28029

NORTH PENN AREA 1
PHASE II REMEDIAL
INVESTIGATION REPORT
Work Assignment No. 03-3LW8.0
Contract No. 68-W8-0090
March 1993
Volume II—Appendices

Prepared for

Environmental Protection Agency
Region III
841 Chestnut Street
Philadelphia, Pennsylvania 19107

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AR300841

Appendix A
Existing Analytical Data

AR300842

GW001-1	NPWA Well S-10
GW002-1	NPWA Well S-9
GW003-1	Souderton Borough Well After Purge
GW004-1	Souderton Borough Well Before Purge
GW005-1	112 W Chestnut Street
GW006-1	143 Green Street
GW007-1	27 Green Street
GW008-1	23 Green Street
GW009-1	12 Green Street
GW010-1	Granite Knitting Mills
GW011-1	160 Main Street
GW012-1	161 Main Street
GW013-1	160 Main Street Duplicate
GW014-1	Corner of Wile and Walnut Streets
GW015-1	302 Main Street
GW016-1	Blank

TDM II-
TECHNICAL DATA MANAGEMENT SYSTEM

CHEMICAL ANALYSES BY STATION/PARAMETER REPORT TDMII-004
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REPORTING VALUES BETWEEN 25.01.01 AND 93.02.24, INCLUSIVE

STATION	PARAMETER	LAB	DATE	VALUE	FLAGS 1 2 3	UNITS	ANOMALY ID	FLAGS-4	56
GW001-1	1,1,1-TRICHLOROETHANE	NP	85.01.07	0.5000	U	UG/L		OTH	
		NP	85.01.07	0.5000	U	UG/L		10T	
		NP	85.01.21	0.5000	U	UG/L		OTH	
		NP	85.01.21	0.5000	U	UG/L		10T	
		NP	85.02.11	0.5000	U	UG/L		OTH	
		NP	85.02.11	0.5000	U	UG/L		10T	
		NP	85.02.25	0.5000	U	UG/L		OTH	
		NP	85.02.25	0.5000	U	UG/L		10T	
		NP	85.03.11	0.5000	U	UG/L		OTH	
		NP	85.03.11	0.5000	U	UG/L		10T	
		NP	85.03.25	0.5000	U	UG/L		OTH	
		NP	85.03.25	0.5000	U	UG/L		10T	
		NP	85.04.22	0.5000	U	UG/L		OTH	
		NP	85.04.22	0.5000	U	UG/L		10T	
		NP	85.05.06	0.5000	U	UG/L		OTH	
		NP	85.05.06	0.5000	U	UG/L		10T	
		NP	85.05.20	0.5000	U	UG/L		OTH	
		NP	85.05.20	0.5000	U	UG/L		10T	
		NP	85.06.03	0.5000	U	UG/L		OTH	
		NP	85.06.03	0.5000	U	UG/L		10	
		NP	85.06.17	0.5000	U	UG/L		OT	
		NP	85.06.17	0.5000	U	UG/L		10T	
		NP	85.06.24	0.5000	U	UG/L		OTH	
		NP	85.06.24	0.5000	U	UG/L		10T	
		NP	85.07.08	0.5000	U	UG/L		OTH	
		NP	85.07.08	0.5000	U	UG/L		10T	
		NP	85.07.22	0.5000	U	UG/L		OTH	
		NP	85.07.22	0.5000	U	UG/L		10T	
		NP	85.08.05	0.6000		UG/L		OTH	
		NP	85.08.05	0.6000		UG/L		10T	
		NP	85.08.19	0.6000		UG/L		OTH	
		NP	85.08.19	0.6000		UG/L		10T	
		NP	85.09.03	0.5000	U	UG/L		OTH	
		NP	85.09.03	0.5000	U	UG/L		10T	
		NP	85.09.16	0.5000		UG/L		OTH	
		NP	85.09.16	0.5000		UG/L		10T	
		NP	85.10.07	0.5000	U	UG/L		OTH	
		NP	85.10.07	0.5000	U	UG/L		10T	
		NP	85.10.21	0.5000	U	UG/L		OTH	
		NP	85.10.21	0.5000	U	UG/L		10T	
		NP	85.11.04	0.5000	U	UG/L		OTH	
		NP	85.11.04	0.5000	U	UG/L		10T	
		NP	85.12.09	0.5000	U	UG/L		OTH	
		NP	85.12.09	0.5000	U	UG/L		10T	
		NP	85.12.30	0.5000	U	UG/L		OTH	
		NP	85.12.30	0.5000	U	UG/L		10T	
		NP	86.08.28	0.5000	U	UG/L		10T	
	1,1-DICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T	

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CHEMICAL ANALYSES BY STATION/PARAMETER REPORT TDMII-004
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REPORTING VALUES BETWEEN 25.01.01 AND 93.02.24, INCLUSIVE

STATION	PARAMETER	LAB	DATE	VALUE	FLAGS 1 2 3	UNITS	ANOMALY ID	FLAGS-4	56
GW001-1	1,1-DICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T	
	CIS/TRANS-1,2-DICHLOROE	NP	86.08.28	0.5000	U	UG/L		10T	
	TETRACHLOROETHENE	NP	85.01.07	1.5000		UG/L		OTH	
		NP	85.01.07	1.5000		UG/L		10T	
		NP	85.01.21	2.1000		UG/L		OTH	
		NP	85.01.21	2.1000		UG/L		10T	
		NP	85.02.11	1.9000		UG/L		OTH	
		NP	85.02.11	1.9000		UG/L		10T	
		NP	85.02.25	2.3000		UG/L		OTH	
		NP	85.02.25	2.3000		UG/L		10T	
		NP	85.03.11	2.4000		UG/L		OTH	
		NP	85.03.11	2.4000		UG/L		10T	
		NP	85.03.25	1.7000		UG/L		OTH	
		NP	85.03.25	1.7000		UG/L		10T	
		NP	85.04.22	1.5000		UG/L		OTH	
		NP	85.04.22	1.5000		UG/L		10T	
		NP	85.05.06	1.8000		UG/L		OTH	
		NP	85.05.06	1.8000		UG/L		10T	
		NP	85.05.20	2.1000		UG/L		OTH	
		NP	85.05.20	2.1000		UG/L		10T	
		NP	85.06.03	2.2000		UG/L		OTH	
		NP	85.06.03	2.2000		UG/L		10T	
		NP	85.06.17	1.9000		UG/L		OTH	
		NP	85.06.17	1.9000		UG/L		10T	
		NP	85.06.24	2.6000		UG/L		OTH	
		NP	85.06.24	2.6000		UG/L		10T	
		NP	85.07.08	1.2000		UG/L		OTH	
		NP	85.07.08	1.2000		UG/L		10T	
		NP	85.07.22	1.8000		UG/L		OTH	
		NP	85.07.22	1.8000		UG/L		10T	
		NP	85.08.05	2.3000		UG/L		OTH	
		NP	85.08.05	2.3000		UG/L		10T	
		NP	85.08.19	1.8000		UG/L		OTH	
		NP	85.08.19	1.8000		UG/L		10T	
		NP	85.09.03	2.0000		UG/L		OTH	
		NP	85.09.03	2.0000		UG/L		10T	
		NP	85.09.16	2.2000		UG/L		OTH	
		NP	85.09.16	2.2000		UG/L		10T	
		NP	85.10.07	1.3000		UG/L		OTH	
		NP	85.10.07	1.3000		UG/L		10T	
		NP	85.10.21	1.8000		UG/L		OTH	
		NP	85.10.21	1.8000		UG/L		10T	
		NP	85.11.04	1.3000		UG/L		OTH	
		NP	85.11.04	1.3000		UG/L		10T	
		NP	85.12.09	1.7000		UG/L		OTH	
		NP	85.12.09	1.7000		UG/L		10T	
		NP	85.12.30	2.4000		UG/L		OTH	
		NP	85.12.30	2.4000		UG/L		10T	

CHEMICAL ANALYSES BY STATION/PARAMETER REPORT
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REPORTING VALUES BETWEEN 25.01.01 AND 93.02.24, INCLUSIVE

STATION	PARAMETER	LAB	DATE	VALUE	FLAGS 1 2 3	UNITS	ANOMALY ID	FLAGS-4 5
GW001-1	TETRACHLOROETHENE	NP	86.08.28	1.7000		UG/L		10T
		NP	87.01.19	1.3000		UG/L		OTH
		NP	87.02.02	1.5000		UG/L		OTH
		NP	87.02.17	1.6000		UG/L		OTH
		NP	87.03.02	1.4000		UG/L		OTH
		NP	87.03.30	0.5000		UG/L		OTH
		NP	87.04.13	1.5000		UG/L		OTH
		NP	87.04.27	1.2000		UG/L		OTH
		NP	87.05.18	1.5000		UG/L		OTH
		NP	87.06.01	1.5000		UG/L		OTH
		NP	87.06.15	0.9000		UG/L		OTH
		NP	87.06.29	1.3000		UG/L		OTH
		NP	87.07.20	1.3000		UG/L		OTH
		NP	87.07.27	1.3000		UG/L		OTH
		NP	87.08.10	1.8000		UG/L		OTH
		NP	87.08.24	1.4000		UG/L		OTH
		NP	87.09.08	1.1000		UG/L		OTH
	TRICHLOROETHENE	NP	85.01.07	0.7000		UG/L		OTH
		NP	85.01.07	0.7000		UG/L		10T
		NP	85.01.21	0.5000	U	UG/L		OTH
		NP	85.01.21	0.5000	U	UG/L		10T
		NP	85.02.11	0.5000	U	UG/L		OTH
		NP	85.02.11	0.5000	U	UG/L		10T
		NP	85.02.25	0.5000	U	UG/L		OTH
		NP	85.02.25	0.5000	U	UG/L		10T
		NP	85.03.11	0.5000	U	UG/L		OTH
		NP	85.03.11	0.5000	U	UG/L		10T
		NP	85.03.25	0.5000	U	UG/L		OTH
		NP	85.03.25	0.5000	U	UG/L		10T
		NP	85.04.22	0.5000	U	UG/L		OTH
		NP	85.04.22	0.5000	U	UG/L		10T
		NP	85.05.06	0.5000	U	UG/L		OTH
		NP	85.05.06	0.5000	U	UG/L		10T
		NP	85.05.20	0.5000	U	UG/L		OTH
		NP	85.05.20	0.5000	U	UG/L		10T
		NP	85.06.03	0.5000	U	UG/L		OTH
		NP	85.06.03	0.5000	U	UG/L		10T
		NP	85.06.17	0.5000	U	UG/L		OTH
		NP	85.06.17	0.5000	U	UG/L		10T
		NP	85.06.24	0.5000	U	UG/L		OTH
		NP	85.06.24	0.5000	U	UG/L		10T
		NP	85.07.08	0.5000	U	UG/L		OTH
		NP	85.07.08	0.5000	U	UG/L		10T
		NP	85.07.22	0.5000	U	UG/L		OTH
		NP	85.07.22	0.5000	U	UG/L		10T
		NP	85.08.05	0.5000	U	UG/L		OTH
		NP	85.08.05	0.5000	U	UG/L		10T
		NP	85.08.19	0.5000	U	UG/L		OTH

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REPORTING VALUES BETWEEN 25.01.01 AND 93.02.24, INCLUSIVE

STATION	PARAMETER	LAB	DATE	VALUE	FLAGS 1 2 3	UNITS	ANOMALY ID	FLAGS-4	56
GW001-1	TRICHLOROETHENE	NP	85.08.19	0.5000 U		UG/L		10T	
		NP	85.09.03	0.5000 U		UG/L		OTH	
		NP	85.09.03	0.5000 U		UG/L		10T	
		NP	85.09.16	0.5000 U		UG/L		OTH	
		NP	85.09.16	0.5000 U		UG/L		10T	
		NP	85.10.07	0.5000 U		UG/L		OTH	
		NP	85.10.07	0.5000 U		UG/L		10T	
		NP	85.10.21	0.5000 U		UG/L		OTH	
		NP	85.10.21	0.5000 U		UG/L		10T	
		NP	85.11.04	0.5000 U		UG/L		OTH	
		NP	85.11.04	0.5000 U		UG/L		10T	
		NP	85.12.09	0.5000 U		UG/L		OTH	
		NP	85.12.09	0.5000 U		UG/L		10T	
		NP	85.12.30	0.5000 U		UG/L		OTH	
		NP	85.12.30	0.5000 U		UG/L		10T	
		NP	86.08.28	0.5000 U		UG/L		10T	
		NP	87.01.19	0.5000 U		UG/L		OTH	
		NP	87.02.02	0.5000 U		UG/L		OTH	
		NP	87.02.17	0.5000 U		UG/L		OTH	
		NP	87.03.02	0.5000 U		UG/L		OTH	
		NP	87.03.30	0.5000 U		UG/L		OTH	
		NP	87.04.13	0.5000 U		UG/L		OTH	
		NP	87.04.27	0.5000 U		UG/L		OTH	
		NP	87.05.18	0.5000 U		UG/L		OTH	
		NP	87.06.01	0.5000 U		UG/L		OTH	
		NP	87.06.15	0.5000 U		UG/L		OTH	
		NP	87.06.29	0.5000 U		UG/L		OTH	
		NP	87.07.20	0.5000 U		UG/L		OTH	
		NP	87.07.27	0.5000 U		UG/L		OTH	
		NP	87.08.10	0.5000 U		UG/L		OTH	
		NP	87.09.08	0.5000 U		UG/L		OTH	
GW002-1	1,1,1-TRICHLOROETHANE	UK	80.06.01	1.0000 U		UG/L			
		NP	86.01.27	0.5000 U		UG/L		10T	
		NP	86.01.27	0.5000 U	D	UG/L		10T	
		NP	86.01.27	0.5000 U	D	UG/L		10T	
		NP	86.01.28	0.5000		UG/L		10T	
		NP	86.01.28	0.5000 U	D	UG/L		10T	
		NP	86.01.28	0.6000	D	UG/L		10T	
		NP	86.01.29	0.6000		UG/L		10T	
		NP	86.08.28	0.5000 U		UG/L		10T	
	1,1-DICHLOROETHANE	UK	80.06.01	1.0000 U		UG/L			
		NP	86.08.28	0.5000 U		UG/L		10T	
	1,1-DICHLOROETHENE	UK	80.06.01	1.0000 U		UG/L			
		NP	86.08.28	0.5000 U		UG/L		10T	
	CIS-1,2-DICHLOROETHYLEN	UK	80.06.01	1.0000 U		UG/L			
		NP	86.01.27	0.7000		UG/L		10T	
		NP	86.01.27	0.6000	D	UG/L		10T	

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REPORTING VALUES BETWEEN 25.01.01 AND 93.02.24, INCLUSIVE

STATION	PARAMETER	LAB	DATE	VALUE	FLAGS 1	FLAGS 2	FLAGS 3	UNITS	ANOMALY ID	FLAGS 4	FLAGS 5
GW002-1	CIS-1,2-DICHLOROETHYLEN	NP	86.01.27	0.5000		D		UG/L		10T	
		NP	86.01.28	0.5000				UG/L		10T	
		NP	86.01.28	0.5000	U	D		UG/L		10T	
		NP	86.01.29	0.5000	U			UG/L		10T	
	CARBON TETRACHLORIDE	UK	80.06.01	1.0000	U			UG/L			
	CIS/TRANS-1,2-DICHLOROE	NP	86.08.28	0.5000	U			UG/L		10T	
	TETRACHLOROETHENE	UK	80.06.01	12.0000				UG/L			
		NP	86.01.27	24.7000				UG/L		10T	
		NP	86.01.27	18.6000		D		UG/L		10T	
		NP	86.01.27	13.7000		D		UG/L		10T	
		NP	86.01.28	10.6000				UG/L		10T	
		NP	86.01.28	10.6000		D		UG/L		10T	
		NP	86.01.29	13.6000				UG/L		10T	
		NP	86.08.28	13.4000				UG/L		10T	
		NP	87.03.11	11.3000				UG/L		OTH	
		NP	87.04.15	10.6000				UG/L		OTH	
		NP	87.05.13	10.7000				UG/L		OTH	
		NP	87.06.10	10.8000				UG/L		OTH	
		NP	87.07.08	13.5000				UG/L		OTH	
		NP	87.09.16	12.6000				UG/L		OTH	
	TRANS-1,2-DICHLOROETHEN	UK	80.06.01	1.0000	U			UG/L			
	TRICHLOROETHENE	UK	80.06.01	1.0000	U			UG/L			
		NP	86.01.27	0.7000				UG/L		10T	
		NP	86.01.27	0.6000		D		UG/L		10T	
		NP	86.01.27	0.5000		D		UG/L		10T	
		NP	86.01.28	0.5000	U			UG/L		10T	
		NP	86.01.28	0.5000	U	D		UG/L		10T	
		NP	86.01.29	0.5000	U			UG/L		10T	
		NP	86.08.28	0.5000	U			UG/L		10T	
		NP	87.03.11	0.5000	U			UG/L		OTH	
		NP	87.04.15	0.5000	U			UG/L		OTH	
		NP	87.05.13	0.5000	U			UG/L		OTH	
		NP	87.06.10	0.5000	U			UG/L		OTH	
		NP	87.07.08	0.5000	U			UG/L		OTH	
		NP	87.09.16	0.5000				UG/L		OTH	
GW003-1	1,1,1-TRICHLOROETHANE	NP	86.08.28	0.5000	U			UG/L		10T	
	1,1-DICHLOROETHANE	NP	86.08.28	0.5000	U			UG/L		10T	
	1,1-DICHLOROETHENE	NP	86.08.28	0.5000	U			UG/L		10T	
	CIS/TRANS-1,2-DICHLOROE	NP	86.08.28	0.5000	U			UG/L		10T	
	TETRACHLOROETHENE	NP	86.08.28	4.3000				UG/L		10T	
	TRICHLOROETHENE	NP	86.08.28	5.0000				UG/L		10T	
GW004-1	1,1,1-TRICHLOROETHANE	NP	86.08.28	0.5000	U			UG/L		10T	
	1,1-DICHLOROETHANE	NP	86.08.28	0.5000	U			UG/L		10T	
	1,1-DICHLOROETHENE	NP	86.08.28	0.5000	U			UG/L		10T	
	CIS/TRANS-1,2-DICHLOROE	NP	86.08.28	0.5000	U			UG/L		10T	
	TETRACHLOROETHENE	NP	86.08.28	3.5000				UG/L		10T	

CHEMICAL ANALYSES BY STATION/PARAMETER REPORT TDMII-004
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REPORTING VALUES BETWEEN 25.01.01 AND 93.02.24; INCLUSIVE

STATION	PARAMETER	LAB	DATE	VALUE	FLAGS 1 2 3	UNITS	ANOMALY ID	FLAGS-4 56
GW004-1	TRICHLOROETHENE	NP	86.08.28	4.8000		UG/L		10T
GW005-1	1,1,1-TRICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	CIS/TRANS-1,2-DICHLOROE	NP	86.08.28	0.5000	U	UG/L		10T
	TETRACHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	TRICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
GW006-1	1,1,1-TRICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	CIS/TRANS-1,2-DICHLOROE	NP	86.08.28	0.5000	U	UG/L		10T
	TETRACHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	TRICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
GW007-1	1,1,1-TRICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	CIS/TRANS-1,2-DICHLOROE	NP	86.08.28	0.5000	U	UG/L		10T
	TETRACHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	TRICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
GW008-1	1,1,1-TRICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	CIS/TRANS-1,2-DICHLOROE	NP	86.08.28	0.5000	U	UG/L		10T
	TETRACHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	TRICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
GW009-1	1,1,1-TRICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	CIS/TRANS-1,2-DICHLOROE	NP	86.08.28	0.5000	U	UG/L		10T
	TETRACHLOROETHENE	NP	86.08.28	14.1000		UG/L		10T
	TRICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
GW010-1	1,1,1-TRICHLOROETHANE	NP	86.08.28	249.5000		UG/L		1GK
	1,1-DICHLOROETHANE	NP	86.08.28	4.4000		UG/L		1GK
	1,1-DICHLOROETHENE	NP	86.08.28	9.9000		UG/L		1GK
	CIS/TRANS-1,2-DICHLOROE	NP	86.08.28	23.0000		UG/L		1GK
	TETRACHLOROETHENE	NP	86.08.28	33.5000		UG/L		1GK
	TRICHLOROETHENE	NP	86.08.28	12.2000		UG/L		1GK
GW011-1	1,1,1-TRICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	CIS/TRANS-1,2-DICHLOROE	NP	86.08.28	0.5000	U	UG/L		10T

CHEMICAL ANALYSES BY STATION/PARAMETER REPORT
93.02.24 11:39:41
REPORTING VALUES BETWEEN 25.01.01 AND 93.02.24, INCLUSIVE

STATION	PARAMETER	LAB	DATE	VALUE	FLAGS 1 2 3	UNITS	ANOMALY ID	FLAGS 4 5
GW011-1	TETRACHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	TRICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
GW012-1	1,1,1-TRICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	CIS/TRANS-1,2-DICHLOROE	NP	86.08.28	0.5000	U	UG/L		10T
	TETRACHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	TRICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
GW013-1	1,1,1-TRICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	CIS/TRANS-1,2-DICHLOROE	NP	86.08.28	0.5000	U	UG/L		10T
	TETRACHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	TRICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
GW014-1	1,1,1-TRICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	CIS/TRANS-1,2-DICHLOROE	NP	86.08.28	0.5000	U	UG/L		10T
	TETRACHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	TRICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
GW015-1	1,1,1-TRICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	CIS/TRANS-1,2-DICHLOROE	NP	86.08.28	0.5000	U	UG/L		10T
	TETRACHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	TRICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
GW016-1	1,1,1-TRICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHANE	NP	86.08.28	0.5000	U	UG/L		10T
	1,1-DICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	CIS/TRANS-1,2-DICHLOROE	NP	86.08.28	0.5000	U	UG/L		10T
	TETRACHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T
	TRICHLOROETHENE	NP	86.08.28	0.5000	U	UG/L		10T

VCC REPORT
for 03/03/92

R = RAW
T = CHLORINATED

ALL RESULTS EXPRESSED AS ug/L.

(NOTE: -0.5 = <0.5 ug/L)

SAMPLE#	CODE	LOCATION	TYPE	NOTES	SAMP IHM	DATE	VC	1,1-DCE	CH2CL2	T-1,2-DCE	1,1-DCA	C-1,2-DCE	CHCL3	111-TCA	CCL4	BENZENE	1,2-DCA	TCE	CL2BRCH	BCE	BR2CLCH	BR3CH	P-DCB
872726	S2	WELL S-2	R	S-2 RAW	N	11/11/87																	
880700	S2	WELL S-2	T		N	03/25/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
890325	S2	WELL S-2	R		N	02/09/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
891227	S2	WELL S-2	R		N	05/25/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
892061	S2	WELL S-2	R		N	08/24/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
892909	S2	WELL S-2	R		N	11/28/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
900171	S2	WELL S-2	T		N	01/09/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.6	-0.5	1.9	3.5	-0.5
901551	S2	WELL S-2	T		N	07/10/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
910672	S2	WELL S-2	T		N	02/14/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.1	-0.5	-0.5	-0.5	-0.5	-0.5	2.9	0.6	4.7	3.5	-0.5
911683	S2	WELL S-2	T		N	04/29/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.6	-0.5	-0.5	-0.5
911785	S2	WELL S-2	T		N	05/06/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.7	0.5	3.5	4.2	-0.5
912994	S2	WELL S-2	T		N	08/05/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.6	0.5	2.8	-0.5

AR300851

VOC REPORT
for 03/03/92

R = RAW
T = CHLORINATED

ALL RESULTS EXPRESSED AS ug/L.

(NOTE: -0.5 = <0.5 ug/L)

SAMPLE#	CODE	LOCATION	TYPE	NOTES	SAMP THN	DATE	VC	1,1-DCE	CH2CL2	T-1,2-DCE	1,1-DCA	C-1,2-DCE	CHCL3	111-TCA	CCL4	BENZENE	1,2-DCA	TCE	CL2BRCH	PCE	BR2CLCH	BR3CH	P-DCB
870177	S4	WELL S-4	R	S-4 RAW	N	01/19/87														2.2			
870249	S4	WELL S-4	R	S-4 RAW	N	02/02/87														2.7			
870344	S4	WELL S-4	R	S-4 RAW	N	02/17/87														2.9			
870427	S4	WELL S-4	R	S-4 RAW	N	03/02/87														2.5			
870547	S4	WELL S-4	R	S-4 RAW	N	03/16/87														2.4			
870664	S4	WELL S-4	R	S-4 RAW	N	03/30/87														2.6			
870799	S4	WELL S-4	R	S-4 RAW	N	04/13/87														3.3			
870942	S4	WELL S-4	R	S-4 RAW	N	04/27/87								0.6						2.8			
870978	S4	WELL S-4	R	S-4 RAW	N	05/04/87														2.7			
871139	S4	WELL S-4	R	S-4 RAW	N	05/18/87														2.8			
871243	S4	WELL S-4	R	S-4 RAW	N	06/01/87														2.9			
871268	S4	WELL S-4	R	S-4 RAW	N	06/03/87														3.1			
871370	S4	WELL S-4	R	S-4 RAW	N	06/15/87								0.6						2.4			
871463	S4	WELL S-4	R	S-4 RAW	N	06/29/87														3.4			
871640	S4	WELL S-4	R	S-4 RAW	N	07/20/87														2.3			
871676	S4	WELL S-4	R	S-4 RAW	N	07/27/87														2.4			
871835	S4	WELL S-4	R	S-4 RAW	N	08/10/87														3.1			
871951	S4	WELL S-4	R	S-4 RAW	N	08/24/87														3.1			
872043	S4	WELL S-4	R	S-4 RAW	N	09/08/87														2.8			
872044	S4	WELL S-4	R	S-4 RAW	N	09/08/87														3.5			
872183	S4	WELL S-4	R	S-4 RAW	N	09/21/87														2.6			
872308	S4	WELL S-4	R	S-4 RAW	N	10/05/87														2.7			
872440	S4	WELL S-4	R	S-4 RAW	N	10/19/87														2.1			
872572	S4	WELL S-4	R	S-4 RAW	N	11/02/87														3.6			
872722	S4	WELL S-4	R	S-4 RAW	N	11/11/87														3.2			
872914	S4	WELL S-4	R	S-4 RAW	N	11/23/87														2.7			
873021	S4	WELL S-4	R	S-4 RAW	N	12/07/87														2.4			

AR300852

SAMPLE#	CODE	LOCATION	TYPE	NOTES	SAMP THN	DATE	VC	1,1-DCE	CH2CL2	T-1,2-DCE	1,1-DCA	C-1,2-DCE	CHCL3	111-TCA	CCL4	BENZENE	1,2-DCA	TCE	CL2BRCH	PCE	BR2CLCH	BR3CH	P-DCB
873205	S4	WELL S-4	R	S-4 RAW	N	12/21/87														3.7			
880040	S4	WELL S-4	R	RAW	N	01/04/88														2.7			
880133	S4	WELL S-4	R	RAW	N	01/18/88														3.			
880264	S4	WELL S-4	R	RAW	N	02/01/88														3.5			
880382	S4	WELL S-4	R	RAW	N	02/16/88														3.			
880479	S4	WELL S-4	R	RAW	N	02/29/88														1.7			
880608	S4	WELL S-4	R	RAW	N	03/16/88														3.1			
880701	S4	WELL S-4	T		N	03/25/58	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.2	0.7	2.2	-0.5
881188	S4	WELL S-4	R		N	05/31/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.2	-0.5	-0.5	-0.5
881356	S4	WELL S-4	R		N	06/20/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.	-0.5	-0.5	-0.5
881475	S4	WELL S-4	R		N	07/05/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	2.6	-0.5	-0.5	-0.5
881633	S4	WELL S-4	R		N	07/18/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.4	-0.5	-0.5	-0.5
881747	S4	WELL S-4	R		N	08/01/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	2.6	-0.5	-0.5	-0.5
881748	S4	WELL S-4	R	DUP OF 881747	N	08/01/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	2.3	-0.5	-0.5	-0.5
881853	S4	WELL S-4	R		N	08/15/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.2	-0.5	-0.5	-0.5
882035	S4	WELL S-4	T		N	09/07/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.2	2.6	5.1	16.2	-0.5
882722	S4	WELL S-4	T		N	12/07/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5		-0.5	-0.5	-0.5	3.6	0.6	3.1	-0.5
890326	S4	WELL S-4	R		N	02/09/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.5	-0.5	-0.5	-0.5
890479	S4	WELL S-4	R		N	02/27/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	2.3	-0.5	-0.5	-0.5
890588	S4	WELL S-4	R		N	03/13/69	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.	-0.5	-0.5	-0.5
890628	S4	WELL S-4	T		N	03/20/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.1	-0.5	-0.5	-0.5
890688	S4	WELL S-4	R		N	03/27/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	2.6	-0.5	-0.5	-0.5
890821	S4	WELL S-4	R		N	04/10/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.8	-0.5	-0.5	-0.5
890933	S4	WELL S-4	R		N	04/24/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	2.3	-0.5	-0.5	-0.5

AR300853

SAMPLE#	CODE	LOCATION	TYPE	NOTES	SAMP THN	DATE	VC	1,1-DCE	CH2CL2	T-1,2-DCE	1,1-DCA	C-1,2-DCE	CHCL3	111-TCA	CCL4	BENZENE	1,2-DCA	TCE	CL2BRCH	PCE	BR2CLCH	BR3CH	P-DCB
891210	S4	WELL S-4	I		N	05/25/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.2	-0.5	2.5	-0.5
891228	S4	WELL S-4	R		N	05/25/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.5	-0.5	-0.5	-0.5
891406	S4	WELL S-4	R		N	06/12/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3	-0.5	-0.5	-0.5
891518	S4	WELL S-4	R		N	06/26/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.3	-0.5	-0.5	-0.5
891609	S4	WELL S-4	R		N	07/10/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.5	-0.5	-0.5	-0.5
891776	S4	WELL S-4	R		N	07/24/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.1	-0.5	-0.5	-0.5
891856	S4	WELL S-4	R		N	08/07/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.7	-0.5	-0.5	-0.5
892150	S4	WELL S-4	R		N	09/05/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	2.7	-0.5	-0.5	-0.5
892306	S4	WELL S-4	R		N	09/18/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	2.6	-0.5	-0.5	-0.5
892485	S4	WELL S-4	R		N	10/09/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.5	-0.5	-0.5	-0.5	0.6	-0.5	2.3	-0.5	-0.5	-0.5
892627	S4	WELL S-4	R		N	10/23/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	2.6	-0.5	-0.5	-0.5
892726	S4	WELL S-4	R		N	11/06/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.4	-0.5	-0.5	-0.5
892878	S4	WELL S-4	T		N	11/21/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.1	-0.5	-0.5	-0.5
893048	S4	WELL S-4	R		N	12/11/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.1	-0.5	-0.5	-0.5
900172	S4	WELL S-4	I		N	01/08/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.2	2.6	6.8	-0.5
901299	S4	WELL S-4	T		N	06/21/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.5	-0.5	0.9	-0.5
901552	S4	WELL S-4	T		N	07/10/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.6	3.6	2.4	3.2	-0.5
901831	S4	WELL S-4	R		N	07/30/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.6	-0.5	-0.5	-0.5
902095	S4	WELL S-4	T		N	08/13/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	4.6	1.2	2.2	-0.5
902096	S4	WELL S-4	T	DUPLICATE	N	08/13/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.6	-0.5	-0.5	-0.5	1.2	-0.5	4.4	-0.5	0.9	-0.5
903659	S4	WELL S-4	T		N	10/29/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	4.4	1.1	3.5	-0.5
903665	S4	WELL S-4	T	DUP	N	10/29/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	4.	-0.5	1.6	-0.5
904046	S4	WELL S-4	T	CH3BR=?	N	11/12/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	4.1	1.6	2.1	-0.5
910999	S4	WELL S-4	I		N	01/07/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.6	-0.5	-0.5	-0.5	-0.5	-0.5	0.7	4.8	2.6	3.	-0.5
910270	S4	WELL S-4	T		N	01/21/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	4.3	2.4	4.3	-0.5
910622	S4	WELL S-4	T		N	02/11/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	4.4	0.9	3.7	-0.5
910623	S4	WELL S-4	I	DUP	N	02/11/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	4.5	1.1	3.2	-0.5

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SAMPLE#	CODE	LOCATION	TYPE	NOTES	SAMP THN	DATE	VC	1,1-DCE	CH2CL2	T-1,2-DCE	1,1-DCA	C-1,2-DCE	CHCL3	111-TCA	CCL4	BENZENE	1,2-DCA	TCE	CL2BRCH	PCE	BR2CLCH	BR3CH	P-DCB
911318	S4	WELL S-4	T		N	04/01/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	5.	0.7	3.1	-0.5
911332	S4	WELL S-4	T	DUPLICATE	N	04/01/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	4.8	0.8	4.1	-0.5
911584	S4	WELL S-4	T		N	04/22/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	4.3	0.8	1.8	-0.5
911681	S4	WELL S-4	T		N	04/29/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	4.5	1.7	4.	-0.5
911885	S4	WELL S-4	T		N	05/13/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.7	4.6	4.8	5.1	-0.5
911947	S4	WELL S-4	T		N	05/20/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	4.6	1.4	5.2	-0.5
912118	S4	WELL S-4	T		N	06/03/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.9	1.1	4.4	-0.5
912514	S4	WELL S-4	T		N	07/01/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.8	0.6	3.6	-0.5
912795	S4	WELL S-4	T		N	07/22/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.7	1.4	4.6	-0.5
914032	S4	WELL S-4	T		N	12/10/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	2.7	1.7	3.1	-0.5
920098	S4	WELL S-4	T		N	01/09/92	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.2	1.3	1.5	-0.5

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VOC REPORT for 03/03/92

R = RAW
T = CHLORINATED

ALL RESULTS EXPRESSED AS ug/L. (NOTE: -0.5 = <0.5 ug/L)

SAMPLE#	CODE	LOCATION	TYPE	NOTES	THN	SAMP DATE	VC	1,1-DCE	CH2CL2	T-1,2-DCE	1,1-DCA	C-1,2-DCE	CHCL3	111-TCA	CCL4	BENZENE	1,2-DCA	TCE	CL2BRCH	PCE	BR2CLCH	BR3CH	P-DCB
870178	S8	WELL S-8	R		N	01/19/87																	
870250	S8	WELL S-8	R		N	02/02/87														0.6			
870345	S8	WELL S-8	R		N	02/17/87														0.5			
870428	S8	WELL S-8	R		N	03/02/87																	
870548	S8	WELL S-8	R		N	03/16/87																	
870680	S8	WELL S-8	R		N	03/31/87																	
870800	S8	WELL S-8	R		N	04/13/87														0.5			
870943	S8	WELL S-8	R		N	04/27/87								0.5						0.5			
870978	S8	WELL S-8	R		N	05/04/87																	
871140	S8	WELL S-8	R		N	05/18/87																	
871244	S8	WELL S-8	R		N	06/01/87																	
871371	S8	WELL S-8	R		N	06/15/87																	
871464	S8	WELL S-8	R		N	06/29/87																	
871641	S8	WELL S-8	R		N	07/20/87																	
871677	S8	WELL S-8	R		N	07/27/87																	
871728	S8	WELL S-8	R		N	07/28/87																	
871836	S8	WELL S-8	R		N	08/10/87																	
871952	S8	WELL S-8	R		N	08/24/87																	
872045	S8	WELL S-8	R		N	09/08/87														0.5			
872184	S8	WELL S-8	R		N	09/21/87																	
872310	S8	WELL S-8	R		N	10/05/87																	
872441	S8	WELL S-8	R		N	10/19/87																	
872575	S8	WELL S-8	R		N	11/02/87																	
872723	S8	WELL S-8	R		N	11/11/87																	
872915	S8	WELL S-8	R		N	11/23/87																	
873021	S8	WELL S-8	R		N	12/07/87																	

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SAMPLE#	CODE	LOCATION	TYPE	NOTES	SAMP THN	DATE	VC	1,1-DCE	CH2CL2	T-1,2-DCE	1,1-DCA	C-1,2-DCE	CHCL3	111-TCA	CCL4	BENZENE	1,2-DCA	TCE	CL2BRCH	PCE	BR2CLCH	BR3CH	P-DCB
880041	S8	WELL S-8	R		N	01/04/88																	
880165	S8	WELL S-8	R		N	01/21/88																	
880245	S8	WELL S-8	R		N	02/01/88																	
880383	S8	WELL S-8	R		N	02/16/88														0.5			
880480	S8	WELL S-8	R		N	02/16/88																	
880609	S8	WELL S-8	R		N	03/14/88																	
880702	S8	WELL S-8	T		N	03/25/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5

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881477	SB	WELL S-8		R		N	07/05/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
881634	SB	WELL S-8		R		N	07/18/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
881757	SB	WELL S-8		T		N	08/01/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.3	-0.5	-0.5	-0.5	-0.5	-0.5	1.4	-0.5	1.	-0.5	-0.5	-0.5
881854	SB	WELL S-8		R		N	08/15/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
890327	SB	WELL S-8		R		N	02/09/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
890564	SB	WELL S-8		R		N	03/13/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
890935	SB	WELL S-8		R		N	04/24/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
890936	SB	WELL S-8		R	"DUP"	N	04/24/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
891056	SB	WELL S-8		R		N	05/08/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	21.3	-0.5	0.6	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
891229	SB	WELL S-8		R		N	05/25/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
891385	SB	WELL S-8		R		N	06/12/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
891519	SB	WELL S-8		R		N	06/26/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.5	-0.5	-0.5	-0.5	-0.5
891610	SB	WELL S-8		R		N	07/10/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
891777	SB	WELL S-8		R		N	07/24/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
891857	SB	WELL S-8		R		N	08/07/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
892062	SB	WELL S-8		T		N	08/24/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	15.2	-0.5	-0.5	-0.5	-0.5	-0.5	(11.2)	-0.5	8.7	1.4	-0.5	
892151	SB	WELL S-8		R		N	09/05/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
892307	SB	WELL S-8		R		N	09/18/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
892486	SB	WELL S-8		R		N	10/09/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	(0.5)	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
892628	SB	WELL S-8		R		N	10/23/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
892725	SB	WELL S-8		R		N	11/06/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5

SAMPLE#	CODE	LOCATION	TYPE	NOTES	SAMP THN	DATE	VC	1,1-DCE	CH2CL2	T-1,2-DCE	1,1-DCA	C-1,2-DCE	CHCL3	111 TCA	CCL4	BENZENE	1,2-DCA	TCE	CL2BRCH	PCE	BR2CLCH	BR3CH	P-DCB
892932	SB	WELL S-8	R		N	11/29/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
893048	SB	WELL S-8	R		N	12/11/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
900173	SB	WELL S-8	T		N	01/09/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	7.8	-0.5	-0.5	-0.5	-0.5	-0.5	8.6	-0.5	5.3	1.8	-0.5	
901032	SB	WELL S-8	R		N	01/30/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
902	SB	WELL S-8	T	DUPLICATE	N	02/13/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.5	-0.5	-0.5	-0.5	(1.1	-0.5	-0.5	-0.5	-0.5	-0.5	

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903340	SB	WELL S-8		T	DUP CH3BR=?	N	10/15/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.7	-0.5	2.	0.5	-0.5
903660	SB	WELL S-8		T		N	10/29/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.8	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
904052	SB	WELL S-8		T	CH3BR=?	N	11/12/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.2	1.4	-0.5	-0.5	-0.5	3.2	0.7	-0.5	0.6	-0.5	-0.5
910091	SB	WELL S-8		T		N	01/07/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	4.3	-0.5	-0.5	-0.5	-0.5	-0.5	3.7	(0.6)	3.1	0.5	-0.5
910092	SB	WELL S-8		T		N	01/07/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	5.7	-0.5	-0.5	-0.5	-0.5	-0.5	5.1	0.5	3.3	0.6	-0.5
910624	SB	WELL S-8		T		N	02/11/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	2.6	-0.5	-0.5	-0.5	-0.5	-0.5	2.	0.7	2.1	-0.5	-0.5
911033	SB	WELL S-8		T		N	03/11/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.3	-0.5	-0.5	-0.5	-0.5	-0.5	1.	0.6	0.7	-0.5	-0.5
911585	SB	WELL S-8		T		N	04/22/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.7	0.5	1.7	-0.5	-0.5
911682	SB	WELL S-8		T		N	04/29/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.4	-0.5	-0.5	-0.5	-0.5	-0.5	1.5	0.5	1.4	-0.5	-0.5
911948	SB	WELL S-8		T		N	05/20/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.9	-0.5	-0.5	-0.5	-0.5	-0.5	1.6	0.8	1.5	-0.5	-0.5
912064	SB	WELL S-8		T		N	05/29/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	10.2	-0.5	-0.5	-0.5	-0.5	-0.5	5.1	0.7	2.9	-0.5	-0.5
912119	SB	WELL S-8		T		N	06/03/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.9	-0.5	-0.5	-0.5	-0.5	-0.5	2.	0.6	1.8	-0.5	-0.5
912418	SB	WELL S-8		T		N	06/24/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	4.6	-0.5	-0.5	-0.5	-0.5	-0.5	4.1	-0.5	3.3	0.7	-0.5
912796	SB	WELL S-8		T		N	07/22/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.7	-0.5	-0.5	-0.5	-0.5	-0.5	1.	-0.5	1.1	0.8	-0.5
912797	SB	WELL S-8		T		N	07/22/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.7	-0.5	-0.5	-0.5	-0.5	-0.5	0.9	-0.5	0.9	0.6	-0.5

AR300859

VOC REPORT for 03/03/92

R = RAW
T = CHLORINATED

ALL RESULTS EXPRESSED AS ug/L. (NOTE: -0.5 = <0.5 ug/L)

SAMPLE#	CODE	LOCATION	TYPE	NOTES	THM	SAMP DATE	VC	1,1-DCE	CH2CL2	T-1,2-DCE	1,1-DCA	C-1,2-DCE	CHCL3	111-TCA	CCL4	BENZENE	1,2-DCA	TCE	CL2BRCH	PCE	BR2CLCH	BR3CH	P-DCB
831205	S9	WELL S-9	R		N	06/21/83		-0.5				0.4	-0.5	1.	-0.5		-0.5	0.5	-0.5	15.5	-0.5	-0.5	
860261	S9	WELL S-9	R	TEST, 1 MINUTE	N	01/21/86	-0.5	-0.5	-0.5		-0.5	0.7	-0.5	-0.5	-0.5		-0.5	0.7	-0.5	24.7	-0.5	-0.5	
860262	S9	WELL S-9	R	TEST, 10 MIN.	N	01/21/86	-0.5	-0.5	-0.5		-0.5	0.8	-0.5	-0.5	-0.5		-0.5	0.6	-0.5	18.6	-0.5	-0.5	
860263	S9	WELL S-9	R	TEST, 1 HOUR	N	01/21/86	-0.5	-0.5	-0.5		-0.5	0.5	-0.5	-0.5	-0.5		-0.5	0.5	-0.5	13.7	-0.5	-0.5	
860272	S9	WELL S-9	R	TEST, 7 HOURS	N	01/28/86	-0.5	-0.5	-0.5		-0.5	0.5	-0.5	0.5	-0.5		-0.5	-0.5	-0.5	10.6	-0.5	-0.5	
860275	S9	WELL S-9	R	TEST, 24 HOURS	N	01/28/86	-0.5	-0.5	-0.5		-0.5	-0.5	-0.5	0.6	-0.5		-0.5	-0.5	-0.5	10.6	-0.5	-0.5	
860292	S9	WELL S-9	R	TEST, END	N	01/29/86	-0.5	-0.5	-0.5		-0.5	-0.5	-0.5	0.6	-0.5		-0.5	-0.5	-0.5	13.6	-0.5	-0.5	
861027	S9	WELL S-9	R	EPA S-2 : NPWA WELL S-9	N	08/28/86														13.4			
870521	S9	WELL S-9	R	S-9 RAW - 4 HOURS PUMPING	N	03/11/87														11.3			
870825	S9	WELL S-9	R	S-9 RAW, PUMP FOR 4 HOURS	N	04/15/87								0.6						10.6			
871079	S9	WELL S-9	R	S-9 RAW, PUMPED 4 HOURS	N	05/13/87								0.5						10.7			
871326	S9	WELL S-9	R	S-9 RAW, 4 HOURS PUMPING	N	06/10/87								0.8						10.8			
871538	S9	WELL S-9	R	S-9 RAW (AFTER FOUR HRS PUMPIN	N	07/08/87														13.5			
872133	S9	WELL S-9	R	S-9 RAW, 4 HOURS PUMPING	N	09/16/87												0.5		12.6			
872477	S9	WELL S-9	R	S-9 RAW, 4 HRS	N	10/21/87												0.5		9.8			

AR300860

VOC REPORT
for 03/03/92

R = RAW
T = CHLORINATED

ALL RESULTS EXPRESSED AS ug/L.

(NOTE: -0.5 = <0.5 ug/L)

SAMPLE#	CODE	LOCATION	TYPE	NOTES	THM	SAMP DATE	VC	1,1-DCE	CH2CL2	T-1,2-DCE	1,1-DCA	C-1,2-DCE	CHCL3	111-TCA	CCL4	BENZENE	1,2-DCA	TCE	CL2BRCH	PCE	BR2CLCH	BR3CH	P-DCB
870179	S10	WELL S-10	R	S-10 RAW	N	01/19/87														1.3			
870251	S10	WELL S-10	R	S-10 RAW	N	02/02/87														1.5			
870346	S10	WELL S-10	R	S-10 RAW	N	02/17/87														1.6			
870429	S10	WELL S-10	R	S-10 RAW	N	03/02/87														1.4			
870665	S10	WELL S-10	R	S-10 RAW	N	03/30/87														0.5			
870801	S10	WELL S-10	R	S-10 RAW	N	04/13/87														1.5			
870944	S10	WELL S-10	R	S-10 RAW	N	04/27/87														1.2			
871141	S10	WELL S-10	R	S-10 RAW	N	05/18/87														1.5			
871245	S10	WELL S-10	R	S-10 RAW	N	06/01/87														1.5			
871373	S10	WELL S-10	R	S-10 RAW	N	06/15/87														0.9			
871465	S10	WELL S-10	R	S-10 RAW	N	06/29/87														1.3			
871642	S10	WELL S-10	R	S-10 RAW	N	07/20/87														1.3			
871678	S10	WELL S-10	R	S-10 RAW	N	07/27/87														1.3			
871837	S10	WELL S-10	R	S-10 RAW	N	08/10/87														1.8			
871953	S10	WELL S-10	R	S-10 RAW	N	08/24/87														1.4			
872046	S10	WELL S-10	R	S-10 RAW	N	09/08/87														1.1			
872185	S10	WELL S-10	R	S-10 RAW	N	09/21/87														1.			
872311	S10	WELL S-10	R	S-10 RAW	N	10/05/87														1.1			
872312	S10	WELL S-10	R	S-10 RAW (DUP OF 2311-87)	N	10/05/87														1.6			
872442	S10	WELL S-10	R	S-10 RAW	N	10/19/87														1.5			
872573	S10	WELL S-10	R	S-10 RAW (DUP OF 2574-87)	N	11/02/87														1.1			
872574	S10	WELL S-10	R	S-10 RAW	N	11/02/87														1.4			
872724	S10	WELL S-10	R	S-10 RAW	N	11/11/87														0.8			
872916	S10	WELL S-10	R	S-10 RAW	N	11/23/87														1.5			
873023	S10	WELL S-10	R	S-10 RAW	N	12/01/87														1.			
873206	S10	WELL S-10	R	S-10 RAW	N	12/21/87														1.1			
880042	S10	WELL S-10	R	RAW	N	01/04/88														1.5			

AR300861

AR300862

SAMPLE#	CODE	LOCATION	TYPE	NOTES	THM	SAMP DATE	VC	1,1-DCE	CH2CL2	T-1,2-DCE	1,1-DCA	C-1,2-DCE	CHCL3	111-TCA	CCL4	BENZENE	1,2-DCA	TCE	CL2BRCH	PCE	BR2CLCH	BR3CH	P-DCB
880134	S10	WELL S-10	R	RAW	N	01/18/88														1.2			
880246	S10	WELL S-10	R	RAW	N	02/01/88														1.4			
880384	S10	WELL S-10	R	RAW	N	02/16/88														1.4			
880481	S10	WELL S-10	R	RAW	N	02/29/88														1.3			
880610	S10	WELL S-10	R	RAW	N	03/14/88														1.3			
880703	S10	WELL S-10	T		N	03/25/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.9	-0.5	-0.5	-0.5	-0.5	-0.5	1.5	1.6	2.6	1.9	-0.5
881357	S10	WELL S-10	R		N	06/20/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.9	-0.5	-0.5	-0.5
881476	S10	WELL S-10	R		N	07/05/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.	-0.5	-0.5	-0.5
881635	S10	WELL S-10	R		N	07/18/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.1	-0.5	-0.5	-0.5
881855	S10	WELL S-10	R		N	08/15/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.1	-0.5	-0.5	-0.5
882037	S10	WELL S-10	T		N	09/01/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.6	-0.5	-0.5	-0.5	-0.5	1.1	0.7	1.5	0.7	-0.5
882724	S10	WELL S-10	T		N	12/28/88	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.6	-0.5	-0.5		-0.5	-0.5	1.2	1.	1.7	0.7	-0.5
890328	S10	WELL S-10	R		N	02/09/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.1	-0.5	-0.5	-0.5
890480	S10	WELL S-10	R		N	02/27/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.9	-0.5	-0.5	-0.5
890589	S10	WELL S-10	R		N	03/13/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.8	-0.5	-0.5	-0.5
890629	S10	WELL S-10	T		N	03/20/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.9	-0.5	-0.5	-0.5	-0.5	-0.5	4.3	1.1	7.1	3.3	-0.5
890689	S10	WELL S-10	R		N	03/27/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.	-0.5	-0.5	-0.5
890822	S10	WELL S-10	R		N	04/10/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.	-0.5	-0.5	-0.5
890937	S10	WELL S-10	R		N	04/24/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.7	-0.5	-0.5	-0.5
891211	S10	WELL S-10	T		N	05/25/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.	-0.5	-0.5	-0.5	-0.5	-0.5	1.5	0.6	2.2	0.6	-0.5
891230	S10	WELL S-10	R		N	05/25/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.9	-0.5	-0.5	-0.5

SAMPLE#	CODE	LOCATION	TYPE	NOTES	SAMP THN	DATE	VC	1,1-DCE	CH2CL2	T-1,2-DCE	1,1-DCA	C-1,2-DCE	CHCL3	111-TCA	CCL4	BENZENE	1,2-DCA	TCE	CL2BRCH	PCE	BR2CLCH	BR3CH	P-DCB
891408	S10	WELL S-10	R		N	06/12/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.	-0.5	-0.5	-0.5
891520	S10	WELL S-10	R		N	06/26/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.1	-0.5	-0.5	-0.5
891611	S10	WELL S-10	R		N	07/10/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.8	-0.5	-0.5	-0.5
891779	S10	WELL S-10	R		N	07/24/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.	-0.5	-0.5	-0.5
891858	S10	WELL S-10	R		N	08/01/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.	-0.5	-0.5	-0.5
892181	S10	WELL S-10	R		N	09/05/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
892308	S10	WELL S-10	R		N	09/18/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.5	-0.5	-0.5	-0.5
892487	S10	WELL S-10	R		N	10/09/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	(0.5)	-0.5	0.8	-0.5	-0.5	-0.5
892629	S10	WELL S-10	R		N	10/23/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.6	-0.5	-0.5	-0.5
892726	S10	WELL S-10	R		N	11/06/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.7	-0.5	-0.5	-0.5
892879	S10	WELL S-10	T		N	11/27/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.6	-0.5	-0.5	-0.5
893050	S10	WELL S-10	T		N	12/11/89	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	10.8	-0.5	-0.5	-0.5	-0.5	-0.5	1.7	1.	1.3	0.5	-0.5
900174	S10	WELL S-10	T		N	01/09/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.3	-0.5	0.5	-0.5
901300	S10	WELL S-10	T		N	06/21/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.3	-0.5	-0.5	-0.5	-0.5	-0.5	2.2	0.8	2.	-0.5	-0.5
901686	S10	WELL S-10	T		N	07/11/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.6	-0.5	-0.5	-0.5
902098	S10	WELL S-10	T		N	08/13/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.7	(0.5)	-0.5	-0.5	-0.5	(1.)	0.8	0.9	0.6	-0.5	-0.5
902531	S10	WELL S-10	T		N	09/06/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.1	-0.5	-0.5	-0.5	-0.5	-0.5	1.1	1.	1.	-0.5	-0.5
902673	S10	WELL S-10	T		N	09/11/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.0	-0.5	-0.5	-0.5	-0.5	-0.5	3.6	0.9	4.0	1.7	-0.5
902674	S10	WELL S-10	T		N	09/11/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.5	1.1	0.8	-0.5	-0.5
903341	S10	WELL S-10	T	CH3BR=?	N	10/15/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.4	-0.5	-0.5	-0.5	-0.5	-0.5	1.1	0.8	0.8	-0.5	-0.5
903661	S10	WELL S-10	T		N	10/29/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
904051	S10	WELL S-10	T		N	11/12/90	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.3	-0.5	-0.5	-0.5	(3.1)	-0.5	1.	-0.5	-0.5	-0.5
910093	S10	WELL S-10	T		N	01/07/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.2	-0.5	-0.5	-0.5
910271	S10	WELL S-10	T		N	01/21/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5
910272	S10	WELL S-10	T	DUP	N	01/21/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.	-0.5	-0.5	-0.5
910625	S10	WELL S-10	T		N	02/11/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	4.2	-0.5	-0.5	-0.5	-0.5	-0.5	4.1	1.1	3.	-0.5	-0.5
911034	S10	WELL S-10	T		N	03/11/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.3	-0.5	-0.5	-0.5	-0.5	-0.5	0.7	1.3	0.5	-0.5	-0.5

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SAMPLE#	CODE	LOCATION	TYPE	NOTES	SAMP THN	DATE	VC	1,1-DCE	CH2CL2	1-1,2-DCE	1,1-DCA	C-1,2-DCE	CHCL3	111-TCA	CCL4	BENZENE	1,2-DCA	TCE	CL2BRCH	PCE	BR2CLCH	BR3CH	P-DCB
911586	S10	WELL S-10	T		N	04/22/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.7	-0.5	-0.5	-0.5	-0.5	-0.5	0.7	1.1	0.6	-0.5	-0.5
911949	S10	WELL S-10	T		N	05/20/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.	-0.5	-0.5	-0.5	-0.5	-0.5	0.8	1.4	0.7	-0.5	-0.5
911974	S10	WELL S-10	T		N	05/20/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	3.6	-0.5	-0.5	-0.5	-0.5	3.1	1.1	-0.5	-0.5	-0.5
912120	S10	WELL S-10	T		N	06/03/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.2	-0.5	-0.5	-0.5
912515	S10	WELL S-10	T		N	07/01/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.9	-0.5	-0.5	-0.5
912516	S10	WELL S-10	T		N	07/01/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.	-0.5	-0.5	-0.5
912798	S10	WELL S-10	T		N	07/22/91	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	1.2	-0.5	-0.5	-0.5
914034	S10	WELL S-10	T		N	12/13/91	0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	0.6	0.8	0.6	-0.5	-0.5
920100	S10	WELL S-10	T	CH3Br	N	01/09/92	-0.5	-0.5	-0.5	-0.5	-0.5	-0.5	2.2	-0.5	-0.5	-0.5	-0.5	-0.5	2.6	1.2	2.3	0.5	-0.5

AR300864

Appendix B
Geophysical Logs

AR300865

TECHNICAL MEMORANDUM CH2MHILL

PREPARED FOR: File

PREPARED BY: April Lloyd

DATE: February 25, 1993

PROJECT: WDC63133.RI.R1

North Penn Area 1
Well Video Commentary
NPWA Well S-9
Video Made April 8, 1992
Video Performed by Earth Data Inc.

Videoing of this well was first attempted on March 31, 1992. The initial video attempt at this well was halted by a pipe obstructing the borehole at 186 feet. The pipe (180 feet of copper tubing) was removed and well videoing was performed. The video begins with a survey of the well area. The well is located in the raised concrete pad in the pump house. The depth, in feet, of the camera in the well is recorded in the center of the picture.

Depth (ft)	Description
5	The camera is placed in the well. Calibration of camera to 5 feet from top of well casing is done with the pipe hanging in the well. The water table is at approximately 6 feet. Begin video survey.
25	Out of steel casing. Borehole walls encrusted with iron oxides, bacteria, silt and other debris.
48-49	Potential small horizontal fracture, small vertical fracture. Borehole walls also change color.
52	Rough borehole.
54-59	Begin rough borehole section. Big vertical fracture 55-59 feet.
62-66	Potential horizontal fracture then opening into big vertical fracture joints.
66-73	Rough borehole walls. Small vertical fractures.
73-75	Small vertical fractures, moving down fractures.
76-92	Rough walls, small fractures apparent. Lots of notches. Gray ledges are silt accumulation on sub-horizontal planes.

