, Governor
Jennifer Lucchesi, Director
715 P Street, MS 1803
Sacramento, CA. 95814
T: (916) 445-5986

8/20/2025

Greg Youngblood
E & B Natural Resources Management Corporation
1608 Norris Road
Bakersfield, CA 93308

Dear E & B Natural Resources Management Corporation,

Your report of abandonment of well Murphy 21, A.P.I. No. 0403720955, Section 02, T. 02S, R. 14W, SB B.&M., Las Cienegas field, Los Angeles County, has been examined in conjunction with records filed in this office. This letter confirms that the well has been plugged and abandoned, and that the required records regarding the abandonment process were filed with our office. Please see the notes below for any additional information.

The plugging and abandonment of this well is approved.

1. The plugging and abandonment of the original hole (API #0403720955-00) meets regulatory standards.
2. The plugging and abandonment of the redrill (API #0403720955-01) meets regulatory standards.
a. Surface plugging completed on December 23, 2024.
b. Inspecting the restored well site is deferred, pending the abandonment of the common cellar.
c. The location will be surveyed and submitted to this office after all wells have been plugged to surface.

If you have any supplemental questions, please contact your nearest District office or visit us at www.conservation.ca.gov/calgem

Sincerely,

Chris Phillips
Senior Oil & Gas Engineer

CC Organizations:

CC People:

Appendix E

Los Angeles Fire Department (LAFD) Documents

FIRE PREVENTION & PUBLIC SAFETY BUREAU-CUPA
200 NORTH MAIN STREET, RM 1780
LOS ANGELES, CA 90012

LOS ANGELES CITY FIRE DEPARTMENT
Los Angeles City Certified Unified Program Agency
Email: lafdcupa@lacity.org (213) 978-3680

(2025/2026)

1 of 1

Facility ID:	**FA0032550**
CERS ID:	***10398883***
Issue Date:	***12/23/2025***
Haz Waste BusID:	
Active Sites:	**1 of 1**

E&B CORP - MURPHY
1901 CALIFORNIA ST
HUNTINGTON BEACH, CA 92648

UNIFIED PROGRAM FACILITY PERMIT

Los Angeles City Certified Unified Program Agency

Business Name:
E&B CORP - MURPHY
Permit Site Address:
2126 W ADAMS BLVD
LOS ANGELES, CA 90018
Owned By:
E&B NATURAL RESOURCES MANAGEMENT CORP
Has paid in full the required fee in the amount of $4,443.00 on 11/25/2025

This permit is valid for the dates indicated below, but must be renewed annually. The following Unified Program Element(s) are covered in the permit.

PROGRAM ELEMENT	DESCRIPTION	VALID FROM	VALID TO
APSA	APSA - QUALIFIED BUSINESS (>1320 & <10K)	10/1/2025	9/30/2026
HAZWASTE	HW GEN. 3-5 EMPLOYEES	10/1/2025	9/30/2026
HAZMAT	HAZ MAT INVENTORY 16 TO 25 CHEMICALS	10/1/2025	9/30/2026

Underground Storage Tank Program:

California Health and Safety Code Div.20, Chap. 6.7 and Title 23 California Code of Regulations Chap. 16.

CERS Tank ID#	Capacity	Contents	System Type	Leak Detection

Los Angeles City Fire Code Operational Fire Permit: Hazardous Materials

This permit serves as the Operational Fire Permit for Hazardous Materials, required by the Los Angeles City Fire Code, sec. 105.6.17. The Operational Fire Permit is issued based on the condition that the facility is in compliance with all applicable rules, regulations, and laws pertaining to the Operational Fire Permit requirements.

Status of all program elements listed above (unless otherwise indicated): **PERMITTED**

THIS PERMIT IS NONTRANSFERABLE AND IS VOID UPON CHANGE OF OWNERSHIP OR LOCATION.
YOU MAY CONTINUE TO OPERATE UNDER THE CONSOLIDATED PERMIT ACCORDING TO THE VALID DATES DESCRIBED ABOVE.

BY: Jaime E Moore
JAMIE E. MOORE
FIRE CHIEF

The Consolidated Permit must be posted in a conspicuous location at the facility for review at all times.

See reverse page for conditions.

Please notify LAFDCUPA@lacity.org AND update your CERS ID with any change to ownership or location within 30 days. The CUPA takes permit information directly from CERS

Los Angeles City Certified Unified Program Agency (CUPA)

This permit must be maintained on the business premises

IN ORDER TO MAINTAIN THE PERMIT TO OPERATE, THE PERMIT HOLDER MUST COMPLY WITH THE PROVISIONS OF THE LAWS AND PERMIT CONDITIONS

APPLICABLE LAWS/PERMIT CONDITIONS:

Aboveground Petroleum Storage Tank Program

1. California Health and Safety Code (HSC), Division 20, Chapter 6.67, Sections 25270-25270.13.

Hazardous Materials Business Plan Program (CalEPA)

1. HSC, Division 20, Chapter 6.95, Article 1, Sections 25500-25519
2. California Code of Regulations (CCR), Title 19, Division 2, Chapter 4, Sections 2620-2734

California Accidental Release Prevention Program

1. HSC, Division 20, Chapter 6.95, Article 2, Sections 25531-25543.3
2. CCR, Title 19, Division 2, Chapter 4.5, Sections 2735-2785

Hazardous Materials Management Plan/Hazardous Material Inventory Statement Program

1. HSC, Division 12, Part 2, Chapter 1 Sections 13143-13143.9
2. CCR, Title 24, California Fire Code, Part 9, Chapter 50, Sections 5001.5.1-501.5

Hazardous Waste Generator/Tiered Permitting Program

1. HSC, Division 20, Chapter 6.5, Sections 25100-25258.2
2. CCR, Title 22, Division 4.5.

Underground Storage Tank Program

1. HSC, Division 20, Chapter 6.7, Sections 25280-25296 and 25298-25299.6
2. CCR, Title 23, Division 3, Chapter 16, Sections 2610 – 2717.7

City of Los Angeles Fire Code

1. Article 7 of Chapter V of the Los Angeles Municipal Code that pertain to the unified program.

Facilities will be inspected for compliance with the above conditions. Violations of any of the conditions may result in progressive enforcement actions and could cause revocation of the Unified Program Facility Permit.

Appendix F

Los Angeles Department of Building and Safety (LADBS) Documents

B&S M-2

CERTIFICATE OF INSPECTION AND PERMIT TO OPERATE A BOILER OR PRESSURE VESSEL
CITY OF LOS ANGELES DEPARTMENT OF BUILDING AND SAFETY
PRESSURE VESSEL SECTION

State and/or Nat'l Board Number	Maximum Allowable Working Pressure	Location in Building	District/Ins. Company	PV ID	Equip. Code	INSP ID
017296-85 54133	250	YARD, CENTER, SOUTH 06		P048089	AT	34635466

CODY PETERS
E & B NATURAL RESOURCES
2126 W ADAMS BLVD

LOS ANGELES CA 90018

Safety Engineer ID

.

Date Inspected: 02/14/2025
Permit ID: R398210
Expires 36 Months after Inspection

DEPARTMENT OF BUILDING AND SAFETY

POST THIS CERTIFICATE ADJACENT TO EQUIPMENT
VALID WHEN INVOICE IS PAID

B&S M-26

CERTIFICATE OF INSPECTION AND PERMIT TO OPERATE A BOILER OR PRESSURE VESSEL
CITY OF LOS ANGELES DEPARTMENT OF BUILDING AND SAFETY
PRESSURE VESSEL SECTION

State and/or Nat'l Board Number	Maximum Allowable Working Pressure	Location in Building	District/Ins. Company	PV ID	Equip. Code	INSP ID
044634-62	200	YARD, CENTER, SOUTH 06		P048088	AT	34635465

Safety Engineer ID

Date Inspected: 02/14/2025
Permit ID: R398209
Expires 36 Months after Inspection

CODY PETERS
E & B NATURAL RESOURCES
2126 W ADAMS BLVD
LOS ANGELES CA 90018

DEPARTMENT OF BUILDING AND SAFETY

POST THIS CERTIFICATE ADJACENT TO EQUIPMENT
VALID WHEN INVOICE IS PAID

...CARD BLANK PORTION AFTER

Appendix G

California Environmental Reporting System (CERS) Documentation

Murphy (CERSID: 10398883)

Facility Information **Submitted Nov 21, 2025**

Submitted on 11/21/2025 4:23:22 PM by *Ricky Bautista* of E&B Natural Resources-LA Basin (Bakersfield, CA)

- Business Activities
- Business Owner/Operator Identification

Hazardous Materials Inventory **Submitted Nov 21, 2025**

Submitted on 11/21/2025 4:23:22 PM by *Ricky Bautista* of E&B Natural Resources-LA Basin (Bakersfield, CA)

- Hazardous Material Inventory (23)
- Site Map (Official Use Only)
  - *Annotated Site Map (Official Use Only)* (Adobe PDF, 317KB)
  - *Annotated Site Map (Official Use Only)* (Adobe PDF, 182KB)

Emergency Response and Training Plans **Submitted Nov 21, 2025**

Submitted on 11/21/2025 4:23:22 PM by *Ricky Bautista* of E&B Natural Resources-LA Basin (Bakersfield, CA)

- Emergency Response/Contingency Plan
  - *Emergency Response/Contingency Plan* (Adobe PDF, 428KB)
- Employee Training Plan
  - Provided In Submital Element: Emergency Response and Training Plans

Aboveground Petroleum Storage Act **Submitted Nov 21, 2025**

Submitted on 11/21/2025 4:23:22 PM by *Ricky Bautista* of E&B Natural Resources-LA Basin (Bakersfield, CA)

- Aboveground Petroleum Storage Act Documentation
  - Provided In Submital Element: Hazardous Materials Inventory
- APSA Facility Information

California Environmental Reporting System (CERS) — Business Activities

Site Identification

Murphy
2126 W Adams Blvd
Los Angeles, CA 90018
County
Los Angeles

CERS ID
10398883
EPA ID Number
CAL000449322

Submittal Status

Submitted on 11/21/2025 by *Ricky Bautista* of E&B Natural Resources-LA Basin (Bakersfield, CA)

Hazardous Materials

Does your facility have on site (for any purpose) at any one time, hazardous materials at or above 55 gallons for liquids, 500 pounds for solids, or 200 cubic feet for compressed gases (include liquids in ASTs and USTs); or is regulated under more restrictive inventory local reporting requirements (shown below if present); or the applicable Federal threshold quantity for an extremely hazardous substance specified in 40 CFR Part 355, Appendix A or B; or handle radiological materials in quantities for which an emergency plan is required pursuant to 10 CFR Parts 30, 40 or 70?	**Yes**

Underground Storage Tank(s) (UST)

Does your facility own or operate underground storage tanks?	**No**

Hazardous Waste

Is your facility a Hazardous Waste Generator?	**Yes**
Does your facility treat hazardous waste on-site?	**No**
Is your facility's treatment subject to financial assurance requirements (for Permit by Rule and Conditional Authorization)?	**No**
Does your facility consolidate hazardous waste generated at a remote site?	**No**
Does your facility need to report the closure/removal of a tank that was classified as hazardous waste and cleaned on-site?	**No**
Does your facility generate in any single calendar month 1,000 kilograms (kg) (2,200 pounds) or more of federal RCRA hazardous waste, or generate in any single calendar month greater than 1 kg (2.2 pounds) of RCRA acute hazardous waste; or generate more than 100 kg (220 pounds) of spill cleanup materials contaminated with RCRA acute hazardous waste.	**No**
Is your facility a Household Hazardous Waste (HHW) Collection site?	**No**

Excluded and/or Exempted Materials

Does your facility recycle more than 100 kg/month of excluded or exempted recyclable materials (per HSC 25143.2)?	**No**

Aboveground Petroleum Storage

Does your facility own or operate aboveground petroleum storage tanks or containers AND: * have a total aboveground petroleum storage capacity of 1,320 gallons or more, OR * have one or more petroleum tanks in an underground area?	**Yes**

Regulated Substances

Does your facility have Regulated Substances stored onsite in quantities greater than the threshold quantities established by the California Accidental Release prevention Program (CalARP)?	**No**

Additional Information

No additional comments provided.

Facility/Site

Murphy
2126 W Adams Blvd
Los Angeles, CA 90018

CERS ID
10398883

Submittal Status

Submitted on 11/21/2025 by *Ricky Bautista* of E&B Natural Resources-LA Basin (Bakersfield, CA)

Identification

E&B Natural Resources Management Corp

Operator Phone	Business Phone	Business Fax
(562) 900-1745	(562) 900-1745	

Beginning Date	Ending Date	
Dun & Bradstreet	**SIC Code**	**Primary NAICS**
	1311	211111

Facility/Site Mailing Address

10661 Ellis Ave, Unit D
Fountain Valley, CA 92708

Primary Emergency Contact

Steve Griffis
Title
Superintendent

Business Phone	24-Hour Phone	Pager Number
(562) 900-1745	(562) 900-1745	

Owner

E&B Natural Resources Management Corp
(661) 679-1700
1600 Norris Rd
Bakersfield, CA 93308

Secondary Emergency Contact

Gilbert Alferez
Title
Supervisor

Business Phone	24-Hour Phone	Pager Number
(714) 951-1003	(714) 951-1003	

Billing Contact

Tom Stoy
(714) 677-7065 tstoy@ebresources.com
1901 California St
Huntington Beach, CA 92648

Environmental Contact

Ricky Bautista
(949) 232-2587 ricky.bautista@ebresources.com
10661 Ellis Ave, Unit D
Fountain Valley, CA 92708

Name of Signer	Signer Title	Document Preparer
Ricky Bautista	Engineer Technician	Ricky Bautista

Additional Information
E&B acquired this property from Sentinel Peak Resources on October 15, 2019.

Locally-collected Fields

Some or all of the following fields may be required by your local regulator(s).

Property Owner

E&B Natural Resources Management Corp
Phone
(661) 679-1700
Mailing Address
130 S San Vicente Blvd
Los Angeles, CA 90048

Assessor Parcel Number (APN)

Number of Employees

Facility ID
FA0032550

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **E&B Natural Resources-LA Basin**
Facility Name **Murphy**
2126 W Adams Blvd, Los Angeles 90018

Chemical Location **Above Production Pit**

CERS ID **10398883**
Facility ID **FA0032550**
Status **Submitted** on 11/21/2025 4:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B	**Emulsion Breaker** CAS No	**Gallons** State: Liquid Type: Mixture	**120** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**120**	80 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Flammable - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	Solvent naphtha, petroleum, light arom. 1,2,4-Trimethylbenzene 2-Propanol Xylenes Cumene	40% 20% 10% 3% 1%		64742-95-6 95-63-6 67-63-0 1330-20-7 98-82-8
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B	**Methyl Alcohol** CAS No 67-56-1	**Gallons** State: Liquid Type: Pure	**245** Storage Container: Tote Bin Days on Site: 365	**245**	120 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Flammable - Health Acute Toxicity - Health Specific Target Organ Toxicity				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **E&B Natural Resources-LA Basin**
Facility Name **Murphy**
2126 W Adams Blvd, Los Angeles 90018

Chemical Location **Above Production Pit & Near Production Inlet**

CERS ID **10398883**
Facility ID **FA0032550**
Status **Submitted** on 11/21/2025 4:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
	Corrosion Inhibitor	**Gallons**	**320**	**250**	160		- Health Acute Toxicity - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation	2-Butoxy ethanol	3%		111-76-2
								2-Mercaptoethanol	2%		60-24-2
								Proprietary ingredient 5515	2%		Not Assigned

CAS No

State: Liquid
Storage Container: Plastic/Non-metalic Drum
Pressue: Ambient
Waste Code
Type: Mixture
Days on Site: 365
Temperature: Ambient

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **E&B Natural Resources-LA Basin**
Facility Name **Murphy**
2126 W Adams Blvd, Los Angeles 90018

Chemical Location **Amine Unit**

CERS ID **10398883**
Facility ID **FA0032550**
Status **Submitted** on 11/21/2025 4:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials	**Ethylene Glycol** CAS No	**Pounds** State: Liquid Type: Mixture	**2800** Storage Container: Tote Bin Days on Site: 365	**2800**	1400 Pressue: Ambient Temperature: Ambient	Waste Code	- Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	Ethylene glycol Water	10% 90%		107-21-1 7732-18-5
DOT: 9 - Misc. Hazardous Materials Combustible Liquid, Class III-B	**Diethanolamine** CAS No	**Pounds** State: Liquid Type: Mixture	**2800** Storage Container: Tote Bin, Other Days on Site: 365	**2800**	1400 Pressue: Ambient Temperature: Ambient	Waste Code	- Health Carcinogenicity - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity	Diethanolamine	85%		111-42-2

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **E&B Natural Resources-LA Basin**
Facility Name **Murphy**
2126 W Adams Blvd, Los Angeles 90018

Chemical Location **Fork LIft**

CERS ID **10398883**
Facility ID **FA0032550**
Status **Submitted** on 11/21/2025 4:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Propane	**Cu. Feet**	**500**		500		- Physical Flammable - Physical Gas Under Pressure - Physical Explosive				
Combustible Liquid, Class III-B	CAS No	State: Liquid Type: Pure	Storage Container: Cylinder Days on Site: 365		Pressue Temperature	Waste Code					

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **E&B Natural Resources-LA Basin**
Facility Name **Murphy**
2126 W Adams Blvd, Los Angeles 90018

Chemical Location **Gas Plant**

CERS ID **10398883**
Facility ID **FA0032550**
Status **Submitted** on 11/21/2025 4:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-C, Toxic	**Tertiary Butyl Mercaptan** CAS No State: Liquid Type: Mixture	**Gallons** Storage Container: Aboveground Tank, Cylinder Days on Site: 365	**120**	**120**	60 Pressue: > Ambient Temperature: > Ambient	Waste Code	- Physical Flammable - Health Skin Corrosion Irritation	Mercaptan Tetrahydrathiaphene	49% 50%		75-08-1 11-00-11
	Hydrocarbon gas mixture, compressed CAS No State: Gas Type: Mixture	**Cu. Feet** Storage Container: Cylinder Days on Site: 365	**221**	**221**	110 Pressue: > Ambient Temperature: Ambient	Waste Code	- Health Respiratory Skin Sensitization	Ethane Methane	15%		74-84-0 74-82-8
DOT: 2.1 - Flammable Gases Flammable Gas	**Natural gas** CAS No State: Gas Type: Mixture	**Cu. Feet** Storage Container: Aboveground Tank, Other Days on Site: 365	**525**	**47**	250 Pressue: > Ambient Temperature: Ambient	Waste Code	- Physical Flammable - Physical Gas Under Pressure	Methane Ethane Propane Butanes Nitrogen	88% 5% 3% 1% 2%		74-82-8 74-84-0 749-8-6 106-97-8 7727-37-9

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **E&B Natural Resources-LA Basin**
Facility Name **Murphy**
2126 W Adams Blvd, Los Angeles 90018

Chemical Location **Near FWKO**

CERS ID **10398883**
Facility ID **FA0032550**
Status **Submitted** on 11/21/2025 4:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities Max. Daily	Largest Cont.	Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only) Component Name	% Wt	EHS	CAS No.
	Water Clarifier	**Gallons**	**320**	**200**	160		- Health Respiratory Skin Sensitization	Carbamodithioic acid, 1,2-ethanediylbis-, disodium salt	10%		142-59-6
	CAS No	State: Liquid	Storage Container: Plastic/Non-metalic Drum		Pressue: Ambient	Waste Code		Carbamodithioic acid, dimethyl-, sodium salt	10%		128-04-1
		Type: Mixture	Days on Site: 365		Temperature: Ambient						

