CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. **93-108**
NPDES NO. **CA0029386**

WASTE DISCHARGE REQUIREMENTS FOR:

SOLA OPTICAL USA, INC.
1500 CADER LANE
PETALUMA, SONOMA COUNTY, CALIFORNIA

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter Board) finds that:

1. By the application dated December 7, 1992, Sola Optical USA, Inc. (hereinafter discharger) applied for re-issuance of waste discharge requirements. The Board adopted a National Pollutant Discharge Elimination System (NPDES) Permit for the discharger in Order No. 88-093 on June 15, 1988. The Order expired on June 15, 1993.

2. The discharger owns a 35 acre site located at 1500 Cader Lane in Petaluma, Sonoma County, California (see Attachment A). The discharger has been located at this facility since 1978 and produces optical lenses.

3. Site investigations indicate the presence of volatile organic compounds in the soil and groundwater at depths between 10 and 40 feet below the ground surface. The discharger reports this condition may have resulted from overfilling or spillage at filler pipes of underground solvent tanks. These tanks and the surrounding soils were excavated in July 1985. The principal contaminants are 1,1 dichloroethane, 1,1 dichloroethylene, 1,2 dichloroethane, 1,1,1 trichloroethane, trichloroethylene, and tetrachloroethylene.

4. The discharger seeks to cleanup and prevent the further migration of groundwater pollutants by groundwater extraction and treatment.

5. The waste consists of approximately 58,000 gallons per day (gpd) with a maximum flow of 87,000 gpd of groundwater treated by a carbon adsorption system prior to discharge to a storm drain which is a tributary to Adobe Creek and the Petaluma River. The latitude and longitude of the outfall are 38°13′30″ north and 122°36′00″ west.

6. The U.S. Environmental Protection Agency (EPA) and the Board have classified this discharge as a minor discharge.

7. The discharger has stated that they cannot use the reclaimed water for either process or irrigation supply. The Petaluma POTW is near capacity and cannot accept the flow. Based upon the criteria in Board Resolution No. 88-160 and on the information submitted by the discharger, the Board finds that treated extracted groundwater reclamation, re-use, or discharge to publicly owned treatment works (POTW) from the Sola Optical site is not feasible.

8. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on September 16, 1992 and the State Water Resources Control Board (State Board) approved the Plan on April 27, 1993. The Board amended the plan on October 21, 1992 to adopt a site specific water quality objective for copper of 4.9 $\mu g/\ell$ in San Francisco Bay and 37 $\mu g/\ell$ for deep water marine effluent. This amendment has not yet been approved by the State Board. The Basin Plan contains water quality objectives and beneficial uses for Petaluma River, Adobe Creek, and the underlying ground water.

9. The beneficial uses of Adobe Creek, the Petaluma River, and contiguous surface waters include:

a. Contact and non-contact water recreation
b. Wildlife habitat
c. Preservation of rare and endangered species
d. Fish migration and spawning
e. Navigation
f. Warm fresh water habitat
g. Marine habitat

10. The existing and potential beneficial uses of the groundwater underlying and adjacent to the site include:

a. Municipal and domestic water supply
b. Industrial process and service supply
c. Agricultural supply

11. The Basin Plan prohibits discharge of any wastewater which has particular characteristics of concern to beneficial uses at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1 or into any non-tidal water, dead-end slough, similar confined water, or any immediate tributary thereof.

12. The Basin Plan allows for exceptions to the prohibition referred to in Finding 11 above when: (a) a discharge is approved as part of a groundwater cleanup project in accordance with Resolution No. 88-160 (Regional Board Position on the Disposal of Extracted Groundwater from Groundwater Cleanup Projects), and (b) it has been demonstrated that neither reclamation nor discharge to a POTW is technically and

economically feasible, and (c) the discharger has provided certification of the adequacy and reliability of treatment facilities and a plan that describes procedures for proper operation and maintenance of all treatment facilities.

