

...Minute Item
Calendar Item No. 29
was approved as Minute Item
No. 29 by the State Lands
Commission by a vote of 3
to 0 at its 4-12-88
meeting.

CALENDAR ITEM

A 35
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29

04/12/88
PRC 2199
W 40534 PRC 7180
Livenick

PROPOSED WATER INJECTION LEASE AGREEMENT,
GAVIOTA OFFSHORE FIELD,
SANTA BARBARA COUNTY

APPLICANT: Chevron U.S.A., Inc.
Attn.: John Dowling
P. O. Box 6917
Ventura, California 93006

AREA, TYPE LAND AND LOCATION:

That formation known as the Vaqueros and
Sespe-Alegria zones in that certain interval
located between the subsurface depths of five
thousand one hundred feet (5100') and five
thousand seven hundred feet (5700') in the
Gaviota offshore oil and gas field located on
the north one-half of State Oil and Gas Lease
PRC 2199, Santa Barbara County.

LAND USE:

Injection, through existing wells, of produced
water from the PAPCO oil and gas processing
facility in Gaviota.

TERMS OF PROPOSED LEASE:

1. The State hereby grants to Chevron the
right to convert subject to lessor's
engineering staff review and approval the
PRC 2199.1 #4, #5A and/or #6 R/D wells to
water injection wells in order to inject
such waters as may be produced through or
processed by the consolidated oil and gas
processing facilities at Gaviota.

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(ADDED 04/11/88; pgs. 245-245.1*)

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CALENDAR ITEM NO. 29 (CONT'D)

2. Chevron hereby agrees to inject water in said wells, only in that formation known as the Vaqueros and Sespe-Alegria zones, in that certain interval located between the subsurface depths of five thousand one hundred feet (5100') and five thousand seven hundred feet (5700'), hereinafter referred to as "said reservoir". Chevron agrees not to exceed a static reservoir pressure greater than the original reservoir pressure, defined as 2385 psi at 5,300 feet vertical depth subsea. Chevron agrees to determine the static reservoir pressure semi-annually utilizing methods previously approved by the State.
3. Unless sooner terminated as herein provided, this Agreement shall continue in full force and effect for a period of thirty (30) years commencing with the effective date of April 1, 1988.
4. Chevron agrees to pay State quarterly fees for the injection of water into said reservoir determined by the following schedule:

The monthly injection fee shall be the greater of the following Base Injection Fee plus Variable Injection Fee times volume or that fee which is determined by the following formula:

$$\text{MONTHLY INJECTION FEE} = \text{Base Injection Fee} \times (A/B) + \text{Variable Injection Fee} \times (A/B) \times \text{Volume.}$$

Where

A = Final Gross National Product Implicit Price Deflator average for the prior Calendar year.

B = Final Gross National Product Implicit Price Deflator for 1988.

CALENDAR ITEM NO. 29 (CONT'D)

Base Injection Fee = \$640.00 per month.
Variable Injection = \$0.10 per barrel.
Volume = Barrels in excess of 6400 barrels
per month.

AB 884: 09/24/88.

OTHER PERTINENT INFORMATION:

Chevron U.S.A., Inc. is a partner in the PAPCO oil and gas processing facility, located in Gaviota. This consolidated facility processes pretreated oil (20% water cut) and sour gas from the Point Arguello field located in federal waters west of Point Conception. The facility is required by permit conditions to accept oil from other operators, which would include State lessees. Produced and waste water from the plant will be disposed of through an outfall permitted by the State Lands Commission on June 26, 1986. The injection facility will be used in conjunction with the outfall when produced water quality exceeds NPDES criteria.

On June 26, 1986, the State Lands Commission certified an Addendum to the Point Arguello Project FEIR/EIS previously certified and adopted by the County of Santa Barbara as CEQA Lead Agency and approved the installation, maintenance and operation of a wastewater outfall line for the Gaviota oil and gas processing facilities. The findings adopted by the Commission on May 26, 1986 are on file with the Commission as Minute Item No. 23, June 26, 1986.

