Pacific Gas and Electric Company

David H. Oatley
Vice President
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Diablo Canyon Power Plant
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Date: February 28, 2002

Certified Return/Receipt
#7000-1530-0005-1017-4095

PG&E Letter DCL-2002-514

California Regional Water Quality Control Board
Central Coast Region
Attn: Monitoring and Reporting Review Section
81 Higuera Street, #200
San Luis Obispo, CA 93401

Dear Mr. Briggs:

In accordance with Order 90-09, NPDES No. CA0003751, enclosed is the Annual Report for 2001 on Discharge Monitoring at Diablo Canyon Power Plant (Enclosure 1).

Facility Name: Diablo Canyon Power Plant

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

Contact Person: Drew A. Squyres
Job Title: Supervisor, Environmental Operations
Phone Number: 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: 2001 (Annual Reports for **DCPP** are Jan-Dec)

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

IE25

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):

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)

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, please contact Drew Squyres at (805) 545 - 4439.

Sincerely,

Name: David H. Oatley
Title: V.P. Diablo Canyon Operations

2002514/RDH/kmo

cc: Michael Thomas, CCRWQCB
81 Higuera Street, Suite 200
San Luis Obispo, CA 93401

Debra Johnston
California Department of Fish and Game
20 Lower Ragsdale, Suite 100
Monterey, California 93490

Regional Administrator, Region 9
U. S. Environmental Protection Agency
75 Hawthorne Street
San Francisco, CA 94105
Attention: Carey Houk (W-5-3)

Resident Inspector, David Proulx
U.S. Nuclear Regulatory Commission
Diablo Canyon Power Plant 104/5

Regional Administrator
U.S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Dr., Suite 400
Arlington, TX 76011-8064

Director, Division of Reactor Projects
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Document Control Desk
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Enclosure

ENCLOSURE

ANNUAL SUMMARY REPORT ON DISCHARGE MONITORING AT THE DIABLO CANYON POWER PLANT

(NPDES NO. CA0003751)

2001

2001 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

TABLE OF CONTENTS

2001 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant

OVERVIEW

A. This annual summary report follows the format used in quarterly monitoring reports. Analytical results below the respective Reporting Limit are plotted as "zero" value in accordance with ELAP guidance. During 2001, discharges occurred from all discharge paths except 001I, 001K, 016, and 017.

B. 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 1990 Ocean Plan were each analyzed for and reported in the permit renewal application for Diablo Canyon Power Plant (DCPP) submitted in October 1994. There have been no changes in the activities conducted at the plant that would have significantly affected the results previously reported in the above referenced document.

SUMMARY OF MONITORING PROGRAM

A. Monitoring of Plant Influent and Effluent

1. Monitoring Data

a. Appendix 1 provides a list of the discharge path names for ease of reference. Appendix 2 contains monitoring data in tabular form. Appendix 3 contains monitoring data in graphical form.

b. Annual oil and grease analyses were performed in October on Stormwater/Yard Drain Discharges 005, 008, 009, 013, and 015. All results were less than 3 mg/l except for 015, which was 3mg/l. No discharges occurred from 016 and 017 during 2001 (Discharge 016 only drains a small area, approximately 10 feet X 8 feet in the bottom of a valve vault, quantities during rain events were inadequate for oil and grease samples and to discharge from this path; therefore no samples were available from 016).

c. The annual grab sample results of Discharge 001D, Liquid Radioactive Waste Treatment System, for lithium, boron and hydrazine, were 35 mg/l, 566 mg/l, and less than 10 mg/l, respectively.

2. Facility Operating and Maintenance Manual

Pacific Gas and Electric Company (PG&E) maintains a multiple volume Plant Procedure Manual (manual) at DCPP 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 DCPP Staff and approved by DCPP Management. DCPP conducts biennial internal audits that review NPDES Plant procedures contained in the manual. Ongoing reviews of Plant procedures are conducted to assure that the manual remains valid and complete for the current facility.

3. Laboratories Used to Monitor Compliance

a. PG&E Chemistry Laboratory, DCPP, Avila Beach, California

b. Aquatic Bioassay Consultants, Ventura, California

c. FGL Analytical, Santa Paula, California

d. PG&E, Technological and Environmental Services, Geotechnical Laboratory, San Ramon, California

c. Creek Environmental, San Luis Obispo, California

d. Columbia Analytical Services, Kelso, Washington

4. Review of Compliance Record and Corrective Actions

a. Circulating Water Pump Chlorination/Acti-Brom Monitoring

The 2001 quarterly NPDES reports discuss incidents in which monitoring for some chlorination cycles was interrupted or when Ocean Plan limits, though not exceeded, could have been exceeded. Listed below is a summary of the incidents. A brief description of the cause of each incident is included.

The quarterly reports describe each of the incidents and corrective actions taken. Engineering evaluations (approved by the CCRWQCB 1/13/94; PG&E Letter No. DCL-94-002) for each incident are also described in the quarterly reports. The evaluations conclude that discharge chlorine limits were not exceeded.

Date	Chlorination Cycle Monitoring Incidents	Cause	Corrective Action
1/17/01	Unit 1 0800 hrs and 1200 hrs injection cycles not monitored. Monitor developed low flow.	Ocean debris clogging sample lines	Flush sample lines. Flow returned to normal.
4/17/01	Unit 1 monitor not operating.	Loss of power to monitor due to corrosion of the electrical system	Electrical system being replaced.
5/8/01	Discharge monitor reading inaccurately	Sample line loss of flow to monitor	Manipulated sample line valve. Flow returned to normal.

b. Drains of Closed Cooling Water Systems

PG&E received concurrence from the CCRWQCB in response to a letter dated July 19, 1995 (PG&E Letter DCL-95-156), to use the biocides glutaraldehyde and isothiazoline to control microbiological growth and corrosion in DCPP's closed cooling water systems. Any drainage from these systems is discharged at a flowrate 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 2001 from the component cooling water (CCW), intake cooling water (ICW), and service cooling water (SCW) systems are presented below. The glutaraldehyde and isothiazoline concentrations are system concentrations, not concentrations discharged.

Date	System	Volume (gal)	Glutaraldehyde (mg/l)	Isothiazoline (mg/l)	Reason & Comment
7/26/01	Unit 2 SCW	30000	303	0	Routine maintenance.
9/27/01	Unit 1 ICW	4000	279	8	Routine maintenance.

12/01/01	Unit 2 ICW	4000	183	8	Routine maintenance.

c. PG&E injected sulfur hexafluoride (SF6) into DCPP's condensers to detect saltwater leaks on one occasion, while the unit was operating (circulating cooling flow through the condenser), during 2001. CCRWQCB's Sorrel Marks concurred during conversations held in May 1996 that periodic use of SF6 would not increase DCPP's probability of exceeding NPDES permit limitations.

Date	Number of Injections	Duration (sec)	Injection Rate of SF6 (Standard Cubic Feet per Minute)
6/21/01	5	30	10

d. April

On 4/11/01, the result from analysis of the 001 monthly copper sample (taken 4/4/01) was 59ppb. An additional sample was collected on 4/11/01 that resulted in a copper concentration for monthly copper at 001 below the 10ppb Reporting Limit. After a review of the Plant activities, analytical technique, sampling technique, and sample point, it was determined that the 59ppb copper result was most likely due to a metal contaminated sample. Small corroded metal parts attached to the sample point appear to have caused the sample contamination. The corroded metal sources were removed and replaced with a non-metallic material to prevent future occurrence.

The RWQCB was notified by phone on 4/11/01, of the high copper result. At that time, permission was granted to include a statement regarding this issue in the quarterly NPDES report in lieu of submitting the 5-day report.

On 4/27/01 a malfunction in the automated decant mechanism occurred causing 3000 gallons of partially treated effluent to flow from 001N flowpath to the circulating cooling water. Repairs were performed to the automated mechanism on 4/27/01. During the 10am 4/27/01 decanting, when the malfunction occurred, the effluent appeared to be normal. Samples for settleable solids, TSS, and O&G were taken on 4/27/01 and 4/28/01 and analyzed. The analytical results confirmed the 001N effluent was within NPDES limitations. Adjustments were made to the system equipment to minimize the potential for future occurrence.

The RWQCB staff was notified on 4/27/01 and on 5/1/01 allowed a statement to be added to the quarterly report describing the situation, actions taken, and steps to prevent recurrence in lieu of submitting a written report within 5 days of the event.

e. May

During a physical tube cleaning of the Unit 2 Closed Cooling Water heat exchanger (2-1), on 5/7/01, using tube scrapers, the protective barrier that was installed to catch the scrapers failed. The scrapers are small 1 inch diameter by 3 ½ inch long carbon steel devices that are pushed through the tubes with water and compressed air. Approximately 550 scrapers went down the 2-1 discharge line. Over 48 hours was spent to retrieve the scrapers. All but 30 were recovered.

In a conversation with RWQCB staff on 5/9/01, staff agreed that the remaining scrapers do not pose a water quality concern if they are discharged and are not considered a non-compliance with the conditions of the NPDES permit. As requested by staff, this is a courtesy description of this activity.

B. Monitoring of Receiving Water

1. Ecological Studies at Diablo Canyon

Marine ecological monitoring was continued during 2001 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 (DCL-99-503) from PG&E dated January 8, 1999. 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). Results of 2000 RWMP data were submitted to the CCRWQCB on April 27, 2001. A table in Appendix 4 summarizes requirements and completed tasks for 2001.

2. Shell debris deposition and foam studies were completed and reported as part of the revised RWMP described above.

3. In Situ Bioassay

Results of the Mussel Watch Program are reported to the CCRWQCB directly from the California Department of Fish and Game in their periodic report for this program.

C. Acti-Brom Treatment Program

During 2001, DCPP continued its integrated Acti-Brom and "foul release coating" strategy to control macrofouling in the Circulating Water System (CWS). Acti-Brom is a sodium bromide solution with an added biodispersant that is used, in combination with sodium hypochlorite, to control settlement and growth of biofouling organisms. The program consists of six daily 20 minute injections (at four hour intervals) of a 1:1 molar ratio blend of Acti-Brom and sodium hypochlorite to all four of DCPP's intake conduits. Injection rates are adjusted to produce a nominal 200 ppb total residual oxidant (TRO) level in each treated conduit. The corresponding concentration measured at DCPP's discharge ranges from approximately 20 ppb to 60 ppb. In conjunction with the Acti-Brom treatment, untreated portions of the CWS were previously painted with a non-toxic "foul release coating" to help prevent attachment of fouling organisms.

Simultaneous hypochlorite and Acti-Brom treatment of both Unit 1 conduits continued six times daily throughout 2001 with brief interruptions. These treatment interruptions occurred in early June (conduit 1-1 only) due to a high flow alarm, in early July due to a controller failure, and in the first half of November when Unit 1 injections were terminated for a mid-month tunnel cleaning. Hypochlorite and Acti-Brom treatment was resumed after the tunnel cleaning and continued through the rest of the year.

Simultaneous hypochlorite and Acti-Brom treatment of Unit 2 conduits continued six times daily through most of 2001. Near the end of January, conduit 2-2 injections were interrupted briefly for condenser cleaning. After the condenser cleaning, conduit 2-1 injections were changed to twice daily hypochlorite injections for microfouling control, while conduit 2-2 resumed the simultaneous hypochlorite and Acti-Brom treatment schedule. All Unit 2 injections were terminated near the end of April in preparation for the 2R10 refueling outage. The simultaneous hypochlorite and Acti-Brom treatment schedule was resumed near the end of May for each Unit 2 conduit when the associated circulating water pump was returned to service. This treatment schedule continued through the remainder of the year with brief interruptions in early June (conduit 2-1 only) due to a high flow alarm, in early July due to a controller failure, and in early November for line maintenance.