13. Exceptions to the prohibitions referred to in Finding 11 are warranted because; (a) the discharger has performed a water reclamation study and determined that reclamation or discharge to the POTW is not a viable option, (b) the treatment facility, which has been operating since 1988, has proven adequate and reliable, and, (c) receiving water concentrations are expected to be below levels that would affect beneficial uses. Should studies indicate chronic effects, not currently anticipated, the Board will review the requirements of this Order based upon Receiving Water Limitation C.1.e.

14. The Basin Plan prohibits discharge of all conservative toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, to waters of the Basin. The discharger's groundwater extraction and treatment system and associated operation, maintenance, and monitoring plan constitutes an acceptable control program for minimizing the discharge of toxicants to waters of the State.

15. Effluent limitations are based on the Basin Plan, State and U.S. EPA Plans and Policies, and best professional judgement. Also considered in the determination of effluent limits were the EPA Region IX draft guidance "NPDES Permit Limitations for Discharge of Contaminated Groundwater: Guidance Document," and the San Francisco Bay Regional Water Quality Control Board Order No. 91-056 "General Waste Discharge Requirements for Discharges of Extracted and Treated Groundwater Resulting from Groundwater Polluted by Fuel Leaks and Other Related Wastes at Service Stations and Similar Sites."

16. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Codes (CEQA) pursuant to Section 13389 of the California Water Code.

17. The Board has notified the discharger and interested agencies and persons of its intent to issue waste discharge requirements for the discharge and provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

18. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the discharger, its agents, successors, and assigns; in order to meet the provisions contained in

Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder; shall comply with the following:

A. Discharge Prohibitions

1. The discharge of waste or hazardous materials in a manner which will degrade the water quality or adversely affect beneficial uses of the groundwaters of the State is prohibited.

2. The discharge shall be limited to treated groundwater.

3. Neither the treatment nor the discharge of waste shall create pollution, contamination, or nuisance, as defined by Section 13050 of the California Water Code.

B. Effluent Limitations

1. The effluent at the point of discharge into the unnamed tributary shall not contain constituents in excess of the following limits:

Constituent	Instantaneous Maximum (µg/l)
VOC's	
1,1 Dichloroethane	5.0
1,1 Dichlorethylene	5.0
1,2 Dichloroethane	0.5
1,1,1-Trichloroethane	5.0
Trichloroethylene	5.0
Tetrachloroethylene	5.0
Inorganics	
Arsenic	5.0
Cadmium	1.1
Chromium (VI)	11.0
Copper	4.9
Cyanide	5.2
Lead	3.2
Mercury	0.01
Nickel	160.0
Selenium	5.0
Silver	4.0
Zinc	110.0

2. pH: The pH of the discharge shall not exceed 8.5 nor be less than 6.5.

3. Toxicity: The survival of test fishes in 96-hour static renewal bioassays of the undiluted effluent as discharged shall be a median of 90 percent survival and a 90 percentile value of not less than 70% survival.

   Compliance of the bioassays shall be performed using the fish species specified in Part B of the Self-Monitoring Program.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State:

   a. Floating, suspended, or deposited macroscopic particulate matter or foam;

   b. Bottom deposits or aquatic growths;

   c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

   d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;

   e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects to aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption whether at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

   a. Dissolved oxygen: 5.0 mg/l minimum. The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolve oxygen content at saturation. When natural factors cause lesser concentration(s) than specified above, the discharge shall not cause further reduction in the concentration of dissolved oxygen.

   b. pH: The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient Ph levels by more than 0.5 units.

   c. Un-ionized ammonia:

0.025 mg/l as N annual median
0.16 mg/l as N maximum at any time

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Board as required by the Federal Water Pollution Control Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions

1. The requirements prescribed by this order supersede the requirements prescribed by Order No. 88-093. Order No. 88-093 is hereby rescinded.

2. The discharger shall comply with all sections of this Order immediately upon adoption by the Board.

3. The discharger shall comply with the attached Self-Monitoring program as adopted by the Board and as may be amended or modified by the Executive Officer.

4. The discharger shall notify the Board if any activity has occurred or will occur which would result in the discharge, on a frequent or routine basis, of a toxic pollutant which is not limited by this Order.

