

DEPARTMENT OF CONSERVATION

## DIVISION OF OIL AND GAS

301 WEST CHURCH STREET, P. O. BOX 227

SANTA MARIA, CALIFORNIA 93456

(805) 925-2686



June 15, 1987

R. M. Morrow, Agent  
Southern California Gas Co.  
810 S. Flower Street  
Los Angeles, CA 90051

GAS STORAGE PROJECT  
LA GOLETA GAS FIELD  
VAQUEROS FORMATION

Dear Mr. Morrow:

Section 3008 of the Public Resources Code gives the Division of Oil and Gas responsibility for wells that inject and withdraw natural gas from an underground storage facility. Our records indicate that, although individual wells have been permitted, project approval has not been issued by the Division to conduct underground gas storage operations in the La Goleta Gas field. Therefore, continued operation of the project is approved provided that:

1. Form OG105 is filed whenever a new well is to be drilled for use as an injection-withdrawal well or observation-collection well, and Form OG107 is filed whenever an existing well is to be converted to an injection-withdrawal well or observation-collection well, even if no work is required. Specific requirements will be outlined in each well permit.
2. When an existing well is to be converted to injection-withdrawal or observation-collection status, a test is conducted to demonstrate the mechanical integrity of the casing.
3. Mechanical-integrity tests for each injection-withdrawal well are run and filed with this Division within three (3) months after injection and/or withdrawal has commenced, and once every year thereafter; after any anomalous rate or pressure change; or as requested by the Division to confirm that stored gas is confined to the proper zone. The test data must be available for periodic inspection by Division personnel.
4. Any directional well drilled for use in this project has a directional survey run and the results submitted, in duplicate, to this office. A directional survey on any active well may be required by this Division.

5. All active, idle, or abandoned wells that may be affected by this project are regularly and routinely monitored for surface gas emissions.
6. Any remedial work on active, idle, or abandoned wells in the project area, necessary because of the gas storage operation, is the responsibility of the project operator.
7. The pressure gradient at the top of the injection zone in any injection well does not exceed 0.7 psi per foot of depth without prior approval from this Division. Tests may be required to establish that no damage will occur from excessive injection pressure.
8. Monthly injection-withdrawal reports, by well, are filed with this Division, listing the amount of gas injected, injection pressure, and amount of gas withdrawn.
9. All critical wells, as defined by this Division, have fail-close subsurface safety valves installed. A testing and inspection schedule must be submitted to and approved by this Division.
10. Surface pressures on each active or idle well are measured and recorded weekly with a calibrated test gauge. Evidence of such measurement and calibration must be available to this Division upon request.
11. Pressure ratings of all injection piping, valves, and facilities meet or exceed the maximum anticipated injection pressures. This equipment must be maintained in a safe and leak-free condition.
12. Produced waste fluids are handled in a manner approved by this Division.
13. This Division is notified of any anticipated changes in the project resulting in alteration of conditions originally approved, such as: an increase in the size of the project; an unusual increase in the zone pressure; changes in the injection-withdrawal intervals; changes in the observation-collection intervals or monitoring procedures. Such changes must not be made without Division approval.
14. Periodic project review meetings are held with representatives of this Division. Data to be reviewed includes, but is not limited to: graphs of reservoir pressure; isobaric maps of the free gas area in each gas-storage zone, if requested; gas inventory fluctuations; injection pressure and oil, gas, and water production by well; observation well data; reservoir

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fluid distribution; and temperature, radioactive tracer, and noise log surveys.

15. Upon request, the Division is provided with any other data deemed necessary to monitor the operations of the project.
16. Injection-withdrawal operations are ceased if there is any evidence of hazardous conditions or damage, or upon written notice from this Division.

Yours truly,



K. P. Henderson  
Deputy Supervisor

KPH:ks