



Pacific Gas and Electric Company®

Diablo Canyon Power Plant

P. O. Box 56
Avila Beach, CA 93424

PG&E Letter DCL-2020-509

Electronic Submission
CIWQS Web Application

February 27, 2020

California Regional Water Quality Control Board
Central Coast Region
Attn: Monitoring and Reporting Review Section
895 Aerovista, Suite #101
San Luis Obispo, CA 93401-7906

In accordance with Order 90-09, NPDES No. CA0003751, the 2019 Annual Report on Discharge Self-Monitoring at Diablo Canyon Power Plant (DCPP) is provided. This letter, accompanying overview, and annual data summary tables and plots, have been attached to the California Integrated Water Quality System (CIWQS) web application data submittal for the period.

Facility Name: Diablo Canyon Power Plant

Address: P.O. Box 56
Avila Beach, CA 93424

Contact Person: Bryan K. Cunningham
Job Title: Supervisor, Environmental Operations
Phone Number: (805) 545-4439

WDR/NPDES Order Number: Order No. 90-09, NPDES No. CA0003751

Type of Report: (check one) **QUARTERLY** **ANNUAL**

Quarter: (check one): **1st** **2nd** **3rd** **4th**

Year: 2019 (Annual Reports for **DCPP** are Jan-Dec)

Violation(s) (Place an X by the appropriate choice): **No** (there are no violations to report) **Yes**

IEZ5
NRR

If Yes is marked (complete a-g):

a) Parameter(s) in Violation:

**b) Section(s) of WDR/NPDES
Violated:**

c) Reported Value(s)

**d) WDR/NPDES
Limit/Condition:**

e) Dates of Violation(s)
(reference page of report/data
sheet):

(If "YES", see overview section of attached report)

f) Explanation of Cause(s):
(attach additional information as
needed)

(If "YES", see overview section of attached report)

g) Corrective Action(s):
(attach additional information as
needed)

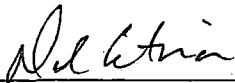
(If "YES", see overview section of attached report)

PG&E Letter DCL-2020-509
CRWQCB Central Coast Region
February 27, 2020
Page 3

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. The results of the influent and effluent monitoring presented are the observed results of the measurements and analyses required by the monitoring program, and is neither an assertion of the adequacy of any instrument reading or analytical result, nor an endorsement of the appropriateness of any analytical or measurement procedure. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or concerns, or require additional information, please contact Bryan Cunningham at (805) 545-4439.

Sincerely,



Name: David Cortina
Title: *Manager, Chemistry and Environmental Operations – Diablo Canyon Power Plant*

2020509/bkc/nrh

PG&E Letter DCL-2020-509
CRWQCB Central Coast Region
February 27, 2020
Page 4

cc: Hardcopy Print-Out of CIWQS Application Submittal:

Lindsay Merker
Acting NRC Senior Resident Inspector
U.S. Nuclear Regulatory Commission
Diablo Canyon Power Plant 104/5

Regional Administrator
Licensing Assistant, Operations Branch
U.S. Nuclear Regulatory Commission
Region IV
1600 East Lamar Boulevard
Arlington, TX 76011-4511

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555-000

CIWQS Web Application Submittal Print Out and Attached Supporting Documents

eSMR PDF Report

Summary: Annual SMR (MONNPDES) report for 2019

Summary: Annual SMR (MONNPDES) report for 2019 submitted by david cortina (Chemistry and Environmental Services Manager) on 02/28/2020.

Facility Name: PG&E Diablo Canyon Power Plant
Waterboard Office: Region 3 - Central Coast
Report Effective Dates: 01/01/2019 - 12/31/2019

Order Number: R3-1990-0009
Case Worker:

No Discharge Periods

Name	Description	Dates	Comments
Diablo M-001			
Diablo M-001D			
Diablo M-001F			
Diablo M-001G			
Diablo M-001H			
Diablo M-001I		01/01/2019 - 12/31/2019	Plant Seawater Evaporators no longer in service.
Diablo M-001J			
Diablo M-001K		01/01/2019 - 12/31/2019	Plant Condenser Tube Sheet Leak Detection Dump Tank no longer in service.
Diablo M-001L			
Diablo M-001M			
Diablo M-001N			
Diablo M-001P			
Diablo M-002			
Diablo M-003			
Diablo M-004			
Diablo M-005			
Diablo M-008			
Diablo M-009			
Diablo M-013			
Diablo M-015			
Diablo M-016		01/01/2019 - 12/31/2019	Bio Lab Seawater Supply Line Valve Box not drained during 2019. No effluent discharged.
Diablo M-017		01/01/2019 - 12/31/2019	Seawater RO System Blowdown Line not drained during 2019. Discharge rarely used.
Diablo M-INF			

Self-Determined Violations

No Violations Entered

Attachments

File Name	File Description	Date Uploaded	File Size
Attachment 1 - 2019 DCP Annual Report Overview Section.pdf	2019 Annual Summary Report on Discharge Monitoring at Diablo Canyon Power Plant	02/27/2020	91609 bytes

File Name	File Description	Date Uploaded	File Size
Attachment 2 - 2019 DCPD Annual Rpt Appendix-1 NPDES Discharges.pdf	DCPD NPDES Permit Order 90-09 Discharge Points Table.	02/27/2020	82912 bytes
Attachment 3 - 2019 DCPD Annual Rpt Appendix-2 Tabular & Graphical Data.pdf	Tabular and Graphical Summaries of Influent and Effluent Monitoring.	02/27/2020	291172 bytes
Attachment 4 - 2019 DCPD Annual Rpt Appendix-3 RWMP Summary.pdf	Summary of Receiving Water Monitoring Program (RWMP) Activities.	02/27/2020	70400 bytes

Cover Letter

Title
application/pdf

Data Summary

Analytical Results

No Analytical Data Measurements Available / Reported

Calculated Values

No Calculated Data Measurements Available / Reported

Lab Batches

No Lab Batch Data Available / Reported

Questionnaire

No Questionnaire Available

Certificate

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

I certify that I am david cortina and am authorized to submit this report on behalf of PG&E Diablo Canyon Power Plant. I understand that I am submitting the following report(s):

- Annual SMR (MONNPDES) report for 2019 (due 02/29/2020)

I understand that data submitted in this report(s) can be used by authorized agencies for water quality management related analyses and enforcement actions, if required.

I am also aware that my user ID, password, and answer to a challenge question constitute my electronic signature and any information I indicate I am electronically certifying contains my signature. I understand that my electronic signature is the legal equivalent of my handwritten signature. I certify that I have not violated any term in my Electronic Signature Agreement and that I am otherwise without any reason to believe that the confidentiality of my password and challenge question answers have been compromised now or at any time prior to this submission. I understand that this attestation of fact pertains to the implementation, oversight, and enforcement of a federal

environmental program and must be true to the best of my knowledge.

Name: david cortina

Title: Chemistry and Environmental Services Manager

**ANNUAL SUMMARY REPORT ON
DISCHARGE MONITORING
AT THE
DIABLO CANYON POWER PLANT
(NPDES NO. CA0003751)**

2019

**2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant**

TABLE OF CONTENTS

	<u>PAGE</u>
OVERVIEW	1
SUMMARY OF MONITORING PROGRAM	1
A. Monitoring of Plant Influent and Effluent	1
1. Monitoring Data	1
2. Facility Operating and Maintenance Manual	1
3. Laboratories Used to Monitor Compliance	2
4. Review of Compliance Record and Corrective Actions	2
B. Monitoring of Receiving Water	4
1. Ecological Studies at Diablo Canyon	4
2. In-Situ Bioassay	5
C. Sodium Bromide Treatment Program	5
 APPENDICES	
Appendix 1 - NPDES Discharge Points	
Appendix 2 - Tabular and Graphical Summaries of Influent and Effluent Monitoring	
Appendix 3 - Summary of RWMP Monitoring for 2019	

2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant

OVERVIEW

This annual summary report follows the format used in quarterly monitoring reports. Analytical results below the respective analytical detection limit (ND or non-detect) are plotted as a "zero" value in accordance with ELAP guidance. Results between the analytical detection limit and reporting (quantitation) limits are plotted at the value and shown as 'DNQ' in the tabular summaries as is done for CIWQS reports. Less-than results are typically reported to express an average of values that include non-detects and at least one result greater than the respective reporting limit (RL). These less-than results are plotted conservatively at the RL. During 2019, discharges occurred from all discharge paths except 001I, 001K, 016, and 017.

California Ocean Plan Table B substances that were not analyzed for have not been added to the discharge stream. The substances listed in Table B in the California Ocean Plan were each analyzed for and reported in the permit renewal application and application updates for Diablo Canyon Power Plant (DCPP) submitted in October 1994, January 2001, and April 2011. There have been no changes in activities conducted at the plant that would have significantly affected the results previously reported in the above referenced documents.

SUMMARY OF MONITORING PROGRAM

A. Monitoring of Plant Influent and Effluent

1. Monitoring Data

- a. Appendix 1 provides a list of discharge path names for ease of reference. Report Appendix 2 contains monitoring data in tabular and graphical form.
- b. In September 2019, Discharge 001D (Liquid Radioactive Waste Treatment System) annual grab samples for lithium, boron, and hydrazine were collected and analyzed. Results were ND (<0.05) mg/L lithium, 52.0 mg/L boron, and ND (<0.003) mg/L hydrazine.

2. Facility Operating and Maintenance Manual

Pacific Gas and Electric Company (PG&E) maintains a multiple volume Plant Manual at DCPD that contains procedures used for operation and maintenance activities at the plant, including those activities that relate to wastewater handling, treatment, sampling, analysis and discharge.

Plant procedures are prepared and reviewed by DCPD Staff and approved by Plant Management. The facility conducts biennial internal audits that review NPDES procedures contained in the plant manual, as well as procedure implementation adherence by responsible workgroups. Ongoing reviews of plant procedures are conducted to assure that the manual remains valid, current, and complete for the facility.

3. Laboratories Used to Monitor Compliance

The following laboratories were used during 2019 for monitoring compliance. The laboratories are certified by the California Environmental Laboratory Accreditation Program (ELAP) for the analyses performed. To satisfy requirements of the ELAP biannual certification process, these laboratories take part in annual performance evaluation testing.

- a. PG&E Chemistry Laboratory, DCPD, Avila Beach, California (EPA Lab # CA01036)
- b. Aquatic Bioassay Consulting Laboratories, Ventura, California (EPA Lab # CA00021)
- c. ALS Environmental, Kelso, Washington (EPA Lab # WA00035)
- d. TestAmerica, Inc., Earth City, Missouri (EPA Lab # MO00054)
- e. Abalone Coast Analytical, San Luis Obispo, California (EPA Lab # CA01543)
- f. E. S. Babcock & Sons, Inc., Environmental Laboratories, Riverside, California (EPA Lab # CA00102)
- g. BSK Associates, Fresno, California (EPA Lab # CA00079)
- h. TestAmerica, Inc., Savannah, Georgia (EPA Lab # GA00006)
- i. Weck Laboratories, Inc., Industry, California (EPA Lab # CA00211)

4. Review of Compliance Record and Corrective Actions

a. Circulating Water Chlorination/Bromination Monitoring

The 2019 quarterly NPDES reports discuss chlorination cycles when discharge monitoring was interrupted. These events are listed below, with brief descriptions of the cause and respective corrective action. When these monitoring interruptions occurred, engineering evaluations were performed (as approved by the CCRWQCB January 13, 1994; PG&E Letter No. DCL-94-002). Descriptions of these evaluations are included in the respective quarterly reports as applicable. The evaluations concluded that discharge chlorine limits were not exceeded during these events.

Date	Unit and Number of Readings Replaced	Cause	Corrective Action
01/01/19 to 01/02/19	Unit-1 6 Readings	Low monitor sample flow.	Monitor cleaned and returned to service
01/11/19 to 01/16/19	Unit-2 15 Readings	Erratic monitoring peaks due to monitor biofouling.	Monitor cleaned and returned to service.
01/18/19 to 01/19/19	Unit-2 7 Readings	Monitor biofouling.	Monitor cleaned and returned to service.
01/21/19 to 01/22/19	Unit-2 4 Readings	Sample pump failure.	Replaced sample pump.
01/27/19 to 02/01/19	Unit-2 15 Readings	Monitor biofouling.	Monitor cleaned and returned to service.
02/20/19 to 02/25/19	Unit-2 7 Reading	Monitor biofouling.	Monitor cleaned and returned to service.
02/26/19 to 02/27/19	Unit-2 7 Readings	Monitor Failed QC Check.	Monitor re-calibrated and returned to service.

