Pacific Gas and Electric Company

Diablo Canyon Power Plant
P.O. Box 56
Avila Beach, CA 93424
805/545-6000

PG&E Letter DCL-2011-512

Electronic Submission
CIWQS Web Application

February 28, 2011

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

Dear Mr. Briggs:

In accordance with Order 90-09, NPDES No. CA0003751, the 2010 Annual Report on Discharge Monitoring at Diablo Canyon Power Plant is provided. This letter and accompanying annual data summary tables and plots are attached to the CIWQS application submittal.

Facility Name:	Diablo Canyon Power Plant
Address:	P.O. Box 56 Avila Beach, CA 93424
Contact Person: **Job Title:** **Phone Number:**	Bryan K. Cunningham Supervisor, Environmental Operations (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:	2010 (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
NRR

COPY

If Yes is marked (complete a-g):

a) Parameter(s) in Violation:

Grease and Oil (G&O) Daily Maximum Limit Exceedance of 50.0% April, 29 2010.

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

NPDES No. CA0003751 Order 90-09
Section B. Effluent Limitations, Subsection 2. Discharge 001D Constituents – Grease and Oil – Units mg/l – Daily Maximum 20.

c) Reported Value(s)

G&O Daily Maximum for April 29, 2010
Discharge 001D = 30 mg/l.

d) WDR/NPDES Limit/Condition:

G&O Daily Maximum Limit Order 90-09 Discharge 001D = 20 mg/l.

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

April 29, 2010.
Note: Daily maximum values for 001D G&O are not reflected in Annual Report Tables or Charts.

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

(If "YES", see overview section of attached report)
Reference Annual Report Overview Section, Subsection 4. Review of Compliance Record and Corrective Actions, Item c.

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

(If "YES", see overview section of attached report)
Reference Annual Report Overview Section, Subsection 4. Review of Compliance Record and Corrective Actions, Item c.

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: James M. Welsch
Title: *Station Director – Diablo Canyon Power Plant*

2011512/jlk/bkc

cc: PDF Formatted Copy of CIWQS Application Submittal:

Regional Administrator
U.S. Nuclear Regulatory Commission
Region IV
612 E. Lamar Blvd., Suite 400
Arlington, TX 76011-4125

Hardcopy Print-Out of CIWQS Application Submittal:

U.S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555-0001

Michael S. Peck
Senior Resident Inspector
U.S. Nuclear Regulatory Commission
Diablo Canyon Power Plant 104/5

CIWQS Web Application Submittal Print Out and Attached Supporting Documents

eSMR PDF Report
Summary: Annual SMR (MONNPDES) report for 2010

Summary: Annual SMR (MONNPDES) report for 2010 submitted by Brad Hinds(Chemistry and Environmental Operation Manager) on 02/28/2011.

Facility Name: PG&E DIABLO CANYON POWER PLANT **Order Number:** R3-1990-0009
Waterboard Office: Region 3 - Central Coast **Case Worker:** Peter von Langen, John Biegel
Report Effective Dates: 01/01/2010 - 12/31/2010

No Discharge Periods

Name	Description	Dates	Comment
Diablo M-001			
Diablo M-001D			
Diablo M-001F			
Diablo M-001G			
Diablo M-001H			
Diablo M-001I		01/01/2010 - 12/31/2010	
Diablo M-001J			
Diablo M-001K		01/01/2010 - 12/31/2010	
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		01/01/2010 - 12/31/2010	
Diablo M-017		01/01/2010 - 12/31/2010	
Diablo M-INF			

Self-Determined Violations

Violation Type	Description	Corrective Action	Occurrence Date
Category 1 Pollutant (Effluent Violation for Group 1 Pollutant)	Oil and Grease Daily Maximum limit is 20.0 mg/L and reported value was 30.0 mg/L.	Reference Annual Report Overview Section, Subsection 4. Review of Compliance Record and Corrective Actions, Item c. (Attachment 1). Procedural data sheets and associated review processes implemented prior to authorizing a tank wastewater release have been enhanced to prevent a discharge through pathway 001D if constituent parameters are not in specification with NPDES permit limitations.	04/29/2010

Attachments

File Name	File Description	Upload Date
Attachment 1 - 2010 Annual Report Overview Section.pdf	2010 Annual Summary Report on Discharge Monitoring at Diablo Canyon Power Plant	02/28/2011

Attachment 2 - 2010 Annual Rpt Appendix-1 NPDES Discharge Points.pdf	DCPP NPDES Discharge Points Table	02/28/2011
Attachment 3 - 2010 Annual Rpt Appendix-2 Tabular Summaries of Monitoring.pdf	Tabular Summaries of Influent and Effluent Monitoring	02/28/2011
Attachment 4 - 2010 Annual Rpt Appendix-3 Graphical Summaries of Monitoring.pdf	Graphical Summaries of Influent and Effluent Monitoring	02/28/2011
Attachment 5 - 2010 Annual Rpt Appendix-4 Summary of RWMP Monitoring.pdf	Summary of Receiving Water Monitoring Program (RWMP) Activities	02/28/2011

Cover Letter (Uploaded File)

Title	Date Uploaded	File Size
PGE DCL2011512 2010 Annual Discharge Monitoring Report.pdf	2011-02-28 10:03:58.0	1205299 bytes

Data Summary

Analytical Results

No Analytical Data Measurements Available / Reported

Calculated Values

Location	Parameter	Calculation Type	Sample Date/Time	Analysis Date	Qualifier	Result	Units	Method Detection Limit	Minimum Level	Reporting Limit	Review Priority Indicator	QA Codes	Comments	Data Source

No Calculated Data Measurements Available / Reported

Certificate

All analyses were conducted at a laboratory certified by the State Water Resources Control Board or approved by the executive officer and in accordance with current EPA guideline procedures or as specified in the monitoring program. I certify under penalty of law that all data submitted, including attachments, were prepared under my direction 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 a fine or imprisonment, for knowing violations. I certify that I am Brad Hinds and am authorized to submit this report on behalf of PG&E DIABLO CANYON POWER PLANT. I understand that I am submitting a Annual SMR (MONNPDES) report for 2010 and I understand that data submitted in this report can be used by authorized agencies for water quality management related analyses and enforcement actions, if required. Entry of my name and title below indicate my certification of this report and my understanding of the above conditions.

Name: Brad Hinds

Title: Chemistry and Environmental Operation Manager

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

(NPDES NO. CA0003751)

2010

2010 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

TABLE OF CONTENTS

2010 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 positive result. These less-than results are plotted conservatively at the value. During 2010, 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 California Ocean Plan were each analyzed for and reported in the permit renewal application for Diablo Canyon Power Plant (DCPP) submitted in October 1994 and January 2001. 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. Appendix 2 contains monitoring data in tabular form. Reporting formats for the 1st quarter 2010 have been revised to reflect conventions required for the CIWQS Application eSMR. 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. Results were non-detect (less than 5 mg/l) for all five of these discharge points. No discharges that resulted in adequate sample quantities occurred from pathway 016, and no discharge occurred from 017 during 2010.

c. In October, Discharge 001D (Liquid Radioactive Waste Treatment System) annual grab samples for lithium, boron, and hydrazine were collected and analyzed. The results were 0.083 mg/l, 319 mg/l, and non-detect (less than 0.003 mg/l), respectively.

2. Facility Operating and Maintenance Manual

Pacific Gas and Electric Company (PG&E) maintains a multiple volume Plant 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, current, and complete for the facility.

3. Laboratories Used to Monitor Compliance

The following laboratories were used during 2010 for monitoring compliance. They are certified under the appropriate agencies for the test/analyses they perform. As part of the on-going annual certification process, these laboratories take part in, and have passed, annual quality performance evaluation testing.

a. PG&E Chemistry Laboratory, DCPP, Avila Beach, California (Lab Certification # CA01036)

b. Aquatic Bioassay Consulting Laboratories, Ventura, California (Lab Certification # CA01907)

c. Creek Environmental, San Luis Obispo, California (Lab Certification # CA00975)

d. Columbia Analytical Services, Kelso, Washington (Lab Certification # WA00035)

e. TestAmerica, Inc., Earth City, Missouri (Lab Certification # MO00054)

f. Abalone Coast Analytical, San Luis Obispo, California (Lab Certification # CA02661)

g. Oilfield Environmental and Compliance, Santa Maria, California (Lab Certification # CA02438)

4. Review of Compliance Record and Corrective Actions

a. Circulating Water Pump Chlorination/Bromination Monitoring

The 2010 quarterly NPDES reports discuss chlorination cycles when discharge monitoring was interrupted. These are listed below with brief descriptions of the cause and respective corrective action. When these monitoring interruptions occurred, engineering evaluations (approved by the CCRWQCB January 13, 1994; PG&E Letter No. DCL-94-002) were performed. Detailed descriptions of these evaluations are included in the quarterly reports. Evaluations concluded that discharge chlorine limits were not exceeded during these events.

Date	Chlorination Cycle Monitoring Interruptions	Cause	Corrective Action
03/15/10	Unit 2 1 Reading	Plugged airline	Airline cleared and cleaned
04/17/10 to 04/20/10	Unit 1 23 Readings	Defective monitor electrode	Electrode replaced
07/23/10 to 07/24/10	Unit 2 7 Readings	Debris clogging monitor sample line	Debris removed
07/26/10 to 07/27/10	Unit 2 5 Readings	Leaking fitting in monitor	Fitting replaced
11/03/10 to 11/10/10	Unit 2 42 Readings	Sample pump fouled with biological growth	Sample pump cleaned
12/01/10	Unit 2 1 Reading	Post-maintenance restart of monitor delayed	Personnel involved interviewed and coached

b. Closed Cooling Water Releases

During 2010, 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 DCPP's 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 2010 from the component cooling water (CCW), service cooling water (SCW), and intake cooling water (ICW) systems are presented below. The glutaraldehyde (Glut) and isothiazoline (Iso) concentrations presented in the table below are system concentrations, not concentrations at the point of discharge to receiving water.

Date	System	Volume (gallons)	Glut (mg/l)	Iso (mg/l)	Total Suspended Solids (mg/l)	Oil & Grease (mg/l)	Reason & Comments
01/06/10	Unit 1 ICW	3,370	76	5.7	n/a	n/a	Routine Maintenance
01/13/10	Unit 1 SCW	33,000	< 50	7.5	12.0	< 1.4	Routine Maintenance
01/14/10	Unit 1 CCW	930	158	0.0	n/a	n/a	Routine Maintenance
01/26/10	Unit 2 SCW	33,200	< 50	7.4	19.1	< 1.4	Routine Maintenance
05/04/10	Unit 2 SCW	33,350	67	5.1	< 2.0	< 1.4	Routine Maintenance
05/19/10	Unit 2 ICW	3,331	70	1.8	n/a	n/a	Routine Maintenance
06/09/10	Unit 1 SCW	33,100	149	4.0	< 2.0	< 1.4	Routine Maintenance
06/27/10	Unit 1 CCW	378	175	n/a	n/a	n/a	Routine Maintenance
07/26/10	Unit 1 CCW	322	136	0.0	n/a	n/a	Routine Maintenance
08/10/10	Unit 1 CCW	900	126	0.0	n/a	n/a	Routine Maintenance
08/17/10	Unit 1 ICW	3,320	63	9.2	n/a	n/a	Routine Maintenance
09/09/10	Unit 2 SCW	33,000	78	7.2	< 2.0	< 1.4	Routine Maintenance
09/18/10	Unit 1 CCW	522	140	0.0	3.2	< 1.4	Routine Maintenance
09/22/10	Unit 1 CCW	4,200	113	0.0	< 2.0	< 1.4	Routine Maintenance
10/02/10	Unit 1 SCW	8,250	172	2.9	< 2.0	< 1.4	Routine Maintenance
10/08/10	Unit 1 ICW	1,100	< 50	2.3	n/a	n/a	Routine Maintenance
11/04/10	Unit 2 ICW	121	185	4.6	n/a	n/a	Routine Maintenance
11/10/10	Unit 2 ICW	3,314	185	4.6	n/a	n/a	Routine Maintenance
11/18/10	Unit 2 SCW	33,200	< 50	1.9	10.3	< 1.4	Routine Maintenance

c. Exceedances

On April 29, 2010 chemical drain tank (CDT) 0-2 was discharged via permit pathway 001D with a grease and oil (G&O) concentration of 30 mg/l. The discharge resulted in an exceedance of the daily maximum limit of 20 mg/L G&O for the pathway. The exceedance was not discovered until after the 2nd Quarter CIWQS Electronic Data Report (eSMR) was submitted on July 20, 2010. The event was discovered during final review of the USEPA DMR Forms for the same reporting period. The CIWQS eSMR and DMR Forms for the 2nd Quarter 2010 reflected the correct monitoring data, and the DMR submittal appropriately documented the exceedance. Verbal notification of the event to the Regional Water Quality Control Board staff occurred on July 21, 2010.

