

Permit Number: 100718
Expiration Date: 11/30/95
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NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
WASTE DISCHARGE PERMIT
Department of Environmental Quality
811 S.W. Sixth Avenue
Portland, OR 97204
Telephone: (503) 229-5696

Issued pursuant to ORS 468.740 and The Federal Clean Water Act

ISSUED TO:

Portland General Electric Company
121 Southwest Salmon Street
Portland, OR 97204

SOURCES COVERED BY THIS PERMIT:

Type of Waste	Outfall Number	Outfall Location
Cooling Water	001	R.M. 72.5
Domestic Waste	002	
Settling Basin Eff.	003	
Boiler Blowdown	004	
Neutralizing Tank Eff.	005	
Oil/Water Separator Eff.	006	

PLANT TYPE AND LOCATION:

Trojan Nuclear Power Plant
Columbia River Highway
Rainier, OR 97048

RECEIVING STREAM INFORMATION:

Major Basin: Lower Columbia Basin 71760
Minor Basin: -
Receiving Stream: Columbia River
County: Columbia
Hydro Code: 10--COLU 72.5D

EPA REFERENCE NO: OR-002345-1

Issued in response to Application No. 998411 received June 11, 1990.

This permit is issued based on the land use findings in the permit record.

Lydia R. Taylor
Lydia R. Taylor, Administrator

NOV 16 1990
Date

PERMITTED ACTIVITIES

Until this permit expires or is modified or revoked, the permittee is authorized to construct, install, modify or operate a waste water collection, treatment, control and disposal system and discharge to public waters adequately treated waste waters only from the authorized discharge point or points established in Schedule A and only in conformance with all the requirements, limitations, and conditions set forth in the attached schedules as follows:

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General Conditions.....	Attached

Each other direct and indirect waste discharge to public waters is prohibited.

This permit does not relieve the permittee from responsibility for compliance with any other applicable federal, state, or local law, rule, standard, ordinance, order, judgment, or decree.

SCHEDULE A

1. Waste Discharge Limitations not to be Exceeded After Permit Issuance Date

Outfall Number 001 (Discharge and Dilution Structure Outfall)

<u>Parameters</u>	<u>Concentrations</u>	
	<u>Monthly Ave.</u> <u>mg/l</u>	<u>Daily Max.</u> <u>mg/l</u>
Sodium *	25	100
Total Chlorine Residual		Nondetectable**
Sulfate	240	824
Boron *	0.1	1.0
Aluminum *	0.5	0.8

* The limitations for these parameters are on a gross basis.

** Level of Detectability is defined as 0.1 mg/l.

Other Parameters

Limitations

pH	Shall not be outside the range 6.0 - 9.0
Flow	Shall not exceed 64.3 MGD
Temperature	Shall not exceed 33.9°C (93°F) and, shall not exceed a monthly average delta T of 5.6°C (10°F) and a daily maximum delta T of 8.9°C (16°F).
Heat	Shall not exceed a daily average of 79 x 10 ⁶ BTU/hour.

(During reactor cooldown operations when the Columbia River water temperatures adjacent to the plant site are less than or equal to 19°C (66°F), the following temperature and heat discharge limits shall apply:

Temperature	Shall not exceed a daily maximum delta T of 8.9°C (16°F)
Heat	Shall not exceed an instantaneous maximum of 240 x 10 ⁶ BTU/hour

(During reactor cooldown operations when the Columbia River water temperatures adjacent to the plant site exceed 19°C (66°F), the following temperature and heat discharge limits shall apply):

Temperature	Shall not exceed a daily maximum delta T of 4.4°C (8°F)
Heat	Shall not exceed an instantaneous maximum of 160 x 10 ⁶ BTU/hour

Outfall Number 002 (Domestic Waste)

	Concentrations		Loadings	
	Monthly Ave. mg/l	Daily Max. mg/l	Monthly Ave. (lb/day)	Daily Max. (lb/day)
BOD-5	20	30	12.5	25.0
TSS	20	30	12.5	25.0
FC per 100 ml	200	400		

Other Parameters

Limitations

pH Shall be within the range 6.0 - 9.0

Outfall Number 003 (Settling Basin Effluent Prior to Mixing with Other Waste Streams)

	Monthly Ave.	Loadings
	(lb/day)	Daily Max. (lb/day)
TSS	15	50

Other Parameters

Limitations

Flow* Shall not exceed 0.08 MGD

*If necessary, the neutralizing tank discharge may be diverted to the settling basin for treatment prior to discharge to the river. During those periods the flow limitation for discharge (003) shall be increased not to exceed 0.16 MGD.