03/02/19 to 03/03/19	Unit 2 6 Readings	Monitor biofouling.	Monitor cleaned and returned to service.
03/11/19 to 03/12/19	Unit-2 5 Readings	Monitor biofouling.	Monitor cleaned and returned to service.
03/17/19	Unit-2 3 Readings	Monitor biofouling.	Monitor cleaned and returned to service.
03/22/19 to 03/23/19	Unit-2 6 Readings	Monitor biofouling.	Monitor cleaned and returned to service.
04/12/19	Unit-1 1 Reading	Monitor biofouling.	Monitor cleaned and returned to service.
04/15/19 to 04/23/19	Unit-2 15 Readings	Monitor Failed QC Check.	Monitor re-calibrated and returned to service.
06/19/19	Unit-2 1 Reading	Monitor biofouling.	Monitor cleaned and returned to service.
07/20/19	Unit-2 3 Readings	Monitor biofouling.	Monitor cleaned and returned to service.
08/10/19	Unit-2 1 Reading	Monitor biofouling.	Monitor cleaned and returned to service.
08/08/19	Unit-1 1 Reading	Monitor biofouling.	Monitor cleaned and returned to service.
09/10/19	Unit-1 1 Reading	Monitor biofouling.	Monitor cleaned and returned to service.
10/09/19 to 10/10/19	Unit-1 6 Readings	Monitor biofouling.	Monitor cleaned and returned to service.
12/10/19 to 12/11/19	Unit-2 5 Readings	Monitor biofouling.	Monitor cleaned and returned to service.
12/21/19 to 12/24/19	Unit-2 10 Readings	Monitor biofouling.	Monitor cleaned and returned to service.
12/28/19 to 12/31/19	Unit-2 10 Readings	Monitor biofouling.	Monitor cleaned and returned to service.

b. Discharge Exceedance Events

No discharge constituent or criteria exceedance events occurred during 2019.

c. Discharge Bypass Events

No discharge bypass events occurred during 2019.

d. Closed Cooling Water Releases

During 2019, maintenance activities that required draining of closed cooling water systems were performed and are summarized below. PG&E received concurrence from the CCRWQCB in response to letters dated July 19, 1995 (PG&E Letter DCL-95-156), May 23, 1996 (PG&E Letter DCL-96-522), and May 19, 1997 (PG&E Letter DCL-97-533) regarding the use of glutaraldehyde and isothiazolin to control microbiological growth and corrosion in DCP's freshwater closed cooling water systems. Any drainage from these systems is discharged at a flow-rate such that the chronic toxicity level is below the "No Observable Effect Concentration" (NOEC) at NPDES Discharge 001.

The volumes of cooling water drained in 2019 from the component cooling water (CCW), and service cooling water (SCW) systems are presented below. The glutaraldehyde (Glut) and isothiazoline (Iso) concentrations presented in the table are system concentrations, not concentrations at the point of discharge to receiving water.

Other analysis as applicable included total suspended solids (TSS) and oil and grease (O&G).

Date	System	Volume (gallons)	Glut (mg/l)	Iso (mg/l)	TSS (mg/l)	O&G (mg/l)	Reason & Comments
02/13/19	Unit-1 SCW	1,763	0.0	2.8	ND (<2.0)	n/a	Routine Maintenance
09/24/19	Unit-2 SCW	3,480	n/a	3.7	n/a	n/a	Routine Maintenance
09/26/19	Unit-2 CCW	500	84	ND (<0.25)	n/a	n/a	Routine Maintenance
10/07/19	Unit-2 CCW	18,090	85	ND (<0.25)	ND (<2.0)	ND (<1.4)	Outage Maintenance
10/17/19	Unit-2 CCW	394.4	225	ND (<0.25)	n/a	n/a	Outage Maintenance

B. Monitoring of Receiving Water

1. Ecological Studies at Diablo Canyon

Marine ecological monitoring was continued during 2019 under the Receiving Water Monitoring Program (RWMP) as requested in a letter from the Central Coast Regional Water Quality Control Board (CCRWQCB) dated December 9, 1998, and as detailed in a letter from PG&E dated January 8, 1999 (DCL-99-503). This program includes tasks from the Ecological Monitoring Program (EMP) with additional stations and increased sampling frequencies. This program replaces the EMP and the Thermal Effects Monitoring Program (TEMP). Several one-year-only tasks outlined in the above letters were completed in 1999 and were not requested to be performed in 2019. Results of 2018 RWMP data collection were submitted to the CCRWQCB on April 30, 2019. A table in Appendix 3 summarizes requirements and completed monitoring tasks for 2019.

2. In Situ Bioassay

Results of the Mussel Watch Program are reported to the CCRWQCB directly by the California Department of Fish and Wildlife (CDF&W) in the agency's periodic report for this program.

C. Sodium Bromide Treatment Program

DCCP continued an integrated sodium bromide and "foul release coating" strategy to control macrofouling in the Circulating Water System (CWS). Both circulating water conduits of each Unit can be chemically treated simultaneously. Routine treatment consists of six 20-minute injections per day (at 4-hour intervals) of a blend of sodium bromide and sodium hypochlorite into the plant seawater intake conduits. Each injection attempts to achieve a target concentration range of 250 to 300 parts per billion (ppb) Total Residual Oxidant (TRO) at the inlet waterbox of the main steam condensers.

Discharge TRO, measured at the plant outfall, remained below NPDES limitations throughout 2019. Typically, unit discharge TRO values during conduit treatments were between 20 ppb and 50 ppb.

In conjunction with the chemical treatment program, untreated portions of the cooling water system were previously painted with a non-toxic "foul release coating" to reduce or prevent attachment of fouling organisms.

Annual Discharge Monitoring Report
APPENDIX 1 (Attachment 2 to 2019 Annual SMR)

DIABLO CANYON POWER PLANT

NPDES DISCHARGE POINTS	
DISCHARGE NUMBER	DESCRIPTION
001	Once-Though Cooling Water
001 A	Firewater Systems
001 B	Auxiliary Salt Water Cooling System
001 C	Discharge Deleted
001 D	Liquid Radioactive Waste Treatment System
001 E	Service Cooling Water System
001 F	Turbine Building Sump
001 G	Make-Up Water System Waste Effluent
001 H	Condensate Demineralizer Regenerant
001 I	Seawater Evaporator Blowdown
001 J	Condensate Pumps Discharge Header Overboard
001 K	Condenser Tube Sheet Leak Detection Dump Tank Overboard
001 L	Steam Generator Blowdown
001 M	Wastewater Holding and Treatment System
001 N	Sanitary Wastewater Treatment System
001 P	Seawater Reverse Osmosis System Blowdown
002	Intake Structure Building Floor Drains
003	Intake Screen Wash
004	Bio Lab and Storm Water Runoff
005, 008, 009, 013, 014, 015	Yard Storm Drains
006, 007, 010, 011, 012	Storm Water Runoff
016	Bio Lab Seawater Supply Pump Valve Drain
017	Seawater Reverse Osmosis System Blowdown Drain

Annual Discharge Monitoring Report
APPENDIX 2 (Attachment 3 to 2019 Annual SMR)

TABULAR AND GRAPHICAL SUMMARIES
OF INFLUENT AND EFFLUENT MONITORING
(REFER TO 2019 ANNUAL SMR)

**2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant**

DISCHARGE 001

Month	INFLUENT			TEMPERATURE (DEG F) EFFLUENT			DELTA T		FLOW (MGD)		
	high	low	avg	high	low	avg	high	avg	high	low	avg
JAN	58.4	54.0	56.8	78.7	73.6	76.7	20.7	19.9	2486	2486	2486
FEB	57.6	53.1	55.8	77.6	70.4	74.8	20.0	19.0	2486	1279	1690
MAR	55.9	50.5	54.0	74.9	64.9	72.3	19.5	18.3	2486	1279	1827
APR	55.5	49.5	52.3	74.9	68.3	71.3	20.2	19.0	2486	1862	2378
MAY	55.2	49.5	52.8	74.0	68.4	71.5	19.0	18.7	2486	2486	2486
JUN	55.7	50.7	53.1	74.8	69.5	72.1	19.3	19.0	2486	2486	2486
JUL	54.6	51.1	52.9	73.5	70.1	71.7	19.0	18.9	2486	2486	2486
AUG	56.5	51.6	54.3	75.4	70.6	73.3	19.4	18.9	2486	2486	2486
SEP	57.9	52.1	55.3	77.9	68.9	74.5	20.2	19.2	2486	1239	2127
OCT	57.9	53.8	55.4	77.0	72.8	75.3	20.7	19.9	1239	1239	1239
NOV	60.5	55.8	58.0	80.0	75.7	78.1	21.0	20.1	1239	1239	1239
DEC	59.5	54.7	57.3	80.1	68.5	74.6	20.9	17.2	2486	717	1878
limit:							22		2760		

The Influent and Effluent "high" and "low" temperature values correspond to the highest and lowest daily average value for that month. The Influent high and low temperature does not necessarily correspond to the same day as the Effluent high and low temperature for that month. The "avg" temperature for Influent and Effluent is the average for the entire month. The Monthly Delta T "high" is the highest Delta T for a day of the month based on daily average Influent and Effluent temperature values. The "avg" temperature is calculated from Influent and Effluent monthly avg values.

DISCHARGE 001

Month	TOTAL RESIDUAL CHLORINE (daily max. ug/l)			TOTAL CHLORINE USED (lbs/day)		
	high	low	avg	high	low	avg
JAN	58	35	48	499	242	366
FEB	68	<10	37	302	0	208
MAR	65	<10	29	439	0	291
APR	69	15	38	490	230	416
MAY	49	16	28	446	184	416
JUN	43	20	29	475	158	428
JUL	54	16	34	475	475	475
AUG	39	17	24	479	396	437
SEP	55	16	28	493	331	413
OCT	37	<10	24	389	0	329
NOV	58	20	37	389	32	346
DEC	53	<10	40	619	0	459

Note: The residual chlorine limits in Permit CA0003751, Order 90-09, is an instantaneous max of 200 ug/l, and includes a time-based limit (per the Ocean Plan) which depends on the length of the respective chlorination cycle.

**2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant**

MONTHLY pH (averages)

Discharge:	001		002	003	004	001P
Month	Influent	Effluent				
JAN	8.1	8.0	8.0	8.0	7.8	7.7
FEB	8.0	8.0	8.0	8.0	8.0	7.7
MAR	8.0	8.0	8.0	8.0	7.9	7.7
APR	7.9	7.9	7.8	7.9	7.8	7.4
MAY	7.9	7.9	7.9	7.9	7.9	7.6
JUN	7.8	7.8	7.9	7.8	7.9	7.6
JUL	7.7	7.8	7.7	7.8	7.8	7.6
AUG	8.0	7.9	7.9	7.9	7.8	7.6
SEP	7.9	7.8	7.8	7.8	7.8	7.6
OCT	7.9	7.8	7.8	7.8	8.0	7.6
NOV	8.0	8.0	7.9	7.9	7.9	7.7
DEC	7.9	7.9	7.9	8.0	8.0	7.7

DISCHARGE 001F

Month	OIL & GREASE (mg/l)		SUSPENDED SOLIDS (mg/l)	
	high	avg	high	avg
JAN	DNQ(2.9)	DNQ(2.9)	DNQ(3)	DNQ(3)
FEB	DNQ(3.7)	DNQ(3.7)	DNQ(2)	DNQ(2)
MAR	DNQ(2.4)	DNQ(2.4)	DNQ(2)	DNQ(2)
APR	DNQ(4.0)	DNQ(4.0)	DNQ(4)	DNQ(4)
MAY	6.9	6.9	9	9
JUN	DNQ(2.2)	DNQ(2.2)	<5	<5
JUL	DNQ(1.8)	DNQ(1.8)	DNQ(2)	DNQ(2)
AUG	DNQ(3.0)	DNQ(3.0)	<5	<5
SEP	DNQ(2.9)	DNQ(2.9)	DNQ(3)	DNQ(3)
OCT	DNQ(2.5)	DNQ(2.5)	DNQ(4)	DNQ(4)
NOV	ND(1.4)	ND(1.4)	DNQ(2)	DNQ(2)
DEC	DNQ(3.4)	DNQ(3.4)	DNQ(4)	DNQ(4)
limit:	20	15	100	30

Note: "high" limits based upon Daily Maximum limits. "avg" limits based upon Monthly Average limits.

