

MINUTE ITEM

26. APPLICATION FOR PREFERENTIAL MINERAL EXTRACTION LEASES, PROSPECTING PERMITS P.R.C.s 2705.1, 2706.1, 2707.1 AND 2708.1, IMPERIAL COUNTY; R. W. CYPHER - W.O. 5131, P.R.C.s 3143.1, 3144.1, 3145.1 AND 3146.1.

After consideration of Calendar Item 34 attached, and upon motion duly made and carried, the following resolution was adopted:

THE COMMISSION:

1. DETERMINES THAT VALUABLE DEPOSITS OF GEOTHERMAL STEAM AND MINERAL WATERS HAVE BEEN DEVELOPED WITHIN THE LIMITS OF PROSPECTING PERMITS P.R.C. 2705.1, P.R.C. 2706.1, P.R.C. 2707.1 AND P.R.C. 2708.1.
2. AUTHORIZES THE EXECUTIVE OFFICER TO PREPARE AND ISSUE TO R. W. CYPHER FOUR PREFERENTIAL MINERAL EXTRACTION LEASES, IN ACCORDANCE WITH DIVISION 6 OF THE PUBLIC RESOURCES CODE, COVERING: P.R.C. 2705.1, 55 ACRES MORE OR LESS IN THE NE $\frac{1}{4}$ OF SECTION 26; P.R.C. 2707.1, 160 ACRES MORE OR LESS IN THE NW $\frac{1}{4}$ OF SECTION 26; P.R.C. 2706.1, 160 ACRES MORE OR LESS IN THE SE $\frac{1}{4}$ OF SECTION 23; AND P.R.C. 2708.1, 160 ACRES MORE OR LESS IN THE SW $\frac{1}{4}$ OF SECTION 23; IN T. 11 S., R. 13 E., S.B.B. & M., IMPERIAL COUNTY; SUBJECT TO THE CONDITIONS INCLUDED IN EXHIBITS "C" AND "D" ATTACHED AND HEREBY MADE A PART HEREOF, THE INCLUSION OF SAID LEASES UNDER THE BLANKET BOND FILED BY THE APPLICANT, AND THE PAYMENT OF AN ADVANCE RENTAL OF \$1 PER ACRE PER YEAR, AND WITH ROYALTY UPON ALL GEOTHERMAL STEAM, MINERAL WATERS AND ALL MINERALS OTHER THAN OIL AND GAS AND CARBON DIOXIDE PRODUCED THEREUNDER AND EXTRACTED FROM SAID LEASE PREMISES, TO BE DETERMINED AS FOLLOWS:

A. UPON ANY AND ALL MINERALS PRODUCED AND EXTRACTED AND SOLD FROM SAID PREMISES:

- (1) FOR GOLD, SILVER, OTHER PRECIOUS MINERALS AND RADIOACTIVE MINERALS

$$R = 3.00 + 0.01 (C - 20.00)^2$$

- (2) FOR NONPRECIOUS METALLIC MINERALS

$$R = 3.00 + 0.37 (C - 60.00)^2$$

- (3) FOR NONMETALLIC MINERALS

$$R = 0.40 + 0.05 (C - 8.00)$$

WHERE R = ROYALTY IN DOLLARS AND CENTS PER TON OF MINERAL SALTS

C = WEIGHTED AVERAGE OF GROSS SALES PRICE OF MINERAL SALTS SOLD DETERMINED ON A QUARTERLY BASIS DURING THE FIRST YEAR IN WHICH SALES OCCUR. THEREAFTER, THE WEIGHTED AVERAGE DETERMINED BY GROSS SALES PRICE OF MINERAL SALTS SOLD DURING THE PREVIOUS YEAR IN WHICH SALES OCCUR.

THE MINIMUM ROYALTY UNDER ANY LEASE ISSUED PURSUANT TO THIS PERMIT SHALL BE:

- (1) FOR GOLD, SILVER, OTHER PRECIOUS MINERALS AND RADIOACTIVE MINERALS: \$3.00 PER TON.
- (2) FOR NONPRECIOUS METALLIC MINERALS: \$3.00 PER TON.
- (3) FOR NONMETALLIC MINERALS: \$0.40 PER TON.

THE MAXIMUM ROYALTY FOR GOLD, SILVER, OTHER PRECIOUS MINERALS, AND RADIOACTIVE MINERALS SHALL NOT EXCEED 50 PERCENT OF THE AVERAGE GROSS SALES PRICE OF THE MINERAL SALTS.

THE MAXIMUM ROYALTY FOR ALL NONPRECIOUS METALLIC AND NONMETALLIC MINERALS SHALL NOT EXCEED 25 PER CENT OF THE AVERAGE GROSS SALES PRICE OF THE MINERAL SALTS.

B. UPON ALL ELECTRIC ENERGY AND SALABLE WATER PRODUCED FROM MINERAL WATERS EXTRACTED FROM SAID LEASE PREMISES:

- (1) A FIXED MINIMUM PAYMENT OF $12\frac{1}{2}$ PER CENT OF THE GROSS SALES VALUE OF ALL ELECTRIC POWER AND WATER PRODUCED.
- (2) AN ADDITIONAL SUM OF $33\frac{1}{3}$ PER CENT OF THE NET PROFIT DERIVED FROM ALL THE OPERATIONS ON STATE LANDS, LESS THE MINIMUM PAYMENT.

