

PUREX SITE at MITCHEL FIELD GROUNDWATER REMEDIATION

DEPARTMENT OF PUBLIC WORKS

Nassau County

Long Island, New York



ANNUAL OPERATIONS AND ENVIRONMENTAL MONITORING SUMMARY



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COMMISSIONER

2004

**Purex Site at Mitchel Field Groundwater Remediation
Annual Operations and Environmental
Monitoring Summary
For Year 2004**

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1.0 2004 Treatment Plant Operations

1.1 2004 Treatment Systems Configuration

Nassau County took over operation of the Mitchel Field Purex Groundwater Remediation Facility (MFPGRF) from Purex Corporation on January 1, 2003. Purex Corporation had operated the facility for nearly thirteen (13) years at the time of the transfer to the County. Operating Year (OY) 2004 was the second year of the site's operation by Nassau County.

The MFPGRF was constructed to extract contaminated groundwater from two separate areas (a highly contaminated source area which is surrounded by a slurry wall and a more diffuse down gradient plume area), treat the water to meet the State's required standards, and discharge the treated water to a County recharge basin. For Operating Year (OY) 2004 (January 1, 2004 to December 31, 2004) there were two (2) source area recovery wells and three (3) plume area recovery wells that were active for the MFPGRF, both the source area and plume area recovery well systems were operated in OY 2004.

Recovered water from both source area and plume area well locations was pumped via force mains to the MFPGRF located at the intersection of Oak Street and Commercial Avenue in East Garden City, New York. Once within the treatment facility, recovered water underwent air stripping treatment, with a typical air to water ratio of 50 to 1. After air stripping, treated water was pumped from the facility's effluent wet well to a County recharge basin.

1.2 Significant OY 2004 Operations Events

There were no significant operations events in OY 2004 to report.

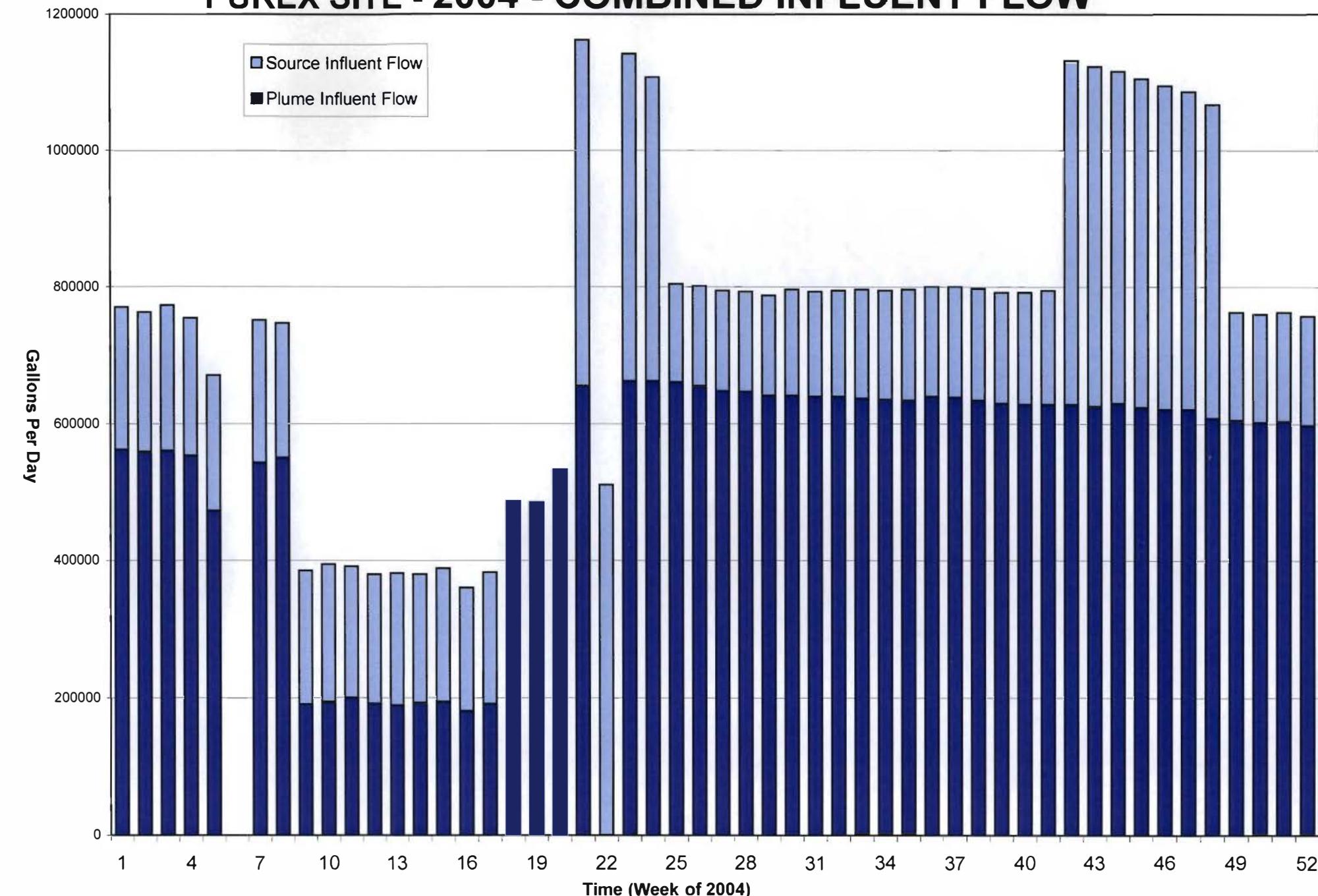
2.0 Treatment Plant Operations Monitoring Results

2.1 Total Flow and On-Line Performance

The MFPGRF pumped and treated a total of 276,338,844 gallons of contaminated groundwater in OY 2004. A total of 74,133,324 gallons was recovered from the source area system and a total of 202,205,520 gallons from the plume area system. Figure 1 shows typical daily flow rates for each week of OY 2004. Detailed monthly summaries of flow are presented below:

Figure 1

PUREX SITE - 2004 - COMBINED INFLUENT FLOW



2004

MONTH	SOURCE	PLUME	TOTAL
JANUARY	6,215,040	16,816,320	23,031,360
FEBRUARY	4,253,640	11,190,120	15,443,760
MARCH	5,798,880	15,395,040	21,193,920
APRIL	4,698,720	14,654,880	19,353,600
MAY	6,242,724	14,184,600	20,427,324
JUNE	6,864,480	19,585,440	26,449,920
JULY	4,503,810	19,387,800	23,891,610
AUGUST	3,991,590	16,170,120	20,161,710
SEPTEMBER	4,858,560	18,930,240	23,788,800
OCTOBER	9,658,080	19,353,600	29,011,680
NOVEMBER	12,216,960	18,457,920	30,674,880
DECEMBER	4,830,840	18,079,440	22,910,280
TOTAL	74,133,324	202,205,520	276,338,844

The MFPGRF has treated 594,189,144 gallons of groundwater during the County's 2 years of operation of the remediation facility. A cumulative summary for each operating year is provided below:

YEAR	SOURCE FLOW	PLUME FLOW	ANNUAL TOTAL	CUMULATIVE TOTAL
2003	150,013,020	167,837,280	317,850,300	317,850,300
2004	74,133,324	202,205,520	276,338,844	594,189,144

The MFPGTF operated a total of 8321 hours out of a possible 8784 hours (leap year) for the 12 months covered in this report's operating year. This resulted in an overall on-line performance of 94.73 % during OY 2004. The three (3) events that accounted for the majority of the system's downtime in OY 2004, in order of significance, were as follows: recovery well breakdown/re-development (129 hours), repairs to a broken drain pipe beneath the air strippers in February (127.5 hours) and repairs to a water level transmitter for the air stripper's sump (115.5 hours). Detailed monthly summaries of on-line performance are presented in Appendix A.

2.2 Influent Water Quality Results

2.2.1 Source Influent Water Quality Results

Source influent water quality samples were collected on a weekly basis. The samples were analyzed for volatile organic compounds (VOC's). Detailed monthly data summaries are presented in Appendix B.

In OY 2004 influent TVOC levels for the source area groundwater ranged from 356.7 parts per billion (ppb) to 2124.7 ppb (Figure 2). The wide range of concentrations observed was directly related to the pumping configuration of the source area recovery wells. TVOC's of 1000 to 1500 ppb, and greater, occurred when both source area recovery wells W-3 and W-4D were in operation. Lower levels of TVOC's (>1000 ppb) were observed when W-4D was operated alone.

Tetrachloroethene, Trichloroethene and Cis-1,2-Dichloroethene were the three (3) compounds that accounted for 90 % of the source area influent TVOC in OY 2004, Figure 3.

2.2.2 Plume Influent Quality Results

Plume influent water quality samples were collected on a weekly basis. The samples were analyzed for VOC's. Detailed monthly summaries of the off-site influent quality results are presented in Appendix B.

The plume influent TVOCs ranged from 29.3 ppb to 332.5 ppb in OY 2004 (Figure 4). The plume influent TVOC concentrations remained constant at concentrations between 100 ppb and 200 ppb for 49 weeks of OY 2004. As observed with the source area influent, the bulk of the plume influent contamination was comprised of three (3) compounds, Tetrachloroethene, Trichloroethene and Cis-1,2-Dichloroethene (Figure 5).

2.3 Recovery Well Data

Both the source area and plume area recovery well systems were operated in OY 2004. Table 1 shows the operation of recovery wells on a weekly basis. No weekly water quality samples have been collected at the well head since the start of the remediation in 1990 due to confined space entry requirements.

2.4 Effluent Water Quality Results

Effluent water quality samples were collected on a weekly basis. The samples were analyzed for VOCs and pH. Detailed monthly summaries of the effluent quality results are presented in Appendix C.

Similar to OY 2003 there were nineteen (19) weeks in OY 2004 where one or more effluent discharge limitations were exceeded. Tetrachloroethene, Trichloroethene and Cis-1,2-Dichloroethene were the principal compounds that exceeded their individual discharge limitations.

2.5 Air Emissions Monitoring Results

Two (2) compounds: Tetrachloroethene and Vinyl Chloride were identified as significant potential air contaminant sources resulting from the operation of the MFPGRF. No direct air emissions sampling is required at the MFPGRF; instead, air emissions rates are calculated based on a specific day's influent contaminant concentration and its associated fluid flow rate. The calculation assumes that 100% of the measured compound is removed by the air strippers and discharged to the atmosphere.