On February 24, 1988, the County of Santa Barbara certified an Addendum to these documents addressing the construction and operation of facilities for the injection of produced water from the Gaviota Plant into the Gaviota offshore field. The County determined that the modifications to the Point Arguello Project to include produced water injection do not justify the need for a subsequent EIR or a supplemental EIR (Section 15162 and Section 15163 of the CEQA).

CALENDAR ITEM NO. 29 (CONT'D)

No new important issues about the significant effects on the environment are raised and none of the conditions described in Sections 15162 or 15163 has occurred. This Addendum and previous environmental review (84-EIR-16) fulfill CEQA requirements.

The County of Santa Barbara has certified an Addendum to the Point Arguello EIR/EIS for the subject project. The State Lands Commission staff has reviewed such document, attached as Exhibit "C", and believes that no significant adverse environmental effects will occur from that part of the project that the Commission will be considering for approval.

This activity involves lands identified as possessing significant environmental values pursuant to P.R.C. 6370, et seq. Based upon the staff's consultation with the persons nominating such lands and through the CEQA review process, it is the staff's opinion that the project, as proposed, is consistent with its use classification.

APPROVALS OBTAINED:

County of Santa Barbara; California Division of Oil and Gas.

EXHIBITS:

- A. Land Description.
- B. Location Map.
- C. Addendum to EIR/EIS.

IT IS RECOMMENDED THAT THE COMMISSION:

1. FIND THAT AN EIR AND ADDENDUM THERETO WAS PREPARED AND ADOPTED FOR THIS PROJECT BY THE COUNTY OF SANTA BARBARA AS CEQA LEAD AGENCY AND THAT THE COMMISSION HAS REVIEWED AND CONSIDERED THE INFORMATION CONTAINED THEREIN.
2. INCORPORATE BY REFERENCE THE FINDINGS REQUIRED BY THE CEQA AND ITS GUIDELINES WHICH ARE CONTAINED IN MINUTE ITEM NO. 23 OF THE COMMISSION'S JUNE 26, 1986 MEETING AND IN THE COUNTY'S FEBRUARY 24, 1988 CERTIFICATION OF THE ADDENDUM FOR THE PROPOSED PROJECT.

CALENDAR ITEM NO. 2 a (CONT'D)

3. DETERMINE THAT THE PROJECT, AS APPROVED, WILL NOT HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT.
4. FIND THAT THIS ACTIVITY IS CONSISTENT WITH THE USE CLASSIFICATION DESIGNATED FOR THE LAND PURSUANT TO P.R.C. 6370, ET SEQ.
5. AUTHORIZE ISSUANCE TO CHEVRON U.S.A., INC. OF A THIRTY YEAR WATER INJECTION LEASE BEGINNING APRIL 1, 1988, AS ON FILE IN THE OFFICE OF THE STATE LANDS COMMISSION.

EXHIBIT "A"

LAND DESCRIPTION

W 40534

A parcel of tide and submerged land in the Santa Barbara Channel, Santa Barbara County, California, described as follows:

