

Matrix: Water	Client: ARCADIS	Collector: Client
Sampled: 10/15/2012 15:52	Site:	Notes:
Sample #: 312159-005	Client Sample #: A-1-CW07	

Analyte	Result	DF	MDL	RDL	Units	Analyzed	By	Notes
cis-1,4-dichloro-2-butene	ND	1	0.075	5	ug/L	10/16/12	Liaoyuanz	
Dibromomethane	ND	1	0.06	0.5	ug/L	10/16/12	Liaoyuanz	
Dichlorodifluoromethane	ND	1	0.062	0.5	ug/L	10/16/12	Liaoyuanz	
Di-isopropyl ether (DIPE)	ND	1	0.17	0.5	ug/L	10/16/12	Liaoyuanz	
Ethylbenzene	ND	1	0.091	0.5	ug/L	10/16/12	Liaoyuanz	
Ethyl-tertbutylether (ETBE)	ND	1	0.25	0.5	ug/L	10/16/12	Liaoyuanz	
Hexachlorobutadiene	ND	1	0.073	1	ug/L	10/16/12	Liaoyuanz	
Isopropylbenzene	ND	1	0.089	0.5	ug/L	10/16/12	Liaoyuanz	
m and p-Xylene	ND	1	0.17	0.5	ug/L	10/16/12	Liaoyuanz	
Methylene chloride	ND	1	0.15	0.5	ug/L	10/16/12	Liaoyuanz	
Methyl-t-butyl Ether (MTBE)	ND	1	0.068	0.5	ug/L	10/16/12	Liaoyuanz	
Naphthalene	ND	1	0.061	0.5	ug/L	10/16/12	Liaoyuanz	
N-butylbenzene	ND	1	0.094	0.5	ug/L	10/16/12	Liaoyuanz	
N-propylbenzene	ND	1	0.09	0.5	ug/L	10/16/12	Liaoyuanz	
o-Xylene	ND	1	0.075	0.5	ug/L	10/16/12	Liaoyuanz	
Sec-butylbenzene	ND	1	0.077	0.5	ug/L	10/16/12	Liaoyuanz	
Styrene	ND	1	0.088	0.5	ug/L	10/16/12	Liaoyuanz	
t-Butyl alcohol (TBA)	ND	1	5	5	ug/L	10/16/12	Liaoyuanz	
Tert-amylmethylether (TAME)	ND	1	0.13	0.5	ug/L	10/16/12	Liaoyuanz	
Tert-butylbenzene	ND	1	0.092	0.5	ug/L	10/16/12	Liaoyuanz	
Tetrachloroethene	210	10	1.5	5	ug/L	10/16/12	Liaoyuanz	
Toluene	ND	1	0.078	0.5	ug/L	10/16/12	Liaoyuanz	
trans-1,2-dichloroethene	ND	1	0.17	0.5	ug/L	10/16/12	Liaoyuanz	
trans-1,3-dichloropropene	ND	1	0.056	0.5	ug/L	10/16/12	Liaoyuanz	
trans-1,4-dichloro-2-butene	ND	1	0.075	5	ug/L	10/16/12	Liaoyuanz	
Trichloroethene	340	10	0.78	5	ug/L	10/16/12	Liaoyuanz	
Trichlorofluoromethane	ND	1	0.06	0.5	ug/L	10/16/12	Liaoyuanz	
Vinyl Chloride	ND	1	0.08	0.5	ug/L	10/16/12	Liaoyuanz	
Xylenes (Total)	ND	1	0.25	0.5	ug/L	10/16/12	Liaoyuanz	

Analyte	% Recovery	Limits	Notes
1,2-Dichloroethane-d4 (SUR)	91	70-145	
4-Bromofluorobenzene (SUR)	100	70-145	
Dibromodifluoromethane (SUR)	94	70-145	
Toluene-d8 (SUR)	102	70-145	

ND = Not Detected or < MDL MDL = Method Detection Limit RDL = Reporting Detection Limit DF = Dilution Factor

ASSOCIATED LABORATORIES

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ALAB : 00012

CONFIDENTIAL

LMC-PET-00002354

Matrix: Water	Client: ARCADIS	Collector: Client
Sampled: 10/15/2012 16:40	Site:	Notes:
Sample #: 312159-006	Client Sample #: EB101512 Equip Blank	

Analyte	Result	DF	MDL	RDL	Units	Analyzed	By	Notes
Method: EPA 218.6	Prep Method: EPA 218.6							QCBatchID: QC1130646
Hexavalent Chromium	ND	1	0.1	1	ug/L	10/18/12	rybechay	
Method: EPA 300.0	Prep Method: Method							QCBatchID: QC1130694
Nitrate, as Nitrogen	0.10	1	0.06	0.1	mg/L	10/16/12	wei	
Nitrite, as Nitrogen	ND	1	0.018	0.1	mg/L	10/16/12	wei	
Method: EPA 6010 NELAC	Prep Method: EPA 3010A/Filtered							QCBatchID: QC1130580
Chromium	ND	1	0.002	0.01	mg/L	10/17/12	nina	
Thallium	ND	1	0.003	0.005	mg/L	10/17/12	nina	
Method: EPA 8260 NELAC	Prep Method: EPA 5030B							QCBatchID: QC1130649
1,1,1,2-Tetrachloroethane	ND	1	0.122	0.5	ug/L	10/16/12	Liaoyuanz	
1,1,1-Trichloroethane	ND	1	0.063	0.5	ug/L	10/16/12	Liaoyuanz	
1,1,2,2-Tetrachloroethane	ND	1	0.063	0.5	ug/L	10/16/12	Liaoyuanz	
1,1,2-Trichloroethane	ND	1	0.045	0.5	ug/L	10/16/12	Liaoyuanz	
1,1,2-Trichlorotrifluoroethane	ND	1	0.119	0.5	ug/L	10/16/12	Liaoyuanz	
1,1-Dichloroethane	ND	1	0.078	0.5	ug/L	10/16/12	Liaoyuanz	
1,1-Dichloroethene	ND	1	0.13	0.5	ug/L	10/16/12	Liaoyuanz	
1,1-Dichloropropene	ND	1	0.06	0.5	ug/L	10/16/12	Liaoyuanz	
1,2,3-Trichlorobenzene	ND	1	0.06	0.5	ug/L	10/16/12	Liaoyuanz	
1,2,3-Trichloropropane	ND	1	0.073	0.5	ug/L	10/16/12	Liaoyuanz	
1,2,4-Trichlorobenzene	ND	1	0.068	0.5	ug/L	10/16/12	Liaoyuanz	
1,2,4-Trimethylbenzene	ND	1	0.078	0.5	ug/L	10/16/12	Liaoyuanz	
1,2-Dibromo-3-chloropropane	ND	1	0.08	0.5	ug/L	10/16/12	Liaoyuanz	
1,2-Dibromoethane	ND	1	0.043	0.5	ug/L	10/16/12	Liaoyuanz	
1,2-Dichlorobenzene	ND	1	0.051	0.5	ug/L	10/16/12	Liaoyuanz	
1,2-Dichloroethane	ND	1	0.066	0.5	ug/L	10/16/12	Liaoyuanz	
1,2-Dichloropropane	ND	1	0.06	0.5	ug/L	10/16/12	Liaoyuanz	
1,3,5-Trimethylbenzene	ND	1	0.097	0.5	ug/L	10/16/12	Liaoyuanz	
1,3-Dichlorobenzene	ND	1	0.052	0.5	ug/L	10/16/12	Liaoyuanz	
1,3-Dichloropropane	ND	1	0.68	0.5	ug/L	10/16/12	Liaoyuanz	
1,4-Dichlorobenzene	ND	1	0.12	0.5	ug/L	10/16/12	Liaoyuanz	
2,2-Dichloropropane	ND	1	0.11	0.5	ug/L	10/16/12	Liaoyuanz	
2-Butanone (MEK)	ND <i>US</i>	1	0.3	5	ug/L	10/16/12	Liaoyuanz	
2-Chloroethyl Vinyl Ether	ND	1	0.23	0.5	ug/L	10/16/12	Liaoyuanz	
2-Chlorotoluene	ND	1	0.079	0.5	ug/L	10/16/12	Liaoyuanz	
4-Chlorotoluene	ND	1	0.08	0.5	ug/L	10/16/12	Liaoyuanz	
4-Isopropyltoluene	ND	1	0.091	0.5	ug/L	10/16/12	Liaoyuanz	
4-Methyl-2-pentanone (MIBK)	ND	1	0.16	5	ug/L	10/16/12	Liaoyuanz	
Acetone	ND <i>US</i>	1	0.2	10	ug/L	10/16/12	Liaoyuanz	
Allyl Chloride	ND	1	0.08	0.5	ug/L	10/16/12	Liaoyuanz	
Benzene	ND	1	0.071	0.5	ug/L	10/16/12	Liaoyuanz	
Bromobenzene	ND	1	0.073	1	ug/L	10/16/12	Liaoyuanz	
Bromochloromethane	ND	1	0.06	0.5	ug/L	10/16/12	Liaoyuanz	
Bromodichloromethane	ND	1	0.06	0.5	ug/L	10/16/12	Liaoyuanz	
Bromoforn	ND	1	0.053	0.5	ug/L	10/16/12	Liaoyuanz	
Bromomethane	ND	1	0.13	1	ug/L	10/16/12	Liaoyuanz	
Carbon Tetrachloride	ND	1	0.045	0.5	ug/L	10/16/12	Liaoyuanz	
Chlorobenzene	ND	1	0.075	0.5	ug/L	10/16/12	Liaoyuanz	
Chlorodibromomethane	ND	1	0.045	0.5	ug/L	10/16/12	Liaoyuanz	
Chloroethane	ND	1	0.4	0.5	ug/L	10/16/12	Liaoyuanz	
Chloroform	ND	1	0.044	0.5	ug/L	10/16/12	Liaoyuanz	

ND = Not Detected or < MDL MDL = Method Detection Limit RDL = Reporting Detection Limit DF = Dilution Factor

ASSOCIATED LABORATORIES

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ALAB : 00013

Matrix: Water	Client: ARCADIS	Collector: Client
Sampled: 10/15/2012 16:40	Site:	Notes:
Sample #: 312159-006	Client Sample #: EB101512 Equip Blank	

Analyte	Result	DF	MDL	RDL	Units	Analyzed	By	Notes
Chloromethane	ND	1	0.055	0.5	ug/L	10/16/12	Liaoyuanz	
cis-1,2-Dichloroethene	ND	1	0.055	0.5	ug/L	10/16/12	Liaoyuanz	
cis-1,3-dichloropropene	ND	1	0.061	0.5	ug/L	10/16/12	Liaoyuanz	
cis-1,4-dichloro-2-butene	ND	1	0.075	5	ug/L	10/16/12	Liaoyuanz	
Dibromomethane	ND	1	0.06	0.5	ug/L	10/16/12	Liaoyuanz	
Dichlorodifluoromethane	ND	1	0.062	0.5	ug/L	10/16/12	Liaoyuanz	
Di-isopropyl ether (DIPE)	ND	1	0.17	0.5	ug/L	10/16/12	Liaoyuanz	
Ethylbenzene	ND	1	0.091	0.5	ug/L	10/16/12	Liaoyuanz	
Ethyl-tertbutylether (ETBE)	ND	1	0.25	0.5	ug/L	10/16/12	Liaoyuanz	
Hexachlorobutadiene	ND	1	0.073	1	ug/L	10/16/12	Liaoyuanz	
Isopropylbenzene	ND	1	0.089	0.5	ug/L	10/16/12	Liaoyuanz	
m and p-Xylene	ND	1	0.17	0.5	ug/L	10/16/12	Liaoyuanz	
Methylene chloride	ND	1	0.15	0.5	ug/L	10/16/12	Liaoyuanz	
Methyl-t-butyl Ether (MTBE)	ND	1	0.068	0.5	ug/L	10/16/12	Liaoyuanz	
Naphthalene	ND	1	0.061	0.5	ug/L	10/16/12	Liaoyuanz	
N-butylbenzene	ND	1	0.094	0.5	ug/L	10/16/12	Liaoyuanz	
N-propylbenzene	ND	1	0.09	0.5	ug/L	10/16/12	Liaoyuanz	
o-Xylene	ND	1	0.075	0.5	ug/L	10/16/12	Liaoyuanz	
Sec-butylbenzene	ND	1	0.077	0.5	ug/L	10/16/12	Liaoyuanz	
Styrene	ND	1	0.088	0.5	ug/L	10/16/12	Liaoyuanz	
t-Butyl alcohol (TBA)	ND	1	5	5	ug/L	10/16/12	Liaoyuanz	
Tert-amylmethylether (TAME)	ND	1	0.13	0.5	ug/L	10/16/12	Liaoyuanz	
Tert-butylbenzene	ND	1	0.092	0.5	ug/L	10/16/12	Liaoyuanz	
Tetrachloroethene	ND	1	0.15	0.5	ug/L	10/16/12	Liaoyuanz	
Toluene	ND	1	0.078	0.5	ug/L	10/16/12	Liaoyuanz	
trans-1,2-dichloroethene	ND	1	0.17	0.5	ug/L	10/16/12	Liaoyuanz	
trans-1,3-dichloropropene	ND	1	0.056	0.5	ug/L	10/16/12	Liaoyuanz	
trans-1,4-dichloro-2-butene	ND	1	0.075	5	ug/L	10/16/12	Liaoyuanz	
Trichloroethene	ND	1	0.078	0.5	ug/L	10/16/12	Liaoyuanz	
Trichlorofluoromethane	ND	1	0.06	0.5	ug/L	10/16/12	Liaoyuanz	
Vinyl Chloride	ND	1	0.08	0.5	ug/L	10/16/12	Liaoyuanz	
Xylenes (Total)	ND	1	0.25	0.5	ug/L	10/16/12	Liaoyuanz	

Analyte	% Recovery	Limits	Notes
1,2-Dichloroethane-d4 (SUR)	95	70-145	
4-Bromofluorobenzene (SUR)	100	70-145	
Dibromodifluoromethane (SUR)	94	70-145	
Toluene-d8 (SUR)	102	70-145	

Method: EPA 8250M	Prep Method: EPA 5030B	QCBatchID: QC1130967
1,2,3-Trichloropropane	ND	1 0.005 0.005 ug/L 10/29/12 akk

Analyte	% Recovery	Limits	Notes
Toluene-d8 (SUR)	142	50-150	

Method: EPA 8270M	Prep Method: EPA 3535	QCBatchID: QC1130645
1,4-Dioxane	ND	1 0.12 1 ug/L 10/17/12 qnguyen

ND = Not Detected or < MDL MDL = Method Detection Limit RDL = Reporting Detection Limit DF = Dilution Factor

ASSOCIATED LABORATORIES

Analytical Results Report

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ALAB : 00014

CONFIDENTIAL

LMC-PET-00002356

Matrix: Water	Client: ARCADIS	Collector: Client
Sampled: 10/15/2012 15:54	Site:	Notes:
Sample #: 312159-007	Client Sample #: A-1-CW07-DUP	

Analyte	Result	DF	MDL	RDL	Units	Analyzed	By	Notes
Method: EPA 8260 NELAC	Prep Method: EPA 5030B					QCBatchID: QC1130898		
1,2,3-Trichloropropane	37	1	0.073	0.6	ug/L	10/25/12	liaoyuanz	
Analyte	% Recovery	Limits	Notes					
1,2-Dichloroethane-d4 (SUR)	110	70-145						
4-Bromofluorobenzene (SUR)	104	70-145						
Dibromodifluoromethane (SUR)	102	70-145						
Toluene-d8 (SUR)	101	70-145						

ND = Not Detected or < MDL MDL = Method Detection Limit RDL = Reporting Detection Limit DF = Dilution Factor

ASSOCIATED LABORATORIES

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Chain of Custody Record

Lab Job No. 3122C5
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CUSTOMER INFORMATION			PROJECT INFORMATION			REQUIRED TURN AROUND TIME:		
COMPANY	PROJECT NAME	PROJECT INFORMATION	72 Hours:	48 Hours:	Standard:			
APCADIS	POU BURBANK				X			
SEND REPORT TO: ERIC GASSER	NUMBER: POU 38189,0002,00001							
EMAIL: <u>DNFILE</u>	ADDRESS: Burbank, CA							
PHONE: <u>DNFILE</u>	PO. #: <u>DNFILE</u>							
SAMPLED BY:								
Sample ID	Date	Time	Matrix	Container Number/Size	Pres.	ANALYSIS REQUEST	Test Instructions & Comments	
1 TB101612	10-16-12	0806	W	2 v05	HE1	1,2,3 TCP	24hr TAT	
2 MW-8	10-16-12	0909	W	11 5/P	YES NO	Total Cr (Filtered)		
3 MW-8-DUP	10-16-12	0911	W	1-11/16/12	NO	Hex Cr		
4 MW-5	10-16-12	1150	W	11 5/P	YES NO	Ultrate/Nitrat	24hr TAT	
5 MW-5-DUP	10-16-12	1153	W	5 6/P	YES NO	TDS	24hr TAT	
6 B-6-CW16	10-16-12		W	11 6/P	YES NO	GENERAL MINERALS	24hr TAT	
7 B-6-CW16	10-16-12	1308	W	8 6/P	YES NO	1,4, Dioxane	24hr TAT	
8 EB101612	10-16-12	1350	W	11 6/P	YES NO	Thallium (Filtered)	24hr TAT	
9								
10								
11								
12								
13								
14								
15								

ALABAMA : 2002

Matrix: Water
Sampled: 10/16/2012 08:06
Sample #: 312205-001

Client: ARCADIS
Site:
Client Sample #: TB101612

Collector: Client
Notes:

Analyte	Result	DF	MDL	RDL	Units	Analyzed	By	Notes
Method: EPA 8260 NELAC	Prep Method: EPA 5030B		QCBatchID: QC1130739					
1,1,1,2-Tetrachloroethane	ND	1	0.122	0.5	ug/L	10/19/12	nicollez	
1,1,1-Trichloroethane	ND	1	0.063	0.5	ug/L	10/19/12	nicollez	
1,1,2,2-Tetrachloroethane	ND	1	0.063	0.5	ug/L	10/19/12	nicollez	
1,1,2-Trichloroethane	ND	1	0.045	0.5	ug/L	10/19/12	nicollez	
1,1,2-Trichlorotrifluoroethane	ND	1	0.119	0.5	ug/L	10/19/12	nicollez	
1,1-Dichloroethane	ND	1	0.078	0.5	ug/L	10/19/12	nicollez	
1,1-Dichloroethene	ND	1	0.13	0.5	ug/L	10/19/12	nicollez	
1,1-Dichloropropene	ND	1	0.06	0.5	ug/L	10/19/12	nicollez	
1,2,3-Trichlorobenzene	ND	1	0.06	0.5	ug/L	10/19/12	nicollez	
1,2,3-Trichloropropane	ND	1	0.073	0.5	ug/L	10/19/12	nicollez	
1,2,4-Trichlorobenzene	ND <i>US</i>	1	0.068	0.5	ug/L	10/19/12	nicollez	
1,2,4-Trimethylbenzene	ND	1	0.078	0.5	ug/L	10/19/12	nicollez	
1,2-Dibromo-3-chloropropane	ND	1	0.08	0.5	ug/L	10/19/12	nicollez	
1,2-Dibromoethane	ND	1	0.043	0.5	ug/L	10/19/12	nicollez	
1,2-Dichlorobenzene	ND	1	0.051	0.5	ug/L	10/19/12	nicollez	
1,2-Dichloroethane	ND	1	0.066	0.5	ug/L	10/19/12	nicollez	
1,2-Dichloropropane	ND	1	0.06	0.5	ug/L	10/19/12	nicollez	
1,3,5-Trimethylbenzene	ND	1	0.097	0.5	ug/L	10/19/12	nicollez	
1,3-Dichlorobenzene	ND	1	0.052	0.5	ug/L	10/19/12	nicollez	
1,3-Dichloropropane	ND	1	0.68	0.5	ug/L	10/19/12	nicollez	
1,4-Dichlorobenzene	ND	1	0.12	0.5	ug/L	10/19/12	nicollez	
2,2-Dichloropropane	ND	1	0.11	0.5	ug/L	10/19/12	nicollez	
2-Butanone (MEK)	ND <i>US</i>	1	0.3	5	ug/L	10/19/12	nicollez	
2-Chloroethyl Vinyl Ether	ND	1	0.23	0.5	ug/L	10/19/12	nicollez	
2-Chlorotoluene	ND	1	0.079	0.5	ug/L	10/19/12	nicollez	
4-Chlorotoluene	ND	1	0.08	0.5	ug/L	10/19/12	nicollez	
4-Isopropyltoluene	ND	1	0.091	0.5	ug/L	10/19/12	nicollez	
4-Methyl-2-pentanone (MIBK)	ND <i>US</i>	1	0.16	5	ug/L	10/19/12	nicollez	
Acetone	ND <i>US</i>	1	0.2	10	ug/L	10/19/12	nicollez	
Allyl Chloride	ND	1	0.08	0.5	ug/L	10/19/12	nicollez	
Benzene	ND	1	0.071	0.5	ug/L	10/19/12	nicollez	
Bromobenzene	ND	1	0.073	1	ug/L	10/19/12	nicollez	
Bromochloromethane	ND	1	0.06	0.5	ug/L	10/19/12	nicollez	
Bromodichloromethane	ND	1	0.06	0.5	ug/L	10/19/12	nicollez	
Bromofom	ND	1	0.053	0.5	ug/L	10/19/12	nicollez	
Bromomethane	ND	1	0.13	1	ug/L	10/19/12	nicollez	
Carbon Tetrachloride	ND	1	0.045	0.5	ug/L	10/19/12	nicollez	
Chlorobenzene	ND	1	0.075	0.5	ug/L	10/19/12	nicollez	
Chlorodibromomethane	ND	1	0.045	0.5	ug/L	10/19/12	nicollez	
Chloroethane	ND	1	0.4	0.5	ug/L	10/19/12	nicollez	
Chloroform	ND	1	0.044	0.5	ug/L	10/19/12	nicollez	
Chloromethane	ND	1	0.055	0.5	ug/L	10/19/12	nicollez	
cis-1,2-Dichloroethene	ND	1	0.055	0.5	ug/L	10/19/12	nicollez	
cis-1,3-dichloropropene	ND	1	0.061	0.5	ug/L	10/19/12	nicollez	
cis-1,4-dichloro-2-butene	ND	1	0.075	5	ug/L	10/19/12	nicollez	
Dibromomethane	ND	1	0.06	0.5	ug/L	10/19/12	nicollez	
Dichlorodifluoromethane	ND	1	0.062	0.5	ug/L	10/19/12	nicollez	
Di-isopropyl ether (DIPE)	ND	1	0.17	0.5	ug/L	10/19/12	nicollez	
Ethylbenzene	ND	1	0.091	0.5	ug/L	10/19/12	nicollez	
Ethyl-terbutylether (ETBE)	ND	1	0.25	0.5	ug/L	10/19/12	nicollez	

ND = Not Detected or < MDL MDL = Method Detection Limit RDL = Reporting Detection Limit DF = Dilution Factor

ASSOCIATED LABORATORIES

Analytical Results Report

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ALAB : 000003

Matrix: Water	Client: ARCADIS	Collector: Client
Sampled: 10/16/2012 08:06	Site:	Notes:
Sample #: 312205-001	Client Sample #: TB101612	

Analyte	Result	DF	MDL	RDL	Units	Analyzed	By	Notes
Hexachlorobutadiene	ND	1	0.073	1	ug/L	10/19/12	nicollez	
Isopropylbenzene	ND	1	0.089	0.5	ug/L	10/19/12	nicollez	
m and p-Xylene	ND	1	0.17	0.5	ug/L	10/19/12	nicollez	
Methylene chloride	ND	1	0.15	0.5	ug/L	10/19/12	nicollez	
Methyl-t-butyl Ether (MTBE)	ND	1	0.068	0.5	ug/L	10/19/12	nicollez	
Naphthalene	ND	1	0.061	0.5	ug/L	10/19/12	nicollez	
N-butylbenzene	ND	1	0.094	0.5	ug/L	10/19/12	nicollez	
N-propylbenzene	ND	1	0.09	0.5	ug/L	10/19/12	nicollez	
o-Xylene	ND	1	0.075	0.5	ug/L	10/19/12	nicollez	
Sec-butylbenzene	ND	1	0.077	0.5	ug/L	10/19/12	nicollez	
Styrene	ND	1	0.088	0.5	ug/L	10/19/12	nicollez	
t-Butyl alcohol (TBA)	ND	1	5	5	ug/L	10/19/12	nicollez	
Tert-amylmethylether (TAME)	ND	1	0.13	0.5	ug/L	10/19/12	nicollez	
Tert-butylbenzene	ND	1	0.092	0.5	ug/L	10/19/12	nicollez	
Tetrachloroethene	ND	1	0.15	0.5	ug/L	10/19/12	nicollez	
Toluene	ND	1	0.078	0.5	ug/L	10/19/12	nicollez	
trans-1,2-dichloroethene	ND	1	0.17	0.5	ug/L	10/19/12	nicollez	
trans-1,3-dichloropropene	ND	1	0.056	0.5	ug/L	10/19/12	nicollez	
trans-1,4-dichloro-2-butene	ND	1	0.075	5	ug/L	10/19/12	nicollez	
Trichloroethene	ND	1	0.078	0.5	ug/L	10/19/12	nicollez	
Trichlorofluoromethane	ND	1	0.06	0.5	ug/L	10/19/12	nicollez	
Vinyl Chloride	ND	1	0.08	0.5	ug/L	10/19/12	nicollez	
Xylenes (Total)	ND	1	0.25	0.5	ug/L	10/19/12	nicollez	

Analyte	% Recovery	Limits	Notes
1,2-Dichloroethane-d4 (SUR)	112	70-145	
4-Bromofluorobenzene (SUR)	106	70-145	
Dibromodifluoromethane (SUR)	103	70-145	
Toluene-d8 (SUR)	102	70-145	

ND = Not Detected or < MDL MDL = Method Detection Limit RDL = Reporting Detection Limit DF = Dilution Factor

ASSOCIATED LABORATORIES

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ALAB : 00004

CONFIDENTIAL

LMC-PET-00002360

Matrix: Water	Client: ARCADIS	Collector: Client
Sampled: 10/16/2012 09:09	Site:	Notes:
Sample #: 312205-002	Client Sample #: MW-8	

