Unocal Corporation
Diversified Business Group
13 Corporate Square, Suite 200
Atlanta, Georgia ~~30302~~ 30329
Telephone (404) 321-7600
Facsimile (404) 320-7915

UNOCAL 76

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N.C. DEPARTMENT
MAR 23 1998

Richard G. Horn, P.E.
Senior Staff Engineer
Asset Management Group

March 19, 1998

Mr. Waddell Watters
North Carolina Department of Environment
and Natural Resources, Groundwater Section
585 Waughtown St., Winston Salem, NC 27107

RE: Semi-Annual Ground Water Sampling & Remediation Status Report
Incident #10119, Rank – High
Unocal Corporation Facility #9787-214
1342 Trollingwood Rd., Mebane, NC

Dear Mr. Watters:

Unocal Corporation submits herein the semi-annual ground water sampling and remediation system status report. The ground water sampling event occurred on February 24, 1998. The analyses indicate that the ground water beneath the site is nearly clean with only three 2L groundwater standard violations remaining (13.2 ug/L of benzene and 16.6-ug/L of 1,2-dichloroethane in MW-3 and 3.68 ug/L of chloroform in MW-7). The previous report dated October 10, 1997 indicated very similar conditions. The Gross Contaminant Levels (GCLs) for benzene and 1,2-dichlorethane are 5000 ug/L and 380 ug/L, respectively. There is no GCL for chloroform. We believe that the remediation system has reached the limits of clean up of soil and groundwater in an economical and technologically feasible manner. Remediation costs are currently being reimbursed from the Trust Fund. Please review and indicate if a Soil Sampling and Soil Clean-Up Report with Site Closure Request would be applicable at this time.

Sincerely,

Unocal Corporation

Rick Horn Staff

Richard G. Horn, P.E.
Senior Staff Engineer

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SEMI-ANNUAL GROUNDWATER SAMPLING
& REMEDIATION STATUS REPORT
Incident No. 10119,Rank -High
Former Unocal Corporation Site #9787-214
1342 Trollingwood Road, Mebane, NC
S&ME Project No. 1354-94-603

Prepared For:

Unocal Corporation
Diversified Business Group
13 Corporate Square, Suite 200
Atlanta, Ga 30329

Prepared By:

S&ME, Inc.
9751 Southern Pine Blvd., PO Box 7668
Charlotte, NC 28273

March, 1998

S&ME

March 19, 1998

Mr. Richard G. Horn, P.E.
Unocal Corporation
Diversified Business Group
13 Corporate Square, Suite 200
Atlanta, Ga 30329

Reference: **February 1998 Semi-Annual Groundwater Sampling and Remediation Status Report**
Incident No. 10119, Rank - High
Unocal Corporation Facility #9787-214, Former Red Horse Truckstop
1342 Trollingwood Road, Mebane, Alamance Co., NC
S&ME Project No. 1354-94-603

Dear Mr. Horn:

S&ME, Inc. (S&ME) provides herein the semi-annual groundwater sampling results and status of remediation activities at the subject groundwater incident site #10119. This report covers the period from October 1, 1997 through March 17, 1998. This report includes the February 24, 1997 semi-annual groundwater analytical results for the five monitor wells on-site (MW-3, MW-4, DMW-5, MW-7 and MW-8) and for the nearby (hydraulically sidegradient) Williams water well. The documented release was from unleaded gasoline and diesel sources, and therefore, lead and EDB analyses were not performed, as approved by the State. This work was performed in accordance with NCDENR Task Authorization #10119-01 dated 10/27/97, which approved operation of the air sparge system for 6 months in 1998.

The analytical results indicate that the groundwater beneath the site is in compliance with the 2L groundwater standards excluding 13.2 ug/L of benzene and 16.6 ug/L of 1,2-dichloroethane in MW-3 and 3.68 ug/L of chloroform in MW-7. The previous report dated October 10, 1997 indicated very similar conditions. The Gross Contaminant Levels (GCLs) for benzene and 1,2-dichlorethane are 5000 ug/L and 380 ug/L, respectively. There is no GCL for chloroform. We

believe that the remediation system has reached the limits of clean up of soil and groundwater in an economical and technologically feasible manner. Remediation costs are currently being reimbursed from the Trust Fund. We recommend requesting the NCDENR to review this report and indicate if a Soil Sampling and Soil Clean-Up Report with Site Closure Request would be applicable at this time.

GROUNDWATER SURFACE LEVELS

Groundwater surface levels (for MW-3, MW-4, DMW-5, MW-7 and MW-8) were measured on February 24, 1998 prior to well sampling with the sparging system off. The groundwater surface level data obtained on this date is summarized in Table 1 during static (sparging off) conditions. Figure 1 illustrates that groundwater flow on February 24, 1998 is to the east under an average hydraulic gradient of 0.035. Previously, groundwater flow has been towards the northwest. The change in the groundwater flow direction may be attributed to residual air sparging effects or seasonal water level fluctuation.

GROUND WATER QUALITY

S&ME sampled groundwater from five monitor wells (MW-3, MW-4, DMW-5, MW-7 and MW-8) on February 24, 1998, as part of the semi-annual sampling event. Individual, disposable polyethylene bailers and clean nylon rope were used for sampling groundwater from each of the monitor wells. A water sample was also collected from the spigot closest to the Williams well. The water was purged for approximately 5 minutes prior to sampling. The Williams well is located approximately 500 feet south of MW-4.

The groundwater samples were analyzed for aromatic organics [including benzene, toluene, ethylbenzene, xylenes (BTEX), methyl-tert-butylether (MTBE) and isopropylether (IPE)] by EPA Method 602, halogenated organics by EPA Method 601 and polynuclear aromatic hydrocarbons by EPA Method 610. All analyses were performed by a NC certified laboratory (#296); Flowers

Chemical Laboratory of Altamonte Springs, FL. A copy of the laboratory results is attached. Table 2 summarizes historical and the most recent ground water quality data. Charts 1 and 2 graphically illustrate historical BTEX, MTBE and PNA concentrations.

Laboratory results indicate that monitor well MW-3 contained 13.2 ug/L of benzene and 16.6 micrograms per liter (ug/L) of 1,2-dichloroethane (1,2-DCA), as well as, MW-7 contained 3.68 ug/L of chloroform. The 2L-groundwater standards for benzene, 1,2-DCA, and chloroform are 1 ug/L, 0.38 ug/L and 0.19 ug/L, respectively. All other parameters were not detected above laboratory detection limits. Monitoring well MW-4 is located in the former "hotspot" area and source of the gasoline release. MW-4 previously contained free product and elevated BTEX (98,000 ug/L) and MTBE (15,700 ug/L) concentrations, as indicated in Table 2.

Chloroform is a common laboratory artifact and is not typically associated with petroleum hydrocarbon releases. Thus, chloroform may not actually be present in the well. Other parameters for MW-7 were not detected above laboratory detection limits.

All parameters for monitoring wells MW-4, DMW-5, MW-8 and the Williams supply well were not detected above laboratory detection limits. Laboratory results for this sampling event and previous sampling events are summarized in Table 2, and included in this report.

Groundwater quality has improved dramatically for this site due to remedial efforts. However, remediation seems to have reached its limits in terms of site clean up in an effective, economical and technologically feasible manner. The active air sparging system has reduced dissolved hydrocarbons to very low or near non-detectable levels. Dissolved gasoline compounds (BTEX, MTBE, IPE and most of the 601 compounds) in ground water on-site have reached asymptotic levels below 2L standards. Considering the very low levels of benzene, 1,2-DCA and chloroform at the site, S&ME recommends that the NCDENR consider the submittal of a Soil Sampling and

Soil Clean-up Report with Site Closure Request.

REMEDIATION SYSTEM STATUS

At present, site remediation is performed by air sparging only. Air sparging has been very effective in remediation of subsurface hydrocarbons in groundwater on-site, but is not considered useful or economical at this time. At MW-4, combined BTEX and MTBE concentrations have been reduced from 110,000 ug/L on January 18, 1993 to <30 ug/L (laboratory detection limit) on February 24, 1998. The sparged air volatilizes and typically increases bioremediation of subsurface hydrocarbons by promoting growth of indigenous hydrocarbon degrading microorganisms. However, the hydrocarbon (food) source for the bacteria has been depleted and now bioremediation will occur much slower.

The air sparging system is currently operating as designed with no mechanical problems. The air compressor is presently operating at 80 psi and 45 scfm (at compressor). Each of the five operating air sparge wells (AS-1, AS-4, AS-5, DMW-5 and AS-6) is operating at 40 psi and 5 to 10 scfm. The air sparging system has operated a total of approximately 18,048 hours (752 days) as of March 17, 1998. The air sparging radius of influence for each of the five vertical air sparge wells is approximately 80 feet, as indicated by change in dissolved oxygen levels in peripheral monitor wells. The air sparging system is cycled for 12 hours per day by a single channel electronic timer to maximize efficiency in terms of contaminant mass removal per unit time.

The air sparging system will continue to be inspected on a bi-weekly basis. No more semi-annual groundwater sampling events are scheduled, since the State Task Authorization is only for the first six-month period in 1998. No fugitive hydrocarbon sparge vapors have been reported inside any utilities or the on-site building. Monthly operation and maintenance costs and semi-annual monitoring/reporting costs are approximately $1750 and $5000, respectively. Closure of the site would eliminate these expenses to the NC Trust Fund.

If you have any questions or need additional information, please do not hesitate to call us at 704-523-4726.

Sincerely,

S&ME, Inc.

Stewart Hines 3/

NORTH CAROLINA LICENSED SEAL 1199 GEOLOGIST STEWART MARTIN HINES

Stewart M. Hines, L.G.
Senior Hydrogeologist

Al Quarles, L.G.
Assistant Environmental Services Manager

Enclosures

cc: Rick Horn, P.E. - Unocal Corporation
Carol Wrenn – Speedway SuperAmerica LLC (Current Property Owner)
Mr. Williams - adjacent private well owner
Rick Holshouser - S&ME, Inc.

