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October 27, 2020

Los Angeles City Council
c/o Office of the City Clerk
City Hall, Room 395
Los Angeles, California 90012

Attention: Energy, Climate Change, and Environmental Justice (ECCEJ) Committee

Dear Honorable Members:

REPORT BACK RELATIVE TO THE OIL, NATURAL GAS, & GAS STORAGE OPERATIONS AT THE PLAYA DEL REY FIELD LOCATED AT 8141 SOUTH GULANA AVENUE; CF 19-1124

Background

On October 31, 2019, City Council passed a Council Motion instructing the Department of City Planning (City Planning) to work with the Petroleum Administrator, the Department of Building and Safety, the Los Angeles Fire Department and the City Attorney, to investigate and report back regarding the oil/gas operations at the Playa Del Rey field located at 8141 South Gulana Avenue. The Council Motion directed the aforementioned Departments to report back regarding: 1) a review of all equipment/wells onsite; 2) compliance with the approved zoning and use conditions; 3) remediation of subsidence and erosion issues; 4) compliance with new State gas storage rules; 5) compliance with any and all facility/ operational requirements of the California Coastal Commission, the California Public Utility Commission, the South Coast Air Quality Management District, and the California Geologic Energy Management Division (CalGEM, formerly the Division of Oil, Gas, and Geothermal Resources, or DOGGR).

This report discusses several aspects and issues related to the Playa Del Rey field. One section that explains the history of City Planning approvals also includes a discussion of previously issued conditions of approval. The analysis is divided into several sections as listed here:

I. Review of Permits Issued
II. Review of Los Angeles Fire Department (LAFD) Inspections
III. Compliance with CalGEM regulations and City of Los Angeles Relationship
IV. Review of prior City Planning approvals
V. Remediation of Subsidence/Erosion Issues
VI. Compliance with New State Department of Conservation Storage Regulations
VII. Review of California Coastal Commission Jurisdiction
VIII. Review of SCAQMD Jurisdiction

The Department of City Planning is reporting back on this council motion and provides several layers of information regarding the Playa Del Rey site. The department, however, does not have land use jurisdiction or authority over the natural gas facility since the facility is owned and operated by the Southern California Gas Company. The California Public Utilities Commission, a state regulatory agency, has the direct authority concerning the facility's operations, including any safety and compliance regulations.

Analysis

I. Review of Permitted Equipment/ Wells On-Site

In order to analyze the number of existing permitted equipment/ wells on-site, City Planning consulted with various Departments and agencies, including the City's Petroleum Administrator's Office, the Department of Building and Safety, and the Los Angeles Fire Department. City Planning also consulted with the South Coast Air Quality Management District (SCAQMD), the California Coastal Commission, and the California Geologic Energy Management Division (CalGEM). According to SCAQMD records, 167 permits exist for the subject site, said permits range from replacement of storage tanks to modification of existing oil wells. The time frame of issued permits range in years from 1986 to 2019. For an itemized list of these permits, please refer to Exhibit A.

According to DBS records, four building permits have been issued for the subject site, for ancillary office buildings and accessibility lifts. In addition, there have been three non-building structural permits issued, primarily for foundation pad purposes and maintenance. In addition, DBS has issued four grading permits that are focused on grading for foundation pad work and for slope repair. DBS has not issued any permits for the installation or construction of any gas well drilling equipment and/or structures. SCAQMD and CalGEM are the appropriate agencies with responsibility to review gas well, gas storage, and similar forms of equipment. Please refer to Exhibit B for a list of these permits.

II. *Review of LAFD Inspections*

This section of the report is a summary of the assessment and recommendations from the Los Angeles Fire Department (LAFD) on inspections of existing equipment at the subject site.

The Playa Del Rey gas storage facility, operated by SoCalGas, is inspected three times a year by members of the Fire Prevention Bureau under the Certified Unified Program Agency (CUPA) and by members of the Oil Well Inspection Program. CUPA personnel inspect hazardous materials inventory, above ground storage, and hazardous waste generators. The Oil Well Inspection program issued a Notice of Violation on September 06, 2018 for finding discharge and combustible materials on the ground of the subject property. No violations were found after those two Fire/Life Safety violations at the next inspection that occurred on May 03, 2019.

The next Oil Well Inspection review took place on January 22, 2020. Inspector Rodriguez completed these oil well inspections at the SoCalGas Playa del Rey field located at 8141 S. Gulana Avenue. The site inspection included the general areas of inspection in the Los Angeles City Fire Code as it pertains to oil wells. These general areas of inspection include, but are not limited to: facility entrance; fire department connections; path of egress to public way; proper signage; fire extinguishers; special extinguishing systems; cellar with one or more well(s); facility permits (i.e., operational permits, specific action); the Compliance Engine (Chief's Regulation

No.4). Inspector Rodriguez covered forty-three wells which met compliance and no violations found. According to CalGEM records, there are 45 wells at the natural gas facility owned by SoCalGas.

LAFD also submitted a list of recommendations to guide more Local and State collaboration on regulating the natural gas storage facility. For these recommendations and information on past inspections, please refer to Exhibit C.

III. Compliance with Facility/ Operational Requirements- California Geological Energy Management Division (CalGEM) formerly the Division of Oil, Gas, and Geothermal Resources (DOGGR)

The City's ability to impose local zoning regulations, or to impose or enforce operating or safety standards on the Playa Del Rey gas storage facility (Facility) is preempted by State and Federal law. The Facility is operated by Southern California Gas (SoCalGas), which is a public utility regulated by the California Public Utilities Commission (CPUC). The CPUC's authority is found in the California Constitution. The California Constitution, Article XI, §7 expressly grants the authority to regulate public utilities, including utility infrastructure to the CPUC. Article XII, §8 states "[a] city, county, or other public body may not regulate matters over which the Legislature grants regulatory power to the [Public Utilities] Commission."

Public Utilities Code §§ 701 and 768 give the CPUC broad regulatory powers, which the CPUC has confirmed. (*See* CPUC Decisions 94-06-14, 90-01-020). Courts in this state have confirmed that this regulatory power preempts local zoning codes. (*See, e.g. Southern Cal. Gas Co. v. City of Vernon* (1995) 41 Cal. App. 4th 209 [holding that a city could not regulate design and construction of a gas pipeline]; *San Diego Gas & Electric Co. v. City of Carlsbad* (1998) 64 Cal. App. 4th 785 [holding that a City could not prevent a public utility from dredging sand in an adjacent lagoon when necessary to permit sufficient water flow to cool an electric plant's generating units].) Operation of the Facility also requires the transportation and distribution of gas through pipelines. The City's own Municipal Code exempts gas pipes and incidental appurtenances for public utility use from the City's Zoning Code (LAMC § 12.22.A.2).[1] In addition, the federal Pipeline Safety Act (PSA), 49 U.S.C. § 60104, expressly preempts state and local safety regulation of intrastate and interstate natural gas facilities. (*See Olympic Pipe Line Co. v. City of Seattle* (9th Cir. 2006) 437 F.3d 872, 877 [holding that the PSA preempted the City's attempts to regulate the safety and inspection of a hazardous liquid pipeline).] As for any gas wells on site, the CPUC shares concurrent jurisdiction with the Geologic Energy Management Division (CalGEM, formerly the Division of Oil, Gas, and Geothermal Resources).

IV. Review of Prior City Planning Approvals:

This portion of the report includes a brief summary of all City Planning approval letters that exist on the property. While the City of Los Angeles has very limited jurisdiction over the operation of gas wells and gas storage at the facility, the city does have a history of some regulation of the natural gas facility. According to City Planning records, there are six City Planning approvals

[1] LAMC Section 12.22-A.2 states "Public Utilities and Public Services – The provisions of this article shall not be so constructed as to limit or interfere with the construction, installation, operation and maintenance for public utility purposes of water and gas pipes, mains and conduits, electric light and electric power transmission and distribution lines, telephone and telegraph lines, oil pipe lines, sewers and sewer mains, and incidental appurtenances."

granted for expansion of the existing use. The storage gas facility was formally approved by the City under the initial case, CPC-1955-6162-CUP, on April 8, 1955. On October 13, 1955, the site's boundaries were expanded to accommodate safety regulations, specifically distance between equipment and buildings. On November 19, 1964, three cooling units were added to the site and two new operating conditions were added to the overall conditions of approval. On December 8, 1982, the City approved the drilling of two new oil wells. On December 8, 1983, the construction of two water storage tanks were approved for the storage facility; one new condition of approval was added to the grant. Finally, on March 28, 1989, the City approved a 154 square-foot addition to an existing office building for monitoring equipment and computers. DCP did not issue any more approval letters for any scope of work after the March 28, 1989 approval.

Below is a summary of existing conditions imposed in the 1955 case, CPC-1955-6162-CUP.

Condition 01: That the plant facilities, including the compressor building, cooling tower, office building, parking lot, tanks, and other buildings, shall be confined to the area described as follows:

"Beginning at the intersection of the centerlines of Gulana Avenue, 60 feet in width, and Rees Avenue, 60 feet in width, as shown on map of Tract 9869, recorded in Book 145, pages 91 to 96, inclusive of Maps, in the office of the Recorder of the County of Los Angeles, the bearing of the centerline of said Gulana Avenue being N° 29, 15' W, and the bearing of the centerline of said Rees Avenue being N 60° 45' E, as show on said map of Tract 9809; thence N 50° 18' 02° N, 117.53 feet to the true point of beginning of this description which is the most southerly corner of said parcel of land; thence N 49° 43' 00° W, 572.00 feet; thence N 40° 17' 00° E, 230.00 feet; thence S 49° 43' 00° E, 124.00 feet; thence N 40° 17' 00°, E 192.00 feet; 17° 00' W, 422.00 feet to the most southerly corner of said parcel of land"

- According to DBS records, no building permits have been issued for any new buildings, parking lots, or plant facilities. For cooling towers and storage, the California Public Utilities Commission (CPUC) would review that specific scope of work from a regulatory standpoint. CalGEM would review gas storage reservoirs and all equipment that is sub-surface to the subject property. DCP is unable to verify if the subject site has expanded beyond the parameters outlined in the condition.

Condition 02: That all technically feasible means to limit the sound produced by operations within the Playa del Rey plan area shall be used to observe a maximum audibility of 70 decibels as measured at a distance of 50 yards out-side the plant boundaries.

- According to DBS records, there are no past, recent, or outstanding violations regarding noise levels.

Condition 03: That all property owned or controlled by the applicant company shall be cleared of debris and shall be maintained in first-class condition at all times.

- According to DBS Code Enforcement records, there are no past, recent, or outstanding violations for unattended trash debris on the subject property.

Condition 04: That the existing compressor plant building shall be removed and a new masonry and/or concrete building of good architectural design shall be erected to house the compressor engines.

- Based on DBS building records, DCP cannot determine that any buildings have been demolished nor if new buildings have been built such as a new masonry building.

Condition 05: That a suitable planting screen shall be planted before the completion of the new compressor plant building, said planting to be maintained in first-class condition and shall bedesigned to screen out the plan and muffle noises emitted therefrom for the benefit of the surrounding district, subject to approval of a landscape plan of the plant site by the City Planning Department. Prior to January 01, 1956, the slopes on land owned by the applicant company, rising from Falmouth Avenue and along the City boundary line easterly of Falmouth Avenue shall be filled in where erosion has occurred, and planted to a hardy, evergreen ground cover to prevent further erosion.

- DCP was unable to locate the documents to confirm if such landscape plans were submitted. No reports related to overgrown shrubs or trees have been submitted to DBS Code Enforcement.

Condition 06: That all roadways within the plant site, and access roadways to the plant site which are controlled by the applicant company, shall be paved with asphaltic concrete or cement surfacing, and the applicant company shall energetically cooperate in any street improvement program which may be initiated by improvement petitions, or by the City of Los Angeles, on streets bordering properties owned by the applicant company.

- The conditions of local streets and roads surrounding the subject property appear improved and paved. According to the Bureau of Engineering's records, there are no open revocable permits for anticipated street improvement work.

Condition 07: That there shall be no drilling of new wells in the area bounded by Falmouth Avenue, Talbert Avenue, Pershing Drive, and Cabora Drive, and there shall be no permanent buildings, aboveground tanks or derricks permitted within the above described area.

- SoCalGas operates a number of active and idle wells north of Cabora Drive. They also maintain above ground tanks and storage facilities that appear to be permanent in the same vicinity as existing active and idle wells north of Cabora Drive. These permanent installations were approved on November 19, 1964 by the Department of City Planning. The findings for this approval indicate that the expansion for new tanks and equipment north of Cabora Drive were necessary "…to better serve the gas fuel needs of the Los Angeles area…" See Exhibit D for City Planning approval documents. CalGEM has jurisdiction over work done to a gas well and to storage gas reservoirs projects and therefore, would review projects related to maintenance, drilling, and re-work for all wells north of Cabora Drive in the Playa Del Rey gas field.

Condition 08: That the cleaning out of the three wells in the area bounded by Falmouth Avenue shall be carried through diligently to completion upon commencement of such operations.

- DCP was unable to locate documents demonstrating that the wells were cleaned as set forth in this condition. CalGEM, the State authority on oil, gas, and geothermal resources, regularly inspect gas wells at the natural gas storage facility for safety and performance standards.

Condition 09: That the maintenance work on existing and new wells, and the delivery or removal to or from the drilling site of materials, equipment, tools, and pipe used for drilling operations shall be confined to the hours between 8:00am, and 8:00pm, of each day except Sundays, provided, however, that in case of emergency this restriction shall not apply.

- According to DBS Code Enforcement records, there are no past, recent, or outstanding violations regarding noise or construction or abuse of hours of operations for the subject property.

Condition 10: That all pumping units shall be suitably fenced and enclosed with screen planting, subject to approval by the City Planning Department. After production has ceased and said wells are converted to the injection and withdrawal of gas, the walls shall be countersunk below the surface of the ground.

- CalGEM, the State authority on oil, gas, and geothermal resources, regularly inspects the natural gas storage facility for compliance standards related to the proper operation and/or conversion of gas wells. CalGEM's expertise on natural gas wells and gas storage reservoirs would be the lead agency to evaluate whether the facility is meeting both safety and performance standards when converting gas wells to injection and withdrawal of gas.

Condition 11: That all liquids produced shall be carried away by pipelines.

- An online map of the underground pipeline transportation that serves the SoCalGas facility illustrates that all liquids are carried away by pipelines. The Pipeline and Hazardous Materials Safety Administration (PHMSA) has a website identifying all pipelines in the country. Pipeline transportation at the natural gas facility is regulated by PHMSA at the federal level within the U.S. Department of Transportation.

Condition 12: That all existing wells within the City of Los Angeles may be redrilled and/or cleaned out, but that not more than three new wells may be drilled from the surface or property within the present City limits of Los Angeles without the further consent of the Los Angeles Department of City Planning.

- SoCalGas has drilled two new storage gas wells with approval from the Department of City Planning. A City Planning approval letter dated December 08, 1982 by Roy W. Bundick, for the Director of Planning, approved the proposed scope of work for two new wells. See Exhibit D for City Planning approval documents. CalGEM has been the authorizing agency with the specific expertise to review and approve scopes of work involving new storage gas wells and the December 1982 scope of work would have required CalGEM approval.

Condition 13: That all production equipment used shall be so constructed and operated that no noise, vibration, dust, odor or other harmful or annoying substances or affect which can be eliminated or diminished by the use of greater care shall ever be permitted to result from production operations carried on at any drilling site or from anything incident thereto to the injury or annoyance of persons living in the vicinity; nor shall the site structures thereon be permitted to become dilapidated, unsightly or unsafe. Proven technological improvements in methods of

production shall be adopted as they, from time to time, become available if capable of reducing factors of nuisance or annoyance.

- CalGEM, the State authority on oil, gas, and geothermal resources, regularly inspects the natural gas storage facility for compliance standards related to the operation of gas wells and the mechanical integrity of these wells. CalGEM's expertise on natural gas wells and gas storage reservoirs would be the lead agency to evaluate whether the facility is meeting safety requirements. SCAQMD regulates and enforces air quality standards that includes the operation of production equipment and other types of machinery that may have an effect on air quality. SCAQMD's jurisdiction on air quality would be the lead agency to ensure potentially harmful and nuisance odors do not pose a threat to public welfare.

Condition 14: That the operators shall remove the derrick from each well within thirty (30) days after the drilling of said well has been completed, and thereafter, when necessary, such completed wells shall be serviced by portable derricks.

- There are no visible derricks on the subject property.

Condition 15: That in connection with all drilling operations, including re-drilling or cleaning out of existing wells, sound shall be restricted to conform to generally accepted standards for sound-controlled drilling in residential areas of Los Angeles County.

- CalGEM, the state authority on oil, gas, and geothermal resources, regularly inspects the natural gas storage facility for compliance standards related to re-work, re-drilling, and cleaning out of existing wells. CalGEM's expertise on natural gas wells and storage would be the lead agency to evaluate whether the facility is meeting both safety and maintenance requirements. In addition, DBS code enforcement does not list any past, recent, or outstanding violations on noise levels being exceeded by gas well activities at the subject property.

Condition 16: That suitable precaution shall be taken to minimize hazards to children, including the fencing of wall sites. Said fencing shall be of a chain-link type and 8 feet in height.

- The subject property is wholly enclosed by chain link fencing 8 feet in height. Many portions of the fencing surrounding the facility are topped with barbed wire.

Condition 17: That the underground gas pressure shall be kept sufficiently low so that there will be no escape of gases into the air above the ground.

- CalGEM, the State authority on oil, gas, and geothermal resources, regularly inspects the natural gas storage facility for compliance standards related to storage tank regulation and other equipment use rules. CalGEM's, or the State Public Utilities Commission, would have the necessary expertise on natural gas wells and storage to evaluate whether the facility is meeting both safety and maintenance requirements.

Condition 18: That all pipe lines outside the defined plant area shall be below the surface of the natural ground level.

- DCP is unable to determine if pipe lines extending outside the subject facility are under natural ground level. Per federal regulations, above ground pipelines accessible to the

public are allowed as long as they are properly marked. The Pipeline and Hazardous Materials Safety Administration (PHMSA) has a website identifying all pipelines in the country. The federal agency that regulates pipeline transportation is within the U.S. Department of Transportation.

Please refer to Exhibit D for the City Planning approval letters.

V. Remediation of Subsistence/ Erosion Issues

The issue of subsidence is not an issue involving the Department of Building and Safety (DBS) as the site is an oil and gas facility and the issue of subsidence (due to oil and gas withdrawal) is regulated by the California Geologic Energy Management Division of the Department of Conservation (formerly known as DOGGR) per Public Resources Code Division 3, Chapter 1, Article 5.5 §§ 3315-3314.

On the issue of erosion, DBS is limited to the issuance of Orders to Comply when hazardous or unstable conditions occur, in accordance with the L.A. Building Code Chapter 70 § 7005.7, and reviewing subsequent geology and soils reports that provide recommendations for repairs. The bluff slope that traverses through the natural gas facility is known for its slope instability and erosion issues. The DBS (Grading Division) has issued several Orders to Comply to the 8141 Gulana Avenue property when slope failures or significant erosion has occurred. The latest Order to Comply for the property was issued in February of 2017 for a slope failure on the bluff. The owners complied with the order and hired a geotechnical consultant and obtained a grading permit to repair the slope (Building Permit Application No. 17030-10000-04800). The repair of this part of the slope was completed in February 2020. See Exhibit E for a copy of this permit.

The operator is proposing a retaining wall along this same side of the bluff but remains in Grading plan check review as of May 2020 (Building Permit Application No. 20030-10000-02209). See Exhibit F for a copy of this permit.

VI. Compliance with New Department of Conservation Gas Storage Rules

The Department of Conservation recently unveiled revised regulation standards and requirements for California underground gas storage projects. These mandatory standards are applicable to all underground gas storage facilities, including those being operated for utility purposes, such as the Gulana site. The new rules set a mandate for operators to carry out more elaborative safety reviews of protocols and procedures. These reviews are intended for all aspects of facility operations such as construction, maintenance, and testing of equipment. In addition to the reviews, the revised requirements also mandate operators to submit data and operations information to the state. The intention behind stronger data submission standards is so that the Department of Conservation can provide the most efficient best practices when it comes to safety. Furthermore, the standards also require operators to substantially strengthen monitoring and surveillance in regards to various equipment operations. This in turn can lead to higher likelihood of identifying potential risks for leaks and thus minimize the possibility of disasters and leaks at these gas storage facilities.

The SoCalGas-operated storage gas facility is mandated by the California Code of Regulations, Title 14 Chapter 4 to abide by these revised requirements. CalGEM and the California Public Utilities Commission (CPUC) are the responsible lead agencies for enforcement as the revised

regulations for gas storage facilities were issued at the state level. See Exhibit G for the complete text of the regulations.

VII. Review of California Coastal Commission Jurisdiction of Storage Gas Facility

The California Coastal Commission (CCC) is a state-level agency and has jurisdiction over the State's coastline regarding development. The agency has land use and environmental authority along the California coastal area. The Coastal Zone, the geographical area comprising the coastline, does encompass the storage gas facility. Chapter 3 of Division 20 of the CA Public Resources Code outlines the regulatory approach to development in the Coastal Zone. The Coastal Commission is tasked with preserving land resources, marine environment, recreation and public access areas through their enforcement and land use authority in the Coastal Zone. The agency was created in 1972 via a voter initiative and made permanent in 1976. Therefore, the gas storage facility had been operating for many years prior to the establishment of the Coastal Commission. While the SoCalGas site was already in full operation in the 1970s, future projects would need approval from the State agency.

The Coastal Commission reviews projects that include "development" as the term is defined in Section 30106 of the CA Public Resources Code. "Development" can mean the following, but is not limited to: structures, change of intensity in use, and equipment maintenance. For this site, installation of new gas wells can qualify as "development". For most developments at the gas storage facility, SoCalGas does indeed need to have their proposed scope of work reviewed by the Coastal Commission. A development request can either receive a denial, exemption, or approval through what is called a Coastal Development Permit (with conditions of approval accompanying the decision). For reference, some of the Coastal Commission approved projects in the last couple of decades primarily involve replacement of equipment and repair activities.

The Coastal Commission is not proactive in regard to enforcement and compliance. If there is a violation, then the agency can issue a violation and citation if someone files a complaint against SoCalGas. The Coastal Commission does not have the jurisdiction to change State laws outside of what is Coastal Commission policy and regulations. That is, the Coastal Commission cannot shut down or order the closure of gas wells or gas storage thanks. As public utility agency, the California Public Utilities Commission and CalGEM (both State regulatory bodies) can change regulations and standards regarding gas storage reservoirs and wells.

VIII. Review of South Coast Air Quality Management District Jurisdiction of Storage Gas Facility

The South Coast Air Quality Management District (SCAQMD) is a regional agency with regulatory jurisdiction over enforcing air quality standards in the City of Los Angeles. In regards to the storage gas facility, South Coast AQMD conducts two separate annual inspections at the natural gas facility. Each annual inspection is conducted by two distinct units within South Coast AQMD. One annual inspection is conducted to satisfy requirements and compliance measures per a program called, Title V. This program, Title V, outlines standards in a "State Implementation Plan" (SIP) that is approved at the federal level by the U.S. Environmental Protection Agency. Under the inspection program, SoCalGas has to submit reports of the facility's compliance status on a semi-annual basis; other specific operational upsets are reported as necessary throughout the year. The other annual inspection is through a program called, "RECLAIM" (short acronym for Regional

Clean Air Incentives Market) targeting nitrogen oxide (NOx) emission reductions. Similar to most cap-and-trade environmental models, this program requires participating firms to reduce their NOx emissions while allowing for the sale of excess credits to other businesses. SoCalGas's facility does participate in the RECLAIM program and therefore, is subject to an annual inspection. In addition to that specific inspection, SoCalGas has to electronically submit quarterly reports on the amount of emissions that the natural gas facility emits throughout the year.

In addition to the two distinct inspections that are conducted annually, the SoCalGas natural gas facility is subject to a unique set of standards and requirements created by the California Air Resources Board (CARB). South Coast AQMD enforces these standards and rule requirements to ensure compliance with the regulation. The standards were created in response to concerns raised by constituents, State officials, and elected officials after the Aliso Canyon Natural Gas Leak in 2015. The Playa Del Rey site, according to the requirements outlined in the 2017 greenhouse gas standard, is now required to install Leak Detection monitors or perform daily emission monitoring in many different parts of the site including, but not limited to: gas wells, compressor tanks, storage tanks, and casings. In addition, the reportable measurements from those detection devices are then sent to CARB's regulation unit in Sacramento, CA. Enforcement of any violations, however, would remain with the regional agency, in this case, South Coast AQMD. Please see attached Exhibit H for the 2017 CARB greenhouse gas standards.

Conclusion

The Playa Del Rey gas storage facility is not subject to the City of Los Angeles zoning regulations as the California Public Utilities Commission preempts the City's jurisdiction. The facility is regulated at the State and Federal level. The facility is regulated at the state level because the California Public Utilities Commission governs public utilities, as well as Geologic Energy Management Division (CalGEM). At the Federal level, the Playa Del Rey facility is subject to the Pipeline Safety Act, which preempts the State and local safety regulations. As such, the City lacks jurisdiction to impose or enforce safety standards at this facility involving the operation of their gas storage and gas well production. However, there are some areas of regulation and oversight at the City level. The City's DBS can issue permits and conduct inspections regarding the construction of structures, uses of land (such as parking lots), and the construction of foundation pads. The City's Fire Department can issue permits for specific equipment and also conduct inspections related to Fire and Life Safety code standards. As aforementioned, the CPUC is the primary entity regulating the storage and production of gas at the SoCalGas facility in Playa Del Rey because the facility is a public utility site.

Please direct any questions regarding this report to the following staff: Senior City Planner, Vanessa Soto at (213) 978-1178 or via email at vanessa.soto@lacity.org and City Planning Associate, Edber Macedo at (213) 978-1198 or via email at edber.macedo@lacity.org.

Sincerely,

VINCENT P. BERTONI, AICP
Director of Planning

Lisa M. Webber, AICP
Deputy Director

VPB:LMW:EM:vs:ecm

Exhibits

Exhibit A: Permits- SCAQMD Issued Permits
Exhibit B: Permits – DBS Issued Permits
Exhibit C: Inspections – LAFD Report
Exhibit D: Approvals – City Planning Approvals
Exhibit E: Slope Repair Clearance Summary Worksheet
Exhibit F: Grading for Retaining Wall Clearance Summary Worksheet
Exhibit G: State Guidelines – Revised Requirements for Storage Gas Facilities
Exhibit H: California Air Resources Board – Greenhouse Gas Emission Standards
Exhibit I: List of State and Local Agency Contacts

Attachment A: Permits – AQMD Issued Permits

Application Number	Permit Number	Application Date	Issue Date	Permit Status	Equipment Description	Equipment Type	Application Status
110251	M51128	5/13/1983	7/18/1986	ACTIVE	STORAGE TANK FX RF W/CTL CRUDE OIL	Basic	PERMIT TO OPERATE GRANTED
110251	M51128	5/13/1983	7/18/1986	ACTIVE	VAPOR RECOVERY UNIT COMPRESS & CONDENSE	Control	PERMIT TO OPERATE GRANTED
110252	M51129	5/13/1983	7/18/1986	ACTIVE	STORAGE TANK FX RF W/CTL CRUDE OIL	Basic	PERMIT TO OPERATE GRANTED
110252	M51129	5/13/1983	7/18/1986	ACTIVE	VAPOR RECOVERY UNIT COMPRESS & CONDENSE	Control	PERMIT TO OPERATE GRANTED
110253	M51130	5/13/1983	7/18/1986	ACTIVE	STORAGE TANK FX RF W/CTL CRUDE OIL	Basic	PERMIT TO OPERATE GRANTED
110253	M51130	5/13/1983	7/18/1986	ACTIVE	VAPOR RECOVERY UNIT COMPRESS & CONDENSE	Control	PERMIT TO OPERATE GRANTED
110254	M51131	5/13/1983	7/18/1986	ACTIVE	STORAGE TANK FX RF W/CTL CRUDE OIL	Basic	PERMIT TO OPERATE GRANTED
110254	M51131	5/13/1983	7/18/1986	ACTIVE	VAPOR RECOVERY UNIT COMPRESS & CONDENSE	Control	PERMIT TO OPERATE GRANTED
110255	M51132	5/13/1983	7/18/1986	ACTIVE	STORAGE TANK FX RF W/CTL CRUDE OIL	Basic	PERMIT TO OPERATE GRANTED
110255	M51132	5/13/1983	7/18/1986	ACTIVE	VAPOR RECOVERY UNIT COMPRESS & CONDENSE	Control	PERMIT TO OPERATE GRANTED
111946	M51401	7/12/1983	7/22/1986	ACTIVE	STORAGE TANK FX RF W/CTL WASTE WATER	Basic	PERMIT TO OPERATE GRANTED
111946	M51401	7/12/1983	7/22/1986	ACTIVE	VAPOR RECOVERY UNIT COMPRESS & CONDENSE	Control	PERMIT TO OPERATE GRANTED
137495	M51402	9/30/1985	7/22/1986	ACTIVE	Crude Oil/Gas/H2OSeparation>=30-<400BPD	Basic	PERMIT TO OPERATE GRANTED
137495	M51402	9/30/1985	7/22/1986	ACTIVE	VAPOR RECOVERY UNIT COMPRESS & CONDENSE	Control	PERMIT TO OPERATE GRANTED
165545	D09282	1/14/1988	7/20/1989	ACTIVE	STORAGE TANK LUBE OIL & GREASE	Basic	PERMIT TO OPERATE GRANTED
198433	D43616	6/2/1989	6/2/1992	ACTIVE	I C E (50-500 HP) EM ELEC GEN-NAT GAS	Basic	PERMIT TO OPERATE GRANTED
198434	D43617	6/2/1989	6/2/1992	ACTIVE	I C E (50-500 HP) EM ELEC GEN-NAT GAS	Basic	PERMIT TO OPERATE GRANTED
A55256	P34570	1/1/1990	8/26/1969	ACTIVE	MERCAPTANS, ODORIZING	Basic	PERMIT TO OPERATE GRANTED
227890	D37540	5/1/1990	4/17/1991	ACTIVE	MISC MATERIALS PRODUCTION	Basic	PERMIT TO OPERATE GRANTED
289177	D83134	1/31/1994	5/24/1994	ACTIVE	NATURAL GAS ODORIZING UNIT	Basic	PERMIT TO OPERATE GRANTED
355183	F78771	5/13/1999	10/19/2005	ACTIVE	Crude Oil/Gas/H2OSeparation>=30-<400BPD	Basic	PERMIT TO OPERATE GRANTED
391136	G15469	9/18/2001	10/20/2011	ACTIVE	HEATER/FURNACE (5-20 MMBTU/HR) NAT GAS	Basic	PERMIT TO OPERATE GRANTED
391138	G15468	9/18/2001	10/20/2011	ACTIVE	NATURAL GAS DEHYDRATION	Basic	PERMIT TO OPERATE GRANTED
404783	F65597	7/18/2002	1/14/2004	ACTIVE	I C E (50-500 HP) EM ELEC GEN-DIESEL	Basic	PERMIT TO OPERATE GRANTED
407305	G21102	10/2/2002	10/19/2012	ACTIVE	AFTERBURNER, DIRECT FLAME	Control	PERMIT TO OPERATE GRANTED
491695	G4091	10/23/2008	8/19/2009	ACTIVE	BULK LOAD TANK TRUCK (1 RACK) CRUDE OIL	Basic	PERMIT TO OPERATE GRANTED
509525	G18495	4/2/2010	6/1/2012	ACTIVE	Activated Carbon Adsorber Drum Vent m.s.	Control	PERMIT TO OPERATE GRANTED
539154	G21235	6/7/2012	10/30/2012	ACTIVE	I C E (>500 HP) N-EM STAT NAT GAS ONLY	Basic	PERMIT TO OPERATE GRANTED
539155	G21236	6/7/2012	10/30/2012	ACTIVE	I C E (>500 HP) N-EM STAT NAT GAS ONLY	Basic	PERMIT TO OPERATE GRANTED
539156	G21237	6/7/2012	10/30/2012	ACTIVE	I C E (>500 HP) N-EM STAT NAT GAS ONLY	Basic	PERMIT TO OPERATE GRANTED
581172	G55303	1/15/2016	12/11/2018	ACTIVE	Afterburner (<1 mmBTU/hr, venting s.s.)	Control	PERMIT TO OPERATE GRANTED
606975	G54913	8/31/2018	11/9/2018	ACTIVE	I C E (50-500 HP) EM FIRE FGHT-NAT GAS	Basic	PERMIT TO OPERATE GRANTED
607157	G54925	9/14/2018	11/9/2018	ACTIVE	PLAN, RULE 441 RESEARCH OPERATIONS DEMO	Basic	PERMIT TO OPERATE GRANTED
616499	G59431	10/15/2019	11/4/2019	ACTIVE	CRUDE OIL WELLS R1148.1 (1-4)	Basic	PERMIT TO OPERATE GRANTED
616500	G59432	10/15/2019	11/4/2019	ACTIVE	CRUDE OIL WELLS R1148.1 (1-4)	Basic	PERMIT TO OPERATE GRANTED
616501	G59433	10/15/2019	11/4/2019	ACTIVE	CRUDE OIL WELLS R1148.1 (1-4)	Basic	PERMIT TO OPERATE GRANTED
616502	G59434	10/15/2019	11/4/2019	ACTIVE	CRUDE OIL WELLS R1148.1 (1-4)	Basic	PERMIT TO OPERATE GRANTED
616503	G59435	10/15/2019	11/4/2019	ACTIVE	CRUDE OIL WELLS R1148.1 (1-4)	Basic	PERMIT TO OPERATE GRANTED
616504	G59436	10/15/2019	11/4/2019	ACTIVE	CRUDE OIL WELLS R1148.1 (1-4)	Basic	PERMIT TO OPERATE GRANTED
616505	G59437	10/15/2019	11/4/2019	ACTIVE	CRUDE OIL WELLS R1148.1 (1-4)	Basic	PERMIT TO OPERATE GRANTED

A73764	P51847		2/5/1973	EXPIRED	NATURAL GAS ODORIZING UNIT	Basic	PERMIT TO OPERATE GRANTED
A73764	P51847		2/5/1973	EXPIRED	ADSORBER (DRY CLEANING), NON-REGENERATIV	Control	PERMIT TO OPERATE GRANTED
143849	M86705	3/26/1975	4/29/1986	INACTIVE	SERV STAT STORAGE & DISPENSING GASOLINE	Basic	PERMIT TO OPERATE GRANTED
143849	M86705	3/26/1975	4/29/1986	INACTIVE	AMINE (OR DEA) REGENERATION	Control	PERMIT TO OPERATE GRANTED
110248	M51125	5/13/1983	7/18/1986	INACTIVE	WASTE WATER TREATING (20000-50000 GAL/D)	Basic	PERMIT TO OPERATE GRANTED
110248	M51125	5/13/1983	7/18/1986	INACTIVE	VAPOR RECOVERY UNIT COMPRESS & CONDENSE	Control	PERMIT TO OPERATE GRANTED
110249	M51126	5/13/1983	7/18/1986	INACTIVE	CO BOILER	Control	PERMIT TO OPERATE GRANTED
110250	M51127	5/13/1983	7/18/1986	INACTIVE	VAPOR RECOVERY UNIT COMPRESS & CONDENSE	Control	PERMIT TO OPERATE GRANTED
139409	M47129	12/10/1985	12/17/1985	INACTIVE	STORAGE TANK, CRUDE OIL W/O CONTROL	Basic	PERMIT TO OPERATE GRANTED
172645	D06588	8/3/1988	3/22/1989	INACTIVE	SPRAY EQUIPMENT OPEN	Basic	PERMIT TO OPERATE GRANTED
198426	D62329	6/2/1989	9/18/1992	INACTIVE	I C E (50-500 HP) N-EM STAT NAT GAS ONLY	Basic	PERMIT TO OPERATE GRANTED
198427	D62328	6/2/1989	9/18/1992	INACTIVE	I C E (50-500 HP) N-EM STAT NAT GAS ONLY	Basic	PERMIT TO OPERATE GRANTED
198428	D62326	6/2/1989	9/18/1992	INACTIVE	I C E (50-500 HP) N-EM STAT NAT GAS ONLY	Basic	PERMIT TO OPERATE GRANTED
198432	D62325	6/2/1989	9/18/1992	INACTIVE	I C E (50-500 HP) N-EM STAT NAT GAS ONLY	Basic	PERMIT TO OPERATE GRANTED
198424	D64019	6/2/1989	10/20/1992	INACTIVE	I C E (50-500 HP) EM FIRE FGHT-NAT GAS	Basic	PERMIT TO OPERATE GRANTED
198425	D64187	6/2/1989	10/23/1992	INACTIVE	I C E (50-500 HP) N-EM STAT NAT GAS ONLY	Basic	PERMIT TO OPERATE GRANTED
205631	D37609	7/11/1989	4/18/1991	INACTIVE	STORAGE TANK, CRUDE OIL W/O CONTROL	Basic	PERMIT TO OPERATE GRANTED
A55259	P34571	1/1/1990	8/26/1969	INACTIVE	ICE OTH NAT GAS ONLY	Basic	PERMIT TO OPERATE GRANTED
227908	D64189	5/1/1990	10/23/1992	INACTIVE	Crude Oil/Gas/H2OSeparation>=30-<400BPD	Basic	PERMIT TO OPERATE GRANTED
227908	D64189	5/1/1990	10/23/1992	INACTIVE	ABSORBER	Control	PERMIT TO OPERATE GRANTED
286152	D83792	10/18/1993	6/20/1994	INACTIVE	Waste H2O Treating >50,000 GPD	Basic	PERMIT TO OPERATE GRANTED
286152	D83792	10/18/1993	6/20/1994	INACTIVE	BOILER/HEATER/INCINERATOR AS AFTERBURNER	Control	PERMIT TO OPERATE GRANTED
308966	F6287	10/25/1995	4/4/1997	INACTIVE	BULK LOAD MULTI REC TRUCKS CRUDE OIL	Basic	PERMIT TO OPERATE GRANTED
311755	D97567	2/2/1996	3/27/1996	INACTIVE	I C E (>500 HP) N-EM STAT GAS	Basic	PERMIT TO OPERATE GRANTED
311756	D97568	2/2/1996	3/27/1996	INACTIVE	I C E (>500 HP) N-EM STAT GAS	Basic	PERMIT TO OPERATE GRANTED
311757	D97569	2/2/1996	3/27/1996	INACTIVE	I C E (>500 HP) N-EM STAT GAS	Basic	PERMIT TO OPERATE GRANTED
311758	D97570	2/2/1996	3/27/1996	INACTIVE	I C E (>500 HP) N-EM STAT GAS	Basic	PERMIT TO OPERATE GRANTED
311759	D97571	2/2/1996	3/27/1996	INACTIVE	I C E (>500 HP) N-EM STAT GAS	Basic	PERMIT TO OPERATE GRANTED
311760	D97572	2/2/1996	3/27/1996	INACTIVE	I C E (>500 HP) N-EM STAT GAS	Basic	PERMIT TO OPERATE GRANTED
311761	D97573	2/2/1996	3/27/1996	INACTIVE	I C E (>500 HP) N-EM STAT GAS	Basic	PERMIT TO OPERATE GRANTED
325358	F8490	3/13/1997	7/30/1997	INACTIVE	I C E (>500 HP) N-EM STAT NAT GAS ONLY	Basic	PERMIT TO OPERATE GRANTED
368116	F60401	3/21/2000	5/8/2003	INACTIVE	I C E (>500 HP) N-EM STAT GAS	Basic	PERMIT TO OPERATE GRANTED
368117	F60402	3/21/2000	5/8/2003	INACTIVE	I C E (>500 HP) N-EM STAT GAS-DISTILL	Basic	PERMIT TO OPERATE GRANTED
368118	F60403	3/21/2000	5/8/2003	INACTIVE	I C E (>500 HP) N-EM STAT GAS	Basic	PERMIT TO OPERATE GRANTED
459756	F93341	8/23/2006	10/23/2007	INACTIVE	I C E (>500 HP) N-EM STAT GAS	Basic	PERMIT TO OPERATE GRANTED
459757	F93342	8/23/2006	10/23/2007	INACTIVE	I C E (>500 HP) N-EM STAT GAS	Basic	PERMIT TO OPERATE GRANTED
459758	F93340	8/23/2006	10/23/2007	INACTIVE	I C E (>500 HP) N-EM STAT GAS	Basic	PERMIT TO OPERATE GRANTED
482122	G4089	4/30/2008	8/19/2009	INACTIVE	I C E (>500 HP) N-EM STAT NAT GAS ONLY	Basic	PERMIT TO OPERATE GRANTED
482123	G4092	4/30/2008	8/19/2009	INACTIVE	I C E (>500 HP) N-EM STAT NAT GAS ONLY	Basic	PERMIT TO OPERATE GRANTED
482124	G4090	4/30/2008	8/19/2009	INACTIVE	I C E (>500 HP) N-EM STAT NAT GAS ONLY	Basic	PERMIT TO OPERATE GRANTED
598721	G49505	11/3/2017	11/30/2017	INACTIVE	CRUDE OIL WELLS R1148.1 (37-40)	Basic	PERMIT TO OPERATE GRANTED
A55258	P34341		8/25/1969	INACTIVE	CRUDE OIL/WATER SEPARATION	Basic	PERMIT TO OPERATE GRANTED

