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SEMI-ANNUAL GROUNDWATER SAMPLING & REMEDIATION STATUS REPORT

NCDEHNR Incident No. 10119
Former Unocal Corporation Site #9787-214
1342 Trollingwood Road, Mebane, NC
S&ME Project No. 1354-94-603

Red Horse Truck Stop

Prepared For:

North Carolina Department of Environment,
Health and Natural Resources
Winston-Salem Regional Office-Groundwater Section
8025 North Point Blvd., Suite 100
Winston-Salem, NC 27106

Prepared By:

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

20
March 1996

S&ME

March 20, 1996

North Carolina Department of Environment,
Health and Natural Resources
Winston-Salem Regional Office-Groundwater Section
8025 North Point Blvd., Suite 100
Winston-Salem, NC 27106

Attention: Mr. Waddell Waters

Reference: Semi-Annual Groundwater Sampling and Remediation Status Report
NCDEHNR Incident No. 10119
Unocal Corporation
Former Unocal Facility #9787-214
1342 Trollingwood Road, Mebane, NC
S&ME Project No. 1354-94-603

Dear Mr. Waters:

The purpose of this letter is to update you on the status of semi-annual groundwater sampling and remediation activities at the referenced site. This letter includes groundwater elevation data and semi-annual groundwater analytical results for all six (6) monitor wells on-site. The documented release was from an unleaded gasoline and diesel source, and therefore, lead analysis was not performed.

The remediation system consists of two (2) horizontal vacuum wells connected to a 25-HP soil vapor extraction (vacuum) unit and nine (9) vertical air sparge wells connected to a 25-HP air compressor. The soil vapor extraction (SVE) unit was activated on August 19, 1994. On June 12, 1995 the unit was shut down. The SVE system had reached its limits in terms of removing hydrocarbon vapors from the soils. The extraction/emission rate on May 1, 1995 was 0.04 lbs/hr or 0.94 lbs/day for total petroleum hydrocarbons (TPH). At this low rate, further use of the vacuum was not considered reasonable and necessary

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for reimbursement from the State Commercial Trust Fund. The existing air sparging system has been operating since August 25, 1994 and is continuing to reduce dissolved hydrocarbon concentrations in groundwater as indicated in Table 2. There are no basements or houses within the sparging radius of influence (50-80 feet). The sparging of the low concentrations of dissolved hydrocarbons in the groundwater is not expected to result in adverse uncontrolled emissions.

Groundwater Levels

The groundwater levels were measured on February 21, 1996 prior to well sampling with the sparging system off. The groundwater level data obtained on this date is summarized in Table 1. The groundwater surface map is depicted in Figure 1. This map is based on the February 21, 1996 data, and indicates groundwater flow is to the northwest under a hydraulic gradient of 0.04.

Groundwater Quality

All six (6) monitor wells were sampled by S&ME on February 21, 1996, 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 six wells.

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 reports is attached. Table 2 summarizes historical and the most recent groundwater quality data.

Only one (1) well (MW-4) contained petroleum hydrocarbons above detection levels since December 18, 1995, and concentrations continue to decrease. Figures 2 and 3 illustrate BTEX and MTBE isocontours in groundwater, respectively. Based on the most recent sampling data, concentrations of contaminants detected by EPA Method 610 in MW-4 reduced by 85% from 787.58 ppb to 119.3 ppb. Monitor well MW-4 did not contain any measurable concentrations of EPA Method 601 compounds. Dissolved petroleum hydrocarbons in the remaining wells were below laboratory detection limits this sampling event.

Free product has not been detected on site, since retrofitting monitor well MW-4 as a vacuum well on December 7, 1994. MW-4 was later converted into an air sparge well on September 6, 1995. This retrofit is expected to remediate the release area.

Remediation System Status Update

At present, site remediation is performed by air sparging only. Air sparging has proven to be very effective in remediation of subsurface hydrocarbons in groundwater and soil at many other similar sites. For example, operation of an air sparging only system at another Unocal site in Mecklenburg County has reduced dissolved hydrocarbon levels by greater than 75% during the first year of sparging only. The sparged air volatilizes and, to a much greater extent, increases bioremediation of subsurface hydrocarbons by promoting growth of indigenous gasoline degrader microorganisms. Air sparging supplies oxygen to microorganisms in the phreatic and vadose zones, which consume carbon from the gasoline compounds. The microorganisms convert the hydrocarbons into biomass, water and carbon dioxide. This in-situ biological process is known as respiration.

The existing air sparging system continues to operate as designed with no mechanical problems. The air compressor is operating at 80 to 90 psi and 60-80 scfm (at compressor). Each of the nine air sparge wells is operating at 30-40 psi and 5-15 scfm. The air sparging system has operated a total of 7050.6 hours as of February 21, 1996. The air sparging radius of influence for each of the eight vertical air sparge wells is approximately 50 to 80 feet, as measured by change in dissolved oxygen levels, water levels, positive pressure, organic vapor concentrations and increase in gasoline degrader populations. The air sparging system is cycled for 12 hours per day from 12:00 pm (on) to 12:00 am (off) by a single channel electronic timer. Unocal requests that this cycling mode be varied on a monthly basis in attempt to maximize radius of influence. The purpose of cycling all five of the sparge wells is to minimize "dry zones" in the phreatic area, pushing the dissolved hydrocarbon plume off-site and other negative effects associated with sparging (i.e. excessive pressure buildup, groundwater table rise or depression and fugitive sparge vapors). This cycling has proven to work at all Unocal sparging sites (8) in North Carolina. In addition, transient or pulsed operation of sparging has been shown by Unocal to maximize hydrocarbon mass transfer in groundwater and radius of influence. At some time, steady state or continuous air sparging begins to lose its radius of influence and dry out the saturated formation.

The air sparging system will continue to be inspected on a weekly basis. The next groundwater sampling event is scheduled for August 1996. No fugitive hydrocarbon sparge vapors have been reported inside the vacant on-site building. Emro Marketing Co. plans to build a new Speedway Truck Stop at the site.

If you have any questions or need additional information, please do not hesitate to call.

Sincerely,

S&ME, Inc.

Luba Barnhardt SMH

Luba K. Barnhardt
Project Professional

Stewart Hines 3/20/96

Stewart M. Hines, L.G.
Senior Geologist

NORTH CAROLINA LICENSED SEAL 1199 GEOLOGIST STEWART MARTIN HINES

Al Quarles, L.G.
Senior Hydrogeologist

Enclosures
cc: Mr. Wayne Holt - Unocal Corporation
Rick Holshouser - S&ME, Inc.
Carol Wrenn - Emro Marketing Company

K:\SHARED\HINES\WATERS96.M14

TABLE 1

S&ME, INC.
LIQUID LEVELS
DATE: 2/21/96

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

ID #	DTW	DTP	PT	ETW	ETP	ETC	WTE
MW–1	5.54	0.00	0.00	93.00	NA	98.54	**93.00**
MW–2	9.10	0.00	0.00	90.18	NA	99.28	**90.18**
MW–3	9.95	0.00	0.00	89.47	NA	99.42	**89.47**
MW–4	12.98	0.00	0.00	85.72	NA	98.70	**85.72**
MW–6	9.19	0.00	0.00	91.40	NA	100.59	**91.40**
MW–7	13.15	0.00	0.00	85.06	NA	98.21	**85.06**

COMMENTS: Topographic survey of all wells was performed on August 24, 1992

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 700 feet from Charlotte, East 1967 Topo Map)
ETP=elevation of top of product
ETW=elevation of top of water
PT=product thickness
WTE=elevation of water table
NA = Not Available
Density of product = 0.70 g/ml (assumed) for gasoline
Bench Mark = northeast most canopy pole facing west

TABLE 2
GROUNDWATER QUALITY DATA

FORMER UNOCAL FACILITY #9787-214
1342 TROLLINGWOOD ROAD
MEBANE, NC

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
	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
MW-2	1/7/93	810	20,000	17,000	95,000	132,810	NA	NA	NA	NA
	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
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
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
MW-6	3/8,17/93	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
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
15A NCAC 2L STANDARD (IN UG/L)		**1**	**1000**	**29**	**530**	**NA**	**70**	**NA**	**NA**	**NA**

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NOTES:

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

FLOWERS

CHEMICAL LABORATORIES INCORPORATED

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

Date Reported : Feb29 1996
Project Number : UNOCAFE#35927785
PO Number : 9787-214
FDHRSDW Number : 83139
FHRS ENVNumber : E83018
FDER COMQAPNum : 86-0008G
LDHH Number : 94-23
NCDEHNR Number : 296
SCDHEC Number : 96019

For: EPA601 IPE602 EPA610
Date Sampled:Feb21 1996 Date Received:Feb23 1996 Lab Numbers: 7753-7758

REPORT OF ANALYSIS

Parameter	Unit	Method Detection Limit	%ACC	%PRC	7753 MW1	7754 MW2	7755 MW3	7756 MW4	7757 MW6
Acenaphthylene	ug/L	1.00	53.7	2.70	<1.00	<1.00	<1.00	<1.00	<1.00
Acenaphthene	ug/L	1.00			<1.00	<1.00	<1.00	<1.00	<1.00
Anthracene	ug/L	1.00			<1.00	<1.00	<1.00	<1.00	<1.00
Benzo(a)anthracene	ug/L	1.00	58.0	3.93	<1.00	<1.00	<1.00	<1.00	<1.00
Benzo(a)pyrene	ug/L	1.00			<1.00	<1.00	<1.00	<1.00	<1.00
Benzo(b)fluoranthene	ug/L	1.00			<1.00	<1.00	<1.00	<1.00	<1.00
Benzo(g,h,i)perylene	ug/L	1.00			<1.00	<1.00	<1.00	<1.00	<1.00
Benzo(k)fluoranthene	ug/L	1.00	59.5	4.52	<1.00	<1.00	<1.00	<1.00	<1.00
Chrysene	ug/L	1.00			<1.00	<1.00	<1.00	<1.00	<1.00
Dibnz(a,h)anthracene	ug/L	1.00			<1.00	<1.00	<1.00	<1.00	<1.00
Fluoranthene	ug/L	1.00			<1.00	<1.00	<1.00	<1.00	<1.00
Fluorene	ug/L	1.00			<1.00	<1.00	<1.00	<1.00	<1.00
Indn(1,2,3-cd)pyrene	ug/L	1.00	65.4	5.48	<1.00	<1.00	<1.00	<1.00	<1.00
Naphthalene	ug/L	1.00			<1.00	<1.00	<1.00	69.0	<1.00
1-methyl-Naphthalene	ug/L	1.00	56.5	4.88	<1.00	<1.00	<1.00	22.4	<1.00
2-methyl-Naphthalene	ug/L	1.00			<1.00	<1.00	<1.00	27.9	<1.00
Phenanthrene	ug/L	1.00			<1.00	<1.00	<1.00	<1.00	<1.00
Pyrene	ug/L	1.00	55.9	3.38	<1.00	<1.00	<1.00	<1.00	<1.00
Intl_QA_Spike(2FBP)	ug/L	1.00	53.8	2.20	57.0	57.1	59.2	29.4	54.6
Surr_Spike(DBBP)	ug/L	1.00	58.0	5.12	55.8	58.3	54.5	15.7	57.4
PAH_Extraction	-	-			-	-	-	-	-
Dilution_Factor		-	-	-	-	-	-	-	-
o-dichlorobenzene	ug/L	0.500	94.9	.500	<0.500	<0.500	<0.500	<0.500	<0.500
m-dichlorobenzene	ug/L	0.500	96.1	.520	<0.500	<0.500	<0.500	<0.500	<0.500
Para-dichlorobenzene	ug/L	0.500	94.1	.680	<0.500	<0.500	<0.500	<0.500	<0.500
Benzene	ug/L	0.500	101.	.290	<0.500	<0.500	<0.500	821.	<0.500

Data Release Authorization
Sample integrity and reliability certified by Lab personnel prior to analysis.
Methods of analysis in accordance with FCL QA and EPA approved methodology.
This Report may not be reproduced in part, results relate only to items tested.

Jefferson S. Flowers, Ph.d.
President and Technical Director

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LDHH Number : 94-23
NCDEHNR Number : 296
SCDHEC Number : 96019

For: EPA601 IPE602 EPA610
Date Sampled:Feb21 1996 Date Received:Feb23 1996 Lab Numbers: 7753-7758

REPORT OF ANALYSIS

Parameter	Unit	Method Detection Limit	%ACC	%PRC	7758 MW7
Acenaphthylene	ug/L	1.00	53.7	2.70	<1.00
Acenaphthene	ug/L	1.00			<1.00
Anthracene	ug/L	1.00			<1.00
Benzo(a)anthracene	ug/L	1.00	58.0	3.93	<1.00
Benzo(a)pyrene	ug/L	1.00			<1.00
Benzo(b)fluoranthene	ug/L	1.00			<1.00
Benzo(g,h,i)perylene	ug/L	1.00			<1.00
Benzo(k)fluoranthene	ug/L	1.00	59.5	4.52	<1.00
Chrysene	ug/L	1.00			<1.00
Dibnz(a,h)anthracene	ug/L	1.00			<1.00
Fluoranthene	ug/L	1.00			<1.00
Fluorene	ug/L	1.00			<1.00
Indn(1,2,3-cd)pyrene	ug/L	1.00	65.4	5.48	<1.00
Naphthalene	ug/L	1.00			<1.00
1-methyl-Naphthalene	ug/L	1.00	56.5	4.88	<1.00
2-methyl-Naphthalene	ug/L	1.00			<1.00
Phenanthrene	ug/L	1.00			<1.00
Pyrene	ug/L	1.00	55.9	3.38	<1.00
Intl_QA_Spike(2FBP)	ug/L	1.00	53.8	2.20	53.7
Surr_Spike(DBBP)	ug/L	1.00	58.0	5.12	56.1
PAH_Extraction	-	-			-
Dilution_Factor		-	-	-	-
o-dichlorobenzene	ug/L	0.500	94.9	.500	<0.500
m-dichlorobenzene	ug/L	0.500	96.1	.520	<0.500
Para-dichlorobenzene	ug/L	0.500	94.1	.680	<0.500
Benzene	ug/L	0.500	101.	.290	<0.500

Data Release Authorization

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Methods of analysis in accordance with FCL QA and EPA approved methodology.
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President/Technical Director

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For: EPA601 IPE602 EPA610
Date Sampled:Feb21 1996 Date Received:Feb23 1996 Lab Numbers: 7753-7758

REPORT OF ANALYSIS

Parameter	Unit	Method Detection Limit	%ACC	%PRC	7753 MW1	7754 MW2	7755 MW3	7756 MW4	7757 MW6
Chlorobenzene	ug/L	0.500	98.4	.150	<0.500	<0.500	<0.500	<0.500	<0.500
Ethylbenzene	ug/L	0.500	106.	.290	<0.500	<0.500	<0.500	344.	<0.500
Toluene	ug/L	0.500	104.	.370	<0.500	<0.500	<0.500	1340	<0.500
Xylene	ug/L	0.500	97.8	.720	<0.500	<0.500	<0.500	1990	<0.500
Methyl-tert-butyleth	ug/L	0.500	95.4	.950	<0.500	<0.500	<0.500	1810	<0.500
Total_BTEX	ug/L	0.500	101.	.410	<0.500	<0.500	<0.500	4490	<0.500
Isopropylether	ug/L	1.00			<1.00	<1.00	<1.00	<1.00	<1.00
PID_Spike	ug/L	0.500	103.	.720	101.	101.	101.	104.	100.
- -		-	-	-	-	-	-	-	-
Dilution_Factor		-	-	-	1.00	1.00	1.00	10.0	1.00
1,1,1-trichloroethan	ug/L	1.00	99.6	2.20	<1.00	<1.00	<1.00	<10.0	<1.00
1,1,2,2-tetrachloroe	ug/L	1.00	114.	2.39	<1.00	<1.00	<1.00	<10.0	<1.00
1,1,2-trichloroethan	ug/L	1.00	96.6	.080	<1.00	<1.00	<1.00	<10.0	<1.00
1,1-dichloroethane	ug/L	1.00	98.7	1.73	<1.00	<1.00	<1.00	<10.0	<1.00
1,1-dichloroethene	ug/L	1.00	110.	1.91	<1.00	<1.00	<1.00	<10.0	<1.00
1,2-dichloroethane	ug/L	1.00	93.5	1.83	<1.00	<1.00	5.53	<10.0	<1.00
1,2-dichloropropane	ug/L	1.00	96.4	1.74	<1.00	<1.00	<1.00	<10.0	<1.00
2-chloroethylvinylet	ug/L	1.00			<1.00	<1.00	<1.00	<10.0	<1.00
Bromodichloromethane	ug/L	1.00	96.2	1.29	<1.00	<1.00	<1.00	<10.0	<1.00
Bromoform	ug/L	1.00	97.5	2.21	<1.00	<1.00	<1.00	<10.0	<1.00
cis-1,3-dichloroprop	ug/L	1.00	100.	.740	<1.00	<1.00	<1.00	<10.0	<1.00
Carbon tetrachloride	ug/L	1.00	99.3	2.59	<1.00	<1.00	<1.00	<10.0	<1.00
Chloroform	ug/L	1.00	97.6	1.55	<1.00	<1.00	<1.00	<10.0	<1.00
Dibromochloromethane	ug/L	1.00	97.3	.490	<1.00	<1.00	<1.00	<10.0	<1.00
Methylene chloride	ug/L	1.00	85.5	2.78	<1.00	<1.00	<1.00	<10.0	<1.00
trans-1,3,-dichlorop	ug/L	1.00	97.4	.350	<1.00	<1.00	<1.00	<10.0	<1.00

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President and Lab Director

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FLOWERS

CHEMICAL LABORATORIES INCORPORATED

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

Date Reported : Feb29 1996
Project Number : UNOCAFE#35927785
PO Number : 9787-214
FDHRSDW Number : 83139
FHRS ENVNumber : E83018
FDER COMQAPNum : 86-0008G
LDHH Number : 94-23
NCDEHNR Number : 296
SCDHEC Number : 96019

For: EPA601 IPE602 EPA610
Date Sampled:Feb21 1996 Date Received:Feb23 1996 Lab Numbers: 7753-7758

REPORT OF ANALYSIS

Parameter	Unit	Method Detection Limit	%ACC	%PRC	7758 MW7
Chlorobenzene	ug/L	0.500	98.4	.150	<0.500
Ethylbenzene	ug/L	0.500	106.	.290	<0.500
Toluene	ug/L	0.500	104.	.370	<0.500
Xylene	ug/L	0.500	97.8	.720	<0.500
Methyl-tert-butyleth	ug/L	0.500	95.4	.950	<0.500
Total_BTEX	ug/L	0.500	101.	.410	<0.500
Isopropylether	ug/L	1.00			<1.00
PID_Spike	ug/L	0.500	103.	.720	101.
-	-	-	-	-	-
Dilution_Factor		-	-	-	1.00
1,1,1-trichloroethan	ug/L	1.00	99.6	2.20	<1.00
1,1,2,2-tetrachloroe	ug/L	1.00	114.	2.39	<1.00
1,1,2-trichloroethan	ug/L	1.00	96.6	.080	<1.00
1,1-dichloroethane	ug/L	1.00	98.7	1.73	<1.00
1,1-dichloroethene	ug/L	1.00	110.	1.91	<1.00
1,2-dichloroethane	ug/L	1.00	93.5	1.83	<1.00
1,2-dichloropropane	ug/L	1.00	96.4	1.74	<1.00
2-chloroethylvinylet	ug/L	1.00			<1.00
Bromodichloromethane	ug/L	1.00	96.2	1.29	<1.00
Bromoform	ug/L	1.00	97.5	2.21	<1.00
cis-1,3-dichloroprop	ug/L	1.00	100.	.740	<1.00
Carbon tetrachloride	ug/L	1.00	99.3	2.59	<1.00
Chloroform	ug/L	1.00	97.6	1.55	<1.00
Dibromochloromethane	ug/L	1.00	97.3	.490	<1.00
Methylene chloride	ug/L	1.00	85.5	2.78	<1.00
trans-1,3,-dichlorop	ug/L	1.00	97.4	.350	<1.00

Data Release Authorization

Sample integrity and reliability certified by Lab personnel prior to analysis.
Methods of analysis in accordance with FCL QA and EPA approved methodology.
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LDHH Number : 94-23
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SCDHEC Number : 96019

For: EPA601 IPE602 EPA610
Date Sampled:Feb21 1996 Date Received:Feb23 1996 Lab Numbers: 7753-7758

REPORT OF ANALYSIS

Parameter	Unit	Method Detection Limit	%ACC	%PRC	7753 MW1	7754 MW2	7755 MW3	7756 MW4	7757 MW6
Trichlorofluorometha	ug/L	2.00	76.4	1.91	<2.00	<2.00	<2.00	<20.0	<2.00
t-1,2-dichloroethene	ug/L	1.00	96.8	2.33	<1.00	<1.00	<1.00	<10.0	<1.00
Trichloroethene	ug/L	1.00	91.3	2.23	<1.00	<1.00	<1.00	<10.0	<1.00
Tetrachloroethene	ug/L	1.00	100.	.400	<1.00	<1.00	<1.00	<10.0	<1.00
1,2-dibromo-3-chloro	ug/L	1.00	96.9	4.64	<1.00	<1.00	<1.00	<10.0	<1.00
Bromomethane	ug/L	5.00			<5.00	<5.00	<5.00	<50.0	<5.00
Chlorobenzene	ug/L	0.500	98.4	.150	<0.500	<0.500	<0.500	<5.00	<0.500
Chloroethane	ug/L	3.00	98.7	.940	<3.00	<3.00	<3.00	<30.0	<3.00
Chloromethane	ug/L	5.00			<5.00	<5.00	<5.00	<50.0	<5.00
Dichlorodifluorometh	ug/L	2.00			<2.00	<2.00	<2.00	<20.0	<2.00
Vinyl chloride	ug/L	0.500			<0.500	<0.500	<0.500	<5.00	<0.500
o-dichlorobenzene	ug/L	0.500	94.9	.500	<0.500	<0.500	<0.500	<5.00	<0.500
m-dichlorobenzene	ug/L	0.500	96.1	.520	<0.500	<0.500	<0.500	<5.00	<0.500
Para-dichlorobenzene	ug/L	0.500	94.1	.680	<0.500	<0.500	<0.500	<5.00	<0.500
Hall_Spike	ug/L	0.500	94.7	1.24	93.4	93.9	95.2	94.8	96.3
-	-	-	-	-	-	-	-	-	-

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NCDEHNR Number : 296
SCDHEC Number : 96019

For: EPA601 IPE602 EPA610
Date Sampled:Feb21 1996 Date Received:Feb23 1996 Lab Numbers: 7753-7758

REPORT OF ANALYSIS

Parameter	Unit	Method Detection Limit	%ACC	%PRC	7758 MW7
Trichlorofluorometha	ug/L	2.00	76.4	1.91	<2.00
t-1,2-dichloroethene	ug/L	1.00	96.8	2.33	<1.00
Trichloroethene	ug/L	1.00	91.3	2.23	<1.00
Tetrachloroethene	ug/L	1.00	100.	.400	<1.00
1,2-dibromo-3-chloro	ug/L	1.00	96.9	4.64	<1.00
Bromomethane	ug/L	5.00			<5.00
Chlorobenzene	ug/L	0.500	98.4	.150	<0.500
Chloroethane	ug/L	3.00	98.7	.940	<3.00
Chloromethane	ug/L	5.00			<5.00
Dichlorodifluorometh	ug/L	2.00			<2.00
Vinyl chloride	ug/L	0.500			<0.500
o-dichlorobenzene	ug/L	0.500	94.9	.500	<0.500
m-dichlorobenzene	ug/L	0.500	96.1	.520	<0.500
Para-dichlorobenzene	ug/L	0.500	94.1	.680	<0.500
Hall_Spike	ug/L	0.500	94.7	1.24	94.9
-	-	-	-	-	-

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Quality Assurance Report

Prepared for: S&ME-Charlotte
Project Number: UNOCAFE#35927785
Lab Numbers: 7753 - 7758

Report date: 29-Feb-96

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FLOWERS CHEMICAL LABORATORIES, INC.

QA Conformance Summary

Client:	S&ME-Charlotte
Project Number:	UNOCAFE#35927785
P.O. Number:	9787-214
Date Sampled:	21-Feb-96
Lab Numbers:	7753 - 7758

Sample Handling

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

Surrogate Compound Recoveries:

The recovery limits were exceded for 2 samples as shown in section 1. This represents a 91.7% 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 exceeded for 2 calibration standards as shown in section 5. This represents a 96.5% success rate.
The t-test limits were met for all QCCS standards as shown in section 5.
The t-test limits were met for all matrix spike standards as shown in section 5.
There were 3 standard blanks.
The t-test limits were met for all surrogate spike standards as shown in section 5.

FLOWERS CHEMICAL LABORATORIES, INC.

Section 1

Surrogate Compound Recovery

Client: S&ME-Charlotte
Project Number: UNOCAFE#35927785
P.O. Number: 9787-214
Date Sampled: 21-Feb-96
Lab Numbers: 7753 - 7758

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

Surrogate Expected: 100
Acceptability Limits: 37 - 97.6

Laboratory Number	Site Description	Surrogate Recovered	Percent Recovered
7753	MW-1	57.0	57.0
7754	MW-2	57.1	57.1
7755	MW-3	59.2	59.2
7756	MW-4	29.4	29.4
7757	MW-6	54.6	54.6
7758	MW-7	53.7	53.7

FLOWERS CHEMICAL LABORATORIES, INC.

Section 1

Surrogate Compound Recovery

Client: S&ME-Charlotte
Project Number: UNOCAFE#35927785
P.O. Number: 9787-214
Date Sampled: 21-Feb-96
Lab Numbers: 7753 - 7758

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

Surrogate Expected: 100
Acceptability Limits: 26.2 - 120

Laboratory Number	Site Description	Surrogate Recovered	Percent Recovered
7753	MW-1	55.8	55.8
7754	MW-2	58.3	58.3
7755	MW-3	54.5	54.5
7756	MW-4	15.7	15.7
7757	MW-6	57.4	57.4
7758	MW-7	56.1	56.1

FLOWERS CHEMICAL LABORATORIES, INC.

Section 1

Surrogate Compound Recovery

Client: S&ME-Charlotte
Project Number: UNOCAFE#35927785
P.O. Number: 9787-214
Date Sampled: 21-Feb-96
Lab Numbers: 7753 - 7758

PID_Spike for EPA602
Unit of measure: ug/L

Surrogate Expected: 100
Acceptability Limits: 85.3 - 113

Laboratory Number	Site Description	Surrogate Recovered	Percent Recovered
7753	MW-1	101	101
7754	MW-2	101	101
7755	MW-3	101	101
7756	MW-4	104	104
7757	MW-6	100	100
7758	MW-7	101	101

FLOWERS CHEMICAL LABORATORIES, INC.

Section 1

Surrogate Compound Recovery

Client: S&ME-Charlotte
Project Number: UNOCAFE#35927785
P.O. Number: 9787-214
Date Sampled: 21-Feb-96
Lab Numbers: 7753 - 7758

Hall_Spike for EPA601
Unit of measure: ug/L

Surrogate Expected: 100
Acceptability Limits: 71.9 - 126

Laboratory Number	Site Description	Surrogate Recovered	Percent Recovered
7753	MW-1	93.4	93.4
7754	MW-2	93.9	93.9
7755	MW-3	95.2	95.2
7756	MW-4	94.8	94.8
7757	MW-6	96.3	96.3
7758	MW-7	94.9	94.9

FLOWERS CHEMICAL LABORATORIES, INC.

Section 2

Matrix Spike Recovery

Client: S&ME-Charlotte
Project Number: UNOCAFE#35927785
P.O. Number: 9787-214
Date Sampled: 21-Feb-96
Lab Numbers: 7753 - 7758

Analyte	Unit	Analysis Method	Date	Spike Added	Sample Conc.	MS Conc.	MS Rec.	MSD Conc.	MSD Rec.	Acceptable Limits	RSD Rec.	Acceptable Limits
Acenaphthylene	ug/L	EPA625	02-28-96	40.0	<1	21.9	54.8%	21.1	52.8%	16.9 - 37.3	0.566	0 - 8.72
Acenaphthene	ug/L	EPA625	02-28-96	40.0	<1	21.5	53.8%	20.4	51.0%	18.1 - 37.3	0.778	0 - 7.65
Anthracene	ug/L	EPA625	02-28-96	40.0	<1	22.3	55.8%	20.8	52.0%	16.4 - 41.9	1.06	0 - 8.58
Benzo(a)anthracene	ug/L	EPA625	02-28-96	40.0	<1	23.9	59.8%	22.6	56.5%	18.1 - 41.7	0.919	0 - 11.1
Benzo(a)pyrene	ug/L	EPA625	02-28-96	40.0	<1	22.6	56.5%	20.3	50.8%	14.8 - 41.4	1.63	0 - 12.3
Benzo(b)fluoranthene	ug/L	EPA625	02-28-96	40.0	<1	23.6	59.0%	21.7	54.3%	16.2 - 41.9	1.34	0 - 10.0
Benzo(g,h,i)perylene	ug/L	EPA625	02-28-96	40.0	<1	23.3	58.3%	21.5	53.8%	14.3 - 45.0	1.27	0 - 11.0
Benzo(k)fluoranthene	ug/L	EPA625	02-28-96	40.0	<1	24.6	61.5%	23.0	57.5%	12.8 - 48.3	1.13	0 - 10.6
Chrysene	ug/L	EPA625	02-28-96	40.0	<1	23.7	59.3%	21.8	54.5%	17.9 - 42.6	1.34	0 - 10.4
Dibnz(a,h)anthracene	ug/L	EPA625	02-28-96	40.0	<1	22.3	55.8%	20.9	52.3%	15.2 - 44.0	0.990	0 - 11.6
Fluoranthene	ug/L	EPA625	02-28-96	40.0	<1	23.1	57.8%	21.3	53.3%	18.4 - 42.9	1.27	0 - 7.24
Fluorene	ug/L	EPA625	02-28-96	40.0	<1	21.2	53.0%	20.3	50.8%	18.4 - 38.5	0.636	0 - 7.48
Indn(1,2,3-cd)pyrene	ug/L	EPA625	02-28-96	40.0	<1	27.2	68.0%	25.2	63.0%	13.0 - 45.9	1.41	0 - 11.1
Naphthalene	ug/L	EPA625	02-28-96	40.0	<1	21.7	54.3%	20.7	51.8%	18.3 - 35.5	0.707	0 - 8.34
1-Methyl-Naphthalene	ug/L	EPA625	02-28-96	40.0	<1	23.4	58.5%	21.8	54.5%	17.3 - 38.7	1.13	0 - 8.80
2-Methyl-Naphthalene	ug/L	EPA625	02-28-96	40.0	<1	22.9	57.3%	21.5	53.8%	15.2 - 38.6	0.990	0 - 9.15
Phenanthrene	ug/L	EPA625	02-28-96	40.0	<1	22.5	56.3%	21.3	53.3%	18.3 - 42.2	0.849	0 - 8.02
Pyrene	ug/L	EPA625	02-28-96	40.0	<1	22.9	57.3%	21.8	54.5%	18.5 - 44.4	0.778	0 - 8.37
o-dichlorobenzene	ug/L	EPA602	02-23-96	40.0	<0.5	37.8	94.5%	38.1	95.3%	28.4 - 48.6	0.212	0 - 5.60
m-dichlorobenzene	ug/L	EPA602	02-23-96	40.0	<0.5	38.3	95.8%	38.6	96.5%	28.7 - 49.3	0.212	0 - 6.36
Para-dichlorobenzene	ug/L	EPA602	02-23-96	40.0	<0.5	37.5	93.8%	37.8	94.5%	29.3 - 48.6	0.212	0 - 6.77
Benzene	ug/L	EPA602	02-23-96	40.0	<0.5	40.6	102%	40.4	101%	31.9 - 48.1	0.141	0 - 5.16
Chlorobenzene	ug/L	EPA602	02-23-96	40.0	<0.5	39.3	98.3%	39.4	98.5%	29.8 - 48.9	0.071	0 - 6.47
Ethylbenzene	ug/L	EPA602	02-23-96	40.0	<0.5	42.2	106%	42.4	106%	32.1 - 47.0	0.141	0 - 4.61
Toluene	ug/L	EPA602	02-23-96	40.0	<0.5	41.5	104%	41.3	103%	32.4 - 46.8	0.141	0 - 4.49
Xylene	ug/L	EPA602	02-23-96	120	<0.5	118	98.3%	117	97.5%	95.7 - 141	0.707	0 - 12.0
Methyl-tert-butylether	ug/L	EPA602	02-23-96	40.0	<0.5	38.4	96.0%	37.9	94.8%	30.2 - 47.7	0.354	0 - 5.10
Total_BTEX	ug/L	EPA602	02-23-96	240	<0.5	242	101%	241	100%	199 - 276	0.707	0 - 21.5
1,1,1-trichloroethane	ug/L	EPA601	02-23-96	40.0	<1	39.2	98.0%	40.5	101%	28.2 - 50.5	0.919	0 - 5.64
1,1,2,2-tetrachloroethane	ug/L	EPA601	02-23-96	40.0	<1	46.6	117%	45.0	113%	27.9 - 52.9	1.13	0 - 6.35
1,1,2-trichloroethane	ug/L	EPA601	02-23-96	40.0	<1	38.6	96.5%	38.7	96.8%	28.4 - 48.8	0.071	0 - 5.92
1,1-dichloroethane	ug/L	EPA601	02-23-96	40.0	<1	39.0	97.5%	40.0	100%	28.8 - 49.9	0.707	0 - 5.67
1,1-dichloroethene	ug/L	EPA601	02-23-96	40.0	<1	43.6	109%	44.8	112%	28.9 - 51.9	0.849	0 - 6.65
1,2-dichloroethane	ug/L	EPA601	02-23-96	40.0	<1	36.9	92.3%	37.9	94.8%	28.0 - 50.5	0.707	0 - 6.78
1,2-dichloropropane	ug/L	EPA601	02-23-96	40.0	<1	38.1	95.3%	39.0	97.5%	29.8 - 48.8	0.636	0 - 6.53
Bromodichloromethane	ug/L	EPA601	02-23-96	40.0	<1	38.1	95.3%	38.8	97.0%	28.6 - 48.9	0.495	0 - 7.12
Bromoform	ug/L	EPA601	02-23-96	40.0	<1	39.6	99.0%	38.4	96.0%	25.6 - 51.7	0.849	0 - 7.67

FLOWERS CHEMICAL LABORATORIES, INC.

Section 2

Matrix Spike Recovery

Client: S&ME-Charlotte
Project Number: UNOCAFE#35927785
P.O. Number: 9787-214
Date Sampled: 21-Feb-96
Lab Numbers: 7753 - 7758

Analyte	Unit	Analysis Method	Date	Spike Added	Sample Conc.	MS Conc.	MS Rec.	MSD Conc.	MSD Rec.	Acceptable Limits	RSD Rec.	Acceptable Limits
cis-1,3-dichloropropene	ug/L	EPA601	02-23-96	40.0	<1	39.8	99.5%	40.2	101%	27.5 - 50.7	0.283	0 - 4.36
Carbon tetrachloride	ug/L	EPA601	02-23-96	40.0	<1	39.0	97.5%	40.4	101%	28.3 - 51.0	0.990	0 - 4.31
Chloroform	ug/L	EPA601	02-23-96	40.0	<1	38.6	96.5%	39.5	98.8%	29.4 - 48.6	0.636	0 - 6.24
Dibromochloromethane	ug/L	EPA601	02-23-96	40.0	<1	39.1	97.8%	38.8	97.0%	27.6 - 49.1	0.212	0 - 4.46
Methylene chloride	ug/L	EPA601	02-23-96	40.0	<1	33.5	83.8%	34.9	87.3%	27.9 - 49.4	0.990	0 - 18.3
trans-1,3,-dichloropropene	ug/L	EPA601	02-23-96	40.0	<1	39.1	97.8%	38.9	97.3%	26.3 - 51.3	0.141	0 - 5.03
Trichlorofluoromethane	ug/L	EPA601	02-23-96	40.0	<2	30.1	75.3%	31.0	77.5%	26.3 - 53.2	0.636	0 - 6.67
t-1,2-dichloroethene	ug/L	EPA601	02-23-96	40.0	<1	38.1	95.3%	39.3	98.3%	29.6 - 50.4	0.849	0 - 5.24
Trichloroethene	ug/L	EPA601	02-23-96	40.0	<1	35.9	89.8%	37.1	92.8%	29.3 - 48.1	0.849	0 - 4.00
Tetrachloroethene	ug/L	EPA601	02-23-96	40.0	<1	40.0	100%	40.2	101%	29.6 - 50.0	0.141	0 - 4.01
1,2-dibromo-3-chloropropan	ug/L	EPA601	02-23-96	40.0	<1	40.0	100%	37.5	93.8%	28.2 - 51.3	1.77	0 - 7.98
Chlorobenzene	ug/L	EPA601	02-23-96	40.0	<0.5	39.3	98.3%	39.4	98.5%	30.2 - 50.6	0.071	0 - 4.93
Chloroethane	ug/L	EPA601	02-23-96	40.0	<3	39.8	99.5%	39.2	98.0%	28.1 - 51.4	0.424	0 - 5.93
o-dichlorobenzene	ug/L	EPA601	02-23-96	40.0	<0.5	37.8	94.5%	38.1	95.3%	28.2 - 50.1	0.212	0 - 6.98
m-dichlorobenzene	ug/L	EPA601	02-23-96	40.0	<0.5	38.3	95.8%	38.6	96.5%	28.8 - 51.2	0.212	0 - 7.12
Para-dichlorobenzene	ug/L	EPA601	02-23-96	40.0	<0.5	37.5	93.8%	37.8	94.5%	29.2 - 50.8	0.212	0 - 6.39

FLOWERS CHEMICAL LABORATORIES, INC.

Section 3

Method Blank Report

Client: S&ME-Charlotte
Project Number: UNOCAFE#35927785
P.O. Number: 9787-214
Date Sampled: 21-Feb-96
Lab Numbers: 7753 - 7758

Analyte	Unit	Method	Date	Concentration
Acenaphthylene	ug/L	EPA625	02-28-96	<1
Acenaphthene	ug/L	EPA625	02-28-96	<1
Anthracene	ug/L	EPA625	02-28-96	<1
Benzo(a)anthracene	ug/L	EPA625	02-28-96	<1
Benzo(a)pyrene	ug/L	EPA625	02-28-96	<1
Benzo(b)fluoranthene	ug/L	EPA625	02-28-96	<1
Benzo(g,h,i)perylene	ug/L	EPA625	02-28-96	<1
Benzo(k)fluoranthene	ug/L	EPA625	02-28-96	<1
Chrysene	ug/L	EPA625	02-28-96	<1
Dibnz(a,h)anthracene	ug/L	EPA625	02-28-96	<1
Fluoranthene	ug/L	EPA625	02-28-96	<1
Fluorene	ug/L	EPA625	02-28-96	<1
Indn(1,2,3-cd)pyrene	ug/L	EPA625	02-28-96	<1
Naphthalene	ug/L	EPA625	02-28-96	<1
1-Methyl-Naphthalene	ug/L	EPA625	02-28-96	<1
2-Methyl-Naphthalene	ug/L	EPA625	02-28-96	<1
Phenanthrene	ug/L	EPA625	02-28-96	<1
Pyrene	ug/L	EPA625	02-28-96	<1
o-dichlorobenzene	ug/L	EPA602	02-23-96	<0.5
m-dichlorobenzene	ug/L	EPA602	02-23-96	<0.5
Para-dichlorobenzene	ug/L	EPA602	02-23-96	<0.5
Benzene	ug/L	EPA602	02-23-96	<0.5
Chlorobenzene	ug/L	EPA602	02-23-96	<0.5
Ethylbenzene	ug/L	EPA602	02-23-96	<0.5
Toluene	ug/L	EPA602	02-23-96	<0.5
Xylene	ug/L	EPA602	02-23-96	<0.5
Methyl-tert-butylether	ug/L	EPA602	02-23-96	<0.5
Total_BTEX	ug/L	EPA602	02-23-96	<0.5
Isopropylether	ug/L	EPA602	02-23-96	<1
1,1,1-trichloroethane	ug/L	EPA601	02-23-96	<1
1,1,2,2-tetrachloroethane	ug/L	EPA601	02-23-96	<1

FLOWERS CHEMICAL LABORATORIES, INC.

Section 3

Method Blank Report

Client: S&ME-Charlotte
Project Number: UNOCAFE#35927785
P.O. Number: 9787-214
Date Sampled: 21-Feb-96
Lab Numbers: 7753 - 7758

Analyte	Unit	Method	Date	Concentration
1,1,2-trichloroethane	ug/L	EPA601	02-23-96	<1
1,1-dichloroethane	ug/L	EPA601	02-23-96	<1
1,1-dichloroethene	ug/L	EPA601	02-23-96	<1
1,2-dichloroethane	ug/L	EPA601	02-23-96	<1
1,2-dichloropropane	ug/L	EPA601	02-23-96	<1
2-chloroethylvinylether	ug/L	EPA601	02-23-96	<1
Bromodichloromethane	ug/L	EPA601	02-23-96	<1
Bromoform	ug/L	EPA601	02-23-96	<1
cis-1,3-dichloropropene	ug/L	EPA601	02-23-96	<1
Carbon tetrachloride	ug/L	EPA601	02-23-96	<1
Chloroform	ug/L	EPA601	02-23-96	<1
Dibromochloromethane	ug/L	EPA601	02-23-96	<1
Methylene chloride	ug/L	EPA601	02-23-96	<1
trans-1,3,-dichloropropene	ug/L	EPA601	02-23-96	<1
Trichlorofluoromethane	ug/L	EPA601	02-23-96	<2
t-1,2-dichloroethene	ug/L	EPA601	02-23-96	<1
Trichloroethene	ug/L	EPA601	02-23-96	<1
Tetrachloroethene	ug/L	EPA601	02-23-96	<1
1,2-dibromo-3-chloropropane	ug/L	EPA601	02-23-96	<1
Bromomethane	ug/L	EPA601	02-23-96	<5
Chlorobenzene	ug/L	EPA601	02-23-96	<0.5
Chloroethane	ug/L	EPA601	02-23-96	<3
Chloromethane	ug/L	EPA601	02-23-96	<5
Dichlorodifluoromethane	ug/L	EPA601	02-23-96	<2
Vinyl chloride	ug/L	EPA601	02-23-96	<0.5
o-dichlorobenzene	ug/L	EPA601	02-23-96	<0.5
m-dichlorobenzene	ug/L	EPA601	02-23-96	<0.5
Para-dichlorobenzene	ug/L	EPA601	02-23-96	<0.5

FLOWERS CHEMICAL LABORATORIES, INC.

Section 4

QCCS Sample Recovery

Client: S&ME-Charlotte
Project Number: UNOCAFE#35927785
P.O. Number: 9787-214
Date Sampled: 21-Feb-96
Lab Numbers: 7753 - 7758

Analyte	Unit	Method	Date	QCCS Expected	QCCS Measured	Rec. %	Acceptable Limits
Acenaphthylene	ug/L	EPA625	02-28-96	40.0	19.6	49.0%	17.6 - 37.9
Acenaphthene	ug/L	EPA625	02-28-96	40.0	19.4	48.5%	18.7 - 38.5
Anthracene	ug/L	EPA625	02-28-96	40.0	20.1	50.3%	16.9 - 42.1
Benzo(a)anthracene	ug/L	EPA625	02-28-96	40.0	22.2	55.5%	16.8 - 45.4
Benzo(a)pyrene	ug/L	EPA625	02-28-96	40.0	20.0	50.0%	6.68 - 51.1
Benzo(b)fluoranthene	ug/L	EPA625	02-28-96	40.0	20.0	50.0%	15.0 - 45.5
Benzo(g,h,i)perylene	ug/L	EPA625	02-28-96	40.0	21.4	53.5%	15.0 - 48.9
Benzo(k)fluoranthene	ug/L	EPA625	02-28-96	40.0	23.0	57.5%	12.8 - 51.9
Chrysene	ug/L	EPA625	02-28-96	40.0	21.6	54.0%	17.6 - 45.2
Dibnz(a,h)anthracene	ug/L	EPA625	02-28-96	40.0	20.0	50.0%	9.40 - 52.4
Fluoranthene	ug/L	EPA625	02-28-96	40.0	20.5	51.3%	17.8 - 45.2
Fluorene	ug/L	EPA625	02-28-96	40.0	19.6	49.0%	19.0 - 39.5
Indn(1,2,3-cd)pyrene	ug/L	EPA625	02-28-96	40.0	24.7	61.8%	10.4 - 51.4
Naphthalene	ug/L	EPA625	02-28-96	40.0	19.8	49.5%	17.5 - 37.6
1-Methyl-Naphthalene	ug/L	EPA625	02-28-96	40.0	21.7	54.3%	16.5 - 41.0
2-Methyl-Naphthalene	ug/L	EPA625	02-28-96	40.0	21.0	52.5%	15.4 - 40.1
Phenanthrene	ug/L	EPA625	02-28-96	40.0	20.7	51.8%	18.3 - 43.5
Pyrene	ug/L	EPA625	02-28-96	40.0	21.6	54.0%	16.4 - 47.9
o-dichlorobenzene	ug/L	EPA602	02-23-96	40.0	41.6	104%	31.8 - 47.8
m-dichlorobenzene	ug/L	EPA602	02-23-96	40.0	41.5	104%	30.8 - 49.2
Para-dichlorobenzene	ug/L	EPA602	02-23-96	40.0	41.7	104%	31.5 - 49.3
Benzene	ug/L	EPA602	02-23-96	40.0	43.5	109%	35.1 - 48.1
Chlorobenzene	ug/L	EPA602	02-23-96	40.0	42.5	106%	32.3 - 48.5
Ethylbenzene	ug/L	EPA602	02-23-96	40.0	43.7	109%	33.6 - 47.2
Toluene	ug/L	EPA602	02-23-96	40.0	43.7	109%	34.8 - 47.6
Xylene	ug/L	EPA602	02-23-96	120	121	101%	98.8 - 135
Methyl-tert-butylether	ug/L	EPA602	02-23-96	40.0	44.7	112%	32.2 - 47.8
Total BTEX	ug/L	EPA602	02-23-96	240	252	105%	212 - 267
1,1,1-trichloroethane	ug/L	EPA601	02-23-96	40.0	39.3	98.3%	32.0 - 46.9
1,1,2,2-tetrachloroethane	ug/L	EPA601	02-23-96	40.0	48.4	121%	31.8 - 49.0
1,1,2-trichloroethane	ug/L	EPA601	02-23-96	40.0	41.1	103%	32.7 - 46.7
1,1-dichloroethane	ug/L	EPA601	02-23-96	40.0	37.6	94.0%	30.9 - 47.8
1,1-dichloroethene	ug/L	EPA601	02-23-96	40.0	32.4	81.0%	30.5 - 48.0
1,2-dichloroethane	ug/L	EPA601	02-23-96	40.0	39.7	99.3%	31.5 - 47.9
1,2-dichloropropane	ug/L	EPA601	02-23-96	40.0	41.7	104%	33.2 - 46.8
Bromodichloromethane	ug/L	EPA601	02-23-96	40.0	39.6	99.0%	31.5 - 48.2
Bromoform	ug/L	EPA601	02-23-96	40.0	41.1	103%	33.1 - 47.7

FLOWERS CHEMICAL LABORATORIES, INC.

Section 4

QCCS Sample Recovery

Client: S&ME-Charlotte
Project Number: UNOCAFE#35927785
P.O. Number: 9787-214
Date Sampled: 21-Feb-96
Lab Numbers: 7753 - 7758

Analyte	Unit	Method	Date	QCCS Expected	QCCS Measured	Rec. %	Acceptable Limits
cis-1,3-dichloropropene	ug/L	EPA601	02-23-96	40.0	44.4	111%	32.5 - 48.3
Carbon tetrachloride	ug/L	EPA601	02-23-96	40.0	38.2	95.5%	31.6 - 47.0
Chloroform	ug/L	EPA601	02-23-96	40.0	39.6	99.0%	33.3 - 46.0
Dibromochloromethane	ug/L	EPA601	02-23-96	40.0	39.0	97.5%	32.9 - 46.6
Methylene chloride	ug/L	EPA601	02-23-96	40.0	34.0	85.0%	31.6 - 47.2
trans-1,3,-dichloropropene	ug/L	EPA601	02-23-96	40.0	45.8	115%	32.8 - 48.0
Trichlorofluoromethane	ug/L	EPA601	02-23-96	40.0	46.4	116%	29.9 - 50.1
t-1,2-dichloroethene	ug/L	EPA601	02-23-96	40.0	34.1	85.3%	27.9 - 49.5
Trichloroethene	ug/L	EPA601	02-23-96	40.0	37.0	92.5%	32.1 - 46.5
Tetrachloroethene	ug/L	EPA601	02-23-96	40.0	40.6	102%	32.1 - 46.6
1,2-dibromo-3-chloropropane	ug/L	EPA601	02-23-96	40.0	44.7	112%	30.7 - 50.1
Chlorobenzene	ug/L	EPA601	02-23-96	40.0	42.5	106%	32.9 - 47.9
Chloroethane	ug/L	EPA601	02-23-96	40.0	38.2	95.5%	32.1 - 47.8
o-dichlorobenzene	ug/L	EPA601	02-23-96	40.0	41.6	104%	32.1 - 48.7
m-dichlorobenzene	ug/L	EPA601	02-23-96	40.0	41.5	104%	32.2 - 48.6
Para-dichlorobenzene	ug/L	EPA601	02-23-96	40.0	41.7	104%	33.5 - 48.9

FLOWERS CHEMICAL LABORATORIES, INC.

Section 5

Standards Traceability

Client: S&ME-Charlotte
Project Number: UNOCAFE#35927785
P.O. Number: 9787-214
Date Sampled: 21-Feb-96
Lab Numbers: 7753 - 7758

Compound Name	Manfacturer Name	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
			Standard				Lot									
Acenaphthylene	EMS	115-055	401	CLS	01-25-96	05-01-96	406	CLS	01-31-96	01-31-97	3.07	>1.67	0.705	0.086	0.626	0.045
QCCS	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	4.08	>1.67	0.705	0.086	0.743	0.049
Matrix Spike	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	4.08	>1.67	0.705	0.086	0.743	0.049
Acenaphthene	EMS	115-055	401	CLS	01-25-96	05-01-96	406	CLS	01-31-96	01-31-97	4.25	>1.67	0.710	0.078	0.663	0.048
QCCS	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	4.96	>1.67	0.710	0.078	0.733	0.036
Matrix Spike	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	4.96	>1.67	0.710	0.078	0.733	0.036
Anthracene	EMS	115-055	401	CLS	01-25-96	05-01-96	406	CLS	01-31-96	01-31-97	1.98	>1.67	0.761	0.109	0.660	0.046
QCCS	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	3.64	>1.67	0.761	0.109	0.743	0.052
Matrix Spike	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	3.64	>1.67	0.761	0.109	0.743	0.052
Benzo(a)anthracene	EMS	115-055	401	CLS	01-25-96	05-01-96	406	CLS	01-31-96	01-31-97	2.07	>1.67	0.780	0.106	0.681	0.054
QCCS	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	4.02	>1.67	0.780	0.106	0.782	0.072
Matrix Spike	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	4.02	>1.67	0.780	0.106	0.782	0.072
Benzo(a)pyrene	EMS	115-055	401	CLS	01-25-96	05-01-96	406	CLS	01-31-96	01-31-97	±2.35	±2.00	0.767	0.151	0.619	0.055
QCCS	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	2.53	>1.67	0.767	0.151	0.745	0.115
Matrix Spike	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	2.53	>1.67	0.767	0.151	0.745	0.115
Benzo(b)fluoranthene	EMS	115-055	401	CLS	01-25-96	05-01-96	406	CLS	01-31-96	01-31-97	-1.79	±2.00	0.781	0.136	0.668	0.069
QCCS	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	2.54	>1.67	0.781	0.136	0.818	0.117
Matrix Spike	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	2.54	>1.67	0.781	0.136	0.818	0.117
Benzo(g,h,i)perylene	EMS	115-055	401	CLS	01-25-96	05-01-96	406	CLS	01-31-96	01-31-97	-1.58	±2.01	0.790	0.144	0.686	0.057
QCCS	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	2.55	>1.67	0.790	0.144	0.820	0.090
Matrix Spike	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	2.55	>1.67	0.790	0.144	0.820	0.090
Benzo(k)fluoranthene	EMS	115-055	401	CLS	01-25-96	05-01-96	406	CLS	01-31-96	01-31-97	-1.46	±2.00	0.818	0.142	0.724	0.067
QCCS	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	2.11	>1.67	0.818	0.142	0.759	0.127
Matrix Spike	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	2.11	>1.67	0.818	0.142	0.759	0.127
Chrysene	EMS	115-055	401	CLS	01-25-96	05-01-96	406	CLS	01-31-96	01-31-97	1.97	>1.67	0.798	0.111	0.700	0.063
QCCS	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	3.28	>1.67	0.798	0.111	0.768	0.072
Matrix Spike	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	3.28	>1.67	0.798	0.111	0.768	0.072
Dibnz(a,h)anthracene	EMS	115-055	401	CLS	01-25-96	05-01-96	406	CLS	01-31-96	01-31-97	±2.40	±2.00	0.797	0.172	0.625	0.044
QCCS	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	-1.11	±2.01	0.797	0.172	0.705	0.181
Matrix Spike	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	-1.11	±2.01	0.797	0.172	0.705	0.181

FLOWERS CHEMICAL LABORATORIES, INC.

Section 5

Standards Traceability

Client: S&ME-Charlotte
Project Number: UNOCAFE#35927785
P.O. Number: 9787-214
Date Sampled: 21-Feb-96
Lab Numbers: 7753 - 7758

Compound Name	Manfacturer Name	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
			Standard				Lot									
Fluoranthene	EMS	115-055	401	CLS	01-25-96	05-01-96	406	CLS	01-31-96	01-31-97	2.14	>1.67	0.800	0.110	0.709	0.060
QCCS	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	2.91	>1.67	0.800	0.110	0.754	0.117
Matrix Spike	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	2.91	>1.67	0.800	0.110	0.754	0.117
Fluorene	EMS	115-055	401	CLS	01-25-96	05-01-96	406	CLS	01-31-96	01-31-97	3.61	>1.67	0.714	0.080	0.647	0.040
QCCS	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	5.24	>1.67	0.714	0.080	0.708	0.046
Matrix Spike	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	5.24	>1.67	0.714	0.080	0.708	0.046
Indn(1,2,3-cd)pyrene	EMS	115-055	401	CLS	01-25-96	05-01-96	406	CLS	01-31-96	01-31-97	1.72	±2.00	0.770	0.132	0.883	0.182
QCCS	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	2.89	>1.67	0.770	0.132	0.760	0.193
Matrix Spike	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	2.89	>1.67	0.770	0.132	0.760	0.193
Naphthalene	EMS	115-055	401	CLS	01-25-96	05-01-96	406	CLS	01-31-96	01-31-97	3.74	>1.67	0.681	0.091	0.637	0.039
QCCS	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	4.32	>1.67	0.681	0.091	0.698	0.054
Matrix Spike	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	4.32	>1.67	0.681	0.091	0.698	0.054
1-Methyl-Naphthalene	Chem Service	41-41A	160	CLS	06-06-94	06-06-97	406	CLS	01-31-96	01-31-97	1.71	>1.67	0.712	0.090	0.583	0.045
QCCS	Chem Service	41-41A	160	CLS	06-06-94	06-06-97	402	CLS	01-25-96	01-25-97	3.63	>1.67	0.712	0.090	0.752	0.121
Matrix Spike	Chem Service	41-41A	160	CLS	06-06-94	06-06-97	402	CLS	01-25-96	01-25-97	3.63	>1.67	0.712	0.090	0.752	0.121
2-Methyl-Naphthalene	Chem Service	62-6A	161	CLS	06-06-94	06-06-97	406	CLS	01-31-96	01-31-97	3.93	>1.67	0.662	0.075	0.598	0.046
QCCS	Chem Service	62-6A	161	CLS	06-06-94	06-06-97	402	CLS	01-25-96	01-25-97	3.75	>1.67	0.662	0.075	0.715	0.138
Matrix Spike	Chem Service	62-6A	161	CLS	06-06-94	06-06-97	402	CLS	01-25-96	01-25-97	3.75	>1.67	0.662	0.075	0.715	0.138
Phenanthrene	EMS	115-055	401	CLS	01-25-96	05-01-96	406	CLS	01-31-96	01-31-97	3.20	>1.67	0.758	0.093	0.695	0.055
QCCS	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	4.06	>1.67	0.758	0.093	0.778	0.093
Matrix Spike	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	4.06	>1.67	0.758	0.093	0.778	0.093
Pyrene	EMS	115-055	401	CLS	01-25-96	05-01-96	406	CLS	01-31-96	01-31-97	2.40	>1.67	0.809	0.118	0.740	0.071
QCCS	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	3.16	>1.67	0.809	0.118	0.781	0.070
Matrix Spike	EMS	075-049	400	CLS	01-25-96	02-01-97	402	CLS	01-25-96	01-25-97	3.16	>1.67	0.809	0.118	0.781	0.070
o-dichlorobenzene	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	5.48	>1.72	1.05	0.061	0.963	0.040
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	4.84	>1.67	1.05	0.061	0.946	0.077
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	3.61	>1.75	1.05	0.061	0.980	0.099
m-dichlorobenzene	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	6.45	>1.72	1.02	0.052	0.958	0.050
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	6.74	>1.67	1.02	0.052	0.971	0.081
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	5.25	>1.75	1.02	0.052	0.966	0.057
Para-dichlorobenzene	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	4.23	>1.72	1.03	0.090	0.967	0.068

FLOWERS CHEMICAL LABORATORIES, INC.

Section 5

Standards Traceability

Client: S&ME-Charlotte
Project Number: UNOCAFE#35927785
P.O. Number: 9787-214
Date Sampled: 21-Feb-96
Lab Numbers: 7753 - 7758

Compound Name	Manfacturer Name	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
			Standard				Lot									
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	5.76	>1.67	1.03	0.090	0.973	0.083
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	3.14	>1.75	1.03	0.090	0.952	0.055
Benzene	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	-0.925	±2.39	0.975	0.055	0.960	0.042
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	11.8	>1.66	0.980	0.049	1.04	0.061
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	-0.660	±2.40	0.975	0.055	0.960	0.029
Chlorobenzene	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	7.33	>1.72	1.02	0.048	0.980	0.058
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	6.92	>1.67	1.02	0.048	0.968	0.078
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	6.95	>1.75	1.02	0.048	0.998	0.054
Ethylbenzene	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	9.90	>1.67	0.979	0.045	1.02	0.060
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	14.2	>1.66	0.979	0.045	1.00	0.066
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	6.96	>1.68	0.979	0.045	1.02	0.062
Toluene	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	9.15	>1.68	0.991	0.065	0.992	0.050
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	12.8	>1.66	0.991	0.065	1.02	0.058
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	6.85	>1.68	0.991	0.065	0.985	0.049
O-Xylene	Aldrich	07452JZ	116	DO	01-05-95	01-05-99	344	DO	11-10-95	11-10-96	4.70	>1.69	0.976	0.046	1.06	0.071
QCCS	Aldrich	07452JZ	116	DO	01-05-95	01-05-99	342	DO	11-10-95	11-11-96	5.38	>1.71	0.930	0.033	1.04	0.038
Matrix Spike	Aldrich	07452JZ	116	DO	01-05-95	01-05-99	304	DO	10-25-95	12-30-95	5.90	>1.70	0.976	0.046	1.00	0.059
M&P-Xylene	Aldrich	05249HG	124	DO	01-05-95	01-05-99	344	DO	11-10-95	11-10-96	6.25	>1.71	1.06	0.027	0.982	0.061
QCCS	Aldrich	05249HG	124	DO	01-05-95	01-05-99	342	DO	11-10-95	11-11-96	10.8	>1.67	1.06	0.027	1.04	0.061
Matrix Spike	Aldrich	05249HG	124	DO	01-05-95	01-05-99	304	DO	10-25-95	12-30-95	6.23	>1.74	1.06	0.027	1.02	0.077
Methyl-tert-butylether	Aldrich	08065KG	115	DO	01-05-95	01-05-99	344	DO	11-10-95	11-10-96	3.80	>1.69	0.959	0.063	1.05	0.073
QCCS	Aldrich	08065KG	115	DO	01-05-95	01-05-99	342	DO	11-10-95	11-11-96	11.0	>1.67	0.959	0.063	0.961	0.071
Matrix Spike	Aldrich	08065KG	115	DO	01-05-95	01-05-99	304	DO	10-25-95	12-30-95	4.81	>1.70	0.959	0.063	1.00	0.061
1,1,1-trichloroethane	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	2.80	>1.69	0.961	0.086	1.03	0.062
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	2.80	>1.69	0.982	0.077		
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	2.43	>1.68	0.961	0.086	1.07	0.036
1,1,2,2-tetrachloroethane	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	3.67	>1.69	0.991	0.094	1.02	0.042
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	3.86	>1.68	1.01	0.098		
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	3.86	>1.68	0.991	0.094	1.04	0.080
1,1,2-trichloroethane	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	4.65	>1.69	0.937	0.066	0.978	0.043
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	4.96	>1.68	0.996	0.524		

FLOWERS CHEMICAL LABORATORIES, INC.

Section 5

Standards Traceability

Client: S&ME-Charlotte
Project Number: UNOCAFE#35927785
P.O. Number: 9787-214
Date Sampled: 21-Feb-96
Lab Numbers: 7753 - 7758

Compound Name	Manfacturer Name	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
			Standard				Lot									
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	4.96	>1.68	0.937	0.066	0.997	0.044
1,1-dichloroethane	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	2.37	>1.69	0.957	0.089	1.05	0.074
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	2.97	>1.68	0.958	0.085		
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	2.97	>1.68	0.957	0.089	1.04	0.067
1,1-dichloroethene	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	3.03	>1.69	0.947	0.100	0.991	0.072
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	3.03	>1.69	0.944	0.096		
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	1.70	>1.68	0.947	0.100	1.08	0.043
1,2-dichloroethane	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	2.67	>1.69	0.971	0.096	1.04	0.059
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	2.98	>1.69	0.977	0.085		
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	2.98	>1.69	0.971	0.096	1.05	0.049
1,2-dichloropropane	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	2.54	>1.69	0.962	0.104	1.03	0.054
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	3.79	>1.68	0.990	0.084		
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	3.79	>1.68	0.962	0.104	0.999	0.030
Bromodichloromethane	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	4.19	>1.75	0.947	0.054		
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	0.603	±2.02	0.963	0.047	1.21	1.40
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	4.19	>1.75	0.963	0.047	1.03	0.049
Bromoform	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	5.96	>1.68	1.02	0.061		
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	5.96	>1.68	1.04	0.052	1.01	0.100
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	4.99	>1.75	1.04	0.052	0.960	0.032
cis-1,3-dichloropropene	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	6.15	>1.68	0.977	0.063		
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	6.15	>1.68	0.990	0.062	0.958	0.089
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	4.12	>1.75	0.990	0.062	1.05	0.046
Carbon tetrachloride	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	5.62	>1.68	0.995	0.074		
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	5.62	>1.68	1.01	0.071	0.953	0.082
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	2.60	>1.75	1.01	0.071	1.11	0.038
Chloroform	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	7.40	>1.68	0.966	0.053		
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	7.40	>1.68	0.983	0.041	0.964	0.082
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	4.61	>1.75	0.983	0.041	0.929	0.085
Dibromochloromethane	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	7.00	>1.68	0.973	0.063		
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	7.00	>1.68	0.988	0.058	0.956	0.078
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	5.74	>1.75	0.988	0.058	0.990	0.051

FLOWERS CHEMICAL LABORATORIES, INC.

Section 5

Standards Traceability

Client: S&ME-Charlotte
Project Number: UNOCAFE#35927785
P.O. Number: 9787-214
Date Sampled: 21-Feb-96
Lab Numbers: 7753 - 7758

Compound Name	Manfacturer Name	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
			Standard				Lot									
Methylene chloride	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	6.25	>1.68	1.00	0.061		
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	6.25	>1.68	1.02	0.053	0.958	0.073
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	4.89	>1.75	1.02	0.053	0.954	0.050
trans-1,3,-dichloropropene	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	7.07	>1.68	0.962	0.049		
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	7.07	>1.68	0.973	0.046	0.965	0.086
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	6.29	>1.75	0.973	0.046	0.963	0.073
Trichlorofluoromethane	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	2.42	>1.68	0.931	0.131		
QCCS	Accustandard	095-228	300	DO	10-09-95	10-01-96	342	DO	11-10-95	11-11-96	2.42	>1.68	0.975	0.049	1.03	0.116
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	1.86	>1.75	0.975	0.049	1.02	0.084
t-1,2-dichloroethene	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	5.90	>1.68	1.01	0.063		
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	5.90	>1.68	1.02	0.059	0.951	0.072
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	3.84	>1.75	1.02	0.059	1.08	0.061
Trichloroethene	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	6.79	>1.68	0.974	0.056		
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	6.79	>1.68	0.989	0.049	0.941	0.074
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	5.78	>1.75	0.989	0.049	0.982	0.071
Tetrachloroethene	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	7.57	>1.68	0.949	0.045		
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	7.57	>1.68	0.960	0.044	0.945	0.080
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	7.01	>1.75	0.960	0.044	0.972	0.050
1,2-dibromo-3-chloropropane	Chem Service	114-24B	121	DO	04-12-95	11-01-95	344	DO	11-10-95	11-10-96	2.47	>1.69	0.960	0.093	1.04	0.055
QCCS	Chem Service	114-24B	121	DO	04-12-95	11-01-95	342	DO	11-10-95	11-11-96	2.47	>1.69	0.985	0.100		
Matrix Spike	Chem Service	114-24B	121	DO	04-12-95	11-01-95	304	DO	10-25-95	12-30-95	2.42	>1.68	0.960	0.093	1.06	0.090
Bromomethane																
QCCS	Accustandard	095-228	300	DO	10-09-95	10-01-96	342	DO	11-10-95	11-11-96	5.55	>1.83	1.01	0.015	0.973	0.070
Matrix Spike																
Chlorobenzene	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	7.33	>1.72	1.02	0.048	0.980	0.058
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	6.92	>1.67	1.02	0.048	0.968	0.078
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	6.95	>1.75	1.02	0.048	0.998	0.054
Chloroethane	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	6.49	>1.70	0.993	0.074		
QCCS	Accustandard	095-228	300	DO	10-09-95	10-01-96	342	DO	11-10-95	11-11-96	6.49	>1.70	1.01	0.071	1.01	0.069
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	4.40	>1.75	1.01	0.071	1.01	0.078
Chloromethane																

FLOWERS CHEMICAL LABORATORIES, INC.

Section 5

Standards Traceability

Client: S&ME-Charlotte
Project Number: UNOCAFE#35927785
P.O. Number: 9787-214
Date Sampled: 21-Feb-96
Lab Numbers: 7753 - 7758

Compound Name	Manfacturer Name	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
			Standard				Lot									
QCCS	Accustandard	095-228	300	DO	10-09-95	10-01-96	342	DO	11-10-95	11-11-96	8.40	>1.83	1.01	0.019	0.953	0.027
Matrix Spike																
Dichlorodifluoromethane																
QCCS	Accustandard	095-228	300	DO	10-09-95	10-01-96	342	DO	11-10-95	11-11-96	6.95	>1.83	1.01	0.019	0.975	0.045
Matrix Spike																
Vinyl chloride																
QCCS	Accustandard	095-228	300	DO	10-09-95	10-01-96	342	DO	11-10-95	11-11-96	8.00	>1.80	1.02	0.017	1.01	0.047
Matrix Spike																
o-dichlorobenzene	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	5.48	>1.72	1.05	0.061	0.963	0.040
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	4.84	>1.67	1.05	0.061	0.946	0.077
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	3.61	>1.75	1.05	0.061	0.980	0.099
m-dichlorobenzene	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	6.45	>1.72	1.02	0.052	0.958	0.050
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	6.74	>1.67	1.02	0.052	0.971	0.081
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	5.25	>1.75	1.02	0.052	0.966	0.057
Para-dichlorobenzene	Chem Service	140-101A	1	DO	08-17-95	11-30-95	344	DO	11-10-95	11-10-96	4.23	>1.72	1.03	0.090	0.967	0.068
QCCS	Accustandard	055-459	3	DO	08-23-95	09-01-96	342	DO	11-10-95	11-11-96	5.76	>1.67	1.03	0.090	0.973	0.083
Matrix Spike	Chem Service	140-101A	1	DO	08-17-95	11-30-95	304	DO	10-25-95	12-30-95	3.14	>1.75	1.03	0.090	0.952	0.055
EPA601 Blank	Flowers Chemical Laboratories	Valid	34	JSF	01-01-95	01-01-97	14	JSF	01-01-95	01-01-97						
EPA602 Blank	Flowers Chemical Laboratories	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						
PID_Spike	Aldrich	11231EN	152	DO	01-05-95	01-05-96	330	DO	11-07-95	12-28-95	22.8	>1.66	1.02	0.028	1.02	0.046
Hall_Spike	Aldrich	01920EY	159	DO	08-29-95	08-29-98	330	DO	11-07-95	12-28-95	8.41	>1.69	0.995	0.038	0.994	0.058

FLOWERS CHEMICAL LABORATORIES

Internal Custody Record Lab Numbers: 7753 - 7758

Lab # 7753

Container 70259 Amber 1 L:

Extraction CE	Karen Turgeon	Fri, 02/23/96 03:25PM
Extraction CE Hol	Karen Turgeon	Wed, 02/28/96 01:19PM

Lab # 7754

Container 70260 Amber 1 L:

Extraction CE	Karen Turgeon	Fri, 02/23/96 03:25PM
Extraction CE Hol	Karen Turgeon	Wed, 02/28/96 01:19PM

Lab # 7755

Container 70261 Amber 1 L:

Extraction CE	Karen Turgeon	Fri, 02/23/96 03:25PM
Extraction CE Hol	Karen Turgeon	Wed, 02/28/96 01:19PM

Lab # 7756

Container 70262 Amber 1 L:

Extraction CE	Karen Turgeon	Fri, 02/23/96 03:25PM
Extraction CE Hol	Karen Turgeon	Wed, 02/28/96 01:19PM

Lab # 7757

Container 70263 Amber 1 L:

Extraction CE	Karen Turgeon	Fri, 02/23/96 03:25PM
Extraction CE Hol	Karen Turgeon	Wed, 02/28/96 01:19PM

Jefferson L. Flowers, Ph.D
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FAX: (407) 260-6110

FLOWERS CHEMICAL LABORATORIES

Internal Custody Record Lab Numbers: 7753 - 7758

Lab # 7758

Container 70264 Amber 1 L:

Extraction CE	Karen Turgeon	Fri, 02/23/96 03:25PM
Extraction CE Hol	Karen Turgeon	Wed, 02/28/96 01:19PM

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ALTAMONTE SPRINGS
FLORIDA 32715-0597
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FAX: (407) 260-6110

CHAIN OF CUSTODY RECORD FOR UNOCAL 76

cc: Gary Sinicox SME

Company Name: S&ME, Inc.
Address: 9751 S. Pine Blvd.
City: Charlotte State: NC Zip Code: 28273
Telephone: 704-523-4726 FAX #: 704-525-3953
Report To: Stewart Hines Sampler: Gary Sinicox

Project Name: Unocal - Mebane, NC
UNOCAL Project Manager: Wayne Holt - Atlanta GA
AFE #: 35-92-7785 / PO # EERS00010
Site #: 9787-214
QC Data: ☒ Level D (Standard) ☐ Level C ☐ Level B ☐ Level A

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

☐ Drinking Water
☐ Waste Water
☒ Other Gwt

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	NO. OF CONTAINERS	PRESERVATIVES: UNPRESERVED	H_2SO_4 (610)	HNO_3	HCl 601/602 + MTBE/Hexane			ANALYSES REQUEST: 601	602 + MTBE/HEPE 610							
MW-1	X 10:30 2/21	Gwt	4	Glass	7753	4	1			3			X	X	X						
MW-2	X 11:00 2/21	Gwt	↓	↓	54	4	1			3			X	X	X						
MW-3	X 11:30 2/21	Gwt	↓	↓	55	4	1			3			X	X	X						
MW-4	X 1:05 2/21	Gwt	↓	↓	56	4	1			3			X	X	X						
MW-5	X 10:00 2/21	Gwt	↓	↓	57	4	1			3			X	X	X						
MW-7	X 12:00 2/21	Gwt	↓	↓	7758																

Relinquished By: X [signature]	Date: X 2/22 Time: X 1130	Received By:	Date: Time:
Relinquished By:	Date: Time:	Received By:	Date: Time:
Relinquished By:	Date: Time:	Received By Lab: [signature]	Date: 2/23/96 Time: 1350

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: _____ Signature: _____ Company: _____ Date: _____

FLOWERS CHEMICAL LABORATORIES INCORPORATED
NEWBERRY PORT
P.O. BOX 150-597
ALTAMONTE SPRINGS
FLORIDA 32715-0597
BUS: (407) 339-5984
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CHAIN OF CUSTODY RECORD FOR UNOCAL 76

Company Name: S&ME, Inc.
Address: 9751 S. Pine Blvd.
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Telephone: 704-523-4726 FAX #: 704-525-3953
Report To: Stewart Hines Sampler: Gary Sinicox

Project Name: Unocal - Mebane, NC
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CODE: ☐ Misc. ☐ Detect. ☐ Eval. ☒ Remed. ☐ Demol. ☐ Closure
☐ Drinking Water ☐ Waste Water ☒ Other Gwt

Client Sample I.D.	Date/Time Sampled	Matrix Desc.	# of Cont.	Cont. Type	Laboratory Sample #	NO. OF CONTAINERS	PRESERVATIVES: UNPRESERVED	H_2SO_4 (610)	HNO_3	HCl 601/602 + MBE/TPE			ANALYSES REQUEST: 601	602 + MBE/TPE	610						
MW-1	X 10:30 2/21	Gwt	4	Glass		4	1			3			X	X	X						
MW-2	X 11:00 2/21	Gwt	↓	↓		4	1			3			X	X	X						
MW-3	X 11:30 2/21	Gwt	↓	↓		4	1			3			X	X	X						
MW-4	X 1:05 2/21	Gwt	↓	↓		4	1			3			X	X	X						
MW-5	X 10:00 2/21	Gwt	↓	↓		4	1			3			X	X	X						
MW-7	X 12:00 2/21	Gwt	↓	↓																	

Relinquished By: X [signature]	Date: X 2/22	Time: X 1130	Received By: Date: Time:
Relinquished By:	Date:	Time:	Received By: Date: Time:
Relinquished By:	Date:	Time:	Received By Lab: Date: Time:

Were Samples Received In Good Condition? ☐ Yes ☐ No Samples on Ice? ☐ Yes ☐ No Method of Shipment _____ Page ___ of ___

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2) Was the report issued within the requested turnaround time? ☐ Yes ☐ No If no, what was the turnaround time? _____
Approved by: _____ Signature: _____ Company: _____ Date: _____

21-FEB-96 11:31 FROM:S AND ME CHARLOTTE