**DISCHARGE 001N
(Monthly Summary of Weekly Data)**

Month	GREASE & OIL (mg/l)			SUSPENDED SOLIDS (mg/l)			SETTLABLE SOLIDS (ml/l)		
	high	low	avg	high	low	avg	high	low	avg
JAN	DNQ(1.5)	ND(1.5)	DNQ(1.5)	14	6	10	DNQ(0.1)	DNQ(0.1)	DNQ(0.1)
FEB	<5.0	ND(1.5)	<5.0	41	15	25	0.3	DNQ(0.1)	0.1
MAR	DNQ(1.7)	ND(1.5)	DNQ(1.5)	23	9	15	DNQ(0.1)	DNQ(0.1)	DNQ(0.1)
APR	DNQ(1.5)	ND(1.5)	DNQ(1.5)	18	6	11	0.3	DNQ(0.1)	0.1
MAY	DNQ(2.3)	ND(1.5)	DNQ(1.5)	38	5	13	0.3	DNQ(0.1)	0.1
JUN	DNQ(1.5)	ND(1.5)	DNQ(1.5)	18	4	10	0.3	DNQ(0.1)	0.1
JUL	DNQ(1.5)	ND(1.5)	DNQ(1.5)	30	3	15	DNQ(0.1)	DNQ(0.1)	DNQ(0.1)
AUG	ND(1.5)	ND(1.5)	ND(1.5)	15	4	9	DNQ(0.1)	DNQ(0.1)	DNQ(0.1)
SEP	DNQ(2.8)	ND(1.5)	DNQ(1.5)	35	4	17	DNQ(0.1)	DNQ(0.1)	DNQ(0.1)
OCT	ND(1.5)	ND(1.5)	ND(1.5)	12	7	9	DNQ(0.1)	DNQ(0.1)	DNQ(0.1)
NOV	ND(1.5)	ND(1.5)	ND(1.5)	19	6	11	DNQ(0.1)	DNQ(0.1)	DNQ(0.1)
DEC	DNQ(1.5)	ND(1.5)	DNQ(1.5)	20	3	13	DNQ(0.1)	DNQ(0.1)	DNQ(0.1)
limit:	20	-	15	-	-	60	3.0	-	1.0

Note: "high" limits based upon Daily Maximum limits. "avg" limits based upon Monthly Average limits.

**2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant**

DISCHARGE 001D, H, L, F, METALS (avg. ug/l)

Month	001D				001H				001L				001F			
	Ag	Cd	Cr	Cu	Ag	Cd	Cr	Cu	Ag	Cd	Cr	Cu	Ag	Cd	Cr	Cu
JAN	DNQ(0.23)	ND(0.15)	DNQ(1.7)	DNQ(2.6)	ND(5)	ND(5)	15	38	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	DNQ(6)	ND(5)
FEB																
MAR																
APR	ND(0.10)	ND(0.15)	ND(1.6)	DNQ(1.7)	ND(5)	ND(5)	30	53	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	48	DNQ(8)
MAY																
JUN																
JUL	DNQ(0.14)	ND(0.15)	5.3	ND(1.7)	ND(5)	ND(5)	45	32	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	133	DNQ(8)
AUG																
SEP																
OCT	DNQ(0.14)	ND(0.15)	DNQ(2.0)	DNQ(2.2)	ND(5)	ND(5)	30	117	ND(5)	ND(5)	DNQ(5)	<10	ND(5)	ND(5)	36	DNQ(8)
NOV																
DEC																

limit: none

Note: 001D, 001H and 001L analyses performed on quarterly composites.
001F analyses performed quarterly on a composite of weekly samples.

DISCHARGE 001D, H, L, F, METALS (avg. ug/l)

Month	001D				001H				001L				001F			
	Hg	Ni	Pb	Zn	Hg	Ni	Pb	Zn	Hg	Ni	Pb	Zn	Hg	Ni	Pb	Zn
JAN	ND(0.080)	ND(1.9)	DNQ(1.5)	23	ND(0.080)	DNQ(9)	ND(5)	DNQ(7)	ND(0.080)	ND(5)	ND(5)	ND(5)	ND(0.080)	ND(5)	ND(5)	36
FEB																
MAR																
APR	ND(0.080)	ND(1.9)	DNQ(2)	69	ND(0.080)	11	10	DNQ(7)	ND(0.080)	ND(5)	ND(5)	ND(5)	ND(0.080)	62	ND(5)	19
MAY																
JUN																
JUL	DNQ(0.15)	DNQ(4.7)	ND(0.98)	420	ND(0.080)	21	DNQ(5)	<10	DNQ(0.080)	ND(5)	ND(5)	DNQ(5)	ND(0.080)	158	ND(5)	16
AUG																
SEP																
OCT	ND(0.080)	DNQ(2.0)	3.0	100	ND(0.080)	29	10	DNQ(9)	ND(0.080)	ND(5)	ND(5)	<10	ND(0.080)	49	ND(5)	12
NOV																
DEC																

limit: none

Note: 001D, 001H and 001L analyses performed on quarterly composites.
001F analyses performed quarterly on a composite of weekly samples.

**2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant**

**MONTHLY TOTAL SUSPENDED SOLIDS
Averages (mg/l)**

Month	001D*	001G	001H	001I	001J	001K	001L	001M	001P	002	003
JAN	<5	ND(2)	ND(2)				ND(2)		<5	7	16
FEB	<5	ND(2)	ND(2)		ND(2)		ND(2)	DNQ(4)	<5	ND(2)	23
MAR	<5	ND(2)	ND(2)		ND(2)		ND(2)		DNQ(2)	DNQ(2)	18
APR	<5	ND(2)	ND(2)				ND(2)		DNQ(2)	10	9
MAY	<5	ND(2)	ND(2)				ND(2)	DNQ(2)	DNQ(2)	ND(2)	DNQ(2)
JUN	<5	No Sample	ND(2)				ND(2)	ND(2)	23	<5	8
JUL	<5	ND(2)	ND(2)				ND(2)		ND(2)	DNQ(2)	DNQ(2)
AUG	<5	ND(2)	ND(2)				ND(2)		DNQ(2)	<5	9
SEP	<5	ND(2)	ND(2)		ND(2)		ND(2)		ND(2)	ND(2)	ND(2)
OCT	<5	ND(2)	ND(2)				ND(2)	DNQ(2)	24	<5	36
NOV	<5	ND(2)	ND(2)				ND(2)	DNQ(2)	<5	ND(2)	7
DEC	<5	ND(2)	ND(2)		ND(2)		ND(2)		<5	DNQ(2)	6
Limit:	30	30	30	30	30	30	30	30	30	30	-

* Discharges from 001D are batched. Monthly averages are flow weighted.
 Note: No discharges occurred from 001I and 001K during 2019.
 Blank spots for other discharge points indicate that no discharge occurred during that particular month.

**GREASE & OIL
Averages by Month (mg/l)**

Month	001D*	001G	001H	001I	001J	001K	001L	001M	001P	002	003	004
JAN	5.2	ND(1.4)	ND(1.4)				ND(1.4)		ND(1.4)	ND(1.4)	ND(1.4)	ND(1.4)
FEB					ND(1.4)			DNQ(2.0)				
MAR												
APR	DNQ(1.5)	ND(1.4)	ND(1.4)				ND(1.4)		ND(1.4)	ND(1.4)	DNQ(1.8)	ND(1.4)
MAY								ND(1.4)				
JUN												
JUL	<5.0	ND(1.4)	ND(1.4)				ND(1.4)		DNQ(1.4)	DNQ(1.4)	ND(1.4)	ND(1.4)
AUG												
SEP					ND(1.4)							
OCT	DNQ(2.7)	ND(1.4)	ND(1.4)				ND(1.4)	ND(1.4)	DNQ(1.4)	DNQ(1.4)	ND(1.4)	ND(1.4)
NOV												
DEC					ND(1.4)							
Limit:	15	15	15	15	15	15	15	15	15	15	15	15

* Discharges from 001D are batched. Averages are flow-weighted and calculated monthly. Monthly averages are averaged for quarter and reported.
 Note: No discharges occurred from 001I and 001K during 2019.

**2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant**

**QUARTERLY ACUTE AND CHRONIC TOXICITY TESTING
(toxicity units, tu_a and tu_c)**

Month	ACUTE		* CHRONIC
	Test Result	6-Month Median	Test Result
JAN			
FEB	0.00	0.00	1.00
MAR			
APR	0.00	0.00	1.00
MAY			
JUN			
JUL			
AUG	0.00	0.00	
SEP			1.00
OCT	0.00	0.00	1.00
NOV			
DEC			
6-month median limit:		0.26	5.1

* This parameter is monitored for the State Ocean Plan instead of the NPDES Permit.
A value of 1.0 indicates no chronic toxicity.

**DISCHARGE 001N
ANNUAL ANALYSES**

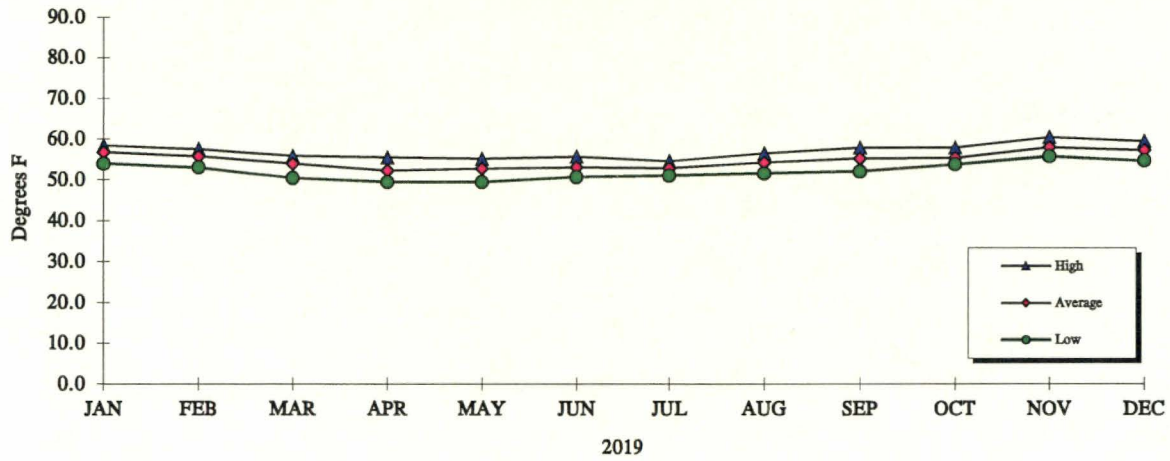
Sludge Parameter	Result	Limit
Percent Moisture	99.14%	None
Total Kjeldahl Nitrogen	85000 mg/kg dry	None
Ammonia (N)	7300 mg/kg dry	None
Nitrate (N)	ND(120) mg/kg dry	None
Total Phosphorous	ND(53000) mg/kg dry	None
pH	7.0 S.U.	None
Oil and Grease	ND(12) % dry	None
Boron	DNQ(43) mg/kg dry	None
Cadmium	DNQ(0.34) mg/kg dry	10 X STLC*
Copper	92 mg/kg dry	10 X STLC
Chromium	1.7 mg/kg dry	10 X STLC
Lead	DNQ(1.4) mg/kg dry	10 X STLC
Nickel	3.6 mg/kg dry	10 X STLC
Mercury	DNQ(0.19) mg/kg dry	10 X STLC
Zinc	200 mg/kg dry	10 X STLC
Volume	0.81 tons dry	None

Note: Annual samples were collected in October.