Outfall Number 004 (Steam Generator Blowdown with Drainage to River Prior to Mixing with Other Waste Streams)

	Concentrations		Loadings	
	Monthly Ave. mg/l	Daily Max. mg/l	Monthly Ave. (lb/day)	Daily Max. (lb/day)
Total Copper	1.0	1.0	1.0	1.0
Total Iron	1.0	1.0	1.0	1.0

Outfall Number 005 (Neutralizing Tank Prior to Mixing with Other Waste Streams)

	Monthly Ave.	Loadings
	(lb/day)	Daily Max. (lb/day)
TSS	15	50

Other Parameters

Limitations

Flow Shall not exceed 0.08 MGD

Outfall Number 006 (Oil/Water Separator Effluent, and Startup Boiler Blowdown and Drain Water Prior to Mixing with Other Waste Streams)

	<u>Loadings</u>	
	<u>Monthly Ave.</u> <u>(lb/day)</u>	<u>Daily Max.</u> <u>(lb/day)</u>
TSS	15	50
Oil and Grease	8	10

2. Miscellaneous drainage to Recreation Lake (storm runoff and pump seal water) shall not exceed the following limitations at the point of entry to the receiving pond:

Parameters

Limitations

Oil and grease Shall not exceed 10 mg/l
 pH Shall not be outside the range 6.0 - 9.0

3. The permittee shall notify the Department prior to draining the circulating water system to Recreation Lake. This discharge shall only occur during periods of emergency or scheduled maintenance. The drainage water shall not exceed the following limitations at the point of entry to the receiving pond:

Parameters

Limitations

Total Chlorine Residual Nondetectable*
 pH Shall not be outside the range 6.0 - 9.0
 Sodium Shall not exceed 100 mg/l
 Sulfate Shall not exceed 824 mg/l

* Level of detectability is defined as 0.1 mg/L.

4. No water treatment chemicals containing zinc, chromates or phosphates shall be added to any water or wastewater stream which is discharged to the public waters of the State of Oregon.
5. Notwithstanding the effluent limitations established by this permit, no wastes shall be discharged and no activities shall be conducted which will violate Water Quality Standards as adopted in OAR 340-41-205 except in the following defined mixing zone:
 (Discharge 001 - Main Plant Outfall) The allowable mixing zone shall consist of that portion of the Columbia River within 300 feet from the diffuser, excluding that portion within 1.0 feet from the surface of the river.
 (Discharge 002 - Domestic Waste) The allowable mixing zone shall consist of that portion of the Columbia River within a 50 foot radius from the point of discharge.
 (Miscellaneous Drainage and Circulating Water System Drainage to Recreation Lake) The allowable mixing zone shall consist of the receiving pond from the point of effluent discharge to the rock berm which separates it from Recreation Lake.

SCHEDULE B

Minimum Monitoring and Reporting Requirements (unless otherwise approved in writing by the Department)

Outfall Number 001

<u>Item or Parameter</u>	<u>Minimum Frequency</u>	<u>Type of Sample</u>
Flow	Daily	Metered
pH ¹	Continuous	Recorded
Temperature ² (Influent and Effluent)	Continuous	Recorded
Total Heat Discharged ³	Continuous	Recorded
Total Chlorine Residual ⁴	Continuous	Recorded
Sodium, Sulfate & Boron	2/Month	24-hr Composite
Aluminum ⁵ & Boron	2/Month	24-hr Composite
Total Dissolved Solids	Weekly	24-hr Composite