AR300866

95	Horizontal fracture or weathering zone.
107	Horizontal fracture.
109	Horizontal and vertical fracture zone.
115, 118	Rough borehole walls.
119-123	Big vertical fracture.
128	Rough borehole walls.
131-135	Rough borehole walls, small to medium fractures.
136	Wider borehole, horizontal fracture. Then rough with vertical fractures.
139-144	Medium vertical fracture. Lots of small fractures.
146	Rough borehole walls, medium to small stepped near vertical fractures.
149	Medium vertical fracture.
149-159	Numerous small vertical fractures.
159-160	Medium to big vertical fractures.
177	Notches in borehole walls.
180	Scars on sides of borehole are from copper tubing that was removed.
200	Possible horizontal fracture, very rough borehole walls.
209	Horizontal fracture.
220	Rough borehole.
221	Medium vertical fracture. Borehole apparently smaller, or not vertical.
235	Horizontal fracture.
255	Small horizontal fracture.
261-263	Vertical fracture, debris lodged in fracture.
268	Rough borehole walls.
278	Bottom of well, debris visible. Possibly a horizontal fracture.

TECHNICAL MEMORANDUM CH2MHILL

PREPARED FOR: File

PREPARED BY: April Lloyd

DATE: February 25, 1993

PROJECT: WDC63133.RI.R1

North Penn Area 1
Well Video Commentary
Granite Knitting Mills Well
Video Made March 31, 1992
Video Performed by Earth Data Inc.

The video begins with a survey of the Granite Knitting Mills Parking lot. The well is located in a concrete bunker. The depth, in feet, of the camera in the borehole is recorded in the center of the picture.

Depth (ft)	Description
5	Video probe set up and preparing to perform well survey. The white stick in the upper portion of the screen is set at the top of the concrete bunker and provides a 5-foot calibration. The well casing is below, and video camera begins moving onto the well. The sides of the well are cased with 8-inch diameter steel casing.
10	Pass out of steel casing. Water is dripping into the well. Potential fracture at base of steel casing.
	Borehole walls wet and appear to be encrusted. The encrustation may be silt, iron oxides, bacteria, and other particulates.
15-20	Series of small horizontal fractures. Major horizontal fracture at 17 feet. More water appears to be entering borehole.
26	Small vertical fracture.
28	Water table. Borehole walls rough, small fractures.
	More apparent caking on the borehole walls. Lots of particulates in water.

AR300868

38	Medium fracture at approximately 30 degrees to borehole.
40	Scrapes on borehole wall from pump removal.
46-59	A few notches in borehole walls.
61-64	Moving down a small near vertical fracture.
75	Small vertical fracture and notch.
78-80	Major vertical fracture.
93-98	A few smaller fractures, bigger fracture at 96 feet.
100	Borehole diameter decreases to 6-inches. Camera centralizers pressed to base of picture. This is not visible from the video, except as noncentralization of camera.
106-110	Rough boreholes.
110	Small vertical fractures.
114-117	Rough borehole walls with small vertical fractures.
121-126	Very big fractures, intersection with small fractures. Camera hung briefly at 124 feet.
127-130	Hack saw blade and plastic twist tie, slightly rough borehole walls.
136-138	Rough borehole walls, fracture notches.
141	Camera hanging up.
142-144	Fracture notches.
148	Small horizontal fracture.
153	Notch in borehole wall.
168	Rough borehole.
169-174	Vertical fractures and fracture planes.
178	Small vertical fractures.
181-188	Medium vertical fractures and rough borehole walls.

AR300869

189-192 Small vertical fractures.

194 Apparent bottom of well, see debris.

Video then makes another run through the section above the water table and below the surface casing (10 to 28 feet).

WDCR675/065.51

AR300870

Appendix C
Close Support Laboratory Methodology

AR300871

Appendix C

Close Support Laboratory Methodology

Instrument Operating Conditions

Samples were analyzed using a Photo Vac 10S50 Portable Photoionization GC with a CP-SIL 5 column and an 11.7 ev lamp. The carrier gas was an Ultra Zero Monitoring Air purchased from Scott Specialty Gases. The operating parameters of the Photo Vac were as follows:

- Flow = 8.5 milliliters (ml)/minute
- Gain = 50
- Internal temperature (column) = room temperature
- Analysis time = 750 seconds
- Event settings:
  - 1—on at 8 seconds, off at 10 seconds
  - 2—0,0
  - 3—on at 0, off at 100 seconds
  - 4—N/A
  - 5—N/A
  - 6—N/A
  - 7—N/A
  - 8—N/A
- Chart speed = 1 centimeter/minute
- Slope sensitivity = 14, 14, 4 millivolt/second
- Window = ±2%
- Timer delay = 10 seconds

Samples, standards, and blanks were analyzed by injecting 100 microliters (ul) of headspace vapor into the instrument using a gas-tight syringe.

Sample Preparation

Soil samples were prepared for analysis in the following manner:

- A subsample of between 15 to 25 grams of soil was transferred with a clean stainless steel spoon from its container to a clean 40 ml glass VOC vial.

- The sample was sealed with a teflon septum cap and placed in a constant temperature water bath. The temperature was maintained between 22 and 26 degrees celsius.

- The sample was kept in the water bath for a minimum of 30 minutes.

AR300872

- Prior to analysis, the vial was shaken for 30 seconds.
- A clean 100 ul gas-tight syringe was used to extract a 100 ul aliquot of headspace vapor through the septum.
- This aliquot was then injected into the Photo Vac.

Water samples were prepared as follows:

- A subsample of 20 ml was carefully poured from a zero headspace water sample into a clean 40 ml glass VOC vial.
- The sample was sealed with a teflon septum cap and placed in a constant temperature water bath. The temperature was maintained between 22 and 26 degrees celsius.
- The sample was kept in the water bath for a minimum of 30 minutes.
- Prior to analysis, the vial was shaken for 30 seconds.
- A clean 100 ul gas-tight syringe was used to extract a 100 ul aliquot of headspace vapor through the septum.
- This aliquot was then injected into the Photo Vac.

Standards were made by spiking a 20 ml aliquot of high pressure liquid chromatography (HPLC) water with the appropriate volumes of the purchased standards for the compounds of interest. The purchased standards were in a methanol solution. The spiked water standards were then extracted in the same manner as the water samples with the exception of the first step of pouring off 20 ml.

Samples were analyzed on a one-point calibration. This was done to allow for the number of samples within the CSL. It also was determined that because values were estimated only, a calibration curve would not be needed.

As stated earlier, the results are based on a one-point calibration. Syringe blanks also were run frequently to prevent cross contamination. Frequency of blanks and standards, along with concentration of standards, is contained within the North Penn Area 1 laboratory field books.

Retention times of the compounds varied because of temperature changes within the CSL trailer. Temperature within the trailer is shown on the injection log pages of the laboratory notebooks for each injection made. When drift occurred, standards were reanalyzed to verify standard retention times.

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The compounds that were analyzed for and estimated detection limits are as follows:

- 1,1-Dichloroethene (5 to 10 ppb)
- cis-1,2-Dichloroethene (5 to 10 ppb)
- trans-1,2-Dichloroethene (5 to 10 ppb)
- 1,1,1-Trichloroethane (200 ppb)
- Trichloroethene (5 to 10 ppb)
- Tetrachloroethene (5 to 10 ppb)

WDCR669/057.51

AR300874

NORTH PENN AREA 1 SOIL ANALYSIS
FIELD GC RESULTS

Sample Identification	Log Identification	Sample Date	Date Analyzed	Known Peaks		Response	Concentrations (ppb)	Unknown Peaks	
				Compounds	Rate			Rate	Response
L4-S1	A30	14-Apr-92	14-Apr-92	ND				ND	
L5-S2	A36	14-Apr-92	14-Apr-92	ND				ND	
L5-S3	A37	14-Apr-92	14-Apr-92	ND				ND	
L4-S3	A40	14-Apr-92	14-Apr-92	ND				ND	
L1-S1	A41	13-Apr-92	14-Apr-92	ND				ND	
L6-S2	A43	14-Apr-92	14-Apr-92	ND				ND	
L6-S4	A44	14-Apr-92	14-Apr-92	ND				ND	
L3-S1	A45	14-Apr-92	14-Apr-92	ND				ND	
L2-S1	A46	14-Apr-92	14-Apr-92	ND				ND	
L8-S2	A51	15-Apr-92	14-Apr-92	ND				ND	
L9-S2	A52	15-Apr-92	14-Apr-92	ND				ND	
L7-S2	A53	15-Apr-92	14-Apr-92	ND				ND	
GKM2-S2	B6	15-Apr-92	16-Apr-92	Tetrachloroethylene	616.7	0.896	19		
GKM2-S5	B8	15-Apr-92	16-Apr-92	Tetrachloroethylene	606.8	7.3	152		
GKM1-S4	B12	15-Apr-92	16-Apr-92	ND					
GKM1-S3	B13	15-Apr-92	16-Apr-92	Tetrachloroethylene	557.1	0.241	4		
GKM1-S1	B15	15-Apr-92	16-Apr-92	Tetrachloroethylene	562.1	0.19	3		
GKM6-S4	B16	16-Apr-92	16-Apr-92	Tetrachloroethylene	576.1	2.7	45		
GKM6-S4D	B19	16-Apr-92	16-Apr-92	Tetrachloroethylene	596.1	2.2	37		
GKM5-S5	B22	16-Apr-92	16-Apr-92	Tetrachloroethylene	605.7	0.264	4		

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NORTH PENN AREA 1 SOIL ANALYSIS
FIELD GC RESULTS

Sample Identification	Log Identification	Sample Date	Date Analyzed	Known Peaks		Response	Concentrations (ppb)	Unknown Peaks	
				Compounds	Rate			Rate	Response
GKM6-S6	B23	16-Apr-92	16-Apr-92	Tetrachloroethylene	611.2	0.253	4		
GKM5-S3	B26	16-Apr-92	16-Apr-92	Tetrachloroethylene	620	0.534	9		
GKM5-S4	B28	16-Apr-92	16-Apr-92	Tetrachloroethylene	616.7	0.572	10		
GKM4-S3	B31	16-Apr-92	16-Apr-92	CIS-1,2-Dichloroethylene	87.9	0.151	3.2		
				Trichloroethylene	212.5	0.265	2.2		
				Tetrachloroethylene	611.2	3.1	52		
GKM7-S3	B34	16-Apr-92	16-Apr-92	Tetrachloroethylene	612.3	0.346	7		
GKM10-S2	B35	16-Apr-92	16-Apr-92	Tetrachloroethylene	612.3	0.716	15		
GKM3-S2	B36	16-Apr-92	16-Apr-92	Tetrachloroethylene	611.2	0.309	6		
GKM3-S4	C3	16-Apr-92	17-Apr-92	ND					
GKM8-S4	C4	16-Apr-92	17-Apr-92	TRANS-1,2-Dichloroethylene	66.3	7	175		
				CIS-1,2-Dichloroethylene	89.2	18.7	7		
				Trichloroethylene	218.4	22.8	53		
				Tetrachloroethylene		OS			
ST3-S3	C6	17-Apr-92	17-Apr-92	ND					
ST3-S5	C7	17-Apr-92	17-Apr-92	ND					
ST2-S5	C8	17-Apr-92	17-Apr-92	ND					
ST5-S2	C9	17-Apr-92	17-Apr-92	ND					
ST4-S8	C10	17-Apr-92	17-Apr-92	ND					
ST5-S4	C11	17-Apr-92	17-Apr-92	ND					

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NORTH PENN AREA 1 SOIL ANALYSIS
FIELD GC RESULTS

Sample Identification	Log Identification	Sample Date	Date Analyzed	Known Peaks		Response	Concentrations (ppb)	Unknown Peaks	
				Compounds	Rate			Rate	Response
ST1-S3	C13	17-Apr-92	17-Apr-92	ND					
ST3-S7	C14	17-Apr-92	17-Apr-92	ND					
ST5-S1	C15	17-Apr-92	17-Apr-92	ND					
L8-S1	C16	17-Apr-92	17-Apr-92	ND					
ST4-S5	D5	20-Apr-92	20-Apr-92	ND				251.8	0.468
								431.6	0.67
ST4-S7	D7	20-Apr-92	20-Apr-92	ND					
GC5-S1	D11	20-Apr-92	20-Apr-92	ND					
GC3-S3	D12	20-Apr-92	20-Apr-92	Tetrachloroethylene	560.2	255	1449		
GC7-S2	D18	20-Apr-92	20-Apr-92	ND					
GC7-S4	D19	20-Apr-92	20-Apr-92	Tetrachloroethylene		OS		408.3	0.741
GC1-S2	D22	20-Apr-92	20-Apr-92	Tetrachloroethylene	602.4	0.281	2		
GC6-S5	D23	20-Apr-92	20-Apr-92	Trichloroethylene	206.1	0.239	1		
				Tetrachloroethylene		OS			
GC4-S1	E6	20-Apr-92	21-Apr-92	ND					
GC8-S3	E7	20-Apr-92	21-Apr-92	Tetrachloroethylene	628.8	2.9	73		
GC2-S1	E9	20-Apr-92	21-Apr-92	ND					
GC6-S6	E10	20-Apr-92	21-Apr-92	Tetrachloroethylene	623.3	1.1	28	412.5	2.5

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NORTH PENN AREA 1 SOIL ANALYSIS
FIELD GC RESULTS

Sample Identification	Log Identification	Sample Date	Date Analyzed	Known Peaks		Response	Concentrations (ppb)	Unknown Peaks	
				Compounds	Rate			Rate	Response
ST6-S4	E12	20-Apr-92	21-Apr-92	ND					
GC8-S2	E13	20-Apr-92	21-Apr-92	Tetrachloroethylene	606.8	2.1	53		
ST7-S2	E15	20-Apr-92	21-Apr-92	ND					
LEAVES	E16		21-Apr-92					49.2	0.143
1:10 dilution								69.9	3.1
								77.7	3.1
								89	4
								111.1	4.3
								136.5	24.6
								172.1	91.2
								198.4	20.8
								229.8	57.5
								260.8	14
								309.5	14.8
								373.6	0.521
								431.6	17.8
								455.6	20.5
								512.1	10.5
ST8-S3	E22	21-Apr-92	21-Apr-92	ND					
ST9-S5	E23	21-Apr-92	21-Apr-92	ND					

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NORTH PENN AREA 1 SOIL ANALYSIS
FIELD GC RESULTS

Sample Identification	Log Identification	Sample Date	Date Analyzed	Known Peaks		Response	Concentrations (ppb)	Unknown Peaks	
				Compounds	Rate			Rate	Response
PA2-S2	E27	21-Apr-92	21-Apr-92	TRANS-1,2-Dichloroethylene	56.8	0.106	0		
				CIS-1,2-Dichloroethylene	74.1	0.45	16		
				Trichloroethylene	165.8	5.2	50		
				Tetrachloroethylene	460.4	22.4	193		
PA3-S2	E31	21-Apr-92	21-Apr-92	Tetrachloroethylene	445.2	0.34	3		
ST10-S4	E32	21-Apr-92	21-Apr-92	ND					
ST9-S3	E33	21-Apr-92	21-Apr-92	ND					
PA8-S4	F8	21-Apr-92	22-Apr-92	Tetrachloroethylene	676.5	0.234	5		
PA4-S3	F9	21-Apr-92	22-Apr-92	CIS-1,2-Dichloroethylene	92.7	0.418	7		
				Trichloroethylene	230.9	0.631	5		
				Tetrachloroethylene	662.1	7.7	160		
PA5-S3	F15	21-Apr-92	22-Apr-92	Tetrachloroethylene	610.1	1	21		
PA7-S6	F17	21-Apr-92	22-Apr-92	Tetrachloroethylene	595.1	1.1	23		
PA6-S4	F18	21-Apr-92	22-Apr-92	Trichloroethylene	206.1	0.596	4		
				Tetrachloroethylene	583	193	1787		
GKM13-S1	F22	22-Apr-92	22-Apr-92	Trichloroethylene	196.1	0.547	4		
				Tetrachloroethylene	551.6	62.9	582		
GKM12-S2	F24	22-Apr-92	22-Apr-92	Tetrachloroethylene	548.1	0.266	2		
GKM11-S2	F25	22-Apr-92	22-Apr-92	Tetrachloroethylene	542.1	0.161	1		
PA7-S3	F27	22-Apr-92	22-Apr-92	Tetrachloroethylene	523.8	0.579	5		

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NORTH PENN AREA 1 SOIL ANALYSIS
FIELD GC RESULTS

Sample Identification	Log Identification	Sample Date	Date Analyzed	Known Peaks		Response	Concentrations (ppb)	Unknown Peaks	
				Compounds	Rate			Rate	Response
GKM12	F29	22-Apr-92	22-Apr-92	ND					
GKM11-S1	F30	22-Apr-92	22-Apr-92	ND					
PA10-S2	F33	22-Apr-92	22-Apr-92	ND					
PA9-S3	F34	22-Apr-92	22-Apr-92	Tetrachloroethylene	492.3	1.8	17		
GC-TS	F36	22-Apr-92	22-Apr-92	Tetrachloroethylene	484.2	0.576	5	322.7	0.362
GKM STM	F38	22-Apr-92	22-Apr-92	ND					
GKM14-S2	F40	22-Apr-92	22-Apr-92	ND					
PA5-S2	F41	22-Apr-92	22-Apr-92	Tetrachloroethylene	482.4	3.5	32		
PA8-S1	F43	22-Apr-92	22-Apr-92	Tetrachloroethylene	479.7	0.315	3		
GKM14-S1	F44	22-Apr-92	22-Apr-92	ND					

WDCR671/008.51

AR300880

NORTH PENN AREA 1 GROUNDWATER RESULTS
FIELD GC RESULTS

Sample Identification	Sample Date	Date Analyzed	Known Peaks/Compounds	Rate	Response	Concentrations (ppb)
GKM PUT S1	29-Apr-92	30-Apr-92	1,1-Dichloroethylene	53.1	0.193	1.1
			CIS-1.2-Dichloroethylene	91.1	0.41	10.6
			Trichloroethylene	196.9	0.324	2.2
			Tetrachloroethylene	524.2	2.8	32.0
GKM PUT S2	29-Apr-92	29-Apr-92	1,1-Dichloroethylene	53.4	0.081	0.4
			CIS-1.2-Dichloroethylene	92.3	0.33	0.9
			Trichloroethylene	199.7	0.266	1.4
			Tetrachloroethylene	531	1.9	21.7
GKM PUT S3	29-Apr-92	29-Apr-92	1,1-Dichloroethylene	55.3	0.072	0.3
			CIS-1.2-Dichloroethylene	97.1	0.174	0.5
			Trichloroethylene	216.5	0.232	1.3
			Tetrachloroethylene	582.1	0.643	7.3
GKM PUT S4		30-Apr-92	1,1-Dichloroethylene	53.4	0.048	0.3
			CIS-1.2-Dichloroethylene	92.5	0.164	4.3
			Trichloroethylene	202.9	0.158	1.0
			Tetrachloroethylene	546.1	1	11.0

AR300881

NORTH PENN AREA 1 GROUNDWATER RESULTS
FIELD GC RESULTS

Sample Identification	Sample Date	Date Analyzed	Known Peaks/Compounds	Rate	Response	Concentrations (ppb)
GKM PUT S5		30-Apr-92	1,1-Dichloroethylene	53.1	0.046	0.3
			CIS-1.2-Dichloroethylene	92.1	0.181	4.7
			Trichloroethylene	200.1	0.161	1.1
			Tetrachloroethylene	536.4	1.2	14.0
GKM PUT S6		30-Apr-92	1,1-Dichloroethylene	59.9	0.04	0.2
			CIS-1.2-Dichloroethylene	92.7	0.167	4.7
			Trichloroethylene	202.1	0.149	1.0
			Tetrachloroethylene	538.2	1.1	18.0
GKM PUT S7	29-Apr-92	29-Apr-92	1,1-Dichloroethylene	53.7	0.048	0.2
			CIS-1.2-Dichloroethylene	92.7	0.226	0.6
			Trichloroethylene	202	0.215	1.2
			Tetrachloroethylene	599.1	1.4	16.0
GKM PUT S8	29-Apr-92	29-Apr-92	1,1-Dichloroethylene	54.8	0.061	0.3
			CIS-1.2-Dichloroethylene	95.7	0.202	0.6
			Trichloroethylene	211.7	0.228	1.2
			Tetrachloroethylene	569.1	0.905	10.3

AR300882

NORTH PENN AREA 1 GROUNDWATER RESULTS
FIELD GC RESULTS

Sample Identification	Sample Date	Date Analyzed	Known Peaks/Compounds	Rate	Response	Concentrations (ppb)
GKM PUT S9		30-Apr-92	1,1-Dichloroethylene	53.7	0.058	0.3
			CIS-1.2-Dichloroethylene	92.5	0.195	5.5
			Trichloroethylene	200.5	0.181	1.2
			Tetrachloroethylene	533.7	1.3	22.0
						0.2
GKM PUT S10	29-Apr-92	29-Apr-92	1,1-Dichloroethylene	52.9	0.036	
			CIS-1.2-Dichloroethylene	90.7	0.193	0.5
			Trichloroethylene	196.1	0.153	0.8
			Tetrachloroethylene	520.2	1.3	14.8
GKM PUT S11		30-Apr-92	1,1-Dichloroethylene	55.5	0.079	0.4
			CIS-1.2-Dichloroethylene	95.5	0.208	5.8
			Trichloroethylene	210.5	0.186	1.2
			Tetrachloroethylene	565.1	0.869	14.5
GKM PUT S12		30-Apr-92	1,1-Dichloroethylene	54	0.087	0.5
			CIS-1.2-Dichloroethylene	93.5	0.213	5.5
			Trichloroethylene	206.9	0.152	1.0
			Tetrachloroethylene	550.1	0.811	9.2
GKM PUT S13		30-Apr-92	1,1-Dichloroethylene	53.4	0.069	0.4
			CIS-1.2-Dichloroethylene	92.1	0.222	5.8
			Trichloroethylene	198.5	0.171	1.1
			Tetrachloroethylene	523.3	1.3	15.0

AR300883

NORTH PENN AREA 1 GROUNDWATER RESULTS
FIELD GC RESULTS

Sample Identification	Sample Date	Date Analyzed	Known Peaks/Compounds	Rate	Response	Concentrations (ppb)
GKM PUT S14		30-Apr-92	1,1-Dichloroethylene	52.8	0.045	0.3
			CIS-1.2-Dichloroethylene	91.7	0.19	4.9
			Trichloroethylene	198.1	0.126	0.8
			Tetrachloroethylene	531	1	11.0
GKM PUT S15		30-Apr-92	1,1-Dichloroethylene	53.6	0.052	0.3
			CIS-1.2-Dichloroethylene	92.7	0.191	5.0
			Trichloroethylene	204.1	0.132	0.9
			Tetrachloroethylene	549.1	0.865	9.8
GKM PUT S16		30-Apr-92	1,1-Dichloroethylene	53.9	0.066	0.4
			CIS-1.2-Dichloroethylene	93.3	0.179	4.7
			Trichloroethylene	206.5	0.138	0.9
			Tetrachloroethylene	555.1	0.801	10.0
GKM PUT S17		01-May-92	1,1-Dichloroethylene	51.9	0.052	0.3
			CIS-1.2-Dichloroethylene	87.9	0.102	2.7
			Trichloroethylene	188.1	0.109	0.9
			Tetrachloroethylene	497.7	1	10.0
GKM PUT S18		01-May-92	1,1-Dichloroethylene	52	0.047	0.3
			CIS-1.2-Dichloroethylene	88.3	0.106	2.7
			Trichloroethylene	189.7	0.105	0.9
			Tetrachloroethylene	503.1	1	10.0

AR300884

NORTH PENN AREA 1 GROUNDWATER RESULTS
FIELD GC RESULTS

Sample Identification	Sample Date	Date Analyzed	Known Peaks/Compounds	Rate	Response	Concentrations (ppb)
GKM PUT S19		01-May-92	1,1-Dichloroethylene	52.2	0.041	0.2
			CIS-1.2-Dichloroethylene	88.9	0.103	2.6
			Trichloroethylene	191.3	0.111	0.9
			Tetrachloroethylene	508.5	0.988	9.9
GKM PUT S20		01-May-92	1,1-Dichloroethylene	49.3	0.134	0.8
			CIS-1.2-Dichloroethylene	89.7	0.174	4.3
			Trichloroethylene	194.1	0.093	0.8
			Tetrachloroethylene	518.4	0.865	8.7
GKM PUT S21		01-May-92	1,1-Dichloroethylene	49.3	0.116	0.7
			CIS-1.2-Dichloroethylene	90.1	0.157	3.9
			Trichloroethylene	0.195	0.077	0.6
			Tetrachloroethylene	522	0.737	7.4
GKM PUT S22		01-May-92	1,1-Dichloroethylene	49.5	168	1.0
			CIS-1.2-Dichloroethylene	91.9	0.145	3.6
			Trichloroethylene	198.5	0.087	0.7
			Tetrachloroethylene	531.9	0.735	7.4
GKM PUT S22 DUP		01-May-92	1,1-Dichloroethylene	49.1	0.181	1.0
			CIS-1.2-Dichloroethylene	89.3	0.079	2.0
			Trichloroethylene	192.9	0.074	0.6
			Tetrachloroethylene	513	0.819	8.2

AR300885

NORTH PENN AREA 1 GROUNDWATER RESULTS
FIELD GC RESULTS

Sample Identification	Sample Date	Date Analyzed	Known Peaks/Compounds	Rate	Response	Concentrations (ppb)
GKM PUT S22-D		01-May-92	1,1-Dichloroethylene	49.7	0.149	0.9
			CIS-1.2-Dichloroethylene	92.3	0.155	3.9
			Trichloroethylene	200.5	0.088	0.7
			Tetrachloroethylene	538.2	0.615	6.1
GKM PUT S23		02-May-92	CIS-1.2-Dichloroethylene	99.7	0.081	3.8
			Trichloroethylene	222.9	0.056	0.9
			Tetrachloroethylene	600.2	0.099	5.6
GKM PUT S24		02-May-92	CIS-1.2-Dichloroethylene	98.5	0.041	1.9
			Tetrachloroethylene	591.1	0.094	5.4
GKM S4 MS		30-Apr-92	1,1-Dichloroethylene	54.5	7	37.1
GKM S4 MS			CIS-1.2-Dichloroethylene	72.6	11.9	39.3
GKM S4 MS			TRANS 1,2-Dichloroethylene	94.5	2.4	66.0
GKM S4 MS			1,1,1-Trichloroethane	134	0.761	270.9
GKM S4 MS			Trichloroethylene	208.9	7.7	58.5
GKM S4 MS			Tetrachloroethylene	562.1	4.1	46.3
GKM S4 MSD		30-Apr-92	1,1-Dichloroethylene	54.5	6.7	35.5
GKM S4 MSD			CIS-1.2-Dichloroethylene	72.6	10.8	35.6
GKM S4 MSD			TRANS 1,2-Dichloroethylene	94.7	2.3	62.1
GKM S4 MSD			1,1,1-TRICHLOROETHANE	134	0.722	257.0
GKM S4 MSD			Trichloroethylene	209.3	7.1	54.0
GKM S4 MSD			Tetrachloroethylene	562.1	3.1	35.3

AR300886

NORTH PENN AREA 1 GROUNDWATER RESULTS
FIELD GC RESULTS

Sample Identification	Sample Date	Date Analyzed	Known Peaks/Compounds	Rate	Response	Concentrations (ppb)
GKM S4 MSD						
S1		28-Apr-92	CIS-1.2-Dichloroethylene	88.1	0.528	14.8
S1			Trichloroethylene	194.9	0.195	1.1
S1			Tetrachloroethylene	554.1	1.8	21.4
S2		28-Apr-92	CIS-1.2-Dichloroethylene	86.7	0.031	0.9
S2			Trichloroethylene	191.7	0.175	1.0
S2			Tetrachloroethylene	542.1	2	23.8
S2-DUP		28-Apr-92	CIS-1.2-Dichloroethylene	85.7	0.02	0.6
S2-DUP			Trichloroethylene	188.5	0.166	0.9
S2-DUP			Tetrachloroethylene	532.8	2.1	25.0
S3		28-Apr-92	CIS-1.2-Dichloroethylene	85.7	0.03	0.8
S3			Trichloroethylene	187.7	0.186	1.1
S3			Tetrachloroethylene	527.4	2.1	25.0
S4		28-Apr-92	CIS-1.2-Dichloroethylene	80.5	0.132	3.7
S4			Trichloroethylene	188.5	0.158	0.9
S4			Tetrachloroethylene	534.6	1.8	21.4
S5		28-Apr-92	CIS-1.2-Dichloroethylene	86.7	0.158	4.4
S5			Trichloroethylene	208.5	0.195	1.1
S5			Tetrachloroethylene	593.1	1.7	20.2
S6		28-Apr-92	CIS-1.2-Dichloroethylene	85.7	0.146	4.1
S6			Trichloroethylene	186.9	0.192	1.1

AR300887

NORTH PENN AREA 1 GROUNDWATER RESULTS
FIELD GC RESULTS

Sample Identification	Sample Date	Date Analyzed	Known Peaks/Compounds	Rate	Response	Concentrations (ppb)
S6			Tetrachloroethylene	526.5	2.1	25.0
WILE AVE. STREAM 1		28-Apr-92	ND			
WILE AVE. STREAM 2		28-Apr-92	ND			
WILE AVE. STREAM 3		28-Apr-92	ND			

WDCR675/014.51

AR300888

Appendix D

Well Sampling Reports and Well-Purging Data

AR300889

FIELD PARAMETERS GROUNDWATER SAMPLING					
Well (Date)	**Time**	**Volume (gal)**	**pH**	**Conductivity**	**Temperature**
250 Green St. (R-1) 4/21/92	1020 1030 1040	80 160 240	6.82 7.12 7.22	388 385 360	14 13.8 13.3
240 Green St. (R-4) 4/21/92	1125 1135 1145	100 200 300	7.38 7.44 7.53	352 340 340	14.8 14.5 14.5
14 Green St. (R-19) 4/21/92	1454 1500	- -	7.32 6.55	87 76	15 13.2
160 Main St. (R-17) 4/21/92	1530	0	5.96	147	16.7
NPWA S-9 4/22/92	1435 1549 1655	700 1400 2100	7.29 7.46 7.49	425 430 434	17.2 17 17.1
311 Cowpath (R-2) 4/23/92	0835 0845 0855		6.74 7.23 7.31	370 335 330	12.8 12.6 12.7
332 W. Broad St. (R-7) 4/23/92	1110				
335 W. Broad St. (R-8) 4/23/92	1148 1158 1208		7.37 7.47 7.46	334 300 300	14.7 13.6 13.7
Mennonite Homes (R-10) 4/23/92	1325		7.47	380	19.2
GKM Well (GKM) 4/30/92	1400	23,000			
Sonderton Boro Well (679) 4/30/92	1200	0			

AR300890

WELL INVENTORY FORM
NORTH PENN RI/FS

WELL ID

Name of Owner A. HALTEMAN (GW1-01)
Property Address 250 GREEN STREET
SOUDERTON, PA

Well Location SES REVERSE
(attach sketch and picture)

WELL CHARACTERISTICS

Date Installed_____
Driller's Name_____
(if available)
Well Depth 200 (ft.)
Well Diameter_____(inches)
Water Level_____(ft. below casing)
Water Column_____(ft.)
One Well Volume_____(gallons)

Is Well (cirlce one)

Screened Open Hole (Don't know)

Does Well have a Surface Casing?

(Yes) No Don't know

Depth of Surface Casing, if present
_____(ft.)

Depth to which pump is set _____(ft.)
Type of pump (if available)_____
Manufacturer of pump_____
(if available)
Date pump installed or replaced_____

What is the well yield? ≥ 8 (gpm)

Any additional information about the well
_____
_____
_____

Is the well registered with the County or State?
Permit Number_____
Attach Drilling Log if available.

I. SAMPLING DATA

Estimate of Flow Rate 8 (gpm)
Date/Time Sample Collected 4/21/92 / 1045
Actual Purge Time 30 (minutes)
Water Volume Purged 240 (gallons)
Sample Collected at OUTSIDE TAP
_____
_____

Description of Supply Line_____
_____
_____

IV. INFORMATION ABOUT PLUMBING AND WATER CONVEYANCE SYSTEM

Type of plumbing present in home: (check one or more)

____ A) Copper with soldered joints
____ B) Steel with threaded joints
____ C) Galvanized steel
____ D) Plastic or PVC
____ E) Blank iron
____ F) Other (Explain below)

_____

Is pressure tank made of galvanized steel or is it a newer model?_____

V. INFORMATION ABOUT WATER QUALITY

Is there a water softener installed in the system? (Yes) No BUT NOT IN LI. WITH OUTSIDE TAP

Any other water treatment system?_____
_____
_____
_____
_____

Any other water quality samples taken in the past? Yes No

Is the water hard? Yes No

Does the water contain iron (evidence of staining, etc.)?_____
_____

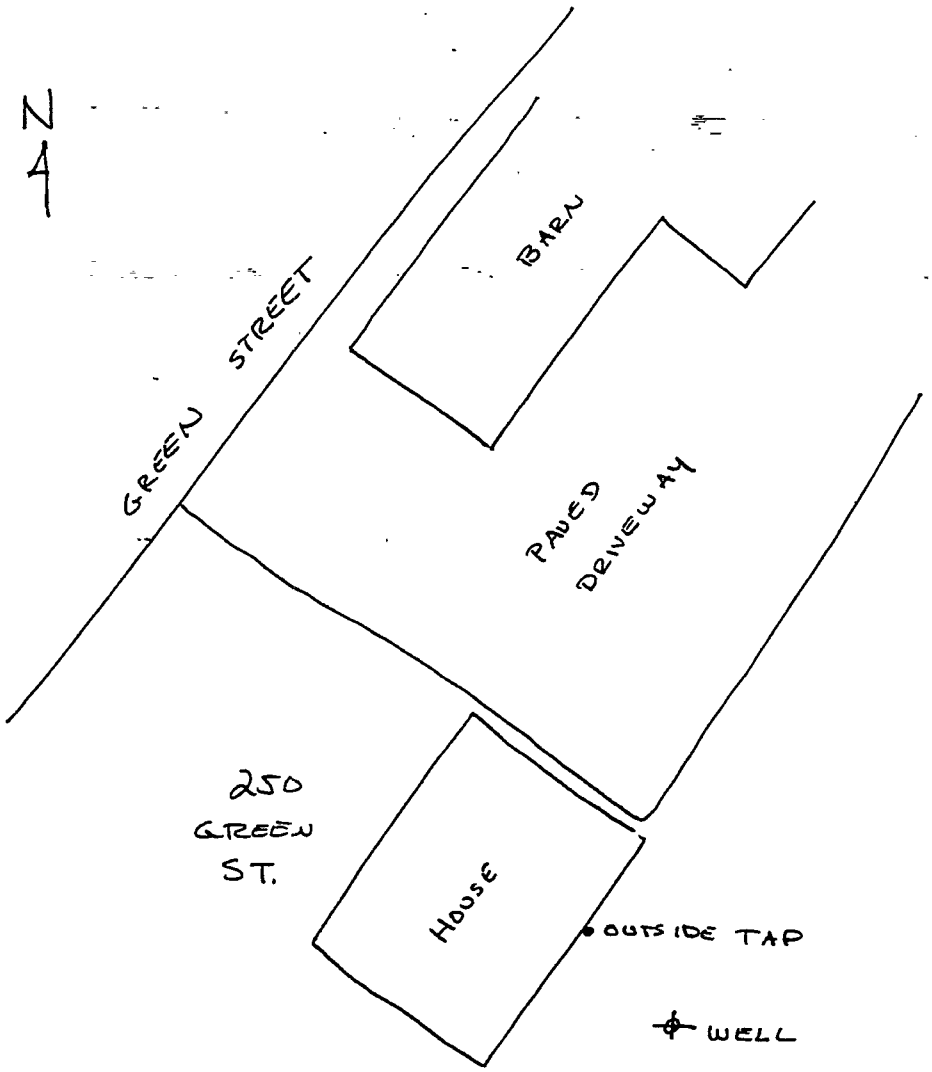
Is water cloudy or murky or have an odor (initial flush and at time of sampling)?____
NO
_____

Is there a septic table or leachfield for disposal of sanitary waste and if so, where is it located relative to the well? (Please indicate on sketch of well location on property.)

VI. INFORMATION ABOUT WATER USE

Describe the homeowners water use over the past 12 hours. PREPARED BREAKFAST
_____
_____
_____
_____

AR300891


N
GREEN STREET
BARN
PAVED DRIVEWAY
250 GREEN ST.
HOUSE
OUTSIDE TAP
WELL

WELL INVENTORY FORM
NORTH PENN RI/FS

WELL ID

Name of Owner TENNIS (GW2-01)
Property Address 240 GREEN STREET
SOUDERTON PA

Well Location SEE REVERSE
(attach sketch and picture)

WELL CHARACTERISTICS

Date Installed ~1960
Driller's Name
(if available)
Well Depth 200 (ft.)
Well Diameter 6 (inches)
Water Level (ft. below casing)
Water Column (ft.)
One Well Volume (gallons)

Is Well (cirice one)

Screened Open Hole (Don't know)

Does Well have a Surface Casing?

(Yes) No Don't know

Depth of Surface Casing, if present
(ft.)

Depth to which pump is set (ft.)
Type of pump (if available)
Manufacturer of pump
(if available)
Date pump installed or replaced 1982

What is the well yield? ~10 (gpm)

Any additional information about the well

Is the well registered with the County or State?
Permit Number
Attach Drilling Log if available.

I. SAMPLING DATA

Estimate of Flow Rate 10 (gpm)
Date/Time Sample Collected 4-21-92 / 1150
Actual Purge Time 35 (minutes)
Water Volume Purged 350 (gallons)
Sample Collected at OUTSIDE TAP

Description of Supply Line

IV. INFORMATION ABOUT PLUMBING AND WATER CONVEYANCE SYSTEM

Type of plumbing present in home: (check one or more)

____ A) Copper with soldered joints
____ B) Steel with threaded joints
____ C) Galvanized steel
____ D) Plastic or PVC
____ E) Blank iron
____ F) Other (Explain below)

Is pressure tank made of galvanized steel or is it a newer model?

V. INFORMATION ABOUT WATER QUALITY

Is there a water softener installed in the system? (Yes) No BUT NOT LINE WITH OUTSIDE T

Any other water treatment system?

Any other water quality samples taken in the past? Yes No

Is the water hard? Yes No

Does the water contain iron (evidence of staining, etc.)?

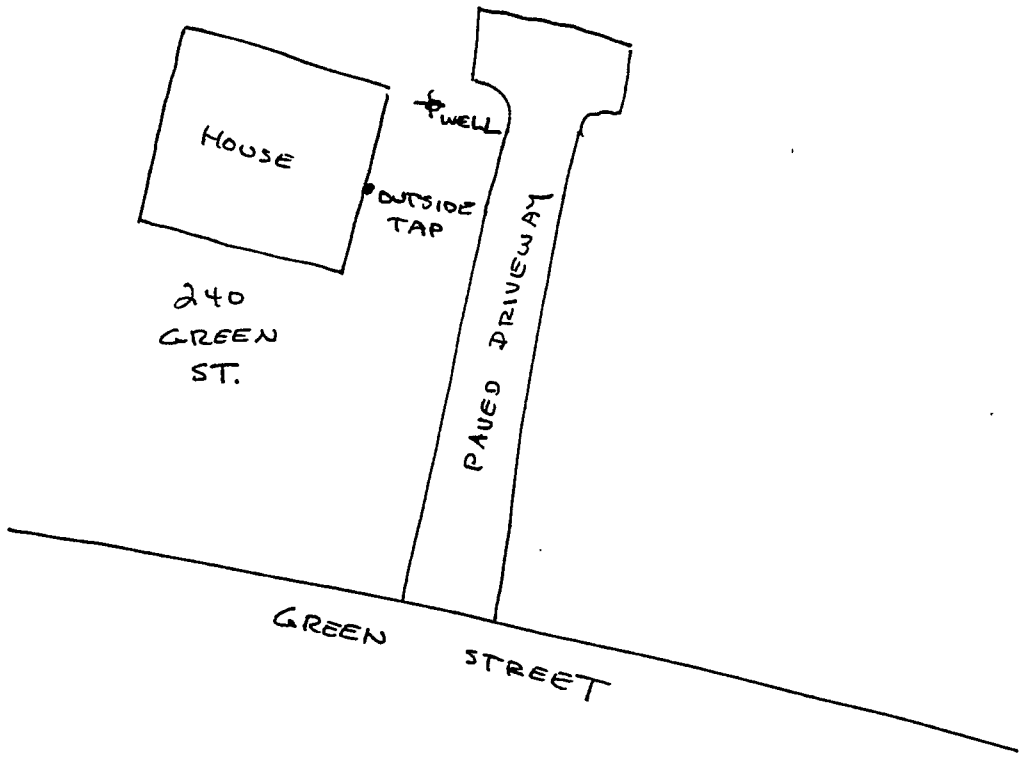
Is water cloudy or murky or have an odor (initial flush and at time of sampling)? NO

Is there a septic table or leachfield for disposal of sanitary waste and if so, where is it located relative to the well? (Please indicate on sketch of well location on property.)

VI. INFORMATION ABOUT WATER USE

Describe the homeowners water use over the past 12 hours. UNKNOWN - OWNER NOT AT HOME

AR300893


N
HOUSE
WELL
OUTSIDE TAP
240 GREEN ST.
PAVED DRIVEWAY
GREEN STREET

WELL INVENTORY FORM
NORTH PENN RI/FS

WELL ID

Name of Owner L. HILTEBEITEL (GW3-01)
Property Address 14 GREEN STREET
SOUDERTON, PA

Well Location SEE REVERSE
(attach sketch and picture)

WELL CHARACTERISTICS

Date Installed _____
Driller's Name _____
(if available)
Well Depth ~10 (DUG) (ft.)
Well Diameter ~60 (DUG) (inches)
Water Level ~3 (ft. below casing)
Water Column ~7 (ft.)
One Well Volume _____ (gallons)

Is Well (cirlce one)

Screened Open Hole Don't know STONE-LINED

Does Well have a Surface Casing?

Yes (No) Don't know

Depth of Surface Casing, if present
_____(ft.)

Depth to which pump is set 10 (ft.)
Type of pump (if available) HAND
Manufacturer of pump _____
(if available)
Date pump installed or replaced _____

What is the well yield? _____(gpm)

Any additional information about the well
_____
_____
_____

Is the well registered with the County or State?
Permit Number _____
Attach Drilling Log if available.

I. SAMPLING DATA

Estimate of Flow Rate ~2 (gpm)
Date/Time Sample Collected 4-21-92 / 1505
Actual Purge Time 10 (minutes)
Water Volume Purged ~20 (gallons)
Sample Collected at PUMP OUTLET
_____
_____

Description of Supply Line IRON DROP PIPE
_____
_____

IV. INFORMATION ABOUT PLUMBING AND WATER CONVEYANCE SYSTEM

Type of plumbing present in home: (check one or more)

____ A) Copper with soldered joints
____ B) Steel with threaded joints
____ C) Galvanized steel
____ D) Plastic or PVC
____ E) Blank iron
____ F) Other (Explain below)

_____

Is pressure tank made of galvanized steel or is it a newer model? _____

V. INFORMATION ABOUT WATER QUALITY

Is there a water softener installed in the system? Yes No

Any other water treatment system? _____
_____
_____
_____
_____

Any other water quality samples taken in the past? Yes No

Is the water hard? Yes No

Does the water contain iron (evidence of staining, etc.)? _____
_____

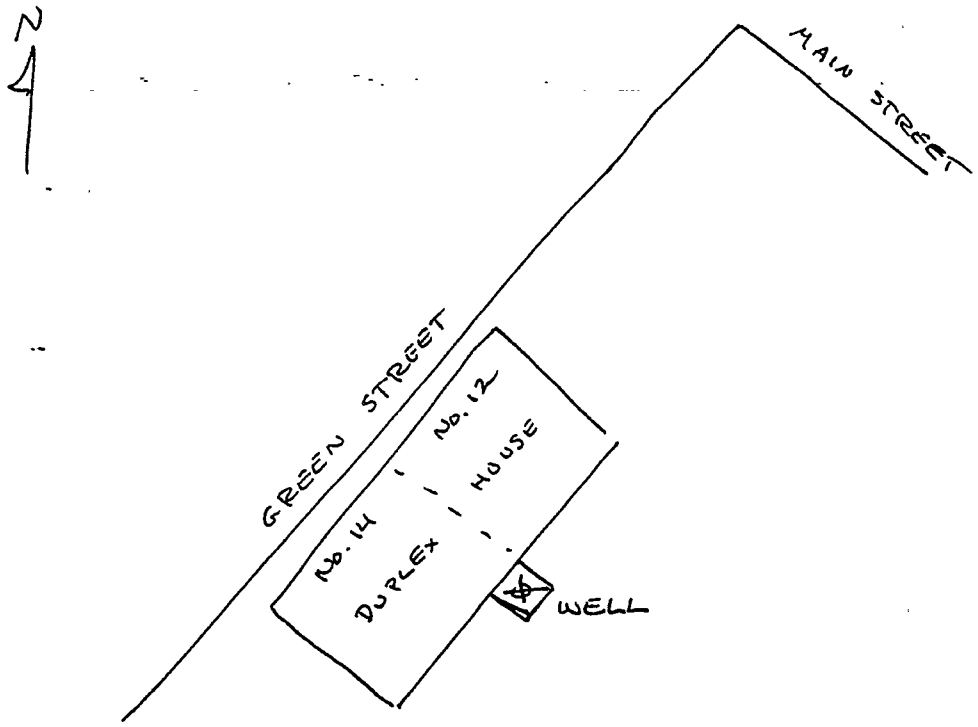
Is water cloudy or murky or have an odor (initial flush and at time of sampling)? _____
NO
_____

Is there a septic table or leachfield for disposal of sanitary waste and if so, where is it located relative to the well? (Please indicate on sketch of well location on property.)

VI. INFORMATION ABOUT WATER USE

Describe the homeowners water use over the past 12 hours. NONE- UNUSED DUG WELL
_____
_____
_____
_____

AR300895



AR300896

WELL INVENTORY FORM
NORTH PENN RI/FS

WELL ID

Name of Owner DOROTHEA LANDIS (GW4-01)
Property Address 160 MAIN STREET
SOUDERTON, PA

Well Location SEE REVERSE
(attach sketch and picture)

WELL CHARACTERISTICS

Date Installed_____
Driller's Name_____
(if available)
Well Depth ~10 (DUG) (ft.)
Well Diameter ~60 (DUG) (inches)
Water Level ~3 (ft. below casing)
Water Column ~7 (ft.)
One Well Volume_____ (gallons)

Is Well (circe one)

Screened Open Hole Don't know (STONE LINED)

Does Well have a Surface Casing?

Yes (No) Don't know

Depth of Surface Casing, if present
_____(ft.)

Depth to which pump is set 10 (ft.)
Type of pump (if available) HAND
Manufacturer of pump_____
(if available)
Date pump installed or replaced_____

What is the well yield? _____(gpm)

Any additional information about the well
_____
_____
_____

Is the well registered with the County or State?
Permit Number_____
Attach Drilling Log if available.

I. SAMPLING DATA

Estimate of Flow Rate NOT PURGED (gpm)
Date/Time Sample Collected 4-21-92
Actual Purge Time NOT PURGED (minutes)
Water Volume Purged 0 (gallons)
Sample Collected at USED BAILER
_____
_____

Description of Supply Line_____
_____
_____

IV. INFORMATION ABOUT PLUMBING AND WATER CONVEYANCE SYSTEM

Type of plumbing present in home: (check one or more)

____ A) Copper with soldered joints
____ B) Steel with threaded joints
____ C) Galvanized steel
____ D) Plastic or PVC
____ E) Blank iron
____ F) Other (Explain below)

_____

Is pressure tank made of galvanized steel or is it a newer model?_____

V. INFORMATION ABOUT WATER QUALITY

Is there a water softener installed in the system? Yes No

Any other water treatment system?_____
_____
_____
_____
_____

Any other water quality samples taken in the past? Yes No

Is the water hard? Yes No

Does the water contain iron (evidence of staining, etc.)?_____
_____

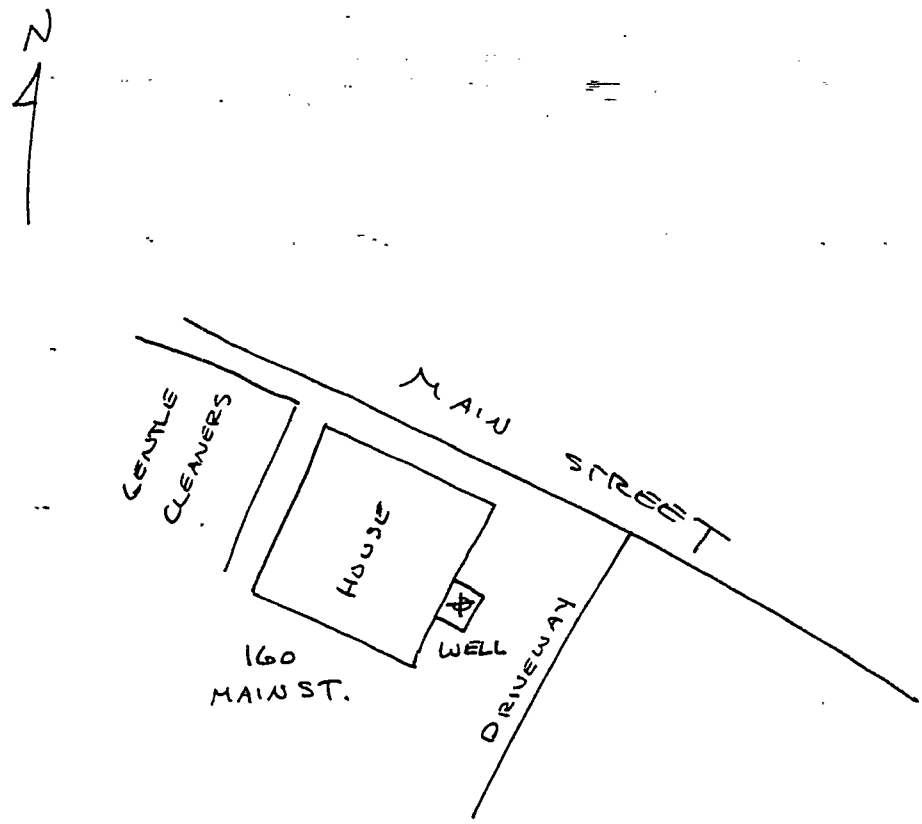
Is water cloudy or murky or have an odor (initial flush and at time of sampling)?____
NO
_____

Is there a septic table or leachfield for disposal of sanitary waste and if so, where is it located relative to the well? (Please indicate on sketch of well location on property.)

VI. INFORMATION ABOUT WATER USE

Describe the homeowners water use over the past 12 hours. UNUSED DUG WELL
_____
_____
_____
_____

AR300897


N
GENTLE CLEANERS
MAIN STREET
HOUSE
A
WELL
160 MAIN ST.
DRIVEWAY

AR300898

WELL INVENTORY FORM
NORTH PENN RI/FS

WELL ID

Name of Owner P. HALTEMAN (GW6-01)
Property Address 311 COWPATH
SOUDERTON, PA

Well Location SEE REVERSE
(attach sketch and picture)

WELL CHARACTERISTICS

Date Installed ~1960
Driller's Name
(if available)
Well Depth 250 (ft.)
Well Diameter (inches)
Water Level (ft. below casing)
Water Column (ft.)
One Well Volume (gallons)

Is Well (cirle one)

Screened Open Hole (Don't know)

Does Well have a Surface Casing?

(Yes) No Don't know

Depth of Surface Casing, if present
(ft.)

Depth to which pump is set (ft.)
Type of pump (if available)
Manufacturer of pump
(if available)
Date pump installed or replaced

What is the well yield? 28 (gpm)

Any additional information about the well

Is the well registered with the County or State?
Permit Number
Attach Drilling Log if available.

I. SAMPLING DATA

Estimate of Flow Rate ~8 (gpm)
Date/Time Sample Collected 4-23-92/ 0900
Actual Purge Time 35 (minutes)
Water Volume Purged ~280 (gallons)
Sample Collected at OUTSIDE TAP

Description of Supply Line

IV. INFORMATION ABOUT PLUMBING AND WATER CONVEYANCE SYSTEM

Type of plumbing present in home: (check one or more)

___ A) Copper with soldered joints
___ B) Steel with threaded joints
___ C) Galvanized steel
___ D) Plastic or PVC
___ E) Blank iron
___ F) Other (Explain below)

Is pressure tank made of galvanized steel or is it a newer model?

V. INFORMATION ABOUT WATER QUALITY

Is there a water softener installed in the system? [Yes] [No]

Any other water treatment system?

Any other water quality samples taken in the past? [Yes] [No]

Is the water hard? [Yes] [No]

Does the water contain iron (evidence of staining, etc.)?

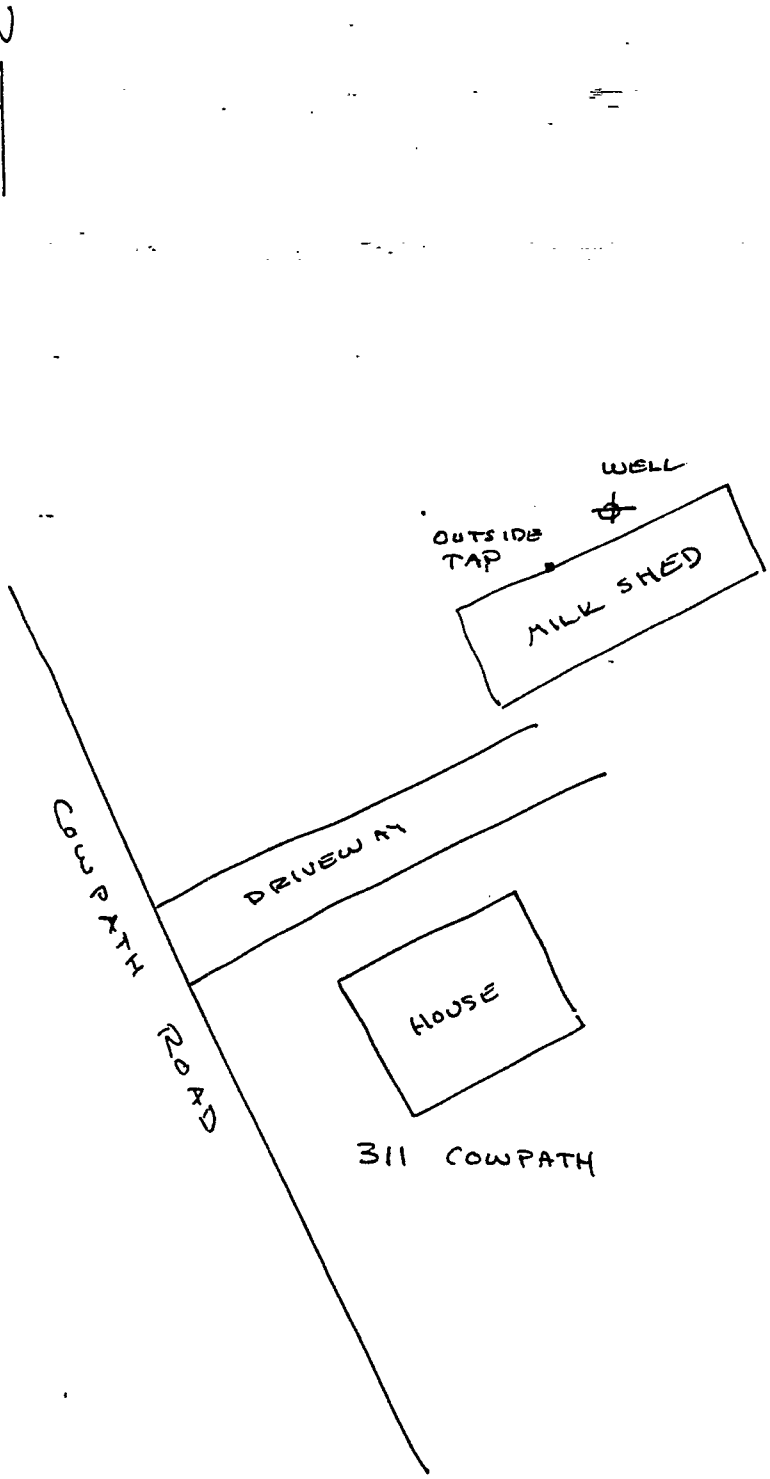
Is water cloudy or murky or have an odor (initial flush and at time of sampling)?
NO

Is there a septic table or leachfield for disposal of sanitary waste and if so, where is it located relative to the well? (Please indicate on sketch of well location on property.)

VI. INFORMATION ABOUT WATER USE

Describe the homeowners water use over the past 12 hours. BREAKFAST PREPARATION

AR300899


N
WELL
OUTSIDE TAP
MILK SHED
DRIVEWAY
COWPATH ROAD
HOUSE
311 COWPATH

AR300900

WELL INVENTORY FORM
NORTH PENN RI/FS

WELL ID

Name of Owner FREED (GW7-01)
Property Address 335 WEST BROAD STREET
SOUDERTON, PA

Well Location SEE REVERSE
(attach sketch and picture)

WELL CHARACTERISTICS

Date Installed_____
Driller's Name_____
(if available)
Well Depth_____ (ft.)
Well Diameter_____ (inches)
Water Level_____(ft. below casing)
Water Column_____(ft.)
One Well Volume_____ (gallons)

Is Well (cirice one)

Screened Open Hole (Don't know)

Does Well have a Surface Casing?

(Yes) No Don't know

Depth of Surface Casing, if present
_____(ft.)