A55260	P34847		9/3/1969	INACTIVE	STORAGE TANK OTHER SOLVENTS N.E.C.	Basic	PERMIT TO OPERATE GRANTED
A55261	P34848		9/3/1969	INACTIVE	STORAGE TANK HYDROCARBONS MISC	Basic	PERMIT TO OPERATE GRANTED
C23654	M21578		8/1/1982	INACTIVE	CRUDE OIL/GAS/WATER SEP SYS (<=5 TANKS)	Basic	PERMIT TO OPERATE GRANTED
110247		5/13/1983			CRUDE OIL/WATER SEPARATION	Basic	APPLICATION CANCELLED, KEEP FILING FEES
198429		6/2/1989			I C E (50-500 HP) N-EM STAT NAT GAS ONLY	Basic	APPLICATION CANCELLED, REFUND ALL FEES
198430		6/2/1989			ICE OTH NAT GAS ONLY	Basic	APPLICATION CANCELLED, REFUND ALL FEES
198431		6/2/1989			ICE OTH NAT GAS ONLY	Basic	APPLICATION CANCELLED, REFUND ALL FEES
198435		6/2/1989			I C E (50-500 HP) EM ELEC GEN-NAT GAS	Basic	APPLICATION CANCELLED, REFUND ALL FEES
227892		5/1/1990			MISC MATERIALS PRODUCTION	Basic	APPLICATION CANCELLED, REFUND ALL FEES
227893		5/1/1990			MISC MATERIALS PRODUCTION	Basic	APPLICATION CANCELLED, REFUND ALL FEES
227897		5/1/1990			MISC MATERIALS PRODUCTION	Basic	APPLICATION CANCELLED, REFUND ALL FEES
227898		5/1/1990			MISC MATERIALS PRODUCTION	Basic	APPLICATION CANCELLED, REFUND ALL FEES
227900		5/1/1990			MISC MATERIALS PRODUCTION	Basic	APPLICATION CANCELLED, REFUND ALL FEES
227901		5/1/1990			MISC MATERIALS PRODUCTION	Basic	APPLICATION CANCELLED, REFUND ALL FEES
227902		5/1/1990			MISC MATERIALS PRODUCTION	Basic	APPLICATION CANCELLED, REFUND ALL FEES
227903		5/1/1990			MISC MATERIALS PRODUCTION	Basic	APPLICATION CANCELLED, REFUND ALL FEES
227904		5/1/1990			MISC MATERIALS PRODUCTION	Basic	APPLICATION CANCELLED, REFUND ALL FEES
227906		5/1/1990			MISC MATERIALS PRODUCTION	Basic	APPLICATION CANCELLED, REFUND ALL FEES
227891		5/1/1991			MISC MATERIALS PRODUCTION	Basic	APPLICATION CANCELLED, REFUND ALL FEES
227894		5/1/1991			MISC MATERIALS PRODUCTION	Basic	APPLICATION CANCELLED, REFUND ALL FEES
227895		5/1/1991			MISC MATERIALS PRODUCTION	Basic	APPLICATION CANCELLED, REFUND ALL FEES
227896		5/1/1991			MISC MATERIALS PRODUCTION	Basic	APPLICATION CANCELLED, REFUND ALL FEES
227899		5/1/1991			MISC MATERIALS PRODUCTION	Basic	APPLICATION CANCELLED, REFUND ALL FEES
227905		5/1/1991			MISC MATERIALS PRODUCTION	Basic	APPLICATION CANCELLED, REFUND ALL FEES
227907		5/1/1991			MISC MATERIALS PRODUCTION	Basic	APPLICATION CANCELLED, REFUND ALL FEES
255287		7/2/1991			RULE 1110.2 EMISSION CONTROL PLAN	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
281038		4/30/1993			I C E (>500 HP) N-EM STAT NAT GAS ONLY	Basic	APPLICATION CANCELLED, REFUND ALL FEES
281039		4/30/1993			SELECTIVE CATALYTIC REDUCTION	Control	APPLICATION CANCELLED, REFUND ALL FEES
281040		4/30/1993			I C E (>500 HP) N-EM STAT NAT GAS ONLY	Basic	APPLICATION CANCELLED, REFUND ALL FEES
281116		4/30/1993			SELECTIVE CATALYTIC REDUCTION	Control	APPLICATION CANCELLED, REFUND ALL FEES
281117		4/30/1993			I C E (>500 HP) N-EM STAT NAT GAS ONLY	Basic	APPLICATION CANCELLED, REFUND ALL FEES
281119		4/30/1993			SELECTIVE CATALYTIC REDUCTION	Control	APPLICATION CANCELLED, REFUND ALL FEES
281120		4/30/1993			I C E (>500 HP) N-EM STAT NAT GAS ONLY	Basic	APPLICATION CANCELLED, REFUND ALL FEES
281122		4/30/1993			SELECTIVE CATALYTIC REDUCTION	Control	APPLICATION CANCELLED, REFUND ALL FEES
281123		4/30/1993			I C E (>500 HP) N-EM STAT NAT GAS ONLY	Basic	APPLICATION CANCELLED, REFUND ALL FEES
281124		4/30/1993			SELECTIVE CATALYTIC REDUCTION	Control	APPLICATION CANCELLED, REFUND ALL FEES
281125		4/30/1993			I C E (>500 HP) N-EM STAT NAT GAS ONLY	Basic	APPLICATION CANCELLED, REFUND ALL FEES
281126		4/30/1993			SELECTIVE CATALYTIC REDUCTION	Control	APPLICATION CANCELLED, REFUND ALL FEES
281127		4/30/1993			I C E (>500 HP) N-EM STAT NAT GAS ONLY	Basic	APPLICATION CANCELLED, REFUND ALL FEES
281128		4/30/1993			SELECTIVE CATALYTIC REDUCTION	Control	APPLICATION CANCELLED, REFUND ALL FEES
281132		4/30/1993			I C E (50-500 HP) N-EM STAT NAT GAS ONLY	Basic	APPLICATION CANCELLED, REFUND ALL FEES
281133		4/30/1993			I C E (50-500 HP) N-EM STAT NAT GAS ONLY	Basic	APPLICATION CANCELLED, REFUND ALL FEES

281135	4/30/1993	I C E (50-500 HP) N-EM STAT NAT GAS ONLY	Basic	APPLICATION CANCELLED, REFUND ALL FEES
281136	4/30/1993	I C E (50-500 HP) N-EM STAT NAT GAS ONLY	Basic	APPLICATION CANCELLED, REFUND ALL FEES
334235	7/29/1997	INITIAL TITLE V PERMIT APPLICATION	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
355179	5/13/1999	AFTERBURNER, DIRECT FLAME	Control	APPLICATION CANCELLED, KEEP ALL FEES
368864	4/26/2000	I C E (>500 HP) N-EM STAT GAS	Basic	APPLICATION CANCELLED, KEEP ALL FEES
368864	4/26/2000	NON SELECTIVE CATALYTIC REDUCTION	Control	APPLICATION CANCELLED, KEEP ALL FEES
368871	4/26/2000	I C E (>500 HP) N-EM STAT NAT GAS ONLY	Basic	APPLICATION CANCELLED, KEEP ALL FEES
368871	4/26/2000	NON SELECTIVE CATALYTIC REDUCTION	Control	APPLICATION CANCELLED, KEEP ALL FEES
368872	4/26/2000	I C E (>500 HP) N-EM STAT NAT GAS ONLY	Basic	APPLICATION CANCELLED, KEEP ALL FEES
368872	4/26/2000	NON SELECTIVE CATALYTIC REDUCTION	Control	APPLICATION CANCELLED, KEEP ALL FEES
390539	8/31/2001	R-2009.1 NON POWER FAC. OPT 1	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
391137	9/18/2001	HEATER/FURNACE (5-20 MMBTU/HR) NAT GAS	Basic	APPLICATION CANCELLED, KEEP ALL FEES
391139	9/18/2001	FACILITY PERMIT AMEND-RECLAIM/TITLE V	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
392769	11/6/2001	ERC - CHANGE OF TITLE	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
397752	2/20/2002	TITLE V PERMIT ADMIN-AMENDMENT	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
403001	6/12/2002	FACILITY PERMIT AMEND-RECLAIM/TITLE V	Basic	APPLICATION CANCELLED, REFUND ALL FEES
405234	8/9/2002	FACILITY PERMIT AMEND-RECLAIM/TITLE V	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
407306	10/2/2002	Activated Carbon Adsorber Drum Vent s.s.	Control	APPLICATION REJECTED
416843	6/17/2003	ERC - CHANGE OF TITLE	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
416844	6/17/2003	ERC - CHANGE OF TITLE	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
417086	6/17/2003	ERC - CHANGE OF TITLE	Basic	APPLICATION REJECTED
421208	10/23/2003	FACILITY PERMIT AMEND-RECLAIM/TITLE V	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
438729	12/23/2004	ERC - CHANGE OF TITLE	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
449107	9/28/2005	TITLE V PERMIT RENEWAL APPLICATION	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
449108	9/28/2005	R-306 PLAN DISCOUNT-RECORDKEEPING	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
459753	8/23/2006	FACILITY PERMIT AMEND-RECLAIM/TITLE V	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
460604	9/27/2006	TITLE V PERMIT ADMIN-AMENDMENT	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
460605	9/27/2006	NATURAL GAS DEHYDRATION	Basic	APPLICATION CANCELLED, KEEP FILING FEES
460606	9/27/2006	HEATER/FURNACE (5-20 MMBTU/HR) NAT GAS	Basic	APPLICATION REJECTED
460607	9/27/2006	NATURAL GAS DEHYDRATION	Basic	APPLICATION REJECTED
470769	6/19/2007	TV/RECLAIM REVISION-NOEVAL	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
486470	8/1/2008	TITLE V PERMIT ADMIN-AMENDMENT	Basic	APPLICATION REJECTED
486471	8/1/2008	PLAN RULE 1110.2- Inspection & Monitoring Plan	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
491696	10/23/2008	Afterburner (<1 mmBTU/hr, venting s.s.)	Control	APPLICATION REJECTED
509526	4/2/2010	FACILITY PERMIT AMEND-RECLAIM/TITLE V	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
512657	7/13/2010	PLAN RULE 1110.2- Inspection & Monitoring Plan	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
539157	6/7/2012	FACILITY PERMIT AMEND-RECLAIM/TITLE V	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
581171	1/15/2016	FACILITY PERMIT AMEND-RECLAIM/TITLE V	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
582702	2/25/2016	TITLE V PERMIT RENEWAL APPLICATION	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
606976	8/31/2018	FACILITY PERMIT AMEND-RECLAIM/TITLE V	Basic	BANKING/ PLAN GRANTED, NON BILLABLE
616283	10/4/2019	Activated Carbon Adsorber Drum Vent m.s.	Control	ASSIGNED TO ENGINEER - CLASS I
616284	10/4/2019	FACILITY PERMIT AMEND-RECLAIM/TITLE V WITHOUT	Basic	ASSIGNED TO ENGINEER - CLASS III

617315	11/22/2019	PLAN RULE 1110.2- Inspection & Monitoring Plan	Basic	ASSIGNED TO ENGINEER - CLASS III

Attachment B: Permits – DBS Issued Permits

Los Angeles Department of Building and Safety

Certificate Information: 8141 S GULANA AVE 90293

Application / Permit	13020-10001-02587
Plan Check / Job No.	X14LA12928
Group	Building
Type	Bldg-Alter/Repair
Sub-Type	Commercial
Primary Use	(22) Warehouse
Work Description	SUPPLEMENTAL PERMIT TO PERMIT 13020-10000-02587 FOR CHANGE OF CONTRACTOR TO ARB INC
Permit Issued	Issued on 7/16/2014
Issuing Office	Metro
Current Status	Permit Finaled on 7/24/2014

Permit Application Status History

Issued	7/16/2014	LADBS
Permit Finaled	7/23/2014	NICK LAROCCA

Permit Application Clearance Information

No Data Available.

Contact Information

Contractor	Arb Inc; Lic. No.: 194079-B	26000 COMMERCENTRE DRIVE	LAKE FOREST, CA 92630

Inspector Information

ALAN NOVAK, (310) 914-3921	Office Hours: 7:00-8:00 AM MON-FRI

Pending Inspections

No Data Available.

Inspection Request History

Final	7/23/2014	Permit Finaled	NICK LAROCCA

Los Angeles Department of Building and Safety

Certificate Information: 8141 S GULANA AVE 90293

Application / Permit	10016-40000-02849
Plan Check / Job No.	B10SP00126
Group	Building
Type	Bldg-Alter/Repair
Sub-Type	Commercial
Primary Use	(8) Auto Repair Garage
Work Description	FOUNDATION TO REPLACE AN EXISTING INGROUND LIFT WITH A NEW "ROTATY LIFT" UNIT. THE VEHICLE LIFT IS LOCATED IN AN EXISTING BUILDING.
Permit Issued	Issued on 4/20/2010
Issuing Office	West Los Angeles
Current Status	Permit Finaled on 6/24/2010

Permit Application Status History

Submitted	2/18/2010	APPLICANT
Assigned to Plan Check Engineer	2/25/2010	VAHE SARKISSIAN
Corrections Issued	3/4/2010	VAHE SARKISSIAN
Reviewed by Supervisor	3/4/2010	RUDOLF KINAR MELIKOFF
Building Plans Picked Up	3/8/2010	APPLICANT
Plan Check Approved	4/20/2010	VAHE SARKISSIAN
Issued	4/20/2010	LADBS
Permit Finaled	6/23/2010	TONY HARTONO

Permit Application Clearance Information

DAS Clearance	Cleared	2/25/2010	NORLITO MEDRANO
Abandoned oil well approval	Cleared	4/20/2010	DIV OIL/GAS APPROVED
Excavation more than 5-ft deep	Cleared	4/20/2010	CALOSHA APPROVED

Contact Information

Contractor	Peterson Hydraulics Inc; Lic. No.: 631515-B	1653 W EL SEGUNDO BLVD GARDENA, CA 90249
Engineer	Wellington, Brian Keith; Lic. No.: C63545	5020 MCCLOSKEY CT SANTA ROSA, CA 95409

Inspector Information

ALAN NOVAK, (310) 914-3921	Office Hours: 7:00-8:00 AM MON-FRI

Pending Inspections

No Data Available.

Inspection Request History

Footing/Foundation/Slab	5/19/2010	Partial Inspection	TONY HARTONO
Footing/Foundation/Slab	5/20/2010	Partial Approval	TONY HARTONO
Excavation/Setback/Form/Re-Bar	6/3/2010	Partial Inspection	NICK LAROCCA
Footing/Foundation/Slab	6/3/2010	Partial Inspection	NICK LAROCCA
Excavation/Setback/Form/Re-Bar	6/7/2010	Corrections Issued	TONY HARTONO
Footing/Foundation/Slab	6/7/2010	Corrections Issued	TONY HARTONO
Footing/Foundation/Slab	6/14/2010	Partial Approval	TONY HARTONO
Final	6/22/2010	Not Ready for Inspection	TONY HARTONO
SGSOV-Seismic Gas S/O Valve	6/22/2010	SGSOV No Gas	TONY HARTONO
Smoke Detectors	6/22/2010	Not Ready for Inspection	TONY HARTONO
Final	6/23/2010	Permit Finaled	TONY HARTONO

Los Angeles Department of Building and Safety

Certificate Information: 8141 S GULANA AVE 90293

Application / Permit	06016-10000-23416
Plan Check / Job No.	X06LA21931
Group	Building
Type	Bldg-Alter/Repair
Sub-Type	Commercial
Primary Use	(13) Office
Work Description	TEAR-OFF EXISTING B.U.R. RE-ROOF W/ SINGLE PLY ROOFING SYSTEM. (217SQS.) "Cool Roof" may be required per Title 24, Part 6, Section 149(b), labeled and certified by CRRC per Section 10 111.
Permit Issued	Issued on 11/17/2006
Issuing Office	Metro
Current Status	Permit Finaled on 6/19/2009

Permit Application Status History

Issued	11/17/2006	HENRY TONGSON
Permit Finaled	6/18/2009	DERRICK SPENCER

Permit Application Clearance Information

No Data Available.

Contact Information

Contractor	Dri Commercial Corporation; Lic. No.: 818623-C39	17182 ARMSTRONG AVENUE	IRVINE, CA 92614

Inspector Information

JOHN DODGE, (310) 914-3913	Office Hours: 7:00-8:00 AM MON-FRI

Pending Inspections

No Data Available.

Inspection Request History

Final	1/17/2007	Not Ready for Inspection	RICHARD MULLENNEX
SGSOV-Seismic Gas S/O Valve	1/17/2007	SGSOV Approved	RICHARD MULLENNEX
Final	6/18/2009	Permit Finaled	DERRICK SPENCER
SGSOV-Seismic Gas S/O Valve	6/18/2009	SGSOV Approved	DERRICK SPENCER

Los Angeles Department of Building and Safety

Certificate Information: 8141 S GULANA AVE 90293

Application / Permit	97016-30000-06916
Plan Check / Job No.	--
Group	Building
Type	Bldg-Alter/Repair
Sub-Type	Commercial
Primary Use	(7) Carport
Work Description	T/O,REROOF W/CLASS A FIBERGALSS 4 PLY BUILT-UP CAP SHEET SYSTEM-25 SQS 28/11/11/75
Permit Issued	Issued on 3/27/1997
Issuing Office	West Los Angeles
Current Status	Permit Closed on 7/12/1999

Permit Application Status History

Issued	3/27/1997	TERRI WALKER
Permit Closed	7/12/1999	LADBS

Permit Application Clearance Information

ZI 1352 cra	Not Cleared	3/27/1997	CORA JOHNSON

Contact Information

Contractor	Rooftoppers Inc; Lic. No.: 440172-C39	5318 VENICE BLVD	LOS ANGELES, CA 90019

Inspector Information

ALAN NOVAK, (310) 914-3921	Office Hours: 7:00-8:00 AM MON-FRI

Pending Inspections

No Data Available.

Inspection Request History

No Data Available.

Los Angeles Department of Building and Safety

Certificate Information: 8141 S GULANA AVE 90293

Application / Permit	13020-10000-02587
Plan Check / Job No.	B13LA13211
Group	Building
Type	Nonbldg-New
Sub-Type	Commercial
Primary Use	(23) Miscellaneous Bldg/Structure
Work Description	INSTALL TWO PUMP FOUNDATIONS. 8'-1"X2'-6" AND ANCHOR EQUIPMENT WITH 4 5/8"X8" SIMPSON KWIK ANCHOR
Permit Issued	Issued on 1/14/2014
Issuing Office	Metro
Current Status	Permit Finaled on 8/14/2014

Permit Application Status History

Submitted	10/23/2013	APPLICANT
Assigned to Plan Check Engineer	10/23/2013	CELESTE MORRIS
Corrections Issued	10/23/2013	CELESTE MORRIS
Plan Check Approved	1/14/2014	TEODORO DIAZ RODRIGUEZ
Issued	1/14/2014	LADBS
Permit Finaled	8/13/2014	NICK LAROCCA

Permit Application Clearance Information

Coastal Zone	Cleared	11/21/2013	PHYLLIS PARKER
Miscellaneous	Cleared	11/21/2013	PHYLLIS PARKER
Specific Plan	Cleared	11/21/2013	COLLINS ALLAN
Abandoned oil well	Cleared	1/6/2014	ROBERT DUFF
Abandoned oil well approval	Cleared	1/6/2014	ROBERT DUFF
Grading Pre-Inspection	Cleared	1/7/2014	PATRICK MISCHLICH

Contact Information

Contractor	Doty Bros Construction Co; Lic. No.: 273024-C12	11232 E FIRESTONE BLVD	NORWALK, CA 90650

Inspector Information

ALAN NOVAK, (310) 914-3921	Office Hours: 7:00-8:00 AM MON-FRI

Pending Inspections

No Data Available.

Inspection Request History

Footing/Foundation/Slab	7/23/2014	Not Ready for Inspection	NICK LAROCCA
Deputy Drilled-In Anchors	7/30/2014	Approved	NICK LAROCCA
Deputy Reinf. Concrete	7/30/2014	Approved	NICK LAROCCA
Excavation/Setback/Form/Re-Bar	7/30/2014	Approved	NICK LAROCCA
Deputy Reinf. Concrete	7/31/2014	Approved	NICK LAROCCA
Deputy Drilled-In Anchors	8/4/2014	Conditional Approval	JONATHAN ALLEN
Final	8/13/2014	Permit Finaled	NICK LAROCCA

Los Angeles Department of Building and Safety

Certificate Information: 8141 S GULANA AVE 90293

Application / Permit	14020-30000-02676
Plan Check / Job No.	B14WL04601
Group	Building
Type	Nonbldg-New
Sub-Type	Commercial
Primary Use	(23) Shoring (Temporary)
Work Description	Temporary shoring for slope repair.
Permit Issued	Issued on 11/14/2014
Issuing Office	West Los Angeles
Current Status	Issued on 11/14/2014

Permit Application Status History

Submitted	10/15/2014	APPLICANT
Assigned to Plan Check Engineer	10/30/2014	VICTOR TURCIOS
Corrections Issued	10/31/2014	VICTOR TURCIOS
Reviewed by Supervisor	11/3/2014	KAMRAN GHOTBI RAVANDI
Applicant returned to address corrections	11/12/2014	VICTOR TURCIOS
Building Plans Picked Up	11/12/2014	APPLICANT
Plan Check Approved	11/14/2014	VICTOR TURCIOS
Issued	11/14/2014	LADBS

Permit Application Clearance Information

Excavation more than 5-ft deep	Cleared	11/14/2014	CALOSHA APPROVED

Contact Information

Contractor	Arb Inc; Lic. No.: 194079-B	26000 COMMERCENTRE DRIVE LAKE FOREST, CA 92630
Engineer	Haase, Lawrence Gilbert; Lic. No.: C43969	15790 RANCHO VIEJO DR RIVERSIDE, CA 92506
Engineer	Patil, Uday Keshav; Lic. No.: GE670	4011 P V DRIVE SOUTH RANCHO PALOS VERDES, CA 90275

Inspector Information

JONATHAN HOM, (310) 914-3937	Office Hours: 7:00-8:00 AM MON-FRI

Pending Inspections

No Data Available.

Inspection Request History

Excavation/Setback/Form/Re-Bar	11/25/2014	Approved	NICK LAROCCA

Los Angeles Department of Building and Safety

Certificate Information: 8141 S GULANA AVE 90293

Application / Permit 14020-30000-01817
Plan Check / Job No. B14WL03068
Group Building
Type Nonbldg-New
Sub-Type Commercial
Primary Use (23) Miscellaneous Bldg/Structure
Work Description foundation pads for mechanical equipments.
Permit Issued Issued on 11/12/2014
Issuing Office West Los Angeles
Current Status Permit Finaled on 12/17/2014

Permit Application Status History

Submitted	7/15/2014	APPLICANT
Assigned to Plan Check Engineer	7/17/2014	KAMRAN GHOTBI RAVANDI
Corrections Issued	7/21/2014	KAMRAN GHOTBI RAVANDI
Reviewed by Supervisor	7/22/2014	ARA SARGSYAN
Building Plans Picked Up	8/27/2014	APPLICANT
Applicant returned to address corrections	10/10/2014	KAMRAN GHOTBI RAVANDI
Plan Check Approved	10/30/2014	KAMRAN GHOTBI RAVANDI
Issued	11/12/2014	LADBS
Permit Finaled	12/16/2014	NICK LAROCCA

Permit Application Clearance Information

Miscellaneous	Cleared	10/23/2014	MINDY NGUYEN
Miscellaneous	Cleared	10/23/2014	MINDY NGUYEN
Miscellaneous	Cleared	10/23/2014	MINDY NGUYEN
Roof/Waste drainage to street	Cleared	10/23/2014	KARAN PATEL
ZA Case	Cleared	10/23/2014	MINDY NGUYEN
ZA Case	Cleared	10/23/2014	MINDY NGUYEN
ZA Case	Cleared	10/23/2014	MINDY NGUYEN
Specific Plan	Cleared	10/27/2014	DAVID TEHRANI
Coastal Zone	Cleared	10/28/2014	ANDY RODRIGUEZ
Eng Process Fee Ord 176,300	Cleared	10/28/2014	JAMES MORALEZ
DAS Clearance	Cleared	10/30/2014	FARUK SEZER

Contact Information

Contractor	Owner-Builder	,
Engineer	Frieson, Steven Birge; Lic. No.: C42110	1129 CEDARVIEW DRIVE CLAREMONT, CA 91711

Inspector Information

ALAN NOVAK, (310) 914-3921	Office Hours: 7:00-8:00 AM MON-FRI

Pending Inspections

No Data Available.

Inspection Request History

Footing/Foundation/Slab	11/14/2014	Approved	NICK LAROCCA
Final	12/16/2014	Permit Finaled	NICK LAROCCA

Los Angeles Department of Building and Safety

Certificate Information: 8141 S GULANA AVE 90293

Application / Permit	01030-10000-01506
Plan Check / Job No.	--
Group	Building
Type	Grading
Sub-Type	Commercial
Primary Use	(70) Grading - Hillside
Work Description	BACK-FILL FOR REMOVAL OF UNDERGROUND GASOLINE STORAGE TANK PIPING & EQUIPMENT. 20 CUYD TOTAL FILL.
Permit Issued	Issued on 9/25/2001
Issuing Office	Metro
Current Status	Permit Finaled on 10/9/2001

Permit Application Status History

Fees Due	6/27/2001	LORRAINE ALEMAN
Submitted	6/27/2001	MIRIAM CROWDER
Issued	9/25/2001	MIRIAM CROWDER
Permit Finaled	10/5/2001	ALEJANDRO VELAZQUEZ

Permit Application Clearance Information

ZI	Cleared	6/27/2001	ANDY MONTEALEGRE

Contact Information

Contractor	Covey H B Inc; Lic. No.: 269354-B	350 E COMMERCIAL ST POMONA, CA 91767
Engineer	Luhar, Jashbhai D; Lic. No.: C22395	9021 E ARDENDALE AVE SAN GABRIEL, CA 91775

Inspector Information

JONATHAN HOM, (310) 914-3937	Office Hours: 7:00-8:00 AM MON-FRI

Pending Inspections

No Data Available.

Inspection Request History

Rough	9/26/2001	Partial Approval	AL GAMBLE
Fill/Backfill	10/5/2001	Permit Finaled	ALEJANDRO VELAZQUEZ

Los Angeles Department of Building and Safety

Certificate Information: 8141 S GULANA AVE 90293

Application / Permit	14030-30000-06823
Plan Check / Job No.	B14WL04856
Group	Building
Type	Grading
Sub-Type	Commercial
Primary Use	(70) Grading - Hillside
Work Description	Removal and recompaction for new foundation pads for mechanical equipments under application number 14020-30000-01817.
Permit Issued	Issued on 11/12/2014
Issuing Office	West Los Angeles
Current Status	Permit Closed on 11/17/2014

Permit Application Status History

Submitted	10/30/2014	APPLICANT
Assigned to Plan Check Engineer	10/30/2014	KAMRAN GHOTBI RAVANDI
Plan Check Approved	10/30/2014	KAMRAN GHOTBI RAVANDI
Issued	11/12/2014	LADBS
Permit Closed	11/14/2014	MANUEL TEJADA

Permit Application Clearance Information

No Data Available.

Contact Information

Contractor	Owner-Builder	
Engineer	Frieson, Steven Birge; Lic. No.: C42110	1129 CEDARVIEW DRIVE CLAREMONT, CA 91711

Inspector Information

JONATHAN HOM, (310) 914-3937	Office Hours: 7:00-8:00 AM MON-FRI

Pending Inspections

No Data Available.

Inspection Request History

Final	11/14/2014	Permit Closed	MANUEL TEJADA
METHANE-Rough	11/14/2014	Approved	MANUEL TEJADA
Rough	11/14/2014	Approved	MANUEL TEJADA

Los Angeles Department of Building and Safety

Certificate Information: 8141 S GULANA AVE 90293

Application / Permit 14030-30000-04713
Plan Check / Job No. B14WL03321
Group Building
Type Grading
Sub-Type Commercial
Primary Use (70) Grading - Hillside
Work Description Site grading for slope repair per engineers design.
Permit Issued Issued on 11/14/2014
Issuing Office West Los Angeles
Current Status Permit Finaled on 4/15/2015

Permit Application Status History

Submitted	7/31/2014	APPLICANT
Assigned to Plan Check Engineer	8/7/2014	VICTOR TURCIOS
Corrections Issued	8/8/2014	VICTOR TURCIOS
Reviewed by Supervisor	8/15/2014	KAMRAN GHOTBI RAVANDI
Building Plans Picked Up	8/20/2014	APPLICANT
Applicant returned to address corrections	9/9/2014	VICTOR TURCIOS
Plan Check Approved	11/14/2014	VICTOR TURCIOS
Issued	11/14/2014	LADBS
Permit Finaled	4/15/2015	AL GAMBLE

Permit Application Clearance Information

Abandoned oil well	Cleared	9/2/2014	JOHN DALLAS
Abandoned oil well approval	Cleared	9/2/2014	JOHN DALLAS
Coastal Zone	Cleared	9/2/2014	VANESSA SOTO
ZA Case	Cleared	9/2/2014	VANESSA SOTO
ZA Case	Cleared	9/2/2014	VANESSA SOTO
ZA Case	Cleared	9/2/2014	VANESSA SOTO
Grading Pre-Inspection	Cleared	9/9/2014	VICTOR TURCIOS
Excavation more than 5-ft deep	Cleared	11/14/2014	CALOSHA APPROVED

Contact Information

Contractor	Arb Inc; Lic. No.: 194079-B	26000 COMMERCENTRE DRIVE	LAKE FOREST, CA 92630

Engineer	Cooke, Stephen Alexander; Lic. No.: C74082	11023 EUCALYPTUS STREET RANCHO CUCAMONGA, CA 91730
Engineer	Patil, Uday Keshav; Lic. No.: GE670	4011 P V DRIVE SOUTH RANCHO PALOS VERDES, CA 90275

Inspector Information

JONATHAN HOM, (310) 914-3937	Office Hours: 7:00-8:00 AM MON-FRI

Pending Inspections

No Data Available.

Inspection Request History

Initial Grading	11/19/2014	Approved	AL GAMBLE
Deputy Grading	11/20/2014	Approved	AL GAMBLE
Bottom/Toe	11/25/2014	Partial Approval	GAYK MANUKYAN
Fill/Backfill	12/5/2014	Not Ready for Inspection	AL GAMBLE
Green Building Final	2/25/2015	Approved	DONALD CRICHLOW
Green Building Rough	2/25/2015	Approved	DONALD CRICHLOW
Approved Compaction Report	4/10/2015	Approved	AL GAMBLE
Bottom/Toe	4/15/2015	Approved	AL GAMBLE
Final	4/15/2015	Permit Finaled	AL GAMBLE
Rough	4/15/2015	Approved	AL GAMBLE

Los Angeles Department of Building and Safety

Certificate Information: 8141 S GULANA AVE 90293

Application / Permit	17030-10001-04800
Plan Check / Job No.	X19LA17780
Group	Building
Type	Grading
Sub-Type	Commercial
Primary Use	(70) Grading - Hillside
Work Description	SUPPLEMENTAL PERMIT TO PERMIT NO. 17030-10000-04800. PROPOSED SLOPE EROSION/FAILURE REPAIR LOCATED DOWNHILL FROM THE CITY OF LA PROPERTY. 6 FT BY 5FT CONCRETE ABANDONED STRUCTURE ADJACENT TO CABORA DR. THE EXISTING STRUCTURE IS TO BE PROTECTED IN PLACE PER CIVIL ENGINEERS RECOMENDATIONS.
Permit Issued	Issued on 10/1/2019
Issuing Office	Metro
Current Status	Issued on 10/1/2019

Permit Application Status History

Issued	10/1/2019	LADBS

Permit Application Clearance Information

No Data Available.

Contact Information

Contractor	Arb Inc; Lic. No.: 194079-A	26000 COMMERCENTRE DRIVE LAKE FOREST, CA 92630
Engineer	Gulke, Russell Anthony; Lic. No.: C49129	236 WEST SCENIC DR MONROVIA, CA 91016
Engineer	Upasani, Mohan B; Lic. No.: GE2301	20 SOVENTE IRVINE, CA 92606

Inspector Information

JONATHAN HOM, (310) 914-3937	Office Hours: 7:00-8:00 AM MON-FRI

Pending Inspections

No Data Available.

Inspection Request History

No Data Available.

Los Angeles Department of Building and Safety

Certificate Information: 8141 S GULANA AVE 90293

Application / Permit 17030-10000-04800
Plan Check / Job No. G17LA00123
Group Building
Type Grading
Sub-Type Commercial
Primary Use (70) Grading - Hillside
Work Description PROPOSED SLOPE EROSION/FAILURE REPAIR LOCATED DOWNHILL FROM THE CITY OF LA PROPERTY APPAROXIMATELY 10 TO 18 FEET IN WIDTH AND 10 TO 15 FEET IN DEPTH. FAILURI AREAS SHOULD BE REPAIRED BY PROPER KEYING AND BENCHING INTO COMPETENT MATERIAL. CUT = 1907 CU. YDS., FILL = 1694 CU. YDS., EXPORT = 44 CU. YDS.
Permit Issued Issued on 8/15/2019
Issuing Office Metro
Current Status Permit Finaled on 2/26/2020

Permit Application Status History

Submitted	7/13/2017	APPLICANT
Assigned to Plan Check Engineer	7/19/2017	FREDERICK WONG
Corrections Issued	7/19/2017	FREDERICK WONG
Plan Check Approved	11/20/2017	FREDERICK WONG
Issued	8/15/2019	LADBS
Permit Finaled	2/25/2020	JONATHAN HOM

Permit Application Clearance Information

Abandoned oil well approval	Cleared	10/5/2017	JOHN CONNEALLY
Miscellaneous	Cleared	10/5/2017	JOHN CONNEALLY
Drainage to Storm Drain	Cleared	10/6/2017	TAO YANG
Eng Process Fee Ord 176,300	Cleared	10/6/2017	TAO YANG
Roof/Waste drainage to street	Cleared	10/6/2017	TAO YANG
Grading Pre-Inspection	Cleared	11/1/2017	FREDERICK WONG
Miscellaneous	Cleared	11/1/2017	FREDERICK WONG

Contact Information

Contractor	Arb Inc; Lic. No.: 194079-A	26000 COMMERCENTRE DRIVE LAKE FOREST, CA 92630
Engineer	Gulke, Russell Anthony; Lic. No.: C49129	236 WEST SCENIC DR MONROVIA, CA 91016
Engineer	Upasani, Mohan B; Lic. No.: GE2301	20 SOVENTE IRVINE, CA 92606

Inspector Information

JONATHAN HOM, (310) 914-3937	Office Hours: 7:00-8:00 AM MON-FRI

Pending Inspections

No Data Available.