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **E&B Natural Resources-LA Basin**
Facility Name **Murphy**
2126 W Adams Blvd, Los Angeles 90018

Chemical Location **Production Pit**

CERS ID **10398883**
Facility ID **FA0032550**
Status **Submitted** on 11/21/2025 4:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
DOT: 9 - Misc. Hazardous Materials Flammable Liquid, Class I-A	**Degreaser** CAS No State: Liquid Type: Mixture	**Gallons** Storage Container: Steel Drum Days on Site: 365	**500**	**500**	250 Pressue: Ambient Temperature: Ambient	0 Waste Code	- Physical Flammable - Health Acute Toxicity	Benzyl alcohol	3%		100-51-6
DOT: 9 - Misc. Hazardous Materials	**Aqueous Film Firefighting Foam** CAS No State: Liquid Type: Mixture	**Gallons** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**110**	**55**	55 Pressue: Ambient Temperature: Ambient	0 Waste Code	- Health Serious Eye Damage Eye Irritation	2-(2-Butoxyethoky)ethanol Lauryl imino propionate, sodium salt Polyfluorinated alkyl betaine	10% 5% 5%		112-34-5 14960-06-6 Proprietary
DOT: 8 - Corrosives (Liquids and Solids) Corrosive	**Oxygen Scavenger** CAS No State: Liquid Type: Mixture	**Gallons** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**200**	**200**	100 Pressue: Ambient Temperature: Ambient	Waste Code	- Health Acute Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity	Ammonium hydrogensulphite	70%		10192-30-3
DOT: 3 - Flammable and Combustible Liquids Corrosive	**Biocide** CAS No State: Liquid Type: Mixture	**Gallons** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**200**	**200**	100 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Flammable - Health Acute Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	Isopropanol (C12-C18) N-Alkylpropylenediamine	30% 30%		67-63-0 68155-37-3
Toxic	**Shell Tellus S2 M 68** CAS No State: Liquid Type: Mixture	**Gallons** Storage Container: Aboveground Tank Days on Site: 365	**1000**	**1000**	500 Pressue: Ambient Temperature: Ambient	Waste Code	- Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	Interchangeable low viscosity base oil 2,6-di-tert-butyl phenol	90% 0%		Not assigned 128-39-2
DOT: 9 - Misc. Hazardous Materials Flammable Liquid, Class I-C, Combustible Liquid, Class III-B	**Shell Mysella S2 Z 30** CAS No State: Liquid Type: Mixture	**Gallons** Storage Container: Box Days on Site: 365	**120**	**120**	60 Pressue: Ambient Temperature: Ambient	0 Waste Code	- Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	Highly Refined Mineral Oil Aromatics	85% 2%		64742746 68515253

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **E&B Natural Resources-LA Basin**
Facility Name **Murphy**
2126 W Adams Blvd, Los Angeles 90018

Chemical Location **Production Pit**

CERS ID **10398883**
Facility ID **FA0032550**
Status **Submitted** on 11/21/2025 4:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Shell Morlina S3 BA 220 CAS No	**Gallons** State: Liquid Type: Mixture	**200** Storage Container: Aboveground Tank Days on Site: 365	**200**	100 Pressue: Ambient Temperature: Ambient	Waste Code	- Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation	N-phenyl-1-naphthylamine (4-nonylphenoxy)acetic acid	0% 0%		90-30-2 3115-49-9
DOT: 6.1 - Toxic Substances Toxic	**Iron Sulfide Dissolver** CAS No	**Gallons** State: Liquid Type: Mixture	**200** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**200**	150 Pressue: Ambient Temperature: Ambient	Waste Code	- Health Acute Toxicity - Health Reproductive Toxicity - Health Respiratory Skin Sensitization - Health Serious Eye Damage Eye Irritation	Tetrakis(hydroxymethyl) phosphonium sulphate(2:1) Ammonium chloride Ammonia	90% 20% 1%		55566-30-8 12125-02-9 7664-41-7
DOT: 3 - Flammable and Combustible Liquids Flammable Liquid, Class I-B	**Crude oil** CAS No	**Gallons** State: Liquid Type: Pure	**42840** Storage Container: Aboveground Tank Days on Site: 365	**42000**	21420 Pressue: Ambient Temperature: > Ambient	Waste Code	- Physical Flammable - Health Carcinogenicity - Health Reproductive Toxicity - Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation - Health Specific Target Organ Toxicity - Health Aspiration Hazard - Health Germ Cell Mutagenicity				

Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **E&B Natural Resources-LA Basin**
Facility Name **Murphy**
2126 W Adams Blvd, Los Angeles 90018

Chemical Location **PSA Absorbers**

CERS ID **10398883**
Facility ID **FA0032550**
Status **Submitted** on 11/21/2025 4:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	NGP-150 Oil CAS No	**Gallons** State: Liquid Type: Mixture	**165** Storage Container: Steel Drum Days on Site: 365	**55**	2 Pressue: Ambient Temperature: Ambient	Waste Code	- Health Skin Corrosion Irritation	1,2 Benzenedicarboxylic acid di-c9 -c11 branched alkyl ester 2,5-bis(n-octyldithio)-1,3,4-thiadiazole	5% 1%		68515-49-1 13539-13-4
Flammable Liquid, Class I-A	**Odor Counteractant** CAS No	**Gallons** State: Liquid Type: Mixture	**110** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**55**	55 Pressue: Ambient Temperature: Ambient	Waste Code	- Physical Flammable - Health Serious Eye Damage Eye Irritation	2-propanol 4-nonylphenol, branched, ethoxylated			67-63-0 127087-87-0
	4U Degreaser CAS No	**Gallons** State: Liquid Type: Mixture	**55** Storage Container: Plastic/Non-metalic Drum Days on Site: 365	**55**	10 Pressue: Ambient Temperature: Ambient	Waste Code	- Health Skin Corrosion Irritation - Health Serious Eye Damage Eye Irritation				

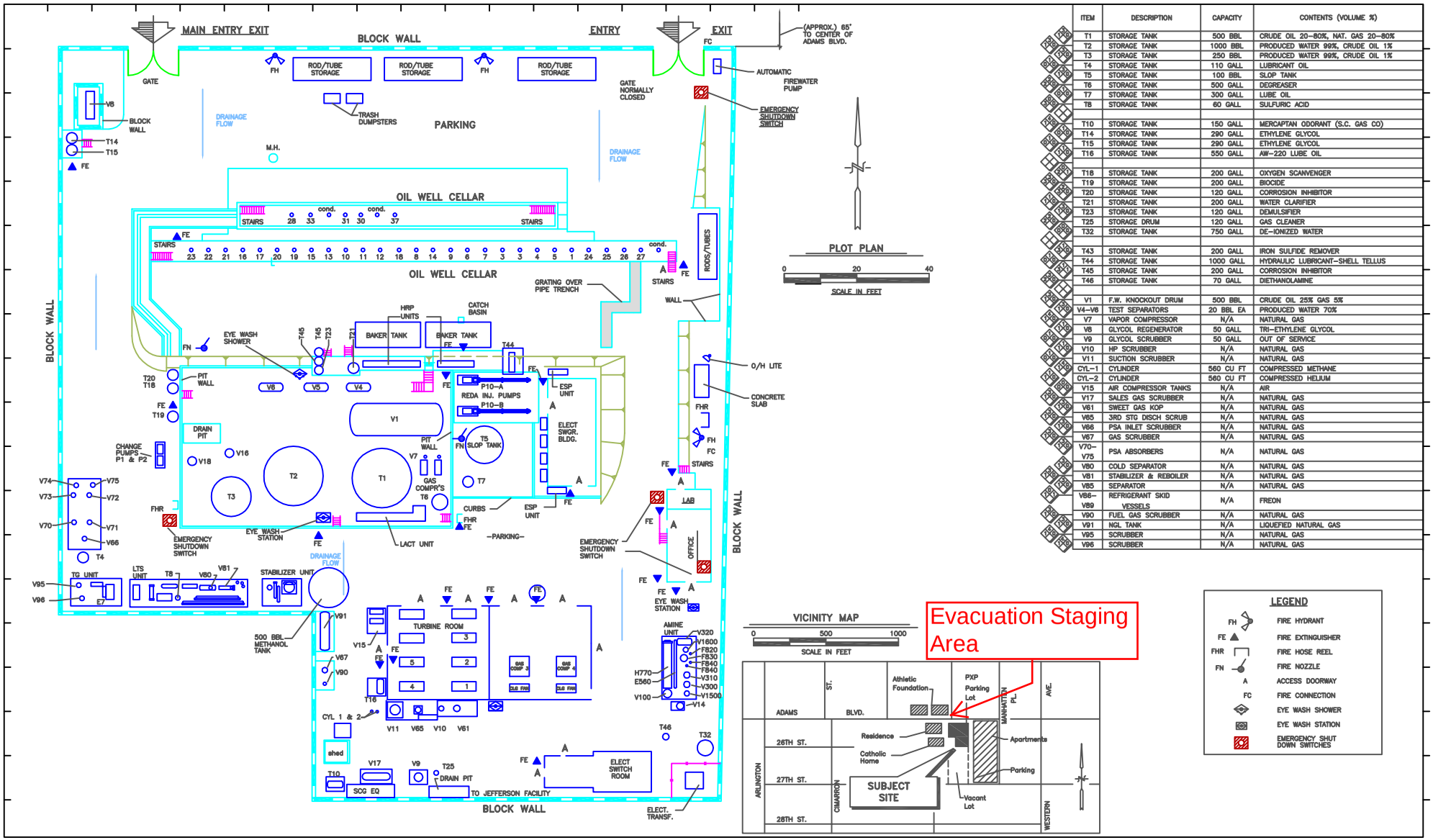
Hazardous Materials And Wastes Inventory Matrix Report

CERS Business/Org. **E&B Natural Resources-LA Basin**
Facility Name **Murphy**
2126 W Adams Blvd, Los Angeles 90018

Chemical Location **TG Unit**

CERS ID **10398883**
Facility ID **FA0032550**
Status **Submitted** on 11/21/2025 4:23 PM

DOT Code/Fire Haz. Class	Common Name	Unit	Quantities: Max. Daily	Quantities: Largest Cont.	Quantities: Avg. Daily	Annual Waste Amount	Federal Hazard Categories	Hazardous Components (For mixture only): Component Name	% Wt	EHS	CAS No.
	Shell Morlina S4 B 150	**Gallons**	**110**	**55**	10		- Physical Flammable	Dialkyl thiophosphate ester	1%		268567-32-4
	CAS No	State: Liquid	Storage Container: Steel Drum		Pressue: Ambient	Waste Code					
		Type: Mixture	Days on Site: 365		Temperature: Ambient						



ITEM	DESCRIPTION	CAPACITY	CONTENTS (VOLUME %)
T1	STORAGE TANK	500 BBL	CRUDE OIL 20–80%, NAT. GAS 20–80%
T2	STORAGE TANK	1000 BBL	PRODUCED WATER 99%, CRUDE OIL 1%
T3	STORAGE TANK	250 BBL	PRODUCED WATER 99%, CRUDE OIL 1%
T4	STORAGE TANK	110 GALL	LUBRICANT OIL
T5	STORAGE TANK	100 BBL	SLOP TANK
T6	STORAGE TANK	500 GALL	DEGREASER
T7	STORAGE TANK	300 GALL	LUBE OIL
T8	STORAGE TANK	60 GALL	SULFURIC ACID
T10	STORAGE TANK	150 GALL	MERCAPTAN ODORANT (S.C. GAS CO)
T14	STORAGE TANK	290 GALL	ETHYLENE GLYCOL
T15	STORAGE TANK	290 GALL	ETHYLENE GLYCOL
T16	STORAGE TANK	550 GALL	AW–220 LUBE OIL
T18	STORAGE TANK	200 GALL	OXYGEN SCANVENGER
T19	STORAGE TANK	200 GALL	BIOCIDE
T20	STORAGE TANK	120 GALL	CORROSION INHIBITOR
T21	STORAGE TANK	200 GALL	WATER CLARIFIER
T23	STORAGE TANK	120 GALL	DEMULSIFIER
T25	STORAGE DRUM	120 GALL	GAS CLEANER
T32	STORAGE TANK	750 GALL	DE–IONIZED WATER
T43	STORAGE TANK	200 GALL	IRON SULFIDE REMOVER
T44	STORAGE TANK	1000 GALL	HYDRAULIC LUBRICANT–SHELL TELLUS
T45	STORAGE TANK	200 GALL	CORROSION INHIBITOR
T46	STORAGE TANK	70 GALL	DIETHANOLAMINE
V1	F.W. KNOCKOUT DRUM	500 BBL	CRUDE OIL 25% GAS 5%
V4–V6	TEST SEPARATORS	20 BBL EA	PRODUCED WATER 70%
V7	VAPOR COMPRESSOR	N/A	NATURAL GAS
V8	GLYCOL REGENERATOR	50 GALL	TRI–ETHYLENE GLYCOL
V9	GLYCOL SCRUBBER	50 GALL	OUT OF SERVICE
V10	HP SCRUBBER	N/A	NATURAL GAS
V11	SUCTION SCRUBBER	N/A	NATURAL GAS
CYL–1	CYLINDER	560 CU FT	COMPRESSED METHANE
CYL–2	CYLINDER	560 CU FT	COMPRESSED HELIUM
V15	AIR COMPRESSOR TANKS	N/A	AIR
V17	SALES GAS SCRUBBER	N/A	NATURAL GAS
V61	SWEET GAS KOP	N/A	NATURAL GAS
V65	3RD STG DISCH SCRUB	N/A	NATURAL GAS
V66	PSA INLET SCRUBBER	N/A	NATURAL GAS
V67	GAS SCRUBBER	N/A	NATURAL GAS
V70–V75	PSA ABSORBERS	N/A	NATURAL GAS
V80	COLD SEPARATOR	N/A	NATURAL GAS
V81	STABILIZER & REBOILER	N/A	NATURAL GAS
V85	SEPARATOR	N/A	NATURAL GAS
V86–V89	REFRIGERANT SKID VESSELS	N/A	FREON
V90	FUEL GAS SCRUBBER	N/A	NATURAL GAS
V91	NGL TANK	N/A	LIQUEFIED NATURAL GAS
V95	SCRUBBER	N/A	NATURAL GAS
V96	SCRUBBER	N/A	NATURAL GAS

MURPHY SITE

2126 W Adams Blvd.
Los Angeles, CA 90018

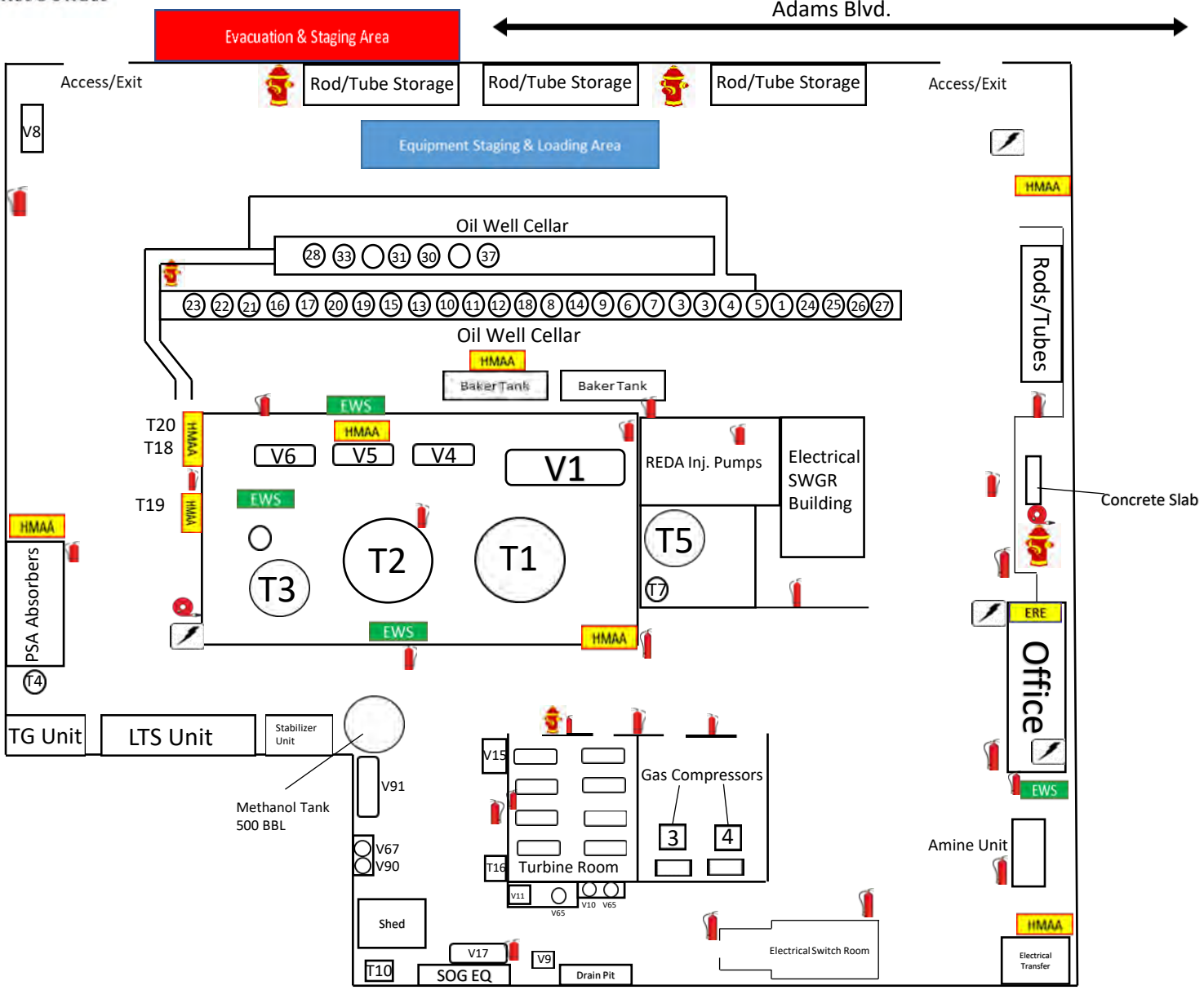
Emergency Phone: (800) 926–6370 (24 HRS)

E&B Natural Resources
1600 Norris Road
Bakersfield, CA 93308
Tel. (562) 548-6800

MURPHY DRILLSITE
2126 W. ADAMS BLVD, LOS ANGELES, CA 90018
PLOT PLAN

SCALE: APPROX (USE SCALE BAR)
DWG NO. PMP-M-GAS-20
SH NO. 1
REV. A

Murphy Site
2126 W Adams Blvd.
Los Angeles, CA 90018



Legend:
- Main Emergency Power Shutoff
- Main Water Shutoff
- Loading Hose
- Fire Extinguisher
- Fire Hose Real
- Fire Hydrant/Connectors
- HMAA HazMat Accumulation Area
- ERE Emergency Response Equipment
- EWS Eyewash Station
- T1- Crude Oil 500 BBL
- T2- Produced Water 1000BBL
- T3- Produced Water 250BBL
- T5- Slop Tank 100 BBL
- V1- F.W.K.O. Crude Oil 500 BBL
- V4-V6- Produced Water Test Separators 20BBL EA
- V7 – Vapor Compressor
- V8 – Glycol Regenerator
- V9 - Glycol Scrubber (Out of Service)
- V10 – HP Scrubber (Natural Gas)
- V11 – Suction Scrubber (Natural Gas)
- V15 – Air Compressor Tanks
- V67 – Gas Compressor
- V90 – Fuel Gas Scrubber
- V91 – Natural Gas Tank

January 2023
Designed By Ricky Bautista

CALIFORNIA ENVIRONMENTAL REPORTING SYSTEM (CERS)

CONSOLIDATED EMERGENCY RESPONSE / CONTINGENCY PLAN

Prior to completing this Plan, please refer to the INSTRUCTIONS FOR COMPLETING A CONSOLIDATED CONTINGENCY PLAN

FACILITY ID # FA 0003 2550 (A1.)	CERS ID # (A2.) 10398883	DATE OF PLAN PREPARATION/REVISION (MM/DD/YYYY) (A3.) 01/10/2022

BUSINESS NAME *(Same as Facility Name or DBA - Doing Business As)* (A4.)
E&B Natural Resources Management Corp - Murphy

BUSINESS SITE ADDRESS (A5.)
2126 W Adams Blvd

BUSINESS SITE CITY (A6.)		ZIP CODE (A7.)
Los Angeles	CA	90018

TYPE OF BUSINESS (e.g., Painting Contractor) (A8.)	INCIDENTAL OPERATIONS (e.g., Fleet Maintenance) (A9.)
Oil and gas extraction	

THIS PLAN COVERS CHEMICAL SPILLS, FIRES, AND EARTHQUAKES INVOLVING (Check all that apply): (A10.)

