### ORDER NO. 85-10

## WASTE DISCHARGE REQUIREMENTS FOR DESERT QUEEN VEGETABLE PRODUCTS GEOTHERMAL PRODUCTION AND INJECTION WELLS AND VEGETABLE WASH WATER DISPOSAL East Mesa Area - Imperial County

The California Regional Water Quality Control Board, Colorado River Basin Region, finds that:

- 1. Desert Queen Vegetable Products, Ltd. (hereinafter also referred to as the discharger), P. O. Box 26, Holtville, California, 92250, submitted a Report of Waste Discharge, dated May 15, 1984.
- 2. The discharger proposes to drill two geothermal production wells and an injection well to generate heat from the geothermal fluid that would be utilized at a vegetable dehydration plant. The plant process would produce a maximum of 9,000 gallons-per-day of vegetable wash water that would be sprayed onto a 10-acre field for disposal by evaporation and infiltration. The spray field would be located in the  $S^{\frac{1}{2}}$ ,  $SW^{\frac{1}{4}}$ ,  $SE^{\frac{1}{4}}$  of Section 7, T16S, R17E, SBB&M. The three geothermal wells would be in the East Mesa area at the following locations:

Well	Location		
18-7 (Production)	SW <sup>1</sup> / <sub>4</sub> , SW <sup>1</sup> / <sub>4</sub> , SW <sup>1</sup> / <sub>4</sub> of Section 7, T16S, R17E, SBB&M		
42-18 (Production)	SE <sup>1</sup> 4, NE <sup>1</sup> 4, NW <sup>1</sup> 4 of Section 18, T16S, R17E, SBB&M		
41-18 (Injection)	NE <sup>1</sup> / <sub>4</sub> , NE <sup>1</sup> / <sub>4</sub> , NW <sup>1</sup> / <sub>4</sub> of Section 18, T16S, R17E, SBB&M		

3. An impervious lined mud sump, 125 feet by 50 feet by 5 feet deep, with an approximate capacity of 240,000 gallons would be constructed at each well site. Each site would utilize about one acre of surface area.

4. The discharger proposes to discharge into each mud sump a maximum of 58,000 gallons of drilling mud and drill cuttings. Following some evaporation, the residual mud would be removed from the sumps and discharged at a location approved by the Regional Board to receive this waste.

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5. The drilling mud components which may be used are:

Bentonite Lignite Caustic Soda (NaOH) Detergents Sodium Bicarbonate Sodium Polyacrylate Mica Sawdust Sodium Hexametaphosphate

- 6. The discharger proposes to discharge into each mud sump 21,000 gallons of cleanout fluid. Final disposal of this fluid would be by subsurface reinjection, or after some evaporation, the residual fluid would be discharged at a waste management unit approved by the Regional Board to receive this waste.
- 7. Geothermal brines in portions of Imperial County are known to contain certain constituents which are classified as hazardous by the Department of Health Services, Toxic Substances Control Division, in accordance with California Administrative Code, Title 22, Chapter 30, Article 9, Section 66680.
- 8. The Water Quality Control Plan for the Colorado River Basin Region of California was adopted by the Regional Board on November 14, 1984. The Basin Plan contains water quality objectives for Imperial Hydrologic Unit.
- 9. There are no surface waters in the vicinity of the discharge. Shallow ground waters are of marginal quality and presently are not beneficially used. Deep ground waters are being tested for potential geothermal power production.
- 10. The Regional Board approved on January 23, 1985 Negative Declaration SCH# 84112830 for the geothermal wells and the vegetable dehydration plant in accordance with California Environmental Quality Act and State Guidelines. The Board determined that there will be no substantial adverse effect on the environment as a result of this project.
- 11. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the proposed discharge.
- 12. The Board in a public meeting heard and considered all comments pertaining to the proposed discharge.
- 13. This Order authorizes discharge of certain designated wastes to approved Class II Waste Mangement Units for Designated Waste. Prending reclassification of existing units by November 27, 1989, pursuant to Subchapter 15, Chapter 3, Title 23, California Administrative Code, requirements for discharge to Class II Waste Management Units may be interpreted to authorize discharge to appropriate existing disposal sites permitted as Class I or Class II-1 under previous requirements.
- 14. This Order authorizes discharge of certain nonhazardous wastes to approved Class III Landfills for Nonhazardous Solid Wastes. Pending reclassification of existing units by November 27, 1989, pursuant to Subchapter 15, Chapter 3, Title 23, California Administrative Code, requirements for discharge to Class III Landfills may be interpreted to authorize discharge to appropriate existing disposal sites permitted as Class II-2 under previous requirements.