Depth to which pump is set _____(ft.)
Type of pump (if available)_____
Manufacturer of pump_____
(if available)
Date pump installed or replaced_____

What is the well yield? _____(gpm)

Any additional information about the well
_____
_____
_____

Is the well registered with the County or State?
Permit Number_____
Attach Drilling Log if available.

I. SAMPLING DATA

Estimate of Flow Rate ~2 (gpm)
Date/Time Sample Collected 4-23-92 / 1117
Actual Purge Time ~5 (minutes)
Water Volume Purged ~10 (gallons)
Sample Collected at INSIDE FAUCET
_____
_____

Description of Supply Line_____
_____
_____

IV. INFORMATION ABOUT PLUMBING AND WATER CONVEYANCE SYSTEM

Type of plumbing present in home: (check one or more)

____ A) Copper with soldered joints
____ B) Steel with threaded joints
____ C) Galvanized steel
____ D) Plastic or PVC
____ E) Blank iron
____ F) Other (Explain below)

_____

Is pressure tank made of galvanized steel or is it a newer model?_____

V. INFORMATION ABOUT WATER QUALITY

Is there a water softener installed in the system? [Yes] [No]

Any other water treatment system?_____
_____
_____
_____
_____

Any other water quality samples taken in the past? [Yes] [No]

Is the water hard? [Yes] [No]

Does the water contain iron (evidence of staining, etc.)?_____
_____

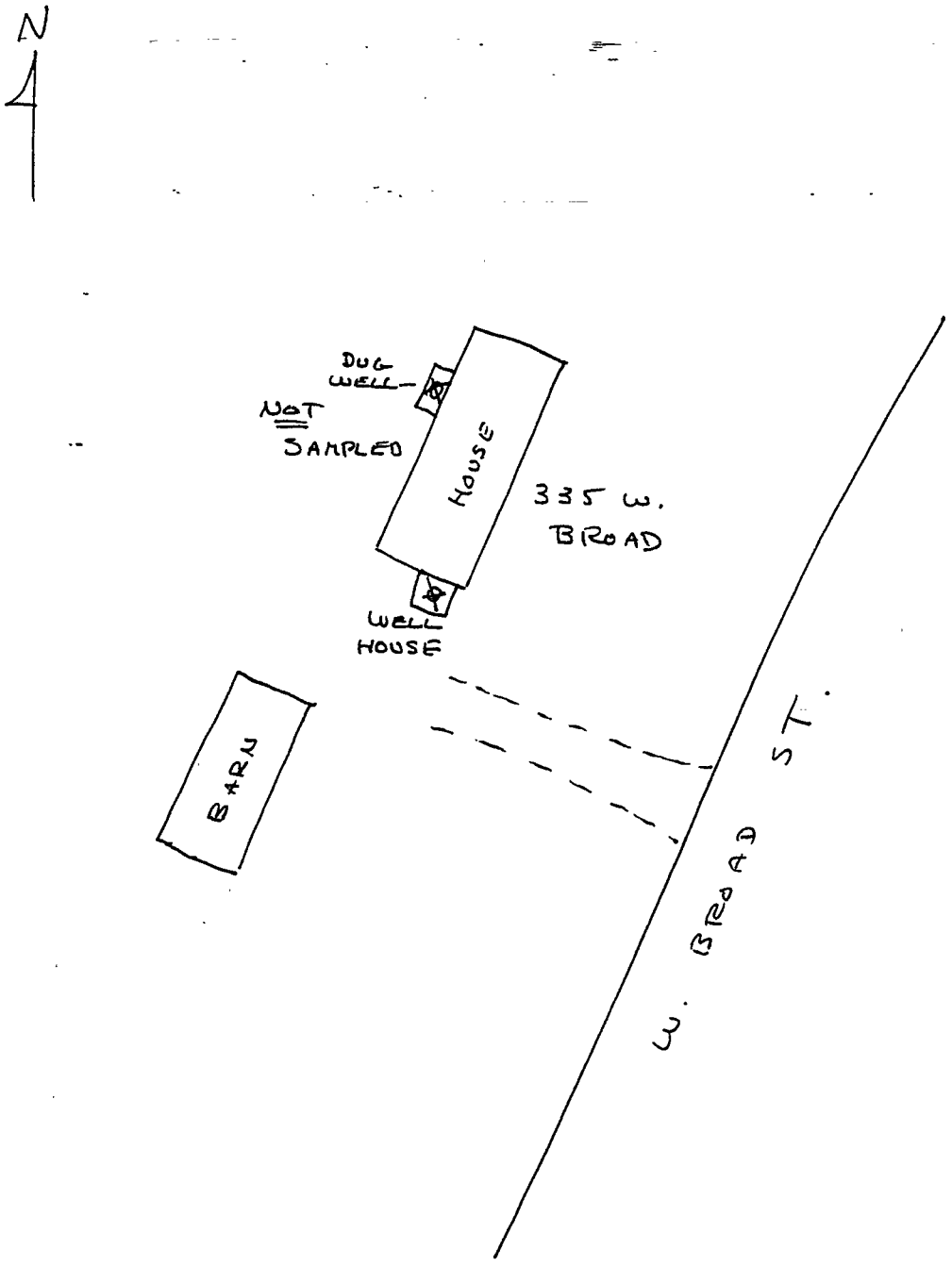
Is water cloudy or murky or have an odor (initial flush and at time of sampling)?____
NO
_____

Is there a septic table or leachfield for disposal of sanitary waste and if so, where is it located relative to the well? (Please indicate on sketch of well location on property.)

VI. INFORMATION ABOUT WATER USE

Describe the homeowners water use over the past 12 hours. BREAKFAST PREPARATION
_____
_____
_____

AR300901


N
DUG WELL
NOT SAMPLED
HOUSE
335 W. BROAD
WELL HOUSE
BARN
W. BROAD ST.

WELL INVENTORY FORM
NORTH PENN RI/FS

WELL ID

Name of Owner HILL (GW8-01)
Property Address 332 WEST BROAD STREET
SOUDERTON PA

Well Location SEE REVERSE
(attach sketch and picture)

WELL CHARACTERISTICS

Date Installed_____
Driller's Name_____
(if available)
Well Depth_____ (ft.)
Well Diameter_____ (inches)
Water Level_____ (ft. below casing)
Water Column_____ (ft.)
One Well Volume_____ (gallons)

Is Well (cirice one)

Screened Open Hole (Don't know)

Does Well have a Surface Casing?

(Yes) No Don't know

Depth of Surface Casing, if present
_____(ft.)

Depth to which pump is set _____(ft.)
Type of pump (if available)_____
Manufacturer of pump_____
(if available)
Date pump installed or replaced_____

What is the well yield? ≥6 (gpm)

Any additional information about the well
_____
_____
_____

Is the well registered with the County or State?
Permit Number_____
Attach Drilling Log if available.

I. SAMPLING DATA

Estimate of Flow Rate ~6 (gpm)
Date/Time Sample Collected 4-23-92 / 1210
Actual Purge Time 32 (minutes)
Water Volume Purged ~192 (gallons)
Sample Collected at OUTSIDE TAP
_____
_____

Description of Supply Line_____
_____
_____

IV. INFORMATION ABOUT PLUMBING AND WATER CONVEYANCE SYSTEM

Type of plumbing present in home: (check one or more)

____ A) Copper with soldered joints
____ B) Steel with threaded joints
____ C) Galvanized steel
____ D) Plastic or PVC
____ E) Blank iron
____ F) Other (Explain below)

_____

Is pressure tank made of galvanized steel or is it a newer model?_____

V. INFORMATION ABOUT WATER QUALITY

Is there a water softener installed in the system? [Yes] [No]

Any other water treatment system?_____
_____
_____
_____
_____

Any other water quality samples taken in the past? [Yes] [No]

Is the water hard? [Yes] [No]

Does the water contain iron (evidence of staining, etc.)?_____
_____

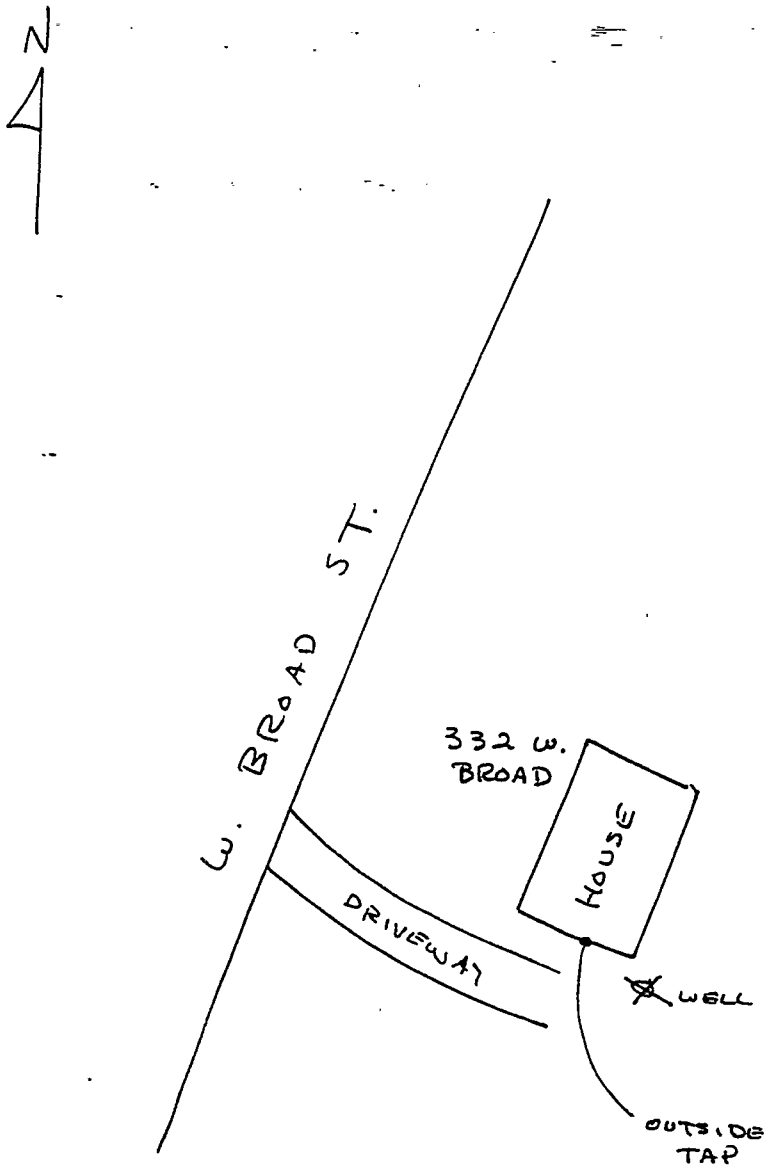
Is water cloudy or murky or have an odor (initial flush and at time of sampling)?____
NO
_____

Is there a septic table or leachfield for disposal of sanitary waste and if so, where is it located relative to the well? (Please indicate on sketch of well location on property.)

VI. INFORMATION ABOUT WATER USE

Describe the homeowners water use over the past 12 hours. BREAKFAST AND LUNCH PREPARATION
_____
_____
_____

AR300903


N
W. BROAD ST.
332 W. BROAD
HOUSE
DRIVEWAY
WELL
OUTSIDE TAP

WELL INVENTORY FORM
NORTH PENN RI/FS

WELL ID

Name of Owner MENNONITE Home (GW9-01)
Property Address 207 WEST SUMMIT
SOUDERTON, PA

Well Location SEE REVERSE
(attach sketch and picture)

WELL CHARACTERISTICS

Date Installed_____
Driller's Name_____
(if available)
Well Depth 175 (ft.)
Well Diameter_____(inches)
Water Level_____(ft. below casing)
Water Column_____(ft.)
One Well Volume_____(gallons)

Is Well (cirlce one)

Screened (Open Hole) Don't know

Does Well have a Surface Casing?

(Yes) No Don't know

Depth of Surface Casing, if present
_____(ft.)

Depth to which pump is set _____(ft.)
Type of pump (if available)_____
Manufacturer of pump_____
(if available)
Date pump installed or replaced_____

What is the well yield? _____(gpm)

Any additional information about the well
COULD NOT ACCESS WELL
EVEN WITH THIN BAILER.

Is the well registered with the County or State?
Permit Number_____
Attach Drilling Log if available.

I. SAMPLING DATA

Estimate of Flow Rate NOT PURGED (gpm)
Date/Time Sample Collected 4-23-92 / 1310
Actual Purge Time NOT PURGED (minutes)
Water Volume Purged 0 (gallons)
Sample Collected at 1000-GALLON
HOLDING TANK

Description of Supply Line_____

IV. INFORMATION ABOUT PLUMBING AND WATER CONVEYANCE SYSTEM

Type of plumbing present in home: (check one or more)

____ A) Copper with soldered joints
____ B) Steel with threaded joints
____ C) Galvanized steel
____ D) Plastic or PVC
____ E) Blank iron
____ F) Other (Explain below)

_____

Is pressure tank made of galvanized steel or is it a newer model?_____

V. INFORMATION ABOUT WATER QUALITY

Is there a water softener installed in the system? [Yes] [No]

Any other water treatment system?_____

Any other water quality samples taken in the past? [Yes] [No]

Is the water hard? [Yes] [No]

Does the water contain iron (evidence of staining, etc.)?_____

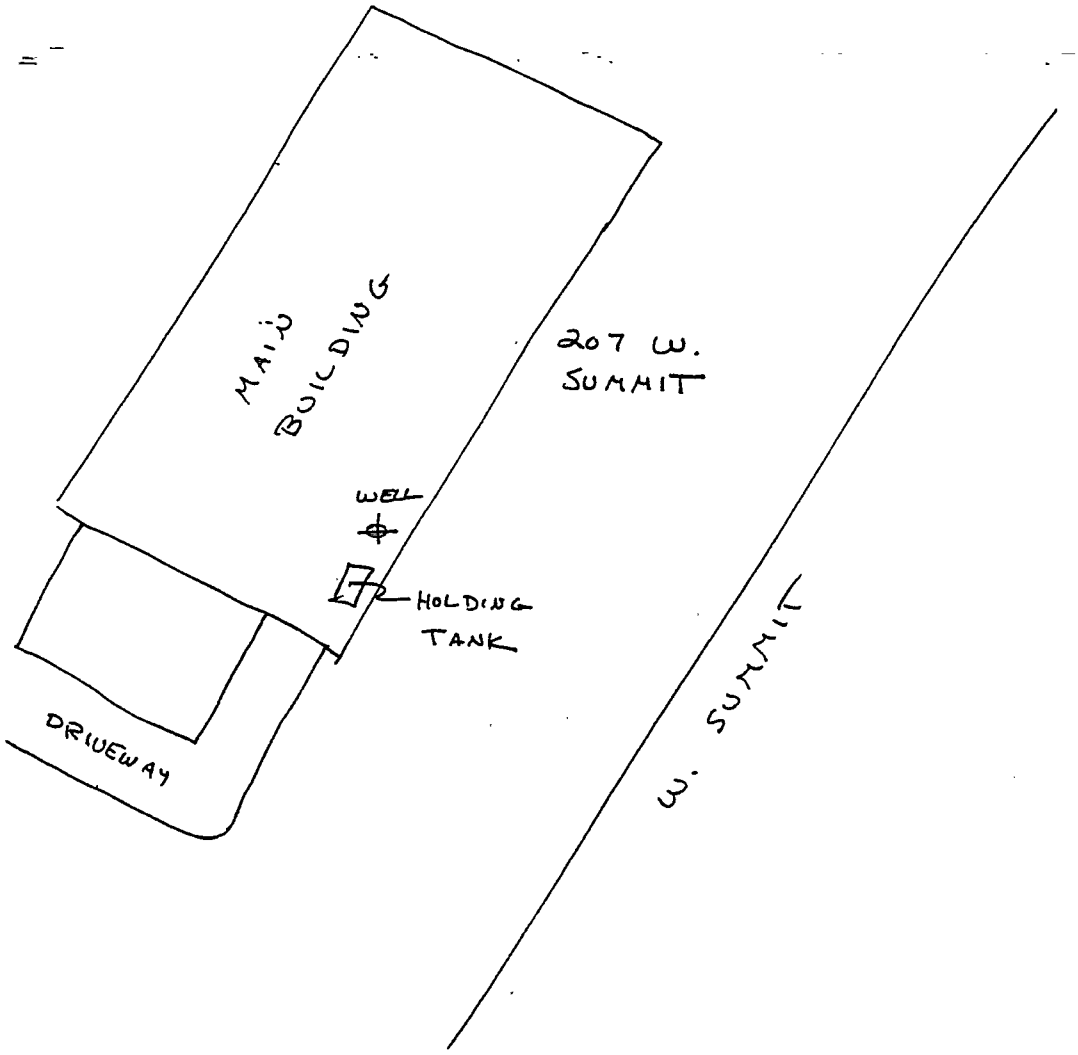
Is water cloudy or murky or have an odor (initial flush and at time of sampling)?____

Is there a septic table or leachfield for disposal of sanitary waste and if so, where is it located relative to the well? (Please indicate on sketch of well location on property.)

VI. INFORMATION ABOUT WATER USE

Describe the homeowners water use over the past 12 hours. NOT USED
THAT DAY - PUMPED ONLY
PERIODICALLY

N
4


MAIN BUILDING
207 W. SUMMIT
WELL
HOLDING TANK
DRIVEWAY
W. SUMMIT

Appendix E
Soil Physical Parameters

AR300907

GRAIN SIZE ANALYSIS DATA SHEET

EPA SAMPLE NO.

7213-C-1

Lab Name: CTL Bend, OR Contract: 14-910372-71

Lab Code: CENTST Case No.: 8482 SDG No.: 7213-C-1

Lab Sample ID: 9653-1 Date Received: 6/17/92

Material Description: ROUNDED; HARD & DURABLE

Maximum particle size 1/2 in.

Specific Gravity 2.55

SIEVE ANALYSIS (ASTM D 422)

SIEVE SIZE	% PASSING
1-1/2 in.	100
1 in.	100
3/4 in.	100
1/2 in.	100
1/4 in.	97
#10	85
#40	75
#100	71
#200	68.5

HYDROMETER ANALYSIS (ASTM D 422)

PARTICLE SIZE	% SUSPENDED
0.023 mm	48.1
0.016 mm	43.3
0.010 mm	35.3
0.008 mm	30.5
0.006 mm	25.7
0.003 mm	18.4
0.001 mm	12.8

MOISTURE CONTENT (ASTM D 2216)
Water content (%) 22.3

IN-PLACE DENSITY (ASTM D 2937)
Water content (%) 22.3
Dry density (lbs/cu ft) 101.1

PLASTICITY INDEX (ASTM D 4318)
Liquid Limit 29
Plastic Limit 23
Plasticity Index 6

TOTAL POROSITY 0.36

AR300908

2

FALLING HEAD PERMEABILITY
USING SHELBY TUBE SAMPLES

LAB NAME:CTL BEND, OR
LAB CODE:CENTST SDG NO. 7213-C-1
CLIENT: VIAR & COMPANY
CONTRACT 68-D9-0135 DATE: 19-Aug-92
EPA SAMPLE ID: 7213-C-1 LAB NO.: 9653
LAB SAMPLE ID: 9653-1
METHOD: CORPS OF ENGINEERS EM 1110-2-1906 DATED 30 NOV 1970
DATE RECEIVED: 17 JUNE 1992
DATE ANALYZED: 27 JULY 1992

STANDPIPE AREA	0.26 CM
CROSS SECTION AREA	41.88 CM
LENGTH	9.68 CM

COEFF PERM	HEIGHT START	HEIGHT STOP	SECONDS ELAPSED	TEMP (DEG C)
5.86E-07	81.6	67.7	18240	22.0
1.29E-05	67.7	61.2	10320	22.0
1.39E-05	85.9	74.5	13500	22.0
5.68E-06	82.0	42.9	150900	22.0
1.16E-06	78.7	72.4	95100	22.0
1.20E-05	72.4	68.5	6120	22.0
2.89E-06	84.1	68.3	95100	22.0

AVG COEFF OF PERMEABILITY: 7.02E-06

COEFFICIENT OF PERMEABILITY =2.303(L)(a)(LOG(Ho/Hf))/(A)(t)
L=SPECIMAN LENGTH a=INSIDE AREA OF STANDPIPE
A=SAMPLE CROSS SECTION AREA t=ELAPSED TIME BETWEEN READINGS
Ho=HEIGHT START Hf=HEIGHT FINISH

GRAIN SIZE ANALYSIS DATA SHEET

EPA SAMPLE NO.

7213-C-2

Lab Name: CTL Bend, OR Contract: 14-910372-71

Lab Code: CENTST Case No.: 8482 SDG No.: 7213-C-1

Lab Sample ID: 9653-2 Date Received: 6/17/92

Material Description: ROUNDED; HARD & DURABLE

Maximum particle size 1/2 in.

Specific Gravity 2.61

SIEVE ANALYSIS (ASTM D 422)

SIEVE SIZE	% PASSING
1-1/2 in.	100
1 in.	100
3/4 in.	100
1/2 in.	100
1/4 in.	99
#10	85
#40	79
#100	77
#200	75.0

HYDROMETER ANALYSIS (ASTM D 422)

PARTICLE SIZE	% SUSPENDED
0.022 mm	52.9
0.015 mm	48.5
0.010 mm	40.6
0.007 mm	34.4
0.005 mm	29.1
0.003 mm	14.1
0.001 mm	14.1

MOISTURE CONTENT (ASTM D 2216)	
Water content (%)	22.7
IN-PLACE DENSITY (ASTM D 2937)	
Water content (%)	22.7
Dry density (lbs/cu ft)	96.2
PLASTICITY INDEX (ASTM D 4318)	
Liquid Limit	30
Plastic Limit	23
Plasticity Index	7
TOTAL POROSITY	0.41

FALLING HEAD PERMEABILITY
USING SHELBY TUBE SAMPLES

LAB NAME: CTL BEND, OR
LAB CODE: CENTST SDG NO. 7213-1
CLIENT: VIAR & COMPANY
CONTRACT 68-D9-0135 DATE: 19-Aug-92
EPA SAMPLE ID: 7213-C-2 LAB NO.: 9653
LAB SMPLE ID: 9653-2
METHOD: CORPS OF ENGINEERS EM 1110-2-1906 DATED 30 NOV 1970
DATE RECEIVED: 17 JUNE 1992
DATE ANALYZED: 27 JULY 1992

STANDPIPE AREA	0.26 CM
CROSS SECTION AREA	41.88 CM
LENGTH	10.48 CM

COEFF PERM	HEIGHT START	HEIGHT STOP	SECONDS ELAPSED	TEMP (DEG C)
3.44E-07	82.9	74.9	18300	22.0
7.18E-06	74.9	71.1	10380	22.0
8.48E-06	85.9	79.3	13500	22.0
9.37E-06	79.3	56.2	52620	22.0
6.79E-06	56.2	49.0	28920	22.0
9.98E-06	83.5	81.6	3300	22.0
7.74E-06	81.6	77.9	8580	22.0

AVG COEFF OF PERMEABILITY: 7.13E-06

COEFFICIENT OF PERMEABILITY =2.303(L)(a)(LOG(Ho/Hf))/(A)(t)
L=SPECIMAN LENGTH a=INSIDE AREA OF STANDPIPE
A=SAMPLE CROSS SECTION AREA t=ELAPSED TIME BETWEEN READINGS
Ho=HEIGHT START Hf=HEIGHT FINISH

GRAIN SIZE ANALYSIS DATA SHEET

EPA SAMPLE NO.

7213-C-3

Lab Name: CTL Bend, OR Contract: 14-910372-71

Lab Code: CENTST Case No.: 8482 SDG No.: 7213-C-1

Lab Sample ID: 9653-3 Date Received: 6/17/92

Material Description: ROUNDED; HARD & DURABLE

Maximum particle size 3/4 in.

Specific Gravity 2.55

SIEVE ANALYSIS (ASTM D 422)

SIEVE SIZE	% PASSING
1-1/2 in.	100
1 in.	100
3/4 in.	100
1/2 in.	92
1/4 in.	82
#10	51
#40	42
#100	40
#200	38.2

HYDROMETER ANALYSIS (ASTM D 422)

PARTICLE SIZE	% SUSPENDED
0.025 mm	24.2
0.017 mm	21.9
0.011 mm	17.5
0.008 mm	14.8
0.006 mm	12.1
0.003 mm	8.1
0.001 mm	4.9

MOISTURE CONTENT (ASTM D 2216)

Water content (%)	22.3

IN-PLACE DENSITY (ASTM D 2937)

Water content (%)	22.3
Dry density (lbs/cu ft)	96.9

PLASTICITY INDEX (ASTM D 4318)

Liquid Limit	35
Plastic Limit	28
Plasticity Index	7

TOTAL POROSITY	0.39

AR300912

4

FALLING HEAD PERMEABILITY
USING SHELBY TUBE SAMPLES

LAB NAME: CTL BEND, OR
LAB CODE: CENTST SDG NO. 7213-1
CLIENT: VIAR & COMPANY
CONTRACT 68-D9-0135 DATE: 19-Aug-92
EPA SAMPLE ID: 7213-C-3 LAB NO.: 9653
LAB SAMPLE ID: 9653-3
METHOD: CORPS OF ENGINEERS EM 1110-2-1906 DATED 30 NOV 1970
DATE RECEIVED: 17 JUNE 1992
DATE ANALYZED: 27 JULY 1992

STANDPIPE AREA	0.26 CM
CROSS SECTION AREA	41.88 CM
LENGTH	10.48 CM

COEFF PERM	HEIGHT START	HEIGHT STOP	SECONDS ELAPSED	TEMP (DEG C)
2.47E-07	84.8	80.2	13980	22.0
7.18E-06	80.2	61.6	52620	22.0
3.58E-06	61.6	57.3	28920	22.0
5.06E-06	84.7	83.7	3360	22.0
5.26E-06	83.7	81.1	8580	22.0
2.47E-06	81.1	80.2	6480	22.0
6.31E-06	80.2	60.0	65880	22.0

AVG COEFF OF PERMEABILITY: 4.30E-06

COEFFICIENT OF PERMEABILITY =2.303(L)(a)(LOG(Ho/Hf))/(A)(t)
L=SPECIMAN LENGTH a=INSIDE AREA OF STANDPIPE
A=SAMPLE CROSS SECTION AREA t=ELAPSED TIME BETWEEN READINGS

Appendix F
RI Analytical Results

AR300914

OLC01.0

DATA SUMMARY FORM: V O L A T I L E S 1

Site Name: North Penn Area 1 (Gentle Cleaners)

WATER SAMPLES
(µg/L)

Case #: 18006 Sampling Date(s): 3/31 - 4/17/92

SAS#: 6701 HQ

SDG#: SC0707

To calculate sample quantitation limit:
(CRQL * Dilution Factor)

CRQL	COMPOUND	SC0701		SC0702		SC0703		SC0704		SC0705		SC0706		SC0707		SC0708		SC0709	
	Sample No.	SC0701		SC0702		SC0703		SC0704		SC0705		SC0706		SC0707		SC0708		SC0709	
	Dilution Factor	5		1		1		1/25		1		1		1		1		1	
	Location	EQ-1		S-1GKMPT		S-2GKMPT		S-3GKMPT		S-4GKMPT		S-4GKMPT		S-5GKMPT		S-1S9PT		S-2S9PT	
	Sampling Date	3/31 EQUIPMENT BLANK		4/1		4/2		4/3		4/3		4/3 Duplicate of SC0705		4/6		4/7		4/8	
1	Chloromethane																		
1	Bromomethane																		
1	*Vinyl Chloride																		
1	Chloroethane																		
2	*Methylene Chloride																		
5	Acetone																		
1	Carbon Disulfide																		
1	*1,1-Dichloroethene																		
1	1,1-Dichloroethane			0.4	J	0.1	J	0.3	J					0.3	J				
1	*Trans-1,2-Dichloroethene																		
1	Chloroform																		
1	*1,2-Dichloroethane																		
5	*2-Butanone																		
1	*1,1,1-Trichloroethane			1		0.3	J	1		0.4	J	0.3	J	1					
1	*Carbon Tetrachloride																		
1	Bromodichloromethane																		

BR300915

CRQL = Contract Required Quantitation Limit

Action Level Exists

SEE NARRATIVE FOR CODE DEFINITION

revised 07/9

DATA SUMMARY FORM: V O L A T I L E S 2

Site Name: North Penn Area 1 (Gentle Cleaners)

Case #: 18006 Sampling Date(s): 3/31 - 4/17/92

SAS #: 6701 HQ

SDG #: SC0707

WATER SAMPLES
(µg/L)

To calculate sample quantitation limit:
(CRQL * Dilution Factor)

	Sample No.	SC0701		SC0702		SC0703		SC0704		SC0705		SC0706		SC0707		SC0708		SC0709	
	Dilution Factor	5		1		1		1/25		1		1		1		1		1	
	Location	EQ-1		S-1GKMPT		S-2GKMPT		S-3GKMPT		S-4GKMPT		S-4GKMPT		S-5GKMPT		S-1SPPT		S-1SPPT	
	Sampling Date	3/31 EQUIPMENT BLANK		4/1		4/2		4/3		4/3		4/3 Duplicate of SC0705		4/6		4/7		4/8	
CRQL	COMPOUND																		
1	*1,2-Dichloropropane																		
1	Cis-1,3-Dichloropropene																		
1	Trichloroethene			1		0.9	J	6		0.7	J	0.6	J	0.9	J	0.2	J		
1	Dibromochloromethane																		
1	1,1,2-Trichlorethane																		
1	*Benzene																		
1	Trans-1,3-Dichloropropene																		
1	Bromoform																		
5	4-Methyl-2-pentanone																		
5	2-Hexanone																		
1	*Tetrachloroethene			19		24		330*		19		18		16		9		8	
1	1,1,2,2-Tetrachloroethane																		
1	*Toluene			5		1		1		0.3	J	0.4	J	0.3	J	0.08	J	0.1	J
1	*Chlorobenzene																		
1	*Ethylbenzene																		
1	*Styrene																		
1	*Total Xylenes																		
1	1,2-Dibromo-3-chloropropane																		
1	1,2-Dibromoethane																		
1	cis-1,2-Dichloroethene			1		0.8		0.9	J	0.5	J	0.5	J	1					
1	Bromochloromethane																		
1	1,2-Dichlorobenzene																		
1	1,3-Dichlorobenzene																		
1	1,4-Dichlorobenzene																		

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

Revised 07/90

* Reanalyses for the diluted analysis

DATA SUMMARY FORM: V O L A T I L E S 1

Site Name: North Penn Area 1 (Gentle Cleaners)

Case #: 18006 Sampling Date(s): 3/31 - 4/17/92

SAS #: 6701 HQ

SDG#: SC0707

WATER SAMPLES
(µg/L)

To calculate sample quantitation limit:
(CRQL * Dilution Factor)

	Sample No.	SC0710		SC0711		SC0712		SC0713		SC0714		SC0715		SC0716					
	Dilution Factor	1		1		1		1		1		1		1					
	Location	S-3 SGPT		S-4 SGPT		S-5 SGPT		TB-3		EQ-3		EQ-2		EQ-4					
	Sampling Date	4/8		4/9		4/9		4/17 Trip Blank		4/16 Equipment Blank		4/15 Equipment Blank		4/17 Equipment Blank					
CRQL	COMPOUND																		
1	Chloromethane																		
1	Bromomethene																		
1	*Vinyl Chloride																		
1	Chloroethane																		
2	*Methylene Chloride							0.4	B					0.5	B				
5	Acetone																		
1	Carbon Disulfide																		
1	*1,1-Dichloroethene																		
1	1,1-Dichloroethane																		
1	*Trans-1,2-Dichloroethene																		
1	Chloroform																		
1	*1,2-Dichloroethane																		
5	*2-Butanone																		
1	*1,1,1-Trichloroethane								UJ		UJ		UJ		UJ				
1	*Carbon Tetrachloride																		
1	Bromodichloromethane																		

AR300917

CRQL = Contract Required Quantitation Limit

* Action Level Exists

SEE NARRATIVE FOR CODE DEFINITION

revised 07/9

DATA SUMMARY FORM: V O L A T I L E S 2

Site Name: North Penn Area 1 (Gentle Cleaners)

WATER SAMPLES
(µg/L)

Case #: 18006 Sampling Date(s): 3/31 - 4/17/92

SAS #: 6701 HQ

SDG #: SC0707

To calculate sample quantitation limit:
(CRQL * Dilution Factor)

CRQL	COMPOUND	Sample No.	SC0710	SC0711	SC0712	SC0713	SC0714	SC0715	SC0716		
		Dilution Factor	1	1	1	1	1	1	1		
		Location	S-3 59 PT	S-4 59 PT	S-5 59 PT	TB-3	EQ-3	EQ-2	EQ-4		
			4/8	4/9	4/9	4/17 Trip Blank	4/16 Equipment Blank	4/15 Equipment Blank	4/17 Equipment Blank		
1	*1,2-Dichloropropane										
1	Cis-1,3-Dichloropropane										
1	Trichloroethene				0.3 J						
1	Dibromochloromethane										
1	1,1,2-Trichlorethane										
1	*Benzene										
1	Trans-1,3-Dichloropropene										
1	Bromoform										
5	4-Methyl-2-pentanone										
5	2-Hexanone										
1	*Tetrachloroethene		10	10	17						
1	1,1,2,2-Tetrachloroethane										
1	*Toluene					0.04 J			0.04 J		
1	*Chlorobenzene										
1	*Ethylbenzene					0.03 J			0.04 J		
1	*Styrene										
1	*Total Xylenes										
1	1,2-Dibromo-3 chloropropane										
1	1,2-Dibromoethane										
1	cis-1,2-Dichloroethene										
1	Bromochloromethane										
1	1,2-Dichlorobenzene										
1	1,3-Dichlorobenzene										
1	1,4-Dichlorobenzene										

AR300918

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

Revised 07/90

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0701

Lab Name: KEYSTONE ENV. Contract:

Lab Code: KEYTX Case No.: 18006-03 SAS No.: 6701-HQ SDG No.: SC0707

Lab Sample ID: H920405002 Date Received: 04/04/92

Lab File ID: EU04050V02 Date Analyzed: 04/11/92

Purge Volume: 25.0 (ml) Dilution Factor: 5.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	5	U
74-83-9	Bromomethane	5	U
75-01-4	Vinyl Chloride	5	U
75-00-3	Chloroethane	5	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	25	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-35-3	1,1-Dichloroethane	5	U
156-60-5	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	25	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-02-6	Trans-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	25	U
591-78-6	2-Hexanone	25	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
96-12-8	1,2-Dibromo-3-chloropropane	5	U
106-93-4	1,2-Dibromoethane	5	U
156-59-4	cis-1,2-Dichloroethene	5	U
1330-20-7	Total Xylenes	5	U
74-97-5	Bromochloromethane	5	U
95-50-1	1,2-Dichlorobenzene	5	U
541-73-1	1,3-Dichlorobenzene	5	U
106-46-7	1,4-Dichlorobenzene	5	U

AR300919

NST_ID: 4000 KEYSTONE DC # 18006-03- 8

SAMPLE: SC0701

ORGANICS ANALYSIS DATA SHEET - PAGE 5

ABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18006-03

C REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04050VC

B. TENTATIVELY IDENTIFIED COMPOUNDS

.AS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
				UG/

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

AR300920

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0702

Lab Name: KEYSTONE ENV. Contract:

Lab Code: KEYTX Case No.: 18006-03 SAS No.: 6701-HQ SDG No.: SC0707

Lab Sample ID: H920405003 Date Received: 04/04/92

Lab File ID: EU04050V03 Date Analyzed: 04/11/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	0.4	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	19	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	5	
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

AR300921

000032

ST ID: 4000 KEYSTONE DC # 18006-03- 8

SAMPLE: SC0702

ORGANICS ANALYSIS DATA SHEET - PAGE 5

ABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18006-03

: REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04050V03

B. TENTATIVELY IDENTIFIED COMPOUNDS

AS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
				UG/L

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0703

Lab Name: KEYSTONE ENV. Contract:

Lab Code: KEYTX Case No.: 18006-03 SAS No.: 6701-HQ SDG No.: SC0707

Lab Sample ID: H920405004 Date Received: 04/04/92

Lab File ID: EU04050V04 Date Analyzed: 04/11/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	0.1	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	0.3	J
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	0.9	J
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	24	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	0.8	J
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

AR300923 000049

NST ID: 4000 KEYSTONE DC # 18006-03- 8

SAMPLE: SC0703

ORGANICS ANALYSIS DATA SHEET - PAGE 5

.ABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18006-03

:C REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04050V0

B. TENTATIVELY IDENTIFIED COMPOUNDS

:AS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
				UG/

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0704

Lab Name: KEYSTONE ENV. Contract:

Lab Code: KEYTX Case No.: 18006-03 SAS No.: 6701-HQ SDG No.: SC0707

Lab Sample ID: H920405005 Date Received: 04/04/92

Lab File ID: EU04050V05 Date Analyzed: 04/11/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	0.3	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	6	
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	140	E
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	0.9	J
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

AR300925

INST ID: 4000 KEYSTONE DC # 18006-03- 8

SAMPLE: SC0704

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18006-03

GC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04050V05

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
				UG/L

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0704_DL

Lab Name: KEYSTONE ENV. Contract:

Lab Code: KEYTX Case No.: 18006-03 SAS No.: 6701-HQ SDG No.: SC0707

Lab Sample ID: H920405005 Date Received: 04/04/92

Lab File ID: EU04050V05A Date Analyzed: 04/12/92

Purge Volume: 25.0 (ml) Dilution Factor: 25.0

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	25	U
74-83-9	Bromomethane	25	U
75-01-4	Vinyl Chloride	25	U
75-00-3	Chloroethane	25	U
75-09-2	Methylene Chloride	50	U
67-64-1	Acetone	120	U
75-15-0	Carbon Disulfide	25	U
75-35-4	1,1-Dichloroethene	25	U
75-35-3	1,1-Dichloroethane	25	U
156-60-5	trans-1,2-Dichloroethene	25	U
67-66-3	Chloroform	25	U
107-06-2	1,2-Dichloroethane	25	U
78-93-3	2-Butanone	120	U
71-55-6	1,1,1-Trichloroethane	25	U
56-23-5	Carbon Tetrachloride	25	U
75-27-4	Bromodichloromethane	25	U
78-87-5	1,2-Dichloropropane	25	U
10061-02-6	Trans-1,3-Dichloropropene	25	U
79-01-6	Trichloroethene	25	U
124-48-1	Dibromochloromethane	25	U
79-00-5	1,1,2-Trichloroethane	25	U
71-43-2	Benzene	25	U
10061-01-5	cis-1,3-Dichloropropene	25	U
75-25-2	Bromoform	25	U
108-10-1	4-Methyl-2-Pentanone	120	U
591-78-6	2-Hexanone	120	U
127-18-4	Tetrachloroethene	330	BD
79-34-5	1,1,2,2-Tetrachloroethane	25	U
108-88-3	Toluene	25	U
108-90-7	Chlorobenzene	25	U
100-41-4	Ethylbenzene	25	U
100-42-5	Styrene	25	U
96-12-8	1,2-Dibromo-3-chloropropane	25	U
106-93-4	1,2-Dibromoethane	25	U
156-59-4	cis-1,2-Dichloroethene	25	U
1330-20-7	Total Xylenes	25	U
74-97-5	Bromochloromethane	25	U
95-50-1	1,2-Dichlorobenzene	25	U
541-73-1	1,3-Dichlorobenzene	25	U
106-46-7	1,4-Dichlorobenzene	25	U

AR300927 000083

INST ID: 4000 KEYSTONE DC # 18006-03- 8

SAMPLE: SC0704 D

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18006-C

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU0405C

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0705

Lab Name: KEYSTONE ENV. Contract:

Lab Code: KEYTX Case No.: 18006-03 SAS No.: 6701-HQ SDG No.: SC0707

Lab Sample ID: H920405006 Date Received: 04/04/92

Lab File ID: EU04050V06 Date Analyzed: 04/11/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	0.4	J
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	0.7	J
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	19	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	0.3	J
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	0.5	J
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

AR300929

INST ID: 4000 KEYSTONE DC # 18006-03- 8

SAMPLE: SC0705

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18006-0

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04050

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
				U

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0706

ab Name: KEYSTONE ENV. Contract:

ab Code: KEYTX Case No.: 18006-03 SAS No.: 6701-HQ SDG No.: SC0707

ab Sample ID: H920405007 Date Received: 04/04/92

ab File ID: EU04050V07 Date Analyzed: 04/11/92

irge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	0.3	J
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	0.6	J
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	18	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	0.4	J
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	0.5	J
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

AR300931

INST ID. 4000 KEYSTONE DC # 18006-03-

SAMPLE. SC0706

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO. 18006-

DC REPORT NO. 03/27/92 ANALYST: CEB DATAFILE: EU040

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOU
	SILOXANE COMPOUND	724		

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0707

Lab Name: KEYSTONE ENV. Contract:

Lab Code: KEYTX Case No.: 18006-03 SAS No.: 6701-HQ SDG No.: SC0707

Lab Sample ID: H920405009 Date Received: 04/08/92

Lab File ID: EU04050V09 Date Analyzed: 04/11/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	0.3	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	0.9	J
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	16	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	0.3	J
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

AR300933

000119

SAMPLE: SC0707

ORGANICS ANALYSIS DATA SHEET - PAGE 5

ABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18006-03

C REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04050V09

B. TENTATIVELY IDENTIFIED COMPOUNDS

AS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
				UG/L
	NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.			

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.: SC0708

Lab Name: KEYSTONE ENV. Contract:

Lab Code: KEYTX Case No.: 18006-03 SAS No.: 6701-HQ SDG No.: SC0707

Lab Sample ID: H920405010 Date Received: 04/08/92

Lab File ID: EU04050V10 Date Analyzed: 04/11/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	0.2	J
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	9	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	0.08	J
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

AR300935

000136

INST ID: 4000 KEYSTONE DC # 18006-03-

SAMPLE: SC0708

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18006

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU040

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOU

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

AR300936

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0709

Lab Name: KEYSTONE ENV. Contract:

Lab Code: KEYTX Case No.: 18006-03 SAS No.: 6701-HQ SDG No.: SC0707

Lab Sample ID: H920405011 Date Received: 04/10/92

Lab File ID: EU04050V11 Date Analyzed: 04/11/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	8	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	0.1	J
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

AR300937

INST ID: 4000 KEYSTONE DC # 18006-03- 8

SAMPLE: SC0709

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18006-C

DC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU0405C

3. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
	ALIPHATIC HYDROCARBON	953		

J = ESTIMATED VALUE - A 1.1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC07010

Lab Name: KEYSTONE ENV. Contract:

Lab Code: KEYTX Case No.: 18006-03 SAS No.: 6701-HQ SDG No.: SC0707

Lab Sample ID: H920405012 Date Received: 04/10/92

Lab File ID: EU04050V12A Date Analyzed: 04/12/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	10	B
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

AR300939

INST ID: 4000 KEYSTONE DC # 18006-03-

SAMPLE: SC0710

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18006-

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU0405

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUN

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0711

Lab Name: KEYSTONE ENV. Contract:

Lab Code: KEYTX Case No.: 18006-03 SAS No.: 6701-HQ SDG No.: SC0707

Lab Sample ID: H920405013 Date Received: 04/10/92

Lab File ID: EU04050V13 Date Analyzed: 04/12/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	10	B
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

AR300941 000161

INST ID: 4000 KEYSTONE DC # 18006-03- 8

SAMPLE: SC0711

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18006-C

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU0405C

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0712

Lab Name: KEYSTONE ENV. Contract:

Lab Code: KEYTX Case No.: 18006-03 SAS No.: 6701-HQ SDG No.: SC0707

Lab Sample ID: H920405014 Date Received: 04/10/92

Lab File ID: EU04050V14 Date Analyzed: 04/12/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	0.3	J
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	17	B
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18006-03-

SAMPLE: SC0712

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18006

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU040

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOU

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0713

Lab Name: KEYSTONE ENV. Contract:

Lab Code: KEYTX Case No.: 18006-03 SAS No.: 6701-HQ SDG No.: SC0707

Lab Sample ID: H920405015 Date Received: 04/18/92

Lab File ID: EU04050V15A Date Analyzed: 04/27/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	0.4	BJ
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	0.04	J
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	0.03	J
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18006-03- 8

SAMPLE: SC0713

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18006-0

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04050

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
				U

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0714

Lab Name: KEYSTONE ENV. Contract:

Lab Code: KEYTX Case No.: 18006-03 SAS No.: 6701-HQ SDG No.: SC0707

Lab Sample ID: H920405016 Date Received: 04/18/92

Lab File ID: EU04050V16 Date Analyzed: 04/27/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

AR300947

INST ID: 4000 KEYSTONE DC # 18006-03-

SAMPLE: SC0714

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18006

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU040

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOU
	ALDEHYDE	856		

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0715

Lab Name: KEYSTONE ENV. Contract:

Lab Code: KEYTX Case No.: 18006-03 SAS No.: 6701-HQ SDG No.: SC0707

Lab Sample ID: H920405017 Date Received: 04/18/92

Lab File ID: EU04050V17 Date Analyzed: 04/27/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18006-03- E

SAMPLE: SC0715

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18006-(

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU0405(

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUN

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0716

Lab Name: KEYSTONE ENV. Contract:

Lab Code: KEYTX Case No.: 18006-03 SAS No.: 6701-HQ SDG No.: SC0707

Lab Sample ID: H920405018 Date Received: 04/18/92

Lab File ID: EU04050V18 Date Analyzed: 04/27/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	0.5	BJ
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	0.04	J
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	0.04	J
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18006-03-

SAMPLE: SC0716

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18006-

GC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU040

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOU

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

DATA SUMMARY FORM: V O L A T I L E S 1

Site Name: NORTH PENN AREA 1 (GENTLE CLEANERS)

SOIL SAMPLES (µg/Kg)

Case #: 18055 Sampling Date(s): 4/14 - 4/20/92

SDG: CHS16

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((100 - % moisture)/100)

		4/14		4/15		4/14		4/14		4/15		4/15		4/16		4/16		4/16	
	Sample No.	CHS16		CHS17		CHS18		CHS19		CHS20		CHS21		CHS38		CHS39		CHS40	
	Dilution Factor	1		1		1		1		1		1		1		1		1	
	% Moisture	12		14		13		14		16		14		14		9		15	
	Location	L-6-S-2		L-7-S-2		L-2-S-1		L-4 S-1		L-9 S-2		L-8 S-2		GKM-3 S-2		GKM-4 S-3		GKM-5 S-4	
												MS/MSD							
CRQL	COMPOUND																		
10	Chloromethane																		
10	Bromomethane																		
10	Vinyl Chloride																		
10	Chloroethane																		
10	Methylene Chloride	36	B	41	B	45	B	44	B	45	B	43	B	12	B	11	B	11	B
10	Acetone	20	B	20	B	22	B	22	B	52	B	21	B	25	B	24	B	22	B
10	Carbon Disulfide																		
10	1,1-Dichloroethene																		
10	1,1-Dichloroethane																		
10	Total 1,2-Dichloroethene																		
10	Chloroform																		
10	1,2-Dichloroethane																		
10	2-Butanone													17	B		UJ		UJ
10	1,1,1-Trichloroethane																		
10	Carbon Tetrachloride																		
10	Bromodichloromethane																		

ARO30953

CRQL = Contract Required Quantitation Limit

SEE NARRATIVE FOR CODE DEFINITIONS

DATA SUMMARY FORM: V O L A T I L E S 2

Site Name: NORTH PENN AREA 1 (GENTLE CLEANERS)

SOIL SAMPLES (µg/Kg)

Case #: 18055 Sampling Date(s): 4/14-20/92

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((100 - % moisture)/100)

AR301054

CRQL	COMPOUND	CHS16	CHS17	CHS18	CHS19	CHS20	CHS21	CHS38	CHS39	CHS40
	Sample No.									
	Dilution Factor	1	1	1	1	1	1	1	1	1
	% Moisture	12	14	13	14	16	14	14	9	15
	Location	L-6-S-2	L-7-S-2	L-2-S-1	L-4 S-1	L-9 S-2	L-8 S-2	GKm-3 S-2	GKm-4 S-3	GKm-5 S-4
							MS/MSD			
10	1,2-Dichloropropane									
10	Cis-1,3-Dichloropropene									
10	Trichloroethene									
10	Dibromochloromethane									1
10	1,1,2-Trichloroethane									
10	Benzene									
10	Trans-1,3-Dichloropropene									
10	Bromoform									
10	4-Methyl-2-pentanone									
10	2-Hexanone									
10	Tetrachloroethene								27	6 J
10	1,1,2,2,-Tetrachloroethane									
10	Toluene								3 J	
10	Chlorobenzene									
10	Ethylbenzene									
10	Styrene									
10	Total Xylenes									

SEE NARRATIVE FOR CODE DEFINITIONS

DATA SUMMARY FORM: V O L A T I L E S 1

Site Name: NORTH PENN AREA 1 (GENTLE CLEANERS)

SOIL SAMPLES (µg/Kg)

Case #: 18055 Sampling Date(s): 4/14 - 4/20/92

SDG: CHS16

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((100 - % moisture)/100)

CRQL	COMPOUND	Sample No.		Dilution Factor		% Moisture		Location																	
		4/16		4/16		4/16		4/17		4/17		4/17		4/20		4/20		4/20							
		CHS41		CHS42		CHS43		CHS44		CHS45		CHS46		CHS48		CHS49		CHS50							
		1		1		1		1		1		1		1		1		1							
		16		15		16		18		12		20		16		23		13							
		GKM-7 S-3		GKM-8 S-4		GKM-10 S-2		ST-2 S-5		ST-3 S-7		ST-5 S-3 MS/MSD		GC-8 S-3		GC-3 S-3		GC-65-5							
10	Chloromethane																								
10	Bromomethane																								
10	Vinyl Chloride																								
10	Chloroethane																								
10	Methylene Chloride	12	B	12	B	14	B	14	B	9	B	14	B	18	B	17	B	15	B						
10	Acetone	31	B	21	B	13	B	70	B	25	B	41	B	48	B	43	B	27	B						
10	Carbon Disulfide																								
10	1,1-Dichloroethene																								
10	1,1-Dichloroethane																								
10	Total 1,2-Dichloroethene			45																					
10	Chloroform																								
10	1,2-Dichloroethane																								
10	2-Butanone		UJ		UJ				UJ		UJ		UJ												
10	1,1,1-Trichloroethane																								
10	Carbon Tetrachloride																								
10	Bromodichloromethane																								

DATA SUMMARY FORM: V O L A T I L E S 2

Site Name: NORTH PENN AREA 1 (GENTLE CLEANERS)

SOIL SAMPLES (µg/Kg)

Case #: 18055 Sampling Date(s): 4/14-20/92

SDG: CHS16

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((100 - % moisture)/100)

CRQL	COMPOUND	CHS41	CHS42	CHS43	CHS44	CHS45	CHS46	CHS48	CHS49	CHS50
	Sample No.									
	Dilution Factor	1	1/125	1	1	1	1	1	1	1/2500
	% Moisture	16	15	16	18	12	2	16	23	13
	Location	GKM-7 S-3	GKM-8 S-4	GKM-10 S-2	ST-2 S-5	ST-3 S-7	ST-5 S-3	GC-8 S-3	GC-3 S-3	GC-6 S-5
							MS/MSD			
10	1,2-Dichloropropane									
10	Cis-1,3-Dichloropropene									
10	Trichloroethene		64							
10	Dibromochloromethane									
10	1,1,2-Trichloroethane									
10	Benzene			UL						
10	Trans-1,3-Dichloropropene									
10	Bromoform									
10	4-Methyl-2-pentanone									
10	2-Hexanone									
10	Tetrachloroethene	8 J	6900 *	6 J				190	100	300,000 *
10	1,1,2,2,-Tetrachloroethane									
10	Toluene			UL						
10	Chlorobenzene									
10	Ethylbenzene									
10	Styrene									
10	Total Xylenes			V						

DATA SUMMARY FORM: V O L A T I L E S 1

Site Name: NORTH PENN AREA 1 (GENTLE CLEANERS)

WATER SAMPLES (µg/L)

Case #: 18055 Sampling Date(s): 4/14 - 20/92

To calculate sample quantitation limit: (CRQL * Dilution Factor)

SDG: CHS16

R8009S7

		4/15		4/16											
	Sample No.	CHS 22		CHS 23											
	Dilution Factor	1		1											
	Location	TB-1 TRIP BLANK		TB-2 TRIP BLANK											
CRQL	COMPOUND														
10	Chloromethane														
10	Bromomethane														
10	*Vinyl Chloride														
10	Chloroethane														
10	*Methylene Chloride	25	B	5	B										
10	Acetone				UJ										
10	Carbon Disulfide														
10	*1,1-Dichloroethene														
10	1,1-Dichloroethane														
10	*Total 1,2-Dichloroethene														
10	Chloroform														
10	*1,2-Dichloroethane														
10	*2-Butanone				UJ										
10	*1,1,1-Trichloroethane														
10	*Carbon Tetrachloride														
10	Bromodichloromethane														

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITION.

revised 07/90

DATA SUMMARY FORM: V O L A T I L E S 2

Site Name: NORTH PENN AREA 1 (GENTLE CLEANERS)

WATER SAMPLES
(µg/L)

Case #: 18055 Sampling Date(s): 4/14-20/92

SDG: CHS16

To calculate sample quantitation limit:
(CRQL * Dilution Factor)

| CRQL | COMPOUND | Sample No. | CHS22 | CHS23 | | |

DATA SUMMARY FORM: V O L A T I L E S 1

Site Name: North Penn Area 1 (Gentle Cleaners)

Case #: 18055 **Sampling Date(s):** 4/20-22/92

SDG: CHS51

SOIL SAMPLES (µg/Kg)

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((100 - % moisture)/100)

		4/22		4/22		4/21		4/22		4/22		4/21		4/21		4/21		4/21	
	Sample No.	CHS26		CHS27		CHS28		CHS29		CHS30		CHS31		CHS32		CHS33		CHS34	
	Dilution Factor	1		1		1		1		1		1		1		1		1	
	% Moisture	18		19		14		12		15		19		16		12		18	
	Location	PA-10 S-2		PA-10 S-2DUP		PA-5 S-3		GKm-12 S-2		GKm-13 S-1		ST-9 S-5DUP		ST-9 S-5		PA-8 S-4		ST-8 S-3	
				DUPLICATE OF CHS26								DUPLICATE OF CHS32							
CRQL	COMPOUND																		
10	Chloromethane																		
10	Bromomethane																		
10	Vinyl Chloride																		
10	Chloroethane																		
10	Methylene Chloride	13	B	15	B	34	B	33	B	53	B	110	B	17	B	17	B	21	B
10	Acetone	12	B	11	B	9	B	12	B	20	B	81	B	88	B	18	B	10	B
10	Carbon Disulfide																		
10	1,1-Dichloroethene																		
10	1,1-Dichloroethane																		
10	Total 1,2-Dichloroethene																		
10	Chloroform																		
10	1,2-Dichloroethane																		
10	2-Butanone												UJ						
10	1,1,1-Trichloroethane																		
10	Carbon Tetrachloride																		
10	Bromodichloromethane																		

SEE NARRATIVE FOR CODE DEFINITIONS

130059

DATA SUMMARY FORM: V O L A T I L E S 2

Site Name: NORTH PENN AREA 1 (GENTLE CLEANERS)

Case #: 18055 **Sampling Date(s):** 4/20-22/92

SDG: CHS51

SOIL SAMPLES
(µg/Kg)

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((100 - % moisture)/100)

CRQL	COMPOUND	CHS26	CHS27	CHS28	CHS29	CHS30	CHS31	CHS32	CHS33	CHS34
	Sample No.	1	1	1	1	1/5	1	1	1	1
	Dilution Factor	18	19	14	12	15	19	16	12	18
	% Moisture	PA-10 S-2	PA-10 S-2DUP	PA-5 S-3	GKM-12 S-2	GKM-13 S-1	ST-9 S-5 DUP	ST-9 S-5	PA-8 S-4	ST-8 S-3
	Location		DUPLICATE OF CHS26				DUPLICATE OF CHS32			
10	1,2-Dichloropropane									
10	Cis-1,3-Dichloropropene									
10	Trichloroethene									
10	Dibromochloromethane									
10	1,1,2-Trichloroethane									
10	Benzene			UL		UL	UL			
10	Trans-1,3-Dichloropropene									
10	Bromoform									
10	4-Methyl-2-pentanone									UJ
10	2-Hexanone									
10	Tetrachloroethene			5 J		1000*	7 J		56	
10	1,1,2,2,-Tetrachloroethane									
10	Toluene			UL		UL	UL			
10	Chlorobenzene									
10	Ethylbenzene									
10	Styrene									
10	Total Xylenes									

DATA SUMMARY FORM: V O L A T I L E S 1

Site Name: NORTH PENN AREA 1 (GENTLE CLEANERS)

SOIL SAMPLES (µg/Kg)

Case #: 18055 **Sampling Date(s):** 4/20-22/92

SDG: CHS51

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((100 - % moisture)/100)