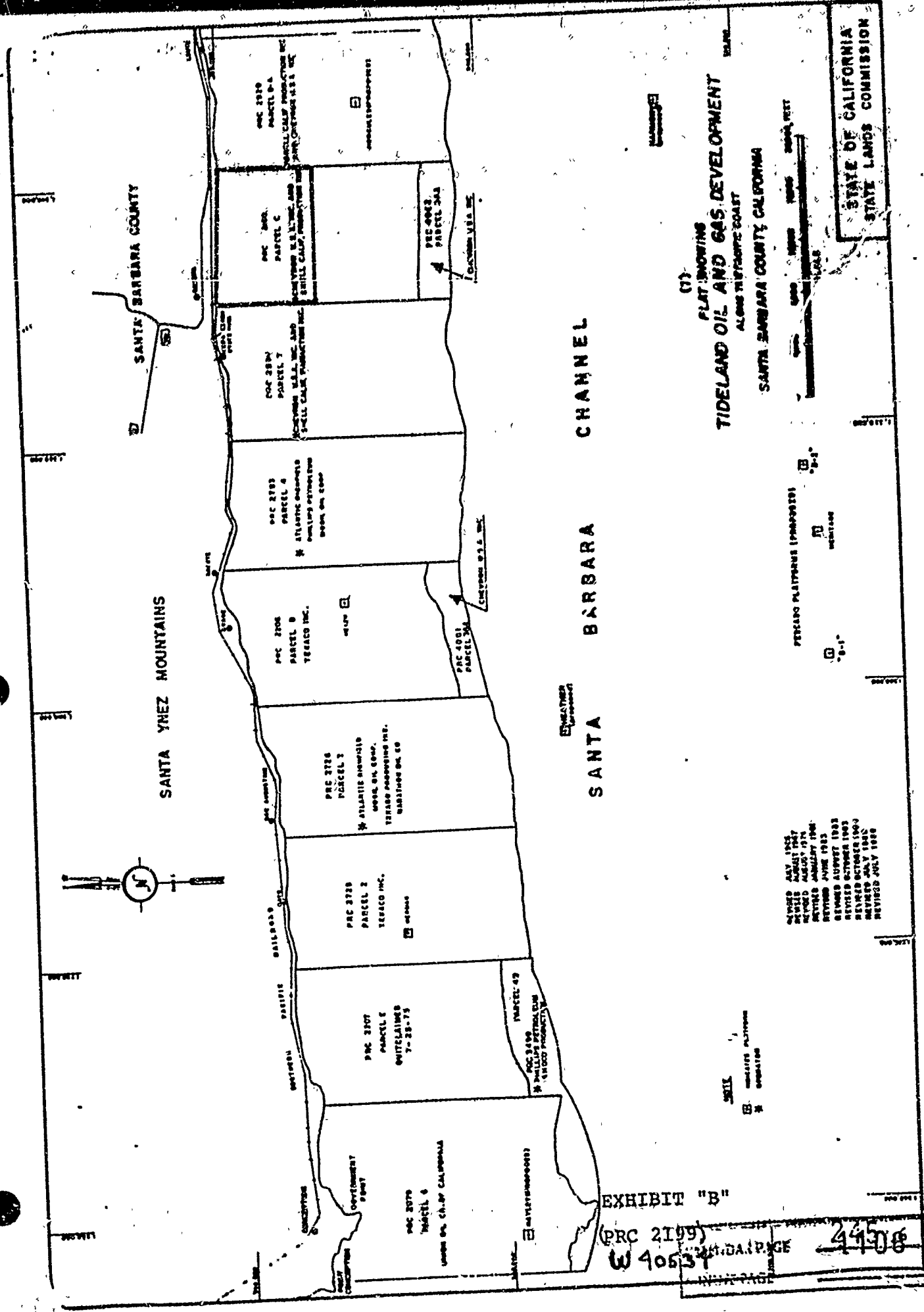
That portion of the N 1/2 of State Lands Commission Lease PRC 2199.1 known as the Gaviota Offshore Field.

END OF DESCRIPTION

PREPARED FEBRUARY 8, 1988. BY BIU 1.