1. A summary of each day's pH data shall be submitted. This data shall include the maximum and minimum pH value for that day.
2. A summary of each day's temperature data (in addition to the standard NPDES form) shall be submitted. This data shall include temperature maximums for both influent and effluent streams and the average and instantaneous maximum temperature difference of the two streams.
3. The data required for total heat discharged shall be the daily average heat discharge rate (BTU/hr) for each operating day or operating hours if operated less than 24 hours per day. Heat discharges associated with cooldown operations shall also be clearly marked. False BTU spikes caused by dilution flow spikes shall not be recorded as thermal discharges.
4. Residual chlorine at or above the level of detectability will be reported to the Department monthly.
5. Upon receiving written notification from the Department after submittal of a river and well-water monitoring program as required in Schedule D of this permit, the permittee may discontinue monitoring for aluminum; however, aluminum monitoring must be reinstated and maintained any time alum (aluminum sulfate) is used to treat potable water.

Outfall Number 002 (Domestic Waste)

<u>Item or Parameter</u>	<u>Minimum Frequency</u>	<u>Type of Sample</u>
Flow	Continuous	Metered
BOD-5	Weekly	24-hr Composite
TSS	Weekly	24-hr Composite
pH	Daily	Grab
Fecal Coliform	Monthly	Grab
Chlorine Residual	Daily	Grab

Outfall Number 003 (Settling basin effluent prior to mixing with other waste streams)

<u>Item or Parameter</u>	<u>Minimum Frequency</u>	<u>Type of Sample</u>
Flow	Daily	Metered
TSS	Monthly	24-hr Composite

Outfall Number 004 (Boiler blowdown prior to mixing with other waste streams)

<u>Item or Parameter</u>	<u>Minimum Frequency</u>	<u>Type of Sample</u>
Flow	Daily	Estimate
Total Copper	Monthly	Grab
Total Iron	Monthly	Grab

Outfall Number 005 (Neutralizing tank discharge prior to mixing with other waste streams)

<u>Item or Parameter</u>	<u>Minimum Frequency</u>	<u>Type of Sample</u>
Flow	Daily	Estimate
TSS	Weekly	Grab

Outfall Number 006 (Oil/Water Separator Effluent, and Startup Boiler Blowdown and Drain Water prior to mixing with other waste streams)

<u>Item or Parameter</u>	<u>Minimum Frequency</u>	<u>Type of Sample</u>
TSS	2 per month	Grab
Oil and Grease	2 per month	Grab

Miscellaneous drainage to Recreation Lake (Storm runoff, pump seal water, etc., prior to mixing with the waters of the receiving pond).

<u>Item or Parameter</u>	<u>Minimum Frequency</u>	<u>Type of Sample</u>
pH	Monthly	Grab
Oil and Grease (During periods of drainage from circulating water system)	Monthly	Grab
pH	Each Discharge	Grab
Total Chlorine Residual	Each Discharge	Grab
Sodium	Each Discharge	Grab
Sulfate	Each Discharge	Grab

If continuous recording instrumentation or sample compositers required to monitor parameters limited by this permit become non-functional, (such that the specified minimum sampling frequency cannot be complied with) grab samples shall be taken to verify compliance. A list noting each occurrence shall be submitted to the Department with the monthly monitoring report.

Reporting Procedures

Monitoring results shall be reported on approved forms. The reporting period is the calendar month. Reports must be submitted to the Department by the 15th day of the following month.