☑ 1. HAZARDOUS MATERIALS; ☐ 2. HAZARDOUS WASTES

INTERNAL FACILITY EMERGENCY RESPONSE WILL OCCUR BY (Check all that apply): (B1.)

☑ 1. CALLING PUBLIC EMERGENCY RESPONDERS (e.g., 9-1-1)
☑ 2. CALLING HAZARDOUS WASTE CONTRACTOR
☑ 3. ACTIVATING IN-HOUSE EMERGENCY RESPONSE TEAM

In the event of an emergency involving hazardous materials and/or hazardous waste, all facilities must IMMEDIATELY:

1. Notify facility personnel and evacuate if necessary in accordance with the Emergency Action Plan (Title 8 California Code of Regulations §3220);
2. Notify local emergency responders by calling 9-1-1;
3. Notify the local Unified Program Agency (UPA) at the phone number below; and
4. Notify the State Warning Center at (800) 852-7550.

Facilities that generate, treat, store or dispose of hazardous waste have additional responsibilities to notify and coordinate with other response agencies. Whenever there is an imminent or actual emergency situation such as an explosion, fire, or release, the Emergency Coordinator must follow the appropriate requirements for the category of facility and type of release involved:

1. Title 22 California Code of Regulations §66265.56. Emergency Procedures for generators of 1,000 kilograms or more of hazardous waste in any calendar month.
2. Title 22 California Code of Regulations §66265.196. Response to Leaks or Spills and Disposition of Leaking or Unfit-for-Use Tank Systems.
3. Title 40 Code of Federal Regulations §302.6. Notification requirements for a release of a hazardous substance equal to or greater than the reportable quantity.
4. Title 22 California Code of Regulations §66262.34(d)(2) and Title 40 Code of Federal Regulations §262.34(d)(5)(ii) for generators of less than 1000 kilograms of hazardous waste in any calendar month.

Following notification and before facility operations are resumed in areas of the facility affected by the incident, the Emergency Coordinator shall notify the local UPA and the local fire department's hazardous materials program, if necessary, that the facility is in compliance with requirements to:

1. Provide for proper storage and disposal of recovered waste, contaminated soil or surface water, or any other material that results from an explosion, fire, or release at the facility; and
2. Ensure that no material that is incompatible with the released material is transferred, stored, or disposed of in areas of the facility affected by the incident until cleanup procedures are completed.

EMERGENCY RESPONSE PHONE NUMBERS:		
	AMBULANCE, FIRE, POLICE AND CHP	9-1-1
	CALIFORNIA STATE WARNING CENTER (CSWC)/CAL OES.	(800) 852-7550
	NATIONAL RESPONSE CENTER (NRC)	(800) 424-8802
	POISON CONTROL CENTER	(800) 222-1222
	LOCAL UNIFIED PROGRAM AGENCY (UPA)	(213) 978-3680 (C1.)
	OTHER (Specify): (C2.)	(C3.)
NEAREST MEDICAL FACILITY / HOSPITAL NAME:	Concentra (C4.)	(310) 360-6780 (C5.)

AGENCY NOTIFICATION PHONE NUMBERS:		
	CALIFORNIA DEPT. OF TOXIC SUBSTANCES CONTROL (DTSC)	(916) 255-3545
	REGIONAL WATER QUALITY CONTROL BOARD (RWQCB).	(213) 576-6600 (C6.)
	U.S. ENVIRONMENTAL PROTECTION AGENCY (US EPA)	(800) 300-2193
	CALIFORNIA DEPT. OF FISH AND WILDLIFE (CDFW)	(916) 358-2900
	U.S. COAST GUARD (USCG)	(202) 267-2180
	CAL OSHA	(916) 263-2800
	CAL FIRE OFFICE OF THE STATE FIRE MARSHAL (OSFM)	(916) 323-7390
	OTHER (Specify): (C7.)	(C8.)
	OTHER (Specify): (C9.)	(C10.)

INTERNAL FACILITY EMERGENCY COMMUNICATIONS OR ALARM NOTIFICATION WILL OCCUR BY (Check all that apply): C11.

- [x] 1. VERBAL WARNINGS;
- [ ] 2. PUBLIC ADDRESS OR INTERCOM SYSTEM;
- [x] 3. TELEPHONE;
- [ ] 4. PAGERS;
- [ ] 5. ALARM SYSTEM;
- [ ] 6. PORTABLE RADIO

NOTIFICATIONS TO NEIGHBORING FACILITIES THAT MAY BE AFFECTED BY AN OFF-SITE RELEASE WILL OCCUR BY (Check all that apply): C12.

- [x] 1. VERBAL WARNINGS;
- [ ] 2. PUBLIC ADDRESS OR INTERCOM SYSTEM;
- [x] 3. TELEPHONE;
- [ ] 4. PAGERS;
- [ ] 5. ALARM SYSTEM;
- [ ] 6. PORTABLE RADIO

EMERGENCY COORDINATOR CONTACT INFORMATION: C13.

PRIMARY EMERGENCY COORDINATOR NAME: Louis Zylstra PHONE NO.: (714) 325-9502 PHONE NO.: (714) 968-4770

ALTERNATE EMERGENCY COORDINATOR NAME: Steve Griffis PHONE NO.: (562) 548-6819 PHONE NO.: (562) 900-1745

- [ ] Check if additional Emergency Coordinator contact and address information is available onsite or by calling PHONE NO.:

Note: If more than one alternate emergency coordinator is designated, attach a list in order of responsibility.

D. EMERGENCY CONTAINMENT AND CLEANUP PROCEDURES

Check the applicable boxes to indicate your facility's procedures for containing spills and preventing and mitigating releases, fires and/or explosions.

D1.

- [x] 1. MONITOR FOR LEAKS, RUPTURES, PRESSURE BUILD-UP, ETC.;
- [x] 2. PROVIDE STRUCTURAL PHYSICAL BARRIERS (e.g., Portable spill containment walls, built-in berms);
- [ ] 3. PROVIDE ABSORBENT PHYSICAL BARRIERS (e.g., Pads, spill pigs, spill pillows);
- [ ] 4. COVER OR BLOCK FLOOR AND/OR STORM DRAINS;
- [ ] 5. LINED TRENCH DRAINS AND/OR SUMPS;
- [ ] 6. AUTOMATIC FIRE SUPPRESSION SYSTEM;
- [x] 7. ELIMINATE SOURCES OF IGNITION FOR FLAMMABLE HAZARDS;
- [x] 8. STOP PROCESSES AND/OR OPERATIONS;
- [ ] 9. AUTOMATIC / ELECTRONIC EQUIPMENT SHUT-OFF SYSTEM;
- [x] 10. SHUT OFF WATER, GAS, ELECTRICAL UTILITIES;
- [x] 11. CALL 9-1-1 FOR PUBLIC EMERGENCY RESPONDER ASSISTANCE AND/OR MEDICAL AID;
- [x] 12. NOTIFY AND EVACUATE PERSONS IN ALL THREATENED AND/OR IMPACTED AREAS;
- [x] 13. ACCOUNT FOR EVACUATED PERSONS IMMEDIATELY AFTER EVACUATION;
- [ ] 14. PROVIDE PROTECTIVE EQUIPMENT FOR ON-SITE EMERGENCY RESPONSE TEAM;
- [ ] 15. REMOVE CONTAINERS AND/OR ISOLATE AREAS;
- [x] 16. HIRE LICENSED HAZARDOUS WASTE CONTRACTOR;
- [x] 17. USE ABSORBENT MATERIAL FOR SPILL CONTAINMENT;
- [ ] 18. VACUUM SUCTION USING APPROPRIATE VACUUM (e.g., Intrinsically safe) FOR SPILL CONTROL AND/OR CLEANUP;
- [ ] 19. DECONTAMINATE PERSONNEL AND EQUIPMENT WITHIN DESIGNATED AREA AND DISPOSE OF WASTEWATER AS HAZARDOUS WASTE;
- [ ] 20. PROVIDE SAFE TEMPORARY STORAGE OF HAZARDOUS WASTE GENERATED DURING EMERGENCY ACTIONS;
- [ ] 21. OTHER (Specify): D2.

E. FACILITY EVACUATION

THE FOLLOWING ALARM SIGNAL(S) WILL BE USED TO BEGIN EVACUATION OF THE FACILITY (Check all that apply): E1.

E2.

- [ ] 1. BELLS;
- [ ] 2. HORNS/SIRENS;
- [x] 3. VERBAL (i.e., Shouting);
- [ ] 4. OTHER (Specify):

THE FOLLOWING LOCATION(S) WILL BE USED FOR AN EMERGENCY ASSEMBLY AREA(S) (e.g., Parking lot, street corner): E3.

Assemble at adjacent overflow lot outside northeast corner of facility.

Note: The Emergency Coordinator must account for all onsite employees and visitors after evacuation.

EVACUATION ROUTE S AND ALTERNATE EVACUATION ROUTES ARE DESCRIBED AS FOLLOWS: E4.

- [ ] 1. WRITTEN PROCEDURES DESCRIBING ROUTES, EXITS, AND ASSEMBLY AREAS;
- [x] 2. EVACUATION MAP(S) DEPICTING ROUTES, EXITS, AND ASSEMBLY AREAS;
- [ ] 3. OTHER (Specify): E5.

Note: Evacuation procedures and/or maps should be posted in visible facility locations and must be included in the Contingency Plan.

F. ARRANGEMENTS FOR EMERGENCY SERVICES

ADVANCE ARRANGEMENTS FOR LOCAL EMERGENCY SERVICES (Check one of the following): F1.

- [x] 1. HAVE BEEN DETERMINED NOT NECESSARY;
- [ ] 2. THE FOLLOWING ARRANGEMENTS HAVE BEEN MADE (Specify): F2.

Note: Advance arrangements with local fire and police departments, hospitals, state and local emergency response teams, and/or emergency services contractors should be made for your facility, if necessary. Large Quantity Generators must describe arrangements in the Contingency Plan.

G. EMERGENCY EQUIPMENT

Check the applicable boxes to list emergency response equipment available at the facility, identify the location(s) where the equipment is kept, and indicate the equipment's capability, if applicable.

TYPE	EQUIPMENT AVAILABLE G1.	LOCATION G2.	CAPABILITY G3.
EXAMPLE	☒ *CHEMICAL PROTECTIVE GLOVES*	*SPILL RESPONSE KIT*	*SINGLE USE, OIL RESISTANT ONLY*
Safety and First Aid	1. ☐ CHEMICAL PROTECTIVE SUITS, APRONS, AND/OR VESTS		
	2. ☒ CHEMICAL PROTECTIVE GLOVES	Facility Vehicles	Rubber Gloves
	3. ☐ CHEMICAL PROTECTIVE BOOTS		
	4. ☒ SAFETY GLASSES, GOGGLES, AND FACE SHIELDS	On personnel	
	5. ☒ HARD HATS	On personnel	
	6. ☐ AIR-PURIFYING RESPIRATORS		
	7. ☐ SELF-CONTAINED BREATHING APPARATUS (SCBA)		
	8. ☒ FIRST AID KITS	Facility Office	Standard First Responder Kit
	9. ☐ PLUMBED EYEWASH FOUNTAIN AND/OR SHOWER		
	10. ☐ PORTABLE EYEWASH KITS AND/OR STATION		
	11. ☒ OTHER	On personnel	H2S Monitors
Fire Fighting	12. ☒ PORTABLE FIRE EXTINGUISHERS	Throughout facility	Type ABC
	13. ☒ FIXED FIRE SUPPRESSION SYSTEMS AND/ OR SPRINKLERS	Tank Facility	Manually active foam suppression
	14. ☐ FIRE ALARM BOXES		
	15. ☐ OTHER		
Spill Control and Clean-Up	16. ☐ ALL-IN-ONE SPILL KIT		
	17. ☐ ABSORBENT MATERIAL		
	18. ☐ CONTAINER FOR USED ABSORBENT		
	19. ☒ BERM AND/OR DIKING EQUIPMENT	Surrounding Tank Battery	Tanks situated within bermed area
	20. ☐ BROOM		
	21. ☐ SHOVEL		
	22. ☐ VACUUM		
	23. ☐ EXHAUST HOOD		
	24. ☐ SUMP AND/OR HOLDING TANK		
	25. ☐ CHEMICAL NEUTRALIZERS		
	26. ☐ GAS CYLINDER LEAK REPAIR KIT		
	27. ☐ SPILL OVERPACK DRUMS		
	28. ☐ OTHER		
Communi-cations and Alarm Systems	29. ☒ TELEPHONES (e.g., Cellular)	On personnel, Office	
	30. ☐ INTERCOM AND/OR PA SYSTEM		
	31. ☐ PORTABLE RADIOS		
	32. ☐ AUTOMATIC ALARM CHEMICAL MONITORING EQUIPMENT		
Other	33. ☐ OTHER		
	34. ☐ OTHER		

H. EARTHQUAKE VULNERABILITY

Identify areas of the facility that are vulnerable to hazardous materials releases due to seismic motion. These areas require immediate isolation and inspection.

VULNERABLE AREAS (Check all that apply): H1.

- [x] 1. HAZARDOUS MATERIALS AND/OR WASTE STORAGE AREAS
- [x] 2. PROCESS LINES AND PIPING
- [ ] 3. LABORATORY
- [ ] 4. WASTE TREATMENT AREA

LOCATIONS (e.g., Shop, outdoor shed, lab): H2.

Tank Battery and Wells

Identify mechanical systems vulnerable to releases / spills due to earthquake-related motion. These systems require immediate isolation and inspection.

VULNERABLE SYSTEMS AND/OR EQUIPMENT (Check all that apply): H3.

- [ ] 1. SHELVES, CABINETS AND/OR RACKS
- [x] 2. TANKS AND SHUT-OFF VALVES
- [ ] 3. PORTABLE GAS CYLINDERS
- [x] 4. EMERGENCY SHUT-OFF AND/OR UTILITY VALVES
- [ ] 5. SPRINKLER SYSTEMS
- [ ] 6. STATIONARY PRESSURIZED CONTAINERS (e.g., Propane tank)

LOCATIONS: H4.

Tank Battery

I. EMPLOYEE TRAINING

Employee training is required for all employees and/or contractors handling hazardous materials and/or hazardous wastes during normal and/or emergency operations. Most facilities will need to submit a separate Training Plan. However, your CUPA may accept this section as the Training Plan for some small facilities.
Employee training plans may include the following content:

- Applicable laws and regulations;
- Emergency response plans and procedures;
- Safety Data Sheets;
- Hazard communication related to health and safety;
- Methods for safe handling of hazardous substances;
- Hazards of materials and processes (e.g., fire, explosion, asphyxiation);
- Hazard mitigation, prevention and abatement procedures;
- Coordination of emergency response actions;
- Notification procedures for local emergency responders, CUPA, Cal OES, and onsite personnel;
- Communication and alarm systems;
- Personal protective equipment;
- Use and maintenance of emergency response equipment and supplies (e.g. Fire extinguishers, respirators, spill control materials);
- Decontamination procedures;
- Evacuation procedures and evacuation staging locations;
- Identification of facility areas, equipment, and systems vulnerable to earthquakes and other natural disasters.
- OTHER (Specify):

Check the applicable boxes below to indicate how the employee training program is administered.

- [ ] 1. FORMAL CLASSROOM
- [ ] 2. VIDEOS
- [x] 3. SAFETY MEETINGS
- [ ] 4. STUDY GUIDES / MANUALS

I1.

- [x] 5. OTHER (Specify): Electronic training courses

I2.

- [ ] 6. NOT APPLICABLE SINCE FACILITY HAS NO EMPLOYEES
- [ ] 7. CHECK IF A SEPARATE EMPLOYEE TRAINING PLAN IS USED AND UPLOADED TO CERS AS A PDF DOCUMENT

I3.

- [ ] 8. CHECK IF EMPLOYEE TRAINING IS COVERED BY THE ABOVE REFERENCED CONTENT AND OTHER DOCUMENTS ONSITE

I4.

EMPLOYEE TRAINING FREQUENCY AND RECORDKEEPING TRAINING MUST BE:

- Provided initially for new employees as soon as possible following the date of hire. New employees should not work in an unsupervised position that involves hazardous materials handling and/or hazardous waste management without proper training;
- Provided within six months from the date of hire for new employees at a large quantity generator;
- Ongoing and provided at least annually;
- Amended prior to a change in process or work assignment;
- Given upon modification to the Emergency Response/Contingency Plan.

Large Quantity Generator Training: Large quantity generators (1,000 kg or more) must retain written plan and documentation of employee training which includes:

- A written description of the type and amount of both initial and ongoing training that will be given to persons filling each job position having responsibility for hazardous waste management and/or emergency response.
- The name, job title and job description for each position at the facility related to hazardous waste management.
- Current employee training records must be retained until closure of the facility and former employee training records must be retained for at least three years after termination of employment.

Small Quantity Generator Training: Small quantity generators (less than 1,000 kg) must include basic hazardous waste management and emergency response procedures but a written employee training plan and training records are not required. In order to show that the facility has met the small quantity generator employee training requirement, an employee training plan and training records may be made available.

Hazardous Materials Business Plan Training: Businesses must provide initial and annual employee training that includes the content referenced above. The training may be based on the job position and training records must be made available for a period of at least three years.

J. LIST OF ATTACHMENTS

Check one of the following: J1.

- [x] 1. NO ATTACHMENTS ARE REQUIRED; or
- [ ] 2. THE FOLLOWING DOCUMENTS ARE ATTACHED: J2.