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(1)
 PLAT SHOWING
 TIDELAND OIL AND GAS DEVELOPMENT
 ALONG THE PACIFIC COAST
 SANTA BARBARA COUNTY CALIFORNIA



STATE OF CALIFORNIA
 STATE LANDS COMMISSION

RECORD PLATBOOK (1000000000)
 10-1-1
 SECTION

REVISED JULY 1982
 REVISED AUGUST 1987
 REVISED AUGUST 1974
 REVISED JANUARY 1968
 REVISED JUNE 1983
 REVISED AUGUST 1983
 REVISED OCTOBER 1983
 REVISED OCTOBER 1983
 REVISED JULY 1980
 REVISED JULY 1980

SEAL
 REGISTERED PLATBOOK
 OPERATOR

EXHIBIT "B"

(PRC 2199)
 W 40534

PLAT PAGE
 4408
 INDEX PAGE

EXHIBIT C
W 90534
(PRC 2199)



County of Santa Barbara

RESOURCE MANAGEMENT DEPARTMENT

Dianne Guzman, AICP, Director

Energy Division

TO: Interested Persons

FROM: Jeffrey T. Harris, Deputy Director *JTH*
Division of Environmental Review

DATE: February 24, 1988

RE: Finding that Section 15164 of the State CEQA Guidelines Applies to 88-SUP-02,
Chevron Produced Water Injection Pipeline, Chevron Point Arguello Project
(85-DP-32cz)

BACKGROUND

Chevron is nearing completion of the onshore facilities associated with its Point Arguello Project, which received Board of Supervisors approval in August of 1985. The Point Arguello Project includes three offshore platforms, with a 24" oil and 20" gas pipeline to shore. A 5000' ocean discharge line is installed for disposal of produced water. However, Chevron now believes that its produced water will periodically not meet the discharge requirements of the Regional Water Quality Control Board (RWQCB). Therefore, Chevron has applied to the County for a Special Use Permit (88-SUP-02) for the use of a produced water injection system.

PROJECT DESCRIPTION

The new project is composed of a single 8" injection line which branches off of the existing produced water outfall line located above ground on the Gaviota Interim Marine Terminal site. The injection line proceeds uphill in a southeasterly direction to three existing wellheads located on the ocean bluff at the marine terminal (FIGURE 1). Produced water will be injected into the three wells, which once produced gas from the Gaviota field.

Chevron has received a permit from the California Department of Conservation, division of Oil and Gas for the conversion of the gas wells into water injection wells, and is currently negotiating with the State Lands Commission for use of the Gaviota field for injection of produced water. County staff have previously determined that the above-ground installation of the injection pipeline is in substantial conformity with the Final Development Plan for the Point Arguello Project (85-DP-32cz). Therefore, some portions of the injection system are already installed.

The produced water will be divided among the three injection wells depending upon their daily injection capacity. The maximum volume of water to be injected is not expected to exceed 30,000 barrels of water per day.

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Produced water will be reinjected for a period of up to three years until a water treatment plant can be designed and built at Gaviota. Produced water will also be injected periodically throughout the life of the project, should it fail to meet RWQCB specifications.

PREVIOUS REVIEW

The EIR/S (84-EIR-16) prepared for the Point Arguello Project did not assess the environmental effects related to underground disposal of produced water. Therefore, this document serves as an addendum to 84-EIR-16, and is intended to satisfy the requirements of the California Environmental Quality Act (CEQA) under section 15164.

ENVIRONMENTAL REVIEW

The following sections assess the environmental effects of the project for the following issue areas: Geology, Onshore Water Resources, Terrestrial Biology, Archaeology, and Marine Water Resources. No significant impacts are expected to occur to any of these resources as a result of this project.

Biology

The injection pipeline is routed through previously disturbed vegetation consisting of Bermuda grass and several native coastal scrub species such as Coyotebrush and Coastal Sagebrush. The pipeline route also passes between two rows of mature eucalyptus trees. Under the direction of the County's environmental monitor for the Point Arguello Project, the applicant's contractor limbed the eucalyptus trees enough to allow placement of pipe joints on the existing pipe rack. No trees were removed. Based on the above information, no significant impacts to biological resources occurred, or are expected to occur, as a result of this project.