5. This permit may be modified prior to the expiration date to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge through a more comprehensive monitoring program included as part of this Order.

6. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated December 1986, except item B.2.

7. This Order expires September 15, 1998. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

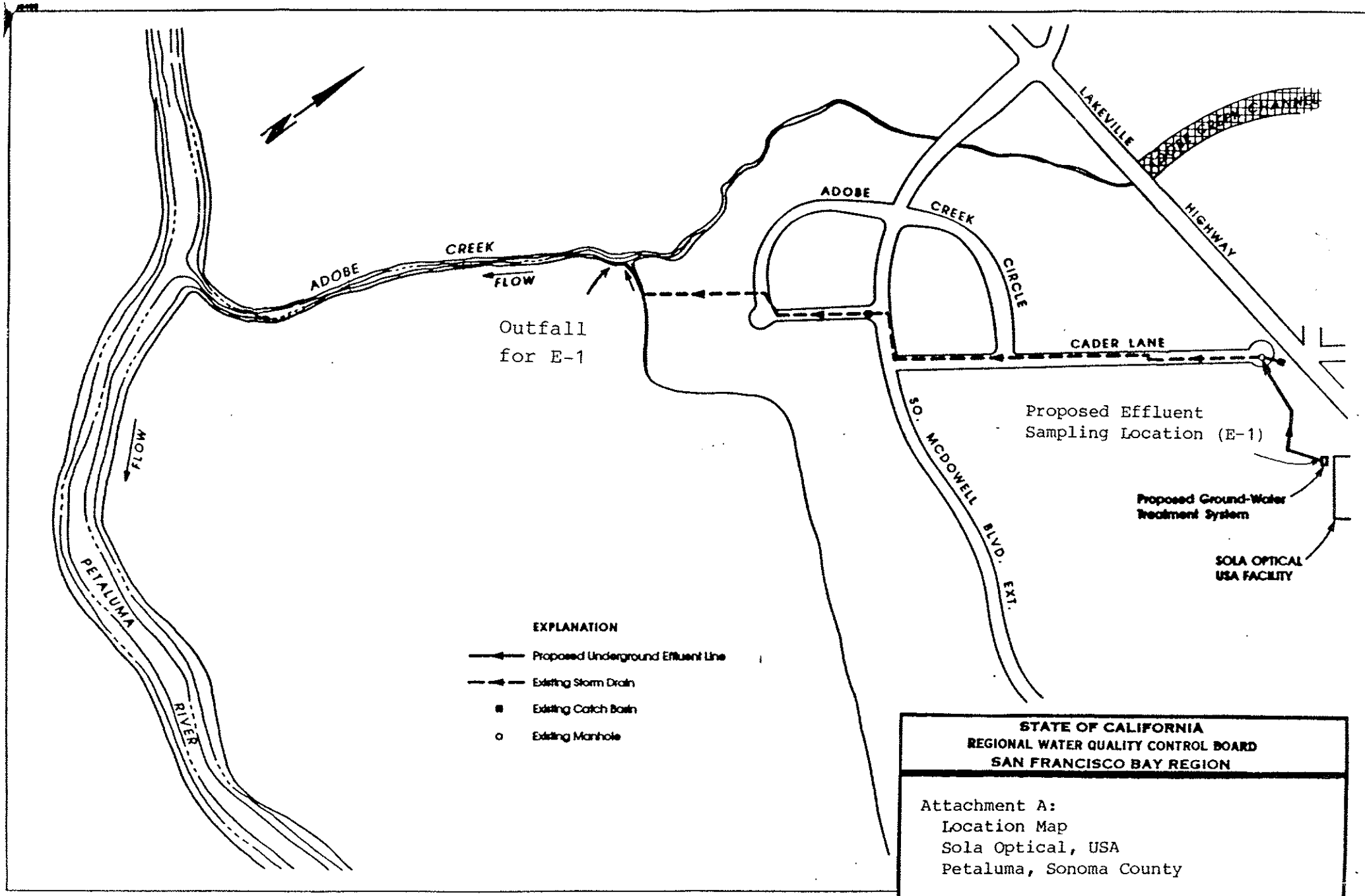
8. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section

402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after the date of its adoption provided the U.S. EPA Regional Administrator has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Steven R. Ritchie, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an order adopted by the California Water Quality Control Board, San Francisco Bay Region on September 15, 1993.