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TABLE 1

S&ME, INC.
LIQUID LEVELS
DATE: 2/24/98

SITE: UNOCAL–MEBANE, NC #9787–214
JOB# 1354–94–603
RECORDED BY: GARY SIMCOX (S&ME)

ID #	DTW	DTP	PT	ETW	ETP	ETC	WTE
MW–3	15.00	0.00	0.00	84.28	NA	99.28	**84.28**
MW–4	13.88	0.00	0.00	84.72	NA	98.60	**84.72**
DMW–5	13.08	0.00	0.00	84.03	NA	97.11	**84.03**
MW–7	17.15	0.00	0.00	81.06	NA	98.21	**81.06**
MW–8	15.34	0.00	0.00	85.13	NA	100.47	**85.13**

COMMENTS: Topographic survey of all wells was re–evaluated on 8/16/96

ALL MEASUREMENTS IN FEET
DTW=depth to water from top of casing
DTP=depth to product
ETC=elevation of top of casing (usu. assumed datum
of 98.21 feet from the former professional survey of MW–7
ETP=elevation of top of product
ETW=elevation of top of water
PT=product thickness
NA=Not Applicable
WTE=elevation of water table
BENCH MARK = MW–7, also elevation of fire hydrant bolt (black) is 100.83

TABLE 2
HISTORICAL GROUNDWATER QUALITY DATA

FORMER UNOCAL FACILITY #9787-214
1342 TROLLINGWOOD ROAD, MEBANE, NC
S&ME PROJECT #1354-94-603

MONITOR WELL	DATE	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	MTBE	IPE	METHOD 601 COMPONDS	METHOD 625/610 COMPOUNDS
MW-1	1/7/93	BQL	120	BQL	120	240	NA	NA	NA	NA
(CLOSED)	1/18/93	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
	11/10/94	BQL	BQL	BQL	BQL	BQL	BQL	NA	BQL	BQL
	3/12/95	BQL	BQL	BQL	BQL	BQL	1.11	BQL	BQL	BQL
	12/18/95	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5-5	<1
	2/21/96	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5-5	<1
	5/4/96	MONITOR WELL CLOSED WITH GROUT DUE TO CONFLICT WITH NEW SPEEDWAY STATION PUMP ISLAND								
MW-2	1/7/93	810	20,000	17,000	95,000	132,810	NA	NA	NA	NA
(CLOSED)	1/18/93	120	65	4.2	160	349.2	BQL	BQL	7.9	28
	11/10/94	BQL	BQL	BQL	BQL	BQL	BQL	NA	BQL	BQL
	3/12/95	BQL	BQL	BQL	BQL	BQL	1.5	BQL	BQL	BQL
	12/18/95	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5-5	<1
	2/21/96	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5-5	<1
	5/4/96	MONITOR WELL CLOSED WITH GROUT DUE TO CONFLICT WITH NEW SPEEDWAY STATION PUMP ISLAND								
MW-3	1/7,11/93	BQL	1300	2100	13,000	16,400	NA	NA	NA	NA
	1/26/93	84	82	5.1	590	761.1	BQL	BQL	8.4	22
	11/10/94	BQL	BQL	18.5	184	203	BQL	NA	13.2	BQL
	3/12/95	BQL	BQL	BQL	1.52	1.52	0.54	1.73	3.38	BQL
	12/18/95	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	7.53	<1
	2/21/96	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	5.53	<1
	8/5/96	85	4.01	3.34	465	557	11.7	9.58	31.4	12.6
	11/22/96	**5.1**	<1.5	<1.5	2.72	7.82	1.53	4.83	6.68	**3.13**
	2/8/97	<1.5	<1.5	<1.5	<1.5	<1.5	4.30	11.3	8.94	<3
	8/14/97	0.827	<1.5	<1.5	<1.5	0.827	6.60	8.04	17.70	7.06
	2/24/98	**13.2**	<1.5	<1.5	1.88	15.08	6.38	12.7	**16.6-1,2-DICHLOROETHANE**	<3
MW-4	1/11/93	BQL	1700	4900	31,000	37,600	NA	NA	NA	NA
	1/18/93	26,800	42,000	5200	24,000	98,000	12,000	BQL	6.8	6600
	11/10/94	22,100	40,100	4710	20,500	87,400	15,700	NA	29.3	431.5
	3/12/95	3150	4480	1830	2250	11,700	4370	<1	33.09	2710
	12/18/95	2840	5700	1170	5310	15000	3750	<1	<5-50	787.58
	2/21/96	821	1340	344	1990	4490	1810	<1	<5-50	119.3
	5/9/96	WELL CONVERTED TO AN AIR SPARGE/MONITOR WELL								
	8/12/96	**6.1**	13.5	<5	27.6	47.2	165	<10	<5-50	<1
	11/26/96	**4.59**	16.2	<3	37	60.3	**410**	<6	<3-30	<3
	2/8/97	3.7	11.1	3.7	64.1	82.6	654	<6	<3-30	<3
	8/14/97	<0.60	<1.5	<1.5	<1.5	<1.5	74.70	<3	<0.75-15	<3
	2/24/98	<12	<30	<30	<30	<30	141	<60	<15-300	<3

TABLE 2
HISTORICAL GROUNDWATER QUALITY DATA

FORMER UNOCAL FACILITY #9787-214
1342 TROLLINGWOOD ROAD, MEBANE, NC
S&ME PROJECT #1354-94-603

MONITOR WELL	DATE	BENZENE	TOLUENE	ETHYL-BENZENE	TOTAL XYLENES	TOTAL BTEX	MTBE	IPE	METHOD 601 COMPONDS	METHOD 625/610 COMPOUNDS
DMW-5 (TYPE III MW)	3/24/93	55	95	20	120	290	NA	NA	NA	NA
	8/19/94	WELL CONVERTED TO AN AIR SPARGE/MONITOR WELL								
	12/18/95	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5-5	<1
	8/5/96	0.5	0.5	0.5	0.5	0.5	0.5	<1	<0.5-5	<1
	11/22/96	<1.5	16.2	<1.5	<1.5	16.2	<1.5	<3	BQL	BQL
	2/8/97	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<3	<3-15	<3
	8/14/97	<0.6	<1.5	<1.5	<1.5	<1.5	<1.5	<1	<0.5-5	<1
	2/24/98	<0.6	<1.5	<1.5	<1.5	<1.5	<1.5	<3	<0.9-15	<3
MW-6 (CLOSED)	3/17/93	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL	BQL
	11/10/94	BQL	BQL	BQL	BQL	BQL	BQL	NA	BQL	BQL
	3/12/95	BQL	1.61	0.754	4.16	6.52	BQL	BQL	BQL	BQL
	12/18/95	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5-5	<1
	2/21/96	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5-5	<1
	5/4/96	MONITOR WELL CLOSED WITH GROUT DUE TO CONFLICT WITH NEW SPEEDWAY STATION PRODUCT LINES								
MW-7	3/8,17/93	BQL	BQL	BQL	BQL	BQL	BQL	BQL	6.5	BQL
	11/10/94	BQL	BQL	BQL	BQL	BQL	BQL	NA	1.4	BQL
	3/12/95	BQL	BQL	BQL	BQL	BQL	BQL	NA	1.25	BQL
	12/18/95	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5-5	<1
	2/21/96	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5-5	<1
	8/5/96	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5-5	<1
	11/22/96	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<3	BQL	BQL
	2/8/97	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<3	<3-15	<3
	8/14/97	<0.6	<1.5	<1.5	<1.5	<1.5	<1.5	<3	1.78	<3
	2/24/98	<0.6	<1.5	<1.5	<1.5	<1.5	<1.5	<3	**3.68-CHLOROFORM**	<3
MW-8	8/12/96	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5-5	<1
	11/22/96	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<3	BQL	BQL
	2/8/97	<3	<3	<3	<3	<3	6.20	<6	<3-30	<3
	8/14/97	<0.6	<1.5	<1.5	<1.5	<1.5	<1.5	<3	<0.75-15	<3
	2/24/98	<0.6	<1.5	<1.5	<1.5	<1.5	12.8	<3	<0.75-15	<3
WILLIAMS WELL	8/12/96	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5-5	<1
	2/8/98	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<3	<3-15	<3
	8/14/97	<0.6	<1.5	<1.5	<1.5	<1.5	<1.5	<3	<0.75-15	<3
	2/24/98	<0.6	<1.5	<1.5	<1.5	<1.5	12.8	<3	<0.75-15	<3
15A NCAC 2L STANDARD (IN UG/L)		**1**	**1000**	**29**	**530**	**NA**	**200**	**70**	**0.38 - 1,2-DICHLOROETHANE 0.19 - CHLOROFORM**	**SEE 2L STANDARDS**

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NOTES:

* ALL CONCENTRATIONS IN GROUNDWATER ARE IN UG/L (PPB)
* ANALYSES PERFORMED=METHODS 602 (BTEX, MTBE AND IPE)
  METHOD 601 (PURGEABLE HALOCARBONS)
  METHOD 625 OR 610 (SEMI-VOLATILES)
* THE 15A NCAC 2L GROUNDWATER STANDARD FOR COMPOUNDS NOT INCLUDED IN THE STANDARD IS THE LABORATORY METHOD DETECTION LIMIT