Inspection Request History

Initial Grading	8/29/2019	Corrections Issued	JONATHAN HOM
Initial Grading	8/30/2019	Corrections Issued	JONATHAN HOM
Excavation	9/17/2019	Approved	JONATHAN HOM
Initial Grading	9/17/2019	Approved	JONATHAN HOM
Bottom/Toe	9/26/2019	Partial Inspection	JONATHAN HOM
Bottom/Toe	9/30/2019	Partial Inspection	JONATHAN HOM
Bottom/Toe	10/3/2019	Conditional Approval	JONATHAN HOM
Drainage Devices/Catch Basin	10/7/2019	Partial Approval	JONATHAN HOM
Drainage Devices/Catch Basin	10/16/2019	Partial Inspection	JONATHAN HOM
Drainage Devices/Catch Basin	10/18/2019	Partial Approval	JONATHAN HOM
Approved Compaction Report	2/21/2020	Approved	JONATHAN HOM
Bottom/Toe	2/25/2020	Approved	JONATHAN HOM
Final	2/25/2020	Permit Finaled	JONATHAN HOM
Rough	2/25/2020	Approved	JONATHAN HOM

Attachment C: Inspections – LAFD Report

LAFD RESPONSE – COUNCIL MOTION 19-1124

COUNCIL FILE NO. 19-1124 – REQUESTED A REPORT ON THE OIL, NATURAL GAS, AND GAS STORAGE FIELD OPERATIONS AT THE PLAYA DEL REY FIELD, AT 8141 SOUTH GULANA AVENUE, PLAYA DEL REY, CA 90293.

In response to the Council action on October 15, 2019, Council File 19-1124, the Los Angeles Fire Department (LAFD) and other Departments were instructed to conduct the following investigation:

A thorough site review for all equipment and wells on site, including a full site review of conditions to verify the site's City permits.

b. Adherence to approved zoning and use conditions.
c. Remediation of subsidence and erosion issues.
d. Compliance with the new state gas storage rules.
e. Compliance with any and all facility and operational requirements of the California Coastal Commission, the California Public Utility Commission, the South Coast Air Quality Management District, and the California Department of Oil, Gas and Geothermal Resources.

The SoCal Gas Playa Del Rey facility is inspected triennially by members of the Fire Prevention Bureau under the Certified Unified Program Agency (CUPA) CUPA programs and LAFD Oil Well Inspection Program.

1. The LAFD CUPA is charged with overseeing the following regulatory elements of the Unified Program at the Playa Del Rey site.

    a. **LAFD CUPA- Hazardous Materials Inventory and Business Emergency Plan Program** - The purpose of the program is to prevent or minimize the harm to public health and safety and the environment, from a release or threatened release of hazardous materials. Also, it satisfies community right-to-know laws by requiring businesses who handle hazardous materials above certain quantities to:

        i. Inventory their hazardous materials;
        ii. Develop a site map;
        iii. Develop an emergency plan; and
        iv. Implement a training program for employees.

        Businesses must submit this information electronically to the statewide information management system (California Environmental Reporting System, or CERS). Emergency Responders are able to remotely access CERS en route to an emergency incident and have complete knowledge of onsite hazardous materials inventories, location, and site contacts before arriving on scene. The Fire Department also has recently acquired software which draws the hazardous materials inventory data from CERS and is able to create plume models of a hazardous materials release based on real weather data. This data assists in developing an

evacuation zone, identifies recommended personal protective equipment for our firefighters, and overall significantly enhances public safety.

b. **LAFD CUPA/LA County Fire Department - Hazardous Waste Generator Program -** The purpose of this program is to ensure all hazardous wastes generated by businesses are properly handled, recycled, treated, stored, and disposed of. The wastes may be a by-product of manufacturing processes or have been determined by the generator that the hazardous material is no longer usable. Even though LAFD CUPA oversees the Hazardous Waste Program, it is minimally regulated and inspected by the Los Angeles County Fire Department through a Participating Agency Agreement with the City.

c. **LAFD CUPA - Aboveground Petroleum Storage Tank Program -**. Playa Del Rey is additionally regulated under the APSA program for the storage of petroleum products in aboveground tanks. The program has a mandated triennial inspection to ensure the business has developed a Spill Prevention, Control, and Countermeasure (SPCC) Plan, that the SPCC plan has been implemented by conducting routine inspections of the storage tanks, provide training to their employees in the event of a release, and to verify the plan has countermeasures for discharge discovery, response, and cleanup.

2. The LAFD Oil Well Inspection Program is charged with enforcing the Los Angeles Fire Code. The Playa Del Rey site is inspected annually by Fire Inspectors from the Fire Prevention Bureau to ensure infrastructure, operations, fire/life safety detection and suppression systems are compliant with the Fire Code. In addition to fire and life safety inspections, the program also oversees oil well drilling and abandonment processes. This program operates independently of the LAFD CUPA Program and coordinates regulatory activities with CALGEM (formerly DOGGR). The LAFD Oil Well Inspection Program and the Los Angeles Fire Code does not regulate the storage of natural gas below ground.

LAFD Enforcement

CUPA - The LAFD Fire Prevention Bureau has a very rigorous enforcement program. The CUPA has multiple enforcement options which include referral to the City Attorney's Environmental Justice Unit or issuance of a Administrative Enforcement Order (AEO), which is a tool provided to the Unified Program Agencies to impose an administrative penalty to a person or business if determined that the person or business has committed or is committing a violation of any law, regulation, permit, information requested, order, variance, or other requirement which the CUPA is authorized to enforce or implement. The LAFD CUPA has one of the most active AEO programs in the State.

OIL WELL INSPECTION PROGRAM - Additionally, the LAFD Oil Well Inspection Program utilizes the Office of the City Attorney to address significant or recalcitrant fire code violations.

SITE ASSESSMENT RESULTS:

I. LAFD CUPA Programs

a) Hazardous Materials and Business Emergency Plan Program

An inspection was conducted on 1/13/2020 at the Playa Del Rey site. The facility has accurately reported their hazardous materials inventory in CERS, they have a current business emergency plan, and staff has been trained on the plan.

No violations were observed.

b) Aboveground Petroleum Storage Act Program

An inspection was conducted on 1/13/2020 at the Playa Del Rey site. The facility has an updated Spill Prevention, Control and Countermeasure Plan. The plan has been implemented onsite, appropriate storage equipment inspections are taking place, and staff has been trained on the SPCC plan.

c) Hazardous Waste Generator Program

In 2018, an inspection was conducted by the LA County Fire Department Health Hazardous Materials Division with no violations observed, however, during a facility assessment conducted by LAFD CUPA inspectors on 1/13/2020, the following violations were observed and referred to the LA County Fire Department for a follow-up investigation and enforcement.

I. 55 gallon drums containing hazardous materials were observed to be stored outside in a deteriorated state with no labelling or labelling that was illegible;
II. Hazardous waste stored in the garage appeared to have exceeded the 180 day accumulation limit;
III. Some of the hazardous waste drums were missing the accumulation start date;
IV. Empty 55 gallon drums were stored outside and were not labelled as empty or the date they were emptied to ensure they did not exceed the maximum allowable 365 day storage limit; and
V. A Socal Gas representative identified hazardous waste that stored in the garage was from another entity. LAFD CUPA was unable to identify a valid CUPA permit for the other entity.

At the request of LAFD CUPA, LA County conducted a complaint investigation on 1/15/2020 and ultimately reported that no violations were observed at the time of their inspection.

II. LAFD Oil Well Inspection Program

A Notice of Violation was written on September 6, 2018, for (57.5706.3.2.2) Discharge of combustibles and materials onto the ground. The last inspection was conducted on May 3, 2019, with no violations noted by (former) Inspector Chi Lam. Inspection responsibilities, as it pertains to Oil Wells, are found in the 2017 Fire Code, pages 520 through 525. On January 22, 2020, a Fire/Life Safety Inspection was completed at the SoCal Gas Playa del Rey field at 8141 S. Gulana Avenue. The point of contact was Mr. William Lukins, SoCal Gas team lead of environmental services. The site inspection included the general areas of inspection in the Los Angeles City Fire Code as it pertains to oil wells.

These general areas of inspection include, but are not limited to:

1. Facility entrance
2. Fire department connections
3. Path of egress to public way
4. Proper signage
5. Fire extinguishers
6. Special extinguishing systems
7. Cellar with one or more well(s)
8. Facility
9. Permits (i.e., Operational Permits, Specific Action)
10. The Compliance Engine (Chief's Regulation No.4)

*The SoCal Gas site inspection covered forty three wells which met compliance. No violations were found.

RECOMMENDATIONS

The Playa Del Rey site is regulated by State and local agencies, however, there is very little to no local regulatory oversight for the storage of natural gas at the facility. LAFD recommends an interagency task force be established to include CalGEM (formerly DOGGR), the Office of Petroleum and Natural Gas Administration and Safety, and other regulatory agencies to:

1. Coordinate regulatory oversight and inspections with CalGEM to ensure the City of Los Angeles is fully engaged and informed of current and developing natural storage safety issues locally and statewide.
2. Conduct an analysis of gas storage regulatory issues within the City and State and work towards development of local or statewide legislative solutions.

LAFD has made efforts to improve regulatory coordination between DOGGR and the Fire Department, however, we believe there is a clear opportunity to expand this initiative and formalize the efforts through the Office of the Petroleum Administrator.

City of Los Angeles
Fire Department
FIRE/LIFE SAFETY VIOLATION

From:	Notice # 1807865009
FPB/HIU/Inspector # 145	Property ID 07865/001/042
	Notice Date 09/06/2018
	Insp. Date 08/29/2018
To:	**Due Date 10/06/2018**
MARIA M ESPINOSA 488 8TH AV SAN DIEGO, CA 92101	Fire Station District 005 Inspector # 145 Council District 06
DBA: 3080 SO CAL GAS	
Address of Violation: 8141 S GULANA AV, PLAYA DEL REY, CA 90293	
Responsible Party:	Emergency Phone:

COMPLY WITH REQUIREMENT AS NOTED

1. A Fire and Life Safety Inspection has revealed that the property listed above is in violation of the sections listed below. You are hereby ordered to correct the violation(s) and contact the inspector listed in the signature block at the end of this document for a compliance inspection by the compliance date listed above.

L.A.M.C 109.4.2 Violation Penalties.
Persons who shall violate a provision of this code or shall fail to comply with any of the requirements thereof, or who shall erect, install, alter, repair, or do work in violation of the approved construction documents or directive of the fire code official, or of a permit or certificate used under provisions of this code, shall be guilty of a misdemeanor of this code in accordance with the mandatory minimums fines identified in Table 109.4 of this code, punishable by a fine of not more than $1000 or by imprisonment not exceeding six months,
or both such fine and imprisonment. Each person shall be guilty of a separate offense for each and every day, or portion thereof, during which a violation of any provision of this section is committed, continued, or permitted by such person and shall be punishable accordingly.

104.12.1 Authority to Collect a Noncompliance Fee.
If in the course of enforcing any federal, state, or local law or ordinance, the Department issues a Fire/Life Safety Order to a person or persons and the person fails to comply with that order, the Department shall collect a noncompliance fee as set forth in Sections 104.12.1 through 104.12.3

1. L.A.M.C. 57.5706.3.2.2 Discharge and Combustible Materials on Ground.
You are hereby ordered to remove all dry weeds, grass, rubbish, or other combustible materials or any waste, rubbish or junk whether combustible or not, within a radius of 50 feet from any oil well, derrick or tank, or any building, machinery, or equipment used in the development, production, or storage of petroleum.

2. Thank you for your immediate attention to our mutual problem concerning fire prevention and life safety. Any questions concerning violations noted, contact:
Los Angeles Fire Department
Harbor Industrial Unit

(310) 732-4580 - Office
(310) 732-4579 - Fax
email - kenneth.guardado@lacity.org

WARNING

Section 17299 and 24436.5 of the State Revenue and Taxation Code provide, in part, that a taxpayer, who derives rental income from housing determined by the local requlatory agency to be substandard by reason of violation of state or local codes dealing with health, safety or building, cannot deduct from state personal income tax and back and corporation income tax deduction for interest, depreciation, taxes or amortization attributable to such substandard structure where the substandard conditions are not corrected within six(6) months after notice of violation by the regulatory agency. THE DATE OF THIS NOTICE MARKS THE BEGINNING OF THAT SIX MONTH PERIOD. This Department is required by law to notify the Franchise Tax Board of failure to comply with these Code sections.

PLEASE BE ADVISED THAT THE ABOVE WARNING IS FOR PURPOSES OF COMPLIANCE WITH THE STATE REVENUE AND TAXATION CODE ONLY. COMPLIANCE WITH OTHER LAWS AS NOTED ON THIS INSPECTION REPROT OR NOTICE OF VIOLATION MUST BE MADE WITHIN THE TIME SPECIFIED ON THE REPORT OR NOTICE.

FAILURE ON YOUR PART TO COMPLY WITH THIS NOTICE ON OR BEFORE 10/06/2018 WILL SUBJECT YOU TO PENALTIES PRESCRIBED BY ORDINANCE. A REINSPECTION OF THE PREMISES WILL BE MADE FOR FULL COMPLIANCE. NONCOMPLIANCE WITH THIS ORDER SHALL RESULT IN A NONCOMPLIANCE FEE BASED UPON A FIRE INSPECTOR'S TOTAL HOURLY RATE, TWO HOUR MINIMUM CHARGE, FOR EACH REINSPECTION REQUIRED. CURRENT MINIMUM CHARGE IS $432.00 PER REINSPECTION.

OWNER/RESPONSIBILE PARTY: _____

For additional information
Phone:

(213)978-3660

By order of the Fire Chief

KENNETH GUARDADO
Inspector

SCHOOLS,CHURCHES and INS
Assignment

_____
Signature

Fire Department Use

I DISCUSSED THE VIOLATIONS
ON THIS NOTICE WITH _____ ON _____
Date

_____
Member's Signature

I DELIVERED THIS NOTICE ON: _____ TO _____
Date Responsible Party

_____
Member's Signature

I MAILED THIS NOTICE VIA U.S. MAIL ON: _____
Date

_____
Member's Signature

I E-MAILED THIS NOTICE ON: _____
Date

_____
Member's Signature

COMPLIANCE ON: _____
Date

_____
Member's Signature

FORWARDED TO LEGAL LIASON ON: _____
Date

_____
Member's Signature

City of Los Angeles
Fire Department
FIRE/LIFE SAFETY VIOLATION

From:	Notice # 1807865009
FPB/HIU/Inspector # 145	Property ID 07865/001/042
	Notice Date 09/06/2018
	Insp. Date 08/29/2018
To:	**Due Date 10/06/2018**
MARIA M ESPINOSA 488 8TH AV SAN DIEGO, CA 92101	Fire Station District 005 Inspector # 145 Council District 06
DBA: 3080 SO CAL GAS	
Address of Violation: 8141 S GULANA AV, PLAYA DEL REY, CA 90293	
Responsible Party:	Emergency Phone:

COMPLY WITH REQUIREMENT AS NOTED

1. A Fire and Life Safety Inspection has revealed that the property listed above is in violation of the sections listed below. You are hereby ordered to correct the violation(s) and contact the inspector listed in the signature block at the end of this document for a compliance inspection by the compliance date listed above.

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(310) 732-4579 - Fax
email - kenneth.guardado@lacity.org

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OWNER/RESPONSIBILE PARTY: _____

For additional information
Phone:

(213)978-3660

By order of the Fire Chief

KENNETH GUARDADO
Inspector

SCHOOLS,CHURCHES and INS
Assignment

_____
Signature

Fire Department Use

I DISCUSSED THE VIOLATIONS
ON THIS NOTICE WITH _____ ON _____
Date

_____
Member's Signature

I DELIVERED THIS NOTICE ON: _____ TO _____
Date Responsible Party

_____
Member's Signature

I MAILED THIS NOTICE VIA U.S. MAIL ON: _____
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Member's Signature

I E-MAILED THIS NOTICE ON: _____
Date

_____
Member's Signature

COMPLIANCE ON: _____
Date

_____
Member's Signature

FORWARDED TO LEGAL LIASON ON: _____
Date

_____
Member's Signature

Attachment D: Approvals – City Planning Letters

Exhibit "B"

CITY OF LOS ANGELES
CALIFORNIA

MORRIS POULSON
MAYOR

Department of
CITY PLANNING
361 City Hall
Los Angeles 12
Michigan 5211

John E. Roberts
Director

April 8, 1955

City Plan Case 6162

Grove Lawrence, President
Southern California Gas Company
Post Office Box 3249, Terminal Annex
Los Angeles 54, California

Department of Building and Safety
Room 200, City Hall

Board of Public Works
Room 153, City Hall

Gentlemen:

As required by Section 12.24 of the Comprehensive Zoning Ordinance, the City Planning Commission held a public hearing on a conditional use request to establish and maintain a plant for the storage and distribution of gas, including the injection and withdrawal of gas by means of compressor engines, to construct an office building, parking lot and garage and other incidental uses in connection with such plant, to construct tanks for the treatment and separation of oil and water and for storage purposes to operate and redrill certain wells for the injection and withdrawal of gas and to drill new wells for such purpose, and to install and maintain pipe lines for the transportation of gas and liquids, as more fully outlined in the application, on property bounded generally by Zitola Terrace, Redlands Street, Hulbert Avenue and Berger Avenue (extended), and the north boundary line of the City of Los Angeles, which boundaries also describe the limits of the underground storage area (the main plant and related facilities to be located on property about 370 feet northeasterly of Falmouth Avenue and about 200 feet northwesterly of 79th Street, and the existing and proposed wells to be at various locations within the larger area).

This property is more particularly described in the application attached to the file.

Since the proposed location will be desirable to public welfare and convenience, and it will be in harmony with the various elements and objectives of the Master Plan, the application was approved on Thursday, April 7, 1955, to use all the property for the underground storage of gas involving the injection and withdrawal of gas by means of compressor engines suitably housed, the construction and maintenance of an office building, a parking lot

and garages and other uses reasonably incidental to the maintenance and operation of such a plant for gas storage and distribution purposes, said plant to be used also for headquarters for the gas supply and transmission activity for the western section of Los Angeles, the redrilling operation and maintenance of wells for the injection and withdrawal of gas, the extraction of oil and water incidental to the operation of the underground gas storage reservoir and plant and the installation, maintenance and operation of pipe lines for the transportation of gas and liquids in connection with the operation of the storage project and plant, subject to the following conditions:

1. That the plant facilities, including the compressor building, cooling tower, office building, parking lot, tanks and other buildings, shall be confined to the area described as follows:

   "Beginning at the intersection of the centerlines of Culana Avenue, 60 feet in width, and Rees Avenue, 60 feet in width, as shown on map of Tract 9809, recorded in Book 145, pages 91 to 96, inclusive, of Maps, in the office of the Recorder of the County of Los Angeles, the bearing of the centerline of said Culana Avenue being N 29° 15' W, and the bearing of the centerline of said Rees Avenue being N 60° 45' E, as shown on said map of Tract 9809; thence N 50° 18' 02" E, 117.53 feet to the true point of beginning of this description which is the most southerly corner of said parcel of land; thence N 49° 43' 00" W, 572.00 feet; thence N 40° 17' 00" E, 230.00 feet; thence S 49° 43' 00" E, 124.00 feet; thence N 40° 17' 00" E, 192.00 feet; thence S 49° 43' 00" E, 448.00 feet; thence S 40° 17' 00" W, 422.00 feet to the most southerly corner of said parcel of land."

2. That all technically feasible means to limit the sound produced by operations within the Playa del Rey plant area shall be used to observe a maximum audibility of 70 decibels as measured at a distance of 50 yards outside the plant boundaries.

3. That all property owned or controlled by the applicant company shall be cleared of debris and shall be maintained in first-class condition at all times.

4. That the existing compressor plant building shall be removed and a new masonry and/or concrete building of good architectural design shall be erected to house the compressor engines.

5. That a suitable planting screen shall be planted before the completion of the new compressor plant building, said planting to be maintained in first-class condition and shall be designed to screen out the plant and muffle noises emitted therefrom for the benefit of the surrounding district, subject to approval of a landscape plan of the plant site by the City Planning Department. Prior to January 1, 1956, the slopes on land owned by the applicant company, rising from Falmouth Avenue and along the City boundary line easterly of Falmouth Avenue, shall be filled in where erosion has occurred, and planted to a hardy, evergreen ground cover to prevent further erosion.

6. That all roadways within the plant site, and access roadways to the plant site which are controlled by the applicant company, shall be paved with asphaltic concrete or cement surfacing, and the applicant company shall energetically cooperate in any street improvement program which may be initiated by improvement petitions, or by the City of Los Angeles, on streets bordering properties owned by the applicant company.

7. That there shall be no drilling of new wells in the area bounded by Falmouth Avenue, Talbert Avenue, Pershing Drive and Cabora Drive, and there shall be no permanent buildings, aboveground tanks or derricks permitted within the above described area.

8. That the cleaning out of the three wells easterly of Falmouth Avenue shall be carried through diligently to completion upon commencement of such operations.

9. That the maintenance work on existing and new wells, and the delivery or removal to or from the drilling site of materials, equipment, tools, and pipe used for drilling operations shall be confined to the hours between 8:00 a.m., and 6:00 p.m., of each day except Sundays, provided, however, that in case of emergency this restriction shall not apply.

10. That all pumping units shall be suitably fenced and enclosed with screen planting, subject to approval by the City Planning Department. After production has ceased and said wells are converted to the injection and withdrawal of gas, the wells shall be countersunk below the surface of the ground.

11. That all liquids produced shall be carried away by pipe lines.

12. That all existing wells within the City of Los Angeles may be redrilled and/or cleaned out, but that not more than three new wells may be drilled from the surface or property within the present City limits of Los Angeles without the further consent of the Los Angeles Department of City Planning.

13. That all production equipment used shall be so constructed and operated that no noise, vibration, dust, odor or other harmful or annoying substances or effect which can be eliminated or diminished by the use of greater care shall ever be permitted to result from production operations carried on at any drilling site of from anything incident thereto to the injury or annoyance of persons living in the vicinity; nor shall the site structures thereon be permitted to become dilapidated, unsightly or unsafe. Proven technological improvements in methods of production shall be adopted as they, from time to time, become available if capable of reducing factors of nuisance or annoyance.

14. That the operators shall remove the derrick from each well within thirty (30) days after the drilling of said well has been completed, and thereafter, when necessary, such completed wells shall be serviced by portable derricks.

15. That in connection with all drilling operations, including redrilling or cleaning out of existing wells, sound shall be restricted to conform to generally accepted standards for sound-controlled drilling in residential areas of Los Angeles County.

16. That suitable precaution shall be taken to minimize hazards to children, including the fencing of well sites. Said fencing shall be of a chain-link type and 8 feet in height.

17. That the underground gas pressure shall be kept sufficiently low so that there will be no escape of gases into the air above the ground.

18. That all pipe lines outside the defined plant area shall be below the surface of the natural ground level.

Your attention is called to the provisions of Section 12.24-E that this approval is conditional upon the privileges being utilized within one hundred and eighty days (180 days) after the effective date of the approval, and if such privileges are not utilized, or construction work is not begun within said time and carried on diligently to completion of at least one usable unit, the authorization to establish the use shall become void.

This conditional use grant does not waive the necessity of securing any other required permits or licenses. If any condition of this grant is violated, or if the same is not complied with in every respect, then this conditional use shall be subject to revocation, as provided for in Section 22.02 of the Municipal Code. Unless an appeal is filed with the City Clerk, the Commission's determination in this matter shall become effective ten days from the date of this communication.

Very truly yours,

/s/ Edith S. Jamesson
Secretary

ESJ:mmm

R E P O R T

TO THE DIRECTOR OF PLANNING

CITY PLAN CASE NO. 6162
(CONDITIONAL USE FOR UNDERGROUND GAS STORAGE)

LOCATION: Northerly of the intersection of Manchester Avenue and Falmouth Avenue.

SUBJECT: Letter to the City Planning Commission requesting an amendment in the site specified for the location of plant facilities.

FINDINGS: On April 8, 1950, the Commission approved a Conditional Use request by the Southern California Gas Company to establish and maintain a plant for the storage of gas in underground facilities, consisting of existing oil wells, on an area of about 120 acres lying northerly of the intersection of Manchester Avenue and Falmouth Avenue in the Playa Del Rey District. Condition No. 1 of the approval confined the location of the compressor building, cooling towers, office building, parking lot, tanks, and other buildings to a certain site described in said approval and shown on Exhibit "X", attached hereto.

A letter from the owner, dated October 13, 1955, requests that this plant site be expanded a distance of 34 ft. in a southwesterly direction between its southerly corner and a line 299.50 ft. northwesterly thereof, as shown in Exhibit "Y", attached hereto. They state that the additional space is necessary because they are required to shift certain buildings a short distance to the west in order to provide a clearance of 50 ft. from an existing gas injection and withdrawal well, as required by ordinance.

The site of these buildings and facilities is located near the center of the gas storage area. Such a location was specified by the Commission in granting the approval in order to prevent any detrimental effect to adjoining residential property. The plant site is presently about 1,100 ft. from the nearest point in the westerly boundary. An expansion of an additional 34 ft. towards the boundary would appear to have little detrimental effect.

CITY PLANNING DEPARTMENT
RECOMMENDATION OF HEARING EXAMINER

CITY PLAN CASE NO. 6162

DECISION DATE: NOVEMBER 19, 1964
WESTCHESTER DISTRICT
COUNCIL DISTRICT 6

APPLICANT: SOUTHERN CALIFORNIA GAS COMPANY

REQUEST AND PROPERTY INVOLVED: Conditional use approval for the construction of three additional cooling units for gas compressors on property generally bounded by Zayanta Drive on the north, Seventy-ninth Street on the east, Falmouth Avenue on the south, and the Los Angeles City Boundary Line on the west. The improvements proposed will be landscaped, enclosed and screened by a wall within a strip of land 34 feet wide and 273 feet long adjoining the northwesterly side of the existing compressor plant.

ACTION RECOMMENDED BY THE EXAMINER: That the Commission

Adopt the Examiner's findings that the proposed development of additional cooling units, as authorized, which are required in the continued operation of the compressor station which is desirable to the public convenience and welfare and is not contrary to the various elements and objectives of the Master Plan.

Recommend approval of the requested conditional use authority to enlarge the gas plant facilities by the addition of three cooling tower units to the compressor station subject to the two conditions listed on Page 4.

Don E. Fisher
Hearing Examiner

RECOMMENDATION OF CHIEF EXAMINER

(✓) I concur in the Examiner's recommendation

( ) I do not concur ( ) See attached report

( ) I concur, except

Thomas W. Golden
Senior City Planner

Date: 11-13-64

CITY PLAN CASE NO. 6162 DECISION DATE: NOVEMBER 19, 1964

EXAMINER'S REPORT OF INVESTIGATION AND HEARING

Property:

The property involved in this request is a part of a large irregular-shaped parcel which has been developed with a compressor station and appurtenances.

Zoning and Land Use:

This property is in the R1-1 Zone with the original compressor station having been approved for construction and operation in 1955, also under City Plan Case No. 6162. The maintenance of the station and grounds is excellent. A baseball field has been developed in the large open area to the west of the station site and the landscaping around the station appears adequate and well maintained. The entire station site is not objectionable to single-family homes in the area. The northwesterly property line is the boundary line for the City of Los Angeles and also is the top of a high bluff overlooking Culver City, the new Marina and Hughes Aircraft Plant.

Public Hearing:

On October 1, 1964 the City Planning Commission waived the public hearing in connection with this request.

Attitudes:

The applicant acquired this property on December 1, 1953. No other property owners joined in the application.

Proponents' Points:

The improvements proposed under this application consist of three cooling units to increase the capacity of the compressor station. These units will be enclosed and screened by a wall within an additional strip of land 34 feet in width and 272.50 feet in length adjoining the northwesterly side of the compressor plant.

A louver screen of green anodized aluminum will extend about 5 feet above the top of the wall. The top of the louver screen will be about 3 feet above the top of the cooling units completely hiding them from view.

Appropriate planting for landscaping will be made outside the wall and in conformance with existing ground cover and shrubbery.

The additional units for compressor cooling are needed because the injection rate of gas into sub-surface storage is being doubled by the installation of three additional compressors. Space was provided for these additional compressors in the development of the original plant.

The additional gas storage provided by these compressors is required to keep pace with the needs due to the growth of the Los Angeles metropolitan area.

Examiner's Comments:

The approval of the limited expansion, as hereby requested, would not in any way affect the single-family residences in the area due to the distance to them and the fact that the plant development has been such as to provide large open areas which have been beautifully landscaped and maintained.

Findings:

1. The development and use of the requested additional units for compressor cooling will permit the applicant to better serve the gas fuel needs of the Los Angeles area and as such will be desirable to the public welfare and convenience and will not be contrary to the various elements and objectives of the Master Plan.

DEF:cam
11-9-64

CITY PLAN CASE NO. 6162 DECISION DATE: NOVEMBER 19, 1964

CONDITIONS OF APPROVAL

1. That the required plant facilities, including (1) the proposed cooling units; and (2) the existing compressor building, cool tower, office building, parking lot, tanks and other buildings shall be constructed and maintained no closer than 100 feet to any dedicated public right-of-way, all as more accurately described and delineated on a plot and construction plan to be submitted and approved by the City Planning Commission (this condition to supersede Condition No. 1 under the Conditional Use approval granted by the City Planning Commission on April 7, 1955 under City Plan Case No. 6162).

2. That the existing and proposed plant facilities be controlled by the Conditions of Approval No. 2 through No. 18 as imposed by the City Planning Commission on April 7, 1955.

ITY OF LOS ANGE S

CALIFORNIA

DEPARTMENT OF
CITY PLANNING
561 CITY HALL
LOS ANGELES, CA 90012

CALVIN S. HAMILTON
DIRECTOR

December 8, 1982

William A. McEachin
Storage Rights Administrator
Underground Storage
Southern California Gas Company
P. O. Box 3249
Terminal Annex
Los Angeles, CA 90051

CITY PLAN CASE NO. 6162 - PLAN APPROVAL TO DRILL TWO (2) NATURAL GAS STORAGE WELLS FOR THE INJECTION AND WITHDRAWAL OF GAS IN THE PLAYA DEL REY SOUTHERN CALIFORNIA GAS COMPANY STORAGE FACILITY LOCATED ON PROPERTY BOUNDED GENERALLY BY FALMOUTH, 79TH STREET, VERAGUA DRIVE AND THE NORTH BOUNDARY LINE OF THE CITY OF LOS ANGELES.

The City Planning Commission, on April 8, 1955, authorized a Conditional Use grant to establish and maintain a plant for the storage and distribution of gas, including the injection and withdrawal of gas from existing wells but from no more than three newly drilled wells.

Your request of November 4, 1982, for plan approval to drill two (2) new gas storage wells is approved at the subject site at locations identified on Exhibits ZP-1 and ZP-2. Approval of the two new gas storage wells is subject to compliance with the conditions set forth by the Commission on April 8, 1955, and attached for your convenience. Further, it is our understanding that the auxiliary equipment surrounding the sites on ZP-2 is not permanent and will be removed at or about the same time as the derricks.

CALVIN S. HAMILTON
Director of Planning

Roy W. Bundick

Roy W. Bundick
Principal City Planner

RWB/RJ/ad

DEPARTMENT OF CITY PLANNING
Room 561-I, City Hall
200 North Spring Street
Los Angeles, CA 90012
485-3505 (Please make appointments by phone)

CITY PLAN CASE NO. 6162

Council District No. 6
Westchester-Playa del Rey District

DECISION DATE: December 8, 1983
Time: After 9:30 A.M.
Location: Van Nuys Women's Club
14836 Sylvan Street
Van Nuys, CA

To: City Planning Commission

From: Zoning Plans Section

Requested by (applicant): Southern California Gas Company

Subject: APPROVAL OF PLANS - CONSTRUCTION OF TWO WATER STORAGE TANKS AT UNDERGROUND STORAGE FACILITY

Property Involved: A 27-ACRE SITE LOCATED NORTH OF 80TH STREET AND EAST OF FALMOUTH AVENUE

TABLE OF CONTENTS

EXHIBITS (copies for file and Commissioners only)

ZP- 2: Location Map
ZP- 1: Plot Plan

CITY OF LOS ANGELES
DEPARTMENT OF CITY PLANNING
Room 516, City Hall
Los Angeles, CA 90012
485-3864 (Please make appointments by phone)

Date: March 28, 1989

CITY PLAN CASE NO. 6162
WESTCHESTER-PLAYA DEL REY
PLAN AREA.
COUNCIL DISTRICT NO. 6
DISTRICT MAP NO. 96-B-153

To: Kenneth C. Topping
Director of Planning

From: Plan Approvals Section

Requested by: SOUTHERN CALIFORNIA GAS COMPANY

SUBJECT: TENTATIVE CONDITIONAL USE PLAN APPROVAL - FOR THE CONSTRUCTION OF A 154 SQUARE FOOT ADDITION TO AN EXISTING OFFICE BUILDING LOCATED AT AN UNDERGROUND NATURAL GAS STORAGE FACILITY IN PLAYA DEL REY.

Property Involved:

The subject site is approximately 27 acres in area and is generally bounded by the Los Angeles City boundary line on the north, Zayanta Drive on the east, Seventy-ninth Street on the south and Falmouth Avenue on the west. The site is currently used as a natural gas underground storage facility.

Proposed Project:

The applicant proposes to construct a 154 square foot addition to an existing Telemetric building to provide additional space for computers and other testing equipment that are necessary to monitor the gas flow as it leaves the natural gas storage facility.

Background:

The City Planning Commission, on April 8, 1955, authorized a Conditional Use grant to establish and maintain a plant for the storage and distribution of natural gas, including the injection and withdrawal of gas from existing wells. Since 1955 several plan approvals to expand the gas storage facilities have been granted by the Commission. These expansions included the construction of cooling towers, a compressor building and new wells for gas storage.

Environmental Review:

The Los Angeles Department of City Planning, Public Counter Section, determined that the City of Los Angeles Guidelines for the Implementation of the California Environmental Quality Act of 1970, designates the subject project as categorically exempt under Article VII, Section 1, Class 3, Category 22.

General Plan Designation:

The Westchester-Playa Del Rey District Plan adopted by the City Council on March 20, 1974, designated the subject property as "Low" density housing corresponding to the RS, R1, and RE9. The project as submitted is in substantial conformance with the the land use designation of the Plan and consistent with previous Commission actions relative to the subject property.

Staff Determination:

Pursuant to Section 12.24-G of the Los Angeles Municipal Code and City Planning Commission resolution (CPC 87-666 MSC), staff has tentatively approved the construction, location and elevations of the 154 square foot addition as indicated in the attached exhibits ZP-1 and ZP-2.

Report prepared by:

Gregory J. Shoop
City Planning Associate

Report reviewed by:

David Kabashima
City Planner

Attachments:

Exhibit ZP-1: Site Plan
Exhibit ZP-2: Elevations

Attachment E: Slope Repair Permit

8141 S Gulana Ave

Application #: **17030 - 10000 - 04800**
Plan Check #: G17LA00123 Printed: 08/21/20 08:38 AM
Event Code:

Grading **GREEN - NONE**
Commercial
Regular Plan Check
Plan Check

City of Los Angeles - Department of Building and Safety

APPLICATION FOR GRADING PERMIT AND GRADING CERTIFICATE

Issued on: 08/15/2019
Last Status: Permit Finaled
Status Date: 02/26/2020

1. TRACT	BLOCK	LOT(s)	ARB	COUNTY MAP REF #	PARCEL ID # (PIN #)	2. ASSESSOR PARCEL #
TR 20362		LT 1		M B 633-44/45	096B153 1	4115 - 021 - 800
TR 9809				M B 145-91/96	099B153 127	4115 - 021 - 901

3. PARCEL INFORMATION

Airport Hazard Area - 150' Height Limit Above Elevatior	Cmpt. Fill Grd. - CFG-1000	Environmentally Sensitive Area - YES
Area Planning Commission - West Los Angeles	Certified Neighborhood Council - Westchester - Playa de	Energy Zone - 6
LADBS Branch Office - WLA	Community Plan Area - Westchester - Playa del Rey	Fire District - VHFHSZ
Baseline Mansionization Ordinance - Yes	Census Tract - 2766.01	Hillside Grading Area - YES
Council District - 11	District Map - 096B153	Earthquake-Induced Landslide Area - Yes

ZONE(S): R1-1

4. DOCUMENTS

ZI - ZI-1195	SPA - Coastal Bluffs	ORD - ORD-170046-SA2	CPC - CPC-1984-226-SP
ZI - ZI-2462 Modifications to SF Zones	SPA - Los Angeles Coastal Transportatio	DTRM - DIR-2006-9556-SPP	CPC - CPC-1990-598-SP
ZA - ZA-1987-368-CUZ	ORD - ORD-129279	DTRM - DIR-2010-2681-SPP	CPC - CPC-1995-6162-CU-PA1
ZA - ZA-2006-9564-AIC	ORD - ORD-168999	CPC - CPC-1955-6162-CU	CPC - CPC-2005-8252-CA

5. CHECKLIST ITEMS

6. PROPERTY OWNER, TENANT, APPLICANT INFORMATION

Owner(s):
SO CALIF GAS CO SB OF E PAR 9 MAP 1 810 FLOWER STREET LOS ANGELES, CA 90017

Tenant:

Applicant: (Relationship: Agent for Owner)
ROBERT RANDLE - 10540 TALBERT AVE SUITE 100E FOUNTAIN VALLEY, CA 92708 (714) 963-8077

7. EXISTING USE

PROPOSED USE
(70) Grading - Hillside

8. DESCRIPTION OF WORK
PROPOSED SLOPE EROSION/FAILURE REPAIR LOCATED DOWNHILL FROM THE CITY OF LA PROPERTY APPAROXIMATELY 10 TO 18 FEET IN WIDTH AND 10 TO 15 FEET IN DEPTH. FAILURE AREAS SHOULD BE REPAIRED BY PROPER KEYING AND BENCHING INTO COMPETENT MATERIAL CUT = 1907 CU. YDS.,

9. # Bldgs on Site & Use:

10. APPLICATION PROCESSING INFORMATION

BLDG. PC By: Frederick Wong DAS PC By:
OK for Cashier: Rocio Duran Coord. OK:
Signature: Date:

For inspection requests, call toll-free **(888) LA4BUILD (524-2845)**. Outside LA County, call (213) 482-0000 or request inspections via **www.ladbs.org.** To speak to a Call Center agent, call **311**. Outside LA County, call (213) 473-3231.