C. UPON ALL CARBON DIOXIDE GAS AND OTHER NONHYDROCARBON GASES EXTRACTED AND SAVED UNDER THIS LEASE, A PAYMENT OF SIXTEEN AND TWO-THIRDS ($16\frac{2}{3}$) PER CENT OF THE CURRENT MARKET PRICE AT THE WELL AND OF ANY PREMIUM OR BONUS PAID ON ALL NONHYDROCARBON PRODUCTION REMOVED OR SOLD FROM THE LEASED LANDS.

Attachments

Exhibits "C" and "D" (5 pages)
Calendar Item 34 (9 pages)

EXHIBIT "C"

W.O. 5131
P.R.C. 2705.1, P.R.C. 2706.1
P.R.C. 2707.1, P.R.C. 2708.1

1. The State Lands Commission by issuing the requested prospecting permit is in no way purporting to fix the amount of mineral water that the Permittee may bring to the surface, which quantities are subject to other applicable provisions of the law.
2. The State shall have the right to determine the spacing of wells and the rate of drilling and rate of production of such wells so as to prevent the waste of superheated water and promote the maximum economic recovery of superheated water from and the conservation of reservoir energy in each zone or separate underground source of supply of superheated water covered in whole or in part by this lease.
3. The Permittee shall use all reasonable precautions to prevent waste of natural resources and energies, including oil and gas, in the lease lands or the entrance of water through wells drilled to any oil or gas, fresh water or carbon dioxide bearing strata to the destruction or injury of such deposits.
4. Any wells drilled in accordance with the provisions of this lease shall be drilled only from a surface location and on a course and to an objective approved in writing by the State prior to the commencement of drilling operations.

Before any work is commenced to abandon any well, Permittee shall give written notice to the State; the notice shall show the location of the well and the proposed method of abandonment. Any additional information requested by the State shall be furnished by the Permittee and any necessary tests required by the State shall be made by the Permittee. Upon receipt of written notice of approval by the State of the proposed method of abandonment, Permittee may commence operations of abandonment.

5. The Permittee shall file promptly with the State Lands Commission copies of all logs, including electric logs, surveys, drilling records, well histories, core records and related information as measured and recorded for the wells drilled by the Permittee into the permitted lands. The Permittee does hereby waive any statutory limitations upon the use by the State or a duly authorized employee of the State of any information filed with the Division of Oil and Gas of the Department of Natural Resources by the Permittee in connection with this permit. Any and all information filed by the Permittee with the said Division of Oil and Gas in connection with this permit shall be available at all times for the confidential use of the State for the purpose of enforcing compliance with the terms, covenants, and conditions of this lease and rules and regulations now promulgated by the State, but shall not be open to inspection by any person except members, officers, or employees of the State Lands Commission or Division and persons performing any function

EXHIBIT "C" (CONTD.)

or work assigned to them by said Commission or Division, except upon the written consent of the Permittee. Notwithstanding any other provision hereof, said information may be disclosed to any person where such disclosure is reasonably necessary for the administration of the functions, responsibilities, and duties vested in the Commission by law, including but not limited to functions, responsibilities, and duties arising in connection with any litigations relating to this permit or to the rights, duties, and obligations arising hereunder.

6. With respect to damage to any reservoir underlying the demised premises and loss of oil, gas or other hydrocarbon substances, superheated water, or carbon dioxide gas therein or therefrom, Permittee shall be liable to the State for such damage and loss to the extent that such damage and loss is caused by the negligence of or the breach of any provision of this lease or noncompliance with any applicable statutes or rules and regulations by the Permittee or its employees, servants, agents or contractors, provided that nothing herein shall diminish any other rights or remedies which the State may have in connection with any such negligence or breach.
7. In the event any well has been, is or shall be completed on other than State lands, with any part of its producing interval within six hundred (600) feet from the exterior boundary of this lease, and if such well is capable of producing superheated waters in commercial quantities, provided Permittee is not drilling or has not heretofore drilled an offset well thereto on the permitted lands, then the State may notify the Permittee in writing to drill an offset well thereto, and within one hundred twenty (120) days from the date of such notice, the Permittee shall commence operations for the drilling of an offset well on the leased lands to the same zone as that zone from which such well is producing, or is capable of producing, superheated waters. For the purpose of this section an offset well shall mean a well the producing interval of which is situated at a location in the leased lands not more than one hundred (100) feet from the point on the boundary of the lease nearest to the producing interval of the well to be offset.
8. An electric log, gamma ray neutron log or logs, and temperature survey shall be made of all formations penetrated to the drilled depth of each well or to such depth as is feasible. At least one oriented core or dipmeter record shall be made during the drilling of the first well to each zone if it is mechanically practicable to do so, or during the drilling of the earliest subsequent well in which it is mechanically practicable to make such core or record. True and correct copies of all logs, surveys, paleontological reports, dipmeter records, oriented core records, rock core records, drill records and well histories and all other drilling tests and production data taken by Permittee or his agents shall be immediately available to the representatives of the State, and said representatives shall also have ready access to all rock cores and samples which may be obtained during the drilling of each well.