STEVEN R. RITCHIE
EXECUTIVE OFFICER

Attachments: Attachment A: Site Map
Self Monitoring Program Parts A & B



STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

Attachment A:
Location Map
Sola Optical, USA
Petaluma, Sonoma County

DRAWN BY:	DATE: 5-3-88	DRWG. NO.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

SOLA OPTICAL USA, INC.
1500 CADER LANE
PETALUMA, SONOMA COUNTY, CALIFORNIA

NPDES NO. CA0029386
ORDER NO. 93-108

CONSISTS OF

PART A
(dated December 1986, Mod. SBTD 1/23/87)

and

PART B

SOLA OPTICAL USA, INC.
PETALUMA, SONOMA COUNTY, CALIFORNIA
PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

Stations	Description
I-1	At a point in the groundwater extraction/ treatment system immediately prior to treatment

B. EFFLUENT

Stations	Description
E-1	At a point in the groundwater extraction/treatment system immediately following treatment.

C. RECEIVING WATER

Stations	Description
C-1	At a point in Adobe Creek at least 100 feet, but no more than 200 feet downstream from the drainage ditch outfall.

II. BIOASSAY REQUIREMENTS

The fish species to be used for compliance of the bioassay shall be rainbow trout

III. SCHEDULE OF SAMPLING AND ANALYSIS

The schedule of sampling and analysis shall be that given in Table I.

IV. MISCELLANEOUS REPORTING

If any chemical additives are proposed to be used in the operation of the treatment system it shall be reported 30 days prior to their use.

V. MODIFICATIONS TO PART A

A. Deletions:

Sections: D.2.g, D.3.b, E.1.e, E.1.f, E.3, and E.4.

B. Modifications:

B.	Substitute 40 CFR 136 for Appendix E (not attached).
G.4	Written reports under G.4 shall be filed each calendar quarter, by the last day of each January, April, July and October.
G.4.b	The report will be prepared in a format acceptable to the Executive Officer. Appendix A not attached.
G.4.d	The report will be prepared in a format acceptable to the Executive Officer. Appendix B not attached.
G.4.e	The report will be prepared in a format acceptable to the Executive Officer. NPDES Discharge Monitoring Report, EPA Form 3320-1, is provided by the EPA and should serve as guidance.
G.4.e.1	Influent and Effluent Data Summary Reports shall be submitted to the Regional Board Executive Officer and need not be submitted to the EPA.
G.5	By January 30 of each year, the discharger shall submit, in place of the quarterly report, an annual report to the Regional Board covering the previous year. The report will be prepared in a format acceptable to the Executive Officer. Appendix C not attached.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 93-108.

2. Was adopted by the Board on September 15, 1993.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer or Regional Board

STEVEN R. RITCHIE
EXECUTIVE OFFICER

Attachment: Table I

TABLE I

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSES FOR SOLA OPTICAL USA, INC., PETALUMA, SONOMA COUNTY, CA

Sampling Station	I-1	E-1	C-1	
Type of Sample	G	G	G	
Flow Rate (gpd)	W			
pH (units)		M	2/Y	
Dissolved Oxygen (mg/ℓ and % saturation)			2/Y	
Un-ionized Ammonia (mg/ℓ as N)		2/Y	2/Y	
Temperature (°C)			2/Y	
Fish Toxicity, 96 Hour (% survival)		Y		
Volatile Chlorinated Hydrocarbons (mg/ℓ)	M	M	2/Y	
EPA 624		Y		

LEGEND FOR TABLE I

Symbol	Definition
G	Grab Sample
D	Once Daily
W	Once Weekly
M	Once Each Month
Q	Quarterly, Once in March, June, September, and December
Y	Once Each Year
2/Y	Once in June and December