Figure 2
PUREX SITE - 2004 - SOURCE INFLUENT - TVOCs

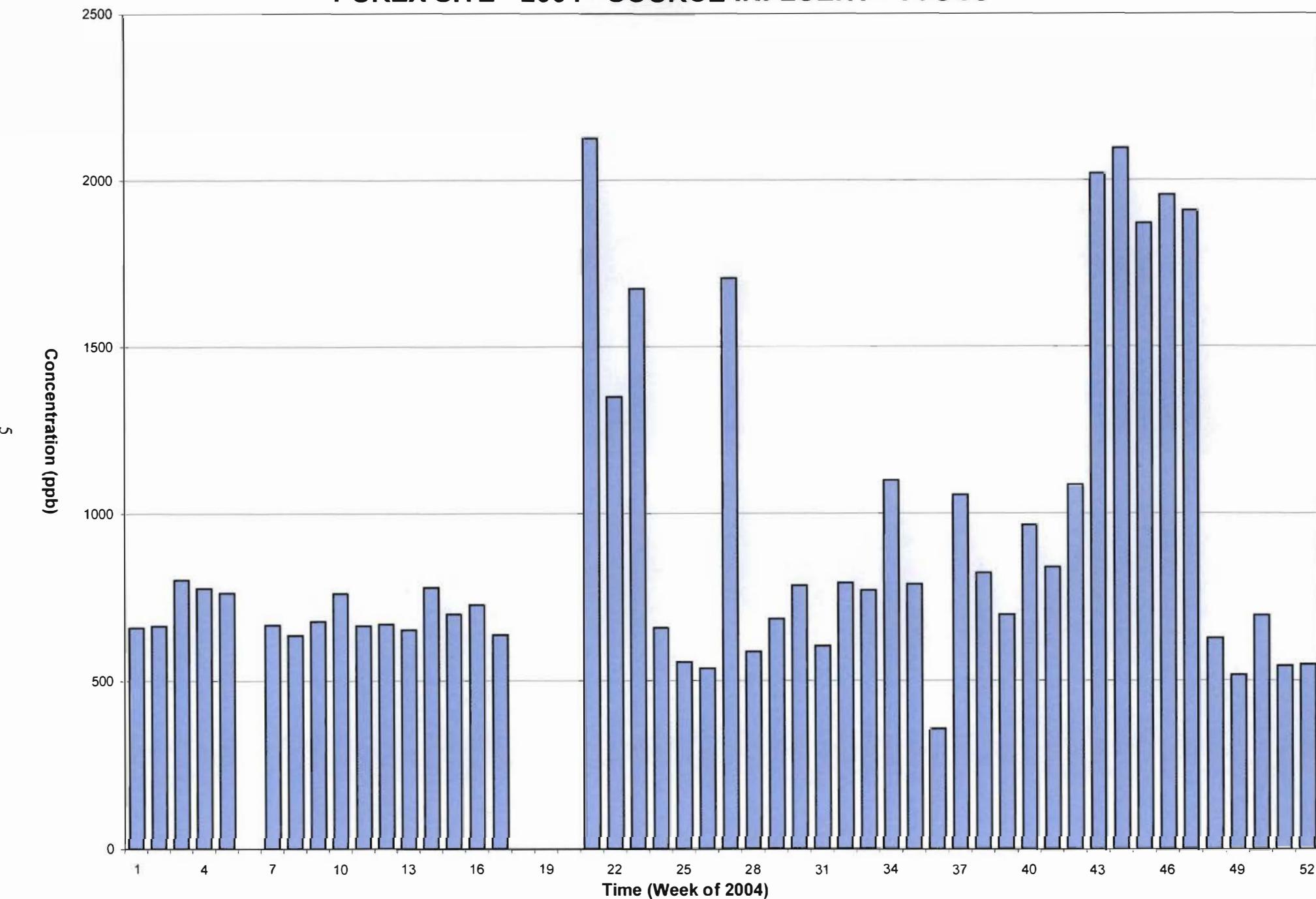


Figure 3
PUREX SITE - 2004 - SOURCE INFLUENT - VOCs

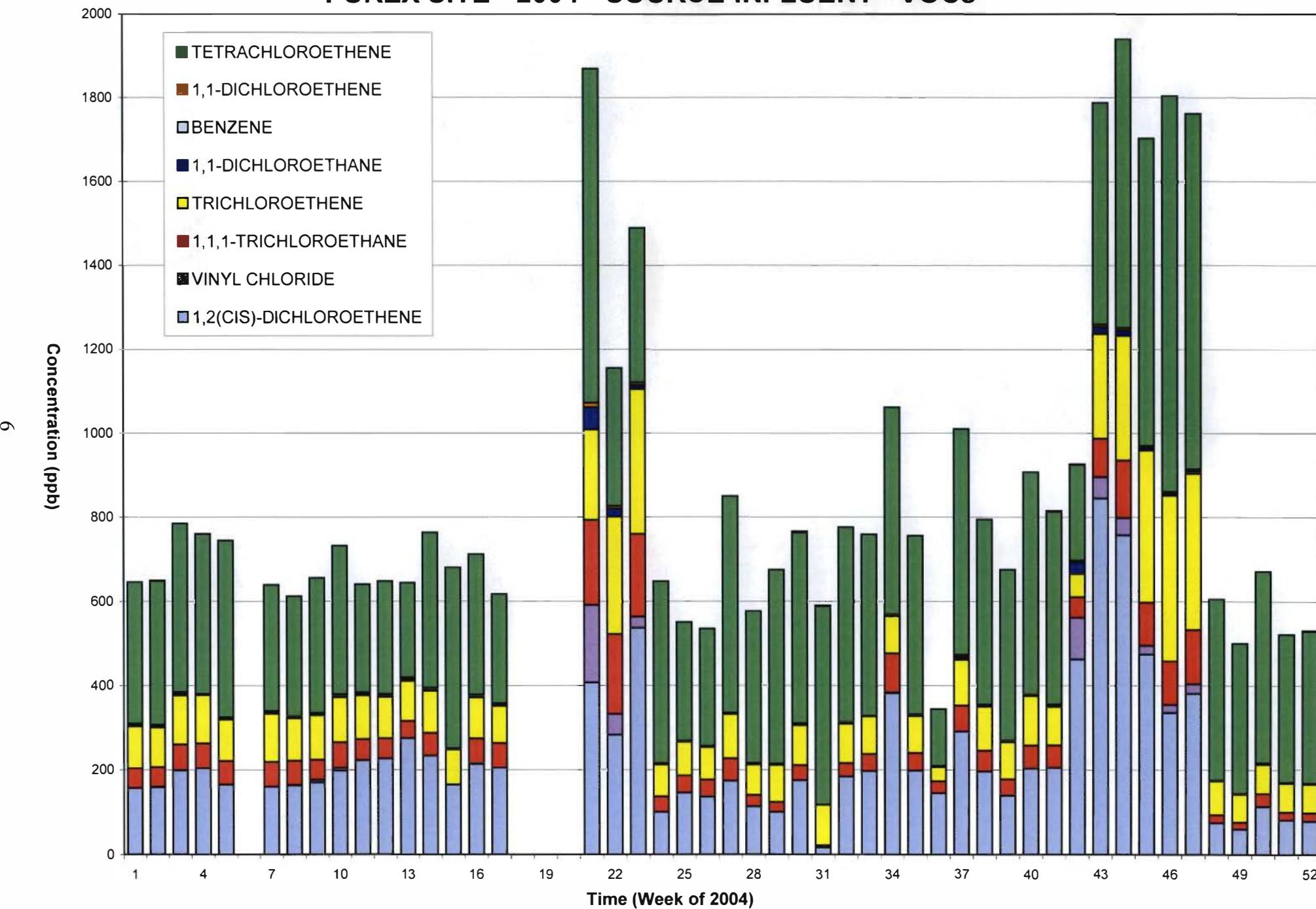


Figure 4
PUREX SITE - 2004 - PLUME INFLUENT - TVOCs

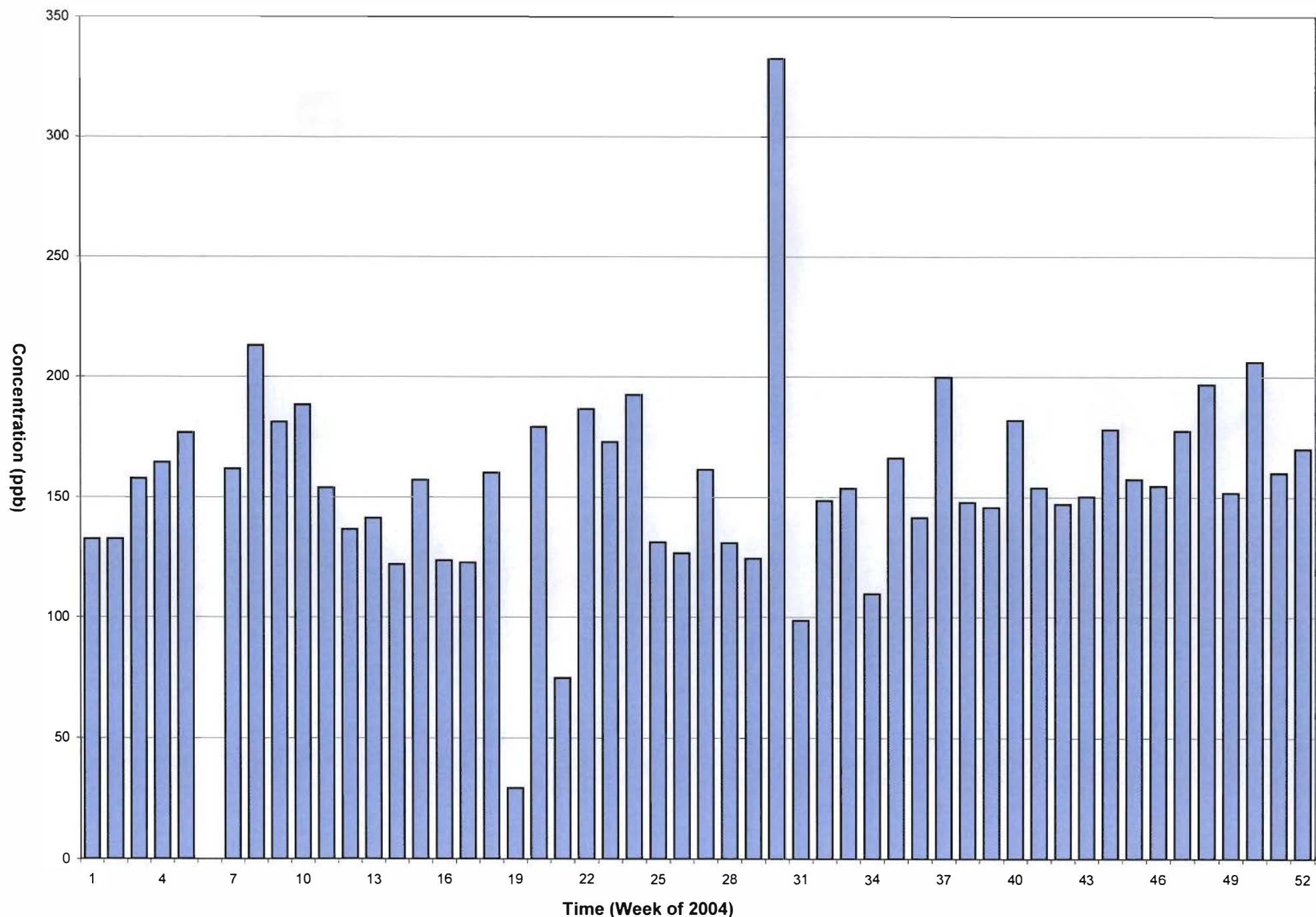


Figure 5
PUREX SITE - 2004 - PLUME INFLUENT - VOCs

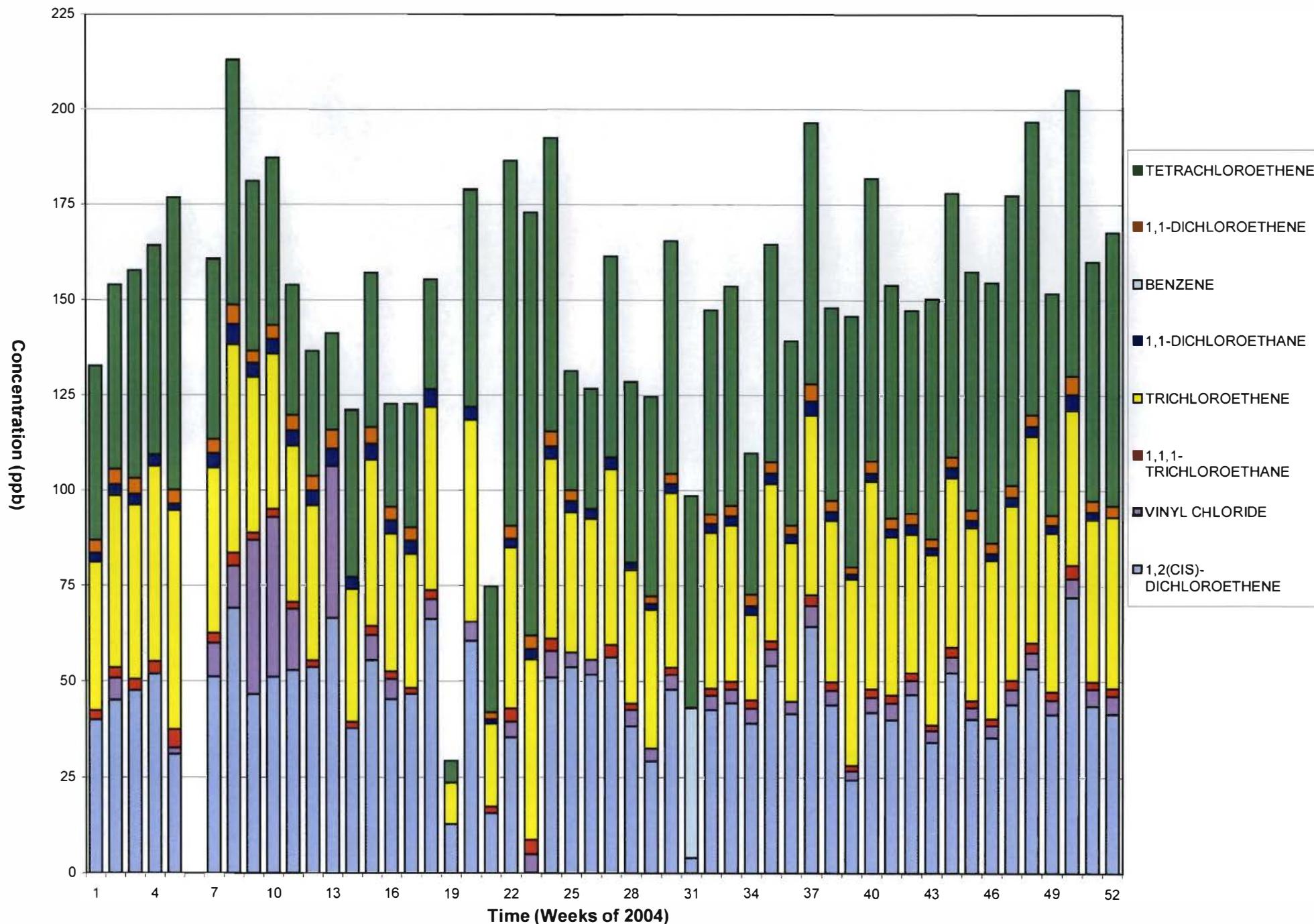


Table 1
2004 Recovery Well Operation

WEEK (STARTING MONDAY)	SOURCE WELLS	PLUME WELLS	COMMENTS
1/5	W-4D	W-183, W-184, W-187	
1/12	W-4D	W-183, W-184, W-187	
1/19	W-4D	W-183, W-184, W-187	
1/26	W-4D	W-183, W-184, W-187	W-187 offline - 1/27
2/2	W-4D	W-183, W-184	W-187 online - 2/6
2/9	W-4D	W-183, W-184, W-187	
2/16	W-4D	W-183, W-184, W-187	
2/23	W-4D	W-183, W-184, W-187	
3/1	W-4D	W-183, W-184, W-187	
3/8	W-4D	W-183, W-184, W-187	
3/15	W-4D	W-183, W-184, W-187	
3/22	W-4D	W-183, W-184, W-187	
3/29	W-4D	W-183, W-184, W-187	
4/5	W-4D	W-183, W-184, W-187	
4/12	W-4D	W-183, W-184, W-187	
4/19	W-4D	W-183, W-184, W-187	
4/26	W-4D	W-183, W-184, W-187	W-4D offline - 4/27
5/3		W-183, W-184, W-187	W-183 offline - 5/6
5/10		W-183, W-184	W-183 online - 5/14
5/17		W-183, W-184, W-187	W-3 online - 5/18. W-4D online - 5/19, W-184 offline - 5/20
5/24	W-3, W-4D	W-183, W-187	W-184 online - 5/25
5/31	W-3, W-4D	W-183, W-184, W-187	
6/7	W-3, W-4D	W-183, W-184, W-187	W-3 offline - 6/9
6/14	W-4D	W-183, W-184, W-187	
6/21	W-4D	W-183, W-184, W-187	
6/28	W-4D	W-183, W-184, W-187	
7/5	W-4D	W-183, W-184, W-187	
7/12	W-4D	W-183, W-184, W-187	
7/19	W-4D	W-183, W-184, W-187	
7/26	W-4D	W-183, W-184, W-187	
8/2	W-4D	W-183, W-184, W-187	
8/9	W-4D	W-183, W-184, W-187	
8/16	W-4D	W-183, W-184, W-187	
8/23	W-4D	W-183, W-184, W-187	All wells offline - 8/26, all wells back online - 8/30
8/30	W-4D	W-183, W-184, W-187	
9/6	W-4D	W-183, W-184, W-187	
9/13	W-4D	W-183, W-184, W-187	
9/20	W-4D	W-183, W-184, W-187	
9/27	W-4D	W-183, W-184, W-187	
10/4	W-4D	W-183, W-184, W-187	
10/11	W-4D	W-183, W-184, W-187	
10/18	W-4D	W-183, W-184, W-187	
10/25	W-4D	W-183, W-184, W-187	
11/1	W-4D	W-183, W-184, W-187	
11/8	W-4D	W-183, W-184, W-187	
11/15	W-4D	W-183, W-184, W-187	
11/22	W-4D	W-183, W-184, W-187	
11/29	W-4D	W-183, W-184, W-187	
12/6	W-4D	W-183, W-184, W-187	
12/13	W-4D	W-183, W-184, W-187	
12/20	W-4D	W-183, W-184, W-187	
12/27	W-4D	W-183, W-184, W-187	W-187 offline - 12/29

During OY 2004 the highest calculated emission rates for Tetrachloroethene and Vinyl Chloride were 4.076 lbs/d and 0.785 lbs/d, respectively. The highest emission rate for Tetrachloroethene represents 71 % of the compound's maximum allowable rate of 5.76 lbs/d. The highest emission rate for Vinyl Chloride represents 50 % of the compound's maximum allowable rate of 1.56 lbs/d. The weekly air emissions data for these parameters are presented graphically in Figures 6 and 7.

3.0 2004 Environmental Monitoring Program

3.1 2004 Environmental Monitoring Dates, Wells and Parameters

In compliance with the Mitchel Field-Purex Groundwater Remediation Project's (MFPGRP) Remediation Monitoring Plan (RMP), the County conducted two (2) sampling events in Monitoring Year (MY) 2004 (January 1, 2004 to December 31, 2004). The two (2) sampling events were conducted in May and October. Each sampling event analyzed network groundwater monitoring wells for volatile organic compounds (VOC's). The monitoring network consists of 24 wells (Figure 8). All monitoring wells are equipped with dedicated sampling devices (Grundfos Redi-flo 2 submersible pump) (Appendix D).

3.1.1 2004 Environmental Monitoring Special Notes

Monitoring well W-380 was not sampled during the October 2004 sampling round due to problems with the well's dedicated sampling equipment.

4.0 Environmental Monitoring Results

4.1 Semi-Annual Sampling Results

4.1.1 Volatile Organic Sampling Results

Groundwater samples were collected from twenty-four (24) groundwater monitoring wells and from up to five recovery wells (depending on the operational configuration) for each of the two (2) Semi-Annual sampling events. The results of the Semi-Annual sampling analyses are presented in Tables 2 and 3. These tables list only those compounds which have been detected historically at the Purex site. If a specific compound listed in the List of Analytes groundwater clean-up criteria (Table 1 & 2 in Appendix D) does not appear in the tables it has never been detected in groundwater at the site.

Figure 8 presents an aerial site map with the known extent of groundwater contamination based on the October 2004 monitoring well sampling results. Of the twenty-four (24) monitoring wells sampled, eight (8) wells had TVOCs less than 10 ppb for both MY 2004 sampling events, nine (9) wells had at least one sampling event where its TVOC was greater than 10 ppb but less than 100 ppb and seven (7) wells had at least one sampling event where its TVOC was greater than 100 ppb.

Figure 6
PUREX SITE - 2004 - Combined Air Discharge
Tetrachloroethene

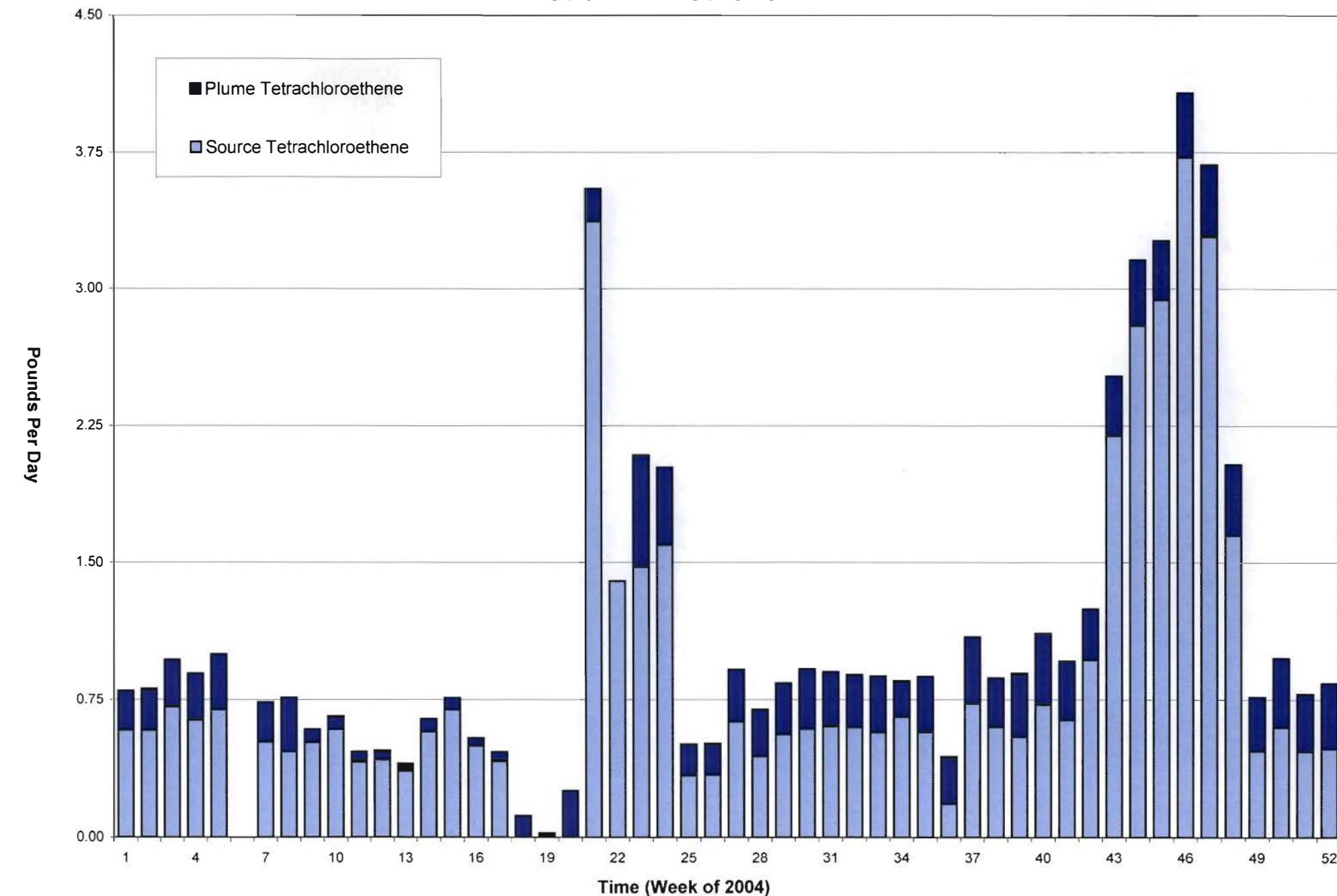


Figure 7
PUREX SITE - 2004 - COMBINED AIR DISCHARGE
VINYL CHLORIDE

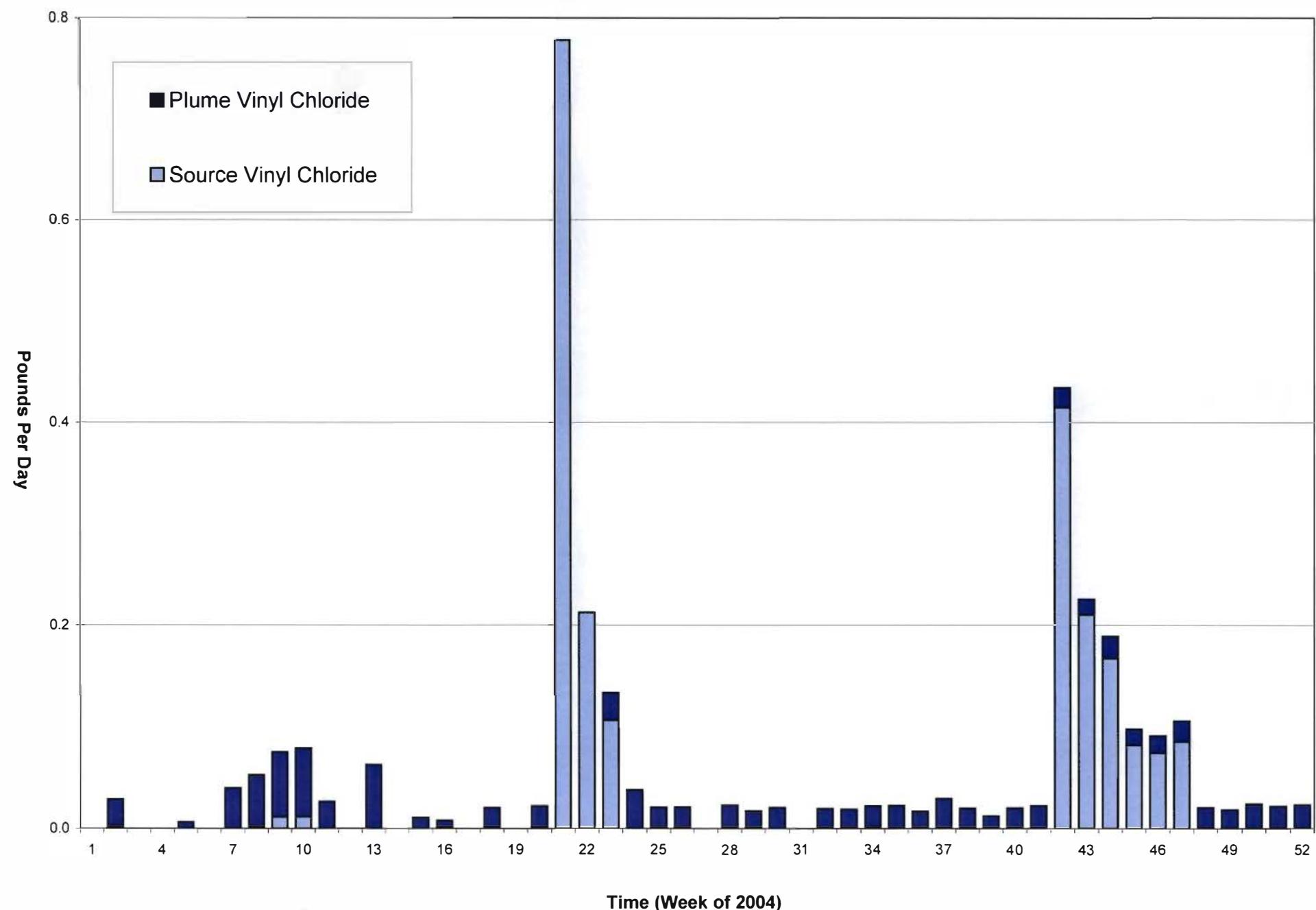


Figure 8



Table 2
PUREX SITE
2004 SEMI-ANNUAL GROUNDWATER SAMPLING RESULTS

VOLATILE ORGANICS COMPOUNDS (ppb)

	WELL W-234		WELL W-402		WELL W-405		WELL W-435		WELL W-461		WELL W-302		WELL W-305		WELL W-311R	
	DATE SAMPLED		DATE SAMPLED		DATE SAMPLED		DATE SAMPLED		DATE SAMPLED		DATE SAMPLED		DATE SAMPLED		DATE SAMPLED	
	5/18/04	10/26/04	5/13/04	10/25/04	5/11/04	10/25/04	5/18/04	10/26/04	4/30/04	10/25/04	4/30/04	10/25/04	5/11/04	10/25/04	5/11/04	10/22/04
Dichlorodifluoromethane	BDL	BDL														
Vinyl Chloride	6.1	4.1	BDL	BDL	14.0	9.1										
1,1-Dichloroethene	5.9	3.6	BDL	BDL	BDL	BDL	BDL	BDL	1.4	BDL	9.1	BDL	BDL	BDL	BDL	1.2
1,2-T-Dichloroethene	35.2	13.6	BDL	BDL												
1,1-Dichloroethane	36.1	12.5	1.5	BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.6	BDL	BDL	BDL	BDL	3.5
c-1,2-Dichloroethylene	275	763	BDL	BDL	BDL	BDL	BDL	BDL	BDL	4.5	46.2	1.0	BDL	BDL	BDL	70.8
Chloroform	BDL	BDL														
1,1,1-Trichloroethane	126	33.7	BDL	BDL	BDL	BDL	BDL	BDL	2.4	1.6	10.9	BDL	BDL	BDL	BDL	BDL
Carbon Tetrachloride	BDL	17.2	BDL	BDL												
1,2-Dichloroethane	BDL	BDL														
Benzene	BDL	BDL	BDL	1.1												
Trichloroethylene	92.9	80.5	2.4	3.6	1.7	BDL	5.2	19.5	24.9	95.7	147	15.9	BDL	BDL	BDL	17.5
1,1,2-Trichloroethane	BDL	BDL														
Toluene	BDL	BDL														
Tetrachloroethylene	152	473	5.6	10.7	3.8	9.4	5.4	16.4	13.6	64.6	195	88.4	BDL	BDL	BDL	14.2
Chlorobenzene	5.3	5.2	BDL	BDL												
1,1,1,2-Tetrachloroethane	BDL	BDL														
Ethyl Benzene	BDL	BDL														
m,p-Xylene	BDL	BDL														
o-Xylene	4.1	BDL	BDL	BDL												
Isopropylbenzene	BDL	BDL														
n-Propylbenzene	BDL	BDL														
1,3,5-Trimethylbenzene	BDL	BDL														
1,2,4-Trimethylbenzene	BDL	BDL														
sec-Butyl Benzene	BDL	BDL														
tert-Butyl Benzene	BDL	BDL														
p-Isopropyltoluene	BDL	BDL														
1,4-Dichlorobenzene	BDL	BDL														
1,3-Dichlorobenzene	BDL	BDL														
1,2-Dichlorobenzene	BDL	10.2	BDL	BDL												
Hexachlorobutadiene	BDL	BDL														
Naphthalene	BDL	BDL														
1,2,3-Trichlorobenzene	BDL	BDL														
1,2,3-Trichloropropane	BDL	BDL														
Methyl t-Butylether (MTBE)	BDL	BDL														
TVOc	738.6	1416.6	9.5	14.3	5.5	9.4	10.6	35.9	42.3	166.4	409.8	105.3	0.0	0.0	120.0	165.3