		4/21		4/21		4/21		4/20		4/20		4/20		4/21					
	Sample No.	CHS35		CHS36		CHS37		CHS51		CHS52		CHS53		CHS55					
	Dilution Factor	1		1		1		1		1		1		1					
	% Moisture	17		22		11		17		15		13		15					
	Location	PA-2 S-2		ST-10 S-4		PA-7 S-6		GC-5 S-1		GC-7 S-2 DUP		GC-7 S-2		PA-3 S-2					
								MS/MSD		DUPLICATE OF CHS53				MS/MSD					
CRQL	COMPOUND																		
10	Chloromethane																		
10	Bromomethane																		
10	Vinyl Chloride																		
10	Chloroethane																		
10	Methylene Chloride	48	B	29	B	53	B	18	B	12	B	14	B	38	B				
10	Acetone			17	B	15	B	12	B	14	B	7	B	8	B				
10	Carbon Disulfide																		
10	1,1-Dichloroethene																		
10	1,1-Dichloroethane																		
10	Total 1,2-Dichloroethene	4	J																
10	Chloroform																		
10	1,2-Dichloroethane																		
10	2-Butanone																		
10	1,1,1-Trichloroethane						UJ												
10	Carbon Tetrachloride						↓												
10	Bromodichloromethane						UJ												

R3059

SEE NARRATIVE FOR CODE DEFINITIONS

DATA SUMMARY FORM: V O L A T I L E S 2

Site Name: NORTH PENN AREA 1 (GENTLE CLEANERS)

SOIL SAMPLES (µg/Kg)

Case #: 18055 Sampling Date(s): 4/20-22/92

SDG: CHS51

To calculate sample quantitation limit:
(CRQL * Dilution Factor) / ((100 - % moisture)/100)

DR300962

CRQL	COMPOUND	Sample No.	CHS35		CHS36		CHS37		CHS51		CHS52		CHS53		CHS55			
		Dilution Factor	1		1		1		1		1		1		1			
		% Moisture	17		22		11		17		15		13		15			
		Location	PA-2 S-2		ST-10 S-4		PA-7 S-6		GC-5 S-1		GC-7 S-2DUP		GC-7 S-2		PA-3 S-2			
									MS/MSD		DUPLICATE OF CHS53				MS/MSD			
10	1,2-Dichloropropane							UJ										
10	Cis-1,3-Dichloropropene							↓										
10	Trichloroethene		29															
10	Dibromochloromethane																	
10	1,1,2-Trichloroethane							↓										
10	Benzene			UL		UL		UL		UL		UL		UL		UL		
10	Trans-1,3-Dichloropropene							UJ										
10	Bromoform							↓										
10	4-Methyl-2-pentanone							UJ		UJ								
10	2-Hexanone							↓		↓								
10	Tetrachloroethene		99				120	J	23	J								
10	1,1,2,2,-Tetrachloroethane							UJ		UJ								
10	Toluene			UL		UL		UL		UL		UL		UL		UL		
10	Chlorobenzene			↓		↓		↓		↓		↓		↓		↓		
10	Ethylbenzene																	
10	Styrene																	
10	Total Xylenes			↓		↓		↓		↓		↓		↓		↓		

DATA SUMMARY FORM: V O L A T I L E S 1

Site Name: NORTH PENN AREA 1 (GENTLE CLEANERS)

WATER SAMPLES (µg/L)

Case #: 18055 Sampling Date(s): 4/20-22/92

SDG: CHS51

To calculate sample quantitation limit: (CRQL * Dilution Factor)

R3 00963

CRQL	COMPOUND	4/22 CHS47		4/20 CHS54											
	Sample No.	CHS47		CHS54											
	Dilution Factor	1		1											
	Location	TB-6 TRIP BLANK		TB-3 TRIP BLANK											
10	Chloromethane														
10	Bromomethane														
10	*Vinyl Chloride														
10	Chloroethane														
10	*Methylene Chloride	34	B	16	B										
10	Acetone	8	B	4	B										
10	Carbon Disulfide														
10	*1,1-Dichloroethene														
10	1,1-Dichloroethane														
10	*Total 1,2-Dichloroethene														
10	Chloroform														
10	*1,2-Dichloroethane														
10	*2-Butanone														
10	*1,1,1-Trichloroethane														
10	*Carbon Tetrachloride														
10	Bromodichloromethane														

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

revised 07/90

DATA SUMMARY FORM: V O L A T I L E S 2

Site Name: NORTH PENN AREA 1 (GENTLE CLEANERS)

WATER SAMPLES
(µg/L)

Case #: 18055 Sampling Date(s): 4/20-22/92

SDG#: CNS51

To calculate sample quantitation limit:
(CRQL * Dilution Factor)

CRQL	COMPOUND	Sample No.	CNS47	CNS54							
		Dilution Factor	1	1							
		Location	TB-6	TB-3							
			TRIP BLANK	TRIP BLANK							
10	*1,2-Dichloropropane										
10	Cis-1,3-Dichloropropane										
10	Trichloroethene										
10	Dibromochloromethane										
10	1,1,2-Trichlorethane										
10	*Benzene										
10	Trans-1,3-Dichloropropene										
10	Bromoform										
10	4-Methyl-2-pentanone										
10	2-Hexanone										
10	*Tetrachloroethene										
10	1,1,2,2-Tetrachloroethane										
10	*Toluene										
10	*Chlorobenzene										
10	*Ethylbenzene										
10	*Styrene										
10	*Total Xylenes										

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIONS

revised 07/90

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS16

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS16

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7622

Level: (low/med) LOW Date Received: 04/16/92

% Moisture: not dec. 12 Date Analyzed: 04/18/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	36	
67-64-1	Acetone	20	B
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS16

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS16

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7622

Level: (low/med) LOW Date Received: 04/16/92

% Moisture: not dec.12 Date Analyzed: 4/18/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.14~~	~~34.~~	~~NJ~~
2.		~~Unknown Hydrocarbon~~	~~11.97~~	~~6.~~	~~NJ~~
3.	110543	~~Hexane (DOT)(8CI9CI)~~	~~12.23~~	~~170.~~	~~NJB~~
4.	556672	~~Cyclotetrasiloxane,octamethy~~	~~34.16~~	~~19.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS17

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS17

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7615

Level: (low/med) LOW Date Received: 04/16/92

% Moisture: not dec. 14 Date Analyzed: 04/18/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	41	
67-64-1	Acetone	20	B
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS17

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS17

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7615

Level: (low/med) LOW Date Received: 04/16/92

% Moisture: not dec.14 Date Analyzed: 4/18/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.14~~	~~38.~~	~~NJ~~	~~R~~
2.	110543	Hexane (DOT)(8CI9CI)	12.37	190.	NJB	
3.	96377	~~Cyclopentane, methyl- (8CI9C~~	~~15.33~~	~~30.~~	~~NJ~~	~~R~~
4.	556672	~~Cyclotetrasiloxane,octamethy~~	~~34.20~~	~~21.~~	~~NJ~~	R
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS18

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS18

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7616

Level: (low/med) LOW Date Received: 04/16/92

% Moisture: not dec. 13 Date Analyzed: 04/18/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	45	
67-64-1	Acetone	22	B
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS18

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS18

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7616

Level: (low/med) LOW Date Received: 04/16/92

% Moisture: not dec. 13 Date Analyzed: 4/18/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.09~~	~~78.~~	~~NJ~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~12.32~~	~~200.~~	~~NJB~~
3.	96377	~~Cyclopentane, methyl- (8CI9C~~	~~15.28~~	~~29.~~	~~NJ~~
4.	556672	~~Cyclotetrasiloxane,octamethy~~	~~34.20~~	~~18.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS19

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS19

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7617

Level: (low/med) LOW Date Received: 04/16/92

% Moisture: not dec. 14 Date Analyzed: 04/18/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	44	
67-64-1	Acetone	22	B
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO: CHS19

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS19

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7617

Level: (low/med) LOW Date Received: 04/16/92

% Moisture: not dec. 14 Date Analyzed: 4/18/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.11~~	~~40.~~	~~NJ~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~12.35~~	~~210.~~	~~NJB~~
3.	96377	~~Cyclopentane, methyl- (8CI9C~~	~~15.31~~	~~31.~~	~~NJ~~
4.	556672	~~Cyclotetrasiloxane,octamethy~~	~~34.20~~	~~14.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS20

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS20

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7618

Level: (low/med) LOW Date Received: 04/16/92

% Moisture: not dec. 16 Date Analyzed: 04/18/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	45	
67-64-1	Acetone	52	B
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

AR300973

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS20

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS20

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7618

Level: (low/med) LOW Date Received: 04/16/92

% Moisture: not dec.16 Date Analyzed: 4/18/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.12~~	~~38.~~	~~NJ~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~12.36~~	~~200.~~	~~NJB~~
3.	96377	~~Cyclopentane, methyl- (8CI9C~~	~~15.32~~	~~31.~~	~~NJ~~
4.	556672	~~Cyclotetrasiloxane,octamethy~~	~~34.19~~	~~25.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS21

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS21

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7619

Level: (low/med) LOW Date Received: 04/16/92

% Moisture: not dec. 14 Date Analyzed: 04/18/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	43	
67-64-1	Acetone	21	B
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: CHS21

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS21

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7619

Level: (low/med) LOW Date Received: 04/16/92

% Moisture: not dec.14 Date Analyzed: 4/18/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.11~~	~~35.~~	~~NJ~~
2.		~~Unknown Hydrocarbon~~	~~11.20~~	~~8.~~	~~NJ~~
3.	110543	~~Hexane (DOT)(8CI9CI)~~	~~12.34~~	~~200.~~	~~NJB~~
4.	96377	~~Cyclopentane, methyl- (8CI9C~~	~~15.33~~	~~29.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

CHS22

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) WATER Lab Sample ID: CHS22

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >C7613

Level: (low/med) LOW Date Received: 04/16/92

% Moisture: not dec. 100 Date Analyzed: 04/18/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	25	
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS22

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) WATER Lab Sample ID: CHS22

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >C7613

Level: (low/med) LOW Date Received: 04/16/92

% Moisture: not dec. 100 Date Analyzed: 4/18/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.09~~	~~31.~~	~~NJ~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~12.28~~	~~150.~~	~~NJB~~
3.	96377	~~Cyclopentane, methyl- (8CI9C~~	~~15.24~~	~~24.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS23

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) WATER Lab Sample ID: CHS23

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >C7683

Level: (low/med) LOW Date Received: 04/21/92

% Moisture: not dec. 100 Date Analyzed: 04/22/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS23

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) WATER Lab Sample ID: CHS23

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >C7683

Level: (low/med) LOW Date Received: 04/21/92

% Moisture: not dec. 100 Date Analyzed: 4/22/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	110543	~~Hexane (DOT)(8CI9CI)~~	~~12.71~~	~~10.~~	~~NJ~~
2.					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS38

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS38

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7684

Level: (low/med) LOW Date Received: 04/21/92

% Moisture: not dec. 14 Date Analyzed: 04/22/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12	J
67-64-1	Acetone	25	B
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	17	B
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS38

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS38

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7684

Level: (low/med) LOW Date Received: 04/21/92

% Moisture: not dec.14 Date Analyzed: 4/22/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane~~	~~7.27~~	~~16.~~	~~NJ~~
2.		~~Unknown Hydrocarbon~~	~~12.30~~	~~8.~~	~~NJ~~
3.	110543	~~Hexane (DOT)(8CI9CI)~~	~~12.69~~	~~30.~~	~~NJ~~
4.	556672	~~Cyclotetrasiloxane, octameth~~	~~34.25~~	~~17.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS39

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS39

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7685

Level: (low/med) LOW Date Received: 04/21/92

% Moisture: not dec. 9 Date Analyzed: 04/22/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	11	J
67-64-1	Acetone	24	B
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	27	
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	3	J
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS39

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS39

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7685

Level: (low/med) LOW Date Received: 04/21/92

% Moisture: not dec. 9 Date Analyzed: 4/22/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane~~	~~7.27~~	~~45.~~	~~NJ~~
2.		~~Unknown Hydrocarbon~~	~~12.25~~	~~7.~~	~~NJ~~
3.	110543	~~Hexane (DOT)(8CI9CI)~~	~~12.67~~	~~27.~~	~~NJ~~
4.	556672	~~Cyclotetrasiloxane, octameth~~	~~34.25~~	~~360.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

CHS40

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS40

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7686

Level: (low/med) LOW Date Received: 04/21/92

% Moisture: not dec. 15 Date Analyzed: 04/22/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	11	J
67-64-1	Acetone	22	B
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	6	J
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS40

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS40

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7686

Level: (low/med) LOW Date Received: 04/21/92

% Moisture: not dec.15 Date Analyzed: 4/22/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane~~	~~7.34~~	~~7.~~	~~NJ~~
2.		~~Unknown Hydrocarbon~~	~~12.30~~	~~7.~~	~~NJ~~
3.	110543	~~Hexane~~ (DOT)(8CI9CI)	~~12.74~~	~~26.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS41

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS41

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7687

Level: (low/med) LOW Date Received: 04/21/92

% Moisture: not dec. 16 Date Analyzed: 04/22/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12	J
67-64-1	Acetone	31	B
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	8	J
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS41

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS41

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7687

Level: (low/med) LOW Date Received: 04/21/92

% Moisture: not dec.16 Date Analyzed: 4/22/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 6

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane~~	~~7.22~~	~~13.~~	~~NJ~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~12.59~~	~~31.~~	~~NJ~~
3.		Unknown Hydrocarbon	33.43	7.	~~NJ~~
4.		~~Cyclotetrasiloxane, octameth~~	~~34.23~~	~~7.~~	~~NJ~~
5.		Unknown Hydrocarbon	37.11	17.	~~NJ~~
6.		Unknown Hydrocarbon	38.95	14.	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

CHS42

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS42

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7688

Level: (low/med) LOW Date Received: 04/21/92

% Moisture: not dec. 15 Date Analyzed: 04/22/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12	J
67-64-1	Acetone	21	B
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	45	
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	64	
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	2000	E
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS42

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS42

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7688

Level: (low/med) LOW Date Received: 04/21/92

% Moisture: not dec. 15 Date Analyzed: 4/22/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 7

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane~~	~~7.29~~	~~62.~~	~~NJ~~
2.		~~Unknown Hydrocarbon~~	~~12.23~~	~~8.~~	~~NJ~~
3.	110543	~~Hexane (DOT)(8CI9CI)~~	~~12.66~~	~~28.~~	~~NJ~~
4.		Unknown Hydrocarbon	35.51	7.	~~NJ~~
5.		Unknown Hydrocarbon	36.92	22.	~~NJ~~
6.		Unknown Hydrocarbon	37.91	18.	~~NJ~~
7.		Unknown Hydrocarbon	39.91	7.	
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS42DL

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS42DL

Sample wt/vol: 4.0 (g/ml) G Lab File ID: >C7712

Level: (low/med) MED Date Received: 04/21/92

% Moisture: not dec. 15 Date Analyzed: 04/23/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 125.000

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 100 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	1500	U
74-83-9	Bromomethane	1500	U
75-01-4	Vinyl Chloride	1500	U
75-00-3	Chloroethane	1500	U
75-09-2	Methylene Chloride	1100	J
67-64-1	Acetone	2900	B
75-15-0	Carbon Disulfide	1500	U
75-35-4	1,1-Dichloroethene	1500	U
75-34-3	1,1-Dichloroethane	1500	U
540-59-0	1,2-Dichloroethene (total)	1500	
67-66-3	Chloroform	1500	U
107-06-2	1,2-Dichloroethane	1500	U
78-93-3	2-Butanone	1500	U
71-55-6	1,1,1-Trichloroethane	1500	U
56-23-5	Carbon Tetrachloride	1500	U
75-27-4	Bromodichloromethane	1500	U
78-87-5	1,2-Dichloropropane	1500	U
10061-01-5	cis-1,3-Dichloropropene	1500	U
79-01-6	Trichloroethene	1500	U
124-48-1	Dibromochloromethane	1500	U
79-00-5	1,1,2-Trichloroethane	1500	U
71-43-2	Benzene	1500	U
10061-02-6	trans-1,3-Dichloropropene	1500	U
75-25-2	Bromoform	1500	U
108-10-1	4-Methyl-2-Pentanone	1500	U
591-78-6	2-Hexanone	1500	U
127-18-4	Tetrachloroethene	6900	
79-34-5	1,1,2,2-Tetrachloroethane	1500	U
108-88-3	Toluene	1500	U
108-90-7	Chlorobenzene	1500	U
100-41-4	Ethylbenzene	1500	U
100-42-5	Styrene	1500	U
1330-20-7	Xylene (total)	1500	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS42DL

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS42DL

Sample wt/vol: 4.0 (g/mL) G Lab File ID: >C7712

Level: (low/med) MED Date Received: 04/21/92

% Moisture: not dec.15 Date Analyzed: 4/23/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 125.000

Soil Extract Volume: 10000 Soil Aliquot Volume: 100

Number TICs found: 1

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	110543	~~Hexane (DOT)(8CI9CI)~~	~~12.98~~	~~4800.~~	~~NJ~~
2.					
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4.					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

CHS43

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS43

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7770

Level: (low/med) LOW Date Received: 04/21/92

% Moisture: not dec. 16 Date Analyzed: 04/28/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	14	B
67-64-1	Acetone	13	B
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	6	J
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO: CHS43

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS43

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7770

Level: (low/med) LOW Date Received: 04/21/92

% Moisture: not dec.16 Date Analyzed: 4/28/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.71~~	~~39.~~	~~NJ~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~13.40~~	~~45.~~	~~NJ~~
3.	4806615	~~Cyclobutane, ethyl~~	~~16.32~~	~~7.~~	~~NJ~~
4.	556672	~~Cyclotetrasiloxane, octameth~~	~~34.32~~	~~40.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS44

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS44

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7690

Level: (low/med) LOW Date Received: 04/21/92

% Moisture: not dec. 18 Date Analyzed: 04/22/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	14	J
67-64-1	Acetone	70	B
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS44

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS44

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7690

Level: (low/med) LOW Date Received: 04/21/92

% Moisture: not dec. 18 Date Analyzed: 4/22/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane~~	~~7.27~~	~~17.~~	~~NJ~~
2.		~~Unknown Hydrocarbon~~	~~12.23~~	~~6.~~	~~NJ~~
3.	110543	~~Hexane (DOT)(8CI9CI)~~	~~12.66~~	~~28.~~	~~NJ~~
4.		~~Cyclotetrasiloxane, octameth~~	~~34.23~~	~~100.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

CHS45

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS45

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7691

Level: (low/med) LOW Date Received: 04/21/92

% Moisture: not dec. 12 Date Analyzed: 04/22/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	9	J
67-64-1	Acetone	25	B
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NC: CHS45

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS45

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7691

Level: (low/med) LOW Date Received: 04/21/92

% Moisture: not dec. 12 Date Analyzed: 4/22/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		~~Unknown Hydrocarbon~~	~~12.15~~	~~8.~~	~~NJ~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~12.59~~	~~18.~~	~~NJ~~
3.		~~Cyclotetrasiloxane, octameth~~	~~34.23~~	~~27.~~	~~NJ~~
4.		Unknown Hydrocarbon	37.91	18.	~~NJ~~
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VOLATILE ORGANICS ANALYSIS-DATA SHEET

EPA SAMPLE NO.

CHS46

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS46

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7692

Level: (low/med) LOW Date Received: 04/21/92

% Moisture: not dec. 20 Date Analyzed: 04/22/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	14	
67-64-1	Acetone	41	B
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS46

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS46

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7692

Level: (low/med) LOW Date Received: 04/21/92

% Moisture: not dec. 20 Date Analyzed: 4/22/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		~~Unknown Hydrocarbon~~	~~12.18~~	~~10.~~	~~NJ~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~12.61~~	~~26.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

CHS48

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS48

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7698

Level: (low/med) LOW Date Received: 04/22/92

% Moisture: not dec. 16 Date Analyzed: 04/22/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	18	B
67-64-1	Acetone	48	B
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	190	
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO: CHS48

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS48

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7698

Level: (low/med) LOW Date Received: 04/22/92

% Moisture: not dec.16 Date Analyzed: 4/22/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 5 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.42~~	~~15.~~	~~NJB~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~12.93~~	~~64.~~	~~NJB~~
3.		Unknown	17.11	23.	~~NJ~~
4.	556672	~~Cyclotetrasiloxane, octameth~~	~~34.22~~	~~130.~~	~~NJ~~
5.		Unknown	34.89	14.	~~NJ~~
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VOLATILE ORGANICS ANALYSIS-DATA SHEET

EPA SAMPLE NO.

CHS49

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS49

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7699

Level: (low/med) LOW Date Received: 04/22/92

% Moisture: not dec. 23 Date Analyzed: 04/23/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	17	B
67-64-1	Acetone	43	B
75-15-0	Carbon Disulfide	13	U
75-35-4	1,1-Dichloroethene	13	U
75-34-3	1,1-Dichloroethane	13	U
540-59-0	1,2-Dichloroethene (total)	13	U
67-66-3	Chloroform	13	U
107-06-2	1,2-Dichloroethane	13	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	13	U
56-23-5	Carbon Tetrachloride	13	U
75-27-4	Bromodichloromethane	13	U
78-87-5	1,2-Dichloropropane	13	U
10061-01-5	cis-1,3-Dichloropropene	13	U
79-01-6	Trichloroethene	13	U
124-48-1	Dibromochloromethane	13	U
79-00-5	1,1,2-Trichloroethane	13	U
71-43-2	Benzene	13	U
10061-02-6	trans-1,3-Dichloropropene	13	U
75-25-2	Bromoform	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	100	
79-34-5	1,1,2,2-Tetrachloroethane	13	U
108-88-3	Toluene	13	U
108-90-7	Chlorobenzene	13	U
100-41-4	Ethylbenzene	13	U
100-42-5	Styrene	13	U
1330-20-7	Xylene (total)	13	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO: CHS49

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS49

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7699

Level: (low/med) LOW Date Received: 04/22/92

% Moisture: not dec. 23 Date Analyzed: 4/23/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		~~Unknown Hydrocarbon~~	~~12.36~~	~~9.~~	~~NJ~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~12.82~~	~~60.~~	~~NJB~~
3.	556672	~~Cyclotetrasiloxane, octameth~~	~~34.25~~	~~16.~~	~~NJ~~
4.		Unknown	38.54	53.	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

CHS50

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS50

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7700

Level: (low/med) LOW Date Received: 04/22/92

% Moisture: not dec. 13 Date Analyzed: 04/23/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uI

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	15	B
67-64-1	Acetone	27	B
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	3800	E
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS50

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS50

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7700

Level: (low/med) LOW Date Received: 04/22/92

% Moisture: not dec.13 Date Analyzed: 4/23/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	110543	~~Hexane (DOT)(8CI9CI)~~	~~12.94~~	~~59.~~	~~NJB~~
2.	556672	~~Cyclotetrasiloxane, octameth~~	~~34.25~~	~~14.~~	~~NJ~~
3.	95636	Benzene, 1,2,4-trimethyl-	38.47	7.	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS50DL

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS50DL

Sample wt/vol: 4.0 (g/ml) G Lab File ID: >C7804

Level: (low/med) MED Date Received: 04/22/92

% Moisture: not dec. 13 Date Analyzed: 04/29/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 2500.00

Soil Extract Volume: 10000 (uL) Soil Aliquot Volume: 5 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	29000	U
74-83-9	Bromomethane	29000	U
75-01-4	Vinyl Chloride	29000	U
75-00-3	Chloroethane	29000	U
75-09-2	Methylene Chloride	52000	
67-64-1	Acetone	21000	J
75-15-0	Carbon Disulfide	29000	U
75-35-4	1,1-Dichloroethene	29000	U
75-34-3	1,1-Dichloroethane	29000	U
540-59-0	1,2-Dichloroethene (total)	29000	U
67-66-3	Chloroform	29000	U
107-06-2	1,2-Dichloroethane	29000	U
78-93-3	2-Butanone	29000	U
71-55-6	1,1,1-Trichloroethane	29000	U
56-23-5	Carbon Tetrachloride	29000	U
75-27-4	Bromodichloromethane	29000	U
78-87-5	1,2-Dichloropropane	29000	U
10061-01-5	cis-1,3-Dichloropropene	29000	U
79-01-6	Trichloroethene	29000	U
124-48-1	Dibromochloromethane	29000	U
79-00-5	1,1,2-Trichloroethane	29000	U
71-43-2	Benzene	29000	U
10061-02-6	trans-1,3-Dichloropropene	29000	U
75-25-2	Bromoform	29000	U
108-10-1	4-Methyl-2-Pentanone	29000	U
591-78-6	2-Hexanone	29000	U
127-18-4	Tetrachloroethene	300000	
79-34-5	1,1,2,2-Tetrachloroethane	29000	U
108-88-3	Toluene	29000	U
108-90-7	Chlorobenzene	29000	U
100-41-4	Ethylbenzene	29000	U
100-42-5	Styrene	29000	U
1330-20-7	Xylene (total)	29000	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS50DL

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS16

Matrix: (soil/water) SOIL Lab Sample ID: CHS50DL

Sample wt/vol: 4.0 (g/mL) G Lab File ID: >C7804

Level: (low/med) MED Date Received: 04/22/92

% Moisture: not dec.13 Date Analyzed: 4/29/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 2500.00

Soil Extract Volume: 10000 Soil Aliquot Volume: 5

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		~~Unknown Hydrocarbon~~	~~7.60~~	~~20000.~~	~~NJ~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~13.20~~	~~62000.~~	~~NJB~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO

CHS26

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS26

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7774

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec. 18 Date Analyzed: 04/28/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	13	B
67-64-1	Acetone	12	BJ
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS26

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS26

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7774

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec. 18 Date Analyzed: 4/28/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.75~~	~~36.~~	~~NJ~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~13.45~~	~~49.~~	~~NJB~~
3.	4806615	~~Cyclobutane, ethyl-~~	~~16.38~~	~~7.~~	~~NJ~~
4.	556672	~~Cyclotetrasiloxane, octameth~~	~~34.35~~	~~9.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS27

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS27

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7775

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec. 19 Date Analyzed: 04/28/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	15	B
67-64-1	Acetone	11	BJ
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS27

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS27

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7775

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec. 19 Date Analyzed: 4/28/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.75~~	~~17.~~	~~NJ~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~13.47~~	~~52.~~	~~NJB~~
3.	4806615	~~Cyclobutane, ethyl-~~	~~16.39~~	~~9.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS28

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS28

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7793

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec. 14 Date Analyzed: 04/29/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	34	B
67-64-1	Acetone	9	BJ
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	5	J
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS28

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS28

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7793

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec.14 Date Analyzed: 4/29/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 2

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	110543	~~Hexane (DOT)(8CI9CI)~~	~~13.27~~	~~44.~~	~~NJB~~
2.	4806615	~~Cyclobutane, ethyl-~~	~~16.19~~	~~7.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS29

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS28

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7794

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec. 12 Date Analyzed: 04/29/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	33	B
67-64-1	Acetone	12	B
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS29

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS29

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7794

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec.12 Date Analyzed: 4/29/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (AGN)(DOT)(8CI9CI)~~	~~7.58~~	~~11.~~	~~NJ~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~13.27~~	~~48.~~	~~NJB~~
3.	4806615	~~Cyclobutane, ethyl-~~	~~16.19~~	~~7.~~	~~NJ~~
4.		Unknown	34.34	32.	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS30

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS30

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7808

Level: (low/med) LOW Date Received: 04/22/92

% Moisture: not dec. 15 Date Analyzed: 04/30/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	53	B
67-64-1	Acetone	20	B
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	900	E
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS30

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS30

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7808

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec.15 Date Analyzed: 4/30/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 5

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.60~~	~~13.~~	~~NJ~~
2.		~~Unknown~~	~~12.79~~	~~9.~~	~~NJ~~
3.	110543	~~Hexane (DOT)(8CI9CI)~~	~~13.23~~	~~75.~~	~~NJB~~
4.	4806615	~~Cyclobutane, ethyl-~~	~~16.14~~	~~13.~~	~~NJB~~
5.	556672	~~Cyclotetrasiloxane, octameth~~	~~34.33~~	~~56.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS30DL

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS30DL

Sample wt/vol: 1.0 (g/ml) G Lab File ID: >C7817

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec. 15 Date Analyzed: 04/30/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 5.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	59	U
74-83-9	Bromomethane	59	U
75-01-4	Vinyl Chloride	59	U
75-00-3	Chloroethane	59	U
75-09-2	Methylene Chloride	420	B
67-64-1	Acetone	59	BJ
75-15-0	Carbon Disulfide	59	U
75-35-4	1,1-Dichloroethene	59	U
75-34-3	1,1-Dichloroethane	59	U
540-59-0	1,2-Dichloroethene (total)	59	U
67-66-3	Chloroform	59	U
107-06-2	1,2-Dichloroethane	59	U
78-93-3	2-Butanone	59	U
71-55-6	1,1,1-Trichloroethane	59	U
56-23-5	Carbon Tetrachloride	59	U
75-27-4	Bromodichloromethane	59	U
78-87-5	1,2-Dichloropropane	59	U
10061-01-5	cis-1,3-Dichloropropene	59	U
79-01-6	Trichloroethene	7	J
124-48-1	Dibromochloromethane	59	U
79-00-5	1,1,2-Trichloroethane	59	U
71-43-2	Benzene	59	U
10061-02-6	trans-1,3-Dichloropropene	59	U
75-25-2	Bromoform	59	U
108-10-1	4-Methyl-2-Pentanone	59	U
591-78-6	2-Hexanone	59	U
127-18-4	Tetrachloroethene	1000	
79-34-5	1,1,2,2-Tetrachloroethane	59	U
108-88-3	Toluene	59	U
108-90-7	Chlorobenzene	59	U
100-41-4	Ethylbenzene	59	U
100-42-5	Styrene	59	U
1330-20-7	Xylene (total)	59	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS30DL

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS30DL

Sample wt/vol: 1.0 (g/mL) G Lab File ID: >C7817

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec.15 Date Analyzed: 4/30/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 5.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 5

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.65~~	~~200.~~	~~NJ~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~13.28~~	~~380.~~	~~NJB~~
3.	4806615	~~Cyclobutane, ethyl-~~	~~16.21~~	~~59.~~	~~NJB~~
4.	556672	~~Cyclotetrasiloxane, octameth~~	~~34.42~~	~~230.~~	~~NJ~~
5.		Unknown Aromatic	37.25	41.	NJ
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NC: CHS31

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS31

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7818

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec. 19 Date Analyzed: 04/30/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (ul

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	110	B
67-64-1	Acetone	81	B
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	7	J
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS31

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS31

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7818

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec.19 Date Analyzed: 4/30/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 6 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	Pentane (ACN)(DOT)(8CI9CI)	7.67	33.	NJ
2.		Unknown Hydrocarbon	12.84	14.	NJB
3.	110543	Hexane (DOT)(8CI9CI)	13.28	74.	NJB
4.	4806615	Cyclobutane, ethyl-	16.21	12.	NJ
5.	556672	Cyclotetrasiloxane, octameth	34.40	21.	NJ
6.		Unknown Aromatic	39.08	8.	NJ
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS32

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS32

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7780

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec. 16 Date Analyzed: 04/28/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	17	B
67-64-1	Acetone	88	B
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO: CHS32

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS32

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7780

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec.16 Date Analyzed: 4/28/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.74~~	~~19.~~	~~NJ~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~13.51~~	~~52.~~	~~NJB~~
3.	4806615	~~Cyclobutane, ethyl-~~	~~16.42~~	~~9.~~	~~NJ~~
4.	556672	~~Cyclotetrasiloxane, octameth~~	~~34.33~~	~~44.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS33

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS33

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7781

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec. 12 Date Analyzed: 04/28/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	17	B
67-64-1	Acetone	18	B
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	56	
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS33

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS33

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7781

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec.12 Date Analyzed: 4/28/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.68~~	~~14.~~	~~NJ~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~13.45~~	~~33.~~	~~NJB~~
3.	556672	~~Cyclotetrasiloxane, octameth~~	~~34.34~~	~~24.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS34

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS34

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7782

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec. 18 Date Analyzed: 04/28/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	21	B
67-64-1	Acetone	10	BJ
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS34

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS34

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7782

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec. 18 Date Analyzed: 4/28/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	Pentane (ACN)(DOT)(8CI9CI)	7.71	46.	NJ
2.	110543	Hexane (DOT)(8CI9CI)	13.45	46.	NJB
3.	4806615	Cyclobutane, ethyl	16.36	7.	NJ
4.	556672	Cyclotetrasiloxane, octameth	34.29	76.	NJ
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS35

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS35

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7786

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec. 17 Date Analyzed: 04/29/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	48	B
67-64-1	Acetone	12	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	4	J
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	29	
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	99	
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS35

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS35

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7786

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec.17 Date Analyzed: 4/29/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.70~~	~~13.~~	~~NJ~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~13.43~~	~~49.~~	~~NJB~~
3.	4806615	~~Cyclobutane, ethyl-~~	~~16.37~~	~~7.~~	~~NJ~~
4.	556672	~~Cyclotetrasiloxane, octameth~~	~~34.32~~	~~6.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS36

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS36

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7861

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec. 22 Date Analyzed: 05/02/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	13	U
74-83-9	Bromomethane	13	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	13	U
75-09-2	Methylene Chloride	29	B
67-64-1	Acetone	17	B
75-15-0	Carbon Disulfide	13	U
75-35-4	1,1-Dichloroethene	13	U
75-34-3	1,1-Dichloroethane	13	U
540-59-0	1,2-Dichloroethene (total)	13	U
67-66-3	Chloroform	13	U
107-06-2	1,2-Dichloroethane	13	U
78-93-3	2-Butanone	13	U
71-55-6	1,1,1-Trichloroethane	13	U
56-23-5	Carbon Tetrachloride	13	U
75-27-4	Bromodichloromethane	13	U
78-87-5	1,2-Dichloropropane	13	U
10061-01-5	cis-1,3-Dichloropropene	13	U
79-01-6	Trichloroethene	13	U
124-48-1	Dibromochloromethane	13	U
79-00-5	1,1,2-Trichloroethane	13	U
71-43-2	Benzene	13	U
10061-02-6	trans-1,3-Dichloropropene	13	U
75-25-2	Bromoform	13	U
108-10-1	4-Methyl-2-Pentanone	13	U
591-78-6	2-Hexanone	13	U
127-18-4	Tetrachloroethene	13	U
79-34-5	1,1,2,2-Tetrachloroethane	13	U
108-88-3	Toluene	13	U
108-90-7	Chlorobenzene	13	U
100-41-4	Ethylbenzene	13	U
100-42-5	Styrene	13	U
1330-20-7	Xylene (total)	13	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS36

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS36

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7861

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec.22 Date Analyzed: 5/02/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 3

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.71~~	~~18.~~	~~NJ~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~13.36~~	~~65.~~	~~NJB~~
3.	4806615	~~Cyclobutane, ethyl~~	~~16.30~~	~~10.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS37

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS37

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7788

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec. 11 Date Analyzed: 04/29/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	53	B
67-64-1	Acetone	15	B
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	120	
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS37

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS37

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7788

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec.11 Date Analyzed: 4/29/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.67~~	~~52.~~	~~NJ~~ IC
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~13.39~~	~~60.~~	~~NJB~~ IC
3.	4806615	~~Cyclobutane, ethyl-~~	~~16.32~~	~~10.~~	~~NJ~~ IC
4.	556672	~~Cyclotetrasiloxane, octameth~~	~~34.37~~	~~22.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS47

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) WATER Lab Sample ID: CHS47

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >C7785

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec. 100 Date Analyzed: 04/29/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	34	B
67-64-1	Acetone	8	BJ
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS47

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) WATER Lab Sample ID: CHS47

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >C7785

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec. 100 Date Analyzed: 4/29/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.72~~	~~7.~~	~~NJ~~ JBN
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~13.48~~	~~38.~~	~~NJB~~ JBN
3.	4806615	~~Cyclobutane, ethly-~~	~~16.39~~	~~6.~~	~~NJ~~ JBN
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS51

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS51

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7771

Level: (low/med) LOW Date Received: 04/22/92

% Moisture: not dec. 17 Date Analyzed: 04/28/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	18	B
67-64-1	Acetone	12	BJ
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	23	
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS51

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS51

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7771

Level: (low/med) LOW Date Received: 04/22/92

% Moisture: not dec.17 Date Analyzed: 4/28/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.69~~	~~61.~~	~~NJ~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~13.45~~	~~53.~~	~~NJB~~
3.	4806615	~~Cyclobutane, ethyl-~~	~~16.37~~	~~8.~~	~~NJ~~
4.	556672	~~Cyclotetrasiloxane, octameth~~	~~34.32~~	~~170.~~	~~NJ~~ R
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS52

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS52

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7772

Level: (low/med) LOW Date Received: 04/22/92

% Moisture: not dec. 15 Date Analyzed: 04/28/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	12	BJ
67-64-1	Acetone	14	B
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS52

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS52

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7772

Level: (low/med) LOW Date Received: 04/22/92

% Moisture: not dec.15 Date Analyzed: 4/28/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.68~~	~~18.~~	~~NJ~~
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~13.42~~	~~40.~~	~~NJB~~
3.	4806615	~~Cyclobutane, ethyl-~~	~~16.33~~	~~6.~~	~~NJ~~
4.	556672	~~Cyclotetrasiloxane, octameth~~	~~34.29~~	~~31.~~	~~NJ~~
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS53

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS53

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7773

Level: (low/med) LOW Date Received: 04/22/92

% Moisture: not dec. 13 Date Analyzed: 04/28/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	11	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	11	U
75-00-3	Chloroethane	11	U
75-09-2	Methylene Chloride	14	B
67-64-1	Acetone	7	BJ
75-15-0	Carbon Disulfide	11	U
75-35-4	1,1-Dichloroethene	11	U
75-34-3	1,1-Dichloroethane	11	U
540-59-0	1,2-Dichloroethene (total)	11	U
67-66-3	Chloroform	11	U
107-06-2	1,2-Dichloroethane	11	U
78-93-3	2-Butanone	11	U
71-55-6	1,1,1-Trichloroethane	11	U
56-23-5	Carbon Tetrachloride	11	U
75-27-4	Bromodichloromethane	11	U
78-87-5	1,2-Dichloropropane	11	U
10061-01-5	cis-1,3-Dichloropropene	11	U
79-01-6	Trichloroethene	11	U
124-48-1	Dibromochloromethane	11	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	11	U
10061-02-6	trans-1,3-Dichloropropene	11	U
75-25-2	Bromoform	11	U
108-10-1	4-Methyl-2-Pentanone	11	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	11	U
108-90-7	Chlorobenzene	11	U
100-41-4	Ethylbenzene	11	U
100-42-5	Styrene	11	U
1330-20-7	Xylene (total)	11	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: CHS53

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS53

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7773

Level: (low/med) LOW Date Received: 04/22/92

% Moisture: not dec.13 Date Analyzed: 4/28/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.71~~	~~15.~~	~~NJ~~ JR
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~13.45~~	~~51.~~	~~NJB~~ JDN
3.	4806615	~~Cyclobutane, ethyl~~	~~16.36~~	~~6.~~	~~NJ~~ JDN
4.	556672	~~Cyclotetrasiloxane, octameth~~	~~34.34~~	~~37.~~	~~NJ~~ R
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS54

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) WATER Lab Sample ID: CHS54

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: >C7707

Level: (low/med) LOW Date Received: 04/22/92

% Moisture: not dec. 100 Date Analyzed: 04/23/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	16	B
67-64-1	Acetone	4	BJ
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

CHS54

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) WATER Lab Sample ID: CHS54

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: >C7707

Level: (low/med) LOW Date Received: 04/22/92

% Moisture: not dec. 100 Date Analyzed: 4/23/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 3

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.31~~	~~9.~~	~~NJB~~ JBN
2.		~~Unknown Hydrocarbon~~	~~11.80~~	~~6.~~	~~NJ~~ JBN
3.	110543	~~Hexane (DOT)(8CI9CI)~~	~~12.93~~	~~120.~~	~~NJB~~ JBN
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

CHS55

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS55

Sample wt/vol: 5.0 (g/ml) G Lab File ID: >C7789

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec. 15 Date Analyzed: 04/29/92

GC Column: RTx502.2 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: NA (uL) Soil Aliquot Volume: NA (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	12	U
74-83-9	Bromomethane	12	U
75-01-4	Vinyl Chloride	12	U
75-00-3	Chloroethane	12	U
75-09-2	Methylene Chloride	38	B
67-64-1	Acetone	8	BJ
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	12	U
75-34-3	1,1-Dichloroethane	12	U
540-59-0	1,2-Dichloroethene (total)	12	U
67-66-3	Chloroform	12	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	12	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	12	U
75-27-4	Bromodichloromethane	12	U
78-87-5	1,2-Dichloropropane	12	U
10061-01-5	cis-1,3-Dichloropropene	12	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	12	U
79-00-5	1,1,2-Trichloroethane	12	U
71-43-2	Benzene	12	U
10061-02-6	trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	12	U
108-10-1	4-Methyl-2-Pentanone	12	U
591-78-6	2-Hexanone	12	U
127-18-4	Tetrachloroethene	12	U
79-34-5	1,1,2,2-Tetrachloroethane	12	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	12	U
100-42-5	Styrene	12	U
1330-20-7	Xylene (total)	12	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
CHS55

Lab Name: McCOY & McCOY LABS Inc. Contract: 68D10081

Lab Code: McCOY Case No.: 18055 SAS No.: NA SDG No.: CHS51

Matrix: (soil/water) SOIL Lab Sample ID: CHS55

Sample wt/vol: 5.0 (g/mL) G Lab File ID: >C7789

Level: (low/med) LOW Date Received: 04/27/92

% Moisture: not dec.15 Date Analyzed: 4/29/92

GC Column: RTx502.2 ID: 0.53 Dilution Factor: 1.00000

Soil Extract Volume: NA Soil Aliquot Volume: NA

Number TICs found: 4 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	109660	~~Pentane (ACN)(DOT)(8CI9CI)~~	~~7.56~~	~~15.~~	~~NJ~~ JJ
2.	110543	~~Hexane (DOT)(8CI9CI)~~	~~13.25~~	~~43.~~	~~NJB~~ J
3.	4806615	~~Cyclobutane, ethyl~~	~~16.19~~	~~7.~~	~~NJ~~ JJ
4.	556672	~~Cyclotetrasiloxane, octameth~~	~~34.34~~	~~6.~~	~~NJ~~ F
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

OLC01.0

DATA SUMMARY FORM: VOLATILES 1

Site Name: NORTH PENN AREA 1 (GENTLE CLEANERS)

WATER SAMPLES
(µg/L)

Case #: 18082 Sampling Date(s): 4/21/92

SAS #: 6701 HQ

SDG #: SC0717

To calculate sample quantitation limit
(CRQL * Dilution Factor

	Sampling Date:	4/21		4/21		4/21		4/21		4/21		4/21		4/21		4/21		
	Sample No.	SC0717		SC0718		SC0719		SC0720		SC0721		SC0722		SC0723		SC0724		SC0725	
	Dilution Factor	1		1		1		1		1		1		1		1		1	
	Location	NPS-GW1-01		NPD-GW1-01 DUPLICATE OF SC0717		NPS-GW1-02 DUPLICATE OF SC0717		NPS-GW1-03 DUPLICATE OF SC0717		NPS-GW2-01		NPS-GW3-01		NPS-GW4-01		NPB-GW4-01 EQUIPMENT BLANK		TB-1 TRIP BLANK	
CRQL	COMPOUND																		
1	Chloromethane	0.6	B	0.4	B	0.9	B	0.6	B	2	B	1	B	0.3	B			0.5	J
1	Bromomethane																		UJ
1	*Vinyl Chloride																		UJ
1	Chloroethane																		UJ
2	*Methylene Chloride																		UJ
5	Acetone																		UJ
1	Carbon Disulfide																		UJ
1	*1,1-Dichloroethene																		UJ
1	1,1-Dichloroethane																		UJ
1	*Trans-1,2-Dichloroethene																		UJ
1	Chloroform																		UJ
1	*1,2-Dichloroethane																		UJ
5	*2-Butanone																		
1	*1,1,1-Trichloroethane																		
1	*Carbon Tetrachloride																		
1	Bromodichloromethane																		

ARSU104/

CRQL = Contract Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITION

revised 07/9

DATA SUMMARY FORM: VOLATILES 2

Site Name: NORTH PENN AREA 1 (GENTLE CLEANERS)

WATER SAMPLES
(µg/L)

Case #: 18082 Sampling Date(s): 4/21/92

SAS #: 6701 HQ

SDG #: SC0717

To calculate sample quantitation limit:
(CRQL * Dilution Factor)

CRQL	COMPOUND	SC0717 1 NPS-GW1-01		SC0718 1 NPD-GW1-01 DUPLICATE OF SC0717		SC0719 1 NPS-GW1-02 DUPLICATE OF SC0717		SC0720 1 NPS-GW1-03 DUPLICATE OF SC0717		SC0721 1 NPS-GW2-01		SC0722 1 NPS-GW3-01		SC0723 1 NPS-GW4-01		SC0724 1 NPB-GW4-01 EQUIPMENT BLANK		SC0725 1 TB-1 TRIP BLANK	
1	*1,2-Dichloropropane																		
1	Cis-1,3-Dichloropropene																		
1	Trichloroethene																		
1	Dibromochloromethane																		
1	1,1,2-Trichlorethane																		
1	*Benzene																		
1	Trans-1,3-Dichloropropene																		
1	Bromoform																		
5	4-Methyl-2-pentanone																		
5	2-Hexanone																		
1	*Tetrachloroethene											3		0.05	J				
1	1,1,2,2-Tetrachloroethane																		
1	*Toluene									0.03	B								
1	*Chlorobenzene																		
1	*Ethylbenzene	0.02	B	0.02	B	0.02	B			0.02	B					0.02	J		
1	*Styrene																		
1	*Total Xylenes																		
1	1,2-Dibromo-3 chloropropane																		
1	1,2-Dibromoethane																		UJ
1	cis-1,2-Dichloroethene																		UJ
1	Bromochloromethane																		
1	1,2-Dichlorobenzene																		
1	1,3-Dichlorobenzene																		
1	1,4-Dichlorobenzene																		

AR301048

SEE NARRATIVE FOR [redacted] DEFINITION

DATA SUMMARY FORM: V O L A T I L E S 1

Site Name: NORTH PENN AREA 1 (GENTLE CLEANERS)

WATER SAMPLES (µg/L)

Case #: 18082 Sampling Date(s): 4/21/92 - 4/23/92

SAS #: 6701 HQ

SDG #: SC0717

To calculate sample quantitation limit (CRQL * Dilution Factor

	Sampling Date:	4/21		4/21		4/22		4/23		4/23		4/23		4/23		4/23		4/23		4/23	
	Sample No.	SC0726		SC0727		SC0728		SC0741		SC0742		SC0743		SC0744		SC0745		SC0746			
	Dilution Factor	1		1		1		1		1		1		1		1		1			
	Location	EQ-5		EQ-1		NPS-GW5-01		NPS-TB10-01		NPS-GW6-01		NPS-GW9-01		S-10		NPS-GW8-01		S-8			
		EQUIPMENT BLANK		EQUIPMENT BLANK				TRIP BLANK													
CRQL	COMPOUND																				
1	Chloromethane					0.2	B	2		0.3	B	0.1	B			0.2	B				
1	Bromomethane																				
1	*Vinyl Chloride																				
1	Chloroethane																				
2	*Methylene Chloride	0.4	B	0.2	B																
5	Acetone																	0.1	B		
1	Carbon Disulfide	0.6	J																		
1	*1,1-Dichloroethene																				
1	1,1-Dichloroethane																				
1	*Trans-1,2-Dichloroethene																				
1	Chloroform																	0.2	B		
1	*1,2-Dichloroethene																				
5	*2-Butanone																				
1	*1,1,1-Trichloroethane											0.1	J								
1	*Carbon Tetrachloride																				
																		0.1	J		
1	Bromodichloromethane																				

AR301046

---- = Not Required Quantitation Limit

*Action Level Exists

SEE NARRATIVE FOR CODE DEFINITIO

revised 07/

DATA SUMMARY FORM: VOLATILES 2

Site Name: NORTH PENN AREA 1 (GENTLE CLEANERS)

Case #: 18082 Sampling Date(s): 4/21/92 - 4/23/92

SAS #: 6701HQ

SDG #: SC0717

WATER SAMPLES (µg/L)

To calculate sample quantitation limit: (CRQL * Dilution Factor)

CRQL	COMPOUND	Sample No. / Dilution Factor / Location		SC0726 / 1 / EQ-5 EQUIPMENT BLANK		SC0727 / 1 / EQ-1 EQUIPMENT BLANK		SC0728 / 1 / NPS-GW5-01		SC0741 / 1 / NPS-TB10-01 TRIP BLANK		SC0742 / 1 / RPS-GW6-01		SC0743 / 1 / NPS-GW9-01		SC0744 / 1 / S-10		SC0745 / 1 / NPS-GW8-01		SC0746 / 1 / S-8	
1	*1,2-Dichloropropane																				
1	Cis-1,3-Dichloropropane																				
1	Trichloroethene							0.2	J					0.3	J						
1	Dibromochloromethane																				
1	1,1,2-Trichlorethane																				
1	*Benzene													0.05	B						
1	Trans-1,3-Dichloropropene																				
1	Bromoform																				
5	4-Methyl-2-pentanone																				
5	2-Hexanone																				
1	*Tetrachloroethene							5				0.1	J			0.3	J				
1	1,1,2,2-Tetrachloroethane																				
1	*Toluene	0.04	J							0.1	J	0.1	B	0.2	B			0.2	B		
1	*Chlorobenzene																				
1	*Ethylbenzene	0.03	J					0.03	B	0.04	J	0.02	B	0.07	B			0.05	B		
1	*Styrene																				
1	*Total Xylenes																				
1	1,2-Dibromo-3-chloropropane																				
1	1,2-Dibromoethane																				
1	cis-1,2-Dichloroethene																				
1	Bromochloromethane																				
1	1,2-Dichlorobenzene																				
1	1,3-Dichlorobenzene																				
1	1,4-Dichlorobenzene																				

AR301050

SEE NARRATIVE FOR CODE DEFINITION

DATA SUMMARY FORM: V O L A T I L E S 1

Site Name: NORTH PENN AREA 1 (GENTLE CLEANERS) WATER SAMPLES (µg/L)

Case #: 18082 Sampling Date(s): 4/23/90

SAS #: 6701NQ

SDG #: SC0717

To calculate sample quantitation limit (CRQL * Dilution Factor

CRQL	COMPOUND	4/23 SC0747 1 NPS-GW7-01		4/23 SC0748 1 NPS-EQ10-01 EQUIPMENT BLANK	
1	Chloromethane	0.2	B		
1	Bromomethane				
1	*Vinyl Chloride				
1	Chloroethane				
2	*Methylene Chloride				
5	Acetone				
1	Carbon Disulfide				
1	*1,1-Dichloroethene				
1	1,1-Dichloroethane				
1	*Trans-1,2-Dichloroethene				
1	Chloroform			0.08	J
1	*1,2-Dichloroethane				
5	*2-Butanone				
1	*1,1,1-Trichloroethane				
1	*Carbon Tetrachloride				
1	Bromodichloromethane				

AVG0105

CRQL = Contract Required Quantitation Limit

Action Level Exists

SEE NARRATIVE FOR CODE DEFINITION

revised 07/9

DATA SUMMARY FORM: V O L A T I L E S 2

Site Name: NORTH PENN AREA 1 (GENTLE CLEANERS)

WATER SAMPLES (µg/L)

Case #: 18082 Sampling Date(s): 4/23/90

SAS #: 6701 HQ

SDG #: SC0717

To calculate sample quantitation limit: (CRQL * Dilution Factor)

CRQL	COMPOUND	SC0747 1 NPS.GW7.01		SC0748 1 NPS.EQ10.01 EQUIPMENT BLANK	
1	*1,2-Dichloropropane				
1	Cis-1,3-Dichloropropene				
1	Trichloroethene				
1	Dibromochloromethane				
1	1,1,2-Trichlorethane				
1	*Benzene	0.03	B		
1	Trans-1,3-Dichloropropene				
1	Bromoform				
5	4-Methyl-2-pentanone				
5	2-Hexanone				
1	*Tetrachloroethene				
1	1,1,2,2-Tetrachloroethane				
1	*Toluene	0.1	B	0.06	J
1	*Chlorobenzene				
1	*Ethylbenzene	0.04	B	0.03	J
1	*Styrene				
1	*Total Xylenes				
10	1,2-Dibromo-3 chloropropane				
1	1,2-Dibromoethene				
1	cis-1,2-Dichloroethene				
10	Bromochloromethane				
1	1,2-Dichlorobenzene				
1	1,3-Dichlorobenzene				
1	1,4-Dichlorobenzene				

*Action Level Exists

SEE NARRATIVE FOR DEFINITION

revised 07/9

DATA SUMMARY FORM: V O L A T I L E S 1

Site Name: NORTH PENN AREA 1 (GENTLE CLEANERS) WATER SAMPLES (µg/L)

Case #: 18082 Sampling Date(s): 4/22 and 5/1, 1992

SAS #: 6701 HQ

SDG #: SC0732

To calculate sample quantitation limit: (CRQL * Dilution Factor)

R30053

CRQL	COMPOUND	Sample No.																					
		SAMPLING DATE:	4/21		4/22		4/28		4/28		4/28		4/30										
		Dilution Factor	SC0749		SC0750		SC0732		SC0733		SC0734		SC0735										
		Location	1		1		1		1		1		1										
			EQ-6 EQUIPMENT BLANK FOR SDG SC0717		EQ-7 EQUIPMENT BLANK FOR SDG SC0717		NPS-GW10-01		NPS-GW11-01		TB-8 TRIP BLANK		NPS-GW12-01										
1	Chloromethane		0.9	J	0.9	J																	
1	Bromomethane																						
1	*Vinyl Chloride																						
1	Chloroethane																						
2	*Methylene Chloride		0.2	B							0.4	J											
5	Acetone																						
1	Carbon Disulfide				0.5	J	0.1	B					0.7	B									
1	*1,1-Dichloroethene																						
1	1,1-Dichloroethene						0.4	J	0.3	J													
1	*Trans-1,2-Dichloroethene																						
1	Chloroform						0.2	B	0.2	B													
1	*1,2-Dichloroethane																						
5	*2-Butanone																						
1	*1,1,1-Trichloroethane						0.9	J	0.8	J													
1	*Carbon Tetrachloride																						
1	Bromodichloromethane						0.1	J	0.1	J													

DATA SUMMARY FORM: VOLATILES 2

Site Name: NORTH PENN AREA 1 (GENTLE CLEANERS)

WATER SAMPLES
(µg/L)

Case #: 18082 Sampling Date(s): 4/22 and 5/1, 1992

SAS #: 6701 NQ

SDG #: SC0732

To calculate sample quantitation limit:
(CRQL * Dilution Factor)

CRQL	COMPOUND	SAMPLING DATE: 4/21		4/22		4/28		4/28		4/28		4/30	
	Sample No.	SC0749		SC0750		SC0732		SC0733		SC0734		SC0735	
	Dilution Factor	1		1		1		1		1		1	
	Location	EQ-6 EQUIPMENT BLANK FOR SDG SC0717		EQ-7 EQUIPMENT BLANK FOR SDG SC0717		NPS-GW10-01		NPS-GW11-01		TB-8 TRIP BLANK		NPS-GW12-01	
1	*1,2-Dichloropropene												
1	Cis-1,3-Dichloropropene												
1	Trichloroethene					0.4	J	0.4	J			0.7	J
1	Dibromochloromethane												
1	1,1,2-Trichloroethane												
1	*Benzene												
1	Trans-1,3-Dichloropropene												
1	Bromoform								UJ				
5	4-Methyl-2-pentanone												
5	2-Hexanone												
1	*Tetrachloroethene					3		3				1	
1	1,1,2,2-Tetrachloroethane												
1	*Toluene												
1	*Chlorobenzene												
1	*Ethylbenzene												
1	*Styrene												
1	*Total Xylenes												
1	1,2-Dibromo-3-chloropropane								UJ				
1	1,2-Dibromoethene												
1	cis-1,2-Dichloroethene					1		1				0.3	J
1	Bromochloromethane								UJ				
1	1,2-Dichlorobenzene								UJ				
1	1,3-Dichlorobenzene								UJ				
1	1,4-Dichlorobenzene												

SEE NARRATIVE FOR CODE DEFINITIONS

1LCA

LOW-CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE

SC0717

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082-03 SAS No.: 6701-HQ SDG No.: SC071

Lab Sample ID: H920423302 Date Received: 04/22/92

Lab File ID: EU04233V02 Date Analyzed: 04/27/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	0.6	J
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	0.02	J
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18082-03- 8

SAMPLE: SC0717

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18082-0

GC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04233'

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
				U

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

ILCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE N: SC0718

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082-03 SAS No.: 6701-HQ SDG No.: SC071

Lab Sample ID: H920423303 Date Received: 04/22/92

Lab File ID: EU04233V03 Date Analyzed: 04/27/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	0.4	J
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	0.02	J
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18082-03-

SAMPLE: SC0718

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 1808

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMO
	ALIPHATIC HYDROCARBON	716		
	UNKNOWN	745		
	~~ALIPHATIC HYDROCARBON~~	~~821~~		
	~~ALIPHATIC HYDROCARBON~~	~~865~~		
	~~ALIPHATIC COMPOUND~~	~~896~~		

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

ILCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE I

SC0719

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082-03 SAS No.: 6701-HQ SDG No.: SC071

Lab Sample ID: H920423304 Date Received: 04/22/92

Lab File ID: EU04233V04 Date Analyzed: 04/27/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS-NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	0.9	J
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	0.02	J
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

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INST ID: 4000 KEYSTONE DC # 18082-03- 8