Archaeology

While the pipeline crosses through a portion of a previously recorded archaeological site, (CA-SBa-1870), no earthmoving or brush removal was conducted in the densest portions of the site area. A culvert was removed and subsequently replaced under the railroad tracks to facilitate pipeline installation. This activity was monitored by a Native American as well as by an archaeologist in order to minimize impacts to archaeological resources. Because the pipeline is routed through previously disturbed areas on existing pipe supports, no significant or potentially significant impacts to archaeological impacts are expected to occur as a result of this project.

Geology

The geologic structure of the Gaviota field is composed of an east-west trending anticline bounded on its northern edge by the east-west striking Gaviota fault. Gas and hydrocarbon condensate production came from the Miocene age Vaqueros and Oligocene age Sespe-Alegria sands. The hydrocarbon trap results from the structural closure of the fold beneath a massive Rincon shale cap. Chevron believes that approximately 26 million barrels of reservoir capacity are available to hold produced water.

The injection wells will be cased and perforated to allow injection of produced water in the depleted oil and gas zones only. In addition, a

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packer will be set above the topmost well perforations to preclude the escape of fluids. Periodic workovers may be necessary to improve injectivity or repair the wells. The workover frequency should be approximately once every three years, with a maximum of five years and a minimum of once a year.

The State Division of Oil and Gas has issued an Chevron injection permit based upon their review of the geologic/engineering implications of this project. No significant or potentially significant impacts to geologic resources are expected to occur as a result of this project.

Onshore Water Resources

No underground sources of drinking water (USDW) are expected to be affected by these injection waters since no USDW's exist above or below the zone of injection for the offshore Gaviota field. Offshore formation waters in the Gaviota field typically exceed the 10,000 ppm Total Dissolved Solids (TDS) standard for USDW's. These high TDS values indicate a lack of hydraulic continuity between the offshore reservoir and the onshore Vaqueros freshwater aquifer. Onshore freshwater development typically occurs within the first 1000 feet of the Vaqueros formation. The offshore Vaqueros formation lies at a subsea depth of -4800 feet at the apex of the sedimentary fold, and contains highly saline water (24,000 ppm TDS) which indicates a lack of continuity with freshwater portions of the Vaqueros. In addition, the presence of an impermeable bed above the injection zone will preclude up-dip migration of injected fluids. The Gaviota fault also acts to seal the formation to prevent migration of reservoir fluids.

Initially, Chevron expects to inject water produced from Point Arguello area field, but the possibility exists that injection water could eventually come from any field for which the Gaviota facility processes hydrocarbons. The water quality of non-Point Arguello area fields will be analyzed to ensure compatibility with other fluids and the formation. Approval to inject water from a new source must be obtained from the Division of Oil and Gas as required by their conditions of permit approval. Based upon the information provided by the State Division of Oil and Gas, as well as the by the applicant, no significant or potentially significant impacts to onshore water resources are expected to occur as a result of this project.

Marine Water Resources

The injection of produced water will result in short term beneficial impacts to the marine environment surrounding the outfall line. However, since Chevron has received RWQCB approval to suspend sampling of the receiving waters for the duration of the injection period, it may be impossible to detect unintentional or unauthorized use of the outfall diffuser. In addition, Chevron does have RWQCB approval to dispose of treated domestic waste water through the outfall line. Since only a single produced water/domestic waste disposal line is installed beneath Highway 101, it is currently impossible to split the flow between the domestic waste fluids and produced water. No domestic waste water is allowed to be injected into the wells. Therefore, a system to transport domestic waste water to a point downstream of the injection line is needed. This system may require additional environmental review under CEQA.

Findings

Chevron's modifications to the Point Arguello Project to include a produced water injection system do not justify the need for a subsequent

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EIR or a supplemental EIR (Section 15162 and Section 15163 of the California Environmental Quality Act). No new important issues about the significant effects on the environment are raised and none of the conditions described in Sections 15162 or 15163 have occurred. This addendum and previous environmental review (84-EIR-16) fulfill CEQA requirements.

Processing of 88-SUP-02 may now proceed with the understanding that any substantial changes in the proposal may be subject to further environmental review.

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