Table 2
PUREX SITE
SEMI-ANNUAL GROUNDWATER SAMPLING RESULTS FOR 2004
VOLATILE ORGANICS COMPOUNDS (ppb)

	WELL W-361		WELL W-366		WELL W-367		WELL W-368		WELL W-369		WELL W-370		WELL W-371		WELL W-372		WELL W-373	
	DATE SAMPLED		DATE SAMPLED		DATE SAMPLED		DATE SAMPLED		DATE SAMPLED		DATE SAMPLED		DATE SAMPLED		DATE SAMPLED		DATE SAMPLED	
	4/30/04	10/25/04	5/11/04	10/18/04	5/11/04	10/18/04	5/11/04	10/18/04	5/11/04	10/25/04	5/11/04	10/25/04	5/12/04	10/22/04	5/12/04	10/22/04	5/12/04	10/22/04
Dichlorodifluoromethane	BDL	BDL	BDL	BDL	BDL	5.1	BDL	8.3	BDL	BDL								
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	4.3	6.3	BDL	BDL	57.3	21.3	BDL	BDL	BDL	BDL
1,1-Dichloroethene	BDL	1.6	BDL	BDL	5.6	4.7	6.6	6.7	1.7	1.4	BDL	BDL	4.3	2.5	BDL	BDL	BDL	BDL
1,2-T-Dichloroethene	BDL	BDL																
1,1-Dichloroethane	2.3	3.8	BDL	BDL	BDL	BDL	BDL	BDL	2.0	1.7	2.5	1.3	8.9	5.1	BDL	BDL	BDL	BDL
c-1,2-Dichloroethylene	34	57.5	BDL	BDL	11.1	5.1	15.8	8.4	17	32.7	14.5	10.1	77.5	37.7	BDL	BDL	1.8	BDL
Chloroform	BDL	BDL	BDL	BDL	7.1	3.6	7.8	5.0	BDL	BDL								
1,1,1-Trichloroethane	2.8	5.8	BDL	BDL	4.3	2.0	4.4	2.4	BDL	BDL	1.4	BDL	BDL	BDL	BDL	BDL	BDL	BDL
Carbon Tetrachloride	BDL	BDL																
1,2-Dichloroethane	BDL	BDL																
Benzene	BDL	BDL	BDL	0.8	BDL	BDL	BDL	BDL										
Trichloroethylene	5.3	60.9	13.3	7.8	18.9	12.6	25.2	20.6	13.8	15.7	5.1	4.1	26.8	19	BDL	BDL	BDL	BDL
1,1,2-Trichloroethane	BDL	BDL																
Toluene	BDL	BDL																
Tetrachloroethylene	11.1	323	1.3	BDL	9.7	8.1	12.4	14.2	7.9	15.2	12.3	12.1	18.7	20.5	BDL	BDL	BDL	BDL
Chlorobenzene	BDL	BDL																
1,1,1,2-Tetrachloroethane	BDL	BDL																
Ethyl Benzene	BDL	BDL																
m,p-Xylene	BDL	BDL																
o-Xylene	BDL	BDL																
Isopropylbenzene	BDL	BDL																
n-Propylbenzene	BDL	BDL																
1,3,5-Trimethylbenzene	BDL	BDL																
1,2,4-Trimethylbenzene	BDL	BDL																
sec-Butyl Benzene	BDL	BDL																
tert-Butyl Benzene	BDL	BDL																
p-Isopropyltoluene	BDL	BDL																
1,4-Dichlorobenzene	BDL	BDL																
1,3-Dichlorobenzene	BDL	BDL																
1,2-Dichlorobenzene	BDL	BDL	BDL	10.6	BDL	BDL	BDL	BDL										
Hexachlorobutadiene	BDL	BDL																
Naphthalene	BDL	BDL																
1,2,3-Trichlorobenzene	BDL	BDL																
1,2,3-Trichloropropane	BDL	BDL																
Methyl t-Bulyether (MTBE)	BDL	BDL	BDL	6.2	BDL	BDL	BDL	BDL										
TVOOC	55.5	452.6	14.6	7.8	56.7	41.2	72.2	65.6	46.7	73.0	35.8	27.6	199.7	117.5	0.0	0.0	1.8	0.0

TABLE 2
PUREX SITE
SEMI-ANNUAL GROUNDWATER SAMPLING RESULTS FOR 2004

VOLATILE ORGANICS COMPOUNDS (ppb)

	WELL W-375		WELL W-377		WELL W-378		WELL W-380		WELL W-381		WELL W-382		WELL W-383		WELL X-156	WELL X-157	
	DATE SAMPLED		DATE SAMPLED		DATE SAMPLED		DATE SAMPLED		DATE SAMPLED		DATE SAMPLED		DATE SAMPLED		DATE SAMPLED		
	5/12/04	10/22/04	5/12/04	10/22/04	5/12/04	10/22/04	5/17/04		5/17/04	10/26/04	5/17/04	10/26/04	5/12/04	10/22/04	5/12/04	10/18/04	
Dichlorodifluoromethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
Vinyl Chloride	BDL	BDL	BDL	BDL	BDL	BDL	6.2		BDL	BDL	BDL	BDL	3.2	1.9	BDL	4.6	
1,1-Dichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	16.4	256	
1,2-T-Dichloroethene	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
1,1-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	2.7	2.6	
c-1,2-Dichloroethylene	BDL	BDL	BDL	BDL	2.6	1.3	12.9	Equipment Failure No October Sample	BDL	BDL	BDL	BDL	4.8	15.4	7.9	BDL	2.5
Chloroform	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	1.1	
1,1,1-Trichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	19.5	57.8	
Carbon Tetrachloride	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	8.6	25.7
1,2-Dichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	2.4	
Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
Trichloroethylene	BDL	BDL	BDL	BDL	BDL	2.3	4.0		BDL	BDL	BDL	BDL	6.4	7.9	2.0	8.2	
1,1,2-Trichloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
Toluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
Tetrachloroethylene	BDL	BDL	2.6	BDL	2.3	3.3	3.7		BDL	BDL	BDL	BDL	7.0	4.1	7.5	13.0	5.6
Chlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
1,1,1,2-Tetrachloroethane	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
Ethyl Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
m,p-Xylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
o-Xylene	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
Isopropylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
n-Propylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
1,3,5-Trimethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
1,2,4-Trimethylbenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
sec-Butyl Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
tert-Butyl Benzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
p-Isopropyltoluene	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
1,4-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	4.3		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
1,3-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
1,2-Dichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	42.7		4.6	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
Hexachlorobutadiene	BDL	BDL	BDL	BOL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
Naphthalene	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
1,2,3-Trichlorobenzene	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
1,2,3-Trichloropropane	BDL	BDL	BDL	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	
Methyl t-Butylether (MTBE)	9.6	BDL	BDL	BDL	BDL	BDL	37.8		BDL	4.6	3.7	BDL	0.0	11.8	29.1	25.2	
TVOC	9.6	0.0	2.6	0.0	4.9	6.9	111.6		4.6	3.7	0.0	11.8	29.1	25.2	62.2	366.5	

Table 3
PUREX SITE
2004 RECOVERY WELL SAMPLING RESULTS
VOLATILE ORGANICS COMPOUNDS (ppb)

	WELL W-3		WELL W-4D		WELL W-183		WELL W-184		WELL W-187	
	DATE SAMPLED		DATE SAMPLED		DATE SAMPLED		DATE SAMPLED		DATE SAMPLED	
	6/8/04	10/20/04	6/8/04	10/20/04		10/20/04	6/8/04	10/20/04	6/8/04	10/20/04
Dichlorodifluoromethane	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL
Vinyl Chloride	62.7	135	1.3	BDL		3.1	BDL	BDL	16.3	12.7
Chloroethane	BDL	10.9	BDL	BDL		BDL	BDL	BDL	BDL	BDL
1,1-Dichloroethene	6.6	7.4	2.0	3.6		6.2	BDL	BDL	3.6	3.2
1,2-T-Dichloroethene	BDL	5.3	BDL	1.2		BDL	BDL	BDL	BDL	BDL
1,1-Dichloroethane	10.5	38.5	2.1	2.3		3.1	BDL	BDL	5.1	4.2
c-1,2-Dichloroethylene	587.0	1025	87.9	235		81.9	9.4	8.7	60.1	55.4
Chloroform	BDL	4.9	BDL	5.6		BDL	BDL	BDL	BDL	BDL
1,1,1-Trichloroethane	219.0	100	40.7	55.5		5.8	BDL	BDL	BDL	BDL
Carbon Tetrachloride	45.7	53	BDL	30.2		BDL	BDL	BDL	BDL	BDL
1,2-Dichloroethane	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL
Benzene	BDL	1.3	BDL	BDL		BDL	BDL	BDL	BDL	BDL
Trichloroethylene	391.0	130	76.7	83		93.7	10.5	9	29.3	22.7
1,1,2-Trichloroethane	BDL	7.8	BDL	BDL		BDL	BDL	BDL	BDL	BDL
Toluene	72.4	36.3	4.4	4.6		BDL	BDL	BDL	BDL	BDL
Tetrachloroethylene	430.0	305	596.0	428		158	9.9	5.8	39.6	23.2
Chlorobenzene	22.5	45.4	2.2	3.6		1.4	BDL	BDL	BDL	BDL
1,1,1,2-Tetrachloroethane	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL
Ethyl Benzene	12.7	24.2	1.6	1.3		BDL	BDL	BDL	BDL	BDL
m,p-Xylene	51.7	28.3	7.8	3.7		BDL	BDL	BDL	BDL	BDL
o-Xylene	14.3	15	2.5	2.4		BDL	BDL	BDL	BDL	BDL
Styrene	5.3	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL
Isopropylbenzene	8.6	13.2	1.3	BDL		BDL	BDL	BDL	BDL	BDL
n-Propylbenzene	23.8	35.1	1.8	BDL		BDL	BDL	BDL	BDL	BDL
1,3,5-Trimethylbenzene	15.0	53.8	BDL	4.0		BDL	BDL	BDL	BDL	BDL
1,2,4-Trimethylbenzene	59.0	138	4.7	2.7		BDL	BDL	BDL	BDL	BDL
sec-Butyl Benzene	BDL	4.7	BDL	2.3		BDL	BDL	BDL	BDL	BDL
tert-Butyl Benzene	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL
p-Isopropyltoluene	2.3	2.2	BDL	BDL		BDL	BDL	BDL	BDL	BDL
1,4-Dichlorobenzene	BDL	6.2	BDL	BDL		BDL	BDL	BDL	BDL	BDL
1,3-Dichlorobenzene	BDL	5.9	BDL	BDL		BDL	BDL	BDL	BDL	BDL
1,2-Dichlorobenzene	16.8	49.2	BDL	10.4		3.6	BDL	BDL	BDL	3.1
Hexachlorobutadiene	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL
Naphthalene	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL
1,2,3-Trichlorobenzene	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL
1,2,3-Trichloropropane	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL
Methyl t-Butylether (MTBE)	BDL	BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL
TVOC	2056.9	2281.6	833.0	879.4	0.0	356.8	29.8	23.5	154.0	124.5

The figure derived from the September 2004 monitoring well sampling results shows a long and narrow plume, approximately 2500 ft. long and 200 ft. wide. The plume of contamination emanates from beneath the former Purex site. Downgradient TVOC concentrations within the plume range from 24 ppb to 357 ppb in the vicinity of plume recovery well W-183. The leading edge of the plume has "forked" in response to pumping effects created by recovery wells W-383D and W-187 (western prong) and W-184 (eastern prong). Both prongs appear to be under hydraulic control allowing for efficient recovery of contaminated groundwater from the former Purex site.

Further review of TVOC concentrations in the Upper Magathy formation indicates that up to three additional sources of groundwater contamination not attributable to the Purex site may be present in the study area. The first is observed upgradient and northeast of the former Purex site. County network monitoring wells N-9703 (X-156) and N9713 (X-157) located on Quentin Roosevelt Boulevard exhibit TVOC concentrations of 367 ppb and 62 ppb respectively. These wells may be impacted by activities at the former Roosevelt Field site. The second source of volatile organic contamination was found in the vicinity of monitoring well W-361. This monitoring well located on the east side of Oak Street had a TVOC concentration of over 450 ppb. The contamination may be attributable to Win Holt Industries which is a NYSDEC spill site (Site Code V00243), and is located on the corner of Oak Street and Brook Street. A voluntary clean-up has been conducted by the owner at this site. Low levels of volatile organic compounds are also observed to the south beyond the known extent of the Purex plume in the vicinity of monitoring wells MW-367 and 368. These wells had VOC concentrations of 41 and 66 ppb respectively. This concentration is believed to be associated with the operation of a closed loop cooling system in the vicinity of 60 Charles Lindbergh Blvd. 9/11

Review of the monitoring well data collected during MY 04 indicates that the location of the operating recovery wells is correct, provides hydraulic control and allows for efficient recovery of contaminated groundwater from the MFGRP's plume.

In MY 2004, the MFGRP was in its fourteenth (14th) year of the remediation. To better understand the progress made over the fourteen (14) years of operation, historical plots of the results from specific wells that still exhibit measurable levels of contamination in MY 2004 are presented in Figures 9 through 15. A summary of these plots is as follows:

Historical High TVOC's

<u>Monitoring Well</u>	<u>Concentration</u>	<u>Date</u>	<u>MY 2004 Concentration</u>
302	23,000 ppb	5/22/90	105.9 ppb
311R	34,600 ppb	7/20/89	165.3 ppb
371	22,756 ppb	1/5/95	117.5 ppb
380	32,780 ppb	10/26/95	111.6 ppb
381	7870 ppb	10/25/95	3.7 ppb
383	23,814 ppb	10/26/95	29.1 ppb
234	11,411 ppb	7/29/93	1416.6 ppb

Review of the data presented indicates that the bulk of the remediation, from a contaminant mass standpoint, has been completed at the MFGRP site. The current aerial extent and the remaining levels of contamination at the MRGRP site reflects a low concentration asymptotic condition which is characteristic of long term pump and treat remediations.

4.2 Semi-Annual Hydraulic Monitoring

4.2.1 Hydraulic Effects

Hydraulic conditions are monitored on a semi-annual basis to ensure that all operating recovery wells are effectively treating plume contamination. All available monitoring wells were measured by County hydrogeologists on October 20, 2004. The results of this survey are presented in table 3.

The depth to water measurements collected during the survey were converted to water elevations. These elevations were then plotted to produce a potentiometric surface map for the Upper Magothy formation. The contoured elevation data is presented in figure 16.

Review of figure 16 indicates that regional contour elevations range from 52 ft. above mean sea level in the vicinity of County well N-9713 (X-157) to approximately 38 ft. above mean sea level near plume recovery well, W-187. Local groundwater flow in the upper portion of the Magothy formation is from the north-northwest to the south-southeast. All contours have been modified by groundwater recovery operations. A large depression is formed just south of the UPS building insuring hydraulic control of the "lead edge" of volatile organic contamination.

Figure 9
W-302
VOC CONCENTRATIONS
1988 to 2004

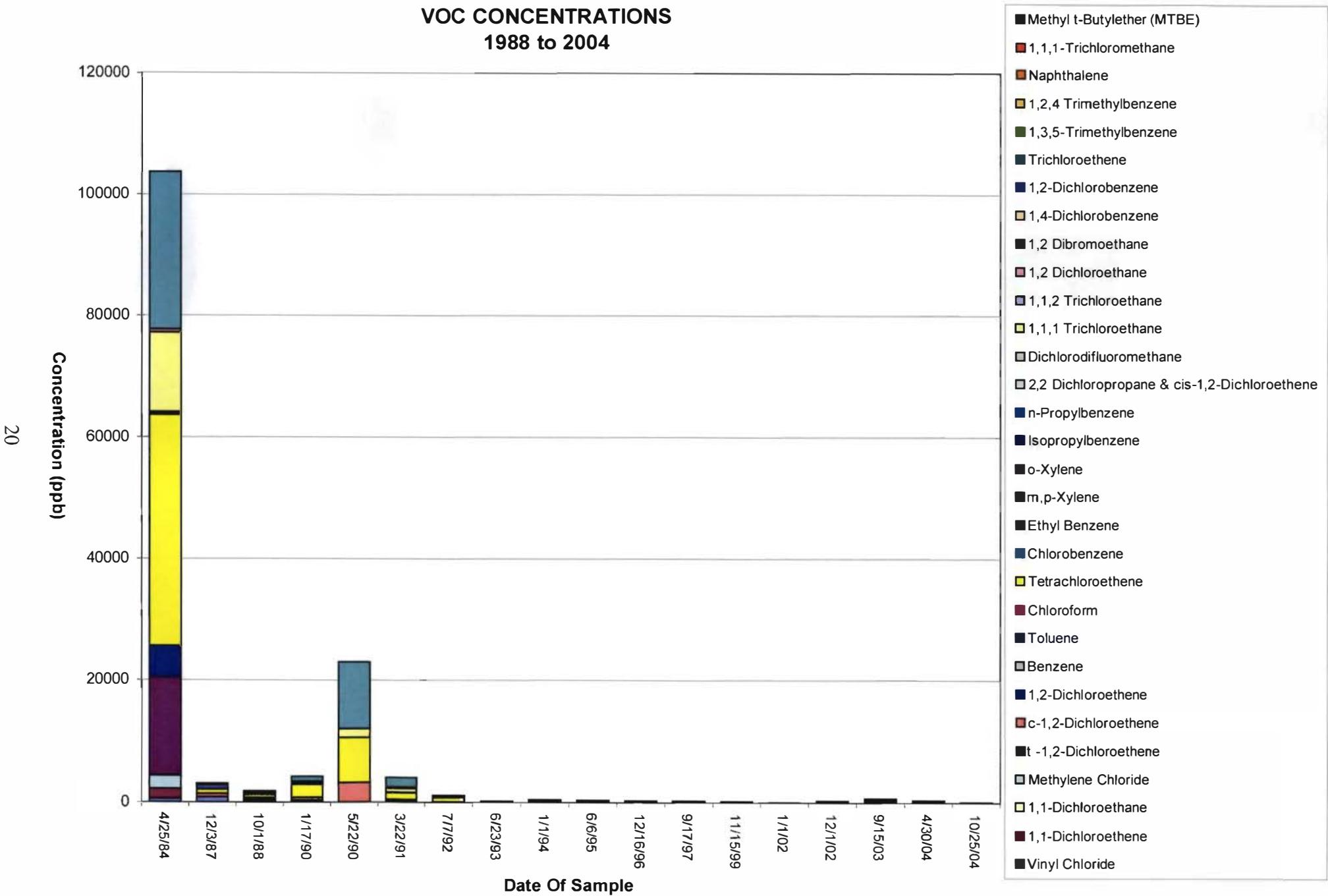
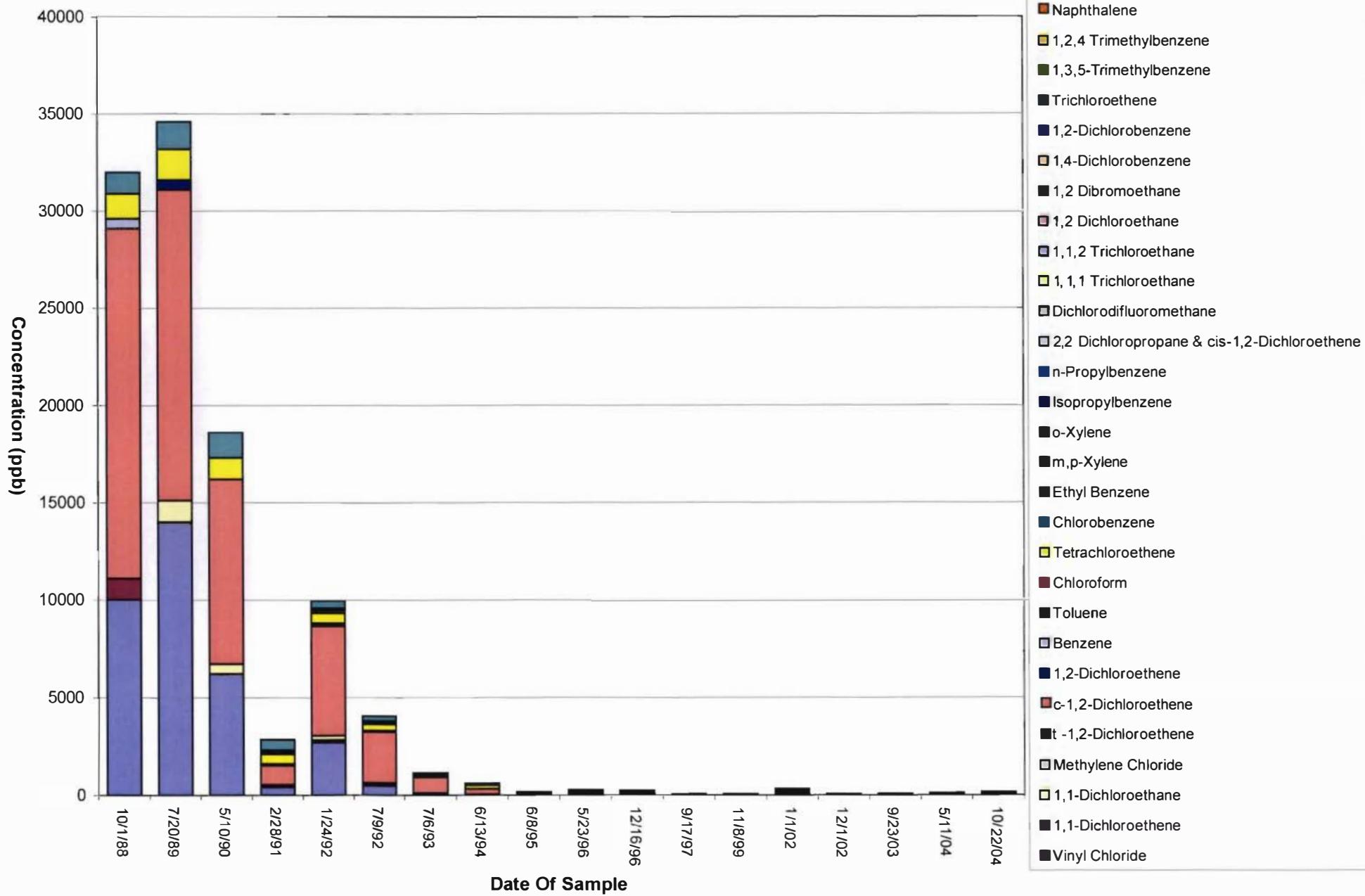


