8260
Vinyl CLS

09/29/. :09:36

RADIAN ANALY. CAL SERVICES
FPAS REPORT
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Work Order # 97094

Client DOW CHEMICAL CO.
Facility PLAQUEMINE, LA
Client Code DOW PLAQ

Certified By
Date Sept. 30, 1997

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09/29/97 17:09:36

WORK ORDER SUMMARY

Report RADIAN INTERNATIONAL
To P.O.Box 201088
Austin, TX 78720-1088
Attention HEIDI KRALL

Client Code DOW PLAQ
Client DOW CHEMICAL CO.
Facility PLAQUEMINE, LA
Work ID BIF TRIAL BURNS

Work Order # 9709429
Page 1

RCN 800117.5000

Prepared Radian International, LLC
By 14046 Summit Dr., Bldg. B
P. O. Box 201088
Austin, TX 78720-1088

CSC DPMAXWELL

Case # NA
SDG # NA
RAS # 70807ADPM

New York ELAP ID #: 10915

Project Sample ID/ Description	Lab Sample ID	Test Code(s)	Method Desciption
DOW-VP-CLS-11-V1	01A	COMPVO00	Compositing for GC/MS VOA
DOW-VP-CLS-11-V2	02A	COMPVO00	Compositing for GC/MS VOA
DOW-VP-CLS-11-V3	03A	COMPVO00	Compositing for GC/MS VOA
DOW-VP-CLS-11-V4	04A	COMPVO00	Compositing for GC/MS VOA
DOW-VP-CLS-11-V5	05A	COMPVO00	Compositing for GC/MS VOA
DOW-VP-CLS-11-V6	06A	COMPVO00	Compositing for GC/MS VOA
DOW-VP-CLS-11-V7	07A	COMPVO00	Compositing for GC/MS VOA
DOW-VP-CLS-11-V8	08A	COMPVO00	Compositing for GC/MS VOA
DOW-VP-CLS-11-V9	09A	COMPVO00	Compositing for GC/MS VOA
DOW-VP-CLS-11-V10	10A	COMPVO00	Compositing for GC/MS VOA
DOW-VP-CLS-11-V11	11A	COMPVO00	Compositing for GC/MS VOA
DOW-VP-CLS-11-V12	12A	COMPVO00	Compositing for GC/MS VOA
DOW-VP-CLS-11-V13	13A	COMPVO00	Compositing for GC/MS VOA
DOW-VP-CLS-11-V14	14A	COMPVO00	Compositing for GC/MS VOA
DOW-VP-CLS-11-V1/V14	15A COMPOSITE	826SWAVP	Volatile Organics by GC/MS
	15B COMPOSITE	SPAREB00	Spare Sample

DO A 049709
CONFIDENTIAL

The standard Method 8260A surrogate tolerances are laboratory derived from historical data. Project specific tolerances may differ.

DO A 049710
CONFIDENTIAL

FLAG DEFINITIONS

Flag	Definition
< DL	Result less than stated Detection Limit and greater than or equal to zero.
NA	Analyte concentration not available for this analysis.
NC	RPD and/or % Recovery not calculated. See Narrative for explanation.
ND	Not detected. No instrument response for analyte or result less than zero.
NR	Not reported. Result greater than or equal to stated Detection Limit and less than specified Reporting Limit.
NS	Analyte not spiked.
B	Analyte detected in method blank at concentration greater than the Reporting Limit (and greater than zero).
C	Confirming data obtained using second GC column or GCMS.
E	Analyte concentration exceeded calibration range.
F	Interference or coelution suspected. See Narrative for explanation.
H	Presence of analyte previously confirmed by historical data.
I	Analyte identification suspect. See Narrative for explanation.
J	Result is less than stated Detection Limit but greater than or equal to specified Reporting Limit.
K	Peak did not meet method identification criteria. Analyte not detected on other GC column.
M	Result modified from previous Report. See Narrative for explanation.
P	Analyte not confirmed. Results from primary and secondary GC columns differ by greater than a factor of 3.
Q	QC result does not meet tolerance in Protocol Specification.
R	Result reported elsewhere.
S	Analyte concentration obtained using Method of Standard Additions (MSA).
T	Second column confirmational analysis not performed.
X	See Narrative for explanation.
Y	See Narrative for explanation.
Z	See Narrative for explanation.