SAMPLE: SC0719

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18082-03

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04233V

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT UG
~~ALIPHATIC HYDROCARBON~~		~~860~~		~~3~~
	UNKNOWN-DOESN'T MATCH ANY LIBRARY SPECTRA	897		1

ICAL.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

ILCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE N: SC0720

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082-03 SAS No.: 6701-HQ SDG No.: SC0717

Lab Sample ID: H920423305 Date Received: 04/22/92

Lab File ID: EU04233V05 Date Analyzed: 04/27/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	0.6	J
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18082-03- 8

SAMPLE: SC0720

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18082-C

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04233

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

LLCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE I

SC0721

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082-03 SAS No.: 6701-HQ SDG No.: SC071

Lab Sample ID: H920423306 Date Received: 04/22/92

Lab File ID: EU04233V06 Date Analyzed: 04/27/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	2	
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	0.03	J
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	0.02	J
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18082-03- 8

SAMPLE: SC0721

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18082-03

GC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04233V0

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
				UG/L
	ALDEHYDE	859		1 J

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE I

SC0722

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082-03 SAS No.: 6701-HQ SDG No.: SC071

Lab Sample ID: H920423307 Date Received: 04/22/92

Lab File ID: EU04233V07 Date Analyzed: 04/27/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS-NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	3	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18082-03- 8

SAMPLE: SC0722

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18082-

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU0423

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUN
~~---~~	~~ALIPHATIC HYDROCARBON~~	~~865~~		

KBL

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE

SC0723

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082-03 SAS No.: 6701-HQ SDG No.: SC071

Lab Sample ID: H920423308 Date Received: 04/22/92

Lab File ID: EU04233V08 Date Analyzed: 04/27/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	0.3	J
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	0.05	J
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18082-03-

SAMPLE: SC0723

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 1808

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMO

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE N

SC0724

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082-03 SAS No.: 6701-HQ SDG No.: SC0717

Lab Sample ID: H920423309 Date Received: 04/22/92

Lab File ID: EU04233V09 Date Analyzed: 04/27/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	0.02	J
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18082-03-

SAMPLE: SC0724

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 1808

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMO

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE: SC0725

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082-03 SAS No.: 6701-HQ SDG No.: SC07

Lab Sample ID: H920423310 Date Received: 04/22/92

Lab File ID: EU04233V10B Date Analyzed: 04/28/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	0.5	J
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18082-03-

SAMPLE: SC0725

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18082-

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU0423

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUN

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NC: SC0726

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082-03 SAS No.: 6701-HQ SDG No.: SC0717

Lab Sample ID: H920423311 Date Received: 04/22/92

Lab File ID: EU04233V11A Date Analyzed: 04/28/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	0.4	J
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	0.6	J
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	0.04	J
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	0.03	J
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18082-03- 8

SAMPLE: SC0726

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18082-0

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04233

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
				U(
64-19-7	~~ACETIC ACID (ACN)~~	~~383~~	~~966~~	~~1~~
				ISI

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE: SC0727

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082-03 SAS No.: 6701-HQ SDG No.: SC07

Lab Sample ID: H920423312 Date Received: 04/22/92

Lab File ID: EU04233V12A Date Analyzed: 04/28/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	0.2	J
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18082-03- 8

SAMPLE: SC0727

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18082-(

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU0423

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUN

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO: SC0728

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082-03 SAS No.: 6701-HQ SDG No.: SC0717

Lab Sample ID: H920423314 Date Received: 04/24/92

Lab File ID: EU04233V14 Date Analyzed: 04/28/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	0.2	J
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	0.2	J
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	5	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	0.03	J
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18082-03- E

SAMPLE: SC0728

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18082-(

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU0423

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUN
	ALDEHYDE	856		

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE I

SC0741

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082-03 SAS No.: 6701-HQ SDG No.: SC071

Lab Sample ID: H920423315 Date Received: 04/24/92

Lab File ID: EU04233V15 Date Analyzed: 04/28/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	2	
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	0.1	J
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	0.04	J
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18082-03- 8

SAMPLE: SC0741

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18082-C

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04233

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
~~64-19-7~~	~~ACETIC ACID (AGN)~~	~~430~~	~~980~~	~~8~~

IJ

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0742

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082-03 SAS No.: 6701-HQ SDG No.: SC0717

Lab Sample ID: H920423316 Date Received: 04/24/92

Lab File ID: EU04233V16 Date Analyzed: 04/28/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	0.3	J
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	0.1	J
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	0.1	J
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	0.02	J
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18082-03- 8

SAMPLE: SC0742

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18082-0

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04233

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
				U
~~64-19-7~~	~~ACETIC ACID (ACN)~~	~~387~~	973	~~1~~
				IJ

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE: SC0743

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082-03 SAS No.: 6701-HQ SDG No.: SC071

Lab Sample ID: H920423317 Date Received: 04/24/92

Lab File ID: EU04233V17 Date Analyzed: 04/28/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	0.1	J
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	0.1	J
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	0.3	J
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	0.05	J
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	0.2	J
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	0.07	J
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # ----- 8
82-03- 8

SAMPLE: SC0743

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18082-0

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04233

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUNT
				U
64-19-7	ACETIC ACID (ACN)	409	975	J
	SILICON COMPOUND	855		J

KPL

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0744

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082-03 SAS No.: 6701-HQ SDG No.: SC0717

Lab Sample ID: H920423318 Date Received: 04/24/92

Lab File ID: EU04233V18 Date Analyzed: 04/28/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	0.3	J
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18082-03- B

SAMPLE: SC0744

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18082-C

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU0423C

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUN
~~64-19-7~~	~~ACETIC ACID (ACN)~~	~~390~~	~~97~~	

IJN

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE

SC0745

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082-03 SAS No.: 6701-HQ SDG No.: SC0

Lab Sample ID: H920423319 Date Received: 04/24/92

Lab File ID: EU04233V19A Date Analyzed: 04/28/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	0.2	J
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	0.2	J
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	0.05	J
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18082-03-

SAMPLE: SC0745

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18082

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU042

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOU

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE N: SC0746

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082-03 SAS No.: 6701-HQ SDG No.: SC0717

Lab Sample ID: H920423320 Date Received: 04/24/92

Lab File ID: EU04233V20 Date Analyzed: 04/28/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	0.1	J
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	0.2	J
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	0.1	J
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

AR301089

INST ID: 4000 KEYSTONE DC # 18082-03-

SAMPLE: SC0746

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 1808

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMO
~~BFB~~		~~496~~		
	SILICON COMPOUND	622		
~~1,4-DICHLOROBENZENE-D4 *ISS*~~		~~698~~		

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE

SC0747

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082-03 SAS No.: 6701-HQ SDG No.: SC07

Lab Sample ID: H920423321 Date Received: 04/24/92

Lab File ID: EU04233V21 Date Analyzed: 04/28/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	0.2	J
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	0.03	J
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	0.1	J
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	0.04	J
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18082-03-

SAMPLE: SC0747

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 1808

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMO
	SILICON COMPOUND	698		

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO: SC0748

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082-03 SAS No.: 6701-HQ SDG No.: SC0717

Lab Sample ID: H920423322 Date Received: 04/24/92

Lab File ID: EU04233V22 Date Analyzed: 04/28/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	0.08	J
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	0.06	J
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	0.03	J
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

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INST ID: 4000 KEYSTONE DC # 18082-03- 8

SAMPLE: SC0748

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18082-

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU0423

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUN
~~64-19-7~~	~~ACETIC ACID (ACN)~~	~~392~~	~~973~~	I
	ALIPHATIC HYDROCARBON	820		
	SILICON COMPOUND	854		
	ALIPHATIC HYDROCARBON	894		

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE

SC0749

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082- SAS No.: 6701-HQ SDG No.: SC0732

Lab Sample ID: H920426302 Date Received: 04/24/92

Lab File ID: EU04263V02 Date Analyzed: 04/28/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	0.8	J
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	0.2	J
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

AR301095

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INST ID: 4000 KEYSTONE DC # 18082-03-

SAMPLE: SC0749

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18082

GC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU042

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOU

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE: SC0750

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082- SAS No.: 6701-HQ SDG No.: SC0732

Lab Sample ID: H920426303 Date Received: 04/24/92

Lab File ID: EU04263V03 Date Analyzed: 04/28/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	0.9	J
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	0.5	J
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

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INST ID: 4000 KEYSTONE DC # 18082-03-

SAMPLE: SC0750

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 1808

GC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU04

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMO
	ALIPHATIC HYDROCARBON	859		
	ALIPHATIC HYDROCARBON	881		

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE: SC0732

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082- SAS No.: 6701-HQ SDG No.: SC0732

Lab Sample ID: H920426305 Date Received: 05/02/92

Lab File ID: EU04263V05 Date Analyzed: 05/02/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	0.1	J
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	0.4	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	0.2	J
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	0.9	J
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	0.1	J
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	0.4	J
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	3	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18082-03- S

SAMPLE: SC0732

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18082-(

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU0426(

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUN
	ALIPHATIC HYDROCARBON	202		
~~64-19-7~~	~~ACETIC ACID (AGN)~~	~~389~~ *		

IJ

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

* Also Found In Blank

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0733

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082- SAS No.: 6701-HQ SDG No.: SC0732

Lab Sample ID: H920426306 Date Received: 05/02/92

Lab File ID: EU04263V06 Date Analyzed: 05/02/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	0.3	J
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	0.2	J
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	0.8	J
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	0.1	J
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	0.4	J
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	3	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18082-03-

SAMPLE: SC0733

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18082

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU042

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOU
~~64-19-7~~	~~ACETIC ACID (AGN)~~	390	978	IC

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE N

SC0734

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082- SAS No.: 6701-HQ SDG No.: SC0732

Lab Sample ID: H920426307 Date Received: 05/02/92

Lab File ID: EU04263V07 Date Analyzed: 05/02/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	0.4	J
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	1	U
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	U
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	1	U
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18082-03-

SAMPLE: SC0734

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18082

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU042

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOU
~~64-19-7~~	~~ACETIC ACID (4CN)~~	~~390~~	~~979~~	

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

1LCA

LOW CONC. WATER VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SC0735

Lab Name: KEYSTONE ENV. Contract: 6701-HQ

Lab Code: KEYTX Case No.: 18082- SAS No.: 6701-HQ SDG No.: SC0732

Lab Sample ID: H920426308 Date Received: 05/02/92

Lab File ID: EU04263V08 Date Analyzed: 05/02/92

Purge Volume: 25.0 (ml) Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION (ug/L)	Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	1	U
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	2	U
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	0.7	J
75-35-4	1,1-Dichloroethene	1	U
75-35-3	1,1-Dichloroethane	1	U
156-60-5	trans-1,2-Dichloroethene	1	U
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	5	U
71-55-6	1,1,1-Trichloroethane	1	U
56-23-5	Carbon Tetrachloride	1	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	1	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
79-01-6	Trichloroethene	0.7	J
124-48-1	Dibromochloromethane	1	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	1	U
10061-01-5	cis-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	1	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	U
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	1	U
100-42-5	Styrene	1	U
96-12-8	1,2-Dibromo-3-chloropropane	1	U
106-93-4	1,2-Dibromoethane	1	U
156-59-4	cis-1,2-Dichloroethene	0.3	J
1330-20-7	Total Xylenes	1	U
74-97-5	Bromochloromethane	1	U
95-50-1	1,2-Dichlorobenzene	1	U
541-73-1	1,3-Dichlorobenzene	1	U
106-46-7	1,4-Dichlorobenzene	1	U

INST ID: 4000 KEYSTONE DC # 18082-03- E

SAMPLE: SC0735

ORGANICS ANALYSIS DATA SHEET - PAGE 5

LABORATORY NAME: KEYSTONE LAB-HOUSTON CASE NO.: 18082-(

QC REPORT NO.: 03/27/92 ANALYST: CEB DATAFILE: EU0426

B. TENTATIVELY IDENTIFIED COMPOUNDS

CAS #	VOLATILE COMPOUND NAMES	SCAN#	PURITY	AMOUN

NO NON-HSL COMPOUNDS FOUND > 40% OF NEAREST INT. STD.

J = ESTIMATED VALUE - A 1:1 RESPONSE FACTOR IS ASSUMED

DATA SUMMARY FORM:

Site Name: North Penn
SAS
Case #: 7176C-03 Sampling Date: 4/~~16~~/92 for 17
4/17/92 for #18
SDG # 6C031

WATER SAMPLES
(mg/L)

To calculate sample quantitation limit
(CRQL * Dilution Factor)

CRQL	COMPOUND	Sample No.																	
		Dilution Factor																	
		Location																	
			17		18														
			Equip. 2 blank		Equip. 3 blank														
1	TOC																		

CRQL = Contract Required Quantitation Limit

AR301107

DATA SUMMARY FORM:

Site Name: North Penn
SAS
~~Case~~ #: 7176C-03 Sampling Date: 4-14-92 for 1 thru 3 SOIL SAMPLES (mg/kg)
4-15-92 for spls 4 thru 6
4-16-92 " " 8 thru 10
4-24-92 " " 19 thru 21
SDG# 6C031

To calculate sample quantitation limit
(CRQL * Dilution Factor) / ((1 - % moisture/100)

CRQL	COMPOUND	Sample No.		1		2		3		4		5		6		8		9		10	
		Dilution Factor																			
		% Moisture																			
		Location		L-6 S-2		L-2 S-1		L-4 S-1		L-9 S-2		L-8 S-2		L-7 S-2		GKM-3 S-2		GKN-4 S-3		GKM-5 S-4	
50	TOC			458		1,190		2,010		455		227		3,600		766		4,640		548	

CRQL = Contract Required Quantitation Limit

AR301108

DATA SUMMARY FORM: I N O R G A N I C S

te Name: North Penn

AS

se #: 7176C-03 Sampling Date(s): 4-16-92 to spls 11 thru 13 SOIL SAMPLES (mg/Kg)

SDG # 6C031 4-20-92 " " 19 thru 21

4-17-92 " " 14 thru 16

+Due to dilution, sample quantitation limit is affected. See dilution table for specifics.

Sample No.		11		12		13		14		15		16		19		20		21		
Dil. factor																				
% Moisture																				
location		GK N-7 S-3		GKM-8 S-4		GKN-10 S-2		ST-2- 3-5		ST-3 S-7		ST-Sn-S-3		GC-8 S-3		GC-3 S-3		GC-6 S-5		
50	TOC	2,660		5,320		3,580		2,433		20,700		>25,000	L	1680		1,490		21,800		

BRO1109

SEE NARRATIVE FOR CODE DEFINITIONS

DATA SUMMARY FORM:

Site Name: North Penn

WATER SAMPLES (mg/L)

SAS Case #: 7176C-08 Sampling Date: 4/24/92 for spls 25, 26, 27
SDG # C0322 4/22/92 for #41

To calculate sample quantitation limit (CRQL * Dilution Factor)

CRQL	COMPOUND	Sample No. / Dilution Factor / Location																	
		25 EQ-6 Eq. Blk		26 EQ-1 Eq. Blk		27 EQ-5 Eq. Blk		41 EQ-7 Eq. Blk											
1	TOC	6.4		1.2															

CRQL = Contract Required Quantitation Limit

AR301110

DATA SUMMARY FORM: I N O R G A N I C S

.te Name: North Penn

AS

ise #: 7176C-03 **Sampling Date(s):** 4/20/92 for 22 thru 24

DG# C0322

SOIL SAMPLES
(mg/Kg) Splg. date 4/22/92 for 29,30,32,33

4/21/92 for 25,31,34
4/24/92 for 26 thru 28

+Due to dilution, sample quantitation limit is affected.
See dilution table for specifics.

Sample No.		22		23		24		28		29		30		31		32		33		34	
Dilution factor																					
% Moisture																					
location		GC-5S-1		GC-7S-2		GC-7S-2		PA-3S-2		GCM-13S-1		GCM-12S-2		PA-8 S-4		PA-10 S-2		ST-9S-5 Duplicate of #35		PA-7S-6	
50	TOC	2,450		20,800		>25000	L	2,540		>25,000	L	1,340		7,990		4,160		630		15,800	

DATA SUMMARY FORM:

Site Name: North Penn

SOIL SAMPLES (mg/Kg)

SAS ~~Case~~ #: 7176C-03 Sampling Date: 4/24/92 for 35,
SDG # C0322 4/21/92 for 38, 40, 39, 36

To calculate sample quantitation limit
(CRQL * Dilution Factor) / ((1 - % moisture/100)

CRQL	COMPOUND																							
	Sample No.			35		36		37		38		39		40										
	Dilution Factor																							
	% Moisture																							
	Location			ST-9 S-5		PA-2 S-2		PA-10 S-2 Duplicate of #32		ST8 S-3		PA-5 S-3		ST-D S-4										
50	TOC			631		4,520		4,530		>25,000	L	6,050		6,990										

CRQL = Contract Required Quantitation Limit

AR301112

EcoTek LSI
Incorporated

General Chemistry
Total Organic Carbon

Client: VIAR
SDG: 6C031
LSDG: 2307
Case No.: 7176-C-03

Date Received: April 17-27, 1992
Date Sampled: April 14, 15, 20, & 21, 1992
Method: Lloyd Kahn/ EPA 415.1

Lab Sample ID	Client ID	Units	Matrix	Result	Detection Limit	Note
230701	7176-C-03-1	mg/kg	Soil	458	50	
230702	7176-C-03-2	mg/kg	Soil	1190	50	
230703	7176-C-03-3	mg/kg	Soil	2010	50	
230704	7176-C-03-4	mg/kg	Soil	455	50	
230705	7176-C-03-5	mg/kg	Soil	227	50	
230706	7176-C-03-6	mg/kg	Soil	3600	50	
230707	7176-C-03-8	mg/kg	Soil	766	50	
230708	7176-C-03-9	mg/kg	Soil	4640	50	
230709	7176-C-03-10	mg/kg	Soil	548	50	
230710	7176-C-03-11	mg/kg	Soil	2660	50	
230711	7176-C-03-12	mg/kg	Soil	5320	50	
230712	7176-C-03-13	mg/kg	Soil	3580	50	
230713	7176-C-03-14	mg/kg	Soil	2433	50	
230714	7176-C-03-15	mg/kg	Soil	20700	50	
230715	7176-C-03-16	mg/kg	Soil	>25000	50	
230716	7176-C-03-17	mg/l	Water	<1.0	1.0	
230717	7176-C-03-18	mg/l	Water	<1.0	1.0	
230718	7176-C-03-19	mg/kg	Soil	1680	50	
230719	7176-C-03-20	mg/kg	Soil	1490	50	
230720	7176-C-03-21	mg/kg	Soil	21800	50	

EcoTek LSI

General Chemistry
Total Organic Carbon

Client: VIAR
LSDG: 2343
Case No.: 7176-C-03
SDG: C0322

Date Received: April 27, 1992
Date Sampled: April 14, 20, 22, & 21, 1992
Method: Lloyd Kahn/ EPA 415.1

Lab Sample ID	Client ID	Units	Matrix	Result	Detection Limit	Note
234301	7176-C-03-22	mg/kg	Soil	2450	50	
234302	7176-C-03-23	mg/kg	Soil	20800	50	
234303	7176-C-03-24	mg/kg	Soil	>25000	50	
234304	7176-C-03-25	mg/l	Water	6.4	1.0	
234305	7176-C-03-26	mg/l	Water	1.2	1.0	
234306	7176-C-03-27	mg/l	Water	<1.0	1.0	
234307	7176-C-03-28	mg/kg	Soil	2540	50	
234308	7176-C-03-29	mg/kg	Soil	>25000	50	
234309	7176-C-03-30	mg/kg	Soil	1340	50	
234310	7176-C-03-31	mg/kg	Soil	7990	50	
234311	7176-C-03-32	mg/kg	Soil	4160	50	
234312	7176-C-03-33	mg/kg	Soil	630	50	
234313	7176-C-03-34	mg/kg	Soil	15800	50	
234314	7176-C-03-35	mg/kg	Soil	631	50	
234315	7176-C-03-36	mg/kg	Soil	4520	50	
234316	7176-C-03-37	mg/kg	Soil	4530	50	
234317	7176-C-03-38	mg/kg	Soil	>25000	50	
234318	7176-C-03-39	mg/kg	Soil	6050	50	
234319	7176-C-03-40	mg/kg	Soil	6990	50	
234320	7176-C-03-41	mg/l	Water	<1.0	1.0	

DATA SUMMARY FORM:

Site Name: North Penn Area 1

WATER SAMPLES (mg/L)

SAS ~~Case~~ #: 7176C-01 **Sampling Date:** see below

SDG # Splg. Date 3/31/92 4/1/92 4/2/92 4/3/92 4/3/92 4/3/92 4/6/92 4/7/92 4/8/92

To calculate sample quantitation limit (CRQL * Dilution Factor)

CRQL	COMPOUND	Sample No.	1		2		3		4		5		6		7		8		9	
		Dilution Factor			3.3										2					
		Location	Equipment blank								duplicate of 6									
1	TOC		2.6	J	34.8	J	9.6	B	6.9	B	8.3	B	4.0	B	23.6	J	7.6	B	3.5	B

CRQL = Contract Required Quantitation Limit

AR301115

DATA SUMMARY FORM:

Site Name: North Penn Area 1

SAS Case #: 7176C-01 Sampling Date: see below

WATER SAMPLES (mg/L)

To calculate sample quantitation limit (CRQL * Dilution Factor)

CRQL	COMPOUND	Sample No. / Dilution Factor / Location																	
		Splg. D/T		4/8/92		4/9/92		4/9/92											
				10		11		12											
1	TOC	2.3	B	4.0	B	8.1	B												

CRQL = Contract Required Quantitation Limit

AR301116

WEYERHAEUSER TECHNOLOGY CENTER
Analytical Chemistry Laboratories
Tacoma, Washington

TOC REPORT
EPA INORGANIC WATER SAS 7176-C-01

SUBMITTER'S DESIGNATION	SAMPLE NUMBER	TOC C mg/L AS REC'D BASIS	DATE ANALYZED	
7176-C-01-1 REC'D 04/06 SAMPLED 03/31 **SDG*	~~88127A~~	~~1.4~~	~~4/24/92~~	R
"	~~88127B~~	~~1.3~~	~~4/24/92~~	R
"	88127C	2.7	5/2/92	
"	88127D	4.0	5/2/92	
"	88127E	1.9	5/2/92	
"	88127F	2.3	5/2/92	
"	88127G	2.0	5/2/92	
	AVG =	~~2.2~~ 2.6		KAK.
	STD DEV=	~~0.9~~		
7176-C-01-2 REC'D 04/06 SAMPLED 04/01	~~88128A~~	~~37.4~~	~~4/24/92~~	R
"	~~88128B~~	~~36.6~~	~~4/24/92~~	R
"	88128C	34.0	5/2/92	
"	88128D	38.1	5/2/92	
"	88128E	33.9	5/2/92	
"	88128F	34.0	5/2/92	
"	88128G	34.0	5/2/92	
	AVG =	~~35.4~~ 34.8		KAK.
	STD DEV=	~~1.9~~		
7176-C-01-3 REC'D 04/06 SAMPLED 04/02	~~88129A~~	~~11.4~~	~~4/24/92~~	R
"	~~88129B~~	~~11.6~~	~~4/24/92~~	R
"	88129C	9.3	5/2/92	
"	88129D	9.6	5/2/92	
"	88129E	10.0	5/2/92	
"	88129F	9.7	5/2/92	
"	88129G	9.6	5/2/92	
	AVG =	~~10.2~~ 9.6		KAK.
	STD DEV=	~~0.9~~		
7176-C-01-4 REC'D 04/06 SAMPLED 04/03	~~88130A~~	~~4.1~~	~~4/24/92~~	R
"	~~88130B~~	~~4.6~~	~~4/24/92~~	R
"	88130C	7.3	5/2/92	
"	88130D	7.3	5/2/92	
"	88130E	6.9	5/2/92	
"	88130F	6.6	5/2/92	
"	88130G	6.3	5/2/92	
	AVG =	~~6.2~~ 6.9		KAK.
	STD DEV=	~~1.3~~		

0003

Approved W Brout Date 5/14/92 AR301117 Notebook _____

SR 08328

WEYERHAEUSER TECHNOLOGY CENTER
Analytical Chemistry Laboratories
Tacoma, Washington

TOC REPORT
EPA INORGANIC WATER SAS 7176-C-01

SUBMITTER'S DESIGNATION	SAMPLE NUMBER	TOC C mg/L AS REC'D BASIS	DATE ANALYZED	
7176-C-01-5 REC'D 04/06 SAMPLED 04/03 QC	~~88131A~~	~~2.4~~	~~4/24/92~~	R
"	~~88131B~~	~~2.8~~	~~4/24/92~~	R
"	~~88131C~~	~~0.5~~	~~5/2/92~~	R 4|24|92
"	~~88131D~~	~~1.5~~	~~5/2/92~~	R 4|24|92
"	88131E	8.6	5/2/92	
"	88131F	8.5	5/2/92	
"	88131G	8.2	5/2/92	
"	88131H	8.0	5/2/92	
"	88131I	8.5	5/2/92	
"	88131J	8.7	5/2/92	
"	88131K	8.4	5/2/92	
"	88131L	8.3	5/2/92	
"	88131M	8.2	5/2/92	
"	88131N	8.0	5/2/92	
	AVG =	~~6.5~~	8.3	KAK
	STD DEV=	~~3.1~~		
7176-C-01-6 REC'D 04/06 SAMPLED 04/03	~~88132A~~	~~8.5~~	~~4/24/92~~	R
"	~~88132B~~	~~7.8~~	~~4/24/92~~	R
"	~~88132C~~	~~14.9~~	~~4/24/92~~	R
"	~~88132D~~	~~14.9~~	~~4/24/92~~	R
"	88132E	1.2	5/2/92	
"	88132F	4.2	5/2/92	
"	88132G	6.6	5/2/92	
"	88132H	4.9	5/2/92	
"	88132I	3.0	5/2/92	
	AVG =	~~7.3~~	4.0	KAK
	STD DEV=	~~4.9~~		
7176-C-01-7 REC'D 04/08 SAMPLED 04/06	~~88365A~~	~~23.3~~	~~4/24/92~~	R
"	~~88365B~~	~~22.2~~	~~4/24/92~~	R
"	88365C	23.3	5/2/92	
"	88365D	25.6	5/2/92	
"	88365E	22.7	5/2/92	
"	88365F	22.8	5/2/92	
"	88365G	23.4	5/2/92	
	AVG =	~~23.3~~	23.6	KAK
	STD DEV=	~~1.1~~		

0004

Approved W Brown Date 5/14/92 AR301118 Notebook _____

SR 08328

WEYERHAEUSER TECHNOLOGY CENTER
Analytical Chemistry Laboratories
Tacoma, Washington

TOC REPORT
EPA INORGANIC WATER SAS 7176-C-01

SUBMITTER'S DESIGNATION	SAMPLE NUMBER	TOC C mg/L AS REC'D BASIS	DATE ANALYZED	
7176-C-01-8 REC'D 04/08 SAMPLED 04/07	~~88366A~~	~~<1~~	~~4/24/92~~	R
"	~~88366B~~	~~<1~~	~~4/24/92~~	R
"	88366C	9.9	5/2/92	
"	88366D	3.2	5/2/92	
"	88366E	8.9	5/2/92	
"	88366F	8.2	5/2/92	
"	88366G	7.8	5/2/92	
	AVG =	~~7.6~~ 7.6		KAK
	STD DEV=	~~2.6~~		
7176-C-01-9 REC'D 04/10 SAMPLED 04/08	~~88510A~~	~~7.8~~	~~4/24/92~~	R
"	~~88510B~~	~~6.9~~	~~4/24/92~~	R
"	88510C	2.4	5/2/92	
"	88510D	2.6	5/2/92	
"	88510E	5.0	5/2/92	
"	88510F	3.0	5/2/92	
"	88510G	4.5	5/2/92	
	AVG =	~~4.6~~ 3.5		KAK
	STD DEV=	~~2.1~~		
7176-C-01-10 REC'D 04/10 SAMPLED 04/08	~~88511A~~	~~5.2~~	~~4/24/92~~	R
"	~~88511B~~	~~5.5~~	~~4/24/92~~	R
"	~~88511C~~	~~5.4~~	~~4/24/92~~	R
"	~~88511D~~	~~5.1~~	~~4/24/92~~	R
"	~~88511E~~	~~1.9~~	~~4/27/92~~	R
"	~~88511F~~	~~1.8~~	~~4/27/92~~	R
"	~~88511G~~	~~2.2~~	~~4/27/92~~	R
"	~~88511H~~	~~2.0~~	~~4/27/92~~	R
"	88511I	4.7	5/3/92	
"	88511J	2.8	5/3/92	
"	88511K	2.3	5/3/92	
"	88511L	2.0	5/3/92	
"	88511M	2.8	5/3/92	
"	88511N	1.6	5/3/92	
"	88511O	1.4	5/3/92	
"	88511P	1.7	5/3/92	
"	88511Q	1.9	5/3/92	
"	88511R	1.8	5/3/92	
	AVG=	~~2.9~~ 2.3		KAK
	STD DEV=	~~1.5~~		

0005

Approved W T Grant

Date 5/14/92 AR301119 Notebook _____

SR 08328

WEYERHAEUSER TECHNOLOGY CENTER
Analytical Chemistry Laboratories
Tacoma, Washington

TOC REPORT
EPA INORGANIC WATER SAS 7176-C-01

SUBMITTER'S DESIGNATION	SAMPLE NUMBER	TOC C mg/L AS REC'D BASIS	DATE ANALYZED	
7176-C-01-11 REC'D 04/10 SAMPLED 04/09	~~88512A~~	~~11.6~~	~~4/27/92~~	R
"	~~88512B~~	~~11.4~~	~~4/27/92~~	R
"	88512C	3.2	5/2/92	
"	88512D	4.6	5/2/92	
"	88512E	6.5	5/2/92	
"	88512F	2.1	5/2/92	
"	88512G	3.6	5/2/92	
	AVG=	~~6.1~~ 4.0		ICAK
	STD DEV=	~~3.9~~		
7176-C-01-12 REC'D 04/10 SAMPLED 04/09	~~88513A~~	~~7.5~~	~~4/27/92~~	R
"	~~88513B~~	~~7.4~~	~~4/27/92~~	R
"	88513C	12.9	5/2/92	
"	88513D	3.9	5/2/92	
"	88513E	3.7	5/2/92	
"	88513F	7.7	5/2/92	
"	88513G	12.5	5/2/92	
	AVG=	~~8.0~~ 8.1		ICAK
	STD DEV=	~~3.6~~		

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Approved W O'Snout Date 5/14/92 AR301120 Notebook _____

Appendix G
Risk Characterization Calculations

AR301121

File A25: 2-19-93

TABLE A-25
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
PARKSIDE APARTMENTS
CARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Maximum c Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	48	4.23E-09	3.17E-11	6.2	2.25E-08	1.69E-10	6.2
Tetrachloroethene	0.052	EPA-ECAO	99	8.72E-09	4.53E-10	88.3	4.65E-08	2.42E-09	88.3
Trichloroethene	0.011	b	29	2.55E-09	2.81E-11	5.5	1.36E-08	1.50E-10	5.5
Total Excess Lifetime Cancer Risks					5E-10			3E-09	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.1	0.1
Body weight (kilograms)	70	70
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (day/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	70	70
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.
b. Withdrawn from HEAST
c. 95th percentile upper bound or maximum concentration whichever is smaller

AR301122

File A26: 2-19-93

TABLE A-26
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
PARKSIDE APARTMENTS
CARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Average Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	28	2.47E-09	1.85E-11	6.4	1.32E-08	9.86E-11	6.4
Tetrachloroethene	0.052	EPA-ECAO	53	4.67E-09	2.43E-10	83.9	2.49E-08	1.29E-09	83.9
Trichloroethene	0.011	b	29	2.55E-09	2.81E-11	9.7	1.36E-08	1.50E-10	9.7
Total Excess Lifetime Cancer Risks					3E-10			2E-09	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.1	0.1
Body weight (kilograms)	70	70
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (day/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	70	70
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.
b. Withdrawn from HEAST

AR301123

File A27: 2-19-93

TABLE A-27
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
PARKSIDE APARTMENTS
CARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Maximum c Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	48	2.63E-08	1.97E-10	6.2	5.26E-08	3.95E-10	6.2
Tetrachloroethene	0.052	EPA-ECAO	99	5.42E-08	2.82E-09	88.3	1.08E-07	5.64E-09	88.3
Trichloroethene	0.011	b	29	1.59E-08	1.75E-10	5.5	3.18E-08	3.50E-10	5.5
Total Excess Lifetime Cancer Risks					3E-09			6E-09	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.2	0.2
Body weight (kilograms)	15	15
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (day/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	70	70
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.
b. Withdrawn from HEAST
c. 95th percentile upper bound or maximum concentration whichever is smaller

AR301124

File A28: 2-19-93

TABLE A-28
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
PARKSIDE APARTMENTS
CARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Average Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	28	1.53E-08	1.15E-10	6.4	3.07E-08	2.30E-10	6.4
Tetrachloroethene	0.052	EPA-ECAO	53	2.90E-08	1.51E-09	83.9	5.81E-08	3.02E-09	83.9
Trichloroethene	0.011	b	29	1.59E-08	1.75E-10	9.7	3.18E-08	3.50E-10	9.7
Total Excess Lifetime Cancer Risks					2E-09			4E-09	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.2	0.2
Body weight (kilograms)	15	15
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (day/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	70	70
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.
b. Withdrawn from HEAST

AR301125

File A29: 2-19-93

TABLE A-29
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
PARKSIDE APARTMENTS
NONCARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS			
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum c Conc ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Total 1,2-Dichloroethene	0.01	HEAST b	4	2.74E-09	2.74E-07	NO	5.48E-09	5.48E-07	NO	2.5
Acetone	0.1	IRIS	18	1.23E-08	1.23E-07	NO	2.47E-08	2.47E-07	NO	1.1
Methylene Chloride	0.06	IRIS	48	3.29E-08	5.48E-07	NO	6.58E-08	1.10E-06	NO	5.0
Tetrachloroethene	0.01	IRIS	99	6.78E-08	6.78E-06	NO	1.36E-07	1.36E-05	NO	61.4
Trichloroethene	0.006	EPA-ECAO	29	1.99E-08	3.31E-06	NO	3.97E-08	6.62E-06	NO	30.0
Hazard Index (Sum of DI/RfD)					0.00001			0.00002		

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.1	0.1
Body weight (kilograms)	70	70
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	9	24
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992
b. Total 1,2-Dichloroethene toxicity value based on cis-1,2-Dichloroethene
c. 95th percentile upper bound or maximum concentration whichever is smaller

AR301126

File A30: 2-19-93

TABLE A-30
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
PARKSIDE APARTMENTS
NONCARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS			
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Average Conc ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Total 1,2-Dichloroethene	0.01	HEAST b	4	2.74E-09	2.74E-07	NO	5.48E-09	5.48E-07	NO	3.6
Acetone	0.1	IRIS	12	8.22E-09	8.22E-08	NO	1.64E-08	1.64E-07	NO	1.1
Methylene Chloride	0.06	IRIS	28	1.92E-08	3.20E-07	NO	3.84E-08	6.39E-07	NO	4.2
Tetrachloroethene	0.01	IRIS	53	3.63E-08	3.63E-06	NO	7.26E-08	7.26E-06	NO	47.7
Trichloroethene	0.006	EPA-ECAO	29	1.99E-08	3.31E-06	NO	3.97E-08	6.62E-06	NO	43.5
Hazard Index (Sum of DI/RfD)					0.000008			0.00002		

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.1	0.1
Body weight (kilograms)	70	70
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	9	24
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992
b. Total 1,2-Dichloroethene toxicity value based on cis-1,2-Dichloroethene

AR301127

File A31: 2-19-93

TABLE A-31
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
PARKSIDE APARTMENTS
NONCARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS			
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum c Conc ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Total 1,2-Dichloroethene	0.01	HEAST b	4	2.56E-08	2.56E-06	NO	5.11E-08	5.11E-06	NO	2.5
Acetone	0.1	IRIS	18	1.15E-07	1.15E-06	NO	2.30E-07	2.30E-06	NO	1.1
Methylene Chloride	0.06	IRIS	48	3.07E-07	5.11E-06	NO	6.14E-07	1.02E-05	NO	5.0
Tetrachloroethene	0.01	IRIS	99	6.33E-07	6.33E-05	NO	1.27E-06	1.27E-04	NO	61.4
Trichloroethene	0.006	EPA-ECAO	29	1.85E-07	3.09E-05	NO	3.71E-07	6.18E-05	NO	30.0
Hazard Index (Sum of DI/RfD)					0.0001			0.0002		

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.2	0.2
Body weight (kilograms)	15	15
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	6	6
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992
b. Total 1,2-Dichloroethene toxicity value based on cis-1,2-Dichloroethene
c. 95th percentile upper bound or maximum concentration whichever is smaller

AR301128

File A32: 2-19-93

TABLE A-32
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
PARKSIDE APARTMENTS
NONCARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS			
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Average Conc ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Total 1,2-Dichloroethene	0.01	HEAST b	4	2.56E-08	2.56E-06	NO	5.11E-08	5.11E-06	NO	3.6
Acetone	0.1	IRIS	12	7.67E-08	7.67E-07	NO	1.53E-07	1.53E-06	NO	1.1
Methylene Chloride	0.06	IRIS	28	1.79E-07	2.98E-06	NO	3.58E-07	5.97E-06	NO	4.2
Tetrachloroethene	0.01	IRIS	53	3.39E-07	3.39E-05	NO	6.78E-07	6.78E-05	NO	47.7
Trichloroethene	0.006	EPA-ECAO	29	1.85E-07	3.09E-05	NO	3.71E-07	6.18E-05	NO	43.5
Hazard Index (Sum of DI/RfD)					0.00007			0.0001		

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.2	0.2
Body weight (kilograms)	15	15
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	6	6
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992
b. Total 1,2-Dichloroethene toxicity value based on cis-1,2-Dichloroethene

AR301129

File A33: 2-19-93

TABLE A-33
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
PARKSIDE APARTMENTS
CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Maximum c Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	48	2.62E-09	1.97E-11	6.2	2.87E-07	2.16E-09	6.2
Tetrachloroethene	0.052	EPA-ECAO	99	5.41E-09	2.81E-10	88.3	5.93E-07	3.08E-08	88.3
Trichloroethene	0.011	b	29	1.58E-09	1.74E-11	5.5	1.74E-07	1.91E-09	5.5
Total Excess Lifetime Cancer Risks					3E-10			3E-08	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.31	0.51
Body weight (kilograms)	70	70
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	70	70
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.
b. Withdrawn from HEAST
c. 95th percentile upper bound or maximum concentration whichever is smaller

AR301130

File A34: 2-19-93

TABLE A-34
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
PARKSIDE APARTMENTS
CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Average Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	28	1.53E-09	1.15E-11	6.4	1.68E-07	1.26E-09	6.4
Tetrachloroethene	0.052	EPA-ECAO	53	2.89E-09	1.50E-10	83.9	3.17E-07	1.65E-08	83.9
Trichloroethene	0.011	b	29	1.58E-09	1.74E-11	9.7	1.74E-07	1.91E-09	9.7
Total Excess Lifetime Cancer Risks					2E-10			2E-08	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.31	0.51
Body weight (kilograms)	70	70
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	70	70
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.
b. Withdrawn from HEAST

AR301131

File A35: 2-19-93

TABLE A-35
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
PARKSIDE APARTMENTS
CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Maximum c Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	48	6.31E-09	4.73E-11	6.2	3.09E-07	2.32E-09	6.2
Tetrachloroethene	0.052	EPA-ECAO	99	1.30E-08	6.77E-10	88.3	6.37E-07	3.31E-08	88.3
Trichloroethene	0.011	b	29	3.81E-09	4.20E-11	5.5	1.87E-07	2.05E-09	5.5
Total Excess Lifetime Cancer Risks					8E-10			4E-08	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.24	0.47
Body weight (kilograms)	15	15
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	70	70
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.
b. Withdrawn from HEAST
c. 95th percentile upper bound or maximum concentration whichever is smaller

AR301132

File A36: 2-19-93

TABLE A-36
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
PARKSIDE APARTMENTS
CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Average Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	28	3.68E-09	2.76E-11	6.4	1.80E-07	1.35E-09	6.4
Tetrachloroethene	0.052	EPA-ECAO	53	6.97E-09	3.62E-10	83.9	3.41E-07	1.77E-08	83.9
Trichloroethene	0.011	b	29	3.81E-09	4.20E-11	9.7	1.87E-07	2.05E-09	9.7
Total Excess Lifetime Cancer Risks					4E-10			2E-08	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.24	0.47
Body weight (kilograms)	15	15
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	70	70
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.
b. Withdrawn from HEAST

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TABLE A-37
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
PARKSIDE APARTMENTS
NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum c Concentration ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI
Total 1,2-Dichloroethene	0.01	HEAST b	4	1.70E-09	1.70E-07	2.5	6.99E-08	6.99E-06	2.5
Acetone	0.1	IRIS	18	7.64E-09	7.64E-08	1.1	3.14E-07	3.14E-06	1.1
Methylene Chloride	0.06	IRIS	48	2.04E-08	3.40E-07	5.0	8.38E-07	1.40E-05	5.0
Tetrachloroethene	0.01	IRIS	99	4.20E-08	4.20E-06	61.4	1.73E-06	1.73E-04	61.4
Trichloroethene	0.006	EPA-ECAO	29	1.23E-08	2.05E-06	30.0	5.07E-07	8.44E-05	30.0
Hazard Index (Sum of DI/RfD)					0.00001			0.0003	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.31	0.51
Body weight (kilograms)	70	70
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	9	24
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992
b. Total 1,2-Dichloroethene reference dose(RfD) based on cis-1,2-Dichloroethene
c. 95th percentile upper bound or maximum concentration whichever is smaller

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TABLE A-38
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
PARKSIDE APARTMENTS
NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Average Concentration ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI
Total 1,2-Dichloroethene	0.01	HEAST b	4	1.70E-09	1.70E-07	3.6	6.99E-08	6.99E-06	3.6
Acetone	0.1	IRIS	12	5.10E-09	5.10E-08	1.1	2.10E-07	2.10E-06	1.1
Methylene Chloride	0.06	IRIS	28	1.19E-08	1.98E-07	4.2	4.89E-07	8.15E-06	4.2
Tetrachloroethene	0.01	IRIS	53	2.25E-08	2.25E-06	47.7	9.26E-07	9.26E-05	47.7
Trichloroethene	0.006	EPA-ECAO	29	1.23E-08	2.05E-06	43.5	5.07E-07	8.44E-05	43.5
Hazard Index (Sum of DI/RfD)					0.000005			0.0002	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.31	0.51
Body weight (kilograms)	70	70
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	9	24
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992
b. Total 1,2-Dichloroethene reference dose(RfD) based on cis-1,2-Dichloroethene

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TABLE A-39
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
PARKSIDE APARTMENTS
NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum c Concentration ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI
Total 1,2-Dichloroethene	0.01	HEAST b	4	6.14E-09	6.14E-07	2.5	3.00E-07	3.00E-05	2.5
Acetone	0.1	IRIS	18	2.76E-08	2.76E-07	1.1	1.35E-06	1.35E-05	1.1
Methylene Chloride	0.06	IRIS	48	7.36E-08	1.23E-06	5.0	3.61E-06	6.01E-05	5.0
Tetrachloroethene	0.01	IRIS	99	1.52E-07	1.52E-05	61.4	7.44E-06	7.44E-04	61.4
Trichloroethene	0.006	EPA-ECAO	29	4.45E-08	7.42E-06	30.0	2.18E-06	3.63E-04	30.0
Hazard Index (Sum of DI/RfD)					0.00002			0.001	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.24	0.47
Body weight (kilograms)	15	15
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	6	6
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992
b. Total 1,2-Dichloroethene reference dose(RfD) based on cis-1,2-Dichloroethene
c. 95th percentile upper bound or maximum concentration whichever is smaller

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TABLE A-40
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
PARKSIDE APARTMENTS
NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
AVERAGE CONCENTRATION DETECTED

					AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Reference Dose (RfD) mg/kg-day	Source	a	Average Concentration ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI
Total 1,2-Dichloroethene	0.01	HEAST	b	4	6.14E-09	6.14E-07	3.6	3.00E-07	3.00E-05	3.6
Acetone	0.1	IRIS		12	1.84E-08	1.84E-07	1.1	9.01E-07	9.01E-06	1.1
Methylene Chloride	0.06	IRIS		28	4.30E-08	7.16E-07	4.2	2.10E-06	3.51E-05	4.2
Tetrachloroethene	0.01	IRIS		53	8.13E-08	8.13E-06	47.7	3.98E-06	3.98E-04	47.7
Trichloroethene	0.006	EPA-ECAO		29	4.45E-08	7.42E-06	43.5	2.18E-06	3.63E-04	43.5
Hazard Index (Sum of DI/RfD)						0.00002			0.0008	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.24	0.47
Body weight (kilograms)	15	15
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	6	6
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992
b. Total 1,2-Dichloroethene reference dose(RfD) based on cis-1,2-Dichloroethene

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TABLE A-41
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
GRANITE KNITTING MILLS
CARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Maximum b Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	30	2.64E-09	1.98E-11	0.1	1.41E-08	1.06E-10	0.1
Tetrachloroethene	0.052	EPA-ECAO	6900	6.08E-07	3.16E-08	99.9	3.24E-06	1.69E-07	99.9
Total Excess Lifetime Cancer Risks					3E-08			2E-07	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.1	0.1
Body weight (kilograms)	70	70
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (day/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	70	70
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.
b. 95th percentile upper bound or maximum concentration whichever is smaller

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TABLE A-42
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
GRANITE KNITTING MILLS
CARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Average Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	16	1.41E-09	1.06E-11	0.1	7.51E-09	5.64E-11	0.1
Tetrachloroethene	0.052	EPA-ECAO	1730	1.52E-07	7.92E-09	99.9	8.13E-07	4.23E-08	99.9
Total Excess Lifetime Cancer Risks					8E-09			4E-08	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.1	0.1
Body weight (kilograms)	70	70
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (day/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	70	70
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

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TABLE A-43
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
GRANITE KNITTING MILLS
CARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Maximum b Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	30	1.64E-08	1.23E-10	0.1	3.29E-08	2.47E-10	0.1
Tetrachloroethene	0.052	EPA-ECAO	6900	3.78E-06	1.97E-07	99.9	7.56E-06	3.93E-07	99.9
Total Excess Lifetime Cancer Risks					2E-07			4E-07	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.2	0.2
Body weight (kilograms)	15	15
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (day/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	70	70
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.
b. 95th percentile upper bound or maximum concentration whichever is smaller

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File A44: 2-19-93

TABLE A-44
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
GRANITE KNITTING MILLS
CARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Average Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	16	8.77E-09	6.58E-11	0.1	1.75E-08	1.32E-10	0.1
Tetrachloroethene	0.052	EPA-ECAO	1730	9.48E-07	4.93E-08	99.9	1.90E-06	9.86E-08	99.9
Total Excess Lifetime Cancer Risks					5E-08			1E-07	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.2	0.2
Body weight (kilograms)	15	15
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (day/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	70	70
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

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File A45: 2-19-93

TABLE A-45
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
GRANITE KNITTING MILLS
NONCARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS			
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum c Conc ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
2-Butanone	0.05	HEAST	17	1.16E-08	2.33E-07	NO	2.33E-08	4.66E-07	NO	0.0
Acetone	0.1	IRIS	31	2.12E-08	2.12E-07	NO	4.25E-08	4.25E-07	NO	0.0
Methylene Chloride	0.06	IRIS	30	2.05E-08	3.42E-07	NO	4.11E-08	6.85E-07	NO	0.1
Tetrachloroethene	0.01	IRIS	6900	4.73E-06	4.73E-04	NO	9.45E-06	9.45E-04	NO	99.8
Toluene	0.2	IRIS	10	6.85E-09	3.42E-08	NO	1.37E-08	6.85E-08	NO	0.0
Hazard Index (Sum of DI/RfD)					0.0005			0.0009		

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.1	0.1
Body weight (kilograms)	70	70
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	9	24
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992
b. Total 1,2-Dichloroethene toxicity value based on cis-1,2-Dichloroethene
c. 95th percentile upper bound or maximum concentration whichever is smaller

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File A46: 2-19-93

TABLE A-46

FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
GRANITE KNITTING MILLS
NONCARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS			
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Average Conc ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
2-Butanone	0.05	HEAST	17	1.16E-08	2.33E-07	NO	2.33E-08	4.66E-07	NO	0.2
Acetone	0.1	IRIS	21	1.44E-08	1.44E-07	NO	2.88E-08	2.88E-07	NO	0.1
Methylene Chloride	0.06	IRIS	16	1.10E-08	1.83E-07	NO	2.19E-08	3.65E-07	NO	0.2
Tetrachloroethene	0.01	IRIS	1730	1.18E-06	1.18E-04	NO	2.37E-06	2.37E-04	NO	99.5
Toluene	0.2	IRIS	12	8.22E-09	4.11E-08	NO	1.64E-08	8.22E-08	NO	0.0
Hazard Index (Sum of DI/RfD)					0.0001			0.0002		

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.1	0.1
Body weight (kilograms)	70	70
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	9	24
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992
b. Total 1,2-Dichloroethene toxicity value based on cis-1,2-Dichloroethene

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File A47: 2-19-93

TABLE A-47
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
GRANITE KNITTING MILLS
NONCARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS			
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum c Conc ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Dose Intake Exceed RfD?	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Dose Intake Exceed RfD?	Percent of HI
2-Butanone	0.05	HEAST	17	1.09E-07	2.17E-06	NO	2.17E-07	4.35E-06	NO	0.0
Acetone	0.1	IRIS	31	1.98E-07	1.98E-06	NO	3.96E-07	3.96E-06	NO	0.0
Methylene Chloride	0.06	IRIS	30	1.92E-07	3.20E-06	NO	3.84E-07	6.39E-06	NO	0.1
Tetrachloroethene	0.01	IRIS	6900	4.41E-05	4.41E-03	NO	8.82E-05	8.82E-03	NO	99.8
Toluene	0.2	IRIS	10	6.39E-08	3.20E-07	NO	1.28E-07	6.39E-07	NO	0.0
Hazard Index (Sum of DI/RfD)					0.004			0.009		

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.2	0.2
Body weight (kilograms)	15	15
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	6	6
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992
b. Total 1,2-Dichloroethene toxicity value based on cis-1,2-Dichloroethene
c. 95th percentile upper bound or maximum concentration whichever is smaller

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File A48: 2-19-93

TABLE A-48
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
GRANITE KNITTING MILLS
NONCARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS			
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Average Conc ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
2-Butanone	0.05	HEAST	17	1.09E-07	2.17E-06	NO	2.17E-07	4.35E-06	NO	0.2
Acetone	0.1	IRIS	21	1.34E-07	1.34E-06	NO	2.68E-07	2.68E-06	NO	0.1
Methylene Chloride	0.06	IRIS	16	1.02E-07	1.70E-06	NO	2.05E-07	3.41E-06	NO	0.2
Tetrachloroethene	0.01	IRIS	1730	1.11E-05	1.11E-03	NO	2.21E-05	2.21E-03	NO	99.5
Toluene	0.2	IRIS	12	7.67E-08	3.84E-07	NO	1.53E-07	7.67E-07	NO	0.0
Hazard Index (Sum of DI/RfD)					0.001			0.002		

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.2	0.2
Body weight (kilograms)	15	15
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	6	6
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992
b. Total 1,2-Dichloroethene toxicity value based on cis-1,2-Dichloroethene

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TABLE A-49
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
GRANITE KNITTING MILLS
CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Maximum b Concentration mg/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	30	1.64E-09	1.23E-11	0.1	1.80E-07	1.35E-09	0.1
Tetrachloroethene	0.052	EPA-ECAO	6900	3.77E-07	1.96E-08	99.9	4.13E-05	2.15E-06	99.9
Total Excess Lifetime Cancer Risks					2E-08			2E-06	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.31	0.51
Body weight (kilograms)	70	70
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	70	70
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.
b. 95th percentile upper bound or maximum concentration whichever is smaller

AR301146

File A50: 2-19-93

TABLE A-50
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
GRANITE KNITTING MILLS
CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Average Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	16	8.74E-10	6.55E-12	0.1	9.58E-08	7.19E-10	0.1
Tetrachloroethene	0.052	EPA-ECAO	1730	9.45E-08	4.91E-09	99.9	1.04E-05	5.39E-07	99.9
Total Excess Lifetime Cancer Risks					5E-09			5E-07	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.31	0.51
Body weight (kilograms)	70	70
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	70	70
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

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File A51: 2-19-93

TABLE A-51
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
GRANITE KNITTING MILLS
CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Maximum b Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	30	3.95E-09	2.96E-11	0.1	1.93E-07	1.45E-09	0.1
Tetrachloroethene	0.052	EPA-ECAO	6900	9.07E-07	4.72E-08	99.9	4.44E-05	2.31E-06	99.9
Total Excess Lifetime Cancer Risks					5E-08			2E-06	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.24	0.47
Body weight (kilograms)	15	15
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	70	70
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.
b. 95th percentile upper bound or maximum concentration whichever is smaller

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File A52: 2-19-93

TABLE A-52
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
GRANITE KNITTING MILLS
CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Average Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	16	2.10E-09	1.58E-11	0.1	1.03E-07	7.73E-10	0.1
Tetrachloroethene	0.052	EPA-ECAO	1730	2.28E-07	1.18E-08	99.9	1.11E-05	5.79E-07	99.9
Total Excess Lifetime Cancer Risks					1E-08			6E-07	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.24	0.47
Body weight (kilograms)	15	15
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	70	70
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, *Third Quarter* 1992", USEPA, *Region III*, July 23, 1992.