APPENDIX 1

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

APPENDIX 2

TABULAR SUMMARIES OF INFLUENT AND EFFLUENT MONITORING

2001 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

DISCHARGE 001

	TEMPERATURE (DEG F)								FLOW (MGD)		
	INFLUENT			EFFLUENT			DELTA T				
Month	high	low	avg	high	low	avg	high	avg	high	low	avg
JAN	56.0	53.2	54.9	75.3	61.8	73.4	19.8	18.5	2503	2087	2490
FEB	54.0	51.2	52.9	73.3	70.5	72.2	19.4	19.3	2503	2503	2503
MAR	54.9	49.2	52.8	74.1	68.5	72.1	19.5	19.3	2503	2503	2503
APR	51.7	48.6	49.8	71.0	66.5	69.1	19.5	19.3	2486	1239	2398
MAY	54.9	49.1	52.3	74.5	68.5	71.1	20.9	18.9	2486	1239	1525
JUN	60.2	49.6	53.9	77.8	69.0	72.8	20.8	18.9	2486	2486	2486
JUL	56.2	51.9	53.9	75.3	71.0	73.0	19.3	19.1	2486	2486	2486
AUG	56.6	51.5	54.0	75.5	70.2	73.1	19.4	19.1	2486	2486	2486
SEP	59.2	52.1	56.0	77.7	71.5	75.0	19.5	19.0	2486	1992	2461
OCT	58.9	54.4	56.8	78.2	73.3	76.1	19.7	19.3	2486	2486	2486
NOV	59.9	55.1	57.6	79.1	67.4	76.1	19.9	18.5	2486	1874	2414
DEC	55.8	51.5	53.4	75.0	68.0	72.4	19.4	19.0	2486	2486	2486
limit:		-			-		22		2760		

The INFLUENT and EFFLUENT "high" and "low" values correspond to the highest and lowest daily average value for that month. The INFLUENT high and low does not necessarily correspond to the same day as the high and low for the EFFLUENT for that month. The "avg" 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 values. The "Avg" is calculated from INF and EFF monthly avg values.

DISCHARGE 001

	TOTAL RESIDUAL CHLORINE (daily max. ug/l)			TOTAL CHLORINE USED (lbs/day)		
Month	high	low	avg	high	low	avg
JAN	52	20	34	780	446	609
FEB	59	17	35	537	432	487
MAR	70	23	40	528	417	490
APR	45	11	31	461	202	378
MAY	57	<10	19	648	187	339
JUN	66	<10	27	864	425	643
JUL	79	<10	31	864	410	787
AUG	50	<10	28	907	792	851
SEP	50	14	27	994	686	817
OCT	50	11	27	936	720	825
NOV	55	<10	33	794	331	612
DEC	87	29	48	749	605	694

Note that the residual chlorine limits in Permit CA0003751, Order 90-09 is a daily 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.

2001 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

DISCHARGE 001

METALS (monthly avg. ug/l)

	CHROMIUM		COPPER		NICKEL		*ZINC	
Month	Influent	Effluent	Influent	Effluent	Influent	Effluent	Influent	Effluent
JAN	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	15	13	ND(10)
FEB	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	16	ND(10)	ND(10)
MAR	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	18	ND(10)	ND(10)
APR	ND(10)	ND(10)	ND(10)	29	ND(10)	ND(10)	ND(10)	ND(10)
MAY	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	11	ND(10)
JUN	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
JUL	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	14	ND(10)
AUG	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	15	ND(10)
SEP	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	11	ND(10)
OCT	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	16	ND(10)	ND(10)
NOV	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
DEC	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	16	ND(10)
6-month median limit:		10	-	10	-	30	-	70

* Note: Influent zinc has been historically higher than effluent concentrations. To date the reason is not known.

DISCHARGE 001
VARIOUS ANNUAL ANALYSES

	(ug/l)		6-Mo. Med. Effluent
Parameter	Influent	Effluent	Limit
Arsenic	1.6	1.4	30
Cadmium	0.08	ND(0.06)	10
Cyanide	ND(10)	ND(10)	30
Lead	0.31	0.05	10
Mercury	ND(0.001)	ND(0.001)	0.2
Silver	0.17	ND(0.02)	2.9
Titanium	-	ND(5)	none
*Phenolic Cmpds (non-chlorinated)	ND(11.82)	ND(11.82)	150
**Phenolic Cmpds (chlorinated)	ND(3.36)	ND(3.36)	10
***PCB's	ND(1.52)	ND(1.59)	none

*Reporting limit [ND (11.82)] shown is the sum of individual Reporting Limit's for 6 target compounds.
**Reporting limit [ND (3.36)] shown is the sum of individual Reporting Limit's for 5 target compounds.
***Reporting limit [ND(1.52)] shown is the sum of individual Reporting Limit's for 7 target compounds.

DISCHARGE 001
AMMONIA (as N) (ug/l)

Month	Influent	Effluent
JAN	ND(200)	ND(200)
FEB		
MAR		
APR	ND(200)	ND(200)
MAY		
JUN		
JUL	ND(200)	ND(200)
AUG		
SEP		
OCT	ND(200)	ND(200)
NOV		
DEC		
6-month median limit:		3060

2001 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	8.2	8.1	8.0	8.2	8.2	7.9
FEB	8.0	8.0	8.0	8.0	8.0	7.7
MAR	8.0	8.0	8.0	8.0	8.0	7.8
APR	7.8	7.8	7.8	7.8	7.8	7.6
MAY	8.0	7.9	8.0	8.2	7.9	7.7
JUN	8.0	8.0	8.0	8.0	8.0	8.0
JUL	7.9	8.0	8.0	7.9	8.0	7.7
AUG	8.0	8.0	8.0	7.8	8.0	8.0
SEP	7.8	7.8	8.0	7.8	8.0	7.7
OCT	8.1	8.1	8.1	8.1	7.8	7.8
NOV	8.0	8.0	8.0	8.0	8.0	7.7
DEC	8.0	8.0	8.0	8.0	8.0	7.9

DISCHARGE 001F

	GREASE & OIL (mg/l)		SUSPENDED SOLIDS (mg/l)	
Month	high	avg	high	avg
JAN	<3	<3	7	7
FEB	<3	<3	ND(5)	ND(5)
MAR	<3	<3	ND(5)	ND(5)
APR	<3	<3	ND(5)	ND(5)
MAY	<3	<3	14	12
JUN	<3	<3	ND(5)	ND(5)
JUL	<3	<3	ND(5)	ND(5)
AUG	<3	<3	ND(5)	ND(5)
SEP	<3	<3	ND(5)	ND(5)
OCT	<3	<3	ND(5)	ND(5)
NOV	4	<3	ND(5)	ND(5)
DEC	<3	<3	ND(5)	ND(5)
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)

	GREASE & OIL (mg/l)			SUSPENDED SOLIDS (mg/l)			SETTLEABLE SOLIDS (ml/l)		
Month	high	low	avg	high	low	avg	high	low	avg
JAN	14	ND(5)	<5	22	6	12	0.1	ND(0.1)	<0.1
FEB	5	ND(5)	<5	23	8	14	ND(0.1)	ND(0.1)	ND(0.1)
MAR	6	ND(5)	<5	26	9	16	ND(0.1)	ND(0.1)	ND(0.1)
APR	8	ND(5)	<5	34	8	15	ND(0.1)	ND(0.1)	ND(0.1)
MAY	5	ND(5)	<5	38	21	30	ND(0.1)	ND(0.1)	ND(0.1)
JUN	6	ND(5)	<5	17	ND(5)	10	ND(0.1)	ND(0.1)	ND(0.1)
JUL	ND(5)	ND(5)	ND(5)	30	10	21	ND(0.1)	ND(0.1)	ND(0.1)
AUG	ND(5)	ND(5)	ND(5)	22	8	15	ND(0.1)	ND(0.1)	ND(0.1)
SEP	ND(5)	ND(5)	ND(5)	11	ND(5)	8	ND(0.1)	ND(0.1)	ND(0.1)
OCT	7	ND(5)	<5	19	9	13	ND(0.1)	ND(0.1)	ND(0.1)
NOV	ND(5)	ND(5)	ND(5)	23	8	15	ND(0.1)	ND(0.1)	ND(0.1)
DEC	ND(5)	ND(5)	ND(5)	16	ND(5)	9	ND(0.1)	ND(0.1)	ND(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.

2001 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

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

	001D				001 H				001L				001F			
Month	Ag	Cd	Cr	Cu	Ag	Cd	Cr	Cu	Ag	Cd	Cr	Cu	Ag	Cd	Cr	Cu
JAN	ND(10)	ND(5)	ND(10)	10	ND(10)	ND(5)	20	110	ND(10)	ND(5)	ND(10)	20	ND(10)	ND(5)	ND(10)	10
FEB																
MAR																
APR	ND(10)	9	ND(10)	ND(10)	ND(10)	ND(5)	<10	50	ND(10)	ND(5)	ND(10)	ND(10)	ND(10)	ND(5)	10	20
MAY																
JUN																
JUL	ND(10)	ND(5)	ND(10)	10	ND(10)	ND(5)	<20	80	ND(10)	ND(5)	ND(10)	<20	ND(10)	ND(5)	ND(10)	10
AUG																
SEP																
OCT	ND(10)	ND(5)	ND(10)	ND(10)	ND(10)	ND(5)	20	60	ND(10)	ND(5)	ND(10)	ND(10)	ND(10)	ND(5)	ND(10)	ND(10)
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)

	001D				001 H				001L				001F			
Month	Hg	Ni	Pb	Zn	Hg	Ni	Pb	Zn	Hg	Ni	Pb	Zn	Hg	Ni	Pb	Zn
JAN	0.06	ND(10)	ND(10)	80	0.04	30	<10	70	ND(0.01)	ND(10)	ND(10)	ND(20)	0.02	20	ND(10)	70
FEB																
MAR																
APR	ND(0.2)	ND(10)	20	40	ND(0.2)	20	ND(500)	30	ND(0.2)	ND(10)	ND(10)	ND(20)	ND(0.2)	40	ND(10)	90
MAY																
JUN																
JUL	0.20	ND(10)	ND(50)	120	ND(0.2)	<20	ND(200)	<40	0.4	ND(10)	ND(10)	<20	ND(0.2)	ND(10)	ND(10)	30
AUG																
SEP																
OCT	ND(0.2)	ND(10)	ND(10)	40	ND(0.2)	20	ND(100)	<20	ND(0.2)	ND(10)	ND(10)	ND(20)	ND(0.2)	ND(10)	ND(10)	ND(20)
NOV																
DEC																

limit: none

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

2001 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	20	ND(5)	ND(5)				ND(5)	19	ND(5)	ND(5)	ND(5)
FEB	<5	ND(5)	ND(5)				ND(5)	ND(5)	ND(5)	ND(5)	14
MAR	<5	ND(5)	ND(5)				ND(5)	ND(5)	ND(5)	ND(5)	6
APR	11	ND(5)	ND(5)		ND(5)		ND(5)		ND(5)	ND(5)	5
MAY	20	ND(5)	ND(5)		ND(5)		ND(5)	7	ND(5)	ND(5)	ND(5)
JUN	7	ND(5)	ND(5)		ND(5)		ND(5)		6	ND(5)	ND(5)
JUL	5	ND(5)	ND(5)				ND(5)		5	ND(5)	ND(5)
AUG	<5	ND(5)	ND(5)				ND(5)		8	ND(5)	ND(5)
SEP	12	5	ND(5)				ND(5)	6	25	ND(5)	ND(5)
OCT	<5	ND(5)	ND(5)				ND(5)		ND(5)	ND(5)	ND(5)
NOV	7	ND(5)	ND(5)				ND(5)	14	ND(5)	ND(5)	6
DEC	7	ND(5)	ND(5)				ND(5)		15	ND(5)	8
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 2001.
Blank spots for other discharge points indicate that no discharge occurred during that particular month.

QUARTERLY GREASE & OIL

Averages by Month (mg/l)

Month	001D*	001G	001H	001I	001J	001K	001L	001M	001P	002	003	004
JAN	<3	<3	<3				<3	<3	<3	<3	<3	<3
FEB								<3				
MAR								<3				
APR	<3	<3	<3		<3		<3		<3	<3	<3	<3
MAY	<3				<3			<3				
JUN												
JUL	<3	<3	<3				<3		<3	<3	<3	<3
AUG												
SEP								<3				
OCT	< 3	<3	<3				<3		<3	<3	<3	<3
NOV	3							<3				
DEC												
Limit:	15	15	15	15	15	15	15	15	15	15	15	15

* Discharges from 001D are batched. Monthly averages are flow weighted.
Note: No discharges occurred from 001I and 001K during 2001.

