

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: 3852L

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
ND<0	1.7	-1.7	0	1
ND<0	1.7	-1.7	0	2
1.4	1.7	-0.3	0	3
2.5	1.7	0.8	1	3
2.9	1.7	1.2	2	3
1.89	1.7	0.19	3	3
3.16	1.7	1.46	4	3
1.14	1.7	-0.56	4	4
1.8	1.7	0.1	5	4
3.8	1.7	2.1	6	4
7.3	1.7	5.6	7	4
ND<0	ND<0	0	7	4
1.4	ND<0	1.4	8	4
2.5	ND<0	2.5	9	4
2.9	ND<0	2.9	10	4
1.89	ND<0	1.89	11	4
3.16	ND<0	3.16	12	4
1.14	ND<0	1.14	13	4
1.8	ND<0	1.8	14	4
3.8	ND<0	3.8	15	4
7.3	ND<0	7.3	16	4
1.4	ND<0	1.4	17	4
2.5	ND<0	2.5	18	4
2.9	ND<0	2.9	19	4
1.89	ND<0	1.89	20	4
3.16	ND<0	3.16	21	4
1.14	ND<0	1.14	22	4
1.8	ND<0	1.8	23	4
3.8	ND<0	3.8	24	4
7.3	ND<0	7.3	25	4
2.5	1.4	1.1	26	4
2.9	1.4	1.5	27	4
1.89	1.4	0.49	28	4
3.16	1.4	1.76	29	4
1.14	1.4	-0.26	29	5
1.8	1.4	0.4	30	5
3.8	1.4	2.4	31	5
7.3	1.4	5.9	32	5
2.9	2.5	0.4	33	5
1.89	2.5	-0.61	33	6
3.16	2.5	0.66	34	6
1.14	2.5	-1.36	34	7
1.8	2.5	-0.7	34	8

3.8	2.5	1.3	35	8
7.3	2.5	4.8	36	8
1.89	2.9	-1.01	36	9
3.16	2.9	0.26	37	9
1.14	2.9	-1.76	37	10
1.8	2.9	-1.1	37	11
3.8	2.9	0.9	38	11
7.3	2.9	4.4	39	11
3.16	1.89	1.27	40	11
1.14	1.89	-0.75	40	12
1.8	1.89	-0.09	40	13
3.8	1.89	1.91	41	13
7.3	1.89	5.41	42	13
1.14	3.16	-2.02	42	14
1.8	3.16	-1.36	42	15
3.8	3.16	0.64	43	15
7.3	3.16	4.14	44	15
1.8	1.14	0.66	45	15
3.8	1.14	2.66	46	15
7.3	1.14	6.16	47	15
3.8	1.8	2	48	15
7.3	1.8	5.5	49	15
7.3	3.8	3.5	50	15

S Statistic = 50 - 15 = 35

Tied Group	Value	Members
1	0	2

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

a = 3828

b = 11880

c = 264

Group Variance = 211.667

Z-Score = 2.33697

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

|2.33697| > 1.97737 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: 3862D

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
1200	840	360	1	0
1300	840	460	2	0
650	840	-190	2	1
580	840	-260	2	2
530	840	-310	2	3
398	840	-442	2	4
600	840	-240	2	5
450	840	-390	2	6
250	840	-590	2	7
1300	1200	100	3	7
650	1200	-550	3	8
580	1200	-620	3	9
530	1200	-670	3	10
398	1200	-802	3	11
600	1200	-600	3	12
450	1200	-750	3	13
250	1200	-950	3	14
650	1300	-650	3	15
580	1300	-720	3	16
530	1300	-770	3	17
398	1300	-902	3	18
600	1300	-700	3	19
450	1300	-850	3	20
250	1300	-1050	3	21
580	650	-70	3	22
530	650	-120	3	23
398	650	-252	3	24
600	650	-50	3	25
450	650	-200	3	26
250	650	-400	3	27
530	580	-50	3	28
398	580	-182	3	29
600	580	20	4	29
450	580	-130	4	30
250	580	-330	4	31
398	530	-132	4	32
600	530	70	5	32
450	530	-80	5	33
250	530	-280	5	34
600	398	202	6	34
450	398	52	7	34

250	398	-148	7	35
450	600	-150	7	36
250	600	-350	7	37
250	450	-200	7	38

S Statistic = $7 - 38 = -31$

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

Probability of obtaining $S \geq |-31|$ is 0.0046

0.0046 < 0.05 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: 3862E

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
120	120	0	0	0
87	120	-33	0	1
68	120	-52	0	2
47	120	-73	0	3
43	120	-77	0	4
34.8	120	-85.2	0	5
48.8	120	-71.2	0	6
37.1	120	-82.9	0	7
29	120	-91	0	8
26	120	-94	0	9
44	120	-76	0	10
87	120	-33	0	11
68	120	-52	0	12
47	120	-73	0	13
43	120	-77	0	14
34.8	120	-85.2	0	15
48.8	120	-71.2	0	16
37.1	120	-82.9	0	17
29	120	-91	0	18
26	120	-94	0	19
44	120	-76	0	20
68	87	-19	0	21
47	87	-40	0	22
43	87	-44	0	23
34.8	87	-52.2	0	24
48.8	87	-38.2	0	25
37.1	87	-49.9	0	26
29	87	-58	0	27
26	87	-61	0	28
44	87	-43	0	29
47	68	-21	0	30
43	68	-25	0	31
34.8	68	-33.2	0	32
48.8	68	-19.2	0	33
37.1	68	-30.9	0	34
29	68	-39	0	35
26	68	-42	0	36
44	68	-24	0	37
43	47	-4	0	38
34.8	47	-12.2	0	39
48.8	47	1.8	1	39
37.1	47	-9.9	1	40
29	47	-18	1	41

26	47	-21	1	42
44	47	-3	1	43
34.8	43	-8.2	1	44
48.8	43	5.8	2	44
37.1	43	-5.9	2	45
29	43	-14	2	46
26	43	-17	2	47
44	43	1	3	47
48.8	34.8	14	4	47
37.1	34.8	2.3	5	47
29	34.8	-5.8	5	48
26	34.8	-8.8	5	49
44	34.8	9.2	6	49
37.1	48.8	-11.7	6	50
29	48.8	-19.8	6	51
26	48.8	-22.8	6	52
44	48.8	-4.8	6	53
29	37.1	-8.1	6	54
26	37.1	-11.1	6	55
44	37.1	6.9	7	55
26	29	-3	7	56
44	29	15	8	56
44	26	18	9	56

S Statistic = 9 - 56 = -47

Tied Group	Value	Members
1	120	2

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

a = 3828
b = 11880
c = 264
Group Variance = 211.667
Z-Score = -3.16178
Comparison Level at 1.0 - (0.05 / 2) = 97.5% confidence level = 1.97737 (two-tailed)
 $|-3.16178| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: 4959H

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
110	57	53	1	0
55	57	-2	1	1
24.6	57	-32.4	1	2
21.8	57	-35.2	1	3
4.6	57	-52.4	1	4
5.9	57	-51.1	1	5
55	110	-55	1	6
24.6	110	-85.4	1	7
21.8	110	-88.2	1	8
4.6	110	-105.4	1	9
5.9	110	-104.1	1	10
24.6	55	-30.4	1	11
21.8	55	-33.2	1	12
4.6	55	-50.4	1	13
5.9	55	-49.1	1	14
21.8	24.6	-2.8	1	15
4.6	24.6	-20	1	16
5.9	24.6	-18.7	1	17
4.6	21.8	-17.2	1	18
5.9	21.8	-15.9	1	19
5.9	4.6	1.3	2	19

S Statistic = 2 - 19 = -17

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

Probability of obtaining $S \geq -17$ is 0.0108

0.0108 < 0.1 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: A-1-CW05

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
11	11	0	0	0
11	11	0	0	0
8.8	11	-2.2	0	1
7.04	11	-3.96	0	2
5.64	11	-5.36	0	3
7.1	11	-3.9	0	4
5.6	11	-5.4	0	5
4.8	11	-6.2	0	6
3	11	-8	0	7
11	11	0	0	7
8.8	11	-2.2	0	8
7.04	11	-3.96	0	9
5.64	11	-5.36	0	10
7.1	11	-3.9	0	11
5.6	11	-5.4	0	12
4.8	11	-6.2	0	13
3	11	-8	0	14
8.8	11	-2.2	0	15
7.04	11	-3.96	0	16
5.64	11	-5.36	0	17
7.1	11	-3.9	0	18
5.6	11	-5.4	0	19
4.8	11	-6.2	0	20
3	11	-8	0	21
7.04	8.8	-1.76	0	22
5.64	8.8	-3.16	0	23
7.1	8.8	-1.7	0	24
5.6	8.8	-3.2	0	25
4.8	8.8	-4	0	26
3	8.8	-5.8	0	27
5.64	7.04	-1.4	0	28
7.1	7.04	0.06	1	28
5.6	7.04	-1.44	1	29
4.8	7.04	-2.24	1	30
3	7.04	-4.04	1	31
7.1	5.64	1.46	2	31
5.6	5.64	-0.04	2	32
4.8	5.64	-0.84	2	33
3	5.64	-2.64	2	34
5.6	7.1	-1.5	2	35
4.8	7.1	-2.3	2	36

3	7.1	-4.1	2	37
4.8	5.6	-0.8	2	38
3	5.6	-2.6	2	39
3	4.8	-1.8	2	40

S Statistic = 2 - 40 = -38

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

Probability of obtaining $S \geq |-38|$ is 0.000238

0.000238 < 0.05 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: A-1-CW09

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

98% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
110	150	-40	0	1
100	150	-50	0	2
90	150	-60	0	3
73	150	-77	0	4
61	150	-89	0	5
60	150	-90	0	6
58	150	-92	0	7
59	150	-91	0	8
31	150	-119	0	9
31	150	-119	0	10
28.3	150	-121.7	0	11
25.8	150	-124.2	0	12
21.6	150	-128.4	0	13
26.4	150	-123.6	0	14
36.4	150	-113.6	0	15
34.2	150	-115.8	0	16
40	150	-110	0	17
33	150	-117	0	18
26	150	-124	0	19
16	150	-134	0	20
16	150	-134	0	21
100	110	-10	0	22
90	110	-20	0	23
73	110	-37	0	24
61	110	-49	0	25
60	110	-50	0	26
58	110	-52	0	27
59	110	-51	0	28
31	110	-79	0	29
31	110	-79	0	30
28.3	110	-81.7	0	31
25.8	110	-84.2	0	32
21.6	110	-88.4	0	33
26.4	110	-83.6	0	34
36.4	110	-73.6	0	35
34.2	110	-75.8	0	36
40	110	-70	0	37
33	110	-77	0	38
26	110	-84	0	39
16	110	-94	0	40
16	110	-94	0	41
90	100	-10	0	42
73	100	-27	0	43
61	100	-39	0	44
60	100	-40	0	45

58	100	-42	0	46
59	100	-41	0	47
31	100	-69	0	48
31	100	-69	0	49
28.3	100	-71.7	0	50
25.8	100	-74.2	0	51
21.6	100	-78.4	0	52
26.4	100	-73.6	0	53
36.4	100	-63.6	0	54
34.2	100	-65.8	0	55
40	100	-60	0	56
33	100	-67	0	57
26	100	-74	0	58
16	100	-84	0	59
16	100	-84	0	60
73	90	-17	0	61
61	90	-29	0	62
60	90	-30	0	63
58	90	-32	0	64
59	90	-31	0	65
31	90	-59	0	66
31	90	-59	0	67
28.3	90	-61.7	0	68
25.8	90	-64.2	0	69
21.6	90	-68.4	0	70
26.4	90	-63.6	0	71
36.4	90	-53.6	0	72
34.2	90	-55.8	0	73
40	90	-50	0	74
33	90	-57	0	75
26	90	-64	0	76
16	90	-74	0	77
16	90	-74	0	78
61	73	-12	0	79
60	73	-13	0	80
58	73	-15	0	81
59	73	-14	0	82
31	73	-42	0	83
31	73	-42	0	84
28.3	73	-44.7	0	85
25.8	73	-47.2	0	86
21.6	73	-51.4	0	87
26.4	73	-46.6	0	88
36.4	73	-36.6	0	89
34.2	73	-38.8	0	90
40	73	-33	0	91
33	73	-40	0	92
26	73	-47	0	93
16	73	-57	0	94
16	73	-57	0	95
60	61	-1	0	96
58	61	-3	0	97
59	61	-2	0	98
31	61	-30	0	99