For Cashier's Use Only **W/O #: 73004800**

11. PROJECT VALUATION & FEE INFORMATION **Final** Fee Period

Permit Valuation: 1,907 cu yd PC Valuation:

FINAL TOTAL Grading	1,870.50
Permit Fee Subtotal Grading	1,525.00
Plan Check Subtotal Grading	0.00
Off-hour Plan Check	0.00
D.S.C. Surcharge	45.75
Sys. Surcharge	91.50
Planning Surcharge	91.50
Planning Surcharge Misc Fee	10.00
Planning Gen Plan Maint Surcharg	106.75
Permit Issuing Fee	0.00

Sewer Cap ID: Total Bond(s) Due:

12. ATTACHMENTS
Plot Plan

Payment Date: 08/15/19
Receipt No: 0103079041
Amount: $1,870.50
Method: Check

2019LA31037

*P17030100004800F1

13. STRUCTURE INVENTORY (Note: Numeric measurement data in the format "number / number" implies "change in numeric value / total resulting numeric value") **17030 - 10000 - 04800**

14. APPLICATION COMMENTS:

15. BUILDING RELOCATED FROM:

16. CONTRACTOR, ARCHITECT & ENGINEER NAME	ADDRESS		CLASS	LICENSE #	PHONE #
(C) ARB INC	26000 COMMERCENTRE DRIVE,	LAKE FOREST, CA 92630	A	194079	
(E) GULKE, RUSSELL ANTHONY	236 WEST SCENIC DR,	MONROVIA, CA 91016		C49129	
(E) UPASANI, MOHAN B	20 SOVENTE,	IRVINE, CA 92606		GE2301	

CITY OF LOS ANGELES
Construction Site Notice

DEPARTMENT OF BUILDING AND SAFETY

For additonal information, visit
www.ladbsservices2.lacity.org/OnlineServices

JOB ADDRESS: 8141 S GULANA AVE
PERMIT #: 17030-10000-04800
WORK DESCRIPTION: PROPOSED SLOPE EROSION/FAILURE REPAIR LOCATED DOWNHILL FROM THE CITY OF LA PROPERTY APPAROXIMATELY 10 TO 18 FEET IN WIDTH AND 10 TO 15 FEET IN DEPTH. FAILURE AREAS SHOULD BE REPAIRED BY PROPER KEYING AND BENCHING INTO COMPETENT MATERIAL. CUT = 1907 CU. YDS., FILL =

CONTRACTOR NAME & PHONE: ARB INC

OWNER OR AGENT NAME & PHONE: (Owner) SO CALIF GAS CO
(Agent) 7149638077

PERMITTED CONSTRUCTION / DEMOLITION HOURS (LAMC, Chapter IV, Article1, Sec. 41.40)

MONDAY - FRIDAY ..... 7 AM - 9 PM
SATURDAY or NATIONAL HOLIDAY.....8 AM - 6 PM
SUNDAYS..... No Work Permitted

TO REPORT MUNICIPAL CODE VIOLATIONS DIAL 311

Per LAMC 91.106.4.8, this notice shall be displayed continuously during the construction process for: New Structures, Additions to Existing Buildings, Change of Use or Occupany, Demolitions, Relocations, Swimming Pools or Grading work.

Discretionary Approvals: APC-West Los Angeles, CPC-1955-6162-CU, CPC-1984-226-SP, CPC-1990-598-SP, CPC-1995-6162-CU-PA1, CPC-2005-8252-CA, CPC-6162, CPC-3835, CPC-3836, ZA-1987-368-CUZ, ZA-2006-9564-AIC

This notice shall be posted and maintained at the construction site where it can be read by the public. This notice must be posted prior to the start of construction and displayed continuously until all permitted work is inspected and approved by LADBS. LAMC 91.106.4.8

Attachment F: Grading for Retaining Wall Clearance Summary Worksheet

8141 S Gulana Ave Permit Application #: **20030 - 10000 - 02209**

Grading	City of Los Angeles - Department of Building and Safety	Plan Check #: B20LA07906
Commercial	**20030 - 10000 - 02209**	Plans Filed in: METRO
Regular Plan Check	**CLEARANCE SUMMARY WORKSHEET**	Printed On: 08/21/20 08:41:35

IMPORTANT: This summary documents the clearance(s) required prior to permit issuance. Most clearance(s) are granted electronically, however this form will also be completed so that in the event of a computer outage, there is evidence of the clearance action(s). Keep this form with all other documents necessary to obtain the permit.

INSTRUCTIONS

APPLICANT/REPRESENTATIVE: You are advised to initiate the approval process for the following permit application clearance(s) marked as "Not Cleared" as soon as possible, in order to allow adequate time to obtain the approvals. Certain departments (such as the Department of City Planning) may require additional plan review and approval process, which may include mandatory appeal periods. The address and phone number of the specific agency corresponding to the **"Address Code:"** shown for each clearance is indicated at the end of this form and it is recommended that you call before appearing in person. Remember to bring a copy of the permit application to the clearance agency for their reference. A "Cleared" condition requires no further action on your part.

CLEARANCE AGENCIES: For city agencies, perform electronic clearance action(s) using PCIS **and** complete this form. For non-city agencies or PCIS outages, complete this form.

Description of Work: GRADING FOR PROPOSED RETAINING WALLS AT TOE OF BLUFFFOR RETAINING WALL PERMIT SEE 20020-10000-00964. CUT = 1502 CY; FILL= 121 CY; EXPORT= 1652 CY; 1 of 2

Building & Safety Contact
Plan Check Office: METRO
PC Engineer: Dan Ryan Evangelista

Status	Clearance Description and New Status
Not Cleared	**Agency: Bureau of Engineering** **Description:** Site drainage to a storm drain easement **Address Code: 1** Electronic Clearance☐ By : DEVANGEL Date:_____ Phone:_____ ☐Outage - Print Name/Initial:_____ Comments:
Not Cleared	**Agency: Bureau of Engineering** **Description:** The fee authorized by Ord. 176,300 for PW/Eng to process clearance(s) for LADBS issued permits **Address Code: 1** Electronic Clearance☐ By : DEVANGEL Date:_____ Phone:_____ ☐Outage - Print Name/Initial:_____ Comments:
Not Cleared	**Agency: City Planning Department** **Description:** Coastal Development Permit **Address Code: 2** Electronic Clearance☐ By : DEVANGEL Date:_____ Phone:_____ ☐Outage - Print Name/Initial:_____ Comments:

Not Cleared	**Agency: Department of Building and Safety** **Address Code: 4** Electronic Clearance☐ By : DEVANGEL Comments:	**Description:** GPI is required unless a waiver is obtained from Grading Section Date:_____ Phone:_____ ☐Outage - Print Name/Initial:_____
Not Cleared	**Agency: Department of Building and Safety** **Address Code: 4** Electronic Clearance☐ By : DEVANGEL Comments:	**Description:** Import or Export of material in excess of 1,000cy in "Hillside Grading Area" Date:_____ Phone:_____ ☐Outage - Print Name/Initial:_____
Not Cleared	**Agency: Los Angeles Fire Department** **Address Code: 5** Electronic Clearance☐ By : DEVANGEL Comments:	**Description:** Determination letter from D.O.G.G.R. of oil well abandonment status Date:_____ Phone:_____ ☐Outage - Print Name/Initial:_____
Not Cleared	**Agency: Los Angeles Fire Department** **Address Code: 5** Electronic Clearance☐ By : DEVANGEL Comments:	**Description:** Approval for project on land with abandoned oil well Date:_____ Phone:_____ ☐Outage - Print Name/Initial:_____
Not Cleared	**Agency: Cal Occ. Safety and Health Administration** **Address Code: 9** New Clearance Status: ☐ Cleared ☐ See Comments By: (Print)_____ Comments:	**Description:** Permit for trench/excavation over 5 feet where a worker descends Sign:_____ Date:_____

End of Clearance(s) for 20030 - 10000 - 02209. Refer to "ADDRESS CODES" sheet for clearance agency address/phone information.

CLEARANCE AGENCY "ADDRESS CODES"

(NOTE: Address Code 3 not in use at this time - Contact your plan check engineer for instructions)

Code	Agency Name	Agency Address	(Call First)
1	**Bureau of Engineering** (Within Central District) **Figueroa Plaza:** 201 N. Figueroa Street, 3rd floor (See NOTE at bottom right)	- Address Approval - Highway Dedication / Hillside Ord. - Flood/Drainage: 1149 S. Broadway Appointment required - call first - Sewer / Driveway - Excavation/Marquee: 201 N. Fig. St., 3rd Flr	(213) 482-7030 (213) 482-7030 (213) 485-4820 (213) 482-7030 (213) 482-7048
1	**Bureau of Engineering** (Outside Central District)	**Harbor District** - (7:30 am to 4:30 pm) 638 S. Beacon St., Suite 427, San Pedro **Valley District** - 6262 Van Nuys Blvd., Room 251, Van Nuys **West Los Angeles District** - 1828 Sawtelle Blvd., 3rd Floor, West LA	(310) 732-4677 (818) 374-5090 (310) 575-8384
1	**Street Use Permits**	1149 S. Broadway, 3rd Floor	(213) 847-6000
2	**Department of City Planning**		
	Development Services Center (DSC) - All City Planning Questions & Clearances via walk-in. All Case Filing & Case Condition Clearing via appointment. *Hours: M, T, Th F from 7:30 AM to 4:30 PM. W from 9:00 AM to 4:30 PM*		
	DSC Metro Counter, Fig. Plaza	201 N. Figueroa St., 4th Floor, Los Angeles	(213) 482-7077
	DSC Valley Counter, Marvin Braude Bldg	6262 Van Nuys Blvd., Rm. 251, Van Nuys	(818) 374-5050
	Development Services Center (DSC) - All Redevelopment Project Area and Plan Questions & Clearances via walk-in. *Hours: M, T, Th, F from 7:30 AM to 4:30 PM W from 9:00 AM to 4:30 PM.*		
	DSC Metro Counter, Fig. Plaza	201 N. Figueroa St., 5th Floor, Los Angeles	(213) 202-5456
	Office of Historic Resources (OHR) - HPOZ/Historic-Cultural Monuments/Mills Act APPT. ONLY		
	Historic Monuments & Mills Act	221 N. Figueroa St, Suite 1350	(213) 847-3676
	HPOZ	221 N. Figueroa St, Suite 1350	(213) 847-3644
	Plan Implementation Division & Neighborhood Projects - Specific Plan/DRB/CDO/TOD/SN/NSO/POD/CPIO APPT. ONLY		
	Metro Neighborhood Projects Valley Neighborhood Projects	City Hall: 200 N. Spring St., Rm. 621, Los Angeles M. Braude Bldg: 6262 Van Nuys Blvd., Rm. 430, Van Nuys	(213) 978-1160 (818) 374-5072
	Schedule Case Filing or Case Condition Clearance - Online:	cityplanning.lacity.org. Click on "Development Serv. Centers" & "Make Appt."	
	Department Phone Directory-Online	cityplanning.lacity.org. Click on "Planning Contacts"	
4	**Building & Safety** **Figueroa Plaza:** 201 N. Figueroa Street (See NOTE at bottom right)	**Disabled Access:** See DA corrections **Hold / ZI:** See plan check engineer **Grading:** Go to District Office for project	Call plan checker Call plan checker (213) 482-0480
5	**Fire Department** **Figueroa Plaza:** 201 N. Figueroa Street (See NOTE at bottom right)	**Construction Services Unit:** 201 N. Figueroa St., Rm. 300 **Hydrants and Access Unit:** 201 N. Figueroa St., Rm. 300 **Van Nuys:** 6262 Van Nuys Blvd., Rm. 251	(213) 482-6900 (213) 482-6543 (818) 374-5005
6	**Transportation Department** ZI 1729, 1870 = West Valley ZI 1448,1874,1887,2192 = WLA ZI 2351 = DOT @ CalTrans Building (All others = Fig. Plaza)	**Fig Plaza:** 201 N. Fig. St., 5th floor **(Only check payments accepted)** **West Valley:** 6262 Van Nuys Blvd., #320 **West L.A.:** 7166 W. Manchester Ave. **CalTrans:** 100 S. Main St., 9th Floor	(213) 482-7024 (818) 374-4699 (213) 485-1062 (213)972-8482

Code	Agency Name	Agency Address	(Call First)
		Bicycle Corrals in PROW: 100 S. Main St., 9th Floor	(213) 972-8481
7	**Los Angeles County Health Department** Admin HQ: 5050 Commerce Dr. Baldwin Park, (626) 430-5560	3530 Wilshire Blvd., 9th Floor, LA 90010 14500 Roscoe Blvd, 5th floor, Panorama City 6053 Bristol Pkwy., 2nd Floor, Culver City 122 W. 8th St., Rm 20-A, San Pedro	(213) 351-7895 (818) 672-2200 (310) 665-8483 (310) 665-8450
9	**Calif. Div. of Occupational Safety and Health** Appointment required - call first	320 W. 4th St., Rm. 850, LA 6150 Van Nuys Blvd., Rm. 405, Van Nuys	(213) 576-7451 (818) 901-5403
10	**South Coast Air Quality Management District (SCAQMD)**	21865 E. Copley Dr., Diamond Bar Hours: T - F, 7:30 am-5:00 pm	(800) 388-2121 ** **Call first** **
11	**Department of Conservation, Division of Oil and Gas**	5816 Corporate Ave., Rm. 200, Cypress	(714) 816-6847
12	**Cultural Affairs Department** 201 N. Figueroa St., 14th Floor, LA	City Property/Marques(Public Way), Arts Development Fees, and Mural Signs	(213) 202-5500
13	**Department of Water and Power, Real Estate Division**	221 N. Figueroa St., Suite 1600 *Requests will take 4-6 weeks to process	(213) 367-0562
16	**Housing Department** Density bonus/parking incentive Demo/reduction of units/rooms Tenant Habitability Plan Accessible Housing Program AcHP	1200 W. 7th St., 1st Floor 1200 W. 7th St., 1st Floor 1200 W. 7th St., 1st Floor 201 N. Figueroa St., 2nd Floor Room 280 221 N. Figueroa St., 14th Floor Suite 1420	 (213) 808-8843 (213) 808-8537 (213) 252-2865 (213) 808-8490
17	**Metro. Transportation Authority (Metro)** *Call for questions *No in-person clearance	Submit project information via the In-Take form at https://www.metro.net/devreview/.	(213) 418-3484
18	**Port of Los Angeles**	425 S. Palos Verdes St., San Pedro	(310) 732-3322
19	**Bureau of Sanitation**	Industrial Waste Mgmt. Div.(Fats/Oils/Grease) 2714 Media Center Dr., Glassell Park Watershed Project Division (Stormwater) Recycling Division (Waste Hauler) 201 N. Figueroa St., 2nd Floor Room 280	**Call for appt.** (323) 342-6118 (213) 482-7066
20	**LA County Fire Department**	5825 Rickenbacker Rd., Commerce Hours: Monday - Thursday, 8:30 am-3:30 pm	(323) 890-4106 ** **Call First** **
21	**Los Angeles World Airport** Email: LAXPlanning@lawa.org	1 World Way Administration East, Room 218	(424) 646-5174 or Email
22	**Office of Finance**	**Fig. Plaza:** 201 N. Figueroa St., Room 280 **Van Nuys:** 6262 Van Nuys Blvd., Rm. 110 **West LA:** 1828 Sawtelle Blvd., Rm. 102 **City Hall:** 200 N. Spring St., Rm. 101	 (818) 374-6850 (310) 575-8888 (844) 663-4411
23	**Bureau of Street Services, Urban Forestry Division**	1149 S. Broadway, 4th Floor Los Angeles, CA 90015	(213) 847-3077

NOTE: For clearances required from agencies located at 201 N. Figueroa Street (between Temple St. & 1st St. in downtown LA), obtain "Qmatic" ticket at **START HERE** reception desk located on 4th floor for those agencies on 3rd and 4th floors.

rev. 122319

8141 S Gulana Ave

Application #: **20030 - 10000 - 02209**
Plan Check #: B20LA07906 Printed: 08/21/20 08:41 AM
Event Code:

Grading
Commercial
Regular Plan Check
Plan Check

City of Los Angeles - Department of Building and Safety

APPLICATION FOR GRADING PERMIT AND GRADING CERTIFICATE

Last Status: Submitted for Sprvsr Rv
Status Date: 05/29/2020

1. TRACT	BLOCK	LOT(s)	ARB	COUNTY MAP REF #	PARCEL ID # (PIN #)	2. ASSESSOR PARCEL #
TR 20362		LT 1		M B 633-44/45	096B153 1	4115 - 021 - 800

3. PARCEL INFORMATION

Airport Hazard Area - 150' Height Limit Above Elevatior	Cmpt. Fill Grd. - CFG-1000	District Map - 096B153
Area Planning Commission - West Los Angeles	Certified Neighborhood Council - Westchester/Playa del	Environmentally Sensitive Area - YES
LADBS Branch Office - WLA	Community Plan Area - Westchester - Playa del Rey	Energy Zone - 6
Baseline Mansionization Ordinance - Yes	Census Tract - 2766.01	Fire District - VHFHSZ
Council District - 11	Coastal Zone Cons. Act - Coastal Zone Commission Auth	Hillside Grading Area - YES

ZONES(S):

4. DOCUMENTS

ZI - ZI-1195	ZA - ZA-2006-9564-AIC	ORD - ORD-168999	DTRM - DIR-2010-2681-SPP
ZI - ZI-1874 LA Coastal Transportation	SPA - Coastal Bluffs	ORD - ORD-170046-SA2	CPC - CPC-1955-6162-CU
ZI - ZI-1911 Coastal Bluffs	SPA - Los Angeles Coastal Transportatio	ORD - ORD-186104	CPC - CPC-1984-226-SP
ZA - ZA-1987-368-CUZ	ORD - ORD-129279	DTRM - DIR-2006-9556-SPP	CPC - CPC-1990-598-SP

5. CHECKLIST ITEMS

Special Inspect - Grading:Slope>2:1

6. PROPERTY OWNER, TENANT, APPLICANT INFORMATION

Owner(s):
SO CALIF GAS CO SB OF E PAR 9 MAP I 0 0

Tenant:

Applicant: (Relationship: Engineer)
.GEOSYNTEC . . - (602) 327-1974

7. EXISTING USE **PROPOSED USE**

8. DESCRIPTION OF WORK

GRADING FOR PROPOSED RETAINING WALLS AT TOE OF BLUFFFOR RETAINING WALL PERMIT SEE20020-10000-00964. CUT = 1502 CY; FILL= 121 CY; EXPORT = 1652 CY; 1 of 2

9. # Bldgs on Site & Use: 2 OF 3

10. APPLICATION PROCESSING INFORMATION

BLDG. PC By: Dan Ryan Evangelista DAS PC By:
OK for Cashier: Coord. OK:
Signature: Date:

For inspection requests, call toll-free **(888) LA4BUILD (524-2845)**. Outside LA County, call (213) 482-0000 or request inspections via **www.ladbs.org.** To speak to a Call Center agent, call **311**. Outside LA County, call (213) 473-3231.

For Cashier's Use Only **W/O #: 03002209**

11. PROJECT VALUATION & FEE INFORMATION Final Fee Period

Permit Valuation: 1,502 cu yd PC Valuation:

FINAL TOTAL Grading	1,907.72
Permit Fee Subtotal Grading	1,525.00
Plan Check Subtotal Grading	0.00
Plan Maintenance	30.50
D.S.C. Surcharge	46.67
Sys. Surcharge	93.33
Planning Surcharge	93.33
Planning Surcharge Misc Fee	10.00
Planning Gen Plan Maint Surcharg	108.89
Permit Issuing Fee	0.00

Sewer Cap ID: Total Bond(s) Due:

12. ATTACHMENTS

Plot Plan

*P20030100002209F1

13. STRUCTURE INVENTORY (Note: Numeric measurement data in the format "number / number" implies "change in numeric value / total resulting numeric value") **20030 - 10000 - 02209**

14. APPLICATION COMMENTS:

15. BUILDING RELOCATED FROM:

16. CONTRACTOR, ARCHITECT & ENGINEER NAME	ADDRESS		CLASS	LICENSE #	PHONE #
(E) LANTHIER,, BRANDON JOSEPH	1110 JACKSON STREET #924,	ALBANY, CA 94706		C84309	
(G) SICILIANO,, SAVERIO	GEOSYNTEC CONSULTANTS, 2100 M	HUNTINGTON BEACH, C		EG2409	

PLAN CHECK EXPIRATION: Unless a shorter period of time has been established by an official action, plan check approval expires one and a half years after the plan check fee has been paid.

8141 S GULANA AVE

Courier? (Yes or No)

(_) P.C. (_) N.P. (_) S.P.I.

(_) D.A.S. (_) G.P.I. (_) D.P.I.

USE: G	20030 - 10000 - 02209
0	Plan Check Number - Regular PC **B20LA07906**

Submittal Date: 05/11/2020

Notes:_____

PC Engr:_____

(_) Ready for Pick-up

CITY OF LOS ANGELES
Construction Site Notice

LA DBS
DEPARTMENT OF BUILDING AND SAFETY

For additonal information, visit
www.ladbsservices2.lacity.org/OnlineServices

JOB ADDRESS: 8141 S GULANA AVE
PERMIT #: 20030-10000-02209
WORK DESCRIPTION: GRADING FOR PROPOSED RETAINING WALLS AT TOE OF BLUFF. FOR RETAINING WALL PERMIT SEE 20020-10000-00964. CUT = 1502 CY; FILL= 121 CY; EXPORT = 1652 CY; 1 of 2

CONTRACTOR NAME & PHONE: LANTHIER, BRANDON JOSEPH

OWNER OR AGENT NAME & PHONE: (Owner) SO CALIF GAS CO
(Owner)

PERMITTED CONSTRUCTION / DEMOLITION HOURS (LAMC, Chapter IV, Article1, Sec. 41.40)
MONDAY - FRIDAY ..... 7 AM - 9 PM
SATURDAY or NATIONAL HOLIDAY.....8 AM - 6 PM
SUNDAYS..... No Work Permitted

TO REPORT MUNICIPAL CODE VIOLATIONS DIAL 311

Per LAMC 91.106.4.8, this notice shall be displayed continuously during the construction process for: New Structures, Additions to Existing Buildings, Change of Use or Occupany, Demolitions, Relocations, Swimming Pools or Grading work.
Discretionary Approvals:

This notice shall be posted and maintained at the construction site where it can be read by the public. This notice must be posted prior to the start of construction and displayed continuously until all permitted work is inspected and approved by LADBS. LAMC 91.106.4.8

Attachment G: State Guidelines – Revised Requirements for Storage Gas Facilities

REQUIREMENTS FOR CALIFORNIA UNDERGROUND GAS STORAGE PROJECTS

FINAL TEXT OF REGULATIONS

CALIFORNIA CODE OF REGULATIONS, TITLE 14
CHAPTER 4. DEVELOPMENT, REGULATION, AND CONSERVATION OF OIL AND GAS RESOURCES

Subchapter 1. Onshore Well Regulations

Article 3. Requirements

[REPEAL SECTION 1724.9]

1724.9. Underground Gas Storage Projects

~~(a) For all underground gas storage projects, the operator shall provide the data required under Section 1724.7 and the operator shall comply with the requirements of Section 1724.10, unless the requirement is clearly not applicable to a gas storage project or the Division otherwise advises that the requirement is not applicable to a gas storage project. The operator shall ensure that required project data is complete and current, regardless of the date of approval of the gas storage project. If project data for an existing project is incomplete, then the operator shall submit the required data to the Division as soon as is practicable. In addition to the data required under Section 1724.7, the operator of an underground gas storage project shall provide the Division with the following:~~

~~(1) Characteristics, petrophysical properties, mechanical properties, and maps of the cap rock, including areal extent, isopach thickness, structure contour, formation fracture gradient, primary and secondary permeability, lithology and lithologic variation, threshold pressure, and locations and characteristics of faults and fractures.~~

~~(2) Oil and gas reserves of storage zones prior to start of injection, including calculations.~~

~~(3) List of proposed surface and subsurface safety devices, tests, and precautions to be taken to ensure safety of the project.~~

~~(4) Proposed waste water disposal method.~~

~~(b) The Project Approval Letter for an underground gas storage project shall state the maximum and minimum reservoir pressure and include data and calculations supporting the bases for the pressure limits. The pressure limits shall account for the following:~~

~~(1) The pressure required to inject intended gas volumes, particularly at total inventory, and the pressure limit shall not exceed the design pressure limits of the reservoir, wells, wellheads, piping or associated facilities.~~
~~(2) The minimum reservoir pressure shall not be designed less than historic minimum operated pressure unless reservoir geo-mechanical competency can be demonstrated to the Division's satisfaction. The impacts of intended minimum reservoir pressure shall be accounted for in the data required under subdivision (a)(1) as it relates to geomechanical stress, reservoir liquid influx, surface facility gas cleaning and liquid handling, and liquid disposal, all of which affect the maximum reservoir cycling capacity of the storage field and can impact mechanical integrity of the facilities.~~
~~(c) In addition to the mechanical integrity testing requirements under 1724.10(i), the operator shall monitor the tubing-casing annulus, if there is one, of each well that is part of an underground gas storage project. The operator shall monitor for presence of annular gas by measuring and recording annular pressure and annular gas flow. Such monitoring shall done at least once a day when the well is not being used for withdrawal. The operator shall evaluate any anomalous annular gas occurrence and immediately report it to the Division. The operator shall begin complying with this requirement within one month of the effective date of this section.~~
~~(d) Where installed, the operator of an underground gas storage project shall function test all surface and subsurface safety valve systems within three months of the effective date of this section, and every six months after that. The tests shall be conducted in accordance with manufacturer's recommendations to confirm operational integrity and mitigate any integrity isolation findings. The appropriate district office shall be notified at least 48 hours before performing testing so that Division staff may witness the operations, and documentation of the testing shall be maintained and available for Division review. A closed storage well safety valve system shall be manually re-opened at the site of the valve after an inspection and not opened from a remote location. Within 90 days of finding that a surface or subsurface safety valve is inoperable, the operator shall either repair or remove the safety valve or temporarily plug the well. A longer timeframe for addressing an inoperable surface or subsurface safety valve may be approved by the Division.~~
~~(e) Within 21 days of the effective date of this section, the operator of an underground gas storage project shall submit an inspection and leak detection protocol to the Division for review and approval. The protocol shall include inspection of the wellhead assembly and attached pipelines for each of the wells used in an underground gas storage project, and the surrounding area within a 100' radius of the wellhead of each of the wells used in an underground gas storage project, unless the operator can demonstrate that some part of that area is obstructed. The inspection protocol shall provide for inspection at least once a day, employing effective gas leak detection technology such as infrared imaging, and shall provide for immediately reporting detected leaks to the Division. The operator's selection and usage of gas leak detection technology shall take into consideration detection limits, remote detection of difficult to access locations, response time, reproducibility, accuracy, data transfer capabilities, distance from source, background lighting conditions, geography, and meteorology. The Division will consult~~

~~with the California Air Resources Board when reviewing an inspection and leak detection protocol submitted under this subdivision.~~

~~(f) Within three months of the effective date of this section, and annually thereafter, the operator of an underground gas storage project shall test the operation of the master valve and wellhead pipeline isolation valve for proper function and verify ability to isolate the well. The operator shall submit documentation of the results of testing done under this subdivision within 10 days of completing the testing, but shall immediately notify the Division if testing indicates a lack of function.~~

~~(g) Within six months of the effective date of this section, the operator of an underground gas storage project shall submit a Risk Management Plan to the Division for review and approval. The Risk Management Plan shall identify potential threats and hazards to well and reservoir integrity; assess risks based on potential severity and estimated likelihood of occurrence of each threat; identify the preventive and monitoring processes employed to mitigate the risk associated with each threat; and specify a process for periodic review and reassessment of the risk assessment and prevention protocols. Risk assessment and prevention protocols shall be consistent with and additional to any other existing requirement in statute or regulation. The Risk Management Plan shall specify a schedule for submission of risk assessment results to the Division. All Risk Management Plans shall include at least the following risk assessment and prevention protocols:~~

~~(1) Ongoing verification and demonstration of the mechanical integrity of each well used in the underground gas storage project and each well that intersects the reservoir used for gas storage. The protocols for verifying and demonstrating well integrity shall not be limited to compliance with the mechanical integrity testing requirements under Section 1724.10(j), and shall include consideration of the age, construction, and operation of each well.~~

~~(2) Corrosion monitoring and evaluation including consideration of the following:~~

~~(A) Evaluation of tubular integrity and identification of defects caused by corrosion or other chemical or mechanical damage;~~

~~(B) Corrosion potential of wellbore produced fluids and solids, including the impact of operating pressure on the corrosion potential of wellbore fluids and analysis of partial pressures;~~

~~(C) Corrosion potential of annular and packer fluid;~~

~~(D) Corrosion potential of current flows associated with cathodic protection systems;~~

~~(E) Corrosion potential of all formation fluids, including fluids in formations above the storage zone;~~

~~(F) Corrosion potential of uncemented casing annuli; and~~

~~(G) Corrosion potential of pipelines and other production facilities attendant to the underground gas storage project.~~

~~(3) Protocols for evaluation of wells and attendant production facilities that include monitoring of casing pressure changes at the wellhead, analysis of facility flow erosion, hydrate potential, individual facility component capacity and fluid disposal capability at intended gas and liquid rates and pressures, and analysis of the specific impacts that the intended operating pressure range could have on the corrosive potential of fluids in the system.~~

~~(4) Ongoing verification and demonstration of the integrity of the reservoir including demonstration that reservoir integrity will not be adversely impacted by operating conditions.~~
~~(5) Identification of potential threats and hazards associated with operation of the underground gas storage project including the following:~~
~~(A) Evaluation of likelihood of events and consequences related to the threats and hazards;~~
~~(B) Determination of risk ranking to develop preventive and mitigating measures to monitor or reduce risk;~~
~~(C) Documentation of risk evaluation and description of the basis for selection of preventive and mitigating measures;~~
~~(D) Provision for data feedback and validation; and~~
~~(E) Regular, periodic risk assessment reviews to update information and evaluate risk management effectiveness.~~
~~(6) Prioritization of risk mitigation efforts based on potential severity and estimated likelihood of occurrence of each threat.~~
~~(h) The requirements of this section shall not be construed to replace or restrict an operator's compliance with any specific requirements applicable to pipelines and associated facilities pursuant to Parts 190-199 of Title 49 of the United States Code of Federal Regulations.~~

Note: Authority cited: Sections 3013 and 3106, Public Resources Code; and Statutes of 2016, Chapter 673, Section 6. Reference: Sections 3106, 3220 and 3403.5, Public Resources Code.

[ADOPT NEW ARTICLE 4 WITH SECTIONS 1726, 1726.1, 1726.2, 1726.3, 1726.3.1, 1726.4, 1726.4.1, 1726.4.2, 1726.4.3, 1726.5, 1726.6, 1726.6.1, 1726.7, 1726.8, 1726.9, AND 1726.10]

Article 4. Requirements for Underground Gas Storage Projects

1726. Purpose, Scope, and Applicability.

The purpose of this article is to set forth regulations governing underground gas storage projects and gas storage wells. This article applies to underground gas storage projects and gas storage wells in existence prior to the effective date of this article, as well as new underground gas storage projects and gas storage wells. Underground gas storage projects and gas storage wells are not subject to the requirements of Sections 1724.6 through 1724.10.

Note: Authority cited: Sections 3013, 3106 and 3180, Public Resources Code. Reference: Sections 3106, 3180, 3181, 3220 and 3403.5, Public Resources Code.

1726.1. Definitions.

(a) The following definitions are applicable to this article:

(1) “Area of review” means the three-dimensional extent of the reservoir used for underground gas storage and surrounding areas that may be subject to its influence. The area

of review is delineated by the geologic extent of the reservoir such as confining strata, structural closure, decrease or loss of porosity and permeability, or hydrodynamic forces in a three dimensional image.

(2) "Confining strata" means the rock layer or layers at the boundaries of the storage reservoir acting as the primary barriers preventing migration of fluids.

(3) "Fluid" means liquid or gas.

(4) "Gas storage well" means an active or idle well used primarily to inject or withdraw gas from an underground gas storage project.

(5) "Reservoir" means the portion of the geologic stratum that is being used to store natural gas in an underground gas storage project. The entire depth interval of a reservoir from the shallowest to the deepest depth can be subdivided into one or more depth intervals, which are referred to in this article as "zones".

(6) "Underground gas storage project" means a project for the injection and withdrawal of natural gas into an underground reservoir for the purpose of storage. An underground gas storage project includes the reservoir used for storage, the confining strata, gas storage wells, observation wells, and any other wells approved for use in the project. An underground gas storage project also includes the wellheads and, to the extent that they are subject to regulation by the Division, attendant facilities, and other appurtenances.

Note: Authority cited: Sections 3013, 3106 and 3180, Public Resources Code. Reference: Sections 3106, 3180, 3220 and 3403.5, Public Resources Code.

1726.2. Approval of Underground Gas Storage Projects.

(a) A Project Approval Letter shall be obtained from the Division before any injection or withdrawal occurs as part of an underground gas storage project. The Project Approval Letter shall specify the location and nature of the underground gas storage project, as well as the conditions of the Division's approval. Changes to the operational parameters of an underground gas storage project as set forth in the Project Approval Letter are subject to approval by the Division and shall be noted in either an addendum to the Project Approval Letter or a revised Project Approval Letter. Underground gas storage project operations shall not occur or continue unless consistent with the terms and conditions of a current Project Approval Letter.

(b) The Division will review underground gas storage projects periodically, but not less than once every three years, to verify adherence to the terms and conditions of the Project Approval Letter, and will periodically review the terms and conditions of the Project Approval Letter to ensure that they effectively prevent damage to life, health, property, the environment, and natural resources. Project Approval Letters are subject to suspension, modification, or rescission by the Division.

(c) If the Division determines that operation of an underground gas storage project is inconsistent with the terms and conditions of a current Project Approval Letter, or otherwise poses a threat to life, health, property, the environment, or natural resources, then upon written

notice from the Division specified operations shall cease immediately, or as soon as it is safe to do so.

Note: Authority cited: Sections 3013, 3106 and 3180, Public Resources Code. Reference: Sections 3106, 3180, 3220 and 3403.5, Public Resources Code.

1726.3. Risk Management Plans.

(a) For each underground gas storage project, the operator shall submit a project-specific Risk Management Plan to the Division for review and approval. For underground gas storage projects in existence at the time that this section goes into effect, the operator shall submit a Risk Management Plan in accordance with the requirements of this section within six months of the effective date of this section. If the Division identifies any deficiencies in the Risk Management Plan, then the Division will consult with the operator and identify an appropriate timeframe for correcting the deficiency. The Risk Management Plan shall specify a schedule for the operator to review and submit updates to the risk assessment and prevention and mitigation protocols to the Division. The Division will review the Risk Management Plan periodically, but not less than once every three years.

(b) The Risk Management Plan shall demonstrate that stored gas will be confined to the approved reservoir and that risks of damage to life, health, property, the environment, or natural resources are identified and prevented or effectively mitigated. In accordance with subdivision (c), the Risk Management Plan shall evaluate threats and hazards associated with operation of the underground gas storage project and identify prevention and mitigation protocols that effectively address those threats and hazards. The Division may, in its discretion, require additional data, additional risk assessment, or modification of prevention and mitigation protocols. Risk assessment and prevention and mitigation protocols in the Risk Management Plan shall be consistent with and in addition to any other existing requirements.

(c) The Risk Management Plan shall include a description of the methodology employed to conduct the risk assessment and identify prevention and mitigation protocols, with references to any third-party guidance followed in developing the methodology. The methodology shall include at least the following:

(1) Identification of potential threats and hazards associated with operation of the underground gas storage project, including identification of the most important potential accident scenarios associated with operation of the underground gas storage project;

(2) Quantitative risk assessment of the probability of threats and hazards and their consequences, using an appropriate methodology identified by the operator that includes:

(A) Evaluation of the frequency and range of consequences, including estimates of the uncertainties in the numerical values;

(B) Identification of the principal equipment failures, external initiating events, and operational errors associated with threats and hazards, and quantification of the impact of these occurrences on the probability of and consequences of the threats and hazards; and

(C) Identification of the engineered or natural features that most affect the extent of the consequences of threats and hazards, and a quantification of their relative roles, including an estimate of the uncertainties in the quantification;

(3) Identification of possible prevention and mitigation protocols to reduce, manage, or monitor risks, including evaluation of the efficacy and cost-effectiveness of the prevention protocols;

(4) Risk assessment on a well-by-well basis, to the extent that risks identified are specific to wells;

(5) Prioritization of risk prevention and mitigation efforts based on potential severity and estimated likelihood of occurrence of each threat;

(6) Selection and implementation of prevention and mitigation protocols;

(7) Documentation of the risk assessment process, including description of the basis for selection of prevention and mitigation protocols;

(8) Data feedback and validation throughout the risk assessment process; and

(9) Regular, periodic risk assessment reviews to update information and evaluate the effectiveness of prevention and mitigation protocols employed, which shall occur not less than once every three years and in response to changed conditions or new information.

(d) In addition to the contents required in subdivision (b), all Risk Management Plans shall include at least the following risk assessment and prevention and mitigation protocols:

(1) Well construction and design standards, consistent with the requirements of Section 1726.5 and including specification of the life expectancy of individual mechanical well barrier elements. If the operator has wells that do not conform with the requirements of Section 1726.5, then the Risk Management Plan shall include a work plan and schedule for either bringing the nonconforming wells into compliance or plugging and abandoning the wells in accordance with Public Resources Code section 3208. The work plan and schedule shall provide for full compliance with Section 1726.5 within seven years, with at least 10 percent of the nonconforming wells addressed in the first year and the total percentage of the nonconforming wells addressed increasing by 15 percent in each subsequent year. The work plan shall include prevention and mitigation protocols for monitoring and testing each well that is not yet in compliance with the requirements of Section 1726.5 so as to mitigate risks associated with the well to the extent feasible.

(2) For each gas storage well, evaluation of whether employment of surface and/or subsurface automatic or remote-actuated safety valves is appropriate based on consideration of at least the following:

(A) The well's distance from dwellings, other buildings intended for human occupancy, or other well-defined outside areas where people may assemble such as campgrounds, recreational areas, or playgrounds;

(B) Gas composition, operational pressures, total fluid flow, and maximum flow potential;

(C) The distance between wellheads or between a wellhead and other facilities, and access availability for drilling and service rigs and emergency services;

(D) The risks created by installation and servicing requirements of safety valves;

(E) The risks to and from the well related to roadways, rights of way, railways, airports, and industrial facilities;

(F) Proximity to environmentally or culturally sensitive areas;

(G) Alternative protection measures which could be afforded by barricades or distance or other measures;

(H) Age of well;

(I) The risks of sabotage;

(J) The current and predicted development of the surrounding area as reflected in the local general plan, topography and regional drainage systems**,** and environmental considerations;

(K) Topography and local wind patterns; and

(L) Evaluation of geologic hazards such as seismicity, landslides, subsidence, and potential for tsunamis.

(3) A schedule for verification and demonstration of the mechanical integrity of each well used in the underground gas storage project and each well that intersects the reservoir used for gas storage. The mechanical integrity testing protocols for gas storage wells shall, at a minimum, adhere to the requirements of Section 1726.6.