CHART 1

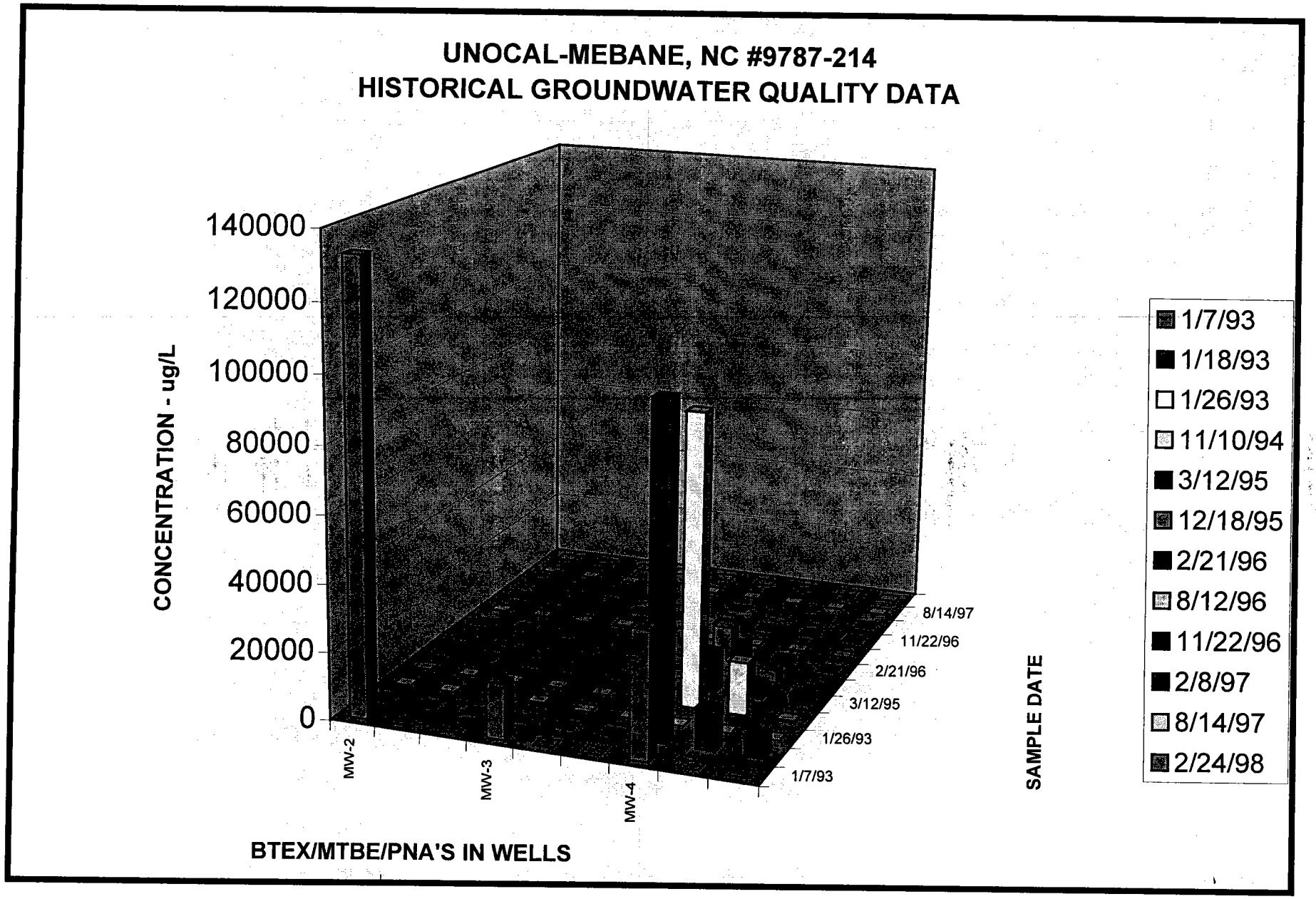
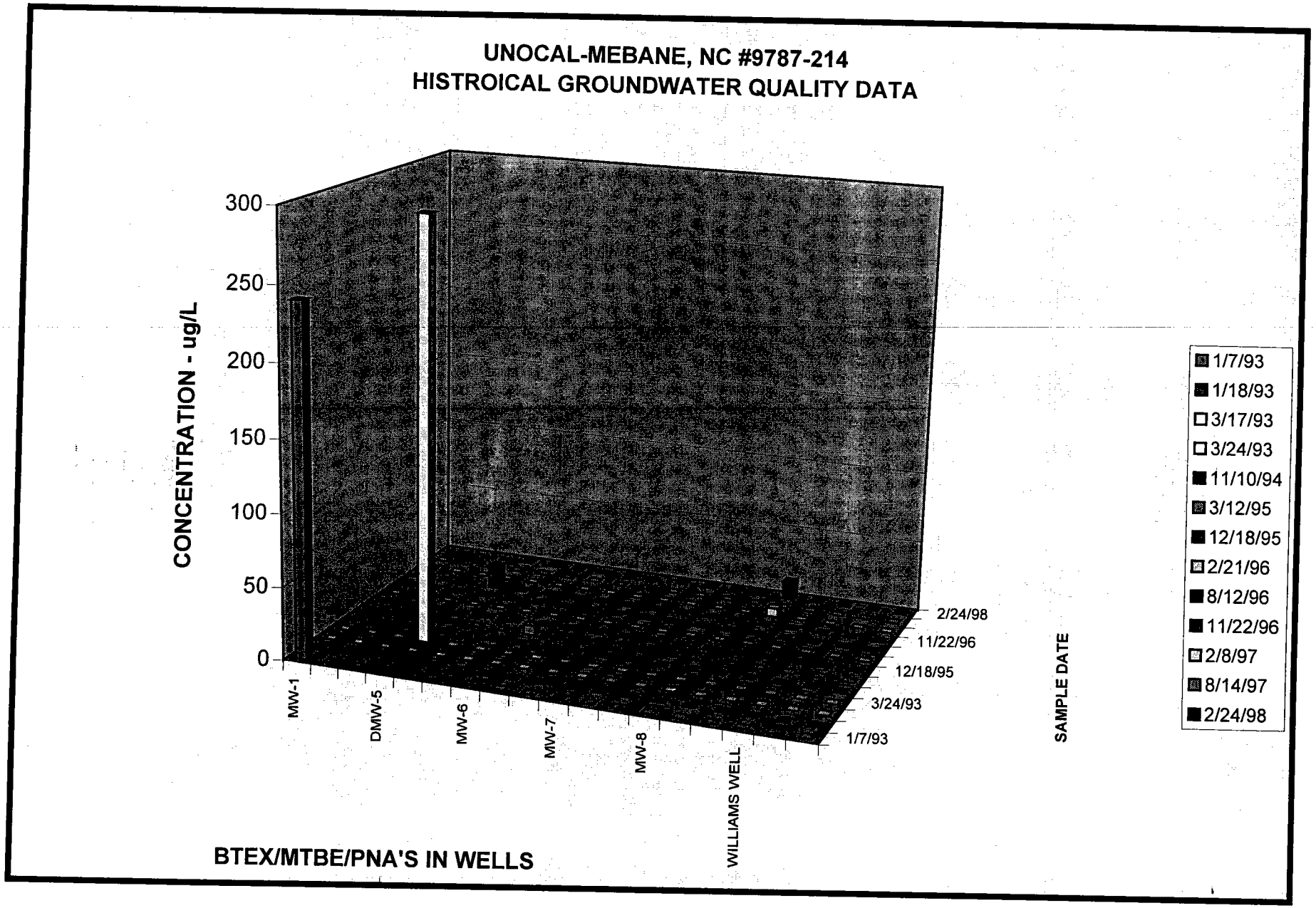

UNOCAL-MEBANE, NC #9787-214
HISTORICAL GROUNDWATER QUALITY DATA
CONCENTRATION - ug/L
140000
120000
100000
80000
60000
40000
20000
0
MW-2
MW-3
MW-4
BTEX/MTBE/PNA'S IN WELLS
8/14/97
11/22/96
2/21/96
3/12/95
1/26/93
1/7/93
SAMPLE DATE
1/7/93
1/18/93
1/26/93
11/10/94
3/12/95
12/18/95
2/21/96
8/12/96
11/22/96
2/8/97
8/14/97
2/24/98

CHART 2


UNOCAL-MEBANE, NC #9787-214
HISTROICAL GROUNDWATER QUALITY DATA
CONCENTRATION - ug/L
300
250
200
150
100
50
0
MW-1
DMW-5
MW-6
MW-7
MW-8
WILLIAMS WELL
2/24/98
11/22/96
12/18/95
3/24/93
1/7/93
SAMPLE DATE
1/7/93
1/18/93
3/17/93
3/24/93
11/10/94
3/12/95
12/18/95
2/21/96
8/12/96
11/22/96
2/8/97
8/14/97
2/24/98
BTEX/MTBE/PNA'S IN WELLS

FLOWERS

CHEMICAL LABORATORIES INCORPORATED

Received From:

S&ME-Charlotte
P.O. Box 7668
Charlotte,NC 28241

Date Reported : Mar10 1998
Project Number : UNOCAFE835927785
PO Number : 9787-214
FDHRSDW Number : 83139
NYSDOH Number : 11595
FDER COMQAPNum : 86-0008G
LDHH Number : 94-23
NCDEHNR Number : 296
SCDHEC Number : 96019

For: EPA601 IPE602 PAH X610
Date Sampled:Feb24 1998 Date Received:Feb25 1998 Lab Numbers: 11614-11619

REPORT OF ANALYSIS

Parameter	Unit	NCPractical Quantitative Limit	%ACC	%PRC	11614 MW3	11615 MW4	11616 MW7	11617 MW8	11618 DMW5
Dilution Factor		-	-	-	1.00	20.0	1.00	1.00	1.00
1,1,1-trichloroethan	ug/L	3.00	103.	2.38	<3.00	<60.0	<3.00	<3.00	<3.00
1,1,2,2-tetrachloroe	ug/L	3.00	108.	1.34	<3.00	<60.0	<3.00	<3.00	<3.00
1,1,2-trichloroethan	ug/L	3.00	109.	.740	<3.00	<60.0	<3.00	<3.00	<3.00
1,1-dichloroethane	ug/L	3.00	108.	.380	<3.00	<60.0	<3.00	<3.00	<3.00
1,1-dichloroethene	ug/L	3.00	104.	1.73	<3.00	<60.0	<3.00	<3.00	<3.00
1,2-dichloroethane	ug/L	0.900	102.	2.35	16.6	<18.0	<0.900	<0.900	<0.900
1,2-dichloropropane	ug/L	0.750	116.	1.61	<0.750	<15.0	<0.750	<0.750	<0.750
2-chloroethylvinylet	ug/L	3.00			<3.00	<60.0	<3.00	<3.00	<3.00
Bromodichloromethane	ug/L	3.00	102.	.870	<3.00	<60.0	<3.00	<3.00	<3.00
Bromoform	ug/L	3.00	110.	1.76	<3.00	<60.0	<3.00	<3.00	<3.00
cis-1,3-dichloroprop	ug/L	3.00	103.	.180	<3.00	<60.0	<3.00	<3.00	<3.00
Carbon tetrachloride	ug/L	3.00	105.	1.59	<3.00	<60.0	<3.00	<3.00	<3.00
Chloroform	ug/L	0.900	94.0	1.79	<0.900	<18.0	3.68	<0.900	<0.900
Dibromochloromethane	ug/L	3.00	111.	.450	<3.00	<60.0	<3.00	<3.00	<3.00
Methylene chloride	ug/L	3.00	90.5	1.48	<3.00	<60.0	<3.00	<3.00	<3.00
trans-1,3,-dichlorop	ug/L	3.00	107.	.930	<3.00	<60.0	<3.00	<3.00	<3.00
Trichlorofluorometha	ug/L	6.00			<6.00	<120.	<6.00	<6.00	<6.00
t-1,2-dichloroethene	ug/L	3.00			<3.00	<60.0	<3.00	<3.00	<3.00
Trichloroethene	ug/L	3.00	107.	.870	<3.00	<60.0	<3.00	<3.00	<3.00
Tetrachloroethene	ug/L	3.00	115.	1.14	<3.00	<60.0	<3.00	<3.00	<3.00
1,2-dibromo-3-chloro	ug/L	3.00	109.	3.04	<3.00	<60.0	<3.00	<3.00	<3.00
Bromomethane	ug/L	15.0			<15.0	<300.	<15.0	<15.0	<15.0
Chlorobenzene	ug/L	1.50	112.	1.37	<1.50	<30.0	<1.50	<1.50	<1.50
Chloroethane	ug/L	9.00	103.	13.7	<9.00	<180.	<9.00	<9.00	<9.00
Chloromethane	ug/L	15.0			<15.0	<300.	<15.0	<15.0	<15.0

Data Release Authorization

Sample integrity certified prior to analysis.Deficiencies are in QA Report Sec.4
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FLOWERS

CHEMICAL LABORATORIES INCORPORATED

Received From:

S&ME-Charlotte
P.O. Box 7668
Charlotte,NC 28241

Date Reported : Mar10 1998
Project Number : UNOCAFE835927785
PO Number : 9787-214
FDHRSDW Number : 83139
NYSDOH Number : 11595
FDER COMQAPNum : 86-0008G
LDHH Number : 94-23
NCDEHNR Number : 296
SCDHEC Number : 96019

For: EPA601 IPE602 PAH X610
Date Sampled:Feb24 1998 Date Received:Feb25 1998 Lab Numbers: 11614-11619

REPORT OF ANALYSIS

Parameter	Unit	NCPractical Quantitative Limit	%ACC	%PRC	11619 WILLIAMS
Dilution_Factor			-	-	1.00
1,1,1-trichloroethan	ug/L	3.00	103.	2.38	<3.00
1,1,2,2-tetrachloroe	ug/L	3.00	108.	1.34	<3.00
1,1,2-trichloroethan	ug/L	3.00	109.	.740	<3.00
1,1-dichloroethane	ug/L	3.00	108.	.380	<3.00
1,1-dichloroethene	ug/L	3.00	104.	1.73	<3.00
1,2-dichloroethane	ug/L	0.900	102.	2.35	<0.900
1,2-dichloropropane	ug/L	0.750	116.	1.61	<0.750
2-chloroethylvinylet	ug/L	3.00			<3.00
Bromodichloromethane	ug/L	3.00	102.	.870	<3.00
Bromoform	ug/L	3.00	110.	1.76	<3.00
cis-1,3-dichloroprop	ug/L	3.00	103.	.180	<3.00
Carbon tetrachloride	ug/L	3.00	105.	1.59	<3.00
Chloroform	ug/L	0.900	94.0	1.79	<0.900
Dibromochloromethane	ug/L	3.00	111.	.450	<3.00
Methylene chloride	ug/L	3.00	90.5	1.48	<3.00
trans-1,3,-dichlorop	ug/L	3.00	107.	.930	<3.00
Trichlorofluorometha	ug/L	6.00			<6.00
t-1,2-dichloroethene	ug/L	3.00			<3.00
Trichloroethene	ug/L	3.00	107.	.870	<3.00
Tetrachloroethene	ug/L	3.00	115.	1.14	<3.00
1,2-dibromo-3-chloro	ug/L	3.00	109.	3.04	<3.00
Bromomethane	ug/L	15.0			<15.0
Chlorobenzene	ug/L	1.50	112.	1.37	<1.50
Chloroethane	ug/L	9.00	103.	13.7	<9.00
Chloromethane	ug/L	15.0			<15.0