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IT IS HEREBY ORDERED, the discharger shall comply with the following:

#### A. General Discharge Specifications

- 1. Neither the treatment nor the discharge of wastes shall create a pollution or a nuisance as defined in Division 7 of the California Water Code.
- 2. All waste disposal shall be confined to the property of the operator.
- B. Geothermal Well Discharge Specifications
  - 1. Geothermal fluids and other wastes shall not enter any rivers, canals, drainage channels, or drains (including subsurface drainage systems), which could provide flow or seepage to Salton Sea.
  - 2. Temporary discharge and/or storage of drilling mud, drill cuttings and cleanout fluid other than in mud sumps or other containers having a lining coefficient of permeability of  $1 \times 10^{-6}$  cm/sec., or less, is prohibited, and the fluids contained within shall not penetrate through the lining during the containment period.
  - 3. Long-term storage and/or discharge of geothermal wastes for longer than one year, other than in containers having a lining coefficient of permeability of  $1 \times 10^{-8}$  cm/sec., or less, is prohibited, and the fluids contained within shall not penetrate through the lining during the containment period.
  - 4. Adequate protective works and maintenance shall be provided to assure that mud sumps will not become eroded or otherwise damaged during the project period, and/or until all well drilling and well cleanout materials are removed.
  - 5. A minimum freeboard of at least two (2) feet shall be maintained in mud sumps.
  - 6. Permanent disposal of drilling muds or any wastes is prohibited at the well sites.
  - 7. Production process geothermal fluids shall be discharged by subsurface injection only. These fluids shall not be discharged into any subsurface zone which has a total dissolved solids concentration of less than 10,000 mg/l, unless the total dissolved solids concentration of the injection water is less than or equal to that of the receiving water.
  - 8. Saline drilling muds, with extractable water containing a total dissolved solids concentration exceeding 6,000 mg/l, and brine and salt wastes, shall be discharged at a Class I or II Waste Management. Unit approved by the Regional Board to receive said waste.
  - 9. Non-saline drilling muds, with extractable water containing a total dissolved solids concentration which is less than 6,000 mg/l, and not containing hazardous wastes<sup>1</sup> may be disposed at a Class III Landfill approved by the Regional Board to receive said wastes.

1. See Attachment A

- 10. Final disposal of residual wastes in accordance with Specifications No. 7, 8, and 9, above, and cleanup of all contents, shall be accomplished upon abandonment of operations. Lack of construction or operational activity on the site for a period of one year shall constitute abandonment for the purposes of this Order.
- 11. The total volume of fluids discharged into the sumps shall not exceed 250,000 gallons-per-day.

### C. Vegetable Wastewater Discharge Specifications

- 1. A minimum depth of freeboard of at least two (2) feet shall be maintained in earthen basins, (if any).
- 2. Adequate protective works shall be provided to assure that flood or surface drainage waters do not erode or otherwise render portions of the treatment and discharge facilities inoperable.
- 3. There shall be no surface flow of wastewater away from the discharge facilities.
- 4. Treatment and discharge of wastewater shall be conducted by technical procedures which will maintain an aerobic environment.

### D. Provisions

- 1. Prior to any modifications in these facilities which would result in material change in the quality or quantity of wastewater discharged, the discharger shall report in writing to the Regional Board.
- 2. The discharger shall comply with "Monitoring and Reporting Program No. 85-10", and future revisions thereto, as specified by the Executive Officer.
- 3. At least 5 days prior to the discharge of any materials into a mud sump, the discharger shall submit to the Regional Board a technical report showing the construction of each sump, and a certificate signed by a California Registered Civil Engineer stating that the sump and attendant facilities are constructed to meet the requirements of this Order.
- 4. In the event of any change in control or ownership of land or waste disposal facilities described herein, the discharger shall:
  - a. Notify this Board of such change; and
  - b. Transmit a copy of this Order to the succeeding owner or operator, and file a copy of the transmittal letter with this Board.

I, Arthur Swajian, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Colorado River Basin Region, on <u>January 23, 1985</u>.

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### ATTACHMENT A to Board Order No. 85-10

Threshold Limit Concentrations for Bioaccumulative Toxic Substances

#### A. Limitations

Drilling mud, cuttings, and other geothermal wastes containing the following substances having concentrations equal to or greater than those listed below are designated as hazardous by the State of California Department of Health Services.