Analyte	Result	DF	MDL	RDL	Units	Analyzed	By	Notes
Method: EPA 218.6	Prep Method: EPA 218.6							QCBatchID: QC1130646
Hexavalent Chromium	1.96	1	0.1	1	ug/L	10/18/12	rybechay	
Method: EPA 300.0	Prep Method: Method							QCBatchID: QC1130744
Nitrate, as Nitrogen	15.9	5	0.3	0.5	mg/L	10/17/12	wei	
Nitrite, as Nitrogen	ND	1	0.018	0.1	mg/L	10/17/12	wei	
Method: EPA 6010 NELAC	Prep Method: EPA 3010A/Filtered							QCBatchID: QC1130594
Chromium	0.006 J	1	0.002	0.01	mg/L	10/17/12	nina	
Thallium	ND	1	0.003	0.005	mg/L	10/17/12	nina	
Method: EPA 8260 NELAC	Prep Method: EPA 5030B							QCBatchID: QC1130739
1,1,1,2-Tetrachloroethane	ND	1	0.122	0.5	ug/L	10/20/12	nicollez	
1,1,1-Trichloroethane	ND	1	0.063	0.5	ug/L	10/20/12	nicollez	
1,1,2,2-Tetrachloroethane	ND	1	0.063	0.5	ug/L	10/20/12	nicollez	
1,1,2-Trichloroethane	ND	1	0.045	0.5	ug/L	10/20/12	nicollez	
1,1,2-Trichlorotrifluoroethane	4.4	1	0.119	0.5	ug/L	10/20/12	nicollez	
1,1-Dichloroethane	ND	1	0.078	0.5	ug/L	10/20/12	nicollez	
1,1-Dichloroethene	3.1	1	0.13	0.5	ug/L	10/20/12	nicollez	
1,1-Dichloropropene	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
1,2,3-Trichlorobenzene	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
1,2,3-Trichloropropane	1.5	1	0.073	0.5	ug/L	10/20/12	nicollez	
1,2,4-Trichlorobenzene	ND <i>VS</i>	1	0.068	0.5	ug/L	10/20/12	nicollez	
1,2,4-Trimethylbenzene	ND	1	0.078	0.5	ug/L	10/20/12	nicollez	
1,2-Dibromo-3-chloropropane	ND	1	0.08	0.5	ug/L	10/20/12	nicollez	
1,2-Dibromoethane	ND	1	0.043	0.5	ug/L	10/20/12	nicollez	
1,2-Dichlorobenzene	ND	1	0.051	0.5	ug/L	10/20/12	nicollez	
1,2-Dichloroethane	1.7	1	0.066	0.5	ug/L	10/20/12	nicollez	
1,2-Dichloropropane	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
1,3,5-Trimethylbenzene	ND	1	0.097	0.5	ug/L	10/20/12	nicollez	
1,3-Dichlorobenzene	ND	1	0.052	0.5	ug/L	10/20/12	nicollez	
1,3-Dichloropropane	ND	1	0.68	0.5	ug/L	10/20/12	nicollez	
1,4-Dichlorobenzene	ND	1	0.12	0.5	ug/L	10/20/12	nicollez	
2,2-Dichloropropane	ND	1	0.11	0.5	ug/L	10/20/12	nicollez	
2-Butanone (MEK)	ND <i>VS</i>	1	0.3	5	ug/L	10/20/12	nicollez	
2-Chloroethyl Vinyl Ether	ND	1	0.23	0.5	ug/L	10/20/12	nicollez	
2-Chlorotoluene	ND	1	0.079	0.5	ug/L	10/20/12	nicollez	
4-Chlorotoluene	ND	1	0.08	0.5	ug/L	10/20/12	nicollez	
4-Isopropyltoluene	ND	1	0.091	0.5	ug/L	10/20/12	nicollez	
4-Methyl-2-pentanone (MIBK)	ND <i>VS</i>	1	0.16	5	ug/L	10/20/12	nicollez	
Acetone	ND <i>VS</i>	1	0.2	10	ug/L	10/20/12	nicollez	
Allyl Chloride	ND	1	0.08	0.5	ug/L	10/20/12	nicollez	
Benzene	ND	1	0.071	0.5	ug/L	10/20/12	nicollez	
Bromobenzene	ND	1	0.073	1	ug/L	10/20/12	nicollez	
Bromochloromethane	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
Bromodichloromethane	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
Bromoform	ND	1	0.053	0.5	ug/L	10/20/12	nicollez	
Bromomethane	ND	1	0.13	1	ug/L	10/20/12	nicollez	
Carbon Tetrachloride	2.6	1	0.045	0.5	ug/L	10/20/12	nicollez	
Chlorobenzene	ND	1	0.075	0.5	ug/L	10/20/12	nicollez	
Chlorodibromomethane	ND	1	0.045	0.5	ug/L	10/20/12	nicollez	
Chloroethane	ND	1	0.4	0.5	ug/L	10/20/12	nicollez	
Chloroform	2.3	1	0.044	0.5	ug/L	10/20/12	nicollez	

ND = Not Detected or < MDL MDL = Method Detection Limit RDL = Reporting Detection Limit DF = Dilution Factor

ASSOCIATED LABORATORIES

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ALAB : 00005

Matrix: Water
 Sampled: 10/16/2012 09:09
 Sample #: 312205-002

Client: ARCADIS
 Site:
 Client Sample #: MW-8

Collector: Client
 Notes:

Analyte	Result	DF	MDL	RDL	Units	Analyzed	By	Notes
Chloromethane	ND	1	0.055	0.5	ug/L	10/20/12	nicollez	
cis-1,2-Dichloroethene	ND	1	0.055	0.5	ug/L	10/20/12	nicollez	
cis-1,3-dichloropropene	ND	1	0.061	0.5	ug/L	10/20/12	nicollez	
cis-1,4-dichloro-2-butene	ND	1	0.075	5	ug/L	10/20/12	nicollez	
Dibromomethane	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
Dichlorodifluoromethane	ND	1	0.062	0.5	ug/L	10/20/12	nicollez	
Di-isopropyl ether (DIPE)	ND	1	0.17	0.5	ug/L	10/20/12	nicollez	
Ethylbenzene	ND	1	0.091	0.5	ug/L	10/20/12	nicollez	
Ethyl-tertbutylether (ETBE)	ND	1	0.25	0.5	ug/L	10/20/12	nicollez	
Hexachlorobutadiene	ND	1	0.073	1	ug/L	10/20/12	nicollez	
Isopropylbenzene	ND	1	0.089	0.5	ug/L	10/20/12	nicollez	
m and p-Xylene	ND	1	0.17	0.5	ug/L	10/20/12	nicollez	
Methylene chloride	ND	1	0.15	0.5	ug/L	10/20/12	nicollez	
Methyl-4-butyl Ether (MTBE)	ND	1	0.068	0.5	ug/L	10/20/12	nicollez	
Naphthalene	ND	1	0.061	0.5	ug/L	10/20/12	nicollez	
N-butylbenzene	ND	1	0.094	0.5	ug/L	10/20/12	nicollez	
N-propylbenzene	ND	1	0.09	0.5	ug/L	10/20/12	nicollez	
o-Xylene	ND	1	0.075	0.5	ug/L	10/20/12	nicollez	
Sec-butylbenzene	ND	1	0.077	0.5	ug/L	10/20/12	nicollez	
Styrene	ND	1	0.088	0.5	ug/L	10/20/12	nicollez	
t-Butyl alcohol (TBA)	ND	1	5	5	ug/L	10/20/12	nicollez	
Tert-amylmethylether (TAME)	ND	1	0.13	0.5	ug/L	10/20/12	nicollez	
Tert-butylbenzene	ND	1	0.092	0.5	ug/L	10/20/12	nicollez	
Tetrachloroethene	73	1	0.15	0.5	ug/L	10/20/12	nicollez	
Toluene	ND	1	0.078	0.5	ug/L	10/20/12	nicollez	
trans-1,2-dichloroethene	ND	1	0.17	0.5	ug/L	10/20/12	nicollez	
trans-1,3-dichloropropene	ND	1	0.056	0.5	ug/L	10/20/12	nicollez	
trans-1,4-dichloro-2-butene	ND	1	0.075	5	ug/L	10/20/12	nicollez	
Trichloroethene	57	1	0.078	0.5	ug/L	10/20/12	nicollez	
Trichlorofluoromethane	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
Vinyl Chloride	ND	1	0.08	0.5	ug/L	10/20/12	nicollez	
Xylenes (Total)	ND	1	0.25	0.5	ug/L	10/20/12	nicollez	

Analyte	% Recovery	Limits	Notes
1,2-Dichloroethane-d4 (SUR)	110	70-145	
4-Bromofluorobenzene (SUR)	106	70-145	
Dibromodifluoromethane (SUR)	102	70-145	
Toluene-d8 (SUR)	76	70-145	

Method: EPA 8270M

Prep Method: EPA 3535

QCBatchID: QC1130645

1,4-Dioxane	8.8	1	0.12	1	ug/L	10/17/12	nguyen	
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ND = Not Detected or < MDL MDL = Method Detection Limit RDL = Reporting Detection Limit DF = Dilution Factor

ASSOCIATED LABORATORIES

Analytical Results Report

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ALAB : 00006

CONFIDENTIAL

LMC-PET-00002362

Matrix: Water	Client: ARCADIS	Collector: Client
Sampled: 10/16/2012 09:11	Site:	Notes:
Sample #: 312205-003	Client Sample #: MW-8-DUP	

Analyte	Result	DF	MDL	RDL	Units	Analyzed	By	Notes
Method: EPA 8270M	Prep Method: EPA 3535							QCBatchID: QC1130645
1,4-Dioxane	8.7	1	0.12	1	ug/L	10/17/12	qnguyen	

ND = Not Detected or < MDL MDL = Method Detection Limit RDL = Reporting Detection Limit DF = Dilution Factor

ASSOCIATED LABORATORIES

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Matrix: Water	Client: ARCADIS	Collector: Client
Sampled: 10/16/2012 11:50	Site:	Notes:
Sample #: 312205-004	Client Sample #: MW-5	

Analyte	Result	DF	MDL	RDL	Units	Analyzed	By	Notes
Method: EPA 218.6	Prep Method: EPA 218.6							QCBatchID: QC1130648
Hexavalent Chromium	2.68	1	0.1	1	ug/L	10/18/12	rybechay	
Method: EPA 300.0	Prep Method: Method							QCBatchID: QC1130744
Nitrate, as Nitrogen	14.5	5	0.3	0.5	mg/L	10/17/12	wel	
Nitrite, as Nitrogen	ND	1	0.018	0.1	mg/L	10/17/12	wel	
Method: EPA 6010 NELAC	Prep Method: EPA 3010A/Filtered							QCBatchID: QC1130594
Chromium	0.005 J	1	0.002	0.01	mg/L	10/17/12	nina	
Thallium	ND	1	0.003	0.005	mg/L	10/17/12	nina	
Method: EPA 8260 NELAC	Prep Method: EPA 5030B							QCBatchID: QC1130739
1,1,1,2-Tetrachloroethane	ND	1	0.122	0.5	ug/L	10/20/12	nicollez	
1,1,1-Trichloroethane	ND	1	0.063	0.5	ug/L	10/20/12	nicollez	
1,1,2,2-Tetrachloroethane	ND	1	0.063	0.5	ug/L	10/20/12	nicollez	
1,1,2-Trichloroethane	ND	1	0.045	0.5	ug/L	10/20/12	nicollez	
1,1,2-Trichlorotrifluoroethane	0.7	1	0.119	0.5	ug/L	10/20/12	nicollez	
1,1-Dichloroethane	ND	1	0.078	0.5	ug/L	10/20/12	nicollez	
1,1-Dichloroethene	0.8	1	0.13	0.5	ug/L	10/20/12	nicollez	
1,1-Dichloropropene	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
1,2,3-Trichlorobenzene	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
1,2,3-Trichloropropane	0.8	1	0.073	0.5	ug/L	10/20/12	nicollez	
1,2,4-Trichlorobenzene	ND	1	0.068	0.5	ug/L	10/20/12	nicollez	
1,2,4-Trimethylbenzene	ND	1	0.078	0.5	ug/L	10/20/12	nicollez	
1,2-Dibromo-3-chloropropane	ND	1	0.08	0.5	ug/L	10/20/12	nicollez	
1,2-Dibromoethane	ND	1	0.043	0.5	ug/L	10/20/12	nicollez	
1,2-Dichlorobenzene	ND	1	0.051	0.5	ug/L	10/20/12	nicollez	
1,2-Dichloroethane	ND	1	0.066	0.5	ug/L	10/20/12	nicollez	
1,2-Dichloropropane	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
1,3,5-Trimethylbenzene	ND	1	0.097	0.5	ug/L	10/20/12	nicollez	
1,3-Dichlorobenzene	ND	1	0.052	0.5	ug/L	10/20/12	nicollez	
1,3-Dichloropropane	ND	1	0.68	0.5	ug/L	10/20/12	nicollez	
1,4-Dichlorobenzene	ND	1	0.12	0.5	ug/L	10/20/12	nicollez	
2,2-Dichloropropane	ND	1	0.11	0.5	ug/L	10/20/12	nicollez	
2-Butanone (MEK)	ND	1	0.3	5	ug/L	10/20/12	nicollez	
2-Chloroethyl Vinyl Ether	ND	1	0.23	0.5	ug/L	10/20/12	nicollez	
2-Chlorotoluene	ND	1	0.079	0.5	ug/L	10/20/12	nicollez	
4-Chlorotoluene	ND	1	0.08	0.5	ug/L	10/20/12	nicollez	
4-Isopropyltoluene	ND	1	0.091	0.5	ug/L	10/20/12	nicollez	
4-Methyl-2-pentanone (MIBK)	ND	1	0.16	5	ug/L	10/20/12	nicollez	
Acetone	ND	1	0.2	10	ug/L	10/20/12	nicollez	
Allyl Chloride	ND	1	0.08	0.5	ug/L	10/20/12	nicollez	
Benzene	ND	1	0.071	0.5	ug/L	10/20/12	nicollez	
Bromobenzene	ND	1	0.073	1	ug/L	10/20/12	nicollez	
Bromochloromethane	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
Bromodichloromethane	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
Bromoform	ND	1	0.053	0.5	ug/L	10/20/12	nicollez	
Bromomethane	ND	1	0.13	1	ug/L	10/20/12	nicollez	
Carbon Tetrachloride	ND	1	0.045	0.5	ug/L	10/20/12	nicollez	
Chlorobenzene	ND	1	0.075	0.5	ug/L	10/20/12	nicollez	
Chlorodibromomethane	ND	1	0.045	0.5	ug/L	10/20/12	nicollez	
Chloroethane	ND	1	0.4	0.5	ug/L	10/20/12	nicollez	
Chloroform	1.8	1	0.044	0.5	ug/L	10/20/12	nicollez	

ND = Not Detected or < MDL MDL = Method Detection Limit RDL = Reporting Detection Limit DF = Dilution Factor

ASSOCIATED LABORATORIES

Analytical Results Report

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ALAB : 00006

Matrix: Water
 Sampled: 10/16/2012 11:50
 Sample #: 312205-004

Client: ARCADIS
 Site:
 Client Sample #: MW-5

Collector: Client
 Notes:

Analyte	Result	DF	MDL	RDL	Units	Analyzed	By	Notes
Chloromethane	ND	1	0.055	0.5	ug/L	10/20/12	nicollez	
cis-1,2-Dichloroethene	ND	1	0.055	0.5	ug/L	10/20/12	nicollez	
cis-1,3-dichloropropene	ND	1	0.061	0.5	ug/L	10/20/12	nicollez	
cis-1,4-dichloro-2-butene	ND	1	0.075	5	ug/L	10/20/12	nicollez	
Dibromomethane	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
Dichlorodifluoromethane	ND	1	0.062	0.5	ug/L	10/20/12	nicollez	
Di-isopropyl ether (DIPE)	ND	1	0.17	0.5	ug/L	10/20/12	nicollez	
Ethylbenzene	ND	1	0.091	0.5	ug/L	10/20/12	nicollez	
Ethyl-tertbutylether (ETBE)	ND	1	0.25	0.5	ug/L	10/20/12	nicollez	
Hexachlorobutadiene	ND	1	0.073	1	ug/L	10/20/12	nicollez	
Isopropylbenzene	ND	1	0.089	0.5	ug/L	10/20/12	nicollez	
m and p-Xylene	ND	1	0.17	0.5	ug/L	10/20/12	nicollez	
Methylene chloride	ND	1	0.15	0.5	ug/L	10/20/12	nicollez	
Methyl-t-butyl Ether (MTBE)	ND	1	0.068	0.5	ug/L	10/20/12	nicollez	
Naphthalene	ND	1	0.061	0.5	ug/L	10/20/12	nicollez	
N-butylbenzene	ND	1	0.094	0.5	ug/L	10/20/12	nicollez	
N-propylbenzene	ND	1	0.09	0.5	ug/L	10/20/12	nicollez	
o-Xylene	ND	1	0.075	0.5	ug/L	10/20/12	nicollez	
Sec-butylbenzene	ND	1	0.077	0.5	ug/L	10/20/12	nicollez	
Styrene	ND	1	0.088	0.5	ug/L	10/20/12	nicollez	
t-Butyl alcohol (TBA)	ND	1	5	5	ug/L	10/20/12	nicollez	
Tert-amylmethylether (TAME)	ND	1	0.13	0.5	ug/L	10/20/12	nicollez	
Tert-butylbenzene	ND	1	0.092	0.5	ug/L	10/20/12	nicollez	
Tetrachloroethene	62	1	0.15	0.5	ug/L	10/20/12	nicollez	
Toluene	ND	1	0.078	0.5	ug/L	10/20/12	nicollez	
trans-1,2-dichloroethene	ND	1	0.17	0.5	ug/L	10/20/12	nicollez	
trans-1,3-dichloropropene	ND	1	0.056	0.5	ug/L	10/20/12	nicollez	
trans-1,4-dichloro-2-butene	ND	1	0.075	5	ug/L	10/20/12	nicollez	
Trichloroethene	15	1	0.078	0.5	ug/L	10/20/12	nicollez	
Trichlorofluoromethane	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
Vinyl Chloride	ND	1	0.08	0.5	ug/L	10/20/12	nicollez	
Xylenes (Total)	ND	1	0.25	0.5	ug/L	10/20/12	nicollez	

Analyte	% Recovery	Limits	Notes
1,2-Dichloroethane-d4 (SUR)	111	70-145	
4-Bromofluorobenzene (SUR)	108	70-145	
Dibromodifluoromethane (SUR)	104	70-145	
Toluene-d8 (SUR)	101	70-145	

Method: EPA 8270M	Prep Method: EPA 3535	QCBatchID: QC1130645
1,4-Dioxane	0.58 J	1 0.12 1 ug/L 10/17/12 qnguyen

ND = Not Detected or < MDL MDL = Method Detection Limit RDL = Reporting Detection Limit DF = Dilution Factor

ASSOCIATED LABORATORIES

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ALAB : 00007

CONFIDENTIAL

LMC-PET-00002365

Matrix: Water	Client: ARCADIS	Collector: Client
Sampled: 10/16/2012 11:53	Site:	Notes:
Sample #: 312205-005	Client Sample #: MW-5-DUP	

Analyte	Result	DF	MDL	RDL	Units	Analyzed	By	Notes
Method: EPA 300.0	Prep Method: Method							QCBatchID: QC1130744
Nitrate, as Nitrogen	14.3	5	0.3	0.5	mg/L	10/17/12	wei	
Nitrite, as Nitrogen	ND	1	0.018	0.1	mg/L	10/17/12	wei	
Method: EPA 6010 NELAC	Prep Method: EPA 3010A/Filtered							QCBatchID: QC1130594
Thallium	ND	1	0.003	0.005	mg/L	10/17/12	nina	
Method: EPA 8260 NELAC	Prep Method: EPA 5030B							QCBatchID: QC1130898
1,2,3-Trichloropropane	0.8	1	0.073	0.5	ug/L	10/25/12	liacoyuanz	
Analyte	% Recovery	Limits	Notes					
1,2-Dichloroethane-d4 (SUR)	110	70-145						
4-Bromofluorobenzene (SUR)	104	70-145						
Dibromodifluoromethane (SUR)	101	70-145						
Toluene-d8 (SUR)	100	70-145						

ND = Not Detected or < MDL MDL = Method Detection Limit RDL = Reporting Detection Limit DF = Dilution Factor

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ALAB : 000008

Matrix: Water	Client: ARCADIS	Collector: Client
Sampled: 10/16/2012 13:08	Site:	Notes:
Sample #: 312205-006	Client Sample #: B-6-CW16	

Analyte	Result	DF	MDL	RDL	Units	Analyzed	By	Notes
Method: EPA 218.6	Prep Method: EPA 218.6							QCBatchID: QC1130646
Hexavalent Chromium	ND	1	0.1	1	ug/L	10/18/12	rybechay	
Method: EPA 6010 NELAC	Prep Method: EPA 3010A/Filtered							QCBatchID: QC1130594
Chromium	0.004 J	1	0.002	0.01	mg/L	10/17/12	nina	
Method: EPA 8260 NELAC	Prep Method: EPA 5030B							QCBatchID: QC1130739
1,1,1,2-Tetrachloroethane	ND	1	0.122	0.5	ug/L	10/20/12	nicollez	
1,1,1-Trichloroethane	ND	1	0.063	0.5	ug/L	10/20/12	nicollez	
1,1,2,2-Tetrachloroethane	ND	1	0.063	0.5	ug/L	10/20/12	nicollez	
1,1,2-Trichloroethane	ND	1	0.045	0.5	ug/L	10/20/12	nicollez	
1,1,2-Trichlorotrifluoroethane	1.5	1	0.119	0.5	ug/L	10/20/12	nicollez	
1,1-Dichloroethane	ND	1	0.078	0.5	ug/L	10/20/12	nicollez	
1,1-Dichloroethene	3.3	1	0.13	0.5	ug/L	10/20/12	nicollez	
1,1-Dichloropropene	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
1,2,3-Trichlorobenzene	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
1,2,3-Trichloropropane	ND	1	0.073	0.5	ug/L	10/20/12	nicollez	
1,2,4-Trichlorobenzene	ND <i>UJ</i>	1	0.068	0.5	ug/L	10/20/12	nicollez	
1,2,4-Trimethylbenzene	ND	1	0.078	0.5	ug/L	10/20/12	nicollez	
1,2-Dibromo-3-chloropropane	ND	1	0.08	0.5	ug/L	10/20/12	nicollez	
1,2-Dibromoethane	ND	1	0.043	0.5	ug/L	10/20/12	nicollez	
1,2-Dichlorobenzene	ND	1	0.051	0.5	ug/L	10/20/12	nicollez	
1,2-Dichloroethane	ND	1	0.066	0.5	ug/L	10/20/12	nicollez	
1,2-Dichloropropane	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
1,3,5-Trimethylbenzene	ND	1	0.097	0.5	ug/L	10/20/12	nicollez	
1,3-Dichlorobenzene	ND	1	0.052	0.5	ug/L	10/20/12	nicollez	
1,3-Dichloropropane	ND	1	0.68	0.5	ug/L	10/20/12	nicollez	
1,4-Dichlorobenzene	ND	1	0.12	0.5	ug/L	10/20/12	nicollez	
2,2-Dichloropropane	ND	1	0.11	0.5	ug/L	10/20/12	nicollez	
2-Butanone (MEK)	ND <i>UJ</i>	1	0.3	5	ug/L	10/20/12	nicollez	
2-Chloroethyl Vinyl Ether	ND	1	0.23	0.5	ug/L	10/20/12	nicollez	
2-Chlorotoluene	ND	1	0.079	0.5	ug/L	10/20/12	nicollez	
4-Chlorotoluene	ND	1	0.08	0.5	ug/L	10/20/12	nicollez	
4-Isopropyltoluene	ND	1	0.091	0.5	ug/L	10/20/12	nicollez	
4-Methyl-2-pentanone (MIBK)	ND <i>UJ</i>	1	0.16	5	ug/L	10/20/12	nicollez	
Acetone	ND <i>UJ</i>	1	0.2	10	ug/L	10/20/12	nicollez	
Allyl Chloride	ND	1	0.08	0.5	ug/L	10/20/12	nicollez	
Benzene	ND	1	0.071	0.5	ug/L	10/20/12	nicollez	
Bromobenzene	ND	1	0.073	1	ug/L	10/20/12	nicollez	
Bromochloromethane	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
Bromodichloromethane	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
Bromoform	ND	1	0.053	0.5	ug/L	10/20/12	nicollez	
Bromomethane	ND	1	0.13	1	ug/L	10/20/12	nicollez	
Carbon Tetrachloride	ND	1	0.045	0.5	ug/L	10/20/12	nicollez	
Chlorobenzene	ND	1	0.075	0.5	ug/L	10/20/12	nicollez	
Chlorodibromomethane	ND	1	0.045	0.5	ug/L	10/20/12	nicollez	
Chloroethane	ND	1	0.4	0.5	ug/L	10/20/12	nicollez	
Chloroform	0.8	1	0.044	0.5	ug/L	10/20/12	nicollez	
Chloromethane	ND	1	0.055	0.5	ug/L	10/20/12	nicollez	
cis-1,2-Dichloroethane	ND	1	0.055	0.5	ug/L	10/20/12	nicollez	
cis-1,3-dichloropropene	ND	1	0.061	0.5	ug/L	10/20/12	nicollez	
cis-1,4-dichloro-2-butene	ND	1	0.075	5	ug/L	10/20/12	nicollez	

ND = Not Detected or < MDL MDL = Method Detection Limit RDL = Reporting Detection Limit DF = Dilution Factor

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ALAB: 000009

Matrix: Water	Client: ARCADIS	Collector: Client
Sampled: 10/16/2012 13:08	Site:	Notes:
Sample #: 312205-006	Client Sample #: B-6-CW16	

Analyte	Result	DF	MDL	RDL	Units	Analyzed	By	Notes
Dibromomethane	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
Dichlorodifluoromethane	ND	1	0.062	0.5	ug/L	10/20/12	nicollez	
Di-isopropyl ether (DIPE)	ND	1	0.17	0.5	ug/L	10/20/12	nicollez	
Ethylbenzene	ND	1	0.091	0.5	ug/L	10/20/12	nicollez	
Ethyl-terbutylether (ETBE)	ND	1	0.25	0.5	ug/L	10/20/12	nicollez	
Hexachlorobutadiene	ND	1	0.073	1	ug/L	10/20/12	nicollez	
Isopropylbenzene	ND	1	0.089	0.5	ug/L	10/20/12	nicollez	
m and p-Xylene	ND	1	0.17	0.5	ug/L	10/20/12	nicollez	
Methylene chloride	ND	1	0.15	0.5	ug/L	10/20/12	nicollez	
Methyl-t-butyl Ether (MTBE)	ND	1	0.068	0.5	ug/L	10/20/12	nicollez	
Naphthalene	ND	1	0.061	0.5	ug/L	10/20/12	nicollez	
N-butylbenzene	ND	1	0.094	0.5	ug/L	10/20/12	nicollez	
N-propylbenzene	ND	1	0.09	0.5	ug/L	10/20/12	nicollez	
o-Xylene	ND	1	0.075	0.5	ug/L	10/20/12	nicollez	
Sec-butylbenzene	ND	1	0.077	0.5	ug/L	10/20/12	nicollez	
Styrene	ND	1	0.088	0.5	ug/L	10/20/12	nicollez	
t-Butyl alcohol (TBA)	ND	1	5	5	ug/L	10/20/12	nicollez	
Tert-amylmethylether (TAME)	ND	1	0.13	0.5	ug/L	10/20/12	nicollez	
Tert-butylbenzene	ND	1	0.092	0.5	ug/L	10/20/12	nicollez	
Tetrachloroethene	26	1	0.15	0.5	ug/L	10/20/12	nicollez	
Toluene	ND	1	0.078	0.5	ug/L	10/20/12	nicollez	
trans-1,2-dichloroethene	ND	1	0.17	0.5	ug/L	10/20/12	nicollez	
trans-1,3-dichloropropene	ND	1	0.056	0.5	ug/L	10/20/12	nicollez	
trans-1,4-dichloro-2-butene	ND	1	0.075	5	ug/L	10/20/12	nicollez	
Trichloroethene	9.1	1	0.078	0.5	ug/L	10/20/12	nicollez	
Trichlorofluoromethane	ND	1	0.06	0.5	ug/L	10/20/12	nicollez	
Vinyl Chloride	ND	1	0.08	0.5	ug/L	10/20/12	nicollez	
Xylenes (Total)	ND	1	0.25	0.5	ug/L	10/20/12	nicollez	