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CHEMICAL LABORATORIES INCORPORATED

Received From:

S&ME-Charlotte
P.O. Box 7668
Charlotte,NC 28241

Date Reported : Mar10 1998
Project Number : UNOCAFE835927785
PO Number : 9787-214
FDHRSDW Number : 83139
NYSDOH Number : 11595
FDER COMQAPNum : 86-00080
LDHH Number : 94-23
NCDEHNR Number : 296
SCDHEC Number : 96019

For: EPA601 IPE602 PAH X610
Date Sampled:Feb24 1998 Date Received:Feb25 1998 Lab Numbers: 11614-11619

REPORT OF ANALYSIS

Parameter	Unit	NCPractical Quantitative Limit	%ACC	%PRC	11614 MW3	11615 MW4	11616 MW7	11617 MW8	11618 DMW5
Dichlorodifluorometh	ug/L	6.00			<6.00	<120.	<6.00	<6.00	<6.00
Vinyl chloride	ug/L	1.50			<1.50	<30.0	<1.50	<1.50	<1.50
o-dichlorobenzene	ug/L	1.50	104.	.100	<1.50	<30.0	<1.50	<1.50	<1.50
m-dichlorobenzene	ug/L	1.50	109.	.150	<1.50	<30.0	<1.50	<1.50	<1.50
Para-dichlorobenzene	ug/L	1.50	108.	.090	<1.50	<30.0	<1.50	<1.50	<1.50
Hall_Spike	ug/L	1.50	106.	2.16	109.	109.	110.	111.	113.
- -		-	-	-	-	-	-	-	-
Dilution_Factor		-	-	-	1.00	20.0	1.00	1.00	1.00
o-dichlorobenzene	ug/L	1.50	104.	.100	<1.50	<30.0	<1.50	<1.50	<1.50
m-dichlorobenzene	ug/L	1.50	109.	.150	<1.50	<30.0	<1.50	<1.50	<1.50
Para-dichlorobenzene	ug/L	1.50	108.	.090	<1.50	<30.0	<1.50	<1.50	<1.50
Benzene	ug/L	0.600	92.0	.420	13.2	<12.0	<0.600	<0.600	<0.600
Chlorobenzene	ug/L	1.50	112.	1.37	<1.50	<30.0	<1.50	<1.50	<1.50
Ethylbenzene	ug/L	1.50	92.5	.710	<1.50	<30.0	<1.50	<1.50	<1.50
Toluene	ug/L	1.50	92.0	.560	<1.50	<30.0	<1.50	<1.50	<1.50
Xylene	ug/L	1.50	87.0	.100	1.88	<30.0	<1.50	<1.50	<1.50
Methyl-tert-butyleth	ug/L	1.50	82.4	2.70	6.38	141.	<1.50	12.8	<1.50
Total_BTEX	ug/L	1.50	89.6	.340	15.1	<30.0	<1.50	<1.50	<1.50
Isopropylether	ug/L	3.00			12.7	<60.0	<3.00	<3.00	<3.00
PID_Spike	ug/L	1.50	88.5	.000	87.5	85.6	85.6	86.0	86.0
- -		-	-	-	-	-	-	-	-
Acenaphthylene	ug/L	3.00	79.5	8.67	<3.00	<3.00	<3.00	<3.00	<3.00
Acenaphthene	ug/L	3.00	69.2	9.06	<3.00	<3.00	<3.00	<3.00	<3.00
Anthracene	ug/L	3.00	81.1	.650	<3.00	<3.00	<3.00	<3.00	<3.00
Benzo(a)anthracene	ug/L	3.00	91.9	.220	<3.00	<3.00	<3.00	<3.00	<3.00
Benzo(a)pyrene	ug/L	3.00	99.0	3.26	<3.00	<3.00	<3.00	<3.00	<3.00

Data Release Authorization

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FLOWERS CHEMICAL LABORATORIES INCORPORATED

Received From:

S&ME-Charlotte
P.O. Box 7668
Charlotte,NC 28241

Date Reported : Mar10 1998
Project Number : UNOCAFE835927785
PO Number : 9787-214
FDHRSDW Number : 83139
NYSDOH Number : 11595
FDER COMQAPNum : 86-0008G
LDHH Number : 94-23
NCDEHNR Number : 296
SCDHEC Number : 96019

For: EPA601 IPE602 PAH X610
Date Sampled:Feb24 1998 Date Received:Feb25 1998 Lab Numbers: 11614-11619

REPORT OF ANALYSIS

Parameter	Unit	NCPractical Quantitative Limit	%ACC	%PRC	11619 WILLIAMS
Dichlorodifluorometh	ug/L	6.00			<6.00
Vinyl chloride	ug/L	1.50			<1.50
o-dichlorobenzene	ug/L	1.50	104.	.100	<1.50
m-dichlorobenzene	ug/L	1.50	109.	.150	<1.50
Para-dichlorobenzene	ug/L	1.50	108.	.090	<1.50
Hall_Spike	ug/L	1.50	106.	2.16	109.
- -		-	-	-	-
Dilution_Factor		-	-	-	1.00
o-dichlorobenzene	ug/L	1.50	104.	.100	<1.50
m-dichlorobenzene	ug/L	1.50	109.	.150	<1.50
Para-dichlorobenzene	ug/L	1.50	108.	.090	<1.50
Benzene	ug/L	0.600	92.0	.420	<0.600
Chlorobenzene	ug/L	1.50	112.	1.37	<1.50
Ethylbenzene	ug/L	1.50	92.5	.710	<1.50
Toluene	ug/L	1.50	92.0	.560	<1.50
Xylene	ug/L	1.50	87.0	.100	<1.50
Methyl-tert-butyleth	ug/L	1.50	82.4	2.70	<1.50
Total_BTEX	ug/L	1.50	89.6	.340	<1.50
Isopropylether	ug/L	3.00			<3.00
PID_Spike	ug/L	1.50	88.5	.000	86.0
- -		-	-	-	-
Acenaphthylene	ug/L	3.00	79.5	8.67	<3.00
Acenaphthene	ug/L	3.00	69.2	9.06	<3.00
Anthracene	ug/L	3.00	81.1	.650	<3.00
Benzo(a)anthracene	ug/L	3.00	91.9	.220	<3.00
Benzo(a)pyrene	ug/L	3.00	99.0	3.26	<3.00

Data Release Authorization

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Received From:

S&ME-Charlotte
P.O. Box 7668
Charlotte,NC 28241

Date Reported : Mar10 1998
Project Number : UNOCAFE835927785
PO Number : 9787-214
FDHRSDW Number : 83139
NYSDOH Number : 11595
FDER COMQAPNum : 86-0008G
LDHH Number : 94-23
NCDEHNR Number : 296
SCDHEC Number : 96019

For: EPA601 IPE602 PAH X610
Date Sampled:Feb24 1998 Date Received:Feb25 1998 Lab Numbers: 11614-11619

REPORT OF ANALYSIS

Parameter	Unit	NCPractical Quantitative Limit	%ACC	%PRC	11614 MW3	11615 MW4	11616 MW7	11617 MW8	11618 DMW5
Benzo(b)fluoranthene	ug/L	3.00	93.3	.720	<3.00	<3.00	<3.00	<3.00	<3.00
Benzo(g,h,i)perylene	ug/L	3.00	96.7	10.6	<3.00	<3.00	<3.00	<3.00	<3.00
Benzo(k)fluoranthene	ug/L	3.00	86.8	2.18	<3.00	<3.00	<3.00	<3.00	<3.00
Chrysene	ug/L	3.00	87.4	1.82	<3.00	<3.00	<3.00	<3.00	<3.00
Dibnz(a,h)anthracene	ug/L	3.00	110.	16.0	<3.00	<3.00	<3.00	<3.00	<3.00
Fluoranthene	ug/L	3.00	96.7	6.18	<3.00	<3.00	<3.00	<3.00	<3.00
Fluorene	ug/L	3.00	76.5	6.26	<3.00	<3.00	<3.00	<3.00	<3.00
Indn(1,2,3-cd)pyrene	ug/L	3.00	122.	7.75	<3.00	<3.00	<3.00	<3.00	<3.00
Naphthalene	ug/L	3.00	71.6	8.99	<3.00	<3.00	<3.00	<3.00	<3.00
1-methyl-Naphthalene	ug/L	3.00	73.1	15.5	<3.00	<3.00	<3.00	<3.00	<3.00
2-methyl-Naphthalene	ug/L	3.00	67.2	14.6	<3.00	<3.00	<3.00	<3.00	<3.00
Phenanthrene	ug/L	3.00	73.6	3.55	<3.00	<3.00	<3.00	<3.00	<3.00
Pyrene	ug/L	3.00	87.1	4.25	<3.00	<3.00	<3.00	<3.00	<3.00
Intl_QA_Spike(2FBP)	ug/L	3.00	65.7	6.94	62.4	43.9	54.0	54.4	47.2
Surr_Spike(DBBP)	ug/L	3.00	92.0	4.43	70.9	39.4	93.6	70.6	74.9
PAH_Extraction	ml	-			800.	1000	1000	1000	1000

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President/Technical Director

Section 1 of 5

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FLOWERS

CHEMICAL LABORATORIES INCORPORATED

Received From:

S&ME-Charlotte
P.O. Box 7668
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Date Reported : Mar10 1998
Project Number : UNOCAFE835927785
PO Number : 9787-214
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SCDHEC Number : 96019

For: EPA601 IPE602 PAH X610
Date Sampled:Feb24 1998 Date Received:Feb25 1998 Lab Numbers: 11614-11619

REPORT OF ANALYSIS

Parameter	Unit	NCPractical Quantitative Limit	%ACC	%PRC	11619 WILLIAMS
Benzo(b)fluoranthene	ug/L	3.00	93.3	.720	<3.00
Benzo(g,h,i)perylene	ug/L	3.00	96.7	10.6	<3.00
Benzo(k)fluoranthene	ug/L	3.00	86.8	2.18	<3.00
Chrysene	ug/L	3.00	87.4	1.82	<3.00
Dibnz(a,h)anthracene	ug/L	3.00	110.	16.0	<3.00
Fluoranthene	ug/L	3.00	96.7	6.18	<3.00
Fluorene	ug/L	3.00	76.5	6.26	<3.00
Indn(1,2,3-cd)pyrene	ug/L	3.00	122.	7.75	<3.00
Naphthalene	ug/L	3.00	71.6	8.99	<3.00
1-methyl-Naphthalene	ug/L	3.00	73.1	15.5	<3.00
2-methyl-Naphthalene	ug/L	3.00	67.2	14.6	<3.00
Phenanthrene	ug/L	3.00	73.6	3.55	<3.00
Pyrene	ug/L	3.00	87.1	4.25	<3.00
Intl_QA_Spike(2FBP)	ug/L	3.00	65.7	6.94	59.2
Surr_Spike(DBBP)	ug/L	3.00	92.0	4.43	88.6
PAH_Extraction	ml	-			1000

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Quality Assurance Report

Prepared for: S&ME-Charlotte
Project Number: UNOCAFE835927785
Lab Numbers: 11614 - 11619

Report date: 10-Mar-98

FLOWERS CHEMICAL LABORATORIES

FLOWERS CHEMICAL LABORATORIES, INC.