2001 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 Test Result	ACUTE 6-Month Median	*CHRONIC Test Result
JAN	0.0	0.0	
FEB			3.13
MAR			
APR	0.0	0.0	
MAY			1.0
JUN			
JUL			
AUG	0.0	0.0	1.0
SEP			
OCT	0.0	0.0	1.0
NOV			
DEC			
6-month median limit:		0.26	5.1

* It should be noted that 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	94%	None
Total Kjeldahl Nitrogen	530 mg/kg	None
Ammonia (N)	66 mg/kg	None
Nitrate (N)	ND(1) mg/kg	None
Total Phosphorus	170 mg/kg	None
pH	7.1	None
Oil and Grease	100 mg/kg	None
Boron	1 mg/kg	None
Cadmium	ND(0.05) mg/kg	*10 X STLC
Copper	2.8 mg/kg	10 X STLC
Chromium	ND(0.1) mg/kg	10 X STLC
Lead	ND(0.2) mg/kg	10 X STLC
Nickel	0.1 mg/kg	10 X STLC
Mercury	ND(0.04) mg/kg	10 X STLC
Zinc	4.3 mg/kg	10 X STLC
Volume	0.59 tons	None

Note: Annual samples were collected in October
* STLC = Soluble Threshold Limit Concentration

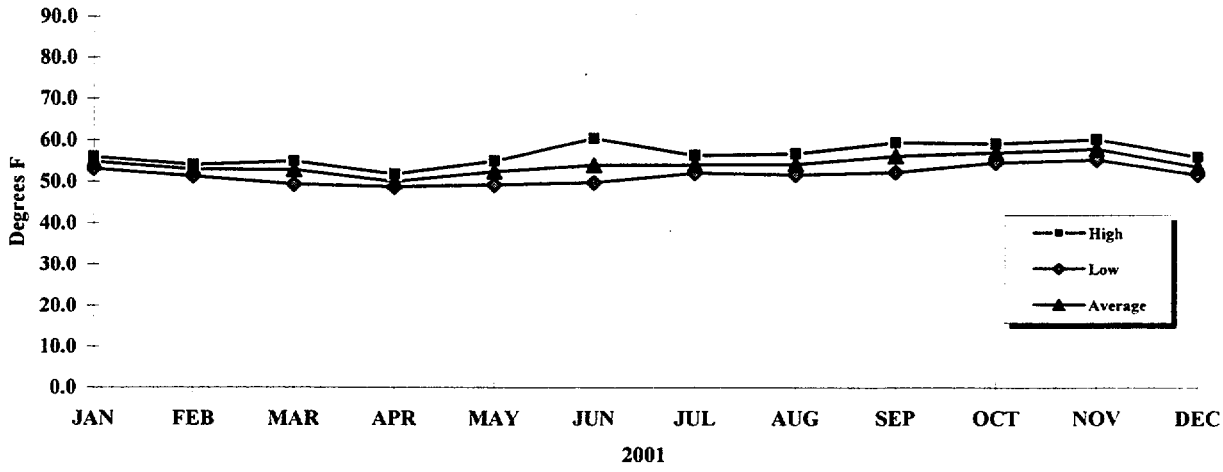
APPENDIX 3

GRAPHICAL SUMMARIES OF INFLUENT AND EFFLUENT MONITORING

2001 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

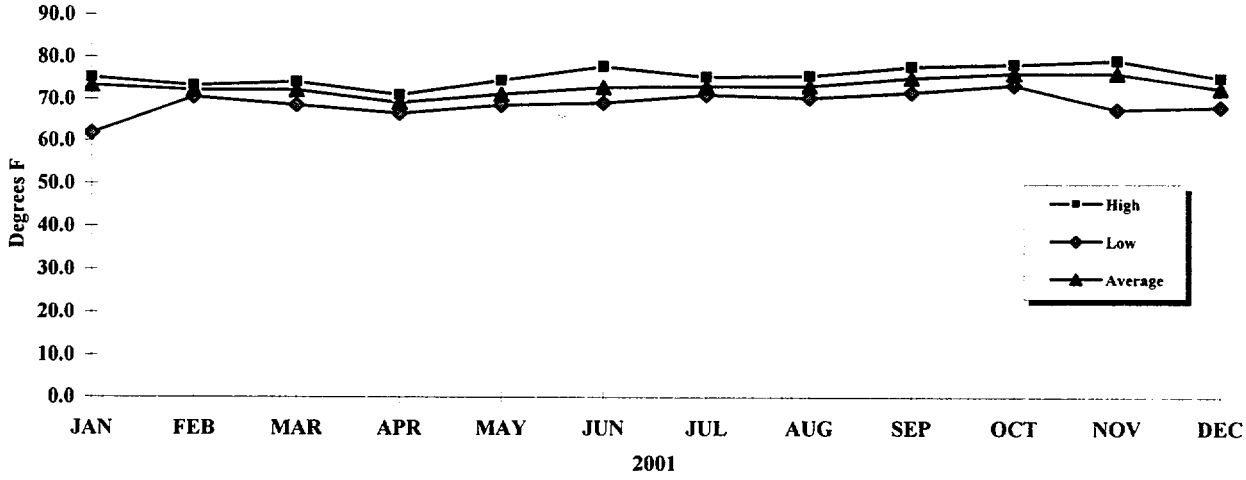
DISCHARGE 001 INFLUENT

Temperature (°F)



DISCHARGE 001 EFFLUENT

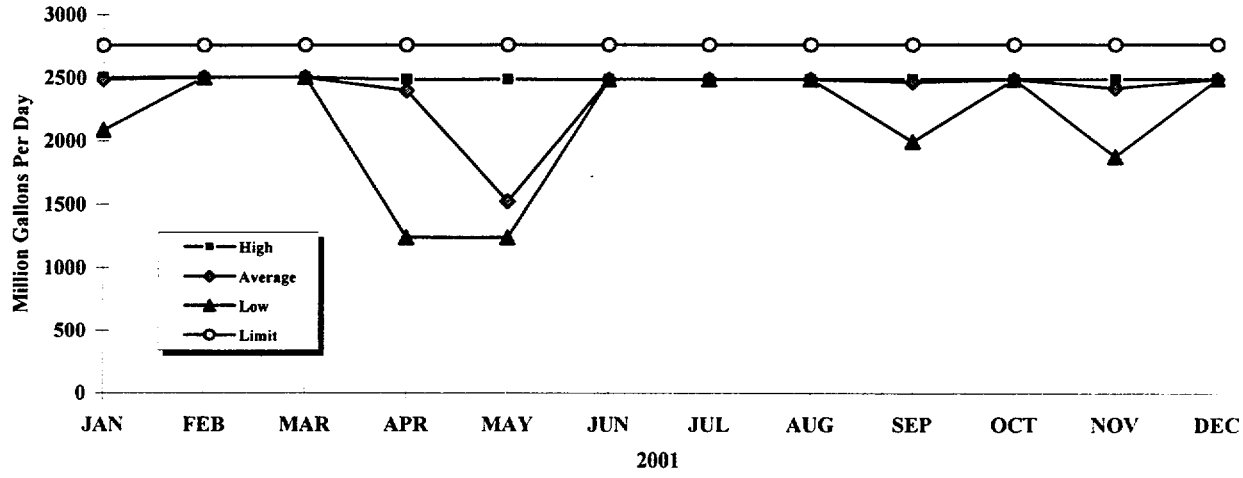
Temperature (°F)



2001 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

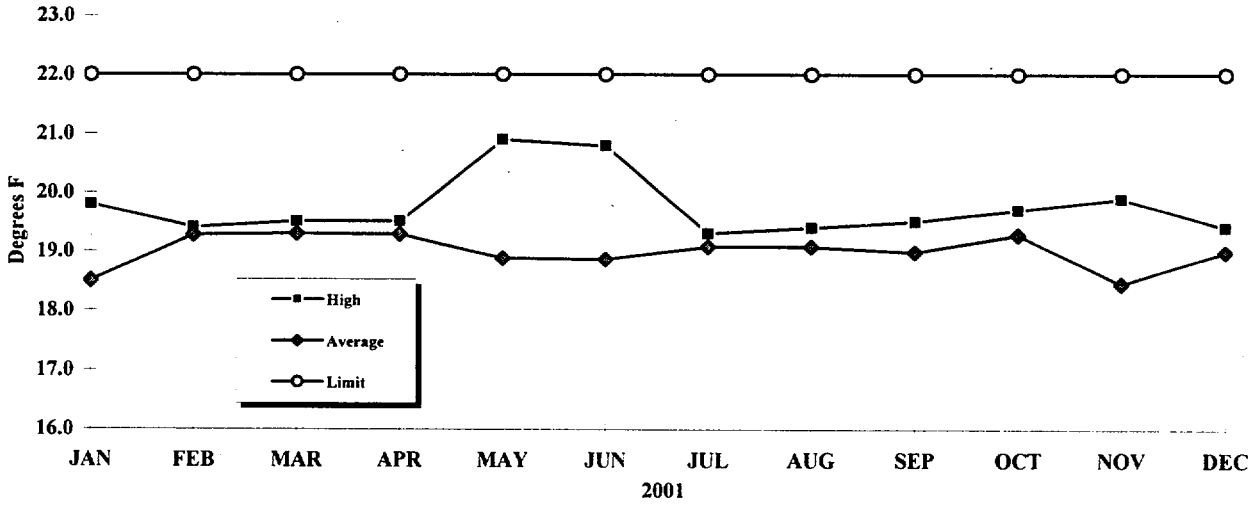
DISCHARGE 001 EFFLUENT

Flow (MGD)



DISCHARGE 001 EFFLUENT

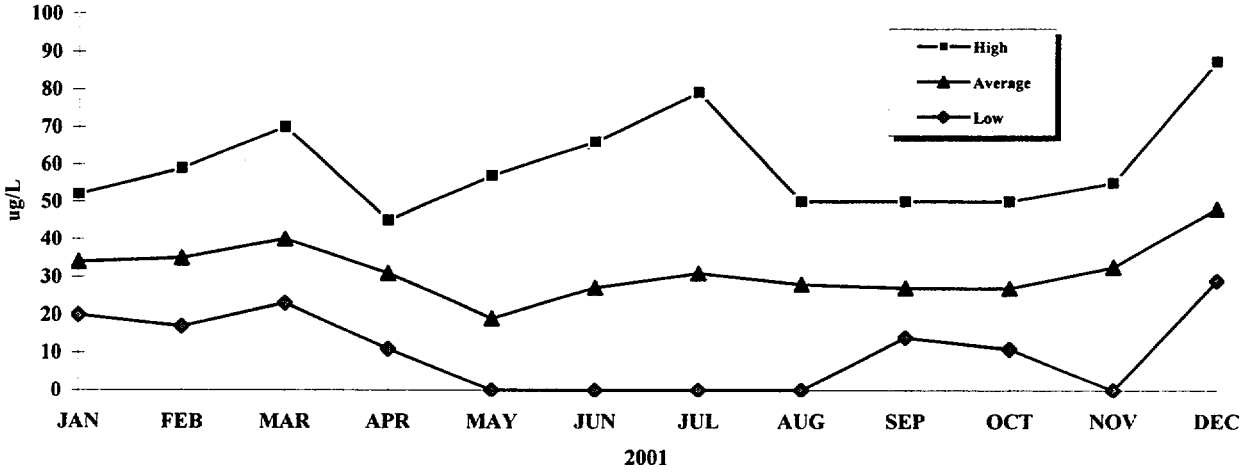
Monthly Delta T (°F)