California Environmental Reporting System (CERS)

Aboveground Petroleum Storage Act - Facility Information Report

Facility/Site

Murphy
2126 W Adams Blvd
Los Angeles, CA 90018

CERS ID
10398883

CAL000449322

Submittal Status

Submitted on 11/21/2025 by *Ricky Bautista* of E&B Natural Resources-LA Basin (Bakersfield, CA)

APSA Facility Information

Conditionally Exempt APSA Tank Facility
N

Date Of SPCC Plan Certification or Date of 5-Year Review
10/15/2019

Total Aboveground Storage Capacity of Petroleum	Number of Tanks in Underground Area(s)
1960	0

Appendix H

SCS Engineers Memorandum – Electric and Hybrid Workover Rig Availability

March 2, 2026
File No. 01226037.00

MEMORANDUM

TO: E&B Natural Resources

FROM: SCS Engineers

SUBJECT: Murphy Production Site: Modified Condition No. 25

Electric and Hybrid Workover Rig Availability – LA Basin Market Assessment

To Whom It May Concern:

SCS Engineers conducted market research to identify better operating technologies to satisfy Modified Condition No. 25 of Case No. ZA-1959-15227-0-PA6-1A that was included in the South Los Angeles Area Planning Commission's Letter of Communication issued September 2, 2025. The results are below:

Executive Summary

E&B Natural Resources does not own or operate drilling, production, or workover rigs and relies exclusively on third-party oilfield service companies to conduct well maintenance, workover, and integrity activities within the Los Angeles Basin. As a result, the ability to deploy electric, hybrid, or grid-powered workover rigs is governed by the equipment that is commercially available, permitted, and operationally supported by those service providers in California.

As of early 2026, the Los Angeles Basin market provides extremely limited options for electrified workover operations. Among service providers active in California, General Production Services (GPS) is the only contractor known to operate electric workover rigs, which were converted through a subcontract with Watson-Hopper. These rigs are regulator-accepted, field-proven, and capable of operating partially or fully on utility power where site-specific electrical infrastructure is available. While these rigs represent the only viable option for reducing emissions and noise associated with workover activities in sensitive or densely populated areas, they are not currently available to E&B Natural Resources.

Below is a summary table of Diesel only, Diesel-electric and grid-powered workover rig availability – Los Angeles Basin (Early 2026)

Service Provider	Rig Classification	Power Source	Availability in California	Commercial Status	Regulatory / Operational Considerations
Ensign Energy Services	Diesel-Electric Workover Rig	Diesel-electric with grid-power capability	Not available in California	Commercially available	Would require utility interconnection, permitting, and long-term contractual commitment
Axis Energy Services	EPIC RIG™	Fully electric (100% grid-powered)	Not available in California	Commercially available	Would require utility interconnection, permitting, and long-term contractual commitment
General Production Services (GPS) & Watson-Hopper	Electric Workover Rig	Fully electric	Not available to E&B for contracting	Commercially available	Existing units would require a large capital investment to convert and permit per California regulatory standards.
Ranger Energy Services	ECHO Hybrid-Electric Workover Rig	Hybrid electric with grid-connect capability	No confirmed California deployment	Emerging technology	No public evidence of California permitting or near-term availability
Kings Oil Tools	Conventional Workover Rig	Diesel only	Operating in California	Commercially available	Diesel-only; no electric or grid-powered option offered
Oil Well Services / CA Well Services	Conventional Workover Rig	Diesel only	Operating in California	Commercially available	Diesel-only; no electric or grid-powered option offered
MMI Services	Conventional Workover Rig	Diesel only	Operating in California	Commercially available	Diesel-only; no electric or grid-powered option offered
Excalibur Well Services	Conventional Workover Rig	Diesel only	Operating in California	Commercially available	Diesel-only; no electric or grid-powered option offered

Notes:

1. Availability reflects publicly known information and industry activity as of early 2026.
2. “Fully electric” refers to rigs capable of operating without onboard diesel power when connected to grid electricity.
3. Actual emissions reductions and noise benefits are dependent on site conditions, utility access, and regulatory approvals.

Findings:

1. **Third-Party Equipment Control** E&B Natural Resources does not own or operate workover rigs and relies exclusively on third-party service providers. As a result, the availability of electric, hybrid, or grid-powered workover rigs is governed by the commercial offerings, permitting status, and operational readiness of those providers, rather than by operator preference.

2. **Limited Electrified Options in the Los Angeles Basin** As of early 2026, the Los Angeles Basin market offers extremely limited electrified workover rig options. Among service providers active in California, General Production Services (GPS) is the only contractor known to operate diesel-electric workover rigs that were converted through a partnership with Watson-Hopper and have demonstrated grid-power capability in urban and coastal basins.

3. **Near-Term Feasibility of Grid-Capable Diesel-Electric Rigs** Ensign Energy's diesel-electric workover rigs are regulator-accepted, field-proven, and commercially available but not in California. Where site-specific electrical infrastructure allows, these rigs can reduce diesel engine run time, emissions, and noise relative to conventional diesel-only equipment. However, they are not classified as fully electric.

4. **Fully Electric Rigs:** Fully electric workover rigs, including Axis Energy Services' EPIC RIG™, are technically proven in other basins but are not currently deployed or commercially available in California. Deployment in the Los Angeles Basin would likely require extended lead times, utility interconnection, air-quality coordination, and long-term contractual commitments.

5. **Emerging and Off-Market Technologies** Ranger Energy Services' hybrid-electric rigs have no confirmed California deployment or permitting activity as of early 2026.

6. **Prevalence of Diesel-Only Equipment** Several other workover service providers are active in California—including Kings Oil Tools, Oil Well Services / CA Well Services, MMI Services, and Excalibur Well Services—and currently offer only conventional diesel-powered workover rigs, with no electric or grid-powered alternatives.

Conclusion:

Based on current market conditions and equipment availability, E&B Natural Resources has limited ability to deploy fully electric workover rigs in the Los Angeles Basin. The California service rig market does not presently provide a turnkey, fully electric workover solution that is commercially available and permitted for near-term use.

Accordingly, the use of grid-capable diesel-electric workover rigs, where feasible, represents the maximum practicable level of electrification currently available to E&B for workover operations. This approach reflects reasonable feasibility under CEQA and air quality regulatory standards and is constrained by third-party equipment availability rather than operator choice. E&B will continue to monitor advancements in workover rig electrification and will evaluate emerging technologies as they become commercially available and permitted for use in California. Should additional research, vendor coordination, or technical evaluation be required to further assess compliance pathways or implementation feasibility, please contact SCS Engineers for assistance.

References / Bibliography

Ensign Energy Services

Ensign Energy Services Inc. 2025. *Services – Well Servicing and Power Solutions.* Ensign Energy Services website.
Available at: https://www.ensignenergy.com/services/

Oil & Gas Leads. 2023. *Ensign Energy Services Rig Locator.* April 15, 2023.
Available at: https://oilgasleads.com/ensign-energy-services/

Ensign Energy Services Inc. 2026. *Corporate Website and Service Rig Overview.*
Available at: https://www.ensignenergy.com/

Email correspondences and interviews with Ensign Energy's District Manager and Area Manager, February, 25th through March 2nd, 2026.

Axis Energy Services

Axis Energy Services. 2024. *EPIC RIG™ – The First Fully Electric Well Service Rig.* Axis Oilfield Services website.
Available at: https://axisofs.com/epic-rig

Axis Energy Services. 2024. *Axis Launches New Era in Well Services with Deployment of Axis EPIC RIG™.* Press release, March 11, 2024. Distributed via PR Newswire.
Available at: https://www.prnewswire.com/news-releases/axis-launches-new-era-in-well-services-with-deployment-of-axis-epic-rig-302085320.html

Dallas Innovates. 2024. *Dallas-Based Axis Deploys Industry's First Fully Electric Well Service Rig.* March 11, 2024.
Available at: https://dallasinnovates.com/dallas-based-axis-deploys-industrys-first-fully-electric-well-service-rig/

Permian Basin Oil and Gas Magazine. 2024. *Axis Deploys Electric Service Rig.* May 1, 2024.
Available at: https://pboilandgasmagazine.com/axis-deploys-electric-service-rig/

World Oil. 2024. *Oxy Deploys "Industry First" Fully Electric Well Service Rig from Axis on Permian Production Wells.* March 13, 2024.
Available at: https://www.worldoil.com/news/2024/3/13/oxy-deploys-industry-first-fully-electric-well-service-rig-from-axis-on-permian-production-wells/

South Los Angeles Area Planning Commission. *Letter of Communication*. 2025. RE: Condition No. 25 "Electric powered workover rigs" - Attachment E. Issued September 2, 2025.

General Production Services (GPS)

General Production Service of California, Inc. 2026. *Company Overview and Services.*
Available at: https://www.genprod.com/

https://www.linkedin.com/company/general-production-service

Watson-Hopper, Inc.

Watson-Hopper, Inc. 2026. *Homepage.*
Available at: http://watsonhopper.com/index.php

Further information about partnership with GPS - Available at:

https://www.linkedin.com/feed/update/urn:li:activity:7358240563101421568/?originTrackingId=VftXPiV3s%2BweEj6FGqyd0w%3D%3D

Ranger Energy Services

Ranger Energy Services, Inc. 2025. *Ranger Energy Services to Launch Industry's First Hybrid Double Electric Workover Rigs.* Press release, July 28, 2025. Distributed via Business Wire.
Available at: https://investors.rangerenergy.com/news-and-events/press-releases/2025/07-28-2025-220508147

Business Wire. 2025. *Ranger Energy Services to Launch Industry's First Hybrid Double Electric Workover Rigs.* July 28, 2025.
Available at: https://www.businesswire.com/news/home/20250728753224/en/Ranger-Energy-Services-to-Launch-Industrys-First-Hybrid-Double-Electric-Workover-Rigs

South Los Angeles Area Planning Commission. 2025*. Letter of Communication*. *RE: Condition No. 25 "Electric powered workover rigs" - Attachment E*. Issued September 2, 2025.

Other California Workover Service Providers

Kings Oil Tools. 2026. *Homepage*
Available at: https://mmi-services.com/rigs/

Oil Well Services. 2026. *Homepage*
Available at: https://ows1.com/

CA Well Services (CWS). 2026. *Rig Services.*
Available at: https://calwellservices.com/services/

MMI Services. 2026. *Rigs and Equipment.*
Available at: https://mmi-services.com/rigs/

Excalibur Well Services. 2026. *Rigs Service.*
Available at: https://www.excaliburwellservices.com/rigs/

Regulatory and Contextual References

California Air Resources Board (CARB). 2026. *Off-Road Regulation FAQs – Workover Rigs.*
Available at: https://ww2.arb.ca.gov/our-work/programs/truckstop-resources/road-zone/regulation-faqs

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Attachment 20

OFFICE OF ZONING ADMINISTRATION
200 N. SPRING STREET, ROOM 763
LOS ANGELES, CA 90012-4801
(213) 978-1318

ESTINEH MAILIAN
CHIEF ZONING ADMINISTRATOR

ASSOCIATE ZONING ADMINISTRATORS
JACK CHIANG
HENRY CHU
TIM FARGO
JONATHAN A. HERSHEY, AICP
PHYLLIS NATHANSON
CHRISTINE SAPONARA
COURTNEY SHUM
CHRISTINA TOY LEE
JORDANN TURNER

CITY OF LOS ANGELES
CALIFORNIA

KAREN BASS
MAYOR

LOS ANGELES DEPARTMENT OF CITY PLANNING
EXECUTIVE OFFICES
VINCENT P. BERTONI, AICP
DIRECTOR

KEVIN J. KELLER, AICP
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DEPUTY DIRECTOR
HAYDEE URITA-LOPEZ
DEPUTY DIRECTOR
ARTHI L. VARMA, AICP
DEPUTY DIRECTOR
LISA M. WEBBER, AICP
DEPUTY DIRECTOR
planning.lacity.org

September 02, 2025

Louis P. Zylstra, Jr. PE (Operator)
E&B Natural Resources Management Corp.
1608 Norris Road
Bakersfield, CA 93308

Ted Cordova (Operator)
E&B Natural Resources Management Corp.
10661 Ellis Avenue, Suite D
Fountain Valley, CA 92708

Matt Wickersham (Representative)
Alston & Bird LLP
333 S. Hope Street, 16th Floor
Los Angeles, CA 90071

Roman Catholic Archdiocese of Los Angeles (Property Owner)
3424 Wilshire Boulevard
Los Angeles, CA 90010

CASE NO. ZA-1959-15227-O-PA6-1A
LETTER OF COMMUNICATION
2126 West Adams Boulevard
South Los Angeles Community Plan
Zone: [Q] R4-1-O-HPOZ
D.M.: 123B193
C.D.: 10 - Hutt
Legal Description: Lot A, P M 1641

RE: Annual Safety Inspection Report for Murphy Drill Site

The Los Angeles Department of City Planning's Office of Zoning Administration (the Department) is requiring additional information and supplemental background concerning E&B Natural Resource Management Corporation's (the Operator) 2024 Annual Safety Inspection Report for the Murphy Drill Site (the Drill Site).

Background

On January 31, 2024, the South Los Angeles Area Planning Commission issued a Letter of Determination that denied in part and granted in part an appeal, and sustained the Zoning Administrator's determination dated February 28, 2023 **(see Attachment A).** On October 17, 2023, the South Los Angeles Area Planning Commission also modified the Conditions of Approval. Modified Condition No. 18 of Case No. ZA-1959-15227-O-PA6-1A states:

" [Modified Condition No] 18. An Annual On-site Safety Inspection Report shall be performed by the applicant/operator and sent to the Petroleum Administrator and the Office of Zoning Administration, listing the inventory of equipment on site, any repair work, and / or maintenance done to keep the equipment in good operating condition at all times and any safety protocols of the responsible State, regional and City agencies. The first Annual Safety Inspection report shall be submitted within 45 days of the effective date of this action.
All Annual Reports shall include a technology assessment report. The assessment report shall be collaboratively generated by the operator with input from environmental and petroleum engineering consultants and community stakeholders to identify better operating technologies, such as electric workover rigs."

Annual Safety Inspection Report

On March 14, 2025, the Operator submitted the Third-Party Audit of the Murphy Production Site Safety Self-Inspection (Annual On-Site Safety Inspection Report). See **Attachment B** for a copy of this report. The Annual On-site Safety Inspection Report includes an inventory of the Drill Site equipment and a listing of all permits, registrations, and approvals from the varying California regulatory agencies and a review of all Conditions for the Drill Site for the 2024 calendar year. Several Conditions highlighted in the Operator's report (See Page 21) include a Compliance Status that reads "In compliance" or "Acknowledged" in the status column, with no additional narrative or description.

On May 19, 2025 and June 2, 2025, the Department met with the Operator to discuss the contents of the Annual Safety Inspection Report. The following agenda items were discussed throughout the two meetings:

- Condition No. 6 - Adherence to hours of operation and truck delivery announcements.
- Condition No. 18 - Annual reports and input from environmental, petroleum consultants, and community stakeholders.
- Condition No. 19 - Fenceline monitoring measurements and potential meeting with Scentroid contractor.
- Condition No. 21 - Transparency efforts. Rule 1148.2 planned activities on website and email newsletter.

- Condition No. 23 - Requirement to build a production area enclosure.
- Condition No. 25 - Question on microturbines usage.
- Condition No. 25 - 2H's research into electric workover rigs.
- Condition No. 27 - Idle well regulations
- Recent SCAQMD equipment leak violation: NOV/NC Details: P78161 on 01/15/2025
- Confirmation of CalGEM final witness/review for plugged well, "Murphy 21"
- March 8th, 2024 Complaint submitted to LADBS Code Enforcement

Information Requested

Following the two meetings with the Operator in May and June, the Department requests additional information to the following inquiries listed below.

- Condition No. 6 “Adherence to hours of operation and truck delivery announcements” - Explain and describe the Operator’s instructions to third-party contractors that truck delivery hours are prohibited from 7:00 a.m. to 7:00 p.m. and the Operator’s proactive measures to ensure that deliveries are limited to the time frame outlined in Condition No. 6 of Case No. ZA-1959-15227-O-PA6-1A.
  On August 18, 2025, it was brought to the attention of the Department (see **Attachment C)** a series of video clips illustrating what potentially appears to be trucks delivering production equipment prior to the hours outlined in Condition No. 6 (7:00 p.m. and 7:00 a.m.). Explain and describe the nature of these trips and the relevance, in summary, of these trucks that entered the Drill Site prior to the permitted timeframe for truck deliveries.
- Condition No. 19 “Fenceline monitoring” - Explain the feasibility and steps required in order for fenceline monitoring data and measurements to be illustrated in a specific online webpage format similar to other existing air quality monitoring efforts in the City of Los Angeles. See **Attachment D** for a list of examples of a variety of air monitoring webpages.
- Condition No. 23 “Production area enclosure” - Explain the timeline and steps in place for the production area enclosure, including the firm/company names retained for the design and construction of the enclosure. In addition, share any conceptual and/or detailed plans of the enclosure area that will eventually be submitted to Los Angeles City Planning’s Office of Historic Resources and the Los Angeles Department of Building and Safety. Also, if there’s a delay anticipated with the completed construction of the enclosure by January 31, 2026 (24 months from the final effective date of Case No. ZA-1959-15227-O-PA6-1A) then explain, in detail, the justification why an extension may be required.
- Condition No. 25 “Microturbines” - Explain in detail how the Operator is ensuring that the microturbines’s primary natural gas source is the extraction byproduct and not refined gas from the Southern California Gas Company.
- Condition No. 25 “Electric powered workover rigs” - See the press release from Ranger Energy Services announcing the use of an electric-powered workover rig for rework operations and LinkedIn. Additional material from Axis Energy Services announcing an

electric workover rig for commercial availability, is attached for reference (**See Attachment E).** Evaluate the feasibility of electric powered workover rigs for the Murphy Drill Site given the commercial use by different operators in the United States.

- Condition No. 27 “Idle well regulations” - Explain the status of oil producer well, Murphy 18, and whether the oil well is to be added to the Drill Site’s Idle Well Management Plan. According to CalGEM Well Finder, the well status for Murphy 18 is “idle” and WellSTAR Production Volume information shows that Murphy 18 has not produced any oil since 2023 (**See Attachment F).**
- March 8, 2024 Los Angeles Department Building and Safety Code Enforcement - Explain the flat work completed in the Winter/Spring 2024 quarter at the Murphy Drill Site and its purpose for Drill Site operations, including the specific equipment that was installed on the new concrete pad. In addition, share any permits submitted / permit applications from any Los Angeles City agencies, such as the Department of Water and Power, that were required (or that necessitated) for the new concrete pad.

Furthermore, additional items that need clarification from the Operator regarding the Spill Prevention, Control, and Countermeasures Plan for the Murphy Production Facility (SPCC) (**see Attachment G**):

- Spill Prevention, Control and Countermeasures Plan for the Murphy Production Facility, included in the Appendices of the March 2025 Annual Safety Inspection Report:
    - Page 8 - Discharge of produced water: Explain the safety implications of discharging produced water into City sewer lines. Are all amounts of crude oil or mud/sand mix removed from this produced water before being funneled to the City sewer lines? The City's understanding is that produced water was reinjected via the injection wells at the Drill Site.
    - Page 8 - Crude oil tanker trucks: Explain the purpose of trucking crude oil from the facility when Crimson Pipeline LP serves the facility for the underground shipping of crude oil from the Drill Site. Are tanker trucks also serving the facility and shipping crude oil by truck?
    - Condition No. 24 of Case No. ZA-1959-15227-O-PA6-1A requires 24-hours a day, 7 days-a-week staffing coverage at the Drill Site. There is no mention of this employee staffing detail in the SPCC. Confirm that this requirement is being implemented and revise the SPCC as detailed by Condition No. 24.