Client DOW CHEMICAL CO.
Facility PLAQUEMINE, LA
Client Code DOW PLAQ
Method Volatile Organics SW8260A

Project Sample ID/Description	Lab Sample ID	Test Code(s)	Extraction/Digestion Batch #	Analysis Batch #
DOW-VP-CLS-11-V1/V14	9709429-15A	826SWAVP	NA	MSMSDA70925181601

Method Volatile Organics SW8260A
Test Code 826SWAVP

Project Sample ID:	DOW-VP-CLS-11--V1/V14						
Lab ID:	9709429-15A COMPOS						
File ID:	A0925727						
Date Collected:	09/17/97						
Date Prepared:							
Date Analyzed:	09/26/97 06:05:00						
Dilution Factor:	10						
Matrix:	Water						
Units:	ug/L						
Report as:	received						
Column:							
Analyte	Conc.	DL	Conc.	DL	Conc.	DL	Conc. DL
Chlorobenzene	ND	0.968					
1,1,2-Trichloroethane	ND	1.47					

Surrogate(s)	Recovery %	Recovery %	Recovery %	Recovery %
1,4-Bromofluorobenzene	95			
1,2-Dichloroethane-d4	103			
Toluene-d8	98			

DO A 049713
CONFIDENTIAL

Initial Calibration # MSDA970917000000

Sol'n # #MS-VOA-STD-6 Calibration Date 09/17/97 00:00:00 Instrument MSDA

Method Volatile Organics SW8260A Analyst MER

Test Code 826SWA00 Reviewer APS

Analytes	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response / Reference Conc.	Response / Reference Conc.	RF	% RSD	Correlation Coefficient
Dichlorodifluoromethane	1.442 0.5	1.589 5	1.752 20	1.876 50	1.996 100			1.73	12.8	
Chloromethane SPCC	2.554 0.5	2.190 5	2.200 20	2.253 50	2.373 100			2.31	6.60	
Vinyl chloride CCC	1.513 0.5	1.652 5	1.719 20	1.804 50	1.915 100			1.72	8.84	
Bromomethane	1.210 0.5	1.251 5	1.329 20	1.400 50	1.454 100			1.33	7.61	
Chloroethane	0.902 0.5	0.903 5	0.895 20	0.912 50	0.983 100			0.919	3.95	
Trichlorofluoromethane	1.534 0.5	1.506 5	1.616 20	1.667 50	1.783 100			1.62	6.84	
Acrolein	0.056 2.5	0.062 25	0.064 100	0.061 250	0.063 500			0.0612	5.09	
Acetonitrile										0.999
Acetone										0.998
Iodomethane	1.183 0.5	1.478 5	1.614 20	1.635 50	1.644 100			1.51	12.9	

Initial Calibration # MSDA970917000000
Calibration Date 09/17/97 00:00:00

Sol'n # #MS-VOA-STD-6
Method Volatile Organics SW8260A
Test Code 826SWA00

Instrument MSDA
Analyst MER
Reviewer APS

Analytes	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response / Reference Conc.	Response / Reference Conc.	RF	% RSD	Correlation Coefficient
1,1-Dichloroethene CCC	0.911 0.5	0.841 5	0.844 20	0.875 50	0.927 100			0.880	4.41	
Carbon disulfide	3.515 0.5	3.430 5	3.656 20	3.717 50	3.867 100			3.64	4.71	
1,1,2-Trichlorotrifluoroethane	0.960 0.5	0.865 5	0.930 20	0.962 50	0.997 100			0.943	5.26	
Acrylonitrile	0.270 1	0.240 5	0.247 20	0.240 50	0.237 100			0.247	5.46	
3-Chloropropene	1.684 0.5	1.634 5	1.719 20	1.738 50	1.761 100			1.71	2.91	
Methylene chloride										1.00
trans-1,2-Dichloroethene	0.992 0.5	0.908 5	0.948 20	0.976 50	1.013 100			0.967	4.22	
Propanenitrile	0.071 2.5	0.075 25	0.076 100	0.074 250	0.074 500			0.0740	2.53	
1,1-Dichloroethane SPCC	1.618 0.5	1.600 5	1.645 20	1.669 50	1.758 100			1.66	3.72	
Methyl t-butyl ether	1.366 0.5	1.560 5	1.809 20	1.696 50	1.630 100			1.61	10.3	