2001 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

DISCHARGE 001

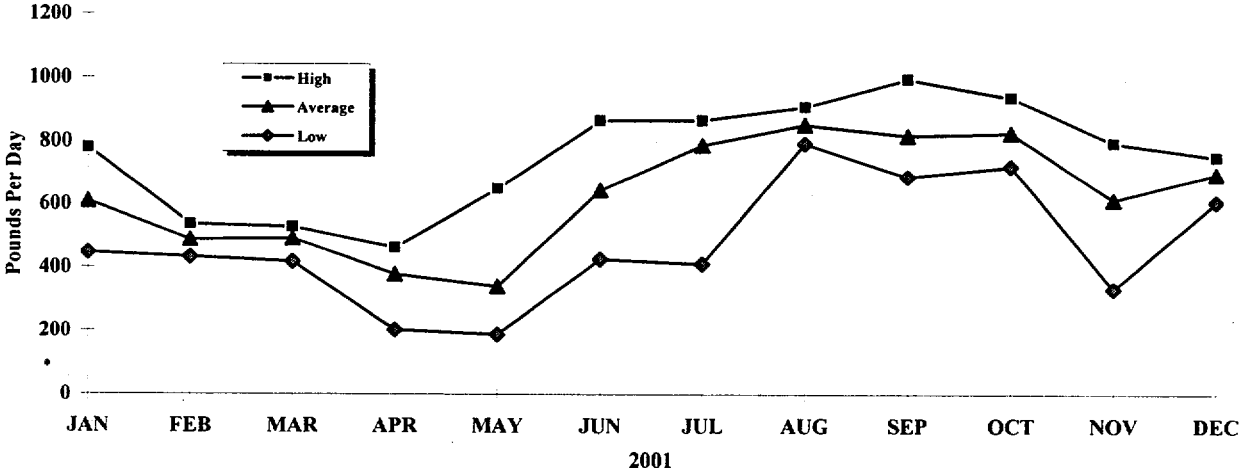
Total Chlorine Residual



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

DISCHARGE 001

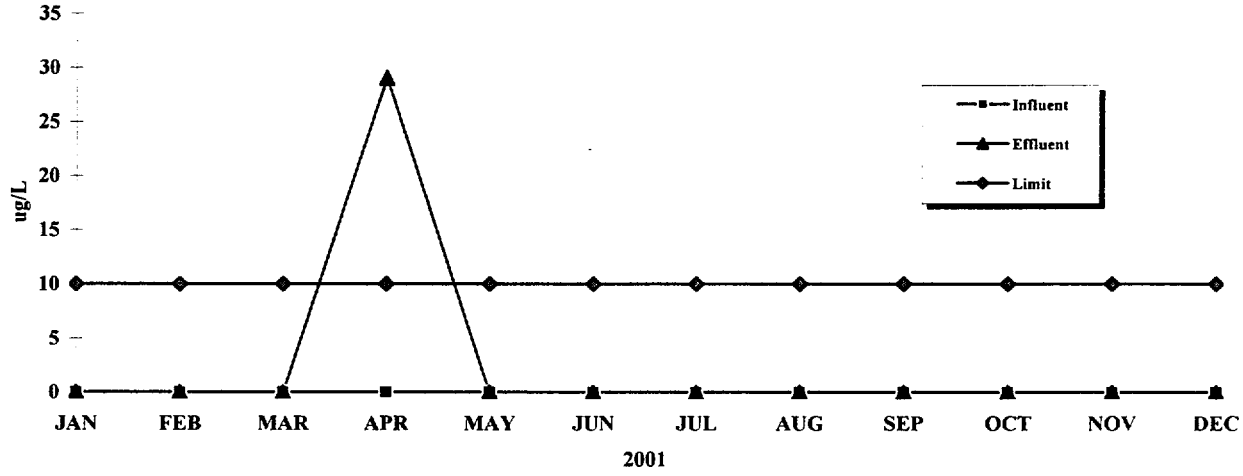
Total Chlorine Used



2001 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

DISCHARGE 001

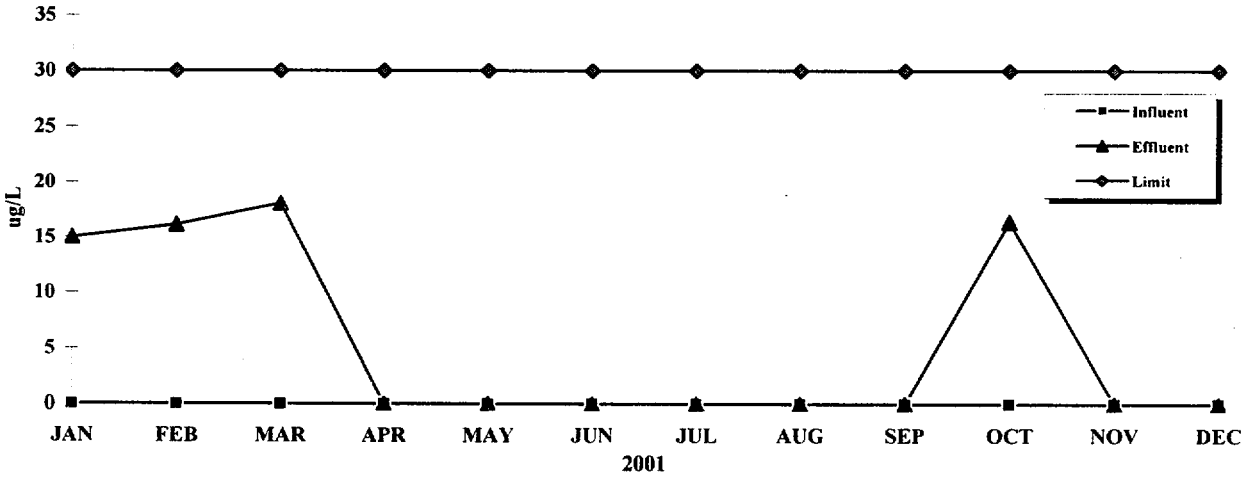
Copper (monthly average)



Note: The analyte was not detected at or above the reporting limit for values plotted at zero.
The 6-month median limit is plotted on this chart. See overview section for discussion of April result.

DISCHARGE 001

Nickel (monthly average)

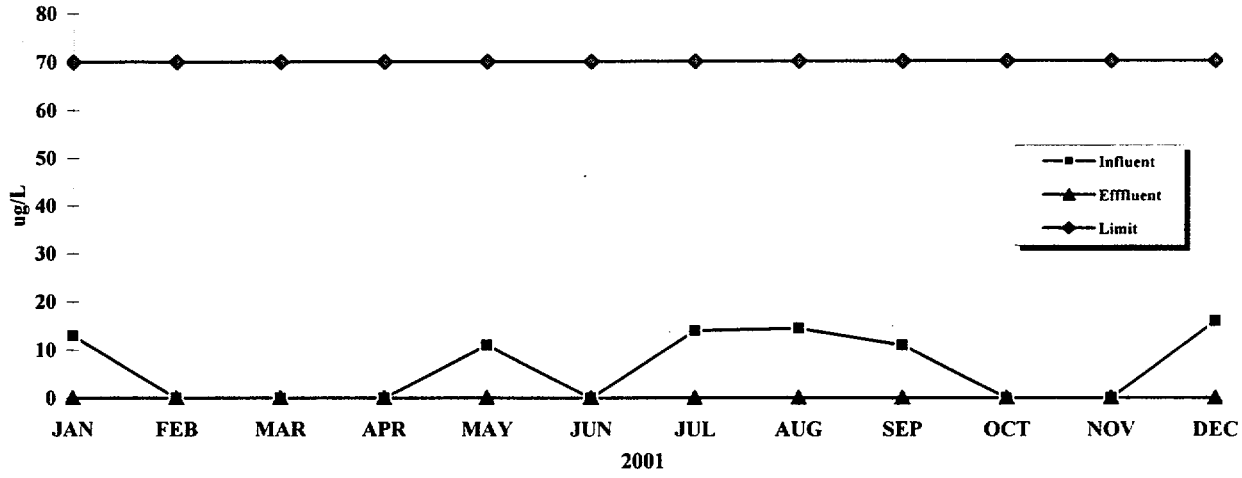


Note: The analyte was not detected at or above the reporting limit for values plotted at zero.
The 6-month median limit is plotted on this chart.

2001 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

DISCHARGE 001

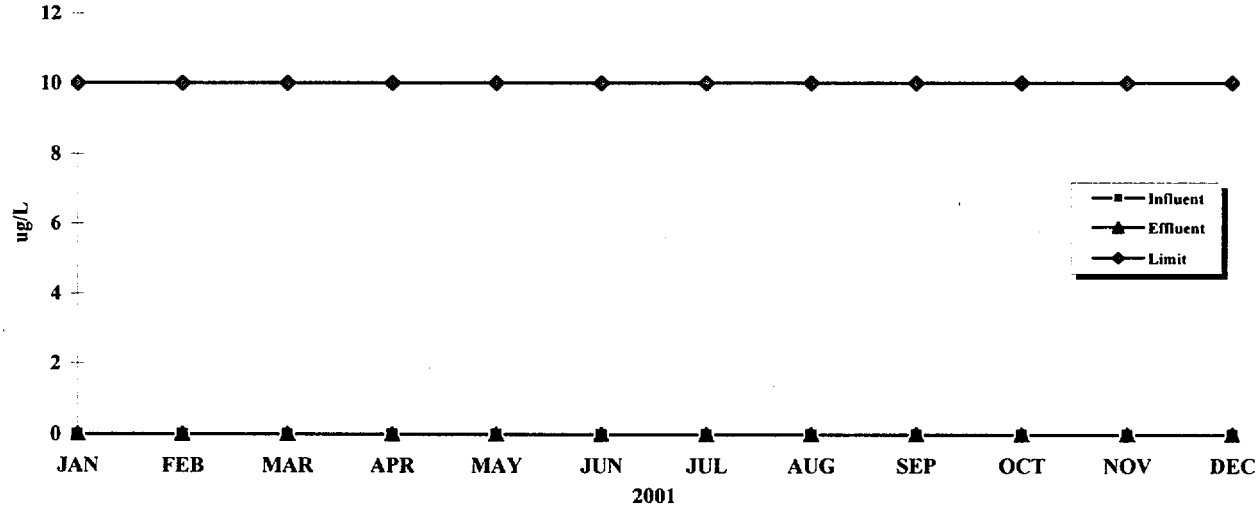
Zinc (monthly average)



Note: The analyte was not detected at or above the reporting limit for values plotted at zero.
The 6-month median limit is plotted on this chart.

DISCHARGE 001

Chromium (monthly average)



Note: The analyte was not detected at or above the reporting limit for values plotted at zero.
The 6-month median limit is plotted on this chart.