Figure 10
W-311R
VOC CONCENTRATIONS
1988 to 2004



**Figure 11
W-371
VOC CONCENTRATIONS
1995 to 2004**

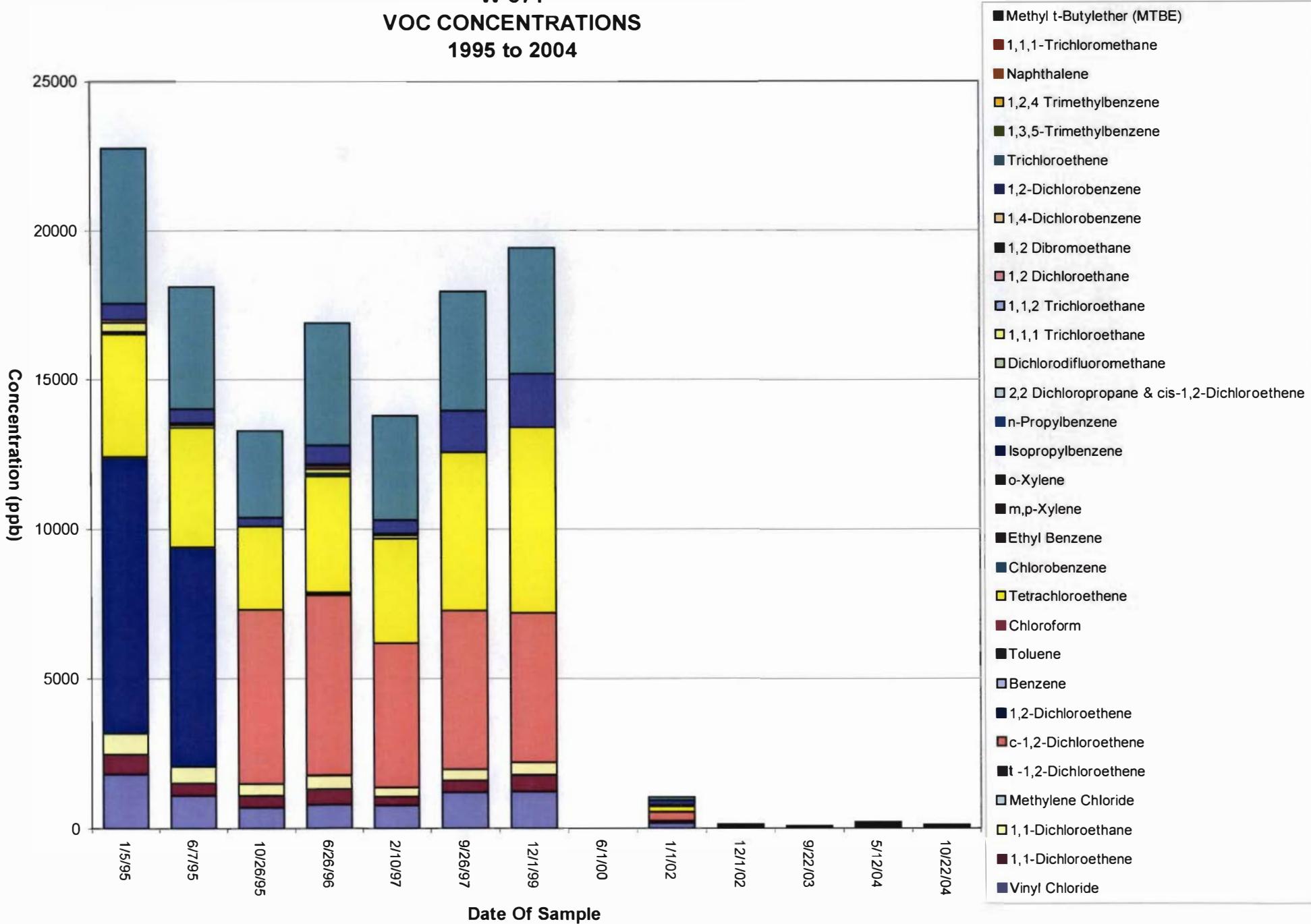


Figure 12
W-380
VOC CONCENTRATIONS
1995 to 2004

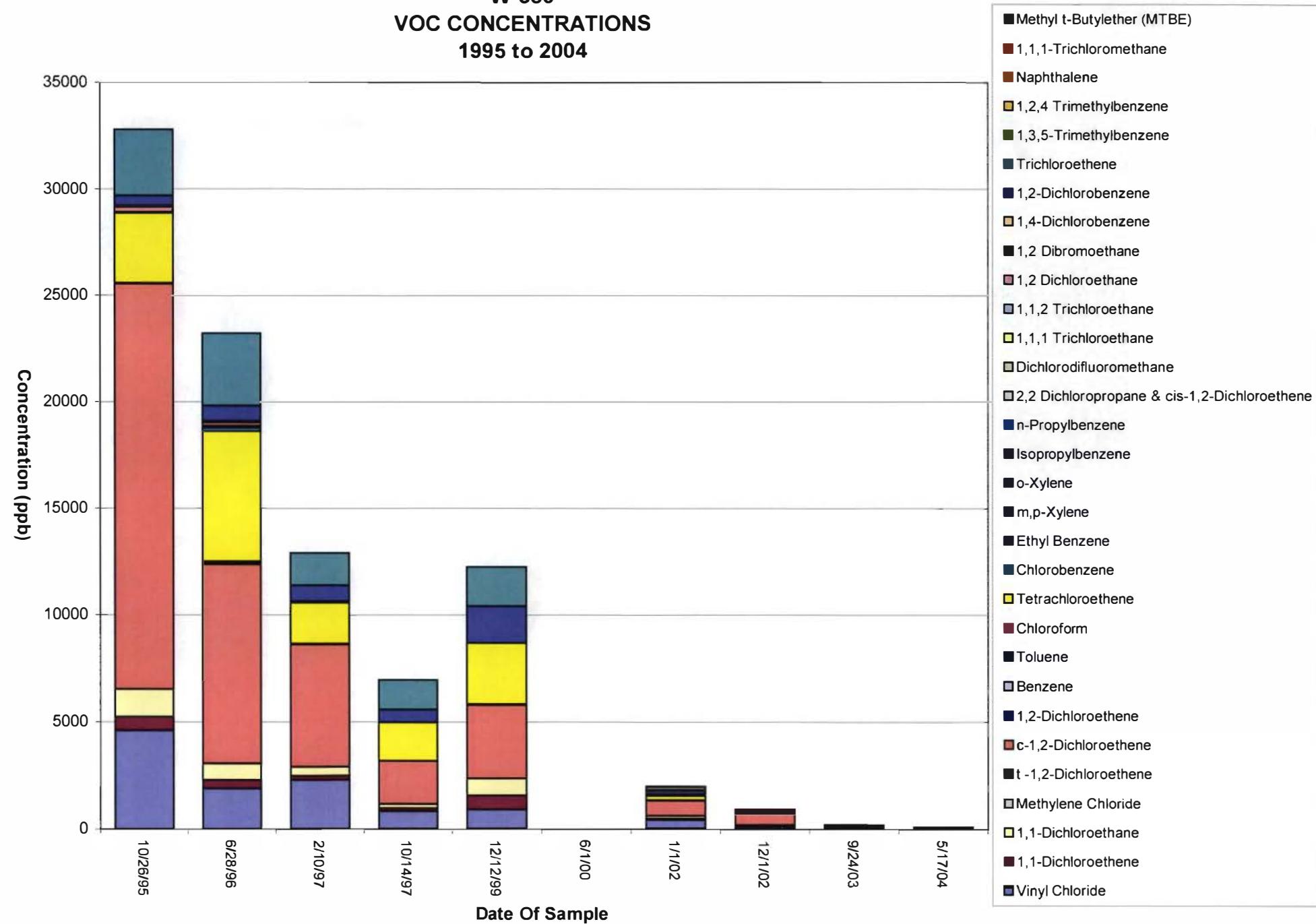
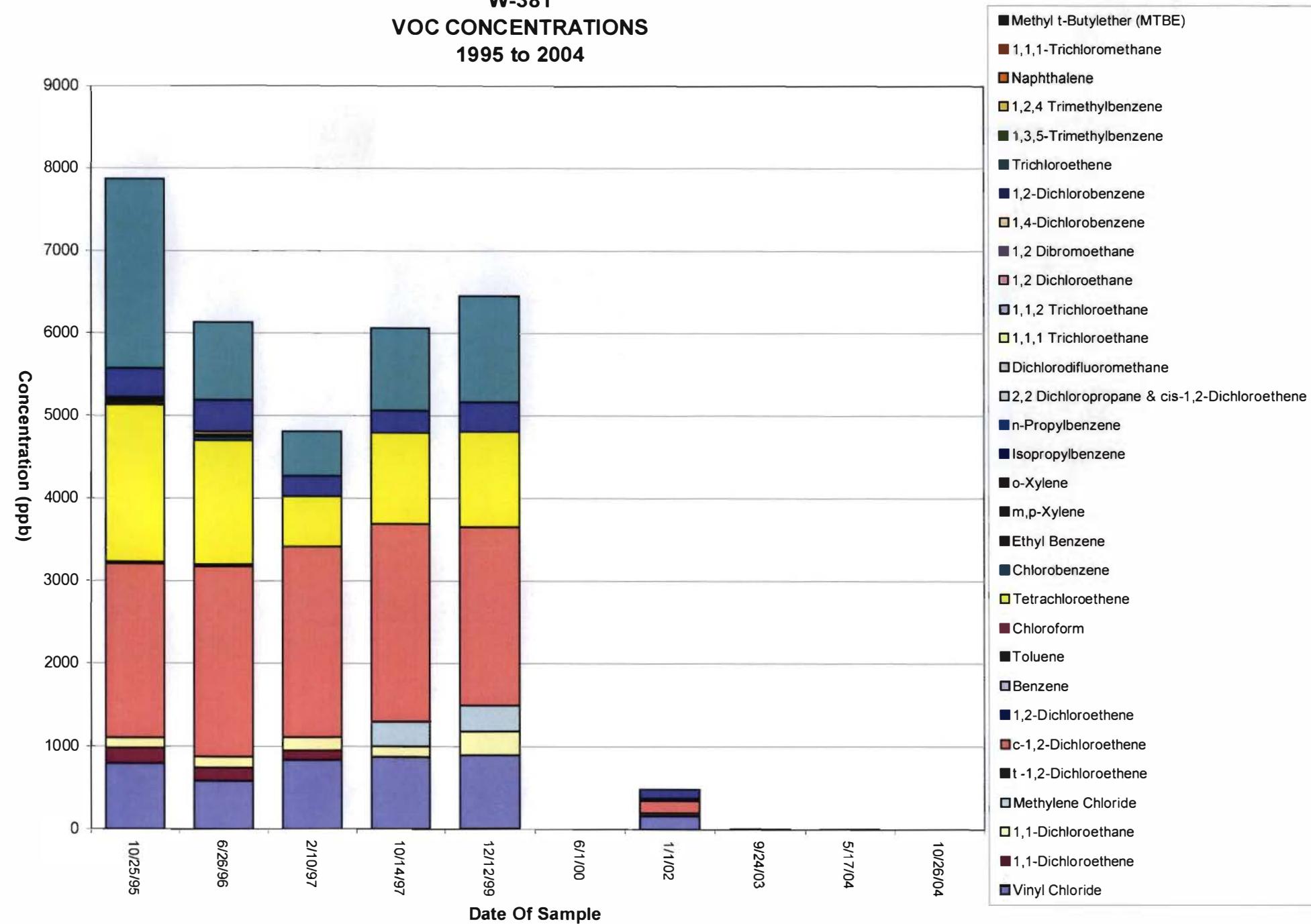


Figure 13
W-381
VOC CONCENTRATIONS
1995 to 2004



**Figure 14
W-383
VOC CONCENTRATIONS
1995 to 2004**

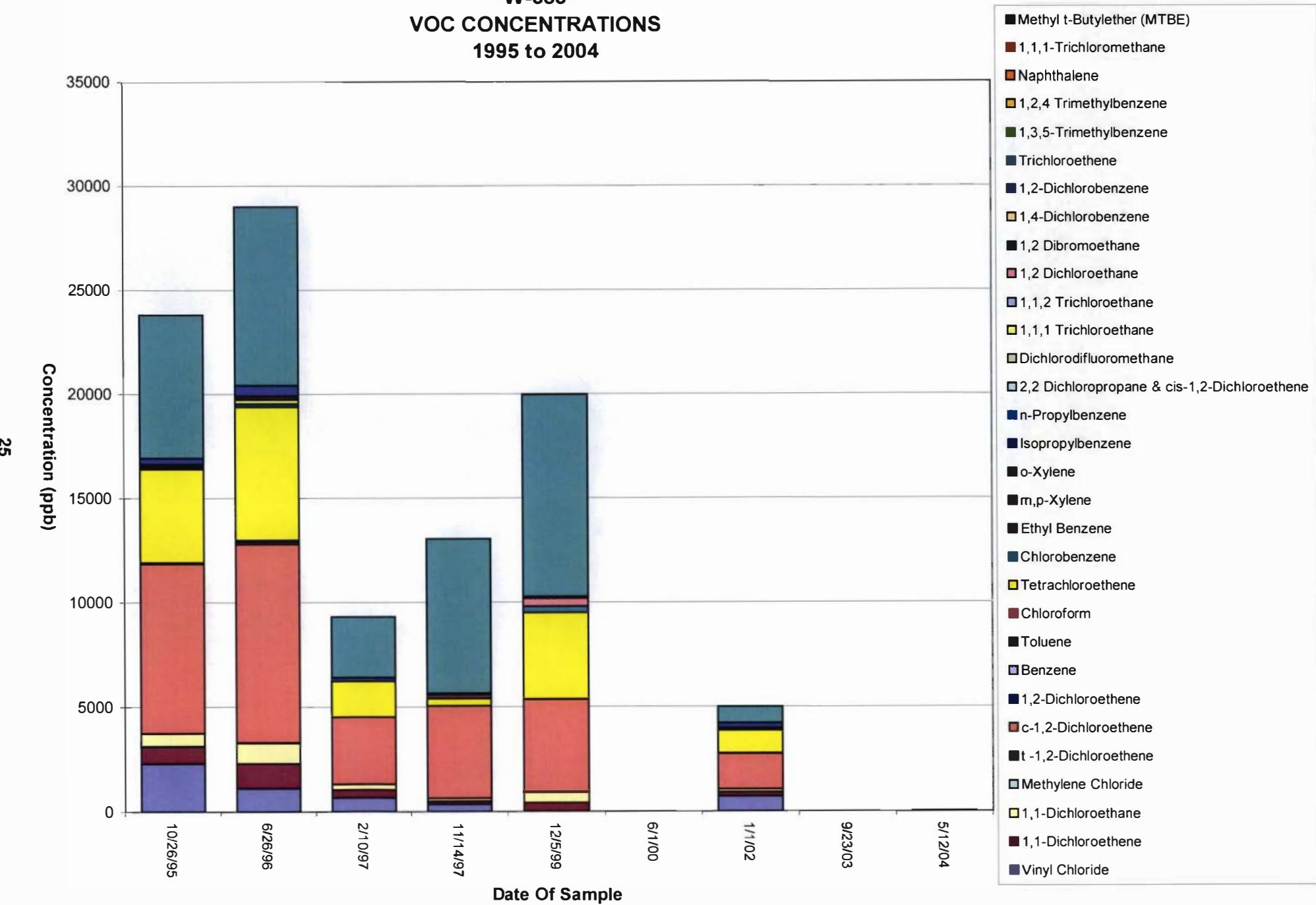


Figure 15
W-234
VOC CONCENTRATIONS
1988 to 2004

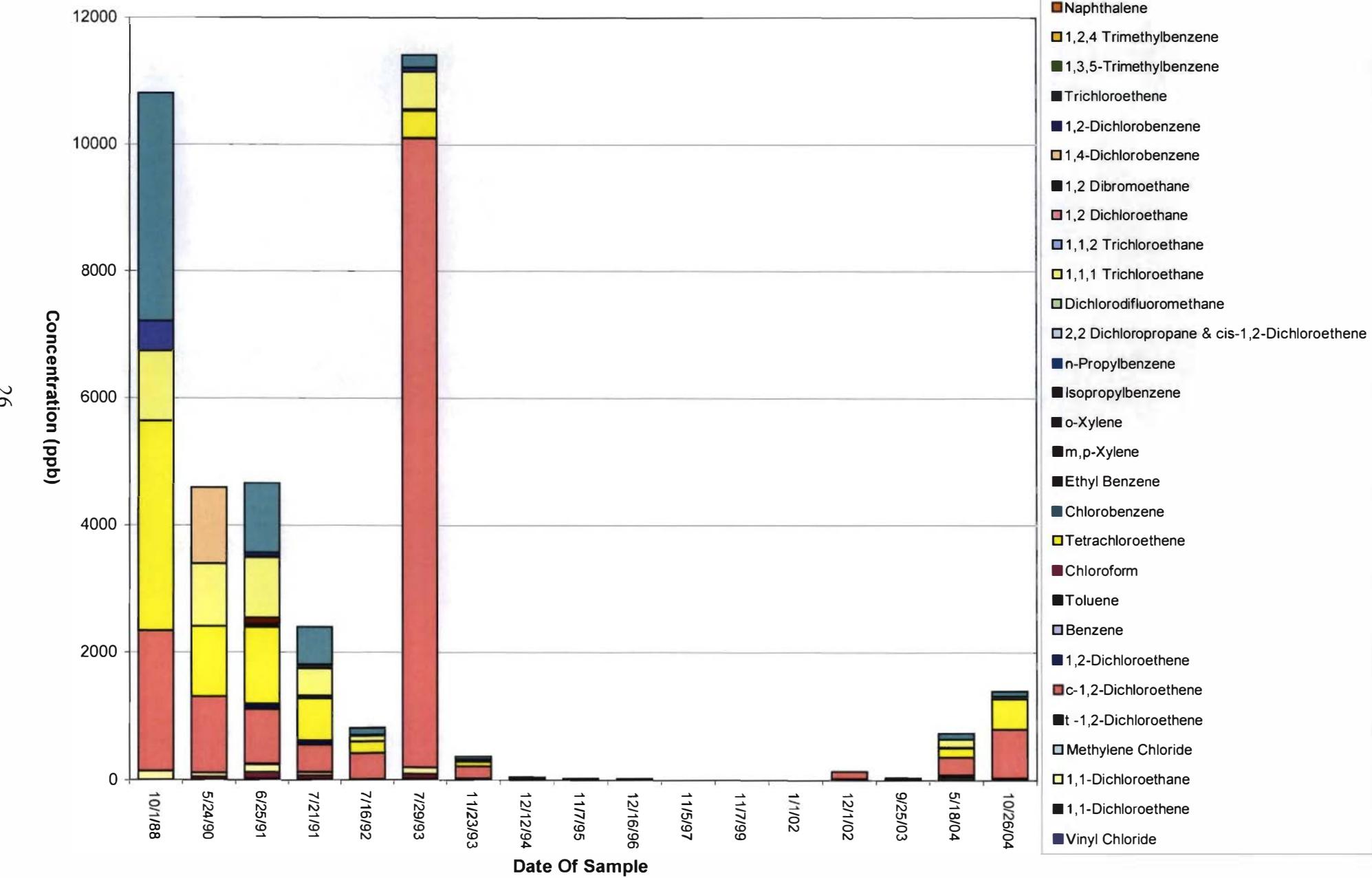


Table 4

PUREX GROUNDWATER REMEDIATION
WATER LEVEL MEASUREMENTS

October 20, 2004

M. Flaherty & J. Kardos

WELL	MEASURING POINT ELEV.	D.T.W.	W.T.E.	COMMENTS
GLACIAL WELL				
W-234	79.69	28.78	50.91	recorded 10/26/04
UPPER MAGOTHY WELLS				
W-302	81.74	36.18	45.56	
W-305	79.73	29.07	50.66	
W-311R	81.70	40.46	41.24	
W-361	76.53	26.93	49.60	
W-363				
W-366	71.08	21.21	49.87	
W-367	81.71	34.80	46.91	
W-368	78.63	32.36	46.27	
W-369	76.01	26.81	49.20	
W-370	77.43	29.66	47.77	
W-371	76.66	33.39	43.27	
W-372	76.44	31.77	44.67	
W-373	76.26	30.10	46.16	
W-375	76.78	28.62	48.16	
W-377	77.79	30.85	46.94	
W-378	77.81	33.07	44.74	
W-380	77.14	31.83	45.31	
W-381	76.92	29.45	47.47	
W-382	77.16	29.28	47.88	
W-383	75.76	38.68	37.08	
LOWER MAGOTHY WELLS				
W-402	81.67	33.32	48.35	
W-405	80.72	30.84	49.88	
W-435	77.96	27.83	50.13	recorded 10/26/04
W-461	76.02	27.72	48.30	
UPGRADIENT WELLS				
X-156	87.12	34.06	53.06	recorded 10/18/04
X-157	87.15	34.51	52.64	recorded 10/18/04
RECOVERY WELLS				FLOW RATE
W-3	77.90	37.78	40.12	195 gpm
W-4D	79.20	52.10	27.10	95 gpm
W-183		73.16		NR
W-184	80.90	74.16	6.74	NR
W-187	76.00	48.74	27.26	NR
W-383D	76.00			Off