EXHIBIT "C" (CONTD.)

9. The Permittee shall comply with all valid laws of the United States and of the State of California and with all valid ordinances of cities and counties applicable to the Permittee's operations hereunder, including without limitation by reason of the specification thereof the Permittee's compliance with Division 3 of the Public Resources Code, Statutes of California. The Permittee further agrees without limitation by reason of the specifications thereof to comply with all provisions of Division 6 of the Public Resources Code, Statutes of California, applicable to the Permittee's operations hereunder, and with all rules and regulations of the State Lands Commission applicable to the Permittee's operations hereunder in effect at the date of the issuance of this permit.
10. The Permittee shall furnish to the State detailed drawings of all pipelines attached in any manner to the said wells and report any changes or additions promptly, and shall gauge all water and measure all steam.
11. The Permittee having furnished bond in favor of the State of California in the penal sum of \$50,000 in connection with nearby prospecting permits shall amend the aforesaid bond to guarantee the faithful performance by the Permittee of the terms and covenants and observance of the conditions of said permit, and the provisions of the rules and regulations of the State Lands Commission to cover operations under this permit, or the Permittee shall deposit a similar bond in the penal sum of \$10,000 under this permit.
12. The Permittee may use superheated water from Lessee's wells drilled into the leased lands for drilling and production purposes only, to the extent such use is necessary for operations of said wells. Such superheated water, so used, shall not be included in computing, for royalty purposes, the total production of superheated water removed or sold from the leased lands during the month.

EXHIBIT "D"

W.C. 5131
P.R.C. 2705.1
P.R.C. 2706.1
P.R.C. 2707.1
P.R.C. 2708.1

Operations under this permit or any lease issued covering subject land shall be conducted in accordance with the following conditions:

1. Lessee shall conduct all of its activities at all times and in such manner as will not, in the judgment and opinion of the Department of Fish and Game, interfere with the purpose, function, and use of the Hazard Unit of the Imperial Waterfowl Management Area by the Department of Fish and Game.

Prior to any operation, all proposed activities will be cleared with and approved by the local waterfowl area manager, and approved and confirmed in writing between the lessee and the Manager, Region 5, Department of Fish and Game, 217 West First Street, Los Angeles, California 90012.

2. Lessee shall discharge no wastes considered by the Department of Fish and Game to be detrimental to fish, plant life, or bird life, where such waste may enter waters on the Imperial Waterfowl Management Area, the Salton Sea National Wildlife Refuge, or the Salton Sea.
3. Drill operations may not be conducted within 150 feet of ponded areas, or any area that the Department indicates it plans to pond in the foreseeable future.
4. Testing shall be conducted through calorimeters or closed system, and in any event, testing shall not be conducted by blowing steam in the air.
5. Any existing roads used by the lessee for operations under this lease shall be kept in good state of repair at all times at the sole expense of said lessee.
6. The location of any roads to be constructed for access to well locations under this lease shall be approved in advance by the Department of Fish and Game. Such roads shall be constructed at the sole expense of lessee of said lease.
7. Surface equipment for all wells drilled under this lease shall be located so as to be as inconspicuous as possible and with the approval of the Department of Fish and Game first had and obtained. All surface equipment necessary for well operation and handling of gas shall be painted in a manner to be approved by the Department of Fish and Game.

EXHIBIT "D" (CONTD.)

8. Any pipe lines laid on the above-described premises in connection with this lease shall be laid below plow depth and at least two feet below the bottom of any irrigation or drainage ditch or slough. Appropriate markers shall be provided for all pipe lines to identify their locations.

CALENDAR ITEM

34.

APPLICATION FOR PREFERENTIAL MINERAL EXTRACTION LEASES, PROSPECTING PERMITS P.R.C. 2705.1, 2706.1, 2707.1 and 2708.1, IMPERIAL COUNTY; R. W. CYPHER - W.O. 5131.

Prospecting Permits P.R.C. 2705.1, P.R.C. 2706.1, P.R.C. 2707.1 and P.R.C. 2708.1, covering, approximately 535 acres of State land under the jurisdiction of the Department of Fish and Game, lying in the SE $\frac{1}{4}$ of Section 23, the SW $\frac{1}{4}$ of Section 23, the NW $\frac{1}{4}$ of Section 26, and a portion of the NE $\frac{1}{4}$ of Section 26, T. 11 S., R. 13 E., S.B.B. & M., Imperial County, were issued on June 9, 1961, to R. W. Cypher, authorizing prospecting for a two-year term for geothermal steam and all minerals other than oil and gas and water (see Exhibit "A").