31	61	-30	0	100
28.3	61	-32.7	0	101
25.8	61	-35.2	0	102
21.6	61	-39.4	0	103
26.4	61	-34.6	0	104
36.4	61	-24.6	0	105
34.2	61	-26.8	0	106
40	61	-21	0	107
33	61	-28	0	108
26	61	-35	0	109
16	61	-45	0	110
16	61	-45	0	111
58	60	-2	0	112
59	60	-1	0	113
31	60	-29	0	114
31	60	-29	0	115
28.3	60	-31.7	0	116
25.8	60	-34.2	0	117
21.6	60	-38.4	0	118
26.4	60	-33.6	0	119
36.4	60	-23.6	0	120
34.2	60	-25.8	0	121
40	60	-20	0	122
33	60	-27	0	123
26	60	-34	0	124
16	60	-44	0	125
16	60	-44	0	126
59	58	1	1	126
31	58	-27	1	127
31	58	-27	1	128
28.3	58	-29.7	1	129
25.8	58	-32.2	1	130
21.6	58	-36.4	1	131
26.4	58	-31.6	1	132
36.4	58	-21.6	1	133
34.2	58	-23.8	1	134
40	58	-18	1	135
33	58	-25	1	136
26	58	-32	1	137
16	58	-42	1	138
16	58	-42	1	139
31	59	-28	1	140
31	59	-28	1	141
28.3	59	-30.7	1	142
25.8	59	-33.2	1	143
21.6	59	-37.4	1	144
26.4	59	-32.6	1	145
36.4	59	-22.6	1	146
34.2	59	-24.8	1	147
40	59	-19	1	148
33	59	-26	1	149
26	59	-33	1	150
16	59	-43	1	151
16	59	-43	1	152

31	31	0	1	152
28.3	31	-2.7	1	153
25.8	31	-5.2	1	154
21.6	31	-9.4	1	155
26.4	31	-4.6	1	156
36.4	31	5.4	2	156
34.2	31	3.2	3	156
40	31	9	4	156
33	31	2	5	156
26	31	-5	5	157
16	31	-15	5	158
16	31	-15	5	159
28.3	31	-2.7	5	160
25.8	31	-5.2	5	161
21.6	31	-9.4	5	162
26.4	31	-4.6	5	163
36.4	31	5.4	6	163
34.2	31	3.2	7	163
40	31	9	8	163
33	31	2	9	163
26	31	-5	9	164
16	31	-15	9	165
16	31	-15	9	166
25.8	28.3	-2.5	9	167
21.6	28.3	-6.7	9	168
26.4	28.3	-1.9	9	169
36.4	28.3	8.1	10	169
34.2	28.3	5.9	11	169
40	28.3	11.7	12	169
33	28.3	4.7	13	169
26	28.3	-2.3	13	170
16	28.3	-12.3	13	171
16	28.3	-12.3	13	172
21.6	25.8	-4.2	13	173
26.4	25.8	0.6	14	173
36.4	25.8	10.6	15	173
34.2	25.8	8.4	16	173
40	25.8	14.2	17	173
33	25.8	7.2	18	173
26	25.8	0.2	19	173
16	25.8	-9.8	19	174
16	25.8	-9.8	19	175
26.4	21.6	4.8	20	175
36.4	21.6	14.8	21	175
34.2	21.6	12.6	22	175
40	21.6	18.4	23	175
33	21.6	11.4	24	175
26	21.6	4.4	25	175
16	21.6	-5.6	25	176
16	21.6	-5.6	25	177
36.4	26.4	10	26	177

34.2	26.4	7.8	27	177
40	26.4	13.6	28	177
33	26.4	6.6	29	177
26	26.4	-0.4	29	178
16	26.4	-10.4	29	179
16	26.4	-10.4	29	180
34.2	36.4	-2.2	29	181
40	36.4	3.6	30	181
33	36.4	-3.4	30	182
26	36.4	-10.4	30	183
16	36.4	-20.4	30	184
16	36.4	-20.4	30	185
40	34.2	5.8	31	185
33	34.2	-1.2	31	186
26	34.2	-8.2	31	187
16	34.2	-18.2	31	188
16	34.2	-18.2	31	189
33	40	-7	31	190
26	40	-14	31	191
16	40	-24	31	192
16	40	-24	31	193
26	33	-7	31	194
16	33	-17	31	195
16	33	-17	31	196
16	26	-10	31	197
16	26	-10	31	198
16	16	0	31	198

S Statistic = 31 - 198 = -167

Tied Group	Value	Members
1	31	2
2	16	2

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 = 36

B = 0

C = 0

D = 0

E = 4

F = 0

a = 22638

b = 83160

c = 924

Group Variance = 1255.67

Z-Score = -4.68458

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

$|-4.68458| > 2.32634$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: B-1-CW13

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

98% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
1400	1100	300	1	0
1100	1100	0	1	0
830	1100	-270	1	1
770	1100	-330	1	2
510	1100	-590	1	3
500	1100	-600	1	4
850	1100	-250	1	5
420	1100	-680	1	6
390	1100	-710	1	7
310	1100	-790	1	8
340	1100	-760	1	9
350	1100	-750	1	10
362	1100	-738	1	11
404	1100	-696	1	12
440	1100	-660	1	13
450	1100	-650	1	14
410	1100	-690	1	15
340	1100	-760	1	16
310	1100	-790	1	17
1100	1400	-300	1	18
830	1400	-570	1	19
770	1400	-630	1	20
510	1400	-890	1	21
500	1400	-900	1	22
850	1400	-550	1	23
420	1400	-980	1	24
390	1400	-1010	1	25
310	1400	-1090	1	26
340	1400	-1060	1	27
350	1400	-1050	1	28
362	1400	-1038	1	29
404	1400	-996	1	30
440	1400	-960	1	31
450	1400	-950	1	32
410	1400	-990	1	33
340	1400	-1060	1	34
310	1400	-1090	1	35
830	1100	-270	1	36
770	1100	-330	1	37
510	1100	-590	1	38
500	1100	-600	1	39
850	1100	-250	1	40
420	1100	-680	1	41
390	1100	-710	1	42
310	1100	-790	1	43

340	1100	-760	1	44
350	1100	-750	1	45
362	1100	-738	1	46
404	1100	-696	1	47
440	1100	-660	1	48
450	1100	-650	1	49
410	1100	-690	1	50
340	1100	-760	1	51
310	1100	-790	1	52
770	830	-60	1	53
510	830	-320	1	54
500	830	-330	1	55
850	830	20	2	55
420	830	-410	2	56
390	830	-440	2	57
310	830	-520	2	58
340	830	-490	2	59
350	830	-480	2	60
362	830	-468	2	61
404	830	-426	2	62
440	830	-390	2	63
450	830	-380	2	64
410	830	-420	2	65
340	830	-490	2	66
310	830	-520	2	67
510	770	-260	2	68
500	770	-270	2	69
850	770	80	3	69
420	770	-350	3	70
390	770	-380	3	71
310	770	-460	3	72
340	770	-430	3	73
350	770	-420	3	74
362	770	-408	3	75
404	770	-366	3	76
440	770	-330	3	77
450	770	-320	3	78
410	770	-360	3	79
340	770	-430	3	80
310	770	-460	3	81
500	510	-10	3	82
850	510	340	4	82
420	510	-90	4	83
390	510	-120	4	84
310	510	-200	4	85
340	510	-170	4	86
350	510	-160	4	87
362	510	-148	4	88
404	510	-106	4	89
440	510	-70	4	90
450	510	-60	4	91
410	510	-100	4	92
340	510	-170	4	93
310	510	-200	4	94

850	500	350	5	94
420	500	-80	5	95
390	500	-110	5	96
310	500	-190	5	97
340	500	-160	5	98
350	500	-150	5	99
362	500	-138	5	100
404	500	-96	5	101
440	500	-60	5	102
450	500	-50	5	103
410	500	-90	5	104
340	500	-160	5	105
310	500	-190	5	106
420	850	-430	5	107
390	850	-460	5	108
310	850	-540	5	109
340	850	-510	5	110
350	850	-500	5	111
362	850	-488	5	112
404	850	-446	5	113
440	850	-410	5	114
450	850	-400	5	115
410	850	-440	5	116
340	850	-510	5	117
310	850	-540	5	118
390	420	-30	5	119
310	420	-110	5	120
340	420	-80	5	121
350	420	-70	5	122
362	420	-58	5	123
404	420	-16	5	124
440	420	20	6	124
450	420	30	7	124
410	420	-10	7	125
340	420	-80	7	126
310	420	-110	7	127
310	390	-80	7	128
340	390	-50	7	129
350	390	-40	7	130
362	390	-28	7	131
404	390	14	8	131
440	390	50	9	131
450	390	60	10	131
410	390	20	11	131
340	390	-50	11	132
310	390	-80	11	133
340	310	30	12	133
350	310	40	13	133
362	310	52	14	133
404	310	94	15	133
440	310	130	16	133
450	310	140	17	133

410	310	100	18	133
340	310	30	19	133
310	310	0	19	133
350	340	10	20	133
362	340	22	21	133
404	340	64	22	133
440	340	100	23	133
450	340	110	24	133
410	340	70	25	133
340	340	0	25	133
310	340	-30	25	134
362	350	12	26	134
404	350	54	27	134
440	350	90	28	134
450	350	100	29	134
410	350	60	30	134
340	350	-10	30	135
310	350	-40	30	136
404	362	42	31	136
440	362	78	32	136
450	362	88	33	136
410	362	48	34	136
340	362	-22	34	137
310	362	-52	34	138
440	404	36	35	138
450	404	46	36	138
410	404	6	37	138
340	404	-64	37	139
310	404	-94	37	140
450	440	10	38	140
410	440	-30	38	141
340	440	-100	38	142
310	440	-130	38	143
410	450	-40	38	144
340	450	-110	38	145
310	450	-140	38	146
340	410	-70	38	147
310	410	-100	38	148
310	340	-30	38	149

S Statistic = 38 - 149 = -111

Tied Group	Value	Members
1	1100	2
2	310	2
3	340	2

Time Period	Observations
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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 = 54

B = 0

C = 0

D = 0

E = 6

F = 0

a = 17100

b = 61560

c = 760

Group Variance = 947

Z-Score = -3.57452

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

$|-3.57452| > 2.32634$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: B-1-CW28

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

98% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
5.3	5.3	0	0	0
5.8	5.3	0.5	1	0
5.1	5.3	-0.2	1	1
6.1	5.3	0.8	2	1
6.2	5.3	0.9	3	1
6.3	5.3	1	4	1
4.7	5.3	-0.6	4	2
4.1	5.3	-1.2	4	3
ND<0	5.3	-5.3	4	4
6	5.3	0.7	5	4
5.2	5.3	-0.1	5	5
4.7	5.3	-0.6	5	6
3.74	5.3	-1.56	5	7
5.01	5.3	-0.29	5	8
4.26	5.3	-1.04	5	9
6.6	5.3	1.3	6	9
5.76	5.3	0.46	7	9
4.41	5.3	-0.89	7	10
4.2	5.3	-1.1	7	11
4.3	5.3	-1	7	12
4	5.3	-1.3	7	13
4.3	5.3	-1	7	14
3.9	5.3	-1.4	7	15
5.8	5.3	0.5	8	15
5.1	5.3	-0.2	8	16
6.1	5.3	0.8	9	16
6.2	5.3	0.9	10	16
6.3	5.3	1	11	16
4.7	5.3	-0.6	11	17
4.1	5.3	-1.2	11	18
ND<0	5.3	-5.3	11	19
6	5.3	0.7	12	19
5.2	5.3	-0.1	12	20
4.7	5.3	-0.6	12	21
3.74	5.3	-1.56	12	22
5.01	5.3	-0.29	12	23
4.26	5.3	-1.04	12	24
6.6	5.3	1.3	13	24
5.76	5.3	0.46	14	24
4.41	5.3	-0.89	14	25
4.2	5.3	-1.1	14	26
4.3	5.3	-1	14	27
4	5.3	-1.3	14	28
4.3	5.3	-1	14	29
3.9	5.3	-1.4	14	30

5.1	5.8	-0.7	14	31
6.1	5.8	0.3	15	31
6.2	5.8	0.4	16	31
6.3	5.8	0.5	17	31
4.7	5.8	-1.1	17	32
4.1	5.8	-1.7	17	33
ND<0	5.8	-5.8	17	34
6	5.8	0.2	18	34
5.2	5.8	-0.6	18	35
4.7	5.8	-1.1	18	36
3.74	5.8	-2.06	18	37
5.01	5.8	-0.79	18	38
4.26	5.8	-1.54	18	39
6.6	5.8	0.8	19	39
5.76	5.8	-0.04	19	40
4.41	5.8	-1.39	19	41
4.2	5.8	-1.6	19	42
4.3	5.8	-1.5	19	43
4	5.8	-1.8	19	44
4.3	5.8	-1.5	19	45
3.9	5.8	-1.9	19	46
6.1	5.1	1	20	46
6.2	5.1	1.1	21	46
6.3	5.1	1.2	22	46
4.7	5.1	-0.4	22	47
4.1	5.1	-1	22	48
ND<0	5.1	-5.1	22	49
6	5.1	0.9	23	49
5.2	5.1	0.1	24	49
4.7	5.1	-0.4	24	50
3.74	5.1	-1.36	24	51
5.01	5.1	-0.09	24	52
4.26	5.1	-0.84	24	53
6.6	5.1	1.5	25	53
5.76	5.1	0.66	26	53
4.41	5.1	-0.69	26	54
4.2	5.1	-0.9	26	55
4.3	5.1	-0.8	26	56
4	5.1	-1.1	26	57
4.3	5.1	-0.8	26	58
3.9	5.1	-1.2	26	59
6.2	6.1	0.1	27	59
6.3	6.1	0.2	28	59
4.7	6.1	-1.4	28	60
4.1	6.1	-2	28	61
ND<0	6.1	-6.1	28	62
6	6.1	-0.1	28	63
5.2	6.1	-0.9	28	64
4.7	6.1	-1.4	28	65
3.74	6.1	-2.36	28	66
5.01	6.1	-1.09	28	67
4.26	6.1	-1.84	28	68
6.6	6.1	0.5	29	68
5.76	6.1	-0.34	29	69
4.41	6.1	-1.69	29	70