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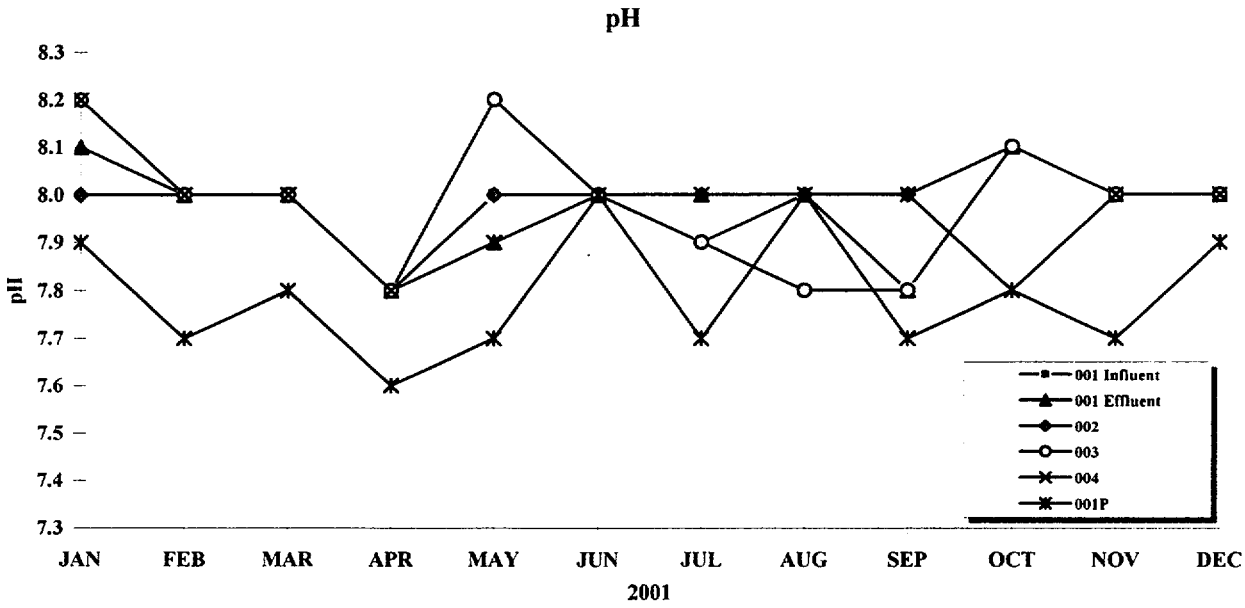
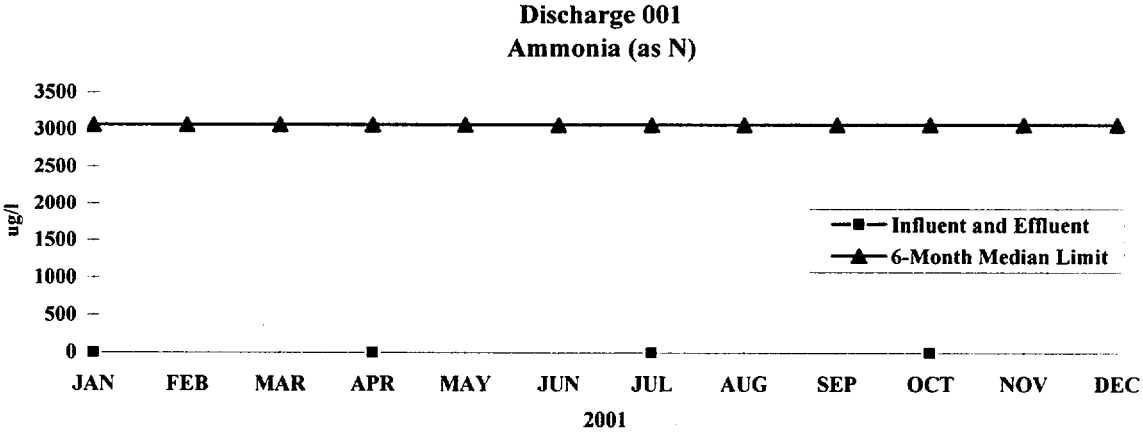
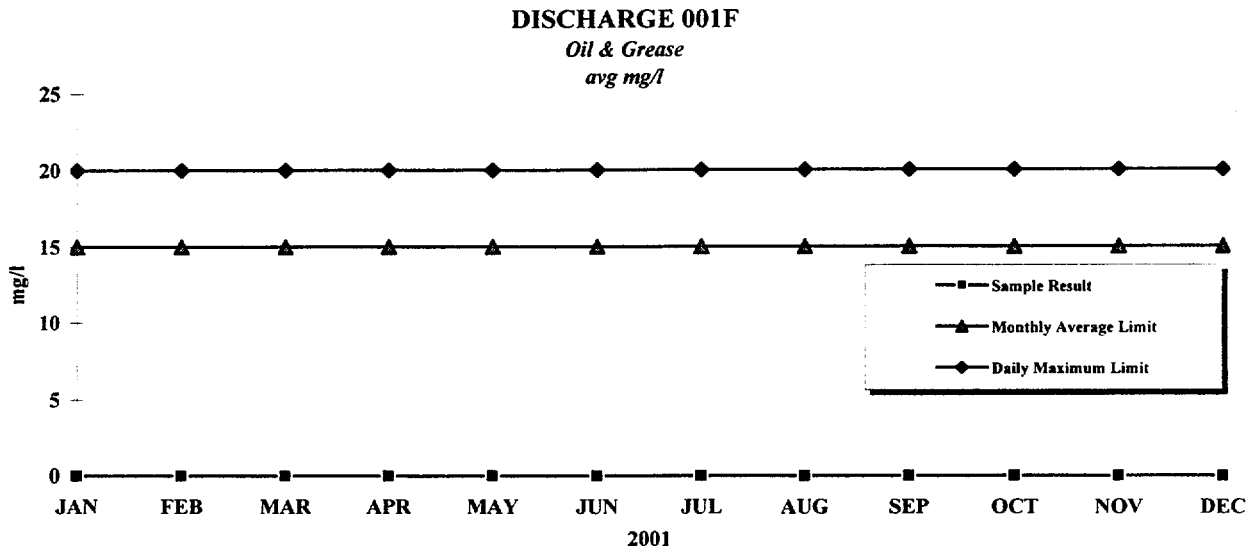


Note: Several data points on this chart overlap.

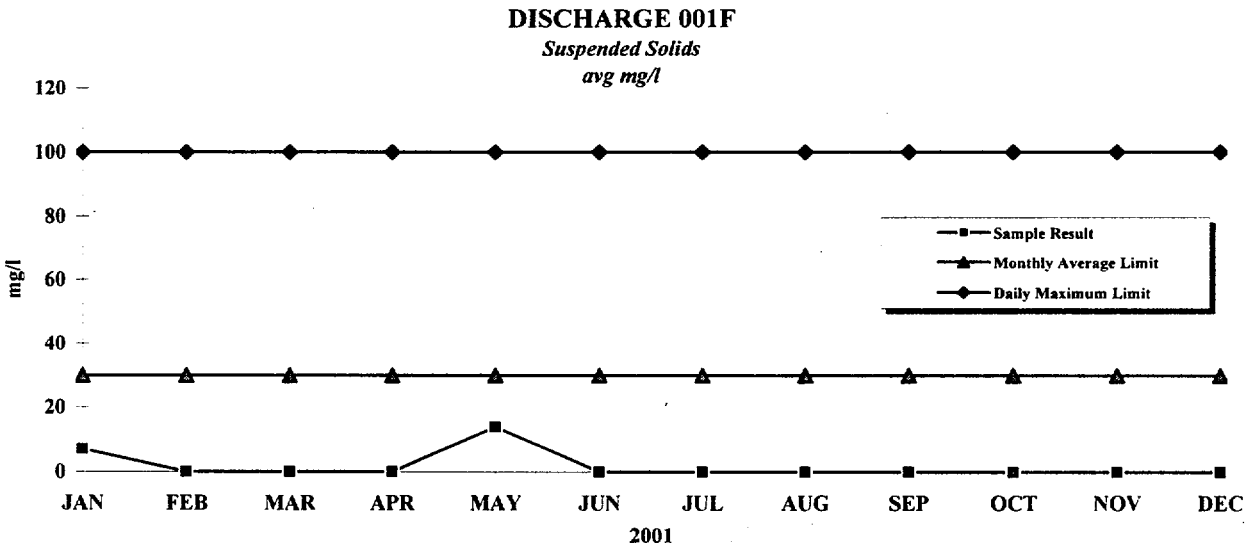


Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

2001 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

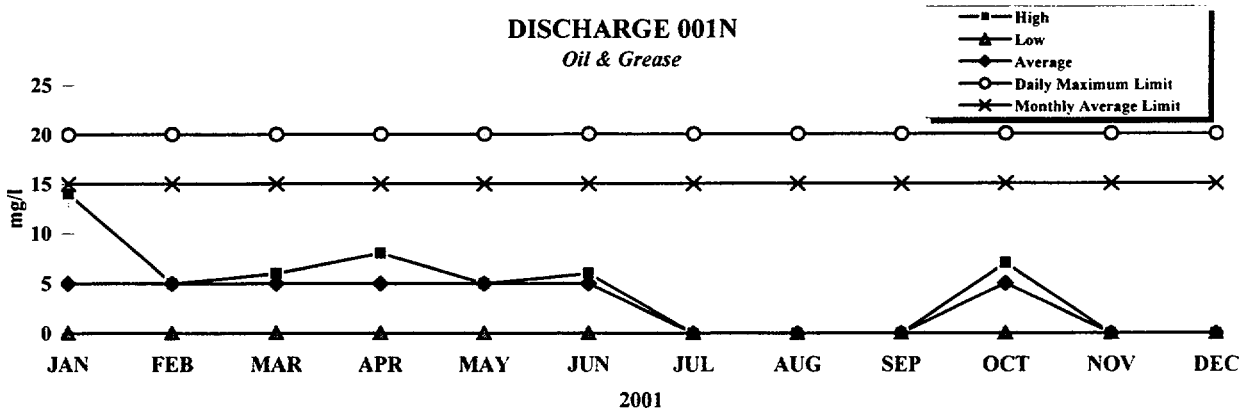


Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

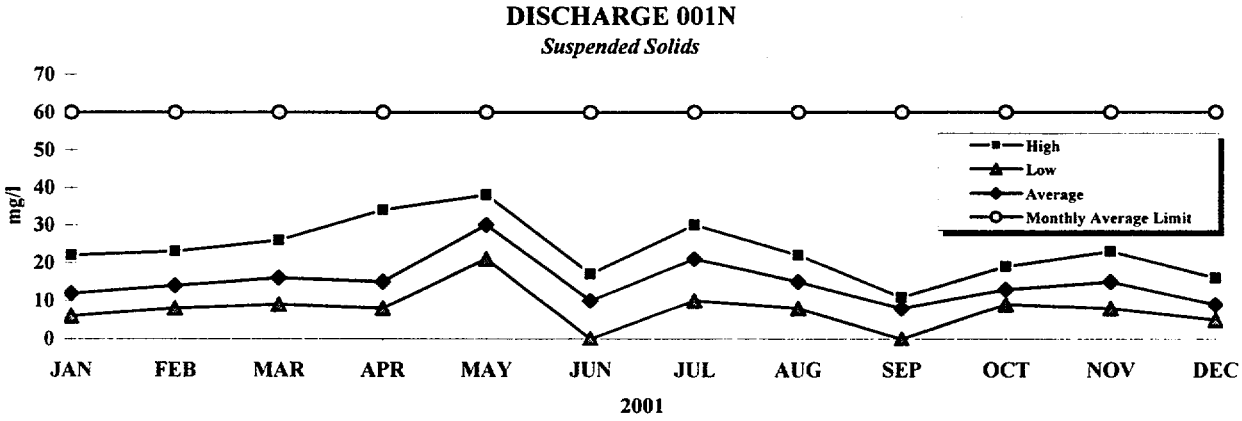


Note: The analyte was not detected at or above the reporting limit for values plotted at zero. When sample values were above the detection limit, the maximum values are plotted (January and May).

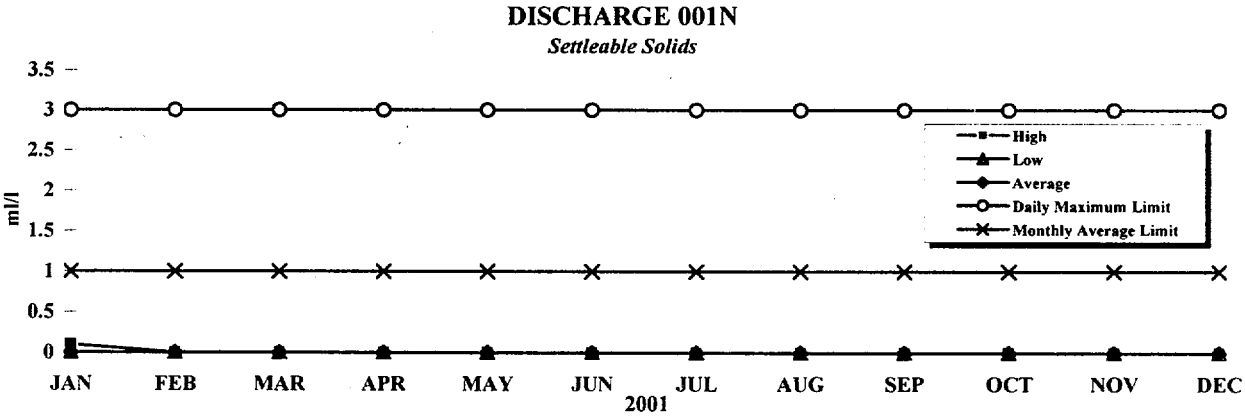
2001 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant



Note: The analyte was not detected at or above the reporting limit for values plotted at zero.
High, low, and average values overlap at seven points on this plot.