On May 23, 1963 (Minute Item 22, page 3868), the Commission granted a one-year extension of said permits through June 8, 1964. Pursuant to Division 6 of the Public Resources Code, upon establishing to the satisfaction of the Commission that commercially valuable deposits of minerals have been discovered within the limits of any permit, the permittee shall be entitled to a lease for not more than 160 acres of land embraced in the prospecting permit. The lease shall be upon a royalty as specified by the Commission in the permit, and will require the annual payment in advance of a rental of \$1 per acre.

An application has been received from R. W. Cypher for issuance of preferential mineral extraction leases covering the lands included in Prospecting Permits Nos. P.R.C. 2705.1, 2706.1, 2707.1 and 2708.1.

As the result of gravity and magnetometer surveys, a positive magnetic anomaly and positive gravity anomaly have been found. The fact that these geophysical anomalies coincide with a thermal anomaly, as well as with the location of five volcanic domes, suggests that the dense magnetic mass underlying the area may be a cooling intrusive body from which the domes have been extruded (see Exhibit "B").

Surface thermal activity is confined to several groups of mud volcanoes extending southeast from Mullett Island on a line approximately one mile long, and to a group of mud pots just northwest of Mullett Island on an extension of the same line. Some of these vents emit only steam, water, and carbon dioxide, while others erupt a viscous mud which forms a small cone around the orifice. Water temperatures around some of the vents have been measured as high as 79° C., but generally the temperatures are considerably lower.

Exploration operations have been conducted by the permittee and his associates on a potentially productive area, including, in addition to 28,000 acres of land leased from Imperial Irrigation District and other parties, approximately 40 acres of State sovereign land and approximately 1,495 acres of land under the jurisdiction of the Department of Fish and Game. All of the above Fish and Game land is subject to prospecting permits authorized by the State Lands Commission.

CALENDAR ITEM 34. (CONTD.)

O'Neill Geothermal, Inc., an associate of R. W. Cypher, has drilled two wells, Sportsman No. 1 and I.I.D. No. 1, approximately 1000 feet north of the permit area. During a three-day testing period, the well Sportsman No. 1 produced 55,000 lbs. per hour steam, and 258,000 lbs. per hour concentrated brine at 200 lbs. per square inch pressure and 199° C. The mineral waters associated with the production of steam have been analyzed, and, according to engineering reports of the permittee, the prime constituent of commercial value is potash; however, other minerals of commercial value will also be produced. Well I.I.D. No. 1, on test, indicated a flow of 125,000 lbs. per hour steam and 500,500 lbs. per hour brine at wellhead conditions of 200 lbs. per square inch pressure and 207° C. The reported cost of drilling, completing, and testing the two above wells was \$900,000.

In addition to these wells, Shell Oil Company I.I.D. No. 2 has been completed as a commercial well 800 feet west of the permit area. Earth Energies River Ranches No. 1 well was completed as a commercial well approximately 1500 feet northeasterly from the permit area. Western Geothermal Sinclair No. 3 well was completed as a commercial well approximately 3 miles southwest of the permit area.

Shell Oil Company has entered into an agreement with the State's permittee to drill a well in the permit area. This well has been completed at a cost of \$250,000. and is in process of being tested. In view of data developed by magnetic and gravimetric surveys, and the results obtained from wells drilled to the north, south, and west of the well completed within the permit area, it is the opinion of the staff that commercially valuable deposits of steam and mineral waters underlying the area included in the four permits have been developed.

IT IS RECOMMENDED THAT THE COMMISSION:

1. DETERMINE THAT VALUABLE DEPOSITS OF GEOTHERMAL STEAM AND MINERAL WATERS HAVE BEEN DEVELOPED WITHIN THE LIMITS OF PROSPECTING PERMITS P.R.C. 2705.1, P.R.C. 2706.1, P.R.C. 2707.1 AND P.R.C. 2708.1.
2. AUTHORIZE THE EXECUTIVE OFFICER TO PREPARE AND ISSUE TO R. W. CYPHER FOUR PREFERENTIAL MINERAL EXTRACTION LEASES, IN ACCORDANCE WITH DIVISION 6 OF THE PUBLIC RESOURCES CODE, COVERING: P.R.C. 2705.1, 55 ACRES MORE OR LESS IN THE NE $\frac{1}{4}$ OF SECTION 26; P.R.C. 2707.1, 160 ACRES MORE OR LESS IN THE NW $\frac{1}{4}$ OF SECTION 26; P.R.C. 2706.1, 160 ACRES MORE OR LESS IN THE SE $\frac{1}{4}$ OF SECTION 23; AND P.R.C. 2708.1, 160 ACRES MORE OR LESS IN THE SW $\frac{1}{4}$ OF SECTION 23; IN T. 11 S., R. 13 E., S.B.B. & M., IMPERIAL COUNTY; SUBJECT TO THE CONDITIONS INCLUDED IN EXHIBITS "C" AND "D" ATTACHED AND HEREBY MADE A PART HEREOF, THE INCLUSION OF SAID LEASES UNDER THE BLANKET ROND FILED BY THE APPLICANT, AND THE PAYMENT OF AN ADVANCE RENTAL OF \$1 PER ACRE PER YEAR, AND WITH ROYALTY UPON ALL GEOTHERMAL STEAM, MINERAL WATERS AND ALL MINERALS OTHER THAN OIL AND GAS AND CARBON DIOXIDE PRODUCED THEREUNDER AND EXTRACTED FROM SAID LEASE PREMISES, TO BE DETERMINED AS FOLLOWS:

CALENDAR ITEM 34. (CONTD.)