Initial Calibration # MSDA970917000000

Sol'n # #MS-VOA-STD-6 Calibration Date 09/17/97 00:00:00 Instrument MSDA

Method Volatile Organics SW8260A Analyst MER

Test Code 826SWA00 Reviewer APS

Analytes	Response Factor Reference Conc. ug/L	Response Factor Reference Conc. ug/L	Response Factor Reference Conc. ug/L	Response Factor Reference Conc. ug/L	Response Factor Reference Conc. ug/L	Response Reference Conc.	Response Reference Conc.	RF	% RSD	Correlation Coefficient
Vinyl acetate	1.274 0.5	0.910 5	1.083 20	0.952 50	0.938 100			1.03	14.6	
2-Chloro-1,3-butadiene	0.765 0.5	0.698 5	0.742 20	0.768 50	0.783 100			0.751	4.41	
2-Butanone (MEK)										1.00
Tetrahydrofuran	0.266 0.5	0.261 5	0.196 20	0.147 50	0.131 100			0.200	31.3	
cis-1,2-Dichloroethene	0.945 0.5	0.966 5	0.977 20	0.972 50	0.980 100			0.968	1.44	
2,2-Dichloropropane	0.750 0.5	0.719 5	0.848 20	0.820 50	0.761 100			0.780	6.79	
Bromochloromethane	0.621 0.5	0.621 5	0.604 20	0.601 50	0.597 100			0.609	1.87	
Chloroform CCC	1.553 0.5	1.479 5	1.450 20	1.457 50	1.526 100			1.49	3.00	
1,1,1-Trichloroethane	1.205 0.5	1.142 5	1.230 20	1.250 50	1.301 100			1.23	4.78	
1,2-Dichloroethane	1.105 0.5	1.227 5	1.210 20	1.215 50	1.228 100			1.20	4.34	

Initial Calibration # MSDA970917000000

Sol'n # #MS-VOA-STD-6 Calibration Date 09/17/97 00:00:00 Instrument MSDA

Method Volatile Organics SW8260A Analyst MER

Test Code 826SWA00 Reviewer APS

Analytes	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response / Reference Conc.	Response / Reference Conc.	RF	% RSD	Correlation Coefficient
1,1-Dichloropropene	0.328 0.5	0.300 5	0.310 20	0.325 50	0.332 100			0.319	4.23	
Benzene	1.030 0.5	0.986 5	0.982 20	1.009 50	0.998 100			1.00	1.93	
Carbon tetrachloride	0.239 0.5	0.232 5	0.242 20	0.249 50	0.240 100			0.240	2.54	
2-Hexanone										1.00
4-Methyl-2-pentanone (MIBK)										1.00
1,2-Dichloropropane CCC	0.286 0.5	0.278 5	0.283 20	0.292 50	0.280 100			0.284	1.94	
Trichloroethene	0.235 0.5	0.240 5	0.243 20	0.258 50	0.260 100			0.247	4.52	
Dibromomethane	0.139 0.5	0.145 5	0.143 20	0.143 50	0.137 100			0.141	2.32	
Bromodichloromethane	0.313 0.5	0.304 5	0.307 20	0.311 50	0.312 100			0.309	1.22	
Methyl methacrylate										1.00

Initial Calibration # MSDA970917000000

Sol'n # #MS-VOA-STD-6 Calibration Date 09/17/97 00:00:00 Instrument MSDA

Method Volatile Organics SW8260A Analyst MER

Test Code 826SWA00 Reviewer APS

Analytes	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response / Reference Conc.	Response / Reference Conc.	RF	% RSD	Correlation Coefficient
2-Chloroethyl vinyl ether	0.112 0.5	0.113 5	0.117 20	0.119 50	0.121 100			0.116	3.30	
trans-1,3-Dichloropropene	0.549 0.5	0.571 5	0.696 20	0.731 50	0.728 100			0.655	13.5	
cis-1,3-Dichloropropene	0.337 0.5	0.318 5	0.357 20	0.362 50	0.352 100			0.345	5.17	
Toluene CCC	1.661 0.5	1.446 5	1.455 20	1.519 50	1.539 100			1.52	5.67	
1,1,2-Trichloroethane	0.504 0.5	0.473 5	0.488 20	0.496 50	0.498 100			0.492	2.43	
Ethyl methacrylate										0.999
1,3-Dichloropropane	0.836 0.5	0.812 5	0.817 20	0.834 50	0.843 100			0.828	1.60	
Dibromochloromethane	0.539 0.5	0.577 5	0.592 20	0.621 50	0.629 100			0.592	6.12	
1,2-Dibromoethane	0.465 0.5	0.483 5	0.482 20	0.494 50	0.494 100			0.484	2.46	
Tetrachloroethene	0.417 0.5	0.432 5	0.440 20	0.469 50	0.508 100			0.453	7.95	

