

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 85-057
NPDES NO. CA0028835

WASTE DISCHARGE REQUIREMENTS FOR:

NATIONAL SEMICONDUCTOR CORPORATION
SUNNYVALE, SANTA CLARA COUNTY, CALIFORNIA

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

1. National Semiconductor Corporation (NSC) (hereinafter called the discharger) a manufacturer of integrated circuits, located on 2900 Semiconductor Drive, Santa Clara, by application dated September 26, 1984 has applied for issuance of waste discharge requirements under the National Pollutant Discharge Elimination System (NPDES).
2. Studies by the discharger show that groundwater beneath the site has been contaminated by organic solvents such as Trichloroethylene (TCE), Trichloroethane (TCA), Xylene, Ethylbenzene, Acetone and Alcohols. The contamination was apparently caused by leaks in underground waste solvent storage systems, and by spills in transportation and loading and unloading of solvents.
3. By letter dated February 4, 1985, the discharger submitted a preliminary analytical results for the effluents of three onsite groundwater treatment systems (air-stripping). The result indicated that contaminant concentration have been reduced to levels below 100 ppb for total volatile organic compounds and below 60 ppb for acetone. The proposed points of discharge of treated groundwater are storm drains at the northeast corner of subject property adjacent to Enochs Street. The storm drain system, owned and maintained by the City of Santa Clara, is tributary to Calabazas Creek and South San Francisco Bay.
4. By letter dated December 31, 1984, the Executive Officer, in order to expedite ground water cleanup, informed the discharger that if the discharger chose to begin discharging

treated groundwater in accordance with the effluent concentration objectives and other conditions of the proposal described in Finding 3 above without first obtaining an NPDES permit, he would not recommend that the Board institute enforcement action.

5. Waste 001 is treated groundwater from treatment tower A (effluent E1) which consists of approximately 48,960 gallons per day (gpd) as part of on-site groundwater cleanup program.
6. Waste 002 is treated groundwater from treatment tower 9 (effluent E2) which consists of approximately 118,000 gpd as part of on-site groundwater cleanup program.
7. Waste 003 is treated groundwater from treatment tower 1 (effluent E3) which consists of 43,200 gallons per day (gpd) of groundwater extracted as part of on-site groundwater cleanup programs. The discharger has indicated this flow could increase to 72,000 gpd (maximum).
8. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on July 21, 1984. The Basin Plan contains water quality objectives for the Calabazas Creek and South San Francisco Bay and discharge prohibitions.
9. The beneficial uses of Calabazas Creek and South San Francisco Bay are:
 - . Non-contact water recreation
 - . Wildlife habitat
 - . Preservation of rare and endangered species
 - . Esturine habitat
 - . Warm fresh water and cold fresh water habitat
 - . Fish spawning and migration
 - . Industrial service supply
 - . Shellfishing
 - . Navigation
 - . Open commercial and sport fishing
10. The Basin Plan prohibits discharge of wastewater which has "particular characteristics of concern to beneficial uses" (a) "at any point in San Francisco Bay south of the Dumbarton Bridge" and (b) "at any point where the wastewater does not receive a minimum initial dilution of at least 10:1 or into any nontidal water, deadend slough, similar confined water, or any immediate tributary thereof".

11. The Basin Plan allows for exceptions to the prohibitions referred to in Finding 9 above when it can be demonstrated that a net environmental benefit can be derived as a result of the discharge.
12. Exceptions to the prohibitions referred to in Finding 9 are warranted because the discharge is an integral part of a program to cleanup contaminated groundwater and thereby produce an environmental benefit, and because receiving water concentrations are expected to be below levels that would effect beneficial uses.
13. The Basin Plan prohibits discharge of "all conservative toxic and deleterious substances, above those levels which can be achieved by an 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.
14. Effluent limitations of this Order are based on the Basin Plan, State Plans and policies, and best engineering judgment.
15. The issuance of waste discharge requirements for the discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.
16. The Board has notified the discharger and interested agencies and persons of its intent to issue discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
17. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, that the discharger 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 regulations and guidelines adopted thereunder, shall comply with the following:

. Effluent Limitations

1. The discharge of waste 001, 002, and 003 individually containing constituents in excess of the following limits is prohibited:

<u>Constituent</u>	<u>Units</u>	<u>30-day Average</u>	<u>Daily Maximum</u>
Total Volatile Compounds*	mg/l	0.100	0.150
Acetone	mg/l	0.060	0.100

2. The pH of the discharge of waste 001, 002, and 003 shall not exceed 8.5 nor be less than 6.5.
3. In any representative set of samples, the discharge of Waste 001, 002, and 003 shall meet the following limit of quality:

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

* Defined as Trichloroethylene, Trichloroethane, o, m and p Xylene, Ethylbenzene, 1,1, dichloroethylene, and 1,2, dichloroethylene.

B. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
 - 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;

2. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.
3. This Order includes all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977 except A.5, A.12, B.2, B.5, and C.2.
4. This Order expires May 15, 1990 and the discharger must file a Report of Waste Discharge in accordance with Title 23, California Administrative Code, not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.
5. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act, or amendments thereto, and shall take effect at the end of ten days from date of hearing provided the Regional Administrator, U. S. Environmental Protection Agency has no objections.

I, Roger B. James, 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, San Francisco Bay Region, on May 15, 1985.

ROGER B. JAMES
Executive Officer

Attachments:

Standard Provisions and Reporting
Requirements and Definitions dated April 1977
Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

NATIONAL SEMICONDUCTOR CORPORATION

SANTA CLARA, SANTA CLARA COUNTY

NPDES No. CA 0028835

ORDER NO. 85-057

CONSISTS OF

PART A

AND

PART B

PART B

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

<u>Station</u>	<u>Description</u>
A-1	At a point in groundwater collection system immediately prior to treatment Tower A.
A-2	At a point in groundwater collection system immediately prior to treatment Tower 9.
A-3	At a point in groundwater collection system immediately prior to treatment Tower 1.

B. EFFLUENT

<u>Station</u>	<u>Description</u>
E-1	At a point immediately after groundwater treatment tower A.
E-2	At a point immediately after groundwater treatment tower 9.
E-3	At a point immediately after groundwater treatment tower 1.

C. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
C-1	At a point in storm drain at least 100 yards but not more than 200 yards down stream from the point where E1, E2 and E3 combine.

II. SCHEDULE OF SAMPLING AND ANALYSIS

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

I, Roger B. James, 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. 85-057.
2. Is effective on the date shown below.
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.

ROGER B. JAMES
Executive Officer

Effective Date _____

TABLE 1 (continued)

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS											
Sampling Station	A1	A2	A3	E1	E2	E3	C1				
TYPE OF SAMPLE	G	G	G	G	G	G					
Mercury (mg/l & kg/day)											
Nickel (mg/l & kg/day)											
Zinc mg/l & kg/day)											
Phenolic Compounds (mg/l & kg/day)											
All Applicable Standard Observsations											
Bottom Sediment Analyses and Observations											
Acetone	M/Q	M/Q	M/Q	M	M	M	M/Q				
TCE	M/Q	M/Q	M/Q	M	M	M	M/Q				
TCA	M/Q	M/Q	M/Q	M	M	M	M/Q				
Xylene	M/Q	M/Q	M/Q	M	M	M	M/Q				
IPA	M/Q										

LEGEND FOR TABLE

TYPES OF SAMPLES

C = grab sample
 C-24 = composite sample - 24-hour
 C-X = composite sample - X hours
 (used when discharge does not
 continue for 24-hour period)
 Cont = continuous sampling

TYPES OF STATIONS

E = waste effluent stations
 L = reclamation facilities perimeter stations

FREQUENCY OF SAMPLING

E = each occurrence	2/H = twice per hour	2H = every 2 hours
H = once each hour	2/W = 2 days per week	2D = every 2 days
D = once each day	5/W = 5 days per week	2W = every 2 weeks
W = once each week	2/M = 2 days per month	3M = every 3 months
M = once each month		Cont = continuous
A = once each year		
MQ = monthly for 3 months, quarterly thereafter		

Footnotes

(1) Annual toxicity and ammonia test may be made on a flow weighted composite of the effluent streams.