Analyte	% Recovery	Limits	Notes
1,2-Dichloroethane-d4 (SUR)	106	70-145	
4-Bromofluorobenzene (SUR)	114	70-145	
Dibromodifluoromethane (SUR)	104	70-145	
Toluene-d8 (SUR)	102	70-145	

Method: EPA 8260M Prep Method: EPA 5030B QCBatchID: QC1130967

1,2,3-Trichloropropane ND 1 0.005 0.005 ug/L 10/29/12 akk

Analyte	% Recovery	Limits	Notes
Toluene-d8 (SUR)	107	50-150	

ND = Not Detected or < MDL MDL = Method Detection Limit RDL = Reporting Detection Limit DF = Dilution Factor

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ALAB : 00010

CONFIDENTIAL

LMC-PET-00002368

Matrix: Water	Client: ARCADIS	Collector: Client
Sampled: 10/16/2012 13:50	Site:	Notes:
Sample #: 312205-007	Client Sample #: EB101612 Equip Blank	

Analyte	Result	DF	MDL	RDL	Units	Analyzed	By	Notes
Method: EPA 218.6	Prep Method: EPA 218.6							QCBatchID: QC1130646
Hexavalent Chromium	ND	1	0.1	1	ug/L	10/18/12	rybechay	
Method: EPA 300.0	Prep Method: Method							QCBatchID: QC1130744
Nitrate, as Nitrogen	ND	1	0.06	0.1	mg/L	10/17/12	wei	
Nitrite, as Nitrogen	ND	1	0.018	0.1	mg/L	10/17/12	wei	
Method: EPA 6010 NELAC	Prep Method: EPA 3010A/Filtered							QCBatchID: QC1130594
Chromium	ND	1	0.002	0.01	mg/L	10/17/12	nina	
Thallium	ND	1	0.003	0.005	mg/L	10/17/12	nina	
Method: EPA 8260 NELAC	Prep Method: EPA 5030B							QCBatchID: QC1130739
1,1,1,2-Tetrachloroethane	ND	1	0.122	0.5	ug/L	10/19/12	nicollez	
1,1,1-Trichloroethane	ND	1	0.063	0.5	ug/L	10/19/12	nicollez	
1,1,2,2-Tetrachloroethane	ND	1	0.063	0.5	ug/L	10/19/12	nicollez	
1,1,2-Trichloroethane	ND	1	0.045	0.5	ug/L	10/19/12	nicollez	
1,1,2-Trichlorotrifluoroethane	ND	1	0.119	0.5	ug/L	10/19/12	nicollez	
1,1-Dichloroethane	ND	1	0.078	0.5	ug/L	10/19/12	nicollez	
1,1-Dichloroethene	ND	1	0.13	0.5	ug/L	10/19/12	nicollez	
1,1-Dichloropropene	ND	1	0.06	0.5	ug/L	10/19/12	nicollez	
1,2,3-Trichlorobenzene	ND	1	0.06	0.5	ug/L	10/19/12	nicollez	
1,2,3-Trichloropropane	ND	1	0.073	0.5	ug/L	10/19/12	nicollez	
1,2,4-Trichlorobenzene	ND UJ	1	0.068	0.5	ug/L	10/19/12	nicollez	
1,2,4-Trimethylbenzene	ND	1	0.078	0.5	ug/L	10/19/12	nicollez	
1,2-Dibromo-3-chloropropane	ND	1	0.08	0.5	ug/L	10/19/12	nicollez	
1,2-Dibromoethane	ND	1	0.043	0.5	ug/L	10/19/12	nicollez	
1,2-Dichlorobenzene	ND	1	0.051	0.5	ug/L	10/19/12	nicollez	
1,2-Dichloroethane	ND	1	0.066	0.5	ug/L	10/19/12	nicollez	
1,2-Dichloropropane	ND	1	0.06	0.5	ug/L	10/19/12	nicollez	
1,3,5-Trimethylbenzene	ND	1	0.097	0.5	ug/L	10/19/12	nicollez	
1,3-Dichlorobenzene	ND	1	0.052	0.5	ug/L	10/19/12	nicollez	
1,3-Dichloropropane	ND	1	0.68	0.5	ug/L	10/19/12	nicollez	
1,4-Dichlorobenzene	ND	1	0.12	0.5	ug/L	10/19/12	nicollez	
2,2-Dichloropropane	ND	1	0.11	0.5	ug/L	10/19/12	nicollez	
2-Butanone (MEK)	ND UJ	1	0.3	5	ug/L	10/19/12	nicollez	
2-Chloroethyl Vinyl Ether	ND	1	0.23	0.5	ug/L	10/19/12	nicollez	
2-Chlorotoluene	ND	1	0.079	0.5	ug/L	10/19/12	nicollez	
4-Chlorotoluene	ND	1	0.08	0.5	ug/L	10/19/12	nicollez	
4-Isopropyltoluene	ND	1	0.091	0.5	ug/L	10/19/12	nicollez	
4-Methyl-2-pentanone (MIBK)	ND UJ	1	0.16	5	ug/L	10/19/12	nicollez	
Acetone	ND UJ	1	0.2	10	ug/L	10/19/12	nicollez	
Allyl Chloride	ND	1	0.08	0.5	ug/L	10/19/12	nicollez	
Benzene	ND	1	0.071	0.5	ug/L	10/19/12	nicollez	
Bromobenzene	ND	1	0.073	1	ug/L	10/19/12	nicollez	
Bromochloromethane	ND	1	0.06	0.5	ug/L	10/19/12	nicollez	
Bromodichloromethane	ND	1	0.06	0.5	ug/L	10/19/12	nicollez	
Bromoform	ND	1	0.053	0.5	ug/L	10/19/12	nicollez	
Bromomethane	ND	1	0.13	1	ug/L	10/19/12	nicollez	
Carbon Tetrachloride	ND	1	0.045	0.5	ug/L	10/19/12	nicollez	
Chlorobenzene	ND	1	0.075	0.5	ug/L	10/19/12	nicollez	
Chlorodibromomethane	ND	1	0.045	0.5	ug/L	10/19/12	nicollez	
Chloroethane	ND	1	0.4	0.5	ug/L	10/19/12	nicollez	
Chloroform	ND	1	0.044	0.5	ug/L	10/19/12	nicollez	

ND = Not Detected or < MDL MDL = Method Detection Limit RDL = Reporting Detection Limit DF = Dilution Factor

ASSOCIATED LABORATORIES

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ALAB : 00011

Matrix: Water	Client: ARCADIS	Collector: Client
Sampled: 10/16/2012 13:50	Site:	Notes:
Sample #: 312205-007	Client Sample #: EB101612 Equip Blank	

Analyte	Result	DF	MDL	RDL	Units	Analyzed	By	Notes
Chloromethane	ND	1	0.055	0.5	ug/L	10/19/12	nicollez	
cis-1,2-Dichloroethene	ND	1	0.055	0.5	ug/L	10/19/12	nicollez	
cis-1,3-dichloropropene	ND	1	0.061	0.5	ug/L	10/19/12	nicollez	
cis-1,4-dichloro-2-butene	ND	1	0.075	5	ug/L	10/19/12	nicollez	
Dibromomethane	ND	1	0.06	0.5	ug/L	10/19/12	nicollez	
Dichlorodifluoromethane	ND	1	0.062	0.5	ug/L	10/19/12	nicollez	
Di-isopropyl ether (DIPE)	ND	1	0.17	0.5	ug/L	10/19/12	nicollez	
Ethylbenzene	ND	1	0.091	0.5	ug/L	10/19/12	nicollez	
Ethyl-tertbutylether (ETBE)	ND	1	0.25	0.5	ug/L	10/19/12	nicollez	
Hexachlorobutadiene	ND	1	0.073	1	ug/L	10/19/12	nicollez	
Isopropylbenzene	ND	1	0.089	0.5	ug/L	10/19/12	nicollez	
m and p-Xylene	ND	1	0.17	0.5	ug/L	10/19/12	nicollez	
Methylene chloride	ND	1	0.15	0.5	ug/L	10/19/12	nicollez	
Methyl-t-butyl Ether (MTBE)	ND	1	0.068	0.5	ug/L	10/19/12	nicollez	
Naphthalene	ND	1	0.061	0.5	ug/L	10/19/12	nicollez	
N-butylbenzene	ND	1	0.094	0.5	ug/L	10/19/12	nicollez	
N-propylbenzene	ND	1	0.09	0.5	ug/L	10/19/12	nicollez	
o-Xylene	ND	1	0.075	0.5	ug/L	10/19/12	nicollez	
Sec-butylbenzene	ND	1	0.077	0.5	ug/L	10/19/12	nicollez	
Styrene	ND	1	0.088	0.5	ug/L	10/19/12	nicollez	
t-Butyl alcohol (TBA)	ND	1	5	5	ug/L	10/19/12	nicollez	
Tert-amylmethylether (TAME)	ND	1	0.13	0.5	ug/L	10/19/12	nicollez	
Tert-butylbenzene	ND	1	0.092	0.5	ug/L	10/19/12	nicollez	
Tetrachloroethene	ND	1	0.15	0.5	ug/L	10/19/12	nicollez	
Toluene	ND	1	0.078	0.5	ug/L	10/19/12	nicollez	
trans-1,2-dichloroethene	ND	1	0.17	0.5	ug/L	10/19/12	nicollez	
trans-1,3-dichloropropene	ND	1	0.056	0.5	ug/L	10/19/12	nicollez	
trans-1,4-dichloro-2-butene	ND	1	0.075	5	ug/L	10/19/12	nicollez	
Trichloroethene	ND	1	0.078	0.5	ug/L	10/19/12	nicollez	
Trichlorofluoromethane	ND	1	0.06	0.5	ug/L	10/19/12	nicollez	
Vinyl Chloride	ND	1	0.08	0.5	ug/L	10/19/12	nicollez	
Xylenes (Total)	ND	1	0.25	0.5	ug/L	10/19/12	nicollez	

Analyte	% Recovery	Limits	Notes
1,2-Dichloroethane-d4 (SUR)	114	70-145	
4-Bromofluorobenzene (SUR)	105	70-145	
Dibromodifluoromethane (SUR)	103	70-145	
Toluene-d8 (SUR)	100	70-145	

Method: EPA 8260M	Prep Method: EPA 5030B	QC Batch ID: QC1130967
1,2,3-Trichloropropane	ND	1 0.005 0.005 ug/L 10/29/12 akk

Analyte	% Recovery	Limits	Notes
Toluene-d8 (SUR)	108	50-150	

Method: EPA 8270M	Prep Method: EPA 3535	QC Batch ID: QC1130645
1,4-Dioxane	ND	1 0.12 1 ug/L 10/17/12 qnguyen

ND = Not Detected or < MDL MDL = Method Detection Limit RDL = Reporting Detection Limit DF = Dilution Factor

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ALAB : 00012

Appendix H

ChemStat Trend Reports

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: 3850M

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
3300	5300	-2000	0	1
2700	5300	-2600	0	2
4600	5300	-700	0	3
4430	5300	-870	0	4
3030	5300	-2270	0	5
2350	5300	-2950	0	6
970	5300	-4330	0	7
830	5300	-4470	0	8
660	5300	-4640	0	9
2700	3300	-600	0	10
4600	3300	1300	1	10
4430	3300	1130	2	10
3030	3300	-270	2	11
2350	3300	-950	2	12
970	3300	-2330	2	13
830	3300	-2470	2	14
660	3300	-2640	2	15
4600	2700	1900	3	15
4430	2700	1730	4	15
3030	2700	330	5	15
2350	2700	-350	5	16
970	2700	-1730	5	17
830	2700	-1870	5	18
660	2700	-2040	5	19
4430	4600	-170	5	20
3030	4600	-1570	5	21
2350	4600	-2250	5	22
970	4600	-3630	5	23
830	4600	-3770	5	24
660	4600	-3940	5	25
3030	4430	-1400	5	26
2350	4430	-2080	5	27
970	4430	-3460	5	28
830	4430	-3600	5	29
660	4430	-3770	5	30
2350	3030	-680	5	31
970	3030	-2060	5	32
830	3030	-2200	5	33
660	3030	-2370	5	34
970	2350	-1380	5	35
830	2350	-1520	5	36

660	2350	-1690	5	37
830	970	-140	5	38
660	970	-310	5	39
660	830	-170	5	40

S Statistic = 5 - 40 = -35

Comparing at $1.0 - (0.05 / 2) = 97.5\%$ confidence level (two-tailed)

Probability of obtaining $S \geq |-35|$ is 0.00094

0.00094 < 0.05 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: 3850N

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

98% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
270	390	-120	0	1
400	390	10	1	1
340	390	-50	1	2
770	390	380	2	2
800	390	410	3	2
1100	390	710	4	2
860	390	470	5	2
510	390	120	6	2
460	390	70	7	2
350	390	-40	7	3
110	390	-280	7	4
255	390	-135	7	5
312	390	-78	7	6
311	390	-79	7	7
280	390	-110	7	8
341	390	-49	7	9
338	390	-52	7	10
250	390	-140	7	11
140	390	-250	7	12
18	390	-372	7	13
160	390	-230	7	14
130	390	-260	7	15
400	270	130	8	15
340	270	70	9	15
770	270	500	10	15
800	270	530	11	15
1100	270	830	12	15
860	270	590	13	15
510	270	240	14	15
460	270	190	15	15
350	270	80	16	15
110	270	-160	16	16
255	270	-15	16	17
312	270	42	17	17
311	270	41	18	17
280	270	10	19	17
341	270	71	20	17
338	270	68	21	17
250	270	-20	21	18
140	270	-130	21	19
18	270	-252	21	20
160	270	-110	21	21
130	270	-140	21	22
340	400	-60	21	23
770	400	370	22	23

800	400	400	23	23
1100	400	700	24	23
860	400	460	25	23
510	400	110	26	23
460	400	60	27	23
350	400	-50	27	24
110	400	-290	27	25
255	400	-145	27	26
312	400	-88	27	27
311	400	-89	27	28
280	400	-120	27	29
341	400	-59	27	30
338	400	-62	27	31
250	400	-150	27	32
140	400	-260	27	33
18	400	-382	27	34
160	400	-240	27	35
130	400	-270	27	36
770	340	430	28	36
800	340	460	29	36
1100	340	760	30	36
860	340	520	31	36
510	340	170	32	36
460	340	120	33	36
350	340	10	34	36
110	340	-230	34	37
255	340	-85	34	38
312	340	-28	34	39
311	340	-29	34	40
280	340	-60	34	41
341	340	1	35	41
338	340	-2	35	42
250	340	-90	35	43
140	340	-200	35	44
18	340	-322	35	45
160	340	-180	35	46
130	340	-210	35	47
800	770	30	36	47
1100	770	330	37	47
860	770	90	38	47
510	770	-260	38	48
460	770	-310	38	49
350	770	-420	38	50
110	770	-660	38	51
255	770	-515	38	52
312	770	-458	38	53
311	770	-459	38	54
280	770	-490	38	55
341	770	-429	38	56
338	770	-432	38	57
250	770	-520	38	58
140	770	-630	38	59
18	770	-752	38	60
160	770	-610	38	61
130	770	-640	38	62

1100	800	300	39	62
860	800	60	40	62
510	800	-290	40	63
460	800	-340	40	64
350	800	-450	40	65
110	800	-690	40	66
255	800	-545	40	67
312	800	-488	40	68
311	800	-489	40	69
280	800	-520	40	70
341	800	-459	40	71
338	800	-462	40	72
250	800	-550	40	73
140	800	-660	40	74
18	800	-782	40	75
160	800	-640	40	76
130	800	-670	40	77
860	1100	-240	40	78
510	1100	-590	40	79
460	1100	-640	40	80
350	1100	-750	40	81
110	1100	-990	40	82
255	1100	-845	40	83
312	1100	-788	40	84
311	1100	-789	40	85
280	1100	-820	40	86
341	1100	-759	40	87
338	1100	-762	40	88
250	1100	-850	40	89
140	1100	-960	40	90
18	1100	-1082	40	91
160	1100	-940	40	92
130	1100	-970	40	93
510	860	-350	40	94
460	860	-400	40	95
350	860	-510	40	96
110	860	-750	40	97
255	860	-605	40	98
312	860	-548	40	99
311	860	-549	40	100
280	860	-580	40	101
341	860	-519	40	102
338	860	-522	40	103
250	860	-610	40	104
140	860	-720	40	105
18	860	-842	40	106
160	860	-700	40	107
130	860	-730	40	108
460	510	-50	40	109
350	510	-160	40	110
110	510	-400	40	111
255	510	-255	40	112
312	510	-198	40	113

311	510	-199	40	114
280	510	-230	40	115
341	510	-169	40	116
338	510	-172	40	117
250	510	-260	40	118
140	510	-370	40	119
18	510	-492	40	120
160	510	-350	40	121
130	510	-380	40	122
350	460	-110	40	123
110	460	-350	40	124
255	460	-205	40	125
312	460	-148	40	126
311	460	-149	40	127
280	460	-180	40	128
341	460	-119	40	129
338	460	-122	40	130
250	460	-210	40	131
140	460	-320	40	132
18	460	-442	40	133
160	460	-300	40	134
130	460	-330	40	135
110	350	-240	40	136
255	350	-95	40	137
312	350	-38	40	138
311	350	-39	40	139
280	350	-70	40	140
341	350	-9	40	141
338	350	-12	40	142
250	350	-100	40	143
140	350	-210	40	144
18	350	-332	40	145
160	350	-190	40	146
130	350	-220	40	147
255	110	145	41	147
312	110	202	42	147
311	110	201	43	147
280	110	170	44	147
341	110	231	45	147
338	110	228	46	147
250	110	140	47	147
140	110	30	48	147
18	110	-92	48	148
160	110	50	49	148
130	110	20	50	148
312	255	57	51	148
311	255	56	52	148
280	255	25	53	148
341	255	86	54	148
338	255	83	55	148
250	255	-5	55	149
140	255	-115	55	150
18	255	-237	55	151

160	255	-95	55	152
130	255	-125	55	153
311	312	-1	55	154
280	312	-32	55	155
341	312	29	56	155
338	312	26	57	155
250	312	-62	57	156
140	312	-172	57	157
18	312	-294	57	158
160	312	-152	57	159
130	312	-182	57	160
280	311	-31	57	161
341	311	30	58	161
338	311	27	59	161
250	311	-61	59	162
140	311	-171	59	163
18	311	-293	59	164
160	311	-151	59	165
130	311	-181	59	166
341	280	61	60	166
338	280	58	61	166
250	280	-30	61	167
140	280	-140	61	168
18	280	-262	61	169
160	280	-120	61	170
130	280	-150	61	171
338	341	-3	61	172
250	341	-91	61	173
140	341	-201	61	174
18	341	-323	61	175
160	341	-181	61	176
130	341	-211	61	177
250	338	-88	61	178
140	338	-198	61	179
18	338	-320	61	180
160	338	-178	61	181
130	338	-208	61	182
140	250	-110	61	183
18	250	-232	61	184
160	250	-90	61	185
130	250	-120	61	186
18	140	-122	61	187
160	140	20	62	187
130	140	-10	62	188
160	18	142	63	188
130	18	112	64	188
130	160	-30	64	189

S Statistic = 64 - 189 = -125

Tied Group	Value	Members
Time Period		Observations
8/29/2000		1
8/7/2001		1
3/19/2002		1
7/16/2002		1
1/24/2003		1
7/29/2003		1
3/18/2004		1
12/3/2004		1
6/16/2005		1
12/9/2005		1
6/12/2006		1
12/5/2006		1
6/21/2007		1
12/10/2007		1
6/2/2008		1
12/5/2008		1
6/24/2009		1
12/2/2009		1
12/2/2010		1
4/7/2011		1
10/6/2011		1
4/12/2012		1
10/10/2012		1
There are 0 time periods with multiple data		

A = 0

B = 0

C = 0

D = 0

E = 0

F = 0

a = 25806

b = 95634

c = 1012

Group Variance = 1433.67

Z-Score = -3.2749

Comparison Level at 1.0 - (0.02 / 2) = 99% confidence level = 2.32634 (two-tailed)

$|-3.2749| > 2.32634$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: 3850V

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
930	580	350	1	0
1700	580	1120	2	0
2100	580	1520	3	0
360	580	-220	3	1
160	580	-420	3	2
127	580	-453	3	3
112	580	-468	3	4
96.5	580	-483.5	3	5
28	580	-552	3	6
24	580	-556	3	7
20	580	-560	3	8
1700	930	770	4	8
2100	930	1170	5	8
360	930	-570	5	9
160	930	-770	5	10
127	930	-803	5	11
112	930	-818	5	12
96.5	930	-833.5	5	13
28	930	-902	5	14
24	930	-906	5	15
20	930	-910	5	16
2100	1700	400	6	16
360	1700	-1340	6	17
160	1700	-1540	6	18
127	1700	-1573	6	19
112	1700	-1588	6	20
96.5	1700	-1603.5	6	21
28	1700	-1672	6	22
24	1700	-1676	6	23
20	1700	-1680	6	24
360	2100	-1740	6	25
160	2100	-1940	6	26
127	2100	-1973	6	27
112	2100	-1988	6	28
96.5	2100	-2003.5	6	29
28	2100	-2072	6	30
24	2100	-2076	6	31
20	2100	-2080	6	32
160	360	-200	6	33
127	360	-233	6	34
112	360	-248	6	35
96.5	360	-263.5	6	36
28	360	-332	6	37

24	360	-336	6	38
20	360	-340	6	39
127	160	-33	6	40
112	160	-48	6	41
96.5	160	-63.5	6	42
28	160	-132	6	43
24	160	-136	6	44
20	160	-140	6	45
112	127	-15	6	46
96.5	127	-30.5	6	47
28	127	-99	6	48
24	127	-103	6	49
20	127	-107	6	50
96.5	112	-15.5	6	51
28	112	-84	6	52
24	112	-88	6	53
20	112	-92	6	54
28	96.5	-68.5	6	55
24	96.5	-72.5	6	56
20	96.5	-76.5	6	57
24	28	-4	6	58
20	28	-8	6	59
20	24	-4	6	60

S Statistic = 6 - 60 = -54

Tied Group	Value	Members
Time Period		Observations
8/7/2001		1
3/18/2002		1
1/28/2003		1
3/19/2004		1
12/13/2005		1
12/5/2006		1
12/11/2007		1
12/9/2008		1
12/4/2009		1
12/14/2010		1
4/20/2011		1
4/11/2012		1

There are 0 time periods with multiple data

A = 0
 B = 0
 C = 0
 D = 0
 E = 0
 F = 0
 a = 3828

b = 11880

c = 264

Group Variance = 212.667

Z-Score = -3.63435

Comparison Level at $1.0 - (0.05 / 2) = 97.5\%$ confidence level = 1.97737 (two-tailed)

$|-3.63435| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: 3850W

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
400	960	-560	0	1
1570	960	610	1	1
192	960	-768	1	2
345	960	-615	1	3
94	960	-866	1	4
55	960	-905	1	5
31	960	-929	1	6
1570	400	1170	2	6
192	400	-208	2	7
345	400	-55	2	8
94	400	-306	2	9
55	400	-345	2	10
31	400	-369	2	11
192	1570	-1378	2	12
345	1570	-1225	2	13
94	1570	-1476	2	14
55	1570	-1515	2	15
31	1570	-1539	2	16
345	192	153	3	16
94	192	-98	3	17
55	192	-137	3	18
31	192	-161	3	19
94	345	-251	3	20
55	345	-290	3	21
31	345	-314	3	22
55	94	-39	3	23
31	94	-63	3	24
31	55	-24	3	25

S Statistic = 3 - 25 = -22

Comparing at $1.0 - (0.1 / 2) = 95\%$ confidence level (two-tailed)

Probability of obtaining $S \geq |-22|$ is 0.0056

$0.0056 < 0.1$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: 3851N

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
71	100	-29	0	1
48	100	-52	0	2
47	100	-53	0	3
27	100	-73	0	4
11	100	-89	0	5
5.77	100	-94.23	0	6
4.37	100	-95.63	0	7
3.82	100	-96.18	0	8
3.2	100	-96.8	0	9
2.3	100	-97.7	0	10
2.3	100	-97.7	0	11
48	71	-23	0	12
47	71	-24	0	13
27	71	-44	0	14
11	71	-60	0	15
5.77	71	-65.23	0	16
4.37	71	-66.63	0	17
3.82	71	-67.18	0	18
3.2	71	-67.8	0	19
2.3	71	-68.7	0	20
2.3	71	-68.7	0	21
47	48	-1	0	22
27	48	-21	0	23
11	48	-37	0	24
5.77	48	-42.23	0	25
4.37	48	-43.63	0	26
3.82	48	-44.18	0	27
3.2	48	-44.8	0	28
2.3	48	-45.7	0	29
2.3	48	-45.7	0	30
27	47	-20	0	31
11	47	-36	0	32
5.77	47	-41.23	0	33
4.37	47	-42.63	0	34
3.82	47	-43.18	0	35
3.2	47	-43.8	0	36
2.3	47	-44.7	0	37
2.3	47	-44.7	0	38
11	27	-16	0	39
5.77	27	-21.23	0	40
4.37	27	-22.63	0	41
3.82	27	-23.18	0	42
3.2	27	-23.8	0	43

2.3	27	-24.7	0	44
2.3	27	-24.7	0	45
5.77	11	-5.23	0	46
4.37	11	-6.63	0	47
3.82	11	-7.18	0	48
3.2	11	-7.8	0	49
2.3	11	-8.7	0	50
2.3	11	-8.7	0	51
4.37	5.77	-1.4	0	52
3.82	5.77	-1.95	0	53
3.2	5.77	-2.57	0	54
2.3	5.77	-3.47	0	55
2.3	5.77	-3.47	0	56
3.82	4.37	-0.55	0	57
3.2	4.37	-1.17	0	58
2.3	4.37	-2.07	0	59
2.3	4.37	-2.07	0	60
3.2	3.82	-0.62	0	61
2.3	3.82	-1.52	0	62
2.3	3.82	-1.52	0	63
2.3	3.2	-0.9	0	64
2.3	3.2	-0.9	0	65
2.3	2.3	0	0	65