QA Conformance Summary

Client:	S&ME-Charlotte
Project Number:	UNOCAFE835927785
P.O. Number:	9787-214
Date Sampled:	24-Feb-98
Lab Numbers:	11614 - 11619

Sample Handling

Sample handling and holding time criteria were met for all samples.
Samples Collected by Submitter.

Surrogate Compound Recoveries:

The recovery limits were exceeded for 1 samples as shown in section 1. This represents a 95.8% success rate.
Surrogate exceedences are attributed to matrix interferences.

Accuracy / Precision:

The recovery limits were met for all compounds in the matrix spike as shown in section 2.
The recovery limits were met for all compounds in the matrix spike duplicate as shown in section 2.
The RSD was met for all compounds as shown in section 2.

Method Blanks:

No target compounds were found in the method blank in excess of the method limit as shown in section 3.

QCCS Check Sample:

The control limits were met for all compounds as shown in section 4.

Standards Traceability:

The t-test limits were met for all calibration standards as shown in section 5.
The t-test limits were exceeded for 2 QCCS standards as shown in section 5. This represents a 96.4% success rate.
The t-test limits were exceeded for 2 matrix spike standards as shown in section 5. This represents a 96.4% success rate.
There were 18 standard blanks.
The t-test limits were exceeded for 6 surrogate spike standards as shown in section 5. This represents a -50.0% success rate.

FLOWERS CHEMICAL LABORATORIES, INC.

QA Section 1

Surrogate Compound Recovery

Client: S&ME-Charlotte
Project Number: UNOCAFE835927785
P.O. Number: 9787-214
Date Sampled: 24-Feb-98
Lab Numbers: 11614 - 11619

Hall_Spike for EPA601
Unit of measure: ug/L

Surrogate Expected: 100
Acceptability Limits: 77.8 - 136

Laboratory Number	Site Description	Surrogate Recovered	Percent Recovered
11614	MW3	109	109
11615	MW4	109	109
11616	MW7	110	110
11617	MW8	111	111
11618	DMW5	113	113
11619	Williams	109	109

FLOWERS CHEMICAL LABORATORIES, INC.

QA Section 1

Surrogate Compound Recovery

Client: S&ME-Charlotte
Project Number: UNOCAFE835927785
P.O. Number: 9787-214
Date Sampled: 24-Feb-98
Lab Numbers: 11614 - 11619

Surr_Spike(DBBP) for EPA625
Unit of measure: ug/L

Surrogate Expected: 100
Acceptability Limits: 40.6 - 119

Laboratory Number	Site Description	Surrogate Recovered	Percent Recovered
11614	MW3	70.9	70.9
11615	MW4		39.4
11616	MW7	93.6	93.6
11617	MW8	70.6	70.6
11618	DMW5	74.9	74.9
11619	Williams	88.6	88.6

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QA Section 1

Surrogate Compound Recovery

Client: S&ME-Charlotte
Project Number: UNOCAFE835927785
P.O. Number: 9787-214
Date Sampled: 24-Feb-98
Lab Numbers: 11614 - 11619

PID_Spike for EPA602
Unit of measure: ug/L

Surrogate Expected: 100
Acceptability Limits: 62.1 - 120

Laboratory Number	Site Description	Surrogate Recovered	Percent Recovered
11614	MW3	87.5	87.5
11615	MW4	85.6	85.6
11616	MW7	85.6	85.6
11617	MW8	86.0	86.0
11618	DMW5	86.0	86.0
11619	Williams	86.0	86.0

FLOWERS CHEMICAL LABORATORIES, INC.

QA Section 1

Surrogate Compound Recovery

Client: S&ME-Charlotte
Project Number: UNOCAFE835927785
P.O. Number: 9787-214
Date Sampled: 24-Feb-98
Lab Numbers: 11614 - 11619

Surr_Spike(2FBP) for EPA625
Unit of measure: ug/L

Surrogate Expected: 100
Acceptability Limits: 29 - 102

Laboratory Number	Site Description	Surrogate Recovered	Percent Recovered
11614	MW3	62.4	62.4
11615	MW4	43.9	43.9
11616	MW7	54.0	54.0
11617	MW8	54.4	54.4
11618	DMW5	47.2	47.2
11619	Williams	59.2	59.2

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QA Section 2

Matrix Spike Recovery

Client: S&ME-Charlotte
Project Number: UNOCAFE835927785
P.O. Number: 9787-214
Date Sampled: 24-Feb-98
Lab Numbers: 11614 - 11619

Analyte	Unit	Analysis Method	Date	Spike Added	Sample Conc.	MS Conc.	MS Rec.	MSD Conc.	MSD Rec.	Acceptable Limits	STD Rec.	Acceptable Limits
1,1,1-trichloroethane	ug/L	EPA601	02-25-98	32.0	<3	33.4	104%	32.3	101%	21.5 - 41.6	0.778	0 - 5.57
1,1,2,2-tetrachloroethane	ug/L	EPA601	02-25-98	32.0	<3	35.0	109%	34.4	108%	22.1 - 41.9	0.424	0 - 5.16
1,1,2-trichloroethane	ug/L	EPA601	02-25-98	32.0	<3	35.2	110%	34.8	109%	21.2 - 40.8	0.283	0 - 5.64
1,1-dichloroethane	ug/L	EPA601	02-25-98	32.0	<3	34.6	108%	34.4	108%	22.3 - 40.4	0.141	0 - 5.24
1,1-dichloroethene	ug/L	EPA601	02-25-98	32.0	<3	33.6	105%	32.8	103%	19.6 - 43.8	0.566	0 - 6.66
1,2-dichloroethane	ug/L	EPA601	02-25-98	32.0	<0.9	33.2	104%	32.1	100%	20.9 - 40.9	0.778	0 - 6.55
1,2-dichloropropane	ug/L	EPA601	02-25-98	32.0	<0.75	37.4	117%	36.6	114%	21.1 - 43.6	0.566	0 - 6.54
Bromodichloromethane	ug/L	EPA601	02-25-98	32.0	<3	32.7	102%	32.3	101%	21.6 - 40.3	0.283	0 - 5.35
Bromoform	ug/L	EPA601	02-25-98	32.0	<3	34.6	108%	35.5	111%	18.3 - 45.2	0.636	0 - 6.77
cis-1,3-dichloropropene	ug/L	EPA601	02-25-98	32.0	<3	33.1	103%	33.0	103%	22.9 - 39.3	0.071	0 - 4.70
Carbon tetrachloride	ug/L	EPA601	02-25-98	32.0	<3	34.0	106%	33.2	104%	21.4 - 41.4	0.566	0 - 5.95
Chloroform	ug/L	EPA601	02-25-98	32.0	<0.9	30.5	95.3%	29.7	92.8%	20.8 - 38.7	0.566	0 - 5.35
Dibromochloromethane	ug/L	EPA601	02-25-98	32.0	<3	35.6	111%	35.4	111%	20.8 - 41.5	0.141	0 - 5.33
Methylene chloride	ug/L	EPA601	02-25-98	32.0	<3	29.3	91.6%	28.7	89.7%	21.1 - 37.1	0.424	0 - 4.93
trans-1,3,-dichloropropene	ug/L	EPA601	02-25-98	32.0	<3	34.4	108%	34.0	106%	22.1 - 40.1	0.283	0 - 4.61
Trichloroethene	ug/L	EPA601	02-25-98	32.0	<3	34.6	108%	34.1	107%	20.0 - 42.1	0.354	0 - 6.34
Tetrachloroethene	ug/L	EPA601	02-25-98	32.0	<3	37.1	116%	36.5	114%	19.6 - 44.4	0.424	0 - 7.46
1,2-dibromo-3-chloropropan	ug/L	EPA601	02-25-98	32.0	<3	34.3	107%	35.8	112%	18.8 - 46.5	1.06	0 - 6.44
Chloroethane	ug/L	EPA601	02-25-98	32.0	<9	36.3	113%	29.8	93.1%	19.1 - 43.6	4.60	0 - 8.27
o-dichlorobenzene	ug/L	EPA601	02-25-98	32.0	<1.5	33.2	104%	33.2	104%	22.0 - 40.6	0.000	0 - 5.54
m-dichlorobenzene	ug/L	EPA601	02-25-98	32.0	<1.5	34.7	108%	34.8	109%	22.1 - 41.2	0.071	0 - 5.66
o-dichlorobenzene	ug/L	EPA602	02-25-98	32.0	<1.5	33.2	104%	33.2	104%	22.3 - 38.7	0.000	0 - 4.59
m-dichlorobenzene	ug/L	EPA602	02-25-98	32.0	<1.5	34.7	108%	34.8	109%	20.3 - 41.2	0.071	0 - 5.95
Para-dichlorobenzene	ug/L	EPA602	02-25-98	32.0	<1.5	34.7	108%	34.7	108%	19.6 - 43.4	0.000	0 - 6.86
Benzene	ug/L	EPA602	02-25-98	32.0	<0.6	29.5	92.2%	29.3	91.6%	20.4 - 39.9	0.141	0 - 5.92
Chlorobenzene	ug/L	EPA602	02-25-98	32.0	<1.5	36.2	113%	35.5	111%	22.7 - 41.3	0.495	0 - 4.79
Ethylbenzene	ug/L	EPA602	02-25-98	32.0	<1.5	29.7	92.8%	29.4	91.9%	22.0 - 39.1	0.212	0 - 5.00
Toluene	ug/L	EPA602	02-25-98	32.0	<1.5	29.6	92.5%	29.3	91.6%	20.8 - 38.9	0.212	0 - 6.41
Xylene	ug/L	EPA602	02-25-98	96.0	<1.5	83.6	87.1%	83.4	86.9%	58.2 - 122	0.141	0 - 19.9

FLOWERS CHEMICAL LABORATORIES, INC.