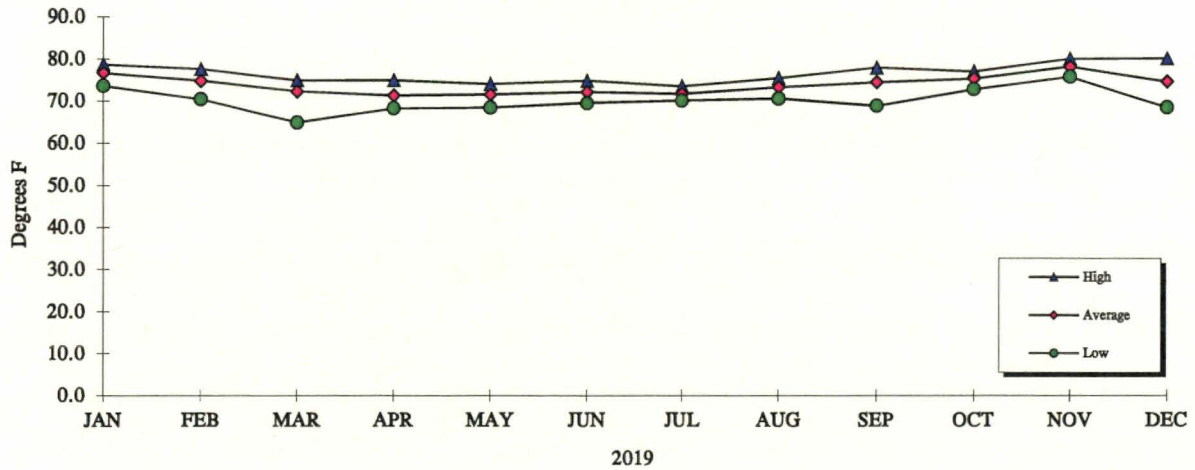
* STLC = Soluble Threshold Limit Concentration

**2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant**

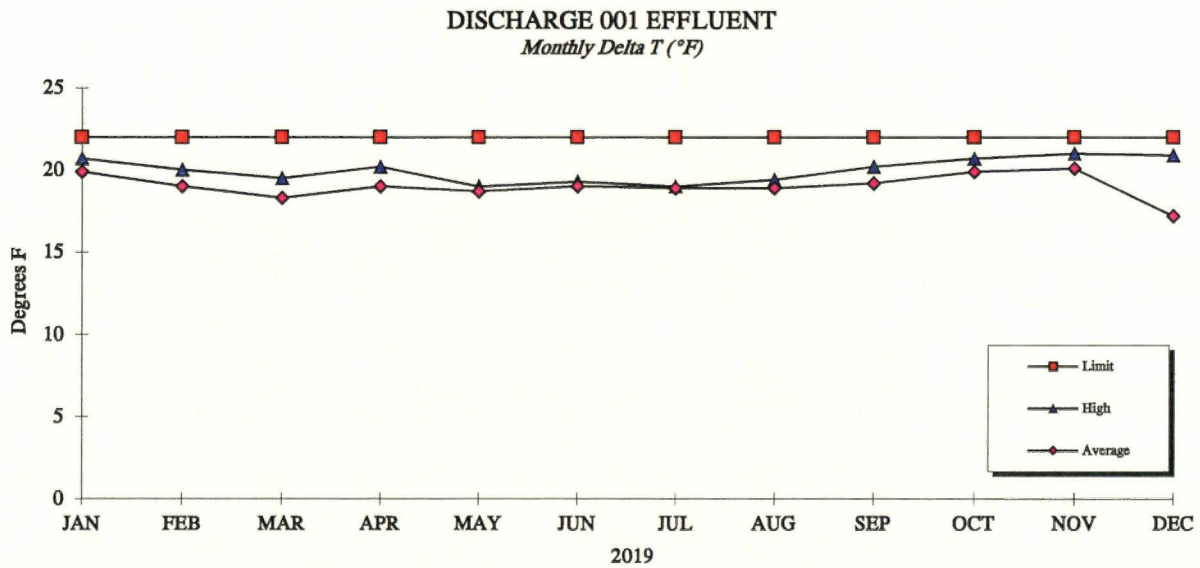
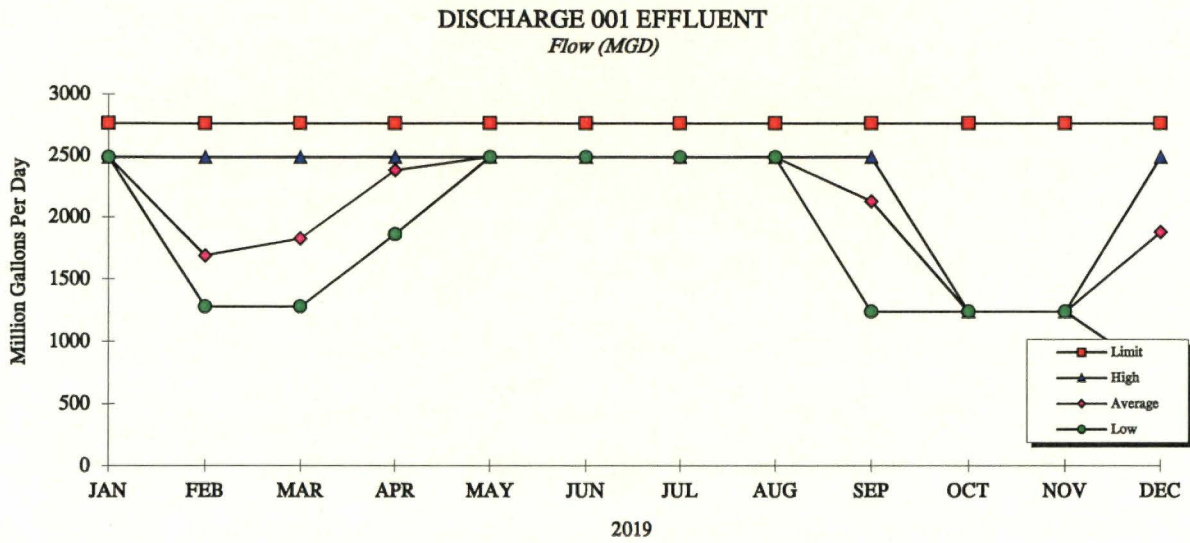
DISCHARGE 001 INFLUENT
Temperature (°F)



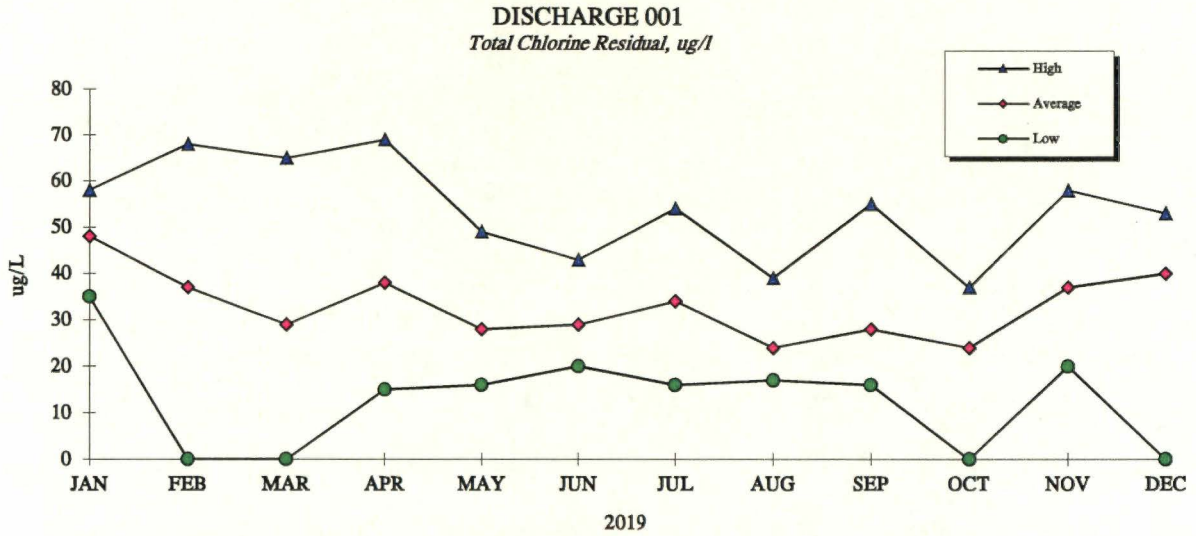
DISCHARGE 001 EFFLUENT
Temperature (°F)



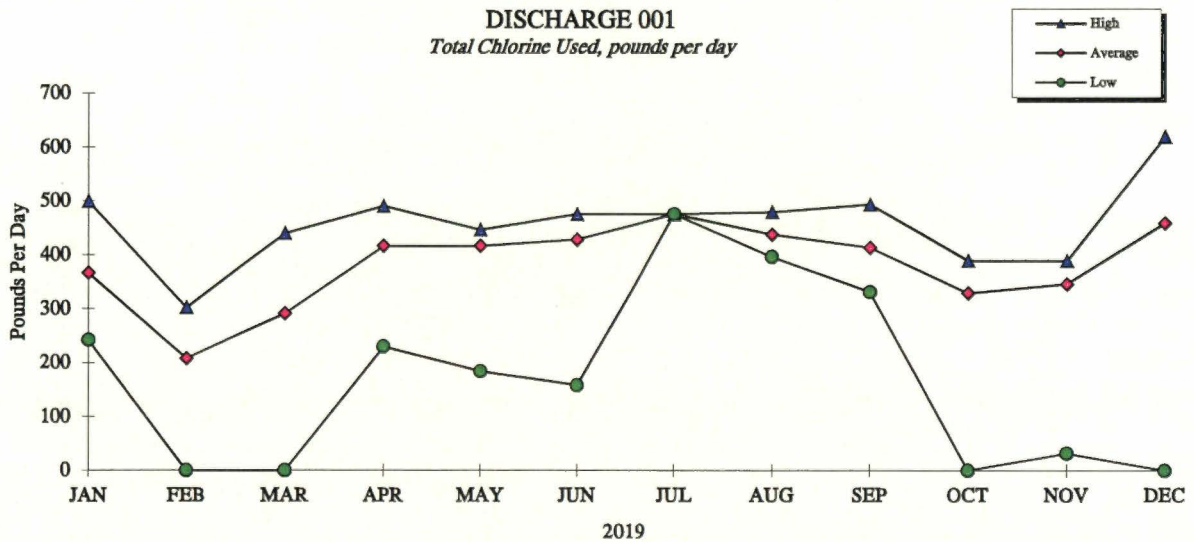
**2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant**



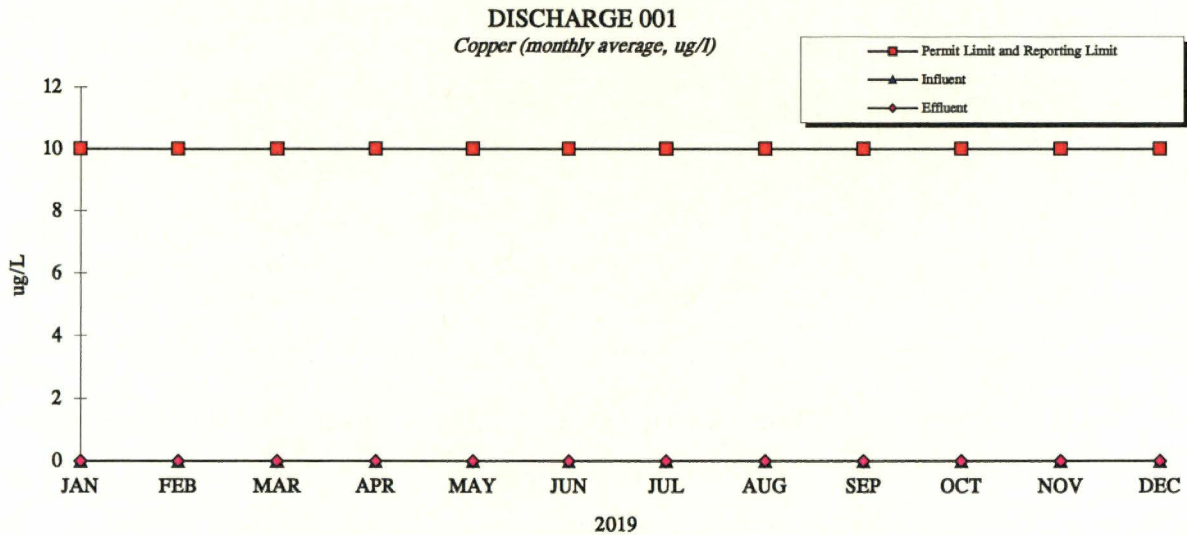
**2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant**