S Statistic = 0 - 65 = -65

Tied Group	Value	Members
1	2.3	2

Time Period	Observations
3/25/2002	1
1/23/2003	1
3/15/2004	1
12/3/2004	1
12/12/2005	1
12/8/2006	1
12/10/2007	1
12/4/2008	1
12/9/2009	1
12/10/2010	1
4/7/2011	1
4/12/2012	1

There are 0 time periods with multiple data

A = 18
 B = 0
 C = 0
 D = 0
 E = 2
 F = 0

a = 3828

b = 11880

c = 264

Group Variance = 211.667

Z-Score = -4.399

Comparison Level at $1.0 - (0.05 / 2) = 97.5\%$ confidence level = 1.97737 (two-tailed)

$|-4.399| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: 3852F

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
2.5	2.5	0	0	0
2.2	2.5	-0.3	0	1
1.13	2.5	-1.37	0	2
1.33	2.5	-1.17	0	3
1.5	2.5	-1	0	4
1.5	2.5	-1	0	5
0.92	2.5	-1.58	0	6
0.8	2.5	-1.7	0	7
2.2	2.5	-0.3	0	8
1.13	2.5	-1.37	0	9
1.33	2.5	-1.17	0	10
1.5	2.5	-1	0	11
1.5	2.5	-1	0	12
0.92	2.5	-1.58	0	13
0.8	2.5	-1.7	0	14
1.13	2.2	-1.07	0	15
1.33	2.2	-0.87	0	16
1.5	2.2	-0.7	0	17
1.5	2.2	-0.7	0	18
0.92	2.2	-1.28	0	19
0.8	2.2	-1.4	0	20
1.33	1.13	0.2	1	20
1.5	1.13	0.37	2	20
1.5	1.13	0.37	3	20
0.92	1.13	-0.21	3	21
0.8	1.13	-0.33	3	22
1.5	1.33	0.17	4	22
1.5	1.33	0.17	5	22
0.92	1.33	-0.41	5	23
0.8	1.33	-0.53	5	24
1.5	1.5	0	5	24
0.92	1.5	-0.58	5	25
0.8	1.5	-0.7	5	26
0.92	1.5	-0.58	5	27
0.8	1.5	-0.7	5	28
0.8	0.92	-0.12	5	29

S Statistic = 5 - 29 = -24

Comparing at 1.0 - (0.1 / 2) = 95% confidence level (two-tailed)

Probability of obtaining $S \geq |-24|$ is 0.01386
 $0.01386 < 0.1$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: 3852L

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
ND<0	ND<0	0	0	0
ND<0	ND<0	0	0	0
ND<0	ND<0	0	0	0
0.4	ND<0	0.4	1	0
0.7	ND<0	0.7	2	0
ND<0	ND<0	0	2	0
0.89	ND<0	0.89	3	0
0.52	ND<0	0.52	4	0
ND<0	ND<0	0	4	0
0.66	ND<0	0.66	5	0
0.9	ND<0	0.9	6	0
ND<0	ND<0	0	6	0
ND<0	ND<0	0	6	0
0.4	ND<0	0.4	7	0
0.7	ND<0	0.7	8	0
ND<0	ND<0	0	8	0
0.89	ND<0	0.89	9	0
0.52	ND<0	0.52	10	0
ND<0	ND<0	0	10	0
0.66	ND<0	0.66	11	0
0.9	ND<0	0.9	12	0
ND<0	ND<0	0	12	0
0.4	ND<0	0.4	13	0
0.7	ND<0	0.7	14	0
ND<0	ND<0	0	14	0
0.89	ND<0	0.89	15	0
0.52	ND<0	0.52	16	0
ND<0	ND<0	0	16	0
0.66	ND<0	0.66	17	0
0.9	ND<0	0.9	18	0
0.4	ND<0	0.4	19	0
0.7	ND<0	0.7	20	0
ND<0	ND<0	0	20	0
0.89	ND<0	0.89	21	0
0.52	ND<0	0.52	22	0
ND<0	ND<0	0	22	0
0.66	ND<0	0.66	23	0
0.9	ND<0	0.9	24	0
0.7	0.4	0.3	25	0
ND<0	0.4	-0.4	25	1
0.89	0.4	0.49	26	1
0.52	0.4	0.12	27	1
ND<0	0.4	-0.4	27	2

0.66	0.4	0.26	28	2
0.9	0.4	0.5	29	2
ND<0	0.7	-0.7	29	3
0.89	0.7	0.19	30	3
0.52	0.7	-0.18	30	4
ND<0	0.7	-0.7	30	5
0.66	0.7	-0.04	30	6
0.9	0.7	0.2	31	6
0.89	ND<0	0.89	32	6
0.52	ND<0	0.52	33	6
ND<0	ND<0	0	33	6
0.66	ND<0	0.66	34	6
0.9	ND<0	0.9	35	6
0.52	0.89	-0.37	35	7
ND<0	0.89	-0.89	35	8
0.66	0.89	-0.23	35	9
0.9	0.89	0.01	36	9
ND<0	0.52	-0.52	36	10
0.66	0.52	0.14	37	10
0.9	0.52	0.38	38	10
0.66	ND<0	0.66	39	10
0.9	ND<0	0.9	40	10
0.9	0.66	0.24	41	10

S Statistic = 41 - 10 = 31

Tied Group	Value	Members
1	0	6

Time Period	Observations
3/27/2002	1
1/27/2003	1
3/20/2004	1
12/7/2004	1
12/12/2005	1
12/7/2006	1
12/5/2007	1
12/8/2008	1
12/3/2009	1
12/23/2010	1
4/12/2011	1
4/12/2012	1
There are 0 time periods with multiple data	

A = 510
 B = 0
 C = 120
 D = 0
 E = 30
 F = 0

a = 3828
b = 11880
c = 264
Group Variance = 184.333
Z-Score = 2.20963
Comparison Level at $1.0 - (0.05 / 2) = 97.5\%$ confidence level = 1.97737 (two-tailed)
|2.20963| > 1.97737 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: 3860K

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
3200	5900	-2700	0	1
4800	5900	-1100	0	2
5700	5900	-200	0	3
6600	5900	700	1	3
5700	5900	-200	1	4
3200	5900	-2700	1	5
5500	5900	-400	1	6
4940	5900	-960	1	7
3190	5900	-2710	1	8
2700	5900	-3200	1	9
2200	5900	-3700	1	10
1100	5900	-4800	1	11
4800	3200	1600	2	11
5700	3200	2500	3	11
6600	3200	3400	4	11
5700	3200	2500	5	11
3200	3200	0	5	11
5500	3200	2300	6	11
4940	3200	1740	7	11
3190	3200	-10	7	12
2700	3200	-500	7	13
2200	3200	-1000	7	14
1100	3200	-2100	7	15
5700	4800	900	8	15
6600	4800	1800	9	15
5700	4800	900	10	15
3200	4800	-1600	10	16
5500	4800	700	11	16
4940	4800	140	12	16
3190	4800	-1610	12	17
2700	4800	-2100	12	18
2200	4800	-2600	12	19
1100	4800	-3700	12	20
6600	5700	900	13	20
5700	5700	0	13	20
3200	5700	-2500	13	21
5500	5700	-200	13	22
4940	5700	-760	13	23
3190	5700	-2510	13	24
2700	5700	-3000	13	25
2200	5700	-3500	13	26
1100	5700	-4600	13	27
5700	6600	-900	13	28

3200	6600	-3400	13	29
5500	6600	-1100	13	30
4940	6600	-1660	13	31
3190	6600	-3410	13	32
2700	6600	-3900	13	33
2200	6600	-4400	13	34
1100	6600	-5500	13	35
3200	5700	-2500	13	36
5500	5700	-200	13	37
4940	5700	-760	13	38
3190	5700	-2510	13	39
2700	5700	-3000	13	40
2200	5700	-3500	13	41
1100	5700	-4600	13	42
5500	3200	2300	14	42
4940	3200	1740	15	42
3190	3200	-10	15	43
2700	3200	-500	15	44
2200	3200	-1000	15	45
1100	3200	-2100	15	46
4940	5500	-560	15	47
3190	5500	-2310	15	48
2700	5500	-2800	15	49
2200	5500	-3300	15	50
1100	5500	-4400	15	51
3190	4940	-1750	15	52
2700	4940	-2240	15	53
2200	4940	-2740	15	54
1100	4940	-3840	15	55
2700	3190	-490	15	56
2200	3190	-990	15	57
1100	3190	-2090	15	58
2200	2700	-500	15	59
1100	2700	-1600	15	60
1100	2200	-1100	15	61

S Statistic = 15 - 61 = -46

Tied Group	Value	Members
1	3200	2
2	5700	2

Time Period	Observations
2/5/2001	1
3/18/2002	1
1/27/2003	1
3/19/2004	1
12/8/2004	1
12/13/2005	1

12/7/2006	1
12/13/2007	1
12/8/2008	1
12/9/2009	1
12/14/2010	1
4/22/2011	1
4/16/2012	1

There are 0 time periods with multiple data

A = 36

B = 0

C = 0

D = 0

E = 4

F = 0

a = 4836

b = 15444

c = 312

Group Variance = 266.667

Z-Score = -2.75568

Comparison Level at 1.0 - $(0.05 / 2) = 97.5\%$ confidence level = 1.97737 (two-tailed)

$|-2.75568| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: 3862D

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
520	260	260	1	0
490	260	230	2	0
260	260	0	2	0
250	260	-10	2	1
240	260	-20	2	2
218	260	-42	2	3
230	260	-30	2	4
160	260	-100	2	5
93	260	-167	2	6
490	520	-30	2	7
260	520	-260	2	8
250	520	-270	2	9
240	520	-280	2	10
218	520	-302	2	11
230	520	-290	2	12
160	520	-360	2	13
93	520	-427	2	14
260	490	-230	2	15
250	490	-240	2	16
240	490	-250	2	17
218	490	-272	2	18
230	490	-260	2	19
160	490	-330	2	20
93	490	-397	2	21
250	260	-10	2	22
240	260	-20	2	23
218	260	-42	2	24
230	260	-30	2	25
160	260	-100	2	26
93	260	-167	2	27
240	250	-10	2	28
218	250	-32	2	29
230	250	-20	2	30
160	250	-90	2	31
93	250	-157	2	32
218	240	-22	2	33
230	240	-10	2	34
160	240	-80	2	35
93	240	-147	2	36
230	218	12	3	36
160	218	-58	3	37

93	218	-125	3	38
160	230	-70	3	39
93	230	-137	3	40
93	160	-67	3	41

S Statistic = 3 - 41 = -38

Comparing at 1.0 - (0.05 / 2) = 97.5% confidence level (two-tailed)

Probability of obtaining S >= |-38| is 0.000238

0.000238 < 0.05 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: 3862E

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
160	99	61	1	0
120	99	21	2	0
110	99	11	3	0
84	99	-15	3	1
85	99	-14	3	2
66.8	99	-32.2	3	3
77.4	99	-21.6	3	4
75.1	99	-23.9	3	5
53	99	-46	3	6
45	99	-54	3	7
58	99	-41	3	8
120	160	-40	3	9
110	160	-50	3	10
84	160	-76	3	11
85	160	-75	3	12
66.8	160	-93.2	3	13
77.4	160	-82.6	3	14
75.1	160	-84.9	3	15
53	160	-107	3	16
45	160	-115	3	17
58	160	-102	3	18
110	120	-10	3	19
84	120	-36	3	20
85	120	-35	3	21
66.8	120	-53.2	3	22
77.4	120	-42.6	3	23
75.1	120	-44.9	3	24
53	120	-67	3	25
45	120	-75	3	26
58	120	-62	3	27
84	110	-26	3	28
85	110	-25	3	29
66.8	110	-43.2	3	30
77.4	110	-32.6	3	31
75.1	110	-34.9	3	32
53	110	-57	3	33
45	110	-65	3	34
58	110	-52	3	35
85	84	1	4	35
66.8	84	-17.2	4	36
77.4	84	-6.6	4	37
75.1	84	-8.9	4	38
53	84	-31	4	39

45	84	-39	4	40
58	84	-26	4	41
66.8	85	-18.2	4	42
77.4	85	-7.6	4	43
75.1	85	-9.9	4	44
53	85	-32	4	45
45	85	-40	4	46
58	85	-27	4	47
77.4	66.8	10.6	5	47
75.1	66.8	8.3	6	47
53	66.8	-13.8	6	48
45	66.8	-21.8	6	49
58	66.8	-8.8	6	50
75.1	77.4	-2.3	6	51
53	77.4	-24.4	6	52
45	77.4	-32.4	6	53
58	77.4	-19.4	6	54
53	75.1	-22.1	6	55
45	75.1	-30.1	6	56
58	75.1	-17.1	6	57
45	53	-8	6	58
58	53	5	7	58
58	45	13	8	58

S Statistic = 8 - 58 = -50

Tied Group	Value	Members
Time Period	Observations	
3/21/2002	1	
1/23/2003	1	
3/16/2004	1	
12/7/2004	1	
12/13/2005	1	
12/14/2006	1	
12/6/2007	1	
12/5/2008	1	
12/3/2009	1	
12/9/2010	1	
4/8/2011	1	
4/16/2012	1	
There are 0 time periods with multiple data		

A = 0
 B = 0
 C = 0
 D = 0
 E = 0
 F = 0
 a = 3828

b = 11880

c = 264

Group Variance = 212.667

Z-Score = -3.36005

Comparison Level at $1.0 - (0.05 / 2) = 97.5\%$ confidence level = 1.97737 (two-tailed)

$|-3.36005| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: 4959H

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
280	550	-270	0	1
86	550	-464	0	2
29.6	550	-520.4	0	3
14.5	550	-535.5	0	4
4.7	550	-545.3	0	5
5.2	550	-544.8	0	6
86	280	-194	0	7
29.6	280	-250.4	0	8
14.5	280	-265.5	0	9
4.7	280	-275.3	0	10
5.2	280	-274.8	0	11
29.6	86	-56.4	0	12
14.5	86	-71.5	0	13
4.7	86	-81.3	0	14
5.2	86	-80.8	0	15
14.5	29.6	-15.1	0	16
4.7	29.6	-24.9	0	17
5.2	29.6	-24.4	0	18
4.7	14.5	-9.8	0	19
5.2	14.5	-9.3	0	20
5.2	4.7	0.5	1	20

S Statistic = 1 - 20 = -19

Comparing at 1.0 - (0.1 / 2) = 95% confidence level (two-tailed)

Probability of obtaining S >= |-19| is 0.0028

0.0028 < 0.1 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: A-1-CW05

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
200	180	20	1	0
120	180	-60	1	1
66	180	-114	1	2
70.7	180	-109.3	1	3
60	180	-120	1	4
76.1	180	-103.9	1	5
51	180	-129	1	6
53	180	-127	1	7
44	180	-136	1	8
120	200	-80	1	9
66	200	-134	1	10
70.7	200	-129.3	1	11
60	200	-140	1	12
76.1	200	-123.9	1	13
51	200	-149	1	14
53	200	-147	1	15
44	200	-156	1	16
66	120	-54	1	17
70.7	120	-49.3	1	18
60	120	-60	1	19
76.1	120	-43.9	1	20
51	120	-69	1	21
53	120	-67	1	22
44	120	-76	1	23
70.7	66	4.7	2	23
60	66	-6	2	24
76.1	66	10.1	3	24
51	66	-15	3	25
53	66	-13	3	26
44	66	-22	3	27
60	70.7	-10.7	3	28
76.1	70.7	5.4	4	28
51	70.7	-19.7	4	29
53	70.7	-17.7	4	30
44	70.7	-26.7	4	31
76.1	60	16.1	5	31
51	60	-9	5	32
53	60	-7	5	33
44	60	-16	5	34
51	76.1	-25.1	5	35
53	76.1	-23.1	5	36

44	76.1	-32.1	5	37
53	51	2	6	37
44	51	-7	6	38
44	53	-9	6	39

S Statistic = 6 - 39 = -33

Comparing at $1.0 - (0.05 / 2) = 97.5\%$ confidence level (two-tailed)

Probability of obtaining $S \geq |-33|$ is 0.0022

0.0022 < 0.05 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: A-1-CW09

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

98% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
320	540	-220	0	1
290	540	-250	0	2
190	540	-350	0	3
200	540	-340	0	4
160	540	-380	0	5
140	540	-400	0	6
78	540	-462	0	7
72	540	-468	0	8
63	540	-477	0	9
48	540	-492	0	10
68.7	540	-471.3	0	11
77.1	540	-462.9	0	12
83.5	540	-456.5	0	13
64.5	540	-475.5	0	14
100	540	-440	0	15
111	540	-429	0	16
74	540	-466	0	17
67	540	-473	0	18
56	540	-484	0	19
69	540	-471	0	20
21	540	-519	0	21
290	320	-30	0	22
190	320	-130	0	23
200	320	-120	0	24
160	320	-160	0	25
140	320	-180	0	26
78	320	-242	0	27
72	320	-248	0	28
63	320	-257	0	29
48	320	-272	0	30
68.7	320	-251.3	0	31
77.1	320	-242.9	0	32
83.5	320	-236.5	0	33
64.5	320	-255.5	0	34
100	320	-220	0	35
111	320	-209	0	36
74	320	-246	0	37
67	320	-253	0	38
56	320	-264	0	39
69	320	-251	0	40
21	320	-299	0	41
190	290	-100	0	42
200	290	-90	0	43
160	290	-130	0	44
140	290	-150	0	45

78	290	-212	0	46
72	290	-218	0	47
63	290	-227	0	48
48	290	-242	0	49
68.7	290	-221.3	0	50
77.1	290	-212.9	0	51
83.5	290	-206.5	0	52
64.5	290	-225.5	0	53
100	290	-190	0	54
111	290	-179	0	55
74	290	-216	0	56
67	290	-223	0	57
56	290	-234	0	58
69	290	-221	0	59
21	290	-269	0	60
200	190	10	1	60
160	190	-30	1	61
140	190	-50	1	62
78	190	-112	1	63
72	190	-118	1	64
63	190	-127	1	65
48	190	-142	1	66
68.7	190	-121.3	1	67
77.1	190	-112.9	1	68
83.5	190	-106.5	1	69
64.5	190	-125.5	1	70
100	190	-90	1	71
111	190	-79	1	72
74	190	-116	1	73
67	190	-123	1	74
56	190	-134	1	75
69	190	-121	1	76
21	190	-169	1	77
160	200	-40	1	78
140	200	-60	1	79
78	200	-122	1	80
72	200	-128	1	81
63	200	-137	1	82
48	200	-152	1	83
68.7	200	-131.3	1	84
77.1	200	-122.9	1	85
83.5	200	-116.5	1	86
64.5	200	-135.5	1	87
100	200	-100	1	88
111	200	-89	1	89
74	200	-126	1	90
67	200	-133	1	91
56	200	-144	1	92
69	200	-131	1	93
21	200	-179	1	94
140	160	-20	1	95
78	160	-82	1	96
72	160	-88	1	97
63	160	-97	1	98

48	160	-112	1	99
68.7	160	-91.3	1	100
77.1	160	-82.9	1	101
83.5	160	-76.5	1	102
64.5	160	-95.5	1	103
100	160	-60	1	104
111	160	-49	1	105
74	160	-86	1	106
67	160	-93	1	107
56	160	-104	1	108
69	160	-91	1	109
21	160	-139	1	110
78	140	-62	1	111
72	140	-68	1	112
63	140	-77	1	113
48	140	-92	1	114
68.7	140	-71.3	1	115
77.1	140	-62.9	1	116
83.5	140	-56.5	1	117
64.5	140	-75.5	1	118
100	140	-40	1	119
111	140	-29	1	120
74	140	-66	1	121
67	140	-73	1	122
56	140	-84	1	123
69	140	-71	1	124
21	140	-119	1	125
72	78	-6	1	126
63	78	-15	1	127
48	78	-30	1	128
68.7	78	-9.3	1	129
77.1	78	-0.9	1	130
83.5	78	5.5	2	130
64.5	78	-13.5	2	131
100	78	22	3	131
111	78	33	4	131
74	78	-4	4	132
67	78	-11	4	133
56	78	-22	4	134
69	78	-9	4	135
21	78	-57	4	136
63	72	-9	4	137
48	72	-24	4	138
68.7	72	-3.3	4	139
77.1	72	5.1	5	139
83.5	72	11.5	6	139
64.5	72	-7.5	6	140
100	72	28	7	140
111	72	39	8	140
74	72	2	9	140
67	72	-5	9	141
56	72	-16	9	142
69	72	-3	9	143
21	72	-51	9	144

48	63	-15	9	145
68.7	63	5.7	10	145
77.1	63	14.1	11	145
83.5	63	20.5	12	145
64.5	63	1.5	13	145
100	63	37	14	145
111	63	48	15	145
74	63	11	16	145
67	63	4	17	145
56	63	-7	17	146
69	63	6	18	146
21	63	-42	18	147
68.7	48	20.7	19	147
77.1	48	29.1	20	147
83.5	48	35.5	21	147
64.5	48	16.5	22	147
100	48	52	23	147
111	48	63	24	147
74	48	26	25	147
67	48	19	26	147
56	48	8	27	147
69	48	21	28	147
21	48	-27	28	148
77.1	68.7	8.4	29	148
83.5	68.7	14.8	30	148
64.5	68.7	-4.2	30	149
100	68.7	31.3	31	149
111	68.7	42.3	32	149
74	68.7	5.3	33	149
67	68.7	-1.7	33	150
56	68.7	-12.7	33	151
69	68.7	0.3	34	151
21	68.7	-47.7	34	152
83.5	77.1	6.4	35	152
64.5	77.1	-12.6	35	153
100	77.1	22.9	36	153
111	77.1	33.9	37	153
74	77.1	-3.1	37	154
67	77.1	-10.1	37	155
56	77.1	-21.1	37	156
69	77.1	-8.1	37	157
21	77.1	-56.1	37	158
64.5	83.5	-19	37	159
100	83.5	16.5	38	159
111	83.5	27.5	39	159
74	83.5	-9.5	39	160
67	83.5	-16.5	39	161
56	83.5	-27.5	39	162
69	83.5	-14.5	39	163
21	83.5	-62.5	39	164
100	64.5	35.5	40	164

111	64.5	46.5	41	164
74	64.5	9.5	42	164
67	64.5	2.5	43	164
56	64.5	-8.5	43	165
69	64.5	4.5	44	165
21	64.5	-43.5	44	166
111	100	11	45	166
74	100	-26	45	167
67	100	-33	45	168
56	100	-44	45	169
69	100	-31	45	170
21	100	-79	45	171
74	111	-37	45	172
67	111	-44	45	173
56	111	-55	45	174
69	111	-42	45	175
21	111	-90	45	176
67	74	-7	45	177
56	74	-18	45	178
69	74	-5	45	179
21	74	-53	45	180
56	67	-11	45	181
69	67	2	46	181
21	67	-46	46	182
69	56	13	47	182
21	56	-35	47	183
21	69	-48	47	184

S Statistic = 47 - 184 = -137

Tied Group	Value	Members
Time Period		Observations
8/29/2000		1
8/7/2001		1
3/25/2002		1
7/16/2002		1
1/27/2003		1
7/30/2003		1
3/17/2004		1
6/15/2005		1
12/12/2005		1
6/13/2006		1
12/5/2006		1
6/21/2007		1
12/6/2007		1
6/2/2008		1
12/8/2008		1
6/24/2009		1
12/8/2009		1

12/2/2010	1
4/11/2011	1
10/7/2011	1
4/12/2012	1
10/11/2012	1

There are 0 time periods with multiple data

A = 0

B = 0

C = 0

D = 0

E = 0

F = 0

a = 22638

b = 83160

c = 924

Group Variance = 1257.67

Z-Score = -3.83492

Comparison Level at $1.0 - (0.02 / 2) = 99\%$ confidence level = 2.32634 (two-tailed)

$|-3.83492| > 2.32634$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: B-1-CW13

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

98% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
1900	2100	-200	0	1
1500	2100	-600	0	2
1200	2100	-900	0	3
1100	2100	-1000	0	4
750	2100	-1350	0	5
600	2100	-1500	0	6
1400	2100	-700	0	7
550	2100	-1550	0	8
370	2100	-1730	0	9
440	2100	-1660	0	10
470	2100	-1630	0	11
530	2100	-1570	0	12
680	2100	-1420	0	13
699	2100	-1401	0	14
450	2100	-1650	0	15
330	2100	-1770	0	16
330	2100	-1770	0	17
300	2100	-1800	0	18
290	2100	-1810	0	19
1500	1900	-400	0	20
1200	1900	-700	0	21
1100	1900	-800	0	22
750	1900	-1150	0	23
600	1900	-1300	0	24
1400	1900	-500	0	25
550	1900	-1350	0	26
370	1900	-1530	0	27
440	1900	-1460	0	28
470	1900	-1430	0	29
530	1900	-1370	0	30
680	1900	-1220	0	31
699	1900	-1201	0	32
450	1900	-1450	0	33
330	1900	-1570	0	34
330	1900	-1570	0	35
300	1900	-1600	0	36
290	1900	-1610	0	37
1200	1500	-300	0	38
1100	1500	-400	0	39
750	1500	-750	0	40
600	1500	-900	0	41
1400	1500	-100	0	42
550	1500	-950	0	43
370	1500	-1130	0	44
440	1500	-1060	0	45

470	1500	-1030	0	46
530	1500	-970	0	47
680	1500	-820	0	48
699	1500	-801	0	49
450	1500	-1050	0	50
330	1500	-1170	0	51
330	1500	-1170	0	52
300	1500	-1200	0	53
290	1500	-1210	0	54
1100	1200	-100	0	55
750	1200	-450	0	56
600	1200	-600	0	57
1400	1200	200	1	57
550	1200	-650	1	58
370	1200	-830	1	59
440	1200	-760	1	60
470	1200	-730	1	61
530	1200	-670	1	62
680	1200	-520	1	63
699	1200	-501	1	64
450	1200	-750	1	65
330	1200	-870	1	66
330	1200	-870	1	67
300	1200	-900	1	68
290	1200	-910	1	69
750	1100	-350	1	70
600	1100	-500	1	71
1400	1100	300	2	71
550	1100	-550	2	72
370	1100	-730	2	73
440	1100	-660	2	74
470	1100	-630	2	75
530	1100	-570	2	76
680	1100	-420	2	77
699	1100	-401	2	78
450	1100	-650	2	79
330	1100	-770	2	80
330	1100	-770	2	81
300	1100	-800	2	82
290	1100	-810	2	83
600	750	-150	2	84
1400	750	650	3	84
550	750	-200	3	85
370	750	-380	3	86
440	750	-310	3	87
470	750	-280	3	88
530	750	-220	3	89
680	750	-70	3	90
699	750	-51	3	91
450	750	-300	3	92
330	750	-420	3	93
330	750	-420	3	94
300	750	-450	3	95
290	750	-460	3	96