(4) Corrosion monitoring, evaluation, and mitigation including consideration of at least the following:

(A) Evaluation of tubular integrity and identification of defects caused by corrosion or other chemical or mechanical damage;

(B) Corrosion potential of wellbore produced fluids and solids, including the impact of operating pressures, temperatures, and compositions on the corrosion potential of wellbore fluids and analysis of partial pressures;

(C) Corrosion potential of annular and packer fluid;

(D) Corrosion potential of current flows associated with cathodic protection systems;

(E) Corrosion potential of all formation fluids, including fluids in formations above the storage zone; and

(F) Corrosion potential of uncemented casing.

(5) Ongoing monitoring of casing pressure changes at the wellheads of gas storage wells, analysis of facility flow erosion, individual facility component capacity and fluid disposal capability at intended gas and liquid flow rates and pressures, and analysis of the specific impacts that the intended operating pressure and temperature ranges could have on the corrosive potential of fluids in the system.

(6) Monitoring protocols in accordance with the requirements of Section 1726.7.

(7) Ongoing verification and demonstration of the integrity of the reservoir including demonstration that reservoir integrity will not be adversely impacted by operating conditions.

(8) Analysis and risk assessment of hazards associated with the formation of hydrates, and scale from the well stream under various pressure, temperature, and flow rates, including those beyond expected operating parameters.

(9) Analysis and risk assessment of natural and geologic hazards including, but not limited to, seismicity, faults, subsidence, inundation by tsunamis, sea level rise, and floods.

(10) Analysis and risk assessment of hazards associated with the potential for explosion or fire.

(11) If observation wells are employed, identification and documentation of baseline conditions such as wellbore pressure, pressure of monitored annuli, gas composition and liquid level.

(12) An assessment of human factors in operating and maintenance procedures. The human factors assessment shall consider staffing levels; the complexity of tasks; the length of time needed to complete tasks; the level of training, experience and expertise of employees; the human-machine and human-system interface; the physical challenges of the work environment in which the task is performed; employee fatigue and other effects of shiftwork and overtime; communication systems; and the understandability and clarity of operating and maintenance procedures. The human factors assessment shall also consider utilization of error-proof mechanisms, automatic alerts, and automatic system shutdowns.

(13) An effective training program with clearly stated goals. The training program shall specify the type and frequency of training and the risk assessments and prevention and mitigation protocols addressed.

(14) An equipment maintenance program that includes training and proactive inspection, repair, and replacement of equipment at risk of failure so as to ensure safe operation.

(15) An emergency response plan that at a minimum accounts for the threats and hazards identified in the Risk Management Plan and that complies with the requirements of Section 1726.3.1.

(16) Requests for notice from land use agencies of local land use decisions that could affect the Risk Management Plan, and providing notification to the Division of significant pending land use decisions.

(e) The operator shall adhere to the risk prevention and mitigation protocols detailed in its Risk Management Plan unless a variance has been approved by the Division in writing.

(f) The Division will provide completed Risk Management Plans and significant updates to the Risk Management Plans to the California Public Utilities Commission and post them on the Division's public internet website. If any part of a Risk Management Plan is subject to confidential treatment, then the Division will segregate the confidential records and only provide them if the California Public Utilities Commission has agreed to treat the records as confidential.

Note: Authority cited: Sections 3013, 3106 and 3180, Public Resources Code. Reference: Sections 3106, 3180, 3181, 3220 and 3403.5, Public Resources Code.

1726.3.1 Emergency Response Plan.

(a) The operator of an underground gas storage project shall have an emergency response plan approved by the Division and ready for immediate implementation. The emergency response plan shall specify a schedule for carrying out drills to validate the plan. The drills shall address the readiness of operator personnel with respect to their ability to interact with equipment and their ability to contact required third party service providers for the equipment.

The emergency response plan shall identify and consider onsite personnel, outside emergency responders, and potentially affected communities. The operators shall provide local emergency response entities at least 30 days to review and provide input on the emergency response plan.

(b) The emergency response plan shall at a minimum address the following scenarios:

(1) Collisions involving well heads;

(2) Well fires and blowouts;

(3) Hazardous material spills;

(4) Equipment failures;

(5) Natural disasters/emergencies;

(6) Leaks and well failures;

(7) Medical emergencies; and

(8) Explosions.

(c) The emergency response plan shall at a minimum include all of the following:

(1) Clearly written and communicated emergency response plan policy, goals, and objectives;

(2) An incident management system designed to address resource management, communication systems, and incident documentation;

(3) Written action plans establishing assigned authority to the appropriate person(s) at a facility for initiating effective emergency response and control;

(4) Accident-response measures that outline response activities, leakage mitigation approaches, and well control processes for well failure and full blowout scenarios;

(5) Prepositioning, as feasible, and identification of materials and personnel necessary to respond to leaks, including materials and equipment to respond to and stop the leak itself as well as to protect public health and safety.

(6) A schedule for regular drills, providing for an opportunity for involvement of the Division and local emergency response entities, and providing an opportunity for drills initiated by local emergency response entities;

(7) An effective training program with clearly stated goals. The training program shall specify the type and frequency of training and the emergency scenarios addressed;

(8) Recordkeeping for all drills and training;

(9) A schedule for regular evaluation and update of the emergency response plan;

(10) Protocols for emergency reporting and response to appropriate government agencies;

(11) Specification of personnel roles and responsibilities;

(12) Internal and external communication protocol;

(13) Up-to-date emergency contact information including area codes; and

(14) A protocol for public notice of a large, uncontrollable leak to any potentially impacted community, as defined in the Risk Management Plan, if the leak cannot be controlled within 48 hours of discovery by the operator.

(d) The operator shall review and update the emergency response plan after key personnel changes, but no less often than once every three years. When reviewing and updating the emergency response plan, the operator shall again provide local emergency response entities at least 30 days to review and provide input on the emergency response plan.

Note: Authority cited: Sections 3013, 3106 and 3180, Public Resources Code. Reference: Sections 3106, 3180, 3181, 3183, 3184 and 3403.5, Public Resources Code.

1726.4. Underground Gas Storage Project Data Requirements.

(a) For all underground gas storage projects, the operator shall provide the Division with data, analysis, and interpretation that demonstrate that stored gas will be confined to the approved zone(s) of injection and that the underground gas storage project will not cause damage to life, health, property, the environment, or natural resources. The operator shall provide the data specified in this section and any data that, in the judgment of the Division on a case-by-case basis, are pertinent and necessary for the proper evaluation of the project. The operator shall ensure that required data is complete, current, and accurate, regardless of the date of approval of the gas storage project. The data submitted to the Division shall include at least the following:

(1) Oil and gas reserves of all storage zones prior to start of injection, including calculations, to indicate the storage capacity of the reservoir being considered for gas storage.

(2) Description of existing surface and subsurface safety devices, tests, and precautions to be taken to ensure safety of the project.

(3) Produced water disposal method.

(4) Maximum and minimum reservoir pressure for the underground gas storage project and the data and calculations supporting the bases for the pressure limits. The pressure limits shall account for the following:

(A) The pressure required to inject fluids, particularly at total inventory, shall not exceed the design pressure limits of the wells, well heads, pipelines, or other associated facilities; or the fracture pressure of the reservoir or confining strata.

(B) The minimum reservoir pressure shall take into account the historic minimum operating pressure and reservoir geomechanical competency. The impacts of intended minimum reservoir pressure shall be accounted for as it relates to geomechanical stress and liquid influx.

(5) An engineering and geological study demonstrating that injected gas will not migrate out of the approved zone or zones, such as through another well, geologic structure, faults, fractures or fissures, or holes in casing. The study shall include, but is not limited to:

(A) Statement of primary purpose of the project.

(B) Reservoir characteristics of each storage zone, such as porosity, permeability, average thickness, areal extent, fracture gradient, original and present temperature and pressure, and original and residual oil, gas, and water saturations.

(C) A comprehensive geologic characterization of the gas storage project including lithology of the storage zone or zones and sealing mechanisms as well as all formations encountered from surface to the deepest well in the project. The geologic characterization shall include any information that may be required to ensure injected or withdrawn gas and other reservoir fluids do not have an adverse effect on the project or pose a threat to life, health, property, the environment, or natural resources. The geologic characterization shall include potential

pathways for fluid migration and areas or formations where potential entrapment of migrated fluid could occur. Information to accompany the geologic characterization shall include, but is not limited to:

(i) Structure contour maps drawn on a geologic marker at or near the top of each gas storage zone in the project area, indicating faults and other lateral containment features.

(ii) Isopach map of each gas storage reservoir or subzone and the confining strata in the project area.

(iii) At least two geologic cross sections, one on strike and one on dip, through at least four gas storage wells in the project area and the areas immediately adjacent.

(iv) A representative geophysical log to a depth below the deepest gas storage zone identifying all geologic units, formations, groundwater that has 10,000 or less milligrams per liter of total dissolved solids content, groundwater that has 3,000 or less milligrams per liter of total dissolved solids content, oil or gas zones, and gas storage reservoirs.

(v) Additional information may be requested by the Division on a case-by-case basis, and may include, but is not limited to: additional isopach maps, three-dimensional modeling, oil-water, gas-water, or oil-gas contact maps of the project, or other information which would delineate known features such as faults and fractures within the area of review for the underground gas storage project.

(D) Reservoir fluid data for each gas storage zone, such as oil gravity and viscosity, water quality, presence and concentrations of non-hydrocarbon components in the associated gas (e.g. hydrogen sulfide, helium, etc.), and specific gravity of gas.

(E) A map of the area of review showing the location and status of all wells within and adjacent to the boundary of the area of review. The wellbore path of directionally drilled wells shall be shown, with indication of the interval penetrating the gas storage zone(s) of the underground gas storage project.

(F) All data specified in Section 1726.4.1, provided in the form of graphical casing diagrams or flat file data sets, for all wells that are within the area of review and that are in the same or a deeper zone as the gas storage reservoir, including directionally drilled wells that intersect the area of review in the same or deeper zone.

(G) Identification of all wells associated with oil and gas production that are within the area of review but that are not in the same or a deeper zone as the underground gas storage project, including description of the total depth of the well and the estimated top of the gas storage reservoir below the well.

(H) Wells completed in or penetrating through the intended gas storage reservoir shall be identified and evaluated for containment assurance for the design of gas storage operation volumes, pressures, and flow rates. The operator shall identify, and the Division confirm, wells which may require integrity testing or well logging in order to meet the integrity demonstration. The Division may select plugged and abandoned wells to be re-entered, examined, re-plugged and abandoned, or monitored to manage identified containment assurance issues prior to approval of gas storage operations.

(I) The planned or estimated well drilling and plugging and abandonment program to complete the project, showing all gas storage wells, plugged and abandoned wells, other wells related to the project, and the boundaries of the underground gas storage project.

(J) Maps of the locations of injection wells and zones, mining, and other subsurface industrial activities not associated with oil and gas production or gas storage operations within the area of review, to the extent it is publicly available.

(6) A gas storage injection and withdrawal plan that includes at least the following:

(A) Maximum anticipated surface injection pressure and maximum anticipated daily rate of injection, by well.

(B) Monitoring system or method to be utilized to ensure the gas injected is confined to the intended approved zone(s) of injection.

(C) A wellhead monitoring system for the detection of leaks.

(D) A list of cathodic protection measures where employed.

(E) Analysis of the gas injected, submitted to the Division on an annual basis.

(7) The name and API number of all gas storage wells and other wells that are part of the underground gas storage project.

(8) Any data that, in the judgment of the Division on a case-by-case basis, are pertinent and necessary for the proper evaluation of the underground gas storage project.

(b) Updated data shall be provided to the Division if there are changes in operating conditions, such as gas plant or compressor changes, or if more accurate data become available, such as updated cross sections, new reservoir characteristics data, or new pressure flow modeling.

(c) All data filed with the Division under this section shall be submitted electronically. All maps, diagrams, and exhibits shall be clearly labeled as to scale, north arrow, coordinate system, and purpose, and shall clearly identify wells, boundaries, zones, contacts, and other relevant data.

(d) Where it is infeasible to supply the data specified in subdivision (a), the Division may accept alternative data that demonstrate that injected gas will be confined to the approved reservoir or reservoirs of injection and that the underground gas storage project will not cause damage to life, health, property, the environment, or natural resources.

(e) The operator shall consult with the Division if the operator believes that there is a basis under state or federal law for confidential treatment of any data submitted to the Division. If the Division agrees that there is a basis for confidential treatment of data submitted, then the Division will take appropriate steps to maintain the confidentiality of that data.

(f) The Division will make all data received under this section available to the California Public Utilities Commission upon request. If the requested records are subject to confidential treatment, then the Division will only provide the records if the California Public Utilities Commission has agreed to treat the records as confidential.

(g) For underground gas storage projects in existence at the time that this section goes into effect, the operator shall submit revised and updated project data in accordance with the requirements of this section within 180 days of the effective date of this section.

Note: Authority cited: Sections 3013, 3180 and 3106, Public Resources Code. Reference: Sections 3106, 3180, 3181, 3220 and 3403.5, Public Resources Code.

1726.4.1. Casing Diagrams.

(a) Casing diagrams submitted under Section 1726.4, subdivision (a)(5)(F), shall adhere to the following requirements:

(1) Casing diagrams shall at a minimum include all of the following data:

(A) Operator, lease name, well number, and API number of the well;

(B) Date the well was spudded;

(C) Ground elevation from sea level;

(D) Reference elevation (i.e., rig floor or Kelly Bushing);

(E) Base of groundwater that has 3,000 or less milligrams per liter of total dissolved solids content;

(F) Base of groundwater that has 10,000 or less milligrams per liter of total dissolved solids content;

(G) Sizes, weights, grades, and connection types of casing and tubing;

(H) Details on associated equipment such as subsurface safety valves, packers, and gas lift mandrels;

(I) Depths of casing shoes, stubs, and liner tops;

(J) Depths of perforation intervals, water shutoff perforations, cement port, cavity shots, cuts, patches, casing damage, top of junk or fish left in well, and any feature that influences flow in the well or may compromise the mechanical integrity of the well;

(K) Hole size diameter and depth of drilled hole;

(L) Cement plugs inside casings, including top and bottom of cement plug and the date(s) the plug(s) was emplaced, with method of determination;

(M) All cement fill behind casings, including top and bottom of cemented interval, with method of determination;

(N) Type and density of fluid between cement plugs;

(O) Depths and names of the formation(s), zone(s), and geologic markers penetrated by the well, including the top and bottom of the gas storage zone(s) and the top and bottom of the confining strata;

(P) All information used to calculate the cement slurry (e.g., volume, density, yield) including, but not limited to, cement type and additives, for each cement job;

(Q) All of the information listed in this section for all previously drilled or sidetracked well bores; and

(R) Identification of wellhead and wellhead valve assembly equipment by model and pressure rating.

(2) Measured depth and true vertical depth shall be provided for all measurements required under subdivision (a)(1).

(3) For directionally drilled wells, a directional survey shall be provided with inclination, azimuth measurements, bottomhole location, and surface location.

(4) Casing diagrams shall be submitted in an electronic format.

(5) For all wells to be used for gas injection and/or withdrawal, the casing diagram shall include the mechanical well barrier elements that comprise the primary and secondary barriers as specified in Section 1726.5.

(6) When multiple boreholes are drilled in a well, all of the information listed in this section is required for both the original hole and for any subsequent redrilled or sidetracked well bores.

(b) In lieu of graphical casing diagrams, operators may satisfy the requirements of Section 1726.4, subdivision (a)(5)(F), by submitting a flat file data set containing all of the information described in this section.

Note: Authority cited: Sections 3013, 3106 and 3180, Public Resources Code. Reference: Sections 3106, 3180, 3181, 3220 and 3403.5, Public Resources Code.

1726.4.2. Evaluation of Wells Within the Area of Review.

(a) The following requirements apply, at minimum and subject to augmentation by the Division as the Division deems appropriate on a project-specific basis, to ensure that wells within the area of review will not be a potential conduit for fluid migration outside the approved gas storage zone:

(1) All wells within the area of review and that are in the same or a deeper zone as the gas storage reservoir, including directionally drilled wells that intersect the area of review in the same or deeper zone, shall be evaluated for the potential to allow fluid to migrate outside of the approved zone of gas storage. The operator should identify, and the Division confirm, wells which may require integrity testing or well logging in order to provide the requisite assurances that such wells will not act as conduits for fluid migration.

(2) Plugged and abandoned wells within the area of review shall have cement across all perforations and extending at least 100 feet above the highest of the top of a landed liner, the uppermost perforations, the casing cementing point, the water shutoff holes, or the approved gas storage zone. The Division may select plugged and abandoned wells to be re-entered, examined, re-plugged and abandoned, or monitored to manage identified containment assurance issues.

(3) If a plugged and abandoned well within the area of review does not meet the cement specifications of subdivision (a)(2), the Division may approve an alternative demonstration that the well will not be a potential conduit for fluid migration outside the approved gas storage zone. The Division's approval of such an alternative demonstration shall be supported by written findings by the Division that identify each plugged and abandoned well in the area of review that does not meet the cement specifications of subdivision (a)(2), specify how the well does not meet the requirements of subdivision (a)(2), and identify the basis for the Division's approval of the alternative demonstration.

Note: Authority cited: Sections 3013, 3180 and 3106, Public Resources Code. Reference: Sections 3106, 3180, 3181, 3220 and 3403.5, Public Resources Code.

1726.4.3. Records Management.

(a) The operator of an underground gas storage project shall establish a Records Management Program to ensure documentation of essential information is created, maintained, protected, and retrievable when needed. The operator shall submit its Records Management Plan to the Division.

(b) The Records Management Program shall identify all records related to evidence of conformity to the requirements in this article as essential, and these records shall be maintained for the lifetime of the project.

(c) The Records Management Program shall establish a filing and storage strategy that ensures records are accessible and protected against environmental damage. Records may exist in many different formats and shall be managed according to the format in which they are maintained. Records may be protected following a graded approach, commensurate with the value of the record and the cost to reproduce the information.

(d) The Records Management Program shall establish a process for tracking records throughout their entire information life cycle so that it is clear at all times where a record exists, which is the most current version of the record, and the history of change or modification of the record.

(e) The Records Management Program shall allow for prompt retrieval and production of records upon request from the Division.

Note: Authority cited: Sections 3013, 3106 and 3180, Public Resources Code. Reference: Sections 3106, 3181, 3220 and 3403.5, Public Resources Code.

1726.5. Well Construction Requirements.

(a) Operators shall design, construct, modify, and maintain gas storage wells and every other well that penetrates the gas storage reservoir of the operator's underground gas storage project to effectively ensure mechanical integrity under anticipated operating conditions for the underground gas storage project. The operator shall ensure that a single point of failure does not pose an immediate threat of loss of control of fluids and make certain that integrity concerns with a gas storage well are identified and addressed before they can become a threat to life, health, property, the environment, or natural resources. This section does not apply to wells that have been plugged and abandoned in accordance with Public Resources Code section 3208.

(b) Operators can demonstrate that a gas storage well adheres to the performance standard in subdivision (a) by demonstrating all of the following:

(1) The well has been constructed with both primary and secondary mechanical well barriers to isolate the storage gas within the storage reservoir and transfer storage gas from the surface into and out of the storage reservoir.

(A) The primary mechanical barrier is the barrier that is exposed to the withdrawal or injection flow stream. The primary mechanical barrier shall be able to withstand full operating pressure as demonstrated by the pressure testing required under Section 1726.6, subdivision (a)(3), and through annular pressure monitoring as required under Section 1726.7, subdivision (a). An example of a well configuration that meets the minimum requirements for a primary mechanical barrier is a well configuration that includes:

(i) A wellhead master valve;

(ii) Tubing hanger with seals;

(iii) Production tubing; and

(iv) A production packer.

(B) The secondary mechanical barrier is not exposed to the withdrawal or injection flow stream under normal operations. The secondary mechanical barrier shall be able to withstand full operating pressure as demonstrated by the pressure testing required under Section 1726.6, subdivision (a)(3), and casing evaluation logs as required under Section 1726.6, subdivision (a)(2). In the event of a primary mechanical barrier failure, the secondary mechanical barrier shall be able to contain the leaking fluids until the primary mechanical barrier is re-established. An example of a well configuration that meets the minimum requirements for a secondary mechanical barrier is a well configuration that includes:

(i) Wellhead components, including casing hanger and seal assembly; and

(ii) Production casing to surface.

(2) Each string of casing is designed to safely contain the expected internal and external pressures and tensile loads.

(3) The surface casing is of sufficient size, weight, grade, competency, and depth to support subsequent drilling operations.

(4) The production casing is of sufficient size, weight, grade, competency, and depth to maintain the well integrity, and is compatible with fluid chemical composition. The production casing is designed to accommodate fluids on injection and withdrawal at the maximum expected operational pressures and velocities. The production casing is free of open perforations or holes other than the planned completion interval(s). Perforations created for investigative or remedial work are sealed to establish hydraulic isolation.

(5) Casing connections are appropriate for use in the well design and exceed the expected mechanical loads.

(6) The gas storage well is cemented so as to maintain the integrity of the storage zone(s) by providing isolation of the reservoir and preventing communication of fluids from the storage zone or other zones of interest.

(7) All casing was cemented in a manner that ensures proper distribution and bonding of cement in the annular spaces. Additionally, cementing operations meet or exceed the following requirements:

(A) Surface casing is cemented with sufficient cement to fill the annular space from the shoe to the surface to protect ground water.

(B) Intermediate and production casings, if not cemented to the surface, are cemented in accordance with the requirements of Section 1722.4.

(8) For new wells, the cementing operations used a cement slurry designed for the anticipated wellbore and formation conditions.

(9) Cement plugs provide for effective zonal isolation.

(10) Any remedial cement slurry and placement techniques are designed for the specific wellbore conditions, formations, and type of repairs.

(11) Cement bond log or evaluation is on file that indicates an adequate cement bond between the casing, cement, and geologic formations. A competent cement bond extends across the confining strata, and at least 100 feet above the gas storage reservoir.

(12) For wells equipped with tubing and packer, packer is set in cemented casing within confining strata or other appropriate location.

(c) If the operator does not demonstrate that a gas storage well meets the criteria of subdivision (b), then the operator shall demonstrate that an alternative method of well design and construction has been employed that effectively adheres to the performance standard of subdivision (a). An alternative method of well design and construction under this subdivision shall include both primary and secondary mechanical well barriers to isolate the storage gas within the storage reservoir and transfer storage gas from the surface into and out of the storage reservoir. The Division will determine on a case-by-case basis whether the operator has effectively demonstrated that a gas storage well that does not conform to the criteria in subdivision (b) meets the performance standard in subdivision (a).

(d) The requirements of this section are in addition to all other well construction requirements of this chapter.

Note: Authority cited: Sections 3013, 3106 and 3180, Public Resources Code. Reference: Sections 3106, 3180, 3220 and 3403.5, Public Resources Code.

1726.6. Mechanical Integrity Testing.

(a) The operator shall, at a minimum, conduct the following mechanical integrity testing on each gas storage well and every other well that penetrates the gas storage reservoir of the operator's underground gas storage project, with the exception of wells that have been plugged and abandoned in accordance with Public Resources Code section 3208:

(1) A temperature and noise log shall be conducted at least annually to ensure integrity. Logging shall include a repeat section of no less than 200 feet, preferably across intervals where anomalies are present. If an anomaly is identified that indicates a possible loss of or threat to the mechanical integrity of the well, then the operator shall immediately report the anomaly to the appropriate district office. If the operator is unable to explain any anomaly, then the well shall not be used for injection or withdrawal without subsequent approval from the Division.

(2) A casing wall thickness inspection to estimate internal and external corrosion, employing such methods as magnetic flux or ultrasonic technologies, shall be performed at least once

every 24 months to determine if there are possible issues with casing integrity. Logging shall include a repeat section of no less than 200 feet, preferably across intervals where anomalies are present. The results shall be compared against prior results and any other available data to determine the corrosion rate. If the casing wall thickness inspection indicates that within the next 24 months thinning of the casing will diminish the casing's ability to contain 115 percent of the well's maximum allowable operating pressure utilizing Barlow's equation or another, similarly effective method, then the well shall be remediated and shall not be used for injection or withdrawal without subsequent approval from the Division. The Division may approve a less frequent casing wall thickness inspection schedule for a well if the operator demonstrates that the well's corrosion rate is low enough that biennial inspection is not necessary.

(3) Pressure testing of the production casing shall be conducted at a minimum frequency determined on a well-by-well basis under Section 1726.3, subdivision (d)(3), provided that the well-specific minimum pressure testing frequency has been reviewed and approved by the Division. If the Division has not approved a well-specific minimum pressure testing frequency for a well as part of the Risk Management Plan, then the operator shall pressure test the well at least once every 24 months. If injection in the gas storage well is through tubing and packer, then the pressure test shall be of the casing-tubing annulus of the well. Pressure testing shall be conducted in accordance with the parameters specified in Section 1726.6.1. If a required pressure test is not successfully completed, then the operator shall immediately notify the Division and the well shall not be used for injection or withdrawal without subsequent approval from the Division.

(b) A newly constructed gas storage well, or a reworked gas storage well that has had its existing production casing modified from its previous condition during rework activities, shall be tested in accordance with subdivision (a) prior to use. The Division may waive some or all of the mechanical testing requirements for a reworked gas storage based on the nature of the work performed.

(c) The Division may require additional testing as needed to demonstrate the integrity of the well.

(d) The appropriate district office shall be notified at least 48 hours before performing mechanical integrity testing so that Division staff may have an opportunity to witness the testing. All mechanical integrity testing shall be documented and copies of test results shall be submitted to the Division in an electronic format within 30 days.

Note: Authority cited: Sections 3013, 3106 and 3180, Public Resources Code. Reference: Sections 3106, 3180, 3181, 3220 and 3403.5, Public Resources Code.

1726.6.1. Pressure Testing Parameters.

(a) Pressure testing required under Section 1726.6 shall be conducted according to the following parameters:

(1) Pressure testing shall be conducted with a liquid unless the Division approves pressure testing with gas.

(2) If pressure testing will be conducted with a liquid that contains additive other than brine, corrosion inhibitors, or biocides, then the operator shall consult with the Division regarding the contents of the liquid prior to commencing testing.

(2) The wellbore shall be filled with a stable column of fluid that is free of excess gasses.

(3) Pressure tests shall be recorded and a calibrated gauge shall be used that can record a pressure with an accuracy within one percent of the maximum allowable injection pressure.

(4) Pressure tests shall be conducted at an initial test pressure of at least 115 percent of the maximum allowable injection pressure at the wellhead.

(5) The pressure test shall be continuous for one hour. A pressure test is successful if the pressure gauge does not show more than a 10 percent decline from the initial test pressure in the first 30 minutes, and does not show more than a 2 percent decline from the pressure after the first 30 minutes in the second 30 minutes.

(b) The Division may modify the testing parameters on a case-by-case basis if, in the Division's judgment, the modification is necessary to ensure an effective test of the integrity of the casing.

Note: Authority cited: Sections 3013, 3106 and 3180, Public Resources Code. Reference: Sections 3106, 3180, 3181, 3220 and 3403.5, Public Resources Code.

1726.7. Monitoring Requirements.

(a) The operator shall monitor for the presence of gas in all annuli by measuring and recording annular and tubing pressure at least once a day. The operator shall evaluate any anomalous annular gas occurrence and immediately report it to the Division. This requirement may be met by employment of a real-time data gathering system, such as Supervisory Control and Data Acquisition.

(b) The operator shall monitor the material balance of an underground gas storage project's storage reservoir relative to the original design and expected reservoir behavior. The operator shall evaluate and correct unexpected conditions detected during monitoring in order to avoid an incident or loss. Monitoring frequency shall be based on factors such as reservoir and well fluid loss potential and flow potential, as outlined in the Risk Management Plan.

(1) The operator shall submit material balance support data to the Division at least once a year, or upon request by the Division.

(2) Acceptable reservoir integrity monitoring and analysis methods include, but are not limited to, the following four methods:

(A) Monitoring average reservoir pressure versus inventory and comparing that to expected conditions in order to allow for the discovery and correction of any anomalies or unexpected conditions. Liquid level shall be taken into account when utilizing observation wells. Semiannual field shut-in tests, usually conducted at the point of seasonally high and low inventories, shall be conducted for inventory verification.

(B) Installation and monitoring of strategically located observation wells in the vicinity of spill points, within an aquifer, and above the confining strata. Observation wells shall be in potential collector formations to detect the presence or movement of gas.

(C) Monitoring offset hydrocarbon production or disposal operations for unexplained flow or pressure changes. The monitoring shall include operations in zones above and below the storage reservoir as well as laterally offset locations.

(D) Conducting subsurface correlation and gas identification logs such as gamma ray-neutron logs to confirm the location of gas being injected into the intended storage reservoir, as needed.

(c) The operator shall immediately report to the Division any instance of an unintended surface or cellar gas release of any size, in any location within the area of review of the underground gas storage project. Unless the operator demonstrates that the gas is not from the underground gas storage project or a gas storage well, Division may require the operator to chemically fingerprint the gas from such a release, and the operator shall provide the results of the gas analysis to the Division as soon as they are available.

(d) The operator of an underground gas storage project shall employ a real-time data gathering system, such as Supervisory Control and Data Acquisition, by January 1, 2020. At a minimum, the real-time data gathering system shall be deployed and utilized in accordance with the following requirements:

(1) The real-time data gathering system shall include pressure sensors for every casing annulus and tubing with data transmission to an operations center.

(2) The real-time data gathering system shall have alarms set for each annulus to monitor for pressure indicative of potential leaks or potential migration of gas. The alarms shall alert the operations center if pressure exceeds preconfigured set points. For tubing, the alarm set point shall not be higher than the maximum allowable injection pressure at the wellhead. For the annulus between production casing and tubing, the alarm set point shall be determined based on annular fluid, the initial pressure when the packer was set, and operational configuration. For strings without any anticipated surface pressure, such as surface or intermediate casings, the alarm set point shall not be higher than 100 psi or the alarm set point approved under subdivision (d)(3)(C).

(3) If there is sustained casing pressure above 100 psi in a string without anticipated surface pressure, and it is believed to be caused by shallow gas or other fluid migration, then the operator shall do the following:

(A) The operator shall first bleed off annular pressure and track pressure and time for the well to build up pressure back to the observed sustained casing pressure.

(B) Next, the operator shall sample the fluids building up in the annulus and confirm that the accumulation is not due to migration of storage gas by performing chemical fingerprinting or other diagnostic tests approved by the Division.

(C) If the diagnostic testing under subdivisions (A) and (B) confirm that the pressure build-up is not due to migration of storage gas, the operator shall propose an alarm set point to the Division that is no greater than 100 psi above the observed sustained casing pressure, unless such pressure would pose a risk to casing integrity. The operator's proposal shall at a minimum address the results from the diagnostic testing, the effect of the proposed alarm set point pressure on casing integrity, the likely source of pressure and fluid composition determined from

chemical fingerprinting, and a long-term monitoring plan. The alarm set point shall not be increased until it has been approved by the Division.

(D) If the observed sustained casing pressure plus 100 psi would pose a risk to the integrity of the casing, then the operator shall develop and implement a plan to address the situation, subject to the Division's approval.

(E) If the testing under subdivisions (A) and (B) indicate that the pressure build-up is due to migration of storage gas, then the operator shall conduct further testing to determine the pathway of migration and take remedial action as needed in accordance with a plan approved by the Division.

(e) The operator of an underground gas storage project shall develop a program, which shall be submitted to the Division for review and approval, to conduct a baseline and subsequent gas detection logs on each gas storage well to detect gas indications behind casing. The operator shall provide the results of the gas detection logs to the Division with comparison of the logs noting any changes in the indicated gas behind the casing. If the comparison indicates increasing gas accumulations behind casing, then the operator shall submit a response plan for the Division's approval.

(f) The operator of an underground gas storage project shall adhere to an inspection and leak detection protocol that has been approved by the Division. The protocol shall include inspection of the wellhead assembly and attached pipelines for each of the gas storage wells used in association with the underground gas storage project, and the surrounding area within a 100-foot radius of the wellhead of each of the wells used in an underground gas storage project. The inspection protocol shall provide for inspection at least once a day, employing effective gas leak detection technology such as infrared imaging, and shall provide for immediately reporting leaks to the Division. The operator's selection and usage of gas leak detection technology shall take into consideration detection limits, remote detection of difficult to access locations, response time, reproducibility, accuracy, data transfer capabilities, distance from source, background lighting conditions, geography, and meteorology. The Division will consult with the California Air Resources Board when reviewing an inspection and leak detection protocol submitted under this subdivision. The requirements of this subdivision shall cease to apply to an underground gas storage project if the California Air Resources Board approves a monitoring plan under its regulations for that facility.

Note: Authority cited: Sections 3013, 3106 and 3180, Public Resources Code. Reference: Sections 3106, 3180, 3181, 3220 and 3403.5, Public Resources Code.

1726.8. Inspection, Testing, and Maintenance of Wellheads and Valves.

(a) Where installed, the operator of an underground gas storage project shall test all surface safety valves on the wellhead and all subsurface safety valve systems at least every six months. The tests shall be conducted in accordance with American Petroleum Institute Recommended Practice 14B (6th Edition, September 2015), hereby incorporated by reference, or a Division approved equivalent, to confirm operational integrity. The appropriate district office shall be

notified at least 48 hours before performing testing so that Division staff may witness the operations, and documentation of the testing shall be maintained and available for Division review. A closed storage well safety valve system shall be re-opened with operator staff at the site of the valve to ensure the absence of any unforeseen issues. Within 90 days of finding that a surface or subsurface safety valve is inoperable, the operator shall either repair the safety valve or temporarily plug the well. An appropriate alternative timeframe for testing a valve or addressing an inoperable surface or subsurface safety valve may be required by the Division.

(b) At least annually, the operator of an underground gas storage project shall test all valves on the wellhead, including the master valve and wellhead pipeline isolation valve for proper function and verify ability to isolate the well.

(c) The operator shall equip gas storage wells with valves to provide isolation of the wells from the pipeline system and to allow for entry into the wells.

(d) The operator shall equip all ports on the wellhead assembly above the casing bowl of gas storage wells with valves, blind flanges, or similar equipment that are rated to withstand the maximum operational pressures.

Note: Authority cited: Sections 3013, 3106 and 3180, Public Resources Code. Reference: Sections 3106, 3180, 3181, 3220 and 3403.5, Public Resources Code.

1726.9. Well Leak Reporting.

(a) For the purposes of this section, and for the purposes of Public Resources Code sections 3183 and 3184, "reportable leak" means:

(1) A leak from a gas storage well that is above 50,000 parts per million by volume total hydrocarbons, as measured using methodology that the operator has demonstrated will provide consistent and reliable measurements, such as US EPA Reference Method 21;

(2) A leak from a gas storage well that is above 10,000 parts per million by volume total hydrocarbons, as measured using methodology that the operator has demonstrated will provide consistent and reliable measurements, such as US EPA Reference Method 21, for more than five days; or

(3) Any leak that poses a significant present or potential hazard to public health and safety, property, or to the environment.

(b) If a gas storage well has a reportable leak, then the operator shall immediately inform the Division.

(c) The requirements of this section are in addition to, and do not supersede, any other requirements for reporting or responding to leaks from a gas storage well.

Note: Authority cited: Sections 3013, 3106 and 3180, Public Resources Code. Reference: Sections 3106, 3180, 3181, 3183, 3184, 3220 and 3403.5, Public Resources Code.

1726.10. Requirements for Decommissioning.

(a) If an operator intends to discontinue an underground gas storage project, then the operator shall submit a Decommissioning Plan to the Division. The Decommissioning Plan is subject to the Division's review and approval and shall ensure that stored gas will continue be confined to the approved zone(s) of injection and that the underground gas storage project will not cause damage to life, health, property, the environment, or natural resources. At a minimum, the Decommissioning Plan shall address all of the following:

(1) Identification of the intended use of the wells and facilities after decommissioning, including a plan for obtaining requisite approvals for the use.

(2) A plan for managing remaining gas in the underground gas storage reservoir.

(3) A plan for repurposing or decommissioning all wells and facilities associated with the underground gas storage project.

(4) Consultation with the California Public Utilities Commission.

(5) Any other information requested by the Division on a project-specific basis.

(b) An underground gas storage project is subject to the requirements of this article until the Division has approved a Decommissioning Plan and the Division has certified that the operator has completed all steps required under the Decommissioning Plan to the Division's satisfaction.

Note: Authority cited: Sections 3013, 3106 and 3180, Public Resources Code. Reference: Sections 3106, 3180, 3181, 3220 and 3403.5, Public Resources Code.

FINAL REGULATION ORDER

California Code of Regulations, Title 17, Division 3, Chapter 1, Subchapter 10 Climate Change, Article 4

(Note: The entire text of sections 95665, 95666, 95667, 95668, 95669, 95670, 95671, 95672, 95673, 95674, 95675, 95676, and 95677 set forth below is new language in "normal type" proposed to be added to title 17, California Code of Regulations.)

Adopt new Subarticle 13, and sections 95665, 95666, 95667, 95668, 95669, 95670, 95671, 95672, 95673, 95674, 95675, 95676, 95677, Appendix A, Appendix B, and Appendix C, title 17, California Code of Regulations, to read as follows:

Subarticle 13: Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities

§ 95665. Purpose and Scope.

The purpose of this subarticle is to establish greenhouse gas emission standards for crude oil and natural gas facilities located in sectors identified in section 95666. This subarticle is designed to serve the purposes of the California Global Warming Solutions Act, AB 32, as codified in sections 38500-38599 of the Health and Safety Code.

NOTE: Authority cited: Sections 38510, 38562, 39600, 39601 and 41511, Health and Safety Code. Reference: Sections 38551, 38560, 39600 and 41511, Health and Safety Code.

§ 95666. Applicability.

(a) This subarticle applies to owners or operators of equipment and components listed in section 95668 located within California, including California waters, that are associated with facilities in the sectors listed below, regardless of emissions level:

(1) Onshore and offshore crude oil or natural gas production; and,
(2) Crude oil, condensate, and produced water separation and storage; and,
(3) Natural gas underground storage; and,
(4) Natural gas gathering and boosting stations; and,
(5) Natural gas processing plants; and,
(6) Natural gas transmission compressor stations.

(b) Owners and operators must ensure that their facilities, equipment, and components comply at all times with all requirements of this subarticle, including all of the standards and requirements identified in section 95668. Owners and operators are jointly and severally liable for compliance with this subarticle.