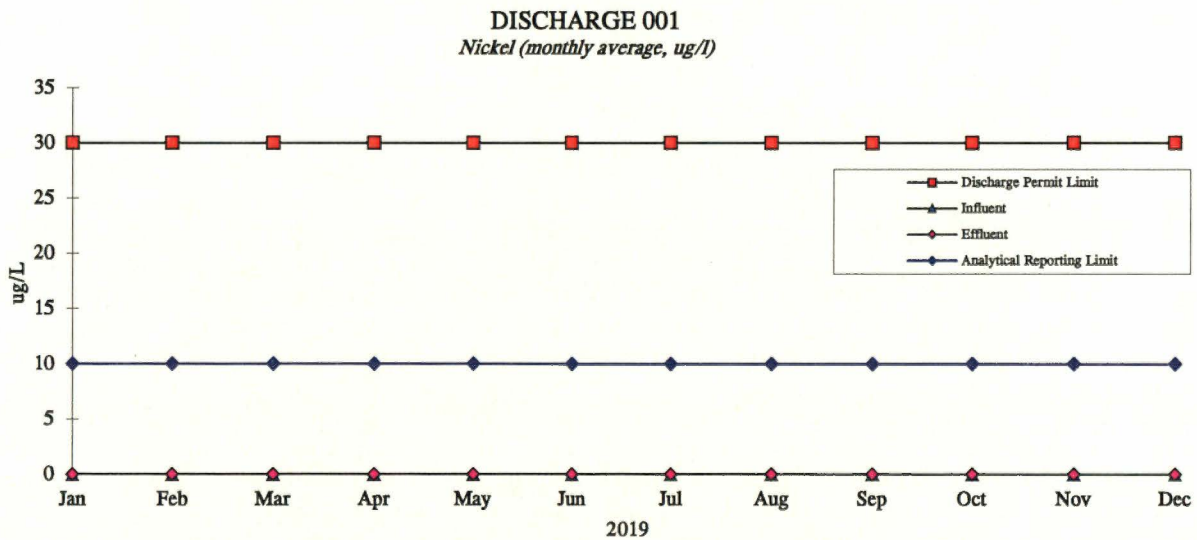
Note: Values plotted at zero were below the reporting limit.



**2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant**



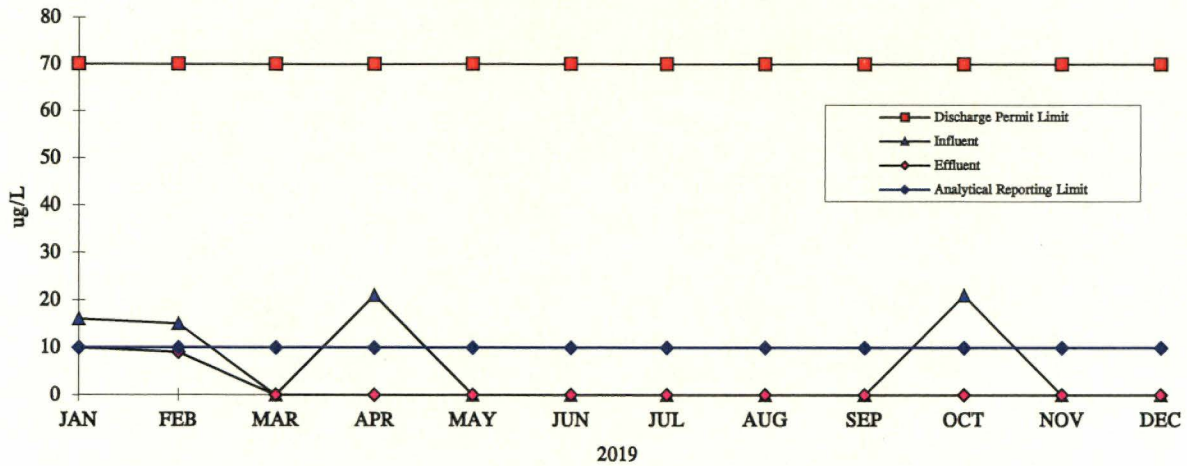
Note: The analyte was not detected at or above the detection limit for values plotted at zero.
The 6-month median limit (the most conservative limit) is plotted on this chart (this is also the analytical reporting limit).
The daily maximum limit for Copper is 50 ug/l.



Note: The analyte was not detected at or above the detection limit for values plotted at zero.
The 6-month median limit (the most conservative limit) is plotted on this chart.
The daily maximum limit for Nickel is 100 ug/l.
Note: Data points on this chart overlap.

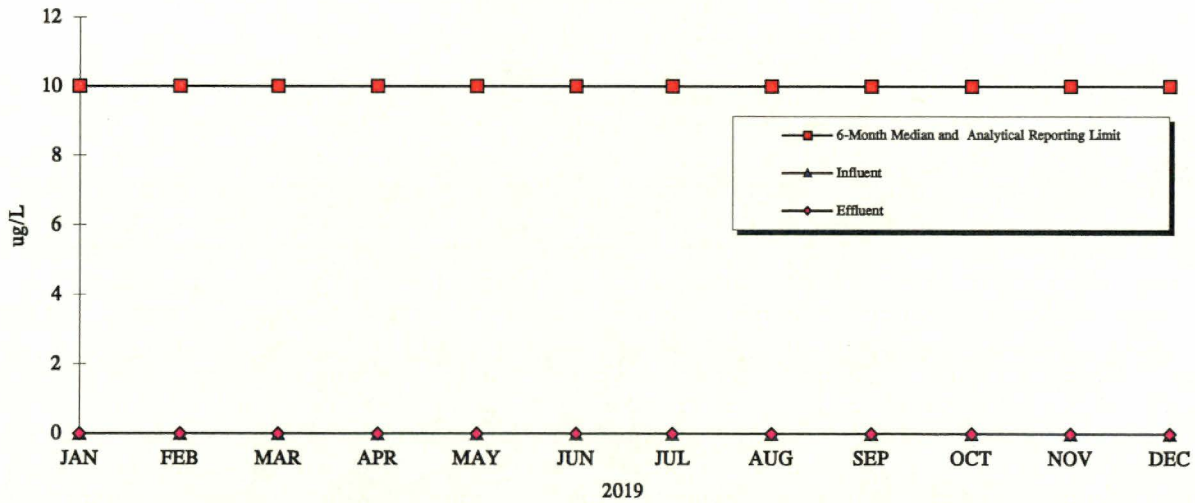
**2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant**

DISCHARGE 001
Zinc (monthly average, ug/l)



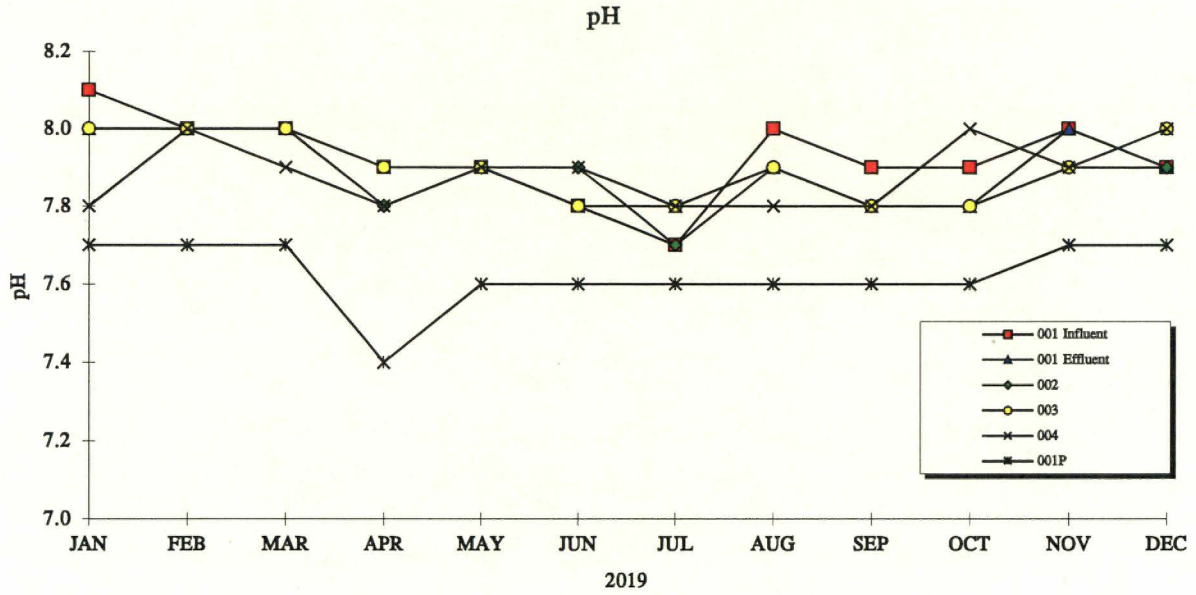
Note: The analyte was not detected at or above the detection limit for values plotted at zero.
Note: Multiple data points on this chart overlap.

DISCHARGE 001
Chromium (monthly average, ug/l)

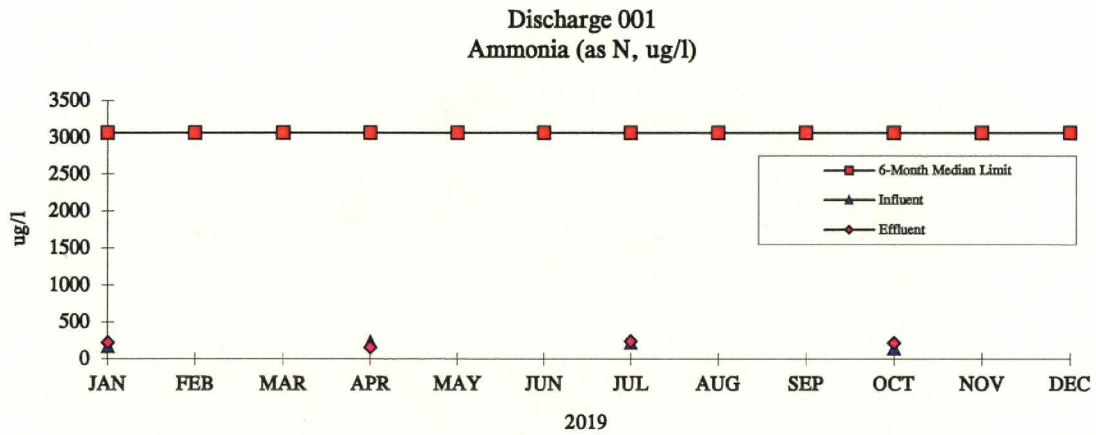


Note: The analyte was not detected at or above the detection limit for values plotted at zero.
The 6-month median limit and the analytical reporting limit are the same (10 ug/l) and are plotted on this chart.
The daily maximum limit for chromium is 40 ug/l.
Note: Data points on this chart overlap.

**2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant**

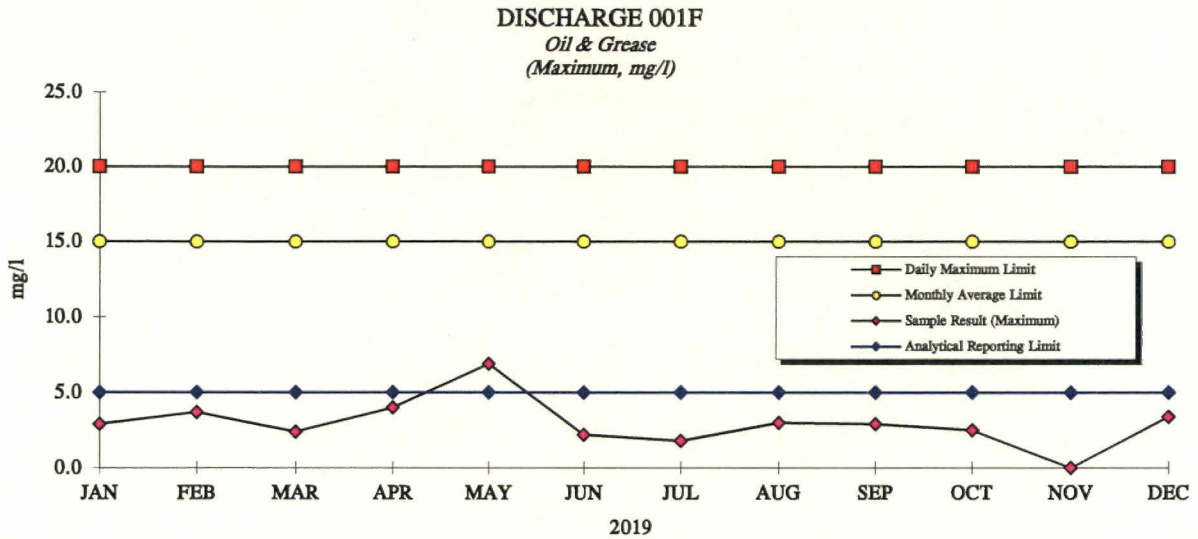


Note: Several data points on this chart overlap.