Follow-up investigation determined the G&O discharge daily maximum of 30 mg/L exceeded the respective 20 mg/L permit limit by 50.0% as a result of this event.

Subsequent to discovery, the processes and procedures for approving tank discharges via pathway 001D were reviewed in detail. Procedural data sheets and associated review processes implemented prior to authorizing a chemical drain tank wastewater release have been enhanced to prevent a discharge through pathway 001D if constituent parameters are not in specification with NPDES permit limitations.

B. Monitoring of Receiving Water

1. Ecological Studies at Diablo Canyon

Marine ecological monitoring was continued during 2010 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 2010. Results of 2009 RWMP data were submitted to the CCRWQCB on April 29, 2010. A table in Appendix 4 summarizes requirements and completed monitoring tasks for 2010.

2. In Situ Bioassay

Results of the Mussel Watch Program are reported to the CCRWQCB directly by the California Department of Fish and Game in the agency's periodic report for this program.

C. Sodium Bromide Treatment Program

DCPP continued its integrated sodium bromide and "foul release coating" strategy to control macrofouling in the Circulating Water System (CWS). The treatment program consists of six 20-minute injections (at four hour intervals) of a blend of generic sodium bromide and sodium hypochlorite into DCPP's seawater intake conduits. Each injection attempts to achieve a target concentration of 200 parts per billion (ppb) Total Residual Oxidant (TRO) at the inlet waterbox of the main condensers. Discharge TRO, measured at the plant outfall, remained below NPDES limitations. Typically, discharge values were between 20 ppb and 50 ppb. In conjunction with the chemical treatment, 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.

Both conduits of Unit 1 were treated with simultaneous injections of sodium bromide and sodium hypochlorite six times a day through the middle of February 2010 with two brief interruptions in January for maintenance activities. In mid February, injections were shut down in preparation for mid-cycle tunnel cleaning. Simultaneous injections six times a day were restarted in late February and ran through August with brief interruptions in March, April, and August for maintenance activities. Unit 1 injections were shut down at the end of September for the 1R16 refueling outage. Simultaneous injections of sodium hypochlorite and sodium bromide were restarted at the beginning of November and ran through the remainder of 2010 with brief interruptions in early November due to high ocean swell activity, and late December due to maintenance activities.

Both Unit 2 conduits were treated with simultaneous injections of sodium bromide and sodium hypochlorite six times a day throughout 2010 with brief interruptions in January, March, April, August, October, November, and December for maintenance activities.

Annual Discharge Monitoring Report

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

Annual Discharge Monitoring Report

APPENDIX 2

TABULAR SUMMARIES OF INFLUENT AND EFFLUENT MONITORING

2010 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	57.5	55.6	56.7	76.6	63.5	75.1	19.7	18.4	2486	1279	2198
FEB	57.0	54.6	56.1	75.9	73.5	74.9	19.3	18.8	2486	1874	2413
MAR	56.9	50.4	52.5	75.5	69.1	71.1	19.1	18.6	2486	1862	2446
APR	54.2	50.2	52.3	73.1	68.9	71.1	18.9	18.8	2486	2486	2486
MAY	51.5	48.5	50.1	70.4	67.2	68.9	19.0	18.8	2486	2486	2486
JUN	52.2	49.4	50.6	71.5	68.1	69.4	19.3	18.2	2486	2486	2486
JUL	54.7	50.0	52.7	73.7	68.2	71.2	19.6	18.5	2486	2486	2486
AUG	54.2	50.5	52.3	73.1	69.8	71.3	19.4	19.0	2486	2486	2486
SEP	54.9	51.3	52.6	74.1	70.1	71.6	19.4	19.0	2486	2486	2486
OCT	58.3	53.5	55.9	78.6	71.0	75.3	20.3	19.4	2486	863	1363
NOV	56.6	51.9	54.6	75.5	70.1	62.9	19.4	15.4	2486	1502	2346
DEC	55.6	51.4	53.9	74.1	70.2	72.4	19.1	18.6	2486	1862	2446
limit:		-			-		22		2760		

The Influent and Effluent "high" and "low" temperture 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

	TOTAL RESIDUAL CHLORINE (daily max. ug/l)			TOTAL CHLORINE USED (lbs/day)		
Month	high	low	avg	high	low	avg
JAN	52	16	38	562	70	484
FEB	57	36	46	562	259	468
MAR	62	17	42	518	271	416
APR	68	<10	39	475	302	402
MAY	52	11	32	360	331	351
JUN	48	<10	19	432	374	391
JUL	21	<10	10	490	374	467
AUG	26	13	19	605	295	500
SEP	36	<10	17	577	446	499
OCT	7	<7	<7	418	48	277
NOV	52	15	27	533	230	422
DEC	37	10	23	504	298	451

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.

2010 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(5)	ND(5)	ND(5)	ND(5)	ND(5)	DNQ(5)	DNQ(6)	ND(5)
FEB	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	DNQ(5)	ND(5)
MAR	ND(5)	ND(5)	DNQ(6)	ND(5)	ND(5)	ND(5)	13	ND(5)
APR	ND(5)	ND(5)	ND(5)	ND(5)	DNQ(8)	DNQ(9)	DNQ(6)	DNQ(5)
MAY	ND(5)	ND(5)	11	DNQ(6)	DNQ(9)	DNQ(8)	11	ND(5)
JUN	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
JUL	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	DNQ(6)	ND(5)
AUG	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	DNQ(8)	DNQ(8)
SEP	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	DNQ(6)	DNQ(6)
OCT	ND(5)	ND(5)	ND(5)	ND(5)	11	11	ND(5)	ND(5)
NOV	ND(5)	ND(5)	ND(5)	DNQ(6)	13	13	14	ND(5)
DEC	ND(5)	ND(5)	ND(5)	ND(5)	10	DNQ(9)	ND(5)	ND(5)
6-month median limit:		10	-	10	-	30	-	70

DISCHARGE 001
VARIOUS ANNUAL ANALYSES
(monthly avg. ug/l)

Parameter	Influent	Effluent	6-Mo. Med. Effluent Limit
Arsenic	1.52	1.53	30
Cadmium	0.055	0.052	10
Cyanide	ND(10)	ND(10)	30
Lead	0.18	0.04	10
Mercury	DNQ(0.02)	DNQ(0.04)	0.2
Silver	DNQ(0.006)	DNQ(0.004)	2.9
Titanium	DNQ(0.4)	DNQ(0.4)	none
*Phenolic Compounds (non-chlorinated)	ND(8.42)	ND(8.42)	150
**Phenolic Cmpds (chlorinated)	ND(2.02)	ND(2.02)	10
***PCB's	ND(0.0658)	ND(0.0658)	none

* Results for analysis of 9 target compounds. The sum of the 9 detection limits is 8.42.
** Results for analysis of 6 target compounds. The sum of the 6 detection limits is 2.02.
***Detection limits shown are the sum of individual detection limits for 7 target compounds.

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

Month	Influent	Effluent
JAN	ND(41)	ND(41)
FEB		
MAR		
APR		
MAY	134	76
JUN		
JUL	170	230
AUG		
SEP		
OCT		
NOV	64	82
DEC		
6-month median limit:		3,060

2010 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	8.0	8.0	8.1	8.1	8.1	7.8
FEB	8.0	8.0	8.1	8.1	8.1	7.8
MAR	7.8	7.8	8.0	8.0	8.0	7.8
APR	8.0	8.0	7.9	8.1	8.0	7.8
MAY	7.9	7.9	7.7	8.1	8.0	7.8
JUN	7.9	7.9	7.9	7.9	7.9	7.6
JUL	8.0	7.9	8.0	7.9	8.2	7.8
AUG	7.8	7.8	7.9	7.9	7.6	7.6
SEP	8.0	8.0	8.0	8.0	7.8	7.8
OCT	8.0	8.0	7.9	7.7	8.0	7.7
NOV	7.9	7.9	7.8	7.9	7.9	7.6
DEC	8.0	8.0	7.9	7.9	8.0	7.8

DISCHARGE 001F

	GREASE & OIL (mg/l)		SUSPENDED SOLIDS (mg/l)	
Month	high	avg	high	avg
JAN	ND(1.4)	ND(1.4)	ND(2)	ND(2)
FEB	6.1	6.1	19	18
MAR	DNQ(1.7)	DNQ(1.7)	ND(2)	ND(2)
APR	ND(1.4)	ND(1.4)	DNQ(3)	DNQ(3)
MAY	ND(1.4)	ND(1.4)	DNQ(3)	DNQ(3)
JUN	ND(1.4)	ND(1.4)	DNQ(3)	DNQ(2)
JUL	DNQ(1.4)	DNQ(1.4)	DNQ(3)	DNQ(3)
AUG	ND(1.4)	ND(1.4)	DNQ(2)	<2
SEP	ND(1.4)	ND(1.4)	DNQ(2)	<2
OCT	ND(1.4)	ND(1.4)	DNQ(2)	DNQ(2)
NOV	ND(1.4)	ND(1.4)	DNQ(3)	DNQ(3)
DEC	ND(1.4)	ND(1.4)	DNQ(3)	<2
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	ND(5.0)	ND(5.0)	ND(5.0)	13	7	11	ND(0.1)	ND(0.1)	ND(0.1)
FEB	ND(5.0)	ND(5.0)	ND(5.0)	19	13	16	ND(0.1)	ND(0.1)	ND(0.1)
MAR	ND(5.0)	ND(5.0)	ND(5.0)	15	7	11	ND(0.1)	ND(0.1)	ND(0.1)
APR	DNQ(2.2)	ND(1.4)	<5.0	18	DNQ(4)	7	ND(0.05)	ND(0.05)	ND(0.05)
MAY	ND(1.4)	ND(1.4)	ND(1.4)	11	7	9	ND(0.05)	ND(0.05)	ND(0.05)
JUN	DNQ(1.4)	ND(1.4)	DNQ(1.4)	22	8	13	ND(0.05)	ND(0.05)	ND(0.05)
JUL	DNQ(2.4)	ND(1.4)	DNQ(1.4)	23	7	15	ND(0.1)	ND(0.1)	ND(0.1)
AUG	ND(1.4)	ND(1.4)	ND(1.4)	19	6	10	ND(0.1)	ND(0.1)	ND(0.1)
SEP	DNQ(1.8)	ND(1.4)	<1.4	16	ND(2)	9	ND(0.1)	ND(0.1)	ND(0.1)
OCT	DNQ(2.6)	ND(1.4)	DNQ(1.4)	17	4	10	ND(0.1)	ND(0.1)	ND(0.1)
NOV	DNQ(3.8)	ND(1.4)	DNQ(1.4)	12	7	9	ND(0.1)	ND(0.1)	ND(0.1)
DEC	<5.0	ND(1.4)	<5.0	13	7	10	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.

2010 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(5)	ND(5)	ND(5)	DNQ(9)	ND(5)	ND(5)	12	35	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	DNQ(9)
FEB																
MAR																
APR	ND(5)	ND(5)	ND(5)	DNQ(7)	ND(5)	ND(5)	33	21	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	DNQ(9)
MAY																
JUN																
JUL	ND(5)	ND(5)	ND(5)	DNQ(9)	ND(5)	ND(5)	25	24	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	15
AUG																
SEP																
OCT	ND(5)	ND(5)	DNQ(6)	DNQ(6)	ND(5)	ND(5)	18	72	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	35	92
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	ND(0.20)	DNQ(5)	ND(5)	120	ND(0.20)	12	DNQ(9)	18	ND(0.20)	ND(5)	ND(5)	DNQ(5)	ND(0.20)	DNQ(6)	ND(5)	18
FEB																
MAR																
APR	DNQ(0.092)	ND(5)	ND(5)	120	DNQ(0.015)	17	DNQ(7)	19	DNQ(0.108)	ND(5)	ND(5)	ND(5)	ND(0.050)	DNQ(7)	ND(5)	29
MAY																
JUN																
JUL	ND(0.050)	DNQ(6)	ND(5)	109	ND(0.050)	17	DNQ(8)	12	ND(0.050)	ND(5)	ND(5)	ND(5)	ND(0.050)	DNQ(8)	ND(5)	18
AUG																
SEP																
OCT	ND(0.050)	DNQ(5)	ND(5)	149	DNQ(0.069)	15	DNQ(5)	13	DNQ(0.062)	ND(5)	ND(5)	ND(5)	ND(0.10)	46	ND(5)	259
NOV																
DEC																

limit: none

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

2010 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)		DNQ(2)	9	6
FEB	<5	ND(2)	ND(2)				ND(2)	DNQ(3)	<5	DNQ(2)	24
MAR	<5	ND(2)	ND(2)				ND(2)	6	<5	DNQ(3)	5
APR	<5	ND(2)	ND(2)				ND(2)		<5	<5	21
MAY	DNQ(4)	ND(2)	ND(2)				ND(2)		11	DNQ(3)	6
JUN	<5	ND(2)	ND(2)				ND(2)		7	ND(2)	8
JUL	<5	ND(2)	ND(2)				ND(2)		19	DNQ(3)	<5
AUG	<5	ND(2)	ND(2)				ND(2)	ND(2)	18	ND(2)	<5
SEP	<5	ND(2)	DNQ(2)				ND(2)		13	6	DNQ(2)
OCT	<5	ND(2)	ND(2)		ND(2)		ND(2)		14	DNQ(3)	DNQ(3)
NOV	<5	ND(2)	<5		DNQ(4)		ND(2)	DNQ(3)	26	5	12
DEC	<5	ND(2)	ND(2)				ND(2)	DNQ(2)	DNQ(2)	DNQ(2)	13
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 2010.
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	DNQ(1.4)		ND(1.4)				ND(1.4)		ND(1.4)	ND(1.4)	ND(1.4)	
FEB		ND(1.4)						ND(1.4)				ND(1.4)
MAR								DNQ(1.6)				
APR	<5	ND(1.4)	ND(1.4)				ND(1.4)		ND(1.4)	ND(1.4)	ND(1.4)	ND(1.4)
MAY												
JUN												
JUL	DNQ(1.8)	ND(1.4)	ND(1.4)				ND(1.4)		ND(1.4)	ND(1.4)	ND(1.4)	ND(1.4)
AUG	DNQ(2.0)							ND(1.4)				
SEP	DNQ(3.7)											
OCT	DNQ(3.3)	ND(1.4)	ND(1.4)		ND(1.4)		ND(1.4)		ND(1.4)	ND(1.4)	ND(1.4)	ND(1.4)
NOV	7.7				ND(1.4)			ND(1.4)				
DEC	ND(1.4)							ND(1.4)				
Limit:	15	15	15	15	15	15	15	15	15	15	15	15

* Discharges from 001D are batched. Monthly averages are flow weighted. A daily maximum exceedence in April is not reflected in this table.
Note: No discharges occurred from 001I and 001K during 2010.

2010 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	0.00	0.00	1.0
FEB			
MAR			
APR	0.00	0.00	1.0
MAY			
JUN			
JUL	0.00	0.00	
AUG			1.0
SEP			
OCT	0.00	0.00	1.0
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	99.3%	None
Total Kjeldahl Nitrogen	240 mg/l	None
Ammonia (N)	180 mg/l	None
Nitrate (N)	DNQ(0.11)	None
Total Phosphorus	184 mg/l	None
pH	7.01	None
Oil and Grease	140 mg/l	None
Boron	1.0 mg/l	None
Cadmium	0.0034 mg/l	10 X STLC*
Copper	0.48 mg/l	10 X STLC
Chromium	0.015 mg/l	10 X STLC
Lead	0.018 mg/l	10 X STLC
Nickel	ND(0.002) mg/l	10 X STLC
Mercury	0.0011 mg/l	10 X STLC
Zinc	3.8 mg/l	10 X STLC
Volume	2.20 tons	None

Note: Annual samples were collected in October.

* STLC = Soluble Threshold Limit Concentration

Annual Discharge Monitoring Report

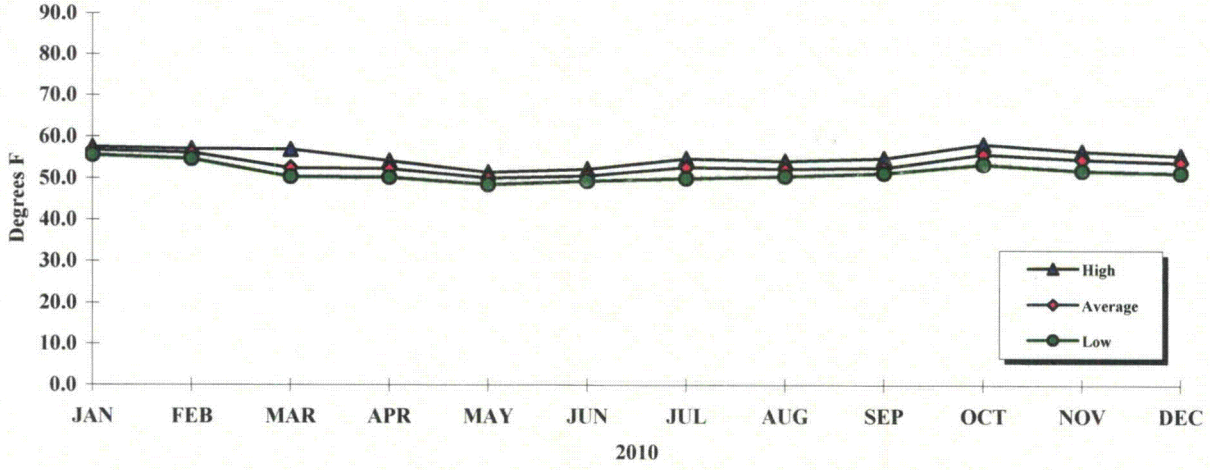
APPENDIX 3

GRAPHICAL SUMMARIES OF INFLUENT AND EFFLUENT MONITORING

2010 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant

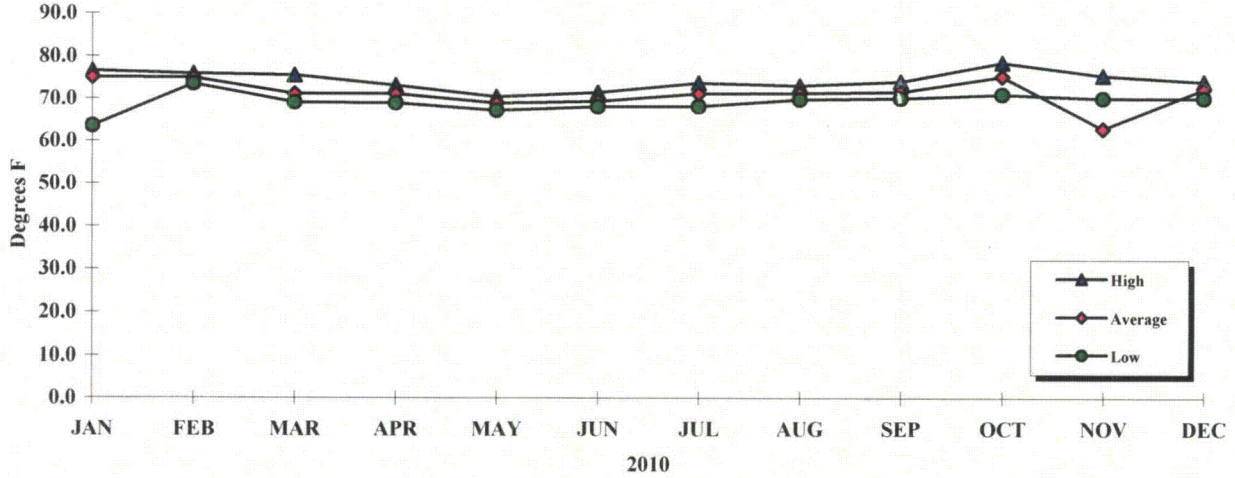
DISCHARGE 001 INFLUENT

Temperature (°F)



DISCHARGE 001 EFFLUENT

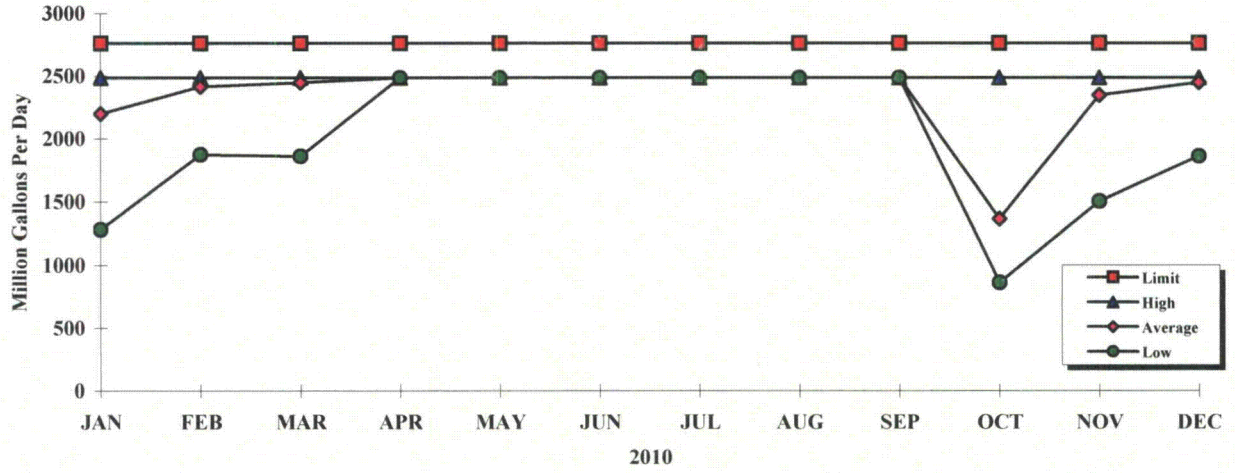
Temperature (°F)



2010 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

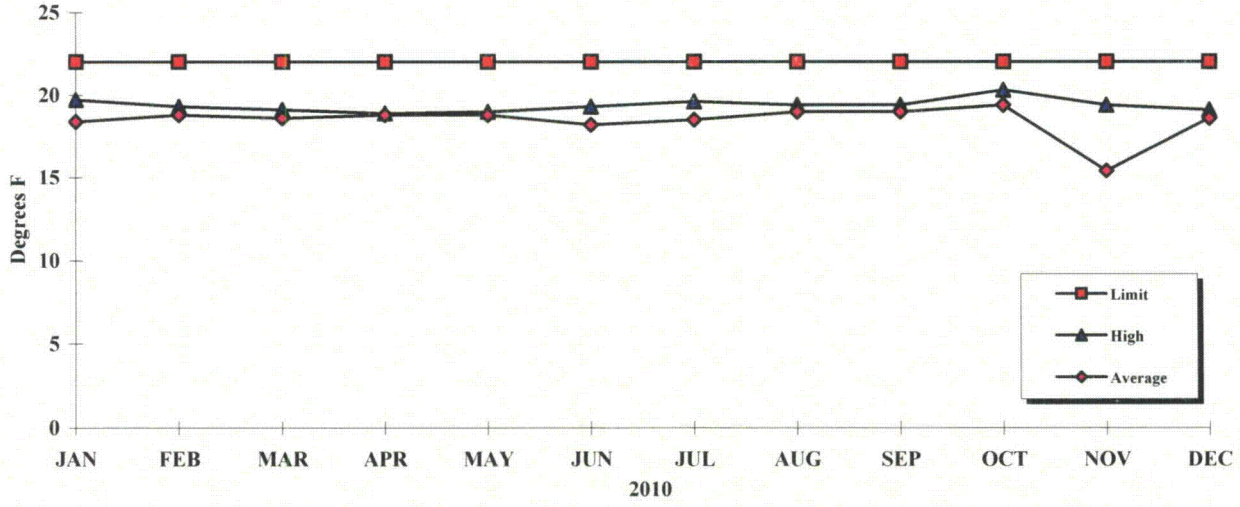
DISCHARGE 001 EFFLUENT

Flow (MGD)



DISCHARGE 001 EFFLUENT

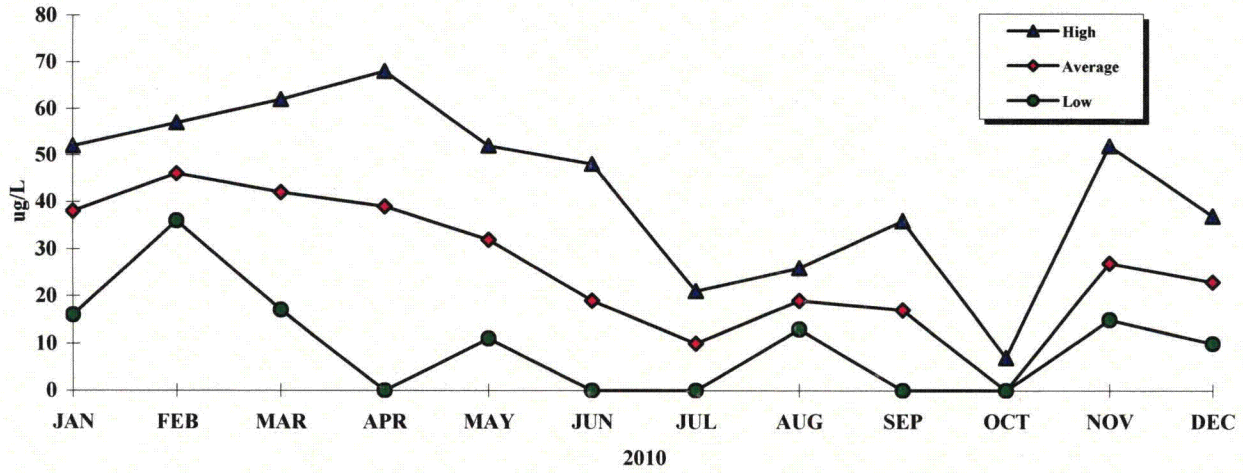
Monthly Delta T (°F)



2010 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

DISCHARGE 001

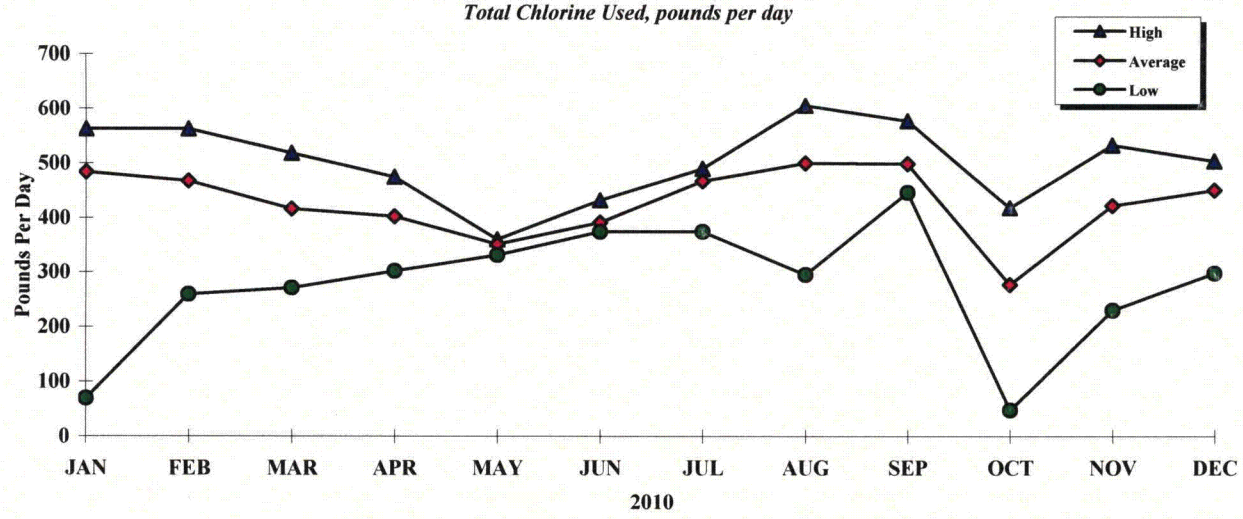
Total Chlorine Residual, ug/l



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

DISCHARGE 001

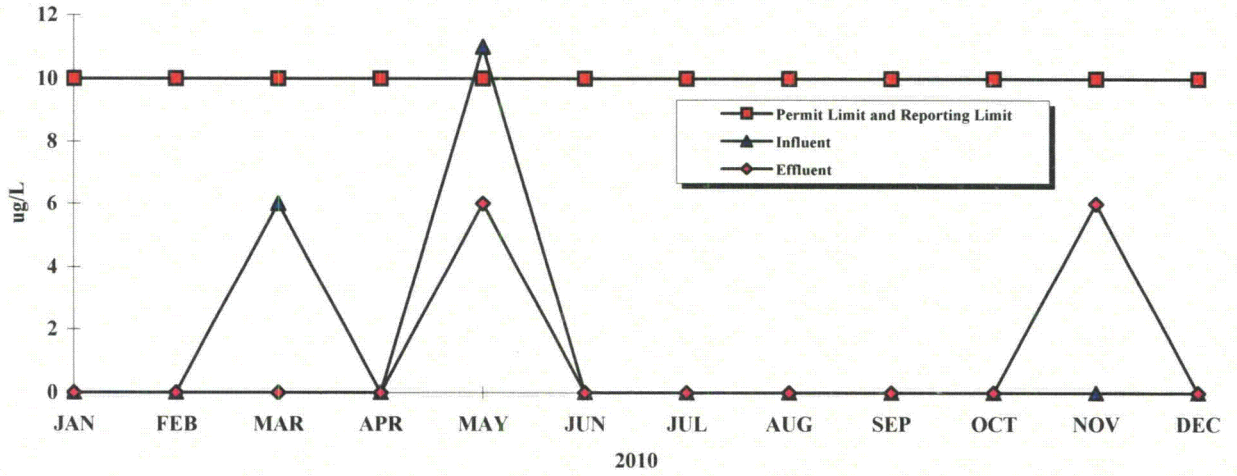
Total Chlorine Used, pounds per day



2010 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

DISCHARGE 001

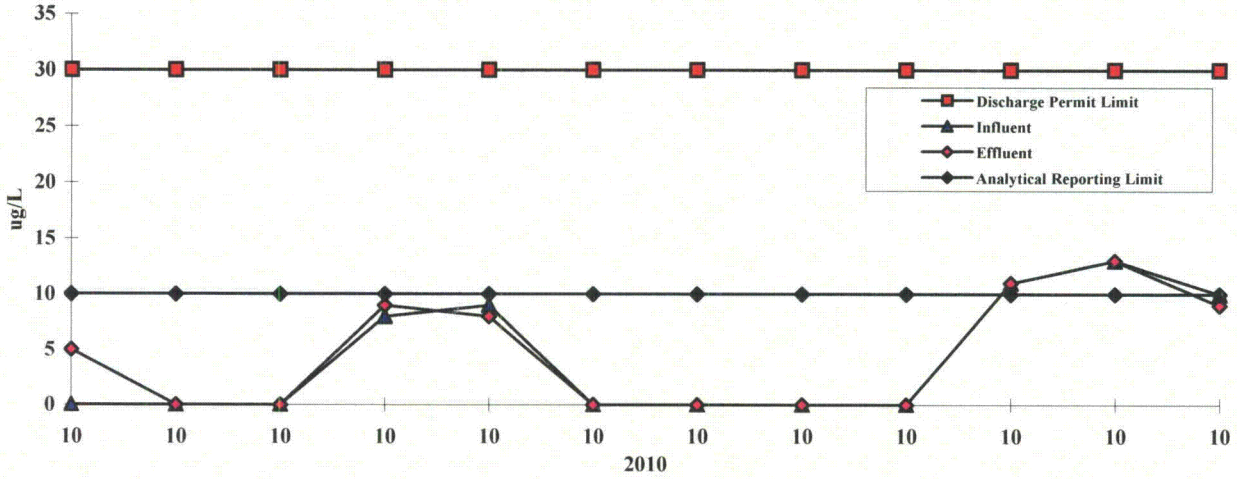
Copper (monthly average, ug/l)



Note: The analyte was not detected at or above the detection limit for values plotted at zero.
The 6-month median limit (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.

DISCHARGE 001

Nickel (monthly average, ug/l)

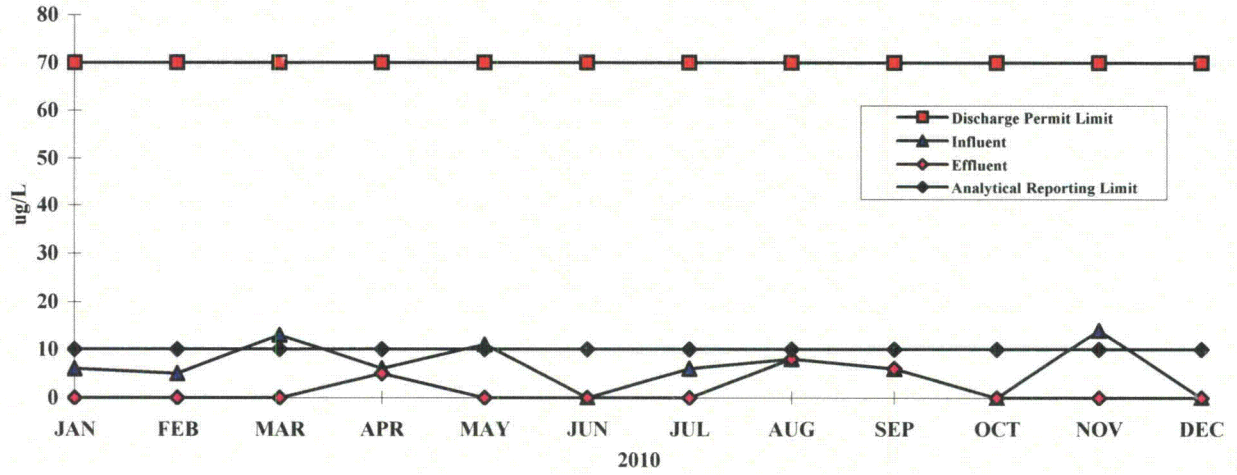


Note: The analyte was not detected at or above the detection limit for values plotted at zero.
The 6-month median limit (the most conservative limit) is plotted on this chart.
The daily maximum limit for Nickel is 100 ug/l.

2010 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

DISCHARGE 001

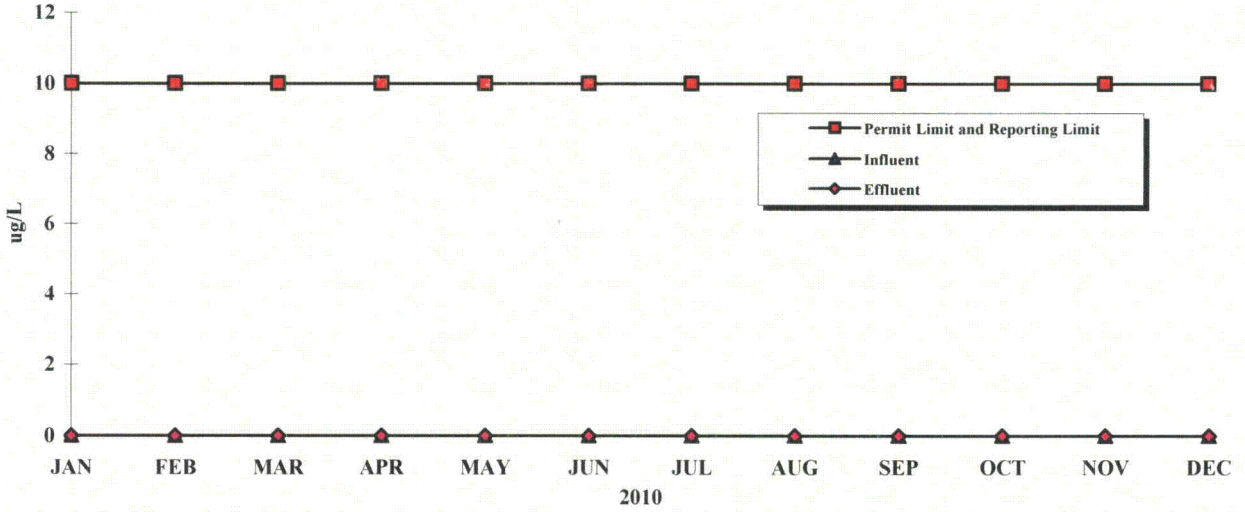
Zinc (monthly average, ug/l)



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

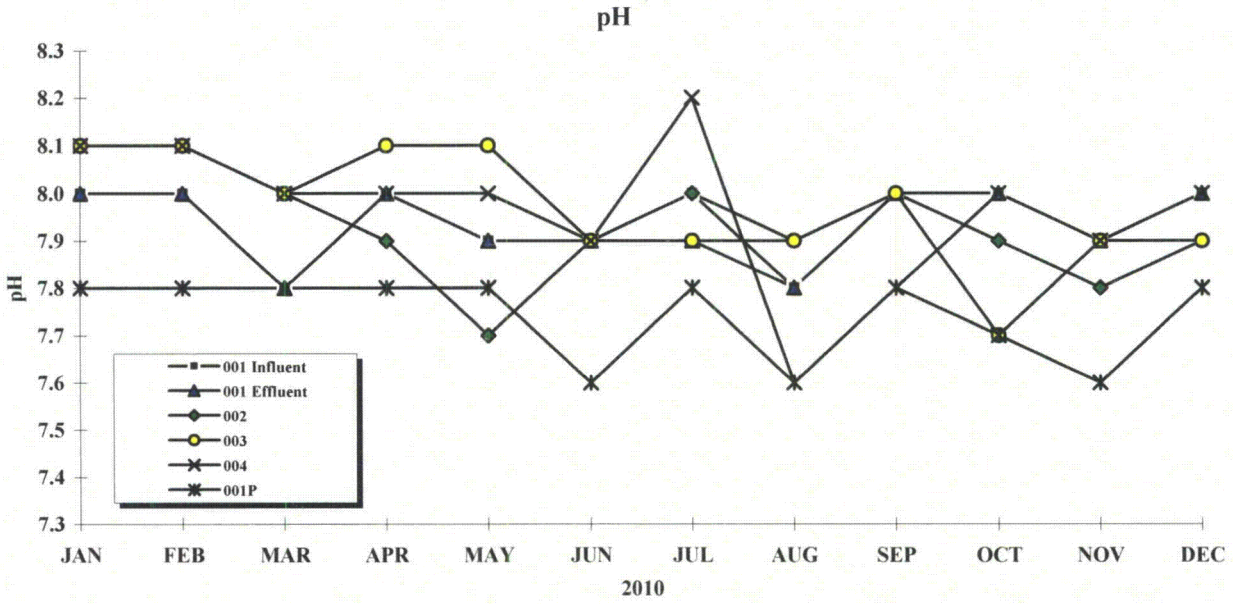
DISCHARGE 001

Chromium (monthly average, ug/l)

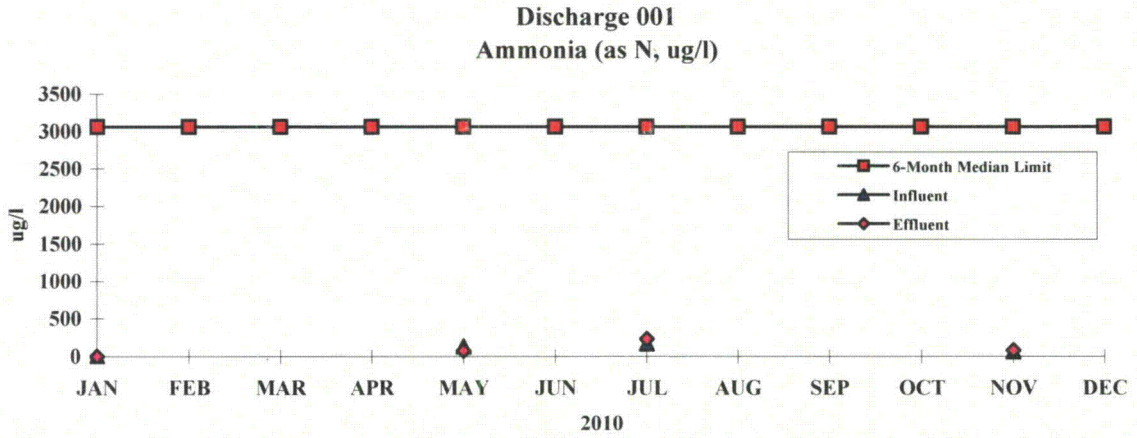


Note: The analyte was not detected at or above the detection limit for values plotted at zero.
The 6-month median limit is plotted on this chart. The daily maximum limit for chromium is 40 ug/l.
The discharge permit limit and the analytical reporting limit are the same (10 ug/l).

2010 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant



Note: Several data points on this chart overlap.

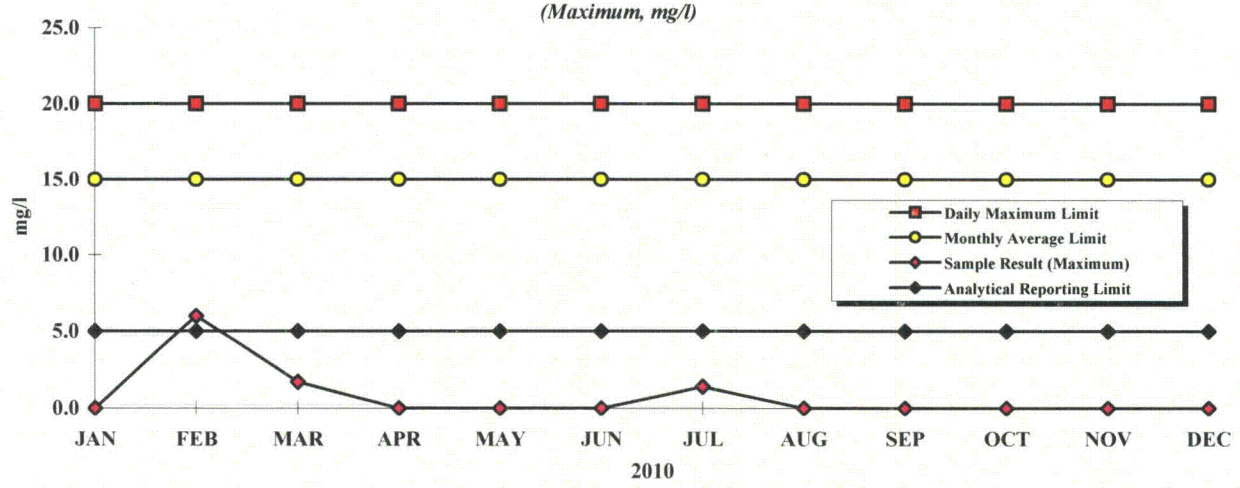


Note: The analyte was not detected at or above the detection limit for values plotted at zero.
Influent and Effluent values overlap at three points on this plot.

DISCHARGE 001F

Oil & Grease

(Maximum, mg/l)

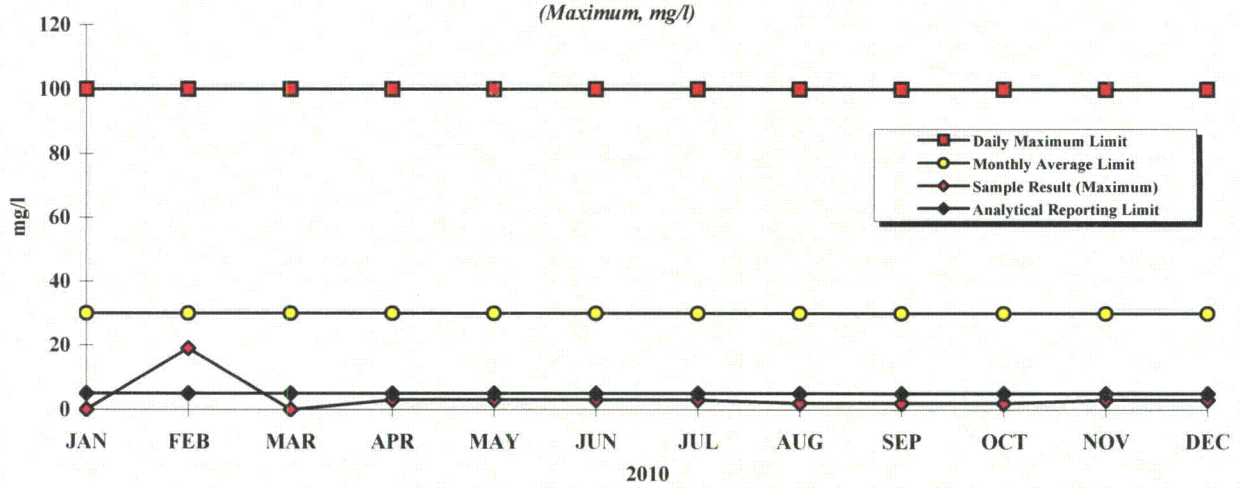


Note: Values plotted at zero were below the detection limit.

DISCHARGE 001F

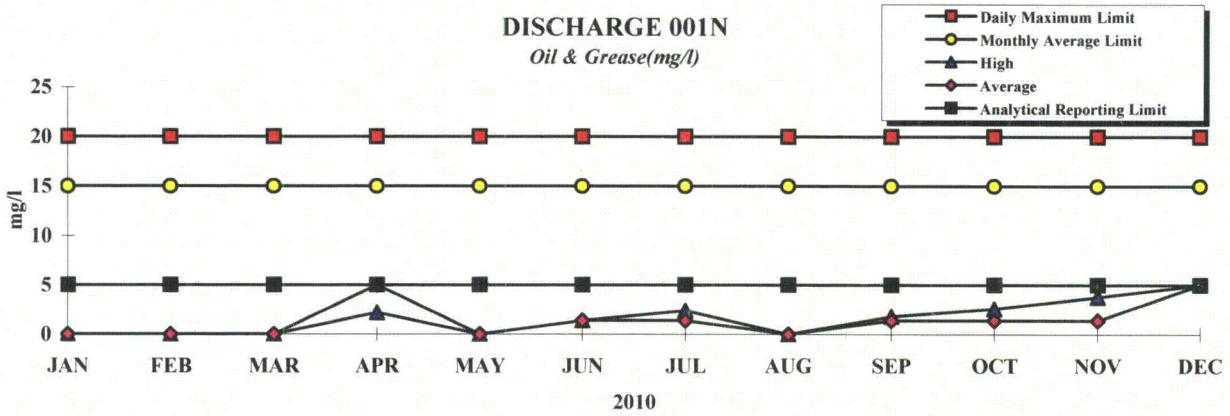
Suspended Solids

(Maximum, mg/l)

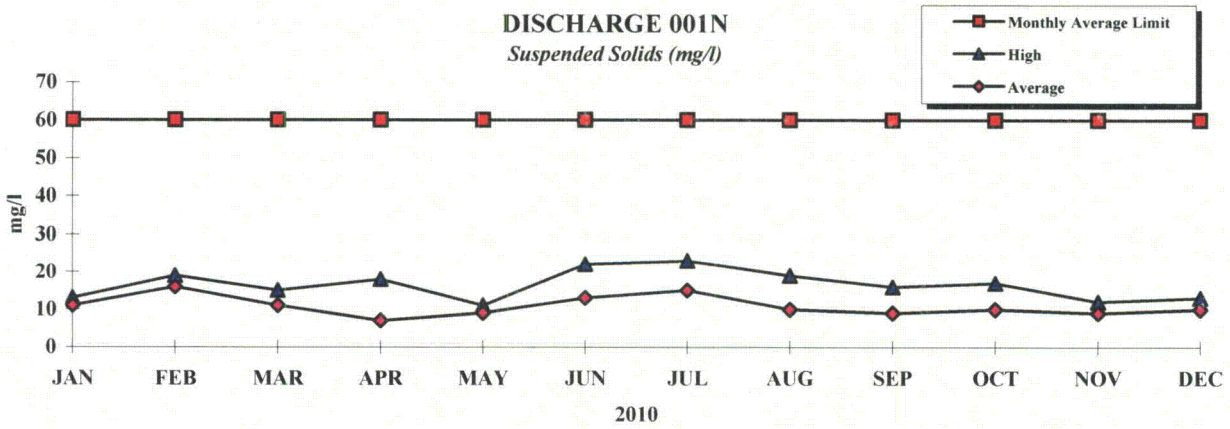


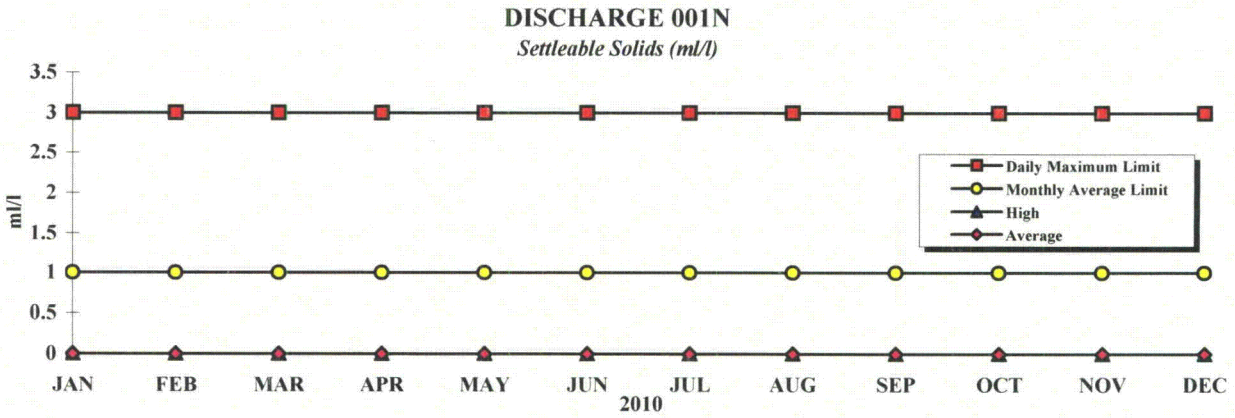
Note: Maximum values are plotted.

2010 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

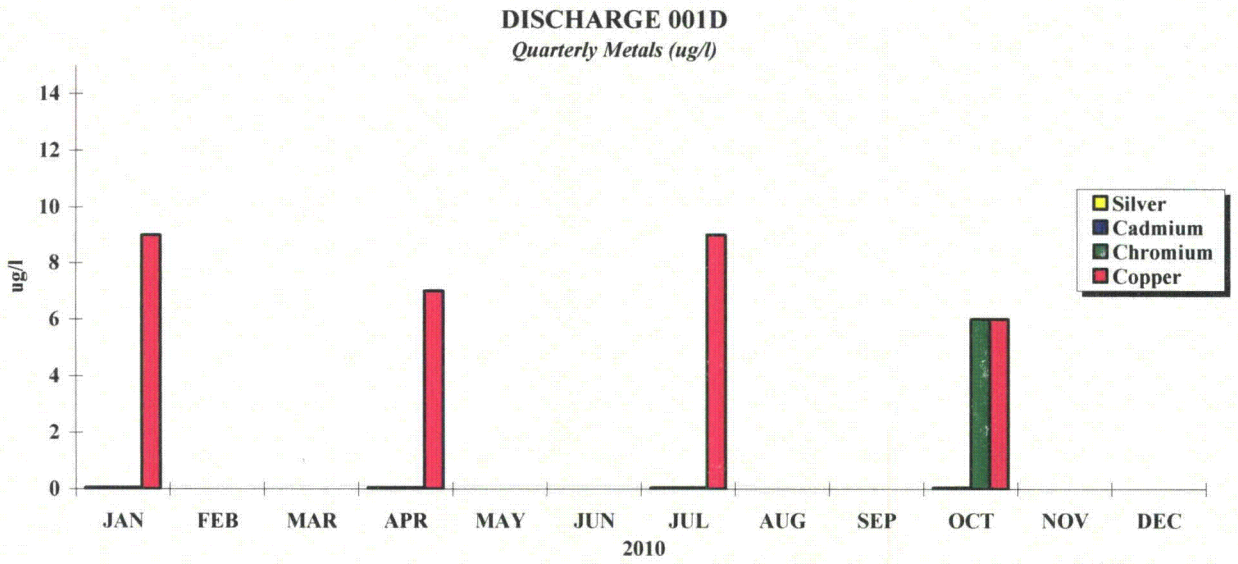


Note: Values plotted at zero were below the detection limit.
High, low and average values overlap at eleven points on this plot.

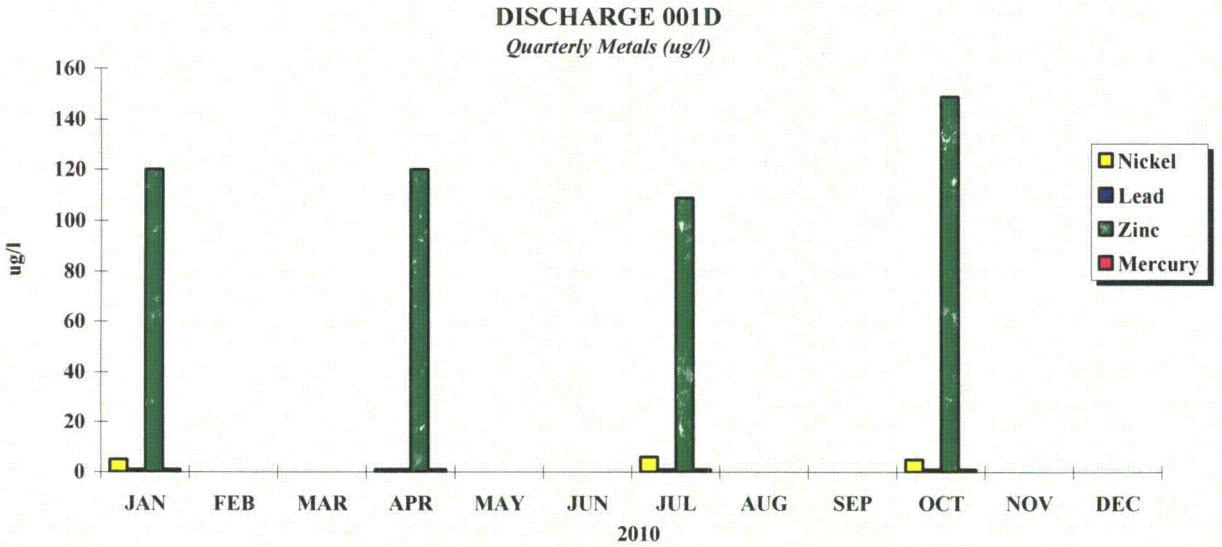




Note: Values plotted at zero were below the detection limit.
High, average, and low values overlap at eleven points on this plot.

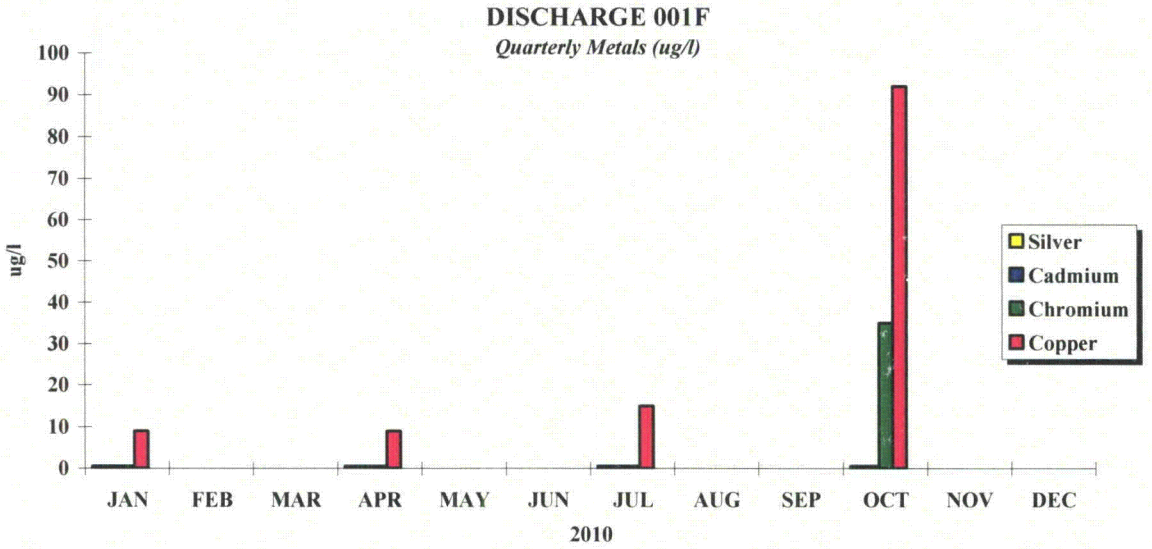


Note: The analyte was not detected at or above the detection limit for values plotted at zero.

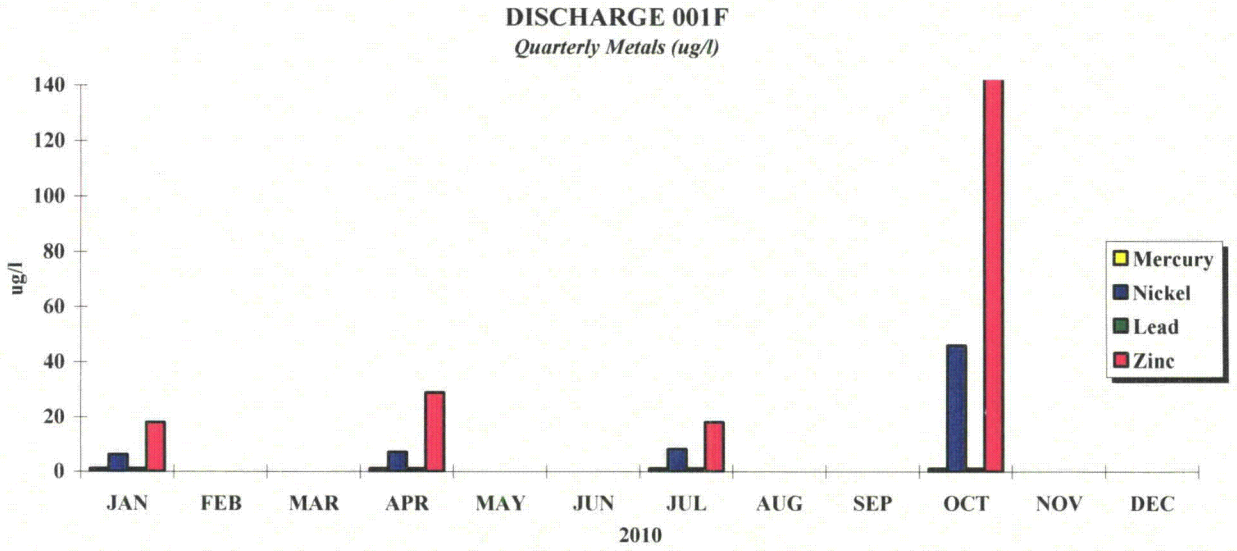


Note: The analyte was not detected at or above the detection limit for values plotted at zero.

2010 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

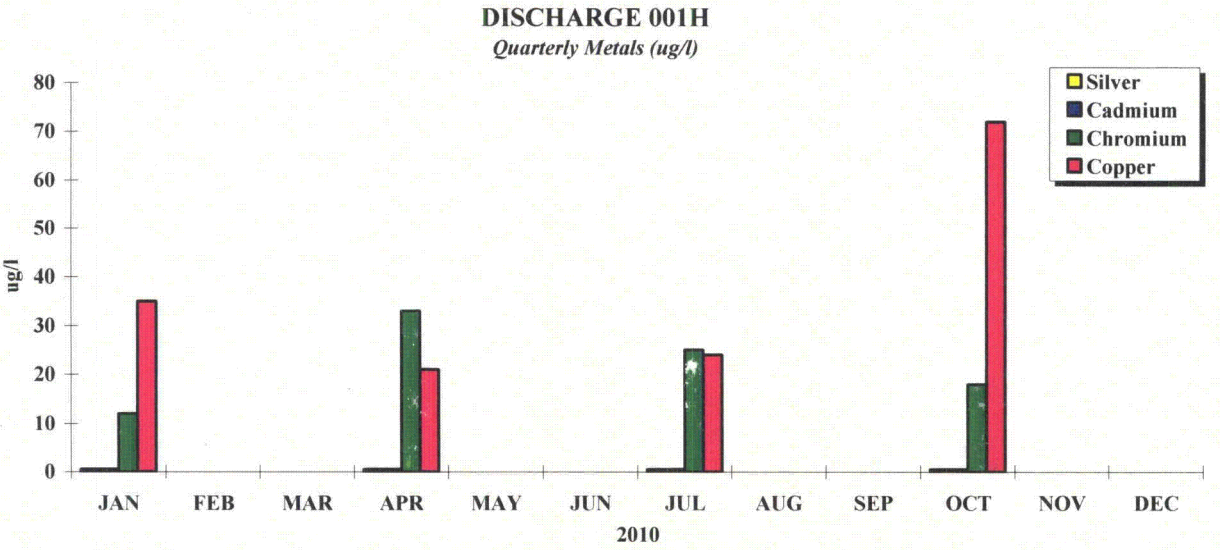


Note: The analyte was not detected at or above the detection limit for values plotted at zero.

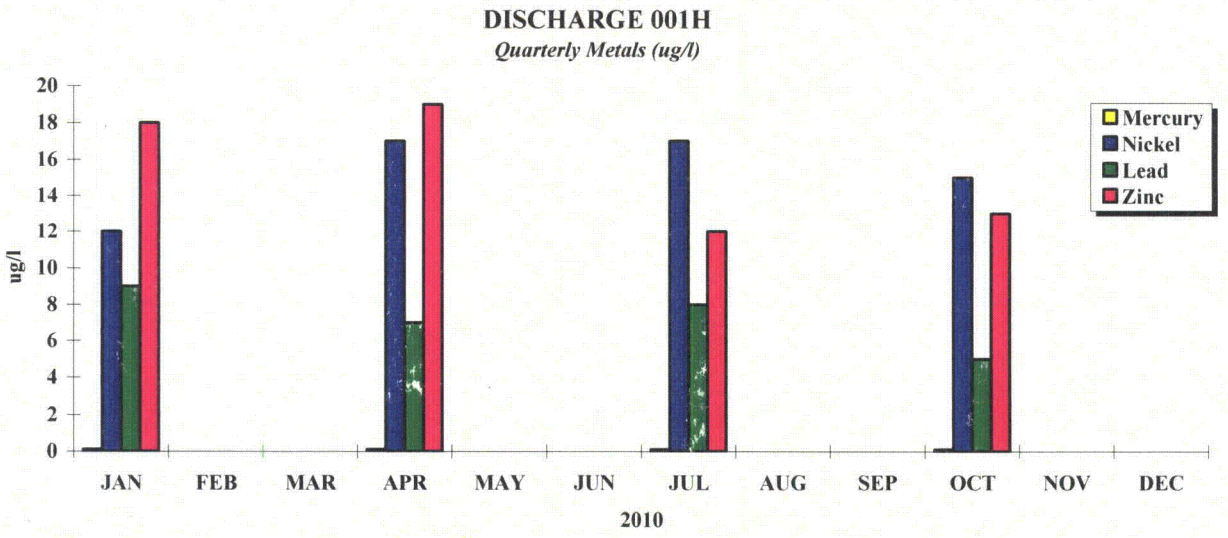


Note: The analyte was not detected at or above the detection limit for values plotted at zero.

2010 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.

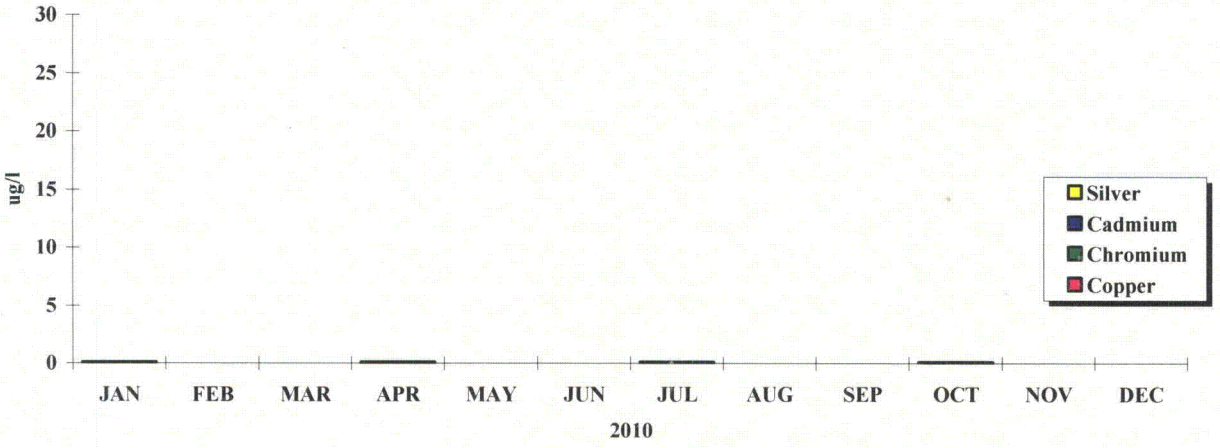


Note: The analyte was not detected at or above the detection limit for values plotted at zero.

2010 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

DISCHARGE 001L

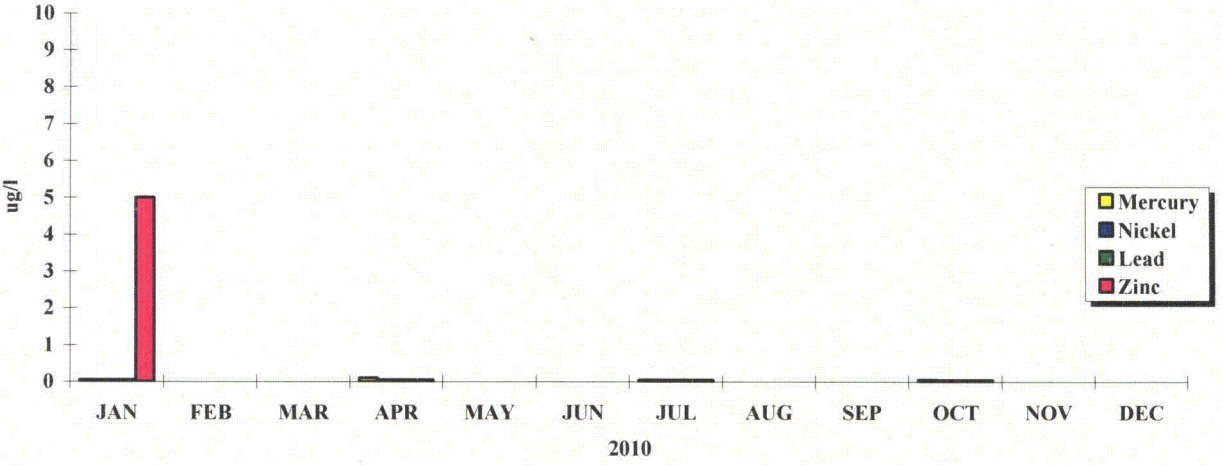
Quarterly Metals (ug/l)



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

DISCHARGE 001L

Quarterly Metals (ug/l)

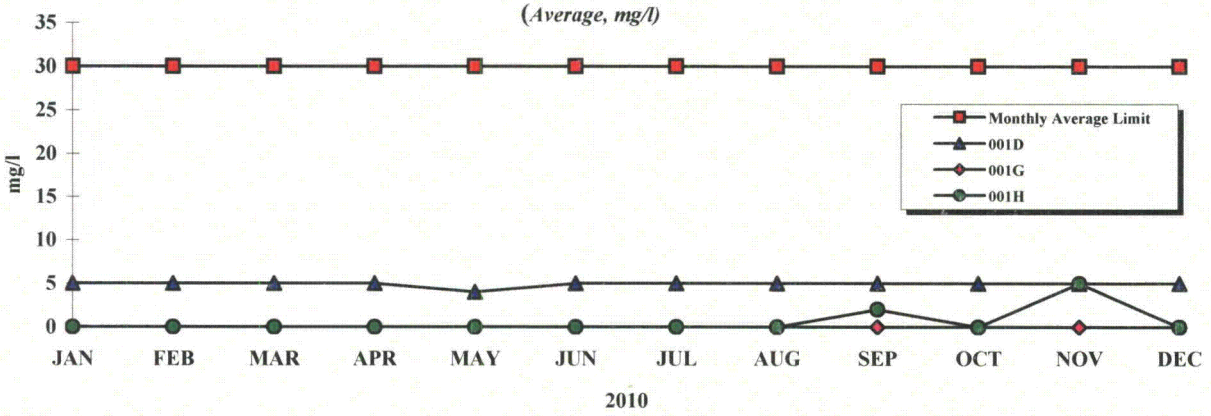


Note: The analyte was not detected at or above the detection limit for values plotted at zero.

2010 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

MONTHLY TOTAL SUSPENDED SOLIDS

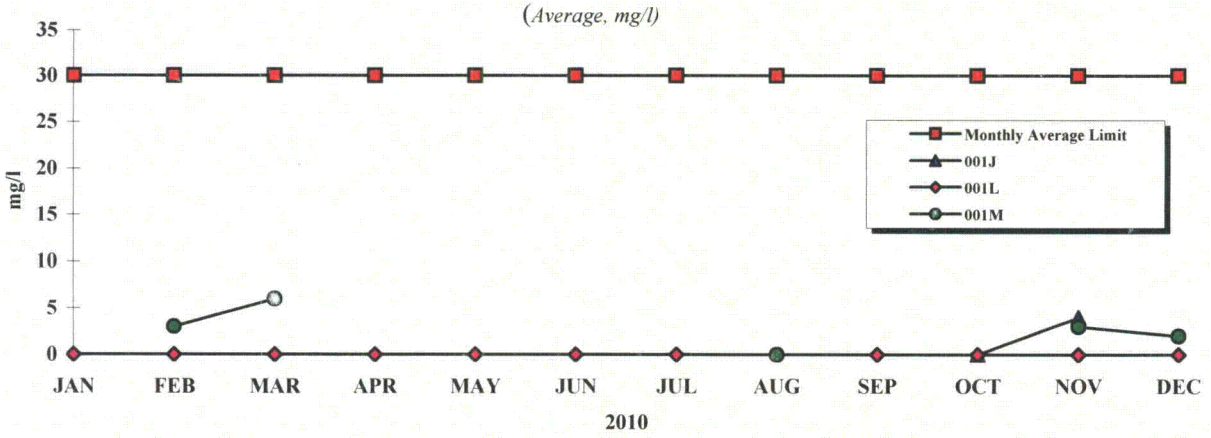
(Average, mg/l)



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

MONTHLY TOTAL SUSPENDED SOLIDS

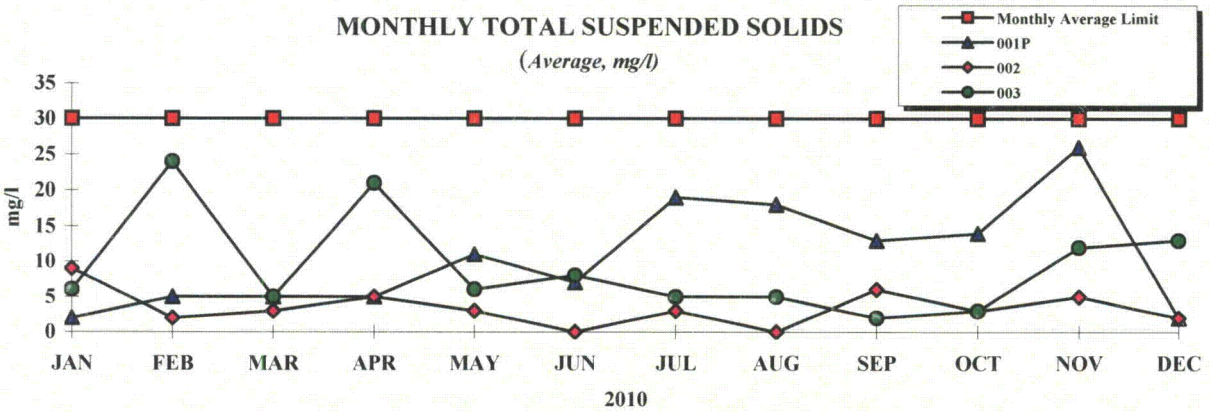
(Average, mg/l)



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

MONTHLY TOTAL SUSPENDED SOLIDS

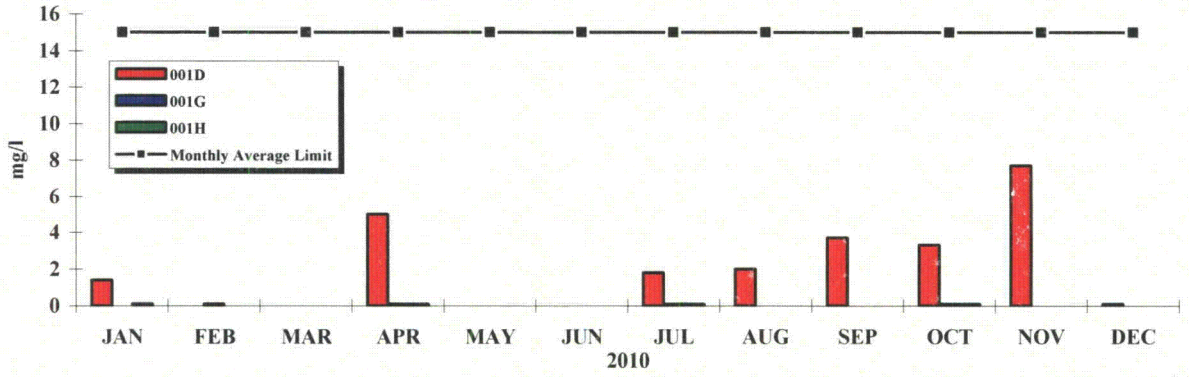
(Average, mg/l)



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

QUARTERLY OIL & GREASE

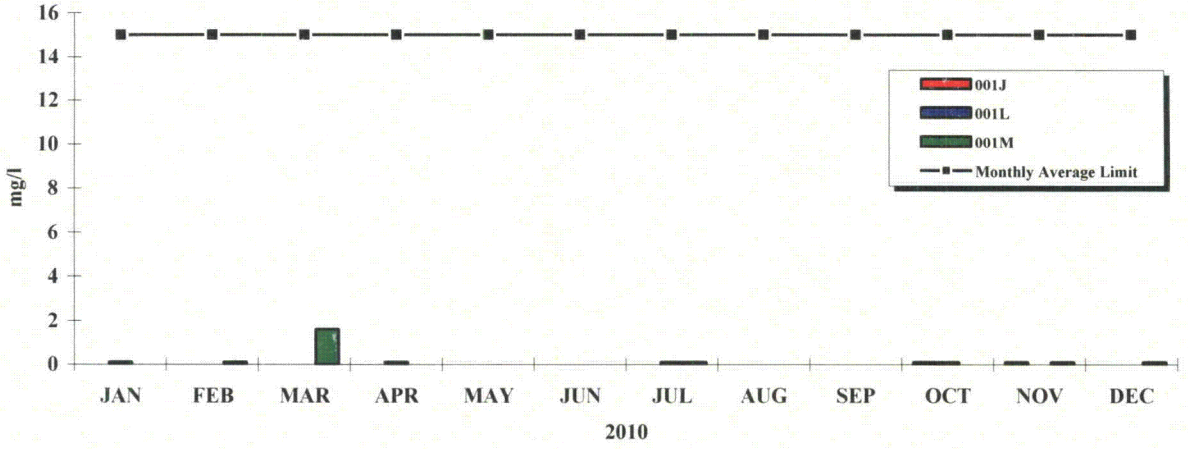
(Average, mg/l)



Note: Values plotted at zero were below the detection limit. Less than values are plotted at the value.
A daily maximum exceedence for 001D in April is not reflected in this plot. Only averages are plotted.

QUARTERLY OIL & GREASE

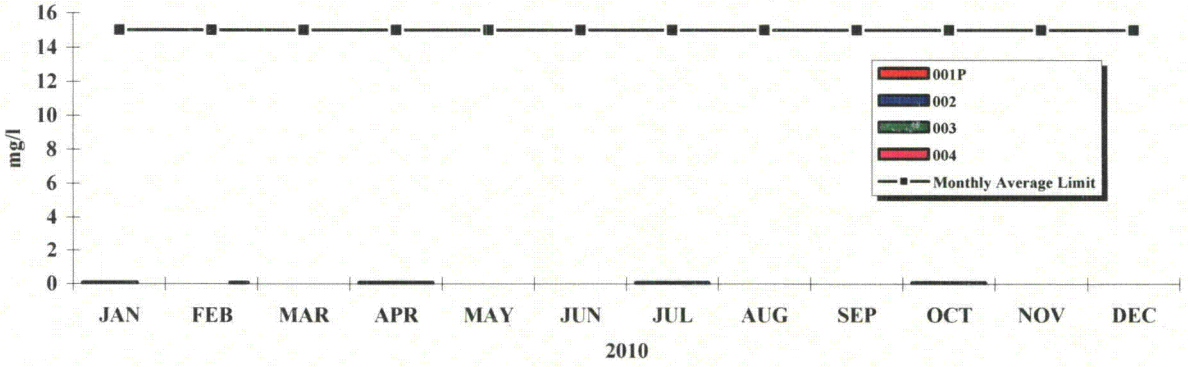
(Average, mg/l)



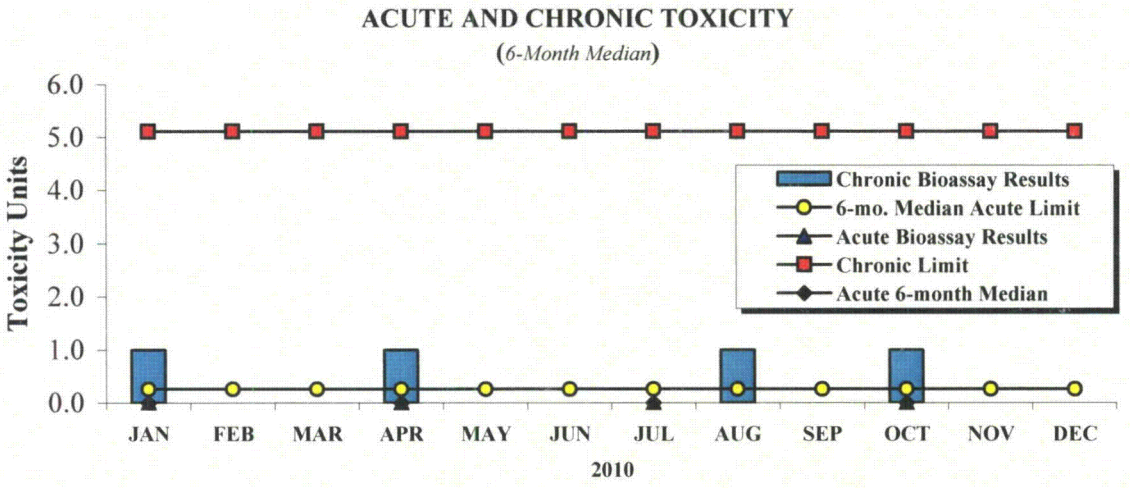
Note: Values plotted at zero were below the detection limit.

QUARTERLY OIL & GREASE

(Average, mg/l)



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


ACUTE AND CHRONIC TOXICITY
(6-Month Median)
Toxicity Units
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Chronic Bioassay Results
6-mo. Median Acute Limit
Acute Bioassay Results
Chronic Limit
Acute 6-month Median
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
2010

Annual Discharge Monitoring Report

APPENDIX 4

SUMMARY OF RWMP MONITORING FOR 2010

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	Feb 26	Jun 16	Aug 9	Dec 21
Vertical Band Transects	5 / 4x	Feb 12	Jun 16	Aug 11	Dec 8
Benthic Stations	8 / 4x	Apr 19	Jun 3	Sep 1	Nov 18
Fish Observation Transects	12 / 4x	May 10	Jul 9	Sep 13	Dec 13
Bull Kelp Census	* / 1x	n/a	n/a	n/a	Oct 22
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).