LEGEND

D.T.W. = DEPTH TO WATER

NR = NO READING

W.T.E. = WATER TABLE ELEVATION

FIGURE 16



Legend

Contour Map Oct 2004

- Monitoring Wells



PUREX POTENTIOMETRIC SURFACE OCTOBER 2004

Prepared By - NCD PW - Water Resources
Engineering Unit



1 Inch equals 600 Feet

Nassau County



Geographic Information System

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County of Nassau, New York

Date: 2/09/2006

APPENDIX A
PLANT EFFICIENCY REPORTS
2004

PLANT EFFICIENCY

JANUARY 2004

DATE	HOURS OF OPERATION	EFFICIENCY OF OPERATION	REASON FOR OUTAGE
1	24	100.0%	
2	24	100.0%	
3	24	100.0%	
4	24	100.0%	
5	24	100.0%	
6	24	100.0%	
7	24	100.0%	
8	24	100.0%	
9	24	100.0%	
10	24	100.0%	
11	24	100.0%	
12	24	100.0%	
13	24	100.0%	
14	24	100.0%	
15	24	100.0%	
16	24	100.0%	
17	24	100.0%	
18	24	100.0%	
19	24	100.0%	
20	24	100.0%	
21	24	100.0%	
22	24	100.0%	
23	24	100.0%	
24	24	100.0%	
25	24	100.0%	
26	24	100.0%	
27	24	100.0%	
28	24	100.0%	
29	24	100.0%	
30	24	100.0%	
31	24	100.0%	
TOTAL HOURS IN THE MONTH	TOTAL HOURS OF OPERATION	EFFICIENCY OF MONTHLY OPERATION	
744	744	100.0%	

PLANT EFFICIENCY

FEBRUARY 2004

DATE	HOURS OF OPERATION	EFFICIENCY OF OPERATION	REASON FOR OUTAGE
1	24	100.0%	
2	24	100.0%	
3	24	100.0%	
4	10	41.7%	Broken nipple at 187 well head
5	0	0.0%	Broken nipple at 187 well head
6	3	12.5%	Nipple replaced / broken drain pipe under Stripper Towers
7	0	0.0%	Broken drain pipe under Stripper Towers
8	0	0.0%	Broken drain pipe under Stripper Towers
9	0	0.0%	Broken drain pipe under Stripper Towers
10	0	0.0%	Broken drain pipe under Stripper Towers
11	13.5	56.3%	Broken drain pipe under Stripper Towers
12	24	100.0%	
13	24	100.0%	
14	24	100.0%	
15	24	100.0%	
16	24	100.0%	
17	24	100.0%	
18	24	100.0%	
19	24	100.0%	
20	24	100.0%	
21	24	100.0%	
22	24	100.0%	
23	24	100.0%	
24	24	100.0%	
25	24	100.0%	
26	24	100.0%	
27	24	100.0%	
28	24	100.0%	
TOTAL HOURS IN THE MONTH	TOTAL HOURS OF OPERATION	EFFICIENCY OF MONTHLY OPERATION	
672	506.5	75.4%	

PLANT EFFICIENCY

MARCH 2004

DATE	HOURS OF OPERATION	EFFICIENCY OF OPERATION	REASON FOR OUTAGE
1	24	100.0%	
2	24	100.0%	
3	24	100.0%	
4	24	100.0%	
5	24	100.0%	
6	24	100.0%	
7	24	100.0%	
8	24	100.0%	
9	24	100.0%	
10	24	100.0%	
11	24	100.0%	
12	24	100.0%	
13	24	100.0%	
14	24	100.0%	
15	24	100.0%	
16	24	100.0%	
17	24	100.0%	
18	24	100.0%	
19	24	100.0%	
20	24	100.0%	
21	24	100.0%	
22	24	100.0%	
23	24	100.0%	
24	24	100.0%	
25	24	100.0%	
26	24	100.0%	
27	24	100.0%	
28	24	100.0%	
29	24	100.0%	
30	24	100.0%	
31	24	100.0%	
TOTAL HOURS IN THE MONTH	TOTAL HOURS OF OPERATION	EFFICIENCY OF MONTHLY OPERATION	
744	744	100.0%	

PLANT EFFICIENCY

APRIL 2004

DATE	HOURS OF OPERATION	EFFICIENCY OF OPERATION	REASON FOR OUTAGE
1	24	100.0%	
2	24	100.0%	
3	24	100.0%	
4	24	100.0%	
5	24	100.0%	
6	24	100.0%	
7	24	100.0%	
8	24	100.0%	
9	24	100.0%	
10	24	100.0%	
11	24	100.0%	
12	24	100.0%	
13	24	100.0%	
14	24	100.0%	
15	24	100.0%	
16	24	100.0%	
17	24	100.0%	
18	24	100.0%	
19	24	100.0%	
20	24	100.0%	
21	24	100.0%	
22	24	100.0%	
23	24	100.0%	
24	24	100.0%	
25	24	100.0%	
26	24	100.0%	
27	24	100.0%	
28	24	100.0%	
29	24	100.0%	
30	24	100.0%	
TOTAL HOURS IN THE MONTH	TOTAL HOURS OF OPERATION	EFFICIENCY OF MONTHLY OPERATION	
720	720	100.0%	

PLANT EFFICIENCY

MAY 2004

DATE	HOURS OF OPERATION	EFFICIENCY OF OPERATION	REASON FOR OUTAGE
1	24	100.0%	
2	24	100.0%	
3	24	100.0%	
4	24	100.0%	
5	24	100.0%	
6	15	62.5%	Investigation of electrical problem
7	15	62.5%	Investigation of electrical problem
8	24	100.0%	
9	24	100.0%	
10	14	58.3%	Well redevelopment / Effluent flow surging
11	0	0.0%	Well redevelopment / Effluent flow surging
12	0	0.0%	Well redevelopment / Effluent flow surging
13	0	0.0%	Well redevelopment / Effluent flow surging
14	11	45.8%	Well redevelopment / Effluent flow surging
15	24	100.0%	
16	24	100.0%	
17	24	100.0%	
18	24	100.0%	
19	24	100.0%	
20	24	100.0%	
21	24	100.0%	
22	24	100.0%	
23	24	100.0%	
24	24	100.0%	
25	24	100.0%	
26	24	100.0%	
27	24	100.0%	
28	24	100.0%	
29	24	100.0%	
30	24	100.0%	
31	24	100.0%	
TOTAL HOURS IN THE MONTH	TOTAL HOURS OF OPERATION	EFFICIENCY OF MONTHLY OPERATION	
744	631	84.8%	

PLANT EFFICIENCY

JUNE 2004

DATE	HOURS OF OPERATION	EFFICIENCY OF OPERATION	REASON FOR OUTAGE
1	24	100.0%	
2	24	100.0%	
3	24	100.0%	
4	24	100.0%	
5	24	100.0%	
6	24	100.0%	
7	24	100.0%	
8	24	100.0%	
9	24	100.0%	
10	24	100.0%	
11	24	100.0%	
12	24	100.0%	
13	24	100.0%	
14	24	100.0%	
15	24	100.0%	
16	24	100.0%	
17	24	100.0%	
18	24	100.0%	
19	24	100.0%	
20	24	100.0%	
21	24	100.0%	
22	24	100.0%	
23	24	100.0%	
24	24	100.0%	
25	24	100.0%	
26	24	100.0%	
27	24	100.0%	
28	24	100.0%	
29	24	100.0%	
30	24	100.0%	
TOTAL HOURS IN THE MONTH	TOTAL HOURS OF OPERATION	EFFICIENCY OF MONTHLY OPERATION	
720	720	100.0%	

PLANT EFFICIENCY

JULY 2004

DATE	HOURS OF OPERATION	EFFICIENCY OF OPERATION	REASON FOR OUTAGE
1	24	100.0%	
2	24	100.0%	
3	24	100.0%	
4	24	100.0%	
5	24	100.0%	
6	24	100.0%	
7	24	100.0%	
8	24	100.0%	
9	24	100.0%	
10	24	100.0%	
11	24	100.0%	
12	24	100.0%	
13	24	100.0%	
14	24	100.0%	
15	24	100.0%	
16	24	100.0%	
17	24	100.0%	
18	24	100.0%	
19	14	58.3%	Stripper water backing up into air header
20	15.5	64.6%	Drying out blowers
21	24	100.0%	
22	24	100.0%	
23	24	100.0%	
24	24	100.0%	
25	24	100.0%	
26	24	100.0%	
27	24	100.0%	
28	23.5	97.9%	Heavy rain - high basin levels - feeding Injection Wells
29	24	100.0%	
30	24	100.0%	
31	24	100.0%	
TOTAL HOURS IN THE MONTH	TOTAL HOURS OF OPERATION	EFFICIENCY OF MONTHLY OPERATION	
744	725	97.4%	

PLANT EFFICIENCY

AUGUST 2004

DATE	HOURS OF OPERATION	EFFICIENCY OF OPERATION	REASON FOR OUTAGE
1	24	100.0%	
2	24	100.0%	
3	24	100.0%	
4	24	100.0%	
5	24	100.0%	
6	24	100.0%	
7	24	100.0%	
8	24	100.0%	
9	24	100.0%	
10	16.5	68.8%	Power outage
11	15	62.5%	Power outage
12	24	100.0%	
13	24	100.0%	
14	24	100.0%	
15	24	100.0%	
16	24	100.0%	
17	24	100.0%	
18	24	100.0%	
19	24	100.0%	
20	24	100.0%	
21	24	100.0%	
22	24	100.0%	
23	24	100.0%	
24	24	100.0%	
25	13.5	56.3%	High well - possible bad level meter
26	0	0.0%	Bad Level Transmitter
27	0	0.0%	Bad Level Transmitter
28	0	0.0%	Bad Level Transmitter
29	0	0.0%	Bad Level Transmitter
30	15	62.5%	Bad Level Transmitter
31	24	100.0%	
TOTAL HOURS IN THE MONTH	TOTAL HOURS OF OPERATION	EFFICIENCY OF MONTHLY OPERATION	
744	612	82.3%	

PLANT EFFICIENCY

SEPTEMBER 2004

DATE	HOURS OF OPERATION	EFFICIENCY OF OPERATION	REASON FOR OUTAGE
1	24	100.0%	
2	24	100.0%	
3	24	100.0%	
4	24	100.0%	
5	24	100.0%	
6	24	100.0%	
7	24	100.0%	
8	24	100.0%	
9	24	100.0%	
10	24	100.0%	
11	24	100.0%	
12	24	100.0%	
13	24	100.0%	
14	24	100.0%	
15	24	100.0%	
16	24	100.0%	
17	24	100.0%	
18	24	100.0%	
19	24	100.0%	
20	24	100.0%	
21	24	100.0%	
22	24	100.0%	
23	24	100.0%	
24	24	100.0%	
25	24	100.0%	
26	24	100.0%	
27	24	100.0%	
28	24	100.0%	
29	24	100.0%	
30	24	100.0%	
TOTAL HOURS IN THE MONTH	TOTAL HOURS OF OPERATION	EFFICIENCY OF MONTHLY OPERATION	
720	720	100.0%	

PLANT EFFICIENCY

OCTOBER 2004

DATE	HOURS OF OPERATION	EFFICIENCY OF OPERATION	REASON FOR OUTAGE
1	24	100.0%	
2	24	100.0%	
3	24	100.0%	
4	24	100.0%	
5	24	100.0%	
6	24	100.0%	
7	24	100.0%	
8	24	100.0%	
9	24	100.0%	
10	24	100.0%	
11	24	100.0%	
12	24	100.0%	
13	24	100.0%	
14	24	100.0%	
15	24	100.0%	
16	24	100.0%	
17	24	100.0%	
18	24	100.0%	
19	24	100.0%	
20	24	100.0%	
21	24	100.0%	
22	24	100.0%	
23	24	100.0%	
24	24	100.0%	
25	24	100.0%	
26	24	100.0%	
27	24	100.0%	
28	24	100.0%	
29	24	100.0%	
30	24	100.0%	
31	24	100.0%	
TOTAL HOURS IN THE MONTH	TOTAL HOURS OF OPERATION	EFFICIENCY OF MONTHLY OPERATION	
744	744	100.0%	

PLANT EFFICIENCY

NOVEMBER 2004

DATE	HOURS OF OPERATION	EFFICIENCY OF OPERATION	REASON FOR OUTAGE
1	24	100.0%	
2	24	100.0%	
3	24	100.0%	
4	24	100.0%	
5	24	100.0%	
6	24	100.0%	
7	24	100.0%	
8	24	100.0%	
9	24	100.0%	
10	24	100.0%	
11	24	100.0%	
12	24	100.0%	
13	24	100.0%	
14	24	100.0%	
15	24	100.0%	
16	24	100.0%	
17	24	100.0%	
18	24	100.0%	
19	24	100.0%	
20	24	100.0%	
21	24	100.0%	
22	24	100.0%	
23	24	100.0%	
24	24	100.0%	
25	24	100.0%	
26	24	100.0%	
27	24	100.0%	
28	24	100.0%	
29	24	100.0%	
30	24	100.0%	
TOTAL HOURS IN THE MONTH	TOTAL HOURS OF OPERATION	EFFICIENCY OF MONTHLY OPERATION	
720	720	100.0%	

PLANT EFFICIENCY

DECEMBER 2004

DATE	HOURS OF OPERATION	EFFICIENCY OF OPERATION	REASON FOR OUTAGE
1	24	100.0%	
2	24	100.0%	
3	24	100.0%	
4	24	100.0%	
5	24	100.0%	
6	24	100.0%	
7	24	100.0%	
8	24	100.0%	
9	24	100.0%	
10	24	100.0%	
11	24	100.0%	
12	24	100.0%	
13	24	100.0%	
14	24	100.0%	
15	24	100.0%	
16	24	100.0%	
17	24	100.0%	
18	24	100.0%	
19	22	91.7%	Power Outage
20	16	66.7%	Power Outage
21	24	100.0%	
22	24	100.0%	
23	24	100.0%	
24	24	100.0%	
25	24	100.0%	
26	24	100.0%	
27	24	100.0%	
28	24	100.0%	
29	24	100.0%	
30	24	100.0%	
31	24	100.0%	
TOTAL HOURS IN THE MONTH	TOTAL HOURS OF OPERATION	EFFICIENCY OF MONTHLY OPERATION	YEARLY TOTALS
744	734	98.7%	TOTAL HOURS IN THE YEAR TOTAL HOURS OF OPERATION EFFICIENCY OF OPERATION FOR 2004

TOTAL HOURS IN THE YEAR 8760
 TOTAL HOURS OF OPERATION 8321
 EFFICIENCY OF OPERATION FOR 2004 95%

APPENDIX B
MONTHLY INFLUENT MONITORING REPORTS
2004

**PUREX SITE
GROUNDWATER REMEDIATION FACILITY
MONTHLY INFLUENT MONITORING REPORT**

JANUARY 2004

PUREX SITE
GROUNDWATER REMEDIATION FACILITY
MONTHLY INFLUENT MONITORING REPORT

FEBRUARY 2004

INFLUENT PARAMETER	UNITS	Plume SP-101 02/02/04	Plume SP-101 02/16/04	Plume SP-101 02/23/04	Source SP-102 02/02/04	Source SP-102 02/16/04	Source SP-102 02/23/04
FLOW, DAILY AVG	GPD	470880		254974	542983	192137	97397
FLOW, DAILY MAX	GPD	472320		542880	550080	198720	208800
VINYL CHLORIDE	µ g/l	1.6		8.8	11.1	BDL	BDL
1,1-DICHLOROETHANE	µ g/l	1.6		3.9	5.3	2.5	3
1,2(TRANS)-DICHLOROETHYLENE	µ g/l	BDL		BDL	BDL	BDL	BDL
1,2(CIS)-DICHLOROETHYLENE	µ g/l	31		51.1	69.1	165	160
1,1,1-TRICHLOROETHANE	µ g/l	4.8		2.6	3.4	56.7	59.4
TRICHLOROETHYLENE	µ g/l	57.4		43.3	54.6	97.4	114
BENZENE	µ g/l	BDL		BDL	BDL	BDL	BDL
TETRACHLOROETHYLENE	µ g/l	76.7		47.4	64.5	420	299
TOLUENE	µ g/l	BDL		BDL	BDL	3.3	6.6
m,p-XYLENE	µ g/l	BDL		BDL	BDL	2.5	4.4
o-XYLENE	µ g/l	BDL		BDL	BDL	1.6	2.3
1,1-DICHLOROETHENE	µ g/l	3.7		3.7	5.1	3.1	3.3
CARBON TETRACHLORIDE	µ g/l	BDL		BDL	BDL	2.8	3.2
BROMOFORM	µ g/l	BDL		BDL	BDL	BDL	BDL
CHLOROFORM	µ g/l	BDL		BDL	BDL	4.8	4.6
DICHLOROBROMOMETHANE	µ g/l	BDL		BDL	BDL	BDL	BDL
DIBROMOCHLOROMETHANE	µ g/l	BDL		BDL	BDL	BDL	BDL
CHLOROBENZENE	µ g/l	BDL		BDL	BDL	2.8	3.8
ETHYLBENZENE	µ g/l	BDL		BDL	BDL	BDL	1.2
METHYL CHLORIDE	µ g/l	BDL		BDL	BDL	BDL	BDL
TRICHLOROFLUOROETHYANE	µ g/l	BDL		BDL	BDL	BDL	BDL
1,1,2-TRICHLOROETHANE	µ g/l	BDL		BDL	BDL	BDL	BDL
1,1,2,2-TETRACHLOROETHANE	µ g/l	BDL		BDL	BDL	BDL	BDL
1,2-DICHLOROETHANE	µ g/l	BDL		0.9	BDL	BDL	BDL
1,2-DICHLOROBENZENE	µ g/l	BDL		BDL	BDL	BDL	2
1,2-DICHLOROPROPANE	µ g/l	BDL		BDL	BDL	BDL	BDL
1,3-DICHLOROBENZENE	µ g/l	BDL		BDL	BDL	BDL	BDL
1,4-DICHLOROBENZENE	µ g/l	BDL		BDL	BDL	BDL	BDL
TRANS 1,3-DICHLOROPROPENE	µ g/l	BDL		BDL	BDL	BDL	BDL
CIS 1,3-DICHLOROPROPENE	µ g/l	BDL		BDL	BDL	BDL	BDL
BROMOMETHANE	µ g/l	BDL		BDL	BDL	BDL	BDL
1,1,3-TRICHLORO-1,2,2-TRIFLUOROCHLOROETHANE	µ g/l	NA		NA	NA	NA	NA
	µ g/l	BDL		BDL	BDL	BDL	BDL

