

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 86-14
NPDES NO. CA0028941

WASTE DISCHARGE REQUIREMENTS FOR:

INTEL CORPORATION,
SANTA CLARA III AND MAGNETICS FACILITIES
CITY OF SANTA CLARA, SANTA CLARA COUNTY

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

1. Intel Corporation, hereinafter called the discharger, by application dated November 1, 1985 has applied for issuance of waste discharge requirements and a permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES).
2. The discharger owns and operates a manufacturing facility for semiconductor devices, referred to as the Santa Clara III facility, located at 2880 Northwestern Parkway, and a magnetic bubble production and testing facility, referred to as the Magnetics facility, located at 3000 Oakmead Village Parkway. Both facilities are located within approximately 1/2 mile of each other, directly south of Central Expressway, between San Tomas and Lawrence Expressways in the City of Santa Clara, Santa Clara County.
3. Subsurface investigations initiated in July 1982 detected various volatile organic chemicals, including trichloroethane, trichloroethene, dichloroethylene, dichloroethane, and Freon, in both soils and groundwaters at each of the facilities. The pollution at the Magnetics facility appears to be a result of spillage or overflows from a former underground waste solvent tank. The pollution at the Santa Clara III facility appears to be a result of past overflows from an acid neutralization system.
4. The discharger has delineated the extent of the solvent pollution in the groundwater at both facilities. As of September 1985, the pollutant plume at the Magnetics facility extended horizontally a distance of approximately

400 feet, and vertically a distance of less than 30 feet. The pollutant plume at the Santa Clara III facility extended less than 300 feet horizontally from the source area, and vertically to less than approximately 40 feet.

5. The underground tank at the Magnetics facility has been removed from service. The discharger seeks to prevent the further migration of pollutants by continued operation of groundwater extraction and treatment systems, while continuing to monitor the pollutant plume.
6. By letter dated October 23, 1985, the Executive Officer, in order to expedite the Cleanup, stated that if the discharger choose to begin discharging treated groundwater prior to issuance of an NPDES permit, that he would not recommend that the Board institute enforcement action providing that the treatment system is monitored and operated so as to reduce the total concentration of volatile organic chemicals in the effluent to less than 50 ppb.
7. Waste 001 from the Magnetics facility consists of up to 12,000 gallons per day of polluted groundwaters which will be treated by carbon adsorption prior to discharge to the storm sewer system tributary to Calabazas Creek and South San Francisco Bay. Waste 002 from the Santa Clara III facility will consist of up to 23,000 gallons per day of polluted groundwaters which will be treated by carbon adsorption prior to discharge to the storm sewer system tributary to San Tomas Aquino Creek and South San Francisco Bay.
8. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on July 21, 1982. The Basin Plan contains water quality objectives for South San Francisco Bay and discharge prohibitions discussed below.
9. The beneficial uses of Calabazas Creek and San Tomas Aquino Creek include:

- Groundwater recharge
 - Navigation
 - Contact and non-contact water recreation
 - Warm fresh water and cold fresh water habitat
 - Wildlife habitat
10. The beneficial uses of South San Francisco Bay include:
- Contact and non-contact water recreation
 - Wildlife habitat
 - Preservation of rare and endangered species
 - Estuarine habitat
 - Warm fresh water and cold fresh water habitat
 - Fish spawning and migration
 - Industrial service supply
 - Shellfishing
 - Navigation
 - Open commercial and sport fishing
11. 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."
12. The Basin Plan allows for exceptions to the prohibitions referred to in Finding 11 above when it can be demonstrated that a net environmental benefit can be derived as a result of the discharge.
13. Exceptions to the prohibitions referred to in Finding 11 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. Should studies indicate chronic effects, not currently anticipated, the Board will review the requirements of this Order based upon section B.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 of this Order are based on the Basin Plan, State Plans and Policies, and best engineering judgment.
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 Code (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 has 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, 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. Effluent Limitations

1. Neither the discharge of waste 001 nor the discharge of waste 002 shall contain constituents in excess of the following:

<u>Constituents</u>	<u>Unit</u>	<u>Quarterly Median</u>	<u>Daily Maximum</u>
1,1,1 trichloroethane	mg/l	.001	.005
trichloroethene		.001	.005
1,1 dichloroethene		.001	.005
1,2 dichloroethene		.001	.005
1,1 dichloroethane		.001	.005
Freon		.001	.005

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

TOXICITY: The survival of rainbow trout 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 percent survival.