4.2	6.1	-1.9	29	71
4.3	6.1	-1.8	29	72
4	6.1	-2.1	29	73
4.3	6.1	-1.8	29	74
3.9	6.1	-2.2	29	75
6.3	6.2	0.1	30	75
4.7	6.2	-1.5	30	76
4.1	6.2	-2.1	30	77
ND<0	6.2	-6.2	30	78
6	6.2	-0.2	30	79
5.2	6.2	-1	30	80
4.7	6.2	-1.5	30	81
3.74	6.2	-2.46	30	82
5.01	6.2	-1.19	30	83
4.26	6.2	-1.94	30	84
6.6	6.2	0.4	31	84
5.76	6.2	-0.44	31	85
4.41	6.2	-1.79	31	86
4.2	6.2	-2	31	87
4.3	6.2	-1.9	31	88
4	6.2	-2.2	31	89
4.3	6.2	-1.9	31	90
3.9	6.2	-2.3	31	91
4.7	6.3	-1.6	31	92
4.1	6.3	-2.2	31	93
ND<0	6.3	-6.3	31	94
6	6.3	-0.3	31	95
5.2	6.3	-1.1	31	96
4.7	6.3	-1.6	31	97
3.74	6.3	-2.56	31	98
5.01	6.3	-1.29	31	99
4.26	6.3	-2.04	31	100
6.6	6.3	0.3	32	100
5.76	6.3	-0.54	32	101
4.41	6.3	-1.89	32	102
4.2	6.3	-2.1	32	103
4.3	6.3	-2	32	104
4	6.3	-2.3	32	105
4.3	6.3	-2	32	106
3.9	6.3	-2.4	32	107
4.1	4.7	-0.6	32	108
ND<0	4.7	-4.7	32	109
6	4.7	1.3	33	109
5.2	4.7	0.5	34	109
4.7	4.7	0	34	109
3.74	4.7	-0.96	34	110
5.01	4.7	0.31	35	110
4.26	4.7	-0.44	35	111
6.6	4.7	1.9	36	111
5.76	4.7	1.06	37	111
4.41	4.7	-0.29	37	112
4.2	4.7	-0.5	37	113
4.3	4.7	-0.4	37	114
4	4.7	-0.7	37	115

4.3	4.7	-0.4	37	116
3.9	4.7	-0.8	37	117
ND<0	4.1	-4.1	37	118
6	4.1	1.9	38	118
5.2	4.1	1.1	39	118
4.7	4.1	0.6	40	118
3.74	4.1	-0.36	40	119
5.01	4.1	0.91	41	119
4.26	4.1	0.16	42	119
6.6	4.1	2.5	43	119
5.76	4.1	1.66	44	119
4.41	4.1	0.31	45	119
4.2	4.1	0.1	46	119
4.3	4.1	0.2	47	119
4	4.1	-0.1	47	120
4.3	4.1	0.2	48	120
3.9	4.1	-0.2	48	121
6	ND<0	6	49	121
5.2	ND<0	5.2	50	121
4.7	ND<0	4.7	51	121
3.74	ND<0	3.74	52	121
5.01	ND<0	5.01	53	121
4.26	ND<0	4.26	54	121
6.6	ND<0	6.6	55	121
5.76	ND<0	5.76	56	121
4.41	ND<0	4.41	57	121
4.2	ND<0	4.2	58	121
4.3	ND<0	4.3	59	121
4	ND<0	4	60	121
4.3	ND<0	4.3	61	121
3.9	ND<0	3.9	62	121
5.2	6	-0.8	62	122
4.7	6	-1.3	62	123
3.74	6	-2.26	62	124
5.01	6	-0.99	62	125
4.26	6	-1.74	62	126
6.6	6	0.6	63	126
5.76	6	-0.24	63	127
4.41	6	-1.59	63	128
4.2	6	-1.8	63	129
4.3	6	-1.7	63	130
4	6	-2	63	131
4.3	6	-1.7	63	132
3.9	6	-2.1	63	133
4.7	5.2	-0.5	63	134
3.74	5.2	-1.46	63	135
5.01	5.2	-0.19	63	136
4.26	5.2	-0.94	63	137
6.6	5.2	1.4	64	137
5.76	5.2	0.56	65	137
4.41	5.2	-0.79	65	138
4.2	5.2	-1	65	139
4.3	5.2	-0.9	65	140

4	5.2	-1.2	65	141
4.3	5.2	-0.9	65	142
3.9	5.2	-1.3	65	143
3.74	4.7	-0.96	65	144
5.01	4.7	0.31	66	144
4.26	4.7	-0.44	66	145
6.6	4.7	1.9	67	145
5.76	4.7	1.06	68	145
4.41	4.7	-0.29	68	146
4.2	4.7	-0.5	68	147
4.3	4.7	-0.4	68	148
4	4.7	-0.7	68	149
4.3	4.7	-0.4	68	150
3.9	4.7	-0.8	68	151
5.01	3.74	1.27	69	151
4.26	3.74	0.52	70	151
6.6	3.74	2.86	71	151
5.76	3.74	2.02	72	151
4.41	3.74	0.67	73	151
4.2	3.74	0.46	74	151
4.3	3.74	0.56	75	151
4	3.74	0.26	76	151
4.3	3.74	0.56	77	151
3.9	3.74	0.16	78	151
4.26	5.01	-0.75	78	152
6.6	5.01	1.59	79	152
5.76	5.01	0.75	80	152
4.41	5.01	-0.6	80	153
4.2	5.01	-0.81	80	154
4.3	5.01	-0.71	80	155
4	5.01	-1.01	80	156
4.3	5.01	-0.71	80	157
3.9	5.01	-1.11	80	158
6.6	4.26	2.34	81	158
5.76	4.26	1.5	82	158
4.41	4.26	0.15	83	158
4.2	4.26	-0.06	83	159
4.3	4.26	0.04	84	159
4	4.26	-0.26	84	160
4.3	4.26	0.04	85	160
3.9	4.26	-0.36	85	161
5.76	6.6	-0.84	85	162
4.41	6.6	-2.19	85	163
4.2	6.6	-2.4	85	164
4.3	6.6	-2.3	85	165
4	6.6	-2.6	85	166
4.3	6.6	-2.3	85	167
3.9	6.6	-2.7	85	168
4.41	5.76	-1.35	85	169
4.2	5.76	-1.56	85	170
4.3	5.76	-1.46	85	171

4	5.76	-1.76	85	172
4.3	5.76	-1.46	85	173
3.9	5.76	-1.86	85	174
4.2	4.41	-0.21	85	175
4.3	4.41	-0.11	85	176
4	4.41	-0.41	85	177
4.3	4.41	-0.11	85	178
3.9	4.41	-0.51	85	179
4.3	4.2	0.1	86	179
4	4.2	-0.2	86	180
4.3	4.2	0.1	87	180
3.9	4.2	-0.3	87	181
4	4.3	-0.3	87	182
4.3	4.3	0	87	182
3.9	4.3	-0.4	87	183
4.3	4	0.3	88	183
3.9	4	-0.1	88	184
3.9	4.3	-0.4	88	185

S Statistic = 88 - 185 = -97

Tied Group	Value	Members
1	5.3	2
2	4.7	2
3	4.3	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 = 54

B = 0

C = 0

D = 0

E = 6

F = 0

a = 29256

b = 109296

c = 1104

Group Variance = 1622.33

Z-Score = -2.38342

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

$|-2.38342| > 2.32634$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: B-5-CW02

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

98% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
13	18	-5	0	1
13	18	-5	0	2
8.7	18	-9.3	0	3
6	18	-12	0	4
6.2	18	-11.8	0	5
4	18	-14	0	6
4.8	18	-13.2	0	7
2.55	18	-15.45	0	8
3.23	18	-14.77	0	9
1.68	18	-16.32	0	10
2.88	18	-15.12	0	11
1.14	18	-16.86	0	12
0.43	18	-17.57	0	13
0.43	18	-17.57	0	14
ND<0	18	-18	0	15
ND<0	18	-18	0	16
ND<0	18	-18	0	17
ND<0	18	-18	0	18
ND<0	18	-18	0	19
13	13	0	0	19
8.7	13	-4.3	0	20
6	13	-7	0	21
6.2	13	-6.8	0	22
4	13	-9	0	23
4.8	13	-8.2	0	24
2.55	13	-10.45	0	25
3.23	13	-9.77	0	26
1.68	13	-11.32	0	27
2.88	13	-10.12	0	28
1.14	13	-11.86	0	29
0.43	13	-12.57	0	30
0.43	13	-12.57	0	31
ND<0	13	-13	0	32
ND<0	13	-13	0	33
ND<0	13	-13	0	34
ND<0	13	-13	0	35
ND<0	13	-13	0	36
8.7	13	-4.3	0	37
6	13	-7	0	38
6.2	13	-6.8	0	39
4	13	-9	0	40
4.8	13	-8.2	0	41
2.55	13	-10.45	0	42
3.23	13	-9.77	0	43
1.68	13	-11.32	0	44

2.88	13	-10.12	0	45
1.14	13	-11.86	0	46
0.43	13	-12.57	0	47
0.43	13	-12.57	0	48
ND<0	13	-13	0	49
ND<0	13	-13	0	50
ND<0	13	-13	0	51
ND<0	13	-13	0	52
ND<0	13	-13	0	53
6	8.7	-2.7	0	54
6.2	8.7	-2.5	0	55
4	8.7	-4.7	0	56
4.8	8.7	-3.9	0	57
2.55	8.7	-6.15	0	58
3.23	8.7	-5.47	0	59
1.68	8.7	-7.02	0	60
2.88	8.7	-5.82	0	61
1.14	8.7	-7.56	0	62
0.43	8.7	-8.27	0	63
0.43	8.7	-8.27	0	64
ND<0	8.7	-8.7	0	65
ND<0	8.7	-8.7	0	66
ND<0	8.7	-8.7	0	67
ND<0	8.7	-8.7	0	68
ND<0	8.7	-8.7	0	69
6.2	6	0.2	1	69
4	6	-2	1	70
4.8	6	-1.2	1	71
2.55	6	-3.45	1	72
3.23	6	-2.77	1	73
1.68	6	-4.32	1	74
2.88	6	-3.12	1	75
1.14	6	-4.86	1	76
0.43	6	-5.57	1	77
0.43	6	-5.57	1	78
ND<0	6	-6	1	79
ND<0	6	-6	1	80
ND<0	6	-6	1	81
ND<0	6	-6	1	82
ND<0	6	-6	1	83
4	6.2	-2.2	1	84
4.8	6.2	-1.4	1	85
2.55	6.2	-3.65	1	86
3.23	6.2	-2.97	1	87
1.68	6.2	-4.52	1	88
2.88	6.2	-3.32	1	89
1.14	6.2	-5.06	1	90
0.43	6.2	-5.77	1	91
0.43	6.2	-5.77	1	92
ND<0	6.2	-6.2	1	93
ND<0	6.2	-6.2	1	94
ND<0	6.2	-6.2	1	95
ND<0	6.2	-6.2	1	96
ND<0	6.2	-6.2	1	97

4.8	4	0.8	2	97
2.55	4	-1.45	2	98
3.23	4	-0.77	2	99
1.68	4	-2.32	2	100
2.88	4	-1.12	2	101
1.14	4	-2.86	2	102
0.43	4	-3.57	2	103
0.43	4	-3.57	2	104
ND<0	4	-4	2	105
ND<0	4	-4	2	106
ND<0	4	-4	2	107
ND<0	4	-4	2	108
ND<0	4	-4	2	109
2.55	4.8	-2.25	2	110
3.23	4.8	-1.57	2	111
1.68	4.8	-3.12	2	112
2.88	4.8	-1.92	2	113
1.14	4.8	-3.66	2	114
0.43	4.8	-4.37	2	115
0.43	4.8	-4.37	2	116
ND<0	4.8	-4.8	2	117
ND<0	4.8	-4.8	2	118
ND<0	4.8	-4.8	2	119
ND<0	4.8	-4.8	2	120
ND<0	4.8	-4.8	2	121
3.23	2.55	0.68	3	121
1.68	2.55	-0.87	3	122
2.88	2.55	0.33	4	122
1.14	2.55	-1.41	4	123
0.43	2.55	-2.12	4	124
0.43	2.55	-2.12	4	125
ND<0	2.55	-2.55	4	126
ND<0	2.55	-2.55	4	127
ND<0	2.55	-2.55	4	128
ND<0	2.55	-2.55	4	129
ND<0	2.55	-2.55	4	130
1.68	3.23	-1.55	4	131
2.88	3.23	-0.35	4	132
1.14	3.23	-2.09	4	133
0.43	3.23	-2.8	4	134
0.43	3.23	-2.8	4	135
ND<0	3.23	-3.23	4	136
ND<0	3.23	-3.23	4	137
ND<0	3.23	-3.23	4	138
ND<0	3.23	-3.23	4	139
ND<0	3.23	-3.23	4	140
2.88	1.68	1.2	5	140
1.14	1.68	-0.54	5	141
0.43	1.68	-1.25	5	142
0.43	1.68	-1.25	5	143
ND<0	1.68	-1.68	5	144
ND<0	1.68	-1.68	5	145