QA Section 2

Matrix Spike Recovery

Client: S&ME-Charlotte
Project Number: UNOCAFE835927785
P.O. Number: 9787-214
Date Sampled: 24-Feb-98
Lab Numbers: 11614 - 11619

Analyte	Unit	Analysis Method	Date	Spike Added	Sample Conc.	MS Conc.	MS Rec.	MSD Conc.	MSD Rec.	Acceptable Limits	STD Rec.	Acceptable Limits
Methyl-tert-butylether	ug/L	EPA602	02-25-98	32.0	<1.5	25.9	80.9%	26.9	84.1%	18.0 - 40.5	0.707	0 - 6.64
Total BTEX	ug/L	EPA602	02-25-98	192	<1.5	172	89.6%	172	89.6%	124 - 235	0.000	0 - 34.2
Acenaphthylene	ug/L	EPA625	03-05-98	100	<3	84.4	84.4%	74.6	74.6%	37.3 - 101	6.93	0 - 17.9
Acenaphthene	ug/L	EPA625	03-05-98	100	<3	73.6	73.6%	64.7	64.7%	41.8 - 87.6	6.29	0 - 11.3
Anthracene	ug/L	EPA625	03-05-98	100	<3	81.5	81.5%	80.7	80.7%	46.1 - 96.1	0.566	0 - 14.1
Benzo(a)anthracene	ug/L	EPA625	03-05-98	100	<3	92.1	92.1%	91.8	91.8%	53.2 - 106	0.212	0 - 12.8
Benzo(a)pyrene	ug/L	EPA625	03-05-98	100	<3	96.7	96.7%	101	101%	43.3 - 121	3.04	0 - 22.1
Benzo(b)fluoranthene	ug/L	EPA625	03-05-98	100	<3	92.8	92.8%	93.8	93.8%	41.0 - 126	0.707	0 - 24.6
Benzo(g,h,i)perylene	ug/L	EPA625	03-05-98	100	<3	89.4	89.4%	104	104%	34.2 - 121	10.3	0 - 22.0
Benzo(k)fluoranthene	ug/L	EPA625	03-05-98	100	<3	85.5	85.5%	88.2	88.2%	41.5 - 117	1.91	0 - 23.6
Chrysene	ug/L	EPA625	03-05-98	100	<3	88.5	88.5%	86.2	86.2%	52.4 - 103	1.63	0 - 12.8
Dibnz(a,h)anthracene	ug/L	EPA625	03-05-98	100	<3	97.2	97.2%	122	122%	21.5 - 128	17.5	0 - 30.2
Fluoranthene	ug/L	EPA625	03-05-98	100	<3	101	101%	92.5	92.5%	48.4 - 107	6.01	0 - 17.4
Fluorene	ug/L	EPA625	03-05-98	100	<3	79.8	79.8%	73.1	73.1%	45.9 - 90.9	4.74	0 - 11.8
Indn(1,2,3-cd)pyrene	ug/L	EPA625	03-05-98	100	<3	115	115%	129	129%	35.1 - 134	9.90	0 - 27.5
Naphthalene	ug/L	EPA625	03-05-98	100	<3	76.2	76.2%	67.1	67.1%	31.4 - 96.2	6.43	0 - 21.2
1-Methyl-Naphthalene	ug/L	EPA625	03-05-98	100	<3	81.1	81.1%	65.1	65.1%	40.3 - 94.9	11.3	0 - 14.4
2-Methyl-Naphthalene	ug/L	EPA625	03-05-98	100	<3	74.2	74.2%	60.3	60.3%	35.9 - 98.9	9.83	0 - 17.4
Phenanthrene	ug/L	EPA625	03-05-98	100	<3	75.4	75.4%	71.7	71.7%	44.6 - 93.6	2.62	0 - 11.2
Pyrene	ug/L	EPA625	03-05-98	100	<3	84.5	84.5%	89.8	89.8%	43.7 - 111	3.75	0 - 16.5

FLOWERS CHEMICAL LABORATORIES, INC.

QA Section 3

Method Blank Report

Client: S&ME-Charlotte
Project Number: UNOCAFE835927785
P.O. Number: 9787-214
Date Sampled: 24-Feb-98
Lab Numbers: 11614 - 11619

Analyte	Unit	Method	Date	Concentration
1,1,1-trichloroethane	ug/L	EPA601	02-25-98	<3
1,1,2,2-tetrachloroethane	ug/L	EPA601	02-25-98	<3
1,1,2-trichloroethane	ug/L	EPA601	02-25-98	<3
1,1-dichloroethane	ug/L	EPA601	02-25-98	<3
1,1-dichloroethene	ug/L	EPA601	02-25-98	<3
1,2-dichloroethane	ug/L	EPA601	02-25-98	<0.9
1,2-dichloropropane	ug/L	EPA601	02-25-98	<0.75
2-chloroethylvinylether	ug/L	EPA601	02-25-98	<3
Bromodichloromethane	ug/L	EPA601	02-25-98	<3
Bromoform	ug/L	EPA601	02-25-98	<3
cis-1,3-dichloropropene	ug/L	EPA601	02-25-98	<3
Carbon tetrachloride	ug/L	EPA601	02-25-98	<3
Chloroform	ug/L	EPA601	02-25-98	<0.9
Dibromochloromethane	ug/L	EPA601	02-25-98	<3
Methylene chloride	ug/L	EPA601	02-25-98	<3
trans-1,3,-dichloropropene	ug/L	EPA601	02-25-98	<3
Trichlorofluoromethane	ug/L	EPA601	02-25-98	<6
t-1,2-dichloroethene	ug/L	EPA601	02-25-98	<3
Trichloroethene	ug/L	EPA601	02-25-98	<3
Tetrachloroethene	ug/L	EPA601	02-25-98	<3
1,2-dibromo-3-chloropropane	ug/L	EPA601	02-25-98	<3
Bromomethane	ug/L	EPA601	02-25-98	<15
Chlorobenzene	ug/L	EPA601	02-25-98	<1.5
Chloroethane	ug/L	EPA601	02-25-98	<9
Chloromethane	ug/L	EPA601	02-25-98	<15
Dichlorodifluoromethane	ug/L	EPA601	02-25-98	<6
Vinyl chloride	ug/L	EPA601	02-25-98	<1.5
o-dichlorobenzene	ug/L	EPA601	02-25-98	<1.5
m-dichlorobenzene	ug/L	EPA601	02-25-98	<1.5

FLOWERS CHEMICAL LABORATORIES, INC.

QA Section 3

Method Blank Report

Client: S&ME-Charlotte
Project Number: UNOCAFE835927785
P.O. Number: 9787-214
Date Sampled: 24-Feb-98
Lab Numbers: 11614 - 11619

Analyte	Unit	Method	Date	Concentration
Para-dichlorobenzene	ug/L	EPA601	02-25-98	<1.5
o-dichlorobenzene	ug/L	EPA602	02-25-98	<1.5
m-dichlorobenzene	ug/L	EPA602	02-25-98	<1.5
Para-dichlorobenzene	ug/L	EPA602	02-25-98	<1.5
Benzene	ug/L	EPA602	02-25-98	<0.6
Chlorobenzene	ug/L	EPA602	02-25-98	<1.5
Ethylbenzene	ug/L	EPA602	02-25-98	<1.5
Toluene	ug/L	EPA602	02-25-98	<1.5
Xylene	ug/L	EPA602	02-25-98	<1.5
Methyl-tert-butylether	ug/L	EPA602	02-25-98	<1.5
Total_BTEX	ug/L	EPA602	02-25-98	<1.5
Isopropylether	ug/L	EPA602	02-25-98	<3
Acenaphthylene	ug/L	EPA625	03-05-98	<3
Acenaphthene	ug/L	EPA625	03-05-98	<3
Anthracene	ug/L	EPA625	03-05-98	<3
Benzo(a)anthracene	ug/L	EPA625	03-05-98	<3
Benzo(a)pyrene	ug/L	EPA625	03-05-98	<3
Benzo(b)fluoranthene	ug/L	EPA625	03-05-98	<3
Benzo(g,h,i)perylene	ug/L	EPA625	03-05-98	<3
Benzo(k)fluoranthene	ug/L	EPA625	03-05-98	<3
Chrysene	ug/L	EPA625	03-05-98	<3
Dibnz(a,h)anthracene	ug/L	EPA625	03-05-98	<3
Fluoranthene	ug/L	EPA625	03-05-98	<3
Fluorene	ug/L	EPA625	03-05-98	<3
Indn(1,2,3-cd)pyrene	ug/L	EPA625	03-05-98	<3
Naphthalene	ug/L	EPA625	03-05-98	<3
1-Methyl-Naphthalene	ug/L	EPA625	03-05-98	<3
2-Methyl-Naphthalene	ug/L	EPA625	03-05-98	<3
Phenanthrene	ug/L	EPA625	03-05-98	<3

FLOWERS CHEMICAL LABORATORIES, INC.

QA Section 3

Method Blank Report

Client: S&ME-Charlotte
Project Number: UNOCAFE835927785
P.O. Number: 9787-214
Date Sampled: 24-Feb-98
Lab Numbers: 11614 - 11619

Analyte	Unit	Method	Date	Concentration
Pyrene	ug/L	EPA625	03-05-98	<3

FLOWERS CHEMICAL LABORATORIES, INC.

QA Section 4

QCCS Sample Recovery

Client: S&ME-Charlotte
Project Number: UNOCAFE835927785
P.O. Number: 9787-214
Date Sampled: 24-Feb-98
Lab Numbers: 11614 - 11619

Analyte	Unit	Method	Date	QCCS Expected	QCCS Measured	Rec. %	Acceptable Limits
1,1,1-trichloroethane	ug/L	EPA601	02-25-98	40.0	41.4	104%	28.4 - 49.3
1,1,2,2-tetrachloroethane	ug/L	EPA601	02-25-98	40.0	45.6	114%	31.9 - 52.1
1,1,2-trichloroethane	ug/L	EPA601	02-25-98	40.0	44.9	112%	30.0 - 52.4
1,1-dichloroethane	ug/L	EPA601	02-25-98	40.0	42.7	107%	28.6 - 49.0
1,1-dichloroethene	ug/L	EPA601	02-25-98	40.0	43.9	110%	24.8 - 52.9
1,2-dichloroethane	ug/L	EPA601	02-25-98	40.0	42.1	105%	30.4 - 49.0
1,2-dichloropropane	ug/L	EPA601	02-25-98	40.0	45.2	113%	31.5 - 52.5
Bromodichloromethane	ug/L	EPA601	02-25-98	40.0	41.9	105%	29.5 - 49.9
Bromoform	ug/L	EPA601	02-25-98	40.0	41.3	103%	28.2 - 56.6
cis-1,3-dichloropropene	ug/L	EPA601	02-25-98	40.0	42.7	107%	29.9 - 50.9
Carbon tetrachloride	ug/L	EPA601	02-25-98	40.0	41.5	104%	29.5 - 48.3
Chloroform	ug/L	EPA601	02-25-98	40.0	38.4	96.0%	27.7 - 46.0
Dibromochloromethane	ug/L	EPA601	02-25-98	40.0	46.1	115%	30.4 - 52.8
Methylene chloride	ug/L	EPA601	02-25-98	40.0	37.7	94.3%	25.5 - 48.8
trans-1,3,-dichloropropene	ug/L	EPA601	02-25-98	40.0	44.7	112%	29.9 - 51.7
Trichloroethene	ug/L	EPA601	02-25-98	40.0	43.5	109%	28.4 - 49.9
Tetrachloroethene	ug/L	EPA601	02-25-98	40.0	46.7	117%	29.6 - 52.0
1,2-dibromo-3-chloropropane	ug/L	EPA601	02-25-98	40.0	42.3	106%	26.9 - 57.9
Chloroethane	ug/L	EPA601	02-25-98	40.0	33.2	83.0%	26.5 - 55.1
o-dichlorobenzene	ug/L	EPA601	02-25-98	40.0	44.6	112%	32.7 - 49.7
m-dichlorobenzene	ug/L	EPA601	02-25-98	40.0	47.1	118%	30.3 - 52.1
o-dichlorobenzene	ug/L	EPA602	02-25-98	40.0	44.6	112%	32.9 - 50.3
m-dichlorobenzene	ug/L	EPA602	02-25-98	40.0	47.1	118%	32.5 - 53.1
Para-dichlorobenzene	ug/L	EPA602	02-25-98	40.0	46.7	117%	31.6 - 54.8
Benzene	ug/L	EPA602	02-25-98	40.0	37.5	93.8%	27.1 - 47.9
Chlorobenzene	ug/L	EPA602	02-25-98	40.0	46.5	116%	32.0 - 54.4
Ethylbenzene	ug/L	EPA602	02-25-98	40.0	38.8	97.0%	27.2 - 49.3
Toluene	ug/L	EPA602	02-25-98	40.0	38.0	95.0%	27.4 - 47.3
Xylene	ug/L	EPA602	02-25-98	120	109	90.8%	78.4 - 146

FLOWERS CHEMICAL LABORATORIES, INC.