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;
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either 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 percent of the dissolved 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.

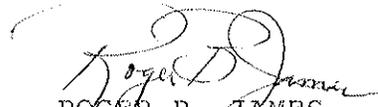
 - b. pH: The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH levels by more than 0.5 units.

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control 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.

C. Provisions

1. The discharger shall comply with all sections of this order immediately upon adoption.
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. The discharger shall also notify the Regional Board if any activity has occurred or will occur which would result in the discharge, on a frequent or routine basis, of any toxic pollutant which is not limited by this Order.
4. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977 except A.5, A.12, B.2, B.3, B.5, C.2, and C.4.
5. This Order expires March 19, 1991. 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.
6. 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 date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

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 March 19, 1986.



ROGER B. JAMES
Executive Officer

Attachments:

Standard Provisions & Reporting
Requirements, April 1977
Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

INTEL CORPORATION

Santa Clara III and Magnetics Facilities

City of Santa Clara, Santa Clara County

NPDES NO. CA0028941

ORDER NO. 86-14

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13268, 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No. 73-16.

The principal purposes of a self-monitoring program by a waste discharger, are: (1) to document compliance with waste discharge requirements and prohibitions established by this Regional Board, (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of effluent or other limitations, discharge prohibitions, national standards of performance, pretreatment and toxicity standards, and other standards, and (4) to prepare water and wastewater quality inventories.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to the latest edition of Standard Methods for the Examination of Water and Wastewater prepared and published jointly by the American Public Health Association, American Water Works Association, and Water Pollution Control Federation, EPA Standard Methods, 40 CFR Part 136, Vol 40, No. 209, dated October 26, 1984, or other methods approved and specified by the Executive Officer of this Regional Board.

C. REPORTS TO BE FILED WITH THE REGIONAL BOARD

1. Violations of Requirements

In the event the discharger is unable to comply with the conditions of the waste discharge requirements and prohibitions due to:

- (a) maintenance work, power failures, or breakdown of waste treatment equipment, or
- (b) accidents caused by human error or negligence, or
- (c) other causes such as acts of nature,
- (d) poor operation or inadequate system design,

The discharger shall notify the Regional Board office by telephone as soon as he or his agents have knowledge of the incident and confirm this notification in writing within two weeks of the telephone notification. The written report shall include pertinent information explaining reasons for the noncompliance and shall indicate what steps were taken to prevent the problem from recurring.

The discharger shall file a written technical report at least 15 days prior to advertising for bid on any construction project which would cause or aggravate the discharge of waste in violation of requirements; said report shall describe the nature, costs and scheduling of all action necessary to preclude such discharge.

In addition, if the noncompliance caused by items (a), (b), (c), or (d) above is with respect to any of the effluent limits, the waste discharger shall promptly accelerate this monitoring program to analyze the discharge at least once every week for those constituents which have been violated. Such analysis shall continue until such time as the effluent limits have been attained, or until such time as the Executive Officer determines to be appropriate. The results of such monitoring shall be included in the regular Self-Monitoring Report.

2. Bypass Reports

Bypassing reporting shall be an integral part of regular monitoring program reporting. A report on bypassing of untreated waste or bypassing of any treatment units shall be made which will include cause, time, date, duration and estimated volume bypassed, method used in estimating volume, and persons and agencies notified. Notification to the Regional Board shall be made immediately by telephone (415-464-1255), followed by a written account within 15 days.

3. Self-Monitoring Reports

a. Reporting Period:

Written reports shall be filed regularly for each month by the thirtieth day of the following month.

b. Letter of Transmittal:

A letter transmitting self-monitoring reports should accompany each report. Such a letter shall include a discussion of requirement violations found during the past month and actions taken or planned for correcting violations, such as plant operation modifications and/or plant facilities expansion. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory.