ND<0	1.68	-1.68	5	146
ND<0	1.68	-1.68	5	147
ND<0	1.68	-1.68	5	148
1.14	2.88	-1.74	5	149
0.43	2.88	-2.45	5	150
0.43	2.88	-2.45	5	151
ND<0	2.88	-2.88	5	152
ND<0	2.88	-2.88	5	153
ND<0	2.88	-2.88	5	154
ND<0	2.88	-2.88	5	155
ND<0	2.88	-2.88	5	156
0.43	1.14	-0.71	5	157
0.43	1.14	-0.71	5	158
ND<0	1.14	-1.14	5	159
ND<0	1.14	-1.14	5	160
ND<0	1.14	-1.14	5	161
ND<0	1.14	-1.14	5	162
ND<0	1.14	-1.14	5	163
0.43	0.43	0	5	163
ND<0	0.43	-0.43	5	164
ND<0	0.43	-0.43	5	165
ND<0	0.43	-0.43	5	166
ND<0	0.43	-0.43	5	167
ND<0	0.43	-0.43	5	168
ND<0	0.43	-0.43	5	169
ND<0	0.43	-0.43	5	170
ND<0	0.43	-0.43	5	171
ND<0	0.43	-0.43	5	172
ND<0	0.43	-0.43	5	173
ND<0	ND<0	0	5	173
ND<0	ND<0	0	5	173
ND<0	ND<0	0	5	173
ND<0	ND<0	0	5	173
ND<0	ND<0	0	5	173
ND<0	ND<0	0	5	173
ND<0	ND<0	0	5	173
ND<0	ND<0	0	5	173
ND<0	ND<0	0	5	173
ND<0	ND<0	0	5	173

S Statistic = 5 - 173 = -168

Tied Group	Value	Members
1	13	2
2	0.43	2
3	0	5

Time Period	Observations
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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 = 336

B = 0

C = 60

D = 0

E = 24

F = 0

a = 17100

b = 61560

c = 760

Group Variance = 931.333

Z-Score = -5.47222

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

$|-5.47222| > 2.32634$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: B-6-CW16

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
62	26	36	1	0
70	26	44	2	0
45	26	19	3	0
22.8	26	-3.2	3	1
10	26	-16	3	2
8.3	26	-17.7	3	3
6.7	26	-19.3	3	4
7.2	26	-18.8	3	5
9.1	26	-16.9	3	6
70	62	8	4	6
45	62	-17	4	7
22.8	62	-39.2	4	8
10	62	-52	4	9
8.3	62	-53.7	4	10
6.7	62	-55.3	4	11
7.2	62	-54.8	4	12
9.1	62	-52.9	4	13
45	70	-25	4	14
22.8	70	-47.2	4	15
10	70	-60	4	16
8.3	70	-61.7	4	17
6.7	70	-63.3	4	18
7.2	70	-62.8	4	19
9.1	70	-60.9	4	20
22.8	45	-22.2	4	21
10	45	-35	4	22
8.3	45	-36.7	4	23
6.7	45	-38.3	4	24
7.2	45	-37.8	4	25
9.1	45	-35.9	4	26
10	22.8	-12.8	4	27
8.3	22.8	-14.5	4	28
6.7	22.8	-16.1	4	29
7.2	22.8	-15.6	4	30
9.1	22.8	-13.7	4	31
8.3	10	-1.7	4	32
6.7	10	-3.3	4	33
7.2	10	-2.8	4	34
9.1	10	-0.9	4	35
6.7	8.3	-1.6	4	36
7.2	8.3	-1.1	4	37

9.1	8.3	0.8	5	37
7.2	6.7	0.5	6	37
9.1	6.7	2.4	7	37
9.1	7.2	1.9	8	37

S Statistic = 8 - 37 = -29

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

Probability of obtaining $S \geq |-29|$ is 0.0092

0.0092 < 0.05 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: C-1-CW03

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
1.1	1.3	-0.2	0	1
ND<0	1.3	-1.3	0	2
2.6	1.3	1.3	1	2
2.3	1.3	1	2	2
1.8	1.3	0.5	3	2
1.3	1.3	0	3	2
1.2	1.3	-0.1	3	3
0.8	1.3	-0.5	3	4
0.7	1.3	-0.6	3	5
ND<0	1.3	-1.3	3	6
0.73	1.3	-0.57	3	7
0.56	1.3	-0.74	3	8
0.58	1.3	-0.72	3	9
0.37	1.3	-0.93	3	10
0.66	1.3	-0.64	3	11
0.39	1.3	-0.91	3	12
0.42	1.3	-0.88	3	13
ND<0	1.3	-1.3	3	14
ND<0	1.1	-1.1	3	15
2.6	1.1	1.5	4	15
2.3	1.1	1.2	5	15
1.8	1.1	0.7	6	15
1.3	1.1	0.2	7	15
1.2	1.1	0.1	8	15
0.8	1.1	-0.3	8	16
0.7	1.1	-0.4	8	17
ND<0	1.1	-1.1	8	18
0.73	1.1	-0.37	8	19
0.56	1.1	-0.54	8	20
0.58	1.1	-0.52	8	21
0.37	1.1	-0.73	8	22
0.66	1.1	-0.44	8	23
0.39	1.1	-0.71	8	24
0.42	1.1	-0.68	8	25
ND<0	1.1	-1.1	8	26
2.6	ND<0	2.6	9	26
2.3	ND<0	2.3	10	26
1.8	ND<0	1.8	11	26
1.3	ND<0	1.3	12	26
1.2	ND<0	1.2	13	26
0.8	ND<0	0.8	14	26
0.7	ND<0	0.7	15	26
ND<0	ND<0	0	15	26
0.73	ND<0	0.73	16	26
0.56	ND<0	0.56	17	26

0.58	ND<0	0.58	18	26
0.37	ND<0	0.37	19	26
0.66	ND<0	0.66	20	26
0.39	ND<0	0.39	21	26
0.42	ND<0	0.42	22	26
ND<0	ND<0	0	22	26
2.3	2.6	-0.3	22	27
1.8	2.6	-0.8	22	28
1.3	2.6	-1.3	22	29
1.2	2.6	-1.4	22	30
0.8	2.6	-1.8	22	31
0.7	2.6	-1.9	22	32
ND<0	2.6	-2.6	22	33
0.73	2.6	-1.87	22	34
0.56	2.6	-2.04	22	35
0.58	2.6	-2.02	22	36
0.37	2.6	-2.23	22	37
0.66	2.6	-1.94	22	38
0.39	2.6	-2.21	22	39
0.42	2.6	-2.18	22	40
ND<0	2.6	-2.6	22	41
1.8	2.3	-0.5	22	42
1.3	2.3	-1	22	43
1.2	2.3	-1.1	22	44
0.8	2.3	-1.5	22	45
0.7	2.3	-1.6	22	46
ND<0	2.3	-2.3	22	47
0.73	2.3	-1.57	22	48
0.56	2.3	-1.74	22	49
0.58	2.3	-1.72	22	50
0.37	2.3	-1.93	22	51
0.66	2.3	-1.64	22	52
0.39	2.3	-1.91	22	53
0.42	2.3	-1.88	22	54
ND<0	2.3	-2.3	22	55
1.3	1.8	-0.5	22	56
1.2	1.8	-0.6	22	57
0.8	1.8	-1	22	58
0.7	1.8	-1.1	22	59
ND<0	1.8	-1.8	22	60
0.73	1.8	-1.07	22	61
0.56	1.8	-1.24	22	62
0.58	1.8	-1.22	22	63
0.37	1.8	-1.43	22	64
0.66	1.8	-1.14	22	65
0.39	1.8	-1.41	22	66
0.42	1.8	-1.38	22	67
ND<0	1.8	-1.8	22	68
1.2	1.3	-0.1	22	69
0.8	1.3	-0.5	22	70
0.7	1.3	-0.6	22	71
ND<0	1.3	-1.3	22	72
0.73	1.3	-0.57	22	73

0.56	1.3	-0.74	22	74
0.58	1.3	-0.72	22	75
0.37	1.3	-0.93	22	76
0.66	1.3	-0.64	22	77
0.39	1.3	-0.91	22	78
0.42	1.3	-0.88	22	79
ND<0	1.3	-1.3	22	80
0.8	1.2	-0.4	22	81
0.7	1.2	-0.5	22	82
ND<0	1.2	-1.2	22	83
0.73	1.2	-0.47	22	84
0.56	1.2	-0.64	22	85
0.58	1.2	-0.62	22	86
0.37	1.2	-0.83	22	87
0.66	1.2	-0.54	22	88
0.39	1.2	-0.81	22	89
0.42	1.2	-0.78	22	90
ND<0	1.2	-1.2	22	91
0.7	0.8	-0.1	22	92
ND<0	0.8	-0.8	22	93
0.73	0.8	-0.07	22	94
0.56	0.8	-0.24	22	95
0.58	0.8	-0.22	22	96
0.37	0.8	-0.43	22	97
0.66	0.8	-0.14	22	98
0.39	0.8	-0.41	22	99
0.42	0.8	-0.38	22	100
ND<0	0.8	-0.8	22	101
ND<0	0.7	-0.7	22	102
0.73	0.7	0.03	23	102
0.56	0.7	-0.14	23	103
0.58	0.7	-0.12	23	104
0.37	0.7	-0.33	23	105
0.66	0.7	-0.04	23	106
0.39	0.7	-0.31	23	107
0.42	0.7	-0.28	23	108
ND<0	0.7	-0.7	23	109
0.73	ND<0	0.73	24	109
0.56	ND<0	0.56	25	109
0.58	ND<0	0.58	26	109
0.37	ND<0	0.37	27	109
0.66	ND<0	0.66	28	109
0.39	ND<0	0.39	29	109
0.42	ND<0	0.42	30	109
ND<0	ND<0	0	30	109
0.56	0.73	-0.17	30	110
0.58	0.73	-0.15	30	111
0.37	0.73	-0.36	30	112
0.66	0.73	-0.07	30	113
0.39	0.73	-0.34	30	114
0.42	0.73	-0.31	30	115
ND<0	0.73	-0.73	30	116

0.58	0.56	0.02	31	116
0.37	0.56	-0.19	31	117
0.66	0.56	0.1	32	117
0.39	0.56	-0.17	32	118
0.42	0.56	-0.14	32	119
ND<0	0.56	-0.56	32	120
0.37	0.58	-0.21	32	121
0.66	0.58	0.08	33	121
0.39	0.58	-0.19	33	122
0.42	0.58	-0.16	33	123
ND<0	0.58	-0.58	33	124
0.66	0.37	0.29	34	124
0.39	0.37	0.02	35	124
0.42	0.37	0.05	36	124
ND<0	0.37	-0.37	36	125
0.39	0.66	-0.27	36	126
0.42	0.66	-0.24	36	127
ND<0	0.66	-0.66	36	128
0.42	0.39	0.03	37	128
ND<0	0.39	-0.39	37	129
ND<0	0.42	-0.42	37	130

S Statistic = 37 - 130 = -93

Tied Group	Value	Members
1	1.3	2
2	0	3

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 = 84

B = 0

C = 6

D = 0

E = 8

F = 0

a = 14706

b = 52326

c = 684

Group Variance = 812.333

Z-Score = -3.2279

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

$|-3.2279| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: C-1-CW06

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
1400	1300	100	1	0
1200	1300	-100	1	1
1200	1300	-100	1	2
960	1300	-340	1	3
980	1300	-320	1	4
600	1300	-700	1	5
680	1300	-620	1	6
613	1300	-687	1	7
1090	1300	-210	1	8
1240	1300	-60	1	9
1110	1300	-190	1	10
750	1300	-550	1	11
530	1300	-770	1	12
410	1300	-890	1	13
260	1300	-1040	1	14
190	1300	-1110	1	15
1200	1400	-200	1	16
1200	1400	-200	1	17
960	1400	-440	1	18
980	1400	-420	1	19
600	1400	-800	1	20
680	1400	-720	1	21
613	1400	-787	1	22
1090	1400	-310	1	23
1240	1400	-160	1	24
1110	1400	-290	1	25
750	1400	-650	1	26
530	1400	-870	1	27
410	1400	-990	1	28
260	1400	-1140	1	29
190	1400	-1210	1	30
1200	1200	0	1	30
960	1200	-240	1	31
980	1200	-220	1	32
600	1200	-600	1	33
680	1200	-520	1	34
613	1200	-587	1	35
1090	1200	-110	1	36
1240	1200	40	2	36
1110	1200	-90	2	37
750	1200	-450	2	38
530	1200	-670	2	39
410	1200	-790	2	40
260	1200	-940	2	41
190	1200	-1010	2	42