1400	600	800	4	96
550	600	-50	4	97
370	600	-230	4	98
440	600	-160	4	99
470	600	-130	4	100
530	600	-70	4	101
680	600	80	5	101
699	600	99	6	101
450	600	-150	6	102
330	600	-270	6	103
330	600	-270	6	104
300	600	-300	6	105
290	600	-310	6	106
550	1400	-850	6	107
370	1400	-1030	6	108
440	1400	-960	6	109
470	1400	-930	6	110
530	1400	-870	6	111
680	1400	-720	6	112
699	1400	-701	6	113
450	1400	-950	6	114
330	1400	-1070	6	115
330	1400	-1070	6	116
300	1400	-1100	6	117
290	1400	-1110	6	118
370	550	-180	6	119
440	550	-110	6	120
470	550	-80	6	121
530	550	-20	6	122
680	550	130	7	122
699	550	149	8	122
450	550	-100	8	123
330	550	-220	8	124
330	550	-220	8	125
300	550	-250	8	126
290	550	-260	8	127
440	370	70	9	127
470	370	100	10	127
530	370	160	11	127
680	370	310	12	127
699	370	329	13	127
450	370	80	14	127
330	370	-40	14	128
330	370	-40	14	129
300	370	-70	14	130
290	370	-80	14	131
470	440	30	15	131
530	440	90	16	131
680	440	240	17	131
699	440	259	18	131
450	440	10	19	131
330	440	-110	19	132

330	440	-110	19	133
300	440	-140	19	134
290	440	-150	19	135
530	470	60	20	135
680	470	210	21	135
699	470	229	22	135
450	470	-20	22	136
330	470	-140	22	137
330	470	-140	22	138
300	470	-170	22	139
290	470	-180	22	140
680	530	150	23	140
699	530	169	24	140
450	530	-80	24	141
330	530	-200	24	142
330	530	-200	24	143
300	530	-230	24	144
290	530	-240	24	145
699	680	19	25	145
450	680	-230	25	146
330	680	-350	25	147
330	680	-350	25	148
300	680	-380	25	149
290	680	-390	25	150
450	699	-249	25	151
330	699	-369	25	152
330	699	-369	25	153
300	699	-399	25	154
290	699	-409	25	155
330	450	-120	25	156
330	450	-120	25	157
300	450	-150	25	158
290	450	-160	25	159
330	330	0	25	159
300	330	-30	25	160
290	330	-40	25	161
300	330	-30	25	162
290	330	-40	25	163
290	300	-10	25	164

S Statistic = 25 - 164 = -139

Tied Group	Value	Members
1	330	2

Time Period	Observations
8/30/2000	1
2/6/2001	1

8/8/2001	1
3/19/2002	1
7/17/2002	1
1/24/2003	1
7/30/2003	1
3/22/2004	1
12/7/2004	1
6/16/2005	1
12/19/2005	1
6/13/2006	1
12/8/2006	1
6/25/2007	1
12/11/2007	1
12/20/2010	1
4/21/2011	1
10/7/2011	1
4/16/2012	1
10/12/2012	1

There are 0 time periods with multiple data

A = 18

B = 0

C = 0

D = 0

E = 2

F = 0

a = 17100

b = 61560

c = 760

Group Variance = 949

Z-Score = -4.47967

Comparison Level at 1.0 - $(0.02 / 2) = 99\%$ confidence level = 2.32634 (two-tailed)

$|-4.47967| > 2.32634$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: B-1-CW16

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
1.5	1.2	0.3	1	0
1.3	1.2	0.1	2	0
18	1.2	16.8	3	0
1.9	1.2	0.7	4	0
1.1	1.2	-0.1	4	1
ND<0	1.2	-1.2	4	2
1.7	1.2	0.5	5	2
350	1.2	348.8	6	2
160	1.2	158.8	7	2
130	1.2	128.8	8	2
122	1.2	120.8	9	2
106	1.2	104.8	10	2
28	1.2	26.8	11	2
49	1.2	47.8	12	2
130	1.2	128.8	13	2
1.3	1.5	-0.2	13	3
18	1.5	16.5	14	3
1.9	1.5	0.4	15	3
1.1	1.5	-0.4	15	4
ND<0	1.5	-1.5	15	5
1.7	1.5	0.2	16	5
350	1.5	348.5	17	5
160	1.5	158.5	18	5
130	1.5	128.5	19	5
122	1.5	120.5	20	5
106	1.5	104.5	21	5
28	1.5	26.5	22	5
49	1.5	47.5	23	5
130	1.5	128.5	24	5
18	1.3	16.7	25	5
1.9	1.3	0.6	26	5
1.1	1.3	-0.2	26	6
ND<0	1.3	-1.3	26	7
1.7	1.3	0.4	27	7
350	1.3	348.7	28	7
160	1.3	158.7	29	7
130	1.3	128.7	30	7
122	1.3	120.7	31	7
106	1.3	104.7	32	7
28	1.3	26.7	33	7
49	1.3	47.7	34	7
130	1.3	128.7	35	7
1.9	18	-16.1	35	8
1.1	18	-16.9	35	9

ND<0	18	-18	35	10
1.7	18	-16.3	35	11
350	18	332	36	11
160	18	142	37	11
130	18	112	38	11
122	18	104	39	11
106	18	88	40	11
28	18	10	41	11
49	18	31	42	11
130	18	112	43	11
1.1	1.9	-0.8	43	12
ND<0	1.9	-1.9	43	13
1.7	1.9	-0.2	43	14
350	1.9	348.1	44	14
160	1.9	158.1	45	14
130	1.9	128.1	46	14
122	1.9	120.1	47	14
106	1.9	104.1	48	14
28	1.9	26.1	49	14
49	1.9	47.1	50	14
130	1.9	128.1	51	14
ND<0	1.1	-1.1	51	15
1.7	1.1	0.6	52	15
350	1.1	348.9	53	15
160	1.1	158.9	54	15
130	1.1	128.9	55	15
122	1.1	120.9	56	15
106	1.1	104.9	57	15
28	1.1	26.9	58	15
49	1.1	47.9	59	15
130	1.1	128.9	60	15
1.7	ND<0	1.7	61	15
350	ND<0	350	62	15
160	ND<0	160	63	15
130	ND<0	130	64	15
122	ND<0	122	65	15
106	ND<0	106	66	15
28	ND<0	28	67	15
49	ND<0	49	68	15
130	ND<0	130	69	15
350	1.7	348.3	70	15
160	1.7	158.3	71	15
130	1.7	128.3	72	15
122	1.7	120.3	73	15
106	1.7	104.3	74	15
28	1.7	26.3	75	15
49	1.7	47.3	76	15
130	1.7	128.3	77	15
160	350	-190	77	16
130	350	-220	77	17
122	350	-228	77	18
106	350	-244	77	19

28	350	-322	77	20
49	350	-301	77	21
130	350	-220	77	22
130	160	-30	77	23
122	160	-38	77	24
106	160	-54	77	25
28	160	-132	77	26
49	160	-111	77	27
130	160	-30	77	28
122	130	-8	77	29
106	130	-24	77	30
28	130	-102	77	31
49	130	-81	77	32
130	130	0	77	32
106	122	-16	77	33
28	122	-94	77	34
49	122	-73	77	35
130	122	8	78	35
28	106	-78	78	36
49	106	-57	78	37
130	106	24	79	37
49	28	21	80	37
130	28	102	81	37
130	49	81	82	37

S Statistic = 82 - 37 = 45

Tied Group	Value	Members
1	130	2

Time Period	Observations
9/1/2000	1
2/6/2001	1
8/9/2001	1
3/21/2002	1
3/27/2002	1
7/16/2002	1
1/24/2003	1
7/30/2003	1
12/15/2005	1
12/7/2006	1
12/11/2007	1
12/12/2008	1
12/8/2009	1
12/23/2010	1
4/21/2011	1
4/18/2012	1

There are 0 time periods with multiple data

A = 18

B = 0

C = 0

D = 0

E = 2

F = 0

a = 8880

b = 30240

c = 480

Group Variance = 492.333

Z-Score = 1.983

Comparison Level at $1.0 - (0.05 / 2) = 97.5\%$ confidence level = 1.97737 (two-tailed)

|1.983| > 1.97737 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: B-1-CW28

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

98% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
15	15	0	0	0
16	15	1	1	0
12	15	-3	1	1
17	15	2	2	1
20	15	5	3	1
20	15	5	4	1
16	15	1	5	1
13	15	-2	5	2
ND<0	15	-15	5	3
17	15	2	6	3
15	15	0	6	3
14	15	-1	6	4
17.4	15	2.4	7	4
22.5	15	7.5	8	4
20.8	15	5.8	9	4
29.7	15	14.7	10	4
25.9	15	10.9	11	4
23	15	8	12	4
16	15	1	13	4
23	15	8	14	4
35	15	20	15	4
50	15	35	16	4
46	15	31	17	4
16	15	1	18	4
12	15	-3	18	5
17	15	2	19	5
20	15	5	20	5
20	15	5	21	5
16	15	1	22	5
13	15	-2	22	6
ND<0	15	-15	22	7
17	15	2	23	7
15	15	0	23	7
14	15	-1	23	8
17.4	15	2.4	24	8
22.5	15	7.5	25	8
20.8	15	5.8	26	8
29.7	15	14.7	27	8
25.9	15	10.9	28	8
23	15	8	29	8
16	15	1	30	8
23	15	8	31	8
35	15	20	32	8
50	15	35	33	8
46	15	31	34	8

12	16	-4	34	9
17	16	1	35	9
20	16	4	36	9
20	16	4	37	9
16	16	0	37	9
13	16	-3	37	10
ND<0	16	-16	37	11
17	16	1	38	11
15	16	-1	38	12
14	16	-2	38	13
17.4	16	1.4	39	13
22.5	16	6.5	40	13
20.8	16	4.8	41	13
29.7	16	13.7	42	13
25.9	16	9.9	43	13
23	16	7	44	13
16	16	0	44	13
23	16	7	45	13
35	16	19	46	13
50	16	34	47	13
46	16	30	48	13
17	12	5	49	13
20	12	8	50	13
20	12	8	51	13
16	12	4	52	13
13	12	1	53	13
ND<0	12	-12	53	14
17	12	5	54	14
15	12	3	55	14
14	12	2	56	14
17.4	12	5.4	57	14
22.5	12	10.5	58	14
20.8	12	8.8	59	14
29.7	12	17.7	60	14
25.9	12	13.9	61	14
23	12	11	62	14
16	12	4	63	14
23	12	11	64	14
35	12	23	65	14
50	12	38	66	14
46	12	34	67	14
20	17	3	68	14
20	17	3	69	14
16	17	-1	69	15
13	17	-4	69	16
ND<0	17	-17	69	17
17	17	0	69	17
15	17	-2	69	18
14	17	-3	69	19
17.4	17	0.4	70	19
22.5	17	5.5	71	19
20.8	17	3.8	72	19
29.7	17	12.7	73	19
25.9	17	8.9	74	19
23	17	6	75	19

16	17	-1	75	20
23	17	6	76	20
35	17	18	77	20
50	17	33	78	20
46	17	29	79	20
20	20	0	79	20
16	20	-4	79	21
13	20	-7	79	22
ND<0	20	-20	79	23
17	20	-3	79	24
15	20	-5	79	25
14	20	-6	79	26
17.4	20	-2.6	79	27
22.5	20	2.5	80	27
20.8	20	0.8	81	27
29.7	20	9.7	82	27
25.9	20	5.9	83	27
23	20	3	84	27
16	20	-4	84	28
23	20	3	85	28
35	20	15	86	28
50	20	30	87	28
46	20	26	88	28
16	20	-4	88	29
13	20	-7	88	30
ND<0	20	-20	88	31
17	20	-3	88	32
15	20	-5	88	33
14	20	-6	88	34
17.4	20	-2.6	88	35
22.5	20	2.5	89	35
20.8	20	0.8	90	35
29.7	20	9.7	91	35
25.9	20	5.9	92	35
23	20	3	93	35
16	20	-4	93	36
23	20	3	94	36
35	20	15	95	36
50	20	30	96	36
46	20	26	97	36
13	16	-3	97	37
ND<0	16	-16	97	38
17	16	1	98	38
15	16	-1	98	39
14	16	-2	98	40
17.4	16	1.4	99	40
22.5	16	6.5	100	40
20.8	16	4.8	101	40
29.7	16	13.7	102	40
25.9	16	9.9	103	40
23	16	7	104	40
16	16	0	104	40
23	16	7	105	40
35	16	19	106	40

50	16	34	107	40
46	16	30	108	40
ND<0	13	-13	108	41
17	13	4	109	41
15	13	2	110	41
14	13	1	111	41
17.4	13	4.4	112	41
22.5	13	9.5	113	41
20.8	13	7.8	114	41
29.7	13	16.7	115	41
25.9	13	12.9	116	41
23	13	10	117	41
16	13	3	118	41
23	13	10	119	41
35	13	22	120	41
50	13	37	121	41
46	13	33	122	41
17	ND<0	17	123	41
15	ND<0	15	124	41
14	ND<0	14	125	41
17.4	ND<0	17.4	126	41
22.5	ND<0	22.5	127	41
20.8	ND<0	20.8	128	41
29.7	ND<0	29.7	129	41
25.9	ND<0	25.9	130	41
23	ND<0	23	131	41
16	ND<0	16	132	41
23	ND<0	23	133	41
35	ND<0	35	134	41
50	ND<0	50	135	41
46	ND<0	46	136	41
15	17	-2	136	42
14	17	-3	136	43
17.4	17	0.4	137	43
22.5	17	5.5	138	43
20.8	17	3.8	139	43
29.7	17	12.7	140	43
25.9	17	8.9	141	43
23	17	6	142	43
16	17	-1	142	44
23	17	6	143	44
35	17	18	144	44
50	17	33	145	44
46	17	29	146	44
14	15	-1	146	45
17.4	15	2.4	147	45
22.5	15	7.5	148	45
20.8	15	5.8	149	45
29.7	15	14.7	150	45
25.9	15	10.9	151	45
23	15	8	152	45
16	15	1	153	45
23	15	8	154	45

35	15	20	155	45
50	15	35	156	45
46	15	31	157	45
17.4	14	3.4	158	45
22.5	14	8.5	159	45
20.8	14	6.8	160	45
29.7	14	15.7	161	45
25.9	14	11.9	162	45
23	14	9	163	45
16	14	2	164	45
23	14	9	165	45
35	14	21	166	45
50	14	36	167	45
46	14	32	168	45
22.5	17.4	5.1	169	45
20.8	17.4	3.4	170	45
29.7	17.4	12.3	171	45
25.9	17.4	8.5	172	45
23	17.4	5.6	173	45
16	17.4	-1.4	173	46
23	17.4	5.6	174	46
35	17.4	17.6	175	46
50	17.4	32.6	176	46
46	17.4	28.6	177	46
20.8	22.5	-1.7	177	47
29.7	22.5	7.2	178	47
25.9	22.5	3.4	179	47
23	22.5	0.5	180	47
16	22.5	-6.5	180	48
23	22.5	0.5	181	48
35	22.5	12.5	182	48
50	22.5	27.5	183	48
46	22.5	23.5	184	48
29.7	20.8	8.9	185	48
25.9	20.8	5.1	186	48
23	20.8	2.2	187	48
16	20.8	-4.8	187	49
23	20.8	2.2	188	49
35	20.8	14.2	189	49
50	20.8	29.2	190	49
46	20.8	25.2	191	49
25.9	29.7	-3.8	191	50
23	29.7	-6.7	191	51
16	29.7	-13.7	191	52
23	29.7	-6.7	191	53
35	29.7	5.3	192	53
50	29.7	20.3	193	53
46	29.7	16.3	194	53
23	25.9	-2.9	194	54
16	25.9	-9.9	194	55
23	25.9	-2.9	194	56

35	25.9	9.1	195	56
50	25.9	24.1	196	56
46	25.9	20.1	197	56
16	23	-7	197	57
23	23	0	197	57
35	23	12	198	57
50	23	27	199	57
46	23	23	200	57
23	16	7	201	57
35	16	19	202	57
50	16	34	203	57
46	16	30	204	57
35	23	12	205	57
50	23	27	206	57
46	23	23	207	57
50	35	15	208	57
46	35	11	209	57
46	50	-4	209	58

S Statistic = 209 - 58 = 151

Tied Group	Value	Members
1	15	3
2	16	3
3	17	2
4	20	2
5	23	2

Time Period	Observations
8/30/2000	1
2/6/2001	1
8/8/2001	1
3/19/2002	1
7/18/2002	1
1/24/2003	1
7/30/2003	1
3/22/2004	1
12/7/2004	1
6/20/2005	1
12/14/2005	1
6/13/2006	1
12/8/2006	1
6/25/2007	1
12/11/2007	1
6/4/2008	1
12/10/2008	1
6/26/2009	1
12/10/2009	1
12/20/2010	1
4/21/2011	1
10/7/2011	1

4/17/2012 1
10/11/2012 1
There are 0 time periods with multiple data

A = 186

B = 0

C = 12

D = 0

E = 18

F = 0

a = 29256

b = 109296

c = 1104

Group Variance = 1615

Z-Score = 3.73254

Comparison Level at $1.0 - (0.02 / 2) = 99\%$ confidence level = 2.32634 (two-tailed)

|3.73254| > 2.32634 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: B-5-CW02

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

98% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
85.	130	-45	0	1
99.	130	-31	0	2
58	130	-72	0	3
60	130	-70	0	4
64	130	-66	0	5
48	130	-82	0	6
59.9	130	-70.1	0	7
37.2	130	-92.8	0	8
52.7	130	-77.3	0	9
31.8	130	-98.2	0	10
38.9	130	-91.1	0	11
33.4	130	-96.6	0	12
15	130	-115	0	13
15	130	-115	0	14
10	130	-120	0	15
6.8	130	-123.2	0	16
4.7	130	-125.3	0	17
5	130	-125	0	18
3.8	130	-126.2	0	19
99	85	14	1	19
58	85	-27	1	20
60	85	-25	1	21
64	85	-21	1	22
48	85	-37	1	23
59.9	85	-25.1	1	24
37.2	85	-47.8	1	25
52.7	85	-32.3	1	26
31.8	85	-53.2	1	27
38.9	85	-46.1	1	28
33.4	85	-51.6	1	29
15	85	-70	1	30
15	85	-70	1	31
10	85	-75	1	32
6.8	85	-78.2	1	33
4.7	85	-80.3	1	34
5	85	-80	1	35
3.8	85	-81.2	1	36
58	99	-41	1	37
60	99	-39	1	38
64	99	-35	1	39
48	99	-51	1	40
59.9	99	-39.1	1	41
37.2	99	-61.8	1	42
52.7	99	-46.3	1	43
31.8	99	-67.2	1	44

38.9	99	-60.1	1	45
33.4	99	-65.6	1	46
15	99	-84	1	47
15	99	-84	1	48
10	99	-89	1	49
6.8	99	-92.2	1	50
4.7	99	-94.3	1	51
5	99	-94	1	52
3.8	99	-95.2	1	53
60	58	2	2	53
64	58	6	3	53
48	58	-10	3	54
59.9	58	1.9	4	54
37.2	58	-20.8	4	55
52.7	58	-5.3	4	56
31.8	58	-26.2	4	57
38.9	58	-19.1	4	58
33.4	58	-24.6	4	59
15	58	-43	4	60
15	58	-43	4	61
10	58	-48	4	62
6.8	58	-51.2	4	63
4.7	58	-53.3	4	64
5	58	-53	4	65
3.8	58	-54.2	4	66
64	60	4	5	66
48	60	-12	5	67
59.9	60	-0.1	5	68
37.2	60	-22.8	5	69
52.7	60	-7.3	5	70
31.8	60	-28.2	5	71
38.9	60	-21.1	5	72
33.4	60	-26.6	5	73
15	60	-45	5	74
15	60	-45	5	75
10	60	-50	5	76
6.8	60	-53.2	5	77
4.7	60	-55.3	5	78
5	60	-55	5	79
3.8	60	-56.2	5	80
48	64	-16	5	81
59.9	64	-4.1	5	82
37.2	64	-26.8	5	83
52.7	64	-11.3	5	84
31.8	64	-32.2	5	85
38.9	64	-25.1	5	86
33.4	64	-30.6	5	87
15	64	-49	5	88
15	64	-49	5	89
10	64	-54	5	90
6.8	64	-57.2	5	91
4.7	64	-59.3	5	92
5	64	-59	5	93
3.8	64	-60.2	5	94

59.9	48	11.9	6	94
37.2	48	-10.8	6	95
52.7	48	4.7	7	95
31.8	48	-16.2	7	96
38.9	48	-9.1	7	97
33.4	48	-14.6	7	98
15	48	-33	7	99
15	48	-33	7	100
10	48	-38	7	101
6.8	48	-41.2	7	102
4.7	48	-43.3	7	103
5	48	-43	7	104
3.8	48	-44.2	7	105
37.2	59.9	-22.7	7	106
52.7	59.9	-7.2	7	107
31.8	59.9	-28.1	7	108
38.9	59.9	-21	7	109
33.4	59.9	-26.5	7	110
15	59.9	-44.9	7	111
15	59.9	-44.9	7	112
10	59.9	-49.9	7	113
6.8	59.9	-53.1	7	114
4.7	59.9	-55.2	7	115
5	59.9	-54.9	7	116
3.8	59.9	-56.1	7	117
52.7	37.2	15.5	8	117
31.8	37.2	-5.4	8	118
38.9	37.2	1.7	9	118
33.4	37.2	-3.8	9	119
15	37.2	-22.2	9	120
15	37.2	-22.2	9	121
10	37.2	-27.2	9	122
6.8	37.2	-30.4	9	123
4.7	37.2	-32.5	9	124
5	37.2	-32.2	9	125
3.8	37.2	-33.4	9	126
31.8	52.7	-20.9	9	127
38.9	52.7	-13.8	9	128
33.4	52.7	-19.3	9	129
15	52.7	-37.7	9	130
15	52.7	-37.7	9	131
10	52.7	-42.7	9	132
6.8	52.7	-45.9	9	133
4.7	52.7	-48	9	134
5	52.7	-47.7	9	135
3.8	52.7	-48.9	9	136
38.9	31.8	7.1	10	136
33.4	31.8	1.6	11	136
15	31.8	-16.8	11	137
15	31.8	-16.8	11	138
10	31.8	-21.8	11	139
6.8	31.8	-25	11	140

4.7	31.8	-27.1	11	141
5	31.8	-26.8	11	142
3.8	31.8	-28	11	143
33.4	38.9	-5.5	11	144
15	38.9	-23.9	11	145
15	38.9	-23.9	11	146
10	38.9	-28.9	11	147
6.8	38.9	-32.1	11	148
4.7	38.9	-34.2	11	149
5	38.9	-33.9	11	150
3.8	38.9	-35.1	11	151
15	33.4	-18.4	11	152
15	33.4	-18.4	11	153
10	33.4	-23.4	11	154
6.8	33.4	-26.6	11	155
4.7	33.4	-28.7	11	156
5	33.4	-28.4	11	157
3.8	33.4	-29.6	11	158
15	15	0	11	158
10	15	-5	11	159
6.8	15	-8.2	11	160
4.7	15	-10.3	11	161
5	15	-10	11	162
3.8	15	-11.2	11	163
10	15	-5	11	164
6.8	15	-8.2	11	165
4.7	15	-10.3	11	166
5	15	-10	11	167
3.8	15	-11.2	11	168
6.8	10	-3.2	11	169
4.7	10	-5.3	11	170
5	10	-5	11	171
3.8	10	-6.2	11	172
4.7	6.8	-2.1	11	173
5	6.8	-1.8	11	174
3.8	6.8	-3	11	175
5	4.7	0.3	12	175
3.8	4.7	-0.9	12	176
3.8	5	-1.2	12	177

S Statistic = 12 - 177 = -165

Tied Group	Value	Members
1	15	2

Time Period	Observations
1/28/2003	1
3/19/2004	1

12/9/2004	1
3/24/2006	1
6/13/2006	1
9/27/2006	1
12/6/2006	1
6/28/2007	1
12/14/2007	1
6/10/2008	1
12/9/2008	1
6/26/2009	1
12/11/2009	1
11/29/2010	1
12/8/2010	1
4/11/2011	1
10/13/2011	1
1/24/2012	1
4/18/2012	1
10/13/2012	1

There are 0 time periods with multiple data

A = 18

B = 0

C = 0

D = 0

E = 2

F = 0

a = 17100

b = 61560

c = 760

Group Variance = 949

Z-Score = -5.32367

Comparison Level at 1.0 - $(0.02 / 2) = 99\%$ confidence level = 2.32634 (two-tailed)

$|-5.32367| > 2.32634$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: B-5-CW03

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
59	80	-21	0	1
46	80	-34	0	2
43	80	-37	0	3
42	80	-38	0	4
44.6	80	-35.4	0	5
42.1	80	-37.9	0	6
50.2	80	-29.8	0	7
33.8	80	-46.2	0	8
35.5	80	-44.5	0	9
37.5	80	-42.5	0	10
31	80	-49	0	11
31	80	-49	0	12
27	80	-53	0	13
14	80	-66	0	14
46	59	-13	0	15
43	59	-16	0	16
42	59	-17	0	17
44.6	59	-14.4	0	18
42.1	59	-16.9	0	19
50.2	59	-8.8	0	20
33.8	59	-25.2	0	21
35.5	59	-23.5	0	22
37.5	59	-21.5	0	23
31	59	-28	0	24
31	59	-28	0	25
27	59	-32	0	26
14	59	-45	0	27
43	46	-3	0	28
42	46	-4	0	29
44.6	46	-1.4	0	30
42.1	46	-3.9	0	31
50.2	46	4.2	1	31
33.8	46	-12.2	1	32
35.5	46	-10.5	1	33
37.5	46	-8.5	1	34
31	46	-15	1	35
31	46	-15	1	36
27	46	-19	1	37
14	46	-32	1	38
42	43	-1	1	39
44.6	43	1.6	2	39
42.1	43	-0.9	2	40
50.2	43	7.2	3	40
33.8	43	-9.2	3	41

35.5	43	-7.5	3	42
37.5	43	-5.5	3	43
31	43	-12	3	44
31	43	-12	3	45
27	43	-16	3	46
14	43	-29	3	47
44.6	42	2.6	4	47
42.1	42	0.1	5	47
50.2	42	8.2	6	47
33.8	42	-8.2	6	48
35.5	42	-6.5	6	49
37.5	42	-4.5	6	50
31	42	-11	6	51
31	42	-11	6	52
27	42	-15	6	53
14	42	-28	6	54
42.1	44.6	-2.5	6	55
50.2	44.6	5.6	7	55
33.8	44.6	-10.8	7	56
35.5	44.6	-9.1	7	57
37.5	44.6	-7.1	7	58
31	44.6	-13.6	7	59
31	44.6	-13.6	7	60
27	44.6	-17.6	7	61
14	44.6	-30.6	7	62
50.2	42.1	8.1	8	62
33.8	42.1	-8.3	8	63
35.5	42.1	-6.6	8	64
37.5	42.1	-4.6	8	65
31	42.1	-11.1	8	66
31	42.1	-11.1	8	67
27	42.1	-15.1	8	68
14	42.1	-28.1	8	69
33.8	50.2	-16.4	8	70
35.5	50.2	-14.7	8	71
37.5	50.2	-12.7	8	72
31	50.2	-19.2	8	73
31	50.2	-19.2	8	74
27	50.2	-23.2	8	75
14	50.2	-36.2	8	76
35.5	33.8	1.7	9	76
37.5	33.8	3.7	10	76
31	33.8	-2.8	10	77
31	33.8	-2.8	10	78
27	33.8	-6.8	10	79
14	33.8	-19.8	10	80
37.5	35.5	2	11	80
31	35.5	-4.5	11	81
31	35.5	-4.5	11	82
27	35.5	-8.5	11	83
14	35.5	-21.5	11	84