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File A53: 2-19-93

TABLE A-53
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
GRANITE KNITTING MILLS
NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum c Concentration ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI
2-Butanone	0.05	HEAST	17	7.22E-09	1.44E-07	0.0	2.97E-07	5.94E-06	0.0
Acetone	0.1	IRIS	31	1.32E-08	1.32E-07	0.0	5.41E-07	5.41E-06	0.0
Methylene Chloride	0.06	IRIS	30	1.27E-08	2.12E-07	0.1	5.24E-07	8.73E-06	0.1
Tetrachloroethene	0.01	IRIS	6900	2.93E-06	2.93E-04	99.8	1.21E-04	1.21E-02	99.8
Toluene	0.2	IRIS	12	5.10E-09	2.55E-08	0.0	2.10E-07	1.05E-06	0.0
Hazard Index (Sum of DI/RfD)					0.0003			0.01	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.31	0.51
Body weight (kilograms)	70	70
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	9	24
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992
b. Total 1,2-Dichloroethene reference dose(RfD) based on cis-1,2-Dichloroethene
c. 95th percentile upper bound or maximum concentration whichever is smaller

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File A54: 2-19-93

TABLE A-54
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
GRANITE KNITTING MILLS
NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Average Concentration ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI
2-Butanone	0.05	HEAST	17	7.22E-09	1.44E-07	0.2	2.97E-07	5.94E-06	0.2
Acetone	0.1	IRIS	21	8.92E-09	8.92E-08	0.1	3.67E-07	3.67E-06	0.1
Methylene Chloride	0.06	IRIS	16	6.79E-09	1.13E-07	0.2	2.79E-07	4.66E-06	0.2
Tetrachloroethene	0.01	IRIS	1730	7.35E-07	7.35E-05	99.5	3.02E-05	3.02E-03	99.5
Toluene	0.2	IRIS	12	5.10E-09	2.55E-08	0.0	2.10E-07	1.05E-06	0.0
Hazard Index (Sum of DI/RfD)					0.0001			0.003	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.31	0.51
Body weight (kilograms)	70	70
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	9	24
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992
b. Total 1,2-Dichloroethene reference dose(RfD) based on cis-1,2-Dichloroethene

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File A55: 2-19-93

TABLE A-55
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
GRANITE KNITTING MILLS
NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum c Concentration ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI
2-Butanone	0.05	HEAST	17	2.61E-08	5.22E-07	0.0	1.28E-06	2.55E-05	0.0
Acetone	0.1	IRIS	31	4.76E-08	4.76E-07	0.0	2.33E-06	2.33E-05	0.0
Methylene Chloride	0.06	IRIS	30	4.60E-08	7.67E-07	0.1	2.25E-06	3.76E-05	0.1
Tetrachloroethene	0.01	IRIS	6900	1.06E-05	1.06E-03	99.8	5.18E-04	5.18E-02	99.8
Toluene	0.2	IRIS	12	1.84E-08	9.21E-08	0.0	9.01E-07	4.51E-06	0.0
Hazard Index (Sum of DI/RfD)					0.001			0.05	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.24	0.47
Body weight (kilograms)	15	15
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	6	6
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992
b. Total 1,2-Dichloroethene reference dose(RfD) based on cis-1,2-Dichloroethene
c. 95th percentile upper bound or maximum concentration whichever is smaller

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File A56: 2-19-93

TABLE A-56
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
GRANITE KNITTING MILLS
NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Average Concentration ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI
2-Butanone	0.05	HEAST	17	2.61E-08	5.22E-07	0.2	1.28E-06	2.55E-05	0.2
Acetone	0.1	IRIS	21	3.22E-08	3.22E-07	0.1	1.58E-06	1.58E-05	0.1
Methylene Chloride	0.06	IRIS	16	2.45E-08	4.09E-07	0.2	1.20E-06	2.00E-05	0.2
Tetrachloroethene	0.01	IRIS	1730	2.65E-06	2.65E-04	99.5	1.30E-04	1.30E-02	99.5
Toluene	0.2	IRIS	12	1.84E-08	9.21E-08	0.0	9.01E-07	4.51E-06	0.0
Hazard Index (Sum of DI/RfD)					0.0003			0.01	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.24	0.47
Body weight (kilograms)	15	15
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	6	6
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992
b. Total 1,2-Dichloroethene reference dose(RfD) based on cis-1,2-Dichloroethene

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File A57: 2-19-93

TABLE A-57
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
GENTLE CLEANERS
CARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Maximum b Concentration mg/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	18	1.59E-09	1.19E-11	0.0	8.45E-09	6.34E-11	0.0
Tetrachloroethene	0.052	EPA-ECAO	300000	2.64E-05	1.37E-06	100.0	1.41E-04	7.33E-06	100.0
Total Excess Lifetime Cancer Risks					1E-06			7E-06	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.1	0.1
Body weight (kilograms)	70	70
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (day/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	70	70
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.
b. 95th percentile upper bound or maximum concentration whichever is smaller

AR301154

File A58: 2-19-93

TABLE A-58
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
GENTLE CLEANERS
CARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Average Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	15	1.32E-09	9.91E-12	0.0	7.05E-09	5.28E-11	0.0
Tetrachloroethene	0.052	EPA-ECAO	100000	8.81E-06	4.58E-07	100.0	4.70E-05	2.44E-06	100.0
Total Excess Lifetime Cancer Risks					5E-07			2E-06	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.1	0.1
Body weight (kilograms)	70	70
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (day/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	70	70
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

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File A59: 2-19-93

TABLE A-59
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
GENTLE CLEANERS
CARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Maximum b Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	18	9.86E-09	7.40E-11	0.0	1.97E-08	1.48E-10	0.0
Tetrachloroethene	0.052	EPA-ECAO	300000	1.64E-04	8.55E-06	100.0	3.29E-04	1.71E-05	100.0
Total Excess Lifetime Cancer Risks					9E-06			2E-05	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.2	0.2
Body weight (kilograms)	15	15
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (day/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	70	70
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.
b. 95th percentile upper bound or maximum concentration whichever is smaller

AR301156

File A60: 2-19-93

TABLE A-60
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
GENTLE CLEANERS
CARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Average Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	15	8.22E-09	6.16E-11	0.0	1.64E-08	1.23E-10	0.0
Tetrachloroethene	0.052	EPA-ECAO	100000	5.48E-05	2.85E-06	100.0	1.10E-04	5.70E-06	100.0
Total Excess Lifetime Cancer Risks					3E-06			6E-06	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.2	0.2
Body weight (kilograms)	15	15
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (day/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	70	70
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

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TABLE A-61
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
GENTLE CLEANERS
NONCARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS			
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum b Conc ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Acetone	0.1	IRIS	48	3.29E-08	3.29E-07	NO	6.58E-08	6.58E-07	NO	0.0
Methylene Chloride	0.06	IRIS	18	1.23E-08	2.05E-07	NO	2.47E-08	4.11E-07	NO	0.0
Tetrachloroethene	0.01	IRIS	300000	2.05E-04	2.05E-02	NO	4.11E-04	4.11E-02	NO	100.0
Hazard Index (Sum of DI/RfD)					0.02			0.04		

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.1	0.1
Body weight (kilograms)	70	70
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	9	24
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992
b. 95th percentile upper bound or maximum concentration whichever is smaller

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TABLE A-62
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
GENTLE CLEANERS
NONCARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS			
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Average Conc ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Acetone	0.1	IRIS	28	1.92E-08	1.92E-07	NO	3.84E-08	3.84E-07	NO	0.0
Methylene Chloride	0.06	IRIS	15	1.03E-08	1.71E-07	NO	2.05E-08	3.42E-07	NO	0.0
Tetrachloroethene	0.01	IRIS	100000	6.85E-05	6.85E-03	NO	1.37E-04	1.37E-02	NO	100.0
Hazard Index (Sum of DI/RfD)					0.007			0.01		

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.1	0.1
Body weight (kilograms)	70	70
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	9	24
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

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TABLE A-63
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
GENTLE CLEANERS
NONCARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS			
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum b Conc ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Acetone	0.1	IRIS	48	3.07E-07	3.07E-06	NO	6.14E-07	6.14E-06	NO	0.0
Methylene Chloride	0.06	IRIS	18	1.15E-07	1.92E-06	NO	2.30E-07	3.84E-06	NO	0.0
Tetrachloroethene	0.01	IRIS	300000	1.92E-03	1.92E-01	NO	3.84E-03	3.84E-01	NO	100.0
Hazard Index (Sum of DI/RfD)					0.2			0.4		

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.2	0.2
Body weight (kilograms)	15	15
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	6	6
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992
b. 95th percentile upper bound or maximum concentration whichever is smaller

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File A64: 2-19-93

TABLE A-64
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
GENTLE CLEANERS
NONCARCINOGENIC HEALTH RISK EVALUATION OF SUBSURFACE SOIL INGESTION
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS			
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Average Conc ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Acetone	0.1	IRIS	28	1.79E-07	1.79E-06	NO	3.58E-07	3.58E-06	NO	0.0
Methylene Chloride	0.06	IRIS	15	9.59E-08	1.60E-06	NO	1.92E-07	3.20E-06	NO	0.0
Tetrachloroethene	0.01	IRIS	100000	6.39E-04	6.39E-02	NO	1.28E-03	1.28E-01	NO	100.0
Hazard Index (Sum of DI/RfD)					0.06			0.1		

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Soil intake (grams/day)	0.2	0.2
Body weight (kilograms)	15	15
Fraction ingested from contaminated soil (unitless)	1	1
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	6	6
Conversion Factor 1 (gram to kilogram)	0.001	0.001
Conversion Factor 2 (microgram to milligram)	0.001	0.001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

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File A65: 2-19-93

TABLE A-65
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
GENTLE CLEANERS
CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Maximum b Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	18	9.83E-10	7.37E-12	0.0	1.08E-07	8.08E-10	0.0
Tetrachloroethene	0.052	EPA-ECAO	300000	1.64E-05	8.52E-07	100.0	1.80E-03	9.34E-05	100.0
Total Excess Lifetime Cancer Risks					9E-07			9E-05	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.31	0.51
Body weight (kilograms)	70	70
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	70	70
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.
b. 95th percentile upper bound or maximum concentration whichever is smaller

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File A66: 2-19-93

TABLE A-66
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
GENTLE CLEANERS
CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Average Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	15	8.19E-10	6.14E-12	0.0	8.98E-08	6.74E-10	0.0
Tetrachloroethene	0.052	EPA-ECAO	100000	5.46E-06	2.84E-07	100.0	5.99E-04	3.11E-05	100.0
Total Excess Lifetime Cancer Risks					3E-07			3E-05	

EXPOSURE ASSUMPTIONS	AVERAGE	*REASONABLE MAXIMUM*
Skin surface area available for contact (m2/day)	0.31	0.51
Body weight (kilograms)	70	70
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	70	70
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

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TABLE A-67
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
GENTLE CLEANERS
CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Maximum b Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	18	2.37E-09	1.78E-11	0.0	1.16E-07	8.69E-10	0.0
Tetrachloroethene	0.052	EPA-ECAO	300000	3.95E-05	2.05E-06	100.0	1.93E-03	1.00E-04	100.0
Total Excess Lifetime Cancer Risks					2E-06			1E-04	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.24	0.47
Body weight (kilograms)	15	15
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	70	70
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.
b. 95th percentile upper bound or maximum concentration whichever is smaller

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File A68: 2-19-93

TABLE A-68
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
GENTLE CLEANERS
CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Slope Factor kg-day/mg	Source a	Average Concentration ug/kg	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk	Lifetime Maximum Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Methylene Chloride	0.0075	IRIS	15	1.97E-09	1.48E-11	0.0	9.66E-08	7.24E-10	0.0
Tetrachloroethene	0.052	EPA-ECAO	100000	1.32E-05	6.84E-07	100.0	6.44E-04	3.35E-05	100.0
Total Excess Lifetime Cancer Risks					7E-07			3E-05	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.24	0.47
Body weight (kilograms)	15	15
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	70	70
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

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File A69: 2-19-93

TABLE A-69
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
GENTLE CLEANERS
NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum b Concentration ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI
Acetone	0.1	IRIS	48	2.04E-08	2.04E-07	0.0	8.38E-07	8.38E-06	0.0
Methylene Chloride	0.06	IRIS	18	7.64E-09	1.27E-07	0.0	3.14E-07	5.24E-06	0.0
Tetrachloroethene	0.01	IRIS	300000	1.27E-04	1.27E-02	100.0	5.24E-03	5.24E-01	100.0
Hazard Index (Sum of DI/RfD)					0.01			0.5	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.31	0.51
Body weight (kilograms)	70	70
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	9	24
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992
b. 95th percentile upper bound or maximum concentration whichever is smaller

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File A70: 2-19-93

TABLE A-70
FUTURE ONSITE LAND USE: RESIDENTIAL ADULT SCENARIO
GENTLE CLEANERS
NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Average Concentration ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI
Acetone	0.1	IRIS	28	1.19E-08	1.19E-07	0.0	4.89E-07	4.89E-06	0.0
Methylene Chloride	0.06	IRIS	15	6.37E-09	1.06E-07	0.0	2.62E-07	4.37E-06	0.0
Tetrachloroethene	0.01	IRIS	100000	4.25E-05	4.25E-03	100.0	1.75E-03	1.75E-01	100.0
Hazard Index (Sum of DI/RfD)					0.004			0.2	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.31	0.51
Body weight (kilograms)	70	70
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	9	24
Averaging Time (years)	9	24
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

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File A71: 2-19-93

TABLE A-71
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
GENTLE CLEANERS
NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
MAXIMUM CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum b Concentration ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI
Acetone	0.1	IRIS	48	7.36E-08	7.36E-07	0.0	3.61E-06	3.61E-05	0.0
Methylene Chloride	0.06	IRIS	18	2.76E-08	4.60E-07	0.0	1.35E-06	2.25E-05	0.0
Tetrachloroethene	0.01	IRIS	300000	4.60E-04	4.60E-02	100.0	2.25E-02	2.25E+00	100.0
Hazard Index (Sum of DI/RfD)					0.05			2.3	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.24	0.47
Body weight (kilograms)	15	15
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	6	6
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992
b. 95th percentile upper bound or maximum concentration whichever is smaller

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File A72: 2-19-93

TABLE A-72
FUTURE ONSITE LAND USE: RESIDENTIAL CHILD SCENARIO
GENTLE CLEANERS
NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH SUBSURFACE SOIL
AVERAGE CONCENTRATION DETECTED

				AVERAGE EXPOSURE ASSUMPTIONS			REASONABLE MAXIMUM EXPOSURE ASSUMPTIONS		
Chemical	Reference Dose (RfD) mg/kg-day	Source a	Average Concentration ug/kg	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI	Maximum Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Percent of HI
Acetone	0.1	IRIS	28	4.30E-08	4.30E-07	0.0	2.10E-06	2.10E-05	0.0
Methylene Chloride	0.06	IRIS	15	2.30E-08	3.84E-07	0.0	1.13E-06	1.88E-05	0.0
Tetrachloroethene	0.01	IRIS	100000	1.53E-04	1.53E-02	100.0	7.51E-03	7.51E-01	100.0
Hazard Index (Sum of DI/RfD)					0.02			0.8	

EXPOSURE ASSUMPTIONS	AVERAGE	REASONABLE MAXIMUM
Skin surface area available for contact (m2/day)	0.24	0.47
Body weight (kilograms)	15	15
Soil to skin adherence factor (mg/cm2)	0.2	1
Skin Absorption Factor	10%	25%
Exposure Frequency (days/year)	175	350
Exposure Duration (years)	6	6
Averaging Time (years)	6	6
Conversion Factor 1 (m2 to cm2)	10000	10000
Conversion Factor 2 (microgram to kilogram)	0.000000001	0.000000001
Conversion Factor 3 (year to day)	365	365

a. Sources of *RfDs*:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

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File B1: 10-19-92

TABLE B-1

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF GROUNDWATER INGESTION: MAXIMUM CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Maximum c Concentration µg/L	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Benzene	0.029	IRIS	0.1	9.39E-07	2.72E-08	2.7
Bromodichloromethane	0.13	IRIS	0.1	9.39E-07	1.22E-07	12.0
Chloroform	0.0061	IRIS	0.2	1.88E-06	1.15E-08	1.1
Chloromethane	0.013	HEAST	1.06	9.96E-06	1.29E-07	12.8
Tetrachloroethene	0.052	EPA-ECAO	1.42	1.33E-05	6.94E-07	68.3
Trichloroethene	0.011	b	0.3	2.82E-06	3.10E-08	3.1
Total Excess Lifetime Cancer Risks					1E-06	

EXPOSURE ASSUMPTIONS

Daily intake (L/day)	2
Body weight (kilograms)	70
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	70
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992". USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

c. 95th percentile upper bound or maximum concentration whichever is smaller

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File B2: 10-19-92

TABLE B-2

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF GROUNDWATER INGESTION: AVERAGE CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Average Concentration µg/L	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Benzene	0.029	IRIS	0.04	3.76E-07	1.09E-08	1.4
Bromodichloromethane	0.13	IRIS	0.1	9.39E-07	1.22E-07	16.0
Chloroform	0.0061	IRIS	0.2	1.88E-06	1.15E-08	1.5
Chloromethane	0.013	HEAST	0.6	5.64E-06	7.33E-08	9.6
Tetrachloroethene	0.052	EPA-ECAO	1.05	9.86E-06	5.13E-07	67.3
Trichloroethene	0.011	b	0.3	2.82E-06	3.10E-08	4.1
Total Excess Lifetime Cancer Risks					8E-07	

EXPOSURE ASSUMPTIONS

Daily intake (L/day)	2
Body weight (kilograms)	70
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	70
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (year to day)	365

a. Sources of Toxicity Values:

Roy L. Smith, "Risk-Based Concentration Table. Third Quarter 1992", USEPA, Region III, July 23, 1992

b Withdrawn from HEAST

AR301171

File B3: 2-19-93

TABLE B-3

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF GROUNDWATER INGESTION: MAXIMUM CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Maximum c Concentration µg/L	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Benzene	0.029	IRIS	0.1	5.48E-07	1.59E-08	2.7
Bromodichloromethane	0.13	IRIS	0.1	5.48E-07	7.12E-08	12.0
Chloroform	0.0061	IRIS	0.2	1.10E-06	6.68E-09	1.1
Chloromethane	0.013	HEAST	1.06	5.81E-06	7.55E-08	12.8
Tetrachloroethene	0.052	EPA-ECAO	1.42	7.78E-06	4.05E-07	68.3
Trichloroethene	0.011	b	0.3	1.64E-06	1.81E-08	3.1
Total Excess Lifetime Cancer Risks					6E-07	

EXPOSURE ASSUMPTIONS

Daily intake (L/day)	1
Body weight (kilograms)	15
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	70
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

c. 95th percentile upper bound or maximum concentration whichever is smaller

AR301172

File B4: 2-19-93

TABLE B-4

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF GROUNDWATER INGESTION: AVERAGE CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Average Concentration µg/L	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Benzene	0.029	IRIS	0.04	2.19E-07	6.36E-09	1.4
Bromodichloromethane	0.13	IRIS	0.1	5.48E-07	7.12E-08	16.0
Chloroform	0.0061	IRIS	0.2	1.10E-06	6.68E-09	1.5
Chloromethane	0.013	HEAST	0.6	3.29E-06	4.27E-08	9.6
Tetrachloroethene	0.052	EPA-ECAO	1.05	5.75E-06	2.99E-07	67.3
Trichloroethene	0.011	b	0.3	1.64E-06	1.81E-08	4.1
Total Excess Lifetime Cancer Risks					4E-07	

EXPOSURE ASSUMPTIONS

Daily intake (L/day)	1
Body weight (kilograms)	15
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	70
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

AR301173

File B5: 10-19-92

TABLE B-5

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF GROUNDWATER INGESTION: MAXIMUM CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum c Concentration µg/L	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
1,1,1-Trichloroethane	0.09	HEAST	0.1	2.74E-06	3.04E-05	NO	0.5
Bromodichloromethane	0.02	IRIS	0.1	2.74E-06	1.37E-04	NO	2.3
Carbon Disulfide	0.1	IRIS	0.1	2.74E-06	2.74E-05	NO	0.5
Chloroform	0.01	IRIS	0.2	5.48E-06	5.48E-04	NO	9.1
Ethylbenzene	0.1	IRIS	0.07	1.92E-06	1.92E-05	NO	0.3
Toluene	0.2	IRIS	0.2	5.48E-06	2.74E-05	NO	0.5
Tetrachloroethene	0.01	IRIS	1.42	3.89E-05	3.89E-03	NO	64.3
Trichlorothene	0.006	b	0.3	8.22E-06	1.37E-03	NO	22.6
Hazard Index (Sum of DI/RfD)					0.01		

EXPOSURE ASSUMPTIONS

Daily intake (L/day)	2
Body weight (kilograms)	70
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	24
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (year to day)	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. EPA-ECAO

c. 95th percentile upper bound or maximum concentration whichever is smaller

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File B6: 10-20-92

TABLE B-6

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF GROUNDWATER INGESTION: AVERAGE CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Average Concentration µg/L	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
1,1,1-Trichloroethane	0.09	HEAST	0.1	2.74E-06	3.04E-05	NO	0.6
Bromodichloromethane	0.02	IRIS	0.1	2.74E-06	1.37E-04	NO	2.7
Carbon Disulfide	0.1	IRIS	0.1	2.74E-06	2.74E-05	NO	0.5
Chloroform	0.01	IRIS	0.2	5.48E-06	5.48E-04	NO	10.9
Ethylbenzene	0.1	IRIS	0.031	8.49E-07	8.49E-06	NO	0.2
Toluene	0.2	IRIS	0.126	3.45E-06	1.73E-05	NO	0.3
Tetrachloroethene	0.01	IRIS	1.05	2.88E-05	2.88E-03	NO	57.4
Trichloroethene	0.006	b	0.3	8.22E-06	1.37E-03	NO	27.3
Hazard Index (Sum of DI/RID)					0.01		

EXPOSURE ASSUMPTIONS

Daily intake (L/day)	2
Body weight (kilograms)	70
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	24
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (year to day)	365

a. Sources of RIDs:
Roy L. Smith. "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. EPA-ECAO

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File B7: 2-19-93

TABLE B-7

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF GROUNDWATER INGESTION: MAXIMUM CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum c Concentration µg/L	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
1,1,1-Trichloroethane	0.09	HEAST	0.1	6.39E-06	7.10E-05	NO	0.5
Bromodichloromethane	0.02	IRIS	0.1	6.39E-06	3.20E-04	NO	2.3
Carbon Disulfide	0.1	IRIS	0.1	6.39E-06	6.39E-05	NO	0.5
Chloroform	0.01	IRIS	0.2	1.28E-05	1.28E-03	NO	9.1
Ethylbenzene	0.1	IRIS	0.07	4.47E-06	4.47E-05	NO	0.3
Toluene	0.2	IRIS	0.2	1.28E-05	6.39E-05	NO	0.5
Tetrachloroethene	0.01	IRIS	1.42	9.08E-05	9.08E-03	NO	64.3
Trichlorothene	0.006	b	0.3	1.92E-05	3.20E-03	NO	22.6
Hazard Index (Sum of DI/RfD)					0.01		

EXPOSURE ASSUMPTIONS

Daily intake (L/day)	1
Body weight (kilograms)	15
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	6
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (year to day)	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. EPA-ECAO

c. 95th percentile upper bound or maximum concentration whichever is smaller

AR301176

File B8: 2-19-93

TABLE B-8

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF GROUNDWATER INGESTION: AVERAGE CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Average Concentration µg/L	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
1,1,1-Trichloroethane	0.09	HEAST	0.1	6.39E-06	7.10E-05	NO	0.6
Bromodichloromethane	0.02	IRIS	0.1	6.39E-06	3.20E-04	NO	2.7
Carbon Disulfide	0.1	IRIS	0.1	6.39E-06	6.39E-05	NO	0.5
Chloroform	0.01	IRIS	0.2	1.28E-05	1.28E-03	NO	10.9
Ethylbenzene	0.1	IRIS	0.031	1.98E-06	1.98E-05	NO	0.2
Toluene	0.2	IRIS	0.126	8.05E-06	4.03E-05	NO	0.3
Tetrachloroethene	0.01	IRIS	1.05	6.71E-05	6.71E-03	NO	57.4
Trichlorothene	0.006	b	0.3	1.92E-05	3.20E-03	NO	27.3
Hazard Index (Sum of DI/RfD)					0.01		

EXPOSURE ASSUMPTIONS

Daily intake (L/day)	1
Body weight (kilograms)	15
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	6
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (year to day)	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. EPA-ECAO

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File B9: 2-19-93

TABLE B-9

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH CHEMICALS IN WATER DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Maximum c Concentration µg/L	Dermal Permeability Constant cm/hr	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Benzene	0.029	IRIS	0.1	0.11	2.36E-07	6.83E-09	1.1
Bromodichloromethane	0.13	IRIS	0.1	0.0058	1.24E-08	1.61E-09	0.3
Chloroform	0.0061	IRIS	0.2	0.13	5.57E-07	3.40E-09	0.6
Chloromethane	0.013	HEAST	1.06	0.0042	9.53E-08	1.24E-09	0.2
Tetrachloroethene	0.052	EPA-ECAO	1.42	0.37	1.13E-05	5.85E-07	95.2
Trichloroethene	0.011	b	0.3	0.23	1.48E-06	1.63E-08	2.6
Total Excess Lifetime Cancer Risks						6E-07	

EXPOSURE ASSUMPTIONS

Skin Surface Area (m2)	2.28
Body weight (kilograms)	70
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	70
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (liter to cm3)	0.001
Conversion Factor 3 (m2 to cm2)	10000
Conversion Factor 4 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

c. 95th percentile upper bound or maximum concentration whichever is smaller

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File B10: 2-19-93

TABLE B-10

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH CHEMICALS IN WATER DURING SHOWERING

AVERAGE CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Average Concentration µg/L	Dermal Permeability Constant cm/hr	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Benzene	0.029	IRIS	0.04	0.11	9.42E-08	2.73E-09	0.6
Bromodichloromethane	0.13	IRIS	0.1	0.0058	1.24E-08	1.61E-09	0.4
Chloroform	0.0061	IRIS	0.2	0.13	5.57E-07	3.40E-09	0.7
Chloromethane	0.013	HEAST	0.6	0.0042	5.40E-08	7.02E-10	0.2
Tetrachloroethene	0.052	EPA-ECAO	1.05	0.37	8.32E-06	4.33E-07	94.6
Trichloroethene	0.011	b	0.3	0.23	1.48E-06	1.63E-08	3.6
Total Excess Lifetime Cancer Risks						5E-07	

EXPOSURE ASSUMPTIONS

Skin Surface Area (m2)	2.28
Body weight (kilograms)	70
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	70
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (liter to cm3)	0.001
Conversion Factor 3 (m2 to cm2)	10000
Conversion Factor 4 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

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File B11: 2-19-93

TABLE B-11

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH CHEMICALS IN WATER DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Maximum c Concentration µg/L	Dermal Permeability Constant cm/hr	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Benzene	0.029	IRIS	0.1	0.11	1.11E-07	3.21E-09	1.1
Bromodichloromethane	0.13	IRIS	0.1	0.0058	5.83E-09	7.59E-10	0.3
Chloroform	0.0061	IRIS	0.2	0.13	2.62E-07	1.60E-09	0.6
Chloromethane	0.013	HEAST	1.06	0.0042	4.48E-08	5.82E-10	0.2
Tetrachloroethene	0.052	EPA-ECAO	1.42	0.37	5.29E-06	2.75E-07	95.2
Trichloroethene	0.011	b	0.3	0.23	6.94E-07	7.64E-09	2.6
Total Excess Lifetime Cancer Risks						3E-07	

EXPOSURE ASSUMPTIONS

Skin Surface Area (m2)	0.918
Body weight (kilograms)	15
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	70
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (liter to cm3)	0.001
Conversion Factor 3 (m2 to cm2)	10000
Conversion Factor 4 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

c. 95th percentile upper bound or maximum concentration whichever is smaller

AR301180

File B12: 2-19-93

TABLE B-12

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH CHEMICALS IN WATER DURING SHOWERING

AVERAGE CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Average Concentration µg/L	Dermal Permeability Constant cm/hr	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Benzene	0.029	IRIS	0.04	0.11	4.43E-08	1.28E-09	0.6
Bromodichloromethane	0.13	IRIS	0.1	0.0058	5.83E-09	7.59E-10	0.4
Chloroform	0.0061	IRIS	0.2	0.13	2.62E-07	1.60E-09	0.7
Chloromethane	0.013	HEAST	0.6	0.0042	2.54E-08	3.30E-10	0.2
Tetrachloroethene	0.052	EPA-ECAO	1.05	0.37	3.91E-06	2.03E-07	94.6
Trichloroethene	0.011	b	0.3	0.23	6.94E-07	7.64E-09	3.6
Total Excess Lifetime Cancer Risks						2E-07	

EXPOSURE ASSUMPTIONS

Skin Surface Area (m2)	0.918
Body weight (kilograms)	15
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	70
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (liter to cm3)	0.001
Conversion Factor 3 (m2 to cm2)	10000
Conversion Factor 4 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

AR301181

File B13: 10-20-92

TABLE B-13

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH CHEMICALS IN WATER DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum c Concentration µg/L	Dermal Permeability Constant cm/hr	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
1,1,1-Trichloroethane	0.09	HEAST	0.1	0.017	1.06E-07	1.18E-06	NO	0.0
Bromodichloromethane	0.02	IRIS	0.1	0.0058	3.62E-08	1.81E-06	NO	0.0
Carbon Disulfide	0.1	IRIS	0.1	0.5	3.12E-06	3.12E-05	NO	0.7
Chloroform	0.01	IRIS	0.2	0.13	1.62E-06	1.62E-04	NO	3.8
Ethylbenzene	0.1	IRIS	0.07	1	4.37E-06	4.37E-05	NO	1.0
Toluene	0.2	IRIS	0.2	1	1.25E-05	6.25E-05	NO	1.5
Tetrachlorothene	0.01	IRIS	1.42	0.37	3.28E-05	3.28E-03	NO	76.3
Trichlorothene	0.006	b	0.3	0.23	4.31E-06	7.18E-04	NO	16.7
Hazard Index (Sum of DI/RfD)						0.004		

EXPOSURE ASSUMPTIONS

Skin Surface Area (m2)	2.28
Body weight (kilograms)	70
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	24
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (liter to cm3)	0.001
Conversion Factor 3 (m2 to cm2)	10000
Conversion Factor 4 (year to day)	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. EPA-ECAO

c. 95th percentile upper bound or maximum concentration whichever is smaller

AR301182

File B14: 10-20-92

TABLE B-14

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH CHEMICALS IN WATER DURING SHOWERING

AVERAGE CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Average Concentration µg/L	Dermal Permeability Constant cm/hr	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
1,1,1-Trichloroethane	0.09	HEAST	0.1	0.017	1.06E-07	1.18E-06	NO	0.0
Bromodichloromethane	0.02	IRIS	0.1	0.0058	3.62E-08	1.81E-06	NO	0.1
Carbon Disulfide	0.1	IRIS	0.1	0.5	3.12E-06	3.12E-05	NO	0.9
Chloroform	0.01	IRIS	0.2	0.13	1.62E-06	1.62E-04	NO	4.8
Ethylbenzene	0.1	IRIS	0.031	1	1.94E-06	1.94E-05	NO	0.6
Toluene	0.2	IRIS	0.126	1	7.87E-06	3.94E-05	NO	1.2
Tetrachlorothene	0.01	IRIS	1.05	0.37	2.43E-05	2.43E-03	NO	71.4
Trichlorothene	0.006	b	0.3	0.23	4.31E-06	7.18E-04	NO	21.1
Hazard Index (Sum of DI/RfD)						0.003		

EXPOSURE ASSUMPTIONS

Skin Surface Area (m2)	2.28
Body weight (kilograms)	70
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	24
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (liter to cm3)	0.001
Conversion Factor 3 (m2 to cm2)	10000
Conversion Factor 4 (year to day)	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table. Third Quarter 1992", USEPA, Region III, July 23, 1992

b. EPA-ECAO

AR301183

File B15: 10-29-92

TABLE B-15

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH CHEMICALS IN WATER DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum c Concentration µg/L	Dermal Permeability Constant cm/hr	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
1,1,1-Trichloroethane	0.09	HEAST	0.1	0.017	2.00E-07	2.22E-06	NO	0.0
Bromodichloromethane	0.02	IRIS	0.1	0.0058	6.81E-08	3.40E-06	NO	0.0
Carbon Disulfide	0.1	IRIS	0.1	0.5	5.87E-06	5.87E-05	NO	0.7
Chloroform	0.01	IRIS	0.2	0.13	3.05E-06	3.05E-04	NO	3.8
Ethylbenzene	0.1	IRIS	0.07	1	8.22E-06	8.22E-05	NO	1.0
Toluene	0.2	IRIS	0.2	1	2.35E-05	1.17E-04	NO	1.5
Tetrachlorothene	0.01	IRIS	1.42	0.37	6.17E-05	6.17E-03	NO	76.3
Trichlorothene	0.006	b	0.3	0.23	8.10E-06	1.35E-03	NO	16.7
Hazard Index (Sum of DI/RfD)						0.01		

EXPOSURE ASSUMPTIONS

Skin Surface Area (m2)	0.918
Body weight (kilograms)	15
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	6
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (liter to cm3)	0.001
Conversion Factor 3 (m2 to cm2)	10000
Conversion Factor 4 (year to day)	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. EPA-ECAO

c. 95th percentile upper bound or maximum concentration whichever is smaller

AR301184

File B16: 10-20-92

TABLE B-16

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH CHEMICALS IN WATER DURING SHOWERING

AVERAGE CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Average Concentration µg/L	Dermal Permeability Constant cm/hr	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
1,1,1-Trichloroethane	0.09	HEAST	0.1	0.017	2.00E-07	2.22E-06	NO	0.0
Bromodichloromethane	0.02	IRIS	0.1	0.0058	6.81E-08	3.40E-06	NO	0.1
Carbon Disulfide	0.1	IRIS	0.1	0.5	5.87E-06	5.87E-05	NO	0.9
Chloroform	0.01	IRIS	0.2	0.13	3.05E-06	3.05E-04	NO	4.8
Ethylbenzene	0.1	IRIS	0.031	1	3.64E-06	3.64E-05	NO	0.6
Toluene	0.2	IRIS	0.126	1	1.48E-05	7.39E-05	NO	1.2
Tetrachloroethene	0.01	IRIS	1.05	0.37	4.56E-05	4.56E-03	NO	71.4
Trichloroethene	0.006	b	0.3	0.23	8.10E-06	1.35E-03	NO	21.1
Hazard Index (Sum of DI/RfD)						0.01		

EXPOSURE ASSUMPTIONS

Skin Surface Area (m2)	0.918
Body weight (kilograms)	15
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	6
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (liter to cm3)	0.001
Conversion Factor 3 (m2 to cm2)	10000
Conversion Factor 4 (year to day)	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. EPA-ECAO

AR301185

File B17: 2-19-93

TABLE B-17

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF INHALATION OF VAPOR PHASE CHEMICALS DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Maximum c Concentration in Water µg/L	Maximum Concentration in Air mg/m3	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Bromodichloromethane	0.13	IRIS d	0.1	7.3E-04	5.69E-07	7.40E-08	15.8
Benzene	0.0291	IRIS	0.1	1.8E-03	1.41E-06	4.11E-08	8.8
Chloroform	0.0805	IRIS	0.2	3.0E-03	2.36E-06	1.90E-07	40.6
Chloromethane	0.0063	HEAST	1.06	2.3E-02	1.76E-05	1.11E-07	23.6
Tetrachloroethene	0.00203	EPA-ECAO	1.42	2.0E-02	1.54E-05	3.14E-08	6.7
Trichloroethene	0.006	b	0.3	4.5E-03	3.54E-06	2.12E-08	4.5
Total Excess Lifetime Cancer Risks						5E-07	

EXPOSURE ASSUMPTIONS

Inhalation Rate (m3/hour)	0.83
Body weight (kilograms)	70
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	70
Conversion Factor 1 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

c. 95th percentile upper bound or maximum concentration whichever is smaller

d. Since an inhalation slope factor was not available, oral slope factor was used in the risk calculation

AR301186

File B18: 2-19-93

TABLE B-18

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF INHALATION OF VAPOR PHASE CHEMICALS DURING SHOWERING

AVERAGE CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Average Concentration in Water µg/L	Average Concentration in Air mg/m3	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Bromodichloromethane	0.13	IRIS c	0.1	7.3E-04	5.69E-07	7.40E-08	19.1
Benzene	0.0291	IRIS	0.04	7.2E-04	5.61E-07	1.63E-08	4.2
Chloroform	0.0805	IRIS	0.2	3.0E-03	2.36E-06	1.90E-07	49.1
Chloromethane	0.0063	HEAST	0.6	1.3E-02	9.95E-06	6.27E-08	16.2
Tetrachloroethene	0.00203	EPA-ECAO	1.05	1.5E-02	1.14E-05	2.32E-08	6.0
Trichloroethene	0.006	b	0.3	4.5E-03	3.54E-06	2.12E-08	5.5
Total Excess Lifetime Cancer Risks						4E-07	

EXPOSURE ASSUMPTIONS	AVERAGE
Inhalation Rate (m3/hour)	0.83
Body weight (kilograms)	70
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	70
Conversion Factor 1 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

c. Since an inhalation slope factor was not available, oral slope factor was used in the risk calculation

AR301187

File B19: 2-19-93

TABLE B-19

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF INHALATION OF VAPOR PHASE CHEMICALS DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Maximum c Concentration in Water µg/L	Maximum Concentration in Air mg/m3	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Bromodichloromethane	0.13	IRIS d	0.1	7.3E-04	6.64E-07	8.63E-08	15.8
Benzene	0.0291	IRIS	0.1	1.8E-03	1.65E-06	4.79E-08	8.8
Chloroform	0.0805	IRIS	0.2	3.0E-03	2.76E-06	2.22E-07	40.6
Chloromethane	0.0063	HEAST	1.06	2.3E-02	2.05E-05	1.29E-07	23.6
Tetrachloroethene	0.00203	EPA-ECAO	1.42	2.0E-02	1.80E-05	3.66E-08	6.7
Trichloroethene	0.006	b	0.3	4.5E-03	4.13E-06	2.48E-08	4.5
Total Excess Lifetime Cancer Risks						5E-07	

EXPOSURE ASSUMPTIONS

Inhalation Rate (m3/hour)	0.83
Body weight (kilograms)	15
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	70
Conversion Factor 1 (year to day)	365

a. *Sources of Toxicity Values:*
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from *HEAST*

c. 95th percentile upper bound or maximum concentration whichever is smaller

d. Since an inhalation slope factor was not available, oral slope factor was used in the risk calculation

AR301188

File B20: 2-19-93

TABLE B-20

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF INHALATION OF VAPOR PHASE CHEMICALS DURING SHOWERING

AVERAGE CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Average Concentration in Water µg/L	Average Concentration in Air mg/m3	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Bromodichloromethane	0.13	IRIS c	0.1	7.3E-04	6.64E-07	8.63E-08	19.1
Benzene	0.0291	IRIS	0.04	7.2E-04	6.55E-07	1.91E-08	4.2
Chloroform	0.0805	IRIS	0.2	3.0E-03	2.76E-06	2.22E-07	49.1
Chloromethane	0.0063	HEAST	0.6	1.3E-02	1.16E-05	7.31E-08	16.2
Tetrachloroethene	0.00203	EPA-ECAO	1.05	1.5E-02	1.33E-05	2.71E-08	6.0
Trichloroethene	0.006	b	0.3	4.5E-03	4.13E-06	2.48E-08	5.5
Total Excess Lifetime Cancer Risks						5E-07	

EXPOSURE ASSUMPTIONS

Inhalation Rate (m3/hour)	0.83
Body weight (kilograms)	15
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	70
Conversion Factor 1 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

c. Since an inhalation slope factor was not available, oral slope factor was used in the risk calculation

AR301189

File B21: 2-19-93

TABLE B-21

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF INHALATION OF VAPOR PHASE CHEMICALS DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source	a	Maximum Conc in Water µg/L	c Maximum Conc in Air mg/m3	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Dose Intake Exceed RfD?	Percent of HI
Bromodichloromethane	0.02	IRIS	d	0.1	7.3E-04	1.66E-06	8.30E-05	NO	1.0
Chloroform	0.01	IRIS	d	0.2	3.0E-03	6.89E-06	6.89E-04	NO	8.0
Tetrachloroethene	0.01	IRIS	d	1.42	2.0E-02	4.50E-05	4.50E-03	NO	52.6
Trichloroethene	0.006	EPA-ECAO	d	0.3	4.5E-03	1.03E-05	1.72E-03	NO	20.1
Ethylbenzene	0.286	IRIS		0.07	1.1E-03	2.59E-06	9.06E-06	NO	0.1
Toluene	0.114	HEAST		0.2	3.4E-03	7.80E-06	6.84E-05	NO	0.8
Carbon Disulfide	0.00286	HEAST		0.1	1.9E-03	4.23E-06	1.48E-03	NO	17.3
1,1,1-Trichlorothane	0.286	b		0.1	1.5E-03	3.46E-06	1.21E-05	NO	0.1
Hazard Index (Sum of DI/RfD)							0.009		

EXPOSURE ASSUMPTIONS

Inhalation Rate (m3/hour)	0.83
Body weight (kilograms)	70
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	24
Conversion Factor 1 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. HEAST alternate method

c. 95th percentile upper bound or maximum concentration whichever is smaller

d. Since an inhalation reference dose was not available, oral reference dose was used in the risk calculation

AR301190

File B22: 2-19-93

TABLE B-22

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF INHALATION OF VAPOR PHASE CHEMICALS DURING SHOWERING

AVERAGE CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source	a	Average Conc in Water µg/L	Average Conc in Air mg/m3	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Bromodichloromethane	0.02	IRIS	c	0.1	7.3E-04	1.66E-06	8.30E-05	NO	1.1
Chloroform	0.01	IRIS	c	0.2	3.0E-03	6.89E-06	6.89E-04	NO	9.4
Tetrachloroethene	0.01	IRIS	c	1.05	1.5E-02	3.33E-05	3.33E-03	NO	45.3
Trichloroethene	0.006	EPA-ECAO	c	0.3	4.5E-03	1.03E-05	1.72E-03	NO	23.4
Ethylbenzene	0.286	IRIS		0.031	5.1E-04	1.16E-06	4.05E-06	NO	0.1
Toluene	0.114	HEAST		0.126	2.2E-03	4.91E-06	4.31E-05	NO	0.6
Carbon Disulfide	0.00286	HEAST		0.1	1.9E-03	4.23E-06	1.48E-03	NO	20.1
1,1,1-Trichlorothane	0.286	b		0.1	1.5E-03	3.46E-06	1.21E-05	NO	0.2
Hazard Index (Sum of DI/RfD)							0.007		

EXPOSURE ASSUMPTIONS

Inhalation Rate (m3/hour)	0.83
Body weight (kilograms)	70
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	24
Conversion Factor 1 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. HEAST alternate method

c. Since an inhalation reference dose was not available, oral reference dose was used in the risk calculation

AR301191

File B23: 2-19-93

TABLE B-23

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF INHALATION OF VAPOR PHASE CHEMICALS DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source	a	Maximum Conc in Water µg/L	c Maximum Conc in Air mg/m3	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Bromodichloromethane	0.02	IRIS	d	0.1	7.3E-04	7.75E-06	3.87E-04	NO	1.0
Chloroform	0.01	IRIS	d	0.2	3.0E-03	3.22E-05	3.22E-03	NO	8.0
Tetrachloroethene	0.01	IRIS	d	1.42	2.0E-02	2.10E-04	2.10E-02	NO	52.6
Trichloroethene	0.006	EPA-ECAO	d	0.3	4.5E-03	4.82E-05	8.03E-03	NO	20.1
Ethylbenzene	0.286	IRIS		0.07	1.1E-03	1.21E-05	4.23E-05	NO	0.1
Toluene	0.114	HEAST		0.2	3.4E-03	3.64E-05	3.19E-04	NO	0.8
Carbon Disulfide	0.00286	HEAST		0.1	1.9E-03	1.97E-05	6.90E-03	NO	17.3
1,1,1-Trichlorothane	0.286	b		0.1	1.5E-03	1.61E-05	5.64E-05	NO	0.1
Hazard Index (Sum of DI/RfD)							0.04		

EXPOSURE ASSUMPTIONS

Inhalation Rate (m3/hour)	0.83
Body weight (kilograms)	15
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	6
Conversion Factor 1 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. HEAST alternate method

c. 95th percentile upper bound or maximum concentration whichever is smaller

d. Since an inhalation reference dose was not available, oral reference dose was used in the risk calculation

AR301192

File B24: 2-19-93

TABLE B-24

CURRENT OFFSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF INHALATION OF VAPOR PHASE CHEMICALS DURING SHOWERING

AVERAGE CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source	a	Average Conc in Water µg/L	Average Conc in Air mg/m3	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Bromodichloromethane	0.02	IRIS	c	0.1	7.3E-04	7.75E-06	3.87E-04	NO	1.1
Chloroform	0.01	IRIS	c	0.2	3.0E-03	3.22E-05	3.22E-03	NO	9.4
Tetrachloroethene	0.01	IRIS	c	1.05	1.5E-02	1.55E-04	1.55E-02	NO	45.3
Trichloroethene	0.006	EPA-ECAO	c	0.3	4.5E-03	4.82E-05	8.03E-03	NO	23.4
Ethylbenzene	0.286	IRIS		0.031	5.1E-04	5.41E-06	1.89E-05	NO	0.1
Toluene	0.114	HEAST		0.126	2.2E-03	2.29E-05	2.01E-04	NO	0.6
Carbon Disulfide	0.00286	HEAST		0.1	1.9E-03	1.97E-05	6.90E-03	NO	20.1
1,1,1-Trichlorothane	0.286	b		0.1	1.5E-03	1.61E-05	5.64E-05	NO	0.2
Hazard Index (Sum of DI/RfD)							0.03		

EXPOSURE ASSUMPTIONS

Inhalation Rate (m3/hour)	0.83
Body weight (kilograms)	15
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	6
Conversion Factor 1 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. HEAST alternate method

c. Since an inhalation reference dose was not available, oral reference dose was used in the risk calculation

AR301193

File C1: 10-20-92

TABLE C-1

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF GROUNDWATER INGESTION: MAXIMUM CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Maximum c Concentration µg/L	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Bromodichloromethane	0.13	IRIS	0.1	9.39E-07	1.22E-07	4.6
Chloroform	0.0061	IRIS	0.2	1.88E-06	1.15E-08	0.4
Chloromethane	0.013	HEAST	0.2	1.88E-06	2.44E-08	0.9
Tetrachloroethene	0.052	EPA-ECAO	5	4.70E-05	2.44E-06	91.4
Trichloroethene	0.011	b	0.7	6.58E-06	7.23E-08	2.7
Total Excess Lifetime Cancer Risks					3E-06	

EXPOSURE ASSUMPTIONS

Daily intake (L/day)	2
Body weight (kilograms)	70
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	70
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

c. 95th percentile upper bound or maximum concentration whichever is smaller

AR301194

File C2: 10-20-92

TABLE C-2

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF GROUNDWATER INGESTION: AVERAGE CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Average Concentration µg/L	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Bromodichloromethane	0.13	IRIS	0.1	9.39E-07	1.22E-07	8.7
Chloroform	0.0061	IRIS	0.2	1.88E-06	1.15E-08	0.8
Chloromethane	0.013	HEAST	0.2	1.88E-06	2.44E-08	1.7
Tetrachloroethene	0.052	EPA-ECAO	2.46	2.31E-05	1.20E-06	85.6
Trichloroethene	0.011	b	0.425	3.99E-06	4.39E-08	3.1
Total Excess Lifetime Cancer Risks					1E-06	

EXPOSURE ASSUMPTIONS

Daily intake (L/day)	2
Body weight (kilograms)	70
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	70
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

AR301195

File C3: 2-19-93

TABLE C-3

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF GROUNDWATER INGESTION: MAXIMUM CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Maximum c Concentration µg/L	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Bromodichloromethane	0.13	IRIS	0.1	5.48E-07	7.12E-08	4.6
Chloroform	0.0061	IRIS	0.2	1.10E-06	6.68E-09	0.4
Chloromethane	0.013	HEAST	0.2	1.10E-06	1.42E-08	0.9
Tetrachloroethene	0.052	EPA-ECAO	5	2.74E-05	1.42E-06	91.4
Trichloroethene	0.011	b	0.7	3.84E-06	4.22E-08	2.7
Total Excess Lifetime Cancer Risks					2E-06	

EXPOSURE ASSUMPTIONS

Daily intake (L/day)	1
Body weight (kilograms)	15
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	70
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

c. 95th percentile upper bound or maximum concentration whichever is smaller

AR301196

File C4: 2-19-93

TABLE C-4

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF GROUNDWATER INGESTION: AVERAGE CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Average Concentration µg/L	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Bromodichloromethane	0.13	IRIS	0.1	5.48E-07	7.12E-08	8.7
Chloroform	0.0061	IRIS	0.2	1.10E-06	6.68E-09	0.8
Chloromethane	0.013	HEAST	0.2	1.10E-06	1.42E-08	1.7
Tetrachloroethene	0.052	EPA-ECAO	2.46	1.35E-05	7.01E-07	85.6
Trichloroethene	0.011	b	0.425	2.33E-06	2.56E-08	3.1
Total Excess Lifetime Cancer Risks					8E-07	

EXPOSURE ASSUMPTIONS

Daily intake (L/day)	1
Body weight (kilograms)	15
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	70
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

AR301197

File C5: 10-20-92

TABLE C-5

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF GROUNDWATER INGESTION: MAXIMUM CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source [a]	Maximum [d] Concentration µg/L	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
1,1,1-Trichloroethane	0.09	HEAST	0.9	2.47E-05	2.74E-04	NO	1.3
Total 1,2-Dichloroethene	0.01	HEAST [c]	1	2.74E-05	2.74E-03	NO	13.1
1,1-Dichloroethane	0.1	HEAST	0.4	1.10E-05	1.10E-04	NO	0.5
Bromodichloromethane	0.02	IRIS	0.1	2.74E-06	1.37E-04	NO	0.7
Carbon Disulfide	0.1	IRIS	0.7	1.92E-05	1.92E-04	NO	0.9
Chloroform	0.01	IRIS	0.2	5.48E-06	5.48E-04	NO	2.6
Ethylbenzene	0.1	IRIS	0.03	8.22E-07	8.22E-06	NO	0.0
Tetrachloroethene	0.01	IRIS	5	1.37E-04	1.37E-02	NO	65.5
Trichlorothene	0.006	b	0.7	1.92E-05	3.20E-03	NO	15.3
Hazard Index (Sum of DI/RfD)					0.02		

EXPOSURE ASSUMPTIONS

Daily intake (L/day)	2
Body weight (kilograms)	70
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	24
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (year to day)	365

a Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. EPA-ECAO

c. Total 1,2-Dichloroethene reference dose(RfD) based on cis-1,2-Dichloroethene

d. 95th percentile upper bound or maximum concentration whichever is smaller

AR301198

File C6: 10-20-92

TABLE C-6

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF GROUNDWATER INGESTION: AVERAGE CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Average Concentration µg/L	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
1,1,1-Trichloroethane	0.09	HEAST	0.85	2.33E-05	2.59E-04	NO	2.2
Total 1,2-Dichloroethene	0.01	HEAST c	0.767	2.10E-05	2.10E-03	NO	17.6
1,1-Dichloroethane	0.1	HEAST	0.35	9.59E-06	9.59E-05	NO	0.8
Bromodichloromethane	0.02	IRIS	0.1	2.74E-06	1.37E-04	NO	1.1
Carbon Disulfide	0.1	IRIS	0.4	1.10E-05	1.10E-04	NO	0.9
Chloroform	0.01	IRIS	0.2	5.48E-06	5.48E-04	NO	4.6
Ethylbenzene	0.1	IRIS	0.03	8.22E-07	8.22E-06	NO	0.1
Tetrachloroethene	0.01	IRIS	2.46	6.74E-05	6.74E-03	NO	56.5
Trichlorothene	0.006	b	0.425	1.16E-05	1.94E-03	NO	16.3
Hazard Index (Sum of DI/RfD)					0.01		

EXPOSURE ASSUMPTIONS

Daily intake (L/day)	2
Body weight (kilograms)	70
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	24
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (year to day)	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. EPA-ECAO

c. Total 1,2-Dichloroethene reference dose(RfD) based on cis-1,2-Dichloroethene

AR301199

File C7: 2-19-93

TABLE C-7

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF GROUNDWATER INGESTION: MAXIMUM CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum d Concentration µg/L	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
1,1,1-Trichloroethane	0.09	HEAST	0.9	5.75E-05	6.39E-04	NO	1.3
Total 1,2-Dichloroethene	0.01	HEAST c	1	6.39E-05	6.39E-03	NO	13.1
1,1-Dichloroethane	0.1	HEAST	0.4	2.56E-05	2.56E-04	NO	0.5
Bromodichloromethane	0.02	IRIS	0.1	6.39E-06	3.20E-04	NO	0.7
Carbon Disulfide	0.1	IRIS	0.7	4.47E-05	4.47E-04	NO	0.9
Chloroform	0.01	IRIS	0.2	1.28E-05	1.28E-03	NO	2.6
Ethylbenzene	0.1	IRIS	0.03	1.92E-06	1.92E-05	NO	0.0
Tetrachloroethene	0.01	IRIS	5	3.20E-04	3.20E-02	NO	65.5
Trichlorothene	0.006	b	0.7	4.47E-05	7.46E-03	NO	15.3
Hazard Index (Sum of DI/RfD)					0.05		

EXPOSURE ASSUMPTIONS

Daily intake (L/day)	1
Body weight (kilograms)	15
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	6
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (year to day)	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. EPA-ECAO

c. Total 1,2-Dichloroethene reference dose(RfD) based on cis-1,2-Dichloroethene

d. 95th percentile upper bound or maximum concentration whichever is smaller

AR301200

File C8: 2-19-92

TABLE C-8

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF GROUNDWATER INGESTION: AVERAGE CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Average Concentration µg/L	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
1,1,1-Trichloroethane	0.09	HEAST	0.85	5.43E-05	6.04E-04	NO	2.2
Total 1,2-Dichloroethene	0.01	HEAST c	0.767	4.90E-05	4.90E-03	NO	17.6
1,1-Dichloroethane	0.1	HEAST	0.35	2.24E-05	2.24E-04	NO	0.8
Bromodichloromethane	0.02	IRIS	0.1	6.39E-06	3.20E-04	NO	1.1
Carbon Disulfide	0.1	IRIS	0.4	2.56E-05	2.56E-04	NO	0.9
Chloroform	0.01	IRIS	0.2	1.28E-05	1.28E-03	NO	4.6
Ethylbenzene	0.1	IRIS	0.03	1.92E-06	1.92E-05	NO	0.1
Tetrachloroethene	0.01	IRIS	2.46	1.57E-04	1.57E-02	NO	56.5
Trichlorothene	0.006	b	0.425	2.72E-05	4.53E-03	NO	16.3
Hazard Index (Sum of DI/RfD)					0.03		

EXPOSURE ASSUMPTIONS

Daily intake (L/day)	1
Body weight (kilograms)	15
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	6
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (year to day)	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. EPA-ECAO

c. Total 1,2-Dichloroethene reference dose(RfD) based on cis-1,2-Dichloroethene

AR301201

File C9: 2-19-93

TABLE C-9

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH CHEMICALS IN WATER DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Maximum c Concentration µg/L	Dermal Permeability Constant cm/hr	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Bromodichloromethane	0.13	IRIS	0.1	0.0058	1.24E-08	1.61E-09	0.1
Chloroform	0.0061	IRIS	0.2	0.13	5.57E-07	3.40E-09	0.2
Chloromethane	0.013	HEAST	0.2	0.0042	1.80E-08	2.34E-10	0.0
Tetrachloroethene	0.052	EPA-ECAO	5	0.37	3.96E-05	2.06E-06	97.9
Trichloroethene	0.011	b	0.7	0.23	3.45E-06	3.79E-08	1.8
Total Excess Lifetime Cancer Risks						2E-06	

EXPOSURE ASSUMPTIONS

Skin Surface Area (m2)	2.28
Body weight (kilograms)	70
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	70
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (liter to cm3)	0.001
Conversion Factor 3 (m2 to cm2)	10000
Conversion Factor 4 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

c. 95th percentile upper bound or maximum concentration whichever is smaller

AR301202

File C10: 2-19-93

TABLE C-10

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH CHEMICALS IN WATER DURING SHOWERING

AVERAGE CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Average Concentration µg/L	Dermal Permeability Constant cm/hr	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Bromodichloromethane	0.13	IRIS	0.1	0.0058	1.24E-08	1.61E-09	0.2
Chloroform	0.0061	IRIS	0.2	0.13	5.57E-07	3.40E-09	0.3
Chloromethane	0.013	HEAST	0.2	0.0042	1.80E-08	2.34E-10	0.0
Tetrachloroethene	0.052	EPA-ECAO	2.46	0.37	1.95E-05	1.01E-06	97.3
Trichloroethene	0.011	b	0.425	0.23	2.09E-06	2.30E-08	2.2
Total Excess Lifetime Cancer Risks						1E-06	

EXPOSURE ASSUMPTIONS

Skin Surface Area (m2)	2.28
Body weight (kilograms)	70
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	70
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (liter to cm3)	0.001
Conversion Factor 3 (m2 to cm2)	10000
Conversion Factor 4 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

AR301203

File C11: 2-19-93

TABLE C-11

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH CHEMICALS IN WATER DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Maximum c Concentration µg/L	Dermal Permeability Constant cm/hr	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Bromodichloromethane	0.13	IRIS	0.1	0.0058	5.83E-09	7.59E-10	0.1
Chloroform	0.0061	IRIS	0.2	0.13	2.62E-07	1.60E-09	0.2
Chloromethane	0.013	HEAST	0.2	0.0042	8.45E-09	1.10E-10	0.0
Tetrachloroethene	0.052	EPA-ECAO	5	0.37	1.86E-05	9.68E-07	97.9
Trichloroethene	0.011	b	0.7	0.23	1.62E-06	1.78E-08	1.8
Total Excess Lifetime Cancer Risks						1E-06	

EXPOSURE ASSUMPTIONS

Skin Surface Area (m2)	0.918
Body weight (kilograms)	15
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	70
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (liter to cm3)	0.001
Conversion Factor 3 (m2 to cm2)	10000
Conversion Factor 4 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

c. 95th percentile upper bound or maximum concentration whichever is smaller

AR301204

File C12: 2-19-93

TABLE C-12

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH CHEMICALS IN WATER DURING SHOWERING

AVERAGE CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Average Concentration µg/L	Dermal Permeability Constant cm/hr	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Bromodichloromethane	0.13	IRIS	0.1	0.0058	5.83E-09	7.59E-10	0.2
Chloroform	0.0061	IRIS	0.2	0.13	2.62E-07	1.60E-09	0.3
Chloromethane	0.013	HEAST	0.2	0.0042	8.45E-09	1.10E-10	0.0
Tetrachloroethene	0.052	EPA-ECAO	2.46	0.37	9.16E-06	4.76E-07	97.3
Trichloroethene	0.011	b	0.425	0.23	9.83E-07	1.08E-08	2.2
Total Excess Lifetime Cancer Risks						5E-07	

EXPOSURE ASSUMPTIONS

Skin Surface Area (m2)	0.918
Body weight (kilograms)	15
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	70
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (liter to cm3)	0.001
Conversion Factor 3 (m2 to cm2)	10000
Conversion Factor 4 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

AR301205

File C13: 10-20-92

TABLE C-13

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH CHEMICALS IN WATER DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum d Concentration µg/L	Dermal Permeability Constant cm/hr	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
1,1,1-Trichloroethane	0.09	HEAST	0.85	0.017	9.03E-07	1.00E-05	NO	0.1
Total 1,2-Dichloroethene	0 01	HEAST c	0.767	0.01	4.79E-07	4.79E-05	NO	0.3
1,1-Dichloroethane	0.1	HEAST	0.35	0.0089	1.95E-07	1.95E-06	NO	0.0
Bromodichloromethane	0.02	IRIS	0.1	0.0058	3.62E-08	1.81E-06	NO	0.0
Carbon Disulfide	0.1	IRIS	0.7	0.5	2.19E-05	2 19E-04	NO	1.6
Chloroform	0.01	IRIS	0.2	0.13	1.62E-06	1.62E-04	NO	1.2
Ethylbenzene	0.1	IRIS	0.03	1	1.87E-06	1.87E-05	NO	0.1
Tetrachlorothene	0.01	IRIS	5	0.37	1.16E-04	1.16E-02	NO	84.4
Trichlorothene	0.006	b	0.7	0.23	1.01E-05	1.68E-03	NO	12.2
Hazard Index (Sum of DI/RfD)						0.01		