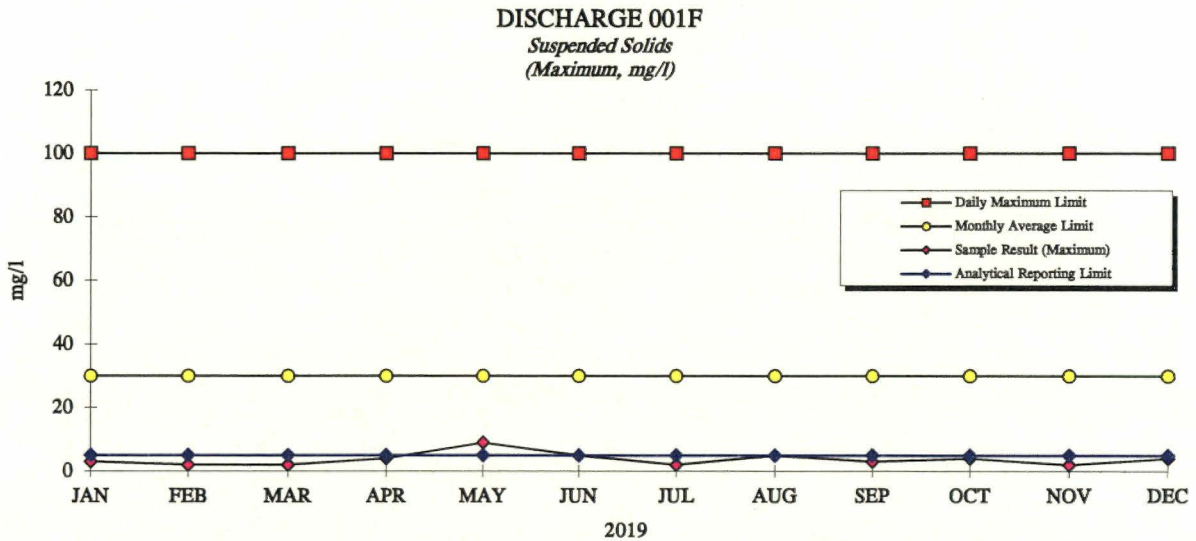


Note: The analyte was not detected at or above the detection limit for values plotted at zero.

**2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant**

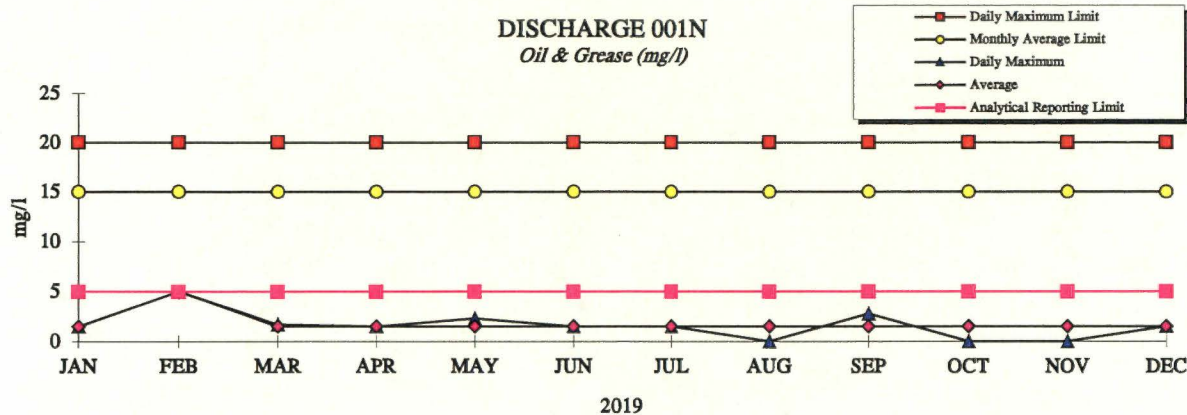


Note: Values plotted at zero were below the detection limit.

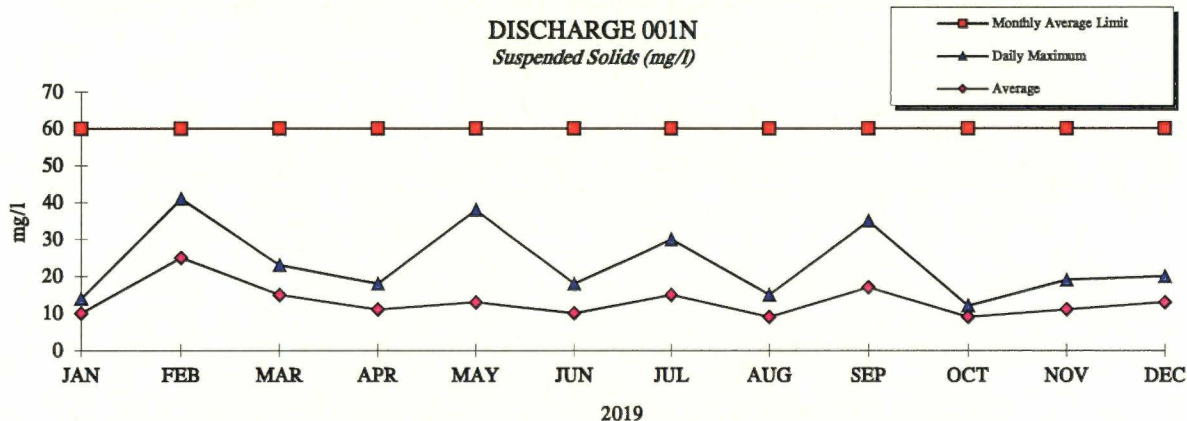


Note: Maximum values are plotted.

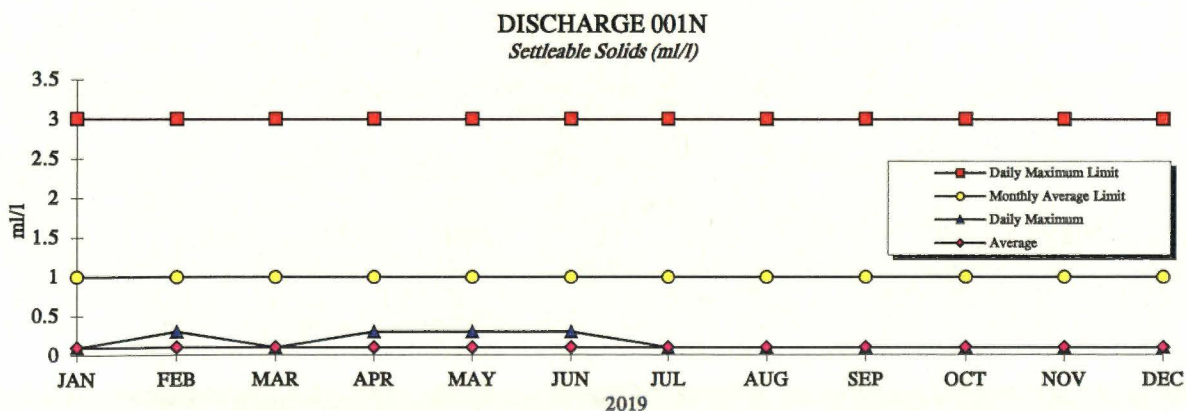
2019 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant



Note: Daily maximum and monthly average values overlap at several points on this plot.

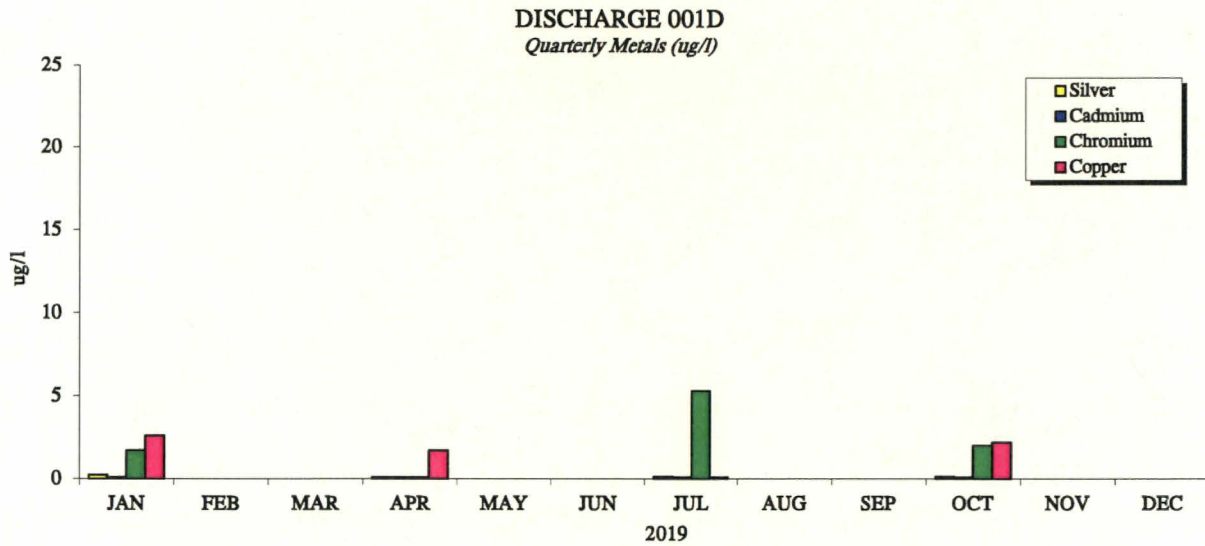


Note: There is no limit for daily maximum values. The average values are below the monthly average limit.

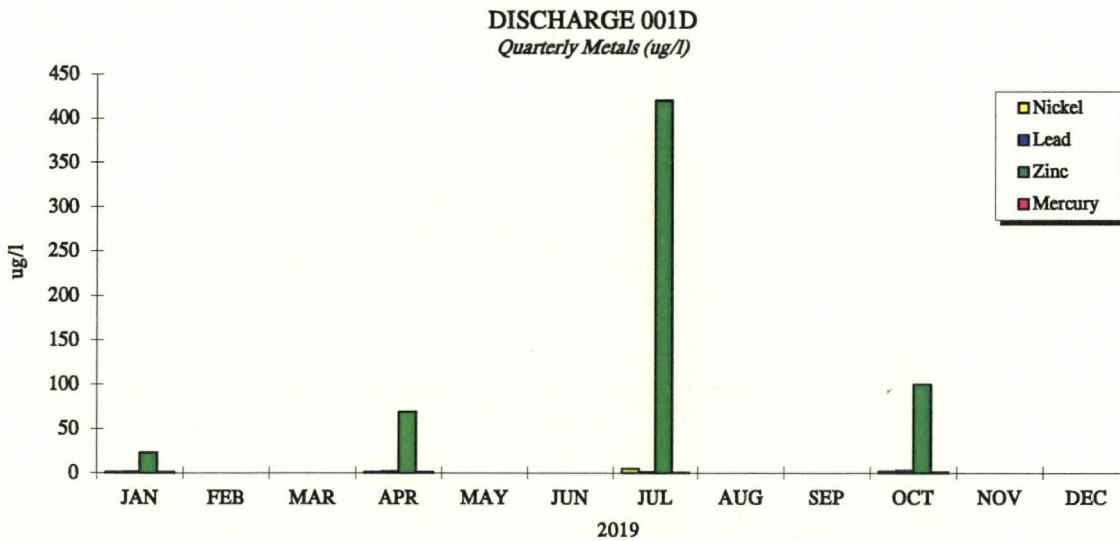


Note: Values plotted at zero were below the detection limit.
High, average, and low values overlap at several points on this plot.