31	37.5	-6.5	11	85
31	37.5	-6.5	11	86
27	37.5	-10.5	11	87
14	37.5	-23.5	11	88
31	31	0	11	88
27	31	-4	11	89
14	31	-17	11	90
27	31	-4	11	91
14	31	-17	11	92
14	27	-13	11	93

S Statistic = 11 - 93 = -82

Tied Group	Value	Members
1	31	2

Time Period	Observations
7/17/2002	1
3/27/2006	1
6/14/2006	1
9/29/2006	1
12/12/2006	1
6/28/2007	1
12/18/2007	1
6/10/2008	1
12/9/2008	1
6/26/2009	1
12/14/2009	1
12/1/2010	1
12/8/2010	1
4/11/2011	1
10/12/2012	1

There are 0 time periods with multiple data

A = 18

B = 0

C = 0

D = 0

E = 2

F = 0

a = 7350

b = 24570

c = 420

Group Variance = 407.333

Z-Score = -4.01338

Comparison Level at 1.0 - (0.05 / 2) = 97.5% confidence level = 1.97737 (two-tailed)

$|-4.01338| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: C-1-CW02

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

98% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
4.6	5.1	-0.5	0	1
5.4	5.1	0.3	1	1
3.3	5.1	-1.8	1	2
2.7	5.1	-2.4	1	3
2.6	5.1	-2.5	1	4
2.6	5.1	-2.5	1	5
2.6	5.1	-2.5	1	6
2.8	5.1	-2.3	1	7
4.06	5.1	-1.04	1	8
2.86	5.1	-2.24	1	9
4.19	5.1	-0.91	1	10
3.49	5.1	-1.61	1	11
3.68	5.1	-1.42	1	12
1.7	5.1	-3.4	1	13
1.6	5.1	-3.5	1	14
1.6	5.1	-3.5	1	15
1.7	5.1	-3.4	1	16
1.2	5.1	-3.9	1	17
0.7	5.1	-4.4	1	18
5.4	4.6	0.8	2	18
3.3	4.6	-1.3	2	19
2.7	4.6	-1.9	2	20
2.6	4.6	-2	2	21
2.6	4.6	-2	2	22
2.6	4.6	-2	2	23
2.8	4.6	-1.8	2	24
4.06	4.6	-0.54	2	25
2.86	4.6	-1.74	2	26
4.19	4.6	-0.41	2	27
3.49	4.6	-1.11	2	28
3.68	4.6	-0.92	2	29
1.7	4.6	-2.9	2	30
1.6	4.6	-3	2	31
1.6	4.6	-3	2	32
1.7	4.6	-2.9	2	33
1.2	4.6	-3.4	2	34
0.7	4.6	-3.9	2	35
3.3	5.4	-2.1	2	36
2.7	5.4	-2.7	2	37
2.6	5.4	-2.8	2	38
2.6	5.4	-2.8	2	39
2.6	5.4	-2.8	2	40
2.8	5.4	-2.6	2	41
4.06	5.4	-1.34	2	42
2.86	5.4	-2.54	2	43

4.19	5.4	-1.21	2	44
3.49	5.4	-1.91	2	45
3.68	5.4	-1.72	2	46
1.7	5.4	-3.7	2	47
1.6	5.4	-3.8	2	48
1.6	5.4	-3.8	2	49
1.7	5.4	-3.7	2	50
1.2	5.4	-4.2	2	51
0.7	5.4	-4.7	2	52
2.7	3.3	-0.6	2	53
2.6	3.3	-0.7	2	54
2.6	3.3	-0.7	2	55
2.6	3.3	-0.7	2	56
2.8	3.3	-0.5	2	57
4.06	3.3	0.76	3	57
2.86	3.3	-0.44	3	58
4.19	3.3	0.89	4	58
3.49	3.3	0.19	5	58
3.68	3.3	0.38	6	58
1.7	3.3	-1.6	6	59
1.6	3.3	-1.7	6	60
1.6	3.3	-1.7	6	61
1.7	3.3	-1.6	6	62
1.2	3.3	-2.1	6	63
0.7	3.3	-2.6	6	64
2.6	2.7	-0.1	6	65
2.6	2.7	-0.1	6	66
2.6	2.7	-0.1	6	67
2.8	2.7	0.1	7	67
4.06	2.7	1.36	8	67
2.86	2.7	0.16	9	67
4.19	2.7	1.49	10	67
3.49	2.7	0.79	11	67
3.68	2.7	0.98	12	67
1.7	2.7	-1	12	68
1.6	2.7	-1.1	12	69
1.6	2.7	-1.1	12	70
1.7	2.7	-1	12	71
1.2	2.7	-1.5	12	72
0.7	2.7	-2	12	73
2.6	2.6	0	12	73
2.6	2.6	0	12	73
2.8	2.6	0.2	13	73
4.06	2.6	1.46	14	73
2.86	2.6	0.26	15	73
4.19	2.6	1.59	16	73
3.49	2.6	0.89	17	73
3.68	2.6	1.08	18	73
1.7	2.6	-0.9	18	74
1.6	2.6	-1	18	75
1.6	2.6	-1	18	76
1.7	2.6	-0.9	18	77
1.2	2.6	-1.4	18	78
0.7	2.6	-1.9	18	79

2.6	2.6	0	18	79
2.8	2.6	0.2	19	79
4.06	2.6	1.46	20	79
2.86	2.6	0.26	21	79
4.19	2.6	1.59	22	79
3.49	2.6	0.89	23	79
3.68	2.6	1.08	24	79
1.7	2.6	-0.9	24	80
1.6	2.6	-1	24	81
1.6	2.6	-1	24	82
1.7	2.6	-0.9	24	83
1.2	2.6	-1.4	24	84
0.7	2.6	-1.9	24	85
2.8	2.6	0.2	25	85
4.06	2.6	1.46	26	85
2.86	2.6	0.26	27	85
4.19	2.6	1.59	28	85
3.49	2.6	0.89	29	85
3.68	2.6	1.08	30	85
1.7	2.6	-0.9	30	86
1.6	2.6	-1	30	87
1.6	2.6	-1	30	88
1.7	2.6	-0.9	30	89
1.2	2.6	-1.4	30	90
0.7	2.6	-1.9	30	91
4.06	2.8	1.26	31	91
2.86	2.8	0.06	32	91
4.19	2.8	1.39	33	91
3.49	2.8	0.69	34	91
3.68	2.8	0.88	35	91
1.7	2.8	-1.1	35	92
1.6	2.8	-1.2	35	93
1.6	2.8	-1.2	35	94
1.7	2.8	-1.1	35	95
1.2	2.8	-1.6	35	96
0.7	2.8	-2.1	35	97
2.86	4.06	-1.2	35	98
4.19	4.06	0.13	36	98
3.49	4.06	-0.57	36	99
3.68	4.06	-0.38	36	100
1.7	4.06	-2.36	36	101
1.6	4.06	-2.46	36	102
1.6	4.06	-2.46	36	103
1.7	4.06	-2.36	36	104
1.2	4.06	-2.86	36	105
0.7	4.06	-3.36	36	106
4.19	2.86	1.33	37	106
3.49	2.86	0.63	38	106
3.68	2.86	0.82	39	106
1.7	2.86	-1.16	39	107
1.6	2.86	-1.26	39	108
1.6	2.86	-1.26	39	109

1.7	2.86	-1.16	39	110
1.2	2.86	-1.66	39	111
0.7	2.86	-2.16	39	112
3.49	4.19	-0.7	39	113
3.68	4.19	-0.51	39	114
1.7	4.19	-2.49	39	115
1.6	4.19	-2.59	39	116
1.6	4.19	-2.59	39	117
1.7	4.19	-2.49	39	118
1.2	4.19	-2.99	39	119
0.7	4.19	-3.49	39	120
3.68	3.49	0.19	40	120
1.7	3.49	-1.79	40	121
1.6	3.49	-1.89	40	122
1.6	3.49	-1.89	40	123
1.7	3.49	-1.79	40	124
1.2	3.49	-2.29	40	125
0.7	3.49	-2.79	40	126
1.7	3.68	-1.98	40	127
1.6	3.68	-2.08	40	128
1.6	3.68	-2.08	40	129
1.7	3.68	-1.98	40	130
1.2	3.68	-2.48	40	131
0.7	3.68	-2.98	40	132
1.6	1.7	-0.1	40	133
1.6	1.7	-0.1	40	134
1.7	1.7	0	40	134
1.2	1.7	-0.5	40	135
0.7	1.7	-1	40	136
1.6	1.6	0	40	136
1.7	1.6	0.1	41	136
1.2	1.6	-0.4	41	137
0.7	1.6	-0.9	41	138
1.7	1.6	0.1	42	138
1.2	1.6	-0.4	42	139
0.7	1.6	-0.9	42	140
1.2	1.7	-0.5	42	141
0.7	1.7	-1	42	142
0.7	1.2	-0.5	42	143

S Statistic = 42 - 143 = -101

Tied Group	Value	Members
1	2.6	3
2	1.7	2
3	1.6	2

Time Period	Observations
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4/4/2002	1
1/29/2003	1
12/10/2004	1
12/15/2005	1
3/27/2006	1
6/14/2006	1
9/27/2006	1
12/13/2006	1
6/27/2007	1
12/13/2007	1
6/5/2008	1
12/10/2008	1
7/1/2009	1
12/10/2009	1
11/29/2010	1
12/3/2010	1
4/14/2011	1
10/12/2011	1
4/13/2012	1
10/12/2012	1

There are 0 time periods with multiple data

A = 102
 B = 0
 C = 6
 D = 0
 E = 10
 F = 0
 a = 17100
 b = 61560
 c = 760
 Group Variance = 944.333
 Z-Score = -3.25415
 Comparison Level at $1.0 - (0.02 / 2) = 99\%$ confidence level = 2.32634 (two-tailed)
 $|-3.25415| > 2.32634$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: C-1-CW03

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
21	28	-7	0	1
4.1	28	-23.9	0	2
28	28	0	0	2
25	28	-3	0	3
19	28	-9	0	4
13	28	-15	0	5
11	28	-17	0	6
10.8	28	-17.2	0	7
9.63	28	-18.37	0	8
9.02	28	-18.98	0	9
9.99	28	-18.01	0	10
9.02	28	-18.98	0	11
8.77	28	-19.23	0	12
4.8	28	-23.2	0	13
7.5	28	-20.5	0	14
6.6	28	-21.4	0	15
6.4	28	-21.6	0	16
4.9	28	-23.1	0	17
4.1	21	-16.9	0	18
28	21	7	1	18
25	21	4	2	18
19	21	-2	2	19
13	21	-8	2	20
11	21	-10	2	21
10.8	21	-10.2	2	22
9.63	21	-11.37	2	23
9.02	21	-11.98	2	24
9.99	21	-11.01	2	25
9.02	21	-11.98	2	26
8.77	21	-12.23	2	27
4.8	21	-16.2	2	28
7.5	21	-13.5	2	29
6.6	21	-14.4	2	30
6.4	21	-14.6	2	31
4.9	21	-16.1	2	32
28	4.1	23.9	3	32
25	4.1	20.9	4	32
19	4.1	14.9	5	32
13	4.1	8.9	6	32
11	4.1	6.9	7	32
10.8	4.1	6.7	8	32
9.63	4.1	5.53	9	32
9.02	4.1	4.92	10	32
9.99	4.1	5.89	11	32
9.02	4.1	4.92	12	32

8.77	4.1	4.67	13	32
4.8	4.1	0.7	14	32
7.5	4.1	3.4	15	32
6.6	4.1	2.5	16	32
6.4	4.1	2.3	17	32
4.9	4.1	0.8	18	32
25	28	-3	18	33
19	28	-9	18	34
13	28	-15	18	35
11	28	-17	18	36
10.8	28	-17.2	18	37
9.63	28	-18.37	18	38
9.02	28	-18.98	18	39
9.99	28	-18.01	18	40
9.02	28	-18.98	18	41
8.77	28	-19.23	18	42
4.8	28	-23.2	18	43
7.5	28	-20.5	18	44
6.6	28	-21.4	18	45
6.4	28	-21.6	18	46
4.9	28	-23.1	18	47
19	25	-6	18	48
13	25	-12	18	49
11	25	-14	18	50
10.8	25	-14.2	18	51
9.63	25	-15.37	18	52
9.02	25	-15.98	18	53
9.99	25	-15.01	18	54
9.02	25	-15.98	18	55
8.77	25	-16.23	18	56
4.8	25	-20.2	18	57
7.5	25	-17.5	18	58
6.6	25	-18.4	18	59
6.4	25	-18.6	18	60
4.9	25	-20.1	18	61
13	19	-6	18	62
11	19	-8	18	63
10.8	19	-8.2	18	64
9.63	19	-9.37	18	65
9.02	19	-9.98	18	66
9.99	19	-9.01	18	67
9.02	19	-9.98	18	68
8.77	19	-10.23	18	69
4.8	19	-14.2	18	70
7.5	19	-11.5	18	71
6.6	19	-12.4	18	72
6.4	19	-12.6	18	73
4.9	19	-14.1	18	74
11	13	-2	18	75
10.8	13	-2.2	18	76
9.63	13	-3.37	18	77
9.02	13	-3.98	18	78
9.99	13	-3.01	18	79

9.02	13	-3.98	18	80
8.77	13	-4.23	18	81
4.8	13	-8.2	18	82
7.5	13	-5.5	18	83
6.6	13	-6.4	18	84
6.4	13	-6.6	18	85
4.9	13	-8.1	18	86
10.8	11	-0.2	18	87
9.63	11	-1.37	18	88
9.02	11	-1.98	18	89
9.99	11	-1.01	18	90
9.02	11	-1.98	18	91
8.77	11	-2.23	18	92
4.8	11	-6.2	18	93
7.5	11	-3.5	18	94
6.6	11	-4.4	18	95
6.4	11	-4.6	18	96
4.9	11	-6.1	18	97
9.63	10.8	-1.17	18	98
9.02	10.8	-1.78	18	99
9.99	10.8	-0.81	18	100
9.02	10.8	-1.78	18	101
8.77	10.8	-2.03	18	102
4.8	10.8	-6	18	103
7.5	10.8	-3.3	18	104
6.6	10.8	-4.2	18	105
6.4	10.8	-4.4	18	106
4.9	10.8	-5.9	18	107
9.02	9.63	-0.61	18	108
9.99	9.63	0.36	19	108
9.02	9.63	-0.61	19	109
8.77	9.63	-0.86	19	110
4.8	9.63	-4.83	19	111
7.5	9.63	-2.13	19	112
6.6	9.63	-3.03	19	113
6.4	9.63	-3.23	19	114
4.9	9.63	-4.73	19	115
9.99	9.02	0.97	20	115
9.02	9.02	0	20	115
8.77	9.02	-0.25	20	116
4.8	9.02	-4.22	20	117
7.5	9.02	-1.52	20	118
6.6	9.02	-2.42	20	119
6.4	9.02	-2.62	20	120
4.9	9.02	-4.12	20	121
9.02	9.99	-0.97	20	122
8.77	9.99	-1.22	20	123
4.8	9.99	-5.19	20	124
7.5	9.99	-2.49	20	125
6.6	9.99	-3.39	20	126
6.4	9.99	-3.59	20	127
4.9	9.99	-5.09	20	128

8.77	9.02	-0.25	20	129
4.8	9.02	-4.22	20	130
7.5	9.02	-1.52	20	131
6.6	9.02	-2.42	20	132
6.4	9.02	-2.62	20	133
4.9	9.02	-4.12	20	134
4.8	8.77	-3.97	20	135
7.5	8.77	-1.27	20	136
6.6	8.77	-2.17	20	137
6.4	8.77	-2.37	20	138
4.9	8.77	-3.87	20	139
7.5	4.8	2.7	21	139
6.6	4.8	1.8	22	139
6.4	4.8	1.6	23	139
4.9	4.8	0.1	24	139
6.6	7.5	-0.9	24	140
6.4	7.5	-1.1	24	141
4.9	7.5	-2.6	24	142
6.4	6.6	-0.2	24	143
4.9	6.6	-1.7	24	144
4.9	6.4	-1.5	24	145

S Statistic = 24 - 145 = -121

Tied Group	Value	Members
1	28	2
2	9.02	2

Time Period	Observations
7/17/2002	1
1/29/2003	1
3/19/2004	1
1/20/2006	1
3/27/2006	1
6/14/2006	1
9/27/2006	1
12/13/2006	1
6/27/2007	1
12/14/2007	1
6/5/2008	1
12/10/2008	1
7/1/2009	1
12/11/2009	1
12/3/2010	1
4/14/2011	1
10/12/2011	1
4/13/2012	1
10/12/2012	1

There are 0 time periods with multiple data

A = 36

B = 0

C = 0

D = 0

E = 4

F = 0

a = 14706

b = 52326

c = 684

Group Variance = 815

Z-Score = -4.20342

Comparison Level at 1.0 - $(0.05 / 2) = 97.5\%$ confidence level = 1.97737 (two-tailed)

$|-4.20342| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: C-1-CW05

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
1.4	1.8	-0.4	0	1
1.4	1.8	-0.4	0	2
1.2	1.8	-0.6	0	3
1.2	1.8	-0.6	0	4
1.7	1.8	-0.1	0	5
1.35	1.8	-0.45	0	6
0.96	1.8	-0.84	0	7
1.06	1.8	-0.74	0	8
1.45	1.8	-0.35	0	9
1.38	1.8	-0.42	0	10
0.75	1.8	-1.05	0	11
0.63	1.8	-1.17	0	12
0.6	1.8	-1.2	0	13
0.49	1.8	-1.31	0	14
0.8	1.8	-1	0	15
1.4	1.4	0	0	15
1.2	1.4	-0.2	0	16
1.2	1.4	-0.2	0	17
1.7	1.4	0.3	1	17
1.35	1.4	-0.05	1	18
0.96	1.4	-0.44	1	19
1.06	1.4	-0.34	1	20
1.45	1.4	0.05	2	20
1.38	1.4	-0.02	2	21
0.75	1.4	-0.65	2	22
0.63	1.4	-0.77	2	23
0.6	1.4	-0.8	2	24
0.49	1.4	-0.91	2	25
0.8	1.4	-0.6	2	26
1.2	1.4	-0.2	2	27
1.2	1.4	-0.2	2	28
1.7	1.4	0.3	3	28
1.35	1.4	-0.05	3	29
0.96	1.4	-0.44	3	30
1.06	1.4	-0.34	3	31
1.45	1.4	0.05	4	31
1.38	1.4	-0.02	4	32
0.75	1.4	-0.65	4	33
0.63	1.4	-0.77	4	34
0.6	1.4	-0.8	4	35
0.49	1.4	-0.91	4	36
0.8	1.4	-0.6	4	37
1.2	1.2	0	4	37
1.7	1.2	0.5	5	37

1.35	1.2	0.15	6	37
0.96	1.2	-0.24	6	38
1.06	1.2	-0.14	6	39
1.45	1.2	0.25	7	39
1.38	1.2	0.18	8	39
0.75	1.2	-0.45	8	40
0.63	1.2	-0.57	8	41
0.6	1.2	-0.6	8	42
0.49	1.2	-0.71	8	43
0.8	1.2	-0.4	8	44
1.7	1.2	0.5	9	44
1.35	1.2	0.15	10	44
0.96	1.2	-0.24	10	45
1.06	1.2	-0.14	10	46
1.45	1.2	0.25	11	46
1.38	1.2	0.18	12	46
0.75	1.2	-0.45	12	47
0.63	1.2	-0.57	12	48
0.6	1.2	-0.6	12	49
0.49	1.2	-0.71	12	50
0.8	1.2	-0.4	12	51
1.35	1.7	-0.35	12	52
0.96	1.7	-0.74	12	53
1.06	1.7	-0.64	12	54
1.45	1.7	-0.25	12	55
1.38	1.7	-0.32	12	56
0.75	1.7	-0.95	12	57
0.63	1.7	-1.07	12	58
0.6	1.7	-1.1	12	59
0.49	1.7	-1.21	12	60
0.8	1.7	-0.9	12	61
0.96	1.35	-0.39	12	62
1.06	1.35	-0.29	12	63
1.45	1.35	0.1	13	63
1.38	1.35	0.03	14	63
0.75	1.35	-0.6	14	64
0.63	1.35	-0.72	14	65
0.6	1.35	-0.75	14	66
0.49	1.35	-0.86	14	67
0.8	1.35	-0.55	14	68
1.06	0.96	0.1	15	68
1.45	0.96	0.49	16	68
1.38	0.96	0.42	17	68
0.75	0.96	-0.21	17	69
0.63	0.96	-0.33	17	70
0.6	0.96	-0.36	17	71
0.49	0.96	-0.47	17	72
0.8	0.96	-0.16	17	73
1.45	1.06	0.39	18	73
1.38	1.06	0.32	19	73
0.75	1.06	-0.31	19	74
0.63	1.06	-0.43	19	75

0.6	1.06	-0.46	19	76
0.49	1.06	-0.57	19	77
0.8	1.06	-0.26	19	78
1.38	1.45	-0.07	19	79
0.75	1.45	-0.7	19	80
0.63	1.45	-0.82	19	81
0.6	1.45	-0.85	19	82
0.49	1.45	-0.96	19	83
0.8	1.45	-0.65	19	84
0.75	1.38	-0.63	19	85
0.63	1.38	-0.75	19	86
0.6	1.38	-0.78	19	87
0.49	1.38	-0.89	19	88
0.8	1.38	-0.58	19	89
0.63	0.75	-0.12	19	90
0.6	0.75	-0.15	19	91
0.49	0.75	-0.26	19	92
0.8	0.75	0.05	20	92
0.6	0.63	-0.03	20	93
0.49	0.63	-0.14	20	94
0.8	0.63	0.17	21	94
0.49	0.6	-0.11	21	95
0.8	0.6	0.2	22	95
0.8	0.49	0.31	23	95

S Statistic = 23 - 95 = -72

Tied Group	Value	Members
1	1.4	2
2	1.2	2

Time Period	Observations
12/20/2005	1
3/24/2006	1
6/15/2006	1
9/26/2006	1
12/6/2006	1
6/28/2007	1
12/17/2007	1
6/6/2008	1
12/11/2008	1
6/26/2009	1
12/14/2009	1
12/8/2010	1
4/14/2011	1
10/12/2011	1
4/16/2012	1
10/11/2012	1
There are 0 time periods with multiple data	

A = 36

B = 0

C = 0

D = 0

E = 4

F = 0

a = 8880

b = 30240

c = 480

Group Variance = 491.333

Z-Score = -3.2031

Comparison Level at $1.0 - (0.05 / 2) = 97.5\%$ confidence level = 1.97737 (two-tailed)

$|-3.2031| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: C-1-CW06

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
82	58	24	1	0
99	58	41	2	0
77	58	19	3	0
75	58	17	4	0
81	58	23	5	0
53	58	-5	5	1
64.1	58	6.1	6	1
48.2	58	-9.8	6	2
46.6	58	-11.4	6	3
91.2	58	33.2	7	3
83.8	58	25.8	8	3
43	58	-15	8	4
26	58	-32	8	5
22	58	-36	8	6
14	58	-44	8	7
12	58	-46	8	8
99	82	17	9	8
77	82	-5	9	9
75	82	-7	9	10
81	82	-1	9	11
53	82	-29	9	12
64.1	82	-17.9	9	13
48.2	82	-33.8	9	14
46.6	82	-35.4	9	15
91.2	82	9.2	10	15
83.8	82	1.8	11	15
43	82	-39	11	16
26	82	-56	11	17
22	82	-60	11	18
14	82	-68	11	19
12	82	-70	11	20
77	99	-22	11	21
75	99	-24	11	22
81	99	-18	11	23
53	99	-46	11	24
64.1	99	-34.9	11	25
48.2	99	-50.8	11	26
46.6	99	-52.4	11	27
91.2	99	-7.8	11	28
83.8	99	-15.2	11	29
43	99	-56	11	30
26	99	-73	11	31
22	99	-77	11	32
14	99	-85	11	33
12	99	-87	11	34

75	77	-2	11	35
81	77	4	12	35
53	77	-24	12	36
64.1	77	-12.9	12	37
48.2	77	-28.8	12	38
46.6	77	-30.4	12	39
91.2	77	14.2	13	39
83.8	77	6.8	14	39
43	77	-34	14	40
26	77	-51	14	41
22	77	-55	14	42
14	77	-63	14	43
12	77	-65	14	44
81	75	6	15	44
53	75	-22	15	45
64.1	75	-10.9	15	46
48.2	75	-26.8	15	47
46.6	75	-28.4	15	48
91.2	75	16.2	16	48
83.8	75	8.8	17	48
43	75	-32	17	49
26	75	-49	17	50
22	75	-53	17	51
14	75	-61	17	52
12	75	-63	17	53
53	81	-28	17	54
64.1	81	-16.9	17	55
48.2	81	-32.8	17	56
46.6	81	-34.4	17	57
91.2	81	10.2	18	57
83.8	81	2.8	19	57
43	81	-38	19	58
26	81	-55	19	59
22	81	-59	19	60
14	81	-67	19	61
12	81	-69	19	62
64.1	53	11.1	20	62
48.2	53	-4.8	20	63
46.6	53	-6.4	20	64
91.2	53	38.2	21	64
83.8	53	30.8	22	64
43	53	-10	22	65
26	53	-27	22	66
22	53	-31	22	67
14	53	-39	22	68
12	53	-41	22	69
48.2	64.1	-15.9	22	70
46.6	64.1	-17.5	22	71
91.2	64.1	27.1	23	71
83.8	64.1	19.7	24	71
43	64.1	-21.1	24	72
26	64.1	-38.1	24	73

22	64.1	-42.1	24	74
14	64.1	-50.1	24	75
12	64.1	-52.1	24	76
46.6	48.2	-1.6	24	77
91.2	48.2	43	25	77
83.8	48.2	35.6	26	77
43	48.2	-5.2	26	78
26	48.2	-22.2	26	79
22	48.2	-26.2	26	80
14	48.2	-34.2	26	81
12	48.2	-36.2	26	82
91.2	46.6	44.6	27	82
83.8	46.6	37.2	28	82
43	46.6	-3.6	28	83
26	46.6	-20.6	28	84
22	46.6	-24.6	28	85
14	46.6	-32.6	28	86
12	46.6	-34.6	28	87
83.8	91.2	-7.4	28	88
43	91.2	-48.2	28	89
26	91.2	-65.2	28	90
22	91.2	-69.2	28	91
14	91.2	-77.2	28	92
12	91.2	-79.2	28	93
43	83.8	-40.8	28	94
26	83.8	-57.8	28	95
22	83.8	-61.8	28	96
14	83.8	-69.8	28	97
12	83.8	-71.8	28	98
26	43	-17	28	99
22	43	-21	28	100
14	43	-29	28	101
12	43	-31	28	102
22	26	-4	28	103
14	26	-12	28	104
12	26	-14	28	105
14	22	-8	28	106
12	22	-10	28	107
12	14	-2	28	108

S Statistic = 28 - 108 = -80

Tied Group	Value	Members
Time Period		Observations
4/3/2002		1
7/17/2002		1
12/20/2005		1

3/24/2006	1
6/15/2006	1
9/26/2006	1
12/6/2006	1
6/27/2007	1
12/17/2007	1
6/6/2008	1
6/26/2009	1
12/14/2009	1
12/3/2010	1
4/14/2011	1
10/12/2011	1
4/16/2012	1
10/13/2012	1

There are 0 time periods with multiple data

A = 0

B = 0

C = 0

D = 0

E = 0

F = 0

a = 10608

b = 36720

c = 544

Group Variance = 589.333

Z-Score = -3.25422

Comparison Level at 1.0 - $(0.05 / 2) = 97.5\%$ confidence level = 1.97737 (two-tailed)

$|-3.25422| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: C-1-CW08

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
77	84	-7	0	1
89	84	5	1	1
110	84	26	2	1
162	84	78	3	1
122	84	38	4	1
92	84	8	5	1
73.1	84	-10.9	5	2
89.1	84	5.1	6	2
73.7	84	-10.3	6	3
42	84	-42	6	4
42	84	-42	6	5
28	84	-56	6	6
25	84	-59	6	7
13	84	-71	6	8
7.9	84	-76.1	6	9
89	77	12	7	9
110	77	33	8	9
162	77	85	9	9
122	77	45	10	9
92	77	15	11	9
73.1	77	-3.9	11	10
89.1	77	12.1	12	10
73.7	77	-3.3	12	11
42	77	-35	12	12
42	77	-35	12	13
28	77	-49	12	14
25	77	-52	12	15
13	77	-64	12	16
7.9	77	-69.1	12	17
110	89	21	13	17
162	89	73	14	17
122	89	33	15	17
92	89	3	16	17
73.1	89	-15.9	16	18
89.1	89	0.1	17	18
73.7	89	-15.3	17	19
42	89	-47	17	20
42	89	-47	17	21
28	89	-61	17	22
25	89	-64	17	23
13	89	-76	17	24
7.9	89	-81.1	17	25
162	110	52	18	25
122	110	12	19	25

92	110	-18	19	26
73.1	110	-36.9	19	27
89.1	110	-20.9	19	28
73.7	110	-36.3	19	29
42	110	-68	19	30
42	110	-68	19	31
28	110	-82	19	32
25	110	-85	19	33
13	110	-97	19	34
7.9	110	-102.1	19	35
122	162	-40	19	36
92	162	-70	19	37
73.1	162	-88.9	19	38
89.1	162	-72.9	19	39
73.7	162	-88.3	19	40
42	162	-120	19	41
42	162	-120	19	42
28	162	-134	19	43
25	162	-137	19	44
13	162	-149	19	45
7.9	162	-154.1	19	46
92	122	-30	19	47
73.1	122	-48.9	19	48
89.1	122	-32.9	19	49
73.7	122	-48.3	19	50
42	122	-80	19	51
42	122	-80	19	52
28	122	-94	19	53
25	122	-97	19	54
13	122	-109	19	55
7.9	122	-114.1	19	56
73.1	92	-18.9	19	57
89.1	92	-2.9	19	58
73.7	92	-18.3	19	59
42	92	-50	19	60
42	92	-50	19	61
28	92	-64	19	62
25	92	-67	19	63
13	92	-79	19	64
7.9	92	-84.1	19	65
89.1	73.1	16	20	65
73.7	73.1	0.6	21	65
42	73.1	-31.1	21	66
42	73.1	-31.1	21	67
28	73.1	-45.1	21	68
25	73.1	-48.1	21	69
13	73.1	-60.1	21	70
7.9	73.1	-65.2	21	71
73.7	89.1	-15.4	21	72
42	89.1	-47.1	21	73
42	89.1	-47.1	21	74
28	89.1	-61.1	21	75

25	89.1	-64.1	21	76
13	89.1	-76.1	21	77
7.9	89.1	-81.2	21	78
42	73.7	-31.7	21	79
42	73.7	-31.7	21	80
28	73.7	-45.7	21	81
25	73.7	-48.7	21	82
13	73.7	-60.7	21	83
7.9	73.7	-65.8	21	84
42	42	0	21	84
28	42	-14	21	85
25	42	-17	21	86
13	42	-29	21	87
7.9	42	-34.1	21	88
28	42	-14	21	89
25	42	-17	21	90
13	42	-29	21	91
7.9	42	-34.1	21	92
25	28	-3	21	93
13	28	-15	21	94
7.9	28	-20.1	21	95
13	25	-12	21	96
7.9	25	-17.1	21	97
7.9	13	-5.1	21	98

S Statistic = 21 - 98 = -77

Tied Group	Value	Members
1	42	2

Time Period	Observations
3/27/2006	1
6/15/2006	1
9/26/2006	1
12/13/2006	1
6/28/2007	1
12/13/2007	1
6/6/2008	1
12/10/2008	1
6/30/2009	1
12/11/2009	1
11/29/2010	1
12/9/2010	1
4/7/2011	1
10/6/2011	1
4/17/2012	1
10/13/2012	1

There are 0 time periods with multiple data

A = 18

B = 0

C = 0

D = 0

E = 2

F = 0

a = 8880

b = 30240

c = 480

Group Variance = 492.333

Z-Score = -3.42518

Comparison Level at $1.0 - (0.05 / 2) = 97.5\%$ confidence level = 1.97737 (two-tailed)

$|-3.42518| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: MW-04

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
70	120	-50	0	1
25	120	-95	0	2
66.5	120	-53.5	0	3
44.1	120	-75.9	0	4
51.5	120	-68.5	0	5
50.9	120	-69.1	0	6
37	120	-83	0	7
39	120	-81	0	8
43	120	-77	0	9
37	120	-83	0	10
25	70	-45	0	11
66.5	70	-3.5	0	12
44.1	70	-25.9	0	13
51.5	70	-18.5	0	14
50.9	70	-19.1	0	15
37	70	-33	0	16
39	70	-31	0	17
43	70	-27	0	18
37	70	-33	0	19
66.5	25	41.5	1	19
44.1	25	19.1	2	19
51.5	25	26.5	3	19
50.9	25	25.9	4	19
37	25	12	5	19
39	25	14	6	19
43	25	18	7	19
37	25	12	8	19
44.1	66.5	-22.4	8	20
51.5	66.5	-15	8	21
50.9	66.5	-15.6	8	22
37	66.5	-29.5	8	23
39	66.5	-27.5	8	24
43	66.5	-23.5	8	25
37	66.5	-29.5	8	26
51.5	44.1	7.4	9	26
50.9	44.1	6.8	10	26
37	44.1	-7.1	10	27
39	44.1	-5.1	10	28
43	44.1	-1.1	10	29
37	44.1	-7.1	10	30
50.9	51.5	-0.6	10	31
37	51.5	-14.5	10	32

39	51.5	-12.5	10	33
43	51.5	-8.5	10	34
37	51.5	-14.5	10	35
37	50.9	-13.9	10	36
39	50.9	-11.9	10	37
43	50.9	-7.9	10	38
37	50.9	-13.9	10	39
39	37	2	11	39
43	37	6	12	39
37	37	0	12	39
43	39	4	13	39
37	39	-2	13	40
37	43	-6	13	41

S Statistic = 13 - 41 = -28

Tied Group	Value	Members
1	37	2

Time Period	Observations
6/19/2006	1
9/29/2006	1
12/12/2006	1
6/25/2007	1
12/19/2007	1
6/11/2008	1
6/29/2009	1
4/18/2011	1
10/10/2011	1
4/17/2012	1
10/15/2012	1

There are 0 time periods with multiple data

A = 18

B = 0

C = 0

D = 0

E = 2

F = 0

a = 2970

b = 8910

c = 220

Group Variance = 164

Z-Score = -2.10835

Comparison Level at 1.0 - (0.05 / 2) = 97.5% confidence level = 1.97737 (two-tailed)

$|-2.10835| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: MW-05

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
150	75	75	1	0
120	75	45	2	0
91	75	16	3	0
136	75	61	4	0
85.7	75	10.7	5	0
77	75	2	6	0
53.5	75	-21.5	6	1
67.8	75	-7.2	6	2
55	75	-20	6	3
56	75	-19	6	4
51	75	-24	6	5
62	75	-13	6	6
120	150	-30	6	7
91	150	-59	6	8
136	150	-14	6	9
85.7	150	-64.3	6	10
77	150	-73	6	11
53.5	150	-96.5	6	12
67.8	150	-82.2	6	13
55	150	-95	6	14
56	150	-94	6	15
51	150	-99	6	16
62	150	-88	6	17
91	120	-29	6	18
136	120	16	7	18
85.7	120	-34.3	7	19
77	120	-43	7	20
53.5	120	-66.5	7	21
67.8	120	-52.2	7	22
55	120	-65	7	23
56	120	-64	7	24
51	120	-69	7	25
62	120	-58	7	26
136	91	45	8	26
85.7	91	-5.3	8	27
77	91	-14	8	28
53.5	91	-37.5	8	29
67.8	91	-23.2	8	30
55	91	-36	8	31
56	91	-35	8	32
51	91	-40	8	33
62	91	-29	8	34
85.7	136	-50.3	8	35

77	136	-59	8	36
53.5	136	-82.5	8	37
67.8	136	-68.2	8	38
55	136	-81	8	39
56	136	-80	8	40
51	136	-85	8	41
62	136	-74	8	42
77	85.7	-8.7	8	43
53.5	85.7	-32.2	8	44
67.8	85.7	-17.9	8	45
55	85.7	-30.7	8	46
56	85.7	-29.7	8	47
51	85.7	-34.7	8	48
62	85.7	-23.7	8	49
53.5	77	-23.5	8	50
67.8	77	-9.2	8	51
55	77	-22	8	52
56	77	-21	8	53
51	77	-26	8	54
62	77	-15	8	55
67.8	53.5	14.3	9	55
55	53.5	1.5	10	55
56	53.5	2.5	11	55
51	53.5	-2.5	11	56
62	53.5	8.5	12	56
55	67.8	-12.8	12	57
56	67.8	-11.8	12	58
51	67.8	-16.8	12	59
62	67.8	-5.8	12	60
56	55	1	13	60
51	55	-4	13	61
62	55	7	14	61
51	56	-5	14	62
62	56	6	15	62
62	51	11	16	62

S Statistic = 16 - 62 = -46

Tied Group	Value	Members
Time Period		Observations
3/29/2006		1
6/19/2006		1
9/28/2006		1
12/12/2006		1
6/26/2007		1
12/20/2007		1
6/12/2008		1
12/17/2008		1

6/30/2009	1
4/19/2011	1
10/11/2011	1
4/17/2012	1
10/16/2012	1

There are 0 time periods with multiple data

A = 0

B = 0

C = 0

D = 0

E = 0

F = 0

a = 4836

b = 15444

c = 312

Group Variance = 268.667

Z-Score = -2.7454

Comparison Level at 1.0 - $(0.05 / 2) = 97.5\%$ confidence level = 1.97737 (two-tailed)

$|-2.7454| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: MW-06

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
150	130	20	1	0
120	130	-10	1	1
80	130	-50	1	2
105	130	-25	1	3
85.9	130	-44.1	1	4
96.4	130	-33.6	1	5
63.6	130	-66.4	1	6
59	130	-71	1	7
72	130	-58	1	8
69	130	-61	1	9
72	130	-58	1	10
120	150	-30	1	11
80	150	-70	1	12
105	150	-45	1	13
85.9	150	-64.1	1	14
96.4	150	-53.6	1	15
63.6	150	-86.4	1	16
59	150	-91	1	17
72	150	-78	1	18
69	150	-81	1	19
72	150	-78	1	20
80	120	-40	1	21
105	120	-15	1	22
85.9	120	-34.1	1	23
96.4	120	-23.6	1	24
63.6	120	-56.4	1	25
59	120	-61	1	26
72	120	-48	1	27
69	120	-51	1	28
72	120	-48	1	29
105	80	25	2	29
85.9	80	5.9	3	29
96.4	80	16.4	4	29
63.6	80	-16.4	4	30
59	80	-21	4	31
72	80	-8	4	32
69	80	-11	4	33
72	80	-8	4	34
85.9	105	-19.1	4	35
96.4	105	-8.6	4	36
63.6	105	-41.4	4	37
59	105	-46	4	38
72	105	-33	4	39

69	105	-36	4	40
72	105	-33	4	41
96.4	85.9	10.5	5	41
63.6	85.9	-22.3	5	42
59	85.9	-26.9	5	43
72	85.9	-13.9	5	44
69	85.9	-16.9	5	45
72	85.9	-13.9	5	46
63.6	96.4	-32.8	5	47
59	96.4	-37.4	5	48
72	96.4	-24.4	5	49
69	96.4	-27.4	5	50
72	96.4	-24.4	5	51
59	63.6	-4.6	5	52
72	63.6	8.4	6	52
69	63.6	5.4	7	52
72	63.6	8.4	8	52
72	59	13	9	52
69	59	10	10	52
72	59	13	11	52
69	72	-3	11	53
72	72	0	11	53
72	69	3	12	53

S Statistic = 12 - 53 = -41

Tied Group	Value	Members
1	72	2

Time Period	Observations
3/30/2006	1
6/19/2006	1
9/29/2006	1
12/12/2006	1
6/26/2007	1
12/19/2007	1
6/12/2008	1
12/17/2008	1
4/18/2011	1
10/11/2011	1
4/17/2012	1
10/13/2012	1

There are 0 time periods with multiple data

A = 18
 B = 0
 C = 0
 D = 0
 E = 2
 F = 0

a = 3828

b = 11880

c = 264

Group Variance = 211.667

Z-Score = -2.74937

Comparison Level at $1.0 - (0.05 / 2) = 97.5\%$ confidence level = 1.97737 (two-tailed)

$|-2.74937| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: 3850M

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
3030	4430	-1400	0	1
2350	4430	-2080	0	2
970	4430	-3460	0	3
830	4430	-3600	0	4
660	4430	-3770	0	5
2350	3030	-680	0	6
970	3030	-2060	0	7
830	3030	-2200	0	8
660	3030	-2370	0	9
970	2350	-1380	0	10
830	2350	-1520	0	11
660	2350	-1690	0	12
830	970	-140	0	13
660	970	-310	0	14
660	830	-170	0	15

S Statistic = 0 - 15 = -15

Comparing at 1.0 - (0.1 / 2) = 95% confidence level (two-tailed)

Probability of obtaining S $\geq$ |-15| is 0.0028

0.0028 < 0.1 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: 3850N

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
311	312	-1	0	1
280	312	-32	0	2
341	312	29	1	2
338	312	26	2	2
250	312	-62	2	3
140	312	-172	2	4
18	312	-294	2	5
160	312	-152	2	6
130	312	-182	2	7
280	311	-31	2	8
341	311	30	3	8
338	311	27	4	8
250	311	-61	4	9
140	311	-171	4	10
18	311	-293	4	11
160	311	-151	4	12
130	311	-181	4	13
341	280	61	5	13
338	280	58	6	13
250	280	-30	6	14
140	280	-140	6	15
18	280	-262	6	16
160	280	-120	6	17
130	280	-150	6	18
338	341	-3	6	19
250	341	-91	6	20
140	341	-201	6	21
18	341	-323	6	22
160	341	-181	6	23
130	341	-211	6	24
250	338	-88	6	25
140	338	-198	6	26
18	338	-320	6	27
160	338	-178	6	28
130	338	-208	6	29
140	250	-110	6	30
18	250	-232	6	31
160	250	-90	6	32
130	250	-120	6	33
18	140	-122	6	34
160	140	20	7	34

130	140	-10	7	35
160	18	142	8	35
130	18	112	9	35
130	160	-30	9	36

S Statistic = $9 - 36 = -27$

Comparing at $1.0 - (0.05 / 2) = 97.5\%$ confidence level (two-tailed)

Probability of obtaining $S \geq |-27|$ is 0.0166

0.0166 < 0.05 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: 3850V

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
112	127	-15	0	1
96.5	127	-30.5	0	2
28	127	-99	0	3
24	127	-103	0	4
20	127	-107	0	5
96.5	112	-15.5	0	6
28	112	-84	0	7
24	112	-88	0	8
20	112	-92	0	9
28	96.5	-68.5	0	10
24	96.5	-72.5	0	11
20	96.5	-76.5	0	12
24	28	-4	0	13
20	28	-8	0	14
20	24	-4	0	15

S Statistic = 0 - 15 = -15

Comparing at 1.0 - (0.1 / 2) = 95% confidence level (two-tailed)

Probability of obtaining S $\geq$ |-15| is 0.0028

0.0028 < 0.1 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: 3850W

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
192	1570	-1378	0	1
345	1570	-1225	0	2
94	1570	-1476	0	3
55	1570	-1515	0	4
31	1570	-1539	0	5
345	192	153	1	5
94	192	-98	1	6
55	192	-137	1	7
31	192	-161	1	8
94	345	-251	1	9
55	345	-290	1	10
31	345	-314	1	11
55	94	-39	1	12
31	94	-63	1	13
31	55	-24	1	14

S Statistic = 1 - 14 = -13

Comparing at $1.0 - (0.1 / 2) = 95\%$ confidence level (two-tailed)

Probability of obtaining $S \geq |-13|$ is 0.0166

0.0166 < 0.1 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: 3851N

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
4.37	5.77	-1.4	0	1
3.82	5.77	-1.95	0	2
3.2	5.77	-2.57	0	3
2.3	5.77	-3.47	0	4
2.3	5.77	-3.47	0	5
3.82	4.37	-0.55	0	6
3.2	4.37	-1.17	0	7
2.3	4.37	-2.07	0	8
2.3	4.37	-2.07	0	9
3.2	3.82	-0.62	0	10
2.3	3.82	-1.52	0	11
2.3	3.82	-1.52	0	12
2.3	3.2	-0.9	0	13
2.3	3.2	-0.9	0	14
2.3	2.3	0	0	14

S Statistic = 0 - 14 = -14

Comparing at $1.0 - (0.1 / 2) = 95\%$ confidence level (two-tailed)

Probability of obtaining $S \geq |-14|$ is 0.0097

0.0097 < 0.1 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: 3860K

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
4940	5500	-560	0	1
3190	5500	-2310	0	2
2700	5500	-2800	0	3
2200	5500	-3300	0	4
1100	5500	-4400	0	5
3190	4940	-1750	0	6
2700	4940	-2240	0	7
2200	4940	-2740	0	8
1100	4940	-3840	0	9
2700	3190	-490	0	10
2200	3190	-990	0	11
1100	3190	-2090	0	12
2200	2700	-500	0	13
1100	2700	-1600	0	14
1100	2200	-1100	0	15

S Statistic = 0 - 15 = -15

Comparing at 1.0 - (0.1 / 2) = 95% confidence level (two-tailed)

Probability of obtaining S >= |-15| is 0.0028

0.0028 < 0.1 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: A-1-CW07

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
518	712	-194	0	1
567	712	-145	0	2
1120	712	408	1	2
300	712	-412	1	3
250	712	-462	1	4
160	712	-552	1	5
210	712	-502	1	6
210	712	-502	1	7
567	518	49	2	7
1120	518	602	3	7
300	518	-218	3	8
250	518	-268	3	9
160	518	-358	3	10
210	518	-308	3	11
210	518	-308	3	12
1120	567	553	4	12
300	567	-267	4	13
250	567	-317	4	14
160	567	-407	4	15
210	567	-357	4	16
210	567	-357	4	17
300	1120	-820	4	18
250	1120	-870	4	19
160	1120	-960	4	20
210	1120	-910	4	21
210	1120	-910	4	22
250	300	-50	4	23
160	300	-140	4	24
210	300	-90	4	25
210	300	-90	4	26
160	250	-90	4	27
210	250	-40	4	28
210	250	-40	4	29
210	160	50	5	29
210	160	50	6	29
210	210	0	6	29

S Statistic = 6 - 29 = -23

Comparing at 1.0 - (0.1 / 2) = 95% confidence level (two-tailed)

Probability of obtaining $S \geq |-23|$ is 0.01893
0.01893 < 0.1 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: B-1-CW13

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
450	699	-249	0	1
330	699	-369	0	2
330	699	-369	0	3
300	699	-399	0	4
290	699	-409	0	5
330	450	-120	0	6
330	450	-120	0	7
300	450	-150	0	8
290	450	-160	0	9
330	330	0	0	9
300	330	-30	0	10
290	330	-40	0	11
300	330	-30	0	12
290	330	-40	0	13
290	300	-10	0	14

S Statistic = 0 - 14 = -14

Comparing at $1.0 - (0.1 / 2) = 95\%$ confidence level (two-tailed)

Probability of obtaining $S \geq |-14|$ is 0.0097

0.0097 < 0.1 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: B-1-CW17

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
136	134	2	1	0
126	134	-8	1	1
134	134	0	1	1
97.3	134	-36.7	1	2
70	134	-64	1	3
92	134	-42	1	4
90	134	-44	1	5
94	134	-40	1	6
81	134	-53	1	7
126	136	-10	1	8
134	136	-2	1	9
97.3	136	-38.7	1	10
70	136	-66	1	11
92	136	-44	1	12
90	136	-46	1	13
94	136	-42	1	14
81	136	-55	1	15
134	126	8	2	15
97.3	126	-28.7	2	16
70	126	-56	2	17
92	126	-34	2	18
90	126	-36	2	19
94	126	-32	2	20
81	126	-45	2	21
97.3	134	-36.7	2	22
70	134	-64	2	23
92	134	-42	2	24
90	134	-44	2	25
94	134	-40	2	26
81	134	-53	2	27
70	97.3	-27.3	2	28
92	97.3	-5.3	2	29
90	97.3	-7.3	2	30
94	97.3	-3.3	2	31
81	97.3	-16.3	2	32
92	70	22	3	32
90	70	20	4	32
94	70	24	5	32
81	70	11	6	32
90	92	-2	6	33
94	92	2	7	33

81	92	-11	7	34
94	90	4	8	34
81	90	-9	8	35
81	94	-13	8	36

S Statistic = $8 - 36 = -28$

Comparing at $1.0 - (0.05 / 2) = 97.5\%$ confidence level (two-tailed)

Probability of obtaining $S \geq |-28|$ is 0.0129

0.0129 < 0.05 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: B-5-CW02

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
52.7	37.2	15.5	1	0
31.8	37.2	-5.4	1	1
38.9	37.2	1.7	2	1
33.4	37.2	-3.8	2	2
15	37.2	-22.2	2	3
15	37.2	-22.2	2	4
10	37.2	-27.2	2	5
6.8	37.2	-30.4	2	6
4.7	37.2	-32.5	2	7
5	37.2	-32.2	2	8
3.8	37.2	-33.4	2	9
31.8	52.7	-20.9	2	10
38.9	52.7	-13.8	2	11
33.4	52.7	-19.3	2	12
15	52.7	-37.7	2	13
15	52.7	-37.7	2	14
10	52.7	-42.7	2	15
6.8	52.7	-45.9	2	16
4.7	52.7	-48	2	17
5	52.7	-47.7	2	18
3.8	52.7	-48.9	2	19
38.9	31.8	7.1	3	19
33.4	31.8	1.6	4	19
15	31.8	-16.8	4	20
15	31.8	-16.8	4	21
10	31.8	-21.8	4	22
6.8	31.8	-25	4	23
4.7	31.8	-27.1	4	24
5	31.8	-26.8	4	25
3.8	31.8	-28	4	26
33.4	38.9	-5.5	4	27
15	38.9	-23.9	4	28
15	38.9	-23.9	4	29
10	38.9	-28.9	4	30
6.8	38.9	-32.1	4	31
4.7	38.9	-34.2	4	32
5	38.9	-33.9	4	33
3.8	38.9	-35.1	4	34
15	33.4	-18.4	4	35
15	33.4	-18.4	4	36
10	33.4	-23.4	4	37
6.8	33.4	-26.6	4	38
4.7	33.4	-28.7	4	39

5	33.4	-28.4	4	40
3.8	33.4	-29.6	4	41
15	15	0	4	41
10	15	-5	4	42
6.8	15	-8.2	4	43
4.7	15	-10.3	4	44
5	15	-10	4	45
3.8	15	-11.2	4	46
10	15	-5	4	47
6.8	15	-8.2	4	48
4.7	15	-10.3	4	49
5	15	-10	4	50
3.8	15	-11.2	4	51
6.8	10	-3.2	4	52
4.7	10	-5.3	4	53
5	10	-5	4	54
3.8	10	-6.2	4	55
4.7	6.8	-2.1	4	56
5	6.8	-1.8	4	57
3.8	6.8	-3	4	58
5	4.7	0.3	5	58
3.8	4.7	-0.9	5	59
3.8	5	-1.2	5	60

S Statistic = 5 - 60 = -55

Tied Group	Value	Members
1	15	2

Time Period	Observations
12/14/2007	1
6/10/2008	1
12/9/2008	1
6/26/2009	1
12/11/2009	1
11/29/2010	1
12/8/2010	1
4/11/2011	1
10/13/2011	1
1/24/2012	1
4/18/2012	1
10/13/2012	1

There are 0 time periods with multiple data

A = 18
 B = 0
 C = 0
 D = 0
 E = 2
 F = 0

a = 3828

b = 11880

c = 264

Group Variance = 211.667

Z-Score = -3.71165

Comparison Level at $1.0 - (0.05 / 2) = 97.5\%$ confidence level = 1.97737 (two-tailed)

$|-3.71165| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: B-5-CW03

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
50.2	42.1	8.1	1	0
33.8	42.1	-8.3	1	1
35.5	42.1	-6.6	1	2
37.5	42.1	-4.6	1	3
31	42.1	-11.1	1	4
31	42.1	-11.1	1	5
27	42.1	-15.1	1	6
14	42.1	-28.1	1	7
33.8	50.2	-16.4	1	8
35.5	50.2	-14.7	1	9
37.5	50.2	-12.7	1	10
31	50.2	-19.2	1	11
31	50.2	-19.2	1	12
27	50.2	-23.2	1	13
14	50.2	-36.2	1	14
35.5	33.8	1.7	2	14
37.5	33.8	3.7	3	14
31	33.8	-2.8	3	15
31	33.8	-2.8	3	16
27	33.8	-6.8	3	17
14	33.8	-19.8	3	18
37.5	35.5	2	4	18
31	35.5	-4.5	4	19
31	35.5	-4.5	4	20
27	35.5	-8.5	4	21
14	35.5	-21.5	4	22
31	37.5	-6.5	4	23
31	37.5	-6.5	4	24
27	37.5	-10.5	4	25
14	37.5	-23.5	4	26
31	31	0	4	26
27	31	-4	4	27
14	31	-17	4	28
27	31	-4	4	29
14	31	-17	4	30
14	27	-13	4	31

S Statistic = 4 - 31 = -27

Comparing at 1.0 - (0.1 / 2) = 95% confidence level (two-tailed)

Probability of obtaining $S \geq |-27|$ is 0.0041
0.0041 < 0.1 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: C-1-CW02

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
2.86	4.06	-1.2	0	1
4.19	4.06	0.13	1	1
3.49	4.06	-0.57	1	2
3.68	4.06	-0.38	1	3
1.7	4.06	-2.36	1	4
1.6	4.06	-2.46	1	5
1.6	4.06	-2.46	1	6
1.7	4.06	-2.36	1	7
1.2	4.06	-2.86	1	8
0.7	4.06	-3.36	1	9
4.19	2.86	1.33	2	9
3.49	2.86	0.63	3	9
3.68	2.86	0.82	4	9
1.7	2.86	-1.16	4	10
1.6	2.86	-1.26	4	11
1.6	2.86	-1.26	4	12
1.7	2.86	-1.16	4	13
1.2	2.86	-1.66	4	14
0.7	2.86	-2.16	4	15
3.49	4.19	-0.7	4	16
3.68	4.19	-0.51	4	17
1.7	4.19	-2.49	4	18
1.6	4.19	-2.59	4	19
1.6	4.19	-2.59	4	20
1.7	4.19	-2.49	4	21
1.2	4.19	-2.99	4	22
0.7	4.19	-3.49	4	23
3.68	3.49	0.19	5	23
1.7	3.49	-1.79	5	24
1.6	3.49	-1.89	5	25
1.6	3.49	-1.89	5	26
1.7	3.49	-1.79	5	27
1.2	3.49	-2.29	5	28
0.7	3.49	-2.79	5	29
1.7	3.68	-1.98	5	30
1.6	3.68	-2.08	5	31
1.6	3.68	-2.08	5	32
1.7	3.68	-1.98	5	33
1.2	3.68	-2.48	5	34
0.7	3.68	-2.98	5	35
1.6	1.7	-0.1	5	36
1.6	1.7	-0.1	5	37

1.7	1.7	0	5	37
1.2	1.7	-0.5	5	38
0.7	1.7	-1	5	39
1.6	1.6	0	5	39
1.7	1.6	0.1	6	39
1.2	1.6	-0.4	6	40
0.7	1.6	-0.9	6	41
1.7	1.6	0.1	7	41
1.2	1.6	-0.4	7	42
0.7	1.6	-0.9	7	43
1.2	1.7	-0.5	7	44
0.7	1.7	-1	7	45
0.7	1.2	-0.5	7	46

S Statistic = 7 - 46 = -39

Tied Group	Value	Members
1	1.7	2
2	1.6	2

Time Period	Observations
12/13/2007	1
6/5/2008	1
12/10/2008	1
7/1/2009	1
12/10/2009	1
11/29/2010	1
12/3/2010	1
4/14/2011	1
10/12/2011	1
4/13/2012	1
10/12/2012	1

There are 0 time periods with multiple data

A = 36

B = 0

C = 0

D = 0

E = 4

F = 0

a = 2970

b = 8910

c = 220

Group Variance = 163

Z-Score = -2.97639

Comparison Level at 1.0 - (0.05 / 2) = 97.5% confidence level = 1.97737 (two-tailed)

|-2.97639| > 1.97737 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: C-1-CW03

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
9.02	9.63	-0.61	0	1
9.99	9.63	0.36	1	1
9.02	9.63	-0.61	1	2
8.77	9.63	-0.86	1	3
4.8	9.63	-4.83	1	4
7.5	9.63	-2.13	1	5
6.6	9.63	-3.03	1	6
6.4	9.63	-3.23	1	7
4.9	9.63	-4.73	1	8
9.99	9.02	0.97	2	8
9.02	9.02	0	2	8
8.77	9.02	-0.25	2	9
4.8	9.02	-4.22	2	10
7.5	9.02	-1.52	2	11
6.6	9.02	-2.42	2	12
6.4	9.02	-2.62	2	13
4.9	9.02	-4.12	2	14
9.02	9.99	-0.97	2	15
8.77	9.99	-1.22	2	16
4.8	9.99	-5.19	2	17
7.5	9.99	-2.49	2	18
6.6	9.99	-3.39	2	19
6.4	9.99	-3.59	2	20
4.9	9.99	-5.09	2	21
8.77	9.02	-0.25	2	22
4.8	9.02	-4.22	2	23
7.5	9.02	-1.52	2	24
6.6	9.02	-2.42	2	25
6.4	9.02	-2.62	2	26
4.9	9.02	-4.12	2	27
4.8	8.77	-3.97	2	28
7.5	8.77	-1.27	2	29
6.6	8.77	-2.17	2	30
6.4	8.77	-2.37	2	31
4.9	8.77	-3.87	2	32
7.5	4.8	2.7	3	32
6.6	4.8	1.8	4	32
6.4	4.8	1.6	5	32
4.9	4.8	0.1	6	32
6.6	7.5	-0.9	6	33
6.4	7.5	-1.1	6	34

4.9	7.5	-2.6	6	35
6.4	6.6	-0.2	6	36
4.9	6.6	-1.7	6	37
4.9	6.4	-1.5	6	38

S Statistic = 6 - 38 = -32

Comparing at $1.0 - (0.05 / 2) = 97.5\%$ confidence level (two-tailed)

Probability of obtaining $S \geq |-32|$ is 0.0034

0.0034 < 0.05 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: C-1-CW06

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
46.6	48.2	-1.6	0	1
91.2	48.2	43	1	1
83.8	48.2	35.6	2	1
43	48.2	-5.2	2	2
26	48.2	-22.2	2	3
22	48.2	-26.2	2	4
14	48.2	-34.2	2	5
12	48.2	-36.2	2	6
91.2	46.6	44.6	3	6
83.8	46.6	37.2	4	6
43	46.6	-3.6	4	7
26	46.6	-20.6	4	8
22	46.6	-24.6	4	9
14	46.6	-32.6	4	10
12	46.6	-34.6	4	11
83.8	91.2	-7.4	4	12
43	91.2	-48.2	4	13
26	91.2	-65.2	4	14
22	91.2	-69.2	4	15
14	91.2	-77.2	4	16
12	91.2	-79.2	4	17
43	83.8	-40.8	4	18
26	83.8	-57.8	4	19
22	83.8	-61.8	4	20
14	83.8	-69.8	4	21
12	83.8	-71.8	4	22
26	43	-17	4	23
22	43	-21	4	24
14	43	-29	4	25
12	43	-31	4	26
22	26	-4	4	27
14	26	-12	4	28
12	26	-14	4	29
14	22	-8	4	30
12	22	-10	4	31
12	14	-2	4	32

S Statistic = 4 - 32 = -28

Comparing at $1.0 - (0.1 / 2) = 95\%$ confidence level (two-tailed)

Probability of obtaining $S \geq |-28|$ is 0.0024
0.0024 < 0.1 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Tetrachloroethene

Location: C-1-CW08

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
92	122	-30	0	1
73.1	122	-48.9	0	2
89.1	122	-32.9	0	3
73.7	122	-48.3	0	4
42	122	-80	0	5
42	122	-80	0	6
28	122	-94	0	7
25	122	-97	0	8
13	122	-109	0	9
7.9	122	-114.1	0	10
73.1	92	-18.9	0	11
89.1	92	-2.9	0	12
73.7	92	-18.3	0	13
42	92	-50	0	14
42	92	-50	0	15
28	92	-64	0	16
25	92	-67	0	17
13	92	-79	0	18
7.9	92	-84.1	0	19
89.1	73.1	16	1	19
73.7	73.1	0.6	2	19
42	73.1	-31.1	2	20
42	73.1	-31.1	2	21
28	73.1	-45.1	2	22
25	73.1	-48.1	2	23
13	73.1	-60.1	2	24
7.9	73.1	-65.2	2	25
73.7	89.1	-15.4	2	26
42	89.1	-47.1	2	27
42	89.1	-47.1	2	28
28	89.1	-61.1	2	29
25	89.1	-64.1	2	30
13	89.1	-76.1	2	31
7.9	89.1	-81.2	2	32
42	73.7	-31.7	2	33
42	73.7	-31.7	2	34
28	73.7	-45.7	2	35
25	73.7	-48.7	2	36
13	73.7	-60.7	2	37
7.9	73.7	-65.8	2	38
42	42	0	2	38
28	42	-14	2	39

25	42	-17	2	40
13	42	-29	2	41
7.9	42	-34.1	2	42
28	42	-14	2	43
25	42	-17	2	44
13	42	-29	2	45
7.9	42	-34.1	2	46
25	28	-3	2	47
13	28	-15	2	48
7.9	28	-20.1	2	49
13	25	-12	2	50
7.9	25	-17.1	2	51
7.9	13	-5.1	2	52

S Statistic = 2 - 52 = -50

Tied Group	Value	Members
1	42	2

Time Period	Observations
12/13/2007	1
6/6/2008	1
12/10/2008	1
6/30/2009	1
12/11/2009	1
11/29/2010	1
12/9/2010	1
4/7/2011	1
10/6/2011	1
4/17/2012	1
10/13/2012	1

There are 0 time periods with multiple data

A = 18

B = 0

C = 0

D = 0

E = 2

F = 0

a = 2970

b = 8910

c = 220

Group Variance = 164

Z-Score = -3.82626

Comparison Level at 1.0 - (0.05 / 2) = 97.5% confidence level = 1.97737 (two-tailed)

$|-3.82626| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: 3850N

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

98% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
530	410	120	1	0
220	410	-190	1	1
520	410	110	2	1
770	410	360	3	1
740	410	330	4	1
1500	410	1090	5	1
1000	410	590	6	1
590	410	180	7	1
720	410	310	8	1
770	410	360	9	1
510	410	100	10	1
492	410	82	11	1
390	410	-20	11	2
305	410	-105	11	3
160	410	-250	11	4
296	410	-114	11	5
282	410	-128	11	6
130	410	-280	11	7
76	410	-334	11	8
14	410	-396	11	9
38	410	-372	11	10
94	410	-316	11	11
220	530	-310	11	12
520	530	-10	11	13
770	530	240	12	13
740	530	210	13	13
1500	530	970	14	13
1000	530	470	15	13
590	530	60	16	13
720	530	190	17	13
770	530	240	18	13
510	530	-20	18	14
492	530	-38	18	15
390	530	-140	18	16
305	530	-225	18	17
160	530	-370	18	18
296	530	-234	18	19
282	530	-248	18	20
130	530	-400	18	21
76	530	-454	18	22
14	530	-516	18	23
38	530	-492	18	24
94	530	-436	18	25
520	220	300	19	25
770	220	550	20	25

740	220	520	21	25
1500	220	1280	22	25
1000	220	780	23	25
590	220	370	24	25
720	220	500	25	25
770	220	550	26	25
510	220	290	27	25
492	220	272	28	25
390	220	170	29	25
305	220	85	30	25
160	220	-60	30	26
296	220	76	31	26
282	220	62	32	26
130	220	-90	32	27
76	220	-144	32	28
14	220	-206	32	29
38	220	-182	32	30
94	220	-126	32	31
770	520	250	33	31
740	520	220	34	31
1500	520	980	35	31
1000	520	480	36	31
590	520	70	37	31
720	520	200	38	31
770	520	250	39	31
510	520	-10	39	32
492	520	-28	39	33
390	520	-130	39	34
305	520	-215	39	35
160	520	-360	39	36
296	520	-224	39	37
282	520	-238	39	38
130	520	-390	39	39
76	520	-444	39	40
14	520	-506	39	41
38	520	-482	39	42
94	520	-426	39	43
740	770	-30	39	44
1500	770	730	40	44
1000	770	230	41	44
590	770	-180	41	45
720	770	-50	41	46
770	770	0	41	46
510	770	-260	41	47
492	770	-278	41	48
390	770	-380	41	49
305	770	-465	41	50
160	770	-610	41	51
296	770	-474	41	52
282	770	-488	41	53
130	770	-640	41	54
76	770	-694	41	55
14	770	-756	41	56
38	770	-732	41	57
94	770	-676	41	58

1500	740	760	42	58
1000	740	260	43	58
590	740	-150	43	59
720	740	-20	43	60
770	740	30	44	60
510	740	-230	44	61
492	740	-248	44	62
390	740	-350	44	63
305	740	-435	44	64
160	740	-580	44	65
296	740	-444	44	66
282	740	-458	44	67
130	740	-610	44	68
76	740	-664	44	69
14	740	-726	44	70
38	740	-702	44	71
94	740	-646	44	72
1000	1500	-500	44	73
590	1500	-910	44	74
720	1500	-780	44	75
770	1500	-730	44	76
510	1500	-990	44	77
492	1500	-1008	44	78
390	1500	-1110	44	79
305	1500	-1195	44	80
160	1500	-1340	44	81
296	1500	-1204	44	82
282	1500	-1218	44	83
130	1500	-1370	44	84
76	1500	-1424	44	85
14	1500	-1486	44	86
38	1500	-1462	44	87
94	1500	-1406	44	88
590	1000	-410	44	89
720	1000	-280	44	90
770	1000	-230	44	91
510	1000	-490	44	92
492	1000	-508	44	93
390	1000	-610	44	94
305	1000	-695	44	95
160	1000	-840	44	96
296	1000	-704	44	97
282	1000	-718	44	98
130	1000	-870	44	99
76	1000	-924	44	100
14	1000	-986	44	101
38	1000	-962	44	102
94	1000	-906	44	103
720	590	130	45	103
770	590	180	46	103
510	590	-80	46	104
492	590	-98	46	105
390	590	-200	46	106

305	590	-285	46	107
160	590	-430	46	108
296	590	-294	46	109
282	590	-308	46	110
130	590	-460	46	111
76	590	-514	46	112
14	590	-576	46	113
38	590	-552	46	114
94	590	-496	46	115
770	720	50	47	115
510	720	-210	47	116
492	720	-228	47	117
390	720	-330	47	118
305	720	-415	47	119
160	720	-560	47	120
296	720	-424	47	121
282	720	-438	47	122
130	720	-590	47	123
76	720	-644	47	124
14	720	-706	47	125
38	720	-682	47	126
94	720	-626	47	127
510	770	-260	47	128
492	770	-278	47	129
390	770	-380	47	130
305	770	-465	47	131
160	770	-610	47	132
296	770	-474	47	133
282	770	-488	47	134
130	770	-640	47	135
76	770	-694	47	136
14	770	-756	47	137
38	770	-732	47	138
94	770	-676	47	139
492	510	-18	47	140
390	510	-120	47	141
305	510	-205	47	142
160	510	-350	47	143
296	510	-214	47	144
282	510	-228	47	145
130	510	-380	47	146
76	510	-434	47	147
14	510	-496	47	148
38	510	-472	47	149
94	510	-416	47	150
390	492	-102	47	151
305	492	-187	47	152
160	492	-332	47	153
296	492	-196	47	154
282	492	-210	47	155
130	492	-362	47	156
76	492	-416	47	157
14	492	-478	47	158

38	492	-454	47	159
94	492	-398	47	160
305	390	-85	47	161
160	390	-230	47	162
296	390	-94	47	163
282	390	-108	47	164
130	390	-260	47	165
76	390	-314	47	166
14	390	-376	47	167
38	390	-352	47	168
94	390	-296	47	169
160	305	-145	47	170
296	305	-9	47	171
282	305	-23	47	172
130	305	-175	47	173
76	305	-229	47	174
14	305	-291	47	175
38	305	-267	47	176
94	305	-211	47	177
296	160	136	48	177
282	160	122	49	177
130	160	-30	49	178
76	160	-84	49	179
14	160	-146	49	180
38	160	-122	49	181
94	160	-66	49	182
282	296	-14	49	183
130	296	-166	49	184
76	296	-220	49	185
14	296	-282	49	186
38	296	-258	49	187
94	296	-202	49	188
130	282	-152	49	189
76	282	-206	49	190
14	282	-268	49	191
38	282	-244	49	192
94	282	-188	49	193
76	130	-54	49	194
14	130	-116	49	195
38	130	-92	49	196
94	130	-36	49	197
14	76	-62	49	198
38	76	-38	49	199
94	76	18	50	199
38	14	24	51	199
94	14	80	52	199
94	38	56	53	199

S Statistic = 53 - 199 = -146

Tied Group	Value	Members
1	770	2

Time Period	Observations
8/29/2000	1
8/7/2001	1
3/19/2002	1
7/16/2002	1
1/24/2003	1
7/29/2003	1
3/18/2004	1
12/3/2004	1
6/16/2005	1
12/9/2005	1
6/12/2006	1
12/5/2006	1
6/21/2007	1
12/10/2007	1
6/2/2008	1
12/5/2008	1
6/24/2009	1
12/2/2009	1
12/2/2010	1
4/7/2011	1
10/6/2011	1
4/12/2012	1
10/10/2012	1

There are 0 time periods with multiple data

A = 18

B = 0

C = 0

D = 0

E = 2

F = 0

a = 25806

b = 95634

c = 1012

Group Variance = 1432.67

Z-Score = -3.83085

Comparison Level at 1.0 - (0.02 / 2) = 99% confidence level = 2.32634 (two-tailed)

| -3.83085 | > 2.32634 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: 3850V

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
31	27	4	1	0
73	27	46	2	0
160	27	133	3	0
63	27	36	4	0
50	27	23	5	0
33.4	27	6.4	6	0
24.6	27	-2.4	6	1
29.9	27	2.9	7	1
8.7	27	-18.3	7	2
7.7	27	-19.3	7	3
4.1	27	-22.9	7	4
73	31	42	8	4
160	31	129	9	4
63	31	32	10	4
50	31	19	11	4
33.4	31	2.4	12	4
24.6	31	-6.4	12	5
29.9	31	-1.1	12	6
8.7	31	-22.3	12	7
7.7	31	-23.3	12	8
4.1	31	-26.9	12	9
160	73	87	13	9
63	73	-10	13	10
50	73	-23	13	11
33.4	73	-39.6	13	12
24.6	73	-48.4	13	13
29.9	73	-43.1	13	14
8.7	73	-64.3	13	15
7.7	73	-65.3	13	16
4.1	73	-68.9	13	17
63	160	-97	13	18
50	160	-110	13	19
33.4	160	-126.6	13	20
24.6	160	-135.4	13	21
29.9	160	-130.1	13	22
8.7	160	-151.3	13	23
7.7	160	-152.3	13	24
4.1	160	-155.9	13	25
50	63	-13	13	26
33.4	63	-29.6	13	27
24.6	63	-38.4	13	28
29.9	63	-33.1	13	29
8.7	63	-54.3	13	30

7.7	63	-55.3	13	31
4.1	63	-58.9	13	32
33.4	50	-16.6	13	33
24.6	50	-25.4	13	34
29.9	50	-20.1	13	35
8.7	50	-41.3	13	36
7.7	50	-42.3	13	37
4.1	50	-45.9	13	38
24.6	33.4	-8.8	13	39
29.9	33.4	-3.5	13	40
8.7	33.4	-24.7	13	41
7.7	33.4	-25.7	13	42
4.1	33.4	-29.3	13	43
29.9	24.6	5.3	14	43
8.7	24.6	-15.9	14	44
7.7	24.6	-16.9	14	45
4.1	24.6	-20.5	14	46
8.7	29.9	-21.2	14	47
7.7	29.9	-22.2	14	48
4.1	29.9	-25.8	14	49
7.7	8.7	-1	14	50
4.1	8.7	-4.6	14	51
4.1	7.7	-3.6	14	52

S Statistic = 14 - 52 = -38

Tied Group	Value	Members
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Time Period	Observations
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8/7/2001	1
3/18/2002	1
1/28/2003	1
3/19/2004	1
12/13/2005	1
12/5/2006	1
12/11/2007	1
12/9/2008	1
12/4/2009	1
12/14/2010	1
4/20/2011	1
4/11/2012	1

There are 0 time periods with multiple data

A = 0
 B = 0
 C = 0
 D = 0
 E = 0
 F = 0
 a = 3828

b = 11880
c = 264
Group Variance = 212.667
Z-Score = -2.53718
Comparison Level at 1.0 - (0.05 / 2) = 97.5% confidence level = 1.97737 (two-tailed)
| -2.53718 | > 1.97737 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: 3850W

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
86	210	-124	0	1
159	210	-51	0	2
64.4	210	-145.6	0	3
99.3	210	-110.7	0	4
68	210	-142	0	5
44	210	-166	0	6
19	210	-191	0	7
159	86	73	1	7
64.4	86	-21.6	1	8
99.3	86	13.3	2	8
68	86	-18	2	9
44	86	-42	2	10
19	86	-67	2	11
64.4	159	-94.6	2	12
99.3	159	-59.7	2	13
68	159	-91	2	14
44	159	-115	2	15
19	159	-140	2	16
99.3	64.4	34.9	3	16
68	64.4	3.6	4	16
44	64.4	-20.4	4	17
19	64.4	-45.4	4	18
68	99.3	-31.3	4	19
44	99.3	-55.3	4	20
19	99.3	-80.3	4	21
44	68	-24	4	22
19	68	-49	4	23
19	44	-25	4	24

S Statistic = 4 - 24 = -20

Comparing at 1.0 - (0.1 / 2) = 95% confidence level (two-tailed)

Probability of obtaining S >= |-20| is 0.0142

0.0142 < 0.1 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: 3851N

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
23	43	-20	0	1
16	43	-27	0	2
17	43	-26	0	3
9.2	43	-33.8	0	4
3.6	43	-39.4	0	5
1.57	43	-41.43	0	6
1.15	43	-41.85	0	7
1.02	43	-41.98	0	8
0.84	43	-42.16	0	9
0.91	43	-42.09	0	10
0.5	43	-42.5	0	11
16	23	-7	0	12
17	23	-6	0	13
9.2	23	-13.8	0	14
3.6	23	-19.4	0	15
1.57	23	-21.43	0	16
1.15	23	-21.85	0	17
1.02	23	-21.98	0	18
0.84	23	-22.16	0	19
0.91	23	-22.09	0	20
0.5	23	-22.5	0	21
17	16	1	1	21
9.2	16	-6.8	1	22
3.6	16	-12.4	1	23
1.57	16	-14.43	1	24
1.15	16	-14.85	1	25
1.02	16	-14.98	1	26
0.84	16	-15.16	1	27
0.91	16	-15.09	1	28
0.5	16	-15.5	1	29
9.2	17	-7.8	1	30
3.6	17	-13.4	1	31
1.57	17	-15.43	1	32
1.15	17	-15.85	1	33
1.02	17	-15.98	1	34
0.84	17	-16.16	1	35
0.91	17	-16.09	1	36
0.5	17	-16.5	1	37
3.6	9.2	-5.6	1	38
1.57	9.2	-7.63	1	39
1.15	9.2	-8.05	1	40
1.02	9.2	-8.18	1	41
0.84	9.2	-8.36	1	42

0.91	9.2	-8.29	1	43
0.5	9.2	-8.7	1	44
1.57	3.6	-2.03	1	45
1.15	3.6	-2.45	1	46
1.02	3.6	-2.58	1	47
0.84	3.6	-2.76	1	48
0.91	3.6	-2.69	1	49
0.5	3.6	-3.1	1	50
1.15	1.57	-0.42	1	51
1.02	1.57	-0.55	1	52
0.84	1.57	-0.73	1	53
0.91	1.57	-0.66	1	54
0.5	1.57	-1.07	1	55
1.02	1.15	-0.13	1	56
0.84	1.15	-0.31	1	57
0.91	1.15	-0.24	1	58
0.5	1.15	-0.65	1	59
0.84	1.02	-0.18	1	60
0.91	1.02	-0.11	1	61
0.5	1.02	-0.52	1	62
0.91	0.84	0.07	2	62
0.5	0.84	-0.34	2	63
0.5	0.91	-0.41	2	64

S Statistic = 2 - 64 = -62

Tied Group	Value	Members
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Time Period	Observations
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3/25/2002	1
1/23/2003	1
3/15/2004	1
12/3/2004	1
12/12/2005	1
12/8/2006	1
12/10/2007	1
12/4/2008	1
12/9/2009	1
12/10/2010	1
4/7/2011	1
4/12/2012	1

There are 0 time periods with multiple data

A = 0

B = 0

C = 0

D = 0

E = 0

F = 0

a = 3828

b = 11880

c = 264

Group Variance = 212.667

Z-Score = -4.18293

Comparison Level at $1.0 - (0.05 / 2) = 97.5\%$ confidence level = 1.97737 (two-tailed)

$|-4.18293| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: 3852H

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
24	23	1	1	0
18	23	-5	1	1
22	23	-1	1	2
19	23	-4	1	3
22	23	-1	1	4
20.7	23	-2.3	1	5
20.5	23	-2.5	1	6
18.5	23	-4.5	1	7
17	23	-6	1	8
15	23	-8	1	9
16	23	-7	1	10
18	24	-6	1	11
22	24	-2	1	12
19	24	-5	1	13
22	24	-2	1	14
20.7	24	-3.3	1	15
20.5	24	-3.5	1	16
18.5	24	-5.5	1	17
17	24	-7	1	18
15	24	-9	1	19
16	24	-8	1	20
22	18	4	2	20
19	18	1	3	20
22	18	4	4	20
20.7	18	2.7	5	20
20.5	18	2.5	6	20
18.5	18	0.5	7	20
17	18	-1	7	21
15	18	-3	7	22
16	18	-2	7	23
19	22	-3	7	24
22	22	0	7	24
20.7	22	-1.3	7	25
20.5	22	-1.5	7	26
18.5	22	-3.5	7	27
17	22	-5	7	28
15	22	-7	7	29
16	22	-6	7	30
22	19	3	8	30
20.7	19	1.7	9	30
20.5	19	1.5	10	30
18.5	19	-0.5	10	31
17	19	-2	10	32

15	19	-4	10	33
16	19	-3	10	34
20.7	22	-1.3	10	35
20.5	22	-1.5	10	36
18.5	22	-3.5	10	37
17	22	-5	10	38
15	22	-7	10	39
16	22	-6	10	40
20.5	20.7	-0.2	10	41
18.5	20.7	-2.2	10	42
17	20.7	-3.7	10	43
15	20.7	-5.7	10	44
16	20.7	-4.7	10	45
18.5	20.5	-2	10	46
17	20.5	-3.5	10	47
15	20.5	-5.5	10	48
16	20.5	-4.5	10	49
17	18.5	-1.5	10	50
15	18.5	-3.5	10	51
16	18.5	-2.5	10	52
15	17	-2	10	53
16	17	-1	10	54
16	15	1	11	54

S Statistic = 11 - 54 = -43

Tied Group	Value	Members
1	22	2

Time Period	Observations
3/26/2002	1
1/23/2003	1
3/23/2004	1
12/8/2004	1
12/13/2005	1
12/13/2006	1
12/10/2007	1
12/10/2008	1
12/4/2009	1
12/15/2010	1
4/13/2011	1
4/18/2012	1

There are 0 time periods with multiple data

A = 18
 B = 0
 C = 0
 D = 0
 E = 2
 F = 0

a = 3828

b = 11880

c = 264

Group Variance = 211.667

Z-Score = -2.88684

Comparison Level at 1.0 - (0.05 / 2) = 97.5% confidence level = 1.97737 (two-tailed)

$|-2.88684| > 1.97737$ indicating a trend