960	1200	-240	2	43
980	1200	-220	2	44
600	1200	-600	2	45
680	1200	-520	2	46
613	1200	-587	2	47
1090	1200	-110	2	48
1240	1200	40	3	48
1110	1200	-90	3	49
750	1200	-450	3	50
530	1200	-670	3	51
410	1200	-790	3	52
260	1200	-940	3	53
190	1200	-1010	3	54
980	960	20	4	54
600	960	-360	4	55
680	960	-280	4	56
613	960	-347	4	57
1090	960	130	5	57
1240	960	280	6	57
1110	960	150	7	57
750	960	-210	7	58
530	960	-430	7	59
410	960	-550	7	60
260	960	-700	7	61
190	960	-770	7	62
600	980	-380	7	63
680	980	-300	7	64
613	980	-367	7	65
1090	980	110	8	65
1240	980	260	9	65
1110	980	130	10	65
750	980	-230	10	66
530	980	-450	10	67
410	980	-570	10	68
260	980	-720	10	69
190	980	-790	10	70
680	600	80	11	70
613	600	13	12	70
1090	600	490	13	70
1240	600	640	14	70
1110	600	510	15	70
750	600	150	16	70
530	600	-70	16	71
410	600	-190	16	72
260	600	-340	16	73
190	600	-410	16	74
613	680	-67	16	75
1090	680	410	17	75
1240	680	560	18	75
1110	680	430	19	75
750	680	70	20	75
530	680	-150	20	76

410	680	-270	20	77
260	680	-420	20	78
190	680	-490	20	79
1090	613	477	21	79
1240	613	627	22	79
1110	613	497	23	79
750	613	137	24	79
530	613	-83	24	80
410	613	-203	24	81
260	613	-353	24	82
190	613	-423	24	83
1240	1090	150	25	83
1110	1090	20	26	83
750	1090	-340	26	84
530	1090	-560	26	85
410	1090	-680	26	86
260	1090	-830	26	87
190	1090	-900	26	88
1110	1240	-130	26	89
750	1240	-490	26	90
530	1240	-710	26	91
410	1240	-830	26	92
260	1240	-980	26	93
190	1240	-1050	26	94
750	1110	-360	26	95
530	1110	-580	26	96
410	1110	-700	26	97
260	1110	-850	26	98
190	1110	-920	26	99
530	750	-220	26	100
410	750	-340	26	101
260	750	-490	26	102
190	750	-560	26	103
410	530	-120	26	104
260	530	-270	26	105
190	530	-340	26	106
260	410	-150	26	107
190	410	-220	26	108
190	260	-70	26	109

S Statistic = 26 - 109 = -83

Tied Group	Value	Members
1	1200	2

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
12/11/2008	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 = 18

B = 0

C = 0

D = 0

E = 2

F = 0

a = 10608

b = 36720

c = 544

Group Variance = 588.333

Z-Score = -3.38066

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

$|-3.38066| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: C-1-CW08

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
11	12	-1	0	1
14	12	2	1	1
15	12	3	2	1
23	12	11	3	1
15.5	12	3.5	4	1
9.46	12	-2.54	4	2
8.68	12	-3.32	4	3
11.7	12	-0.3	4	4
7.61	12	-4.39	4	5
2.8	12	-9.2	4	6
2.8	12	-9.2	4	7
2	12	-10	4	8
1.6	12	-10.4	4	9
0.9	12	-11.1	4	10
0.6	12	-11.4	4	11
14	11	3	5	11
15	11	4	6	11
23	11	12	7	11
15.5	11	4.5	8	11
9.46	11	-1.54	8	12
8.68	11	-2.32	8	13
11.7	11	0.7	9	13
7.61	11	-3.39	9	14
2.8	11	-8.2	9	15
2.8	11	-8.2	9	16
2	11	-9	9	17
1.6	11	-9.4	9	18
0.9	11	-10.1	9	19
0.6	11	-10.4	9	20
15	14	1	10	20
23	14	9	11	20
15.5	14	1.5	12	20
9.46	14	-4.54	12	21
8.68	14	-5.32	12	22
11.7	14	-2.3	12	23
7.61	14	-6.39	12	24
2.8	14	-11.2	12	25
2.8	14	-11.2	12	26
2	14	-12	12	27
1.6	14	-12.4	12	28
0.9	14	-13.1	12	29
0.6	14	-13.4	12	30
23	15	8	13	30
15.5	15	0.5	14	30

9.46	15	-5.54	14	31
8.68	15	-6.32	14	32
11.7	15	-3.3	14	33
7.61	15	-7.39	14	34
2.8	15	-12.2	14	35
2.8	15	-12.2	14	36
2	15	-13	14	37
1.6	15	-13.4	14	38
0.9	15	-14.1	14	39
0.6	15	-14.4	14	40
15.5	23	-7.5	14	41
9.46	23	-13.54	14	42
8.68	23	-14.32	14	43
11.7	23	-11.3	14	44
7.61	23	-15.39	14	45
2.8	23	-20.2	14	46
2.8	23	-20.2	14	47
2	23	-21	14	48
1.6	23	-21.4	14	49
0.9	23	-22.1	14	50
0.6	23	-22.4	14	51
9.46	15.5	-6.04	14	52
8.68	15.5	-6.82	14	53
11.7	15.5	-3.8	14	54
7.61	15.5	-7.89	14	55
2.8	15.5	-12.7	14	56
2.8	15.5	-12.7	14	57
2	15.5	-13.5	14	58
1.6	15.5	-13.9	14	59
0.9	15.5	-14.6	14	60
0.6	15.5	-14.9	14	61
8.68	9.46	-0.78	14	62
11.7	9.46	2.24	15	62
7.61	9.46	-1.85	15	63
2.8	9.46	-6.66	15	64
2.8	9.46	-6.66	15	65
2	9.46	-7.46	15	66
1.6	9.46	-7.86	15	67
0.9	9.46	-8.56	15	68
0.6	9.46	-8.86	15	69
11.7	8.68	3.02	16	69
7.61	8.68	-1.07	16	70
2.8	8.68	-5.88	16	71
2.8	8.68	-5.88	16	72
2	8.68	-6.68	16	73
1.6	8.68	-7.08	16	74
0.9	8.68	-7.78	16	75
0.6	8.68	-8.08	16	76
7.61	11.7	-4.09	16	77
2.8	11.7	-8.9	16	78
2.8	11.7	-8.9	16	79
2	11.7	-9.7	16	80

1.6	11.7	-10.1	16	81
0.9	11.7	-10.8	16	82
0.6	11.7	-11.1	16	83
2.8	7.61	-4.81	16	84
2.8	7.61	-4.81	16	85
2	7.61	-5.61	16	86
1.6	7.61	-6.01	16	87
0.9	7.61	-6.71	16	88
0.6	7.61	-7.01	16	89
2.8	2.8	0	16	89
2	2.8	-0.8	16	90
1.6	2.8	-1.2	16	91
0.9	2.8	-1.9	16	92
0.6	2.8	-2.2	16	93
2	2.8	-0.8	16	94
1.6	2.8	-1.2	16	95
0.9	2.8	-1.9	16	96
0.6	2.8	-2.2	16	97
1.6	2	-0.4	16	98
0.9	2	-1.1	16	99
0.6	2	-1.4	16	100
0.9	1.6	-0.7	16	101
0.6	1.6	-1	16	102
0.6	0.9	-0.3	16	103

S Statistic = 16 - 103 = -87

Tied Group	Value	Members
1	2.8	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 = -3.87587
Comparison Level at $1.0 - (0.05 / 2) = 97.5\%$ confidence level = 1.97737 (two-tailed)
 $|-3.87587| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: MW-04

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
27	48	-21	0	1
11	48	-37	0	2
14.8	48	-33.2	0	3
10.5	48	-37.5	0	4
10.7	48	-37.3	0	5
13.7	48	-34.3	0	6
13	48	-35	0	7
10	48	-38	0	8
9.6	48	-38.4	0	9
7.8	48	-40.2	0	10
11	27	-16	0	11
14.8	27	-12.2	0	12
10.5	27	-16.5	0	13
10.7	27	-16.3	0	14
13.7	27	-13.3	0	15
13	27	-14	0	16
10	27	-17	0	17
9.6	27	-17.4	0	18
7.8	27	-19.2	0	19
14.8	11	3.8	1	19
10.5	11	-0.5	1	20
10.7	11	-0.3	1	21
13.7	11	2.7	2	21
13	11	2	3	21
10	11	-1	3	22
9.6	11	-1.4	3	23
7.8	11	-3.2	3	24
10.5	14.8	-4.3	3	25
10.7	14.8	-4.1	3	26
13.7	14.8	-1.1	3	27
13	14.8	-1.8	3	28
10	14.8	-4.8	3	29
9.6	14.8	-5.2	3	30
7.8	14.8	-7	3	31
10.7	10.5	0.2	4	31
13.7	10.5	3.2	5	31
13	10.5	2.5	6	31
10	10.5	-0.5	6	32
9.6	10.5	-0.9	6	33
7.8	10.5	-2.7	6	34
13.7	10.7	3	7	34
13	10.7	2.3	8	34

10	10.7	-0.7	8	35
9.6	10.7	-1.1	8	36
7.8	10.7	-2.9	8	37
13	13.7	-0.7	8	38
10	13.7	-3.7	8	39
9.6	13.7	-4.1	8	40
7.8	13.7	-5.9	8	41
10	13	-3	8	42
9.6	13	-3.4	8	43
7.8	13	-5.2	8	44
9.6	10	-0.4	8	45
7.8	10	-2.2	8	46
7.8	9.6	-1.8	8	47

S Statistic = 8 - 47 = -39

Tied Group	Value	Members
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 = 0

B = 0

C = 0

D = 0

E = 0

F = 0

a = 2970

b = 8910

c = 220

Group Variance = 165

Z-Score = -2.9583

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

$|-2.9583| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: MW-05

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
84	32	52	1	0
66	32	34	2	0
69	32	37	3	0
52.3	32	20.3	4	0
28.2	32	-3.8	4	1
15.9	32	-16.1	4	2
13.7	32	-18.3	4	3
23.6	32	-8.4	4	4
14	32	-18	4	5
33	32	1	5	5
14	32	-18	5	6
15	32	-17	5	7
66	84	-18	5	8
69	84	-15	5	9
52.3	84	-31.7	5	10
28.2	84	-55.8	5	11
15.9	84	-68.1	5	12
13.7	84	-70.3	5	13
23.6	84	-60.4	5	14
14	84	-70	5	15
33	84	-51	5	16
14	84	-70	5	17
15	84	-69	5	18
69	66	3	6	18
52.3	66	-13.7	6	19
28.2	66	-37.8	6	20
15.9	66	-50.1	6	21
13.7	66	-52.3	6	22
23.6	66	-42.4	6	23
14	66	-52	6	24
33	66	-33	6	25
14	66	-52	6	26
15	66	-51	6	27
52.3	69	-16.7	6	28
28.2	69	-40.8	6	29
15.9	69	-53.1	6	30
13.7	69	-55.3	6	31
23.6	69	-45.4	6	32
14	69	-55	6	33
33	69	-36	6	34
14	69	-55	6	35
15	69	-54	6	36
28.2	52.3	-24.1	6	37

15.9	52.3	-36.4	6	38
13.7	52.3	-38.6	6	39
23.6	52.3	-28.7	6	40
14	52.3	-38.3	6	41
33	52.3	-19.3	6	42
14	52.3	-38.3	6	43
15	52.3	-37.3	6	44
15.9	28.2	-12.3	6	45
13.7	28.2	-14.5	6	46
23.6	28.2	-4.6	6	47
14	28.2	-14.2	6	48
33	28.2	4.8	7	48
14	28.2	-14.2	7	49
15	28.2	-13.2	7	50
13.7	15.9	-2.2	7	51
23.6	15.9	7.7	8	51
14	15.9	-1.9	8	52
33	15.9	17.1	9	52
14	15.9	-1.9	9	53
15	15.9	-0.9	9	54
23.6	13.7	9.9	10	54
14	13.7	0.3	11	54
33	13.7	19.3	12	54
14	13.7	0.3	13	54
15	13.7	1.3	14	54
14	23.6	-9.6	14	55
33	23.6	9.4	15	55
14	23.6	-9.6	15	56
15	23.6	-8.6	15	57
33	14	19	16	57
14	14	0	16	57
15	14	1	17	57
14	33	-19	17	58
15	33	-18	17	59
15	14	1	18	59

S Statistic = 18 - 59 = -41

Tied Group	Value	Members
1	14	2

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 = 18

B = 0

C = 0

D = 0

E = 2

F = 0

a = 4836

b = 15444

c = 312

Group Variance = 267.667

Z-Score = -2.44491

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

$|-2.44491| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: MW-06

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
75	69	6	1	0
66	69	-3	1	1
57	69	-12	1	2
37.4	69	-31.6	1	3
28.7	69	-40.3	1	4
31.6	69	-37.4	1	5
21.1	69	-47.9	1	6
30	69	-39	1	7
35	69	-34	1	8
19	69	-50	1	9
56	69	-13	1	10
66	75	-9	1	11
57	75	-18	1	12
37.4	75	-37.6	1	13
28.7	75	-46.3	1	14
31.6	75	-43.4	1	15
21.1	75	-53.9	1	16
30	75	-45	1	17
35	75	-40	1	18
19	75	-56	1	19
56	75	-19	1	20
57	66	-9	1	21
37.4	66	-28.6	1	22
28.7	66	-37.3	1	23
31.6	66	-34.4	1	24
21.1	66	-44.9	1	25
30	66	-36	1	26
35	66	-31	1	27
19	66	-47	1	28
56	66	-10	1	29
37.4	57	-19.6	1	30
28.7	57	-28.3	1	31
31.6	57	-25.4	1	32
21.1	57	-35.9	1	33
30	57	-27	1	34
35	57	-22	1	35
19	57	-38	1	36
56	57	-1	1	37
28.7	37.4	-8.7	1	38
31.6	37.4	-5.8	1	39
21.1	37.4	-16.3	1	40
30	37.4	-7.4	1	41
35	37.4	-2.4	1	42