Attachment H: California Air Resources Board (CARB) – Greenhouse Gas Emission Standards

NOTE: Authority cited: Sections 38510, 38562, 39600, 39601 and 41511, Health and Safety Code. Reference: Sections 38551, 38560, 39600 and 41511, Health and Safety Code.

§ 95667. Definitions.

(a) For the purposes of this subarticle, the following definitions apply:

(1) “Air district or local air district” means the local Air Quality Management District or the local Air Pollution Control District.

(2) “Air Resources Board or ARB” means the California Air Resources Board.

(3) "API gravity" means a scale used to reflect the specific gravity (SG) of a fluid such as crude oil, condensate, produced water, or natural gas. The API gravity is calculated as [(141.5/SG) - 131.5], where SG is the specific gravity of the fluid at 60°F, and where API refers to the American Petroleum Institute.

(4) “Blowout” means the uncontrolled flow of gas, liquids, or solids (or a mixture thereof) from a well onto the surface.

(5) “Centrifugal compressor” means equipment that increases the pressure of natural gas by centrifugal action through an impeller. Screw, sliding vane, and liquid ring compressors are not centrifugal compressors for the purpose of this subarticle.

(6) “Centrifugal compressor seal” means a wet or dry seal around the compressor shaft where the shaft exits the compressor case.

(7) “Circulation tank” means a tank or portable tank used to circulate, store, or hold liquids or solids from a crude oil or natural gas well during or following a well stimulation treatment but prior to the well being put into production.

(8) “Commercial quality natural gas” means a mixture of gaseous hydrocarbons with at least 80 percent methane by volume and less than 10 percent by weight volatile organic compounds and meets the criteria specified in Public Utilities Commission General Order 58-A (November 10, 2016), which is incorporated herein by reference.

(9) “Component” means a valve, fitting, flange, threaded-connection, process drain, stuffing box, pressure-vacuum valve, pressure-relief device, pipes, seal fluid system, diaphragm, hatch, sight-glass, meter, open-ended line, well casing, natural gas powered pneumatic device, natural gas powered pneumatic pump, or reciprocating compressor rod packing or seal.

(10) “Condensate” means hydrocarbon or other liquid, excluding steam, either produced or separated from crude oil or natural gas during production and which condenses due to changes in pressure or temperature.

(11) "Continuous bleed" means the continuous venting of natural gas from a gas powered pneumatic device to the atmosphere. Continuous bleed pneumatic devices must vent continuously in order to operate.

(12) “Critical component” means any component that would require the shutdown of a critical process unit if that component was shutdown or disabled.

(13) "Critical process unit" means a process unit or group of components that must remain in service because of its importance to the overall process that requires it to continue to operate, and has no equivalent equipment to replace it or cannot be bypassed, and it is technically infeasible to repair leaks from that process unit without shutting it down and opening the process unit to the atmosphere.

(14) “Crude oil” means any of the naturally occurring liquids and semi-solids found in rock formations composed of complex mixtures of hydrocarbons ranging from one to hundreds of carbon atoms in straight and branched chain rings.

(15) “Crude oil and produced water separation and storage” means all activities associated with separating, storing or holding of emulsion, crude oil, condensate, or produced water at facilities to which this subarticle applies.

(16) “Emissions” means the discharge of natural gas into the atmosphere.

(17) “Emulsion” means any mixture of crude oil, condensate, or produced water with varying quantities of natural gas entrained in the liquids.

(18) “Equipment” means any stationary or portable machinery, object, or contrivance covered by this subarticle, as set out by sections 95666 and 95668.

(19) “Facility” means any building, structure, or installation to which this subarticle applies and which has the potential to emit natural gas. Facilities include all buildings, structures, or installations which:

(A) Are under the same ownership or operation, or which are owned or operated by entities which are under common control;

(B) Belong to the same industrial grouping either by virtue of falling within the same two-digit standard industrial classification code or by virtue of being part of a common industrial process, manufacturing process, or connected process involving a common raw material; and,

(C) Are located on one or more contiguous or adjacent properties.

(20) “Flash or flashing” means a process during which gas dissolved in crude oil, condensate, or produced water under pressure is released when the liquids are subject to a decrease in pressure, such as when the liquids are transferred from an underground reservoir to the earth’s surface or from a pressure vessel to an atmospheric tank.

(21) “Flash analysis testing” means the determination of emissions from crude oil, condensate, and produced water by using sampling and laboratory procedures used for measuring the volume and composition of gases released from the liquids, including the molecular weight, the weight percent of individual compounds, and a gas-oil or gas-water ratio.

(22) “Fuel gas system” means, for the purposes of this subarticle, any system that supplies natural gas as a fuel source to on-site natural gas powered equipment other than a vapor control device.

(23) “Gas disposal well” means, for the purpose of this subarticle, any well that is used for the subsurface injection of natural gas for disposal.

(24) “Gauge tank” means a tank found upstream of a separator and tank system which is used for measuring the amount of liquid produced by an oil well and receives or stores crude oil, condensate, or produced water.

(25) "Inaccessible component" means any component located over fifteen feet above ground when access is required from the ground; or any component located over six (6) feet away from a platform or a permanent support surface when access is required from the platform.

(26) "Intermittent bleed" means the intermittent venting of natural gas from a gas powered pneumatic device to the atmosphere. Intermittent bleed pneumatic devices may vent all or a portion of their supply gas when control action is necessary but do not vent continuously.

(27) “Leak or fugitive leak” means the unintentional release of emissions at a rate greater than or equal to the leak thresholds specified in this subarticle.

(28) “Leak detection and repair or LDAR” means the inspection of components to detect leaks of total hydrocarbons and the repair of components with leaks above the standards specified in this subarticle and within the timeframes specified in this subarticle.

(29) “Liquids unloading” means an activity conducted with the use of pressurized natural gas to remove liquids that accumulate at the bottom of a natural gas well and obstruct gas flow.

(30) “Natural gas” means a naturally occurring mixture or process derivative of hydrocarbon and non-hydrocarbon gases. Its constituents include the greenhouse gases methane and carbon dioxide, as well as heavier hydrocarbons. Natural gas may be field quality (which varies widely) or pipeline quality.

(31) "Natural gas gathering and boosting station" means all equipment and components located within a facility fence line associated with moving natural gas to a natural gas processing plant, transmission pipeline, or distribution pipeline.

(32) “Natural gas processing plant” means a plant used for the separation of natural gas liquids (NGLs) or non-methane gases from produced natural gas, or the separation of NGLs into one or more component mixtures.

(33) “Natural gas transmission compressor station” means all equipment and components located within a facility fence line associated with moving natural gas from production fields or natural gas processing plants through natural gas transmission pipelines, or within natural gas underground storage fields.

(34) "Natural gas transmission pipeline" means a state rate-regulated Intrastate pipeline, or a pipeline that falls under the “Hinshaw Exemption” as referenced in section 1(c) of the Natural Gas Act, 15 U.S.C. sections 717-717z.

(35) “Natural gas underground storage” means all equipment and components associated with the temporary subsurface storage of natural gas in depleted crude oil or natural gas reservoirs or salt dome caverns. Natural gas storage does not include gas disposal wells.

(36) “Non-associated gas” means natural gas that is not produced as a byproduct of crude oil production but may or may not be produced with condensate.

(37) “Offshore” means all marine waters located within the boundaries of the State of California.

(38) “Onshore” means all lands located within the boundaries of the State of California.

(39) “Operator” means any entity, including an owner or contractor, having operational control of components or equipment, including leased, contracted, or rented components and equipment to which this subarticle applies.

(40) “Optical gas imaging” means an instrument that makes emissions visible that may otherwise be invisible to the naked eye.

(41) “Owner” means the entity that owns or operates components or equipment to which this subarticle applies.

(42) "Photo-ionization detector or PID instrument" means a gas detection device that utilizes ultra-violet light to ionize gas molecules and is commonly employed in the detection of non-methane volatile organic compounds.

(43) “Pneumatic device” means an automation device that uses natural gas, compressed air, or electricity to control a process.

(44) “Pneumatic pump” means a device that uses natural gas or compressed air to power a piston or diaphragm in order to circulate or pump liquids.

(45) "Pond" means an excavation that is used for the routine storage and/or disposal of produced water and which is not used for crude oil separation or processing.

(46) “Portable equipment” means equipment designed for, and capable of, being carried or moved from one location to another and which it resides for less than 365 days. Portability indicators include, but are not limited to, the presence of wheels, skids, carrying handles, dolly, trailer, or platform.

(47) "Portable pressurized separator" means a pressure vessel that can be moved from one location to another by attachment to a motor vehicle without having to be dismantled and is capable of separating and sampling crude oil, condensate, or produced water at the temperature and pressure of the separator required for sampling.

(48) "Portable tank" means a tank that can be moved from one location to another by attachment to a motor vehicle without having to be dismantled.

(49) "Pressure separator" means a pressure vessel used for the primary purpose of separating crude oil and produced water or for separating natural gas and produced water.

(50) "Pressure vessel" means any hollow container used to hold gas or liquid and rated, as indicated by an ASME pressure rating stamp, and operated to contain normal working pressures of at least 15 psig without continuous vapor loss to the atmosphere.

(51) “Production” means all activities associated with the production or recovery of emulsion, crude oil, condensate, produced water, or natural gas at facilities to which this subarticle applies.

(52) “Produced water” means water recovered from an underground reservoir as a result of crude oil, condensate, or natural gas production and which may be recycled, disposed, or re-injected into an underground reservoir.

(53) “Reciprocating natural gas compressor” means equipment that increases the pressure of natural gas by positive displacement of a piston in a compression cylinder and is powered by an internal combustion engine or electric motor with a horsepower rating supplied by the manufacturer.

(54) “Reciprocating natural gas compressor rod packing” means a seal comprising of a series of flexible rings in machined metal cups that fit around the reciprocating compressor piston rod to create a seal limiting the amount of compressed natural gas that vents into the atmosphere.

(55) “Reciprocating natural gas compressor seal” means any device or mechanism used to limit the amount of natural gas that vents from a compression cylinder into the atmosphere.

(56) “Separator” means any tank or pressure separator used for the primary purpose of separating crude oil, produced water, and natural gas or for separating natural gas, condensate, and produced water. In crude oil production a separator may be referred to as a Wash Tank or as a three-phase separator. In natural gas production a separator may be referred to as a heater/separator.

(57) "Separator and tank system" means the first separator in a crude oil or natural gas production system and any tank or sump connected directly to the first separator.

(58) "Successful repair" means tightening, adjusting, or replacing equipment or a component for the purpose of stopping or reducing fugitive leaks below the minimum leak threshold or emission flow rate standard specified in this subarticle.

(59) “Sump” means a lined or unlined surface impoundment or excavated depression in the ground which, during normal operations, is used to separate, store, or hold emulsion, crude oil, condensate, or produced water.

(60) “Tank” means any container constructed primarily of non-earthen materials used for the purpose of storing, holding, or separating emulsion, crude oil, condensate, or produced water and that is designed to operate below 15 psig normal operating pressure.

(61) "Unsafe-to-Monitor Components" means components installed at locations that would prevent the safe inspection or repair of components as defined by

U.S. Occupational Safety and Health Administration (OSHA) standards or in provisions for worker safety found in 29 CFR Part 1910.

(62) "Vapor collection system" means equipment and components installed on pressure vessels, separators, tanks, or sumps including piping, connections, and flow-inducing devices used to collect and route emission vapors to a processing, sales gas, or fuel gas system; to a gas disposal well; or to a vapor control device.

(63) "Vapor control device" means destructive or non-destructive equipment used to control emissions.

(64) "Vapor control efficiency" means the ability of a vapor control device to control emissions, expressed as a percentage, which can be estimated by calculation or by measuring the total hydrocarbon concentration or mass flow rate at the inlet and outlet of the vapor control device.

(65) "Vent or venting" means the intentional or automatic release of natural gas into the atmosphere from components, equipment, or activities described in this subarticle.

(66) "Well" means a boring in the earth for the purpose of the following:

(A) Exploring for or producing oil or gas.
(B) Injecting fluids or gas for stimulating oil or gas recovery.
(C) Re-pressuring or pressure maintenance of oil or gas reservoirs.
(D) Disposing of oil field waste gas or liquids.
(E) Injection or withdraw of gas from an underground storage facility.

For the purpose of this subarticle, wells do not include active observation wells as defined in Public Resources Code Section 3008 subdivision (c), or wells that have been properly abandoned in accordance with Public Resources Code Section 3208.

(67) "Well casing vent" means an opening on a well head that blocks or allows natural gas to flow to the atmosphere or to a vapor collection system.

(68) "Well stimulation treatment" means the treatment of a well designed to enhance crude oil and natural gas production or recovery by increasing the permeability of the formation and as further defined by the Division of Oil, Gas, and Geothermal Resources SB 4 Well Stimulation Treatment Regulations, Title 14, Division 2, Chapter 4, Subchapter 2, Article 2, section 1761(a) (June 16, 2017), which is incorporated herein by reference.

NOTE: Authority cited: Sections 38510, 38562, 39600, 39601 and 41511, Health and Safety Code. Reference: Sections 38551, 38560, 39600 and 41511, Health and Safety Code.

§ 95668. Standards.

The following standards apply at all times to facilities located in sectors listed in section 95666. The availability of an exemption for any particular component or facility, or compliance with one of the standards, does not exempt the owner or operator of a facility from complying with other standards for equipment or processes located at a facility.

(a) *Separator and Tank Systems*

(1) Except as provided in section 95668(a)(2), the following requirements apply to separator and tank systems located at facilities located in sectors listed in section 95666.

(2) The requirements of section 95668(a) do not apply to the following, provided that an owner or operator maintains, and makes available upon request by the ARB Executive Officer, records necessary to verify compliance with the following provisions:

(A) Separator and tank systems that receive an average of less than 50 barrels of crude oil or condensate per day. The average daily production shall be determined using the annual production certified reports submitted to the California Department of Conservation Division of Oil, Gas, and Geothermal Resources (DOGGR) and dividing by 365 days per year.

(B) Separator and tank systems used in non-associated gas production that receive an average of less than 200 barrels of produced water per day. The average daily production shall be determined using the annual production certified reports submitted to the California Department of Conservation Division of Oil, Gas, and Geothermal Resources (DOGGR) and dividing by 365 days per year.

(C) Separator and tanks systems that are controlled as of January 1, 2018 with the use of a vapor collection system approved for use by a local air district.

(D) Separator and tank systems that are controlled using a gas blanket system to protect tanks from corrosion.

(E) Separators, tanks, and sumps that have contained crude oil, condensate, or produced water for 45 calendar days or fewer per calendar year provided that the owner or operator maintains, and can make available at the request of the ARB Executive Officer, a record of the number of days per year in which the separators, tanks, or sumps have contained liquid.

(F) Tanks used for temporarily separating, storing, or holding liquids from any newly constructed well for up to 90 calendar days following initial production from that well provided that the tank is not used to circulate liquids from a well that has been subject to a well stimulation treatment.

(G) Tanks used for temporarily separating, storing, or holding liquids from wells undergoing rework or inspection for up to 90 calendar days provided they are not used to circulate liquids from a well that has been subject to a well stimulation treatment.

(H) Tanks that recover an average of less than 10 gallons per day of any petroleum waste product from equipment provided that the owner or operator maintains, and can make available at the request of the ARB Executive Officer, a record of the amount of liquid recovered. The average daily production shall be determined by using annual production and dividing by 365 days.

(I) Gauge tanks with a capacity of less than or equal to 100 barrels.

(3) By January 1, 2018, owners or operators of existing separator and tank systems that are not controlled for emissions with the use of a vapor collection system shall conduct flash analysis testing of the crude oil, condensate, or produced water processed, stored, or held in the system.

(4) Beginning January 1, 2018, owners or operators of new separator and tank systems that are not controlled for emissions with the use of a vapor collection system shall conduct flash analysis testing of the crude oil, condensate, or produced water processed, stored, or held in the system within 90 days of initial system startup.

(5) Flash analysis testing shall be conducted as follows:

(A) Testing shall be conducted in accordance with the ARB Test Procedure for Determining Annual Flash Emission Rate of Gaseous Compounds from Crude Oil, Condensate, and Produced Water as described in Appendix C.

(B) Testing shall be conducted so that no crude oil, condensate, or produced water is diverted through a gauge tank that is open to the atmosphere and located upstream of the separator and tank system while testing is conducted.

(C) Calculate the annual methane emissions for the crude oil, condensate, and produced water using the test results provided by the laboratory.

(D) Sum the annual methane emissions for the crude oil, condensate, and produced water.

(E) Maintain a record of flash analysis testing as specified in section 95672 and report the results to ARB as specified in section 95673.

(F) The ARB Executive Officer may request additional flash analysis testing or information in the event that the test results reported do not reflect representative results of similar systems.

(G) An owner or operator may perform additional flash analysis testing within a single calendar year and use the average of all results within the calendar year to determine the annual emissions from the separator and tank system, provided that all test reports used in the averaging calculation are maintained and reported as specified in sections 95672 and 95673 of this subarticle.

(6) By January 1, 2019, owners or operators of an existing separator and tank system with an annual emission rate greater than 10 metric tons per year of methane shall control the emissions from the separator and tank system and uncontrolled gauge tanks located upstream of the separator and tank system with the use of a vapor collection system as specified in section 95671.

(7) Beginning January 1, 2018, owners or operators of new separator and tank systems with an annual emission rate greater than 10 metric tons per year of methane shall control the emissions from the separator and tank system and uncontrolled gauge tanks located upstream of the separator and tank system with the use of a vapor collection system as specified in section 95671 within 180 days of conducting flash analysis testing.

(8) Beginning January 1, 2019, owners or operators of a separator and tank system with an annual emission rate less than or equal to 10 metric tons per year of methane shall conduct flash analysis testing and reporting annually. If the results of three consecutive years of test results show that the system has an annual emission rate of less than or equal to 10 metric tons per year of methane the owner or operator may reduce the frequency of testing and reporting to once every five years.

(A) After the third consecutive year of testing, if the annual crude oil, condensate, or produced water throughput increases by more than 20 percent after one year from the date of previous flash analysis testing, then the annual methane emissions shall be recalculated using the laboratory reports from previous flash analysis testing.

(B) The owner or operator shall maintain, and make available upon request by the ARB Executive Officer, a record of the revised flash emission

calculation as specified in Appendix A, Table A1 and shall report the results to ARB within 90 days as specified in section 95673 of this subarticle.

(b) *Circulation Tanks for Well Stimulation Treatments*

(1) By January 1, 2018, owners or operators of circulation tanks that conduct well stimulation treatments at facilities located in sectors listed in section 95666 shall implement a best practices management plan that is designed to limit methane emissions from circulation tanks, and shall make that plan available upon request by the ARB Executive Officer. Each plan must contain a list of best practices to address the following issue areas:

(A) Inspection practices to minimize emissions from circulation tanks.
(B) Practices to minimize venting of emissions from circulation tanks.
(C) Practices to minimize the duration of liquid circulation.
(D) Alternative practices to control vented and fugitive emissions.

(2) By January 1, 2019, each owner or operator that conducts well stimulation treatments shall provide the ARB Executive Officer with a written report that details the results of equipment used to control emissions from circulation tanks with at least 95 percent vapor collection and control efficiency as follows:

(A) Each owner or operator, individually or as part of a group of owners and operators, must conduct a technology assessment and emissions testing in at least three different production fields from wells with different characteristics, such as depth of well or API gravity of crude oil or condensate.

1. Individual owners or operators may conduct a technology assessment and emissions testing within one or more production fields and submit the results to ARB, which will be combined with technical assessments performed by other owners or operators, until at least three reports are submitted from three different production fields.

(B) Each owner or operator or group of owners and operators must notify the ARB Executive Officer prior to conducting the technology assessment and provide an explanation of equipment to be evaluated and plans for emissions testing.

(C) The technology assessment shall include, but is not limited to, the following information relating to vapor collection and control equipment:

1. List of vapor collection and control equipment evaluated;

2. Test results demonstrating the functionality, emissions results, and technical feasibility of the equipment with written statements provided by equipment manufacturers;
3. Costs of the equipment;
4. Safety aspects related to the installation of the equipment;
5. Test results that provide the fuel flow rate and Higher Heating Value of gas collected; and
6. Test results that provide the report shall include the results of testing conducted by the owner or operator or equipment manufacturers that demonstrate the vapor collection and control efficiency and methane, criteria pollutant, and toxic air contaminant emissions before and after installation of the equipment.

(3) The ARB Executive Officer will review the results of the technology assessment and emissions testing specified in section 95668(b)(2) and provide a determination on the installation of vapor collection and control equipment by no later than July 1, 2019.

(4) By January 1, 2020, an owner or operator that conducts well stimulation treatments shall control emissions from circulation tanks with at least 95 percent vapor collection and control efficiency, unless the ARB Executive Officer makes a determination that controlling emissions is not possible for reasons identified in the technology assessment specified in section 95668(b)(2).

(A) If ARB has not made a determination on the installation of vapor collection and control equipment by July 1, 2019, an owner or operator to whom that determination would apply may continue to operate circulation tanks at a level below 95 percent vapor collection and control efficiency until 180 days after ARB makes the late determination.

(c) *Reciprocating Natural Gas Compressors*

(1) Except as provided in section 95668(c)(2), the following requirements apply to reciprocating natural gas compressors located at facilities located in sectors listed in section 95666.

(2) The requirements of section 95668(c) do not apply to the following:

(A) Reciprocating natural gas compressors that operate less than 200 hours per calendar year provided that the owner or operator maintains, and makes available upon request by the ARB Executive Officer, a record of the operating hours per calendar year.

(3) The following requirements apply to reciprocating natural gas compressors located at onshore or offshore crude oil or natural gas production facilities:

(A) Beginning January 1, 2018, components on driver engines and compressors shall comply with the leak detection and repair requirements specified in section 95669; and,

(B) The compressor rod packing or seal shall be tested during each inspection period in accordance with the leak detection and repair requirements specified in section 95669 while the compressor is running at normal operating temperature.

1. If the measurement is not obtained because the compressor is not operating for the scheduled test date and the remainder of the inspection period, then testing shall be conducted within 7 calendar days of resumed operation. The owner or operator shall maintain, and makes available upon request by the ARB Executive Officer, a copy of operating records that document the compressor hours of operation and run dates in order to demonstrate compliance with this requirement.

(C) Beginning January 1, 2019, compressor vent stacks used to vent rod packing or seal emissions shall be controlled with the use of a vapor collection system as specified in section 95671; or,

(D) A compressor with a rod packing or seal leak concentration measured above the minimum leak threshold specified in section 95669 shall be successfully repaired within 30 calendar days from the date of initial measurement.

1. A delay of repair may be granted by the ARB Executive Officer if the owner or operator can provide proof that the parts or equipment required to make necessary repairs have been ordered.

a. A delay of repair to obtain parts or equipment shall not exceed 30 calendar days, or 60 days from the date from of the initial measurement, unless the owner or operator notifies the ARB Executive Officer to report the delay and provides an estimated time by which the repairs will be completed.

(E) The owner or operator shall maintain, and make available upon request by the ARB Executive Officer, a record of a rod packing leak concentration measurement found above the minimum leak threshold as specified in Appendix A, Table A5 and shall report the results to ARB once per calendar year as specified in section 95673 of this subarticle.

(F) A reciprocating natural gas compressor with a rod packing or seal leak concentration measured above the minimum standard specified in section 95669 and which has been approved by the ARB Executive Officer as a critical component as specified in section 95670, shall be

successfully repaired by the end of the next scheduled process shutdown or within 12 months from the date of the initial leak concentration measurement, whichever is sooner.

(4) The following requirements apply to reciprocating natural gas compressors at natural gas gathering and boosting stations, natural gas processing plants, natural gas transmission compressor stations, and natural gas underground storage facilities located in sectors listed in section 95666 and which are not covered under section 95668(c)(3):

(A) Beginning January 1, 2018, components on driver engines and compressors shall comply with the leak detection and repair requirements specified in section 95669, except for the rod packing component subject to section 95668(d)(4)(B); and,

(B) The compressor rod packing or seal emission flow rate through the rod packing or seal vent stack shall be measured annually by direct measurement (high volume sampling, bagging, calibrated flow measuring instrument) while the compressor is running at normal operating temperature using one of the following methods:

1. Vent stacks shall be equipped with a meter or instrumentation to measure the rod packing or seal emissions flow rate; or,

2. Vent stacks shall be equipped with a clearly identified access port installed at a height of no more than six (6) feet above ground level or a permanent support surface for making individual or combined rod packing or seal emission flow rate measurements.

3. If the measurement is not obtained because the compressor is not operating for the scheduled test date and the remainder of the inspection period, then testing shall be conducted within 7 calendar days of resumed operation. The owner or operator shall maintain, and make available upon request by the ARB Executive Officer, a copy of operating records that document the compressor hours of operation and run dates in order to demonstrate compliance with this requirement.

(C) Beginning January 1, 2019, compressor vent stacks used to vent rod packing or seal emissions shall be controlled with the use of a vapor collection system as specified in section 95671; or,

(D) A compressor with a rod packing or seal with a measured emission flow rate greater than two (2) standard cubic feet per minute (scfm), or a combined rod packing or seal emission flow rate greater than the number of compression cylinders multiplied by two (2) scfm, shall be

successfully repaired within 30 calendar days from the date of the initial emission flow rate measurement.

1. A delay of repair may be granted by the ARB Executive Officer if the owner or operator can provide proof that the parts or equipment required to make necessary repairs have been ordered.

    a. A delay of repair to obtain parts or equipment shall not exceed 30 calendar days, or 60 days from the date from of the initial measurement, unless the owner or operator notifies the ARB Executive Officer to report the delay and provides an estimated time by which the repairs will be completed.

(E) The owner or operator shall maintain, and make available upon request by the ARB Executive Officer, a record of the flow rate measurement as specified in Appendix A, Table A7 and shall report the result to ARB once per calendar year as specified in section 95673 of this subarticle.

(F) A reciprocating natural gas compressor with a rod packing or seal emission flow rate measured above the standard specified in section 95668(c)(4)(D) and which has been approved by the ARB Executive Officer as a critical component as specified in section 95670, shall be successfully repaired by the end of the next scheduled process shutdown or within 12 months from the date of the initial flow rate measurement, whichever is sooner.

(d) *Centrifugal Natural Gas Compressors*

(1) Except as provided in section 95668(d)(2), the following requirements apply to centrifugal natural gas compressors located at onshore or offshore crude oil or natural gas production facilities, natural gas gathering and boosting stations, natural gas processing plants, natural gas transmission compressor stations, and natural gas underground storage facilities located in sectors listed in section 95666.

(2) The requirements of section 95668(d) do not apply to the following:

(A) Centrifugal natural gas compressors that operate less than 200 hours per calendar year provided that the owner or operator maintains, and can make available upon request by the ARB Executive Officer, a record of the operating hours per calendar year.

(3) Beginning January 1, 2018, components on driver engines and compressors that use a wet seal or a dry seal shall comply with the leak detection and repair requirements specified in section 95669; and,

(4) The compressor wet seal shall be measured annually by direct measurement (high volume sampling, bagging, calibrated flow measuring instrument) while the compressor is running at normal operating temperature in order to determine the wet seal emission flow rate using one of the following methods:

(A) Vent stacks shall be equipped with a meter or instrumentation to measure the wet seal emissions flow rate; or,

(B) Vent stacks shall be equipped with a clearly identified access port installed at a height of no more than six (6) feet above ground level or a permanent support surface for making wet seal emission flow rate measurements.

(C) If the measurement is not obtained because the compressor is not operating for the scheduled test date and the remainder of the inspection period, then testing shall be conducted within 7 calendar days of resumed operation. The owner or operator shall maintain, and make available upon request by the ARB Executive Officer, a copy of operating records that document the compressor hours of operation and run dates in order to demonstrate compliance with this requirement.

(5) Beginning January 1, 2019, centrifugal compressors with wet seals shall control the wet seal vent gas with the use of a vapor collection system as described in section 95671; or,

(6) A compressor with a wet seal emission flow rate greater than three (3) scfm, or a combined flow rate greater than the number of wet seals multiplied by three (3) scfm, shall be successfully repaired within 30 calendar days of the initial flow rate measurement.

(A) A delay of repair may be granted by the ARB Executive Officer if the owner or operator can provide proof that the parts or equipment required to make necessary repairs have been ordered.

1. A delay of repair to obtain parts or equipment shall not exceed 30 calendar days, or 60 days from the date from of the initial measurement, unless the owner or operator notifies the ARB Executive Officer to report the delay and provides an estimated time by which the repairs will be completed.

(7) If parts are not available to make the repairs, the wet seal shall be replaced with a dry seal by no later than January 1, 2020.

(8) The owner or operator shall maintain, and make available upon request by the ARB Executive Officer, a record of the flow rate measurement as

specified in Appendix A, Table A7 and shall report the result to ARB once per calendar year as specified in section 95673 of this subarticle.

(9) A centrifugal natural gas compressor with a wet seal emission flow rate measured above the standard specified in section 95668(d)(6) and which has been approved by the ARB Executive Officer as a critical component as specified in section 95670, shall be successfully repaired by the end of the next scheduled process shutdown or within 12 months from the date of the initial flow rate measurement, whichever is sooner.

(e) *Natural Gas Powered Pneumatic Devices and Pumps*

(1) The following requirements apply to natural gas powered pneumatic devices and pumps located at facilities located in sectors listed in section 95666:

(2) Beginning January 1, 2019, continuous bleed natural gas pneumatic devices shall not vent natural gas to the atmosphere and shall comply with the leak detection and repair requirements specified in section 95669.

(A) Continuous bleed natural gas powered pneumatic devices installed prior to January 1, 2016 may be used provided they meet all of the following requirements as of January 1, 2019:

1. No device shall vent natural gas at a rate greater than six (6) standard cubic feet per hour (scfh) when the device is idle and not actuating.

2. All devices are clearly marked with a permanent tag that identifies the natural gas flow rate as less than or equal to six (6) scfh.

3. All devices are tested annually using a direct measurement method (high volume sampling, bagging, calibrated flow measuring instrument); and,

4. Any device with a measured emissions flow rate greater than six (6) scfh shall be successfully repaired within 14 calendar days from the date of the initial emission flow rate measurement.

5. The owner or operator shall maintain, and make available upon request by the ARB Executive Officer, a record of the flow rate measurement as specified in Appendix A, Table A7 and shall report the result to ARB once per calendar year as specified in section 95673 of this subarticle.

(3) Beginning January 1, 2018, intermittent bleed natural gas powered pneumatic devices shall comply with the leak detection and repair requirements specified in section 95669 when the device is idle and not controlling.

(4) Beginning January 1, 2019, natural gas powered pneumatic pumps shall not vent natural gas to the atmosphere and shall comply with the leak detection and repair requirements specified in section 95669.

(5) Continuous bleed natural gas powered pneumatic devices and pumps which need to be replaced or retrofitted to comply with the requirements specified shall do so by one of the following methods:

(A) Collect all vented natural gas with the use of a vapor collection system as specified in section 95671; or,

(B) Use compressed air or electricity to operate.

(f) *Liquids Unloading of Natural Gas Wells*

(1) Beginning January 1, 2018, owners or operators of natural gas wells at facilities located in sectors listed in section 95666 that are vented to the atmosphere for the purpose of liquids unloading shall perform one of the following:

(A) Collect the vented natural gas with the use of a vapor collection system as specified in section 95671; or,

(B) Measure the volume of natural gas vented by direct measurement (high volume sampling, bagging, calibrated flow measuring instrument); or,

(C) Calculate the volume of natural gas vented using the Liquid Unloading Calculation listed in Appendix B or according to the Air Resources Board Regulation for the Mandatory Reporting of Greenhouse Gas Emissions, Title 17, Division 3, Chapter 1, Subchapter 10, Article 2, Subarticle 5, Section 95153(e) (December 31, 2014), which is incorporated herein by reference; and,

(D) Record the volume of natural gas vented and specify the calculation method used or specify if the volume was measured by direct measurement as specified in Appendix A, Table A2.

(2) Owners or operators shall maintain, and make available upon request by the ARB Executive Officer, a record of the volume of natural gas vented to perform liquids unloading as well as equipment installed in the natural gas well(s) designed to automatically perform liquids unloading (e.g., foaming agent, velocity tubing, plunger lift, etc.) as specified in Appendix A, Table A2

and shall report the results to ARB once per calendar year as specified in section 95673 of this subarticle.

(g) *Well Casing Vents*

(1) Beginning January 1, 2018, owners or operators of wells located at facilities located in sectors listed in section 95666 with a well casing vent that is open to the atmosphere shall measure the natural gas flow rate from the well casing vent annually by direct measurement (high volume sampling, bagging, calibrated flow measuring instrument); and,

(2) The owner or operator shall maintain, and make available upon request by the ARB Executive Officer, a record of each well casing vent flow rate measurement as specified in Appendix A, Table A7 and shall report the results to ARB once per calendar year as specified in section 95673 of this subarticle.

(h) *Natural Gas Underground Storage Facility Monitoring Requirements*

(1) As of the effective date of this subarticle, owners or operators of natural gas underground storage facilities located in sectors listed in section 95666 that have a leak detection protocol approved by the Department of Conservation Division of Oil, Gas, and Geothermal Resources shall continue to implement that plan until a monitoring plan is fully approved by ARB and all monitoring equipment specified in this subarticle is installed and fully operational.

(2) By January 1, 2018, owners or operators of natural gas underground storage facilities listed in section 95666 shall submit to ARB a monitoring plan that contains equipment specifications and procedures for each of the monitoring requirements specified in section 95668(h)(5) of this subarticle; and,

(3) By July 1, 2018, the ARB will approve in full or in part, or disapprove in full or in part, a monitoring plan based on whether it is sufficient to meet the requirements specified in section 95668(h)(5).

(A) Revisions to monitoring plans must be submitted to ARB within 14 calendar days of ARB notification; and,

(B) ARB will approve in full or in part, or disapprove in full or in part, the revisions to the monitoring plan within 14 calendar days of submittal to ARB.

(4) Within 180 days of ARB approval, owners or operators of natural gas underground storage facilities listed in section 95666 shall begin monitoring each facility according to the monitoring plan specified in section 95668(h)(5) of this subarticle.

(5) Each natural gas underground storage facility monitoring plan shall at a minimum contain procedures for validating data and alarms, procedures for documenting the event of a well blowout, and equipment specifications and procedures for performing the following types of monitoring at the facility:

(A) Continuous air monitoring to measure upwind and downwind ambient concentrations of methane at sufficient locations throughout the facility to identify methane emissions in the atmosphere.

1. The monitoring system must have at least one sensor located in a predominant upwind location and at least one sensor located in a predominant downwind location with the ability to continuously record measurements.

a. The upwind and downwind instruments shall have the capability to measure ambient concentrations of methane within minimum 250 ppb accuracy to determine upwind and downwind emissions baselines.

b. The upwind and downwind instruments shall be calibrated at least once annually unless more frequent calibrations are recommended by the equipment manufacturer. Any defective instrumentation shall be repaired or replaced within 14 calendar days from the date of calibration or the discovery of a malfunction.

2. The monitoring system shall have sufficient sensors to continuously measure meteorological conditions at the facility including ambient temperature, ambient pressure, relative humidity, wind speed, and wind direction with the ability to continuously record measurements.

3. The monitoring system must the have the ability to store at least 24 months of continuous instrument data and the ability to generate hourly, daily, weekly, monthly, and annual reports.

4. The monitoring system must have an integrated alarm system that is audible and visible continuously in the control room at the facility and in remote control centers.

5. All data collected by the monitoring system must be made available upon request of the ARB Executive Officer, and reported to ARB annually as specified in section 95673 for publication on an ARB maintained public internet web site.

6. By January 1, 2020, the facility, in conjunction with the ARB Executive Officer, shall establish baseline monitoring conditions for

the facility using at least 12 months of continuous monitoring data; and,

7. The monitoring system shall be programmed to trigger the alarm system at any time the downwind sensor(s) detects a reading that is greater than or equal to four (4) times the downwind sensor(s) baseline or in the event of a sensor failure; and,

8. In the event that an alarm is triggered, the facility owner or operator shall confirm that an alarm condition has occurred and then contact the ARB, the Department of Conservation Department of Oil, Gas, and Geothermal Resources, and the local air district within 24 hours of the alarm trigger to notify the agencies of the alarm condition.

9. The upwind and downwind baseline conditions may be re-evaluated every 12 months for changes in local conditions.

    a. Modifications to baseline conditions must be approved by ARB.

    b. Requests for modification to baseline conditions shall be approved in full or in part, or disapproved in full or in part, by the ARB within 3 months from the date of requested modifications.

(B) Daily or continuous leak screening at each injection/withdrawal wellhead assembly and attached pipelines according to one or both of the following methods:

1. Daily leak screening with the use of United States Environmental Protection Agency (US EPA) Reference Method 21-Determination of Volatile Organic Compound Leaks, (October 1, 2017) which is hereby incorporated by reference, as specified in section 95669 of this subarticle, Optical Gas Imaging, or other natural gas leak screening instruments approved by the ARB Executive Officer.

2. Continuous leak screening with the use of automated instruments and a monitoring system with an alarm system that is both audible and visible in the control room and at remote control centers.

    a. The alarm system shall be triggered at any time a leak is detected above 50,000 ppmv total hydrocarbons or above 10,000 ppmv total hydrocarbons if the 10,000 ppmv leak persists for more than 5 continuous calendar days.

b. The alarm system shall be triggered in the event of a sensor failure.

c. The monitoring system shall use a data logging system with the ability to store at least two (2) years of continuous monitoring data.

d. Quarterly, the alarm system shall be tested to ensure that the system and sensors are functioning properly. Any defective instrumentation shall be repaired or replaced within 14 calendar days from the date of alarm system testing.

e. At least annually, all sensors shall be calibrated unless more frequent calibrations are required by the manufacturer. Any defective instrumentation shall be repaired or replaced within 14 calendar days from the date of calibration.

f. The owner or operator shall maintain, and make available upon request by the ARB Executive Officer, records of monitoring system data, records of calibration, and records of alarm system testing.

3. All leaks identified during daily leak screening or identified by the continuous monitoring system shall be tested within 24 hours of initial leak detection in accordance with US EPA Reference Method 21 (October 1, 2017) excluding the use of PID instruments for total hydrocarbons measured in units of parts per million volume (ppmv) calibrated as methane as specified in section 95669 of this subarticle.

4. All leaks shall be successfully repaired within the repair timeframes specified for each leak threshold as specified in section 95669 of this subarticle.