**PUREX SITE
GROUNDWATER REMEDIATION FACILITY
MONTHLY INFLUENT MONITORING REPORT**

MARCH2004

**PUREX SITE
GROUNDWATER REMEDIATION FACILITY
MONTHLY INFLUENT MONITORING REPORT**

APRIL 2004

PUREX SITE
GROUNDWATER REMEDIATION FACILITY
MONTHLY INFLUENT MONITORING REPORT

MAY 2004

INFLUENT PARAMETER	UNITS	Plume SP-101 05/03/04	Plume SP-101 05/10/04	Plume SP-101 05/17/04	Plume SP-101 05/24/04	Plume SP-101 05/31/04	Source SP-102	Source SP-102	Source SP-102	Source SP-102
FLOW, DAILY AVG	gpd	484251	372309	263229	532183	651291	0	0	0	480343
FLOW, DAILY MAX	gpd	486720	485280	532800	538560	655200	0	0	0	506880
VINYL CHLORIDE	µ g/l	5.1	BDL	5	BDL	4.2				184
1,1-DICHLOROETHANE	µ g/l	4.7	BDL	3.5	1.1	2.3				52.5
1,2(TRANS)-DICHLOROETHYLENE	µ g/l	BDL	BDL	BDL	BDL	BDL				7.9
1,2(CIS)-DICHLOROETHYLENE	µ g/l	66.3	12.8	60.5	15.6	35.3				407
1,1,1-TRICHLOROETHANE	µ g/l	2.4	BDL	BDL	1.7	3.4				202
TRICHLOROETHYLENE	µ g/l	48	10.7	52.9	21.7	42.1				215
BENZENE	µ g/l	BDL	BDL	BDL	BDL	BDL				BDL
TETRACHLOROETHYLENE	µ g/l	28.9	5.8	57.2	32.9	95.9				797
TOLUENE	µ g/l	BDL	BDL	BDL	BDL	BDL				43.1
m,p-XYLENE	µ g/l	BDL	BDL	BDL	BDL	BDL				45.6
o-XYLENE	µ g/l	BDL	BDL	BDL	BDL	BDL				18.5
1,1-DICHLOROETHENE	µ g/l	BDL	BDL	BDL	1.8	3.3				11.6
CARBON TETRACHLORIDE	µ g/l	BDL	BDL	BDL	BDL	BDL				14
BROMOFORM	µ g/l	BDL	BDL	BDL	BDL	BDL				BDL
CHLOROFORM	µ g/l	BDL	BDL	BDL	BDL	BDL				BDL
DICHLOROBROMOMETHANE	µ g/l	BDL	BDL	BDL	BDL	BDL				BDL
DIBROMOCHLOROMETHANE	µ g/l	BDL	BDL	BDL	BDL	BDL				BDL
CHLOROBENZENE	µ g/l	BDL	BDL	BDL	BDL	BDL				48.7
ETHYLBENZENE	µ g/l	BDL	BDL	BDL	BDL	BDL				23.1
METHYL CHLORIDE	µ g/l	BDL	BDL	BDL	BDL	BDL				BDL
TRICHLOROFLUOROETHYANE	µ g/l	4.7	BDL	BDL	BDL	BDL				BDL
1,1,2-TRICHLOROETHANE	µ g/l	BDL	BDL	BDL	BDL	BDL				BDL
1,1,2,2-TETRACHLOROETHANE	µ g/l	BDL	BDL	BDL	BDL	BDL				BDL
1,2-DICHLOROETHANE	µ g/l	BDL	BDL	BDL	BDL	BDL				BDL
1,2-DICHLOROBENZENE	µ g/l	BDL	BDL	BDL	BDL	BDL				48.8
1,2-DICHLOROPROPANE	µ g/l	BDL	BDL	BDL	BDL	BDL				BDL
1,3-DICHLOROBENZENE	µ g/l	BDL	BDL	BDL	BDL	BDL				BDL
1,4-DICHLOROBENZENE	µ g/l	BDL	BDL	BDL	BDL	BDL				5.9
TRANS 1,3-DICHLOROPROPENE	µ g/l	BDL	BDL	BDL	BDL	BDL				BDL
CIS 1,3-DICHLOROPROPENE	µ g/l	BDL	BDL	BDL	BDL	BDL				BDL
BROMOMETHANE	µ g/l	BDL	BDL	BDL	BDL	BDL				BDL
1,1,3-TRICHLORO-1,2,2-TRIFLUOROCHLOROETHANE	µ g/l	NA	NA	NA	NA	NA				NA
		BDL	BDL	BDL	BDL	BDL				BDL

**PUREX SITE
GROUNDWATER REMEDIATION FACILITY
MONTHLY INFLUENT MONITORING REPORT**

JUNE 2004

**PUREX SITE
GROUNDWATER REMEDIATION FACILITY
MONTHLY INFLUENT MONITORING REPORT**

JULY 2004

**PUREX SITE
GROUNDWATER REMEDIATION FACILITY
MONTHLY INFLUENT MONITORING REPORT**

AUGUST 2004

**PUREX SITE
GROUNDWATER REMEDIATION FACILITY
MONTHLY INFLUENT MONITORING REPORT**

SEPTEMBER 2004

PUREX SITE
GROUNDWATER REMEDIATION FACILITY
MONTHLY INFLUENT MONITORING REPORT

OCTOBER 2004

INFLUENT PARAMETER	UNITS	Plume SP-101 10/05/04	Plume SP-101 10/11/04	Plume SP-101 10/18/04	Plume SP-101 10/25/04	Source SP-102 10/05/04	Source SP-102 10/11/04	Source SP-102 10/18/04	Source SP-102 10/25/04
FLOW, DAILY AVG	GPD	627017	625989	623314	623109	162926	166423	215794	489806
FLOW, DAILY MAX	GPD	627840	627840	627840	624960	164160	167040	504000	498240
VINYL CHLORIDE	µ g/l	3.9	4.3	3.7	3.0	BDL	BDL	98.6	50.5
1,1-DICHLOROETHANE	µ g/l	2.1	2.1	2.5	1.8	BDL	2.0	27.0	16.4
1,2(TRANS)-DICHLOROETHYLENE	µ g/l	BDL	BDL	BDL	BDL	BDL	BDL	1.3	5.2
1,2(CIS)-DICHLOROETHYLENE	µ g/l	41.9	40.0	46.5	34.1	203.0	205.0	462.0	845.0
1,1,1-TRICHLOROETHANE	µ g/l	2.2	2.1	2.0	1.6	55.2	53.4	49.1	91.6
TRICHLOROETHYLENE	µ g/l	54.4	41.4	36.3	44.5	117.0	91.7	55.1	249.0
BENZENE	µ g/l	BDL	BDL	BDL	BDL	BDL	BDL	1.2	0.7
TETRACHLOROETHYLENE	µ g/l	74.2	61.2	53.2	63.0	529.0	460.0	230.0	528.0
TOLUENE	µ g/l	BDL	BDL	BDL	BDL	4.4	3.0	15.0	41.5
m,p-XYLENE	µ g/l	BDL	BDL	BDL	BDL	BDL	BDL	13.1	21.7
o-XYLENE	µ g/l	BDL	BDL	BDL	BDL	1.8	1.5	6.6	14.1
1,1-DICHLOROETHENE	µ g/l	3.2	2.8	3.0	2.3	3.4	3.1	3.2	6.0
CARBON TETRACHLORIDE	µ g/l	BDL	BDL	BDL	BDL	28.1	BDL	21.4	46.9
BROMOFORM	µ g/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
CHLOROFORM	µ g/l	BDL	BDL	BDL	BDL	BDL	5.2	3.9	4.3
DICHLOROBROMOMETHANE	µ g/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
DIBROMOCHLOROMETHANE	µ g/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
CHLOROBENZENE	µ g/l	BDL	BDL	BDL	BDL	4.4	3.7	30.0	35.0
ETHYLBENZENE	µ g/l	BDL	BDL	BDL	BDL	BDL	BDL	13.4	14.5
METHYL CHLORIDE	µ g/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
TRICHLOROFLUOROETHYANE	µ g/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1,2-TRICHLOROETHANE	µ g/l	BDL	BDL	BDL	BDL	BDL	BDL	5.0	BDL
1,1,2,2-TETRACHLOROETHANE	µ g/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2-DICHLOROETHANE	µ g/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,2-DICHLOROBENZENE	µ g/l	BDL	BDL	BDL	BDL	19.3	10.3	26.5	44.8
1,2-DICHLOROPROPANE	µ g/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,3-DICHLOROBENZENE	µ g/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,4-DICHLOROBENZENE	µ g/l	BDL	BDL	BDL	BDL	BDL	BDL	3.8	4.8
TRANS 1,3-DICHLOROPROPENE	µ g/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
CIS 1,3-DICHLOROPROPENE	µ g/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
BROMOMETHANE	µ g/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
1,1,3-TRICHLORO-1,2,2-TRIFLUOROCHLOROETHANE	µ g/l	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
								20.4	BDL

**PUREX SITE
GROUNDWATER REMEDIATION FACILITY
MONTHLY INFLUENT MONITORING REPORT**

NOVEMBER 2004

**PUREX SITE
GROUNDWATER REMEDIATION FACILITY
MONTHLY INFLUENT MONITORING REPORT**

DECEMBER 2004

APPENDIX C

**MONTHLY EFFLUENT MONITORING REPORTS
2004**

NASSAU COUNTY MITCHEL FIELD REMEDIAL ACTION
MONTHLY EFFLUENT MONITORING REPORT

OUTFALL 001G
JANUARY 2004

EFFLUENT PARAMETER	DISCHARGE LIMITATIONS	UNITS	COMP'T MDL	WEEK 1 01/05/04	WEEK 2 01/12/04	WEEK 3 01/19/04	WEEK 4 01/26/04
FLOW, DAILY MAX	MONITOR	GPD	NA				
pH	6.5-8.5	su		6.66	7.08	6.97	7.07
TOTAL AGG CONC #1	4.7	µ g/l		0	0	0	0
TOTAL AGG CONC #2	2	µ g/l		0	0	0	0
TOTAL AGG CONC #3	50	µ g/l		0	0	0	0
DICHLOROBROMOMETHANE	50	µ g/l	0.9	BDL	BDL	BDL	BDL
CARBON TETRACHLORIDE	5	µ g/l	1.3	BDL	BDL	BDL	BDL
BROMOFORM	50	µ g/l	0.7	BDL	BDL	BDL	BDL
DIBROMOCHLOROMETHANE	50	µ g/l	0.7	BDL	BDL	BDL	BDL
CHLOROFORM	0.2	µ g/l	1.1	BDL	BDL	BDL	BDL
TOLUENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
BENZENE	0.7	µ g/l	0.7	BDL	BDL	BDL	BDL
CHLOROBENZENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
ETHYLBENZENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
METHYL CHLORIDE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
TETRACHLOROETHENE	2.2	µ g/l	1.2	BDL	BDL	BDL	BDL
TRICHLOROFLUOROMETHANE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
1,1-DICHLOROETHANE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
1,1-DICHLOROETHENE	0.9	µ g/l	1.2	BDL	BDL	BDL	BDL
1,1,1-TRICHLOROETHANE	5	µ g/l	1.4	BDL	BDL	BDL	BDL
1,1,2-TRICHLOROETHANE	0.5	µ g/l	0.9	BDL	BDL	BDL	BDL
1,1,2,2 TETRACHLOROETHANE	0.3	µ g/l	1.0	BDL	BDL	BDL	BDL
1,2-DICHLOROETHANE	1	µ g/l	0.8	BDL	BDL	BDL	BDL
1,2 DICHLOROBENZENE	4.7	µ g/l	0.9	BDL	BDL	BDL	BDL
1,2 DICHLOROPROPANE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
1,2(TRANS)-DICHLOROETHENE	2	µ g/l	1.1	BDL	BDL	BDL	BDL
1,3 DICHLOROBENZENE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
1,4 DICHLOROBENZENE	4.7	µ g/l	1.0	BDL	BDL	BDL	BDL
TRANS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL	BDL	BDL	BDL
CIS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL	BDL	BDL	BDL
m,p-XYLENE	5	µ g/l	2.4	BDL	BDL	BDL	BDL
BROMOMETHANE	5	µ g/l	2.4	BDL	BDL	BDL	BDL
VINYL CHLORIDE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
TRICHLOROETHENE	10	µ g/l	1.7	BDL	BDL	BDL	BDL
1,2(CIS)-DICHLOROETHENE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
1,1,2 TRICHLORO 1,2,2 TRIFLUOROETHANE	5	µ g/l		BDL	BDL	BDL	BDL
o-XYLENE	5	µ g/l	1.3	BDL	BDL	BDL	BDL
CHLOROETHANE	5	µ g/l	1.6	BDL	BDL	BDL	BDL
TOTAL VOCs	100	µ g/l	0.0	0.0	0.0	0.0	0.0

AGG CONC #1 = SUM OF 1,2 DICHLOROBENZENE & 1,4 DICHLOROBENZENE

AGG CONC #2 = SUM

AGG CONC #3 = SUM

NASSAU COUNTY MITCHEL FIELD REMEDIAL ACTION
MONTHLY EFFLUENT MONITORING REPORT

OUTFALL 001G
FEBRUARY 2004

EFFLUENT PARAMETER	DISCHARGE LIMITATIONS	UNITS	COMP'T MDL	WEEK 1 02/02/04	WEEK 2 02/07/04	WEEK 3 02/16/04	WEEK 4 02/23/04
FLOW, DAILY MAX	MONITOR	GPD	NA				
pH	6.5-8.5	SU		6.94		6.73	7.15
TOTAL AGG CONC #1	4.7	µ g/l		0		0	0
TOTAL AGG CONC #2	2	µ g/l		0		0	0
TOTAL AGG CONC #3	50	µ g/l		0		0	0
DICHLOROBROMOMETHANE	50	µ g/l	0.9	BDL		BDL	BDL
CARBON TETRACHLORIDE	5	µ g/l	1.3	BDL		BDL	BDL
BROMOFORM	50	µ g/l	0.7	BDL		BDL	BDL
DIBROMOCHLOROMETHANE	50	µ g/l	0.7	BDL		BDL	BDL
CHLOROFORM	0.2	µ g/l	1.1	BDL		BDL	BDL
TOLUENE	5	µ g/l	1.2	BDL		BDL	BDL
BENZENE	0.7	µ g/l	0.7	BDL		BDL	BDL
CHLOROBENZENE	5	µ g/l	1.2	BDL		BDL	BDL
ETHYLBENZENE	5	µ g/l	1.2	BDL		BDL	BDL
METHYL CHLORIDE	5	µ g/l	1.0	BDL		BDL	BDL
TETRACHLOROETHENE	2.2	µ g/l	1.2	BDL		BDL	BDL
TRICHLOROFLUOROMETHANE	5	µ g/l	1.2	BDL		BDL	BDL
1,1-DICHLOROETHANE	5	µ g/l	1.1	BDL		BDL	BDL
1,1-DICHLOROETHENE	0.9	µ g/l	1.2	BDL		BDL	BDL
1,1,1-TRICHLOROETHANE	5	µ g/l	1.4	BDL		BDL	BDL
1,1,2-TRICHLOROETHANE	0.5	µ g/l	0.9	BDL		BDL	BDL
1,1,2,2 TETRACHLOROETHANE	0.3	µ g/l	1.0	BDL		BDL	BDL
1,2-DICHLOROETHANE	1	µ g/l	0.8	BDL		BDL	BDL
1,2 DICHLOROBENZENE	4.7	µ g/l	0.9	BDL		BDL	BDL
1,2 DICHLOROPROPANE	5	µ g/l	1.0	BDL		BDL	BDL
1,2(TRANS)-DICHLOROETHENE	2	µ g/l	1.1	BDL		BDL	BDL
1,3 DICHLOROBENZENE	5	µ g/l	1.1	BDL		BDL	BDL
1,4 DICHLOROBENZENE	4.7	µ g/l	1.0	BDL		BDL	BDL
TRANS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL		BDL	BDL
CIS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL		BDL	BDL
m,p-XYLENE	5	µ g/l	2.4	BDL		BDL	BDL
BROMOMETHANE	5	µ g/l	2.4	BDL		BDL	BDL
VINYL CHLORIDE	5	µ g/l	1.1	BDL		BDL	BDL
TRICHLOROETHENE	10	µ g/l	1.7	BDL		BDL	BDL
1,2(CIS)-DICHLOROETHENE	5	µ g/l	1.0	BDL		BDL	BDL
1,1,2 TRICHLORO 1,2,2 TRIFLUOROETHANE	5	µ g/l		BDL		BDL	BDL
o-XYLENE	5	µ g/l	1.3	BDL		BDL	BDL
CHLOROETHANE	5	µ g/l	1.6	BDL		BDL	BDL
TOTAL VOCs	100	µ g/l	0.0	0.0		0.0	0.0

AGG CONC #1 = SUM OF 1,2 DICHLOROBENZENE & 1,4 DICHLOROBENZENE

AGG CONC #2 = SUM

AGG CONC #3 = SUM

NASSAU COUNTY MITCHEL FIELD REMEDIAL ACTION
MONTHLY EFFLUENT MONITORING REPORT

OUTFALL 001G
MARCH 2004

EFFLUENT PARAMETER	DISCHARGE LIMITATIONS	UNITS	COMP'T MDL	WEEK 1 03/01/04	WEEK 2 03/08/04	WEEK 3 03/15/04	WEEK 4 03/22/04
FLOW, DAILY MAX	MONITOR	GPD	NA				
pH	6.5-8.5	SU		6.94	7.1	7.09	7.21
TOTAL AGG CONC #1	4.7	µ g/l		0	0	0	0
TOTAL AGG CONC #2	2	µ g/l		0	0	0	0
TOTAL AGG CONC #3	50	µ g/l		0	0	0	0
DICHLOROBROMOMETHANE	50	µ g/l	0.9	BDL	BDL	BDL	BDL
CARBON TETRACHLORIDE	5	µ g/l	1.3	BDL	BDL	BDL	BDL
BROMOFORM	50	µ g/l	0.7	BDL	BDL	BDL	BDL
DIBROMOCHLOROMETHANE	50	µ g/l	0.7	BDL	BDL	BDL	BDL
CHLOROFORM	0.2	µ g/l	1.1	BDL	BDL	BDL	BDL
TOLUENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
BENZENE	0.7	µ g/l	0.7	BDL	BDL	BDL	BDL
CHLOROBENZENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
ETHYLBENZENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
METHYL CHLORIDE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
TETRACHLOROETHENE	2.2	µ g/l	1.2	BDL	BDL	BDL	BDL
TRICHLOROFLUOROMETHANE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
1,1-DICHLOROETHANE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
1,1-DICHLOROETHENE	0.9	µ g/l	1.2	BDL	BDL	BDL	BDL
1,1,1-TRICHLOROETHANE	5	µ g/l	1.4	BDL	BDL	BDL	BDL
1,1,2-TRICHLOROETHANE	0.5	µ g/l	0.9	BDL	BDL	BDL	BDL
1,1,2,2 TETRACHLOROETHANE	0.3	µ g/l	1.0	BDL	BDL	BDL	BDL
1,2-DICHLOROETHANE	1	µ g/l	0.8	BDL	BDL	BDL	BDL
1,2 DICHLOROBENZENE	4.7	µ g/l	0.9	BDL	BDL	BDL	BDL
1,2 DICHLOROPROPANE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
1,2(TRANS)-DICHLOROETHENE	2	µ g/l	1.1	BDL	BDL	BDL	BDL
1,3 DICHLOROBENZENE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
1,4 DICHLOROBENZENE	4.7	µ g/l	1.0	BDL	BDL	BDL	BDL
TRANS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL	BDL	BDL	BDL
CIS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL	BDL	BDL	BDL
m,p-XYLENE	5	µ g/l	2.4	BDL	BDL	BDL	BDL
BROMOMETHANE	5	µ g/l	2.4	BDL	BDL	BDL	BDL
VINYL CHLORIDE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
TRICHLOROETHENE	10	µ g/l	1.7	BDL	BDL	BDL	BDL
1,2(CIS)-DICHLOROETHENE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
1,1,2 TRICHLORO 1,2,2 TRIFLUOROETHANE	5	µ g/l		BDL	BDL	BDL	BDL
o-XYLENE	5	µ g/l	1.3	BDL	BDL	BDL	BDL
CHLOROETHANE	5	µ g/l	1.6	BDL	BDL	BDL	BDL
TOTAL VOCs	100	µ g/l	0.0	0.0	0.0	0.0	0.0