EXPOSURE ASSUMPTIONS

Skin Surface Area (m2)	2.28
Body weight (kilograms)	70
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	24
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (liter to cm3)	0.001
Conversion Factor 3 (m2 to cm2)	10000
Conversion Factor 4 (year to day)	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. EPA-ECAO

c. Total 1,2-Dichloroethene reference dose(RfD) based on cis-1,2-Dichloroethene, dermal permeability constant based on trans-1,2-Dichloroethene

d. 95th percentile upper bound or maximum concentration whichever is smaller

AR301206

File C14: 10-20-92

TABLE C-14

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH CHEMICALS IN WATER DURING SHOWERING

AVERAGE CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Average Concentration µg/L	Dermal Permeability Constant cm/hr	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
1,1,1-Trichloroethane	0.09	HEAST	0.85	0.017	9.03E-07	1.00E-05	NO	0.1
Total 1,2-Dichloroethene	0.01	HEAST c	0.767	0.01	4.79E-07	4.79E-05	NO	0.7
1,1-Dichloroethane	0.1	HEAST	0.35	0.0089	1.95E-07	1.95E-06	NO	0.0
Bromodichloromethane	0.02	IRIS	0.1	0.0058	3.62E-08	1.81E-06	NO	0.0
Carbon Disulfide	0.1	IRIS	0.4	0.5	1.25E-05	1.25E-04	NO	1.8
Chloroform	0.01	IRIS	0.2	0.13	1.62E-06	1.62E-04	NO	2.3
Ethylbenzene	0.1	IRIS	0.03	1	1.87E-06	1.87E-05	NO	0.3
Tetrachloroethene	0.01	IRIS	2.46	0.37	5.69E-05	5.69E-03	NO	80.4
Trichloroethene	0.006	b	0.425	0.23	6.11E-06	1.02E-03	NO	14.4
Hazard Index (Sum of DI/RfD)						0.01		

EXPOSURE ASSUMPTIONS

Skin Surface Area (m2)	2.28
Body weight (kilograms)	70
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	24
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (liter to cm3)	0.001
Conversion Factor 3 (m2 to cm2)	10000
Conversion Factor 4 (year to day)	365

a. Sources of RfDs:

Roy L. Smith. "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. EPA-ECAO

c. Total 1,2-Dichloroethene reference dose(RfD) based on cis-1,2-Dichloroethene, dermal permeability constant based on trans-1,2-Dichloroethene

AR301207

File C15: 10-20-92

TABLE C-15

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH CHEMICALS IN WATER DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum Concentration d µg/L	Dermal Permeability Constant cm/hr	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
1,1,1-Trichloroethane	0.09	HEAST	0.9	0.017	1.80E-06	2.00E-05	NO	0.1
Total 1,2-Dichloroethene	0.01	HEAST c	1	0.01	1.17E-06	1.17E-04	NO	0.5
1,1-Dichloroethane	0.1	HEAST	0.4	0.0089	4.18E-07	4.18E-06	NO	0.0
Bromodichloromethane	0.02	IRIS	0.1	0.0058	6.81E-08	3.40E-06	NO	0.0
Carbon Disulfide	0.1	IRIS	0.7	0.5	4.11E-05	4.11E-04	NO	1.6
Chloroform	0.01	IRIS	0.2	0.13	3.05E-06	3.05E-04	NO	1.2
Ethylbenzene	0.1	IRIS	0.03	1	3.52E-06	3.52E-05	NO	0.1
Tetrachlorothene	0.01	IRIS	5	0.37	2.17E-04	2.17E-02	NO	84.3
Trichlorothene	0.006	b	0.7	0.23	1.89E-05	3.15E-03	NO	12.2
Hazard Index (Sum of DI/RfD)						0.03		

EXPOSURE ASSUMPTIONS

Skin Surface Area (m2)	0.918
Body weight (kilograms)	15
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	6
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (liter to cm3)	0.001
Conversion Factor 3 (m2 to cm2)	10000
Conversion Factor 4 (year to day)	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. EPA-ECAO

c. Total 1,2-Dichloroethene reference dose(RfD) based on cis-1,2-Dichloroethene, dermal permeability constant based on trans-1,2-Dichloroethene

d. 95th percentile upper bound or maximum concentration whichever is smaller

AR301208

File C16: 10-20-92

TABLE C-16

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH CHEMICALS IN WATER DURING SHOWERING

AVERAGE CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Average Concentration µg/L	Dermal Permeability Constant cm/hr	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
1,1,1-Trichloroethane	0.09	HEAST	0.85	0.017	1.70E-06	1.88E-05	NO	0.1
Total 1,2-Dichloroethene	0.01	HEAST c	0.767	0.01	9.00E-07	9.00E-05	NO	0.7
1,1-Dichloroethane	0.1	HEAST	0.35	0.0089	3.66E-07	3.66E-06	NO	0.0
Bromodichloromethane	0.02	IRIS	0.1	0.0058	6.81E-08	3.40E-06	NO	0.0
Carbon Disulfide	0.1	IRIS	0.4	0.5	2.35E-05	2.35E-04	NO	1.8
Chloroform	0.01	IRIS	0.2	0.13	3.05E-06	3.05E-04	NO	2.3
Ethylbenzene	0.1	IRIS	0.03	1	3.52E-06	3.52E-05	NO	0.3
Tetrachlorothene	0.01	IRIS	2.46	0.37	1.07E-04	1.07E-02	NO	80.4
Trichlorothene	0.006	b	0.425	0.23	1.15E-05	1.91E-03	NO	14.4
Hazard Index (Sum of DI/RfD)						0.01		

EXPOSURE ASSUMPTIONS

Skin Surface Area (m2)	0.918
Body weight (kilograms)	15
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	6
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (liter to cm3)	0.001
Conversion Factor 3 (m2 to cm2)	10000
Conversion Factor 4 (year to day)	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. EPA-ECAO

c. Total 1,2-Dichloroethene reference dose(RfD) based on cis-1,2-Dichloroethene, dermal permeability constant based on trans-1,2-Dichloroethene

BR301209

File C17: 2-19-93

TABLE C-17

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF INHALATION OF VAPOR PHASE CHEMICALS DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Maximum c Concentration in Water µg/L	Maximum Concentration in Air mg/m3	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Bromodichloromethane	0.13	IRIS d	0.1	7.3E-04	5.69E-07	7.40E-08	16.6
Chloroform	0.0805	IRIS	0.2	3.0E-03	2.36E-06	1.90E-07	42.7
Chloromethane	0.0063	HEAST	0.2	4.3E-03	3.31E-06	2.09E-08	4.7
Tetrachloroethene	0.00203	EPA-ECAO	5	7.0E-02	5.44E-05	1.10E-07	24.8
Trichloroethene	0.006	b	0.7	1.1E-02	8.27E-06	4.96E-08	11.2
Total Excess Lifetime Cancer Risks						4E-07	

EXPOSURE ASSUMPTIONS

Inhalation Rate (m3/hour)	0.83
Body weight (kilograms)	70
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	70
Conversion Factor 1 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

c. 95th percentile upper bound or maximum concentration whichever is smaller

d. Since an inhalation slope factor was not available, oral slope factor was used in the risk calculation

AR301210

File C18: 2-19-93

TABLE C-18

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF INHALATION OF VAPOR PHASE CHEMICALS DURING SHOWERING

AVERAGE CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source	a	Average Concentration in Water µg/L	Average Concentration in Air mg/m3	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Bromodichloromethane	0.13	IRIS	c	0.1	7.3E-04	5.69E-07	7.40E-08	20.0
Chloroform	0.0805	IRIS		0.2	3.0E-03	2.36E-06	1.90E-07	51.5
Chloromethane	0.0063	HEAST		0.2	4.3E-03	3.31E-06	2.09E-08	5.7
Tetrachloroethene	0.00203	EPA-ECAO		2.46	3.4E-02	2.67E-05	5.43E-08	14.7
Trichloroethene	0.006	b		0.425	6.4E-03	5.02E-06	3.01E-08	8.2
Total Excess Lifetime Cancer Risks							4E-07	

EXPOSURE ASSUMPTIONS	AVERAGE
Inhalation Rate (m3/hour)	0.83
Body weight (kilograms)	70
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	70
Conversion Factor 1 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

c. Since an inhalation slope factor was not available, oral slope factor was used in the risk calculation

AR301211

File C19: 2-19-93

TABLE C-19

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF INHALATION OF VAPOR PHASE CHEMICALS DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Maximum c Concentration in Water µg/L	Maximum Concentration in Air mg/m3	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Bromodichloromethane	0.13	IRIS d	0.1	7.3E-04	6.64E-07	8.63E-08	16.6
Chloroform	0.0805	IRIS	0.2	3.0E-03	2.76E-06	2.22E-07	42.7
Chloromethane	0.0063	HEAST	0.2	4.3E-03	3.87E-06	2.44E-08	4.7
Tetrachloroethene	0.00203	EPA-ECAO	5	7.0E-02	6.34E-05	1.29E-07	24.8
Trichloroethene	0.006	b	0.7	1.1E-02	9.65E-06	5.79E-08	11.2
Total Excess Lifetime Cancer Risks						5E-07	

EXPOSURE ASSUMPTIONS

Inhalation Rate (m3/hour)	0.83
Body weight (kilograms)	15
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	70
Conversion Factor 1 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

c. 95th percentile upper bound or maximum concentration whichever is smaller

d. Since an inhalation slope factor was not available, oral slope factor was used in the risk calculation

AR301212

File C20: 2-19-93

TABLE C-20

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

CARCINOGENIC HEALTH RISK EVALUATION OF INHALATION OF VAPOR PHASE CHEMICALS DURING SHOWERING

AVERAGE CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Average Concentration in Water µg/L	Average Concentration in Air mg/m3	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Bromodichloromethane	0.13	IRIS c	0.1	7.3E-04	6.64E-07	8.63E-08	20.0
Chloroform	0.0805	IRIS	0.2	3.0E-03	2.76E-06	2.22E-07	51.5
Chloromethane	0.0063	HEAST	0.2	4.3E-03	3.87E-06	2.44E-08	5.7
Tetrachloroethene	0.00203	EPA-ECAO	2.46	3.4E-02	3.12E-05	6.34E-08	14.7
Trichloroethene	0.006	b	0.425	6.4E-03	5.86E-06	3.51E-08	8.2
Total Excess Lifetime Cancer Risks						4E-07	

EXPOSURE ASSUMPTIONS

Inhalation Rate (m3/hour)	0.83
Body weight (kilograms)	15
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	70
Conversion Factor 1 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. Withdrawn from HEAST

c. Since an inhalation slope factor was not available, oral slope factor was used in the risk calculation

AR301213

File C21: 2-19-93

TABLE C-21

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF INHALATION OF VAPOR PHASE CHEMICALS DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source	a	Maximum Conc in Water µg/L	Maximum Conc in Air mg/m3	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Bromodichloromethane	0.02	IRIS	d	0.1	7.3E-04	1.66E-06	8.30E-05	NO	0.2
Chloroform	0.01	IRIS	d	0.2	3.0E-03	6.89E-06	6.89E-04	NO	2.0
Total 1,2-Dichloroethene	0.01	HEAST	d e	1	1.6E-02	3.74E-05	3.74E-03	NO	10.7
Tetrachloroethene	0.01	IRIS	d	5	7.0E-02	1.59E-04	1.59E-02	NO	45.3
Trichloroethene	0.006	EPA-ECAO	d	0.7	1.1E-02	2.41E-05	4.02E-03	NO	11.5
1,1-Dichloroethane	0.143	b		0.4	6.6E-03	1.51E-05	1.06E-04	NO	0.3
Ethylbenzene	0.286	IRIS		0.03	4.9E-04	1.11E-06	3.90E-06	NO	0.0
Carbon Disulfide	0.00286	HEAST		0.7	1.3E-02	2.97E-05	1.04E-02	NO	29.6
1,1,1-Trichlorothane	0.286	b		0.9	1.4E-02	3.11E-05	1.09E-04	NO	0.3
Hazard Index (Sum of DI/RfD)							0.03		

EXPOSURE ASSUMPTIONS

Inhalation Rate (m3/hour)	0.83
Body weight (kilograms)	70
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	24
Conversion Factor 1 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. HEAST alternate method

c. 95th percentile upper bound or maximum concentration whichever is smaller

d. Since an inhalation reference dose was not available, oral reference dose was used in the risk calculation

e. Total 1,2-Dichloroethen reference dose(RfD) based on cis-1,2-Dichloroethene

AR301214

File C22: 2-19-93

TABLE C-22

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF INHALATION OF VAPOR PHASE CHEMICALS DURING SHOWERING

AVERAGE CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source	a	Average Conc in Water µg/L	Average Conc in Air mg/m3	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Bromodichloromethane	0.02	IRIS	c	0.1	7.3E-04	1.66E-06	8.30E-05	NO	0.4
Chloroform	0.01	IRIS	c	0.2	3.0E-03	6.89E-06	6.89E-04	NO	3.4
Total 1,2-Dichloroethene	0.01	HEAST	c d	0.767	1.3E-02	2.87E-05	2.87E-03	NO	14.3
Tetrachloroethene	0.01	IRIS	c	2.46	3.4E-02	7.80E-05	7.80E-03	NO	39.0
Trichloroethene	0.006	EPA-ECAO	c	0.425	6.4E-03	1.46E-05	2.44E-03	NO	12.2
1,1-Dichloroethane	0.143	b		0.35	5.8E-03	1.32E-05	9.26E-05	NO	0.5
Ethylbenzene	0.286	IRIS		0.03	4.9E-04	1.11E-06	3.90E-06	NO	0.0
Carbon Disulfide	0.00286	HEAST		0.4	7.5E-03	1.69E-05	5.92E-03	NO	29.6
1,1,1-Trichlorothane	0.286	b		0.85	1.3E-02	2.94E-05	1.03E-04	NO	0.5
Hazard Index (Sum of DI/RfD)							0.02		

EXPOSURE ASSUMPTIONS

Inhalation Rate (m3/hour)	0.83
Body weight (kilograms)	70
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	24
Conversion Factor 1 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. HEAST alternate method

c. Since an inhalation reference dose was not available, oral reference dose was used in the risk calculation

d. Total 1,2-Dichloroethene reference dose(RfD) based on cis-1,2-Dichloroethene

AR301215

File C23: 2-19-93

TABLE C-23

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF INHALATION OF VAPOR PHASE CHEMICALS DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source	a	Maximum Conc in Water ug/L	c Maximum Conc in Air mg/m3	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Bromodichloromethane	0.02	IRIS	d	0.1	7.3E-04	7.75E-06	3.87E-04	NO	0.2
Chloroform	0.01	IRIS	d	0.2	3.0E-03	3.22E-05	3.22E-03	NO	2.0
Total 1,2-Dichloroethene	0.01	HEAST	d e	1	1.6E-02	1.74E-04	1.74E-02	NO	10.7
Tetrachloroethene	0.01	IRIS	d	5	7.0E-02	7.40E-04	7.40E-02	NO	45.3
Trichloroethene	0.006	EPA-ECAO	d	0.7	1.1E-02	1.13E-04	1.88E-02	NO	11.5
1,1-Dichloroethane	0.143	b		0.4	6.6E-03	7.06E-05	4.93E-04	NO	0.3
Ethylbenzene	0.286	IRIS		0.03	4.9E-04	5.20E-06	1.82E-05	NO	0.0
Carbon Disulfide	0.00286	HEAST		0.7	1.3E-02	1.38E-04	4.84E-02	NO	29.6
1,1,1-Trichlorothane	0.286	b		0.9	1.4E-02	1.45E-04	5.07E-04	NO	0.3
Hazard Index (Sum of DI/RfD)							0.2		

EXPOSURE ASSUMPTIONS

Inhalation Rate (m3/hour)	0.83
Body weight (kilograms)	15
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	6
Conversion Factor 1 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. HEAST alternate method

c. 95th percentile upper bound or maximum concentration whichever is smaller

d. Since an inhalation reference dose was not available, oral reference dose was used in the risk calculation

e. Total 1,2-Dichloroethene reference dose(RfD) based on cis-1,2-Dichloroethene

AR301216

File C24: 2-19-93

TABLE C-24

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

NONCARCINOGENIC HEALTH RISK EVALUATION OF INHALATION OF VAPOR PHASE CHEMICALS DURING SHOWERING

AVERAGE CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source	a	Average Conc in Water µg/L	Average Conc in Air mg/m3	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Bromodichloromethane	0.02	IRIS	c	0.1	7.3E-04	7.75E-06	3.87E-04	NO	0.4
Chloroform	0.01	IRIS	c	0.2	3.0E-03	3.22E-05	3.22E-03	NO	3.4
Total 1,2-Dichloroethene	0.01	HEAST	c d	0.767	1.3E-02	1.34E-04	1.34E-02	NO	14.3
Tetrachloroethene	0.01	IRIS	c	2.46	3.4E-02	3.64E-04	3.64E-02	NO	39.0
Trichloroethene	0.006	EPA-ECAO	c	0.425	6.4E-03	6.83E-05	1.14E-02	NO	12.2
1,1-Dichloroethane	0.143	b		0.35	5.8E-03	6.18E-05	4.32E-04	NO	0.5
Ethylbenzene	0.286	IRIS		0.03	4.9E-04	5.20E-06	1.82E-05	NO	0.0
Carbon Disulfide	0.00286	HEAST		0.4	7.5E-03	7.91E-05	2.76E-02	NO	29.6
1,1,1-Trichlorothane	0.286	b		0.85	1.3E-02	1.37E-04	4.79E-04	NO	0.5
Hazard Index (Sum of DI/RfD)							0.09		

EXPOSURE ASSUMPTIONS

Inhalation Rate (m3/hour)	0.83
Body weight (kilograms)	15
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	6
Conversion Factor 1 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. HEAST alternate method

c. Since an inhalation reference dose was not available, oral reference dose was used in the risk calculation

d. Total 1,2-Dichloroethene reference dose(RfD) based on cis-1,2-Dichloroethene

AR301217

File D1: 2-19-93

TABLE D-1

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

SHALLOW AQUIFER

CARCINOGENIC HEALTH RISK EVALUATION OF GROUNDWATER INGESTION: MAXIMUM CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Maximum b Concentration µg/L	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Tetrachloroethene	0.052	EPA-ECAO	330	3.10E-03	1.61E-04	100.0
Total Excess Lifetime Cancer Risks					2E-04	

EXPOSURE ASSUMPTIONS

Daily intake (L/day)	2
Body weight (kilograms)	70
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	70
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (year to day)	365

a. Sources of Toxicity Values:

Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. 95th percentile upper bound or maximum concentration whichever is smaller

AR301218

File D2: 2-19-93

TABLE D-2

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

SHALLOW AQUIFER

CARCINOGENIC HEALTH RISK EVALUATION OF GROUNDWATER INGESTION: MAXIMUM CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Maximum b Concentration µg/L	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Tetrachloroethene	0.052	EPA-ECAO	330	1.81E-03	9.40E-05	100.0
Total Excess Lifetime Cancer Risks					9E-05	

EXPOSURE ASSUMPTIONS

Daily intake (L/day)	1
Body weight (kilograms)	15
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	70
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. 95th percentile upper bound or maximum concentration whichever is smaller

AR301219

File D3: 2-19-93

TABLE D-3

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

SHALLOW AQUIFER

NONCARCINOGENIC HEALTH RISK EVALUATION OF GROUNDWATER INGESTION: MAXIMUM CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum b Concentration µg/L	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Tetrachloroethene	0.01	IRIS	330	9.04E-03	9.04E-01	NO	100.0
Hazard Index (Sum of DI/RfD)					0.9		

EXPOSURE ASSUMPTIONS

Daily intake (L/day)	2
Body weight (kilograms)	70
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	24
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (year to day)	365

a. Sources of RfDs:

Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. 95th percentile upper bound or maximum concentration whichever is smaller

AR301220

File D4: 2-19-93

TABLE D-4

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

SHALLOW AQUIFER

NONCARCINOGENIC HEALTH RISK EVALUATION OF GROUNDWATER INGESTION: MAXIMUM CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum b Concentration µg/L	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Tetrachloroethene	0.01	IRIS	330	2.11E-02	2.11E+00	YES	100.0
Hazard Index (Sum of DI/RfD)					2.1		

EXPOSURE ASSUMPTIONS

Daily intake (L/day)	1
Body weight (kilograms)	15
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	6
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (year to day)	365

a. Sources of RfDs:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. 95th percentile upper bound or maximum concentration whichever is smaller

AR301221

File D5: 2-19-93

TABLE D-5
FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO
SHALLOW AQUIFER
CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH CHEMICALS IN WATER DURING SHOWERING
MAXIMUM CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Maximum b Concentration µg/L	Dermal Permeability Constant cm/hr	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Tetrachloroethene	0.052	EPA-ECAO	330	0.37	2.61E-03	1.36E-04	100.0
Total Excess Lifetime Cancer Risks						1E-04	

EXPOSURE ASSUMPTIONS

Skin Surface Area (m2)	2.28
Body weight (kilograms)	70
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	70
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (liter to cm3)	0.001
Conversion Factor 3 (m2 to cm2)	10000
Conversion Factor 4 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.
b. 95th percentile upper bound or maximum concentration whichever is smaller

AR301222

File D6: 2-19-93

TABLE D-6
FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO
SHALLOW AQUIFER
CARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH CHEMICALS IN WATER DURING SHOWERING
MAXIMUM CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Maximum Concentration b µg/L	Dermal Permeability Constant cm/hr	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Tetrachloroethene	0.052	EPA-ECAO	330	0.37	1.23E-03	6.39E-05	100.0
Total Excess Lifetime Cancer Risks						6E-05	

EXPOSURE ASSUMPTIONS

Skin Surface Area (m2)	0.918
Body weight (kilograms)	15
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	70
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (liter to cm3)	0.001
Conversion Factor 3 (m2 to cm2)	10000
Conversion Factor 4 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.
b. 95th percentile upper bound or maximum concentration whichever is smaller

AR301223

File D7: 2-19-93

TABLE D-7

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

SHALLOW AQUIFER

NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH CHEMICALS IN WATER DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum Concentration b µg/L	Dermal Permeability Constant cm/hr	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Tetrachlorothene	0.01	IRIS	330	0.37	7.63E-03	7.63E-01	NO	100.0
Hazard Index (Sum of DI/RfD)						0.8		

EXPOSURE ASSUMPTIONS

Skin Surface Area (m2)	2.28
Body weight (kilograms)	70
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	24
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (liter to cm3)	0.001
Conversion Factor 3 (m2 to cm2)	10000
Conversion Factor 4 (year to day)	365

a. Sources of RfDs:

Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. 95th percentile upper bound or maximum concentration whichever is smaller

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File D8: 2-19-93

TABLE D-8

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

SHALLOW AQUIFER

NONCARCINOGENIC HEALTH RISK EVALUATION OF DERMAL CONTACT WITH CHEMICALS IN WATER DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum Concentration b µg/L	Dermal Permeability Constant cm/hr	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Tetrachlorothene	0.01	IRIS	330	0.37	1.43E-02	1.43E+00	YES	100.0
Hazard Index (Sum of DI/RfD)						1.4		

EXPOSURE ASSUMPTIONS

Skin Surface Area (m2)	0.918
Body weight (kilograms)	15
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	6
Conversion Factor 1 (microgram to milligram)	0.001
Conversion Factor 2 (liter to cm3)	0.001
Conversion Factor 3 (m2 to cm2)	10000
Conversion Factor 4 (year to day)	365

a. Sources of RfDs:

Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. 95th percentile upper bound or maximum concentration whichever is smaller

AR301225

File D9: 2-19-93

TABLE D-9

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

SHALLOW AQUIFER

CARCINOGENIC HEALTH RISK EVALUATION OF INHALATION OF VAPOR PHASE CHEMICALS DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Maximum b Concentration in Water µg/L	Maximum Concentration in Air mg/m3	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Tetrachloroethene	0.00203	EPA-ECAO	330	4.6E+00	3.59E-03	7.29E-06	100.0
Total Excess Lifetime Cancer Risks						7E-06	

EXPOSURE ASSUMPTIONS

Inhalation Rate (m3/hour)	0.83
Body weight (kilograms)	70
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	70
Conversion Factor 1 (year to day)	365

a. Sources of Toxicity Values:

Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.

b. 95th percentile upper bound or maximum concentration whichever is smaller

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File D10: 2-19-93

TABLE D-10
FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO
SHALLOW AQUIFER
CARCINOGENIC HEALTH RISK EVALUATION OF INHALATION OF VAPOR PHASE CHEMICALS DURING SHOWERING
MAXIMUM CONCENTRATION DETECTED

Chemical	Slope Factor kg-day/mg	Source a	Maximum Concentration in Water µg/L	Maximum b Concentration in Air mg/m3	Lifetime Average Chemical Intake mg/kg-day	Excess Lifetime Cancer Risk	Percent of Risk
Tetrachloroethene	0.00203	EPA-ECAO	330	4.6E+00	4.19E-03	8.50E-06	100.0
Total Excess Lifetime Cancer Risks						8E-06	

EXPOSURE ASSUMPTIONS

Inhalation Rate (m3/hour)	0.83
Body weight (kilograms)	15
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	70
Conversion Factor 1 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992.
b. 95th percentile upper bound or maximum concentration whichever is smaller

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File D11: 2-19-93

TABLE D-11

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL ADULT SCENARIO

SHALLOW AQUIFER

NONCARCINOGENIC HEALTH RISK EVALUATION OF INHALATION OF VAPOR PHASE CHEMICALS DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum b Conc in Water µg/L	Maximum Conc in Air mg/m3	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Tetrachloroethene	0.01	IRIS c	330	4.6E+00	1.05E-02	1.05E+00	YES	100.0
Hazard Index (Sum of DI/RfD)						1.0		

EXPOSURE ASSUMPTIONS

Inhalation Rate (m3/hour)	0.83
Body weight (kilograms)	70
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	24
Averaging Time (years)	24
Conversion Factor 1 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. 95th percentile upper bound or maximum concentration whichever is smaller

c. Since an inhalation reference dose was not available, oral reference dose was used in the risk calculation.

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File D12: 2-19-93

TABLE D-12

FUTURE ONSITE GROUNDWATER USE: RESIDENTIAL CHILD SCENARIO

SHALLOW AQUIFER

NONCARCINOGENIC HEALTH RISK EVALUATION OF INHALATION OF VAPOR PHASE CHEMICALS DURING SHOWERING

MAXIMUM CONCENTRATION DETECTED

Chemical	Reference Dose (RfD) mg/kg-day	Source a	Maximum Conc in Water µg/L	Maximum Conc in Air mg/m3 b	Average Daily Intake (DI) mg/kg-day	Hazard Quotient DI/RfD	Does Intake Exceed RfD?	Percent of HI
Tetrachloroethene	0.01	IRIS c	330	4.6E+00	4.88E-02	4.88E+00	YES	100.0
Hazard Index (Sum of DI/RfD)						4.9		

EXPOSURE ASSUMPTIONS

Inhalation Rate (m3/hour)	0.83
Body weight (kilograms)	15
Exposure Time (hour/day)	0.2
Exposure Frequency (days/year)	350
Exposure Duration (years)	6
Averaging Time (years)	6
Conversion Factor 1 (year to day)	365

a. Sources of Toxicity Values:
Roy L. Smith, "Risk-Based Concentration Table, Third Quarter 1992", USEPA, Region III, July 23, 1992

b. 95th percentile upper bound or maximum concentration whichever is smaller

c. Since an inhalation reference dose was not available, oral reference dose was used in the risk calculation

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How 95th Percentile Upper Confidence Limits Are Calculated

Quar

Reasonable Maximum Exposure — Calculati

$$UCL = e^{\left(\bar{x} + 0.5 s^2 + \frac{s H}{\sqrt{n-1}}\right)}$$

Where:

UCL = 95th upper confidence limit

e = constant (natural log)

$\bar{x}$ = the mean of the transformed da

s = the standard deviation of the transformed data

H = statistic (from the table) — MUST USE THE AGGHPAF TABLE

n = sample size

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R-95%

Y axis (standard deviation)

(3)

Table A12 Values of $H_{1-\alpha} - H_{0.95}$ for Computing a One-Sided Upper 95% Confidence Limit on a Lognormal Mean

S \ N	3	5	7	10	12	15	21	31	51	101
0.10	2.750	2.035	1.886	1.802	1.775	1.748	1.722	1.701	1.684	1.670
0.20	3.295	2.198	1.992	1.881	1.843	1.809	1.771	1.742	1.718	1.697
0.30	4.109	2.402	2.125	1.977	1.927	1.882	1.833	1.793	1.761	1.733
0.40	5.220	2.651	2.282	2.089	2.026	1.968	1.905	1.856	1.813	1.777
0.50	6.695	2.947	2.465	2.220	2.141	2.068	1.989	1.928	1.876	1.830
0.60	7.807	3.287	2.673	2.368	2.271	2.181	2.085	2.010	1.946	1.891
0.70	9.110	3.662	2.904	2.532	2.414	2.306	2.191	2.102	2.025	1.960
0.80	10.63	4.067	3.155	2.710	2.570	2.443	2.307	2.202	2.112	2.035
0.90	11.74	4.498	3.420	2.902	2.738	2.589	2.432	2.310	2.206	2.117
1.00	13.05	4.905	3.694	3.105	2.919	2.744	2.566	2.423	2.306	2.209
1.25	16.33	6.001	4.426	3.639	3.389	3.163	2.923	2.737	2.580	2.447
1.50	19.60	7.120	5.184	4.207	3.896	3.612	3.311	3.077	2.881	2.713
1.75	22.87	8.250	5.960	4.795	4.422	4.081	3.719	3.437	3.200	2.997
2.00	26.14	9.387	6.747	5.396	4.962	4.564	4.141	3.812	3.533	3.295
2.50	32.69	11.67	8.339	6.621	6.067	5.557	5.053	4.648	4.308	3.910
3.00	39.23	13.97	9.945	7.864	7.191	6.570	5.987	5.508	4.967	4.569
3.50	45.77	16.27	11.56	9.118	8.326	7.596	6.935	6.381	5.751	5.233
4.00	52.31	18.58	13.18	10.38	9.469	8.630	7.891	7.264	6.546	5.908
4.50	58.85	20.88	14.80	11.64	10.62	9.669	8.852	7.854	7.174	6.590
5.00	65.39	23.19	16.43	12.91	11.77	10.71	9.579	8.688	7.929	7.277
6.00	78.47	27.81	19.68	15.45	14.08	12.81	11.44	10.36	9.449	8.661
7.00	91.55	32.43	22.94	18.00	16.39	14.90	13.31	12.05	10.98	10.05
8.00	104.6	37.06	26.20	20.55	18.71	17.01	15.18	13.74	12.51	11.45
9.00	117.7	41.68	29.46	23.10	21.03	19.11	17.05	15.43	14.05	12.85
10.00	130.8	46.31	32.73	25.66	23.35	21.22	18.93	17.13	15.59	14.26

H

X axis (count)

Source: After Land, 1975.

This table is used in Section 13.2.

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95% limit (report detail)	- Calculated field. 95% confidence limit by chemical, by sample matrix, by concentration unit for the selection set. Processing steps: - transform the data (Take the natural log of all values in the selection set.) - take the mean, count and standard deviation of the transformed data - get the H factor from the Hfactor table using the count and standard deviation. - run the results through the attached formula.

Linear Interpolation Calculations to build Hfactor table:

The formula used to interpolate points along the X-axis that are not currently in the attached table is:

$$H = Hl - \left[\frac{(n - nl)}{(nh - nl)} * (Hl - Hh) \right]$$

where

n = current count (point along x axis being interpolated)
nl = next lower count (x axis point) found in attached table
nh = next higher count (x axis point) found in attached table
s = current standard deviation
H = value in table being sought (intersection of s and n)
Hl = next lower value found in the attached table (intersection of s and nl)
Hh = next higher value found in the attached table (intersection of s and nh)

Example: when n = 13 and s = .10

$$H = Hl - \left[\frac{(n - nl)}{(nh - nl)} * (Hl - Hh) \right]$$

$$H = Hl - \left[\frac{(13 - 12)}{(15 - 12)} * (1.775 - 1.749) \right]$$

$$H = 1.775 - \left[\frac{1}{3} * .026 \right]$$

$$H = 1.775 - .009$$

$$H = 1.766$$

The formula used to interpolate points along the Y-axis that are not currently in the attached table is:

$$H = Hl - \left[\frac{(s - sl)}{(sh - sl)} * (Hl - Hh) \right]$$

where

s = current standard deviation (point along y axis being interpolated)

sl = next lower standard deviation (y axis point) found in attached table

sh = next higher standard deviation (y axis point) found in attached table

n = current count

H = value in table being sought (intersection of s and n)

Hl = next lower value found in the attached table (intersection of s and nl)

Hh = next higher value found in the attached table (intersection of s and nh)

Example: when n = 3 and s = .15

$$H = Hl - \left[\frac{(s - sl)}{(sh - sl)} * (Hl - Hh) \right]$$

$$H = Hl - \left[\frac{(.15 - .10)}{(.20 - .10)} * (2.750 - 3.295) \right]$$

$$H = 2.750 - \left[\frac{.05}{.10} * (-.545) \right]$$

$$H = 2.750 - (-.273)$$

$$H = 3.023$$

Reference for Calculation of VOC Concentration in Air During Showering

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Note: Input Parameters are the same as those quoted in the Attached paper except:

Assume $3M^3$ shower/stall volume for first 12 minutes

then ~ $12M^3$ for bathroom volume for next 8 minutes

Tot - 20 mins

Assume 12 min. shower

air exchange rate

~~Ventilation~~ Rate 1 hr^{-1}

Inhalation Rate $20 m^3/d$ = 0.83 m^3/hr

= 14 $\frac{l}{min}$

87-42.6

INHALATION EXPOSURES TO VOLATILE ORGANIC CONTAMINANTS IN THE SHOWER

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80th Annual Meeting of APCA
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AR301238

INTRODUCTION

Over the past few years, the potential importance of inhalation exposures to volatile organic chemicals (VOCs) through the use of contaminated household water supplies has been recognized. Due to their strong tendency to volatilize, VOCs present in tap water may be readily released into indoor air as a result of showering, bathing, dishwashing, laundering, and cooking.[1,2,3] Several researchers have already concluded that inhalation exposures to volatile compounds released during typical water uses in the home may be as large as or larger than exposures from water ingestion.[1,3,4,5,6] Of particular concern to human health is the potential for elevated VOC exposures to occur in the confined space of the shower. Detailed empirical data on the levels of VOCs released into shower room air are, however, scarce.[1,7] Andelman and his colleagues, relying on experiments conducted using trichloroethylene and chloroform in a scaled-down model shower, are responsible for the bulk of the data that are currently available.

Exposure modeling may provide the best means of estimating inhalation exposures to VOCs while showering. Such modeling can be validated to a limited extent at present using Andelman's data and will be further validated in the future with whatever reliable data become available.

The purpose of this paper is to expand on previous work in which we developed a dynamic model for the behavior of VOCs in shower water.[8] In this paper we present a model that estimates exposures to VOCs in the shower, both while showering and after the shower has been turned off. The model has been programmed using Microsoft C and is run on an IBM PC. Typically a model run, including data input, takes less than one minute.

Previous efforts to estimate exposures to VOCs in the shower have relied upon the simple assumption that a certain percentage of VOC in water is released into air (e.g., 40-100%).[2,4,5] Our model, unlike the previous approaches, takes into account many of the variable factors that influence the release of VOCs from water and their subsequent buildup in shower room air. The kinetic model presented in this paper estimates VOC air concentrations and the magnitude of chemical exposures for the duration of exposure.

METHODOLOGY

Inhalation exposures to VOCs are modeled by estimating the rate of chemical release into the air (*generation rate*), the *buildup* (*shower on*) and decay (shower off) of VOCs in shower room air, and the quantity of airborne VOCs inhaled while the shower is both on and off.

Estimation of the rate of VOC release into the air is based upon Liss and Slater's[9] adaptation of the two-film gas-liquid mass transfer theory which has been described in our previous paper.[8] The two-film boundary theory provides the basis for estimating the overall mass transfer coefficient (K_L) for each VOC of interest according to the following equation:

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$$K_L = (1/k_l + RT/Hk_g)^{-1} \quad (1)$$

where

K_L = overall mass transfer coefficient (cm/hr),
H = Henry's Law Constant (atm-m^3/mol-K),
RT = 2.4x10^{-2} atm-m^3/mole (gas constant of 8.2x10^{-5} atm-m^3/mol-K times absolute temperature of 293 K),
k_g = gas-film mass transfer coefficient (cm/hr), and
k_l = liquid-film mass transfer coefficient (cm/hr).

Equation 1 describes the mass transfer rate of a compound at an air-water interface where diffusion may be limited by both liquid- and gas-phase resistances. For most VOCs, however, with Henry's Law Constants greater than 1x10^{-3} atm-m^3/mol-K, mass transfer is limited by only liquid-phase resistance.[10]

Typical values of k_l (20 cm/hr) and k_g (3,000 cm/hr), which have been measured for CO_2 and H_2O, respectively,[9] may be used to estimate VOC-specific values for these parameters:

$$k_{g(VOC)} = k_g(H_2O)(18/MW_{VOC})^{0.5} \quad (2)$$

$$k_{l(VOC)} = k_l(CO_2)(44/MW_{VOC})^{0.5} \quad (3)$$

where

MW = molecular weight (g/mol).

The mass transfer coefficient, K_L, is adjusted to the shower water temperature, T_s, according to a semi-empirical equation developed to estimate the effect of temperature on oxygen mass-transfer rate:[11]

$$K_{aL} = K_L(T_1\mu_s/T_s\mu_1)^{-0.5} \quad (4)$$

where

K_{aL} = adjusted overall mass transfer coefficient (cm/hr),
T_1 = calibration water temperature of K_L (K),
T_s = shower water temperature (K),
μ_1 = water viscosity at T_1 (cp), and
μ_s = water viscosity at T_s (cp).

The concentration leaving the shower droplet, C_{wd}, is obtained from an integrated rate equation based on a mass-balance approach:

$$C_{wd} = C_{w0}(1-\exp[-K_{aL}t_s/60d)) \quad (5)$$

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where

C_{wd} = concentration leaving shower droplet after time t_s (µg/l)
C_{w0} = shower water concentration (µg/l),
d = shower droplet diameter (mm), and
t_s = shower droplet drop time (sec).

The term $K_{a1}/60d$ combines both the rate of transfer and the available interfacial area across which volatilization can occur. The value 1/60d equals the specific interfacial area, 6/d, for a spherical shower droplet of diameter d multiplied by conversion factors (hr/3600 sec and 10 mm/cm).

Inherent in equation 5 is the assumption that the shower water is immediately disaggregated into droplets of equal size and that volatilization occurs from each droplet only between the time it is released from the shower head until it impacts the shower bottom. In reality, the shower water will disaggregate into droplets of different diameters and will also agglomerate into layers as it runs over the showering individual and impacts nearby surfaces. The model presented in this paper does not take into account volatilization from these "non-droplet" air-water surfaces, many of which increase the residence time during which volatilization could occur (relative to an unimpeded droplet). In addition, this model does not estimate the additional volatilization from water as it drains from the shower bottom. Volatilization from water running over a showering individual and draining from the shower bottom may, however, contribute significantly to overall VOC air concentrations in the shower.[12] By not taking into account volatilization from water running down nearby surfaces and the showering individual and draining from the shower bottom, our model is more likely to underestimate than overestimate indoor VOC air concentrations and exposures.

The VOC generation rate in the shower room, S, can then be calculated by the equation:

$$S = C_{wd}(FR)/SV \qquad (6)$$

where

S = indoor VOC generation rate (µg/m^3-min),
FR = shower water flow rate (l/min), and
SV = shower room air volume (m^3).

A simple one-box indoor air pollution model was used to estimate VOC air concentrations in the shower room. This model can be expressed as a differential equation describing the rate of change of the indoor pollutant concentration with time:

$$dC_a/dt = -RC_a + S \qquad (7)$$

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where

C_a = indoor VOC air concentration (µg/m^3), and
R = air exchange rate (min^{-1}).

This indoor air model assumes instantaneous mixing of the shower room air and no chemical decay of VOCs once they are released into the indoor air. It is likely, however, that air concentrations of VOCs will be higher immediately adjacent to the shower spray (i.e., within the individual's breathing zone) than in the rest of the shower room. As a result, the model may underestimate inhalation exposures during showering by assuming a completely mixed indoor environment. Because modeling the incremental exposure due to showering only is the focus of this paper, it is also assumed that the initial VOC air concentration indoors before the shower is turned on is zero (i.e., there are no other sources of VOCs contributing to indoor air pollutant levels).

In the model, the air exchange rate is kept constant throughout the exposure period. The generation rate is allowed only two values, off (i.e. zero) and on. In general, both the air exchange rate and the generation rate may vary over time; however, for the short periods modeled in this paper (no more than one or two hours), we consider that the assumptions of constant exchange and generation rates are likely to be valid.

When equation 7 is integrated, the time-dependent indoor concentration can be estimated as follows:

$$C_a(t) = (S/R)(1 - \exp[-Rt]) \text{ for } t \leq D_s$$

and

$$C_a(t) = (S/R)(\exp[RD_s] - 1)\exp(-Rt) \text{ for } t > D_s$$

where

$C_a(t)$ = indoor air VOC concentration at time t (µg/m^3),
D_s = shower duration (min), and
t = time (min).

The inhalation exposure per shower can then be calculated according to the equation:

$$E_{inh} = [Vr/(BM)(10^6)] \int_0^{D_t} C_a(t)dt$$

where

E_{inh} = inhalation exposure per shower (mg/kg/shower),
VR = ventilation rate (l/min),
BW = body weight (kg), and
D_t = total duration in shower room (min).

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This equation can be solved as:

$$C_{inh} = (Vr)(S)/[(BR)(R)(10^6)]\left(D_s - 1/R + \exp(-RD_s)/R\right)$$

for the duration of the shower, and as:

$$C_{inh} = (Vr)(S)/[(BR)(R)(10^6)]\cdot \left(D_s \cdot \exp(-RD_t)/R - \exp[R(D_s - D_t)]/R\right)$$

for both the duration of the shower and the duration in the room after the shower is turned off.

MODEL APPLICATION I. COMPARISON WITH EXPERIMENTAL RESULTS

The only experimental data currently available and sufficiently detailed to apply in our model have been developed by Andelman et al.[1] Experimental data presented by these researchers for trichloroethylene (TCE) were input into our model (Table I) to predict indoor air concentrations and to compare these with the measured levels. Figure I shows that our model's estimates of air concentrations compare favorably with Andelman's results for both the buildup and decay of concentrations in shower room air. The model only slightly underpredicts indoor air concentrations. This difference is not surprising since the model does not, as has been described, take into account volatilization from water after it has impacted on nearby surfaces or as it drains from the shower bottom. This comparison also indicates that for short exposure periods (e.g., less than 20 minutes), the modeled air concentrations may approximate actual concentrations quite well.

MODEL APPLICATION II. SENSITIVITY OF AIR CONCENTRATIONS TO INPUT PARAMETERS

To determine the sensitivity of our model to several important input parameters, we examined the changes in estimated air concentrations associated with different air exchange rates, shower water concentrations, and water temperatures. We focused on only one VOC, TCE, in this model application. Cothern et al.[4] estimate that as many as 212,000 and 128,000 individuals in the United States may be using public water supplies containing >10-20 µg/l and >70-80 µg/l TCE, respectively. To make our results comparable with these estimates, we assumed two shower water concentrations of 15 µg/l and 75 µg/l. Three air exchange rates, 0.5, 1.0, and 1.5 hr^{-1}, were used to simulate leaky, average, and tight homes, respectively.[13] The changes in air concentrations associated with four shower water temperatures, 35°, 40°, 45°, and 50°C, were also evaluated. Table II lists the values of the input parameters used to develop the information presented in this sensitivity analysis (Figures II and III).

Figure II illustrates the effects of changing air exchange rates and TCE water concentrations on TCE air concentrations in the shower room. As expected, predicted indoor air concentrations are highly sensitive to water concentrations. Figure II shows that as the water concentration increases from 15 µg/l to 75 µg/l (a factor of five), air concentrations also increase by about a factor of five or more. As the air exchange rate increases from 0.5 hr^{-1} to 1.5 hr^{-1}, indoor air concentrations are

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predicted to decrease, and the differences between air levels become increasingly large with time.

Figure III shows the impact that different shower water temperatures have on indoor air concentrations. As water temperature increases, predicted air concentrations increase. After the shower has been on for 60 minutes, every 5°C increase in water temperature increases indoor TCE air levels by approximately 0.08 mg/m^3. For shorter shower durations, however, the effect of changing temperature is less pronounced, with every 5°C increase in water temperature increasing indoor air concentrations by approximately 0.03 mg/m^3 at 20 minutes and 0.02 mg/m^3 at 10 minutes.

These results indicate that the model presented in this paper behaves as expected; it predicts that indoor air levels increase as water concentrations increase, air exchange rates decrease, and water temperatures increase. The effects of changing these variables become increasingly important with time after the shower has been turned on. However, for short shower durations (e.g., less than 20 minutes), water concentration appears to have a greater impact on indoor air levels than air exchange rate or water temperature. In addition, the increase in air concentration with time appears to be approximately linear for short shower durations.

MODEL APPLICATION III. COMPARATIVE RISK ASSESSMENT

In order to estimate potential human VOC inhalation exposures and risk from showering, we applied our model to five VOCs that have been found in U public water supplies;[4,14] TCE, chloroform, tetrachloroethylene, vinyl chloride, and benzene. Benzene and vinyl chloride have been classified by as Group A carcinogens—human carcinogens based on adequate evidence from human studies. The remaining three chemicals have been classified as Gr carcinogens—probable human carcinogens based on inadequate evidence fr human studies and adequate evidence from animal studies.. Two plausible exposure scenarios were evaluated. The two scenarios differ with respect three variables: water concentration, shower duration, and air exchange rate. For the lower bound exposure scenario, the water concentration, shc duration, and air exchange rate were assumed to be 15 µg/l, 10 minutes, a 1.5 hr^{-1}, respectively. For the upper bound exposure scenario, the values for these three variables were assumed to be 75 µg/l, 15 minutes, and 0.5 hr^{-1}, respectively. Table III summarizes the input parameters used in this comparative risk assessment. These exposure scenarios are clearly not applicable to all homes and individuals, but they are probably representati of conditions that may exist in some homes in the United States.

Figure IV compares the estimated exposures for the five VOCs. The predicted exposures for the upper bound exposure scenario are approximately order of magnitude larger than the exposures for the lower bound exposure scenario. The largest exposures are predicted for vinyl chloride, the VOC with the largest Henry's Law Constant and lowest molecular weight. The next largest exposures are predicted for benzene, a chemical with the next smalle molecular weight but the second smallest Henry's Law Constant. Both of thes chemical-specific parameters are important factors affecting exposure. This figure also shows that exposures received over an assumed five minute period in the shower room after the shower has been turned off are almost as large exposures received while showering for 10 or 15 minutes.

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The potential excess upper bound lifetime cancer risks associated with these estimated exposures are shown in Table IV. These calculations assume that an individual takes one 10- or 15-minute shower per day for a 70-year lifetime. The excess lifetime risks are highest for chloroform, 2×10^{-5} and 2×10^{-4} for the lower bound and upper bound exposure scenarios, respectively. The predicted risks are lowest for tetrachloroethylene, 3×10^{-7} and 3×10^{-6}, respectively.

The risks associated with inhaling VOCs in the shower for the two exposure scenarios are compared in Table V to the risks associated with ingestion of tap water at the same water concentrations (15 µg/l and 75 µg/l). It is important to recognize that all the VOCs evaluated except chloroform are more potent by ingestion than by inhalation. In calculating ingestion exposures, it was assumed that an individual drinks 2 liters of water per day for a 70-year lifetime. Table V shows that the ingestion cancer risks range from the same order of magnitude as the inhalation risks to approximately two orders of magnitude greater than the inhalation risks. For example, the risks associated with ingestion of chloroform in drinking water are essentially the same as the risks associated with chloroform inhalation in the shower room. For vinyl chloride, the ingestion risks are about two orders of magnitude greater than the inhalation risks. Thus, for the specific shower exposure scenarios evaluated in this comparative risk assessment, the estimated risks associated with the inhalation of VOCs in the shower room may be as large as the risks associated with VOC ingestion, depending on the particular chemical.

SUMMARY AND CONCLUSIONS

A kinetic model which can be used to estimate inhalation exposures to VOCs in the shower, both while showering and after the shower has been turned off, has been presented in this paper. Inhalation exposures to VOCs are modeled by estimating the rate of VOC release from water into air, the buildup (shower on) and decay (shower off) of VOCs in shower room air, and the quantity of airborne VOCs inhaled while the shower is both on and off.

The model was validated with one set of experimental data for TCE presented by Andelman et al.[1] The predicted air concentrations compared very favorably with the experimental results. In subsequent model runs, the predicted air concentrations were observed to be particularly sensitive to changes in shower water concentration and air exchange rate, but, in comparison, less sensitive to changes in water temperature.

Potential risks associated with inhalation in shower room air of five VOCs that have been measured in U.S. drinking water supplies were estimated for two plausible exposure scenarios. The lower bound exposure scenario assumed a 15 µg/l water concentration, a 10 minute shower, and an air exchange rate of 1.5 hr^{-1}. The upper bound exposure scenario assumed a 75 µg/l water concentration, a 15 minute shower, and an air exchange rate of 0.5 hr^{-1}. All other input variables, except those that are chemical specific, were held constant. The exposures and excess lifetime cancer risks estimated for the upper bound exposure scenario were approximately one order of magnitude greater than the exposures and risks estimated for the lower bound exposure scenario. Excess upper bound lifetime cancer risks were highest for chloroform, ranging from 2×10^{-5} to 2×10^{-4} for the lower bound and upper bound exposure scenarios, respectively.

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These inhalation risks were compared to the risks associated with daily ingestion of 2 liters of water per day at the same concentrations, 15 µg/l and 75 µg/l. For the specific shower exposure scenarios evaluated, the estimated inhalation risks in the shower room were equivalent to the risks associated with ingestion for chloroform, but were two orders of magnitude lower than the ingestion risks for vinyl chloride.

Based on this analysis, our model can be applied to estimate inhalation exposures to VOCs in shower room air. The model has been validated with one set of experimental laboratory data in this paper, but additional data, particularly collected in the home, is required to conduct a more thorough validation. Further research is also needed to characterize more accurately the model's input parameters.

ACKNOWLEDGEMENTS

The authors would like to thank Jay Turim for his review of the manuscript and the ICF-Clement word processing staff for typing the document

NOTE TO EDITORS

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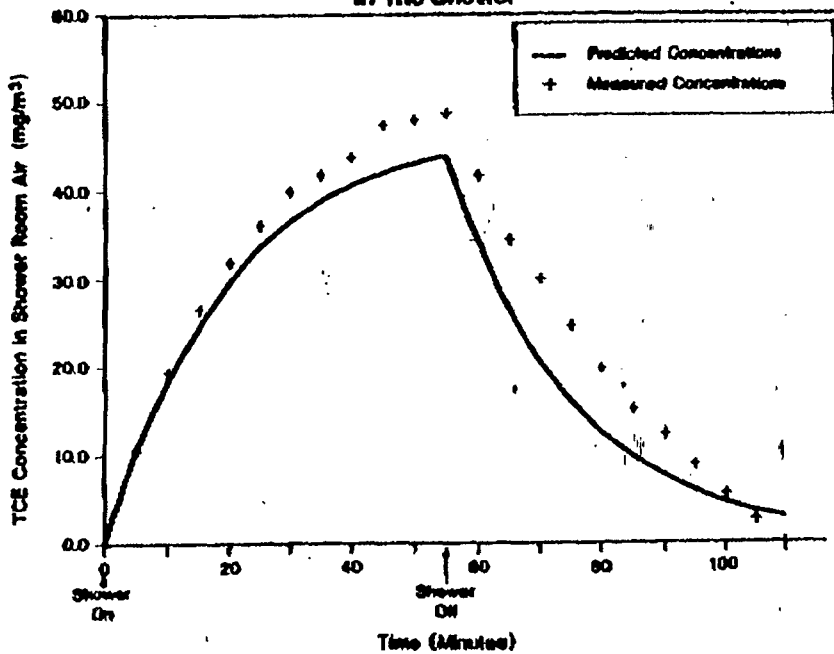
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Table 1. Model Application Using Experimental Data From Andelman et al.[1]

Input Parameter	Value
Andelman's data:	
Chemical	Trichloroethylene
Shower water concentration	2,000 µg/l[a]
Shower water temperature	43°C (316 K)
Shower water flow rate	0.3 l/min
Droplet diameter	0.25 mm
Droplet drop time	0.5 sec[b]
Air flow rate	0.005 m^3/min
Shower chamber volume	0.1 m^3
Shower duration	55 min
Duration after shower	55 min
Other model input data:	
Molecular weight	131 g/mol
Henry's Law Constant	1.0 x 10^{-2} atm-m^3/mol-K
Water viscosity	0.6178 cp

[a]Measured range 1,500-2,900 µg/l.
[b]Measured range 0.25-0.75 sec.

Figure 1
Comparison Of Predicted And Measured* Trichloroethylene Air Concentrations In The Shower



*Source Of Measured Data: Andelman et al.[1]

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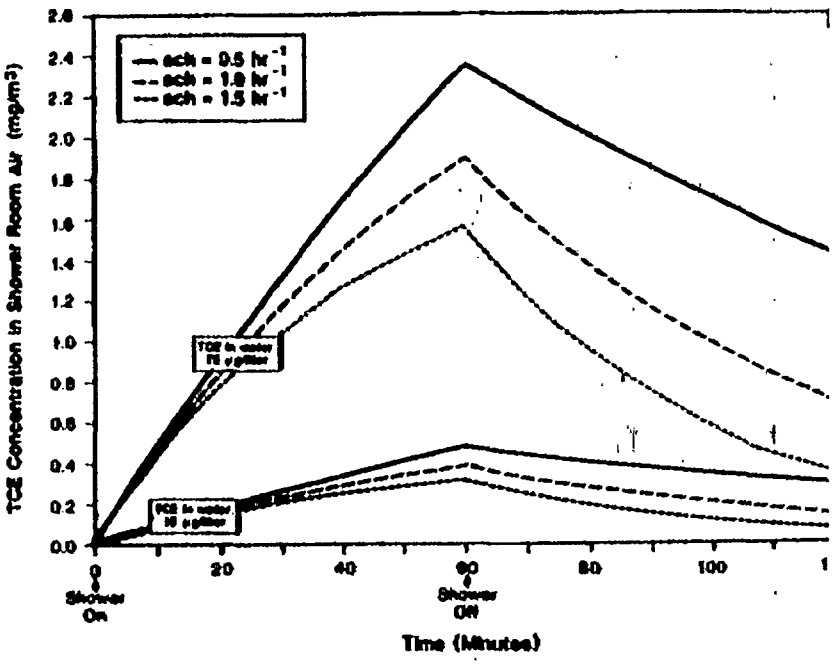
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Table II. Input Parameters for Sensitivity Analysis of Shower Room Air Concentrations

Input Parameter	Value	
	Figure II	Figure III
Chemical	TCE	TCE
Molecular weight	131 g/mol	131 g/mol
Henry's Law Constant	1.0×10^{-2} atm-m^3/mol-K	1.0×10^{-2} atm-m^3/mol-K
Shower water concentration	15, 75 µg/l	75 µg/l
Shower water temperature	45°C	35°, 40°, 45°, 50°C
Water viscosity	0.596 cp	0.7194, 0.6529, 0.5996, 0.5468 cp
Shower water flow rate	10 l/min	10 l/min
Droplet diameter	1 mm	1 mm
Droplet drop time	2 sec	2 sec
Air exchange rate	0.5, 1.0, 1.5 hr^{-1}	1.0 hr^{-1}
Shower room air volume	6 m^3	6 m^3
Shower duration	60 min	60 min
Duration in room after shower turned off	60 min	60 min

Figure II

Effect Of Different Air Exchange Rates And TCE Water Concentrations On TCE Air Concentrations In The Shower



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Figure III
Effect Of Different Water Temperatures On Trichloroethylene Air Concentrations In The Shower

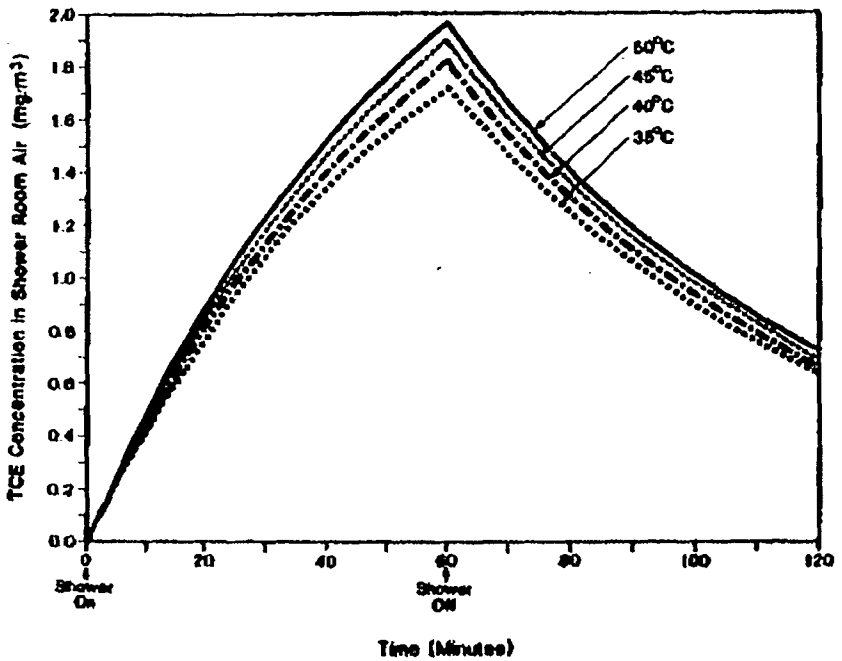


Table III. Input Parameters for Comparative Risk Assessment of Exposure to Five Volatile Organic Chemicals in Shower Room Air

Input Parameter	Value
Chemical (Henry's Law Constant, molecular weight)	Benzene (78 g/mol, 5.5×10^{-3} atm-m^3/mol-K) Chloroform (119 g/mol, 2.87×10^{-3} atm-m^3/mol-K) Tetrachloroethylene (166 g/mol, 2.6×10^{-2} atm-m^3/mol-K) Trichloroethylene (131 g/mol, 1.0×10^{-2} atm-m^3/mol-K) Vinyl chloride (63 g/mol, 8.2×10^{-2} atm-m^3/mol-K)
Shower water concentration	75 µg/l (upper bound scenario) 15 µg/l (lower bound scenario)
Shower water temperature	45°C (318 K)
Water viscosity	0.596 cp
Shower water flow rate	10 l/min
Droplet diameter	1 mm
Droplet drop time	2 sec
Air exchange rate	0.5 hr^{-1} (upper bound scenario) 1.5 hr^{-1} (lower bound scenario)
Shower room air volume	6 m^3
Shower duration	15 min (upper bound scenario) 10 min (lower bound scenario)
Duration in room after shower is turned off	5 min
Ventilation rate	15 l/min
Inhalation absorption factor	1.0
Body weight	70 kg
Cancer potency factor for inhalation [EPA weight of evidence classification for carcinogenic effects][a]	Benzene-2.6×10^{-2} (mg/kg/day)$^{-1}$ [A] Chloroform-8.1×10^{-2} (mg/kg/day)$^{-1}$ [B2] Tetrachloroethylene-1.7×10^{-3} (mg/kg/day)$^{-1}$ [B2] Trichloroethylene-4.6×10^{-3} (mg/kg/day)$^{-1}$ [B2] Vinyl chloride-2.5×10^{-2} (mg/kg/day)$^{-1}$ [A]

[a][A] = human carcinogen based on adequate evidence from human studies; [B2] = probable human carcinogen based on inadequate evidence from human studies and adequate evidence from animal studies.