5. A well blowout at an injection/withdrawal well constitutes a violation of this subarticle.

6. At any time a leak is identified above 50,000 ppmv total hydrocarbons or above 10,000 ppmv total hydrocarbons for more than 5 continuous calendar days, the owner or operator shall confirm that an alarm condition has occurred and then notify the ARB, the California Department of Conservation Division of Oil, Gas, and Geothermal Resources, and the local air district within 24 hours of the initial leak measurement.

7. Owners or operators shall maintain, and make available upon request by the ARB Executive Officer, a record of the initial and final leak concentration measurements for leaks identified during daily leak screening or identified by a continuous leak monitoring system that are measured above the minimum allowable leak threshold as specified in Appendix A Table A5.

8. Owners or operators shall report the results of the initial and final leak concentration measurements for leaks identified during daily leak screening or identified by a continuous leak monitoring system as specified in section 95673 of this subarticle.

(C) In the event of a well blowout, daily Optical Gas Imaging (OGI) of the leak found at the injection/withdrawal head assembly shall be performed in accordance with the following provisions:

1. OGI shall be performed by a technician with a certification or training in infrared theory, infrared inspections, and heat transfer principles (e.g., Level II Thermography or equivalent).

2. OGI video footage of the leak shall be recorded for a minimum of 10 minutes every four (4) hours through the blowout incident; and,

3. OGI video footage of the leak shall be made available upon by request by the ARB Executive Officer for publication on an ARB maintained public internet web site; and;

4. OGI video footage of the leak shall be made publicly available by the facility by posting the video footage on a facility maintained public internet web site throughout the course of the blowout incident.

NOTE: Authority cited: Sections 38510, 38562, 39600, 39601, 41511 and 42710, Health and Safety Code. Reference: Sections 38551, 38560, 39600, 41511 and 42710, Health and Safety Code.

§ 95669. Leak Detection and Repair.

(a) Except as provided in section 95669(b), the following leak detection and repair requirements apply to facilities located in sectors listed in section 95666.

(b) The requirements of this section do not apply to the following:

(1) Components, -- including components found on tanks, separators, wells, and pressure vessels -- that are subject to local air district leak detection and repair requirements if the requirements were in place prior to January 1, 2018.

(2) Components, -- including components found on tanks, separators, wells, and pressure vessels -- used exclusively for crude oil with an API Gravity less than 20 averaged on an annual basis. The average annual API gravity shall be determined using certified reports submitted to the California Department of Conservation Division of Oil, Gas, and Geothermal Resources.

(3) Components incorporated into produced water lines located downstream of a separator and tank system that is controlled with the use of a vapor collection system.

(4) Natural gas distribution pipelines located at a crude oil production facility used for the delivery of commercial quality natural gas and which are not owned or operated by the crude oil production facility.

(5) Components that are buried below ground. The portion of well casing that is visible above ground is not considered a buried component.

(6) Components used to supply compressed air to equipment or instrumentation.

(7) One-half inch and smaller stainless steel tube fittings used to supply natural gas to equipment or instrumentation that have been measured using US EPA Reference Method 21 (October 1, 2017) and verified to be below the minimum allowable leak threshold at startup or during the first leak inspection performed after installation.

(8) Components operating under a negative gauge pressure or below atmospheric pressure.

(9) Components at a crude oil or natural gas production facility that are located downstream from the point of transfer of custody and which are not owned or operated by the production facility.

(10) Temporary components used for general maintenance and used less than 300 hours per calendar year if the owner or operator maintains, and can make available at the request of the ARB Executive Officer, a record of the date when the components were installed.

(11) Well casing vents that are open to the atmosphere which are subject to the requirements specified in section 95668(g) of this subarticle.

(12) Components found on steam injection wells or water flood wells.

(13) Pneumatic devices or pumps that use compressed air or electricity to operate.

(14) A compressor rod packing which is subject to annual emission flow rate testing as specified in section 95668(c)(4)(B) of this subarticle.

(c) Beginning January 1, 2018, all components, including components found on tanks, separators, wells, and pressure vessels not identified in section 95669(b) shall be inspected and repaired within the timeframes specified in this section.

(d) The ARB Executive Officer may perform inspections at facilities at any time to determine compliance with the requirements specified in this section.

(e) Except for inaccessible or unsafe to monitor components, owners or operators shall audio-visually inspect (by hearing and by sight) all hatches, pressure-relief valves, well casings, stuffing boxes, and pump seals for leaks or indications of leaks at least once every 24 hours for facilities that are visited daily, or at least once per calendar week for facilities that are not visited at least once every 24 hours; and,

(1) Owners or operators shall audio-visually inspect all pipes for leaks or indications of leaks at least once every 12 months.

(f) Any audio-visual inspection specified in 95669(e) that indicates a leak that cannot be repaired within 24 hours shall be tested using US EPA Reference Method 21 (October 1, 2017) within 24 hours after initial leak detection, and the leak shall be repaired in accordance with the repair timeframes specified in this section.

(1) For leaks detected during normal business hours, the leak measurement shall be performed within 24 hours. For leaks detected after normal business hours or on a weekend or holiday, the deadline is shifted to the end of the next normal business day.

(2) Any leaks measured above the minimum leak threshold shall be successfully repaired within the timeframes specified in this section.

(g) At least once each calendar quarter, all components shall be tested for leaks of total hydrocarbons in units of parts per million volume (ppmv) calibrated as methane in accordance with US EPA Reference Method 21 (October 1, 2017) excluding the use of PID instruments.

(1) Optical Gas Imaging (OGI) instruments may be used as a leak screening device, but may not be used in place of US EPA Reference Method 21 (October 1, 2017) during quarterly leak inspections, provided they are approved for use by the ARB Executive Officer and used by a technician with a certification or training in infrared theory, infrared inspections, and heat transfer principles (e.g., Level II Thermography or equivalent training); and,

(A) All leaks detected with the use of an OGI instrument shall be measured using US EPA Reference Method 21 (October 1, 2017) 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 this subarticle.

(2) All inaccessible or unsafe to monitor components shall be inspected at least once annually using US EPA Reference Method 21 (October 1, 2017).

(h) Beginning January 1, 2018 and through December 31, 2019, any component with a leak concentration measured above the following standards shall be repaired within the time period specified:

(1) Leaks with measured total hydrocarbon concentrations greater than or equal to 10,000 ppmv but not greater than 49,999 ppmv shall be successfully repaired or removed from service within 14 calendar days of initial leak detection.

(2) Leaks with measured total hydrocarbon concentrations greater than or equal to 50,000 ppmv shall be successfully repaired or removed from service within five (5) calendar days of initial leak detection.

(3) Critical components or critical process units shall be successfully repaired by the end of the next process shutdown or within 12 months from the date of initial leak detection, whichever is sooner.

(4) A delay of repair may be granted by the ARB Executive Officer under the following conditions:

(A) The owner or operator can provide proof that the parts or equipment required to make necessary repairs have been ordered.

1. A delay of repair to obtain parts or equipment shall not exceed 30 calendar days from the date identified in Table 2 by which repairs must be made, unless the owner or operator notifies the ARB Executive Officer to report the delay and provides an estimated time by which the repairs will be completed.

(B) A gas service utility can provide documentation that a system has been temporarily classified as critical to reliable public gas system operation as ordered by the utility's gas control office.

Table 1 - Allowable Number of Leaks
January 1, 2018 through December 31, 2019

Leak Threshold	200 or Less Components	More than 200 Components
10,000-49,999 ppmv	5	2% of total inspected
50,000 ppmv or greater	2	1% of total inspected

Table 2 - Repair Time Periods
January 1, 2018 through December 31, 2019

Leak Threshold	Repair Time Period
10,000-49,999 ppmv	14 calendar days
50,000 ppmv or greater	5 calendar days
Critical Components and Critical Process Units	Next scheduled shutdown or within 12 months, whichever is sooner

(i) On or after January 1, 2020, any component with a leak concentration measured above the following standards shall be repaired within the time period specified:

(1) Leaks with measured total hydrocarbon concentrations greater than or equal to 1,000 ppmv but not greater than 9,999 ppmv shall be successfully repaired or removed from service within 14 calendar days of initial leak detection.

(2) Leaks with measured total hydrocarbon concentrations greater than or equal to 10,000 ppmv but not greater than 49,999 ppmv shall be successfully repaired or removed from service within five (5) calendar days of initial leak detection.

(3) Leaks with measured total hydrocarbon concentrations greater than or equal to 50,000 ppmv shall be successfully repaired or removed from service within two (2) calendar days of initial leak detection.

(4) Critical components or critical process units shall be successfully repaired by the end of the next process shutdown or within 12 months from the date of initial leak detection, whichever is sooner.

(5) A delay of repair may be granted by the ARB Executive Officer under the following conditions:

(A) The owner or operator can provide proof that the parts or equipment required to make necessary repairs have been ordered.

1. A delay of repair to obtain parts or equipment shall not exceed 30 calendar days from the date identified in Table 4 by which repairs must be made, unless the owner or operator notifies the ARB Executive Officer to report the delay and provides an estimated time by which the repairs will be completed.

(B) A gas service utility can provide documentation that a system has been temporarily classified as critical to reliable public gas system operation as ordered by the utility's gas control office.

Table 3 - Allowable Number of Leaks
On or After January 1, 2020

Leak Threshold	200 or Less Components	More than 200 Components
1,000-9,999 ppmv	5	2% of total inspected
10,000-49,999 ppmv	2	1% of total inspected
50,000 ppmv or greater	0	0

Table 4 - Repair Time Periods
On or After January 1, 2020

Leak Threshold	Repair Time Period
1,000-9,999 ppmv	14 calendar days
10,000-49,999 ppmv	5 calendar days
50,000 ppmv or greater	2 calendar days
Critical Components and Critical Process Units	Next scheduled shutdown or within 12 months, whichever is sooner

(j) Upon detection of a component with a leak concentration measured above the standards specified, the owner or operator shall affix to that component a weatherproof readily visible tag that identifies the date and time of leak detection measurement and the measured leak concentration. The tag shall remain affixed to the component until all of the following conditions are met:

(1) The leaking component has been successfully repaired or replaced; and,

(2) The component has been re-inspected and measured below the lowest standard specified for the inspection year when measured in accordance with US EPA Reference Method 21 (October 1, 2017), excluding the use of PID instruments.

(3) Tags shall be removed from components following successful repair.

(k) Owners or operators shall maintain, and make available upon request by the ARB Executive Officer, a record of all leaks found at the facility as specified in Appendix A, Tables A4 and A5, and shall report the results to ARB once per calendar year as specified in section 95673 of this subarticle.

Additional Requirements

(l) Hatches shall remain closed at all times except during sampling, adding process material, or attended maintenance operations.

(m) Open-ended lines and valves located at the end of lines shall be sealed with a blind flange, plug, cap or a second closed valve, at all times except during operations requiring liquid or gaseous process fluid flow through the open-ended line. Open-ended lines do not include vent stacks used to vent natural gas from equipment and cannot be sealed for safety reasons. Open-ended lines shall be repaired as follows:

(1) Open-ended lines that are not capped or sealed shall be capped or sealed within 14 calendar days from the date of initial inspection.

(2) Open-ended lines that are capped or sealed and found leaking shall be repaired in accordance with the timeframes specified in sections 95669(h) and 95669(i).

(n) Components or component parts which incur five (5) repair actions within a continuous 12-month period shall be replaced with a compliant component in working order and must be re-measured using US EPA Reference Method 21 (October 1, 2017), to determine that the component is below the minimum leak threshold. A record of the replacement must be maintained in a log at the facility, and shall be made available upon request by the ARB Executive Officer.

(o) Compliance with Leak Detection and Repair Requirements:

(1) Between January 1, 2018 and December 31, 2019, no facility shall exceed the number of allowable leaks specified in Table 1 during an ARB Executive Officer inspection as determined in accordance with US EPA Reference Method 21 (October 1, 2017), excluding the use of PID instruments.

(2) On or after January 1, 2020, no facility shall exceed the number of allowable leaks specified in Table 3 during an ARB Executive Officer inspection as determined in accordance with US EPA Reference Method 21 (October 1, 2017), excluding the use of PID instruments.

(3) On or after January 1, 2020, no component shall exceed a leak of total hydrocarbons greater than or equal to 50,000 ppmv during an ARB Executive Officer inspection as determined in accordance with US EPA Reference Method 21 (October 1, 2017), excluding the use of PID instruments.

(4) The failure of an owner or operator to repair leaks within the timeframes specified in this subarticle during any inspection period shall constitute a violation of this subarticle.

(5) Except for the fourth (4^{th}) quarterly inspection of each calendar year, leaks discovered during an operator conducted inspection shall not constitute a violation if the leaking components are repaired within the timeframes specified in this subarticle.

NOTE: Authority cited: Sections 38510, 38562, 39600, 39601 and 41511, Health and Safety Code. Reference: Sections 38551, 38560, 39600 and 41511, Health and Safety Code.

§ 95670. Critical Components.

(a) By January 1, 2018 or within 180 days from installation, critical components used in conjunction with a critical process unit at facilities located in sectors listed in section 95666 must be pre-approved by the ARB Executive Officer if owners or operators wish to claim any critical component exemptions available under this subarticle.

(1) Critical components that have been designated as critical under an existing local air district leak detection and repair program as of January 1, 2018 are not subject the critical component requirements specified in this subarticle.

(b) Owners or operators must provide sufficient documentation demonstrating that a critical component is required as part of a critical process unit and that shutting down the critical component or process unit would impact safety or reliability of the natural gas system.

(c) A request for a critical component or process unit approval is made by submitting a record of the component or process unit as specified in Appendix A, Table A3 along with supporting documentation to the ARB at the address listed in section 95673(b).

(d) Owners or operators shall maintain, and make available upon request by the ARB Executive Officer, a record of all critical components or process units located at the facility as specified in Appendix A, Table A3.

(e) Each critical component or critical process unit must be identified according to one of the following methods:

(1) Identify each component using a weatherproof, readily visible tag that indicates it as an ARB approved critical component and includes the date of ARB Executive Officer approval; or,

(2) Provide a diagram or drawing of all critical components or the critical process unit upon request by the ARB Executive Officer.

(f) Approval of a critical component may be granted only if owners or operators fully comply with this section. The ARB Executive Officer retains discretion to deny any request for critical component or process unit approval.

NOTE: Authority cited: Sections 38510, 38562, 39600, 39601 and 41511, Health and Safety Code. Reference: Sections 38551, 38560, 39600 and 41511, Health and Safety Code.

§ 95671. Vapor Collection Systems and Vapor Control Devices.

(a) Beginning January 1, 2019, the following requirements apply to equipment at facilities located in sectors listed in section 95666 that must be controlled with the use of a vapor collection system and control device as a result of the requirements specified in section 95668 of this subarticle.

(b) Unless section 95671(c) applies, the vapor collection system shall direct the collected vapors to one of the following:

(1) Sales gas system; or,
(2) Fuel gas system; or,
(3) Gas disposal well not currently under review by the Division of Oil and Gas and Geothermal Resources.

(c) If no sales gas system, fuel gas system, or gas disposal well specified in section 95671(b) is available at the facility, the owner or operator must control the collected vapors as follows:

(1) For facilities without an existing vapor control device installed at the facility, the owner or operator must install a new vapor control device as specified in section 95671(d); or,

(2) For facilities currently operating a vapor control device and which are required to control additional vapors as a result of this subarticle, the owner or operator must replace the existing vapor control device with a new vapor control device as specified in section 95671(d) to control all of the collected vapors, if the device does not already meet the requirements specified in section 95671(d).

(d) Any vapor control device required in section 95671(c) must meet the following requirements:

(1) If the vapor control device is to be installed in a region classified as in attainment with all state and federal ambient air quality standards, the vapor control device must achieve at least 95 percent vapor control efficiency of total emissions and must meet all applicable federal, state, and local air district requirements; or,

(2) If the vapor control device is to be installed in a region classified as non-attainment with, or which has not been classified as in attainment of, all state and federal ambient air quality standards, the owner or operator must install one of the following devices that meets all applicable federal, state, and local air district requirements:

(A) A non-destructive vapor control device that achieves at least 95 percent vapor control efficiency of total emissions and does not result in emissions of nitrogen oxides (NO_x); or,

(B) A vapor control device that achieves at least 95 percent vapor control efficiency of total emissions and does not generate more than 15 parts per million volume (ppmv) NO_x when measured at 3 percent oxygen and does not require the use of supplemental fuel gas, other than gas required for a pilot burner, to operate.

(e) If the collected vapors cannot be controlled as specified in sections 95671(b) through (d) of this subarticle, the equipment subject to the vapor collection and control requirements specified in this subarticle may not be used or installed and must be removed from service by January 1, 2019, and circulation tanks may not be used and must be removed from service by January 1, 2020.

(f) Vapor collection systems and control devices are allowed to be taken out of service for up to 30 calendar days per calendar year for performing maintenance.

(1) A time extension to perform maintenance not to exceed 14 calendar days per calendar year may be granted by the ARB Executive Officer.

(A) The owner or operator is responsible for maintaining a record of the number of calendar days per calendar year that the vapor collection system or vapor control device is out of service and shall provide a record of such activity at the request of the ARB Executive Officer.

(2) If an alternate vapor control device compliant with this section is installed prior to conducting maintenance and the vapor collection and control system continues to collect and control vapors during the maintenance operation consistent with the applicable standards specified in section 95671, the event does not count towards the 30 calendar day limit.

(3) Vapor collection system and control device shutdowns that result from utility power outages are not subject to enforcement action provided the equipment resumes normal operation as soon as normal utility power is restored. Vapor collection system and control device shutdowns that result from utility power outages do not count towards the 30 calendar day limit for maintenance.

NOTE: Authority cited: Sections 38510, 38562, 39600, 39601 and 41511, Health and Safety Code. Reference: Sections 38551, 38560, 39600 and 41511, Health and Safety Code.

§ 95672. Record Keeping Requirements.

(a) Beginning January 1, 2018, owners or operators of facilities located in sectors listed in section 95666 subject to requirements specified in sections 95668, 95669, 95670, and 95671 shall maintain, and make available upon request by the ARB Executive Officer, a copy of records necessary to verify compliance with the provisions of this subarticle which include the following:

Flash Analysis Testing

(1) Maintain, for at five years from the date of each flash analysis test, a record of the flash analysis testing that shall include the following:

(A) A sketch or diagram of each separator and tank system tested that identifies the liquid sampling location and all pressure vessels, separators tanks, sumps, and ponds within the system; and,

(B) A record of the flash analysis testing results, calculations, and a description of the separator and tank system as specified in Appendix A Table A1; and,

(C) A field testing form for each flash analysis test conducted as specified in Appendix C Form 1; and,

(D) The laboratory report(s) for each flash analysis test conducted.

Separator and Tank Systems

(2) Maintain at least five years of records submitted to the Department of Conservation, Division of Oil, Gas, and Geothermal Resources that document each separator and tank system crude oil, condensate, and produced water throughput.

(3) Maintain at least five years of records that document the basis for an exemption from the separator and tank system requirements as specified in section 95668(a)(2).

Circulation Tanks for Well Stimulation Treatments

(4) Maintain a copy of the best practices management plan as specified in section 95668(b)(1) designed to limit methane emissions from circulation tanks.

Reciprocating Natural Gas Compressors

(5) Maintain, for at least five years from the date of each leak concentration measurement, a record of each rod packing leak concentration measurement found above the minimum leak threshold as specified in Appendix A, Table A5.

(6) Maintain, for at least five years from the date of each emissions flow rate measurement, a record of each rod packing emission flow rate measurement as specified in Appendix A, Table A7.

(7) Maintain, for at least one calendar year, a record that documents the date(s) and hours of operation a compressor is operated in order to demonstrate compliance with the rod packing leak concentration or emission flow rate measurement in the event that the compressor is not operating during a scheduled inspection.

(8) Maintain records that provide proof that parts or equipment required to make necessary repairs have been ordered.

Centrifugal Natural Gas Compressors

(9) Maintain, for at least five years from the date of each emissions flow rate measurement, a record of each wet seal emission flow rate measurement as specified in Appendix A, Table A7.

(10) Maintain, for at least one calendar year, a record that documents the date(s) and hours of operation a compressor is operated in order to demonstrate compliance with the wet seal emission flow rate measurement in the event that the compressor is not operating during a scheduled inspection.

(11) Maintain records that provide proof that parts or equipment required to make necessary repairs have been ordered.

Natural Gas Powered Pneumatic Devices

(12) Maintain, for at least five years from the date of each emissions flow rate measurement, a record of the emission flow rate measurement as specified in Appendix A, Table A7.

Liquids Unloading of Natural Gas Wells

(13) Maintain, for at least five years from the date of each liquids unloading measurement or calculation, a record of the measured or calculated volume of natural gas vented to perform liquids unloading and equipment installed in the natural gas well(s) designed to automatically perform liquids unloading (e.g., foaming agent, velocity tubing, plunger lift, etc.) as specified in Appendix A Table A2.

Well Casing Vents

(14) Maintain, for at least five years from the date of each emissions flow rate measurement, a record of each well casing vent emission flow rate measurement as specified in Appendix A, Table A7.

Underground Natural Gas Storage

(15) Maintain, for at least five years from the date of each leak concentration measurement, a record of the initial and final leak concentration measurement for leaks identified during daily leak inspections or identified by a continuous leak monitoring system and measured above the minimum allowable leak threshold as specified in Appendix A Table A5.

(16) Maintain, for at least five years, records of both meteorological and upwind and downwind air monitoring data as specified in section 95668(h)(A)(5).

Leak Detection and Repair

(17) Maintain, for at least five years from each inspection, a record of each leak detection and repair inspection as specified in Appendix A Table A4.

(18) Maintain, for at least five years from the date of each inspection, a component leak concentration and repair form for each inspection as specified in Appendix A Table A5.

(19) Maintain records that provide proof that parts or equipment required to make necessary repairs have been ordered.

(20) Maintain gas service utility records that demonstrate that a system has been temporarily classified as critical to reliable public gas operation throughout the duration of the classification period.

Vapor Collection System and Vapor Control Devices

(21) Maintain records that provide proof that parts or equipment required to make necessary repairs have been ordered.

NOTE: Authority cited: Sections 38510, 38562, 39600, 39601, 39607 and 41511, Health and Safety Code. Reference: Sections 38551, 38560, 39600 and 41511, Health and Safety Code.

§ 95673. Reporting Requirements.

(a) Beginning January 1, 2018, owners or operators of facilities located in sectors listed in section 95666 subject to requirements specified in sections 95668 and 95669 shall report the following information to ARB by July 1st of each calendar year unless otherwise specified:

Flash Analysis Testing

(1) Within 90 days of performing flash analysis testing or recalculating annual methane emissions, report the test results, calculations, and a description of the separator and tank system as specified in Appendix A, Table A1.

Reciprocating Natural Gas Compressors

(2) Annually, report the leak concentration for each rod packing or seal measured above the minimum leak threshold as specified in Appendix A, Table A5.

(3) Annually, report the emission flow rate measurement for each rod packing or seal as specified in Appendix A, Table A7.

Centrifugal Natural Gas Compressors

(4) Annually, report the emission flow rate measurement for each wet seal as specified in Appendix A, Table A7.

Natural Gas Powered Pneumatic Devices

(5) Annually, report the emission flow rate measurement for each pneumatic device with a designed emission flow rate of less than six (6) scfh as specified in Appendix A, Table A7.

Liquids Unloading of Natural Gas Wells

(6) Annually, report the measured or calculated volume of natural gas vented to perform liquids unloading and equipment installed in the natural gas well(s) designed to automatically perform liquids unloading as specified in Appendix A Table A2.

Well Casing Vents

(7) Annually, report the emission flow rate measurement for each well casing vent that is open to atmosphere as specified in Appendix A, Table A7.

Underground Natural Gas Storage

(8) Within 24 hours of receiving an alarm or identifying a leak that is measured above 50,000 ppmv total hydrocarbons or above 10,000 ppmv total hydrocarbons for more than 5 consecutive calendar days at a natural gas injection/withdrawal wellhead assembly and attached pipelines, the owner or operator shall notify the ARB, the Department of Oil, Gas, and Geothermal Resources, and the local air district to report the leak concentration measurement.

(9) Within 24 hours of receiving an alarm signaled by a downwind air monitoring sensor(s) that detects a reading that is greater than four (4) times the downwind sensor(s) baseline, the owner or operator shall notify the ARB, the Department of Oil, Gas, and Geothermal Resources, and the local air district to report the emissions measurement.

(10) Quarterly, report the initial and final leak concentration measurement for leaks identified during daily inspections or identified by a continuous leak monitoring system and measured above the minimum allowable leak threshold as specified in Appendix A Table A5.

(11) Annually, report meteorological data and data gathered by the upwind and downwind monitoring sensors.

Leak Detection and Repair

(12) Annually, report the results of each leak detection and repair inspection conducted during the calendar year as specified in Appendix A, Table A4.

(13) Annually, report the initial and final leak concentration measurements for components measured above the minimum allowable leak threshold as specified in Appendix A Table A5.

(b) Reports may be e-mailed electronically to ARB with the subject line "O&G GHG Regulation Reporting" to oilandgas@arb.ca.gov or mailed to:

California Air Resources Board
Attention: O&G GHG Regulation Reporting
Industrial Strategies Division
1001 I Street, PO Box 2815
Sacramento, California 95814

NOTE: Authority cited: Sections 38510, 38562, 39600, 39601, 39607 and 41511, Health and Safety Code. Reference: Sections 38551, 38560, 39600 and 41511, Health and Safety Code.

§ 95674. Implementation.

(a) *Implementation by ARB and by the Local Air Districts*

(1) The requirements of this subarticle are provisions of state law and are enforceable by both ARB and the local air districts where equipment covered by this subarticle is located. Local air districts may incorporate the terms of this subarticle into local air district rules. An owner or operator of equipment subject to this subarticle must pay any fees assessed by a local air district for the purposes of recovering the district's cost of implementing and enforcing the requirements of this subarticle. Any penalties secured by a local air district as the result of an enforcement action that it undertakes to enforce the provisions of this subarticle may be retained by the local air district.

(2) The ARB Executive Officer, at his or her discretion, may enter into an agreement or agreements with any local air district to further define funding, implementation and enforcement processes, including arrangements further specifying approaches for implementation and enforcement of this subarticle, and for information sharing between ARB and local air districts relating to this subarticle.

(3) Implementation and enforcement of the requirements of this subarticle by a local air district may in no instance result in a standard, requirement, or prohibition less stringent than provided for by this subarticle, as determined by the Executive Officer. The terms of any local air district permit or rule relating to this subarticle do not alter the terms of this subarticle, which remain as separate requirements for all sources subject to this subarticle.

(4) Implementation and enforcement of the requirements of this subarticle by a local air district, including inclusion or exclusion of any of its terms within any local air district permit, or within a local air district rule, or registration of a facility with a local air district or ARB, does not in any way waive or limit ARB's authority to implement and enforce upon the requirements of this subarticle. A facility's permitting or registration status also in no way limits the ability of a local air district to enforce the requirements of this subarticle.

(b) *Requirements for Regulated Facilities*

(1) Local Air District Permitting Application Requirements

(A) Owners or operators of facilities or equipment regulated by this subarticle, and who are required by federal, state, or local law to hold local air district permits that cover those facilities or equipment shall apply for local air district permit terms ensuring compliance with this

article. This requirement applies to facilities or equipment upon issuance of any new local air district permit covering these facilities or equipment, or upon the scheduled renewal of an existing permit covering these facilities or equipment.

(B) If, after the effective date of this subarticle, any local air district amends or adopts permitting rules that result in additional equipment or facilities regulated by this subarticle becoming subject to local air district permitting requirements, then owners or operators of that equipment or facility must apply for terms in any applicable local air district permits for that equipment or facility that ensure compliance with this subarticle.

(2) Registration Requirements

(A) Owners or operators of facilities or equipment that are regulated by this subarticle shall register the equipment at each facility by reporting the following information to ARB as specified in Appendix A Table A6 no later than January 1, 2018, unless the local air district has established a registration or permitting program that collects at least the following information, and has entered into a Memorandum of Agreement with ARB specifying how information is to be shared with ARB.

1. The owner or operator's name and contact information.

2. The address or location of each facility with equipment regulated by this subarticle.

3. A description of all equipment covered by this subarticle located at each facility including the following:

   a. The number of crude oil or natural gas wells at the facility.
   b. A list identifying all pressure vessels, tanks, separators, sumps, and ponds at the facility, including the size of each tank and separator in units of barrels.
   c. The annual crude oil, natural gas, and produced water throughput of the facility.
   d. A list identifying all reciprocating and centrifugal natural gas compressors at the facility.
   e. A count of all natural gas powered pneumatic devices and pumps at the facility.

4. The permit numbers of all local air district permits issued for the facility or equipment, and an identification of permit terms that ensure compliance with the terms of this subarticle, or an explanation of why such terms are not included.

5. An attestation that all information provided in the registration is provided by a party authorized by the owner or operator to do so, and that the information is true and correct.

(B) Updates to these reports, recording any changes in this information, must be filed with ARB, or, as relevant, with the local air district no later than January 1 of the calendar year after the year in which any information required by this subarticle has changed.

(3) Owners or operators of equipment subject to this subarticle must comply with all the requirements of sections 95666, 95667, 95668, 95669, 95670, 95671, 95672, 95673, and 95674 of this subarticle, regardless of whether or not they have complied with the permitting and registration requirements of this section.

NOTE: Authority cited: Sections 38510, 38562, 39600, 39601, 39603, 39607 and 41511, Health and Safety Code. Reference: Sections 38551, 38560, 39600, 40701, 40702, 41511, 42300, 42301 and 42311, Health and Safety Code.

§ 95675. Enforcement.

(a) Failure to comply with the requirements of this subarticle at any individual piece of equipment subject to this subarticle constitutes a single, separate violation of this subarticle.

(b) Each day, or portion thereof, that an owner or operator is not in full compliance with the requirements of this subarticle is a single, separate violation of this subarticle.

(c) Each metric ton of methane emitted in violation of this subarticle constitutes a single, separate violation of this subarticle.

(d) Failure to submit any report required by this subarticle shall constitute a single, separate violation of this subarticle for each day or portion thereof that the report has not been received after the date the report is due.

(e) Failure to retain and failure to produce any record that this subarticle requires to be retained or produced shall each constitute a single, separate violation of this subarticle for each day or portion thereof that the record has not been retained or produced.

(f) Submitting or producing inaccurate information required by this subarticle shall be a violation of this subarticle.

(g) Falsifying any information or record required to be submitted or retained by this subarticle, or submitting or producing inaccurate information, shall be a violation of this subarticle.

NOTE: Authority cited: Sections 38510, 38562, 38580, 39600, 39601, 39607 and 41511, Health and Safety Code. Reference: Sections 38551, 38560, 39600 and 41511, Health and Safety Code.

§ 95676. No Preemption of More Stringent Air District or Federal Requirements.

This regulation does not preempt any more stringent requirements imposed by any Air District. Compliance with this subarticle does not excuse noncompliance with any Federal regulation. The ARB Executive Officer retains authority to determine whether an Air District requirement is more stringent than any requirement of this subarticle.

NOTE: Authority cited: Sections 38510, 38562, 39600, 39601 and 41511, Health and Safety Code. Reference: Sections 38551, 38560, 39600 and 41511, Health and Safety Code.

§ 95677. Severability.

Each part of this subarticle is deemed severable, and in the event that any part of this subarticle is held to be invalid, the remainder of the subarticle shall continue in full force and effect.

NOTE: Authority cited: Sections 38510, 38562, 39600, 39601 and 41511, Health and Safety Code. Reference: Sections 38551, 38560, 39600 and 41511, Health and Safety Code.

Appendix A
Record Keeping and Reporting Forms

Table A1
Flash Analysis Testing Record Keeping and Reporting Form

Tank System ID:						
Testing Date:						
Facility Name:				Air District:		
Owner/Operator Name:				Signature*:		
Address:						
City:			State:		Zip:	
Contact Person:			Phone Number:			
Crude Oil or Condensate Flash Test and Calculation Results						
API Gravity	GOR (scf/bbl)	Molecular Weight	WT% CH4	Sample Temp (°F)	Throughput (bbl/day)	Metric Tons CH4/Yr
Produced Water Flash Test and Calculation Results						
GWR (scf/bbl)	Molecular Weight	WT% CH4	Sample Temp (°F)	Throughput (bbl/day)	Metric Tons CH4/Yr	
Days in Operation per Year:						
Combined Annual Methane Emission Rate: MTCH4/Yr						
Separator and Tank System Description						
Total Number in Separator and Tank System			Total Number on Vapor Collection			
Wells:						
Pressure Vessels:						
Pressure Separators:						
Separators:						
Tanks:						
Sumps:						
Ponds:						

*By signing this form, I am attesting that I am authorized to do so, and that the information provided is true and correct.

Table A2
Liquids Unloading Record Keeping and Reporting Form

	Facility Name:			Air District:
	Owner/Operator Name:			Signature*:
	Address:			
City:			State:	Zip:
Contact Person:			Phone Number:	

Date	Well ID	Volume of Natural Gas Vented (Mcf)	Calculation Method or Measured	Automation Equipment**

*By signing this form, I am attesting that I am authorized to do so, and that the information provided is true and correct.
**Automation equipment includes foaming agent, velocity tubing, plunger lift, etc.

Table A3
Designated Critical Component Form

Facility Name:		Air District:
Owner/Operator Name:		Signature*:
Address:		
City:	State:	Zip:
Contact Person:	Phone Number:	
Component Type:		Approval Date:

*By signing this form, I am attesting that I am authorized to do so, and that the information provided is true and correct.

Table A4
Leak Detection and Repair Inspection
Record Keeping and Reporting Form

Inspection Date:		
Facility Name:	Air District:	
Owner/Operator Name:	Signature*:	
Address:		
City:	State:	Zip:
Contact Person:	Phone Number:	
Inspection Company Name:		
Number of Leaks per Leak Threshold Category	Percentage of Total Components Inspected	
1,000 to 9,999 ppmv:		
10,000 to 49,999 ppmv:		
50,000 ppmv or Greater:		
Total Components Inspected:		

*By signing this form, I am attesting that I am authorized to do so, and that the information provided is true and correct.

Table A5
Component Leak Concentration and Repair
Record Keeping and Reporting Form

Inspection Date:			
Facility Name:		Air District:	
Owner/Operator Name:		Signature*:	
Address:			
City:	State:	Zip:	
Contact Person:	Phone Number:		
Inspection Company Name:			
US EPA Reference Method 21 Instrument Make/Model:			
Instrument Calibration Date:			
Component Type	Initial Leak Concentration (ppmv)	Repair Date	Concentration After Repair (ppmv)

*By signing this form, I am attesting that I am authorized to do so, and that the information provided is true and correct.

Table A6
Reporting and Registration Form for Facilities

Date:			
Facility Name:		Air District:	
Facility Address or Location:			
Owner/Operator Name:		Signature*:	
Address:			
City:		State:	Zip:
Contact Person:		Phone Number:	
Crude Oil Annual Throughput: (bbls)		Number of Wells:	
Condensate Annual Throughput: (bbls)		Number of Wells:	
Produced Water Annual Throughput: (bbls)		Number of Wells:	
Description and Size of Separators, Tanks, Sumps and Ponds (bbls)	Description of Natural Gas Compressors	Number of Gas Powered Pneumatic Devices	Number of Gas Powered Pneumatic Pumps

*By signing this form, I am attesting that I am authorized to do so, and that the information provided is true and correct.

Table A7
Emission Flow Rate Record Keeping and Reporting Form

Facility Name:	Air District:	
Facility Address or Location:		
Owner/Operator Name:	Signature*:	
Address:		
City:	State:	Zip:
Contact Person:	Phone Number:	
Type of Equipment or Well ID	Measurement Date	Flow Rate (scfm or scfh)

*By signing this form, I am attesting that I am authorized to do so, and that the information provided is true and correct.

Appendix B

Calculation for Determining Vented Natural Gas Volume from Liquids Unloading of Natural Gas Wells

$$E_{scf} = \left(\frac{V * P_1 * T_2}{P_2 * T_1}\right) + (FR * HR)$$

Where:

E_{scf} is the natural gas emissions per event in scf

$V = \pi * r^2 * D$ (volume of the well)

$r = \frac{CD}{2}$ (radius of the well)

CD is the casing diameter in feet

D is the depth of the well in feet

P_1 is the shut-in pressure of the well in psia

P_2 is 14.7 psia (standard surface pressure)

T_1 is the temperature of the well at shut-in pressure in °F

T_2 is 60 °F (standard surface temperature)

FR is the metered flowrate of the well or the sales flowrate of the well in scf/hour

HR is the hours the well was left open to atmosphere during unloading

$$CH_4\ emissions = E_{scf} * MF_{CH_4} * MV * MW_{CH_4} * \left(\frac{metric\ ton}{2204.6 lb}\right)$$

Where:

$CH_4\ emissions$ is in metric tons per event

$MF_{CH_4} = \frac{lbmole\ CH_4}{lbmole\ gas}$ (mole fraction of CH_4 in the natural gas)

$MV = \frac{1\ lbmole\ gas}{379.3\ scf\ gas}$ (molar volume)

$MW_{CH_4} = \frac{16 lb\ CH_4}{lbmole\ CH_4}$ (molecular weight of CH_4)

Appendix C

Test Procedure for Determining Annual Flash Emission Rate of Gaseous Compounds from Crude Oil, Condensate, and Produced Water

1. PURPOSE AND APPLICABILITY

In crude oil and natural gas production, flash emissions may occur when gas dissolved in crude oil, condensate, or produced water is released from the liquids due to a decrease in pressure or increase in temperature, such as when the liquids are transferred from an underground reservoir to the earth's surface. This procedure is used for determining the annual flash emission rate from tanks used to separate, store, or hold crude oil, condensate, or produced water. The laboratory methods required to conduct this procedure are used to measure methane and other gaseous compounds.

2. PRINCIPLE AND SUMMARY OF TEST PROCEDURE

This procedure is conducted by collecting samples of crude oil or condensate and produced water upstream of a separator or tank where flashing may occur. Samples must be collected under pressure and according to the methods specified in this procedure. If a pressure separator is not available for collecting samples, sampling shall be conducted using a portable pressurized separator.

Two sampling methods are specified for collecting liquid samples and are referenced in GPA Standard 2174-93 Sections 2.1c and 2.1a. The first method requires a double valve cylinder and the second requires a piston-type constant pressure cylinder. Both methods shall be conducted as specified in this procedure.