**2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant**

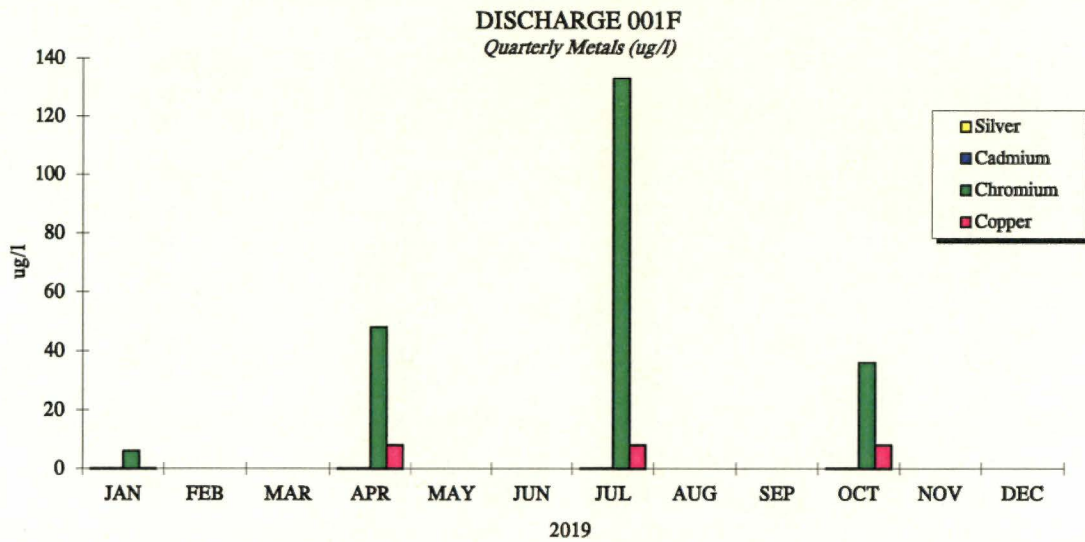


Note: The analyte was not detected at or above the detection limit for values plotted at zero.

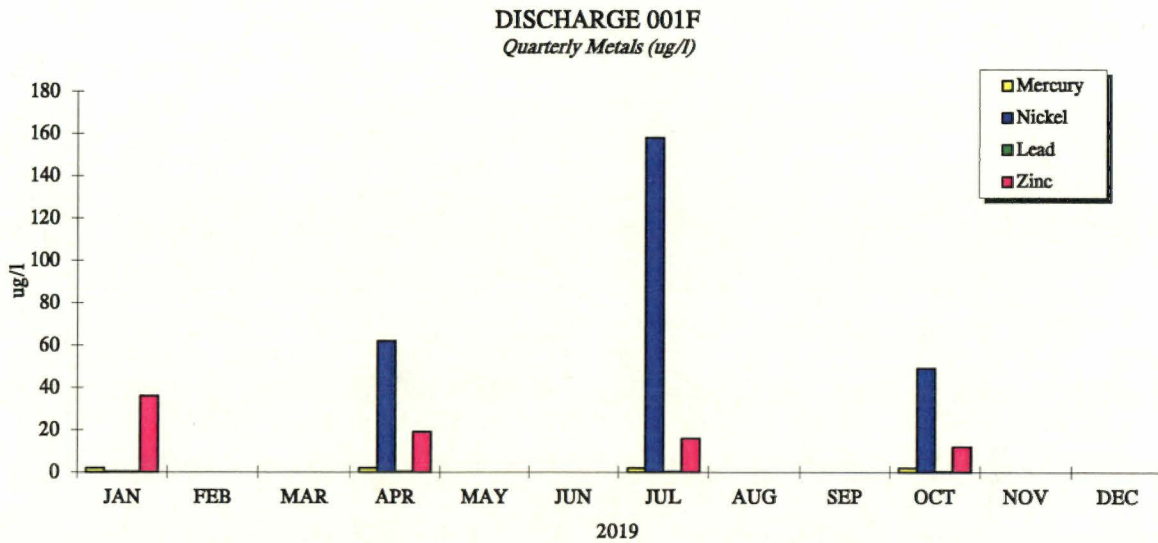


Note: The analyte was not detected at or above the detection limit for values plotted at zero.

**2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant**

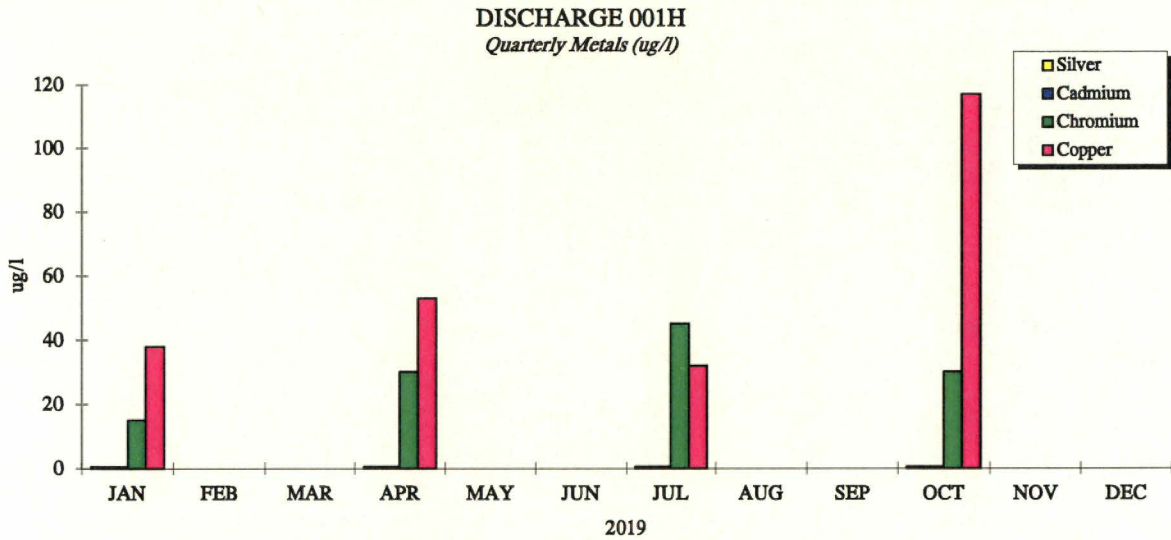


Note: The analyte was not detected at or above the detection limit for values plotted at zero.

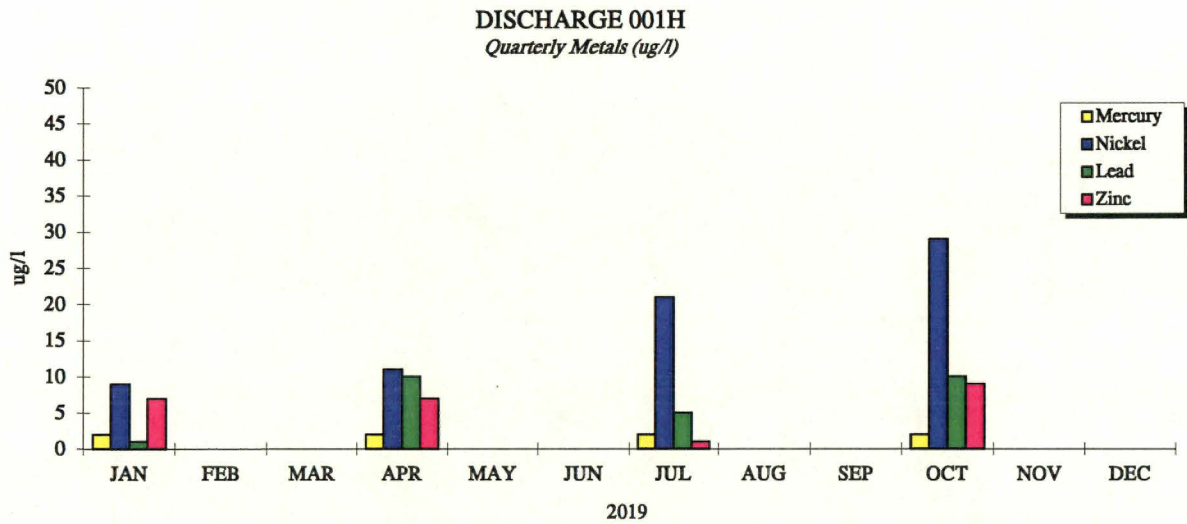


Note: The analyte was not detected at or above the detection limit for values plotted at zero.

**2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant**



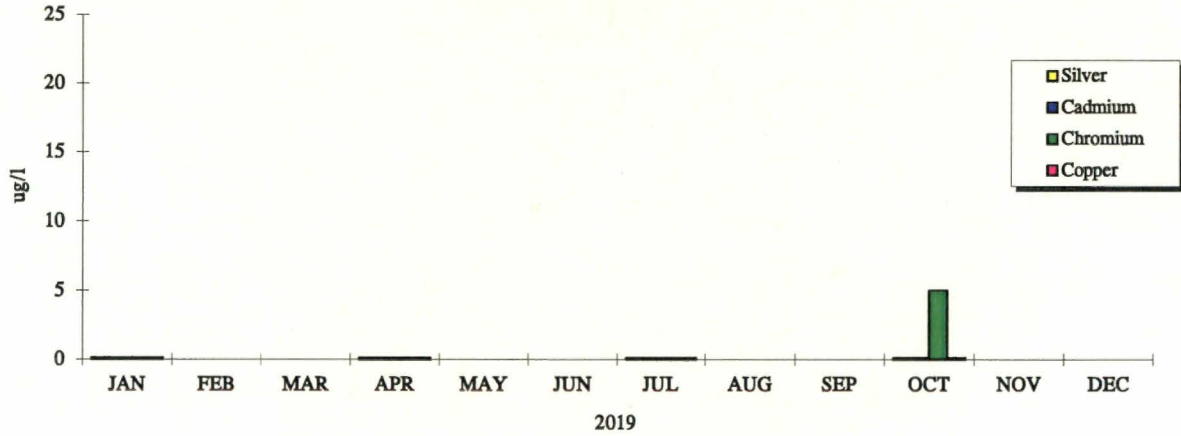
Note: The analyte was not detected at or above the detection limit for values plotted at zero.



Note: The analyte was not detected at or above the detection limit for values plotted at zero.

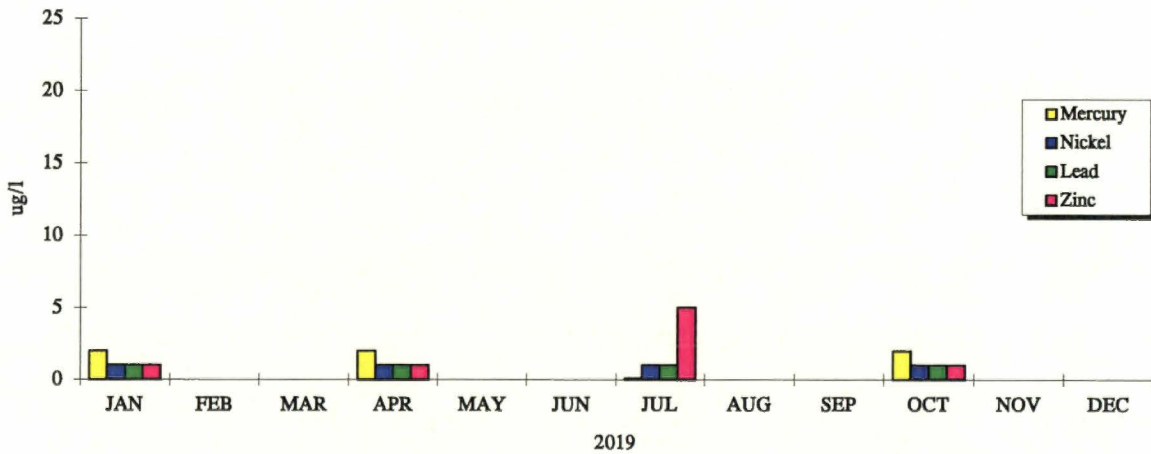
**2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant**

DISCHARGE 001L
Quarterly Metals (ug/l)



Note: The analyte was not detected at or above the detection limit for values plotted at zero.

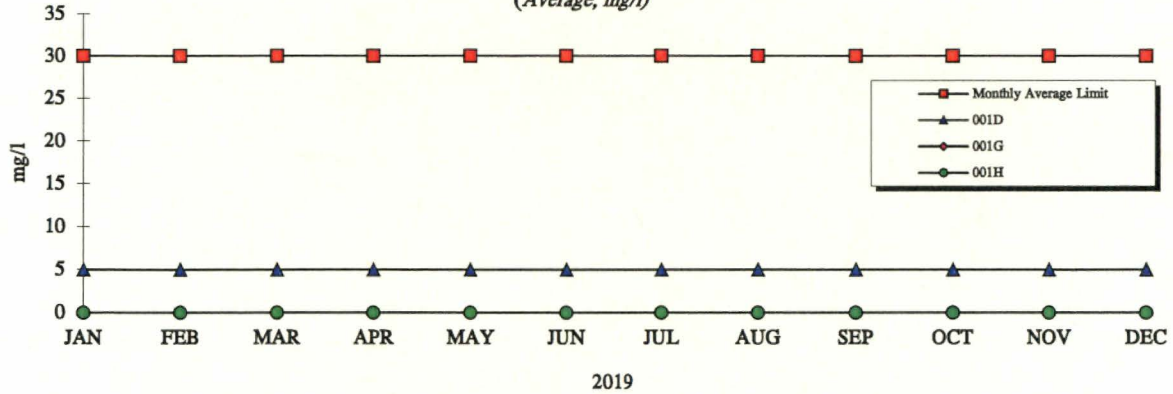
DISCHARGE 001L
Quarterly Metals (ug/l)



Note: The analyte was not detected at or above the detection limit for values plotted at zero.

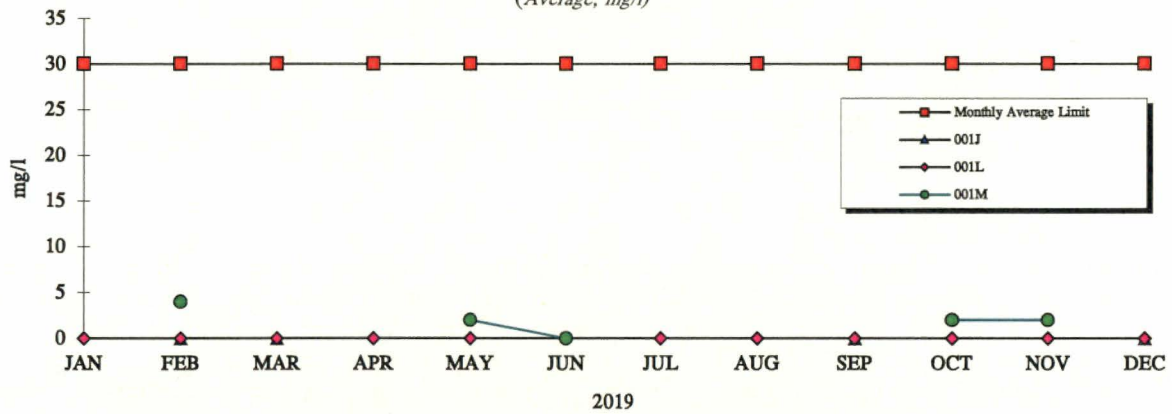
**2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant**

MONTHLY TOTAL SUSPENDED SOLIDS
(Average, mg/l)



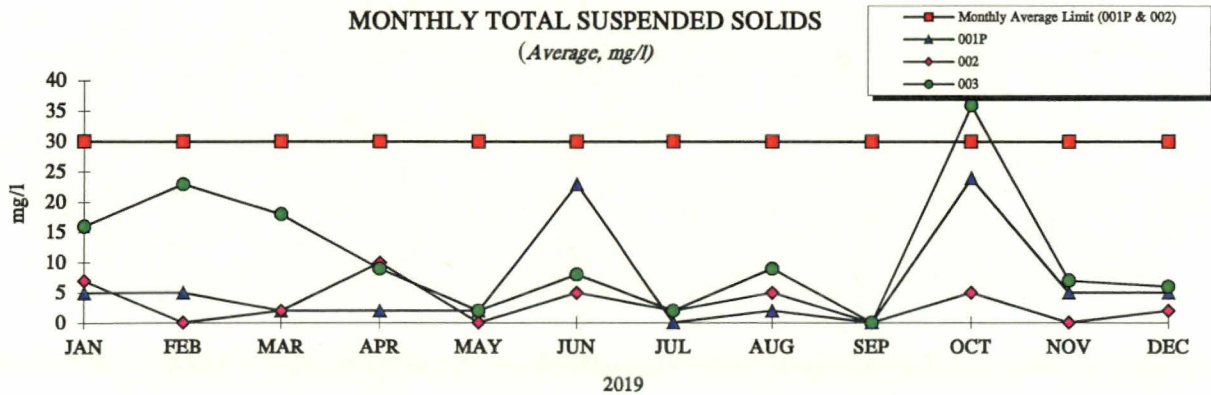
Note: Points on chart may overlap. Values plotted at zero were below the detection limit.

MONTHLY TOTAL SUSPENDED SOLIDS
(Average, mg/l)



Note: Points on chart may overlap. Values plotted at zero were below the detection limit.

MONTHLY TOTAL SUSPENDED SOLIDS
(Average, mg/l)

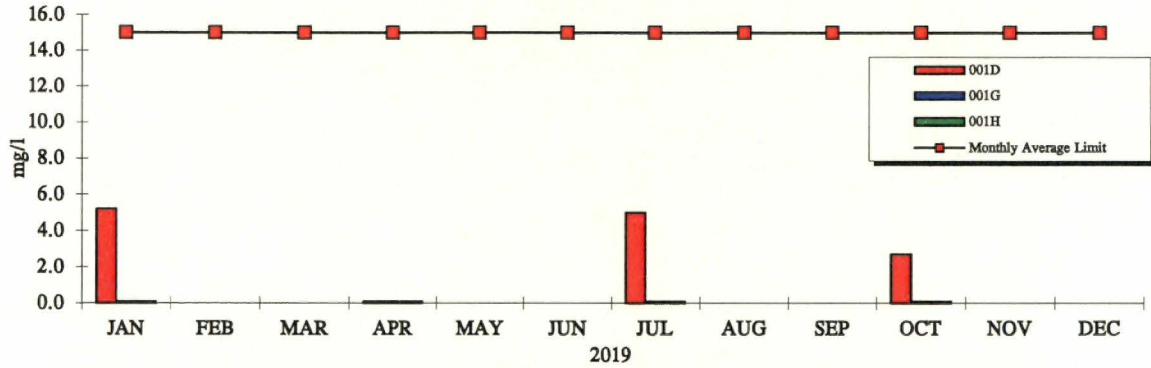


Note 1: Points on chart may overlap. Values plotted at zero were below the detection limit.

Note 2: Monthly average limit only applies to 001P and 002. 003 has no monthly average limit.

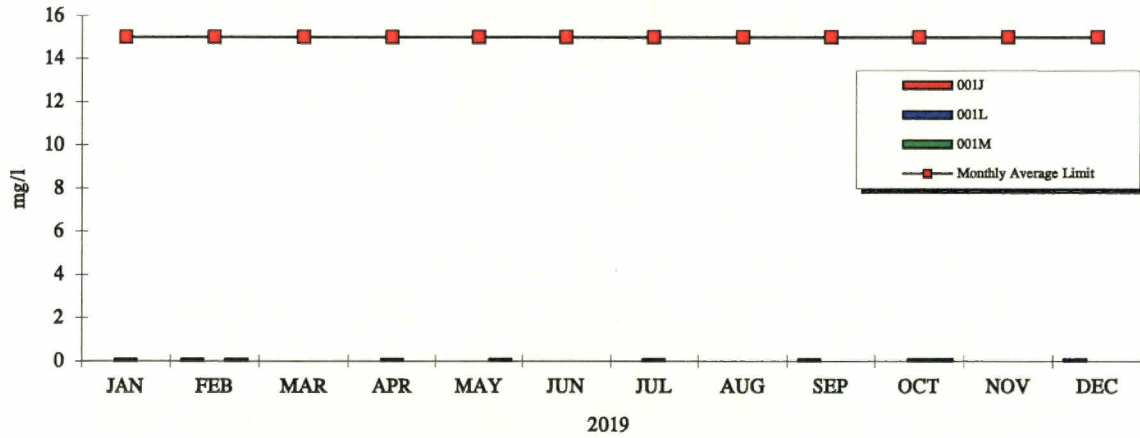
**2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant**

**QUARTERLY OIL & GREASE
(Average, mg/l)**



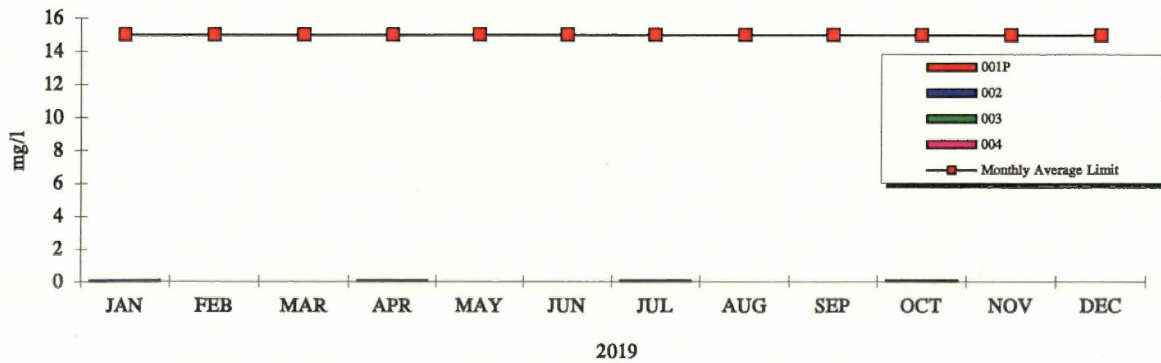
Note: Values plotted at zero were below the detection limit. Less than values are plotted at the value.

**QUARTERLY OIL & GREASE
(Average, mg/l)**



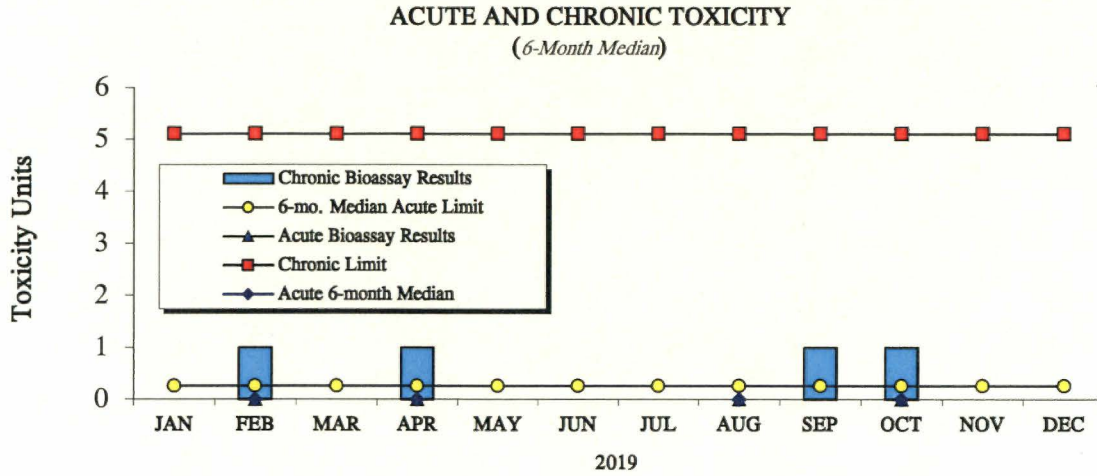
Note: Values plotted at zero were below the detection limit.

**QUARTERLY OIL & GREASE
(Average, mg/l)**



Note: Values plotted at zero were below the detection limit.

**2019 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant**



Annual Discharge Monitoring Report
APPENDIX 3 (Attachment 4 to 2019 Annual SMR)

SUMMARY OF RWMP MONITORING FOR 2019

Study	RWMP Stations/ Surveys per Year	1st Survey Completion Stations/ Dates	2nd Survey Completion Stations/ Dates	3rd Survey Completion Stations/ Dates	4th Survey Completion Stations/ Dates
Horizontal Band Transects	14 / 4x	Mar 21	Jun 10	Aug 16	Dec 12
Vertical Band Transects	5 / 4x	Feb 21	Jun 06	Aug 02	Dec 12
Benthic Stations	8 / 4x	Apr 16	Jun 13	Aug 21	Nov 14
Fish Observation Transects	12 / 4x	May 01	Jun 27	Sep 18	Nov 08
Bull Kelp Census	* / 1x	n/a	n/a	n/a	Oct 29
Temperature Monitoring	24 / **	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec

* Diablo Cove census.

** Temperature measured throughout the year at 20-minute intervals (14 intertidal and 10 subtidal stations).