The Department requests a response with explanations and additional information within **60 calendar days** from the date of this Letter of Communication. Inquiries regarding this matter shall be directed to Edber Macedo, Planning Staff for Los Angeles City Planning, at edber.macedo@lacity.org.

Matthew Lum

MATTHEW LUM
Senior City Planner

ML:ecm

Cc: Councilmember Hutt, Tenth District <via email delivery only>
Assemblymember Issac G. Bryan, State Assembly District 55
LAFD Oil Wells Unit, Los Angeles Fire Department <via email delivery only>
Erica L. Blyther, Office of Petroleum and Natural Gas Administration and Safety <via email delivery only>
Catherine Nuezca Gaba, Code Enforcement, Department of Building and Safety <via email delivery only>
Marvin Bonilla, Office of the City Attorney <via email delivery only>
Grant Hutchins, Office of the City Attorney <via email delivery only>
South Los Angeles Area Planning Commission <via email delivery only>

Attachments:

Attachment A: South Los Angeles Area Planning Commission Determination for Case No. ZA-1959-15227-O-PA6-1A, dated 01/31/2024 (digital link only)
Attachment B: Third-Party Audit of the Murphy Production Site, Safety Self-Inspection "61074-RPT-0001-02" dated March 2025 (digital link only)
Attachment C: Videographic Capture of Truck Deliveries at the Drill Site (digital link only)
Attachment D: Examples of Air Quality Monitoring Sites (digital link only)
Attachment E: Informational Packet Concerning Electric Workover Rigs (digital link only)
Attachment F: Informational Packet for Murphy 18 Idle Well Status (digital link only)
Attachment G: Spill Prevention, Control, and Countermeasures Plan for the Murphy Production Facility, Certified February 2025 (digital link only)

Please email planning.oildrilling@lacity.org for any troubleshooting or digital copies of the referenced attachments. This Letter of Communication, with the digital links, is uploaded to at the following Case Summary and Documents link: https://planning.lacity.gov/pdiscaseinfo/search/casenumber/ZA-1959-15227-O-PA6-1A.

From: Ted.Cordova
To: Matthew Lum
Subject: FW: Planning Letter Issued to E&B Natural Resources // Murphy Drill Site
Attachments: Murphy___Letter of Comm - Mailed on 9.2.2025.pdf

---

Hi Matt,

I hope you had a great weekend. I wanted to reach out and request more time on our response to the Annual Inspection Report at Murphy. We'd like to ask for 60 additional days.

Thanks for your consideration and support.

Kind regards,
Ted

From: Planning Oil Drilling <planning.oildrilling@lacity.org>
Sent: Tuesday, September 2, 2025 3:53 PM
To: Ted.Cordova <Ted.Cordova@ebresources.com>; Wickersham, Matt <matt.wickersham@alston.com>; Lou Zylstra <lou.zylstra@ebresources.com>
Subject: Planning Letter Issued to E&B Natural Resources // Murphy Drill Site

Good afternoon,

The Office of Zoning Administration mailed a Letter of Communication to E&B Natural Resources today. This Letter is regarding issues related to the Conditions of Approval at the Murphy Oil Drill Site in Council District 10. The digital copy of the Letter of Communication includes links to the corresponding attachments.

Link: **https://planning.lacity.gov/pdiscaseinfo/document/NDM5NA0/82065561-f922-4efb-8b32-0e189f041683/pdd**

From: Ted.Cordova <Ted.Cordova@ebresources.com>
Sent: Tuesday, November 25, 2025 2:55 PM
To: Matthew Lum; Edber Macedo
Subject: Request for Additional Information re Murphy Annual Safety Inspection Report
Attachments: Zoning Administration Murphy response safety inspection report 11032025.pdf; Truck Deliveries 11252025.pdf; Murphy Sound Wall Cover Sheet C-1 11-5-25.pdf; Murphy Sound Wall Detail Sheet D-1 11-5-25.pdf; MURPHY Sound Wall Layout Architectural A-1 11-5-25.pdf; MURPHY Sound Wall Layout S-1 11-5-25.pdf; Murphy Sound Wall Pile Specifications S-2 11-5-25.pdf; Murphy Sound Wall Section Cut G-2 11-5-25.pdf; MURPHY Sound Wall Site Topography G-1 11-5-25.pdf

Hi Matt and Edber,

I hope you are doing well.

Attached are the request for information response on our Annual Safety Inspection Report 2025.

Let me know if you want to set up a meeting to walk through this together and discuss.

Have a super Thanksgiving!
Ted

Ted Cordova
E&B Natural Resources
310-489-4972

www.ebresources.com

IMPORTANT NOTICE: The information in this e-mail is confidential and may also be privileged. If you are not the intended recipient, any use or dissemination of the information and any disclosure or copying of this email is unauthorized and strictly prohibited. If you have received this email in error, please promptly inform us by reply email or telephone. You should also delete this email and destroy any hard copies produced immediately.

Attachment 21

E&B Natural Resources' Murphy Site

If you have questions about the Murphy Site or need immediate assistance, please call us at (323) 816-1528

Receive Updates About the Site

About The Murphy Site

E&B Natural Resources is a long-standing community energy producer that has operated the Murphy Site since 2019. As part of our continued efforts to be transparent and share information with the community we call home, we have developed a page to share data on emissions and allow community members to sign up to stay informed about what maintenance activities are occurring at the Murphy Site.

Benefiting Our Community

E&B Natural Resources has a deep-rooted commitment to the communities we call home. We have raised over $200,000 for the Tragedy Assistance Program for Survivors (TAPS), supporting those grieving military losses. Additionally, Since 2011, E&B has donated over 500 Christmas trees and decorations to Oildale families and participated in local events like Halloween Trunk or Treat. We are also proud to support various local organizations, including the Boys and Girls Clubs and Kern Literacy Council. E&B operates ethically and responsibly, prioritizing employee safety and environmental respect. Our efforts enhance community well-being and make their communities better places to live.



Prioritizing Safety

E&B Natural Resources prioritizes safety in all its operations, ensuring the well-being of employees and the surrounding communities. We minimize risks, eliminate discharges, and efficiently manage materials by employing the most cutting-edge technology and a well-trained workforce. Our commitment to safety always ensures we are in strict adherence to and exceeding all environmental, health, and safety laws. Our proactive measures include continuous training, rigorous safety protocols, and regular audits to maintain the highest safety standards. We also respect the physical environment, protecting local flora and fauna and encouraging recycling in all operations. This comprehensive approach underscores E&B's dedication to safe and responsible energy production.

The Benefits of Local Production

- Reduce Our Dependency of Foreign Imports
- Provide High Paying Jobs to Local Community Members
- Utilize the World's Only Climate-Compliant Oil Production
- Decrease Traffic in our Overcrowded Ports

Emissions Data & Activities

Click below to download the latest Monitoring Report.

Download the Report

E&B Activities

Well abandonment work - August 12, 2024
Well cleaning work – April 15, 2025

View All Sensor ID Reports

- Murphy Site Sensor Report Sensor ID: 5546 (7.8.24 to 7.15.24)
- Murphy Site Sensor Report Sensor ID: 5559 (7.8.24 to 7.15.24)
- Murphy Site Sensor Report Sensor ID: 5546 (7.15.24 to 7.22.24)
- Murphy Site Sensor Report Sensor ID: 5559 (7.15.24 to 7.22.24)
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- Murphy Site Sensor Reports (6.29.26 to 7.6.26)

Annual Inspection Reports

We welcome any input into the existing or new technologies that the community would like us to consider for use at the site.

Please email us comments at tcordova@ebresources.com.

Stay Up to Date on the Murphy Site

By filling out this form, you are opting in to receive email updates about maintenance activities and updates on E&B's Murphy Site.

First Name *

Last Name *

Email *

Phone

Select an Address

Select an Address

Questions/Comments

Submit

it.admin@ebresources.com

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Sitio Murphy de E&B Natural Resources

Si tiene preguntas sobre el sitio de Murphy o necesita asistencia inmediata, llámenos al (323) 816-1528

Reciba actualizaciones sobre el sitio.

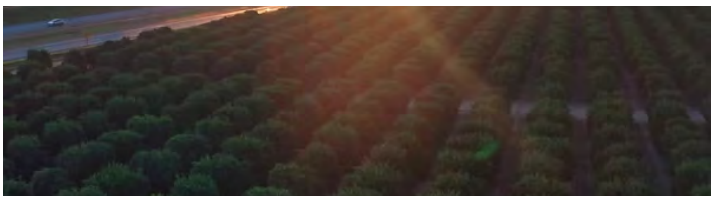
Acerca del sitio web de Murphy

E&B Natural Resources es un productor de energía comunitaria con una larga trayectoria que opera la planta Murphy desde 2019. Como parte de nuestros esfuerzos continuos por ser transparentes y compartir información con la comunidad a la que pertenecemos, hemos creado una página para compartir datos sobre emisiones y permitir que los miembros de la comunidad se registren para mantenerse informados sobre las actividades de mantenimiento que se realizan en la planta Murphy.

Beneficiando a nuestra comunidad

E&B Natural Resources tiene un profundo compromiso con las comunidades donde opera. Hemos recaudado más de $200,000 para el Programa de Asistencia para Sobrevivientes de Tragedias (TAPS), brindando apoyo a quienes sufren la pérdida de militares. Además, desde 2011, E&B ha donado más de 500 árboles de

Navidad y adornos a familias de Oildale y ha participado en eventos locales como Halloween Trunk or Treat. También nos enorgullece apoyar a diversas organizaciones locales, incluyendo los Boys and Girls Clubs y el Consejo de Alfabetización de Kern. E&B opera de manera ética y responsable, priorizando la seguridad de los empleados y el respeto al medio ambiente. Nuestros esfuerzos mejoran el bienestar de la comunidad y hacen de sus comunidades mejores lugares para vivir.





Priorizar la seguridad

E&B Natural Resources prioriza la seguridad en todas sus operaciones, garantizando el bienestar de sus empleados y las comunidades aledañas. Minimizamos los riesgos, eliminamos los vertidos y gestionamos los materiales de manera eficiente mediante el uso de la tecnología más avanzada y un equipo de trabajo altamente capacitado. Nuestro compromiso con la seguridad nos permite cumplir estrictamente, e incluso superar, todas las leyes ambientales, de salud y seguridad. Nuestras medidas proactivas incluyen capacitación continua, protocolos de seguridad rigurosos y auditorías periódicas para mantener los más altos estándares de seguridad. Asimismo, respetamos el medio ambiente, protegiendo la flora y fauna locales y fomentando el reciclaje en todas nuestras operaciones. Este enfoque integral subraya la dedicación de E&B a la producción de energía segura y responsable.

Los beneficios de la producción local

Reducir nuestra dependencia de las importaciones extranjeras

Ofrecer empleos bien remunerados a los miembros de la comunidad local.

Utilizar la única producción de petróleo del mundo que cumple con las normas climáticas.

Reducir el tráfico en nuestros puertos saturados.

Datos y actividades sobre emisiones

Haz clic a continuación para descargar el último informe de seguimiento.

Descargue el informe

Actividades de E&B

Trabajos de abandono de pozos: 12 de agosto de 2024.
Trabajos de limpieza de pozos: 15 de abril de 2025.

Ver todos los informes de ...

- Informe del sensor del sitio Murphy ID del sensor: 5546 (7.8.24 a 7.15.24)
- Informe del sensor del sitio Murphy ID del sensor: 5559 (7.8.24 a 7.15.24)
- Informe del sensor del sitio Murphy ID del sensor: 5546 (15/07/2024 a 22/07/2024)
- Informe del sensor del sitio Murphy ID del sensor: 5559 (15/07/2024 a 22/07/2024)
- Informe del sensor del sitio Murphy ID del sensor: 5546 (del 22/07/2024 al 29/07/2024)
- Murphy Site Sensor Report Sensor ID: 5559 (7.22.24 to 7.29.24)
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- Informe de sensores del sitio Murphy (del 29/09/2025 al 06/10/2025)
- Informes de sensores del sitio Murphy (del 20/10/2025 al 27/10/2025)
- Informes de sensores del sitio Murphy (del 27/10/2025 al 02/11/2025)
- Informes de sensores del sitio Murphy (11.3.25 a 11.10.25)
- Informes de sensores del sitio Murphy (11.10.25 a 11.17.25)
- Informes de sensores del sitio Murphy (17/11/2025 al 24/11/2025)
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- Informes de sensores del sitio Murphy (12.1.25 a 12.8.25)
- Informes de sensores del sitio Murphy (del 8 de diciembre de 2025 al 15 de diciembre de 2025)
- Informes de sensores del sitio Murphy (15/12/2025 al 22/12/2025)
- Informes de sensores del sitio Murphy (del 22/12/2025 al 29/12/2025)
- Informes de sensores del sitio Murphy (12.29.25 a 1.526)
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- Informes de sensores del sitio Murphy (19/01/2026 al 26/01/2026)
- Informes de sensores del sitio Murphy (del 26/01/2026 al 02/02/2026)
- Informes de sensores del sitio Murphy (del 2.2.26 al 2.9.26)
- Informes de sensores del sitio Murphy (del 9 de febrero de 2026 al 16 de febrero de 2026)
- Informes de sensores del sitio Murphy (16/02/2026 al 23/02/2026)
- Informes de sensores del sitio Murphy (23/2/26 al 2/3/26)
- Informes de sensores del sitio Murphy (3.2.26 a 3.9.26)
- Informes de sensores del sitio Murphy (del 3.9.26 al 3.16.26)
- Informes de sensores del sitio Murphy (16/03/2026 al 23/03/2026)
- Informes de sensores del sitio Murphy (del 23/03/2026 al 30/03/2026)
- Informes de sensores del sitio Murphy (30/03/2026 a 06/04/2026)
- Informes de sensores del sitio Murphy (4.6.26 a 4.13.26)
- Informes de sensores del sitio Murphy (del 13/04/2026 al 20/04/2026)
- Informes de sensores del sitio Murphy (del 20/04/2026 al 27/04/2026)

- Informes de sensores del sitio Murphy (del 27/04/2026 al 04/05/2026)
- Informes de sensores del sitio Murphy (5.4.26 a 5.11.26)
- Informes de sensores del sitio Murphy (del 11/05/2026 al 18/05/2026)
- Informes de sensores del sitio Murphy (18/05/2026 al 25/05/2026)
- Informes de sensores del sitio Murphy (del 25/05/2026 al 01/06/2026)
- Informes de sensores del sitio Murphy (del 1 de junio de 2026 al 8 de junio de 2026)
- Informes de sensores del sitio Murphy (del 8 de junio de 2026 al 15 de junio de 2026)
- Informes de sensores del sitio Murphy (del 15/06/2026 al 22/06/2026)
- Informes de sensores del sitio Murphy (del 22/06/2026 al 29/06/2026)
- Informes de sensores del sitio Murphy (del 29/06/2026 al 06/07/2026)

Informes de inspección a...

Agradecemos cualquier sugerencia sobre las tecnologías existentes o nuevas que la comunidad desee que consideremos para su uso en el sitio.

Envíenos sus comentarios por correo electrónico a tcordova@ebresources.com.

it.admin@ebresources.com

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Manténgase al día en el sitio web de Murphy.

Nombre de pila *

Apellido *

Correo electrónico *

Teléfono

Seleccione una dirección

Al completar este formulario, usted acepta recibir actualizaciones por correo electrónico sobre las actividades de mantenimiento y las novedades del sitio Murphy de E&B.

Seleccione una dirección

Preguntas/Comentarios

Entregar

Attachment 22

From: Edber Macedo <edber.macedo@lacity.org>
Sent: Wednesday, October 25, 2023 2:33 PM
To: Ted.Cordova <Ted.Cordova@ebresources.com>
Subject: Re: Murphy site

Good afternoon Ted,

I'm attaching the preliminary set of application forms and instructions for the HPOZ review board for new construction projects.

I'd also like to redirect you to Daniel Mata. Daniel is the planner in charge of reviewing and facilitating board reviews of new construction projects in the Jefferson Park HPOZ. He is aware that you or someone from your team will be reaching out soon. You would start with an initial consultation with him first prior to submitting any materials. He can share the more in-depth details of the review and application process.

I'm attaching the instructions, an application form, and a flow chart of the review process. Daniel can provide more details about these materials. Thank you.

Jefferson Park HPOZ planner - **daniel.mata@lacity.org**

Sincerely,

Edber

On Tue, Oct 24, 2023 at 12:36 PM Ted.Cordova <Ted.Cordova@ebresources.com> wrote:

Hi Edber,

I hope you are doing well. Can you guide me to the appropriate application/forms to fill out for the building of the wall / HPOZ?

Thanks,
Ted

Sent from my iPhone

Special Instructions for:

Certificate of Compatibility (CCMP)
Pursuant to Section 12.20.3. L of the LAMC "HP" Historic Preservation Overlay Zone

The construction of a new building or structure on a lot designated as **Non-Contributing**, the replacement of existing Non-Contributing Elements, the relocation of buildings or structures not dating from the Preservation Zone's period of significance onto a lot designated as a Non-Contributing Element, and the demolition of any building or structure designated as a Non-Contributing Element, requires a Certificate of Compatibility to assure compatibility with the character of the Preservation Zone and to assure that the construction or demolition work is undertaken in a manner that does not impair the essential form and integrity of the Historic character of its environment.

Note: When a project requires a Certificate of Compatibility for both the demolition of any building or structure on a lot designated as a Non-Contributing Element and the subsequent construction of a new building or structure or the replacement of existing Non-Contributing Elements, the applications may be combined, provided that detailed plans for the construction of a new building or structure or replacement of existing Non-Contributing Elements can be provided.

1. The attached MASTER LAND USE PERMIT APPLICATION FORM (CP-7771) (available online at http://www.lacity.org/PLN/) must be filled out completely, typed or printed in black ink, with complete answers to every statement and question. The application must have the street address and legal description of the subject property which can be obtained at the Construction Services Center (201 N. Figueroa Street, Fourth Floor), at the Marvin Braude Constituent Service Center (6262 Van Nuys Boulevard, Room. 251), or on-line at http://www.lacity.org/PLN/ . The MASTER LAND USE PERMIT APPLICATION FORM (CP-7771) must be notarized.

2. Indicate the subject site on a map which includes the proposed project (an 8 ½ X 11 copy of a ZIMAS Map or Assessors Parcel Map will be sufficient. These can be generated online at: *http://zimas.lacity.org/search.asp*). Beginning with the subject site, number the properties (e.g., 1, 2, 3...) to correspond with the mailing labels which are required in instruction No. 6 below.

3. Prepare, and submit nine (9) sets of plans of the proposed project for review, including existing and proposed site plans, floor plans, all elevations, and landscape plans (if applicable). The first page of any plans shall include a written project summary including: a description of the scope of work; summary of existing conditions; and summary of proposed project.

4. Provide nine (9) sets of photographs, labeled with the site address and case number, of the front facade and project area. Also provide a view of the site and adjacent buildings from the street, sides and rear of the subject property.

5. For new construction or replacement, provide nine (9) sets of the proposed materials, including color samples, samples of exterior finishes, examples of roofing materials. Consult with the HPOZ Planner for any other essential materials.

6. Prepare, and submit two sets and one copy of mailing labels with names and addresses of all adjacent property owners and occupants, including those properties across the street or alley, or having a common corner with the subject property. Include labels for yourself, applicant, and any other party that should be notified (e.g. architects or contractors).