Monitoring reports and the letter transmitting reports shall be signed by either a principal executive officer or his duly authorized employee. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true and correct.

c. Data Results:

- (1) Results from each required analysis and observation shall be submitted in the monthly self-monitoring report. Results shall also be submitted for any additional analyses performed by the discharger for parameters for which limits have been established by the Board.
- (2) The report shall include a discussion of unexpected operational changes which could affect performance of the treatment system, such as flow fluctuations, maintenance shutdown, etc.
- (3) The report shall also include a table identifying by method number the analytical procedures used for analyses. Any special methods shall be identified and should have prior approval of the Board's Executive Officer.
- (4) Lab results should be copied and submitted as an appendix to the regular report.
- (5) A map shall accompany the report, showing sampling locations and flow path to receiving waters as appropriate.
- (6) The report shall include an annual waste summary for the current year for each parameter of the attached Table I, showing the minimum, maximum, and average value for the month. The report for December shall include minimum, maximum and average for the year. All monitoring results shall be presented in a tabular format.

D. DESCRIPTION OF SAMPLING STATIONS

WASTE STREAM 001

1. INFLUENT

<u>Station</u>	<u>Description</u>
I-1	At a point in the groundwater extraction system immediately prior to treatment

2. EFFLUENT

<u>Station</u>	<u>Description</u>
E-1	At a point in the groundwater extraction/treatment system immediately following treatment.

3. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
C-1	At a point in Calabazas Creek at least 100 feet but no more than 200 feet down-stream from the storm sewer discharge point.

WASTE STREAM 002

1. INFLUENT

<u>Station</u>	<u>Description</u>
I-2	At a point in groundwater extraction system immediately prior to treatment

2. EFFLUENT

<u>Station</u>	<u>Description</u>
E-2	At a point in the groundwater extraction/treatment system immediately following treatment.

3. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
C-2	At a point in San Tomas Aquino Creek at least 100 feet but no more than 200 feet down-stream from the storm sewer discharge point.

E. SCHEDULE OF SAMPLING AND ANALYSIS

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

F. MISCELLANEOUS REPORTING

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

I, Roger B. James, Executive Officer, 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 the Regional Board Order No. 86-14.

2. Was adopted by the Board on March 19, 1986.
3. May be reviewed at any time subsequent to the effective date upon written notice from either the Executive Officer or, upon request from the discharger and revisions will be ordered by the Executive Officer.



ROGER B. JAMES
EXECUTIVE OFFICER

Attachment:
Table I

TABLE 1
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	I-1	I-2	E-1	E-2	C-1	C-2							
TYPE OF SAMPLE	G	G	G	G	G	G							
Flow Rate (mgd)	D	D											
BOD, 5-day, 20°C, or COD (mg/l)													
pH (units)	M	M	M	M	M/Q	M/Q							
Dissolved Oxygen (mg/l and % Saturation)	M	M	M	M	M/Q	M/Q							
Temperature (°C)													
Total Suspended Matter (mg/l)			Q	Q									
Fish Tox'y 96-hr. TL % Surv'l in undiluted waste			2/Y	2/Y									
Total Synthetic (1) Organic Solvent (mg/l)	M	M	2/M	2/M	M/Q	M/Q							
GC/MS Scan (EPA 624/625) mg/l			2/Y	2/Y									

- G = Grab Sample
- D = Once each day
- M = Once each month
- Q = Quarterly, once in March, June, September, and December
- 2/Y = Once in March and September
- W/M = Weekly for the first three (3) months of startup of operation; reduced to monthly thereafter.
- 2/M = Twice each month (Following a carbon bed change, the sampling frequency shall be reduced to monthly (M) for 6 months, and increased to twice monthly (2/M) thereafter.
- M/Q = Monthly for three months and quarterly thereafter
 - (1) Defined as 1,1,1 trichloroethane, trichloroethene, 1,1 dichloroethane, 1,1 dichloroethene, 1,2 dichloroethene, and Freon.