Initial Calibration # MSDA970917000000

Sol'n # #MS-VOA-STD-6 Calibration Date 09/17/97 00:00:00 Instrument MSDA

Method Volatile Organics SW8260A Analyst MER

Test Code 826SWA00 Reviewer APS

Analytes	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response / Reference Conc.	Response / Reference Conc.	RF	% RSD	Correlation Coefficient
Chlorobenzene SPCC	1.672 0.5	1.640 5	1.636 20	1.725 50	1.806 100			1.70	4.20	
1,1,1,2-Tetrachloroethane	0.550 0.5	0.519 5	0.530 20	0.554 50	0.589 100			0.548	4.90	
1-Chlorohexane	0.731 0.5	0.740 5	0.777 20	0.819 50	0.879 100			0.789	7.74	
Ethylbenzene	0.870 0.5	0.819 5	0.807 20	0.858 50	0.893 100			0.849	4.21	
m&p-Xylene	1.011 1	0.992 10	0.985 40	1.048 100	1.072 200			1.02	3.65	
Bromoform SPCC										0.999
Styrene	1.669 0.5	1.663 5	1.683 20	1.741 50	1.839 100			1.72	4.30	
o-Xylene	0.978 0.5	1.007 5	0.994 20	1.041 50	1.102 100			1.02	4.80	
trans-1,4-Dichloro-2-butene	0.120 1	0.116 5	0.134 20	0.137 50	0.144 100			0.130	9.06	
1,1,2,2-Tetrachloroethane SPCC	0.536 0.5	0.540 5	0.554 20	0.549 50	0.561 100			0.548	1.86	

Initial Calibration # MSDA970917000000

Sol'n # #MS-VOA-STD-6 Calibration Date 09/17/97 00:00:00 Instrument MSDA

Method Volatile Organics SW8260A Analyst MER

Test Code 826SWA00 Reviewer APS

Analytes	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response / Reference Conc.	Response / Reference Conc.	RF	% RSD	Correlation Coefficient
1,2,3-Trichloropropane	0.365 0.5	0.361 5	0.373 20	0.382 50	0.386 100			0.373	2.86	
Isopropylbenzene	2.542 0.5	2.325 5	2.329 20	2.496 50	2.574 100			2.45	4.83	
Bromobenzene	0.776 0.5	0.802 5	0.801 20	0.807 50	0.843 100			0.806	2.98	
2-Chlorotoluene	0.759 0.5	0.731 5	0.756 20	0.793 50	0.810 100			0.770	4.09	
n-Propylbenzene	0.809 0.5	0.791 5	0.807 20	0.839 50	0.869 100			0.823	3.77	
4-Chlorotoluene	0.759 0.5	0.770 5	0.763 20	0.819 50	0.832 100			0.789	4.34	
1,3,5-Trimethylbenzene	2.629 0.5	2.428 5	2.391 20	2.526 50	2.607 100			2.52	4.19	
1,2,4-Trimethylbenzene	2.625 0.5	2.426 5	2.517 20	2.596 50	2.627 100			2.56	3.37	
tert-Butylbenzene	2.276 0.5	2.188 5	2.234 20	2.329 50	2.384 100			2.28	3.38	
1,3-Dichlorobenzene	1.471 0.5	1.461 5	1.475 20	1.506 50	1.561 100			1.49	2.72	

Initial Calibration # MSDA970917000000
Calibration Date 09/17/97 00:00:00

Sol'n # #MS-VOA-STD-6
Method Volatile Organics SW8260A
Test Code 826SWA00

Instrument MSDA
Analyst MER
Reviewer APS

Analytes	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response / Reference Conc.	Response / Reference Conc.	RF	% RSD	Correlation Coefficient
sec-Butylbenzene	3.383 0.5	3.086 5	3.100 20	3.334 50	3.391 100			3.26	4.69	
1,4-Dichlorobenzene										1.00
p-Isopropyltoluene	2.676 0.5	2.482 5	2.473 20	2.624 50	2.744 100			2.60	4.60	
1,2-Dichlorobenzene	1.317 0.5	1.340 5	1.341 20	1.413 50	1.447 100			1.37	4.05	
n-Butylbenzene	2.654 0.5	2.462 5	2.487 20	2.595 50	2.684 100			2.58	3.83	
1,2-Dibromo-3-chloropropane	0.081 2	0.076 5	0.095 20	0.098 50	0.098 100			0.0896	11.6	
1,2,4-Trichlorobenzene	0.805 0.5	0.758 5	0.791 20	0.834 50	0.858 100			0.809	4.77	
Naphthalene	1.481 0.5	1.539 5	1.610 20	1.658 50	1.665 100			1.59	4.98	
1,2,3-Trichlorobenzene	0.639 0.5	0.682 5	0.718 20	0.739 50	0.752 100			0.706	6.50	
Hexachlorobutadiene	0.377 0.5	0.301 5	0.313 20	0.337 50	0.350 100			0.336	8.98	