A. UPON ANY AND ALL MINERALS PRODUCED AND EXTRACTED AND SOLD FROM SAID PREMISES:

(1) FOR GOLD, SILVER, OTHER PRECIOUS MINERALS AND RADIOACTIVE MINERALS

$$R = 3.00 + 0.01 (C - 20.00)^2$$

(2) FOR NONPRECIOUS METALLIC MINERALS

$$R = 3.00 + 0.37 (C - 60.00)^2$$

(3) FOR NONMETALLIC MINERALS

$$R = 0.40 + 0.05 (C - 8.00)$$

WHERE R = ROYALTY IN DOLLARS AND CENTS PER TON OF MINERAL SALES

C = WEIGHTED AVERAGE OF GROSS SALES PRICE OF MINERAL SALTS SOLD DETERMINED ON A QUARTERLY BASIS DURING THE FIRST YEAR IN WHICH SALES OCCUR. THEREAFTER, THE WEIGHTED AVERAGE DETERMINED BY GROSS SALES PRICE OF MINERAL SALTS SOLD DURING THE PREVIOUS YEAR IN WHICH SALES OCCUR.

THE MINIMUM ROYALTY UNDER ANY LEASE ISSUED PURSUANT TO THIS PERMIT SHALL BE:

(1) FOR GOLD, SILVER, OTHER PRECIOUS MINERALS AND RADIOACTIVE MINERALS: \$3.00 PER TON.

(2) FOR NONPRECIOUS METALLIC MINERALS: \$3.00 PER TON.

(3) FOR NONMETALLIC MINERALS: \$0.40 PER TON.

THE MAXIMUM ROYALTY FOR GOLD, SILVER, OTHER PRECIOUS MINERALS, AND RADIOACTIVE MINERALS SHALL NOT EXCEED 50 PERCENT OF THE AVERAGE GROSS SALES PRICE OF THE MINERAL SALTS.

THE MAXIMUM ROYALTY FOR ALL NONPRECIOUS METALLIC AND NONMETALLIC MINERALS SHALL NOT EXCEED 25 PER CENT OF THE AVERAGE GROSS SALES PRICE OF THE MINERAL SALTS.

B. UPON ALL ELECTRIC ENERGY AND SALABLE WATER PRODUCED FROM MINERAL WATERS EXTRACTED FROM SAID LEASE PREMISES:

(1) A FIXED MINIMUM PAYMENT OF $12\frac{1}{2}$ PER CENT OF THE GROSS SALES VALUE OF ALL ELECTRIC POWER AND WATER PRODUCED.

(2) AN ADDITIONAL SUM OF $33\frac{1}{3}$ PER CENT OF THE NET PROFIT DERIVED FROM ALL THE OPERATIONS ON STATE LANDS, LESS THE MINIMUM PAYMENT.

CALENDAR ITEM 34. (CONTD.)

- C. UPON ALL CARBON DIOXIDE GAS AND OTHER NONHYDROCARBON GASES EXTRACTED AND SAVED UNDER THIS LEASE, A PAYMENT OF SIXTEEN AND TWO-THIRDS (16-2/3) PER CENT OF THE CURRENT MARKET PRICE AT THE WELL AND OF ANY PREMIUM OR BONUS PAID ON ALL NONHYDROCARBON PRODUCTION REMOVED OR SOLD FROM THE LEASED LANDS.

Attachments:

Exhibits "C" and "D"

LEGEND

EXHIBIT "A"
W.O. 5131
STATE LANDS COMMISSION

- Abandoned CO₂ Gas Field
- Well (drilling))
- Well (completed)) Steam Wells
- Well (suspended))
- Well (abandoned))