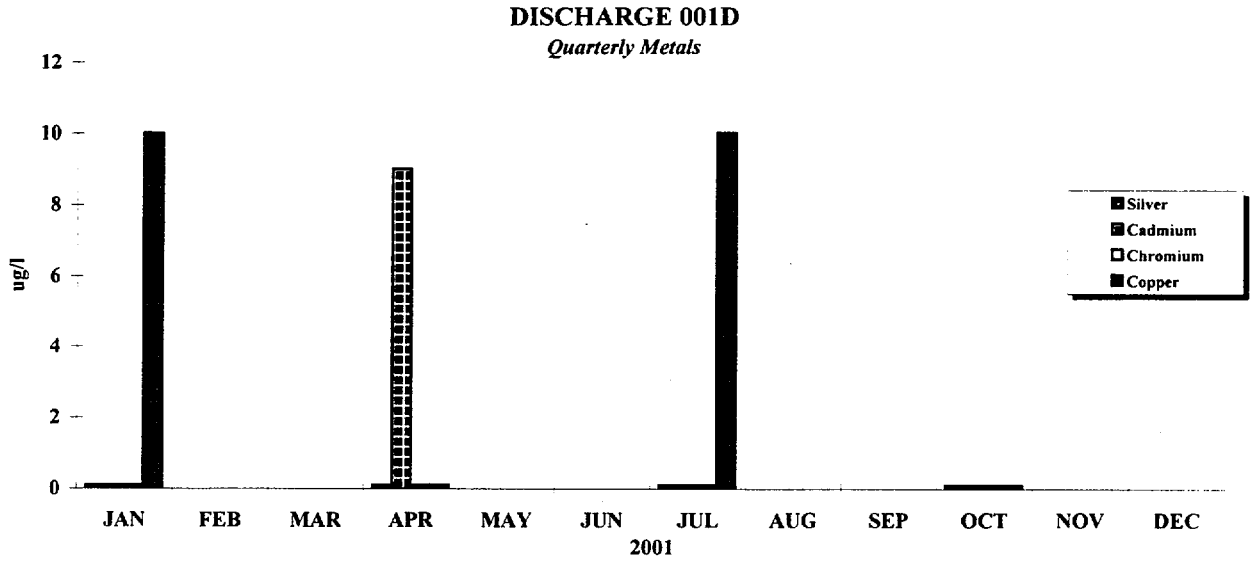


Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

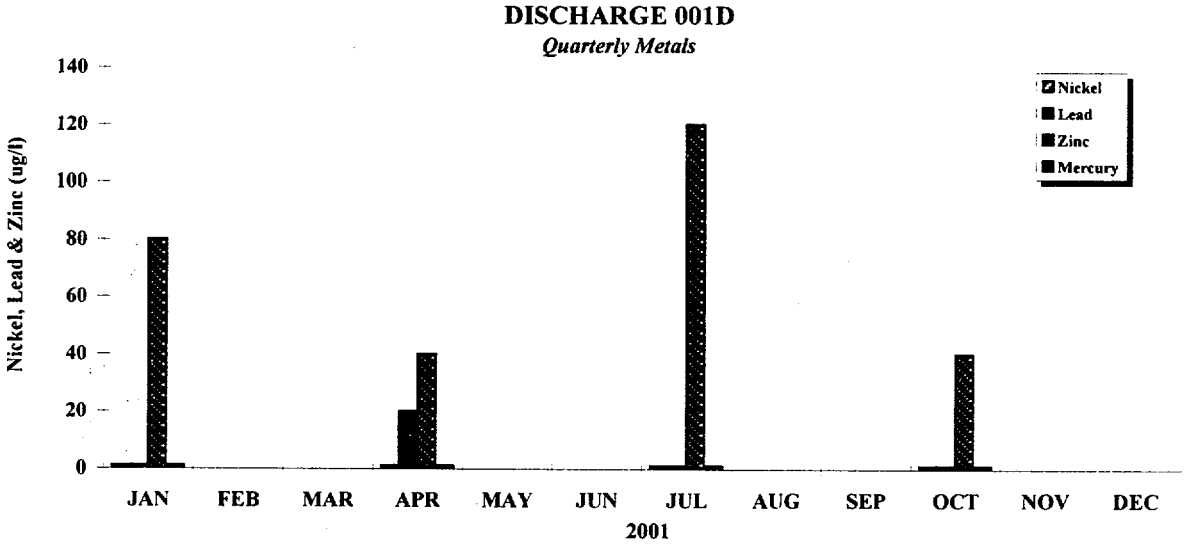


Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

2001 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

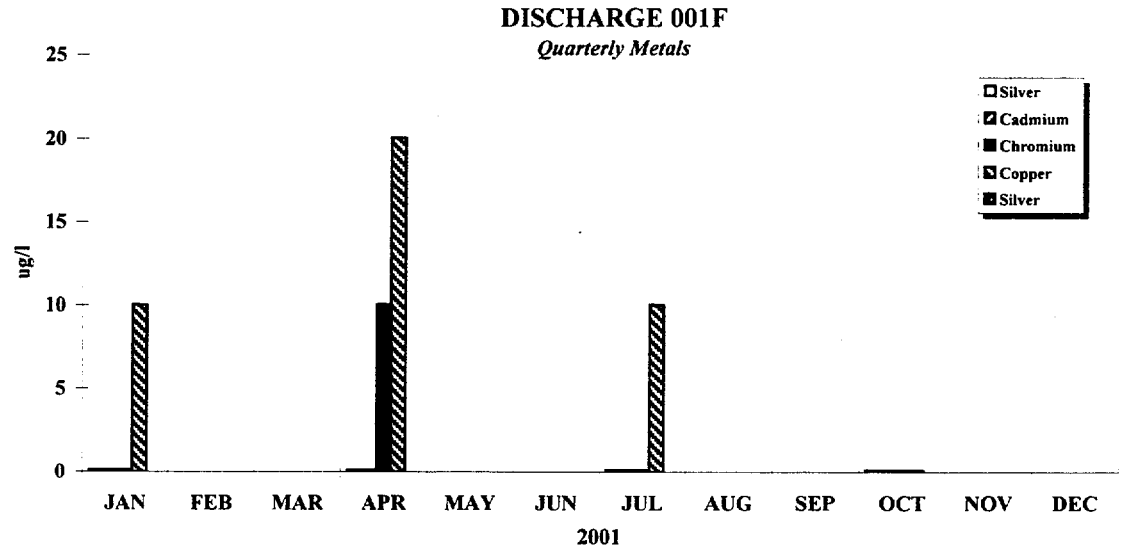


Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

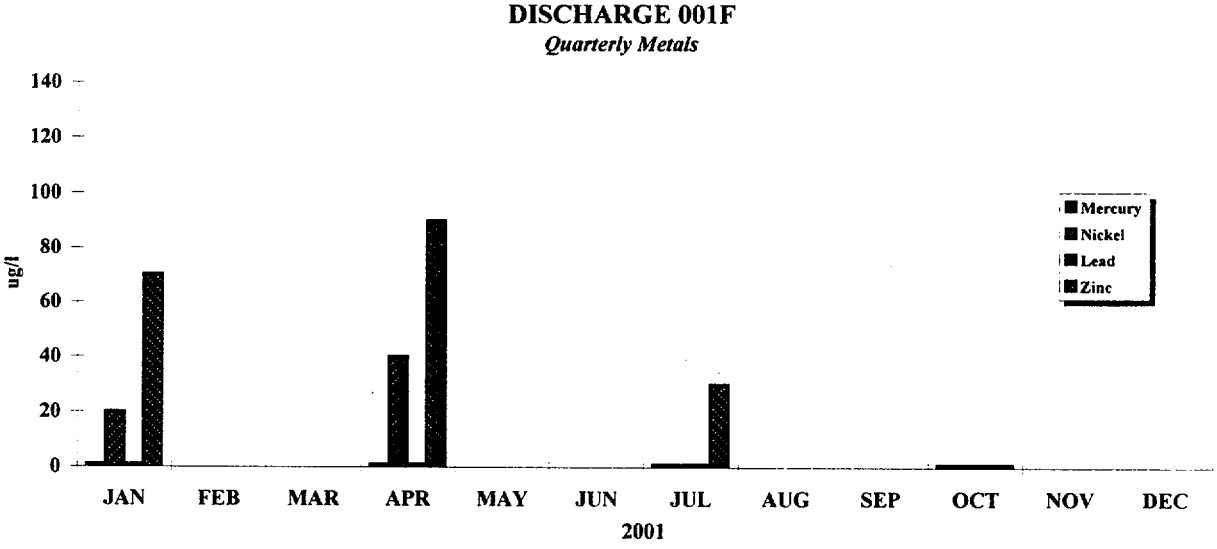


Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

2001 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant



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

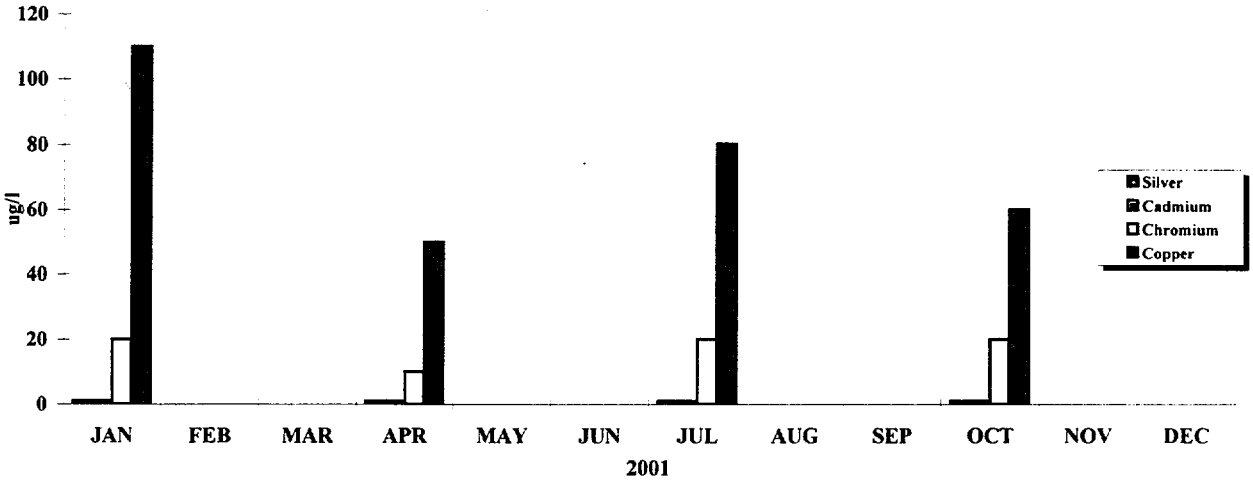


Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

2001 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

DISCHARGE 001H

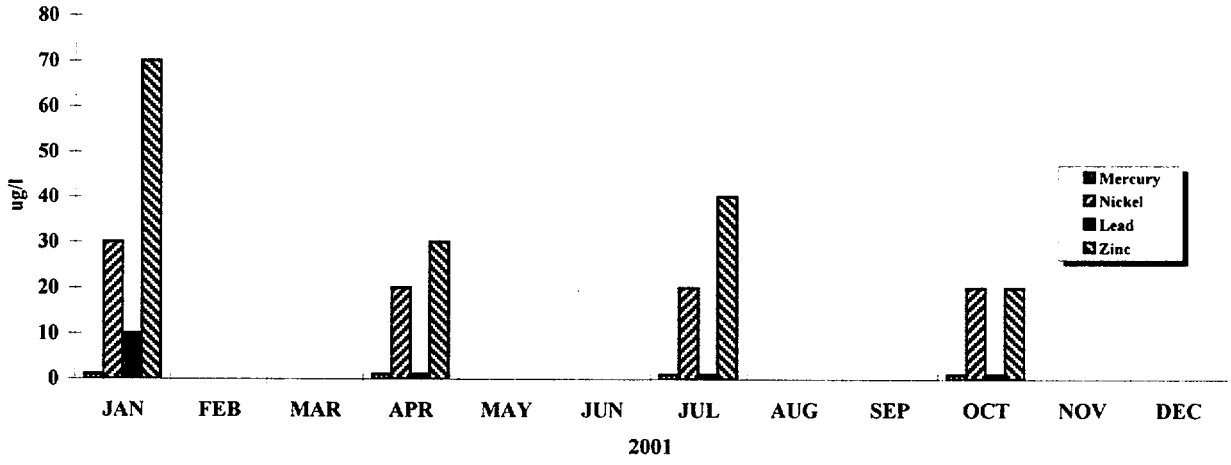
Quarterly Metals



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

DISCHARGE 001H

Quarterly Metals

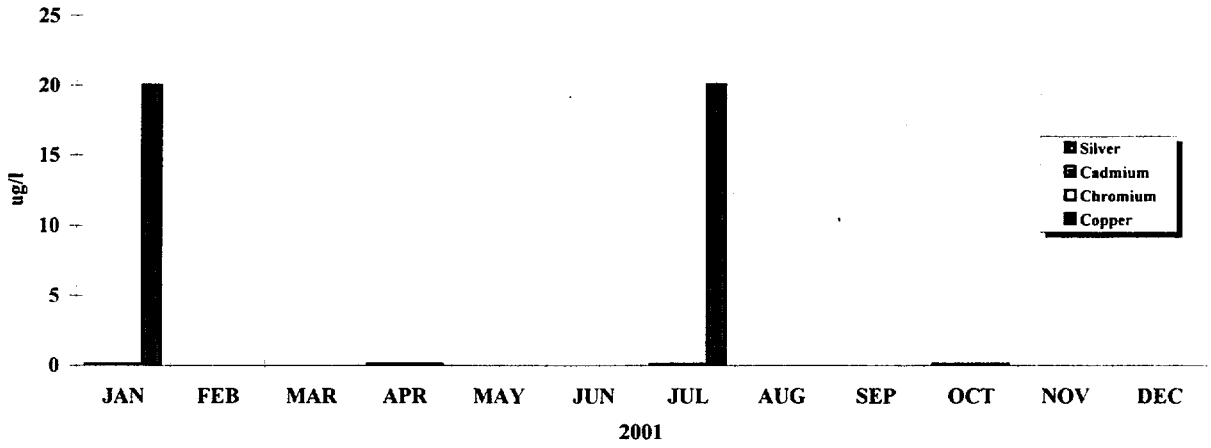


Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