Initial Calibration # MSDA970917000000

Sol'n # #MS-VOA-STD-6 Calibration Date 09/17/97 00:00:00 Instrument MSDA

Method Volatile Organics_SW8260A Analyst MER

Test Code 826SWA00 Reviewer APS

Analytes	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response Factor / Reference Conc. ug/L	Response / Reference Conc.	Response / Reference Conc.	RF	% RSD	Correlation Coefficient
1-Bromo-2-chloroethane	0.297 0.5	0.325 5	0.321 20	0.323 50	0.311 100			0.315	3.68	

09/29/97 17:09:36

ANALYSIS BATCH SUMMARY

Analysis Batch # MSMSDA70925181601

Work Order # 9709429

Method Volatile Organics SW8260A
Test Code 826SWA00
Initial Calibration # MSDA970917000000
Calibration Date 09/17/97

Analysis Start Date/Time 09/25/97 18:16:00
Analysis Stop Date/Time 09/26/97 06:05:00

Instrument MSDA
Analyst MER
Reviewer APS

	Sequence/Analysis Time	Project Sample ID	Lab Sample ID	Sample Type	Analysis File #
1	09/25/97 17:48:00		SB	Blank, System	A0925701
2	09/25/97 18:16:00		BFB	GC/MS tune files	A0925702
3	09/25/97 18:16:00		VSTDCAL	Continuing Calibration Verification	A0925702
4	09/25/97 18:44:00		LCS976894	Lab Control Sample	A0925703
5	09/25/97 19:13:00		LCSD976895	Lab Control Sample Duplicate	A0925704
6	09/25/97 19:41:00		BLK973847	Blank, Method	A0925705
7	09/25/97 20:09:00		9709346-01A	Sample	A0925706
8	09/25/97 20:37:00		9709346-02A	Matrix Spike	A0925707
9	09/25/97 21:06:00		9709346-03A	Matrix Spike Duplicate	A0925708
10	09/25/97 21:34:00		9709346-04A	Sample	A0925709
11	09/25/97 22:02:00		9709356-01B	Sample	A0925710
12	09/25/97 22:30:00		9709353-01A	Sample	A0925711
13	09/25/97 22:59:00		9709353-02A	Sample	A0925712
14	09/25/97 23:27:00		9709353-03A	Sample	A0925713
15	09/25/97 23:55:00		9709366-01A	Sample	A0925714
16	09/26/97 00:24:00		9709366-02A	Sample	A0925715
17	09/26/97 00:52:00		9709366-03A	Sample	A0925716
18	09/26/97 01:20:00		9709366-04A	Sample	A0925717
19	09/26/97 01:48:00		9709366-05A	Sample	A0925718
20	09/26/97 02:17:00		9709366-06A	Sample	A0925719
21	09/26/97 02:45:00		9709395-03A	Sample	A0925720
22	09/26/97 03:13:00		9709395-01A	Sample	A0925721
23	09/26/97 03:41:00		9709395-02A	Sample	A0925722
24	09/26/97 04:10:00		9709449-18A	Sample	A0925723
25	09/26/97 04:38:00		9709455-18A	Sample	A0925724
26	09/26/97 05:06:00		9709454-18A	Sample	A0925725
27	09/26/97 05:35:00		9709444-18A	Sample	A0925726
28	09/26/97 06:05:00	DOW-VP-CLS-11-V1/V14	9709429-15A	Sample	A0925727

Extraction Batch #
Analysis Batch # MSMSDA70925181601

Project Sample ID DOW-VP-CLS-11-V1/V14 Date Collected 09/17/97 Instrument MSDA Reporting Subset ___ Matrix W
Lab Sample ID 9709429-15A COMPOS Date Received 09/19/97 Column ___ Spikes Subset ___ Report As received
File # A0925727 Date Prepared ___ Analyst MER Specs Subset ___ % Moisture ___
Method Volatile Organics SW8260A Date Analyzed 09/26/97 06:05:00 Reviewer APS
Test Code 826SWAVP

Analyte	CAS #	Aliquot Mass/Volume 15.0 (mL) Extract/Digestate Volume 15.0 (mL) Dilution Factor 10 — Measured Concentration ug/L	Detection Limit ug/L	Reporting Limit ug/L
Chlorobenzene	108-90-7	ND	0.968	0
1,1,2-Trichloroethane	79-00-5	ND	1.47	0