AGG CONC #1 = SUM OF 1,2 DICHLOROBENZENE & 1,4 DICHLOROBENZENE

AGG CONC #2 = SUM

AGG CONC #3 = SUM

NASSAU COUNTY MITCHEL FIELD REMEDIAL ACTION
MONTHLY EFFLUENT MONITORING REPORT

OUTFALL 001G
APRIL 2004

EFFLUENT PARAMETER	DISCHARGE LIMITATIONS	UNITS	COMP'T MDL	WEEK 1 04/05/04	WEEK 2 04/12/04	WEEK 3 04/19/04	WEEK 4 04/26/04
FLOW, DAILY MAX	MONITOR	GPD	NA				
pH	6.5-8.5	SU		7.22	7.25	7.07	7.16
TOTAL AGG CONC #1	4.7	$\mu\text{g/l}$		0	0	0	0
TOTAL AGG CONC #2	2	$\mu\text{g/l}$		0	0	0	0
TOTAL AGG CONC #3	50	$\mu\text{g/l}$		0	0	0	0
DICHLOROBROMOMETHANE	50	$\mu\text{g/l}$	0.9	BDL	BDL	BDL	BDL
CARBON TETRACHLORIDE	5	$\mu\text{g/l}$	1.3	BDL	BDL	BDL	BDL
BROMOFORM	50	$\mu\text{g/l}$	0.7	BDL	BDL	BDL	BDL
DIBROMOCHLOROMETHANE	50	$\mu\text{g/l}$	0.7	BDL	BDL	BDL	BDL
CHLOROFORM	0.2	$\mu\text{g/l}$	1.1	BDL	BDL	BDL	BDL
TOLUENE	5	$\mu\text{g/l}$	1.2	BDL	BDL	BDL	BDL
BENZENE	0.7	$\mu\text{g/l}$	0.7	BDL	BDL	BDL	BDL
CHLOROBENZENE	5	$\mu\text{g/l}$	1.2	BDL	BDL	BDL	BDL
ETHYLBENZENE	5	$\mu\text{g/l}$	1.2	BDL	BDL	BDL	BDL
METHYL CHLORIDE	5	$\mu\text{g/l}$	1.0	BDL	BDL	BDL	BDL
TETRACHLOROETHENE	2.2	$\mu\text{g/l}$	1.2	BDL	BDL	BDL	BDL
TRICHLOROFLUOROMETHANE	5	$\mu\text{g/l}$	1.2	BDL	BDL	BDL	BDL
1,1-DICHLOROETHANE	5	$\mu\text{g/l}$	1.1	BDL	BDL	BDL	BDL
1,1-DICHLOROETHENE	0.9	$\mu\text{g/l}$	1.2	BDL	BDL	BDL	BDL
1,1,1-TRICHLOROETHANE	5	$\mu\text{g/l}$	1.4	BDL	BDL	BDL	BDL
1,1,2-TRICHLOROETHANE	0.5	$\mu\text{g/l}$	0.9	BDL	BDL	BDL	BDL
1,1,2,2 TETRACHLOROETHANE	0.3	$\mu\text{g/l}$	1.0	BDL	BDL	BDL	BDL
1,2-DICHLOROETHANE	1	$\mu\text{g/l}$	0.8	BDL	BDL	BDL	BDL
1,2 DICHLOROBENZENE	4.7	$\mu\text{g/l}$	0.9	BDL	BDL	BDL	BDL
1,2 DICHLOROPROPANE	5	$\mu\text{g/l}$	1.0	BDL	BDL	BDL	BDL
1,2(TRANS)-DICHLOROETHENE	2	$\mu\text{g/l}$	1.1	BDL	BDL	BDL	BDL
1,3 DICHLOROBENZENE	5	$\mu\text{g/l}$	1.1	BDL	BDL	BDL	BDL
1,4 DICHLOROBENZENE	4.7	$\mu\text{g/l}$	1.0	BDL	BDL	BDL	BDL
TRANS 1,3 DICHLOROPROPENE	2	$\mu\text{g/l}$	0.9	BDL	BDL	BDL	BDL
CIS 1,3 DICHLOROPROPENE	2	$\mu\text{g/l}$	0.9	BDL	BDL	BDL	BDL
m,p-XYLENE	5	$\mu\text{g/l}$	2.4	BDL	BDL	BDL	BDL
BROMOMETHANE	5	$\mu\text{g/l}$	2.4	BDL	BDL	BDL	BDL
VINYL CHLORIDE	5	$\mu\text{g/l}$	1.1	BDL	BDL	BDL	BDL
TRICHLOROETHENE	10	$\mu\text{g/l}$	1.7	BDL	BDL	BDL	BDL
1,2(CIS)-DICHLOROETHENE	5	$\mu\text{g/l}$	1.0	BDL	BDL	BDL	BDL
1,1,2 TRICHLORO 1,2,2 TRIFLUOROETHANE	5	$\mu\text{g/l}$		BDL	BDL	BDL	BDL
o-XYLENE	5	$\mu\text{g/l}$	1.3	BDL	BDL	BDL	BDL
CHLOROETHANE	5	$\mu\text{g/l}$	1.6	BDL	BDL	BDL	BDL
TOTAL VOCs	100	$\mu\text{g/l}$	0.0	0.0	0.0	0.0	0.0

AGG CONC #1 = SUM OF 1,2 DICHLOROBENZENE & 1,4 DICHLOROBENZENE

AGG CONC #2 = SUM

AGG CONC #3 = SUM

NASSAU COUNTY MITCHEL FIELD REMEDIAL ACTION
MONTHLY EFFLUENT MONITORING REPORT

OUTFALL 001G

MAY 2004

EFFLUENT PARAMETER	DISCHARGE LIMITATIONS	UNITS	COMP'T MDL	WEEK 1 05/03/04	WEEK 2 05/10/04	WEEK 3 05/17/04	WEEK 4 05/24/04
FLOW, DAILY MAX	MONITOR	GPD	NA				
pH	6.5-8.5	SU		7.14	5.74	6.83	7.02
TOTAL AGG CONC #1	4.7	µ g/l		0	0	0	0
TOTAL AGG CONC #2	2	µ g/l		0	0	0	0
TOTAL AGG CONC #3	50	µ g/l		0	0	0	0
DICHLOROBROMOMETHANE	50	µ g/l	0.9	BDL	BDL	BDL	BDL
CARBON TETRACHLORIDE	5	µ g/l	1.3	BDL	BDL	BDL	BDL
BROMOFORM	50	µ g/l	0.7	BDL	BDL	BDL	BDL
DIBROMOCHLOROMETHANE	50	µ g/l	0.7	BDL	BDL	BDL	BDL
CHLOROFORM	0.2	µ g/l	1.1	BDL	BDL	BDL	BDL
TOLUENE	5	µ g/l	1.2	BDL	BDL	BDL	1.4
BENZENE	0.7	µ g/l	0.7	BDL	BDL	BDL	BDL
CHLOROBENZENE	5	µ g/l	1.2	BDL	BDL	BDL	3.5
ETHYLBENZENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
METHYL CHLORIDE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
TETRACHLOROETHENE	2.2	µ g/l	1.2	BDL	BDL	BDL	BDL
TRICHLOROFLUOROMETHANE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
1,1-DICHLOROETHANE	5	µ g/l	1.1	BDL	BDL	BDL	2.6
1,1-DICHLOROETHENE	0.9	µ g/l	1.2	BDL	BDL	BDL	BDL
1,1,1-TRICHLOROETHANE	5	µ g/l	1.4	BDL	BDL	BDL	BDL
1,1,2-TRICHLOROETHANE	0.5	µ g/l	0.9	BDL	BDL	BDL	BDL
1,1,2,2 TETRACHLOROETHANE	0.3	µ g/l	1.0	BDL	BDL	BDL	BDL
1,2-DICHLOROETHANE	1	µ g/l	0.8	BDL	BDL	BDL	BDL
1,2 DICHLOROBENZENE	4.7	µ g/l	0.9	BDL	BDL	BDL	BDL
1,2 DICHLOROPROPANE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
1,2(TRANS)-DICHLOROETHENE	2	µ g/l	1.1	BDL	BDL	BDL	BDL
1,3 DICHLOROBENZENE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
1,4 DICHLOROBENZENE	4.7	µ g/l	1.0	BDL	BDL	BDL	BDL
TRANS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL	BDL	BDL	BDL
CIS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL	BDL	BDL	BDL
m,p-XYLENE	5	µ g/l	2.4	BDL	BDL	BDL	BDL
BROMOMETHANE	5	µ g/l	2.4	BDL	BDL	BDL	BDL
VINYL CHLORIDE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
TRICHLOROETHENE	10	µ g/l	1.7	BDL	BDL	BDL	4.1
1,2(CIS)-DICHLOROETHENE	5	µ g/l	1.0	BDL	BDL	BDL	175.0
1,1,2 TRICHLORO 1,2,2 TRIFLUOROETHANE	5	µ g/l		BDL	BDL	BDL	BDL
o-XYLENE	5	µ g/l	1.3	BDL	BDL	BDL	BDL
CHLOROETHANE	5	µ g/l	1.6	BDL	BDL	BDL	BDL
TOTAL VOCs	100	µ g/l	0.0	0.0	0.0	0.0	186.6

AGG CONC #1 = SUM OF 1,2 DICHLOROBENZENE and 1,4 DICHLOROBENZENE

AGG CONC #2 = SUM

AGG CONC #3 = SUM

NASSAU COUNTY MITCHEL FIELD REMEDIAL ACTION
MONTHLY EFFLUENT MONITORING REPORT

OUTFALL 001G
JUNE 2004

EFFLUENT PARAMETER	DISCHARGE LIMITATIONS	UNITS	COMP'T MDL	WEEK 1 06/07/04	WEEK 2 06/14/04	WEEK 3 06/21/04	WEEK 4 06/28/04
FLOW, DAILY MAX	MONITOR	GPD	NA				
pH	6.5-8.5	SU		6.94	7.13	7.12	6.59
TOTAL AGG CONC #1	4.7	µ g/l		0	0	0	0
TOTAL AGG CONC #2	2	µ g/l		0	0	0	0
TOTAL AGG CONC #3	50	µ g/l		0	0	0	0
DICHLOROBROMOMETHANE	50	µ g/l	0.9	BDL	BDL	BDL	BDL
CARBON TETRACHLORIDE	5	µ g/l	1.3	BDL	BDL	BDL	BDL
BROMOFORM	50	µ g/l	0.7	BDL	BDL	BDL	BDL
DIBROMOCHLOROMETHANE	50	µ g/l	0.7	BDL	BDL	BDL	BDL
CHLOROFORM	0.2	µ g/l	1.1	BDL	BDL	BDL	BDL
TOLUENE	5	µ g/l	1.2	3.5	BDL	BDL	BDL
BENZENE	0.7	µ g/l	0.7	BDL	BDL	BDL	BDL
CHLOROBENZENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
ETHYLBENZENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
METHYL CHLORIDE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
TETRACHLOROETHENE	2.2	µ g/l	1.2	81.0	BDL	BDL	BDL
TRICHLOROFLUOROMETHANE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
1,1-DICHLOROETHANE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
1,1-DICHLOROETHENE	0.9	µ g/l	1.2	BDL	BDL	BDL	BDL
1,1,1-TRICHLOROETHANE	5	µ g/l	1.4	10.6	BDL	BDL	BDL
1,1,2-TRICHLOROETHANE	0.5	µ g/l	0.9	BDL	BDL	BDL	BDL
1,1,2,2 TETRACHLOROETHANE	0.3	µ g/l	1.0	BDL	BDL	BDL	BDL
1,2-DICHLOROETHANE	1	µ g/l	0.8	BDL	BDL	BDL	BDL
1,2 DICHLOROBENZENE	4.7	µ g/l	0.9	BDL	BDL	BDL	BDL
1,2 DICHLOROPROPANE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
1,2(TRANS)-DICHLOROETHENE	2	µ g/l	1.1	BDL	BDL	BDL	BDL
1,3 DICHLOROBENZENE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
1,4 DICHLOROBENZENE	4.7	µ g/l	1.0	BDL	BDL	BDL	BDL
TRANS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL	BDL	BDL	BDL
CIS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL	BDL	BDL	BDL
m,p-XYLENE	5	µ g/l	2.4	BDL	BDL	BDL	BDL
BROMOMETHANE	5	µ g/l	2.4	BDL	BDL	BDL	BDL
VINYL CHLORIDE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
TRICHLOROETHENE	10	µ g/l	1.7	29.3	BDL	BDL	BDL
1,2(CIS)-DICHLOROETHENE	5	µ g/l	1.0	74.4	BDL	BDL	BDL
1,1,2 TRICHLORO 1,2,2 TRIFLUOROETHANE	5	µ g/l		BDL	BDL	BDL	BDL
o-XYLENE	5	µ g/l	1.3	BDL	BDL	BDL	BDL
CHLOROETHANE	5	µ g/l	1.6	BDL	BDL	BDL	BDL
TOTAL VOCs	100	µ g/l	0.0	198.8	0.0	0.0	0.0

AGG CONC #1 = SUM OF 1,2 DICHLOROBENZENE and 1,4 DICHLOROBENZENE

AGG CONC #2 = SUM

AGG CONC #3 = SUM

NASSAU COUNTY MITCHEL FIELD REMEDIAL ACTION
MONTHLY EFFLUENT MONITORING REPORT

OUTFALL 001G
JULY 2004

EFFLUENT PARAMETER	DISCHARGE LIMITATIONS	UNITS	COMPT MDL	WEEK 1 07/05/04	WEEK 2 07/12/04	WEEK 3 07/19/04	WEEK 4 07/28/04
FLOW, DAILY MAX	MONITOR	GPD	NA				
pH	6.5-8.5	SU		7.05	6.54	7.05	6.82
TOTAL AGG CONC #1	4.7	µ g/l		0	0	0	0
TOTAL AGG CONC #2	2	µ g/l		0	0	0	0
TOTAL AGG CONC #3	50	µ g/l		0	0	0	0
DICHLOROBROMOMETHANE	50	µ g/l	0.9	BDL	BDL	BDL	BDL
CARBON TETRACHLORIDE	5	µ g/l	1.3	BDL	BDL	BDL	BDL
BROMOFORM	50	µ g/l	0.7	BDL	BDL	BDL	BDL
DIBROMOCHLOROMETHANE	50	µ g/l	0.7	BDL	BDL	BDL	BDL
CHLOROFORM	0.2	µ g/l	1.1	BDL	BDL	BDL	BDL
TOLUENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
BENZENE	0.7	µ g/l	0.7	BDL	BDL	BDL	BDL
CHLOROBENZENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
ETHYLBENZENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
METHYL CHLORIDE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
TETRACHLOROETHENE	2.2	µ g/l	1.2	BDL	BDL	BDL	BDL
TRICHLOROFLUOROMETHANE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
1,1-DICHLOROETHANE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
1,1-DICHLOROETHENE	0.9	µ g/l	1.2	BDL	BDL	BDL	BDL
1,1,1-TRICHLOROETHANE	5	µ g/l	1.4	BDL	BDL	BDL	BDL
1,1,2-TRICHLOROETHANE	0.5	µ g/l	0.9	BDL	BDL	BDL	BDL
1,1,2,2 TETRACHLOROETHANE	0.3	µ g/l	1.0	BDL	BDL	BDL	BDL
1,2-DICHLOROETHANE	1	µ g/l	0.8	BDL	BDL	BDL	BDL
1,2 DICHLOROBENZENE	4.7	µ g/l	0.9	BDL	BDL	BDL	BDL
1,2 DICHLOROPROPANE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
1,2(TRANS)-DICHLOROETHENE	2	µ g/l	1.1	BDL	BDL	BDL	BDL
1,3 DICHLOROBENZENE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
1,4 DICHLOROBENZENE	4.7	µ g/l	1.0	BDL	BDL	BDL	BDL
TRANS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL	BDL	BDL	BDL
CIS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL	BDL	BDL	BDL
m,p-XYLENE	5	µ g/l	2.4	BDL	BDL	BDL	BDL
BROMOMETHANE	5	µ g/l	2.4	BDL	BDL	BDL	BDL
VINYL CHLORIDE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
TRICHLOROETHENE	10	µ g/l	1.7	BDL	BDL	BDL	BDL
1,2(CIS)-DICHLOROETHENE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
1,1,2 TRICHLORO 1,2,2 TRIFLUOROETHANE	5	µ g/l		BDL	BDL	BDL	BDL
o-XYLENE	5	µ g/l	1.3	BDL	BDL	BDL	BDL
CHLOROETHANE	5	µ g/l	1.6	BDL	BDL	BDL	BDL
TOTAL VOCs	100	µ g/l	0.0	0.0	0.0	0.0	0.0

AGG CONC #1 = SUM OF 1,2 DICHLOROBENZENE and 1,4 DICHLOROBENZENE

AGG CONC #2 = SUM

AGG CONC #3 = SUM

NASSAU COUNTY MITCHEL FIELD REMEDIAL ACTION
MONTHLY EFFLUENT MONITORING REPORT

OUTFALL 001G
AUGUST 2004

EFFLUENT PARAMETER	DISCHARGE LIMITATIONS	UNITS	COMP'T MDL	WEEK 1 08/02/04	WEEK 2 08/09/04	WEEK 3 08/16/04	WEEK 4 08/23/04
FLOW, DAILY MAX	MONITOR	GPD	NA				
pH	6.5-8.5	SU		7.07	7.11	7.11	6.98
TOTAL AGG CONC #1	4.7	µ g/l		0	0	0	0
TOTAL AGG CONC #2	2	µ g/l		0	0	0	0
TOTAL AGG CONC #3	50	µ g/l		0	0	0	0
DICHLOROBROMOMETHANE	50	µ g/l	0.9	BDL	BDL	BDL	BDL
CARBON TETRACHLORIDE	5	µ g/l	1.3	BDL	BDL	BDL	BDL
BROMOFORM	50	µ g/l	0.7	BDL	BDL	BDL	BDL
DIBROMOCHLOROMETHANE	50	µ g/l	0.7	BDL	BDL	BDL	BDL
CHLOROFORM	0.2	µ g/l	1.1	BDL	BDL	BDL	BDL
TOLUENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
BENZENE	0.7	µ g/l	0.7	BDL	BDL	BDL	BDL
CHLOROBENZENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
ETHYLBENZENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
METHYL CHLORIDE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
TETRACHLOROETHENE	2.2	µ g/l	1.2	BDL	BDL	BDL	BDL
TRICHLOROFLUOROMETHANE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
1,1-DICHLOROETHANE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
1,1-DICHLOROETHENE	0.9	µ g/l	1.2	BDL	BDL	BDL	BDL
1,1,1-TRICHLOROETHANE	5	µ g/l	1.4	BDL	BDL	BDL	BDL
1,1,2-TRICHLOROETHANE	0.5	µ g/l	0.9	BDL	BDL	BDL	BDL
1,1,2,2 TETRACHLOROETHANE	0.3	µ g/l	1.0	BDL	BDL	BDL	BDL
1,2-DICHLOROETHANE	1	µ g/l	0.8	BDL	BDL	BDL	BDL
1,2 DICHLOROBENZENE	4.7	µ g/l	0.9	BDL	BDL	BDL	BDL
1,2 DICHLOROPROPANE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
1,2(TRANS)-DICHLOROETHENE	2	µ g/l	1.1	BDL	BDL	BDL	BDL
1,3 DICHLOROBENZENE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
1,4 DICHLOROBENZENE	4.7	µ g/l	1.0	BDL	BDL	BDL	BDL
TRANS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL	BDL	BDL	BDL
CIS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL	BDL	BDL	BDL
m,p-XYLENE	5	µ g/l	2.4	BDL	BDL	BDL	BDL
BROMOMETHANE	5	µ g/l	2.4	BDL	BDL	BDL	BDL
VINYL CHLORIDE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
TRICHLOROETHENE	10	µ g/l	1.7	BDL	BDL	BDL	BDL
1,2(CIS)-DICHLOROETHENE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
1,1,2 TRICHLORO 1,2,2 TRIFLUOROETHANE	5	µ g/l		BDL	BDL	BDL	BDL
o-XYLENE	5	µ g/l	1.3	BDL	BDL	BDL	BDL
CHLOROETHANE	5	µ g/l	1.6	BDL	BDL	BDL	BDL
TOTAL VOCs	100	µ g/l	0.0	0.0	0.0	0.0	0.0