QA Section 4

QCCS Sample Recovery

Client: S&ME-Charlotte
Project Number: UNOCAFE835927785
P.O. Number: 9787-214
Date Sampled: 24-Feb-98
Lab Numbers: 11614 - 11619

Analyte	Unit	Method	Date	QCCS Expected	QCCS Measured	Rec. %	Acceptable Limits
[illegible]							
Methyl-tert-butylether	ug/L	EPA602	02-25-98	40.0	32.3	80.8%	20.6 - 49.6
Total_BTEX	ug/L	EPA602	02-25-98	240	224	93.3%	162 - 289
Isopropylether	ug/L	EPA602	02-25-98	40.0	39.6	99.0%	37.6 - 42.3
Acenaphthylene	ug/L	EPA625	03-05-98	100	75.7	75.7%	39.4 - 98.4
Acenaphthene	ug/L	EPA625	03-05-98	100	64.0	64.0%	41.5 - 87.7
Anthracene	ug/L	EPA625	03-05-98	100	75.2	75.2%	48.7 - 95.3
Benzo(a)anthracene	ug/L	EPA625	03-05-98	100	88.2	88.2%	53.8 - 108
Benzo(a)pyrene	ug/L	EPA625	03-05-98	100	96.7	96.7%	44.5 - 126
Benzo(b)fluoranthene	ug/L	EPA625	03-05-98	100	86.5	86.5%	46.5 - 126
Benzo(g,h,i)perylene	ug/L	EPA625	03-05-98	100	91.4	91.4%	34.3 - 127
Benzo(k)fluoranthene	ug/L	EPA625	03-05-98	100	82.8	82.8%	41.5 - 120
Chrysene	ug/L	EPA625	03-05-98	100	86.6	86.6%	54.2 - 106
Dibnz(a,h)anthracene	ug/L	EPA625	03-05-98	100	94.9	94.9%	23.5 - 132
Fluoranthene	ug/L	EPA625	03-05-98	100	92.5	92.5%	49.2 - 107
Fluorene	ug/L	EPA625	03-05-98	100	76.3	76.3%	47.0 - 89.9
Indn(1,2,3-cd)pyrene	ug/L	EPA625	03-05-98	100	112	112%	35.9 - 139
Naphthalene	ug/L	EPA625	03-05-98	100	67.6	67.6%	42.8 - 81.4
1-Methyl-Naphthalene	ug/L	EPA625	03-05-98	100	70.8	70.8%	40.0 - 94.2
2-Methyl-Naphthalene	ug/L	EPA625	03-05-98	100	65.9	65.9%	38.2 - 95.8
Phenanthrene	ug/L	EPA625	03-05-98	100	70.7	70.7%	48.3 - 90.7
Pyrene	ug/L	EPA625	03-05-98	100	88.0	88.0%	46.6 - 111

FLOWERS CHEMICAL LABORATORIES, INC.

QA Section 5

Standards Traceability

Client: S&ME-Charlotte
Project Number: UNOCAFE835927785
P.O. Number: 9787-214
Date Sampled: 24-Feb-98
Lab Numbers: 11614 - 11619

		Manfacturer Lot #	Rec Lot #	Rec By	Date Recieved	Valid Until	Prep Lot #	Prep By	Date Prepared	Valid Until	t-test	t-test range	Contro Mean	Contro Std	Lot Mean	Lot Std
1,1,1-trichloroethane	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	3.29	>1.76	0.995	0.074	1.08	0.021
QCCS	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	3.39	>1.76	0.973	0.063	1.07	0.023
QCCS	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98						
QCCS	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	3.39	>1.76	0.973	0.063	1.07	0.023
QCCS	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	3.39	>1.76	0.973	0.063	1.07	0.023
QCCS	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98						
QCCS	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	3.39	>1.76	0.973	0.063	1.07	0.023
QCCS	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	5.34	>1.76	1.00	0.061	0.962	0.018
QCCS	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98	4.64	>1.76	1.00	0.061	0.952	0.042
QCCS	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	5.34	>1.76	1.00	0.061	0.962	0.018
QCCS	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	0.525	±2.04	0.974	0.340	1.06	0.009
QCCS	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98						
QCCS	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	0.525	±2.04	0.974	0.340	1.06	0.009
QCCS	Ultra															
trans-1,3,-dichloropropene	Accustandard	K-1145	601	DO	11-26-96	09-09-98	780	DO	06-16-97	05-01-98						
Trichlorofluoromethane																
t-1,2-dichloroethene																
QCCS	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98						
Matrix Spike																
Trichloroethene	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	5.10	>1.76	0.974	0.056	1.03	0.032
QCCS	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98						
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	5.10	>1.76	0.974	0.056	1.03	0.032
Tetrachloroethene	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	2.07	>1.76	0.949	0.045	1.09	0.050
QCCS	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98	3.62	>1.76	0.949	0.045	1.04	0.068
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	2.07	>1.76	0.949	0.045	1.09	0.050
1,2-dibromo-3-chloropropane	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	2.28	>1.65	0.989	0.103	1.08	0.015
QCCS	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98	2.09	>1.65	0.989	0.103	1.09	0.032
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	2.28	>1.65	0.989	0.103	1.08	0.015
Bromomethane	Ultra	L0147	683	DO	05-15-97	01-01-99	763	DO	05-15-97	05-01-98			0.974	0.035	0.971	
QCCS																
Matrix Spike	Ultra	L0147	683	DO	05-15-97	01-01-99	763	DO	05-15-97	05-01-98			0.974	0.035	0.971	
Chlorobenzene	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	5.62	>1.75	1.00	0.052	1.06	0.017
QCCS	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98	4.09	>1.76	0.962	0.049	0.891	0.067

FLOWERS CHEMICAL LABORATORIES, INC.

QA Section 5

Standards Traceability

Client: S&ME-Charlotte
Project Number: UNOCAFE835927785
P.O. Number: 9787-214
Date Sampled: 24-Feb-98
Lab Numbers: 11614 - 11619

		Manfacturer Lot #	Rec Lot #	Rec By	Date Recieved	Valid Until	Prep Lot #	Prep By	Date Prepared	Valid Until	t-test	t-test range	Contro Mean	Contro Std	Lot Mean	Lot Std
1,1,1-trichloroethane	Accustandard															
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	5.62	>1.75	1.00	0.052	1.06	0.017
Chloroethane	Ultra	L0147	683	DO	05-15-97	01-01-99	763	DO	05-15-97	05-01-98	1.77	>1.76	0.993	0.074	1.11	0.086
QCCS	Ultra	K-1145	601	DO	11-26-96	09-09-98	780	DO	06-16-97	05-01-98						
Matrix Spike	Ultra	L0147	683	DO	05-15-97	01-01-99	763	DO	05-15-97	05-01-98	1.77	>1.76	0.993	0.074	1.11	0.086
Chloromethane	Ultra	L0147	683	DO	05-15-97	01-01-99	763	DO	05-15-97	05-01-98			0.954	0.079	1.01	
QCCS																
Matrix Spike	Ultra	L0147	683	DO	05-15-97	01-01-99	763	DO	05-15-97	05-01-98			0.954	0.079	1.01	
Dichlorodifluoromethane	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98			1.01	0.082	1.02	
QCCS																
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98			1.01	0.082	1.02	
o-dichlorobenzene	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	4.46	>1.75	1.03	0.068	1.08	0.022
QCCS	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98	5.03	>1.75	1.03	0.068	1.02	0.068
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	4.46	>1.75	1.03	0.068	1.08	0.022
m-dichlorobenzene	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	4.77	>1.75	1.00	0.059	1.06	0.024
QCCS	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98	4.21	>1.75	1.00	0.059	1.03	0.100
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	4.77	>1.75	1.00	0.059	1.06	0.024
Para-dichlorobenzene	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	2.78	>1.75	1.02	0.092	1.08	0.054
QCCS	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98	2.98	>1.75	1.02	0.092	1.06	0.087
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	2.78	>1.75	1.02	0.092	1.08	0.054
o-dichlorobenzene	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	4.46	>1.75	1.03	0.068	1.08	0.022
QCCS	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98	5.03	>1.75	1.03	0.068	1.02	0.068
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	4.46	>1.75	1.03	0.068	1.08	0.022
m-dichlorobenzene	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	4.77	>1.75	1.00	0.059	1.06	0.024
QCCS	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98	4.21	>1.75	1.00	0.059	1.03	0.100
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	4.77	>1.75	1.00	0.059	1.06	0.024
Para-dichlorobenzene	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	2.78	>1.75	1.02	0.092	1.08	0.054
QCCS	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98	2.98	>1.75	1.02	0.092	1.06	0.087
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	2.78	>1.75	1.02	0.092	1.08	0.054
Benzene	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	6.25	>1.68	0.986	0.067	0.992	0.027
QCCS	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98	6.21	>1.68	1.02	0.059	0.994	0.045
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	6.25	>1.68	0.986	0.067	0.992	0.027
Chlorobenzene	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	5.62	>1.75	1.00	0.052	1.06	0.017
QCCS	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98	4.09	>1.76	0.962	0.049	0.891	0.067

FLOWERS CHEMICAL LAB 04/07/98 15:45 FAX 704-887-0110

FLOWERS CHEMICAL LABORATORIES, INC.

QA Section 5

Standards Traceability

Client: S&ME-Charlotte
Project Number: UNOCAFE835927785
P.O. Number: 9787-214
Date Sampled: 24-Feb-98
Lab Numbers: 11614 - 11619

		Manfacturer Lot #	Rec Lot #	Rec By	Date Recieved	Valid Until	Prep Lot #	Prep By	Date Prepared	Valid Until	t-test	t-test range	Control Mean	Control Std	Lot Mean	Lot Std
1,1,1-trichloroethane	Accustandard															
Matrix Spike	Chem Service	191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98						
Benzo(g,h,i)perylene	Accustandard															
QCCS	Chem Service	A6110168	610	CLS	12-26-96	03-15-97	667	CLS	02-08-97	06-15-97						
Matrix Spike	Chem Service	191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98	2.91	>1.67	0.790	0.144	0.871	0.088
Benzo(k)fluoranthene	Accustandard	191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98						
QCCS	Chem Service	A6110168	610	CLS	12-26-96	03-15-97	667	CLS	02-08-97	06-15-97						
Matrix Spike	Chem Service	191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98	4.51	>1.67	0.818	0.142	0.799	0.079
Chrysene	Accustandard	191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98						
QCCS	Chem Service	A6110168	610	CLS	12-26-96	03-15-97	667	CLS	02-08-97	06-15-97						
Matrix Spike	Chem Service	191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98	6.17	>1.67	0.798	0.111	0.790	0.053
Dibenz(a,h)anthracene		191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98						
QCCS	Chem Service															
Matrix Spike	Chem Service	191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98						
Fluoranthene	Accustandard	191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98						
QCCS	Chem Service	A6110168	610	CLS	12-26-96	03-15-97	667	CLS	02-08-97	06-15-97						
Matrix Spike	Chem Service	191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98	5.45	>1.67	0.800	0.110	0.772	0.073
Fluorene	Accustandard	191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98						
QCCS	Chem Service	A6110168	610	CLS	12-26-96	03-15-97	667	CLS	02-08-97	06-15-97						
Matrix Spike	Chem Service	191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98	7.93	>1.67	0.714	0.080	0.690	0.031
Indn(1,2,3-cd)pyrene		191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98						
QCCS	Chem Service															
Matrix Spike	Chem Service	191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98						
Naphthalene	Accustandard	191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98		±1.98	0.770	0.132	0.979	0.193
QCCS	Chem Service	A6110168	610	CLS	12-26-96	03-15-97	667	CLS	02-08-97	06-15-97		±1.98	0.770	0.132	0.979	0.193
Matrix Spike	Chem Service	191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98	6.15	>1.67	0.681	0.091	0.635	0.029
1-Methyl-Naphthalene	Chem Service	191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98						
QCCS	Chem Service	41-41A	160	CLS	06-06-94	06-06-97	667	CLS	02-08-97	06-15-97						
Matrix Spike	Chem Service	41-41A	160	CLS	06-06-94	06-06-97	794	CLS	07-17-97	01-17-98	3.19	>1.67	0.712	0.090	0.650	0.099
2-Methyl-Naphthalene	Chem Service	41-41A	160	CLS	06-06-94	06-06-97	794	CLS	07-17-97	01-17-98						
QCCS	Chem Service	62-6A	161	CLS	06-06-94	06-06-97	667	CLS	02-08-97	06-15-97						
Matrix Spike	Chem Service	62-6A	161	CLS	06-06-94	06-06-97	794	CLS	07-17-97	01-17-98	2.29	>1.67	0.662	0.075	0.771	0.148
Phenanthrene	Chem Service	62-6A	161	CLS	06-06-94	06-06-97	794	CLS	07-17-97	01-17-98						
QCCS	Chem Service	191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98						

FLOWERS CHEMICAL LABORATORIES, INC.