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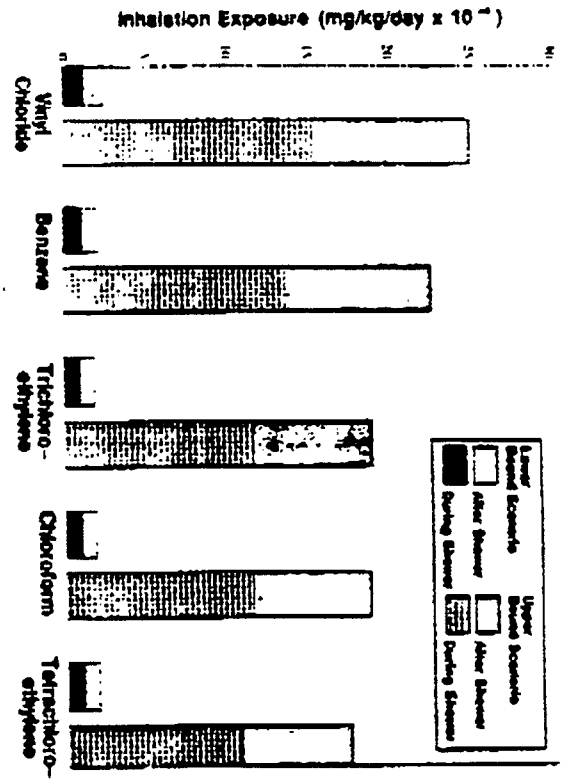


Figure IV
Comparison of Inhalation Exposures to Five Volatile Organic Compounds in the Shower

Table IV. Comparative Risk Assessment for Inhalation of Five Volatile Organic Compounds in Shower Room Air

Chemical	Exposure (mg/kg/day)[a]		Cancer Potency Factor for Inhalation (mg/kg/day)$^{-1}$	Excess Lifetime Cancer Risk	
	Lower Bound Scenario[b]	Upper Bound Scenario[c]		Lower Bound Scenario[b]	Upper Bound Scenario[c]
Benzene	2.24×10^{-4}	2.26×10^{-3}	2.6×10^{-2} [A][d]	6×10^{-6}	6×10^{-5}
Chloroform	1.86×10^{-4}	1.88×10^{-3}	8.1×10^{-2} [B2][d]	2×10^{-5}	2×10^{-4}
Tetrachloroethylene	1.73×10^{-4}	1.75×10^{-3}	1.7×10^{-3} [B2][d]	3×10^{-7}	3×10^{-6}
Trichloroethylene	1.87×10^{-4}	1.89×10^{-3}	4.6×10^{-3} [B2][d]	9×10^{-7}	9×10^{-6}
Vinyl chloride	2.48×10^{-4}	2.50×10^{-3}	2.5×10^{-2} [A][d]	6×10^{-6}	6×10^{-5}

[a]Assumes one shower per day over a 70-year lifetime.

[b]Lower-case scenario: Water concentration = 15 µg/l, ach = 1.5 hr^{-1}, 10-minute shower, and 5 minutes in shower room after shower off. See Table III for all input parameter values.

[c]Upper-case scenario: Water concentration = 75 µg/l, ach = 0.5 hr^{-1}, 15-minute shower, and 5 minutes in shower room after shower off. See Table III for all input parameter values.

[d]EPA weight of evidence classification for carcinogenic effects (see Table III).

Table V. Comparison of Excess Lifetime Cancer Risks Associated With Inhalation of VOCs in Shower Room Air and Ingestion of VOCs in Tap Water

Chemical	Range of Excess Lifetime Cancer Risks[a]	
	Inhalation[b]	Ingestion[c]
Benzene	6×10^{-6} - 6×10^{-5}	2×10^{-5} - 1×10^{-4}
Chloroform	2×10^{-5} - 2×10^{-4}	3×10^{-5} - 2×10^{-4}
Tetrachloroethylene	3×10^{-7} - 3×10^{-6}	2×10^{-5} - 1×10^{-4}
Trichloroethylene	9×10^{-7} - 9×10^{-6}	5×10^{-6} - 2×10^{-5}
Vinyl Chloride	6×10^{-6} - 6×10^{-5}	1×10^{-3} - 5×10^{-3}

[a]Lower value in range assumes water concentration = 15 µg/l; upper value in range assumes water concentration = 75 µg/l.

[b]Assumes one 10- or 15-minute shower per day for a 70-year lifetime. Detailed exposure conditions are shown in Table III.

[c]Assumes ingestion of 2 liters of water per day over a 70-year lifetime.

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Monte Carlo Simulation of Future Use of Shallow Aquifer Scenario

AR301249

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region III
841 Chestnut Street
Philadelphia, Pennsylvania 19107

June 26, 1992

SUBJECT: Monte Carlo risk assessment: a Regional science policy issue

FROM: Roy L. Smith, Ph.D., Senior Toxicologist
Technical Support Section (3HW15)

TO: Eric W. Johnson, Chief
Technical Support Section (3HW15)

On February 26, 1992, EPA Deputy Administrator F. Henry Habicht distributed to all EPA offices a memorandum containing new guidance on risk characterization. This guidance was intended to (1) provide a full characterization of risk, (2) improve comparability and consistency among EPA Offices and Regions, (3) expand the characterization of uncertainties in risk assessment, and (4) clearly separate risk assessment information from risk management decision options.

In large part, the guidance seeks these goals by recommending the use of multiple risk descriptors in addition to the reasonable maximum exposure (RME) descriptor currently used by Superfund. Inclusion of these additional risk descriptors (*e.g.,* best estimate, average estimate, worst case estimate, *etc.*) provides the risk manager with a more complete sense of the likelihood of various risk levels, and also several sets of risk-based cleanup goals from which to select.

The guidance memo suggests two methods by which these additional risk descriptors may be developed. The first method involves simply calculating risks several times using different input parameters (*e.g.,* contaminant concentration, length of residence, *etc.*). This process produces several different risk estimates, which are presented separately. The second method of calculating additional risk descriptors is mathematical modeling, with Monte Carlo simulation given as an example. Monte Carlo simulation is a process by which a computer calculates risk repeatedly, usually thousands of times, using randomly selected "what-if" scenarios for each calculation. Though internally complex, Monte Carlo calculations are performed as a single operation and the results are presented as a unit. The results approximate the full range of possible risks, and the likelihood of each.

Region III has performed a Monte Carlo risk assessment internally for the Cryochem site, and reviewed and accepted Monte Carlo calculations by PRPs for the Halby, and Rohm & Haas sites. We expect shortly to receive another for the Centre County Kepone site. In each case, these risk assessments also included reasonable maximum risk estimates derived according to EPA's *Risk Assessment Guidance for Superfund*, with the Monte Carlo results used primarily to express uncertainty.

These experiments with the Monte Carlo simulation technique have provided some useful lessons. First, the RAGs RME estimates are usually well above the 90th percentile of risk, and are thus appropriately protective. Second, running a Monte Carlo simulation with commercially available PC-compatible software is hardly more difficult or time-consuming than calculating a single RME estimate. Third, this commercial Monte Carlo software provides a graphic presentation of risk which is much more accessible than the usual thick package of tables.

The best way to illustrate the power of Monte Carlo simulation is to perform a simple risk calculation by the standard RME method and by Monte Carlo simulation, and compare the two results. This example uses data from the Cryochem site, where many home wells were contaminated by VOCs spilled at a nearby manufacturing facility. The wells were sampled numerous times, and the most contaminated well was chosen as the basis for the assessment. The major contaminant in the well water was 1,1-dichloroethylene (DCE), which was measured 19 times in that well. The standard RME calculation was done by the following equation:

$$Risk = \frac{C_w\left(\frac{mg}{L}\right)\cdot IR_{dw}\left(\frac{L}{day}\right)\cdot EF\left(\frac{days}{year}\right)\cdot ED\ (years)}{BW\ (kg)\cdot AT\ (years)\cdot 365\left(\frac{days}{year}\right)}\cdot Q_1^*\left(\frac{mg}{kg\cdot day}\right)^{-1} \qquad (1)$$

Where:

C_w	=	Contaminant concentration in drinking water (milligrams per liter)
IR	=	Drinking water ingestion rate (liters per day)
EF	=	Exposure frequency (days per year)
ED	=	Exposure duration (years)
BW	=	Body weight of an exposed individual (kilograms)
AT	=	Averaging time (years)
Q_1^*	=	Carcinogenic potency slope (risk per milligram per kilogram per day of dose)

Assuming 0.381 mg/L (the 95% upper confidence limit of the mean of 19 samples) and the standard default Superfund RME scenario, this yielded:

$$Risk = \frac{0.381\left(\frac{mg}{L}\right)\cdot 2\left(\frac{L}{day}\right)\cdot 350\left(\frac{days}{year}\right)\cdot 30\ (years)}{70\ (kg)\cdot 70\ (years)\cdot 365\left(\frac{days}{year}\right)}\cdot 0.6\left(\frac{mg}{kg\cdot day}\right)^{-1} \qquad (2)$$

$$Risk = 0.00447\left(\frac{mg}{kg \cdot day}\right)^{-} \cdot 0.6\left(\frac{mg}{kg \cdot day}\right)^{-1} \quad (3)$$

$$Risk = 0.00268 = 2.68 \times 10^{-3} \quad (4)$$

The Monte Carlo calculations also used equation (1), but each input parameter was entered as a range of possible values, and the likelihood of each occurring, rather than as a single estimate. Risk was calculated 1000 times for this example, with each calculation based on a different randomly-selected scenario. Figures 1 through 5 show the probability distributions of the input parameters. Using Figure 1 (the probability estimate of the long-term mean concentration of DCE in residential tap water) as an example, the graph is interpreted as follows: the true average DCE concentration was most likely to be between 0.2 and 0.21 mg/L, there was a 95% probability that the true average was less than 0.381 mg/L, and there was virtually no chance of the true mean being greater than 0.64 mg/L. Figures 2 through 5 show similar probability distributions of tap water ingestion rate, residence time, body weight, and years of life. These data were obtained from readily available technical articles.

Figure 6 shows the output of the Monte Carlo simulation: a probability distribution of lifetime excess upper bound cancer risk from ingesting DCE in tap water. The most likely risk estimate was *ca.* 5×10^{-5}, the median (50th percentile) risk was 1.8×10^{-4}, the risk to an average person was *ca.* 4×10^{-4}, and the 95th and 99th percentiles of risk were 1.3 and 3.1×10^{-3}, respectively. The RAGS estimate fell between the 95th and 99th percentiles for this calculation. The Monte Carlo risk distribution can provide information as detailed as the risk manager wishes: a percentile can be calculated for any risk level, and a risk level can be calculated for any percentile.

The Monte Carlo simulation process has several advantages which make it useful for human health risk assessments.

(1) Monte Carlo simulation satisfies two of the major recommendations of the Habicht guidance memo. Monte Carlo simulation provides a multitude of risk descriptors, and does so in single, easily-understandable graphs rather than tables. These graphs also provide a clear separation between risk assessment and risk management. The risk manager is free to choose whatever level of residual health risk is appropriate for the site, rather than being restricted to meeting or not meeting a cleanup level determined by a single risk estimate.

(2) Inexpensive PC Monte Carlo software can be added to Region III's existing Lotus 123 risk calculation spreadsheets. The Region III Technical Support Section staff is already familiar with the concept of Monte Carlo simulation, and can be trained to use the software in a few hours.

(3) Input distributions have been documented and published for many of the most important risk assessment variables, such as drinking water ingestion, body weight, lifetime, residence time, soil ingestion, *etc.* These need only to be collected and verified.

Monte Carlo simulation also has several significant disadvantages which thus far have prevented its general acceptance as a risk assessment tool:

(1) The technique is not generally familiar to non-scientists, and would require additional explanation.

(2) Monte Carlo simulation works well with measurable variability ("quantifiable uncertainty"), such as variability in body weight. It is less appropriate where uncertainties are difficult to measure, for example hours per year spent trespassing on a site. Calculations based on such "unquantifiable uncertainties" will still have to be done by the traditional RME method.

(3) Training needs with Region III's present staff may be minimal, but risk assessors in other offices, and future Region III risk assessors, may need much more training to understand the Monte Carlo concepts and software.

(4) Adding Monte Carlo simulation to the Superfund risk assessment process would make RI/FS documents still more complex. However, adding any type of multiple risk descriptors, as recommended by the Habicht memo, will have much the same effect.

It is recommended that Region III begin a pilot program to perform Monte Carlo risk assessments at a handful of sites, to test the value and validity of this concept as a Superfund risk assessment tool. These risk assessments would be conducted either by, or under the close supervision of, the site toxicologist. Both Monte Carlo and RME estimates would be presented to the risk manager. When several such assessments have been completed, the Region III toxicologists should present the results to Regional management, the RPMs, and, eventually, other EPA Office and Regions.

Attachments

Figure 1. Probability distribution of the long-term average concentration of 1,1-dichloroethene in tap water at a single residence. The distribution (lognormal, with a mean of 0.237 mg/L and a geometric standard deviation of 0.083 mg/L) is based on 20 discrete samples collected over a 3-year period.

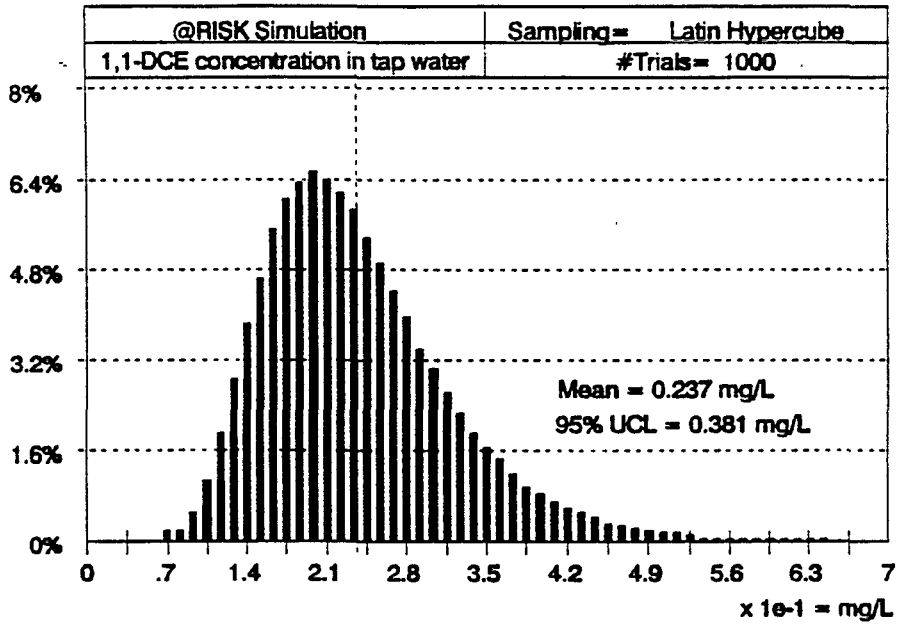


Figure 2. Probability distribution of daily tap water ingestion from a balanced human population. The distribution was reported by Roseberry and Burmaster (1992), who based it on a 1977 U.S. Department of Agriculture survey of 26,081 persons of all ages. The distribution is lognormal, with a mean of 0.957 L/d and a geometric standard deviation of 0.0017 L/d.

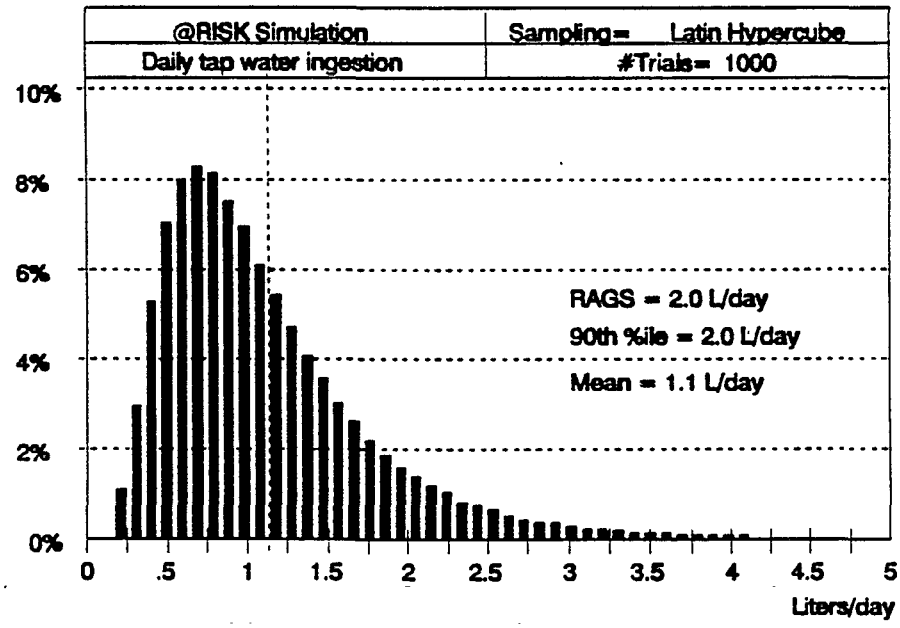


Figure 3. Probability distribution of residence time of homeowners, assumed to be equal to duration of exposure. The distribution is based on an analysis of residence time for U.S. households reported by Israeli and Nelson (1992), based on surveys of 179,000 households conducted by the U.S. Department of Commerce during 1985 and 1987. The distribution is lognormal, with a mean of 11.36 years and a standard deviation of 13.72 years.

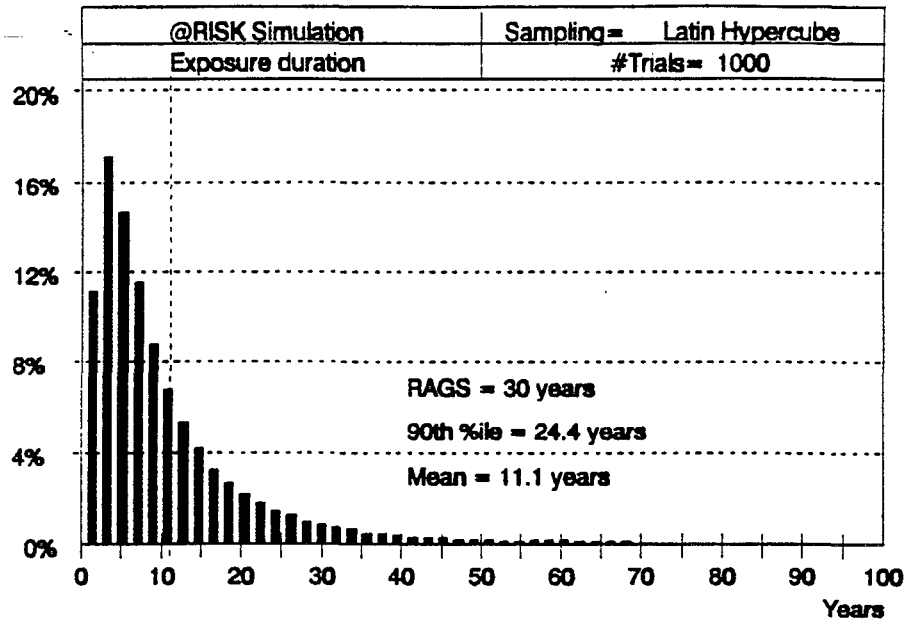


Figure 4. Probability distribution for body weight of adults. The distribution is based on random selection between discrete male and female probability distributions obtained from Brainerd and Burmaster (in press). The distributions are based on data from 67,552 men and 74,167 women aged 18 to 74 years, reported by the U.S. Public Health Service in 1987.

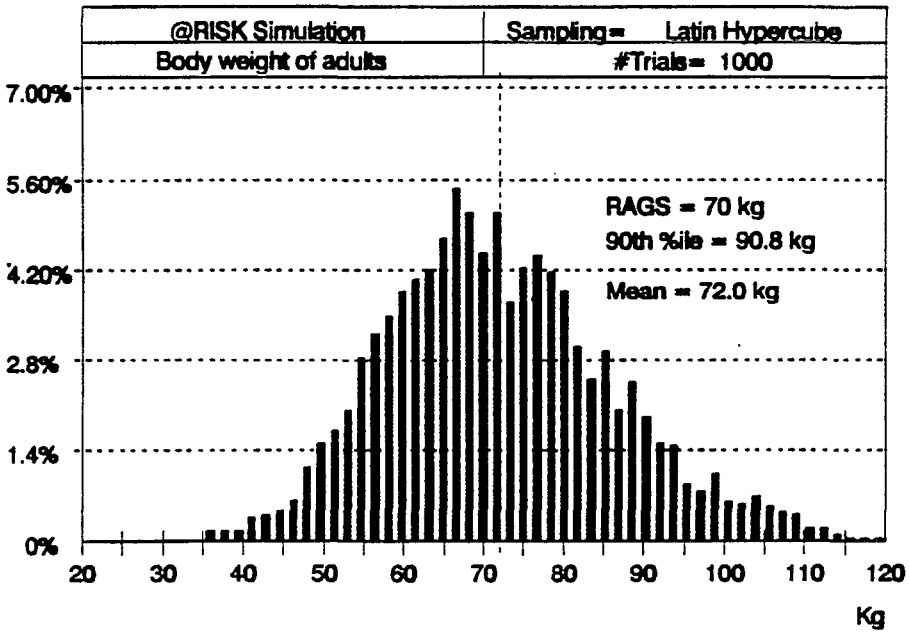


Figure 5. Probability distribution for length of lifetime. The distribution is based on a summary of 1986 U.S. Census Bureau data on life expectancy at birth, presented by EPA (1989). The distribution is normal, with a mean of 75 years and standard deviation of 13 years.

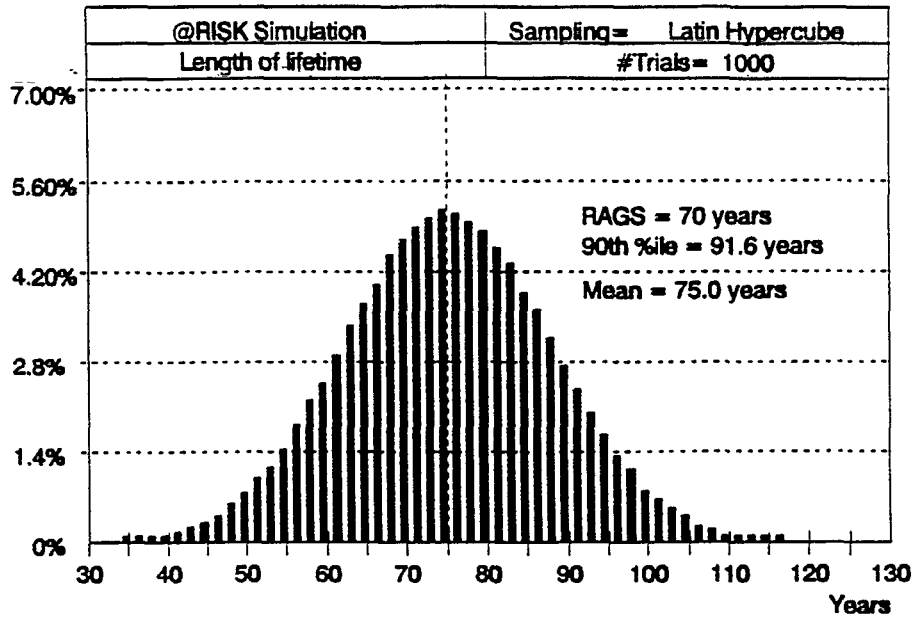
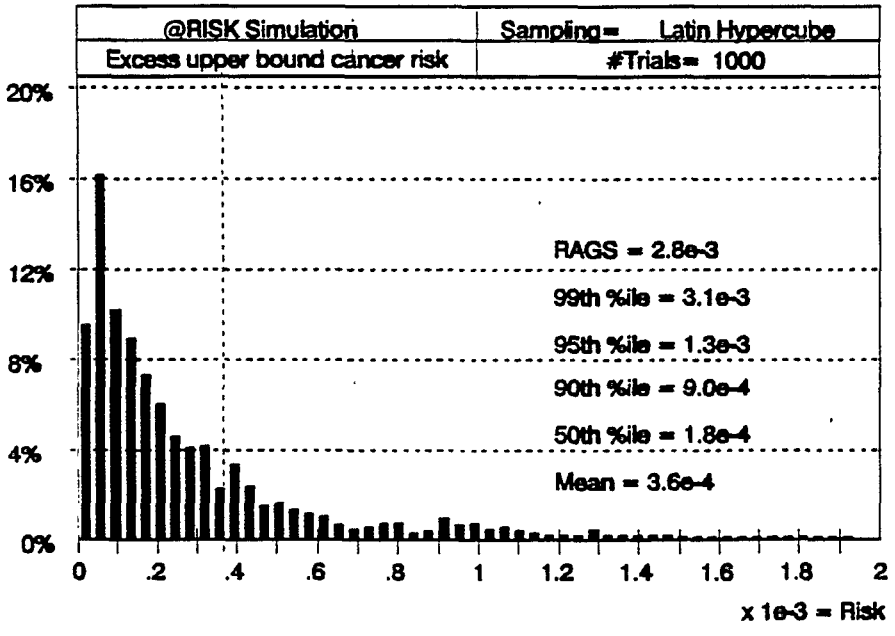


Figure 6. Probability distribution of upper bound lifetime cancer risk from ingesting tap water contaminated by 1,1-dichloroethene at a single residence. The distribution is the accumulated outputs of 1000 risk calculations, each of which was based on random selection of input variables from Figures 1-5.



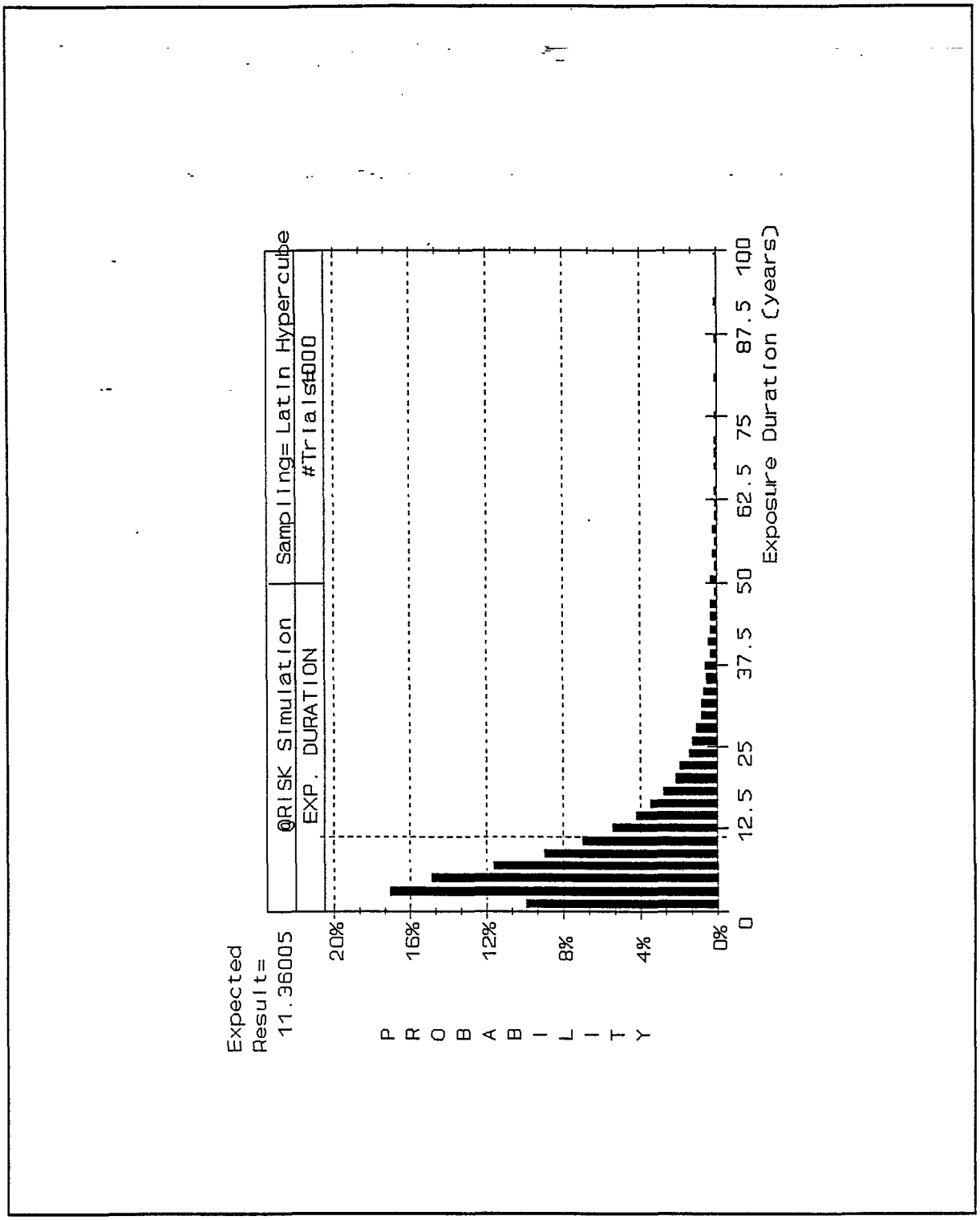
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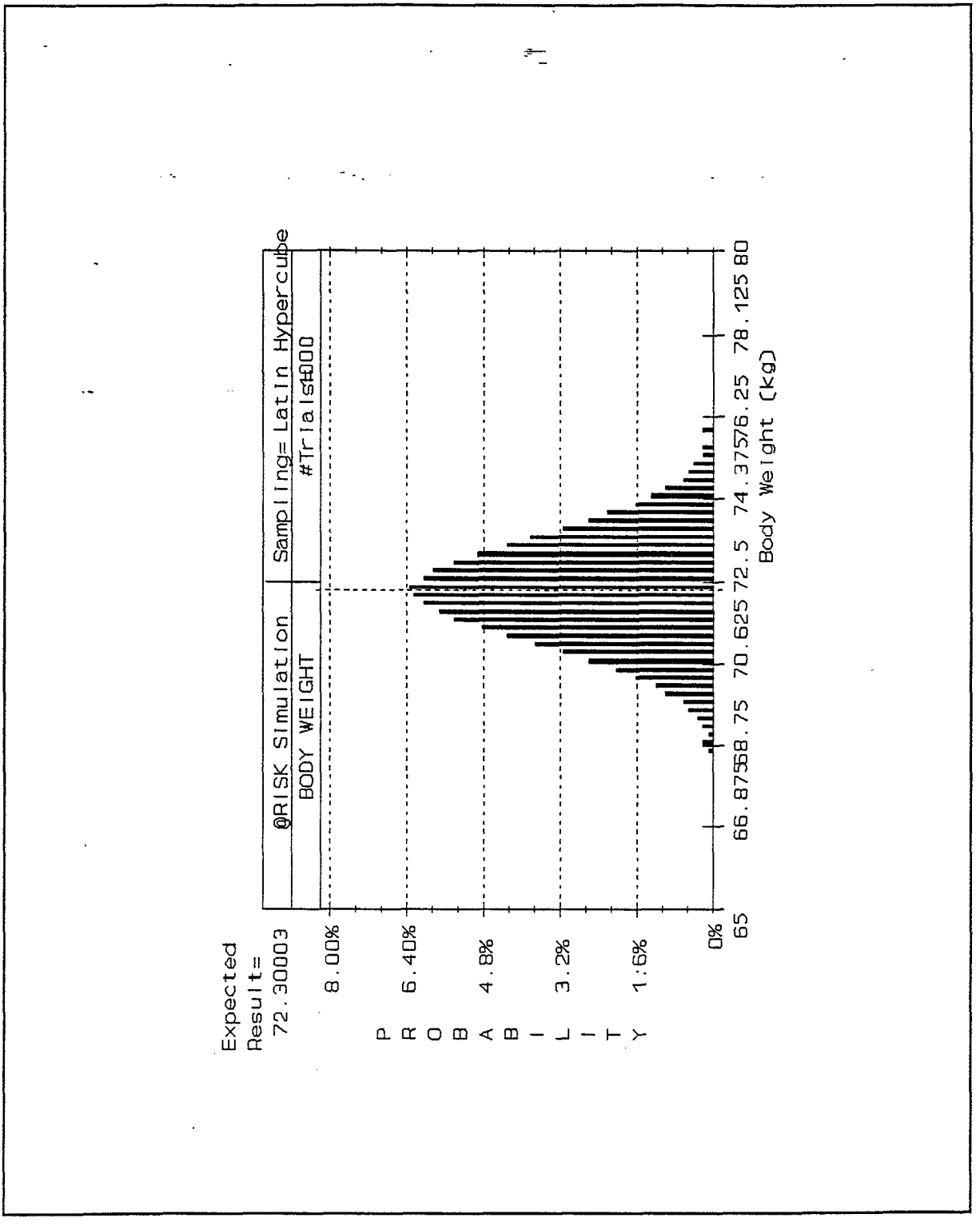
Brainerd, J. and D.E. Burmaster. In press. Estimated bivariate distributions of height and weight of men and women in the United States. Submitted to Risk Analysis, May 1991.

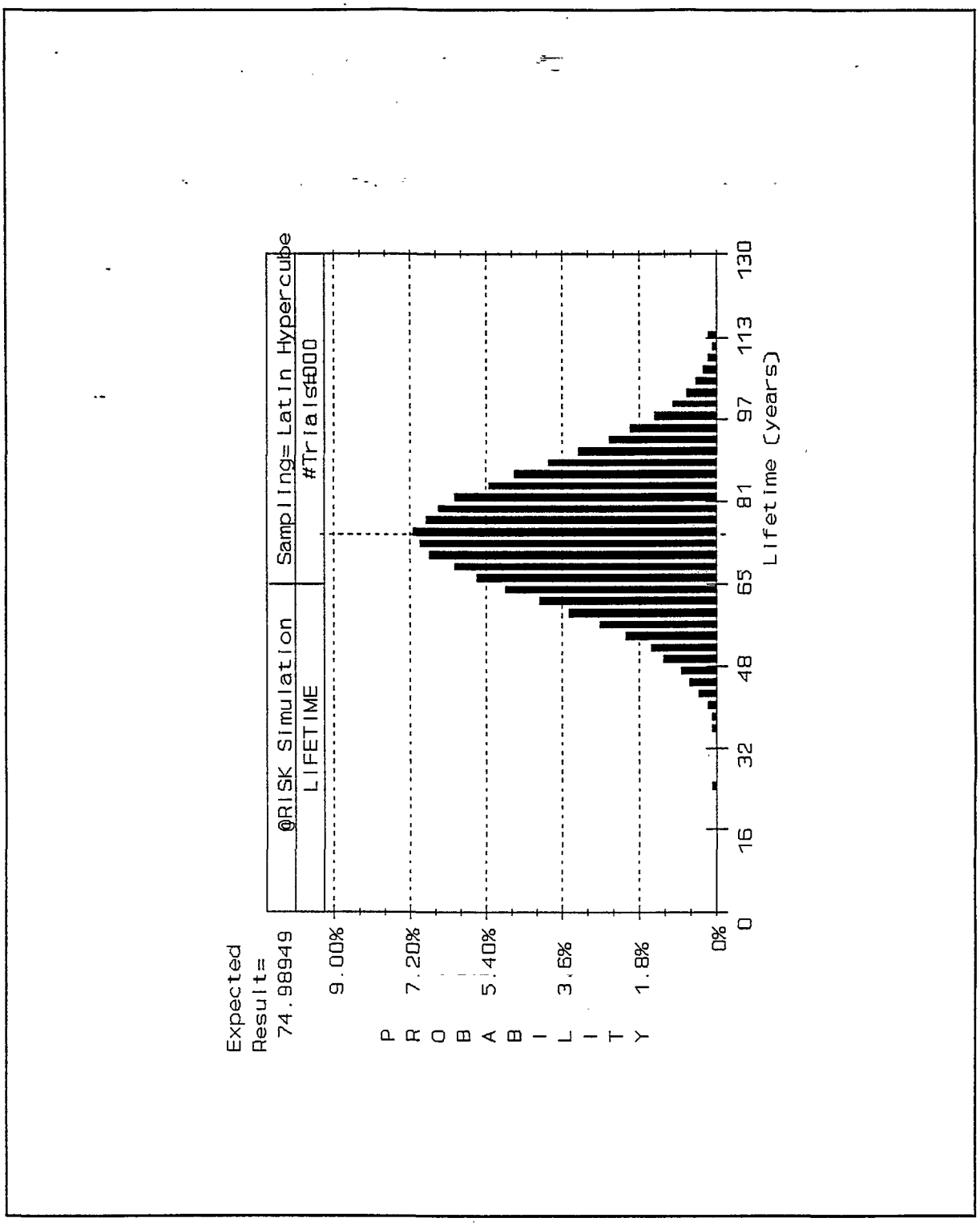
Israeli, M. and C.B. Nelson. 1992. Distribution and expected time of residence for U.S. households. Risk Analysis 12: 65-72.

Roseberry, A. and D.E. Burmaster. 1992. Lognormal distributions for water intake for children and adults. Risk Analysis 12: 99-104.

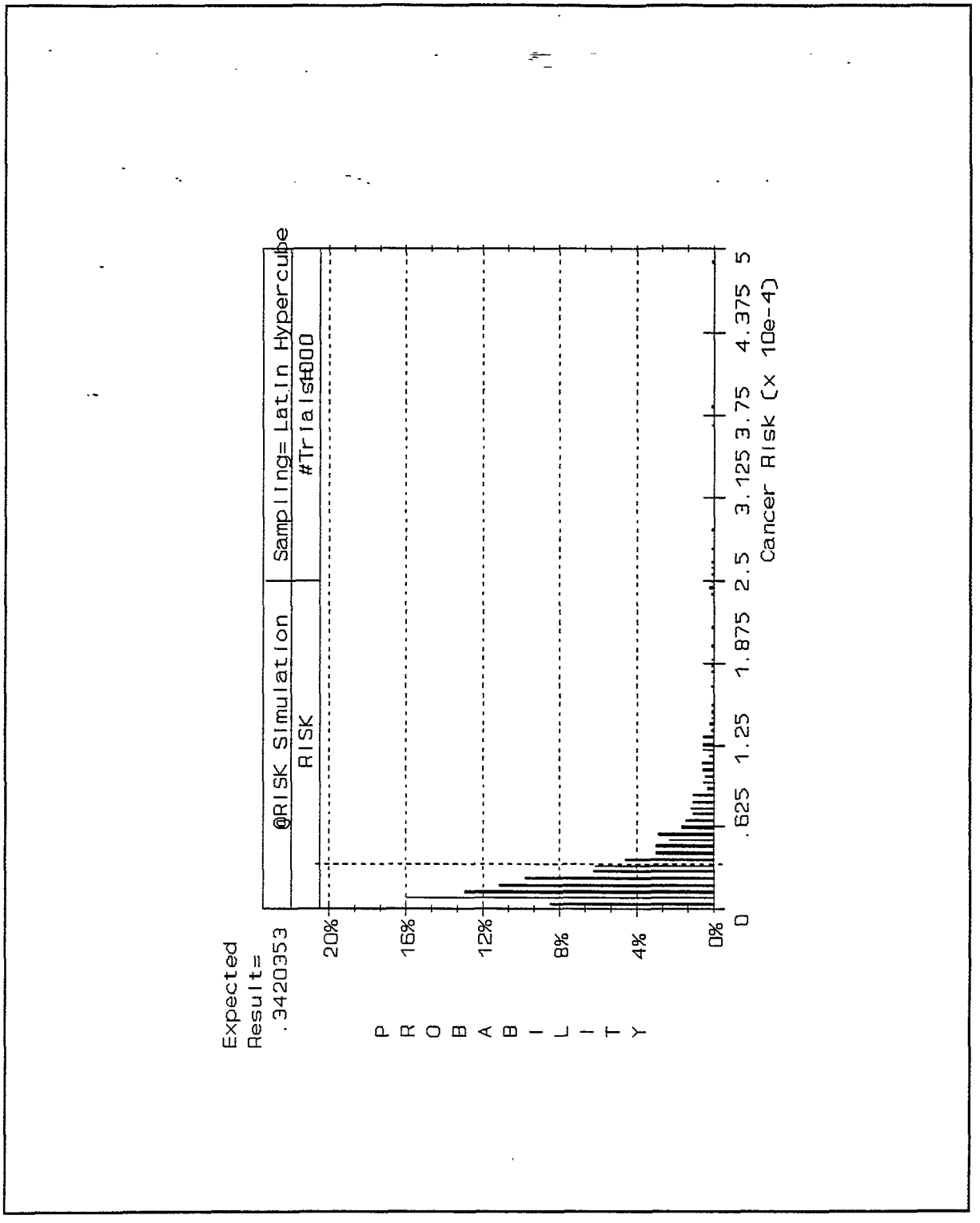
U.S. Environmental Protection Agency. 1989. Exposure factors handbook; final report. Office of Health and Environmental Assessment. EPA/600/8-89/043.

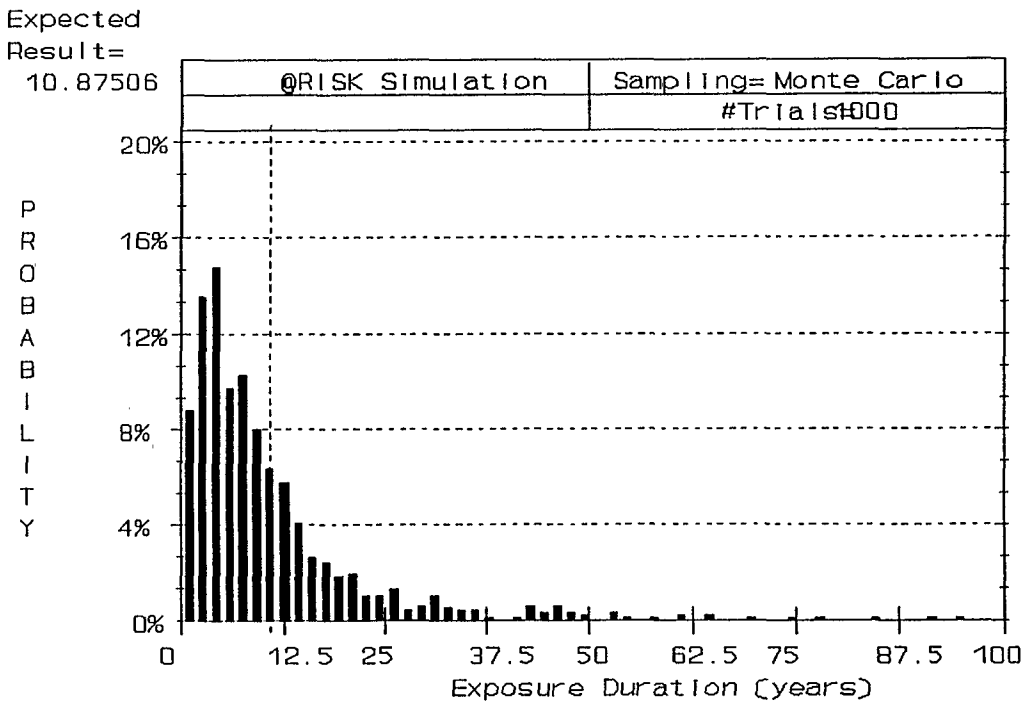

@RISK Simulation
EXP. DURATION
Sampling= Latin Hypercube
#Trials=4000
Expected Result= 11.36005
PROBABILITY
20%
16%
12%
8%
4%
0%
0
12.5
25
37.5
50
62.5
75
87.5
100
Exposure Duration (years)


@RISK Simulation
BODY WEIGHT
Sampling= Latin Hypercube
#Trials=4000
Expected
Result=
72.30003
PROBABILITY
8.00%
6.40%
4.8%
3.2%
1.6%
0%
65
66.875
68.75
70.625
72.5
74.375
76.25
78.125
80
Body Weight (kg)

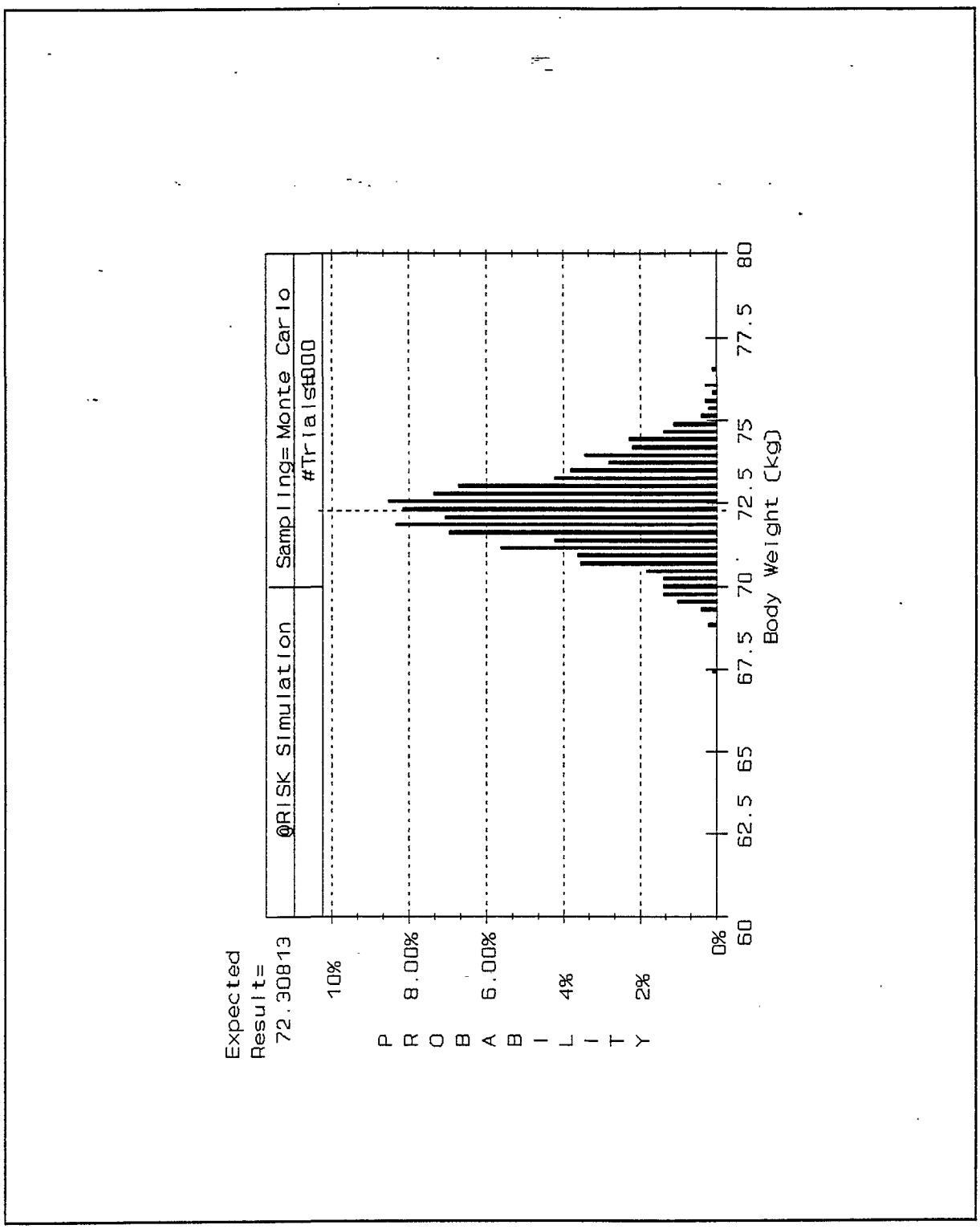

@RISK Simulation
LIFETIME
Sampling= Latin Hypercube
#Trials=1000
Expected
Result=
74.98949
9.00%
7.20%
5.40%
3.6%
1.8%
0%
PROBABILITY
0
16
32
48
65
81
97
113
130
Lifetime (years)

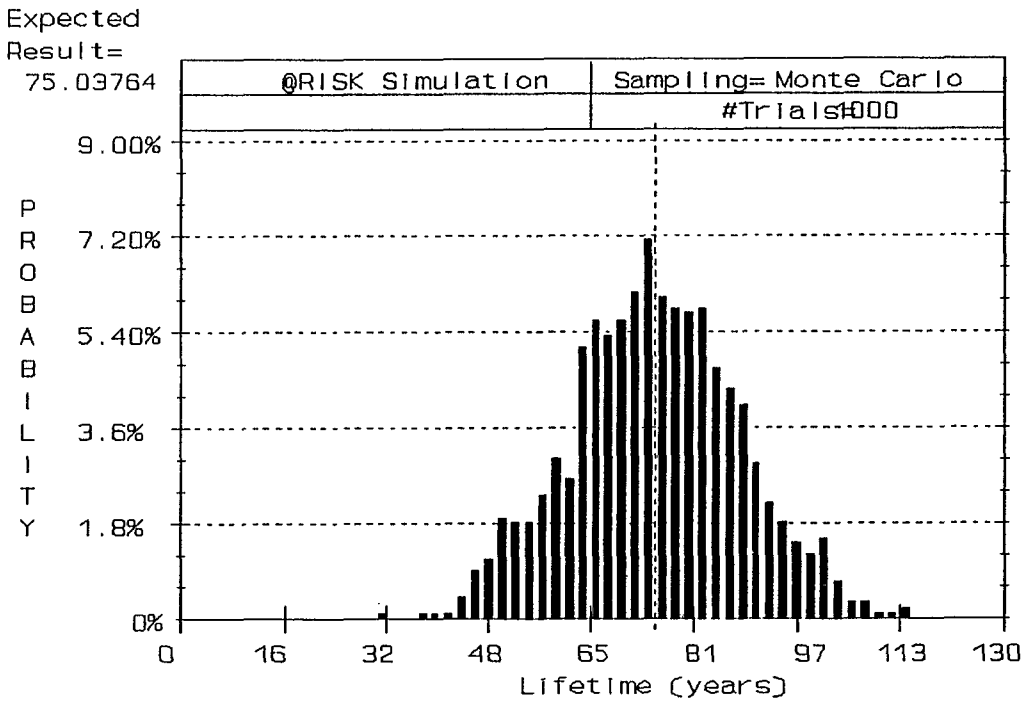
AR301260


@RISK Simulation
RISK
Sampling= Latin Hypercube
#Trials=4000
Expected Result= .3420353
PROBABILITY
20%
16%
12%
8%
4%
0%
0
.625
1.25
1.875
2.5
3.125
3.75
4.375
5
Cancer Risk (X 10e-4)

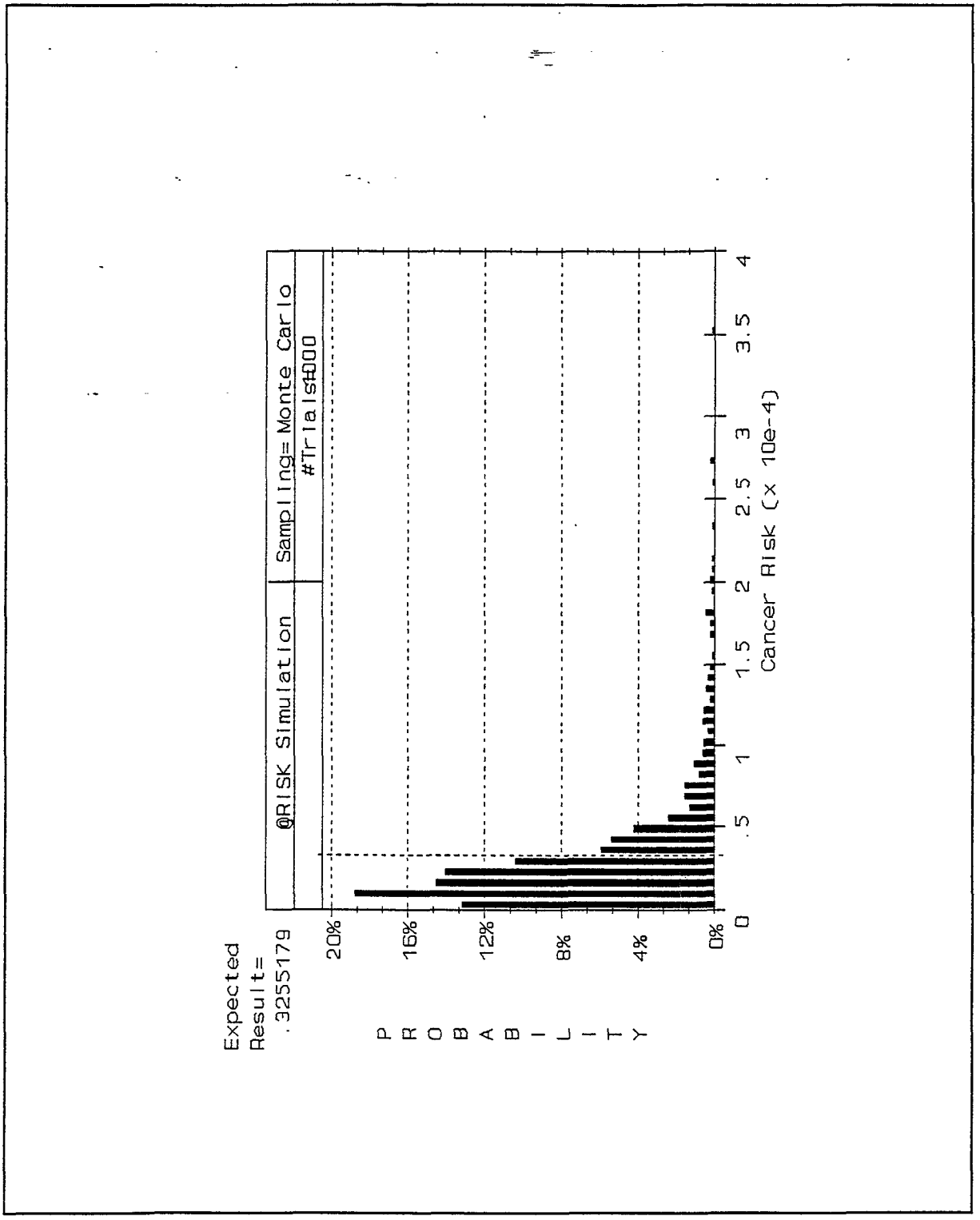

Expected
Result=
10.87506
@RISK Simulation
Sampling= Monte Carlo
#Trials=1000
PROBABILITY
20%
16%
12%
8%
4%
0%
0
12.5
25
37.5
50
62.5
75
87.5
100
Exposure Duration (years)

AR301262


@RISK Simulation
Sampling= Monte Carlo
#Trials=1000
Expected
Result=
72.30813
10%
8.00%
6.00%
4%
2%
0%
PROBABILITY
60
62.5
65
67.5
70
72.5
75
77.5
80
Body Weight (kg)


Expected
Result=
75.03764
@RISK Simulation
Sampling= Monte Carlo
#Trials=1000
9.00%
7.20%
5.40%
3.6%
1.8%
0%
PROBABILITY
0
16
32
48
65
81
97
113
130
Lifetime (years)

AR301264


@RISK Simulation
Sampling= Monte Carlo
#Trials=4000
Expected Result= .3255179
PROBABILITY
20%
16%
12%
8%
4%
0%
0
.5
1
1.5
2
2.5
3
3.5
4
Cancer Risk (x 10e-4)

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