7. FILING APPLICATION. **When the above requirements are completed, please call (213) 978-1164**

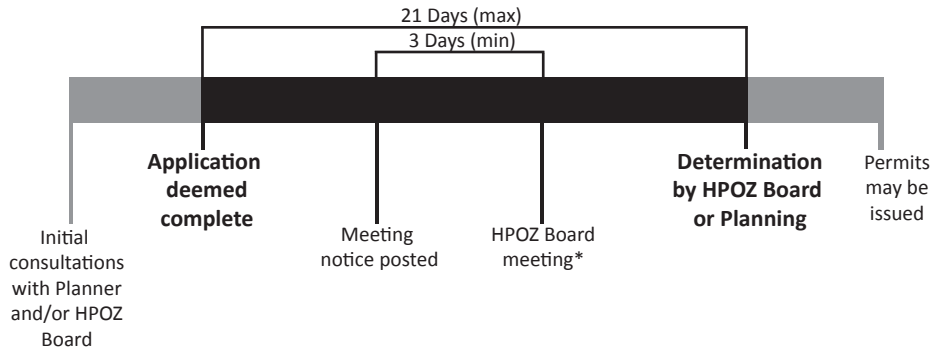
(Metro, East or South areas) or (213) 978-1161 (West or Coastal areas) to contact the designated HPOZ Planner for a pre-submittal appointment. After the designated HPOZ Planner has determined the application materials are complete, they will sign a Community Planning Bureau Authorization Form to submit with your application. You will then be directed to the City's Construction Services Center to pay the required filing fees and receive a case number. The application may be filed at either of the Planning Public Counters, located at 201 N. Figueroa Street, 4th Fl. or the Marvin Braude Constituent Service Center 6262 Van Nuys Boulevard, Room. 251.

8. An ENVIRONMENTAL CLEARANCE is required for this application. The Planning Public Counter will evaluate the project to determine the appropriate environmental clearance at the time of filing.

9. FILING FEES must be paid at the time of filing the Certificate of Compatibility and the Environmental Clearance. Fees are established in Section 19.01 of the Los Angeles Municipal Code. These fees partially cover the cost of processing applications.

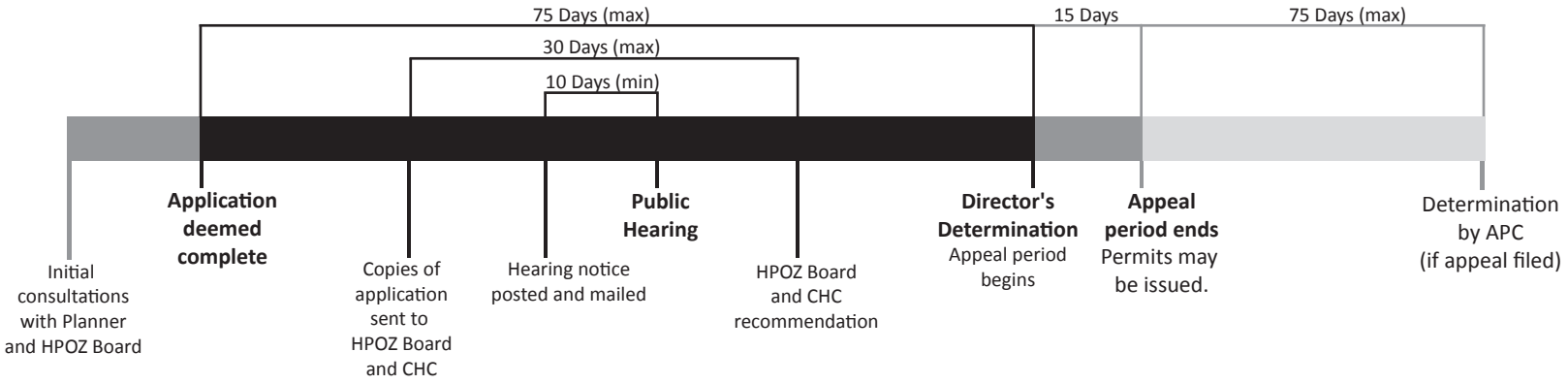
Historic Preservation Overlay Zone (HPOZ) Review Processes

Conforming Work (CWC or CWNC)



- Cultural Heritage Commission = CHC
- Area Planning Commission = APC

Certificate of Appropriateness (COA) or Certificate of Compatibility (CCMP)



General Notes:

- **Certificate of Appropriateness (COA)**: Issued for the construction, addition, demolition, reconstruction, alteration, removal, or relocation of any structure or feature identified as a Contributing Element.
- **Certificate of Compatibility (CCMP)**: Issued for the construction of any new structure on a lot, building replacement, or demolition of an element identified as a Non-Contributing Element.
- **Conforming Work on Non-Contributing Elements (CWNC):**
  Minor: Issued for maintenance, repair, or relocation of a historic structure to a Non-Contributing lot, or for work that does not require a building permit

  Major: Issued for non-visible construction or demolition; construction of a visible accessory structure smaller than 10 percent of the lot area; relocation or demolition of a visible accessory structure or for the correction of code enforcement conditions.
- **Conforming Work on Contributing Elements (CWC):**
  Minor: Issued for restoration work, rehabilitation, maintenance, and repair or projects that do not require the issuance of a building permit.

  Major: Issued for non-visible additions or new structures that result in a less than 20 percent increase in building coverage; construction of a new visible accessory structure less than 10 percent of the lot area; demolition of a non-historic accessory structure; demolition and reconstruction taken in response to natural disaster or to correct a hazardous condition or for the correction of code enforcements.
- Maximum time periods for Director's Determination or HPOZ Board recommendation may be extended if applicant and Director mutually agree.

* Board may delegate its review authority to the Director of Planning.

- Decisions on Conforming Work cannot be appealed. If conforming work is denied, applicant may apply for COA or CCMP.

Created by the City of Los Angeles Office of Historic Resources 2017

APPLICATIONS

CITY PLANNING APPLICATION

THIS BOX FOR CITY PLANNING STAFF USE ONLY

☐ **ED1 Eligible** ☐ **AB 2097 Eligible**

Case Number: _____

Env. Case Number: _____

Application Type: _____

Case Filed With (Print Name): _____ **Date Filed:** _____

Application includes letter requesting:

☐ Waived Hearing ☐ Concurrent hearing ☐ Hearing not to be scheduled on a specific date (e.g. vacation hold)

Related Case Number(s): _____

THIS SECTION TO BE COMPLETED BY THE APPLICANT

Provide all information requested. Missing, incomplete or inconsistent information will cause delays. All terms in this document are applicable to the singular as well as the plural forms of such terms. Refer to the City Planning Application Filing Instructions (CP-7810) for more information.

1. PROJECT LOCATION

Street Address[1]: _____ **Unit/Space Number:** _____

Legal Description[2] (Lot, Block, Tract): _____

Assessor Parcel Number: _____ **Total Lot Area:** _____

2. PROJECT DESCRIPTION

Present Use: _____

Proposed Use: _____

Project Name (if applicable): _____

[1] Street Addresses must include all addresses on the subject/application site (as identified in ZIMAS—http://zimas.lacity.org).
[2] Legal Description must include all contiguously owned properties (even if they are not a part of the proposed project site).

Describe in detail the characteristics, scope and/or operation of the proposed project:

Additional Information Attached: ☐ **YES** ☐ **NO**

EXISTING SITE CONDITIONS

Complete and check all that apply:

- ☐ Site is undeveloped or unimproved (i.e., vacant)
- ☐ Site has existing buildings (provide copies of building permits)
- ☐ Site is/was developed with uses that could release hazardous materials on soil and/or groundwater (e.g., dry cleaning, gas station, auto repair, industrial)
- ☐ Site is located within 500 feet of a freeway or railroad
- ☐ Site is located within 500 feet of a sensitive use (e.g., school, park)
- ☐ Site has special designation (e.g., National Historic Register, Survey LA)

PROPOSED PROJECT INFORMATION

Check all that apply or could apply:

- ☐ Demolition of existing buildings/structures
- ☐ Relocation of existing buildings/structures
- ☐ Removal of any on-site tree
- ☐ Removal of any street tree
- ☐ Removal of protected trees onsite/in public right-of-way
- ☐ Grading
- ☐ Haul Route
- ☐ New construction: _____ square feet
- ☐ Additions to existing buildings
- ☐ Interior tenant improvement
- ☐ Exterior renovation or alteration
- ☐ Change of use and/or hours of operation
- ☐ Uses or structures in public right-of-way
- ☐ Phased project

HOUSING COMPONENT INFORMATION

Number of Residential Units: Existing _____ - Demolish(ed)[3] _____ + Adding _____ = Total _____

Number of Affordable Units[4]: Existing _____ - Demolish(ed) _____ + Adding _____ = Total _____

Number of Market Rate Units: Existing _____ - Demolish(ed) _____ + Adding _____ = Total _____

Mixed Use Projects, Amount of Non-Residential Floor Area: _____ square feet

[3] Number of units to be demolished and/or which have been demolished within the last five years.
[4] As determined by the Los Angeles Housing Department.

PARKING INFORMATION

Is the project utilizing AB 2097? ☐ **YES** ☐ **NO**

If Yes, provide a date-stamped ZIMAS Parcel Profile Report including AB 2097 Eligibility information.

Provided # of Parking Spaces: _____ Required # of Parking Spaces: _____

Parking Minimum Checklist

The following checklist will determine if parking minimums can be imposed on a Project under AB 2097. Parking minimums cannot be imposed if the proposed project meets any of the following criteria.

Check all that apply:

- ☐ Include a minimum of 20 percent of the total dwelling units for Very Low, Low, or Moderate-Income households, students, the elderly, or persons with disabilities
- ☐ Contain fewer than 20 dwelling units
- ☐ Are subject to parking reductions of any other applicable law (by satisfying the applicable eligibility requirements)

PUBLIC RIGHT-OF-WAY INFORMATION

Have you submitted the Planning Case Referral Form to BOE? (if required) ☐ **YES** ☐ **NO**

Is the project required to dedicate land to the public right-of-way? ☐ **YES** ☐ **NO**

If so, what is/are the dedication requirement(s)? _____ feet

If dedications are required on multiple streets, identify as such: _____

_____

3. ACTION(S) REQUESTED

Provide the Los Angeles Municipal Code (LAMC) Section that authorizes the request and (if applicable) the LAMC Section or the Specific Plan/Overlay Section from which relief is sought, and follow with a description of the requested action.

Does the project include Multiple Approval Requests per LAMC Section 12.36? ☐ **YES** ☐ **NO**

Authorizing Code Section: _____

Code Section from which relief is requested (if any): _____

Action Requested: _____

_____

Authorizing Code Section: _____

Code Section from which relief is requested (if any): _____

Action Requested: _____

_____

Additional Requests Attached: ☐ **YES** ☐ **NO**

4. RELATED CITY PLANNING CASES

Are there previous or pending cases/decisions/environmental clearances on the project site? ☐ **YES** ☐ **NO**

If YES, list all case number(s): _____

_____

If the application/project is directly related to one of the above cases, list the pertinent case numbers below and complete/check all that apply (provide copy).

Case No.: _____ Ordinance No.: _____

- ☐ Condition Compliance Review
- ☐ Modification of Conditions
- ☐ Revision of Approved Plans
- ☐ Renewal of Entitlement
- ☐ Clarification of Q (Qualified) Condition
- ☐ Clarification of D (Development) Limitation
- ☐ Amendment to T (Tentative) Classification
- ☐ Plan Approval subsequent to Main Conditional Use

For purposes of environmental (CEQA) analysis, is there intent to develop a larger project? ☐ **YES** ☐ **NO**

Have you filed, or is there intent to file, a Subdivision with this project? ☐ **YES** ☐ **NO**

If YES, to either of the above, describe the other parts of the projects or the larger project below, whether or not currently filed with the City:

_____

5. RELATED DOCUMENTS / REFERRALS

To help assigned staff coordinate with other Departments that may have a role in the proposed project, provide a copy of any applicable form and reference number if known.

Are there any recorded Covenants, affidavits or easements on this property?

☐ **YES (provide copy)** ☐ **NO**

6. PROJECT TEAM INFORMATION (COMPLETE ALL APPLICABLE FIELDS)

APPLICANT

Applicant[5] Name: _____

Company/Firm: _____

Address: _____ **Unit/Space Number:** _____

City: _____ **State:** _____ **Zip Code:** _____

Telephone: _____ **E-mail:** _____

Are you in escrow to purchase the subject property?: ☐ **YES** ☐ **NO**

PROPERTY OWNER OF RECORD ☐ Same as applicant ☐ Different from applicant

Name (if different from applicant): _____

Address: _____ **Unit/Space Number:** _____

City: _____ **State:** _____ **Zip Code:** _____

Telephone: _____ **E-mail:** _____

AGENT / REPRESENTATIVE NAME: _____

Company/Firm: _____

Address: _____ **Unit/Space Number:** _____

City: _____ **State:** _____ **Zip Code:** _____

Telephone: _____ **E-mail:** _____

[5] An applicant is a person with a lasting interest in the completed project such as the property owner or a lessee/user of a project. An agent/representative is someone filing an application on behalf of a client.

OTHER (E.G. ARCHITECT, ENGINEER, CEQA CONSULTANT): _____

Name: _____

Company/Firm: _____

Address: _____ **Unit/Space Number:** _____

City: _____ **State:** _____ **Zip Code:** _____

Telephone: _____ **E-mail:** _____

Primary Contact for Project Information[6]

(Select only one. Email address and phone number required.)

☐ Owner ☐ Applicant ☐ Agent/Representative ☐ Other: _____

To ensure notification of any public hearing as well as decisions on the project, make sure to include an individual mailing label for each member of the project team in both the Property Owners List and the Abutting Property Owners List.

[6] As of June 8, 2022, the Primary Contact for Project is required to have an Angeleno Account and register with the Ethics Commission for Significant Project Entitlements, as defined in LAMC Section 49.7.37(A)(6). An email address and phone number shall be required on the DCP Application Form, and the email address provided shall match the email address used to create the Angeleno Account.

PROPERTY OWNER AFFIDAVIT

Before the application can be accepted, the owner of each property involved must provide a notarized signature to verify the application is being filed with their knowledge. Staff will confirm ownership based on the records of the City Engineer or County Assessor. In the case of partnerships, corporations, LLCs or trusts an officer of the ownership entity so authorized may sign as stipulated below.

- **Ownership Disclosure.** If the property is owned by a partnership, corporation, LLC or trust, a disclosure identifying an officer of the ownership entity must be submitted. The disclosure must list the names and addresses of the principal owners (25% interest or greater). The signatory must appear in this list of names. A letter of authorization, as described below, may be submitted provided the signatory of the letter is included in the Ownership Disclosure. Include a copy of the current partnership agreement, corporate articles, or trust document as applicable.
- **Letter of Authorization (LOA).** An LOA from a property owner granting someone else permission to sign the application form may be provided if the property is owned by a partnership, corporation, LLC or trust or in rare circumstances when an individual property owner is unable to sign the application form. To be considered for acceptance, the LOA must indicate the name of the person being authorized the file, their relationship to the owner or project, the site address, a general description of the type of application being filed and must also include the language in items A-D below. In the case of partnerships, corporations, LLCs or trusts the LOA must be signed and notarized by the authorized signatory as shown on the Ownership Disclosure or in the case of private ownership by the property owner. Proof of Ownership for the signatory of the LOA must be submitted with said letter.
- **Grant Deed.** Provide a Copy of the Grant Deed If the ownership of the property does not match City Records and/or if the application is for a Coastal Development Permit. The Deed must correspond exactly with the ownership listed on the application.
- **Multiple Owners.** If the property is owned by more than one individual (e.g. John and Jane Doe or Mary Smith and Mark Jones) notarized signatures are required of all owners.

    a. I hereby certify that I am the owner of record of the herein previously described property located in the City of Los Angeles which is involved in this application or have been empowered to sign as the owner on behalf of a partnership, corporation, LLC or trust as evidenced by the documents attached hereto.

    b. I hereby consent to the filing of this application on my property for processing by the Department of City Planning.

    c. I understand if the application is approved, as a part of the process the City will apply conditions of approval which may be my responsibility to satisfy including, but not limited to, recording the decision and all conditions in the County Deed Records for the property.

    d. By my signature below, I declare under penalty of perjury under the laws of the State of California that the foregoing statements are true and correct.

Property Owner's signatures must be signed/notarized in the presence of a Notary Public.
The City requires an original signature from the property owner with the "wet" notary stamp.
A Notary Acknowledgement is available for your convenience on following page.

Signature: _____ **Date:** _____

Print Name: _____

Signature: _____ **Date:** _____

Print Name: _____

SPACE BELOW FOR NOTARY'S USE

CALIFORNIA ALL-PURPOSE ACKNOWLEDGEMENT **CIVIL CODE '1189**

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document, to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California

County of _____

On _____ before me, _____

(Insert Name of Notary Public and Title)

personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf on which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____ (Seal)

Signature

APPLICANT DECLARATION

A separate signature from the applicant, whether they are the property owner or not, attesting to the following, is required before the application can be accepted.

a. I hereby certify that the information provided in this application, including plans and other attachments, is accurate and correct to the best of my knowledge. Furthermore, should the stated information be found false or insufficient to fulfill the requirements of the Department of City Planning, I agree to revise the information as appropriate.

b. I hereby certify that I have fully informed the City of the nature of the project for purposes of the California Environmental Quality Act (CEQA) and have not submitted this application with the intention of segmenting a larger project in violation of CEQA. I understand that should the City determine that the project is part of a larger project for purposes of CEQA, the City may revoke any approvals and/or stay any subsequent entitlements or permits (including certificates of occupancy) until a full and complete CEQA analysis is reviewed and appropriate CEQA clearance is adopted or certified.

c. I understand that the environmental review associated with this application is preliminary, and that after further evaluation, additional reports, studies, applications and/or fees may be required.

d. I understand and agree that any report, study, map or other information submitted to the City in furtherance of this application will be treated by the City as public records which may be reviewed by any person and if requested, that a copy will be provided by the City to any person upon the payment of its direct costs of duplication.

e. I understand that the burden of proof to substantiate the request is the responsibility of the applicant. Additionally, I understand that planning staff are not permitted to assist the applicant or opponents of the project in preparing arguments for or against a request.

f. I understand that there is no guarantee, expressed or implied, that any permit or application will be granted. I understand that each matter must be carefully evaluated and that the resulting recommendation or decision may be contrary to a position taken or implied in any preliminary discussions.

g. I understand that if this application is denied, there is no refund of fees paid.

h. I understand and agree to defend, indemnify, and hold harmless, the City, its officers, agents, employees, and volunteers (collectively "City), from any and all legal actions, claims, or proceedings (including administrative or alternative dispute resolution (collectively "actions")), arising out of any City process or approval prompted by this Action, either in whole or in part. Such actions include but are not limited to: actions to attack, set aside, void, or otherwise modify, an entitlement approval, environmental review, or subsequent permit decision; actions for personal or property damage; actions based on an allegation of an unlawful pattern and practice; inverse condemnation actions; and civil rights or an action based on the protected status of the petitioner or claimant under state or federal law (e.g. ADA or Unruh Act). I understand and agree to reimburse the City for any and all costs incurred in defense of such actions. This includes, but is not limited to, the payment of all court costs and attorneys' fees, all judgments or awards, damages, and settlement costs. The indemnity language in this

paragraph is intended to be interpreted to the broadest extent permitted by law and shall be in addition to any other indemnification language agreed to by the applicant.

i. I understand that the City is protected by numerous statutory immunities from liability for damages that may be caused by its land use regulatory actions, as set forth in Government Code, section 818, et seq. For instance, the City cannot be held liable for personal or property injuries or damages allegedly caused by its approval and issuance of any discretionary permit, entitlement or approval (Gov. Code § 818.4), or its failure to inspect or its negligence in inspecting a property for the purpose of determining whether the property complies with or violates any permit, entitlement or approval or contains or constitutes a hazard to health or safety (Gov. Code § 818.6).

j. By my signature below, I declare under penalty of perjury, under the laws of the State of California, that all statements contained in this application and any accompanying documents are true and correct, with full knowledge that all statements made in this application are subject to investigation and that any false or dishonest answer to any question may be grounds for denial or subsequent revocation of license or permit.