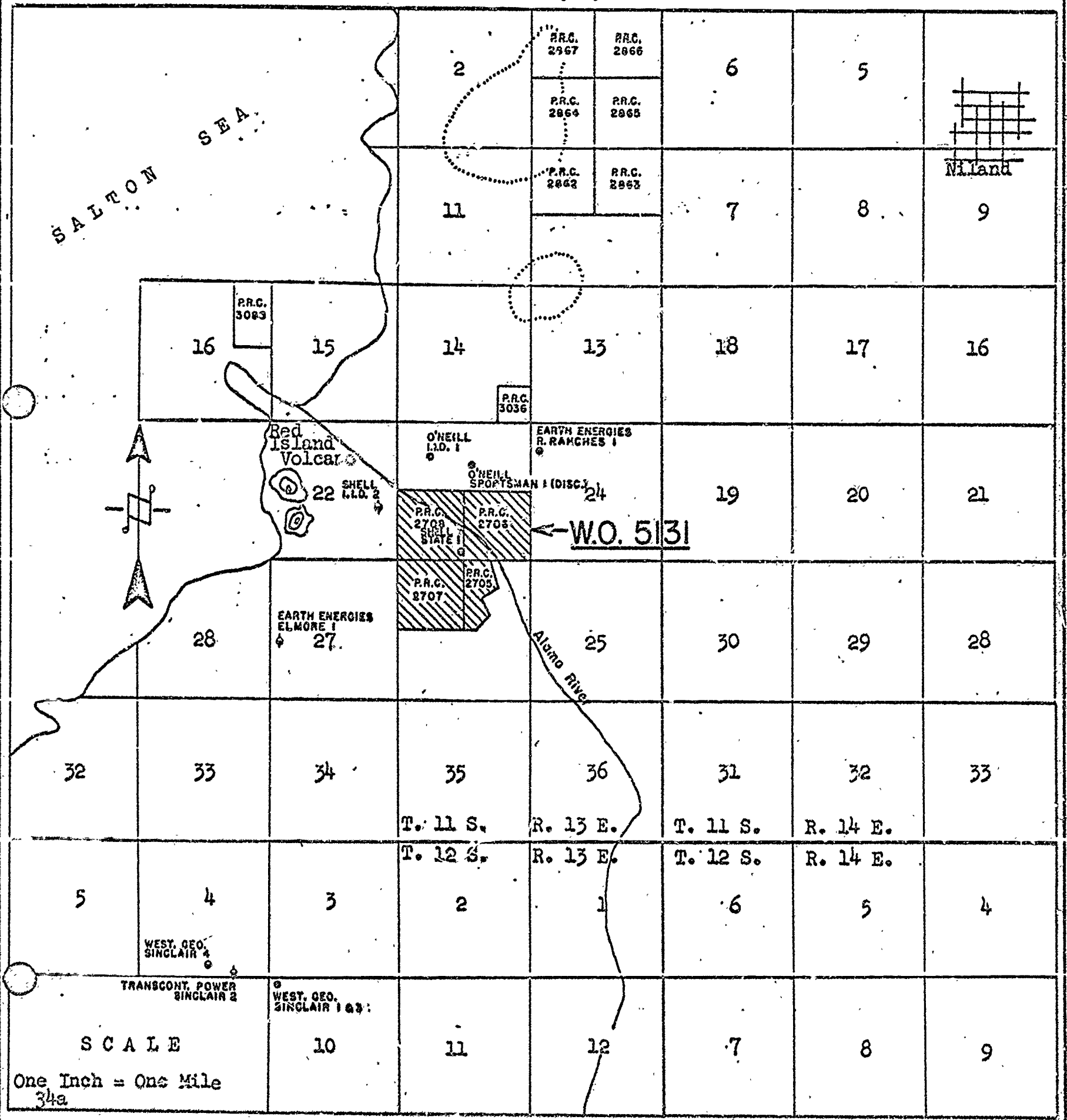
Application for Preferential Mineral
Extraction Leases

P.R.C. 2705 P.R.C. 2707
P.R.C. 2706 P.R.C. 2708

R. W. Cypher
Imperial County

May 1964

J.W.Y.



SALTON SEA

Red Island Volcar

Alamo River

← W.O. 5131

T. 11 S. R. 13 E. T. 11 S. R. 14 E.
T. 12 S. R. 13 E. T. 12 S. R. 14 E.

SCALE

One Inch = One Mile

34a

LEGEND

- ⊕ Well (drilling))
- ⊙ Well (completed))
- ⊕ Well (suspended)) Steam Wells
- ⊙ Well (abandoned))