AGG CONC #1 = SUM OF 1,2 DICHLOROBENZENE and 1,4 DICHLOROBENZENE

AGG CONC #2 = SUM

AGG CONC #3 = SUM

NASSAU COUNTY MITCHEL FIELD REMEDIAL ACTION
MONTHLY EFFLUENT MONITORING REPORT

OUTFALL 001G
SEPTEMBER 2004

EFFLUENT PARAMETER	DISCHARGE LIMITATIONS	UNITS	COMP'T MDL	WEEK 1 09/06/04	WEEK 2 09/13/04	WEEK 3 09/20/04	WEEK 4 09/27/04
FLOW, DAILY MAX	MONITOR	GPD	NA				
pH	6.5-8.5	su		7.08		7.09	6.67
TOTAL AGG CONC #1	4.7	µ g/l		0	0	0	0
TOTAL AGG CONC #2	2	µ g/l		0	0	0	0
TOTAL AGG CONC #3	50	µ g/l		0	0	0	0
DICHLOROBROMOMETHANE	50	µ g/l	0.9	BDL	BDL	BDL	BDL
CARBON TETRACHLORIDE	5	µ g/l	1.3	BDL	BDL	BDL	BDL
BROMOFORM	50	µ g/l	0.7	BDL	BDL	BDL	BDL
DIBROMOCHLOROMETHANE	50	µ g/l	0.7	BDL	BDL	BDL	BDL
CHLOROFORM	0.2	µ g/l	1.1	BDL	BDL	BDL	BDL
TOLUENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
BENZENE	0.7	µ g/l	0.7	BDL	BDL	BDL	BDL
CHLOROBENZENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
ETHYLBENZENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
METHYL CHLORIDE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
TETRACHLOROETHENE	2.2	µ g/l	1.2	BDL	13.9	8.2	13.2
TRICHLOROFLUOROMETHANE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
1,1-DICHLOROETHANE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
1,1-DICHLOROETHENE	0.9	µ g/l	1.2	BDL	BDL	BDL	BDL
1,1,1-TRICHLOROETHANE	5	µ g/l	1.4	BDL	1.4	BDL	BDL
1,1,2-TRICHLOROETHANE	0.5	µ g/l	0.9	BDL	BDL	BDL	BDL
1,1,2,2 TETRACHLOROETHANE	0.3	µ g/l	1.0	BDL	BDL	BDL	BDL
1,2-DICHLOROETHANE	1	µ g/l	0.8	BDL	BDL	BDL	BDL
1,2 DICHLOROBENZENE	4.7	µ g/l	0.9	BDL	BDL	BDL	BDL
1,2 DICHLOROPROPANE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
1,2(TRANS)-DICHLOROETHENE	2	µ g/l	1.1	BDL	BDL	BDL	BDL
1,3 DICHLOROBENZENE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
1,4 DICHLOROBENZENE	4.7	µ g/l	1.0	BDL	BDL	BDL	BDL
TRANS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL	BDL	BDL	BDL
CIS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL	BDL	BDL	BDL
m,p-XYLENE	5	µ g/l	2.4	BDL	BDL	BDL	BDL
BROMOMETHANE	5	µ g/l	2.4	BDL	BDL	BDL	BDL
VINYL CHLORIDE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
TRICHLOROETHENE	10	µ g/l	1.7	BDL	3.3	2.7	3.2
1,2(CIS)-DICHLOROETHENE	5	µ g/l	1.0	5.4	12.4	9.5	5.3
1,1,2 TRICHLORO 1,2,2 TRIFLUOROETHANE	5	µ g/l		BDL	BDL	BDL	BDL
o-XYLENE	5	µ g/l	1.3	BDL	BDL	BDL	BDL
CHLOROETHANE	5	µ g/l	1.6	BDL	BDL	BDL	BDL
TOTAL VOCs	100	µ g/l	0.0	5.4	31.0	20.4	21.7

AGG CONC #1 = SUM OF 1,2 DICHLOROBENZENE and 1,4 DICHLOROBENZENE

AGG CONC #2 = SUM

AGG CONC #3 = SUM

NASSAU COUNTY MITCHEL FIELD REMEDIAL ACTION
MONTHLY EFFLUENT MONITORING REPORT

OUTFALL 001G
OCTOBER 2004

EFFLUENT PARAMETER	DISCHARGE LIMITATIONS	UNITS	COMP'T MDL	WEEK 1 10/05/04	WEEK 2 10/11/04	WEEK 3 10/18/04	WEEK 4 10/25/04
FLOW, DAILY MAX	MONITOR	GPD	NA				
pH	6.5-8.5	SU		6.92	6.99	6.93	6.95
TOTAL AGG CONC #1	4.7	µ g/l		0	0	0	0
TOTAL AGG CONC #2	2	µ g/l		0	0	0	0
TOTAL AGG CONC #3	50	µ g/l		0	0	0	0
DICHLOROBROMOMETHANE	50	µ g/l	0.9	BDL	BDL	BDL	BDL
CARBON TETRACHLORIDE	5	µ g/l	1.3	BDL	BDL	BDL	BDL
BROMOFORM	50	µ g/l	0.7	BDL	BDL	BDL	BDL
DIBROMOCHLOROMETHANE	50	µ g/l	0.7	BDL	BDL	BDL	BDL
CHLOROFORM	0.2	µ g/l	1.1	BDL	BDL	BDL	BDL
TOLUENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
BENZENE	0.7	µ g/l	0.7	BDL	BDL	BDL	BDL
CHLOROBENZENE	5	µ g/l	1.2	BDL	BDL	1.2	BDL
ETHYLBENZENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
METHYL CHLORIDE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
TETRACHLOROETHENE	2.2	µ g/l	1.2	16.5	14.2	10.0	19.7
TRICHLOROFLUOROMETHANE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
1,1-DICHLOROETHANE	5	µ g/l	1.1	BDL	BDL	1.4	BDL
1,1-DICHLOROETHENE	0.9	µ g/l	1.2	BDL	BDL	BDL	BDL
1,1,1-TRICHLOROETHANE	5	µ g/l	1.4	1.5	1.5	1.8	3.1
1,1,2-TRICHLOROETHANE	0.5	µ g/l	0.9	BDL	BDL	BDL	BDL
1,1,2,2 TETRACHLOROETHANE	0.3	µ g/l	1.0	BDL	BDL	BDL	BDL
1,2-DICHLOROETHANE	1	µ g/l	0.8	BDL	BDL	BDL	BDL
1,2 DICHLOROBENZENE	4.7	µ g/l	0.9	BDL	BDL	BDL	BDL
1,2 DICHLOROPROPANE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
1,2(TRANS)-DICHLOROETHENE	2	µ g/l	1.1	BDL	BDL	BDL	BDL
1,3 DICHLOROBENZENE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
1,4 DICHLOROBENZENE	4.7	µ g/l	1.0	BDL	BDL	BDL	BDL
TRANS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL	BDL	BDL	BDL
CIS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL	BDL	BDL	BDL
m,p-XYLENE	5	µ g/l	2.4	BDL	BDL	BDL	BDL
BROMOMETHANE	5	µ g/l	2.4	BDL	BDL	BDL	BDL
VINYL CHLORIDE	5	µ g/l	1.1	BDL	BDL	3.3	1.4
TRICHLOROETHENE	10	µ g/l	1.7	4.0	3.2	2.6	10.5
1,2(CIS)-DICHLOROETHENE	5	µ g/l	1.0	9.0	8.7	27.2	49.6
1,1,2 TRICHLORO 1,2,2 TRIFLUOROETHANE	5	µ g/l		BDL	BDL	BDL	BDL
o-XYLENE	5	µ g/l	1.3	BDL	BDL	BDL	BDL
CHLOROETHANE	5	µ g/l	1.6	BDL	BDL	BDL	BDL
TOTAL VOCs	100	µ g/l	0.0	31.0	27.6	47.5	84.3

AGG CONC #1 = SUM OF 1,2 DICHLOROBENZENE and 1,4 DICHLOROBENZENE

AGG CONC #2 = SUM

AGG CONC #3 = SUM

NASSAU COUNTY MITCHEL FIELD REMEDIAL ACTION
MONTHLY EFFLUENT MONITORING REPORT

OUTFALL 001G
NOVEMBER 2004

EFFLUENT PARAMETER	DISCHARGE LIMITATIONS	UNITS	COMP'T MDL	WEEK 1 11/01/04	WEEK 2 11/08/04	WEEK 3 11/15/04	WEEK 4 11/22/04
FLOW, DAILY MAX	MONITOR	GPD	NA				
pH	6.5-8.5	SU		6.92	6.81	7.00	6.97
TOTAL AGG CONC #1	4.7	µ g/l		0	0	0	0
TOTAL AGG CONC #2	2	µ g/l		0	0	0	0
TOTAL AGG CONC #3	50	µ g/l		0	0	0	0
DICHLOROBROMOMETHANE	50	µ g/l	0.9	BDL	BDL	BDL	BDL
CARBON TETRACHLORIDE	5	µ g/l	1.3	BDL	BDL	BDL	BDL
BROMOFORM	50	µ g/l	0.7	BDL	BDL	BDL	BDL
DIBROMOCHLOROMETHANE	50	µ g/l	0.7	BDL	BDL	BDL	BDL
CHLOROFORM	0.2	µ g/l	1.1	BDL	BDL	BDL	BDL
TOLUENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
BENZENE	0.7	µ g/l	0.7	BDL	BDL	BDL	BDL
CHLOROBENZENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
ETHYLBENZENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
METHYL CHLORIDE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
TETRACHLOROETHENE	2.2	µ g/l	1.2	24.1	31.4	35.3	25.5
TRICHLOROFLUOROMETHANE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
1,1-DICHLOROETHANE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
1,1-DICHLOROETHENE	0.9	µ g/l	1.2	BDL	BDL	BDL	BDL
1,1,1-TRICHLOROETHANE	5	µ g/l	1.4	5.0	3.5	3.9	3.7
1,1,2-TRICHLOROETHANE	0.5	µ g/l	0.9	BDL	BDL	BDL	BDL
1,1,2,2 TETRACHLOROETHANE	0.3	µ g/l	1.0	BDL	BDL	BDL	BDL
1,2-DICHLOROETHANE	1	µ g/l	0.8	BDL	BDL	BDL	BDL
1,2 DICHLOROBENZENE	4.7	µ g/l	0.9	BDL	BDL	BDL	BDL
1,2 DICHLOROPROPANE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
1,2(TRANS)-DICHLOROETHENE	2	µ g/l	1.1	BDL	BDL	BDL	BDL
1,3 DICHLOROBENZENE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
1,4 DICHLOROBENZENE	4.7	µ g/l	1.0	BDL	BDL	BDL	BDL
TRANS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL	BDL	BDL	BDL
CIS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL	BDL	BDL	BDL
m,p-XYLENE	5	µ g/l	2.4	BDL	BDL	BDL	BDL
BROMOMETHANE	5	µ g/l	2.4	BDL	BDL	BDL	BDL
VINYL CHLORIDE	5	µ g/l	1.1	1.2	BDL	BDL	BDL
TRICHLOROETHENE	10	µ g/l	1.7	11.6	15.4	15.1	11.7
1,2(CIS)-DICHLOROETHENE	5	µ g/l	1.0	51.9	24.6	17.7	17.9
1,1,2 TRICHLORO 1,2,2 TRIFLUOROETHANE	5	µ g/l		BDL	BDL	BDL	BDL
o-XYLENE	5	µ g/l	1.3	BDL	BDL	BDL	BDL
CHLOROETHANE	5	µ g/l	1.6	BDL	BDL	BDL	BDL
TOTAL VOCs	100	µ g/l	0.0	93.8	74.9	72.0	58.8

AGG CONC #1 = SUM OF 1,2 DICHLOROBENZENE and 1,4 DICHLOROBENZENE

AGG CONC #2 = SUM

AGG CONC #3 = SUM

NASSAU COUNTY MITCHEL FIELD REMEDIAL ACTION
MONTHLY EFFLUENT MONITORING REPORT

OUTFALL 001G
DECEMBER 2004

EFFLUENT PARAMETER	DISCHARGE LIMITATIONS	UNITS	COMP'T MDL	WEEK 1 12/06/04	WEEK 2 12/13/04	WEEK 3 12/20/04	WEEK 4 12/27/04
FLOW, DAILY MAX	MONITOR	GPD	NA				
pH	6.5-8.5	SU		6.98	6.96	6.96	6.96
TOTAL AGG CONC #1	4.7	µ g/l		0	0	0	0
TOTAL AGG CONC #2	2	µ g/l		0	0	0	0
TOTAL AGG CONC #3	50	µ g/l		0	0	0	0
DICHLOROBROMOMETHANE	50	µ g/l	0.9	BDL	BDL	BDL	BDL
CARBON TETRACHLORIDE	5	µ g/l	1.3	BDL	BDL	BDL	BDL
BROMOFORM	50	µ g/l	0.7	BDL	BDL	BDL	BDL
DIBROMOCHLOROMETHANE	50	µ g/l	0.7	BDL	BDL	BDL	BDL
CHLOROFORM	0.2	µ g/l	1.1	BDL	BDL	BDL	BDL
TOLUENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
BENZENE	0.7	µ g/l	0.7	BDL	BDL	BDL	BDL
CHLOROBENZENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
ETHYLBENZENE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
METHYL CHLORIDE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
TETRACHLOROETHENE	2.2	µ g/l	1.2	11.5	16.4	2.0	9.6
TRICHLOROFLUOROMETHANE	5	µ g/l	1.2	BDL	BDL	BDL	BDL
1,1-DICHLOROETHANE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
1,1-DICHLOROETHENE	0.9	µ g/l	1.2	BDL	BDL	BDL	BDL
1,1,1-TRICHLOROETHANE	5	µ g/l	1.4	BDL	BDL	BDL	BDL
1,1,2-TRICHLOROETHANE	0.5	µ g/l	0.9	BDL	BDL	BDL	BDL
1,1,2,2 TETRACHLOROETHANE	0.3	µ g/l	1.0	BDL	BDL	BDL	BDL
1,2-DICHLOROETHANE	1	µ g/l	0.8	BDL	BDL	BDL	BDL
1,2 DICHLOROBENZENE	4.7	µ g/l	0.9	BDL	BDL	BDL	BDL
1,2 DICHLOROPROPANE	5	µ g/l	1.0	BDL	BDL	BDL	BDL
1,2(TRANS)-DICHLOROETHENE	2	µ g/l	1.1	BDL	BDL	BDL	BDL
1,3 DICHLOROBENZENE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
1,4 DICHLOROBENZENE	4.7	µ g/l	1.0	BDL	BDL	BDL	BDL
TRANS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL	BDL	BDL	BDL
CIS 1,3 DICHLOROPROPENE	2	µ g/l	0.9	BDL	BDL	BDL	BDL
m,p-XYLENE	5	µ g/l	2.4	BDL	BDL	BDL	BDL
BROMOMETHANE	5	µ g/l	2.4	BDL	BDL	BDL	BDL
VINYL CHLORIDE	5	µ g/l	1.1	BDL	BDL	BDL	BDL
TRICHLOROETHENE	10	µ g/l	1.7	2.5	2.5	BDL	1.8
1,2(CIS)-DICHLOROETHENE	5	µ g/l	1.0	2.9	6.0	1.7	3.6
1,1,2 TRICHLORO 1,2,2 TRIFLUOROETHANE	5	µ g/l		BDL	BDL	BDL	BDL
O-XYLENE	5	µ g/l	1.3	BDL	BDL	BDL	BDL
CHLOROETHANE	5	µ g/l	1.6	BDL	BDL	BDL	BDL
TOTAL VOCs	100	µ g/l	0.0	16.9	24.9	3.7	15.0

AGG CONC #1 = SUM OF 1,2 DICHLOROBENZENE and 1,4 DICHLOROBENZENE

AGG CONC #2 = SUM

AGG CONC #3 = SUM

APPENDIX D

GROUNDWATER MONITORING REQUIREMENTS

2004

Table 1
Volatile Organic Compound Analysis
(EPA Method 524)
List Of Analytes

Dichlorodifluoromethane	1,2-Dibromoethane
Chloromethane	Chlorobenzene
Vinyl Chloride	1,1,1,2-Tetrachloroethane
Bromomethane	Ethyl Benzene
Chloroethane	m,p-Xylene
Trichlorofluoromethane	o-Xylene
1,1-Dichloroethene	Styrene
Methylene Chloride	Isopropylbenzene
t-1,2-Dichloroethene	Bromoform
1,1-Dichloroethane	1,1,2,2-Tetrachloroethane
2,2-Dichloropropane	1,2,3-Trichloropropane
c-1,2-Dichloroethene	n-Propylbenzene
Chloroform	Bromobenzene
Bromochloromethane	1,3,5-Trimethylbenzene
1,1,1-Trichloroethane	2-Chlorotoluene
1,1-Dichloropropene	4-Chlorotoluene
Carbon Tetrachloride	t-Butylbenzene
1,2-Dichloroethane	1,2,4-Trimethylbenzene
Benzene	sec-Butylbenzene
Trichloroethene	p-Isopropyltoluene
1,2-Dichloropropane	1,3-Dichlorobenzene
Bromodichloromethane	1,4-Dichlorobenzene
Dibromomethane	n-Butylbenzene
c-1,3-Dichloropropene	1,2-Dichlorobenzene
Toluene	1,2-Dibromo-3-Chloropropane
t-1,3-Dichloropropene	1,2,4-Trichlorobenzene
1,1,2-Trichloroethane	Hexachlorobutadiene
1,3-Dichloropropane	Naphthalene
Tetrachloroethene	1,2,3-Trichlorobenzene
Dibromochloromethane	Methyl tertiary-Butyl-Ether (MTBE)

Analyses conducted by NCDPW Environmental Laboratory

Appendix D

GROUNDWATER MONITORING REQUIREMENTS

1.0 Semi-Annual Groundwater Monitoring Well Sampling and Testing Procedures

1.1 Sampling Equipment:

- Grundfos Redi-flo Variable Performance Pump installed in well.
- BMI/MP1 - 115V Converter with a motor lead extension cable.
- Generator or power source that provides 115 volts
- Solinst water level meter
- Discharge hose stored in the port opening of the well cap
- Discharge hose stand
- Stop watch and a bucket with a known volume.
- Disposable latex or vinyl sampling gloves.
- Cooler with ice packs.
- Sample containers with labels.
- Field book and pen.

1.2 Sampling Procedures:

- Open the well cover, unscrew and remove the discharge hose from the port opening. Confirm the well number on the metal tag or label.
- Take the depth to water reading through the port opening. Measure from the top edge of the well cover. Use well records to obtain the total depth of the well and calculate the fluid volume in the casing.
- Start the generator and allow it to idle until it runs smoothly. Connect the converter to power source.
- Connect the converter to the well cover receptacle using the motor lead extension cable. Connect the discharge hose to the well cover and position it in the desired direction of flow using the discharge hose stand.
- Select RF2M with the mode selection knob on the converter. The frequency display should read 0.0 (zero). Set the VFD speed dial to the midpoint (12 o'clock position) or approximately 220 Hz.
- Start the pump by moving the start/stop switch to the start position.

- Adjust the flow rate by turning the speed dial until the desired performance is attained. (48 Hz for minimum pumping to 400 Hz for maximum pumping)
- Use a stopwatch and a bucket of known volume to measure the rate of discharge in gallons per minute.
- Calculate the minimum pumping time by multiplying the fluid volume in the casing by three to obtain the volume to be purged and dividing by the flow rate. While purging continues measure the flow rate several times to insure the discharge rate is stable. All pertinent information must be recorded in the field book.
- Once the required volume is purged, label the sample containers. Decrease the flow rate to an appropriate sampling flow. Put on disposal latex or vinyl sampling gloves and fill the containers as per laboratory requirements. Place the samples in a cooler with ice packs.
- To stop the pump move the start/stop switch on the converter box to stop. Unplug all connections and then stop the generator. Return the discharge hose to the port, recap the connections and lock the well cover in place.

1.3 Semi-Annual Analytical Tests and Methodologies

All laboratory analyses to monitor the groundwater conditions for the Purex remediation project were conducted at the Nassau County Department of Public Works, Special Projects Laboratory located at Cedar Creek Waste Water Treatment Facility in Wantagh, New York (NCDPW-Lab). The NCDPW-Lab is a New York State Department of Health, Environmental Laboratory Approval Program (ELAP) certified laboratory for all of the analytical tests performed for the monitoring program.

Analysis of collected groundwater samples for the groundwater monitoring program included:

- VOCs (EPA 601/602); detailed list of parameters found in Table 1
- Semi-VOCs (625); detailed list of parameters found in Table 1
- Metals (EPA 200.7, 206.2, 239.2)
- Field parameters (pH, conductivity and temperature)
- Water quality parameters (alkalinity, biochemical oxygen demand [BOD], chemical oxygen demand [COD], hardness, nitrite, nitrate, phosphorus, sodium, total kjeldahl nitrogen [TKN], ammonia sulfate, chlorides, total organic carbon [TOC], total dissolved solids [TDS], and total suspended solids [TSS]).

1.4 Semi-Annual Hydraulic Control Monitoring

In addition to the recovery of volatile organic contamination within the Purex plume, an equally important factor is the hydraulic containment of the site's plume. In order to monitor the hydraulic containment of the Purex plume, the measurement of water levels are necessary to establish the groundwater flow direction(s) and gradient(s). From this information, the remediation's recovery well system can be monitored to confirm the

effectiveness of the hydraulic containment under various conditions and to adjust and modify the recovery well system pumping to maintain hydraulic plume containment until remediation termination criteria are met.

Water levels were measured using a steel tape and chalk or with an electronic water level meter. All water level measurements are referenced to msl, as an elevation in feet (ft). The water level elevations are plotted on a site base map, according to depth. Contour lines, indicating areas of equal elevation are then drawn, from which groundwater flow direction(s) and gradient(s) can be established.