Surrogate(s)	CAS #	Spiked Conc. ug/L	Measured Concentration ug/L	Recovery %	Specification Limits Low %	Specification Limits High %
1,4-Bromofluorobenzene	460-00-4	167	159	95	77	117
1,2-Dichloroethane-d4	17060-07-0	167	171	103	61	143
Toluene-d8	2037-26-5	167	164	98	87	113

LABORATORY BLANK INFORMATION

Extraction Batch # _____
Analysis Batch # MSMSDA70925181601

Lab Sample ID BLK973847 | Date Prepared _____ | Instrument MSDA | Reporting Subset ___ | Matrix W
File # A0925705 | Date Analyzed 09/25/97 19:41:00 | Column _____ | Spikes Subset ___
Method Volatile Organics SW8260A | Analyst MER | Specs Subset ___
Test Code 826SWAVP | Reviewer APS

Analyte	Aliquot Mass/Volume 15.0 (mL) Extract/Digestate Volume 15.0 (mL) Dilution Factor 1 Measured Conc. ug/L	Detection Limit ug/L	Reporting Limit ug/L
Chlorobenzene	ND	0.0968	0
1,1,2-Trichloroethane	ND	0.147	0

Surrogate(s)	Spiked Conc. ug/L	Measured Conc. ug/L	Recovery %	Specification Limits Low %	Specification Limits High %
1,4-Bromofluorobenzene	16.7	16.3	98	77	117
1,2-Dichloroethane-d4	16.7	16.9	101	61	143
Toluene-d8	16.7	16.7	100	87	113

09/29/97 17:.. :36

LABORATORY CONTROL SAMPLE

Work Order # 9709429

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Extraction Batch # _____

Analysis Batch # MSMSDA70925181601

Method Volatile Organics SW8260A
Test Code 826SWAVP

Date Prepared _____
Date Analyzed 09/25/97 19:13:00

Instrument MSDA
Column _____
Analyst MER
Reviewer APS

Reporting Subset ___ ___
Spikes Subset ___ ___
Specs Subset ___ ___

Matrix W
Report As received
% Moisture _____
Aliquot Mass or Vol 15.0 (mL)
Extract Mass or Vol 15.0 (mL)

Control Std. #	Vol. Added	Surrogate Sol'n #	Vol. Added
LCS1	5.0 uL	1,2-DCA-d4	1 uL
LCS2	5.0 uL	Toluene-d8	1 uL
		1,4-BFB	1 uL

LCS Lab Sample ID: LCS976894 File ID: A0925703

LCS Duplicate Lab Sample ID: LCSD976895 File ID: A0925704

Analyte	LCS Spiked Conc. ug/L	LCS Measured Conc. ug/L	LCS Rec. %	LCSD Spiked Conc. ug/L	LCSD Measured Conc. ug/L	LCSD Rec. %	Recovery Spec. Limits Low %	Recovery Spec. Limits High %	RPD Result %	RPD Spec. Limit %
Chlorobenzene	20.0	20.7	103	20.0	21.1	105	77	129	1.9	14
1,1,2-Trichloroethane	20.0	20.4	102	20.0	21.2	106	67	135	3.8	17

Surrogate(s)										
1,4-Bromofluorobenzene	16.7	15.9	95	16.7	16.2	97	77	117		
1,2-Dichloroethane-d4	16.7	16.4	98	16.7	16.6	100	61	143		
Toluene-d8	16.7	17.2	103	16.7	17.0	102	87	113		

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CONFIDENTIAL

MATRIX SPIKE(S)

Extraction Batch # _____
Analysis Batch # MSMSDA70925181601

Project Sample ID _____
Method Volatile Organics SW8260A
Test Code 826SWAMS

Date Collected 09/17/97
Date Received 09/18/97
Date Prepared _____
Date Analyzed 09/25/97 21:06:00

Instrument MSDA
Column _____
Analyst MER
Reviewer APS

Reporting Subset ___ ___
Spikes Subset ___ ___
Specs Subset ___ ___

Matrix W
Report As received
% Moisture _____

Spike Sol'n #	Vol. Added
LCS1	5.0 uL
LCS2	5.0 uL
Surrogate Sol'n	**Vol. Added**
1,2-DCA-d4	1 uL
Toluene-d8	1 uL
1,4-BFB	1 uL

Sample
Lab Sample ID
9709346-01A
File # A0925706
Aliquot Mass/Vol
15.0 (mL)
Extract Mass/Vol
15.0 (mL)
Dil Fact. 1

Spiked Sample
Lab Sample ID
9709346-02A MS
File # A0925707
Aliquot Mass/Vol
15.0 (mL)
Extract Mass/Vol
15.0 (mL)
Dil Fact. 1

Spiked Sample Dup
Lab Sample ID
9709346-03A MSD
File # A0925708
Aliquot Mass/Vol
15.0 (mL)
Extract Mass/Vol
15.0 (mL)
Dil Fact. 1

Analyte	Spike Sol'n Conc. ug/L	Measured Conc. ug/L	Spiked Conc. ug/L	Measured Conc. ug/L	Rec. %	Spiked Conc. ug/L	Measured Conc. ug/L	Rec. %	Recovery Specification Limits Low %	Recovery Specification Limits High %	RPD Result %	RPD Specification Limit %
Benzene	200000	ND	20.0	21.6	108	20.0	22.6	113	71	133	4.5	17
Chlorobenzene	200000	ND	20.0	21.0	105	20.0	21.7	108	77	129	2.8	14
1,1-Dichloroethene	200000	ND	20.0	24.3	122	20.0	26.0	130	47	175	6.4	25
Toluene	200000	ND	20.0	21.8	109	20.0	22.2	111	70	132	1.8	17
Trichloroethene	200000	3.06	20.0	25.2	111	20.0	26.9	119	71	129	7.0	17
Surrogate(s)												
1,4-Bromofluorobenzene	250000	15.7	16.7	15.2	91	16.7	15.5	93	77	117		
1,2-Dichloroethane-d4	250000	17.3	16.7	16.3	98	16.7	16.3	98	61	143		
Toluene-d8	250000	16.4	16.7	16.7	100	16.7	17.0	102	87	113		

CONTINUING (OR DAILY) CALIBRATION VERIFICATION

Analysis Batch # MSMSDA70925181601
Initial Calibration # MSDA970917000000

Lab Sample ID VSTDCAL
File # A0925702
Method Volatile Organics SW8260A
Test Code 826SWA00

Date Analyzed 09/25/97 18:16:00
Reporting Subset ___
Spikes Subset ___
Specs Subset ___

Instrument MSDA
Analyst MER
Reviewer APS

Analyte	Measured Concentration ug/L	Reference Concentration ug/L	Recovery %	Recovery Specification Limits Low %	Recovery Specification Limits High %
Acetone	18.3	20.0	92		
Acetonitrile	88.8	100	89		
Acrolein	91.4	100	91		
Acrylonitrile	20.9	20.0	104		
Benzene	21.0	20.0	105		
1-Bromo-2-chloroethane	20.3	20.0	102		
Bromobenzene	22.0	20.0	110		
Bromochloromethane	19.6	20.0	98		
Bromodichloromethane	21.0	20.0	105		
Bromoform	17.0	20.0	85		
Bromomethane	17.1	20.0	86		
2-Butanone (MEK)	19.6	20.0	98		
n-Butylbenzene	20.9	20.0	105		
sec-Butylbenzene	21.5	20.0	108		
tert-Butylbenzene	22.7	20.0	113		
Carbon disulfide	20.3	20.0	102		
Carbon tetrachloride	21.1	20.0	105		
2-Chloro-1,3-butadiene	20.7	20.0	104		
Chlorobenzene	21.0	20.0	105		
Chloroethane	18.0	20.0	90		
2-Chloroethyl vinyl ether	13.2	20.0	66		
Chloroform	20.8	20.0	104	80	120
1-Chlorohexane	20.3	20.0	102		
Chloromethane	14.4	20.0	72		
3-Chloropropene	21.6	20.0	108		

CONTINUING (OR DAILY) CALIBRATION VERIFICATION (Cont'd)

Analysis Batch # MSMSDA70925181601
Initial Calibration # MSDA970917000000

Lab Sample ID VSTDCAL Date Analyzed 09/25/97 18:16:00 Reporting Subset ___ Instrument MSDA
File # A0925702 Spikes Subset ___ Analyst MER
Method Volatile Organics SW8260A Specs Subset ___ Reviewer APS
Test Code 826SWA00

Analyte	Measured Concentration ug/L	Reference Concentration ug/L	Recovery %	Recovery Specification Limits Low %	Recovery Specification Limits High %
2-Chlorotoluene	22.3	20.0	111		
4-Chlorotoluene	22.0	20.0	110		
1,2-Dibromo-3-chloropropane	17.2	20.0	86		
Dibromochloromethane	19.8	20.0	99		
1,2-Dibromoethane	14.3	20.0	71		
Dibromomethane	21.1	20.0	105		
trans-1,4-Dichloro-2-butene	13.7	20.0	68		
1,2-Dichlorobenzene	21.6	20.0	108		
1,3-Dichlorobenzene	21.4	20.0	107		
1,4-Dichlorobenzene	20.6	20.0	103		
Dichlorodifluoromethane	11.3	20.0	57		
1,1-Dichloroethane	21.3	20.0	106		
1,2-Dichloroethane	21.2	20.0	106		
1,1-Dichloroethene	21.7	20.0	109	80	120
cis-1,2-Dichloroethene	20.1	20.0	101		
trans-1,2-Dichloroethene	19.5	20.0	97		
1,2-Dichloropropane	20.9	20.0	105	80	120
1,3-Dichloropropane	19.5	20.0	98		
2,2-Dichloropropane	23.3	20.0	117		
1,1-Dichloropropene	22.7	20.0	114		
cis-1,3-Dichloropropene	16.5	20.0	82		
trans-1,3-Dichloropropene	18.0	20.0	90		
Ethyl methacrylate	21.6	20.0	108		
Ethylbenzene	20.3	20.0	102	80	120
Hexachlorobutadiene	21.0	20.0	105		

CONTINUING (OR DAILY) CALIBRATION VERIFICATION (Cont'd)

Analysis Batch # MSMSDA70925181601
Initial Calibration # MSDA970917000000

Lab Sample ID VSTDCAL Date Analyzed 09/25/97 18:16:00 Reporting Subset ___ Instrument MSDA
File # A0925702 Spikes Subset ___ Analyst MER
Method Volatile Organics SW8260A Specs Subset ___ Reviewer APS
Test Code 826SWA00

Analyte	Measured Concentration ug/L	Reference Concentration ug/L	Recovery %	Recovery Specification Limits Low %	Recovery Specification Limits High %
2-Hexanone	16.2	20.0	81		
Iodomethane	17.0	20.0	85		
Isopropylbenzene	19.8	20.0	99		
p-Isopropyltoluene	20.3	20.0	102		
Methyl methacrylate	21.8	20.0	109		
Methyl t-butyl ether	19.6	20.0	98		
4-Methyl-2-pentanone (MIBK)	18.1	20.0	91		
Methylene chloride	19.2	20.0	96		
Naphthalene	20.1	20.0	101		
Propanenitrile	103	100	103		
n-Propylbenzene	21.1	20.0	105		
Styrene	19.6	20.0	98		
1,1,1,2-Tetrachloroethane	19.2	20.0	96		
1,1,2,2-Tetrachloroethane	21.1	20.0	106		
Tetrachloroethene	22.3	20.0	111		
Tetrahydrofuran	18.5	20.0	92		
Toluene	21.7	20.0	108	80	120
1,2,3-Trichlorobenzene	22.1	20.0	110		
1,2,4-Trichlorobenzene	21.6	20.0	108		
1,1,1-Trichloroethane	21.1	20.0	106		
1,1,2-Trichloroethane	22.0	20.0	110		
Trichloroethene	21.5	20.0	108		
Trichlorofluoromethane	20.0	20.0	100		
1,2,3-Trichloropropane	20.1	20.0	101		
1,1,2-Trichlorotrifluoroethane	21.0	20.0	105		

CONTINUING (OR DAILY) CALIBRATION VERIFICATION (Cont'd)

Analysis Batch # MSMSDA70925181601
Initial Calibration # MSDA970917000000

Lab Sample ID VSTDCAL Date Analyzed 09/25/97 18:16:00 Reporting Subset ___ Instrument MSDA
File # A0925702 Spikes Subset ___ Analyst MER
Method Volatile Organics SW8260A Specs Subset ___ Reviewer APS
Test Code 826SWA00

Analyte	Measured Concentration ug/L	Reference Concentration ug/L	Recovery %	Recovery Specification Limits Low %	Recovery Specification Limits High %
1,2,4-Trimethylbenzene	21.9	20.0	109		
1,3,5-Trimethylbenzene	22.9	20.0	115		
Vinyl acetate	26.0	20.0	130		
Vinyl chloride	17.0	20.0	85	80	120
m&p-Xylene	41.3	40.0	103		
o-Xylene	20.5	20.0	102		
Surrogate(s)					
1,4-Bromofluorobenzene	15.8	16.7	95	77	117
1,2-Dichloroethane-d4	16.3	16.7	97	61	143
Toluene-d8	16.9	16.7	101	87	113

ANALYTICAL PROTOCOL SUMMARY
COMMENTS / NARRATIVE

Method Volatile Organics SW8260A Specification# _____

Lab Sample ID / File ID	Project Sample ID/Description	Analyte	Flag	Comment/Narrative	Corrective Action