EXHIBIT "B"
W.O. 5131
STATE LANDS COMMISSION

Application for Preferential
Mineral Extraction Leases

P.R.C. 2705.1 P.R.C. 2707.1
P.R.C. 2706.1 P.R.C. 2708.1

R. W. Cypher
Imperial County

May 1964

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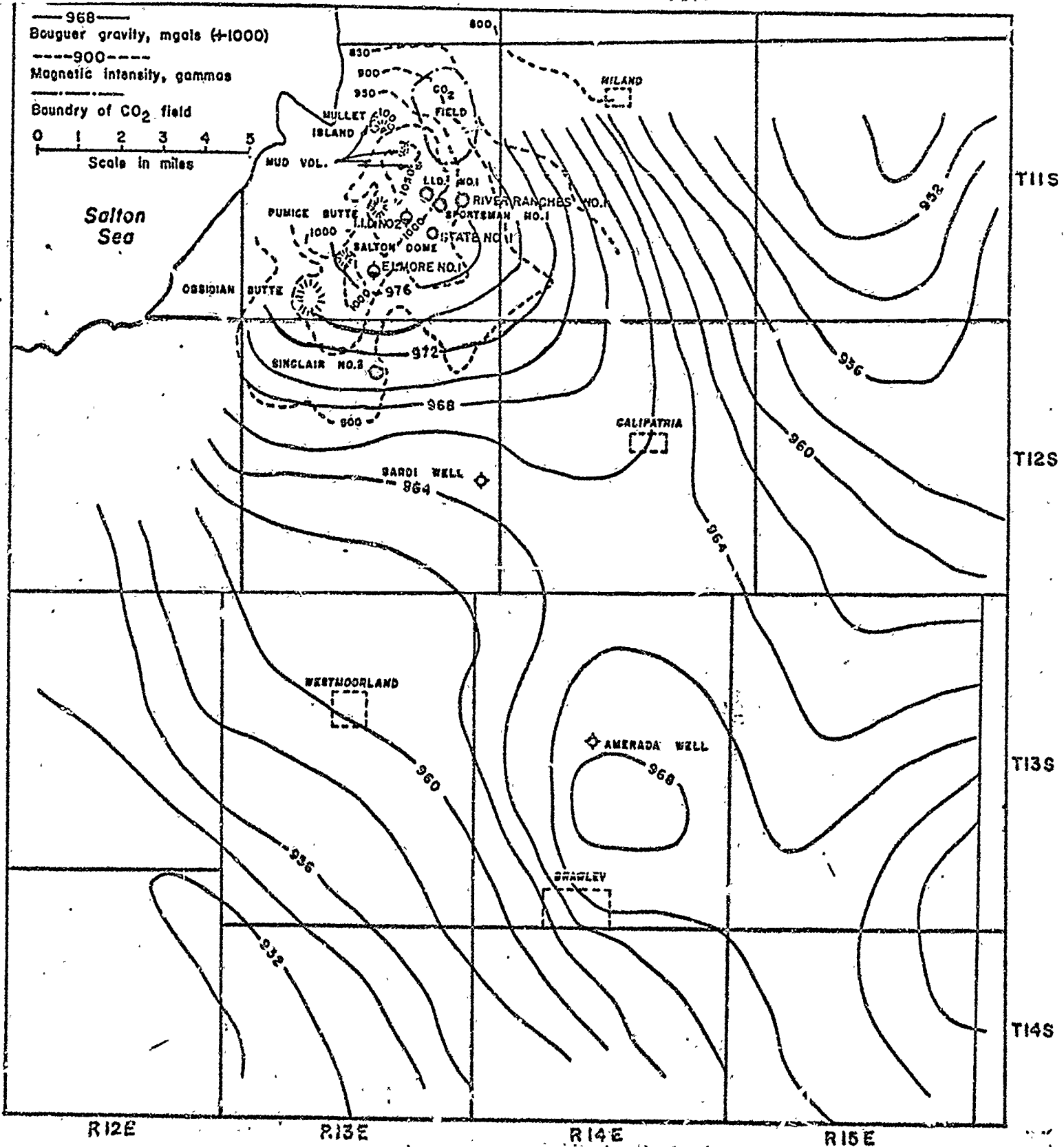


EXHIBIT "C"

W.O. 5131
P.R.C. 2705.1, P.R.C. 2706.1
P.R.C. 2707.1, P.R.C. 2708.1

1. The State Lands Commission by issuing the requested prospecting permit is in no way purporting to fix the amount of mineral water that the Permittee may bring to the surface, which quantities are subject to other applicable provisions of the law.
2. The State shall have the right to determine the spacing of wells and the rate of drilling and rate of production of such wells so as to prevent the waste of superheated water and promote the maximum economic recovery of superheated water from and the conservation of reservoir energy in each zone or separate underground source of supply of superheated water covered in whole or in part by this lease.
3. The Permittee shall use all reasonable precautions to prevent waste of natural resources and energies, including oil and gas, in the lease lands or the entrance of water through wells drilled to any oil or gas, fresh water or carbon dioxide bearing strata to the destruction or injury of such deposits.
4. Any wells drilled in accordance with the provisions of this lease shall be drilled only from a surface location and on a course and to an objective approved in writing by the State prior to the commencement of drilling operations.

Before any work is commenced to abandon any well, Permittee shall give written notice to the State, the notice shall show the condition of the well and the proposed method of abandonment. Any additional information requested by the State shall be furnished by the Permittee and any necessary tests required by the State shall be made by the Permittee. Upon receipt of written notice of approval by the State of the proposed method of abandonment, Permittee may commence operations of abandonment.

5. The Permittee shall file promptly with the State Lands Commission copies of all logs, including electric logs, surveys, drilling records, well histories, core records and related information as measured and recorded for the wells drilled by the Permittee into the permitted lands. The Permittee does hereby waive any statutory limitations upon the use by the State or a duly authorized employee of the State of any information filed with the Division of Oil and Gas of the Department of Natural Resources by the Permittee in connection with this permit. Any and all information filed by the Permittee with the said Division of Oil and Gas in connection with this permit shall be available at all times for the confidential use of the State for the purpose of enforcing compliance with the terms, covenants, and conditions of this lease and rules and regulations now promulgated by the State, but shall not be open to inspection by any person except members, officers, or employees of the State Lands Commission or Division and persons performing any function

EXHIBIT "C" (CONTD.)

or work assigned to them by said Commission or Division, except upon the written consent of the Permittee. Notwithstanding any other provision hereof, said information may be disclosed to any person where such disclosure is reasonably necessary for the administration of the functions, responsibilities, and duties vested in the Commission by law, including but not limited to functions, responsibilities, and duties arising in connection with any litigations relating to this permit or to the rights, duties, and obligations arising hereunder.

