Pacific Gas and Electric Company

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

800.545.6000

PG&E Letter DCL-2008-511

Certified Return/Receipt
#7007-0220-0004-6736-0116

February 27, 2008

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, enclosed is the 2007 Annual 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: **Job Title:** **Phone Number:**	Bryan K. Cunningham Supervisor, Environmental Operations 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:	2007 (Annual Reports for **DCPP** are Jan-Dec)
Violation(s) (Place an X by the appropriate choice): * see NOTE	☐ **No** (there are no violations to report) ☐ **Yes**

** NOTE: Please see "Review of Compliance Record and Corrective Actions" section*

JE25
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):

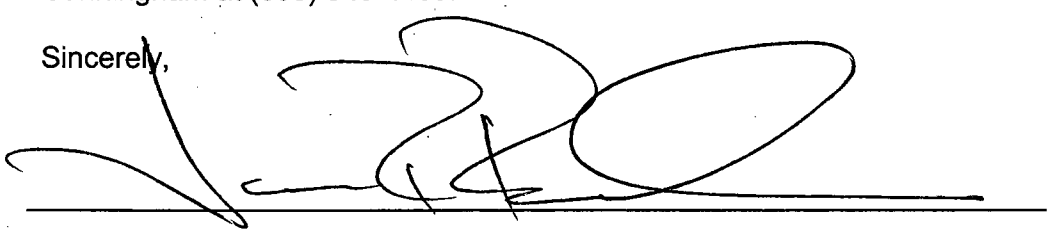
f) Explanation of Cause(s): (If "YES", see overview section of attached report)
(attach additional information as needed)

g) Corrective Action(s): (If "YES", see overview section of attached report)
(attach additional information as needed)

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 R. Becker
Title: Vice President - Diablo Canyon Operations and Station Director

2008511/JLK

cc: Peter von Langen, CCRWQCB (Cover Only)
895 Aerovista, Suite 101
San Luis Obispo, CA 93401-7906

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, Michael S. Peck
U.S. Nuclear Regulatory Commission
Diablo Canyon Power Plant 104/5

Regional Administrator
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Enclosure

ENCLOSURE

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

(NPDES NO. CA0003751)

2007

2007 Annual Summary Report on Discharge Monitoring
at the
Diablo Canyon Power Plant

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OVERVIEW

A. This annual summary report follows the format used in quarterly monitoring reports. Analytical results below the respective Reporting Limit (ND or non-detect) are plotted as a "zero" value in accordance with ELAP guidance. 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 2007, 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 and January 2001. 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 documents.

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. Results were less than 5 mg/l for discharges 009, 013 and 015. Results for discharges 005 and 008 were 11 mg/l and 5 mg/l, respectively. No discharges that resulted in adequate sample quantities occurred from 016 and no discharge occurred from 017 during 2007.

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 less than 0.200 mg/l, 123 mg/l, and 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 (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 2007 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 Consultants, 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)

4. Review of Compliance Record and Corrective Actions

a. Circulating Water Pump Chlorination/Bromination Monitoring

The 2007 quarterly NPDES reports discuss chlorination cycles when discharge monitoring was interrupted. These are listed below with brief descriptions of the cause and 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. An apparent exceedence occurred in August 2007 unrelated to an unmonitored condition (see description below).

Date	Chlorination Cycle Monitoring interruptions	Cause	Corrective Action
05/12/07	Unit 2 1 reading	Power to chlorine monitoring system was interrupted.	Chlorine injection stopped until monitor power restored.
06/27/07 to 07/03/07	Unit 1 36 readings	Shift of monitor calibration after 6/27/07 scheduled maintenance.	Monitor recalibrated after identification of conservative bias.
07/03/07 to 07/11/07	Unit 1 48 readings	Faulty air pump on monitor.	Pump replaced.
08/02/07 to 08/03/07	Unit 1 and Unit 2 6 readings each Unit	Valve mis-positions.	Procedure revised.
08/28/07	Unit 2 1 reading	Valve mis-position.	Procedure revised.
09/14/07 to 09/15/07	Unit 1 2 readings	Sample line blockage.	Line flushed.

On August 14, 2007 the 0000 hours reading on the Unit 1 discharge chlorine monitor reached a maximum of 114 ppb. This value is below the NPDES limit of 200 ppb. However, it is above the calculated effluent limit of 89 ppb from the California Ocean Plan for intermittent 20-minute chemical treatments. Investigation indicated that a strainer at the intake supplying seawater to the injection lines had become significantly fouled with shell debris allowing chemical to accumulate in the line. When the valve was flushed, the accumulated chemical was flushed through the line into the 1-1 conduit resulting in increased levels of chlorine at the discharge. Upon discovery, injection rates were decreased and dechlorination was initiated. The strainer was manually cleaned the following day. Injection seawater supply has returned to normal levels. CCRWQCB staff were notified the afternoon of August 14, 2007. Long term actions included increasing the frequency of strainer flushing and scheduling cleaning of seawater supply lines and the flush line (scheduled for February and March 2008 during refueling outage 1R14).

b. Closed Cooling Water Releases

During 2007, 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 2007 from the component cooling water (CCW), intake cooling water (ICW), and service cooling water (SCW) 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 (gal)	Glut (mg/l)	Iso (mg/l)	Total Suspended Solids (mg/l)	Oil & Grease (mg/l)	Reason & Comment
01/03/07	Unit 1 ICW	200	164	<0.25	--	--	Routine maintenance
01/26/07	Unit 2 SCW	33,000	191	<0.25	7.1	4.0	Routine maintenance
02/21/07	Unit 2 ICW	3,300	171	<0.25	12.2	<1.4	Routine maintenance
03/07/07	Unit 1 ICW	3,307	137	6.7	35.0	4.5	Routine maintenance
04/30/07	Unit 1 ICW	1,100	<50	<0.25	12.3	4.4	Routine maintenance
04/30/07	Unit 1 SCW	11,000	<50	<0.25	17.1	1.5	Routine maintenance
05/09/07	Unit 1 CCW	9,920	186	<0.25	3.8	2.6	Routine maintenance
05/15/07	Unit 1 CCW	25	173	<0.25	--	--	Routine maintenance
05/19/07	Unit 1 CCW	1,451	186	<0.25	--	--	Routine maintenance
05/31/07	Unit 1 SCW	33,499	222	<0.25	19.7	4.4	Routine maintenance
06/07/07	Unit 2 SCW	33,300	<50	4.4	2.6	3.1	Routine maintenance
06/30/07	Unit 2 SCW	80	67	4.4	--	--	Routine maintenance
07/20/07	Unit 1 ICW	48	254	<0.25	--	--	System Leakage
08/06/07	Unit 2 ICW	33,214	201	1.93	6.4	2.0	Routine maintenance
07/12/07 to 08/17/07	Unit 1 ICW	111	175	1.8	--	--	System Leakage
08/22/07	Unit 1 ICW	3,313	108	1.8	9.8	3.1	Routine maintenance
09/05/07	Unit 1 ICW	15	246	<0.25	--	--	Routine maintenance
10/02/07	Unit 2 ICW	15	167	0.7	--	--	Routine maintenance
10/17/07	Unit 2 ICW	10	97	0.7	--	--	Routine maintenance
10/23/07	Unit 2 SCW	330	59	<0.25	--	--	Routine maintenance
10/29/07	Unit 1 ICW	5	228	7.6	--	--	Routine maintenance
11/11/07	Unit 2 SCW	100	109	3.4	--	--	Routine maintenance
11/18/07	Unit 1 SCW	33,100	202	3.4	2.7	3.3	Routine maintenance
11/20/07	Unit 1 ICW	10	60	7.6	--	--	Routine maintenance
11/20/07	Unit 2 SCW	33,100	78	<0.25	17.2	2.9	Routine maintenance

c. Injections of sulfur hexafluoride (SF6)

Injections of sulfur hexafluoride (SF6) into DCPP's condensers were performed to detect saltwater leaks during this year. 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. Injections during 2007 are summarized below.

Date	Number of Injections	Duration (sec)	Injection Rate of SF6 (Standard Cubic Feet per Minute)	Total SF6 Injected (Cubic Feet)
01/29/07	8	30	10	40

d. Discharge 001N – Sewage Treatment Plant Discharge

On Thursday, 6/14/07, the weekly sample for settleable solids was taken from the sewage treatment plant (Discharge 001N). The sample was delivered to the certified contract laboratory on Friday 6/15/07. Analysis of the sample could not be performed until Sunday, 6/17/07 because appropriate laboratory personnel were unavailable. Therefore, the sample was analyzed approximately 24-hours after the end of the 48-hour maximum holding time. The result of the analysis was below the 0.1 ml/L reporting limit (non-detect). Due to the nature of settleable solids as an analyte, it is unlikely that the result was significantly affected by the extended holding period. Discussion regarding the late analysis were held with the sewage treatment system operator and the contract laboratory manager. Sampling times have been adjusted to avoid necessity for Friday sample deliveries to the off-site laboratory.

On June 21, 2007, the weekly sample from the sewage treatment plant (Discharge 001N) was taken and delivered to the off-site contract laboratory for analysis (Creek Environmental). The sample was analyzed on June 22nd, and reported to contain 3.9 ml/L of settleable solids. The maximum discharge concentration for this parameter from Pathway 001N in DCPP's NPDES permit is 3.0 ml/L. Upon receiving the analysis result from the contract laboratory on July 2, 2007, DCPP contacted the Regional Board and reported the apparent exceedance. Regional Board Staff (von Langen) waived the 5-day report and requested that a description of the event be included in the Discharge Monitoring Report for the second quarter 2007.

Settleable solids are typically non-detect (ND) (<0.1 ml/L) in samples taken from the sewage system effluent. Samples are obtained from the bucket of the system decanting apparatus. This is a conservative location for sampling the pathway because it is upstream of the lift station cistern, where mixing and dilution by previously-decanted fluid occurs.

Results for settleable solids samples taken in the two weeks prior to June 21, (June 8th and June 14th) were 0.1 ml/L and ND respectively. The result for the sample subsequent to June 21 (on June 27th) was ND again. The monthly average limit for settleable solids in 001N effluent is 1.0 ml/L. The monthly average limit was approached but not exceeded for June inclusive of the 3.9 ml/L laboratory result obtained from the June 21st sample.

The system operator performs at least two samples in sequence each week during a decant phase. One sample is analyzed on-site to assess real-time system performance, and the second sample sent to a qualified off-site laboratory. The result for on-site analysis of the sample taken at 09:15 on June 21st was 2.5 ml/L settleable solids. However, this analysis is not recognized as a formal result because it is not conducted by a certified laboratory. The second sample taken at 09:17 was delivered to a contract laboratory certified to perform the analysis by the State Environmental Laboratory Accreditation Program (ELAP). The 3.9 ml/L settleable solids result of that analysis is the value reported for the pathway.

The June 21st samples were taken as sewage plant operation was in a transitional period to a more typical processing rate after a plant refueling outage when sewage system flows are significantly increased. A potential system anomaly that could result from substantial sewage flow reduction is described below in the background information. No other system changes or events were identified as potential contributing factors to the June 21st laboratory result. No system operating condition or equipment issue has been identified that would have generated excess settleable solids in the decanting aqueous phase. System pumps, aeration equipment, and electrical/mechanical equipment logic controls showed no evidence of failure. Operational logs for the facility did not evidence significant unusual conditions previous to, or immediately after, the June 21st sampling period.

Background information regarding the DCPP sewage treatment system:

Liquid sewage influent undergoes a 90-minute aeration within a cement treatment tank. Aeration is followed by a 60-minute settling period. Following settling, a decanting arm slowly pivots down to allow the separated aqueous phase to flow-out over a 90-minute period. Settled

solids in the treatment tank can then be pumped to a sludge holding tank if required. Solids transfer to the sludge holding tank is accomplished both automatically and manually. An automatic transfer of solids occurs once daily; typically lasting for 10-minutes and occurring at the end of a settling period. The sewage treatment plant operator may elect to perform additional manual transfer to maintain suspended solids in a 3,000-3,500 mg/L target band during aeration steps. These manual transfers are intended to optimize aerobic (oxygenated) bacterial digestion of the sewage undergoing treatment. During periods when average sewage flow is significantly increasing or decreasing, the system operator may need to make adjustments of the daily sludge transfer rate to maintain target operating ranges.

Following the settling phase, effluent flows into the decanting bucket of the pivot arm and is then gravity fed to a pumping station cistern. The pumping station lifts accumulated effluent within the cistern which then flows by gravity to the 001N discharge point. The 001N pathway discharges into, and is combined with, DCPP's main cooling water circulating system flow prior to final outfall through the 001 discharge. Effluent from the sewage treatment system is therefore significantly diluted prior to final outfall from the power plant to receiving waters.

Prolonged suspension of solids during the settling phase can occur if conditions that inhibit normal settling exist. One such set of conditions includes an unusually high bacterial population and relatively vigorous anaerobic (non-oxygenated) bacterial digestion within the solid phase. Vigorous anaerobic digestion within the sludge could generate off-gassing at a rate sufficient to keep pushing a portion of the solids back up into the aqueous layer. It is believed that this type of scenario may have caused the isolated event on June 21st, 2007. However, that has not been conclusively determined.

Significant changes of the system bacterial population can occur during transitions from a relatively high rate of processing to lower, more routine, operational volumes. Such circumstances take place following refueling outages at DCPP when augmented plant staffing is rapidly reduced, i.e., the plant population is reduced by more than one fourth within a single week. Essentially, the bacterial population established during heavy sewage influx is subjected to reduced nutrient availability, causing the population equilibrium to shift to a new state. Such a shift has potential to produce a significant anaerobic system condition that may be accompanied by gaseous disturbance of the settled solids. Such events are not routine, and would only occur when variant conditions (temperature, bacterial population density and composition, bacterial nutrient mixture, influent chemical composition) combined to create an environment favorable for such an event. Such conditions in a frequently aerated treatment system would be considered off-normal, and anticipated to be short term in duration.

e. Acute Bioassay Mortalities – 4th Quarter 2007

Laboratory reports showed apparent toxicity for effluent in two acute bioassays. Three acute bioassays were performed on water sampled from Discharge 001 on October 25-29, 2007, December 6-10, 2007, and December 14-18, 2007. The October bioassay results indicated possible toxicity with one mortality in the 100% solution. Therefore a second test was run on a sample taken on December 5, 2007. The second test result indicated additional toxicity. However, results were suspect because one 100% tank had 5 mortalities and the other 100% tank had none. A third test on DCPP effluent, sampled on December 13, 2007, indicated no toxicity. Based on the results of the three tests, the six month median is 0.41 (95% survival) which exceeds DCPP's 0.26 acute toxicity limit. Toxicity tests are considered valid if control survival is above 90%. Therefore, the first test result was within the standard range for acceptable survival levels, yet it still exceeded the limits set forth in DCPP's NPDES permit (Order 90-09). One valid mortality would cause exceedance of this limit. In discussions with laboratory staff and Regional Water Quality Control Board staff, it was agreed that these positive test results were likely anomalies and not true indications of effluent toxicity. The validity of this conclusion is supported by the results of the chronic toxicity test, a far more sensitive test, that did not indicate any toxicity for the October water sample. The acute toxicity median value of 0.41 resulting from inclusion of these test results is therefore suspect, and actual effluent toxicity exceedance highly unlikely.

B. Monitoring of Receiving Water

1. Ecological Studies at Diablo Canyon

Marine ecological monitoring was continued during 2007 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 2007. Results of 2006 RWMP data were submitted to the CCRWQCB on April 28, 2007. A table in Appendix 4 summarizes requirements and completed tasks for 2007. The second replicate of the fourth survey of Fish Observation Transects was completed for six out of twelve stations due to unfavorable ocean conditions from December 2007 through January 2008.

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, except for one reading in August (reference section 4.a). Typically, discharge values were between 20 ppb to 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 mid-April 2007 with brief interruptions due to check valve and discharge monitor maintenance. On April 20th, sodium bromide injections were shut down, while sodium hypochlorite injections continued until April 27th when Unit 1 main conduit chemical treatment was secured for the 1R14 refueling outage. Simultaneous injections were restarted May 24th and ran through the rest of 2007 with brief interruptions for maintenance activities in mid-August, late September, late October, early November and early December (conduit 1-1 only).

Both conduits of Unit 2 were treated with simultaneous injections of sodium bromide and sodium hypochlorite six times a day throughout the first quarter with a brief interruption due to check valve maintenance. Unit 2 injections were shut down on March 30 in preparation for a Unit 2 tunnel cleaning that started in early April. Injections were restarted after tunnel cleaning completion on April 3rd and 5th. Simultaneous injections of sodium hypochlorite and sodium bromide continued for Unit 2 the remainder of 2007 with brief interruptions due to maintenance activities in April, May, mid-August, late September, late October, early November and early December.

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

2007 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	55.0	52.7	53.8	73.9	71.6	72.8	19.7	19.0	2486	2486	2486
FEB	56.1	52.4	54.5	75.0	71.2	73.2	19.2	18.7	2486	2486	2486
MAR	53.5	50.6	51.9	72.1	69.1	70.4	19.0	18.5	2486	2486	2486
APR	51.3	48.4	50.2	70.1	64.8	68.6	19.2	18.4	2486	1862	2419
MAY	51.9	48.7	50.0	70.2	62.1	67.3	18.9	17.3	2486	1279	1499
JUN	54.7	49.3	51.2	73.4	66.5	69.4	18.7	17.6	2486	2486	2486
JUL	54.8	49.8	52.5	73.1	68.0	70.7	18.5	18.3	2486	2486	2486
AUG	55.5	50.7	53.9	74.0	60.4	70.5	19.1	16.6	2486	1950	2465
SEP	57.1	51.6	54.7	76.1	70.2	73.4	19.1	18.7	2486	2486	2486
OCT	55.6	51.0	53.5	74.7	69.9	72.5	19.6	19.0	2486	2486	2486
NOV	56.6	53.1	54.6	76.1	72.1	73.8	19.7	19.2	2486	2486	2486
DEC	54.5	51.4	53.0	74.0	63.1	71.8	20.2	18.8	2486	1941	2457
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 INFFLUENT 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	53	14	33	619	430	496
FEB	49	16	32	547	432	468
MAR	71	14	32	547	230	450
APR	28	<10	20	461	202	370
MAY	62	<20	32	465	134	250
JUN	34	12	25	518	446	490
JUL	34	10	22	562	403	480
AUG	114	<10	16	706	410	596
SEP	37	<10	16	749	394	656
OCT	37	11	25	734	360	548
NOV	41	13	26	576	384	536
DEC	49	23	35	518	341	474

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.

2007 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)	ND(10)	ND(10)	ND(10)
FEB	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
MAR	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
APR	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
MAY	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	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)	10	ND(10)	ND(10)	ND(10)
AUG	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
SEP	ND(10)	ND(10)	ND(10)	ND(10)	10	ND(10)	ND(10)	ND(10)
OCT	0.5	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	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)	10	ND(10)
6-month median limit:		10	-	10	-	30	-	70

* Note: Influent zinc has been historically higher than effluent concentrations.

DISCHARGE 001
VARIOUS ANNUAL ANALYSES

Parameter	(monthly avg. ug/l) Influent	Effluent	6-Mo. Med. Effluent Limit
Arsenic	1.5	1.5	30
Cadmium	<0.04	<0.04	10
Cyanide	ND(10)	ND(10)	30
Lead	0.22	0.04	10
Mercury	ND(0.001)	ND(0.001)	0.2
Silver	<10	<10	2.9
Titanium	-	ND(10)	none
*Phenolic Compounds (non-chlorinated)	ND(13.32)	ND(15.12)	150
**Phenolic Cmpds (chlorinated)	ND(3.35)	ND(3.75)	10
***PCB's	ND(1.59)	ND(1.60)	none

*Reporting limits shown are the sum of individual Reporting Limits for 8 target compounds.
**Reporting limits shown are the sum of individual Reporting Limits for 6 target compounds.
***Reporting limits shown are the sum of individual Reporting Limits for 7 target compounds.

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

Month	Influent	Effluent
JAN		
FEB	ND(200)	ND(200)
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

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MONTHLY pH (averages)

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

DISCHARGE 001F

	GREASE & OIL (mg/l)		SUSPENDED SOLIDS (mg/l)	
Month	high	avg	high	avg
JAN	ND(5)	ND(5)	19	18
FEB	11	11	17	17
MAR	ND(5)	ND(5)	13	13
APR	ND(5)	ND(5)	17	16
MAY	ND(5)	ND(5)	15	15
JUN	ND(5)	ND(5)	13	13
JUL	ND(5)	ND(5)	13	12
AUG	ND(5)	ND(5)	10	10
SEP	5	5	20	20
OCT	ND(5)	ND(5)	13	13
NOV	ND(5)	ND(5)	15	14
DEC	ND(5)	ND(5)	10	9
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)	ND(5)	ND(5)	17	10	13	ND(0.1)	ND(0.1)	ND(0.1)
FEB	ND(5)	ND(5)	ND(5)	28	12	16	ND(0.1)	ND(0.1)	ND(0.1)
MAR	6	ND(5)	<5	74	15	32	ND(0.1)	ND(0.1)	ND(0.1)
APR	ND(5)	ND(5)	ND(5)	14	8	12	ND(0.1)	ND(0.1)	ND(0.1)
MAY	6	ND(5)	<5	76	29	44	ND(0.1)	ND(0.1)	ND(0.1)
JUN	ND(5)	ND(5)	ND(5)	58	7	33	3.9	ND(0.1)	1.0
JUL	ND(5)	ND(5)	ND(5)	45	ND(5)	20	ND(0.1)	ND(0.1)	ND(0.1)
AUG	6	ND(5)	<5	17	8	12	ND(0.1)	ND(0.1)	ND(0.1)
SEP	ND(5)	ND(5)	ND(5)	14	10	12	ND(0.1)	ND(0.1)	ND(0.1)
OCT	ND(5)	ND(5)	ND(5)	23	11	15	ND(0.1)	ND(0.1)	ND(0.1)
NOV	ND(5)	ND(5)	ND(5)	23	9	14	ND(0.1)	ND(0.1)	ND(0.1)
DEC	ND(5)	ND(5)	ND(5)	33	ND(5)	16	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.

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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(10)	ND(10)	ND(10)	ND(10)	ND(10)	16	26	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	10
FEB																
MAR																
APR	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	31	61	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
MAY																
JUN																
JUL	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	<10	<10	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)
AUG																
SEP																
OCT	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	19	27	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	140	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	ND(0.20)	ND(10)	ND(10)	ND(10)	ND(0.20)	16	ND(10)	13	ND(0.20)	ND(10)	ND(10)	ND(10)	ND(0.20)	ND(10)	ND(10)	55
FEB																
MAR																
APR	ND(0.2)	ND(10)	ND(10)	212	ND(0.2)	22	ND(10)	17	ND(0.2)	ND(10)	ND(10)	ND(10)	ND(0.2)	11	ND(10)	17
MAY																
JUN																
JUL	ND(0.20)	ND(10)	ND(10)	43	<0.20	<10	ND(10)	ND(10)	ND(0.20)	ND(10)	ND(10)	ND(10)	ND(0.20)	ND(10)	ND(10)	ND(10)
AUG																
SEP																
OCT	ND(0.20)	ND(10)	ND(10)	170	ND(0.20)	16	ND(10)	<10	ND(0.20)	ND(10)	ND(10)	ND(10)	ND(0.20)	86	ND(10)	57
NOV																
DEC																

limit: none

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

2007 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(5)	ND(5)				ND(5)	ND(5)	23	ND(5)	ND(5)
FEB	<5	ND(5)	ND(5)		ND(5)		ND(5)		ND(5)	9	ND(5)
MAR	<5	ND(5)	ND(5)				ND(5)		19	<5	6
APR	<5	ND(5)	ND(5)		ND(5)		ND(5)		ND(5)	ND(5)	9
MAY	<5	ND(5)	ND(5)		ND(5)		ND(5)		ND(5)	6	23
JUN	<5	ND(5)	ND(5)				ND(5)		ND(5)	ND(5)	<5
JUL	<5	ND(5)	ND(5)				ND(5)	7	5	ND(5)	5
AUG	<5	ND(5)	ND(5)		ND(5)		ND(5)		ND(5)	ND(5)	ND(5)
SEP	<5	ND(5)	ND(5)				ND(5)	ND(5)	ND(5)	ND(5)	5
OCT	<5	ND(5)	ND(5)				ND(5)		5	<5	5
NOV	<5	ND(5)	ND(5)				ND(5)		5	ND(5)	10
DEC	<5	ND(5)	ND(5)				ND(5)	ND(5)	ND(5)	<5	14
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 2007.
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	ND(5)	ND(5)	ND(5)				ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	
FEB	ND(5)				ND(5)		ND(5)					ND(5)
MAR	ND(5)											
APR	<5	ND(5)	ND(5)		ND(5)		ND(5)		ND(5)	ND(5)	ND(5)	ND(5)
MAY	<5						ND(5)					
JUN	ND(5)						ND(5)					
JUL	<5	ND(5)	ND(5)				ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
AUG	<5				ND(5)							
SEP	8							ND(5)				
OCT	<5	ND(5)	ND(5)				ND(5)		ND(5)	ND(5)	ND(5)	ND(5)
NOV	<5											
DEC	ND(5)		ND(5)					ND(5)				
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 2007.

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

	ACUTE		*CHRONIC
Month	Test Result	6-Month Median	Test Result
JAN			
FEB	0.00	0.00	1.0
MAR			
APR	0.00	0.00	1.0
MAY			
JUN			
JUL	0.00	0.00	1.0
AUG			
SEP			
OCT	0.41	0.41	1.0
NOV			
DEC	0.82	0.41	
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.

NOTE: Two acute toxicity tests in October and December had mortalities. Test results were suspect, but are being reported. See Summary of Monitoring Program Section 4.e.

DISCHARGE 001N
ANNUAL ANALYSES

Sludge Parameter	Result	Limit
Percent Moisture	99%	None
Total Kjeldahl Nitrogen	1200 mg/kg	None
Ammonia (N)	86 mg/kg	None
Nitrate (N)	ND(1) mg/kg	None
Total Phosphorus	230 mg/kg	None
pH	7.0	None
Oil and Grease	ND(200) mg/kg	None
Boron	ND(3) mg/kg	None
Cadmium	ND(0.3) mg/kg	10 X STLC*
Copper	3.6 mg/kg	10 X STLC
Chromium	ND(0.5) mg/kg	10 X STLC
Lead	ND(1) mg/kg	10 X STLC
Nickel	ND(0.5) mg/kg	10 X STLC
Mercury	ND(0.04) mg/kg	10 X STLC
Zinc	7.4 mg/kg	10 X STLC
Volume	1.06 tons	None

Note: Annual samples were collected in October.

* STLC = Soluble Threshold Limit Concentration

APPENDIX 3

GRAPHICAL SUMMARIES OF INFLUENT AND EFFLUENT MONITORING

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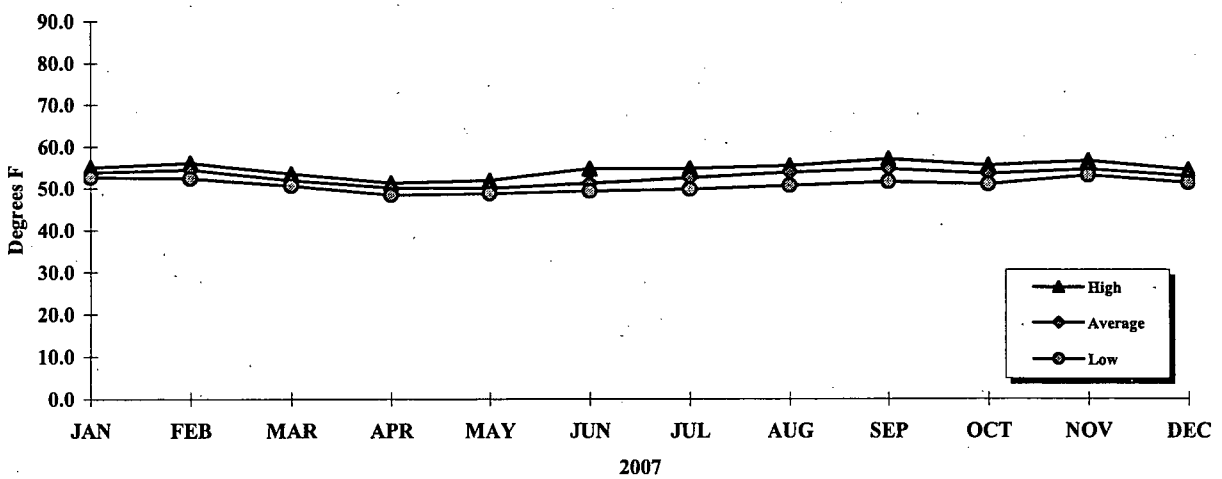
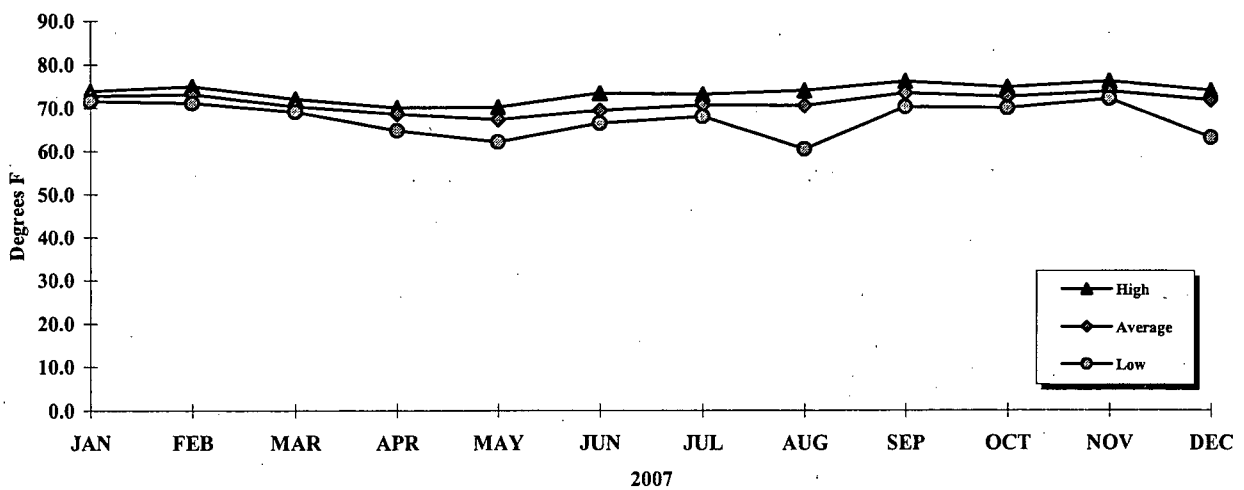
DISCHARGE 001 INFLUENT

Temperature (°F)



DISCHARGE 001 EFFLUENT

Temperature (°F)



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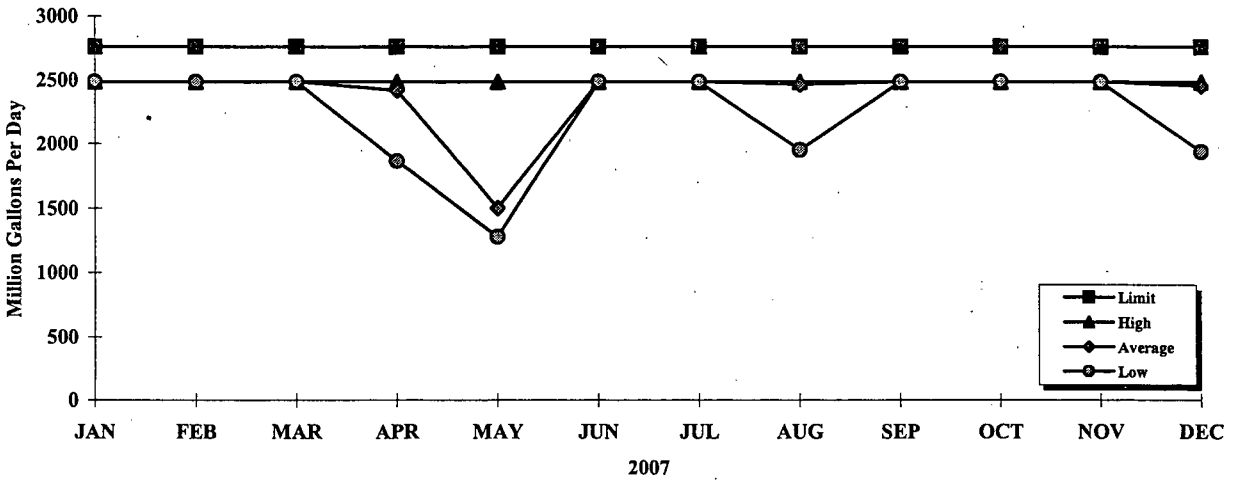
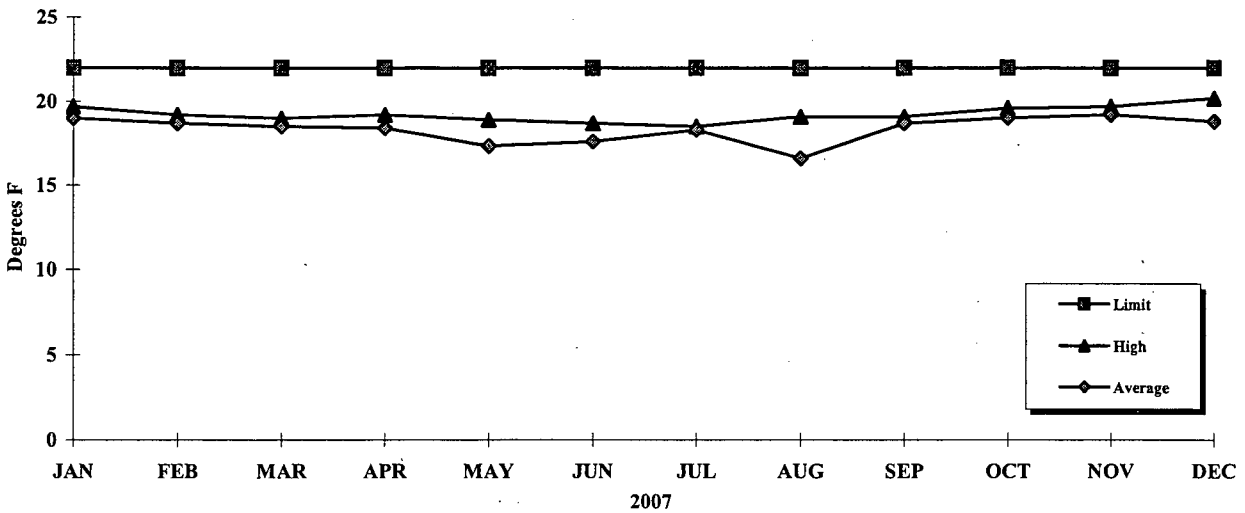
DISCHARGE 001 EFFLUENT

Flow (MGD)



DISCHARGE 001 EFFLUENT

Monthly Delta T (°F)



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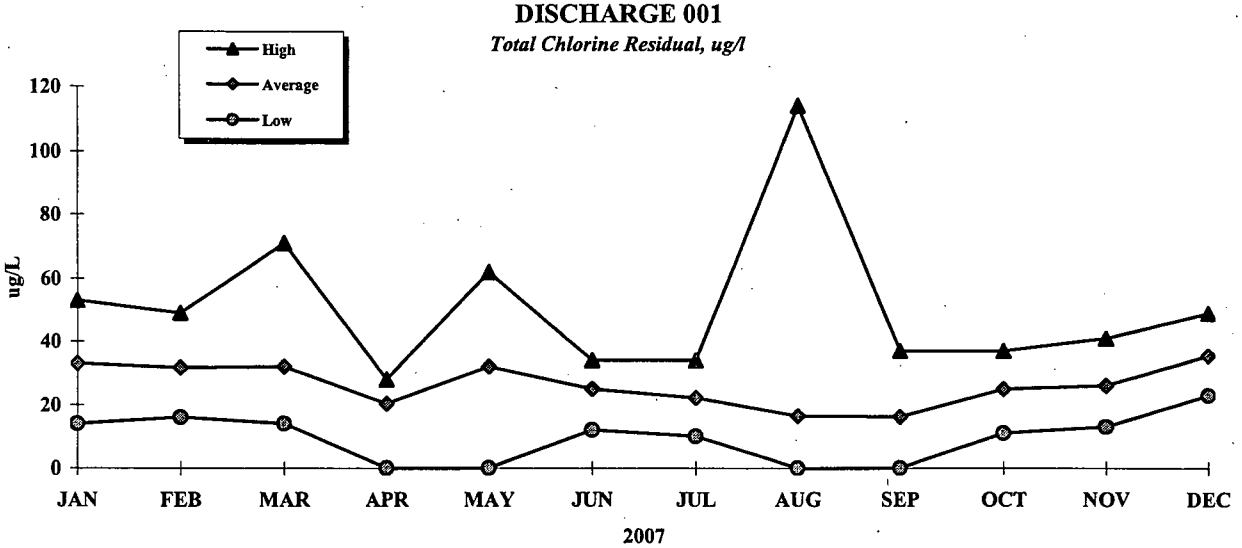
DISCHARGE 001

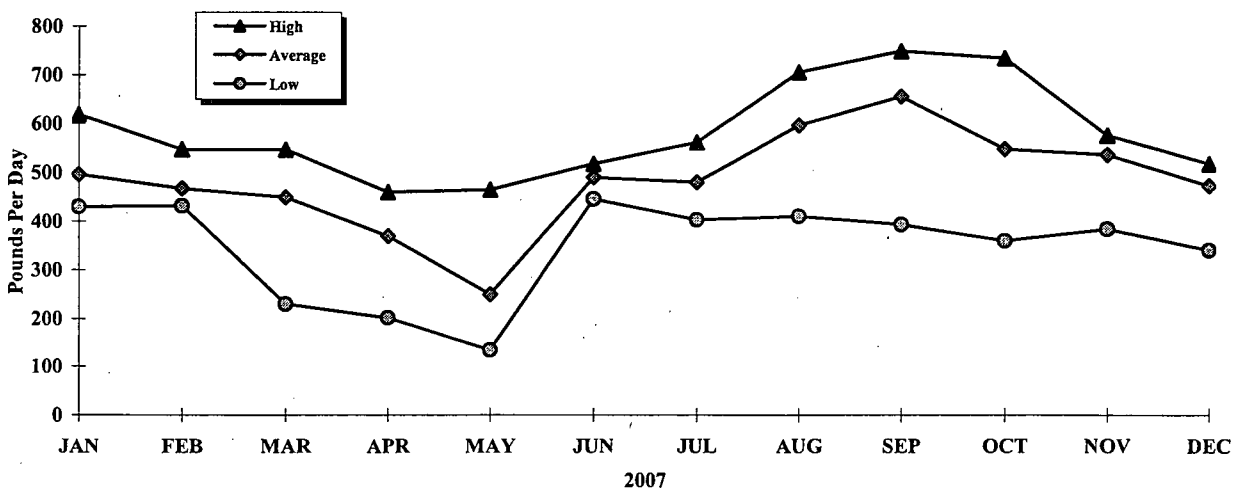
Total Chlorine Residual, ug/l



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

DISCHARGE 001

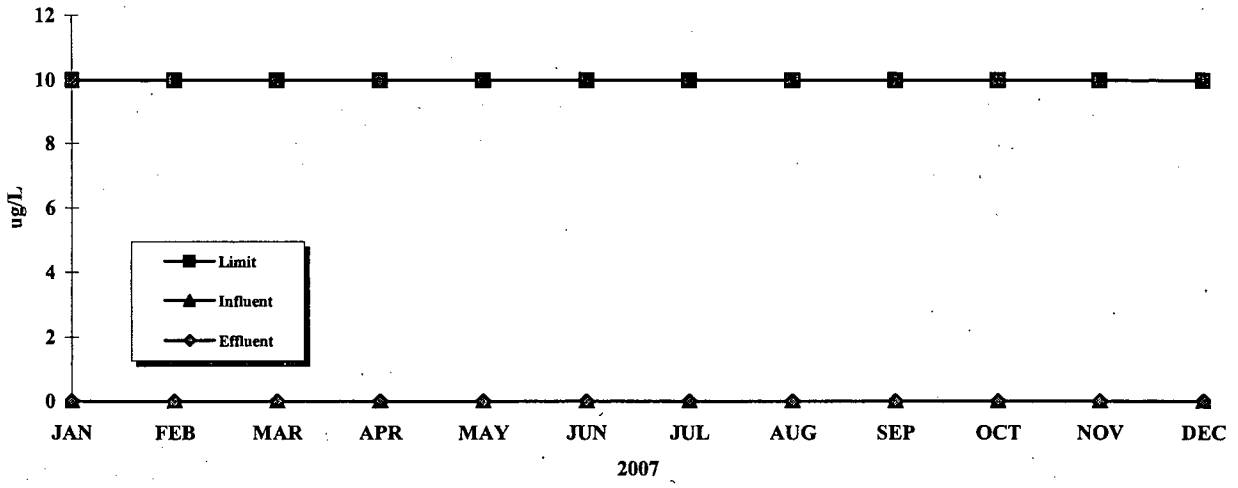
Total Chlorine Used, pounds per day



2007 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

DISCHARGE 001

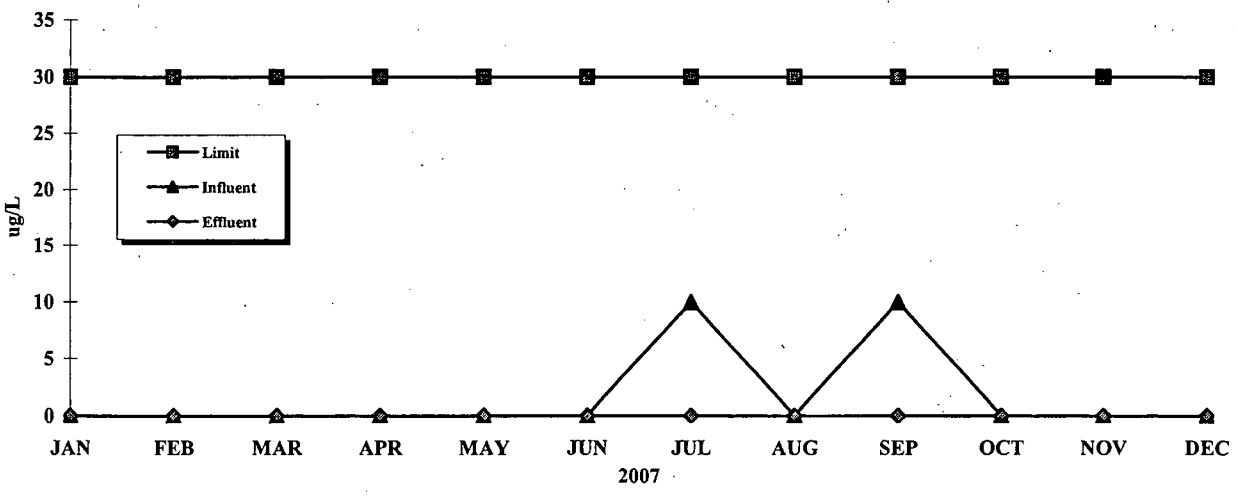
Copper (monthly average, ug/l)



Note: The analyte was not detected at or above the reporting 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 Copper is 50 ug/l.

DISCHARGE 001

Nickel (monthly average, ug/l)

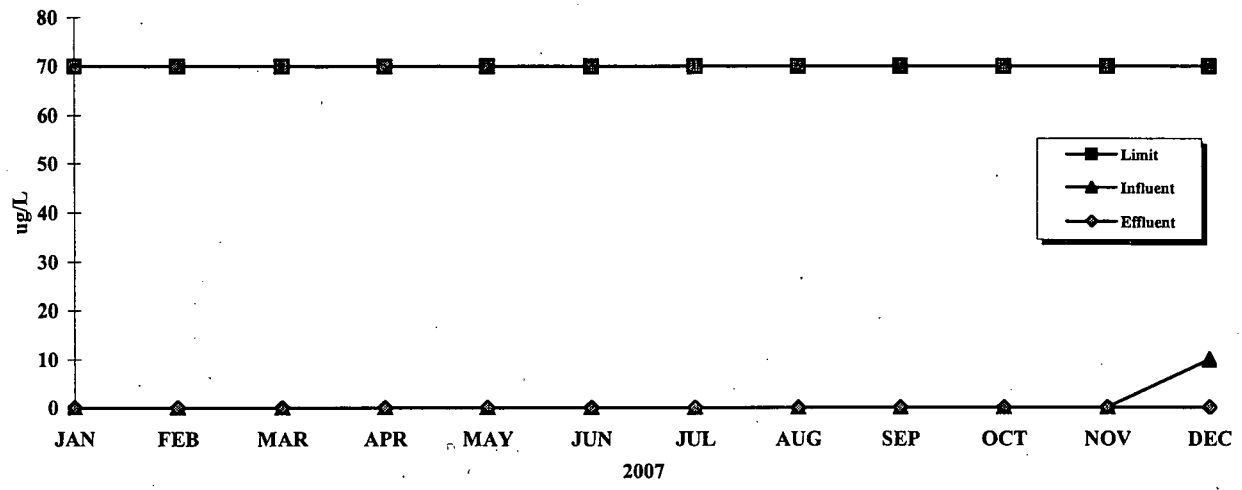


Note: The analyte was not detected at or above the reporting limit for values plotted at zero.
The 6-month median limit (the most conservative limit) is plotted on this chart.
The daily maximum limit for Nickel is 100 ug/l.

2007 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

DISCHARGE 001

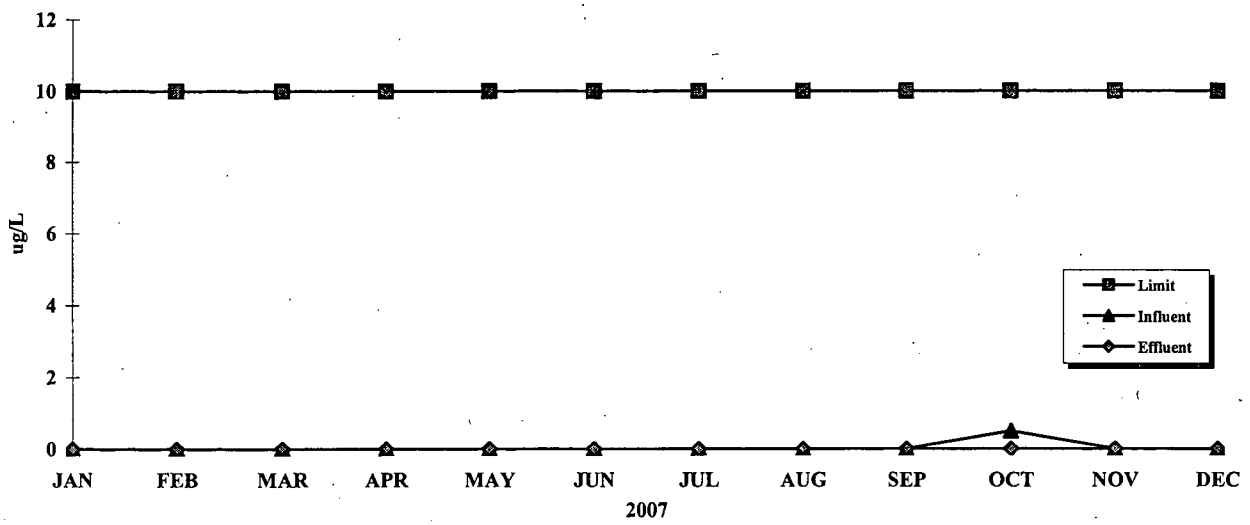
Zinc (monthly average, ug/l)



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

DISCHARGE 001

Chromium (monthly average, ug/l)



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. The daily maximum limit for chromium is 40 ug/l.

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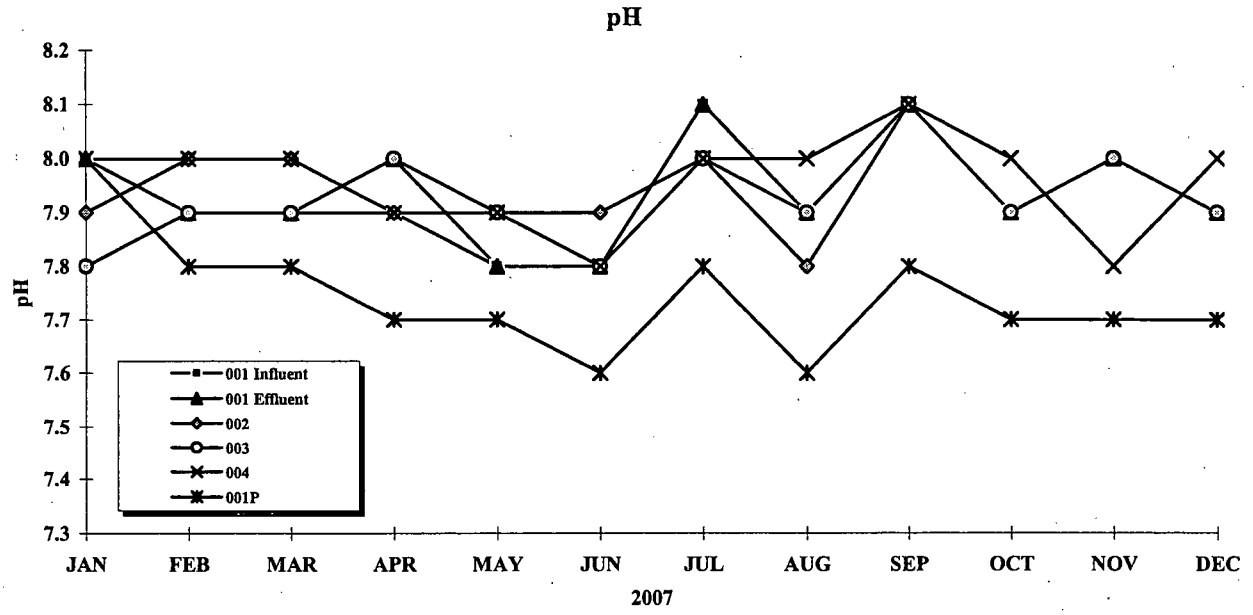
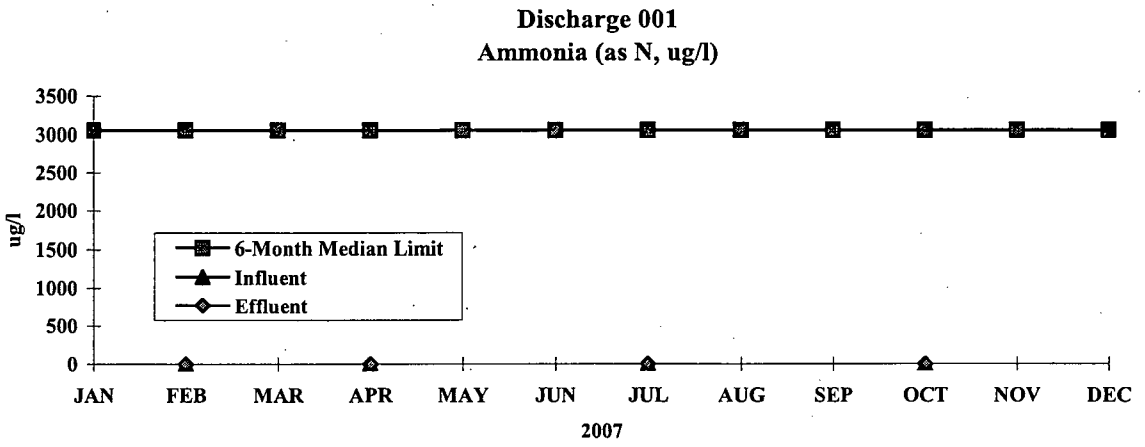


Note: Several data points on this chart overlap.



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

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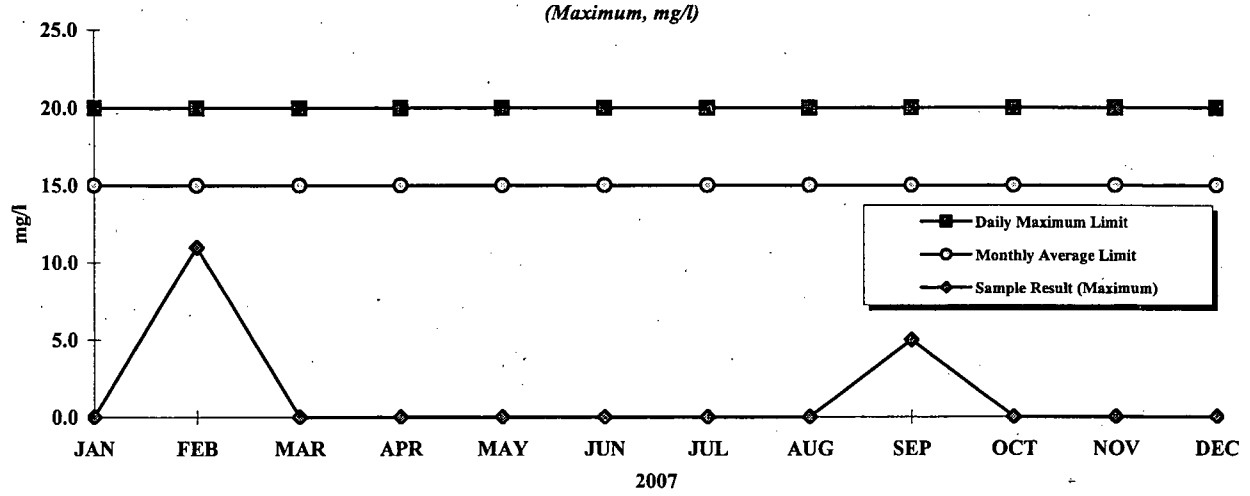
DISCHARGE 001F

Oil & Grease

(Maximum, mg/l)

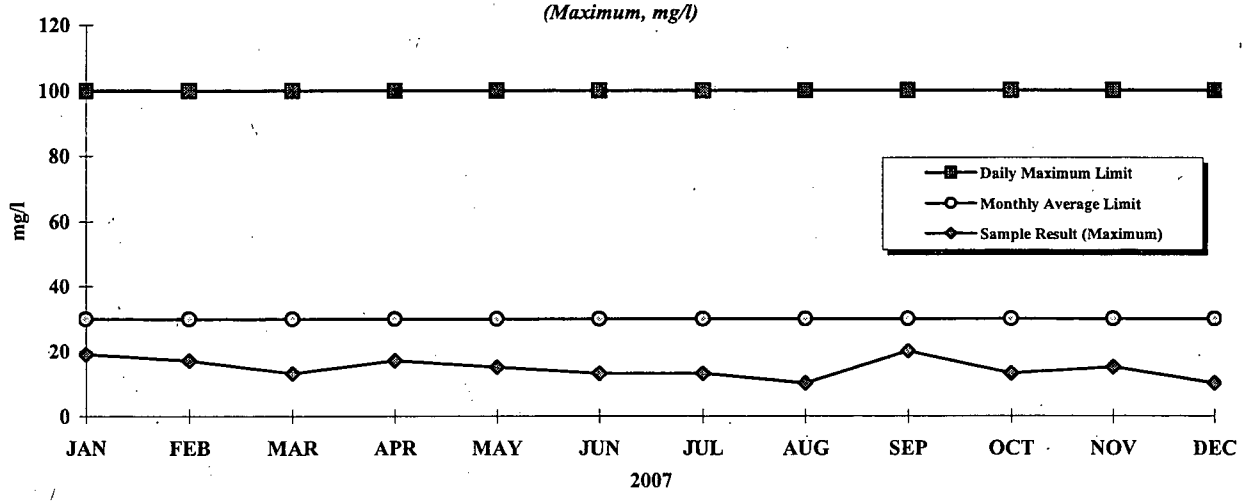


Note: Values plotted at zero were below the reporting limit.

DISCHARGE 001F

Suspended Solids

(Maximum, mg/l)

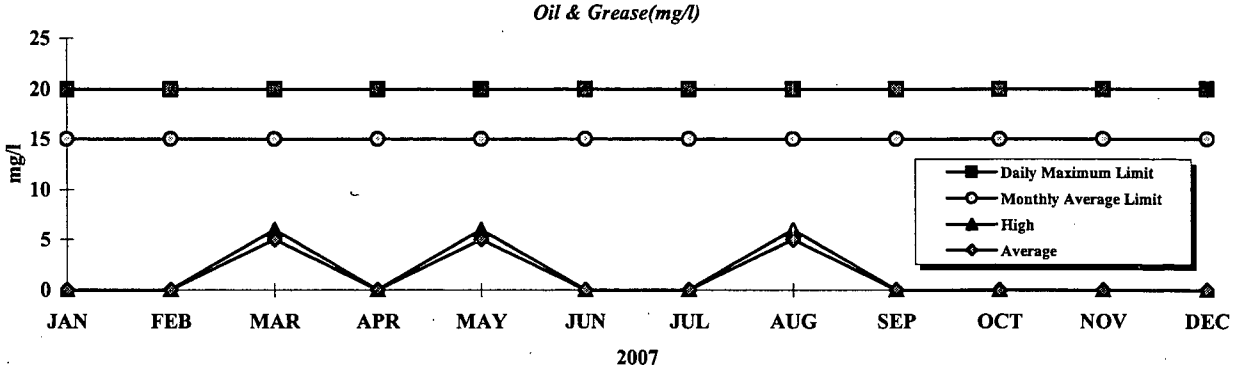


Note: Maximum values are plotted.

2007 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

DISCHARGE 001N

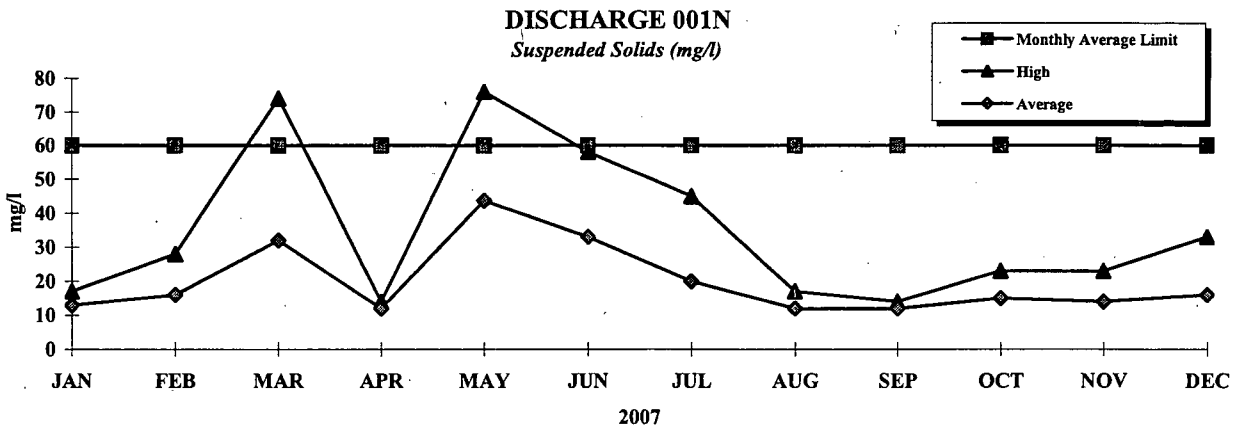
Oil & Grease(mg/l)



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

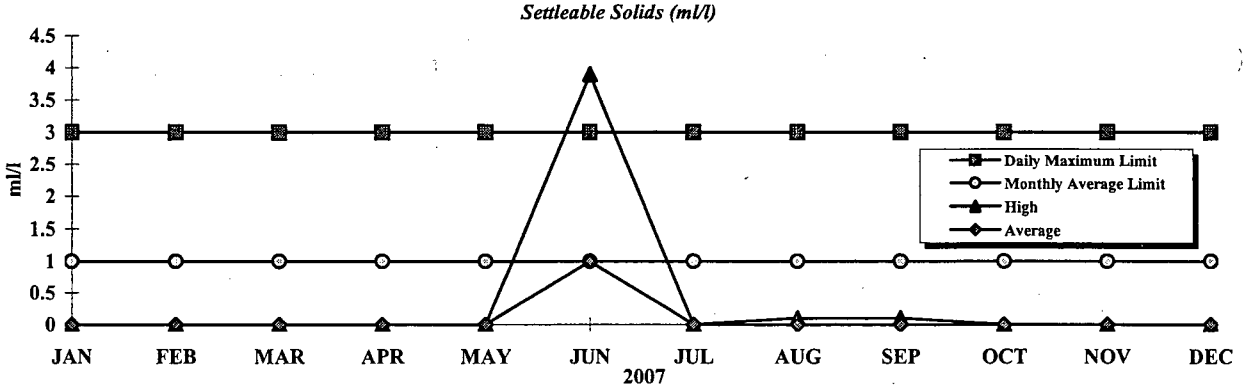
DISCHARGE 001N

Suspended Solids (mg/l)



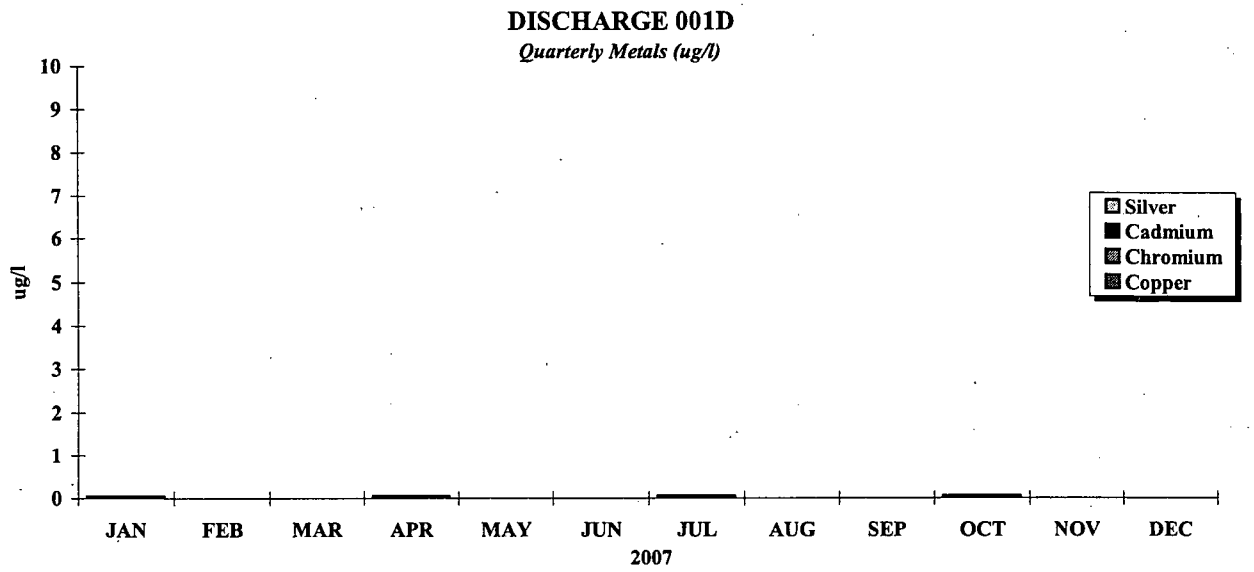
DISCHARGE 001N

Settleable Solids (ml/l)

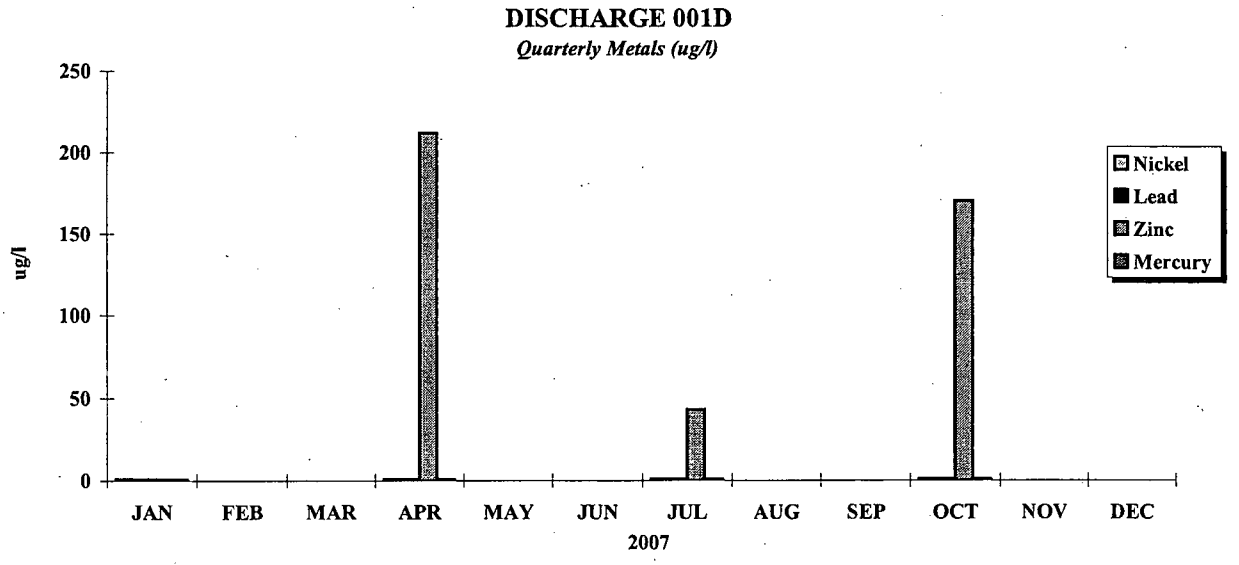


Note: Values plotted at zero were below the reporting limit.
High, average, and low values overlap at ten points on this plot.

2007 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

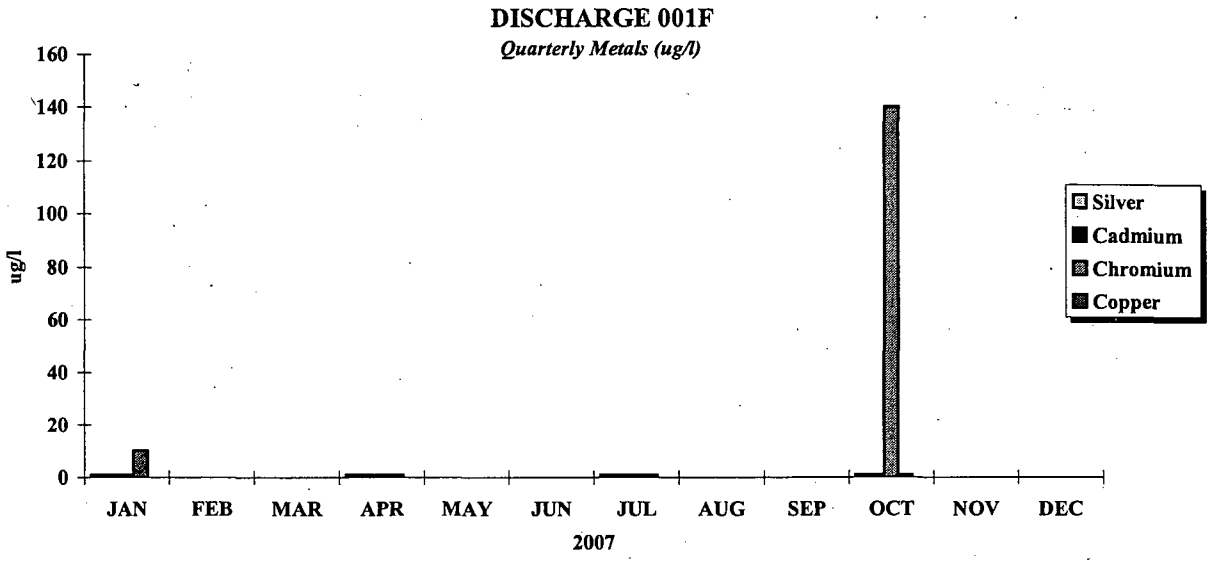


Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

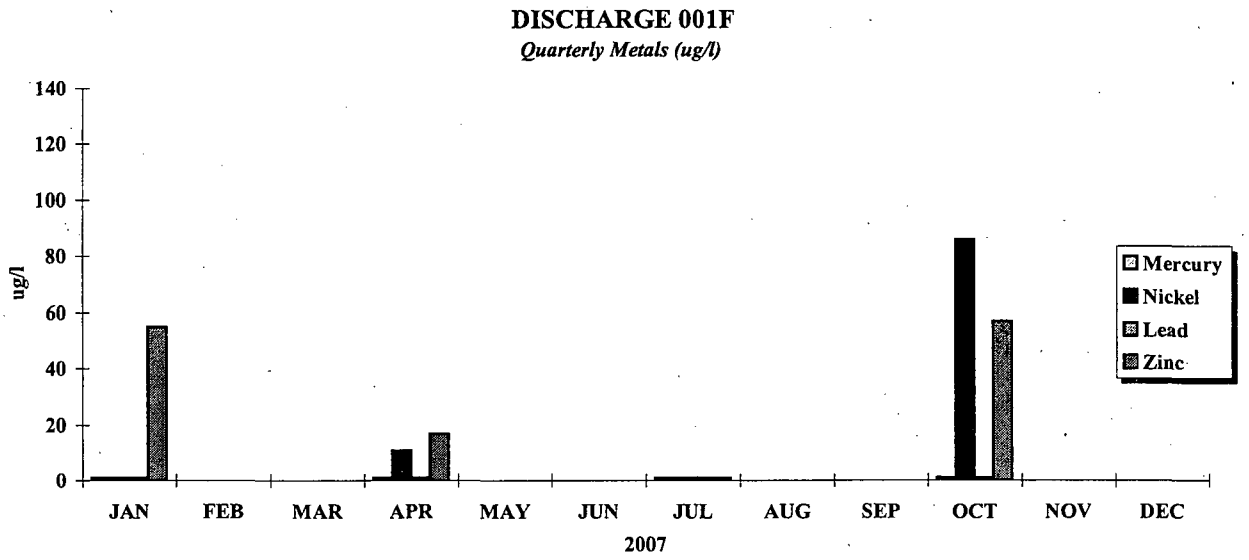


Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

2007 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

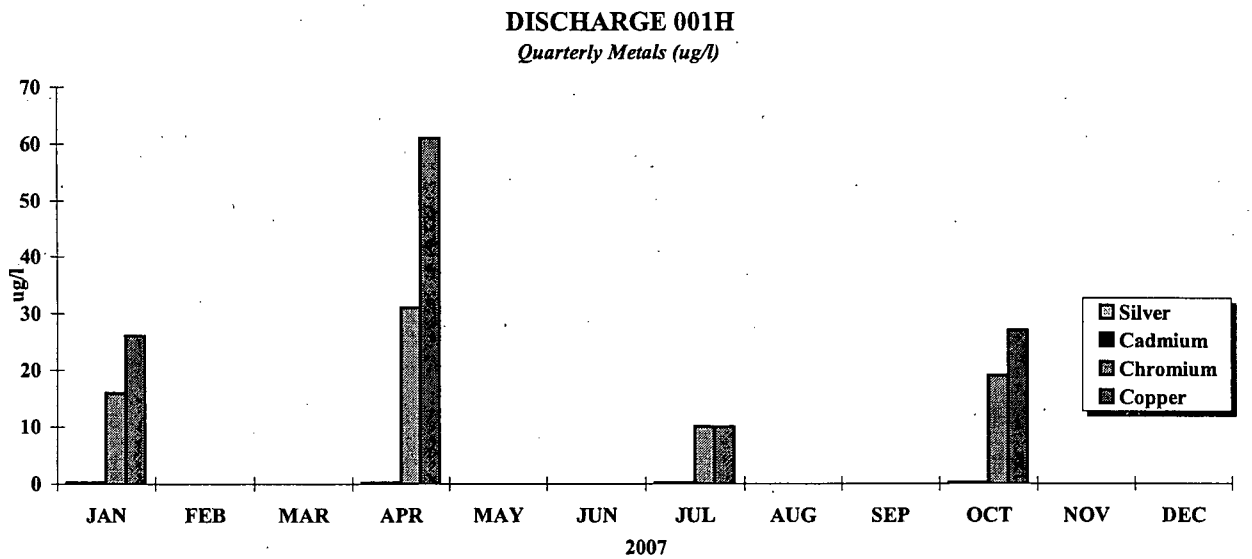


Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

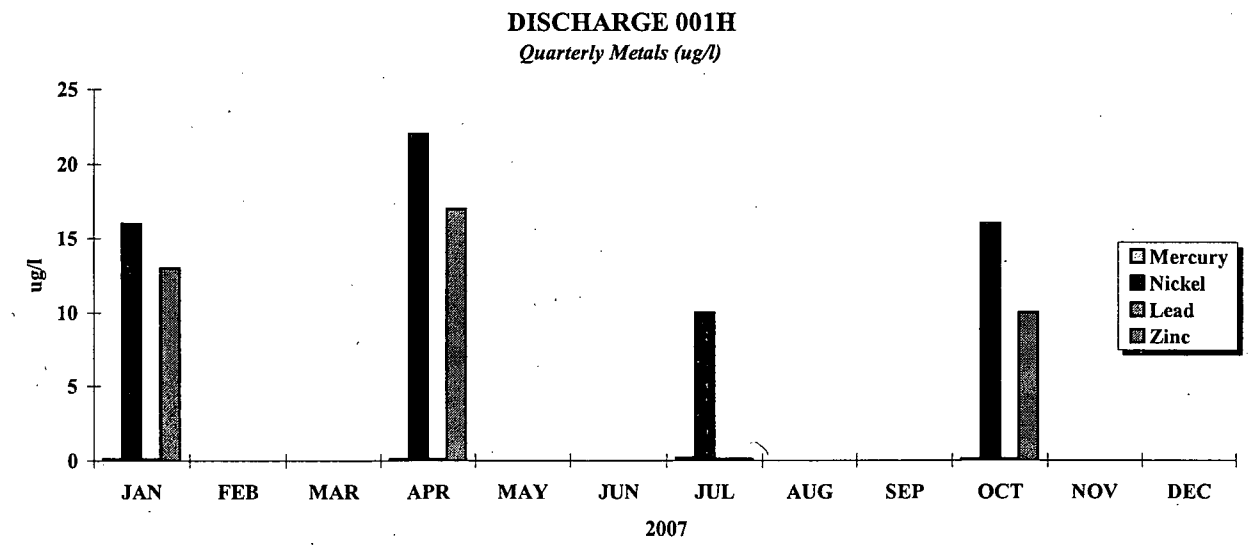


Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

2007 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant



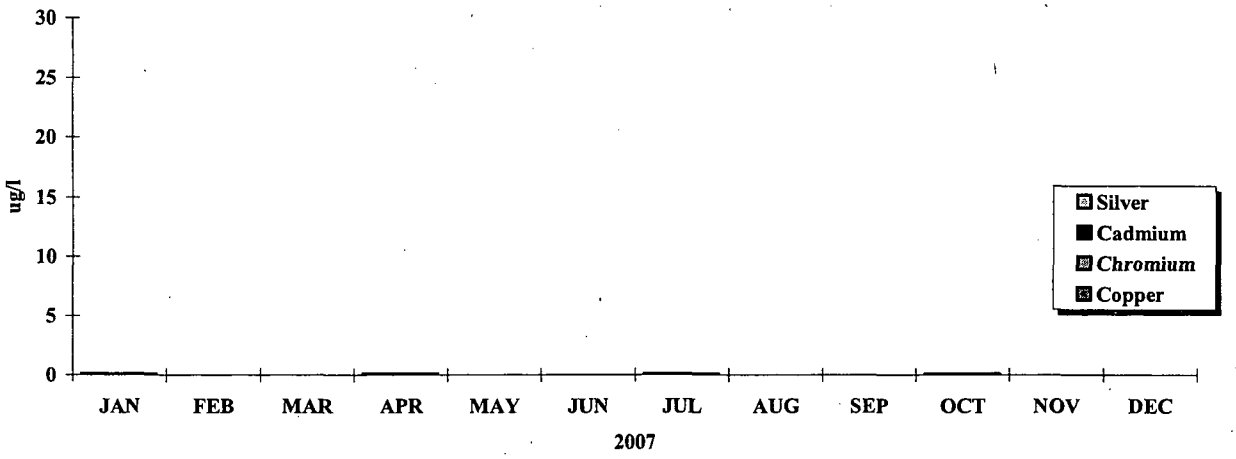
Note: The analyte was not detected at or above the reporting limit for values plotted at zero.



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

DISCHARGE 001L

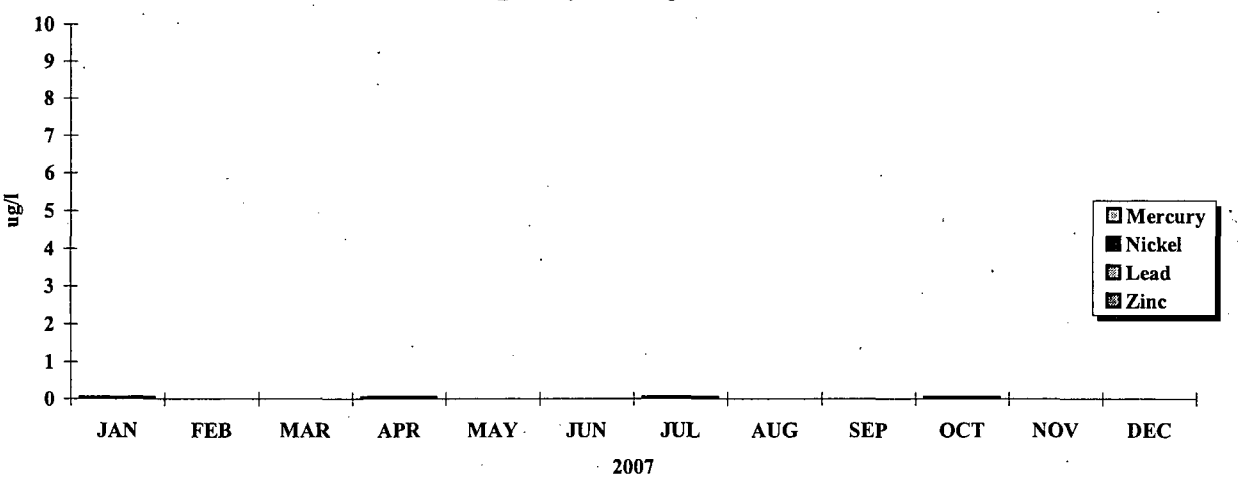
Quarterly Metals (ug/l)



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

DISCHARGE 001L

Quarterly Metals (ug/l)

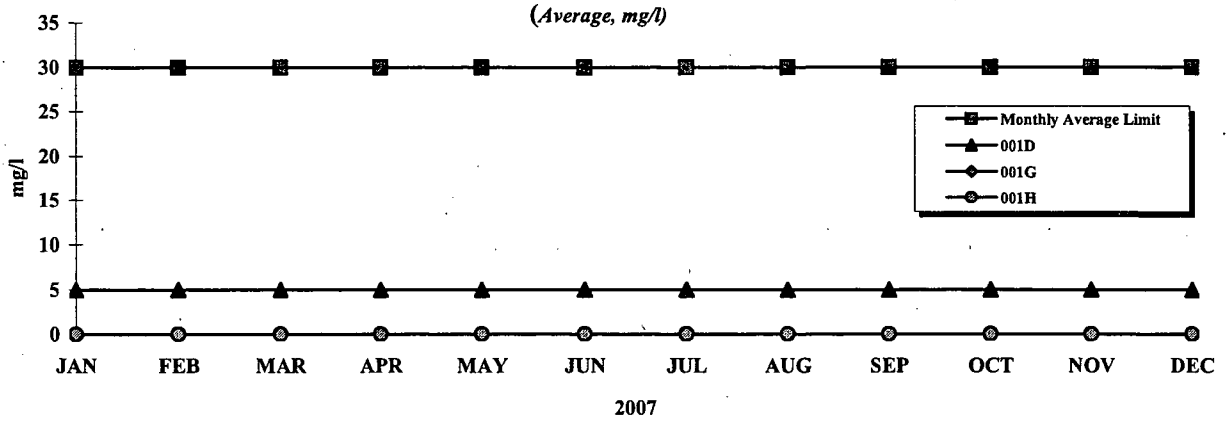


Note: The analyte was not detected at or above the reporting limit for values plotted at zero.

2007 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

MONTHLY TOTAL SUSPENDED SOLIDS

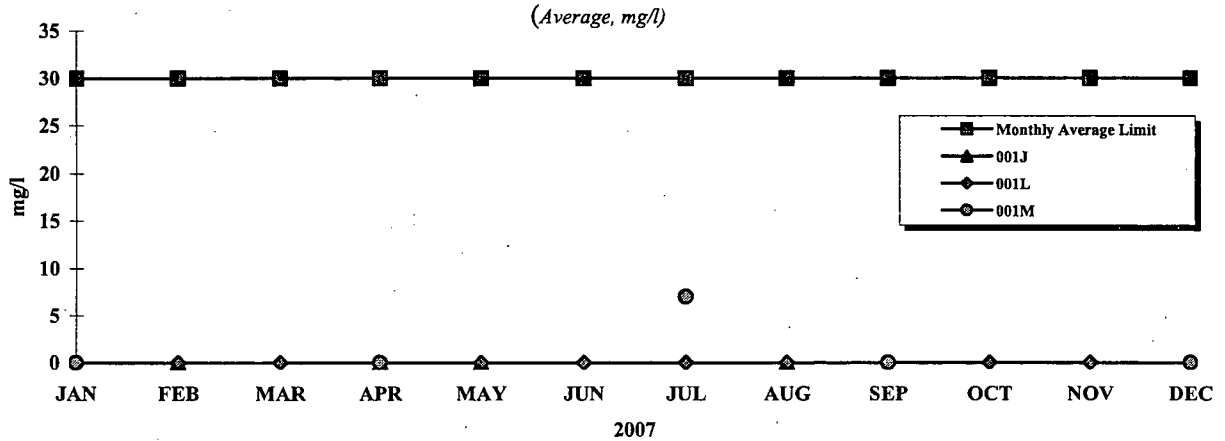
(Average, mg/l)



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

MONTHLY TOTAL SUSPENDED SOLIDS

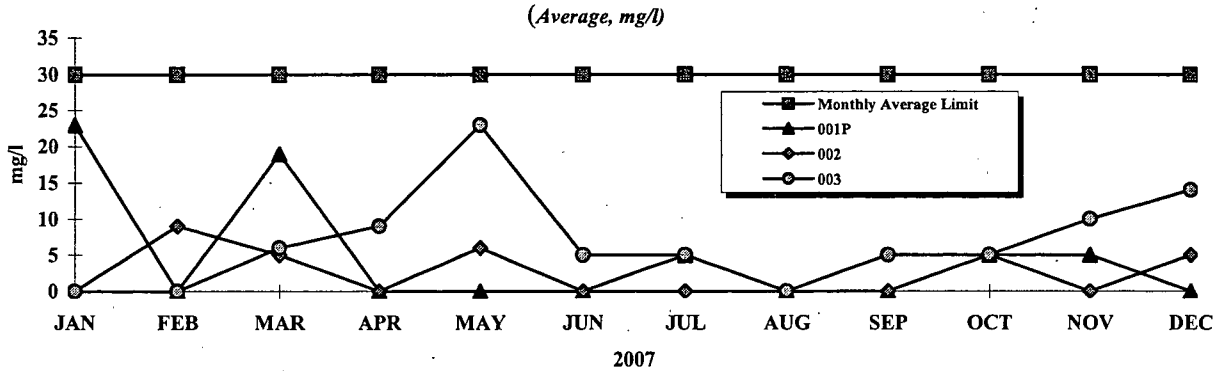
(Average, mg/l)



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

MONTHLY TOTAL SUSPENDED SOLIDS

(Average, mg/l)

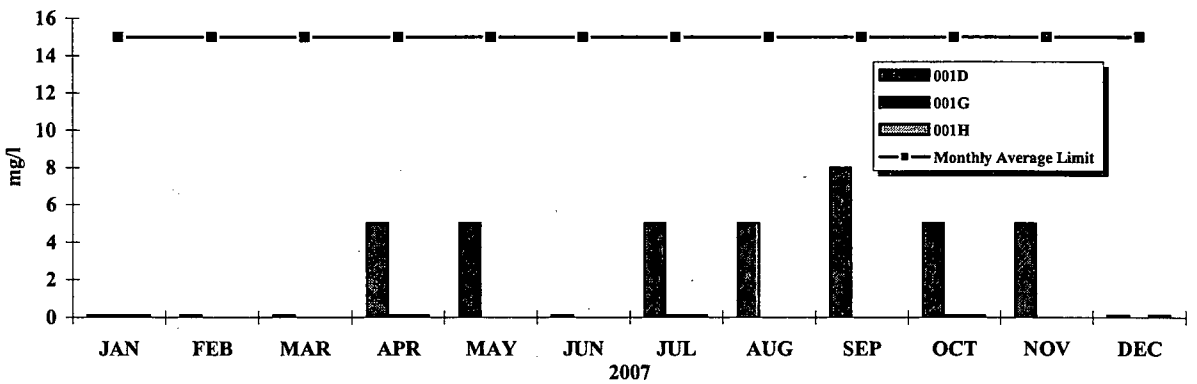


Note: Points on chart may overlap. Values plotted at zero were below the reporting limit.

2007 Annual Summary Report on Discharge Monitoring at the Diablo Canyon Power Plant

QUARTERLY OIL & GREASE

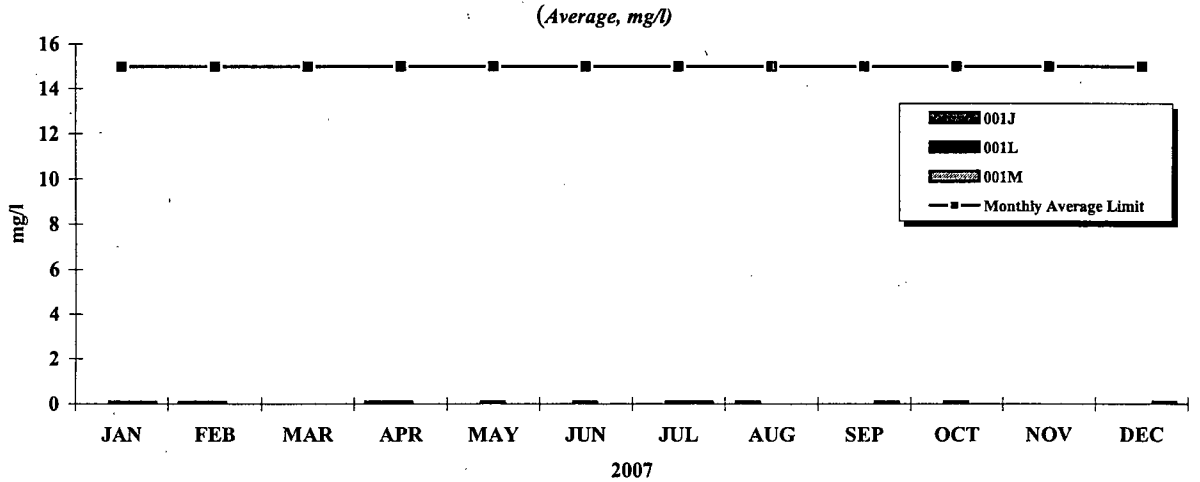
(Average, mg/l)



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

QUARTERLY OIL & GREASE

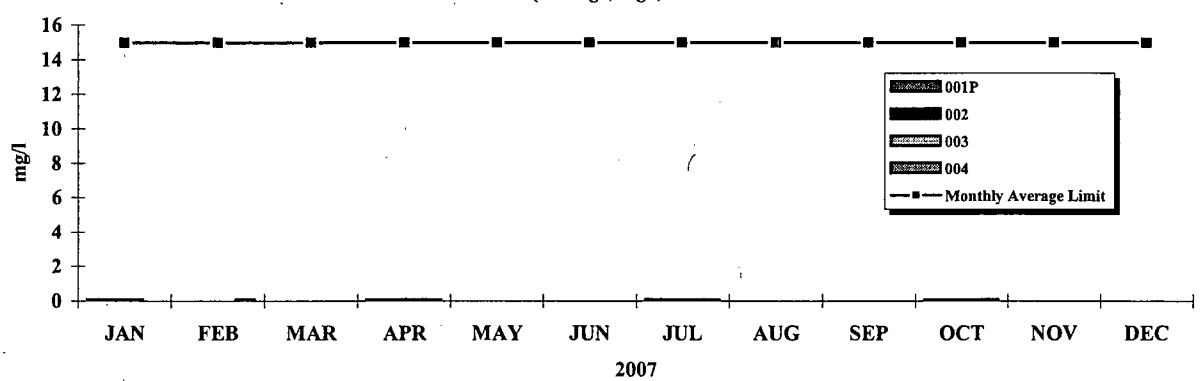
(Average, mg/l)



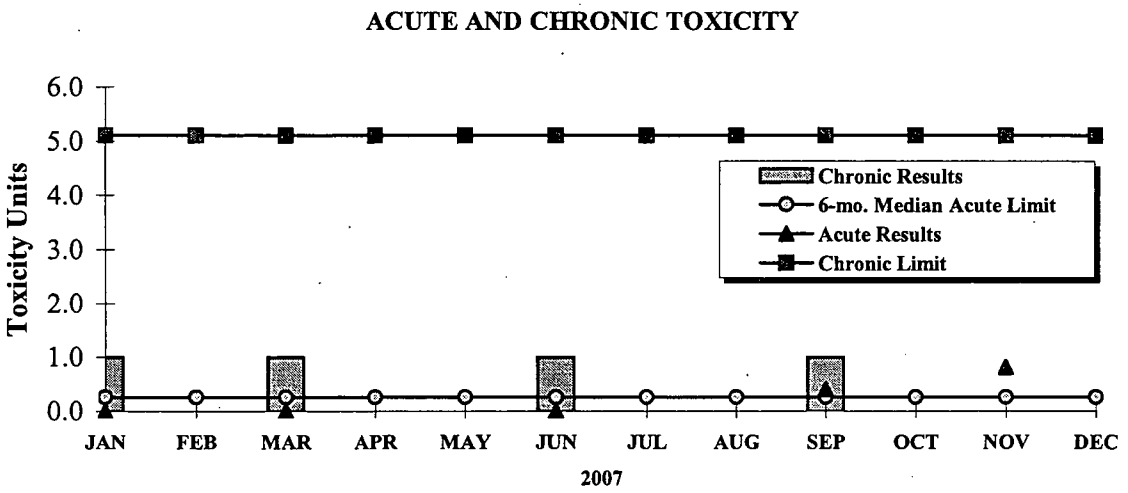
Note: Values plotted at zero were below the reporting limit.

QUARTERLY OIL & GREASE

(Average, mg/l)



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


ACUTE AND CHRONIC TOXICITY
Toxicity Units
6.0
5.0
4.0
3.0
2.0
1.0
0.0
Chronic Results
6-mo. Median Acute Limit
Acute Results
Chronic Limit
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
OCT
NOV
DEC
2007

APPENDIX 4

SUMMARY OF RWMP MONITORING FOR 2007

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 24	Jun 4	Aug 1	Dec 21
Vertical Band Transects	5 / 4x	Feb 15	Jun 4	Jul 30	Dec 12
Benthic Stations	8 / 4x	Mar 7	Jun 20	Aug 31	Dec 12
Fish Observation Transects	12 / 4x	May 8	Jul 18	Sep 15	Jan 22 08 ***
Bull Kelp Census	* / 1x				Oct 24
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).

*** The second replicate of the fourth survey of Fish Observation Transects was completed for 6 out of 12 stations due to poor ocean conditions from December 2007 through January 2008.