QA Section 5

Standards Traceability

Client: S&ME-Charlotte
Project Number: UNOCAFE835927785
P.O. Number: 9787-214
Date Sampled: 24-Feb-98
Lab Numbers: 11614 - 11619

		Manfacturer Lot #	Rec Lot #	Rec By	Date Recieved	Valid Until	Prep Lot #	Prep By	Date Prepared	Valid Until	t-test	t-test range	Control Mean	Control Std	Lot Mean	Lot Std
1,1,1-trichloroethane	Accustandard															
Matrix Spike	Chem Service	191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98						
Pyrene																
QCCS	Chem Service	191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98						
Matrix Spike	Chem Service	191-86A	700	CLS	07-15-97	01-01-99	794	CLS	07-17-97	01-17-98						
EPA601 Blank	Flowers Chemical Laboratorie	Valid	34	JSF	01-01-95	01-01-97	660	DO	02-01-97	01-01-98						
EPA602 Blank	Flowers Chemical Laboratorie	Valid	34	JSF	01-01-95	01-01-97	660	DO	02-01-97	01-01-98						
EPA625 Blank	EMS	Valid	359	FG	12-08-95	12-08-96	380	FG	12-08-95	12-08-96						
EPA625 Blank	Flowers Chemical Laboratorie	Valid	34	JSF	01-01-95	01-01-97	14	JSF	01-01-95	01-01-97						
EPA625 Blank	EMS	Valid	359	FG	12-08-95	12-08-96	380	FG	12-08-95	12-08-96						
EPA625 Blank	Flowers Chemical Laboratorie	Valid	34	JSF	01-01-95	01-01-97	14	JSF	01-01-95	01-01-97						
EPA625 Blank	EMS	Valid	359	FG	12-08-95	12-08-96	380	FG	12-08-95	12-08-96						
EPA625 Blank	Flowers Chemical Laboratorie	Valid	34	JSF	01-01-95	01-01-97	14	JSF	01-01-95	01-01-97						
EPA625 Blank	EMS	Valid	359	FG	12-08-95	12-08-96	380	FG	12-08-95	12-08-96						
EPA625 Blank	Flowers Chemical Laboratorie	Valid	34	JSF	01-01-95	01-01-97	14	JSF	01-01-95	01-01-97						
EPA625 Blank	EMS	Valid	359	FG	12-08-95	12-08-96	380	FG	12-08-95	12-08-96						
EPA625 Blank	Flowers Chemical Laboratorie	Valid	34	JSF	01-01-95	01-01-97	14	JSF	01-01-95	01-01-97						
EPA625 Blank	EMS	Valid	359	FG	12-08-95	12-08-96	380	FG	12-08-95	12-08-96						
EPA625 Blank	Flowers Chemical Laboratorie	Valid	34	JSF	01-01-95	01-01-97	14	JSF	01-01-95	01-01-97						
EPA625 Blank	EMS	Valid	359	FG	12-08-95	12-08-96	380	FG	12-08-95	12-08-96						
EPA625 Blank	Flowers Chemical Laboratorie	Valid	34	JSF	01-01-95	01-01-97	14	JSF	01-01-95	01-01-97						
PAH_Extraction Blank	Flowers Chemical Laboratorie	Valid	34	JSF	01-01-95	01-01-97	14	JSF	01-01-95	01-01-97						
Hall_Spike	Aldrich	01920BY	539	DO	01-01-95	01-01-99	549	CST	07-18-96	07-18-97		±2.00	0.589	0.154	0.794	0.259
PID_Spike	Aldrich	11231EN	538	DO	01-01-95	01-01-99	549	CST	07-18-96	07-18-97	8.69	>1.69	1.02	0.031	1.01	0.028
Surr_Spike(2FBP)	Aldrich	02520TK	195	CLS	04-03-95	04-03-99	792	CLS	07-16-97	07-16-98		±1.99	0.682	0.152	0.599	0.166
Surr_Spike(DBBP)	Chem Service	129-140B	197	CLS	06-11-95	07-30-99	792	CLS	07-16-97	07-16-98						

FLOWERS CHEMICAL LABORATORIES, INC.

QA Section 5

Standards Traceability

Client: S&ME-Charlotte
Project Number: UNOCAFE835927785
P.O. Number: 9787-214
Date Sampled: 24-Feb-98
Lab Numbers: 11614 - 11619

		Manfacturer Lot #	Rec Lot #	Rec By	Date Recieved	Valid Until	Prep Lot #	Prep By	Date Prepared	Valid Until	t-test	t-test range	Contro Mean	Contro Std	Lot Mean	Lot Std
1,1,1-trichloroethane	Accustandard															
1,1,2,2-tetrachloroethane	Accustandard															
1,1,2-trichloroethane	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	6.98	>1.68	0.991	0.043	1.03	0.049
1,1-dichloroethane	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98	7.94	>1.81	1.02	0.038	0.982	0.023
1,1-dichloroethene	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	6.98	>1.68	0.991	0.043	1.03	0.049
1,2-dichloroethane	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98						
1,2-dichloropropane	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98	7.26	>1.66	1.03	0.055	1.05	0.013
Bromodichloromethane	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98						
Bromoform	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	0.369	±1.97	0.992	0.418	1.06	0.039
Carbon tetrachloride	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98	0.390	±1.97	0.992	0.418	1.06	0.037
Chloroform	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	0.369	±1.97	0.992	0.418	1.06	0.039
cis-1,3-dichloropropene	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	2.72	>1.65	0.954	0.086	1.05	0.023
Compound	Manfacturer	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98	3.47	>1.65	0.954	0.086	1.02	0.065
Dibromochloromethane	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	2.72	>1.65	0.954	0.086	1.05	0.023
Matrix Spike		A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	2.47	>1.65	0.942	0.093	1.04	0.103
Matrix Spike	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98	4.32	>1.65	0.942	0.093	0.921	0.026
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	2.47	>1.65	0.942	0.093	1.04	0.103
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	3.27	>1.65	0.978	0.083	1.06	0.022
Matrix Spike	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98	3.39	>1.65	0.978	0.083	1.05	0.042
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	3.27	>1.65	0.978	0.083	1.06	0.022
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	2.24	>1.68	1.02	0.096	1.13	0.062
Matrix Spike	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98	2.92	>1.68	1.02	0.096	1.08	0.080
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	2.24	>1.68	1.02	0.096	1.13	0.062
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	3.39	>1.76	0.973	0.063	1.07	0.023
Matrix Spike	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98						
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	3.39	>1.76	0.973	0.063	1.07	0.023
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	3.39	>1.76	0.973	0.063	1.07	0.023
Matrix Spike	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98						
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	3.39	>1.76	0.973	0.063	1.07	0.023
Matrix Spike	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	0.525	±2.04	0.974	0.340	1.06	0.009
Methylene chloride	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98						
Name	Name	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	0.525	±2.04	0.974	0.340	1.06	0.009
QCCS	Accustandard	A7040262	687	DO	05-15-97	05-01-98	763	DO	05-15-97	05-01-98	3.29	>1.76	0.995	0.074	1.08	0.021
QCCS	Accustandard	A7040209	688	DO	05-15-97	05-01-98	780	DO	06-16-97	05-01-98	3.08	>1.76	0.995	0.074	1.07	0.057

FLOWERS CHEMICAL LABORATORIES INCORPORATED
461 NEWBURYPORT
P.O. BOX 150-597
ALTAMONTE SPRINGS
FLORIDA 32715-0597
BUS: (407) 339-5984
FAX: (407) 260-6110

CHAIN OF CUSTODY RECORD FOR UNOCAL

Company Name: S & ME CHARLOTTE
Address: 9751 S Pine Blvd.
City: CHARLOTTE State: NC Zip Code: 28733
Telephone: 704-523-4726 FAX #: 704 525 3933
Report To: STEWART HINES Sampler: GARY SIMCOX

Project Name: UNOC 9787-216
UNOCAL Project Manager:
AFE #: 335927785
Site #: MEBANE
QC Data: ☐ Level D (Standard) ☐ Level C ☐ Level B ☐ Level A

Turnaround Time: ☐ 10 Work Days ☐ 5 Work Days ☐ 3 Work Days ☐ 2 Work Days ☐ 1 Work Day ☐ 2-8 Hours
CODE: ☐ Misc. ☐ Detect. ☐ Eval. ☐ Remed. ☐ Demol. ☐ Closure
☐ Drinking Water ☐ Waste Water ☐ Other

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	NO. OF CONTAINERS	UNPRESERVED	H_2SO_4	HNO_3	HCl			ANALYSES REQUEST	601, 602, MTBE + 1/2	610							
MW-3	2/24 12:00	W	4	GLASS	11614	4	4							X	X							4°C
MW-4	2/24 11:30	W	4		15	4	4							X	X							
MW-7	2/24 10:00	W	4		16	4	4							X	X							
MW-8	2/24 10:30	W	4		17	4	4							X	X							
DMW-5	2/24 11:30	W	4		18	4	4							X	X							
WILLIAMS	2/24 12:30	W	4		11619	4	4							X	X							

Relinquished By: Gary Simcox	Date: 2-24-98 Time: 3:00	Received By:	Date: Time:
Relinquished By:	Date: Time:	Received By:	Date: Time:
Relinquished By:	Date: Time:	Received By Lab:	Date: 2/25/98 Time: 1001

Were Samples Received in Good Condition? ☑ Yes ☐ No Samples on Ice? ☑ Yes ☐ No Method of Shipment _____ Page __ of __

To be completed upon receipt of report:
1) Were the analyses requested on the Chain of Custody reported? ☑ Yes ☐ No If no, what analyses are still needed?
2) Was the report issued within the requested turnaround time? ☑ Yes ☐ No If no, what was the turnaround time?

Approved by: Stewart Hines Signature: [signature] Company: S&ME Inc. Date: 3/11/98

SUBMITTED SAMPLES TO BE RETURNED WITH RESULTS