2001 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

DISCHARGE 001L

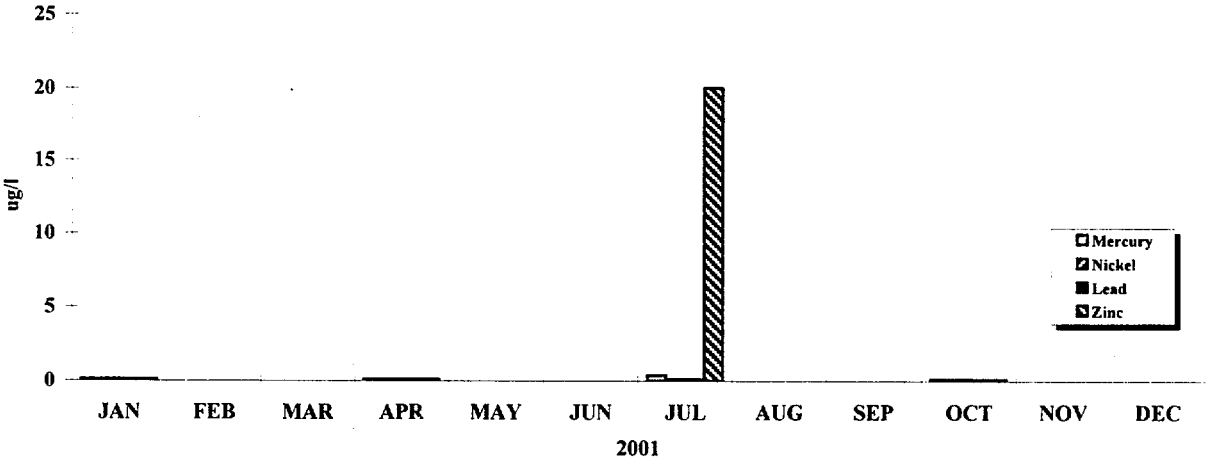
Quarterly Metals



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

DISCHARGE 001L

Quarterly Metals

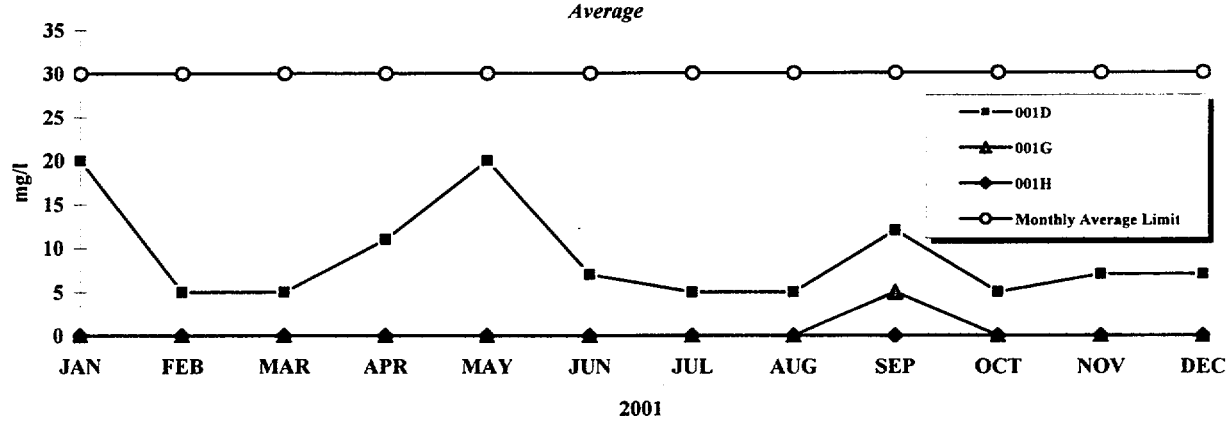


Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

2001 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant

MONTHLY TOTAL SUSPENDED SOLIDS

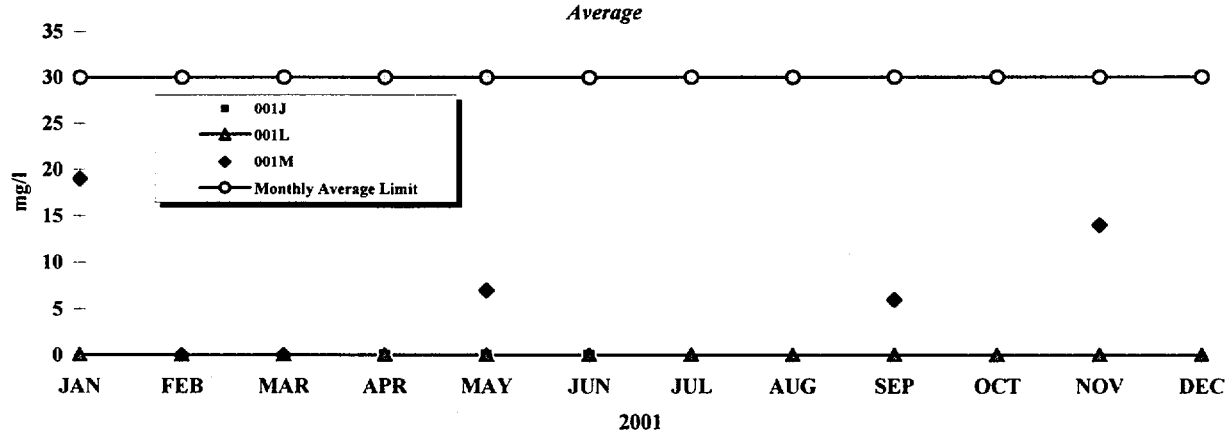
Average



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

MONTHLY TOTAL SUSPENDED SOLIDS

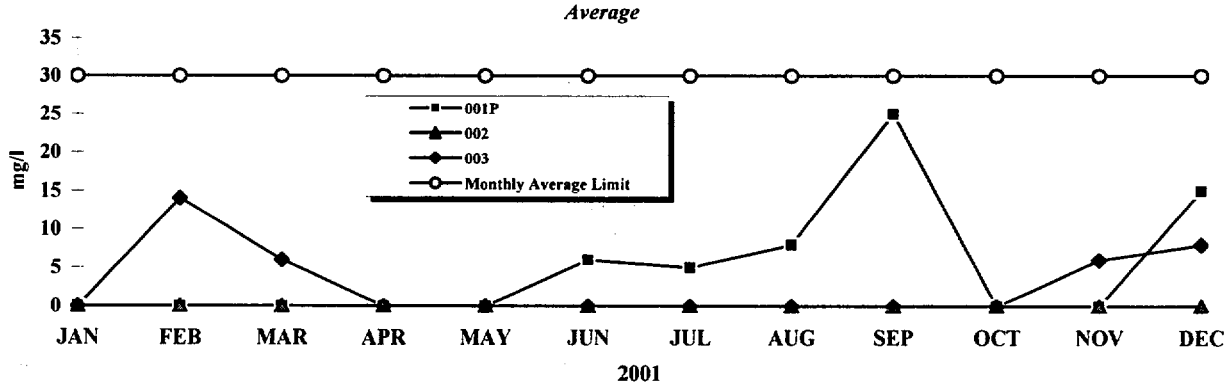
Average



Note: Points on charts may overlap. The analyte was not detected at or above the reporting limit for values plotted at zero.

MONTHLY TOTAL SUSPENDED SOLIDS

Average

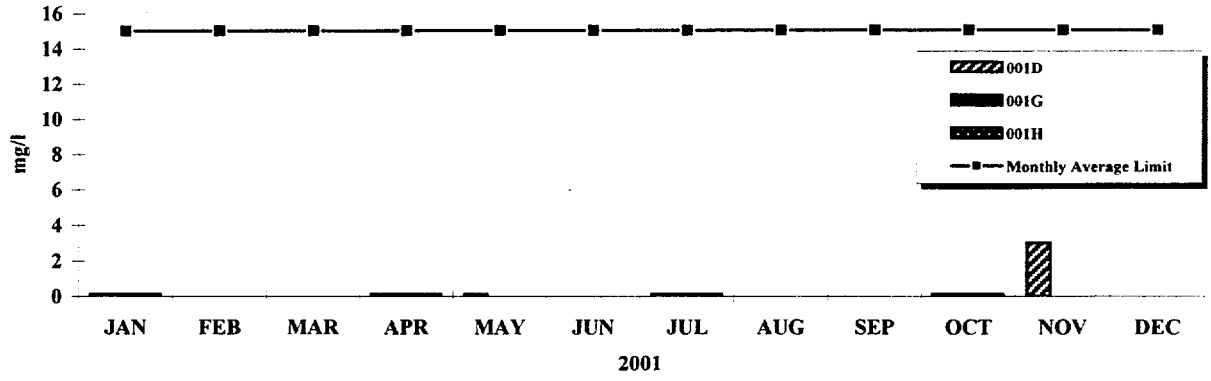


Note: Points on charts may overlap. The analyte was not detected at or above the reporting limit for values plotted at zero.