		Soluble Threshold Limit wet weight mg/kg	Total Threshold Limit wet weight mg/kg
1.	Arsenic and compounds	5	50
2.	Barium (excluding barite) and compounds	100	1,000
3.	Lead compounds, inorganic	5	50
4.	Lead compounds, organic	_	13
5.	Zinc compounds	20	200

### B. Definitions of Limitations

- 1. The waste is designated hazardous if the wet weight analysis of <u>any</u> of the above constituents exceed the Total Threshold Limits as listed above. The waste would therefore not be acceptable for disposal in a Class III Landfill. No further analyses are necessary.
- 2. The waste is considered to contain non-hazardous levels of the above substances if all of the weight analyses of the above constituents do not exceed the Soluble Threshold Limits as listed above. The waste would therefore be acceptable for disposal in a Class III Landfill provided the waste also complies with the other Discharge Specifications and Provisions in this Order. No further analyses of the metal constituents are necessary.

- 3. If the analyses of the waste do not conform to the conditions described under Section A or B, above, extractions of the soluble waste constituents must be made in accordance with a procedure approved by the Executive Officer and analyzed for those constituents in which the wet weight concentrations exceeded the Soluble Threshold Limits as listed above.
  - (a) If the wet weight analysis of any of the soluble constituents exceeds the Soluble Threshold Limits listed above, the waste is designated hazardous and is not acceptable for disposal in a Class III Landfill.
  - (b) If the wet weight analyses of <u>all</u> of the soluble constituents do not exceed the Soluble Threshold Limits as listed above, the waste is considered to contain non-hazardous concentrations of these constituents. The waste would therefore be acceptable for disposal in a Class-III Landfill provided the waste also complies with the other Discharge Specifications and Provisions in this Order.

# MONITORING AND REPORTING PROGRAM NO. 85-10 FOR DESERT QUEEN VEGETABLE PRODUCTS GEOTHERMAL PRODUCTION AND INJECTION WELLS AND VEGETABLE WASH WATER DISPOSAL East Mesa Area - Imperial County

Location of Discharge: Portions of Sections 7 and 18, T16S, R17E, SBB&M

### MONITORING

Desert Queen Vegetable Products, Ltd. shall report monitoring data to the Regional Board in accordance with the following schedule:

- 1. The discharger shall submit to the Board, at least 30 days prior to commencement of operation at each well, a written report on the proposed method and estimated costs of cleanup and closure of each well site in a manner which would not adversely effect water quality.
- 2. At least 5 days prior to the discharge of any drilling mud or geothermal materials into a mud sump or other container, the discharger shall submit to the Regional Board a technical report on the construction of said container, and a certificate signed by a California Registered Civil Engineer stating that the container and attendant facilities are constructed to meet the requirements contained in Board Order No. 85-10.
- 3. At least 10 days before the initial discharge of any geothermal fluids from each well, the discharger shall report said plan to discharge to the Board.

	Constituents	Units	 Frequency
4.	Volume of geothermal wastes contained in each sump.	Gallons	Monthly
5.	Volume of saline drilling mud and salt and brine waste hauled to a Class I or Class II Waste Management Unit, and name of unit.	Gallons	Monthly

	Constituents	Units	Reporting Frequency
6.	Volume and total dissolved solids concentration of non-saline drilling mud hauled to a Class III Landfill, and name of unit.	Gallons and mg/l	Monthly
7.	Total dissolved solids concentration of waste fluid injected into the injection well.	mg/l	Monthly
8.	Total dissolved solids concentration of ground water contained in strata receiving waste fluid injection.	mg/l	At least 10 days prior to commencement of injection

9. Representative samples of drilling mud, cuttings, and geothermal fluid to be discharged at a Class II-2 waste disposal site shall be analyzed for the following constituents (in accordance with Attachment A of Order No. 85-10), which shall be reported to the Regional Board five days prior to discharge:

Constituents	Unit
Arsenic and compounds	mg As/kg wet sample weight
Barium (excluding barite) and compounds	mg Ba/kg wet sample weight
Lead compounds, inorganic	mg Pb/kg wet sample weight
Lead compounds, organic	mg Pb/kg wet sample weight
Zinc compounds	mg Zn/kg wet sample weight

- 10. Immediate reporting of any accidental spillage or release of waste material, and plan for immediate measures being taken to correct same and to limit detrimental effects.
- 11. Report of completion of removal of all geothermal waste from mud sumps reported within one week following completion of work.
- 12. At least 10 days prior to destruction of each sump, the discharger shall request a Regional Board staff inspection and approval of the cleanup procedure.

### REPORTING

The above monitoring program shall be implemented immediately upon commencement of discharge at each site.

Monthly reports shall be submitted to the Regional Board by the 15th day of the following month. Reports for Item No. 10 (above) shall be forwarded immediately and if at all possible shall be preceded by phone communication to the Regional Board's office, phone No. (619) 346-7491. Copies of the reports submitted to the Board pursuant to this Monitoring and Reporting Program shall be maintained at the operations site, and shall also be made available to staff of the Regional Board upon request.

Mail reports to:

California Regional Water Quality Control Board Colorado River Basin Region 73-271 Highway 111, Suite 21 Palm Desert, CA 92260

ORDERED BY:

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Executive Officer

January 23, 1985

Date



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD - 7

SITE MAP

DESERT QUEEN VEGETABLE PRODUCTS GEOTHERMAL PRODUCTION AND INJECTION WELLS AND VEGETABLE WASH WATER DISPOSAL East Mesa Area - Imperial County Portions of Sections 7 & 18, T16S, R17E, SBB&M USGS Holtville & Glamis 15 min. Topographic Maps

Order No. 85-10

#### NEGATIVE DECLARATION

### SCH # 84112830

Pursuant to Section 21108 Public Resources Code

\_\_\_\_ Draft

X Final

### PROJECT TITLE:

Desert Queen Vegetable Products - Geothermal Production and Injection Wells and Vegetable Wash Water Disposal - East Mesa Area, Imperial County

# PROJECT PROPOSAL

Desert Queen Vegetable Products, Ltd. proposes a vegetable plant and three deep geothermal wells in the East Mesa area on Federal Lease CA-964. Two of the wells would produce hot geothermal fluid that would be utilized for dehydration of vegetables. Vegetable wash water from the plant would be sprayed onto a 10-acre field. The water would be obtained from the East Highline Canal that conveys Colorado River water. The sprayed field would be located in the  $S^{\frac{1}{2}}$ ,  $SW^{\frac{1}{4}}$ ,  $SE^{\frac{1}{4}}$  of Section 7, T16S, R17E, SBB&M.

The three geothermal wells would be in the East Mesa area at the following locations:

Well	Location		
18-7 (Production)	SW <sup>1</sup> , SW <sup>1</sup> , SW <sup>1</sup> of Section 7, T16S, R17E, SBB&M		
42–18 (Production)	SE <sup>1</sup> 4, NE <sup>1</sup> 4, NW <sup>1</sup> 4 of Section 18, T16S, R17E, SBB&M		
41-18 (Injection)	NE <sup>1</sup> , NE <sup>1</sup> , NW <sup>1</sup> of Section 18, T16S, R17E, SBB&M		

#### FINDINGS

The following sequence of operations may occur when drilling each geothermal well:

1. Construct drilling sites, including pad, mud sump and required access road, if any.

- 2. Drill each well and discharge drilling mud and drill cuttings into sump, with final disposal at a Regional Board approved disposal site.
- 3. Cleanout each well and discharge fluids into sump, with final disposal by subsurface reinjection or at a Regional Board approved disposal site.
- 4. Flow test each well and discharge fluids by injecting subsurface.
- 5. Place well on sustained production.

There is to be one new access road proposed. Each geothermal well pad would be about one acre. A total of three acres may be affected by the geothermal part of the project. About 20 acres would be required for the vegetable plant and spray field.

#### **REASONING IN SUPPORT OF FINDINGS**

THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, COLORADO RIVER BASIN REGION, HAS DETERMINED THAT THE PROPOSED PROJECT WILL NOT HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT FOR THE FOLLOWING REASONS:

- 1. This project is in accordance with existing county and regional plans, including the Water Quality Control Plan for the Colorado River Basin Region of California.
- 2. No significant adverse impacts to beneficial uses of surface or ground waters as a result of changes in water quality or quantity are indicated.
- 3. No significant adverse impacts upon fish, wildlife, or natural vegetation are indicated.
- 4. No significant adverse impacts to rare or endangered species as a result of this project are indicated.
- 5. No significant adverse impacts on esthetics, air quality, noise levels, land forms, or nonrenewable resources are indicated.
- 6. No significant secondary impacts resulting from growth inducement or limits to potential uses are indicated because of the limited effects and purposes of the project.
- 7. This project will not result in adverse impacts to historic or archaeological sites.

CONTACT PERSON: Arthur Swajian, Executive Officer

TELEPHONE: (619) 346-7491

January 23, 1985 Date

Executive Øfficer