SCHEDULE D

Special Conditions

1. Unless approved otherwise in writing by the Department the permittee shall observe and inspect all waste handling, treatment and disposal facilities and the receiving stream above and below each point of discharge at least daily to insure compliance with the conditions of this permit. A written record of all such observations shall be maintained at the plant and shall be made available to the Department staff for inspection and review upon request.
2. Use of the sodium bisulfite scavenger system for reducing the chlorine residual in the Main Plant Outfall Discharge (001) shall be controlled such that dissolved oxygen concentrations in the Columbia River are not depressed outside the specified mixing zone.
3. Trash and debris collected at the water intake structure shall not be discharged back into the river, but shall be removed to an approved landfill.
4. Chemicals added for cooling tower maintenance shall not contain any of the 129 priority pollutants (as defined in Table III-2 of the Draft Technical Report for Revision of Steam Electric effluent Limitations Guidelines, September 1978).
5. All sludge shall be managed in accordance with a sludge management plan approved by the Department of Environmental Quality and Comply with rules and guidelines under OAR 340, Division 50, Section 005 through 080. No substantial changes shall be made in sludge management activities which significantly differ from those specified under the approved plan without the prior written approval of the Department.
6. Any time the permittee wishes to use and discharge substances used for biofouling control, other than the controlled parameters as listed in Schedule A of this permit, a written application must be submitted along with the appropriate fee to the Department at least 180 days before the discharge is anticipated. Pilot-scale testing of biofouling control substances with effluent discharge to the sewage treatment facility is allowed, provided no permit limits are violated.
7. Upon issuance of this permit, the permittee shall monitor the aluminum concentrations of both the Columbia River and the potable well water by taking 4 grab samples per month for a period of two months, and shall submit the samples results to the Department within 60 days of completion of the monitoring program.

NPDES GENERAL CONDITIONS

SECTION A. STANDARD CONDITIONS

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of Oregon Revised Statutes (ORS) 468.720 and is grounds for enforcement action; for permit termination; suspension, or modification; or for denial of a permit renewal application.

2. Penalties for Violations of Permit Conditions

Oregon Law (ORS 468.990) classifies a willful or negligent violation of the terms of a permit or failure to get a permit as a misdemeanor and a person convicted thereof shall be punishable by a fine of no more than \$25,000 or by imprisonment for not more than one year, or by both. Each day of violation constitutes a separate offense.

In addition to the criminal penalties specified above, Oregon Law (ORS 468.140) also allows the Director to impose civil penalties up to \$10,000 per day for violation of the terms or conditions of a permit.

3. Duty to Mitigate

The permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment or human health resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

4. Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and have the permit renewed. The application should be submitted at least 180 days before the expiration date of this permit.

The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date.

5. Permit Actions

This permit may be modified, suspended, or terminated for cause including, but not limited to, the following:

- a. Violation of any terms or conditions of this permit, rule, or statute;
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

The filing of a request by the permittee for a permit modification or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

6. Toxic Pollutants

The permittee shall comply with any applicable effluent standards or prohibitions established under Section 307(a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any violation of federal, state or local laws or regulations.

SECTION B. OPERATION AND MAINTENANCE OF POLLUTION CONTROLS

1. Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

2. Duty to Halt or Reduce Activity

Upon reduction, loss, or failure of the treatment facility, the permittee shall, to the extent necessary to maintain compliance with its permit, control production or all discharges or both until the facility is restored or an alternative method of treatment is provided. This requirement applies, for example, when the primary source of power of the treatment facility fails or is reduced or lost. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3. Bypass of Treatment Facilities

a. Definitions

- (1) "Bypass" means diversion of waste streams from any portion of the conveyance system or treatment facility.
- (2) "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Prohibition of bypass.

- (1) Bypass is prohibited and the Director may take enforcement action against a permittee for bypass, unless:
 - (a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (b) There were no feasible alternatives to the bypass, such as the use of auxiliary pumping, conveyance, or treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if the permittee could have installed adequate backup equipment to prevent a bypass which occurred during normal periods of equipment downtime or preventative maintenance; and
 - (c) The permittee submitted notices and requests as required under paragraph c of this section.
- (2) The Director may approve an anticipated bypass, after considering its adverse effects, when the Director determines that it will meet the three conditions listed above in paragraph b(1) of this section.

c. Notice and request for bypass.

- (1) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.
- (2) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in Section D, Paragraph D-5 (24-hour notice).

d. Bypass not exceeding limitations.

The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs b and c of this section.

4. Removed Substances

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in such a manner as to prevent any pollutant from such materials from entering public waters, causing nuisance conditions, or creating a public health hazard.

SECTION C. MONITORING AND RECORDS

1. Representative Sampling

Sampling and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in this permit and shall be taken, unless otherwise specified, before the effluent joins or is diluted by any other waste stream, body of water, or substance. Monitoring points shall not be changed without notification to and the approval of the Director.

2. Flow Measurements

Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to insure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated and maintained to insure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than $\pm 10\%$ from true discharge rates throughout the range of expected discharge volumes.

3. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

4. Penalties of Tampering

The Clean water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

5. Reporting of Monitoring Results

Monitoring results shall be summarized each month on a Discharge Monitoring Report form approved by the Department. The reports shall be submitted monthly and are to be postmarked by the 14th day of the following month unless specifically approved otherwise in Schedule B of this permit.

6. Additional Monitoring by the Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated.

7. Averaging of Measurements

Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean, except for coliform and fecal coliform bacteria which shall be averaged based on a geometric or log mean.

8. Retention of Records

The permittee shall retain records of all monitoring information, including all calibration and maintenance records of all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, or report of application. This period may be extended by request of the Director at any time.

9. Records Contents

Records of monitoring information shall include:

- a. The date, exact place, time and methods of sampling or measurements;
- b. The individual(s) who performed the sampling or measurements;
- c. The date(s) analyses were performed;
- d. The individual(s) who performed the analyses;
- e. The analytical techniques or methods used; and
- f. The results of such analyses.

10. Inspection and Entry

The permittee shall allow the Director, or an authorized representative upon the presentation of credentials to:

- a. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit, and
- d. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by state law, any substances or parameters at any location.

SECTION D. REPORTING REQUIREMENTS

1. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility which will result in a change in the character of pollutants to be discharged or which will result in a new or increased discharge of pollutants.

2. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

3. Transfers

This permit may be transferred to a new permittee provided the transferee acquires a property interest in the permitted activity and agrees in writing to fully comply with all the terms and conditions of the permit and the rules of the Commission. No permit shall be transferred to a third party without prior written approval from the Director. The permittee shall notify the Department when a transfer of property interest takes place.

4. Compliance Schedule

Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date. Any reports of noncompliance shall include the cause of noncompliance, any remedial actions taken, and the probability of meeting the next scheduled requirements.

5. Twenty-Four Hour Reporting

The permittee shall report any noncompliance which may endanger health or the environment. Any information shall be provided orally (by telephone) within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain:

- a. A description of the noncompliance and its cause;
- b. The period of noncompliance, including exact dates and times;
- c. The estimated time noncompliance is expected to continue if it has not been corrected; and
- d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

The Department may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.

The following shall be included as information which must be reported within 24 hours:

- a. Any unanticipated bypass which exceeds any effluent limitation in the permit.
- b. Any upset which exceeds any effluent limitation in the permit.

6. Other Noncompliance

The permittee shall report all instances of noncompliance not reported under Section D, Paragraphs D-4 and D-5, at the time monitoring reports are submitted. The reports shall contain the information listed in Paragraph D-5.

7. Duty to Provide Information

The permittee shall furnish to the Department, within a reasonable time, any information which the Department may request to determine compliance with this permit. The permittee shall also furnish to the Department, upon request, copies of records required to be kept by this permit.

Other Information: When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Department, it shall promptly submit such facts or information.

8. Signatory Requirements

All applications, reports or information submitted to the Department shall be signed and certified in accordance with 40 CFR 122.22.

9. Falsification of Reports

State law provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction be punished by a fine of not more than \$1,000 per violation, or by imprisonment for not more than six months per violation, or by both.

SECTION E. DEFINITIONS AND ACRONYMS

1. BOD means five-day biochemical oxygen demand.
2. TSS means total suspended solids (non-filterable residue).
3. mg/l means milligrams per liter.
4. kg means kilograms.
5. m³/d means cubic meters per day.
4. MGD means million gallons per day.
5. Composite sample means a combination of samples collected, generally at equal intervals over a 24-hour period, and apportioned according to the volume of the flow at the time of the sampling.
6. FC means fecal coliform bacteria.