6. With respect to damage to any reservoir underlying the demised premises and loss of oil, gas or other hydrocarbon substances, superheated water, or carbon dioxide gas therein or therefrom, Permittee shall be liable to the State for such damage and loss to the extent that such damage and loss is caused by the negligence of or the breach of any provision of this lease or noncompliance with any applicable statutes or rules and regulations by the Permittee or its employees, servants, agents or contractors, provided that nothing herein shall diminish any other rights or remedies which the State may have in connection with any such negligence or breach.
7. In the event any well has been, is or shall be completed on other than State lands, with any part of its producing interval within six hundred (600) feet from the exterior boundary of this lease, and if such well is capable of producing superheated waters in commercial quantities, provided Permittee is not drilling or has not heretofore drilled an offset well thereto on the permitted lands, then the State may notify the Permittee in writing to drill an offset well thereto, and within one hundred twenty (120) days from the date of such notice, the Permittee shall commence operations for the drilling of an offset well on the leased lands to the same zone as that zone from which such well is producing, or is capable of producing, superheated waters. For the purpose of this section an offset well shall mean a well the producing interval of which is situated at a location in the leased lands not more than one hundred (100) feet from the point on the boundary of the lease nearest to the producing interval of the well to be offset.
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EXHIBIT "C" (CONTD.)

9. The Permittee shall comply with all valid laws of the United States and of the State of California and with all valid ordinances of cities and counties applicable to the Permittee's operations hereunder, including without limitation by reason of the specification thereof the Permittee's compliance with Division 3 of the Public Resources Code, Statutes of California. The Permittee further agrees without limitation by reason of the specifications thereof to comply with all provisions of Division 6 of the Public Resources Code, Statutes of California, applicable to the Permittee's operations hereunder, and with all rules and regulations of the State Lands Commission applicable to the Permittee's operations hereunder in effect at the date of the issuance of this permit.
10. The Permittee shall furnish to the State detailed drawings of all pipelines attached in any manner to the said wells and report any changes or additions promptly, and shall gauge all water and measure all steam.
11. The Permittee having furnished bond in favor of the State of California in the penal sum of \$50,000 in connection with nearby prospecting permits shall amend the aforesaid bond to guarantee the faithful performance by the Permittee of the terms and covenants and observance of the conditions of said permit, and the provisions of the rules and regulations of the State Lands Commission to cover operations under this permit, or the Permittee shall deposit a similar bond in the penal sum of \$10,000 under this permit.
12. The Permittee may use superheated water from Lessee's wells drilled into the leased lands for drilling and production purposes only, to the extent such use is necessary for operations of said wells. Such superheated water, so used, shall not be included in computing, for royalty purposes, the total production of superheated water removed or sold from the leased lands during the month.

EXHIBIT "D"

W.O. 5131
P.R.C. 2705.1
P.R.C. 2706.1
P.R.C. 2707.1
P.R.C. 2708.1

Operations under this permit or any lease issued covering subject land shall be conducted in accordance with the following conditions:

1. Lessee shall conduct all of its activities at all times and in such manner as will not, in the judgment and opinion of the Department of Fish and Game, interfere with the purpose, function, and use of the Hazard Unit of the Imperial Waterfowl Management Area by the Department of Fish and Game.

Prior to any operation, all proposed activities will be cleared with and approved by the local waterfowl area manager, and approved and confirmed in writing between the lessee and the Manager, Region 5, Department of Fish and Game, 217 West First Street, Los Angeles, California 90012.

2. Lessee shall discharge no wastes considered by the Department of Fish and Game to be detrimental to fish, plant life, or bird life, where such waste may enter waters on the Imperial Waterfowl Management Area, the Salton Sea National Wildlife Refuge, or the Salton Sea.
3. Drill operations may not be conducted within 150 feet of ponded areas, or any area that the Department indicates it plans to pond in the foreseeable future.
4. Testing shall be conducted through calorimeters or closed system, and in any event, testing shall not be conducted by blowing steam in the air.
5. Any existing roads used by the lessee for operations under this lease shall be kept in good state of repair at all times at the sole expense of said lessee.
6. The location of any roads to be constructed for access to well locations under this lease shall be approved in advance by the Department of Fish and Game. Such roads shall be constructed at the sole expense of lessee of said lease.
7. Surface equipment for all wells drilled under this lease shall be located so as to be as inconspicuous as possible and with the approval of the Department of Fish and Game first had and obtained. All surface equipment necessary for well operation and handling of gas shall be painted in a manner to be approved by the Department of Fish and Game.

EXHIBIT "D" (CONTD.)

8. Any pipe lines laid on the above-described premises in connection with this lease shall be laid below plow depth and at least two feet below the bottom of any irrigation or drainage ditch or slough. Appropriate markers shall be provided for all pipe lines to identify their locations.