2001 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

QUARTERLY OIL & GREASE

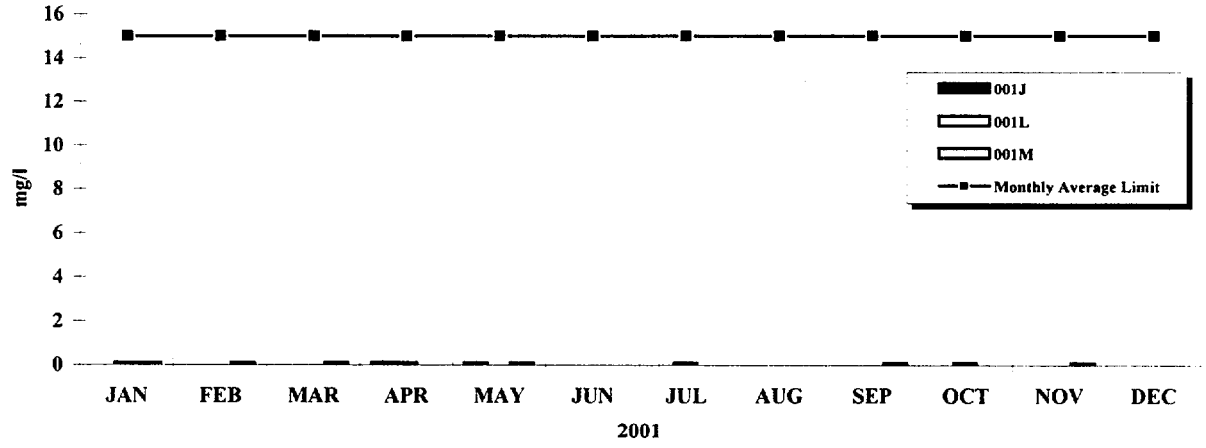
Average



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

QUARTERLY OIL & GREASE

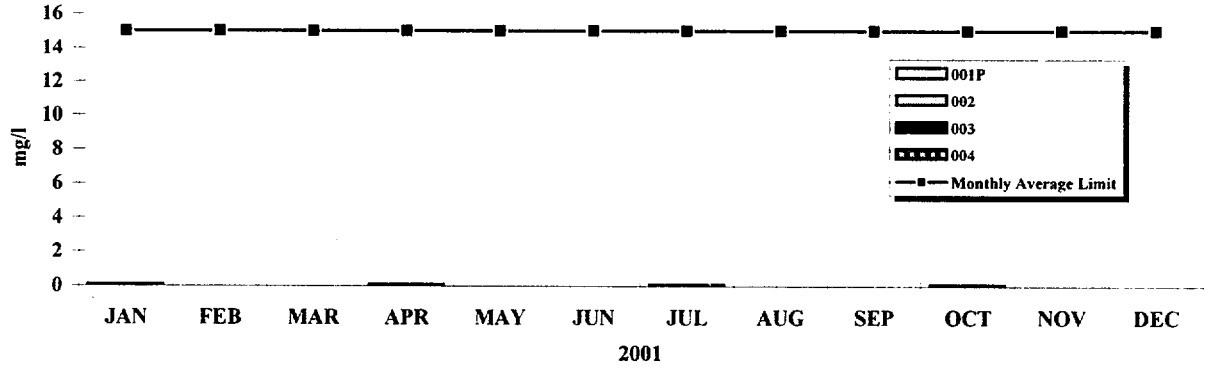
Average



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

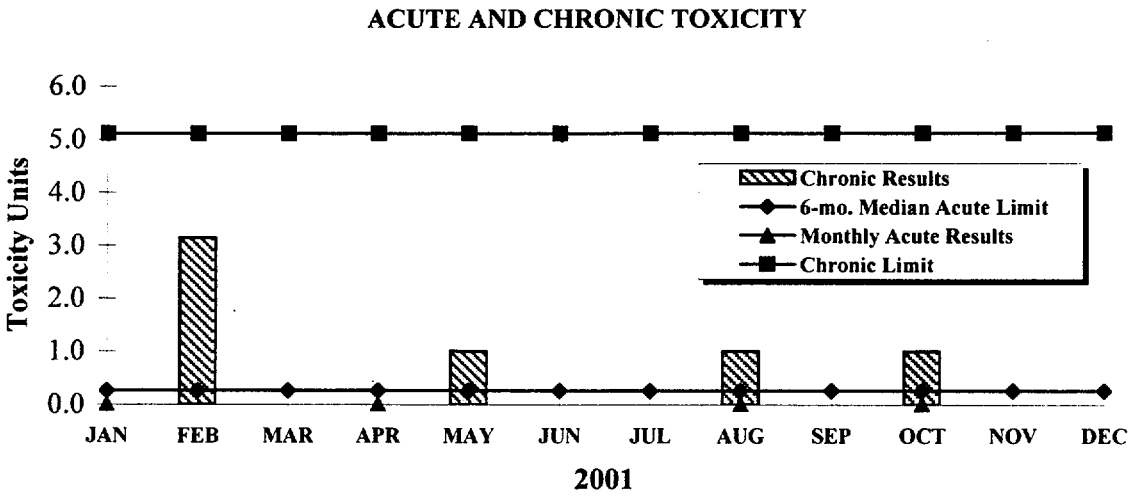
QUARTERLY OIL & GREASE

Average



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

2001 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant



APPENDIX 4

SUMMARY OF RWMP MONITORING FOR 2001

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	14 / Feb	14 / Jun	14 / Sep	14 / Dec
Vertical Band Transects	5 / 4x	5 / Mar	5 / Jun	5 / Sep	5 / Dec
Benthic Stations *	8 / 4x	8 / Apr	8 / Jun	8 / Oct	8 / Jan 02
Fish Observation Transects	12 / 4x	12 / May	12 / Jul	12 / Oct	12 / Jan 02
Bull Kelp Census	* / 1x				Oct
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).

ENCLOSURE 2

ERRATA CONTAINING REPLACEMENT PAGES FOR
SECOND QUARTER 2001
NPDES DISCHARGE MONITORING REPORTS FOR
DIABLO CANYON POWER PLANT

Please locate the reports listed in the Errata below and replace the incorrect pages with the corrected forms provided in this enclosure.

ERRATA: Second Quarter 2001 NPDES Discharge Monitoring Report, PG&E Letter DCL-2001-545, dated July 20, 2001. The replacement page for the following errata are attached:

May, Page (M)3: The monthly high and monthly low values were reversed for effluent 001F suspended solids.

Fourth Quarter 2001 NPDES Discharge Report, PG&E Letter DCL-2002- 504 dated January 17, 2002. A page for the following is attached:

Page 2 of the Chronic Abalone Development Bioassay: This page was not included in the chronic bioassay that was a part of this report.

Fourth Quarter 2001 NPDES Discharge, PG&E Letter DCL-2002-504 dated January 17, 2002. A replacement page for the following is attached.

Cover letter first page: The text near the top of this page has been revised to correctly show that this report is for the "Fourth Quarter" as indicated by the checked box.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION
81 HIGUERA
SAN LUIS OBISPO, CA 93401

DISCHARGE SELF MONITORING REPORT

PACIFIC GAS AND ELECTRIC CO.
DIABLO CANYON NUCLEAR POWER PLANT
PO BOX 56
AVILA BEACH, CALIF 93424

PAGE: (M) 3

FACILITY I.D.	YEAR / MO / DAY	YEAR / MO / DAY	STATE CODE	NPDES PERMIT #
3 402003001	BEGINNING 01 / 05 / 01	ENDING 01 / 05 / 31	06	CA0003751

STATION ANALYSIS UNITS SMPL TYPE FREQ.	EFF 001N=>003 TOTL COLIFORM MPN/100ml GRAB 4 TIMES/WEEK		EFF 001N=>003 FECAL COLIFORM MPN/100ml GRAB 4 TIMES/WEEK		EFFLUENT 001D SUSPENDED SOLIDS mg/l 1st FLTR GRAB MONTHLY		EFFLUENT 001D SUSPENDED SOLIDS mg/l 2nd FLTR GRAB MONTHLY		EFFLUENT 001D SUSPENDED SOLIDS mg/l NET		EFFLUENT 001F SUSPENDED SOLIDS mg/l 1st FLTR GRAB MONTHLY		EFFLUENT 001F SUSPENDED SOLIDS mg/l 2nd FLTR GRAB MONTHLY		EFFLUENT 001F SUSPENDED SOLIDS mg/l NET
	*		*		*		*		*		*		*		*	
1					2	8	2	< 1	2	8						
2					2	24			2	24						
3						1				ND(5)		11		1		9
4					2	16			2	16						
5						4		1		ND(5)						
6					2	3	2	< 1	2	ND(5)						
7						1				ND(5)						
8																
9					2	16	2	1	2	15						
10																
11																
12																
13																
14					2	24	2	1	2	23						
15																
16																
17																
18																
19																
20																
21																
22																
23																
24												15		1		14
25																
26																
27																
28					2	25			2	25						
29																
30																
31																
MONTHLY AVG	NO		NO						**	20						12
MONTHLY HIGH	DISCHARGE		DISCHARGE							25						14
MONTHLY LOW										ND(5)						9
TIMES EXCEEDED	80% SMPLS>1K	MEAN>200 =		NO LIMIT		NO LIMIT		MO AVG 30 = 0		NO LIMIT		NO LIMIT		MO AVG 30 = 0		
TIMES EXCEEDED		90 % SMPLS>400						D MAX 100 = 0						D MAX 100 = 0		
TIMES EXCEEDED	I MAX >10K															

REMARKS: * NUMBER OF SAMPLES TAKEN DURING THE DAY.
** FLOW-WEIGHTED AVERAGES REPORTED.

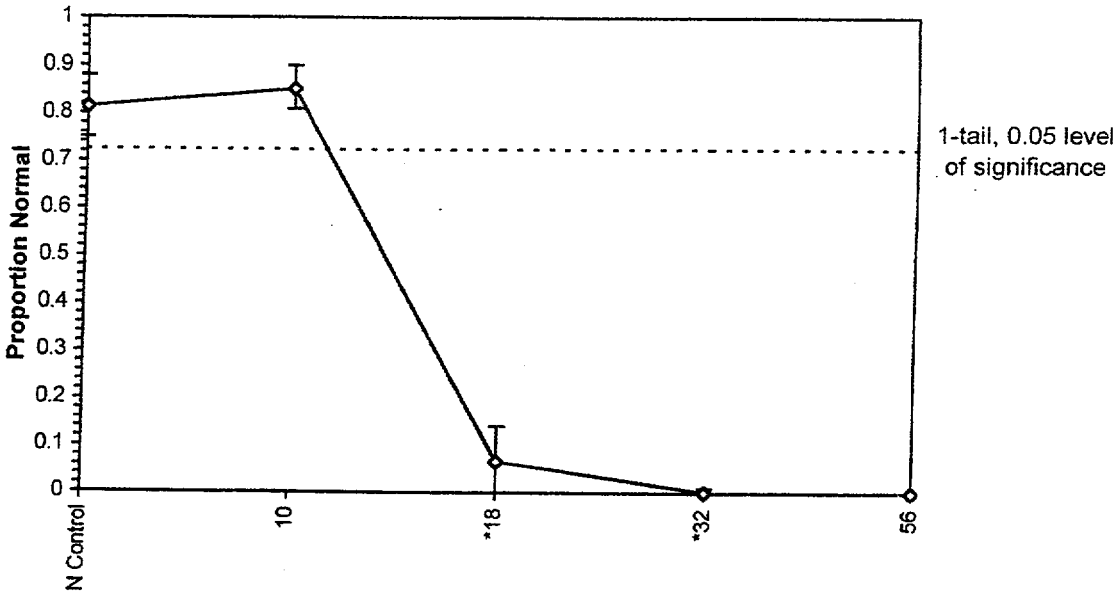
PRINCIPAL EXECUTIVE OFFICER
GREGORY M. RUEGER

SIGNATURE OF AUTHORIZED AGENT	DATE
Drew Squyres	7/20/2001

Abalone Larval Development Test-Proportion Normal

Start Date:	10/11/2001	Test ID:	ABS-225	Sample ID:	CA0000000
End Date:	10/13/2001	Lab ID:	CAABC	Sample Type:	ZNSO-Zinc sulfate
Sample Date:	10/11/2001	Protocol:	MBP 90-Anderson et al.	Test Species:	HR-Haliotis rufescens
Comments:	Standard Toxicant				

Dose-Response Plot



ToxCalc v5.0.23

Reviewed by:

Pacific Gas and Electric Company

David H. Oatley
Vice President
Diablo Canyon Operations

Diablo Canyon Power Plant
P.O. Box 56
Avila Beach, CA 93424

805.545.4350
Fax: 805.545.4234

Date: January 17, 2002

California Regional Water Quality Control Board
Central Coast Region
Attn: Monitoring and Reporting Review Section
81 Higuera Street, #200
San Luis Obispo, CA 93401

Dear Mr. Briggs:

In accordance with Order 90-09, NPDES No. CA0003751, enclosed is the Fourth Quarter 2001 Report on Discharge Monitoring at Diablo Canyon Power Plant (Enclosure 1).

Facility Name: Diablo Canyon Power Plant

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

Contact Person: Drew A. Squyres
Job Title: Supervisor, Environmental Operations
Phone Number: 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: 2001 (Annual Reports for **DCPP** are Jan-Dec)

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

If Yes is marked (complete a-g):
a) Parameter(s) in Violation: