

Appendix C - 5

Summary of Nonradiological Monitoring Data



Shipping Water Samples to Off-site Laboratories for Analysis

Table C - 5.1
West Valley Demonstration Project State Pollutant Discharge
Elimination System (SPDES) Sampling Program

Outfall	Parameter	Daily Maximum* Limit	Sample Frequency
001 (Process and Storm Wastewater)	Flow	Monitor	2 per discharge
	Aluminum, Total	14.0 mg/L	2 per discharge
	Ammonia (NH ₃)	Monitor	2 per discharge
	Arsenic, dissolved	0.15 mg/L	2 per discharge
	BOD-5	10.0 mg/L	2 per discharge
	Iron, Total	Monitor	2 per discharge
	Zinc, Total recoverable	0.48 mg/L	2 per discharge
	Suspended solids	45.0 mg/L	2 per discharge
	Cyanide, amenable to chlorination	0.022 mg/L	2 per discharge
	Settleable solids	0.30 ml/L	2 per discharge
	pH (range)	6.5 - 8.5	2 per discharge
	Oil and grease	15.0 mg/L	2 per discharge
	Sulfate	Monitor	2 per discharge
	Sulfide, dissolved	0.4 mg/L	2 per discharge
	Manganese, Total	2.0 mg/L	2 per discharge
	Nitrate	Monitor	2 per discharge
	Nitrite	0.1 mg/L	2 per discharge
	Chromium, Total recoverable	0.3 mg/L	2 per discharge
	Chromium (hexavalent)	0.011 mg/L	2 per discharge
	Cadmium, Total recoverable	0.002 mg/L	2 per discharge
	Copper, Total recoverable	0.030 mg/L	2 per discharge
	Copper, dissolved	Monitor	2 per discharge
	Lead, Total recoverable	0.006 mg/L	2 per discharge
	Nickel, Total recoverable	0.14 mg/L	2 per discharge
	Dichlorodifluoromethane	0.01 mg/L	2 per discharge
	Trichloroflouromethane	0.01 mg/L	2 per discharge
	3,3-dichlorobenzidine	0.01 mg/L	2 per discharge
	Tributyl phosphate	32 mg/L	2 per discharge
	Vanadium, Total recoverable	0.014 mg/L	2 per discharge
	Cobalt, Total recoverable	0.005 mg/L	2 per discharge
	Selenium, Total recoverable	0.004 mg/L	2 per discharge
	Hexachlorobenzene	0.02 mg/L	2 per discharge
	Alpha - BHC	0.00001 mg/L	2 per discharge
	Heptachlor	0.00001 mg/L	2 per discharge
	Surfactant (as LAS)	0.4 mg/L	2 per discharge
	Xylene	0.05 mg/L	2 per discharge
	2-butanone	0.5 mg/L	2 per discharge
	Total Dissolved Solids	Monitor	2 per discharge
	Barium	0.5 mg/L	annual
	Antimony	1.0 mg/L	annual
	Chloroform	0.3 mg/L	annual
	Bis(2-ethylhexyl)phthalate	1.6 mg/L	semiannual
	4-Dodecene	0.6 mg/L	semiannual
Titanium	0.65 mg/L	semiannual	

* Daily average limitations are also identified in the permit but require monitoring only for all parameters except aluminum, total (daily average limit - 7.0 mg/L); solids, suspended (daily average limit - 30.0 mg/L); BOD-5 for the sum of outfalls 001, 007, and 008 (daily average limit - 5.0 mg/L); and ammonia for the sum of outfalls 001 and 007 (daily average limit - 1.49 mg/L).

Table C - 5.1 (concluded)
West Valley Demonstration Project State Pollutant Discharge
Elimination System (SPDES) Sampling Program

Outfall	Parameter	Daily Maximum* Limit	Sample Frequency
007 (Sanitary and Utility Wastewater)	Flow	Monitor	3 per month
	Ammonia (as NH ₃)	Monitor	3 per month
	BOD-5	10.0 mg/L	3 per month
	Iron, Total	Monitor	3 per month
	Solids, suspended	45.0 mg/L	3 per month
	Solids, settleable	0.3 ml/L	weekly
	pH (Range)	6.5 - 8.5	weekly
	Nitrite (as N)	0.1 mg/L	3 per month
	Oil and Grease	15.0 mg/L	3 per month
	Chlorine, Total residual	0.1 mg/L	weekly
	Chloroform	0.20 mg/L	annual
008 (French Drain Wastewater)	Flow	Monitor	3 per month
	BOD-5	5.0 mg/L	3 per month
	Iron, Total	Monitor	3 per month
	pH (Range)	6.5 - 8.5	3 per month
	Cadmium, Total recoverable	0.002 mg/L	3 per month
	Lead, Total recoverable	0.006 mg/L	3 per month
	Silver, total	0.008 mg/L	annual
	Zinc, total	0.1 mg/L	annual
	Arsenic	0.17 mg/L	annual
	Chromium	0.13 mg/L	annual
	Sum of Outfalls 001, 007, and 008	Iron, Total	0.30 mg/L
BOD-5		Monitor	3 per month
Sum of Outfalls 001 and 007	Ammonia (NH ₃)	2.1 mg/L	3 per month

* Daily average limitations are also identified in the permit but require monitoring only for all parameters except aluminum, total (daily average limit - 7.0 mg/L); solids, suspended (daily average limit - 30.0 mg/L); BOD-5 for the sum of outfalls 001, 007, and 008 (daily average limit - 5.0 mg/L); and ammonia for the sum of outfalls 001 and 007 (daily average limit - 1.49 mg/L).

Table C - 5.2
West Valley Demonstration Project 1995 SPDES Noncompliance Episodes

Date	Outfall	Parameters	Limit	Value	Comments
Jan 13	007	NO ₂ -N	0.10 mg/L	0.89 mg/L	Change in wastewater temperature
Feb 02	007	BOD-5	10 mg/L	21.9 mg/L	Overgrowth of filamentous bacteria
Feb 08	007	BOD-5	10 mg/L	178 mg/L	Overgrowth of filamentous bacteria
Mar 03	007	NO ₂ -N	0.10 mg/L	11.6 mg/L	Change in wastewater temperature
Mar 08	007	NO ₂ -N	0.10 mg/L	2.5 mg/L	Change in wastewater temperature
Aug 10	007	pH	6.5 - 8.5	8.7	Possible transcription or instrument reading error

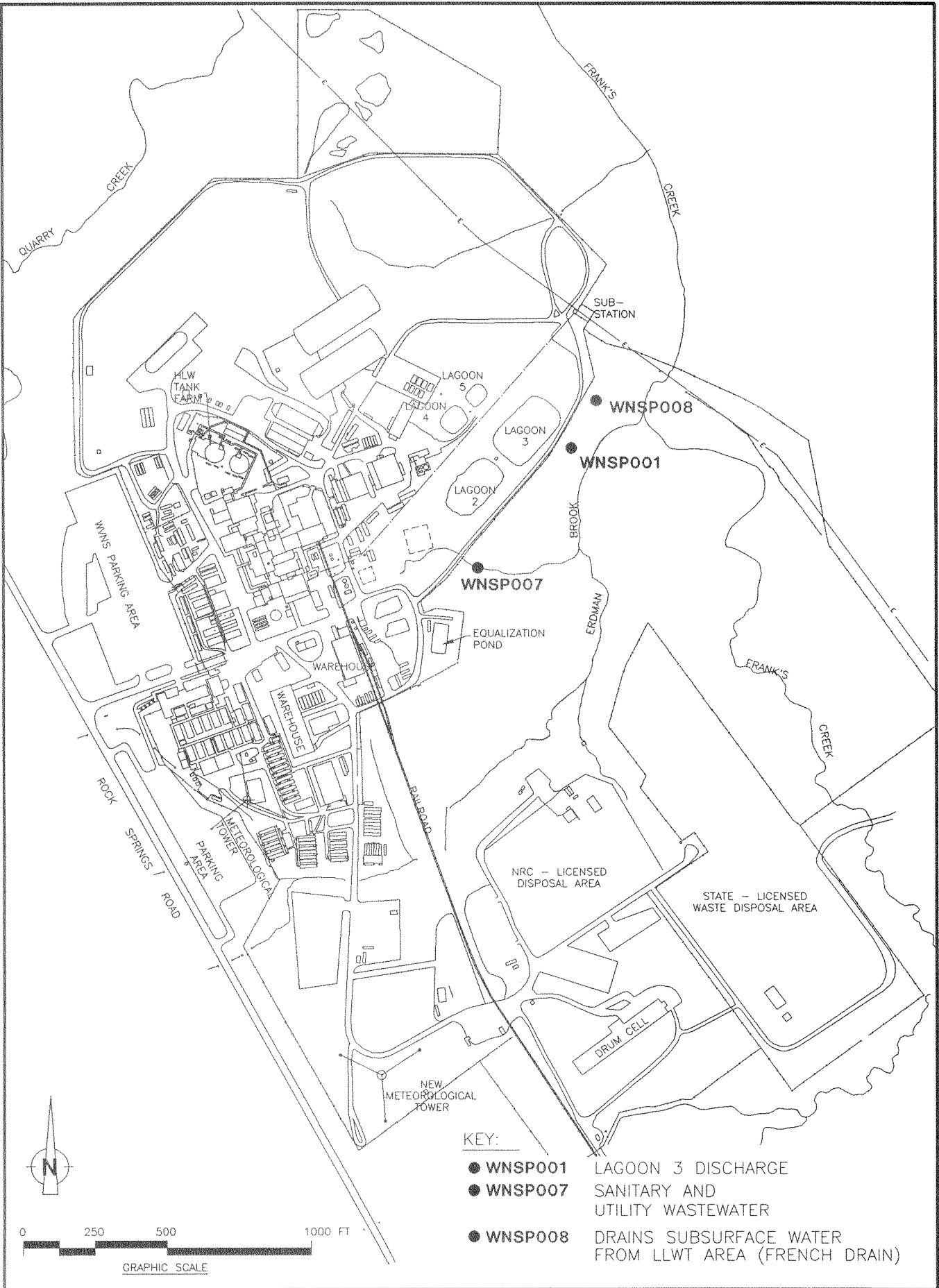


Figure C-5.1. SPDES Monitoring Points.

Figure C - 5.2

WATER QUALITY

**BIOCHEMICAL
OXYGEN
DEMAND-5
(mg/L)**

Outfall 001

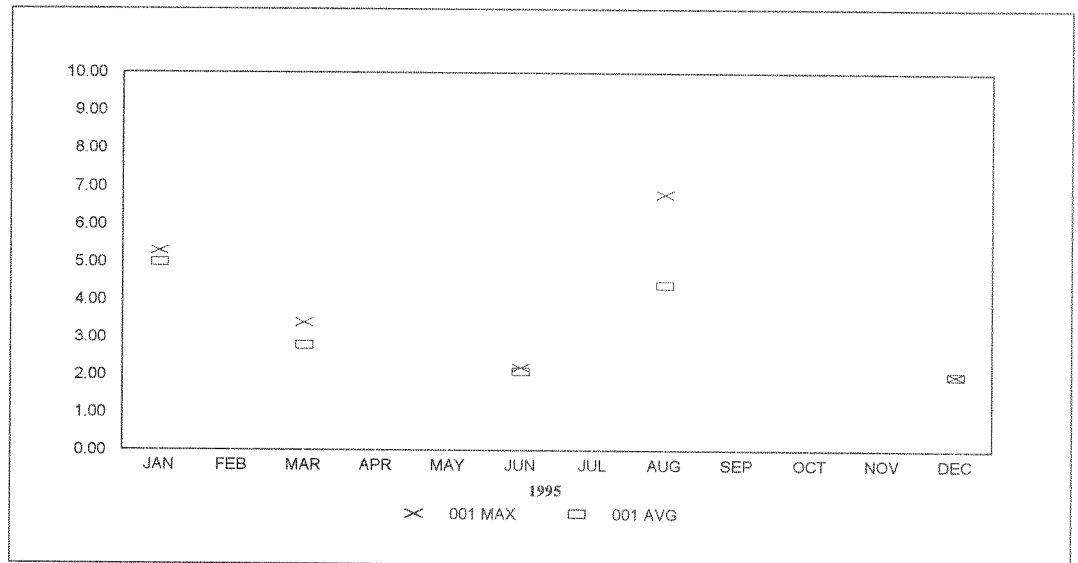


Figure C - 5.3

WATER QUALITY

**BIOCHEMICAL
OXYGEN
DEMAND-5
(mg/L)**

Outfalls 007 and 008

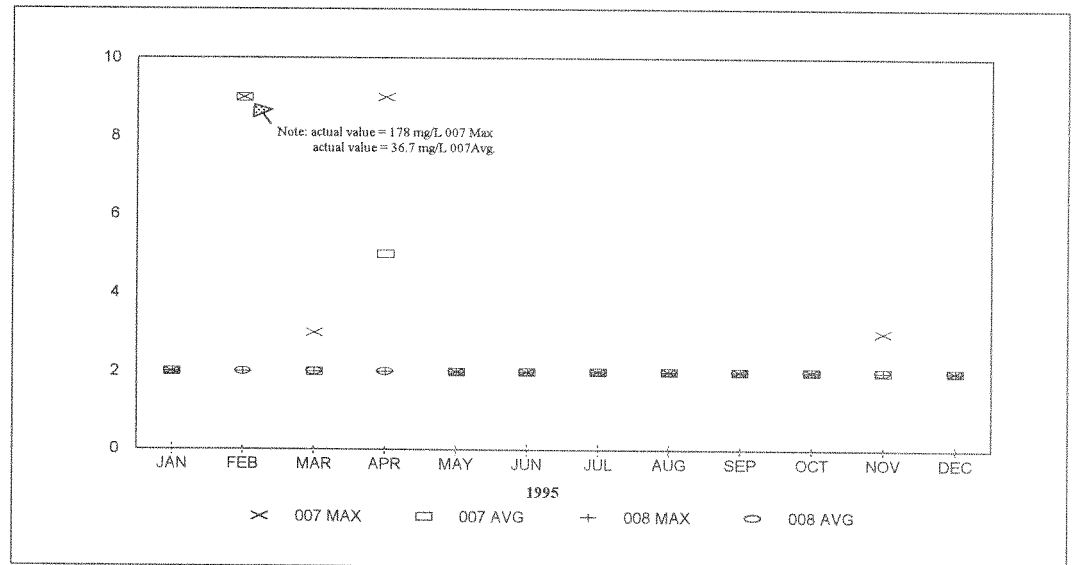
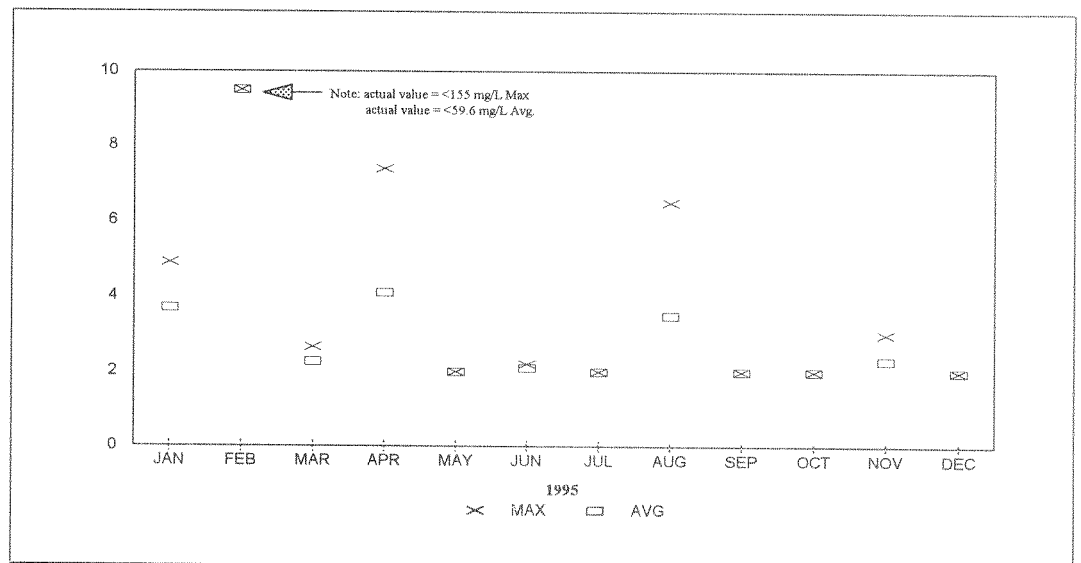


Figure C - 5.4

WATER QUALITY

**BIOCHEMICAL OXYGEN
DEMAND - 5
(mg/L)**

**Sum of Outfalls 001,
007, and 008**



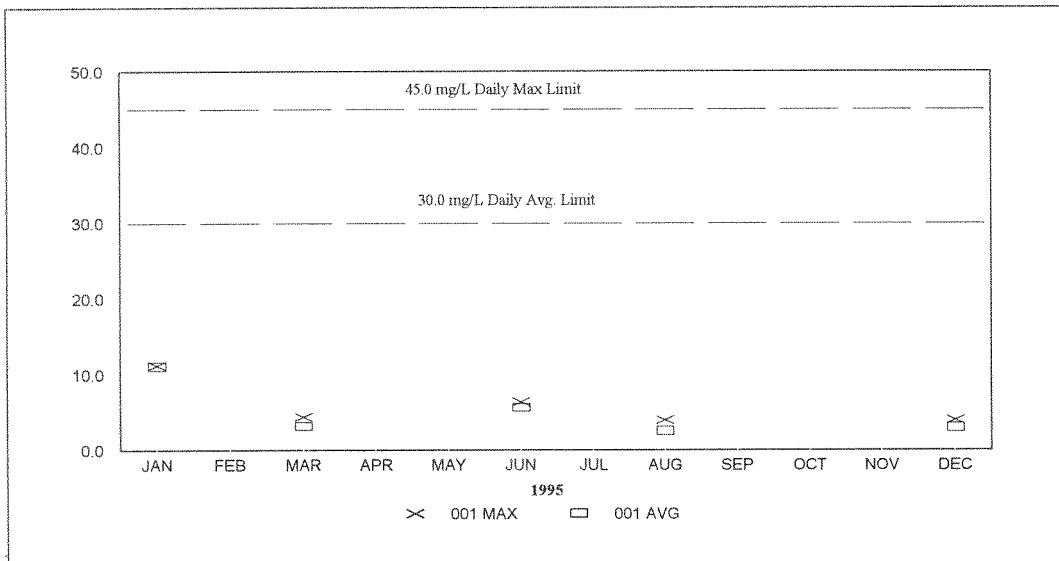


Figure C - 5.5

WATER QUALITY

SUSPENDED SOLIDS (mg/L)

Outfall 001

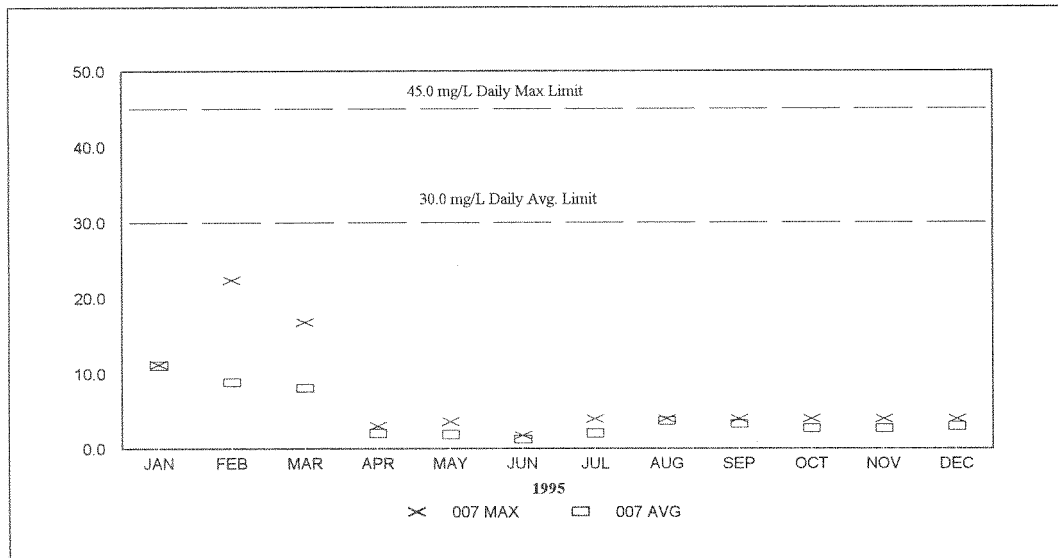


Figure C - 5.6

WATER QUALITY

SUSPENDED SOLIDS (mg/L)

Outfall 007

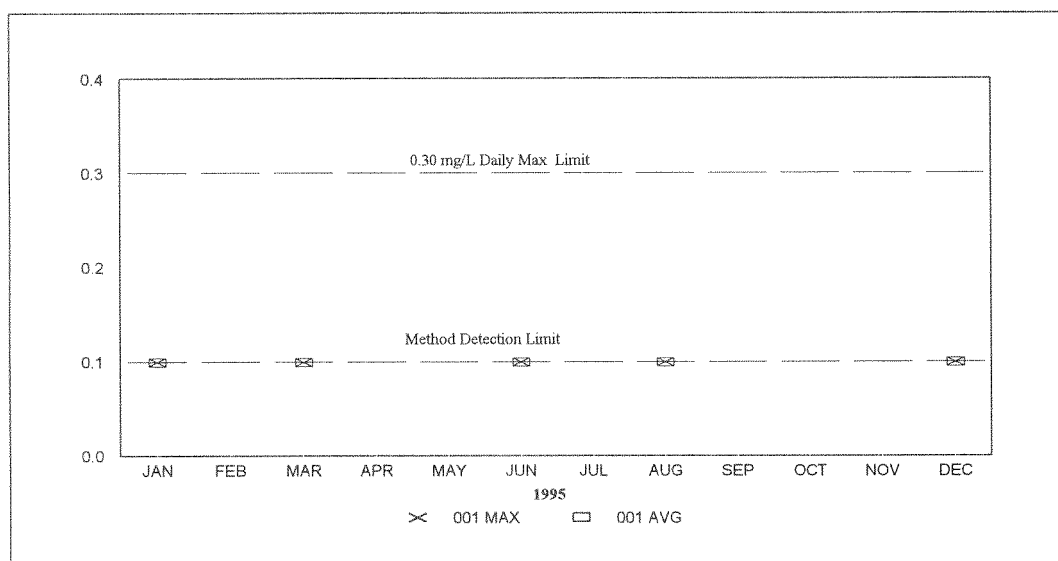


Figure C - 5.7

WATER QUALITY

SETTLEABLE SOLIDS (ml/L)

Outfall 001

Figure C - 5.8

WATER QUALITY

SETTLEABLE SOLIDS
(ml/L)

Outfall 007

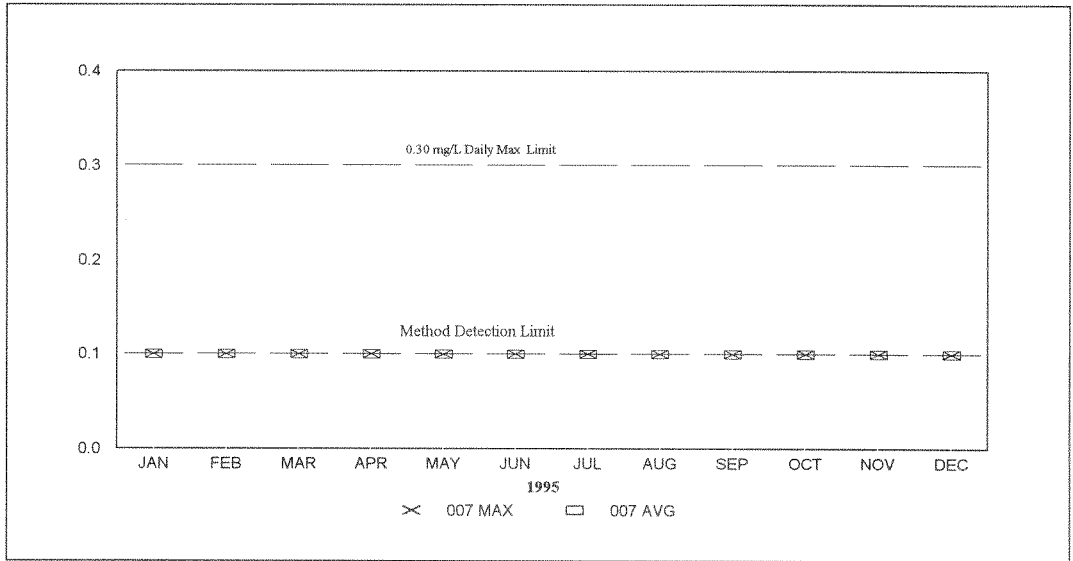


Figure C - 5.9

WATER QUALITY

AMMONIA
(mg/L)

Outfall 001

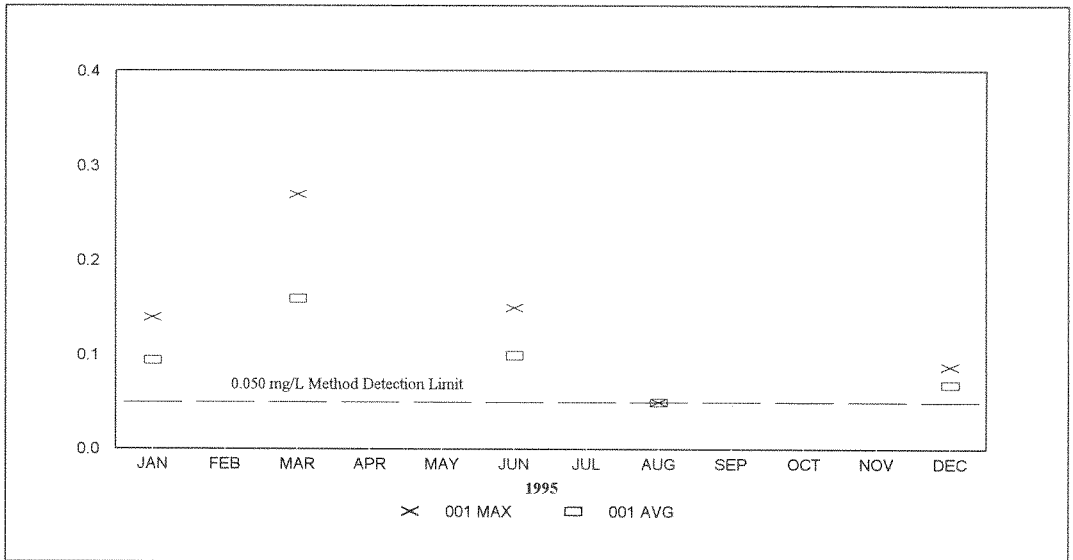
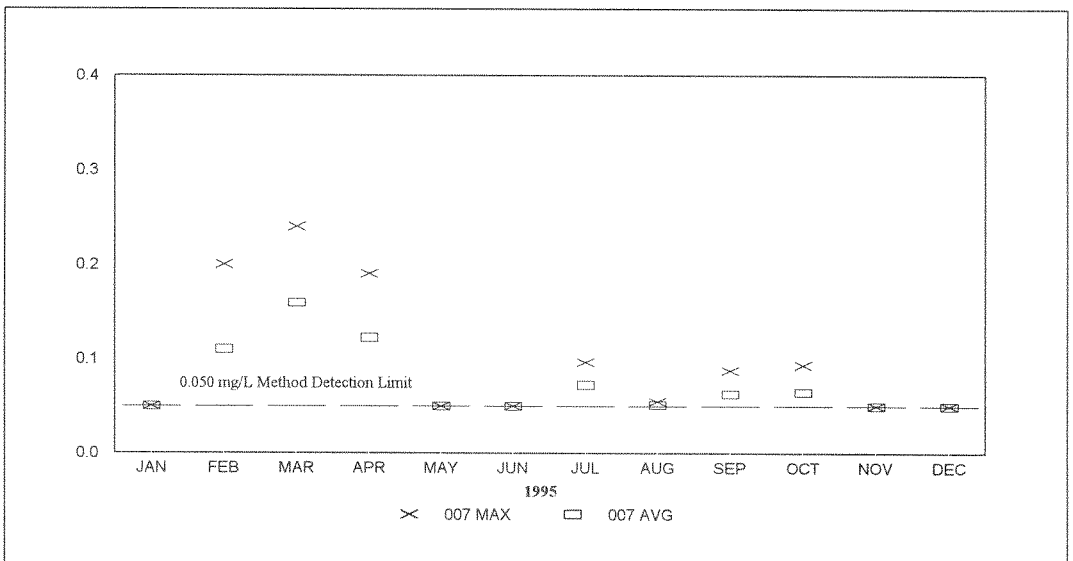


Figure C - 5.10

WATER QUALITY

AMMONIA
(mg/L)

Outfall 007



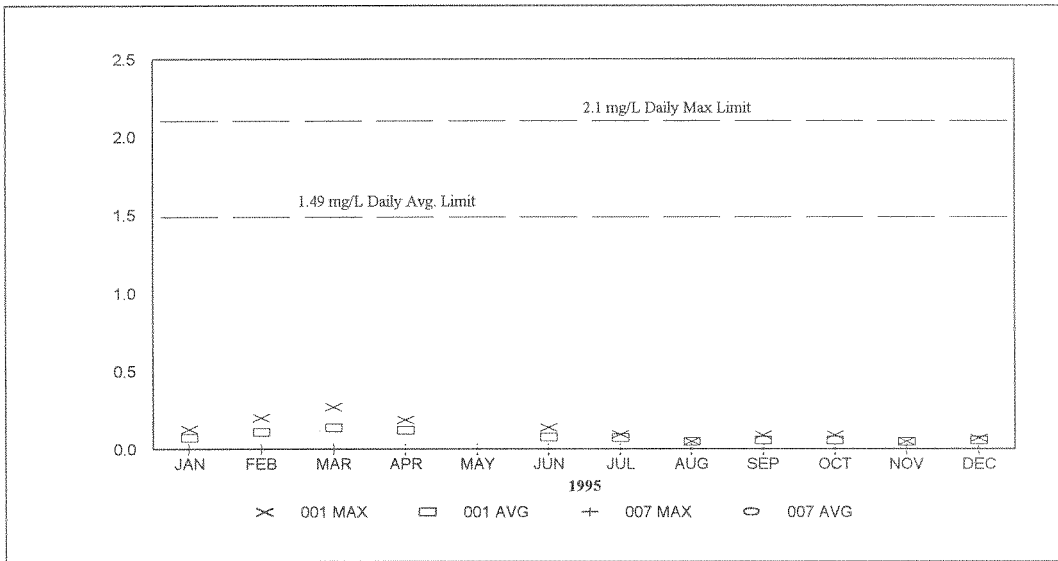


Figure C - 5.11

WATER QUALITY
 FLOW-WEIGHTED
 AVERAGES
 AMMONIA
 (mg/L)

**Sum of Outfalls
 001 and 007**

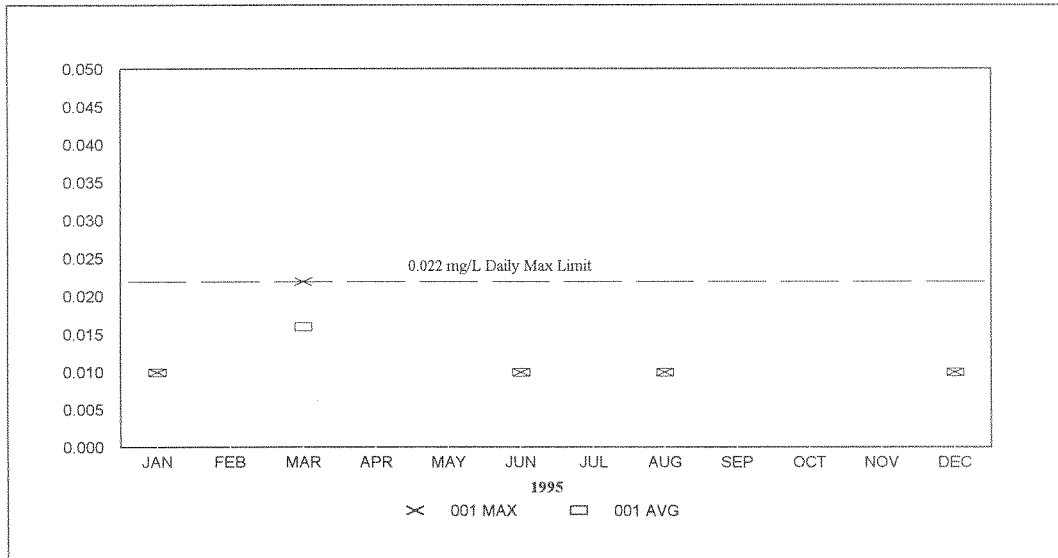


Figure C - 5.12

WATER QUALITY
 CYANIDE
 (mg/L)

Outfall 001

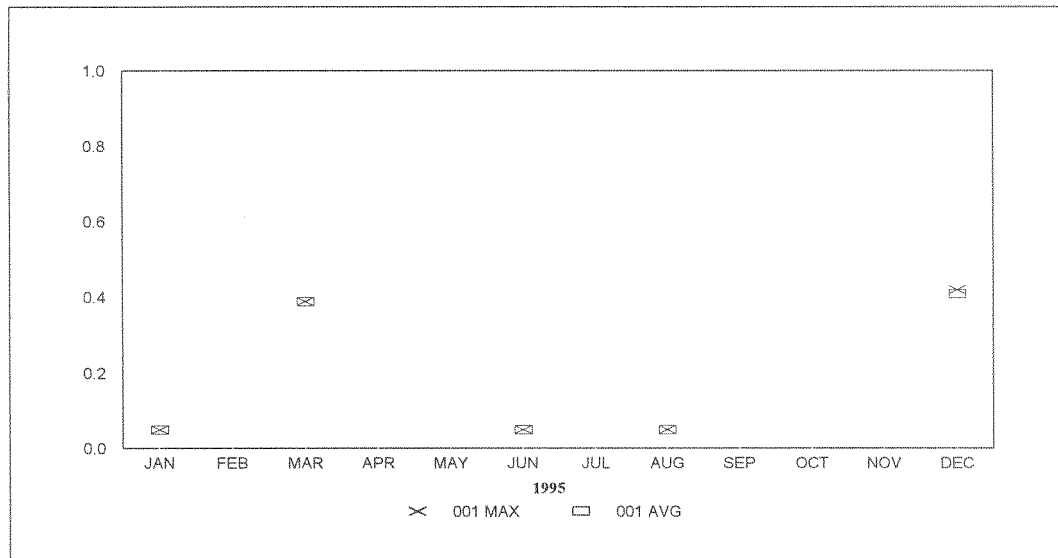


Figure C - 5.13

WATER QUALITY
 NITRATE (NO₃-N)
 (mg/L)

Outfall 001

Figure C - 5.14

WATER QUALITY

NITRITE (NO₂-N)
(mg/L)

Outfall 001

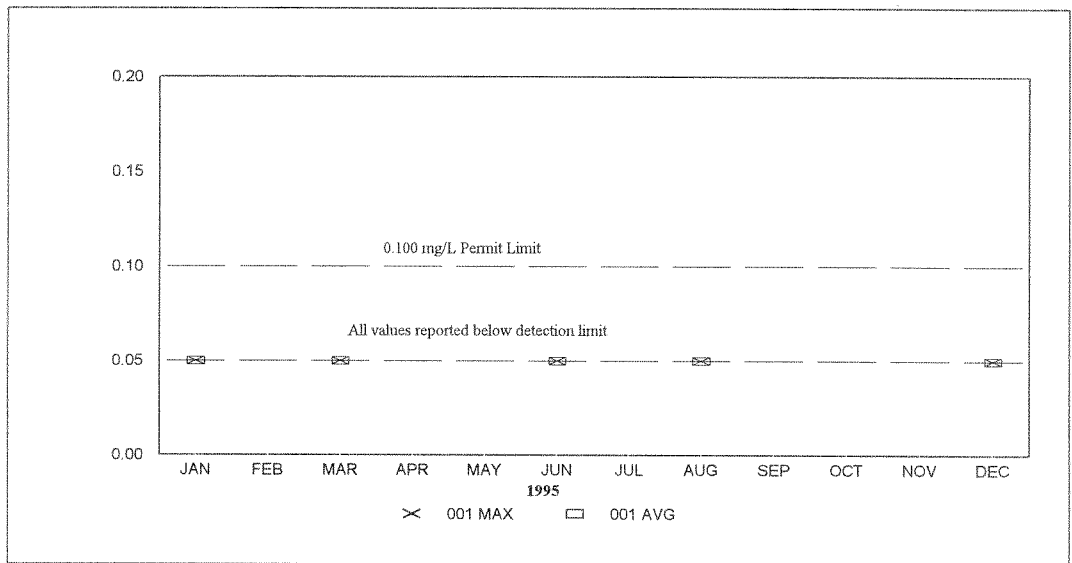


Figure C - 5.15

WATER QUALITY

NITRITE (NO₂-N)
(mg/L)

Outfall 007

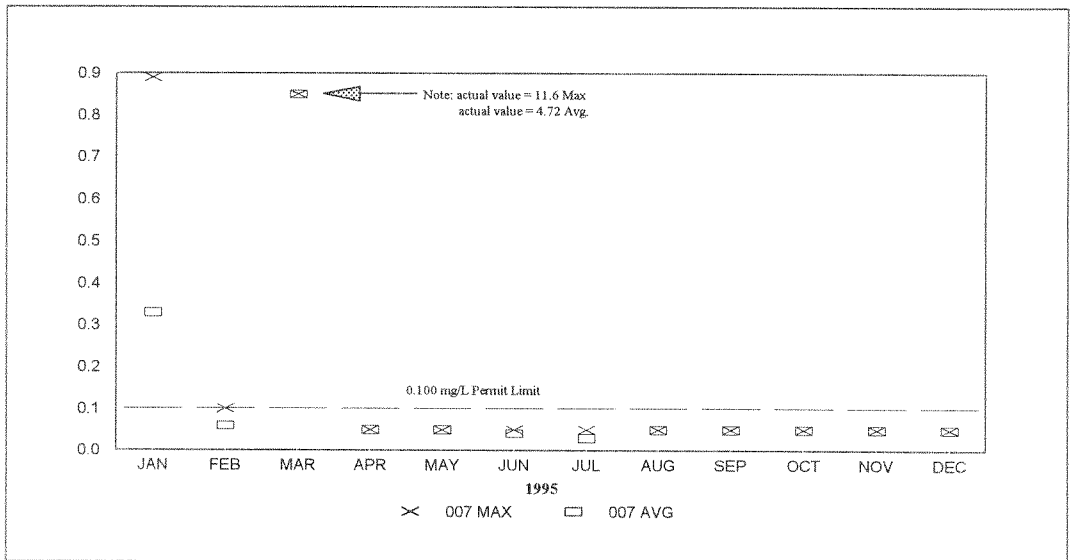
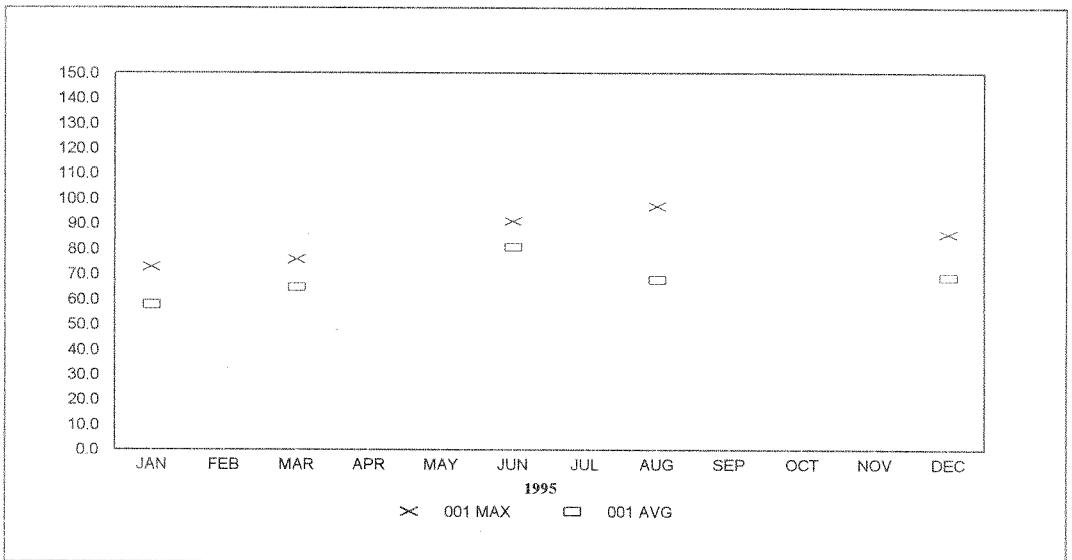


Figure C - 5.16

WATER QUALITY

SULFATE-S
(mg/L)

Outfall 001



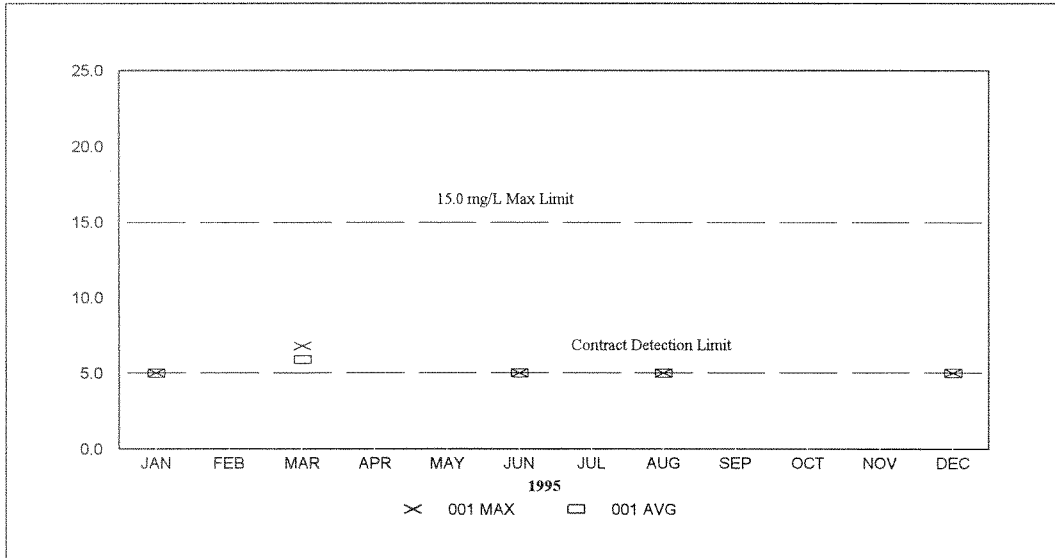


Figure C - 5.17

WATER QUALITY
OIL AND GREASE
(mg/L)

Outfall 001

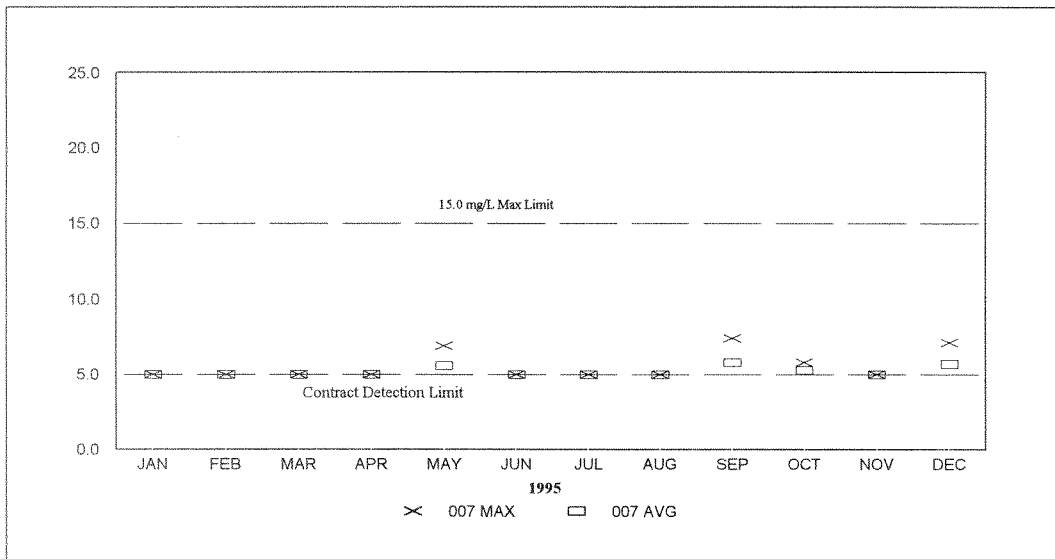


Figure C - 5.18

WATER QUALITY
OIL AND GREASE
(mg/L)

Outfall 007

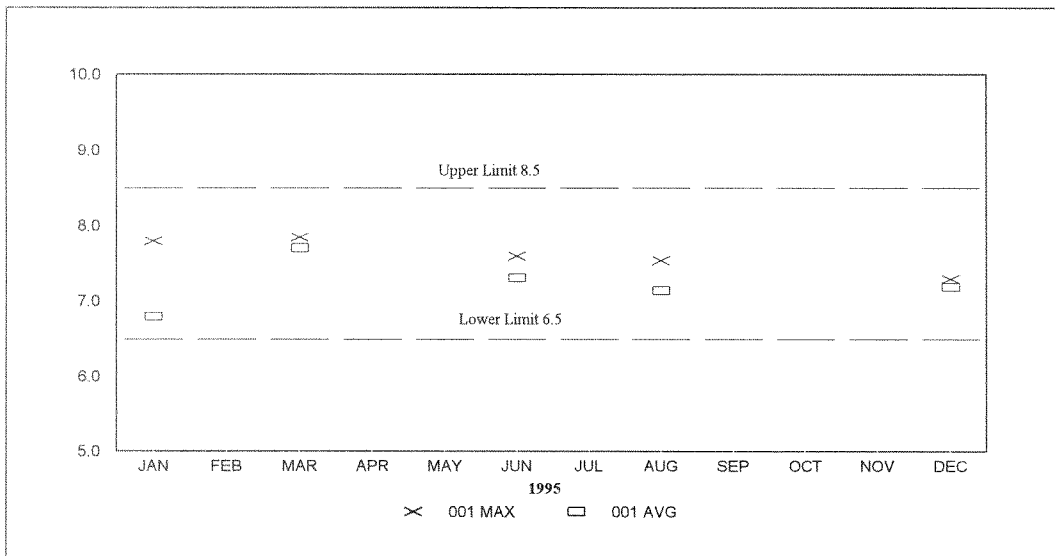


Figure C - 5.19

WATER QUALITY
pH
(standard units)

Outfall 001

Figure C - 5.20

WATER QUALITY

pH
(standard units)

Outfalls 007 and 008

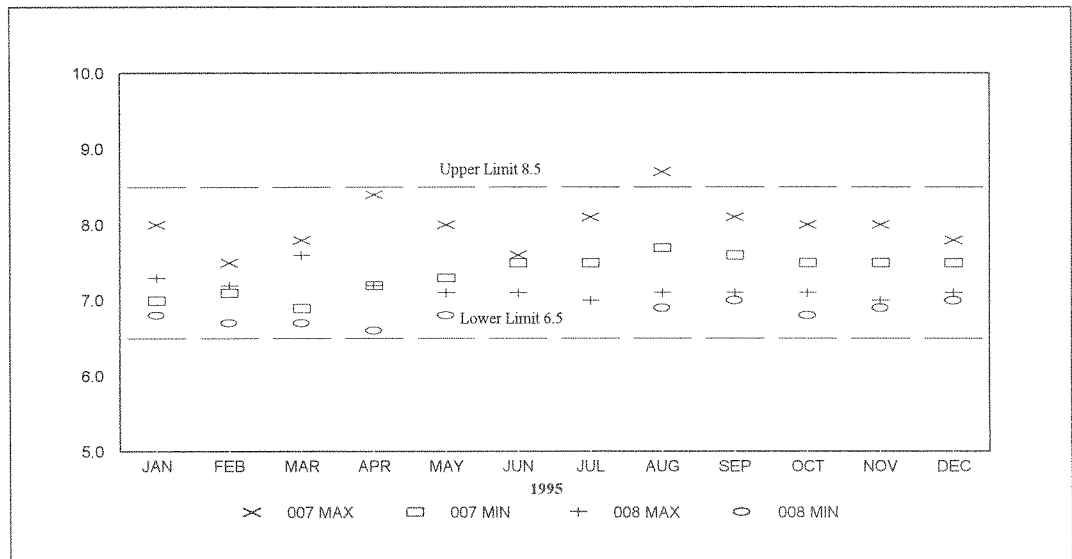


Figure C - 5.21

WATER QUALITY

SURFACTANTS (as LAS)
(mg/L)

Outfall 001

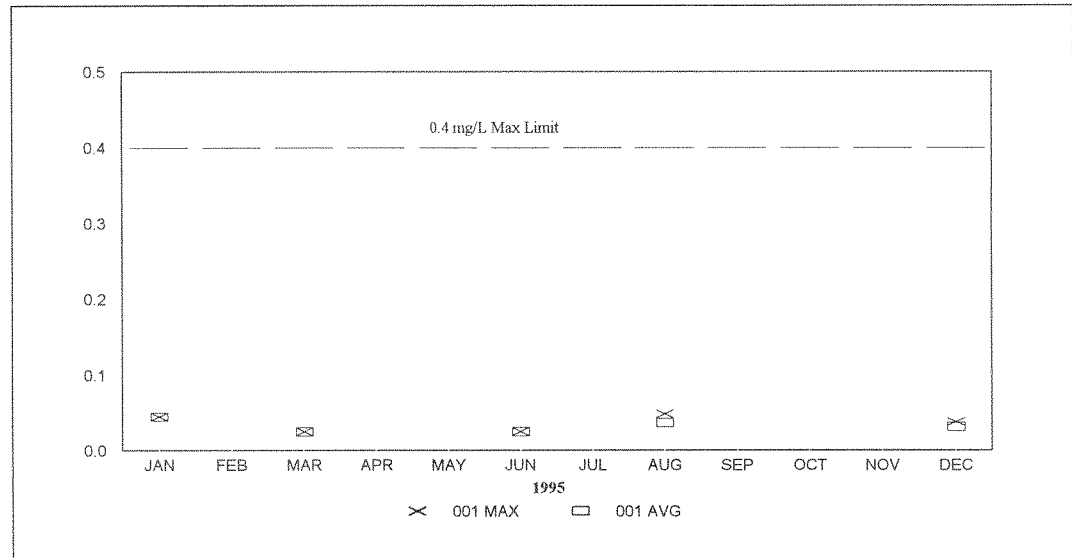
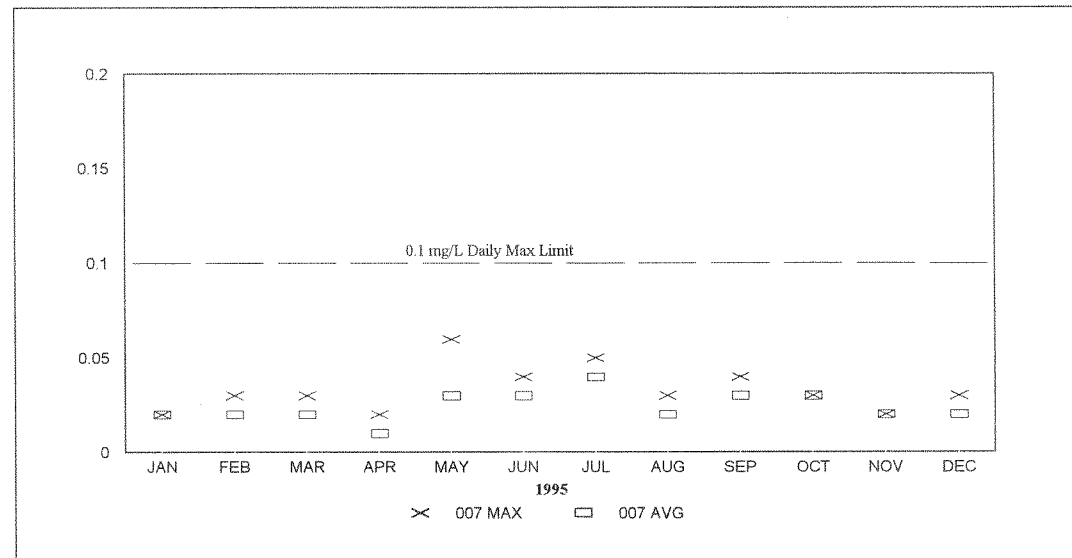


Figure C - 5.22

WATER QUALITY

CHLORINE, TOTAL RESIDUAL
(mg/L)

Outfall 007



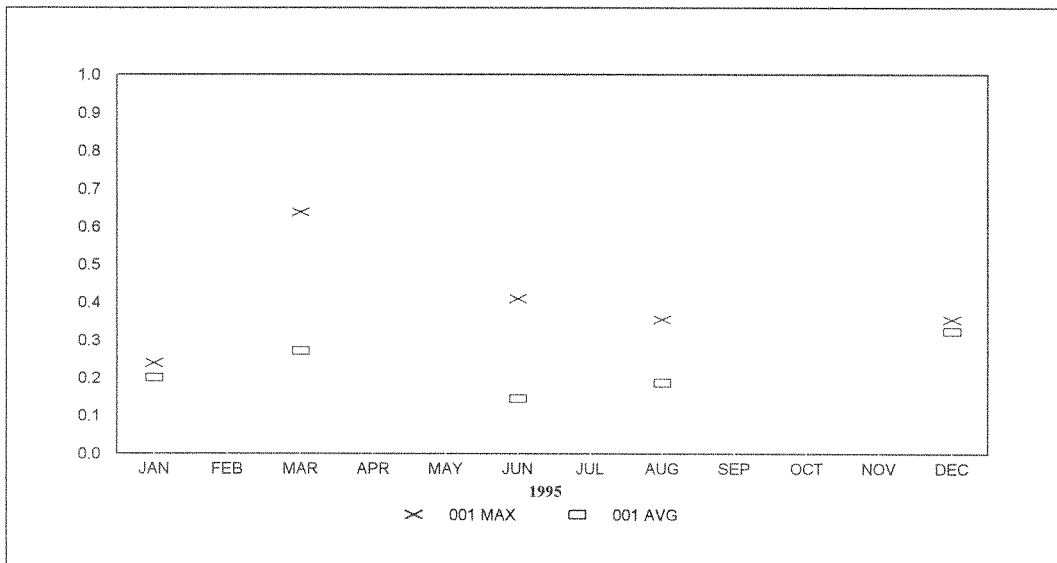


Figure C - 5.23

**DISCHARGE RATE
(MGD)**

Outfall 001

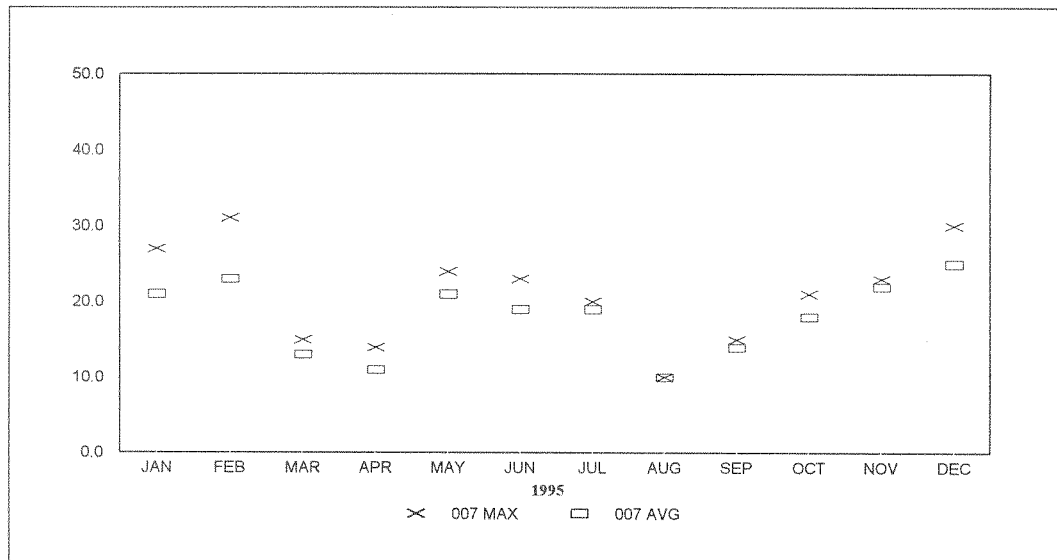


Figure C - 5.24

**DISCHARGE RATE
(GPD x 1,000)**

Outfall 007

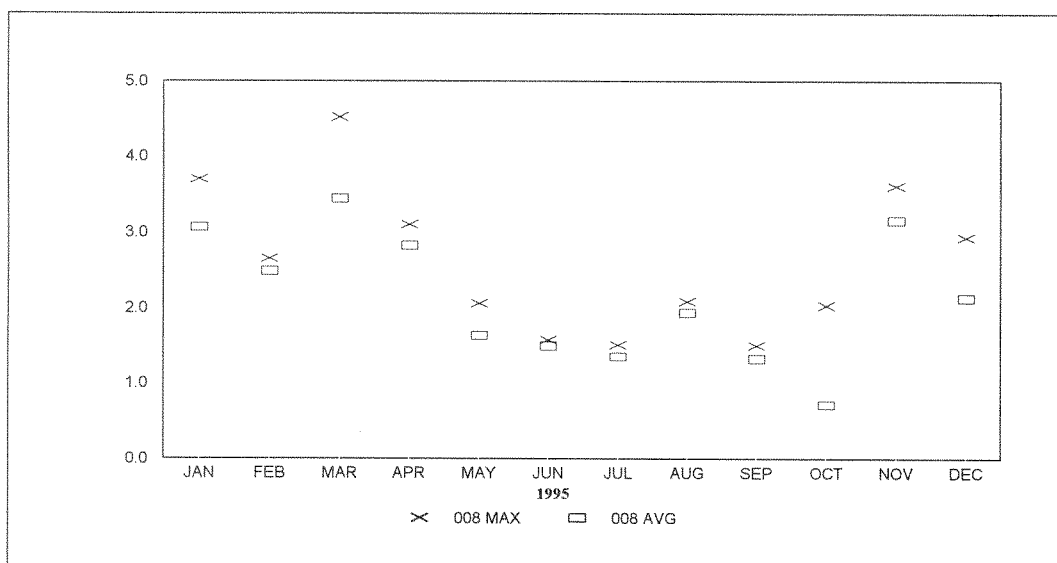


Figure C - 5.25

**DISCHARGE RATE
(GPD x 1,000)**

Outfall 008

Figure C - 5.26

METALS
ALUMINUM,
TOTAL
(mg/L)

Outfall 001

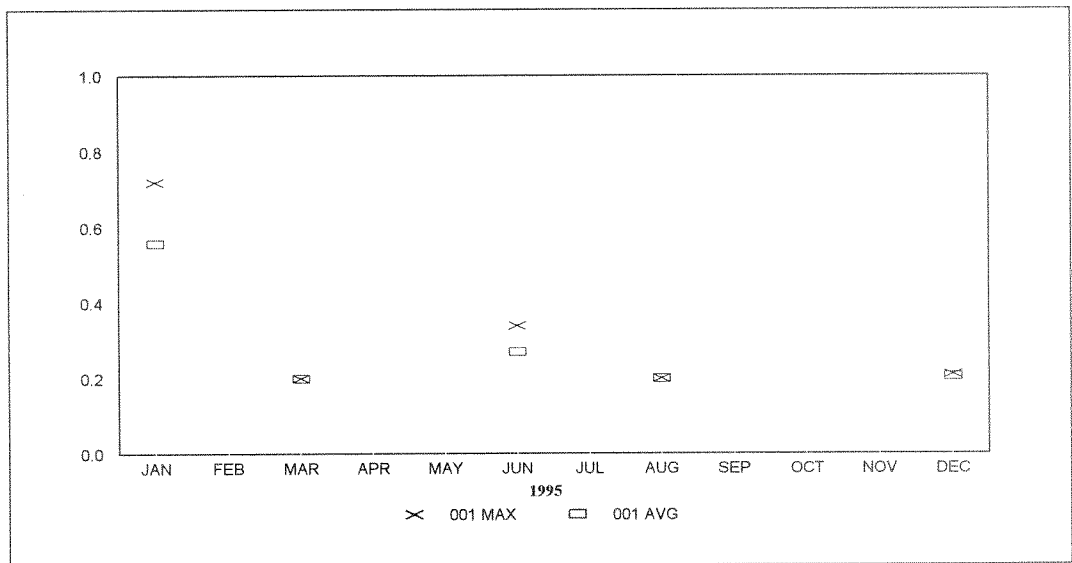


Figure C - 5.27

METALS
ARSENIC,
DISSOLVED
(mg/L)

Outfall 001

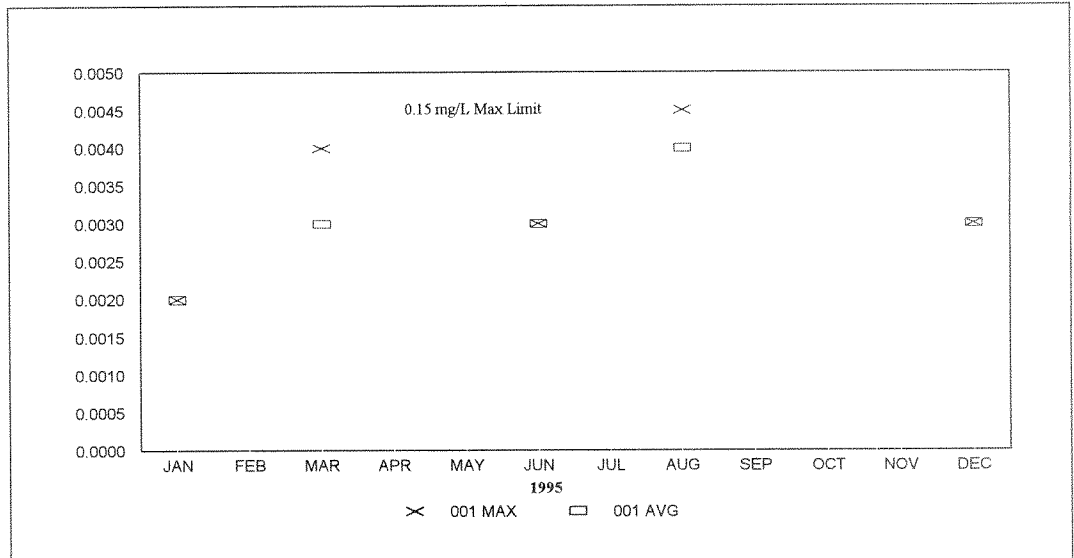


Figure C - 5.28

METALS
CADMIUM,
TOTAL RECOVERABLE
(mg/L)

Outfall 001

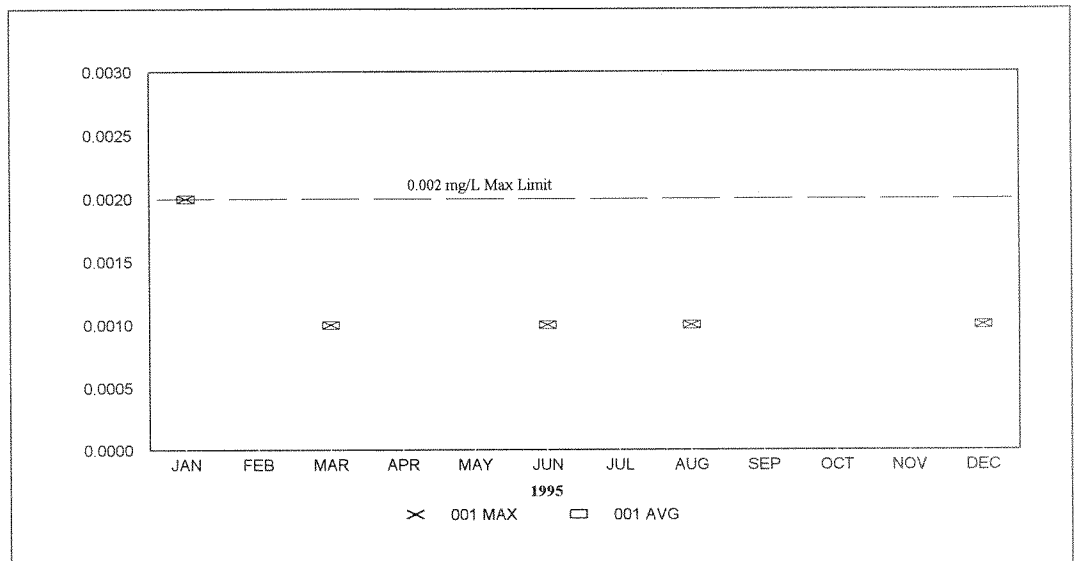


Figure C - 5.29

METALS
CADMIUM,
TOTAL RECOVERABLE
(mg/L)

Outfall 008

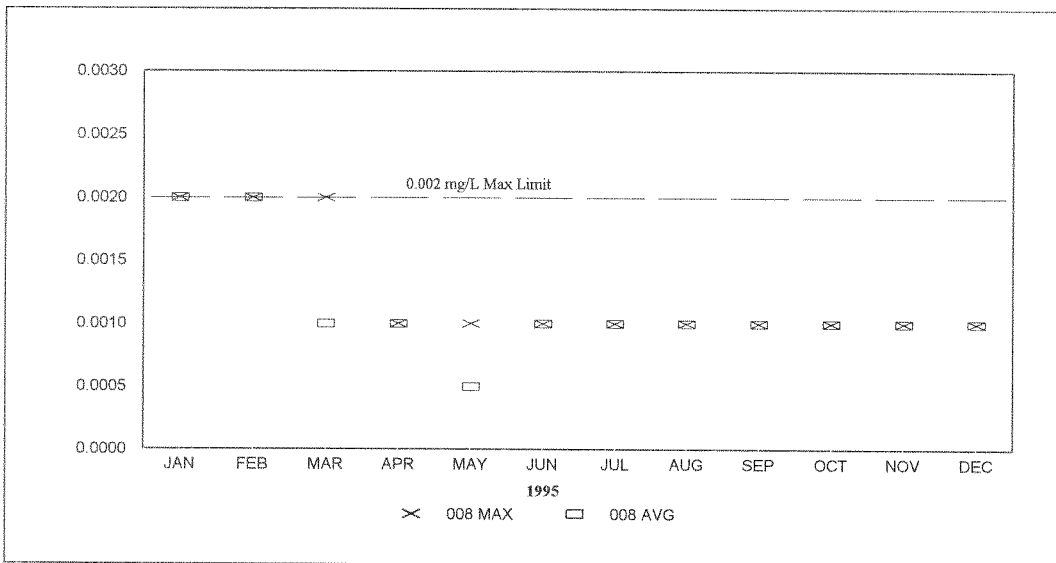


Figure C - 5.30

METALS
COBALT,
TOTAL RECOVERABLE
(mg/L)

Outfall 001

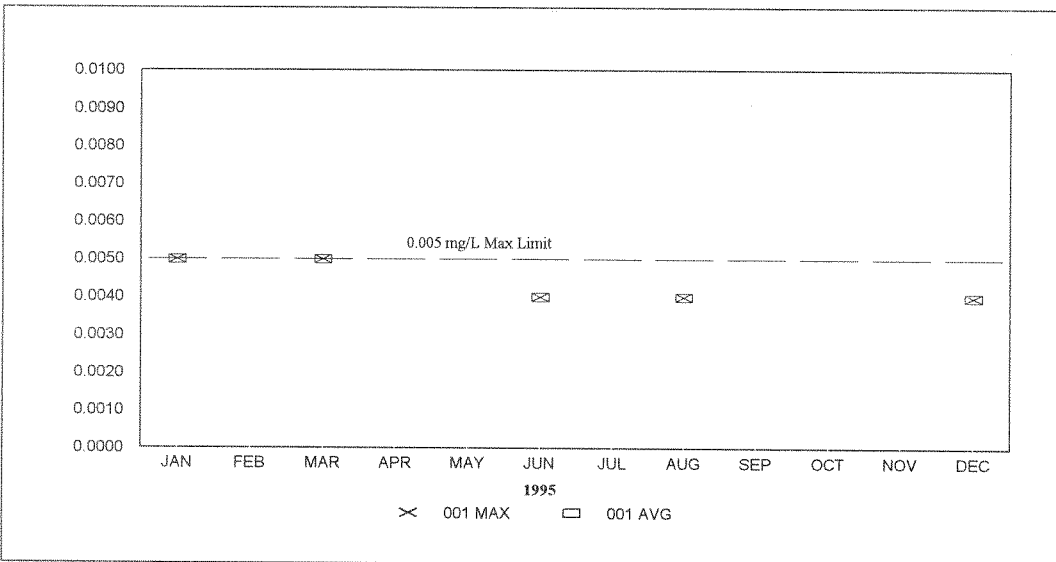


Figure C - 5.31

METALS
CHROMIUM,
TOTAL RECOVERABLE
(mg/L)

Outfall 001

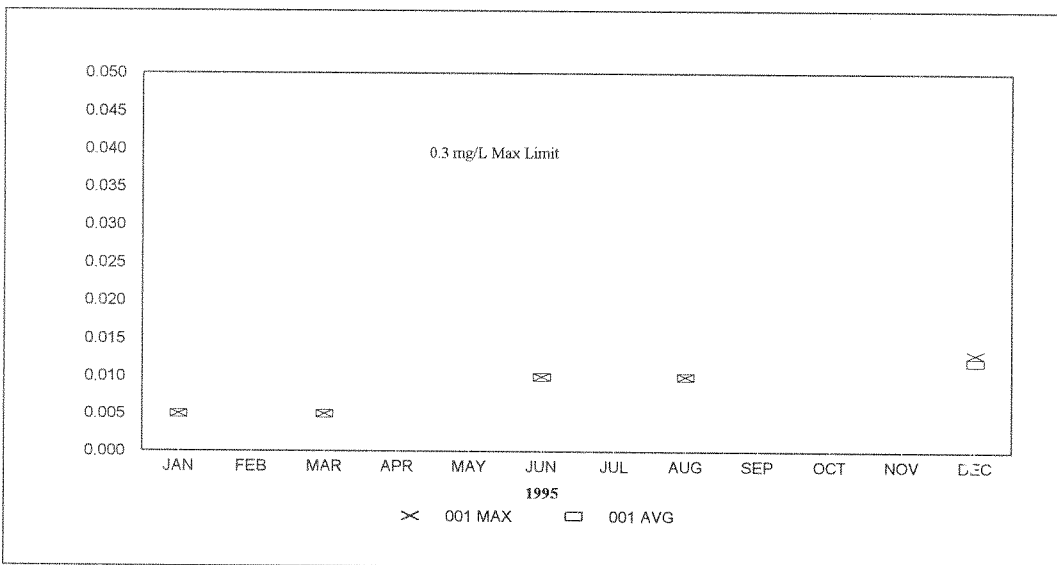


Figure C - 5.32

METALS
CHROMIUM, VI
(mg/L)

Outfall 001

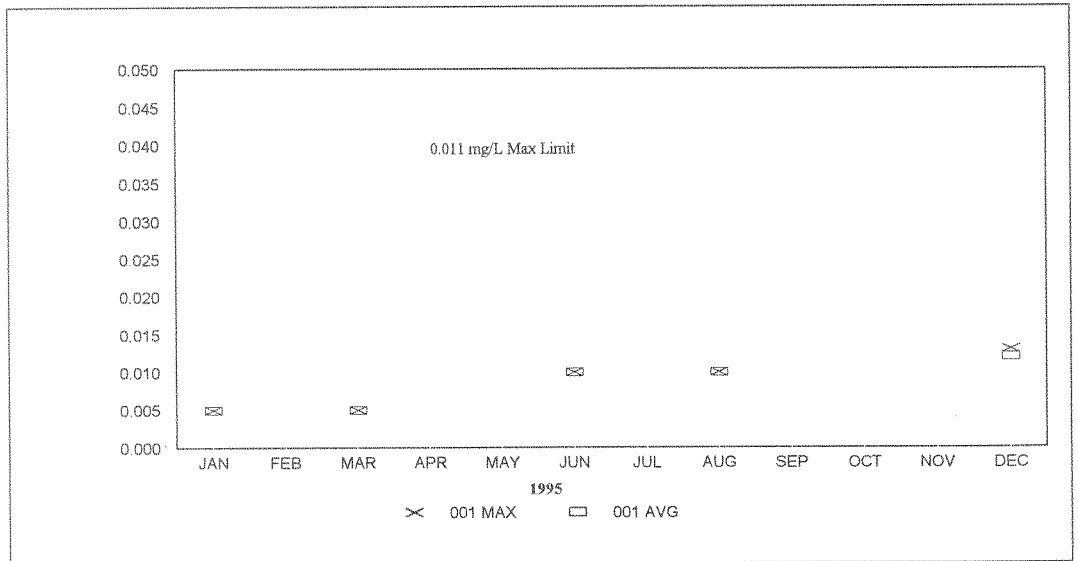


Figure C - 5.33

METALS
COPPER,
DISSOLVED
(mg/L)

Outfall 001

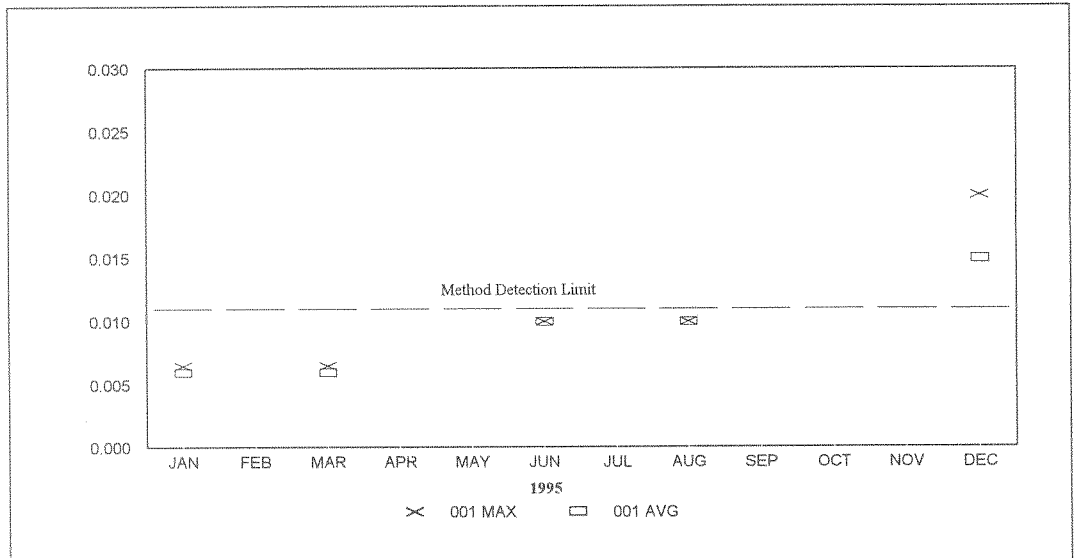
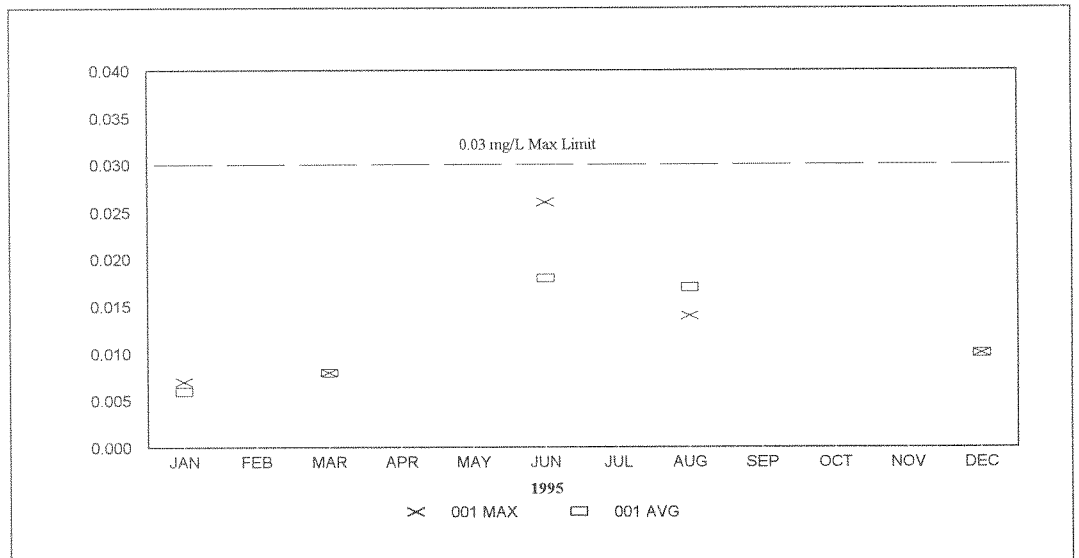


Figure C - 5.34

METALS
COPPER,
TOTAL RECOVERABLE
(mg/L)

Outfall 001



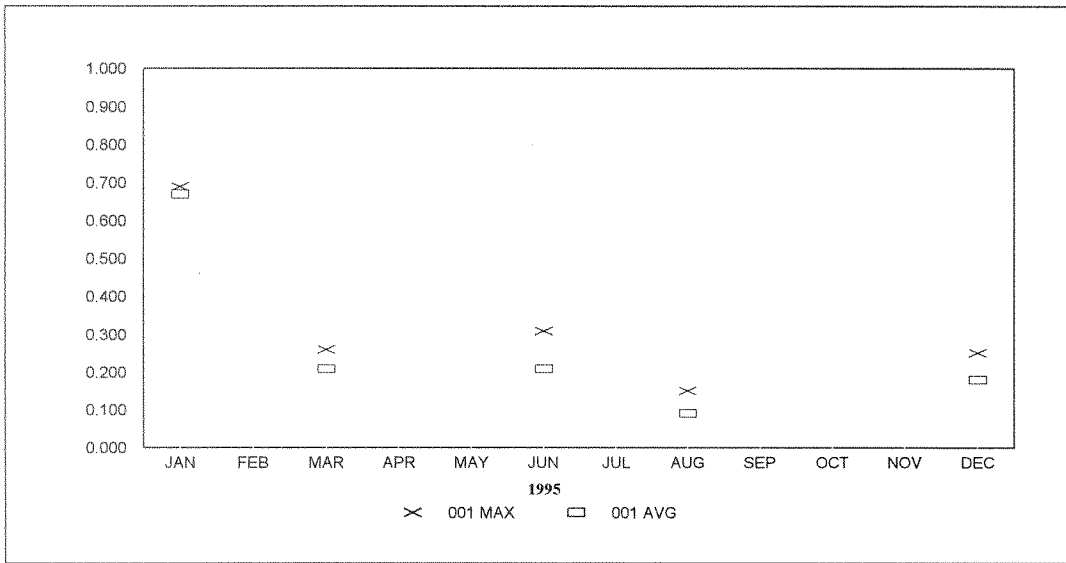


Figure C - 5.35

METALS
IRON, TOTAL
(mg/L)

Outfall 001

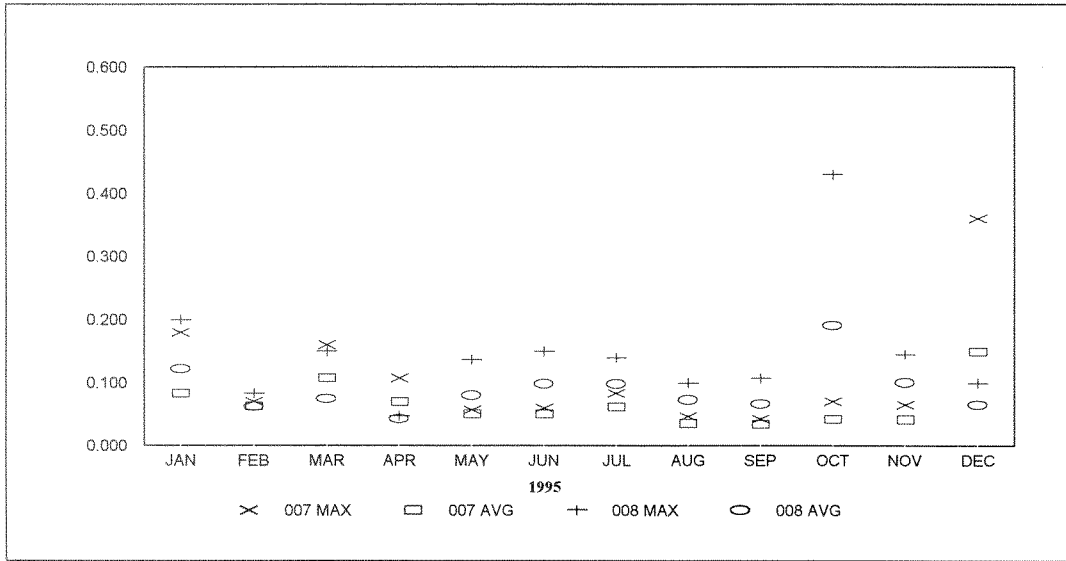


Figure C - 5.36

METALS
IRON, TOTAL
(mg/L)

Outfalls 007 and 008

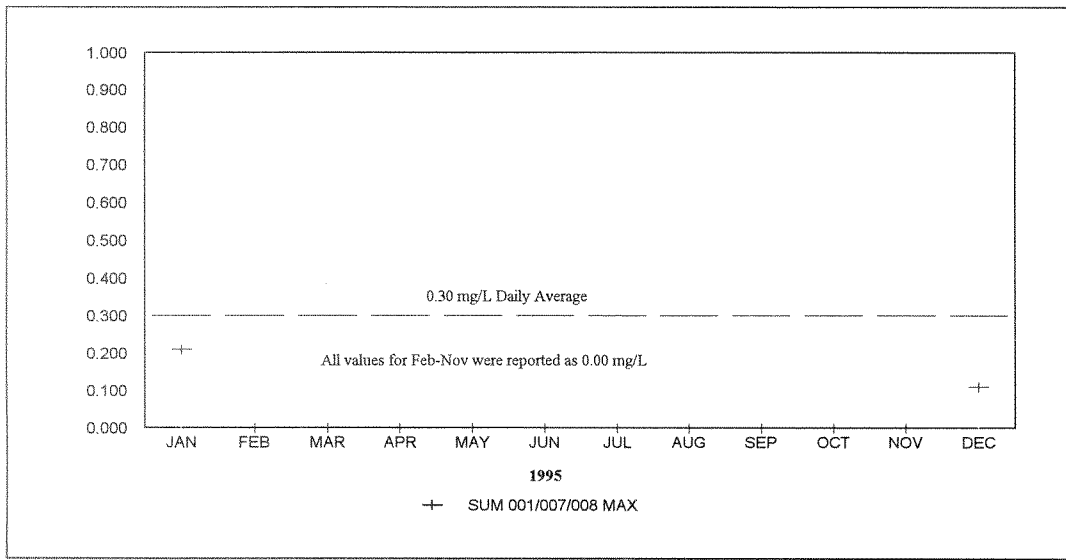


Figure C - 5.37

METALS
FLOW-WEIGHTED AVERAGE
IRON
(mg/L)

Sum of Outfalls 001,
007, and 008

Figure C - 5.38

METALS
LEAD,
TOTAL RECOVERABLE
(mg/L)

Outfall 001

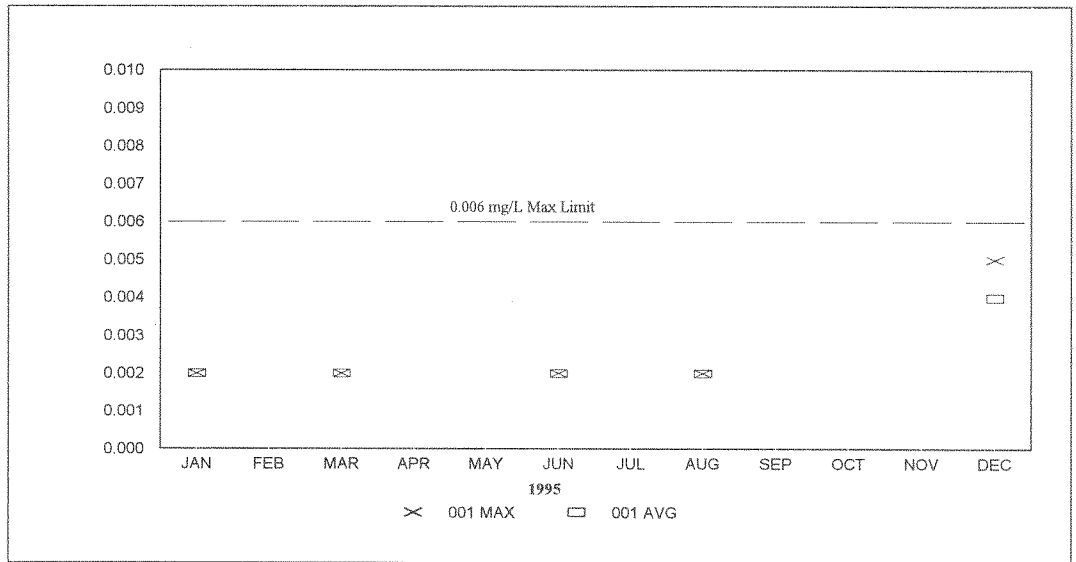


Figure C - 5.39

METALS
LEAD,
TOTAL RECOVERABLE
(mg/L)

Outfall 008

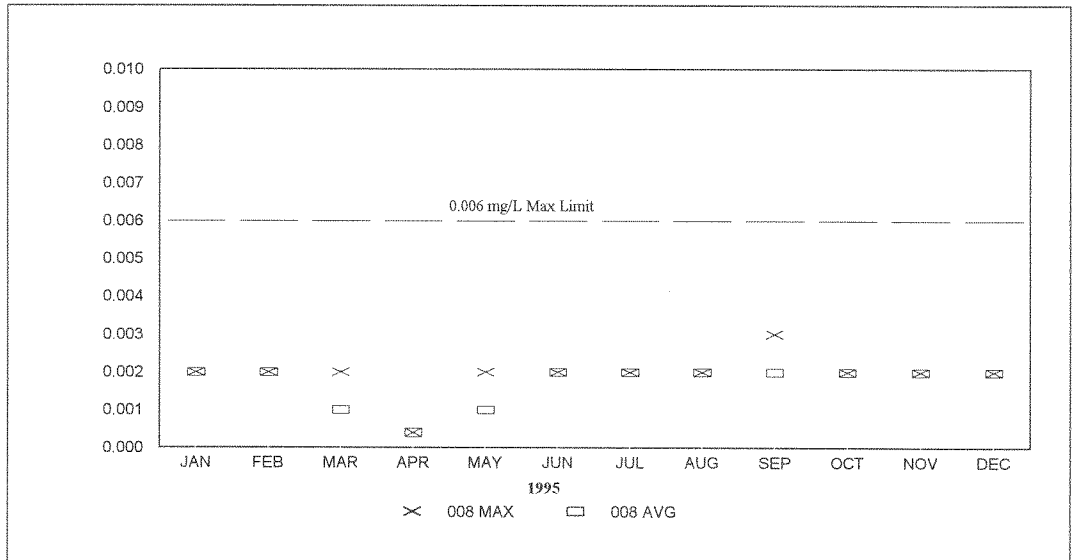
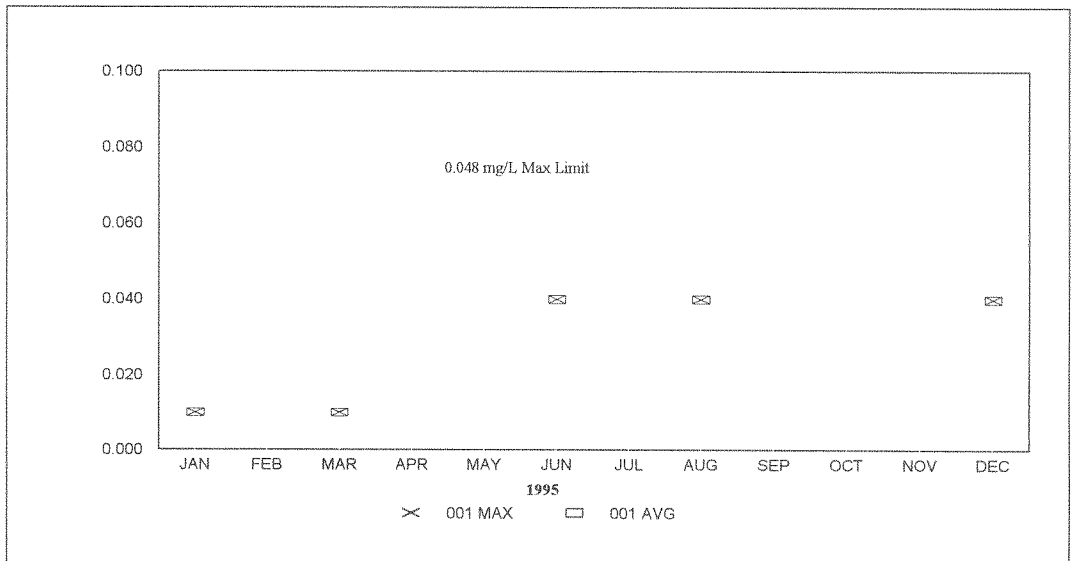


Figure C - 5.40

METALS
NICKEL,
TOTAL RECOVERABLE
(mg/L)

Outfall 001



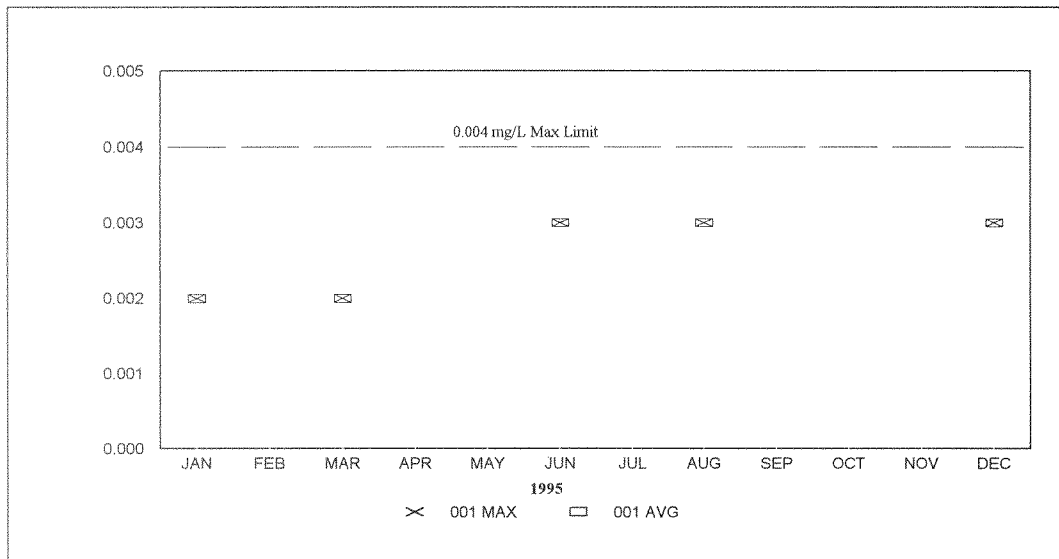


Figure C - 5.41

METALS
SELENIUM,
TOTAL RECOVERABLE
(mg/L)

Outfall 001

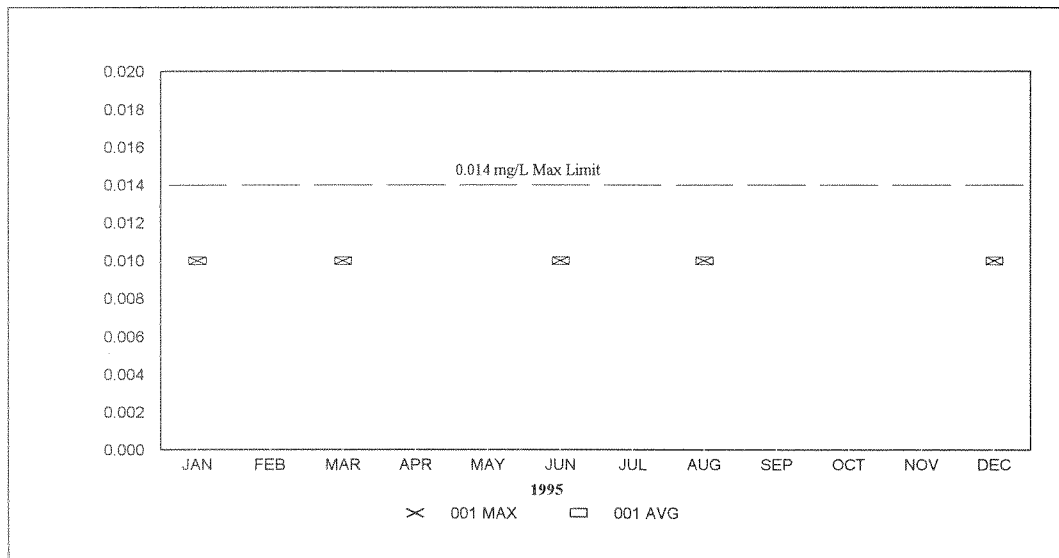


Figure C - 5.42

METALS
VANADIUM,
TOTAL RECOVERABLE
(mg/L)

Outfall 001

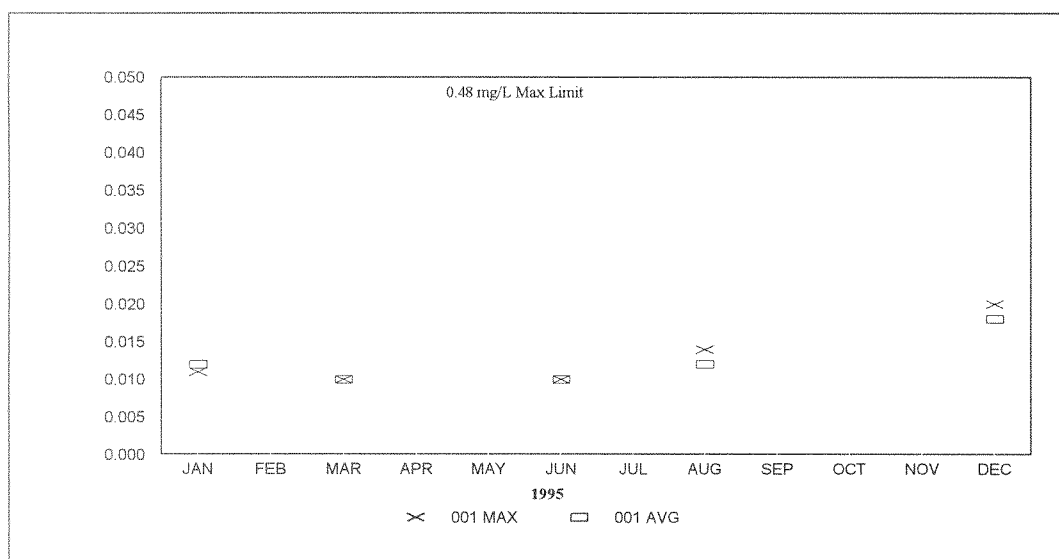


Figure C - 5.43

METALS
ZINC,
TOTAL RECOVERABLE
(mg/L)

Outfall 001

Figure C - 5.44

VOLATILE ORGANIC ANALYSIS

2-BUTANONE (mg/L)

Outfall 001

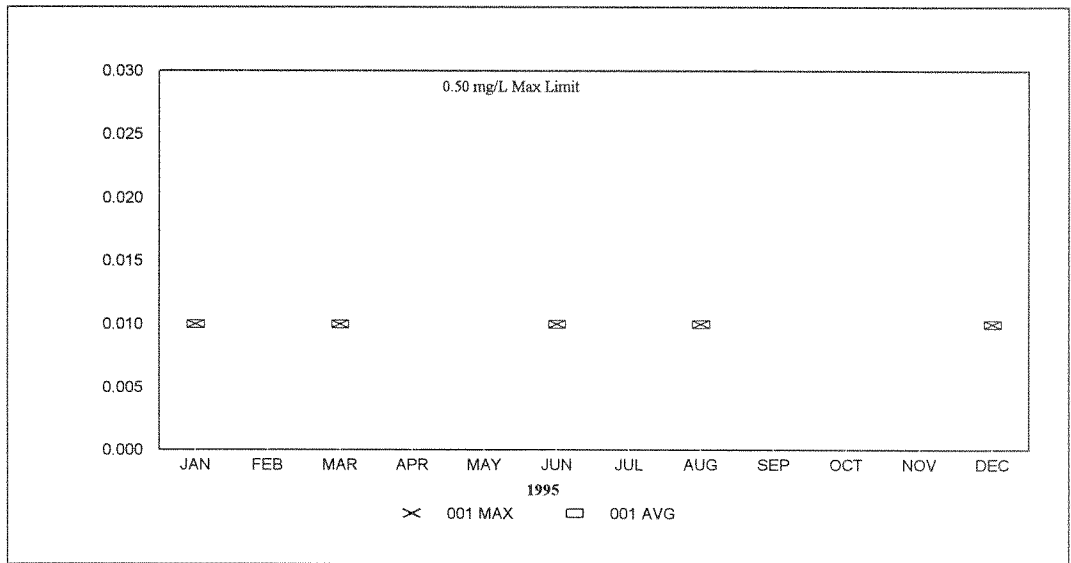


Figure C - 5.45

VOLATILE ORGANIC ANALYSIS

DICHLORODIFLUOROMETHANE (mg/L)

Outfall 001

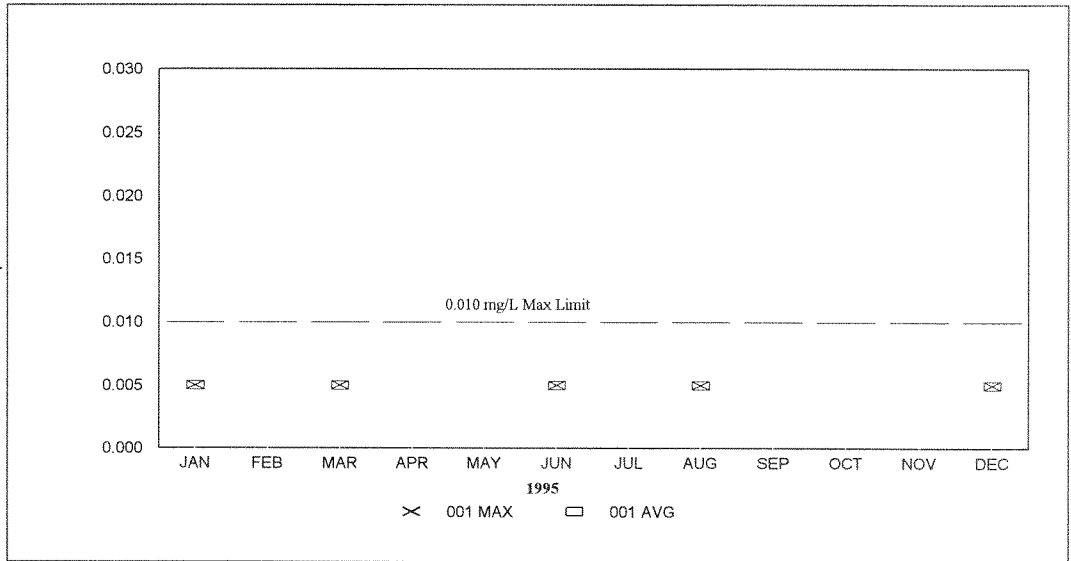
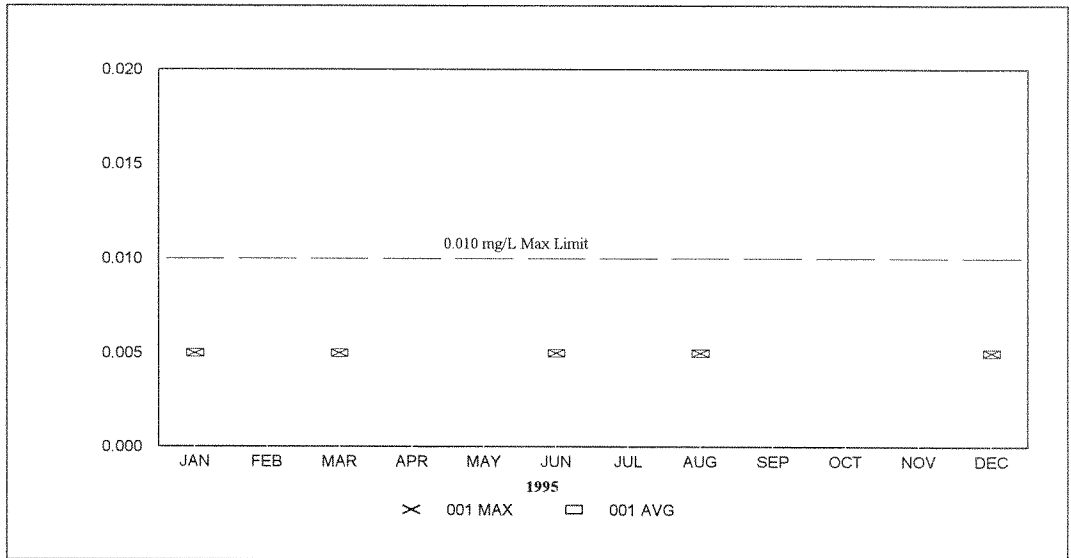


Figure C - 5.46

VOLATILE ORGANIC ANALYSIS

TRICHLOROFLUOROMETHANE (mg/L)

Outfall 001



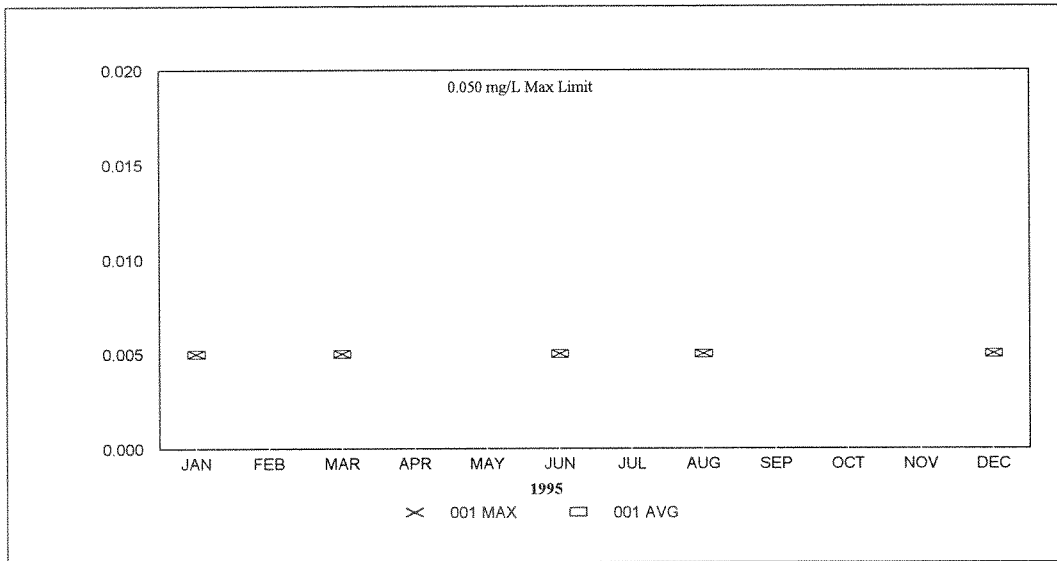


Figure C - 5.47

VOLATILE ORGANIC ANALYSIS

XYLENE, TOTAL (mg/L)

Outfall 001

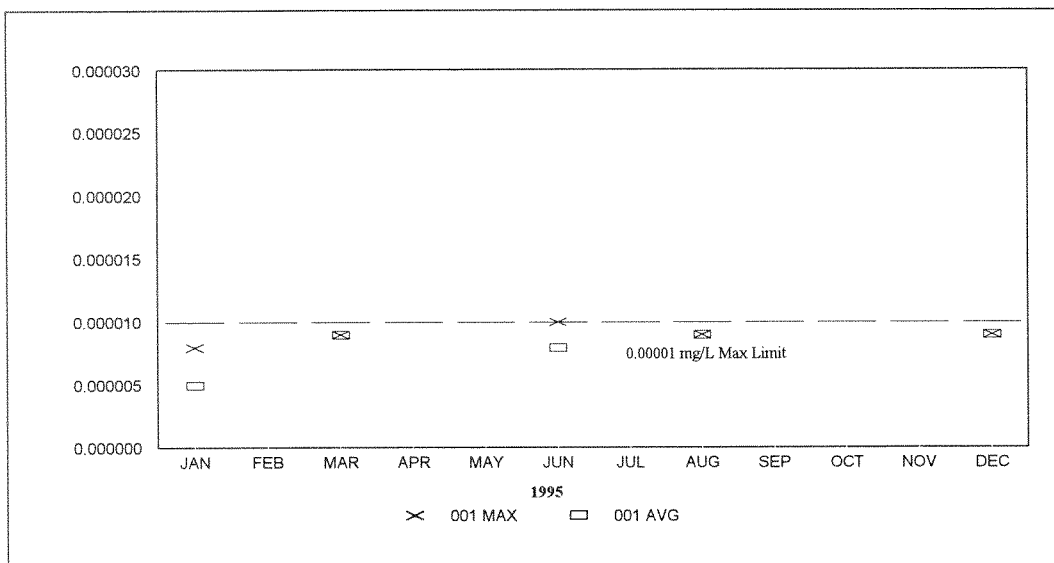


Figure C - 5.48

SEMIVOLATILE ORGANIC ANALYSIS

ALPHA-BHC (mg/L)

Outfall 001

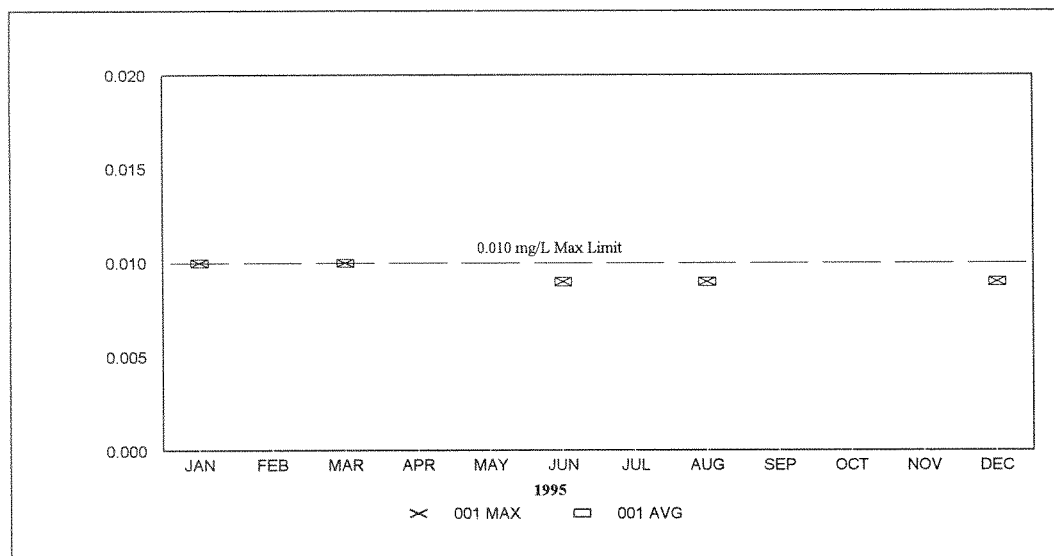


Figure C - 5.49

SEMIVOLATILE ORGANIC ANALYSIS

3,3-DICHLOROBENZIDINE (mg/L)

Outfall 001

Figure C - 5.50

SEMIVOLATILE ORGANIC ANALYSIS

HEPTACHLOR (mg/L)

Outfall 001

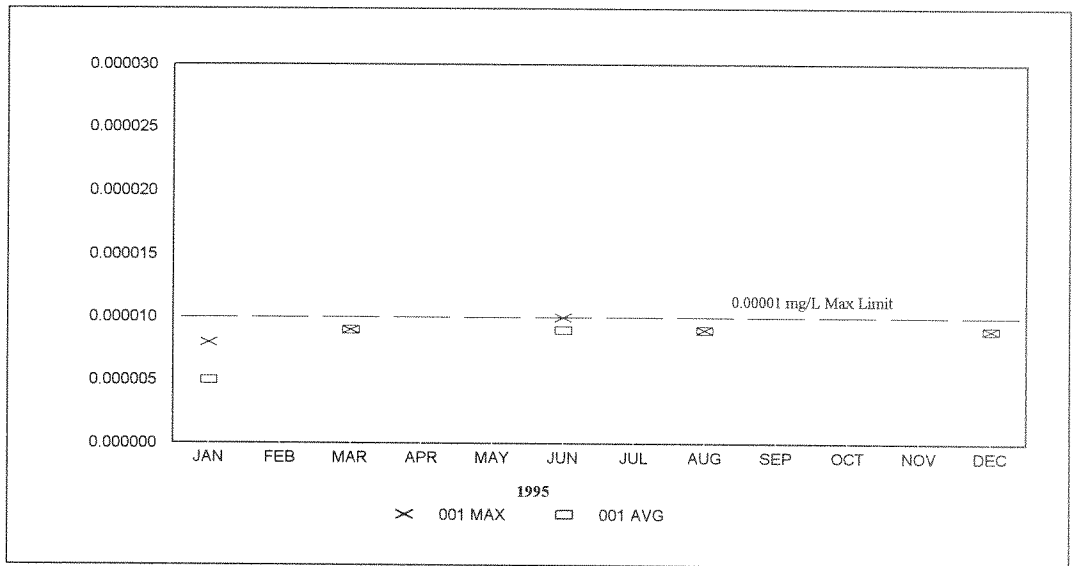


Figure C - 5.51

SEMIVOLATILE ORGANIC ANALYSIS

HEXACHLOROBENZENE (mg/L)

Outfall 001

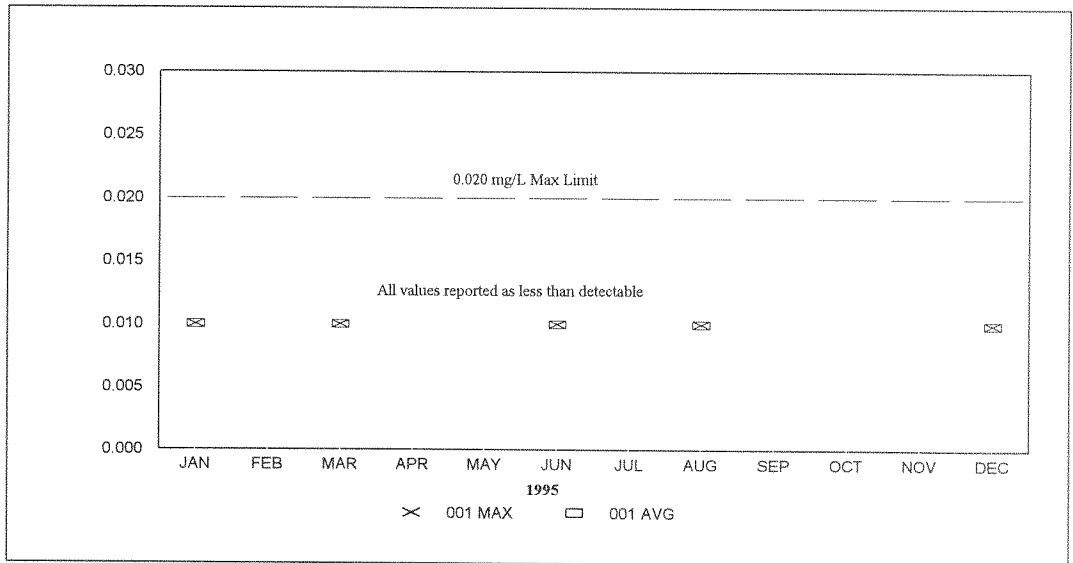
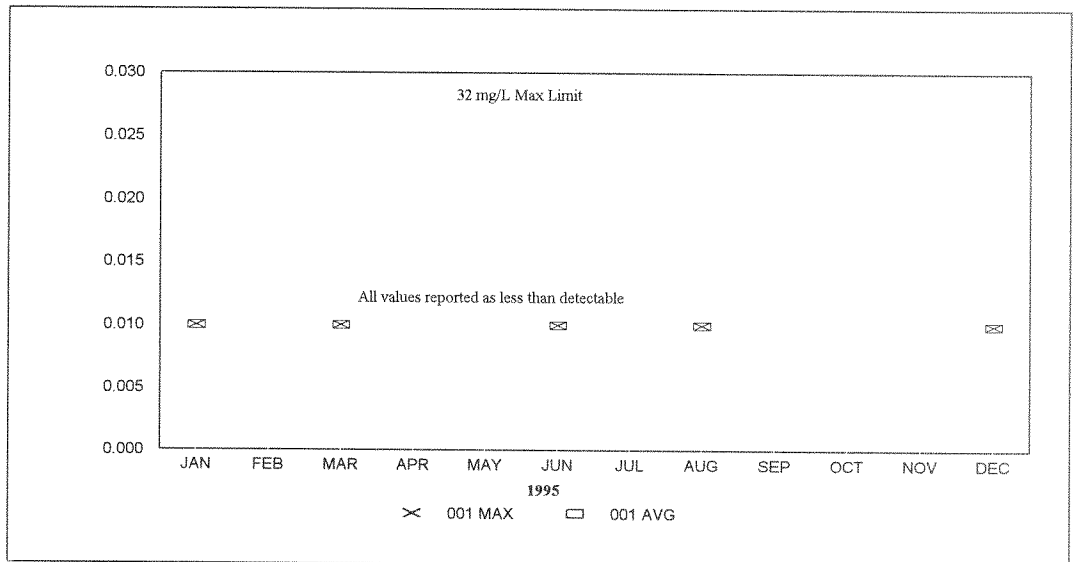


Figure C - 5.52

SEMIVOLATILE ORGANIC ANALYSIS

TRIBUTYL PHOSPHATE (mg/L)

Outfall 001



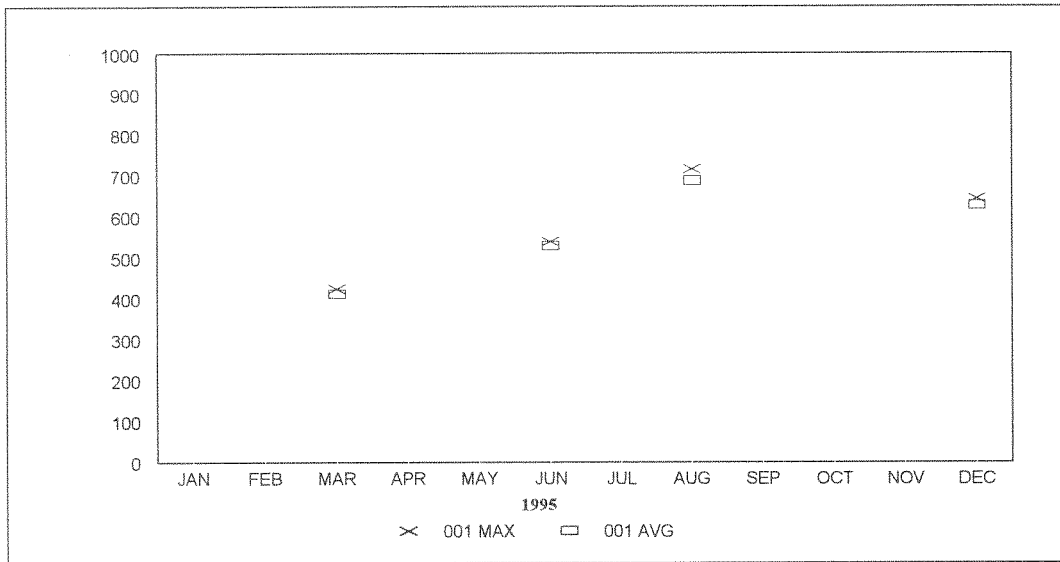


Figure C - 5.53

WATER QUALITY
TOTAL DISSOLVED SOLIDS
(mg/L)

Outfall 001