The laboratory methods specified for this procedure are based on American Standards and Testing Materials (ASTM), US Environmental Protection Agency (US EPA), and Gas Processor Association (GPA) methods. These laboratory methods measure the volume and composition of gases that flash from the liquids, including a Gas-Oil or Gas-Water Ratio, as well as the molecular weight and weight percent of the gaseous compounds. Included are procedures for measuring the bubble point pressure and conducting a laboratory flash analysis. The laboratory results are used with the crude oil or condensate or produced water throughput to calculate the mass of emissions that are flashed from the liquids per year.

3. DEFINITIONS

For the purposes of this procedure, the following definitions apply:

3.1 "Air Resources Board or ARB" means the California Air Resources Board.

3.2 "API Gravity" means a scale used to reflect the specific gravity (SG) of a fluid such as crude oil, condensate, produced water, or natural gas. The API gravity is calculated as [(141.5/SG) - 131.5], where SG is the specific gravity of the fluid at 60°F, and where API refers to the American Petroleum Institute.

3.3 "Bubble point pressure" means the pressure, at the pressurized sample collection temperature, at which the first bubble of gas comes out of solution.

3.4 "Condensate" means hydrocarbon and other liquid either produced or separated from crude oil or natural gas during production and which condenses due to changes in pressure or temperature.

3.5 "Crude oil" means any of the naturally occurring liquids and semi-solids found in rock formations composed of complex mixtures of hydrocarbons ranging from one to hundreds of carbon atoms in straight and branched chain rings.

3.6 "Double valve cylinder" means a metal cylinder equipped with valves on either side for collecting crude oil, condensate, or produced water samples.

3.7 "Emissions" means the discharge of natural gas into the atmosphere.

3.8 "Emulsion" means any mixture of crude oil, condensate, or produced water with varying amounts of natural gas contained in the liquid.

3.9 "Flash or flashing" means a process during which gas dissolved in crude oil, condensate, or produced water under pressure is released when subject to a decrease in pressure, such as when liquids are transferred from an underground reservoir to a tank on the earth's surface or from a pressure vessel to an atmospheric tank.

3.10 "Floating Piston cylinder" means a metal cylinder containing an internal pressurized piston for collecting crude oil, condensate, or produced water samples.

3.11 "Gas-Oil Ratio (GOR)" means a measurement used to describe the volume of gas that is flashed from a barrel of crude oil or condensate in a separator and tank system.

3.12 "Gas-Water Ratio (GWR)" means a measurement used to describe the volume of gas that is flashed from a barrel of produced water in a separator and tank system.

3.13 "Natural gas" means a naturally occurring mixture or process derivative of hydrocarbon and non-hydrocarbon gases, of which its constituents include methane, carbon dioxide, and heavier hydrocarbons. Natural gas may be field quality (which varies widely) or pipeline quality.

3.14 "Operating pressure" means the pressure of the vessel from which a sample is collected. If no vessel pressure gauge is available or the difference between the sampling train pressure gauge and vessel pressure gauge readings is greater than +/- 5 psig, the sampling train pressure gauge reading shall be used to record the pressure on Form 1.

3.15 "Operating temperature" means the temperature of the vessel from which a sample is collected. If no vessel temperature gauge is available or the difference between the sampling train temperature gauge reading and the vessel temperature gauge reading is greater than +/- 4 °F, then the sampling train temperature gauge reading shall be used to record the temperature on Form 1.

3.16 "Portable pressurized separator" means a sealed vessel that can be moved from one location to another by attachment to a motor vehicle without having to be dismantled and is used for separating and sampling crude oil, condensate, or produced water at the temperature and pressure of the separator and tank system required for sampling.

3.17 "Pressure separator" means a pressure vessel used for the primary purpose of separating crude oil and produced water or for separating natural gas and produced water.

3.18 "Pressure vessel" means any vessel rated, as indicated by an ASME pressure rating stamp, and operated to contain normal working pressures of at least 15 psig without vapor loss to the atmosphere and may be used for the separation of crude oil, condensate, produced water, or natural gas.

3.19 "Produced water" means water recovered from an underground reservoir as a result of crude oil, condensate, or natural gas production and which may be recycled, disposed, or re-injected into an underground reservoir.

3.20 "Separator" means any tank or pressure separator used for the primary purpose of separating crude oil and produced water or for separating natural gas, condensate, and produced water. In crude oil production a separator may be referred to as a Wash Tank or as a three-phase separator. In natural gas production a separator may be referred to as a heater/separator.

3.21 "Separator and tank system" means the first separator in a crude oil or natural gas production system and any tank or sump connected directly to the first separator.

3.22 "Tank" means any container constructed primarily of non-earthen materials used for the purpose of storing, holding, or separating emulsion, crude oil, condensate, or produced water and that is designed to operate below 15 psig normal operating pressure.

3.23 "Target temperature" means the temperature at which a pressurized hydrocarbon liquid is flashed, and is therefore the temperature of the first atmospheric separator or tank.

3.24 "Throughput" means the average volume of crude oil, condensate, or produced water expressed in units of barrels per day.

4. BIASES AND INTERFERENCES

4.1 The sampling method used to collect a liquid sample will have an impact on the final results reported. Liquid samples shall be collected in accordance with the sampling procedures specified in this procedure.

4.2 The location from where a sample is collected will have an impact on the final results reported. Liquid samples shall be collected from a pressure separator or portable pressurized separator as specified in this procedure.

4.3 Collecting liquid samples from a pressure separator or portable pressurized separator that periodically drains liquids will have an impact on the final results reported. Samples shall not be collected from a pressure separator or portable pressurized separator while it periodically drains liquids and shall only be taken when a drain valve is closed.

4.4 Collecting liquid samples using an empty double valve cylinder will allow gases to flash from the cylinder and will have an impact on the final results reported. Samples collected using a double valve cylinder shall be collected as specified in this procedure.

4.5 Displacing liquids from a double valve cylinder that are reactive and not immiscible with the sample liquid collected will result in gas composition or volume errors and will affect the final results reported. Displacement liquids shall be pre-tested by a laboratory to verify that the liquid is non-reactive and is immiscible with the sample liquid collected.

4.6 Non-calibrated equipment including pressure or temperature gauges will have an impact the final results reported. All pressure and temperature measurements shall be conducted with calibrated gauges as specified in this procedure and shall be calibrated at least twice per year.

4.7 Conducting laboratory procedures other than those specified in this procedure will have an impact on the final results reported. All laboratory

methods and quality control and quality assurance procedures shall be conducted as specified in this procedure.

4.8 The collection of duplicate samples is recommended to verify reported results.

4.9 Failure to perform the bubble point pressure and sample integrity check may affect the reported results.

4.10 Performing a flash analysis by a means other than the method specified in this procedure may affect the reported results.

5. SAMPLING EQUIPMENT SPECIFICATIONS

5.1 An intrinsically safe pressure gauge capable of measuring liquid pressures of up to 2,000 pounds per square inch absolute within +/- 0.1 percent accuracy.

5.2 A temperature gauge capable of reading liquid temperature within +/- 2°F and within a range of 32°F to 250°F.

5.3 A graduated cylinder capable of measuring liquid in at least five (5) milliliter increments with at least the same capacity as the double valve cylinder used for liquid sampling.

5.4 A portable pressurized separator that is sealed from the atmosphere and is used for collecting crude oil, condensate, and produced water samples at the temperature and pressure of the separator and tank system being sampled.

6. SAMPLING EQUIPMENT

6.1 A double valve cylinder or a piston cylinder of at least 300 milliliters in volume for collecting crude oil or condensate samples or at least 800 milliliters in volume for collecting produced water samples.

6.2 A graduated cylinder for use with double valve cylinder.

6.3 A waste container suitable for capturing and disposing sample liquid.

6.4 High-pressure rated metal components and control valves that can withstand the temperature and pressure of the pressure separator from which sample liquid is gathered.

6.5 Pressure gauges with minimum specifications listed in Section 5.

6.6 Temperature gauge with minimum specifications listed in Section 5.

6.7 If required, a portable pressurized separator with minimum specifications listed in Section 5.

7. DATA REQUIREMENTS

7.1 The data required to conduct this procedure shall be provided by the facility owner or operator prior to conducting the sampling methods specified in this procedure. Field sampling shall not be performed until all data requirements are provided as listed in Section 7.2 and as specified on Form 1.

7.2 For each sample collected, the following data shall be recorded on the sample cylinder identification tag and on Form 1 prior to conducting a sample collection method:

(a) The separator identification number or description.

(b) The separator temperature and pressure if available.

(c) First downstream atmospheric tank or separator temperature.

8. DOUBLE VALVE CYLINDER SAMPLING METHOD

8.1 Fill the double valve cylinder with non-reactive liquid that is immiscible with the liquid to be collected to prevent flashing within the cylinder and to prevent the displacement liquid from mixing or attaining homogeneity with the sample liquid.

(a) As an alternative for collecting produced water samples, the double valve cylinder may be filled with sample water under the same pressure as the vessel to be sampled and then purged according to the procedure specified in section 8.6.

8.2 Identify a pressure separator immediately upstream of the separator or tank required for testing. If no pressure separator is available, install a portable pressurized separator immediately upstream of the separator or tank that can be used to collect crude oil, condensate, and produced water samples.

8.3 Record the sample collection data requirements specified in Section 7 on the cylinder identification tag and on Form 1.

8.4 Locate the sampling port(s) for collecting liquid samples.

8.5 Connect the sampling train as illustrated in Figure 1 to the sampling port on the pressure separator or portable pressurized separator while minimizing

tubing between the purge valve and cylinder as shown. Bushings or reducers may be required.

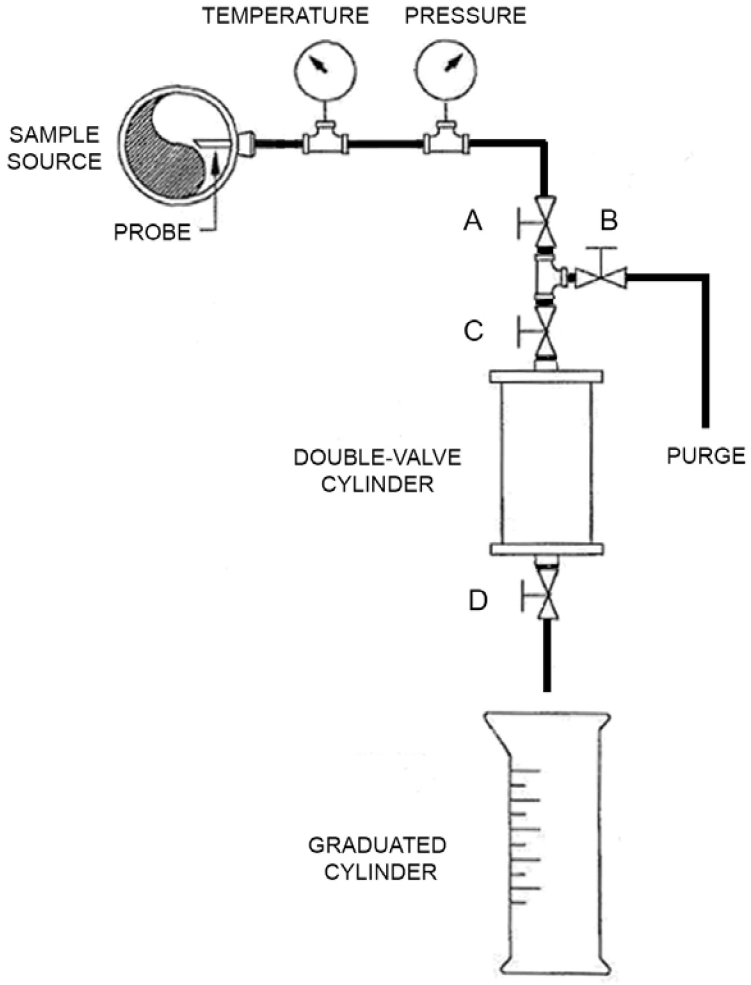
8.6 Purge the sampling train: Place the outlet of valve B into the waste container. With valves B, C and D closed, slowly open valve A completely, and then slowly open valve B to purge the sample train until a steady stream of liquid without gas pockets is observed, and then close valve B.

8.7 Prepare for sampling: Orient the double-valve cylinder in the vertical position so that displacement liquid can readily be discharged from the cylinder. Note that the orientation of valves C and D depend on the type of sample being collected and the liquid used for displacement. Based on density differences in liquids, the heaviest liquid must be introduced or expelled from the bottom of cylinder. See Figure 2.

(a) If the alternative method for collecting a produced water sample is chosen, the cylinder must be purged at a rate not to exceed 60 milliliters per minute until at least 1600 milliliters (two cylinder volumes) are purged through the cylinder that has been previously filled with pressurized sample water prior to proceeding further.

8.8 Slowly open valve C to the full open position and place the outlet of valve D into the graduated cylinder.

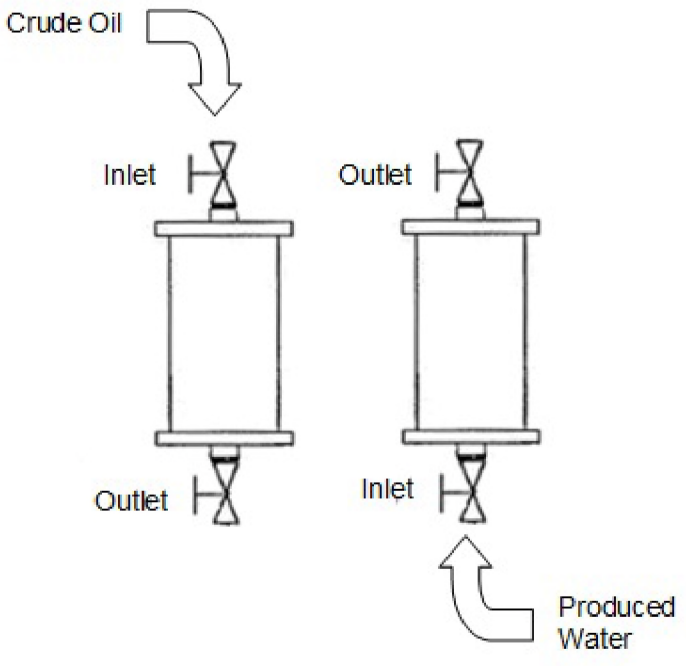
Figure 1: Double Valve Cylinder Sampling Train



8.9 Collect liquid sample: Slowly open valve D to allow a slow displacement of the non-reactive displacement liquid at a rate not to exceed 60 milliliters per minute to prevent the sample liquid from flashing. Continue until approximately 70 percent of the displacement liquid is measured in the graduated cylinder. Then close valves D and C.

8.10 Record the pressure and temperature on Form 1.

Figure 2: Double Valve Cylinder Orientation



8.11 Record the double valve cylinder volume and the volume of liquid sampled on the cylinder identification tag and on Form 1.

8.12 Drain approximately 20 percent of the remaining displacement liquid into the graduated cylinder to take outage and record the actual volume of liquid drained on Form 1. This is required for safety and to prevent a pressurized cylinder from exploding during transport.

8.13 Disconnect the sample cylinder from the sampling train and verify that both valves are sealed.

8.14 Remove sampling train: With valves D and C closed, purge any remaining liquid in the sampling train through valve B. Then close valves A and B. Disconnect the sampling train from the pressure separator or portable pressurized separator.

8.15 Verify that all of the data requirements are recorded on the cylinder identification tag and on Form 1.

8.16 Transport the cylinder to the laboratory for conducting the laboratory methods specified in Section 12.

9. PISTON CYLINDER SAMPLING METHOD

9.1 Identify a pressure separator immediately upstream of the separator or tank required for testing. If no pressure separator is available, install a portable pressurized separator immediately upstream of the separator or tank that can be used to collect crude oil, condensate, and produced water samples.

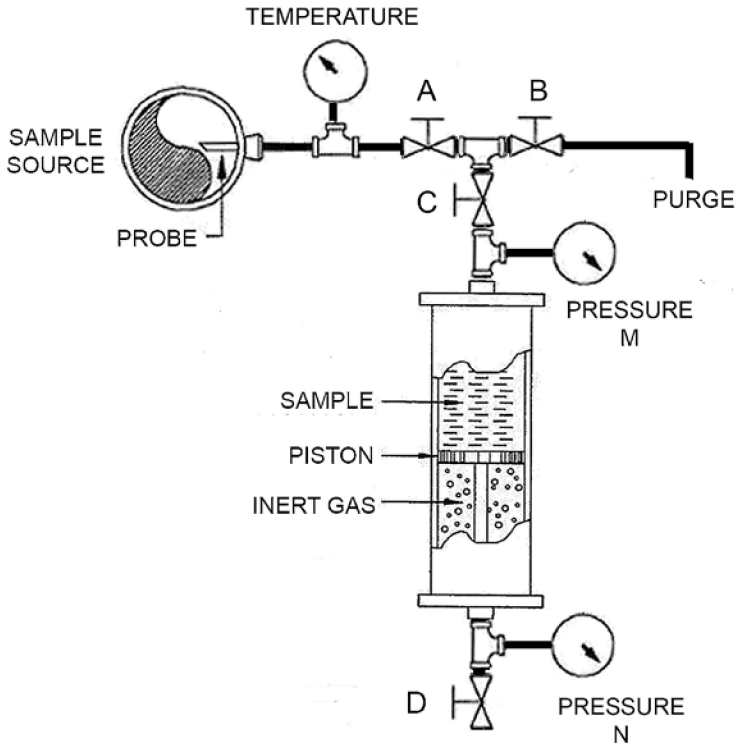
9.2 Record the sample collection data requirements specified in Section 7 on the cylinder identification tag and on Form 1.

9.3 Locate the sampling port(s) for collecting liquid samples.

9.4 Connect the sampling train as illustrated in Figure 3 to the pressure separator or pressurized portable separator while minimizing tubing between the purge valve and cylinder as shown. Bushings or reducers may be required.

9.5 Purge the sampling train: Place the outlet of valve B into the waste container. With valves B, C and D closed, slowly open valve A completely, and then slowly open valve B to purge the sample train until a steady stream of liquid without gas pockets is observed, and then close valve B.

Figure 3: Piston Cylinder Sampling Train



9.6 Prepare for sampling: Verify that the gas pressure in the piston cylinder is greater than the pressure of sample liquid. If not, additional gas pressure must be applied to the piston.

9.7 With valve B closed and valve A open, slowly open valve C to the full open position, then slowly open valve D until the pressure indicated on Gauge N is equal to Gauge M and then close valve D momentarily.

9.8 Collect liquid sample: Slowly open Valve D to allow liquid to enter the piston cylinder at a rate not to exceed 60 milliliters per minute by using the indicator and scale on the piston cylinder. Continue until a maximum of 80 percent of the cylinder is filled with liquid. Then close valves C and D.

9.9 Record the pressure and temperature on Form 1.

9.10 Record the cylinder volume and volume of liquid sampled on the cylinder identification tag and on Form 1.

9.11 Disconnect the sample cylinder from the sampling train and verify that both valves are sealed.

9.12 Remove sampling train: Place the outlet of valve B into the waste container and slowly open valve B to purge all liquid from the sampling train. Then close valves A and B. Disconnect the sampling train from the pressure separator or portable pressurized separator.

9.13 Verify that all of the data requirements are recorded on the cylinder identification tag and on Form 1.

9.14 Transport the cylinder to the laboratory for conducting the laboratory methods as specified in Section 12.

10. LABORATORY REQUIREMENTS AND METHODS

10.1 Quality Control, Quality Assurance, and Field Records

(a) Quality control requirements shall be performed in accordance with the laboratory methods specified in this test procedure.

(b) Each day of sampling, at least one field duplicate sample shall be collected per matrix type (crude oil, condensate, produced water). The field duplicate samples are collected to demonstrate acceptable method precision. Through this process the laboratory can evaluate the consistency of sample collection and analytical measurements as well as matrix variation. The laboratory should establish control limits based on relative percent difference to evaluate the validity of the measured results.

(c) Laboratory procedures shall be in place for establishing acceptance criteria for field activities described in Sections 7, 8 and 9 of this procedure. All deviations from the acceptance criteria shall be documented. Deviations from the acceptance criteria may or may not affect data quality.

(d) Laboratory procedures shall be in place to ensure that field staff have been trained on the sampling methods specified in this procedure and retrained on sampling methods if this procedure changes.

(e) Field records shall provide direct evidence and support necessary for technical interpretations, judgments, and discussions concerning project activities and shall, at a minimum, include a completed copy of Form 1 as provided in this procedure for each sample collected.

10.2 Laboratory Equipment

(a) All laboratory equipment used to conduct measurements shall be calibrated in accordance with the manufacturer specifications and in accordance with the laboratory methods specified in this procedure.

(b) Any chromatograph system that allows for the collection, storage, interpretation, adjustment, or quantification of chromatograph detector output signals representing relative component concentrations may be used to conduct this procedure. All test methods and quality control requirements shall be conducted in accordance with each laboratory method specified.

(c) The minimum reporting limit of the instruments used for reporting gaseous compounds must be at least 100 parts per million (ppm) for both hydrocarbon and fixed gases.

(d) The laboratory equipment, including sample lines, must be temperature controlled and allow for the independent control of the sample cylinder and flash analysis equipment temperatures.

(e) A gas volume meter with the capability of measuring volume in increments of one (1) milliliter minimum is required.

(f) Laboratory vessels (e.g., glassware, cylinders, etc.) and equipment for collecting flash gas without sample degradation and without compromising the integrity of the sample are required.

(g) A metering pump for introducing deionized water into a sample cylinder that can meter the water in precise increments (e.g., 0.01 milliliters) is required.

(h) Additional sample preparation guidance can be found in GPA Standard 2174-93, GPA Standard 2261-00 and GPA Standard 2177-03.

10.3 Bubble Point Pressure and Sample Integrity Check

This procedure is used to determine the bubble point pressure at sample collection temperature of a pressurized hydrocarbon liquid prior to conducting a flash or any compositional analysis. These results determine the integrity of the sample and provide a means of verifying the sampling conditions reported on Form 1. When heating is required, safety precautions must be taken due to thermal expansion within a pressurized cylinder. This procedure is performed with the use of a Double Valve cylinder and is not applicable for Floating-Piston cylinders. Samples gathered with the use of a Floating-Piston cylinder must be transferred to a Double Valve cylinder using a water displacement method prior to conducting this procedure.

(a) Fix the cylinder in an upright vertical position using a ring stand or similar device. This ensures that headspace gas remains at the top of the cylinder.

(b) Connect a pressure gauge and source of pressurized deionized water to the bottom of the sample cylinder using a metering pump for measuring the volume of water introduced into the sample cylinder.

(c) Slowly condition the cylinder to the measured sample collection temperature reported on Form 1 while monitoring pressure for a minimum of two (2) hours or until a change of no more than one (1) psi in pressure over 15 minutes is observed.

(d) Introduce deionized water while slowly mixing the sample by tilting the cylinder no more than 60 degrees from vertical in either direction to ensure that headspace gas remains at the top of the cylinder and liquid remains on the bottom. Continue adding deionized water to increase the pressure to above the pressure reported on Form 1, while mixing to ensure the sample returns to a single phase liquid.

(e) Record the stabilized pressure reading on the laboratory report.

(f) Remove a small increment of deionized water (approximately 0.5 milliliters) to reduce the pressure and allow it to stabilize. Document the sample pressure and the volume of deionized water (pump volume) on the laboratory report. Repeat until at least three (3) pressure readings above and three (3) pressure readings below the reported value on Form 1 are gathered.

(g) Graph the results of sample pressure and volume of deionized water (pump volume). Draw a line between the points above the measured value on Form 1. Draw a second line between the points below the measured value on Form 1. The intercept of the two lines denotes the bubble point pressure.

(h) Record the bubble point pressure on the laboratory report.

(i) Any sample that fails to achieve the following Pass/Fail criteria, which is the percentage difference between the bubble point pressure and the sample collection pressure reported on Form 1, shall be discarded:

Pass/Fail Criteria for Bubble Point Pressure Measurements
+/- 5% for > 500 psig +/- 7% for 250 - 499 psig +/- 10% for 100 - 249 psig +/- 15% for 50 - 99 psig +/- 20% for 20 - 49 psig +/- 30% for < 20 psig

10.4 Laboratory Flash Analysis Procedure

This procedure is used to determine the volume and composition of gas flashed from a pressurized liquid. This procedure is conducted after performing the bubble point pressure measurement to verify sample integrity.

(a) Condition the sample cylinder to the collection temperature recorded on Form 1 for a minimum of two (2) hours. This step may be expedited by performing in conjunction with the Bubble Point determination.

(b) Connect a pressure gauge and source of pressurized deionized water to the bottom of the sample cylinder using a metering pump for measuring the volume of water introduced into the sample cylinder.

(c) Connect the top of the sample cylinder to a temperature controlled flash chamber that can be heated or cooled independently from the sample cylinder. The chamber shall be of sufficient volume to allow for the flash process and the collection of the flashed liquid. Located at the top of the chamber will be an inlet for the liquid, and an outlet for the gas. The gas vent line will allow the flash gas to be routed through a constant volume gas cylinder and on to a gas meter (e.g., gasometer).

(d) Throughout the flash process, maintain the transfer lines, flash chamber, and constant volume gas cylinder and gas meter at the target temperature.

(e) Before introducing pressurized liquid into the flash chamber, evacuate the entire system and purge with helium. Vent the helium purge gas to atmosphere through the meter and then re-zero the gas meter.

(f) Introduce deionized water into the bottom of the liquid sample cylinder to increase the pressure to a start pressure above the bubble point pressure. This step ensures that the sample remains single phase when introduced into the flash chamber.

(g) Document the start pressure. The flash study will be performed at this pressure and not at the field recorded sample pressure.

(h) Partially open (*crack-open*) the liquid sample inlet valve to allow for a slight drip of liquid into the flash chamber. It is critical to maintain the pressurized liquid as close as possible to the start pressure.

(i) After liquid hydrocarbon and gas have been observed, terminate the flash procedure by closing the liquid inlet valve. Document the volume and/or weight of the residual liquid and the volume of gas collected. Document the volume of pressurized liquid sample introduced into the system.

(j) Isolate the gas sample in the constant volume gas cylinder by closing both valves. Detach the cylinder and analyze via GPA Standard 2286-95. Before analyzing, condition the gas sample for a minimum of two hours at a temperature of at least 30°F above the target temperature. Assure that the GC inlet line is heat traced to maintain sample integrity upon injection.

(k) Measure the pressurized liquid density at the start pressure and temperature. Also measure the density at a second pressure also above the bubble point pressure and the start pressure. Extrapolate the density of the pressurized liquid at the collection pressure recorded on Form 1.

(l) Correct the pressurized liquid volume from the start pressure to the sample collection pressure recorded on Form 1 using the density measurements.

(m) Document corrected liquid volume.

(n) Perform all necessary calculations including that of the GOR or GWR.

(o) A mass balance (analytical integrity check) may be performed by comparing the weight of pressurized liquid used for the flash (determined from the corrected volume used and the density at sample conditions) to the sum of the weight of the liquid and the weight of the gas.

10.5 Gas-Oil and Gas-Water Ratio Calculation Methodology

(a) Convert the volume of gas vapor measured during the laboratory flash analysis procedure to standard atmospheric conditions as derived from the Ideal Gas Law as follows:

$$Vapor_{Std} = \frac{(Volume_{Lab})(459.67 + 60F)(P_{Lab})}{(459.67 + T_{Lab})(14.696)}$$ **Equation 1**

Where:
Vapor $_{Std}$ = Standard cubic feet of vapor at 60°F and 14.696 psia.
Volume $_{Lab}$ = Volume of vapor measured at laboratory conditions.
T_{Lab} = Temperature of vapor at laboratory conditions, °F.
P_{Lab} = Pressure of vapor at laboratory conditions, psia.
459.67 = Conversion from Fahrenheit to Rankine
60F = Standard temperature of 60°F.
14.696 = Standard atmospheric pressure, psia.

(b) Convert the volume of crude oil, condensate, or produced water measured after conducting the laboratory flash analysis procedure to standard conditions as follows:

$$Liquid_{Std} = \left(\frac{Mass_{Liquid}}{Density_{60F}}\right)\left(\frac{1\ gallon}{3785.412\ ml}\right)\left(\frac{1\ STB}{42\ gallons}\right)$$ **Equation 2**

Where:
Liquid $_{Std}$ = Standard volume of post-flash liquid at 60°F, barrels.
Mass $_{Liquid}$ = Mass of liquid at laboratory conditions, grams.
Density $_{60F}$ = Density of liquid at 60°F, grams/milliliter.
3785.412 = Conversion from milliliter to US gallons.
STB = Stock Tank Barrel.
42 gallons = Volume of a stock tank barrel at 60°F.

(c) Calculate the Gas-Oil or Gas-Water Ratio as follows:

$$G = \frac{(Vapor_{Std})}{(Liquid_{Std})}$$ **Equation 3**

Where:
G = The Gas-Oil or Gas-Water Ratio.
Vapor $_{Std}$ = Standard cubic feet of vapor at 60°F and 14.696 psia.
Liquid $_{Std}$ = Standard volume of post-flash liquid at 60°F, barrels.

10.6 Analytical Laboratory Methods and Requirements

The following methods are required to evaluate and report flash emission rates from crude oil, condensate, and produced water.

(a) Oxygen, Nitrogen, Carbon Dioxide, Methane, Ethane, Propane, i-Butane, n-

Butane, i-Pentane, n-Pentane, Hexanes, Heptanes, Octanes, Nonanes, Decanes+: Evaluate per GPA Standard 2286-95, ASTM D1945-03, and ASTM D 3588-98.

(b) BTEX: Evaluate per US EPA Method 8021B (GC/FID) or use ASTM D7096-16, GPA Standard 2286-95, US EPA Method 8260B, US EPA Method TO-14A, and US EPA Method TO-15 as alternate methods.

(c) API Gravity of whole oil at 60°F by ASTM D 287-92 (Hydrometer Method), ASTM D4052-09 (Densitometer), ASTM D5002-16 (Densitometer), or ASTM D70-09 (Pycnometer). Note: if water is entrained in sample, use ASTM D 287-92. If needed calculate Specific Gravity 60/60°F = 141.5 / (131.5 + API Gravity at 60°F)

(d) Specific Gravity of Produced Water at 60°F by ASTM D 287-92 (Hydrometer Method), ASTM D4052-09 (Densitometer), ASTM D5002-16 (Densitometer), or ASTM D70-09 (Pycnometer). If needed calculate API at 60°F = (141.5 / SG at 60°F) - 131.5.

(e) Molecular Weight of gaseous phase by calculation per ASTM D 3588-98.

11. CALCULATING RESULTS

The following calculations are performed by the owner or operator in conjunction with the laboratory reports specified in Section 12. The same calculations are used for crude oil, condensate, and produced water.

11.1 Calculate the volume of gas flashed from the liquid per year using the Gas Oil or Gas Water Ratio obtained from the laboratory report as follows:

$$Ft^3 / Year = (G)\left(\frac{Barrels}{Day}\right)\left(\frac{Days}{Year}\right) \qquad \textbf{Equation 4}$$

Where:
Ft^3/Year = standard cubic feet of gas produced per year
G = Gas Oil or Gas Water Ratio (from laboratory report)
Barrels/Day = barrels per day of liquid (DOGGR certified reports)
Days/Year = days of operation per year (owner/operator)

11.2 Convert the gas volume to pounds as follows: **Equation 5**

$$Mass_{Gas} / Year = \left(\frac{Ft^3}{Year}\right)\left(\frac{gram}{gram-mole}\right)\left(\frac{gram-mole}{23.690\,l}\right)\left(\frac{28.317\,l}{Ft^3}\right)\left(\frac{lb}{454\,grams}\right)$$

Where:
Mass $_{Gas}$ /Year = pounds of gas per year
Ft^3/Year = cubic feet of gas produced per year (Equation 1)
Gram/Gram-Mole = Molecular weight (from laboratory report)
23.690 l/gr-mole = molar volume of ideal gas at 14.696 psi and 60^0F

11.3 Calculate the annual mass of methane as follows:

$$Mass_{Methane} / Year = \left(\frac{WT\% Methane}{100}\right)\left(\frac{Mass_{Gas}}{Year}\right)\left(\frac{metric\ ton}{2205\ lb}\right) \quad \textbf{Equation 6}$$

Where:
Mass $_{Methane}$ /Year = metric tons of methane
Mass $_{Gas}$ /Year = pounds of gas per year (Equation 5)
WT% Methane = Weight percent of methane (from laboratory report)

12. LABORATORY REPORTS

12.1 The results of this procedure are used by owners or operators of separator and tank systems to report annual methane flash emissions to ARB. The following information shall be compiled as a report by the laboratory conducting this procedure and provided to the owner or operator each time flash analysis testing is conducted:

(a) A sketch or diagram of the separator and tank system depicting the sampling location; and,

(b) A copy of Form 1 as specified in this procedure for each liquid sample collected; and,

(c) The laboratory results for each liquid sample evaluated as specified in Section 12.4; and,

(d) Other documentation or information necessary to support technical interpretations, judgments, and discussions.

12.2 Reports shall be made available to the owner or operator no later than 60 days from the date of liquid sampling.

12.3 Reports shall be maintained by the laboratory conducting this procedure for a minimum of five (5) years from the date of liquid sampling and additional copies shall be made available at the request of the owner or operator.

12.4 Laboratory reports shall include, at minimum, a listing of results obtained using the laboratory methods specified in this procedure and as specified in Table 1.

Table 1: Laboratory Data Requirements

WT% CO_2, CH_4
WT% C2-C9, C10+
WT% BTEX
WT% O2
WT% N2
Molecular Weight of gas sample (gram/gram-mole)
Liquid phase specific gravity of produced water
Gas Oil or Gas Water Ratio (scf/stock tank barrel)
API gravity of whole oil or condensate at 60°F
Post-Test Cylinder Water Volume
Post-Test Cylinder Oil Volume

13. ALTERNATIVE TEST PROCEDURES, SAMPLING METHODS OR LABORATORY METHODS

Alternative test procedures, sampling methods, or laboratory methods other than those specified in this procedure shall only be used if prior written approval is obtained from ARB. In order to secure ARB approval of an alternative test procedure, sampling method, or laboratory method, the applicant is responsible for demonstrating to the ARB's satisfaction that the alternative test procedure, sampling method, or laboratory method is equivalent to those specified in this test procedure.

13.1 Such approval shall be granted on a case-by-case basis only. Because of the evolving nature of technology and procedures and methods, such approval shall not be granted in subsequent cases without a new request for approval and a new demonstration of equivalency.

13.2 Documentation of any such approvals, demonstrations, and approvals shall be maintained in the ARB files and shall be made available upon request.

14. REFERENCES

ASTM D70-09 *Standard Test Method for Density of Semi-Solid Bituminous Materials (Pycnometer Method), which is incorporated herein by reference. 2009.*

ASTM D 287-92 *Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method), which is incorporated herein by reference. Reapproved 2000.*

ASTM D1945-03 *Standard Test Method for Analysis of Natural Gas by Gas Chromatography, which is incorporated herein by reference. Reapproved 2010.*

ASTM D 3588-98 *Standard Practice for Calculating Heat Value, Compressibility Factor, and Relative Density of Gaseous Fuels, which is incorporated herein by reference. Reapproved 2003.*

ASTM D4052-09 *Standard Test Method for Density, Relative Density, and API Gravity of Liquids by Digital Density Meter, which is incorporated herein by reference. 2009.*

ASTM D5002-16 *Standard Test Method for Density and Relative Density of Crude Oils by Digital Density Analyzer, which is incorporated herein by reference. 2016.*

ASTM D7096-16 *Standard Test Method for Determination of the Boiling Point Range Distribution of Gasoline by Wide Bore Capillary Gas Chromatography, which is incorporated herein by reference. 2016.*

US EPA Method 8021B *Aromatic and Halogenated Volatiles by Gas Chromatography Using Photoionization and/or Electrolytic Conductivity Detectors, which is incorporated herein by reference. 2014.*

US EPA Method 8260B *Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS), which is incorporated herein by reference. 1996.*

US EPA Method TO-14A *Determination of Volatile Organic Compounds (VOCs) In Ambient Air Using Specially Prepared Canisters with Subsequent Analysis By Gas Chromatography, which is incorporated herein by reference. 1999.*

US EPA Method TO-15 *Determination of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters and Analyzed By Gas*

Chromatography/Mass Spectrometry (GC/MS), which is incorporated herein by reference. 1999.

GPA Standard 2174-93 *Obtaining Liquid Hydrocarbon Samples for Analysis by Gas Chromatography, which is incorporated herein by reference. 2000.*

GPA Standard 2177-03 *Analysis of Natural Gas Liquid Mixtures Containing Nitrogen and Carbon Dioxide by Gas Chromatography, which is incorporated herein by reference. 2003.*

GPA Standard 2261-00 *Analysis for Natural Gas and Similar Gaseous Mixtures by Gas Chromatography, which is incorporated herein by reference. 2000.*

GPA Standard 2286-95 *Tentative Method for the Extended Analysis of Natural Gas and Similar Gaseous Mixtures by Temperature Program Gas Chromatography, which is incorporated herein by reference. Reprinted 1999.*

FORM 1
Flash Analysis Testing Field Data Form

Date of Testing:	
Production Company Name:	
Address:	
City:	
Contact:	Phone:
Sampling Company Name:	
Address:	
City:	
Contact:	Phone:
Sample Information	
Portable Pressure Separator ID:	
Pressure Separator ID:	
Sample Pressure: psia	
Sample Temperature: °F	
Atmospheric Tank or Separator Temperature °F	
Cylinder Type (Double Valve or Piston):	
Sample Type (circle one): crude oil condensate produced water	
Cylinder ID:	Cylinder Volume: ml
Displacement Liquid:	
Sample Volume: ml	Outage Displaced: ml

Attachment I: List of State and Local Agency Contacts

LIST OF AGENCY CONTACTS

The following contacts are agency staff that were consulted for reporting back to CF No. 19-1124 resolution.

Person	**State Agency/Department**
Bullington Pham, Air Quality Inspector III	South Coast Air Quality Management District
Cassidy Teufel, Senior Environmental Scientist	California Coastal Commission
Jack Collender, Associate Oil and Gas Engineer	California Geologic Energy Management division
Erica Blyther, Interim Petroleum Administrator	Office of Petroleum and Gas Administration and Safety
Frank Lara, Assistant Bureau Chief	Los Angeles Department of Building and Safety
John Weight, Assistant Bureau Chief	Los Angeles Department of Building and Safety
Jennifer Tobkin, Deputy City Attorney	Office of the City Attorney
Royce Long, CUPA Program Manager	Los Angeles Fire Department