The City requires an original signature from the applicant. The applicant's signature below <u>does not</u> need to be notarized.

Signature: _____ **Date:** _____

Print Name: _____

NEIGHBORHOOD CONTACT SHEET (OPTIONAL)

7. SIGNATURES

Signatures of adjoining or neighboring property owners in support of the request are not required but are helpful, especially for projects in single-family residential areas. Signatures may be provided below (attach additional sheets if necessary).

NAME (Print)	SIGNATURE	ADDRESS	KEY # ON MAP

REVIEW of the project by the applicable Neighborhood Council is not required but is helpful. If applicable, describe, below or separately, any contact you have had with the Neighborhood Council or other community groups, business associations and/or officials in the area surrounding the project site (attach additional sheets if necessary).

Attachment 23

Outlook

FW: Sound Fighter - Quote Request - E&B Natural Resources

From Lou Zylstra <lou.zylstra@ebresources.com>
Date Mon 7/20/2026 1:32 PM
To Cody Peters <cody.peters@ebresources.com>

From: mstacy@soundfighter.com <mstacy@soundfighter.com>
Sent: Tuesday, February 13, 2024 8:55 AM
To: Lou Zylstra <lou.zylstra@ebresources.com>
Cc: ben@soundfighter.com
Subject: RE: Sound Fighter - Quote Request - E&B Natural Resources

You don't often get email from mstacy@soundfighter.com. Learn why this is important

Hi Lou,

FYI we have worked with Sam Layton before. Is he still with E&B?

Thanks,

Murray

Murray Stacy
Vice President
Sound Fighter Systems, L.L.C.

Phone: 318-861-6640 | Fax: 318-865-7373
www.soundfighter.com

Confidentiality notice:
This e-mail message, including any attachments, may contain legally privileged and/or confidential information. If you are the intended recipient(s), please treat the content and attachment(s) as confidential, and not to be disseminated, copied, forwarded or otherwise shared with others not listed as a Recipient on this e-mail. If you are not the intended recipient(s) or the employee/agent responsible for delivery of this message to the intended recipient(s), you are hereby notified that any dissemination, distribution, or copying of this e-mail message is strictly prohibited. If you have received this message in error, please immediately notify the sender and delete this e-mail message from your computer.

From: Sound Fighter Systems <contact@soundfighter.com>
Sent: Friday, February 9, 2024 5:57 PM
To: info@soundfighter.com
Subject: Sound Fighter - Quote Request - E&B Natural Resources

Name

Lou Zylstra

Company

E&B Natural Resources

Brief Project Description

I need a permanent sound wall for a oil production site.

I need 30' height.
i need both braced frame and flag pole (cantilever) style.

Estimated to be over 400 lineal feet.
Wind B-70

Project Location

West Los Angeles

Email Address

lou.zylstra@ebresources.com

Phone Number

(714) 325-9502

Join our Mailing List?

- Yes!

Outlook

Re: Murphy wall dimensions-West Wall 2

From Cody Peters <cody.peters@ebresources.com>
Date Mon 7/1/2024 5:08 PM
To Colleen Nowell <Colleen.Nowell@ebresources.com>

No nothing to be sorry about!
It works perfectly since I'll be in the area tomorrow anyway
Sent from my iPhone

> On Jul 1, 2024, at 4:42 PM, Colleen Nowell <Colleen.Nowell@ebresources.com> wrote:
>
> Sorry to make you have to do that ☹️
>
> **From:** Cody Peters <cody.peters@ebresources.com>
> **Sent:** Monday, July 1, 2024 4:41 PM
> **To:** Colleen Nowell <Colleen.Nowell@ebresources.com>
> **Subject:** Re: Murphy wall dimensions-West Wall 2
>
> It has to be a mistake on my end,
>
> I am going to Torrance tomorrow morning to meet with Jordan, so after that I'll head to Murphy and re measure
>
> I'll have the right measurements for you by tomorrow afternoon
>
> Thank you!
> Cody
> Sent from my iPhone
>
> > On Jul 1, 2024, at 4:35 PM, Colleen Nowell <Colleen.Nowell@ebresources.com> wrote:
> >
> > Hi Cody,
> > So I've put the wall measurements on the drawing and my last wall is the West Wall 2 but this is where I ran into a problem. Your overall measurement is 208.03' and the drawing shows 221.15'. Have any ideas where the missing piece might be?
> > Thanks,
> >
> > Colleen Nowell
> > E&B Natural Resources Management Corp.
> > Sr. Engineering Technician
> > 18471 Mt. Langley St., Suite P
> > Fountain Valley, CA 92708

714-968-4770

Outlook

RE: Sound Wall E&B Natural Resources (Murphy)

From Ben Burkett <bburkett@soundfighter.com>
Date Mon 10/14/2024 8:34 AM
To Cody Peters <cody.peters@ebresources.com>

3 attachments (2 MB)
TYPICAL 12' GENERAL ASSEMBLY.PDF; SonaGuard Specification V6 -- 5-22.pdf; SonaGuard Brochure 3-21.pdf;

Hi Cody and thanks for reaching out.

I have attached some general information about the product – let me know if you need something more specific.

Regarding panel length - the panels can be cut to length in the factory or provided long for field cutting.

Thanks,

Ben Burkett

Vice President of Operations.
Sound Fighter® Systems, L.L.C

Cell: 318-834-7808 | Office: 318-861-6640 | EMAIL: ben@soundfighter.com

Confidentiality notice:
This e-mail message, including any attachments, may contain legally privileged and/or confidential information. If you are the intended recipient(s), please treat the content and attachment(s) as confidential, and not to be disseminated, copied, forwarded or otherwise shared with others not listed as a Recipient on this e-mail. If you are not the intended recipient(s) or the employee/agent responsible for delivery of this message to the intended recipient(s), you are hereby notified that any dissemination, distribution, or copying of this e-mail message is strictly prohibited. If you have received this message in error, please immediately notify the sender and delete this e-mail message from your computer.

From: Cody Peters <cody.peters@ebresources.com>
Sent: Friday, October 11, 2024 2:43 PM
To: Ben Burkett <bburkett@soundfighter.com>
Subject: Sound Wall E&B Natural Resources (Murphy)

Good Morning,

This is Cody Peters with E&B Natural Resources, I believe that Sam Layton has been in contact with you before about your product for a soundwall at our Murphy site here in Los Angeles.
I have been tasked with revisiting this project
We have used your product at another one of our sites (HBOC).
I am contacting you in regard to some information about the Sonaguard System.
Based on what I have gathered from previous conversations there were hang ups in the design of soundwall (CMU wall would not be able to support a 10’ addition)
A new design has been decided on by our team

I am seeing if you can send me any technical data of the panels themselves right now?

Do they come precut? Can they be cut on site?

Once I get a complete list of material required I will then send you a request for quote.

Thank you for your time!

Cody Peters
Project Manager
Engineer Tech. II
E&B Natural Resources
(949) 903-5339

This email has been scanned for spam and viruses by Proofpoint Essentials. Click here to report this email as spam.

Outlook

RE: North CMU Wall E&B Natural Resources (Murphy Site)

From Cody Peters <cody.peters@ebresources.com>
Date Wed 10/9/2024 2:07 PM
To Armin Malakouti <amalakouti@twiningconsulting.com>

Good afternoon Armin,

Yesterday I went to my manager with your economic proposal,

I got it OK'd to go ahead and do both the wall GPR and the foundation analysis.

Do you need to perform a site visit prior to the work?

Thank you!

Cody Peters
Project Manager
Engineer Tech. II
E&B Natural Resources
(949) 903-5339

From: Armin Malakouti <amalakouti@twiningconsulting.com>
Sent: Wednesday, October 9, 2024 9:21 AM
To: Cody Peters <cody.peters@ebresources.com>
Subject: RE: North CMU Wall E&B Natural Resources (Murphy Site)

Cody,

I am following up to see if you had a chance to review the cost estimate I sent earlier. I can also do a site visit tomorrow or Friday.

Regards,

Armin Malakouti
Senior Condition Evaluation Engineer

Twining Concrete Insight
(Twining Consulting DBA Twining Concrete Insight)
O: 562.426.3355 | D: 562.513.1693
4811 Airport Plaza Drive, Suite 220, Long Beach CA 90815
www.twiningconsulting.com
Facebook | LinkedIn | Instagram

From: Armin Malakouti <amalakouti@twiningconsulting.com>
Sent: Monday, September 30, 2024 3:04 PM
To: Cody Peters <cody.peters@ebresources.com>
Subject: RE: North CMU Wall E&B Natural Resources (Murphy Site)

Hi Cody,

See below the cost for the nondestructive scope (top table) and potential footing excavation (bottom table)

Feel free to reach out if you have any questions.

Cost - Murphy Site (CMU Wall GPR)

Description	Unit		Rate		Cost
Project Engineer - Onsite	8	hrs	$ 220.00	$	1,760.00
NDE Technician - Onsite	10	hrs	$ 135.00	$	1,350.00
GPR Usage	1	days	$ 380.00	$	380.00
Mileage	60	mi	$ 0.70	$	42.00
Project Engineer - Report	4	hrs	$ 220.00	$	880.00
			Total Cost (including 4% admin Fee)	$	4,588.48

Cost - Footing Excavation & Repair

Description	Unit		Rate		Cost
Project Manager - Onsite	0	hrs	$ 230.00	$	-
Project Engineer - Onsite	2	hrs	$ 210.00	$	420.00
NDE Technician - Onsite	8	hrs	$ 135.00	$	1,080.00
GPR Usage	0	days	$ 380.00	$	-
Mileage	60	mi	$ 0.70	$	42.00
Project Engineer - Report	2	hrs	$ 210.00	$	420.00
			Twining Cost (including 4% admin Fee)	$	2,040.48
			Sub contractor - Lump Sum	$	3,672.00
			TOTAL COST	$	5,712.48

The cost for field services is estimated, assuming regular hours from Monday through Friday. The number of days exceeding the work schedule deviating from that noted in the cost matrix tables above as required and beyond our control will be discussed with client for a change order approval prior to proceeding with the work. We are not aware of any existing finishes at the structural elements being investigated. Our proposal is based on the assumption that all condition assessment and material testing locations are easily accessible and currently exposed without finishes.

Armin Malakouti
Senior Condition Evaluation Engineer

Twining Concrete Insight
(Twining Consulting DBA Twining Concrete Insight)
O: 562.426.3355 | D: 562.513.1693
4811 Airport Plaza Drive, Suite 220, Long Beach CA 90815
www.twiningconsulting.com
Facebook | LinkedIn | Instagram

From: Cody Peters <cody.peters@ebresources.com>
Sent: Monday, September 30, 2024 1:57 PM
To: Armin Malakouti <amalakouti@twiningconsulting.com>
Subject: RE: North CMU Wall E&B Natural Resources (Murphy Site)

EXTERNAL EMAIL - CAUTION

Good Afternoon,

I believe scaled drawings would be the best bet,
Also is there a way you can possibly tell what the foundation may be constructed out of as well, if you have the ability to do that.

If you need to do a site visit before we can as well.

Thank you for your time

Cody Peters
Project Manager
Engineer Tech. II
E&B Natural Resources
(949) 903-5339

From: Armin Malakouti <amalakouti@twiningconsulting.com>
Sent: Friday, September 27, 2024 2:57 PM
To: Cody Peters <cody.peters@ebresources.com>
Subject: RE: North CMU Wall E&B Natural Resources (Murphy Site)

Thanks for the information, Cody.

Do you need the results delivered in scaled drawings/annotated photos, or is marking on the wall using chalk/crayon sufficient?

Armin Malakouti
Senior Condition Evaluation Engineer

Twining Concrete Insight
(Twining Consulting DBA Twining Concrete Insight)
O: 562.426.3355 | D: 562.513.1693
4811 Airport Plaza Drive, Suite 220, Long Beach CA 90815
www.twiningconsulting.com
Facebook | LinkedIn | Instagram

From: Cody Peters <cody.peters@ebresources.com>
Sent: Friday, September 27, 2024 12:13 PM

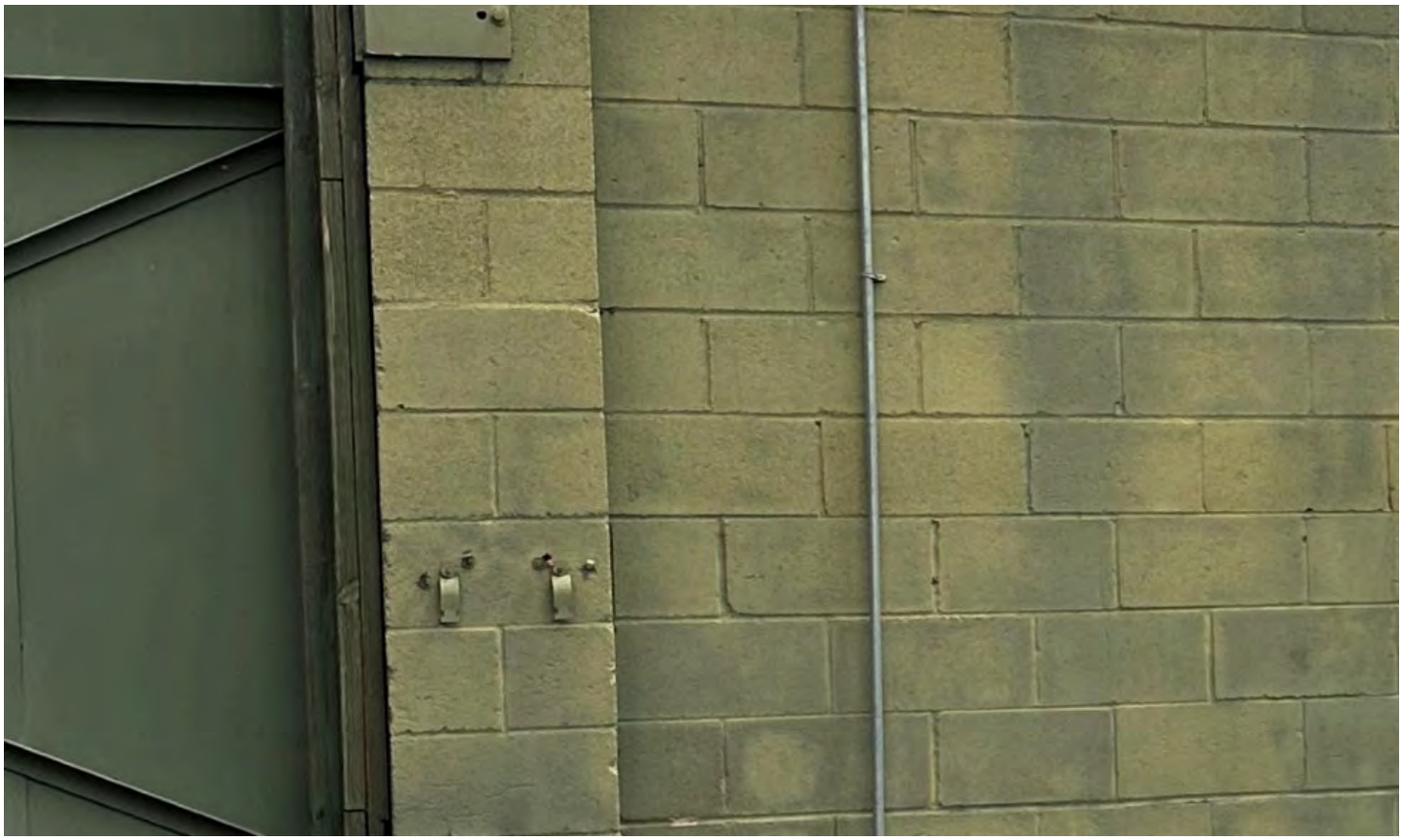
To: Armin Malakouti <amalakouti@twiningconsulting.com>
Subject: North CMU Wall E&B Natural Resources (Murphy Site)

EXTERNAL EMAIL - CAUTION

Good Morning

Per our call here is a copy of a site plan as well as some photos of the wall

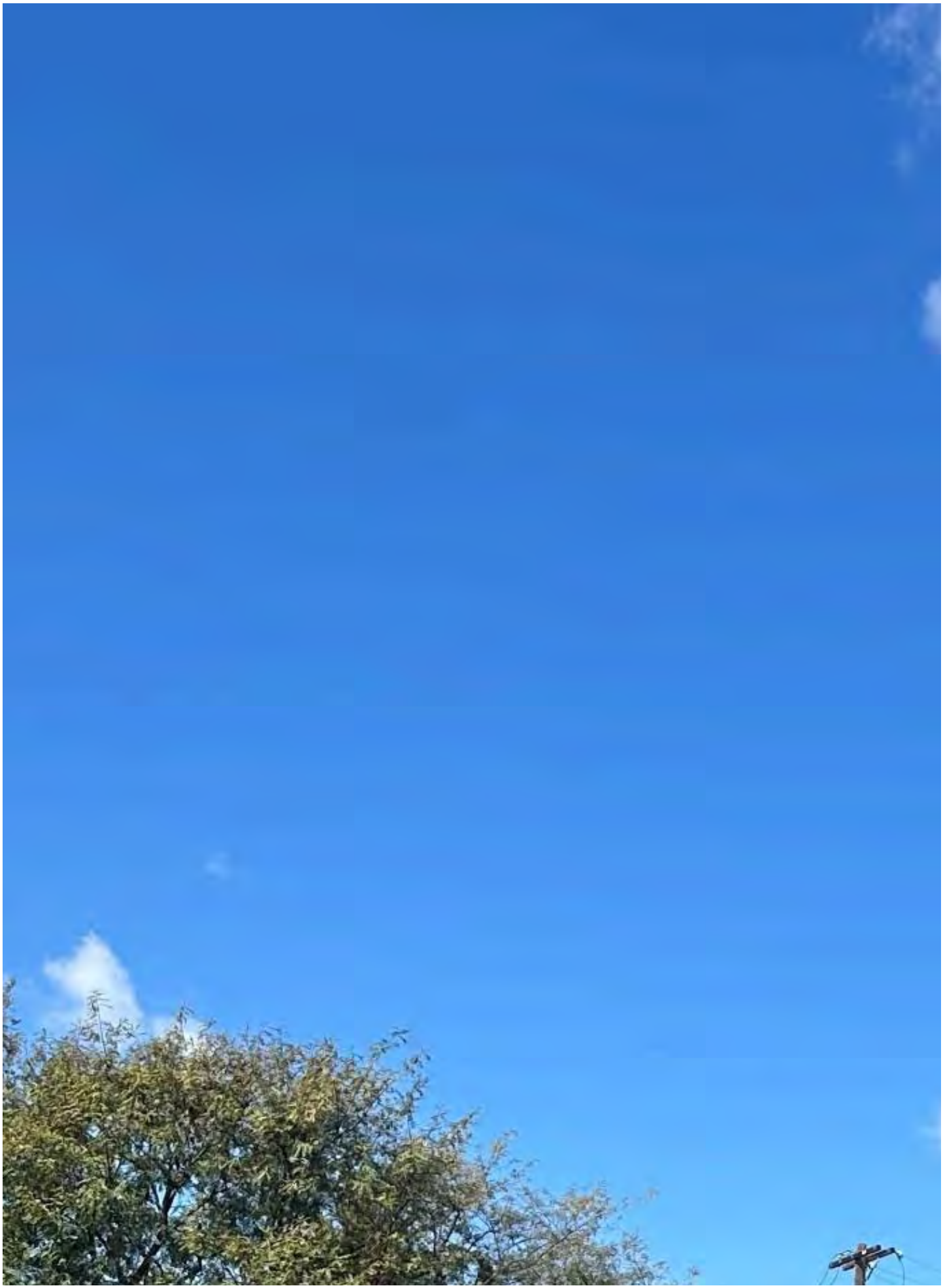
















2126 W Adams Blvd, Los Angeles, CA 90018

Thank you!

Cody Peters
Project Manager
Engineer Tech. II
E&B Natural Resources
(949) 903-5339

TWINING
CONCRETE INSIGHT

CMU Wall GPR, Reinforcement Chipping & Footing Excavation for Murphy Site

Prepared for:

E&B Natural Resources
10661 Ellis Ave STE D, Fountain Valley, CA 92708

November 27, 2024
Twining Project No: 240809.T

TWINING
CONCRETE INSIGHT

4811 Airport Plaza Drive, Suite 220
Long Beach CA 90815

Tel 562.426.3355
Fax 562.426.6424

November 27, 2024

Twining Project No. 240809.T

E&B Natural Resources
Attn: Cody Peter
10661 Ellis Ave STE D
Fountain Valley, CA 92708

Subject: CMU Wall GPR, Reinforcement Chipping & Footing Excavation
Project: Murphy Site

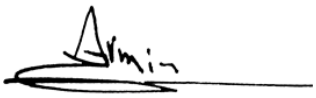
Twining is pleased to present our report on CMU Wall GPR, Reinforcement Chipping & Footing Excavation in accordance with our proposal 24-1961 dated October 17, 2024.

The scope of the Twining was determining the CMU wall reinforcement arrangement using ground penetrating radar (GPR), chipping and visual assessment of CMU wall reinforcing steel to measure rebar size and depth of cover, and footing excavation to determine the geometry of the CMU wall footing.

We appreciate the opportunity to be of service on this project. Should you have any questions regarding this report or if we can be of further assistance, please do not hesitate to contact the undersigned.

Sincerely,

Twining Concrete Insight
LADBS License TA02485



Armin Malakouti
Senior Condition Evaluation Engineer

TABLE OF CONTENTS

1. GPR & EXPLORATORY OPENING AT CMU WALL 4

2. FOOTING EXCAVATION AND DOCUMENTATION 4

3. LIMITATIONS 4

APPENDIX 1: PHOTOS 5

TWINING
CONCRETE INSIGHT

4811 Airport Plaza Drive, Suite 220
Long Beach, CA 90815

Tel 562.426.3355
Fax 562.426.6424

1. GPR & EXPLORATORY OPENING AT CMU WALL

At three different locations of the CMU wall on the north elevation of the building, GPR was utilized to map the reinforcement arrangement in both vertical and horizontal directions. At one select location (15' from the northeast gate, approximately 10~16 inches above the footing surface) concrete cover was removed to allow for visual observations of the reinforcing steel and measurement of reinforcing steel size and depth of cover (Appendix 1; photos 4, 5 & 6). Results of the nondestructive GPR assessment combined with the observations and measurements are as follows:

- **Typical Horizontal reinforcement:** Two horizontal reinforcements are installed at the top two joints of the CMU wall and another two at the bottom two joints (Appendix 1; see Photos 1, 2 & 3).
- **Typical Vertical reinforcement:** 24 inches spacing on average comprising spacings of 16, 24 and 32 inches (Appendix 1; Photos 1& 2).

2. FOOTING EXCAVATION AND DOCUMENTATION

Right below the same location where reinforcing steel was exposed (Refer to Section 1 above), footing was excavated, and the full width and depth of the footing was exposed (Appendix 1; photos 7, 8, 9 & 10). The footing was measured to be sixteen (16) inches wide measured from the exterior face of the CMU wall, and sixteen (16) inches deep.

During the GPR scanning of the wall near the west end, we observed that the wall increased in height, and the footing deepened in response to the street slope.

3. LIMITATIONS

The results presented in this report are based on information provided by the client and Twining Concrete Insight's limited laboratory tests and field observations. Twining performed its evaluation using the degree of care and skills ordinarily exercised under similar circumstances by reputable laboratories with experience in this area. No other warranty, either express or implied, is made as to the results provided in this report.

TWINING
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APPENDIX 1: PHOTOS

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Photo 1: CMU wall reinforcement arrangement – GPR reinforcement mapping near west end of the wall



Photo 2: CMU wall reinforcement arrangement – GPR reinforcement mapping near east end of the wall above footing excavation

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Photo 3: Two horizontal reinforcements at the bottom two CMU joints - GPR reinforcement mapping at middle of the wall



Photo 4: Location of CMU wall reinforcement chipping

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Photo 5: Two #4 vertical rebar with three (3) & four (4) inches depth of cover
One #4 horizontal rebar with two (2) inches depth of cover



s

Photo 6: Two #4 vertical rebar & one #4 horizontal rebar
(One of the vertical rebar extending from the footing to the wall)

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Photo 7: Location of footing excavation



Photo 8: Measuring the footing depth - Sixteen (16) inches footing depth

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CONCRETE INSIGHT

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Long Beach, CA 90815

Tel 562.426.3355
Fax 562.426.6424



Photo 9: Sixteen (16) inches footing depth



Photo 10: Sixteen (16) inches footing width from the CMU wall exterior face

Attachment 24

From: Ted.Cordova
To: Matthew Lum
Cc: Edber Macedo; Rony Giron
Subject: RE: Murphy Site - wall

Hi Matt,

I hope you had a nice weekend. Our team said that there might not be that type of number yet. It is my understanding that the LADBS shows our application as pending acceptance. Per their request, we have to do some other items for them which is in progress.

We can keep you posted of that progress once it comes off their pending status.

Best,
Ted

From: Matthew Lum <matthew.lum@lacity.org>
Sent: Friday, March 13, 2026 1:58 PM
To: Ted.Cordova <Ted.Cordova@ebresources.com>
Cc: Edber Macedo <edber.macedo@lacity.org>; Rony Giron <rony.giron@lacity.org>
Subject: Re: Murphy Site - wall

Hi Ted, Do you have a 16 digit application number? Hope you're having a great Friday!
-Matt

On Tue, Mar 3, 2026 at 8:08 AM Ted.Cordova <Ted.Cordova@ebresources.com> wrote:

> Hi Matt,
>
> Ref. #277564
>
> Best,
> Ted
> Sent from my iPhone
>
> > On Mar 2, 2026, at 4:39 PM, Matthew Lum <matthew.lum@lacity.org> wrote:
> >
> > Hey Ted, Thank you for your email. Do you have an LADBS application number?
> > -Matt

On Mon, Mar 2, 2026 at 4:23 PM Ted.Cordova <Ted.Cordova@ebresources.com> wrote:

> Hi Matt and Edber,
>
> I wanted to keep you updated on our progress with the Murphy wall application. We have been going back and forth with LADBS and working with them on their requests and getting through their process. The process continues to move forward. Let me know if you have any questions or would like to discuss further. I'll keep you all informed of the progress.
>
> Thanks,
> Ted
>
> Ted Cordova
> E&B Natural Resources
> 310-489-4972
>
> www.ebresources.com
>
> IMPORTANT NOTICE: The information in this e-mail is confidential and may also be privileged. If you are not the intended recipient, any use or dissemination of the information and any disclosure or copying of this email is unauthorized and strictly prohibited. If you have received this email in error, please promptly inform us by reply email or telephone. You should also delete this email and destroy any hard copies produced immediately.

--

Matthew Lum, AICP

Pronouns: He, Him

Senior City Planner, Office of Zoning Administration

Los Angeles City Planning
200 N. Spring St., Room 763,

Los Angeles, CA 90012

T: (213) 978-1912 | Planning4LA.org

Effective February 23, 2026: Updated fee rates will apply to all City Planning filings and clearance requests per Ordinance No. 188796. Please visit our Fee Estimator page to review the updated fee schedules. Applicants should plan for new filings accordingly.

--

Matthew Lum, AICP

Pronouns: He, Him

Senior City Planner, Office of Zoning Administration

Los Angeles City Planning
200 N. Spring St., Room 763,

Los Angeles, CA 90012

T: (213) 978-1912 | Planning4LA.org

From: Ted.Cordova
To: Matthew Lum; Edber Macedo
Subject: RE: Murphy Site - wall

Hi Matt and Edber,

We had additional requests from LADBS (soil reports). It has been turned in. We are waiting on their department at this time.

Best,

Ted

From: Ted.Cordova
Sent: Monday, March 2, 2026 4:24 PM
To: Matthew Lum <matthew.lum@lacity.org>; Edber Macedo <edber.macedo@lacity.org>
Subject: Murphy Site - wall

Hi Matt and Edber,

I wanted to keep you updated on our progress with the Murphy wall application. We have been going back and forth with LADBS and working with them on their requests and getting through their process. The process continues to move forward. Let me know if you have any questions or would like to discuss further. I'll keep you all informed of the progress.

Thanks,
Ted

Ted Cordova
E&B Natural Resources
310-489-4972

www.ebresources.com

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Attachment 25

From: Andy Pollock
To: Samuel Layton
Cc: Rusty Risi; Ted.Cordova
Subject: RE: GPS - Electric Hybrid Workover Rig Availability
Date: Monday, December 8, 2025 1:17:33 PM
Attachments: image003.png
image004.png

You don't often get email from apollock@genprod.com. Learn why this is important

Samuel,

Thank you again for the call and for your continued interest in our electric hybrid rig capabilities. At this time, all of GPS's hybrid electric rigs remain committed under existing long-term agreements, and future availability will depend on several key factors including contractual alignment with existing customer(s), manufacturing lead times for critical components, and the broader financial and scheduling framework required to deploy an additional unit into the Los Angeles County area with a new customer.

We are always actively exploring expansion opportunities with our valued customers, but a definitive timeframe cannot be provided at this point. That said, I will maintain contact with you regarding any updates or changes in availability.

Please, feel free to reach out anytime and we appreciate your interest.

Regards,

Andy Pollock
Director of Business Development
General Production Service of California, Inc.
Ph. 661-525-2116

From: Samuel Layton <Samuel.layton@ebresources.com>
Sent: Monday, December 8, 2025 11:41 AM
To: Andy Pollock <apollock@genprod.com>
Cc: Rusty Risi <RRisi@genprod.com>; Ted.Cordova <Ted.Cordova@ebresources.com>
Subject: Re: GPS - Electric Hybrid Workover Rig Availability

****** WARNING: THIS MESSAGE ORIGINATED OUTSIDE OF GENERAL PRODUCTION SERVICE. ******
Do not click links or open attachments unless you recognize the source of the

email and know the contents are safe.

Hi Andy,

Thank you for taking my call.

I'm sorry to hear the electric hybrid rigs are under contract with another customer.

Would you be able to tell me when you believe the electric hybrid rigs would be able to service the Los Angeles County Area?

Thanks for all the information. Very insightful.

Sincerely,

Sam Layton
E&B Natural Resources – LA Basin
M: 661.332.3984

From: Andy Pollock <apollock@genprod.com>
Sent: Monday, November 17, 2025 2:05 PM
To: Samuel Layton <Samuel.layton@ebresources.com>
Cc: Rusty Risi <RRisi@genprod.com>
Subject: GPS - Electric Hybrid Workover Rig Availability

You don't often get email from apollock@genprod.com. Learn why this is important

Samuel,

Great speaking to you regarding our industry leading electric hybrid service rig(s). As we discussed we are currently under contract with other customer(s) in supplying our available electric hybrid service rigs. We are working to provide availability to those with a need for electrified options that are best suited geographically and infrastructure supportive.

Additionally, to operate fully electric our rigs must have access and plug into 460V 3-Phase Electric Power:

- 50 Amp Minimum – 100 Amp Maximum

We want to be of service to you and E&B Resources. Please, expand on any service needs where GPS may be able to support and please, advise if you would like to set up a call to further gather more information on our electric service rig fleet.

Regards,

Andy Pollock
Director of Business Development
General Production Service of California, Inc.
Ph. 661-525-2116



Attachment 26

Outlook

RE: Wellbore code issue (Form ID 528379)

From Singh, Indar@DOC <Indar.Singh@conservation.ca.gov>
Date Tue 11/18/2025 8:48 AM
To Samuel Layton <Samuel.layton@ebresources.com>
Cc Ted.Cordova <Ted.Cordova@ebresources.com>

Good Morning Samuel,

Received and this is being investigated for resolution with the field AOGE.

Will update accordingly.

Thank you.

Indar Singh
Associate Oil and Gas Engineer
California Geologic Energy Management Division,
Southern District

California Department of Conservation
3780 Kilroy Airport Way, Suite 400.
Long Beach, CA 90806
O: (562) 637-4400
C: (714) 448-2593
E: indar.singh@conservation.ca.gov

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From: Samuel Layton <Samuel.layton@ebresources.com>
Sent: Monday, November 17, 2025 1:36 PM
To: Singh, Indar@DOC <Indar.Singh@conservation.ca.gov>
Cc: Samuel Layton <Samuel.layton@ebresources.com>; Ted.Cordova <Ted.Cordova@ebresources.com>
Subject: Wellbore code issue (Form ID 528379)

You don't often get email from samuel.layton@ebresources.com. Learn why this is important

Hi Indar,

I was instructed by Banky Adeleye (CalGEM Sacramento) to reach out to you directly.
My former coworker was working with Banky to resolve a wellbore code/production reporting issue, I am trying to pick up where they left off.

I apologize if you've received this question in the past.

I am trying to resolve a wellbore code problem for the well: M-18
API 04-037-00385

In the table below, E&B has summarized the history of M-18 wellbore codes.

It is our position that the 03-wellbore code (in WellStar) should not exist.
It's possible the extra wellbore code may have been created for an historical NOI that was subsequently cancelled.
If further discussion or research is needed, please let me know, I am happy to assist, however I can.

Well Murphy-18 Drilling History

API	Well Name	Well Operations	Date	Details
04-037-00385-0000	Murphy 18	Drill New Well	9/28/1962	NOI approved 10/9/1962
			11/7/1962	Drilled to 3610'
04-037-00385-0100	Murphy 18	Deepen & convert to dual producer-injector	7/29/1970	NOI approved 10/19/1970
			2/27/1971	Drilled to 4760' Deepened only no conversion
			10/20/1971	NOI approved to convert to water flood 12/23/1971 **CANCELLED** in 1973
			1998-2002	Several NOI's to REDRILL approved then **CANCELLED**
			2/13/2004	Plugged w/cem 4743'-176'
04-037-00385-0200	Murphy 18	Redrill	3/1/2004	Milled window in 13-3/8" 139'-236'
			3/15/2004	Drilled to 4026'

Samuel S Layton, PE
Production Operations Engineer
E&B Natural Resources – LA Basin
M: 661.332.3984

Outlook

RE: Production Reporting (Follow-up from J.James)

From WellSTAR@DOC <WellSTAR@conservation.ca.gov>
Date Wed 11/5/2025 9:45 AM
To Samuel Layton <Samuel.layton@ebresources.com>
Cc Singh, Indar@DOC <Indar.Singh@conservation.ca.gov>; Ted.Cordova <Ted.Cordova@ebresources.com>

You don't often get email from wellstar@conservation.ca.gov. Learn why this is important

Hi Samuel
This is a business issue. Indar (copied) from the district created the wellbore code 03 via form ID 528379. Please reach out to him directly to better understand why he created it.

Regards,
Bankole (Banky) Adeleye
Associate Oil and Gas Engineer – WellSTAR Technical Support Lead
California Geologic Energy Management Division
Tel: (916)767-2059

From: Samuel Layton <Samuel.layton@ebresources.com>
Sent: Wednesday, November 5, 2025 8:42 AM
To: WellSTAR@DOC <WellSTAR@conservation.ca.gov>
Cc: Ted.Cordova <Ted.Cordova@ebresources.com>
Subject: Re: Production Reporting (Follow-up from J.James)

Good Morning Banky,

I believe there is a discrepancy with what is shown is WellStar and what took place in reality.

In the table below, E&B has summarized the history of M-18 wellbore codes.

It is our position that the 03 wellbore code (in WellStar) should not exist.
If further discussion or research is needed, please let me know, I am happy to assist, however I can.

Well Murphy-18 Drilling History

API	Well Name	Well Operations	Date	Details
04-037-00385-0000	Murphy 18	Drill New Well	9/28/1962	NOI approved 10/9/1962
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			1998-2002	Several NOI's to REDRILL approved then **CANCELLED**
			2/13/2004	Plugged w/cem 4743'-176'

04-037-00385-0200	Murphy 18	Redrill	3/1/2004	Milled window in 13-3/8" 139'-236'
			3/15/2004	Drilled to 4026'

Sam Layton
E&B Natural Resources – LA Basin
M: 661.332.3984

From: WellSTAR@DOC <WellSTAR@conservation.ca.gov>
Sent: Tuesday, November 4, 2025 11:11 AM
To: Samuel Layton <Samuel.layton@ebresources.com>
Cc: Ted.Cordova <Ted.Cordova@ebresources.com>
Subject: RE: Production Reporting (Follow-up from J.James)

You don't often get email from wellstar@conservation.ca.gov. Learn why this is important

Hi Samuel,
As I mentioned to Jennifer. The wellbore code 03 does not have any completions interval associated with it. Hence why it does not show up in OG110. Please submit a well summary form in WellSTAR to add a completions interval. Once the form is approved by your local district, it will be reflected in the OG110.

Regards,
Bankole (Banky) Adeleye
Associate Oil and Gas Engineer – WellSTAR Technical Support Lead
California Geologic Energy Management Division
Tel: (916)767-2059



From: Samuel Layton <Samuel.layton@ebresources.com>
Sent: Tuesday, November 4, 2025 8:27 AM
To: Adeleye, Bankole@DOC <Bankole.Adeleye@conservation.ca.gov>
Cc: Ted.Cordova <Ted.Cordova@ebresources.com>
Subject: Production Reporting (Follow-up from J.James)

Good Morning Banky,

I am following up on the topic of well M-18 production reporting.

It appears Jennifer James has been communicating with you for a year or so regarding this issue, specifically the M-18 wellbore codes in Wellstar.

Thank you for the assistance thus far. I wanted to reach out and follow-up, as Jennifer is now working for another company (we wish her the best, of course).

I've attached the deliverable from the latest communication I could find in her email-chain, just to make sure you've received it.

Please let me know if this is enough to get the matter corrected, or if not, please let me know what else you require, and I will do my very best to get you what you need promptly.

Thanks again for your assistance and guidance. I look forward to hearing from you.

Most Sincerely,

Samuel S Layton, PE
Production Operations Engineer
E&B Natural Resources – LA Basin
M: 661.332.3984