19	37.4	-18.4	1	43
56	37.4	18.6	2	43
31.6	28.7	2.9	3	43
21.1	28.7	-7.6	3	44
30	28.7	1.3	4	44
35	28.7	6.3	5	44
19	28.7	-9.7	5	45
56	28.7	27.3	6	45
21.1	31.6	-10.5	6	46
30	31.6	-1.6	6	47
35	31.6	3.4	7	47
19	31.6	-12.6	7	48
56	31.6	24.4	8	48
30	21.1	8.9	9	48
35	21.1	13.9	10	48
19	21.1	-2.1	10	49
56	21.1	34.9	11	49
35	30	5	12	49
19	30	-11	12	50
56	30	26	13	50
19	35	-16	13	51
56	35	21	14	51
56	19	37	15	51

S Statistic = 15 - 51 = -36

Tied Group	Value	Members
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 = 0
 B = 0
 C = 0
 D = 0
 E = 0
 F = 0
 a = 3828

b = 11880
c = 264
Group Variance = 212.667
Z-Score = -2.40004
Comparison Level at 1.0 - (0.05 / 2) = 97.5% confidence level = 1.97737 (two-tailed)
 $|-2.40004| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: MW-07

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
17	18	-1	0	1
8.9	18	-9.1	0	2
8.8	18	-9.2	0	3
10	18	-8	0	4
10.6	18	-7.4	0	5
9.56	18	-8.44	0	6
9.17	18	-8.83	0	7
11	18	-7	0	8
7.4	18	-10.6	0	9
6.5	18	-11.5	0	10
6.2	18	-11.8	0	11
8.9	17	-8.1	0	12
8.8	17	-8.2	0	13
10	17	-7	0	14
10.6	17	-6.4	0	15
9.56	17	-7.44	0	16
9.17	17	-7.83	0	17
11	17	-6	0	18
7.4	17	-9.6	0	19
6.5	17	-10.5	0	20
6.2	17	-10.8	0	21
8.8	8.9	-0.1	0	22
10	8.9	1.1	1	22
10.6	8.9	1.7	2	22
9.56	8.9	0.66	3	22
9.17	8.9	0.27	4	22
11	8.9	2.1	5	22
7.4	8.9	-1.5	5	23
6.5	8.9	-2.4	5	24
6.2	8.9	-2.7	5	25
10	8.8	1.2	6	25
10.6	8.8	1.8	7	25
9.56	8.8	0.76	8	25
9.17	8.8	0.37	9	25
11	8.8	2.2	10	25
7.4	8.8	-1.4	10	26
6.5	8.8	-2.3	10	27
6.2	8.8	-2.6	10	28
10.6	10	0.6	11	28
9.56	10	-0.44	11	29
9.17	10	-0.83	11	30
11	10	1	12	30
7.4	10	-2.6	12	31

6.5	10	-3.5	12	32
6.2	10	-3.8	12	33
9.56	10.6	-1.04	12	34
9.17	10.6	-1.43	12	35
11	10.6	0.4	13	35
7.4	10.6	-3.2	13	36
6.5	10.6	-4.1	13	37
6.2	10.6	-4.4	13	38
9.17	9.56	-0.39	13	39
11	9.56	1.44	14	39
7.4	9.56	-2.16	14	40
6.5	9.56	-3.06	14	41
6.2	9.56	-3.36	14	42
11	9.17	1.83	15	42
7.4	9.17	-1.77	15	43
6.5	9.17	-2.67	15	44
6.2	9.17	-2.97	15	45
7.4	11	-3.6	15	46
6.5	11	-4.5	15	47
6.2	11	-4.8	15	48
6.5	7.4	-0.9	15	49
6.2	7.4	-1.2	15	50
6.2	6.5	-0.3	15	51

S Statistic = 15 - 51 = -36

Tied Group	Value	Members
Time Period		Observations
3/29/2006		1
6/20/2006		1
9/28/2006		1
12/11/2006		1
6/25/2007		1
12/20/2007		1
6/11/2008		1
12/17/2008		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 = 0
 B = 0
 C = 0
 D = 0
 E = 0
 F = 0
 a = 3828

b = 11880

c = 264

Group Variance = 212.667

Z-Score = -2.40004

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

$|-2.40004| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: 3830S

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
38.8	400	-361.2	0	1
108	400	-292	0	2
232	400	-168	0	3
77.4	400	-322.6	0	4
5.8	400	-394.2	0	5
5.8	400	-394.2	0	6
4.4	400	-395.6	0	7
5.7	400	-394.3	0	8
108	38.8	69.2	1	8
232	38.8	193.2	2	8
77.4	38.8	38.6	3	8
5.8	38.8	-33	3	9
5.8	38.8	-33	3	10
4.4	38.8	-34.4	3	11
5.7	38.8	-33.1	3	12
232	108	124	4	12
77.4	108	-30.6	4	13
5.8	108	-102.2	4	14
5.8	108	-102.2	4	15
4.4	108	-103.6	4	16
5.7	108	-102.3	4	17
77.4	232	-154.6	4	18
5.8	232	-226.2	4	19
5.8	232	-226.2	4	20
4.4	232	-227.6	4	21
5.7	232	-226.3	4	22
5.8	77.4	-71.6	4	23
5.8	77.4	-71.6	4	24
4.4	77.4	-73	4	25
5.7	77.4	-71.7	4	26
5.8	5.8	0	4	26
4.4	5.8	-1.4	4	27
5.7	5.8	-0.1	4	28
4.4	5.8	-1.4	4	29
5.7	5.8	-0.1	4	30
5.7	4.4	1.3	5	30

S Statistic = 5 - 30 = -25

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

Probability of obtaining $S \geq |-25|$ is 0.00983
0.00983 < 0.1 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: 3850M

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
1260	1550	-290	0	1
1010	1550	-540	0	2
440	1550	-1110	0	3
380	1550	-1170	0	4
250	1550	-1300	0	5
1010	1260	-250	0	6
440	1260	-820	0	7
380	1260	-880	0	8
250	1260	-1010	0	9
440	1010	-570	0	10
380	1010	-630	0	11
250	1010	-760	0	12
380	440	-60	0	13
250	440	-190	0	14
250	380	-130	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: Trichloroethene

Location: 3850N

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
305	390	-85	0	1
160	390	-230	0	2
296	390	-94	0	3
282	390	-108	0	4
130	390	-260	0	5
76	390	-314	0	6
14	390	-376	0	7
38	390	-352	0	8
94	390	-296	0	9
160	305	-145	0	10
296	305	-9	0	11
282	305	-23	0	12
130	305	-175	0	13
76	305	-229	0	14
14	305	-291	0	15
38	305	-267	0	16
94	305	-211	0	17
296	160	136	1	17
282	160	122	2	17
130	160	-30	2	18
76	160	-84	2	19
14	160	-146	2	20
38	160	-122	2	21
94	160	-66	2	22
282	296	-14	2	23
130	296	-166	2	24
76	296	-220	2	25
14	296	-282	2	26
38	296	-258	2	27
94	296	-202	2	28
130	282	-152	2	29
76	282	-206	2	30
14	282	-268	2	31
38	282	-244	2	32
94	282	-188	2	33
76	130	-54	2	34
14	130	-116	2	35
38	130	-92	2	36
94	130	-36	2	37
14	76	-62	2	38
38	76	-38	2	39

94	76	18	3	39
38	14	24	4	39
94	14	80	5	39
94	38	56	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: Trichloroethene

Location: 3850R

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
7.68	8.55	-0.87	0	1
10.8	8.55	2.25	1	1
9.31	8.55	0.76	2	1
10	8.55	1.45	3	1
9.6	8.55	1.05	4	1
12	8.55	3.45	5	1
13	8.55	4.45	6	1
12	8.55	3.45	7	1
10.8	7.68	3.12	8	1
9.31	7.68	1.63	9	1
10	7.68	2.32	10	1
9.6	7.68	1.92	11	1
12	7.68	4.32	12	1
13	7.68	5.32	13	1
12	7.68	4.32	14	1
9.31	10.8	-1.49	14	2
10	10.8	-0.8	14	3
9.6	10.8	-1.2	14	4
12	10.8	1.2	15	4
13	10.8	2.2	16	4
12	10.8	1.2	17	4
10	9.31	0.69	18	4
9.6	9.31	0.29	19	4
12	9.31	2.69	20	4
13	9.31	3.69	21	4
12	9.31	2.69	22	4
9.6	10	-0.4	22	5
12	10	2	23	5
13	10	3	24	5
12	10	2	25	5
12	9.6	2.4	26	5
13	9.6	3.4	27	5
12	9.6	2.4	28	5
13	12	1	29	5
12	12	0	29	5
12	13	-1	29	6

S Statistic = 29 - 6 = 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: Trichloroethene

Location: 3850V

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
24.6	33.4	-8.8	0	1
29.9	33.4	-3.5	0	2
8.7	33.4	-24.7	0	3
7.7	33.4	-25.7	0	4
4.1	33.4	-29.3	0	5
29.9	24.6	5.3	1	5
8.7	24.6	-15.9	1	6
7.7	24.6	-16.9	1	7
4.1	24.6	-20.5	1	8
8.7	29.9	-21.2	1	9
7.7	29.9	-22.2	1	10
4.1	29.9	-25.8	1	11
7.7	8.7	-1	1	12
4.1	8.7	-4.6	1	13
4.1	7.7	-3.6	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: Trichloroethene

Location: 3851N

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
1.15	1.57	-0.42	0	1
1.02	1.57	-0.55	0	2
0.84	1.57	-0.73	0	3
0.91	1.57	-0.66	0	4
0.5	1.57	-1.07	0	5
1.02	1.15	-0.13	0	6
0.84	1.15	-0.31	0	7
0.91	1.15	-0.24	0	8
0.5	1.15	-0.65	0	9
0.84	1.02	-0.18	0	10
0.91	1.02	-0.11	0	11
0.5	1.02	-0.52	0	12
0.91	0.84	0.07	1	12
0.5	0.84	-0.34	1	13
0.5	0.91	-0.41	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: Trichloroethene

Location: 3852H

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
20.5	20.7	-0.2	0	1
18.5	20.7	-2.2	0	2
17	20.7	-3.7	0	3
15	20.7	-5.7	0	4
16	20.7	-4.7	0	5
18.5	20.5	-2	0	6
17	20.5	-3.5	0	7
15	20.5	-5.5	0	8
16	20.5	-4.5	0	9
17	18.5	-1.5	0	10
15	18.5	-3.5	0	11
16	18.5	-2.5	0	12
15	17	-2	0	13
16	17	-1	0	14
16	15	1	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: Trichloroethene

Location: A-1-CW07

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
648	688	-40	0	1
744	688	56	1	1
1720	688	1032	2	1
720	688	32	3	1
580	688	-108	3	2
470	688	-218	3	3
350	688	-338	3	4
340	688	-348	3	5
744	648	96	4	5
1720	648	1072	5	5
720	648	72	6	5
580	648	-68	6	6
470	648	-178	6	7
350	648	-298	6	8
340	648	-308	6	9
1720	744	976	7	9
720	744	-24	7	10
580	744	-164	7	11
470	744	-274	7	12
350	744	-394	7	13
340	744	-404	7	14
720	1720	-1000	7	15
580	1720	-1140	7	16
470	1720	-1250	7	17
350	1720	-1370	7	18
340	1720	-1380	7	19
580	720	-140	7	20
470	720	-250	7	21
350	720	-370	7	22
340	720	-380	7	23
470	580	-110	7	24
350	580	-230	7	25
340	580	-240	7	26
350	470	-120	7	27
340	470	-130	7	28
340	350	-10	7	29

S Statistic = 7 - 29 = -22

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

Probability of obtaining $S \geq |-22|$ is 0.024
 $0.024 < 0.1$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: B-1-CW12

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
216	340	-124	0	1
420	340	80	1	1
140	340	-200	1	2
110	340	-230	1	3
99	340	-241	1	4
120	340	-220	1	5
91	340	-249	1	6
110	340	-230	1	7
420	216	204	2	7
140	216	-76	2	8
110	216	-106	2	9
99	216	-117	2	10
120	216	-96	2	11
91	216	-125	2	12
110	216	-106	2	13
140	420	-280	2	14
110	420	-310	2	15
99	420	-321	2	16
120	420	-300	2	17
91	420	-329	2	18
110	420	-310	2	19
110	140	-30	2	20
99	140	-41	2	21
120	140	-20	2	22
91	140	-49	2	23
110	140	-30	2	24
99	110	-11	2	25
120	110	10	3	25
91	110	-19	3	26
110	110	0	3	26
120	99	21	4	26
91	99	-8	4	27
110	99	11	5	27
91	120	-29	5	28
110	120	-10	5	29
110	91	19	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: Trichloroethene

Location: B-1-CW29

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
34.4	11.7	22.7	1	0
67.6	11.7	55.9	2	0
11.6	11.7	-0.1	2	1
21	11.7	9.3	3	1
12	11.7	0.3	4	1
7.3	11.7	-4.4	4	2
5.5	11.7	-6.2	4	3
3.4	11.7	-8.3	4	4
67.6	34.4	33.2	5	4
11.6	34.4	-22.8	5	5
21	34.4	-13.4	5	6
12	34.4	-22.4	5	7
7.3	34.4	-27.1	5	8
5.5	34.4	-28.9	5	9
3.4	34.4	-31	5	10
11.6	67.6	-56	5	11
21	67.6	-46.6	5	12
12	67.6	-55.6	5	13
7.3	67.6	-60.3	5	14
5.5	67.6	-62.1	5	15
3.4	67.6	-64.2	5	16
21	11.6	9.4	6	16
12	11.6	0.4	7	16
7.3	11.6	-4.3	7	17
5.5	11.6	-6.1	7	18
3.4	11.6	-8.2	7	19
12	21	-9	7	20
7.3	21	-13.7	7	21
5.5	21	-15.5	7	22
3.4	21	-17.6	7	23
7.3	12	-4.7	7	24
5.5	12	-6.5	7	25
3.4	12	-8.6	7	26
5.5	7.3	-1.8	7	27
3.4	7.3	-3.9	7	28
3.4	5.5	-2.1	7	29

S Statistic = 7 - 29 = -22

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

Probability of obtaining $S \geq |-22|$ is 0.024
0.024 < 0.1 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: B-5-CW02

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
3.23	2.55	0.68	1	0
1.68	2.55	-0.87	1	1
2.88	2.55	0.33	2	1
1.14	2.55	-1.41	2	2
0.43	2.55	-2.12	2	3
0.43	2.55	-2.12	2	4
ND<0	2.55	-2.55	2	5
ND<0	2.55	-2.55	2	6
ND<0	2.55	-2.55	2	7
ND<0	2.55	-2.55	2	8
ND<0	2.55	-2.55	2	9
1.68	3.23	-1.55	2	10
2.88	3.23	-0.35	2	11
1.14	3.23	-2.09	2	12
0.43	3.23	-2.8	2	13
0.43	3.23	-2.8	2	14
ND<0	3.23	-3.23	2	15
ND<0	3.23	-3.23	2	16
ND<0	3.23	-3.23	2	17
ND<0	3.23	-3.23	2	18
ND<0	3.23	-3.23	2	19
2.88	1.68	1.2	3	19
1.14	1.68	-0.54	3	20
0.43	1.68	-1.25	3	21
0.43	1.68	-1.25	3	22
ND<0	1.68	-1.68	3	23
ND<0	1.68	-1.68	3	24
ND<0	1.68	-1.68	3	25
ND<0	1.68	-1.68	3	26
ND<0	1.68	-1.68	3	27
1.14	2.88	-1.74	3	28
0.43	2.88	-2.45	3	29
0.43	2.88	-2.45	3	30
ND<0	2.88	-2.88	3	31
ND<0	2.88	-2.88	3	32
ND<0	2.88	-2.88	3	33
ND<0	2.88	-2.88	3	34
ND<0	2.88	-2.88	3	35
0.43	1.14	-0.71	3	36
0.43	1.14	-0.71	3	37
ND<0	1.14	-1.14	3	38
ND<0	1.14	-1.14	3	39
ND<0	1.14	-1.14	3	40

ND<0	1.14	-1.14	3	41
ND<0	1.14	-1.14	3	42
0.43	0.43	0	3	42
ND<0	0.43	-0.43	3	43
ND<0	0.43	-0.43	3	44
ND<0	0.43	-0.43	3	45
ND<0	0.43	-0.43	3	46
ND<0	0.43	-0.43	3	47
ND<0	0.43	-0.43	3	48
ND<0	0.43	-0.43	3	49
ND<0	0.43	-0.43	3	50
ND<0	0.43	-0.43	3	51
ND<0	0.43	-0.43	3	52
ND<0	ND<0	0	3	52
ND<0	ND<0	0	3	52
ND<0	ND<0	0	3	52
ND<0	ND<0	0	3	52
ND<0	ND<0	0	3	52
ND<0	ND<0	0	3	52
ND<0	ND<0	0	3	52
ND<0	ND<0	0	3	52
ND<0	ND<0	0	3	52
ND<0	ND<0	0	3	52

S Statistic = 3 - 52 = -49

Tied Group	Value	Members
1	0.43	2
2	0	5

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 = 318
B = 0
C = 60
D = 0
E = 22

F = 0

a = 3828

b = 11880

c = 264

Group Variance = 195

Z-Score = -3.43735

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

$|-3.43735| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: Trichloroethene

Location: B-5-CW03

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
67.1	60.4	6.7	1	0
58.6	60.4	-1.8	1	1
77	60.4	16.6	2	1
66.8	60.4	6.4	3	1
52	60.4	-8.4	3	2
52	60.4	-8.4	3	3
43	60.4	-17.4	3	4
11	60.4	-49.4	3	5
58.6	67.1	-8.5	3	6
77	67.1	9.9	4	6
66.8	67.1	-0.3	4	7
52	67.1	-15.1	4	8
52	67.1	-15.1	4	9
43	67.1	-24.1	4	10
11	67.1	-56.1	4	11
77	58.6	18.4	5	11
66.8	58.6	8.2	6	11
52	58.6	-6.6	6	12
52	58.6	-6.6	6	13
43	58.6	-15.6	6	14
11	58.6	-47.6	6	15
66.8	77	-10.2	6	16
52	77	-25	6	17
52	77	-25	6	18
43	77	-34	6	19
11	77	-66	6	20
52	66.8	-14.8	6	21
52	66.8	-14.8	6	22
43	66.8	-23.8	6	23
11	66.8	-55.8	6	24
52	52	0	6	24
43	52	-9	6	25
11	52	-41	6	26
43	52	-9	6	27
11	52	-41	6	28
11	43	-32	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: Trichloroethene

Location: C-1-CW06

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
1090	613	477	1	0
1240	613	627	2	0
1110	613	497	3	0
750	613	137	4	0
530	613	-83	4	1
410	613	-203	4	2
260	613	-353	4	3
190	613	-423	4	4
1240	1090	150	5	4
1110	1090	20	6	4
750	1090	-340	6	5
530	1090	-560	6	6
410	1090	-680	6	7
260	1090	-830	6	8
190	1090	-900	6	9
1110	1240	-130	6	10
750	1240	-490	6	11
530	1240	-710	6	12
410	1240	-830	6	13
260	1240	-980	6	14
190	1240	-1050	6	15
750	1110	-360	6	16
530	1110	-580	6	17
410	1110	-700	6	18
260	1110	-850	6	19
190	1110	-920	6	20
530	750	-220	6	21
410	750	-340	6	22
260	750	-490	6	23
190	750	-560	6	24
410	530	-120	6	25
260	530	-270	6	26
190	530	-340	6	27
260	410	-150	6	28
190	410	-220	6	29
190	260	-70	6	30

S Statistic = 6 - 30 = -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: Trichloroethene

Location: C-1-CW08

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
9.46	15.5	-6.04	0	1
8.68	15.5	-6.82	0	2
11.7	15.5	-3.8	0	3
7.61	15.5	-7.89	0	4
2.8	15.5	-12.7	0	5
2.8	15.5	-12.7	0	6
2	15.5	-13.5	0	7
1.6	15.5	-13.9	0	8
0.9	15.5	-14.6	0	9
0.6	15.5	-14.9	0	10
8.68	9.46	-0.78	0	11
11.7	9.46	2.24	1	11
7.61	9.46	-1.85	1	12
2.8	9.46	-6.66	1	13
2.8	9.46	-6.66	1	14
2	9.46	-7.46	1	15
1.6	9.46	-7.86	1	16
0.9	9.46	-8.56	1	17
0.6	9.46	-8.86	1	18
11.7	8.68	3.02	2	18
7.61	8.68	-1.07	2	19
2.8	8.68	-5.88	2	20
2.8	8.68	-5.88	2	21
2	8.68	-6.68	2	22
1.6	8.68	-7.08	2	23
0.9	8.68	-7.78	2	24
0.6	8.68	-8.08	2	25
7.61	11.7	-4.09	2	26
2.8	11.7	-8.9	2	27
2.8	11.7	-8.9	2	28
2	11.7	-9.7	2	29
1.6	11.7	-10.1	2	30
0.9	11.7	-10.8	2	31
0.6	11.7	-11.1	2	32
2.8	7.61	-4.81	2	33
2.8	7.61	-4.81	2	34
2	7.61	-5.61	2	35
1.6	7.61	-6.01	2	36
0.9	7.61	-6.71	2	37
0.6	7.61	-7.01	2	38
2.8	2.8	0	2	38
2	2.8	-0.8	2	39

1.6	2.8	-1.2	2	40
0.9	2.8	-1.9	2	41
0.6	2.8	-2.2	2	42
2	2.8	-0.8	2	43
1.6	2.8	-1.2	2	44
0.9	2.8	-1.9	2	45
0.6	2.8	-2.2	2	46
1.6	2	-0.4	2	47
0.9	2	-1.1	2	48
0.6	2	-1.4	2	49
0.9	1.6	-0.7	2	50
0.6	1.6	-1	2	51
0.6	0.9	-0.3	2	52

S Statistic = 2 - 52 = -50

Tied Group	Value	Members
1	2.8	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: MW-07

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
9.56	10.6	-1.04	0	1
9.17	10.6	-1.43	0	2
11	10.6	0.4	1	2
7.4	10.6	-3.2	1	3
6.5	10.6	-4.1	1	4
6.2	10.6	-4.4	1	5
9.17	9.56	-0.39	1	6
11	9.56	1.44	2	6
7.4	9.56	-2.16	2	7
6.5	9.56	-3.06	2	8
6.2	9.56	-3.36	2	9
11	9.17	1.83	3	9
7.4	9.17	-1.77	3	10
6.5	9.17	-2.67	3	11
6.2	9.17	-2.97	3	12
7.4	11	-3.6	3	13
6.5	11	-4.5	3	14
6.2	11	-4.8	3	15
6.5	7.4	-0.9	3	16
6.2	7.4	-1.2	3	17
6.2	6.5	-0.3	3	18

S Statistic = 3 - 18 = -15

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

Probability of obtaining $S \geq |-15|$ is 0.03

0.03 < 0.1 indicating a trend

Mann-Kendall Trend Analysis
Parameter: cis-1,2-Dichloroethene
Location: 3860K
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
ND<0	ND<0	0	0	0
ND<0	ND<0	0	0	0
ND<0	ND<0	0	0	0
2.52	ND<0	2.52	1	0
1.58	ND<0	1.58	2	0
2.66	ND<0	2.66	3	0
ND<0	ND<0	0	3	0
2.4	ND<0	2.4	4	0
1.6	ND<0	1.6	5	0
ND<0	ND<0	0	5	0
ND<0	ND<0	0	5	0
ND<0	ND<0	0	5	0
ND<0	ND<0	0	5	0
ND<0	ND<0	0	5	0
2.52	ND<0	2.52	6	0
1.58	ND<0	1.58	7	0
2.66	ND<0	2.66	8	0
ND<0	ND<0	0	8	0
2.4	ND<0	2.4	9	0
1.6	ND<0	1.6	10	0
ND<0	ND<0	0	10	0
ND<0	ND<0	0	10	0
ND<0	ND<0	0	10	0
ND<0	ND<0	0	10	0
2.52	ND<0	2.52	11	0
1.58	ND<0	1.58	12	0
2.66	ND<0	2.66	13	0
ND<0	ND<0	0	13	0
2.4	ND<0	2.4	14	0
1.6	ND<0	1.6	15	0
ND<0	ND<0	0	15	0
ND<0	ND<0	0	15	0
ND<0	ND<0	0	15	0
2.52	ND<0	2.52	16	0
1.58	ND<0	1.58	17	0
2.66	ND<0	2.66	18	0
ND<0	ND<0	0	18	0
2.4	ND<0	2.4	19	0
1.6	ND<0	1.6	20	0
ND<0	ND<0	0	20	0

ND<0	ND<0	0	20	0
2.52	ND<0	2.52	21	0
1.58	ND<0	1.58	22	0
2.66	ND<0	2.66	23	0
ND<0	ND<0	0	23	0
2.4	ND<0	2.4	24	0
1.6	ND<0	1.6	25	0
ND<0	ND<0	0	25	0
2.52	ND<0	2.52	26	0
1.58	ND<0	1.58	27	0
2.66	ND<0	2.66	28	0
ND<0	ND<0	0	28	0
2.4	ND<0	2.4	29	0
1.6	ND<0	1.6	30	0
2.52	ND<0	2.52	31	0
1.58	ND<0	1.58	32	0
2.66	ND<0	2.66	33	0
ND<0	ND<0	0	33	0
2.4	ND<0	2.4	34	0
1.6	ND<0	1.6	35	0
1.58	2.52	-0.94	35	1
2.66	2.52	0.14	36	1
ND<0	2.52	-2.52	36	2
2.4	2.52	-0.12	36	3
1.6	2.52	-0.92	36	4
2.66	1.58	1.08	37	4
ND<0	1.58	-1.58	37	5
2.4	1.58	0.82	38	5
1.6	1.58	0.02	39	5
ND<0	2.66	-2.66	39	6
2.4	2.66	-0.26	39	7
1.6	2.66	-1.06	39	8
2.4	ND<0	2.4	40	8
1.6	ND<0	1.6	41	8
1.6	2.4	-0.8	41	9

S Statistic = 41 - 9 = 32

Tied Group	Value	Members
1	0	8

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 = 1176

B = 0

C = 336

D = 0

E = 56

F = 0

a = 4836

b = 15444

c = 312

Group Variance = 203.333

Z-Score = 2.17399

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

|2.17399| > 1.97737 indicating a trend

Mann-Kendall Trend Analysis

Parameter: cis-1,2-Dichloroethene

Location: B-1-CW17

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

98% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
33	36	-3	0	1
13	36	-23	0	2
11	36	-25	0	3
14	36	-22	0	4
11	36	-25	0	5
12	36	-24	0	6
13	36	-23	0	7
10	36	-26	0	8
11	36	-25	0	9
8.8	36	-27.2	0	10
11	36	-25	0	11
13.7	36	-22.3	0	12
12.4	36	-23.6	0	13
12.6	36	-23.4	0	14
9.8	36	-26.2	0	15
12.9	36	-23.1	0	16
7.66	36	-28.34	0	17
5.6	36	-30.4	0	18
5.1	36	-30.9	0	19
4.3	36	-31.7	0	20
6.5	36	-29.5	0	21
6.2	36	-29.8	0	22
13	33	-20	0	23
11	33	-22	0	24
14	33	-19	0	25
11	33	-22	0	26
12	33	-21	0	27
13	33	-20	0	28
10	33	-23	0	29
11	33	-22	0	30
8.8	33	-24.2	0	31
11	33	-22	0	32
13.7	33	-19.3	0	33
12.4	33	-20.6	0	34
12.6	33	-20.4	0	35
9.8	33	-23.2	0	36
12.9	33	-20.1	0	37
7.66	33	-25.34	0	38
5.6	33	-27.4	0	39
5.1	33	-27.9	0	40
4.3	33	-28.7	0	41
6.5	33	-26.5	0	42
6.2	33	-26.8	0	43
11	13	-2	0	44
14	13	1	1	44

11	13	-2	1	45
12	13	-1	1	46
13	13	0	1	46
10	13	-3	1	47
11	13	-2	1	48
8.8	13	-4.2	1	49
11	13	-2	1	50
13.7	13	0.7	2	50
12.4	13	-0.6	2	51
12.6	13	-0.4	2	52
9.8	13	-3.2	2	53
12.9	13	-0.1	2	54
7.66	13	-5.34	2	55
5.6	13	-7.4	2	56
5.1	13	-7.9	2	57
4.3	13	-8.7	2	58
6.5	13	-6.5	2	59
6.2	13	-6.8	2	60
14	11	3	3	60
11	11	0	3	60
12	11	1	4	60
13	11	2	5	60
10	11	-1	5	61
11	11	0	5	61
8.8	11	-2.2	5	62
11	11	0	5	62
13.7	11	2.7	6	62
12.4	11	1.4	7	62
12.6	11	1.6	8	62
9.8	11	-1.2	8	63
12.9	11	1.9	9	63
7.66	11	-3.34	9	64
5.6	11	-5.4	9	65
5.1	11	-5.9	9	66
4.3	11	-6.7	9	67
6.5	11	-4.5	9	68
6.2	11	-4.8	9	69
11	14	-3	9	70
12	14	-2	9	71
13	14	-1	9	72
10	14	-4	9	73
11	14	-3	9	74
8.8	14	-5.2	9	75
11	14	-3	9	76
13.7	14	-0.3	9	77
12.4	14	-1.6	9	78
12.6	14	-1.4	9	79
9.8	14	-4.2	9	80
12.9	14	-1.1	9	81
7.66	14	-6.34	9	82
5.6	14	-8.4	9	83
5.1	14	-8.9	9	84
4.3	14	-9.7	9	85
6.5	14	-7.5	9	86
6.2	14	-7.8	9	87

12	11	1	10	87
13	11	2	11	87
10	11	-1	11	88
11	11	0	11	88
8.8	11	-2.2	11	89
11	11	0	11	89
13.7	11	2.7	12	89
12.4	11	1.4	13	89
12.6	11	1.6	14	89
9.8	11	-1.2	14	90
12.9	11	1.9	15	90
7.66	11	-3.34	15	91
5.6	11	-5.4	15	92
5.1	11	-5.9	15	93
4.3	11	-6.7	15	94
6.5	11	-4.5	15	95
6.2	11	-4.8	15	96
13	12	1	16	96
10	12	-2	16	97
11	12	-1	16	98
8.8	12	-3.2	16	99
11	12	-1	16	100
13.7	12	1.7	17	100
12.4	12	0.4	18	100
12.6	12	0.6	19	100
9.8	12	-2.2	19	101
12.9	12	0.9	20	101
7.66	12	-4.34	20	102
5.6	12	-6.4	20	103
5.1	12	-6.9	20	104
4.3	12	-7.7	20	105
6.5	12	-5.5	20	106
6.2	12	-5.8	20	107
10	13	-3	20	108
11	13	-2	20	109
8.8	13	-4.2	20	110
11	13	-2	20	111
13.7	13	0.7	21	111
12.4	13	-0.6	21	112
12.6	13	-0.4	21	113
9.8	13	-3.2	21	114
12.9	13	-0.1	21	115
7.66	13	-5.34	21	116
5.6	13	-7.4	21	117
5.1	13	-7.9	21	118
4.3	13	-8.7	21	119
6.5	13	-6.5	21	120
6.2	13	-6.8	21	121
11	10	1	22	121
8.8	10	-1.2	22	122
11	10	1	23	122
13.7	10	3.7	24	122
12.4	10	2.4	25	122

12.6	10	2.6	26	122
9.8	10	-0.2	26	123
12.9	10	2.9	27	123
7.66	10	-2.34	27	124
5.6	10	-4.4	27	125
5.1	10	-4.9	27	126
4.3	10	-5.7	27	127
6.5	10	-3.5	27	128
6.2	10	-3.8	27	129
8.8	11	-2.2	27	130
11	11	0	27	130
13.7	11	2.7	28	130
12.4	11	1.4	29	130
12.6	11	1.6	30	130
9.8	11	-1.2	30	131
12.9	11	1.9	31	131
7.66	11	-3.34	31	132
5.6	11	-5.4	31	133
5.1	11	-5.9	31	134
4.3	11	-6.7	31	135
6.5	11	-4.5	31	136
6.2	11	-4.8	31	137
11	8.8	2.2	32	137
13.7	8.8	4.9	33	137
12.4	8.8	3.6	34	137
12.6	8.8	3.8	35	137
9.8	8.8	1	36	137
12.9	8.8	4.1	37	137
7.66	8.8	-1.14	37	138
5.6	8.8	-3.2	37	139
5.1	8.8	-3.7	37	140
4.3	8.8	-4.5	37	141
6.5	8.8	-2.3	37	142
6.2	8.8	-2.6	37	143
13.7	11	2.7	38	143
12.4	11	1.4	39	143
12.6	11	1.6	40	143
9.8	11	-1.2	40	144
12.9	11	1.9	41	144
7.66	11	-3.34	41	145
5.6	11	-5.4	41	146
5.1	11	-5.9	41	147
4.3	11	-6.7	41	148
6.5	11	-4.5	41	149
6.2	11	-4.8	41	150
12.4	13.7	-1.3	41	151
12.6	13.7	-1.1	41	152
9.8	13.7	-3.9	41	153
12.9	13.7	-0.8	41	154
7.66	13.7	-6.04	41	155
5.6	13.7	-8.1	41	156
5.1	13.7	-8.6	41	157
4.3	13.7	-9.4	41	158

6.5	13.7	-7.2	41	159
6.2	13.7	-7.5	41	160
12.6	12.4	0.2	42	160
9.8	12.4	-2.6	42	161
12.9	12.4	0.5	43	161
7.66	12.4	-4.74	43	162
5.6	12.4	-6.8	43	163
5.1	12.4	-7.3	43	164
4.3	12.4	-8.1	43	165
6.5	12.4	-5.9	43	166
6.2	12.4	-6.2	43	167
9.8	12.6	-2.8	43	168
12.9	12.6	0.3	44	168
7.66	12.6	-4.94	44	169
5.6	12.6	-7	44	170
5.1	12.6	-7.5	44	171
4.3	12.6	-8.3	44	172
6.5	12.6	-6.1	44	173
6.2	12.6	-6.4	44	174
12.9	9.8	3.1	45	174
7.66	9.8	-2.14	45	175
5.6	9.8	-4.2	45	176
5.1	9.8	-4.7	45	177
4.3	9.8	-5.5	45	178
6.5	9.8	-3.3	45	179
6.2	9.8	-3.6	45	180
7.66	12.9	-5.24	45	181
5.6	12.9	-7.3	45	182
5.1	12.9	-7.8	45	183
4.3	12.9	-8.6	45	184
6.5	12.9	-6.4	45	185
6.2	12.9	-6.7	45	186
5.6	7.66	-2.06	45	187
5.1	7.66	-2.56	45	188
4.3	7.66	-3.36	45	189
6.5	7.66	-1.16	45	190
6.2	7.66	-1.46	45	191
5.1	5.6	-0.5	45	192
4.3	5.6	-1.3	45	193
6.5	5.6	0.9	46	193
6.2	5.6	0.6	47	193
4.3	5.1	-0.8	47	194
6.5	5.1	1.4	48	194
6.2	5.1	1.1	49	194
6.5	4.3	2.2	50	194
6.2	4.3	1.9	51	194
6.2	6.5	-0.3	51	195

S Statistic = 51 - 195 = -144

Tied Group	Value	Members
1	13	2
2	11	4

Time Period	Observations
8/29/2000	1
2/5/2001	1
3/22/2002	1
7/16/2002	1
1/24/2003	1
7/30/2003	1
3/18/2004	1
12/10/2004	1
6/15/2005	1
12/21/2005	1
6/13/2006	1
12/5/2006	1
6/21/2007	1
12/11/2007	1
6/2/2008	1
12/11/2008	1
6/25/2009	1
12/8/2009	1
12/17/2010	1
4/21/2011	1
10/14/2011	1
4/18/2012	1
10/11/2012	1

There are 0 time periods with multiple data

A = 174

B = 0

C = 24

D = 0

E = 14

F = 0

a = 25806

b = 95634

c = 1012

Group Variance = 1424

Z-Score = -3.78949

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

$|-3.78949| > 2.32634$ indicating a trend

Mann-Kendall Trend Analysis
Parameter: cis-1,2-Dichloroethene
Location: B-5-CW03
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
1.5	2.4	-0.9	0	1
1.4	2.4	-1	0	2
ND<0	2.4	-2.4	0	3
1.1	2.4	-1.3	0	4
1.19	2.4	-1.21	0	5
1.08	2.4	-1.32	0	6
1.13	2.4	-1.27	0	7
1.31	2.4	-1.09	0	8
0.9	2.4	-1.5	0	9
0.5	2.4	-1.9	0	10
0.5	2.4	-1.9	0	11
0.66	2.4	-1.74	0	12
ND<0	2.4	-2.4	0	13
1.4	1.5	-0.1	0	14
ND<0	1.5	-1.5	0	15
1.1	1.5	-0.4	0	16
1.19	1.5	-0.31	0	17
1.08	1.5	-0.42	0	18
1.13	1.5	-0.37	0	19
1.31	1.5	-0.19	0	20
0.9	1.5	-0.6	0	21
0.5	1.5	-1	0	22
0.5	1.5	-1	0	23
0.66	1.5	-0.84	0	24
ND<0	1.5	-1.5	0	25
ND<0	1.4	-1.4	0	26
1.1	1.4	-0.3	0	27
1.19	1.4	-0.21	0	28
1.08	1.4	-0.32	0	29
1.13	1.4	-0.27	0	30
1.31	1.4	-0.09	0	31
0.9	1.4	-0.5	0	32
0.5	1.4	-0.9	0	33
0.5	1.4	-0.9	0	34
0.66	1.4	-0.74	0	35
ND<0	1.4	-1.4	0	36
1.1	ND<0	1.1	1	36
1.19	ND<0	1.19	2	36
1.08	ND<0	1.08	3	36
1.13	ND<0	1.13	4	36
1.31	ND<0	1.31	5	36
0.9	ND<0	0.9	6	36
0.5	ND<0	0.5	7	36
0.5	ND<0	0.5	8	36

0.66	ND<0	0.66	9	36
ND<0	ND<0	0	9	36
1.19	1.1	0.09	10	36
1.08	1.1	-0.02	10	37
1.13	1.1	0.03	11	37
1.31	1.1	0.21	12	37
0.9	1.1	-0.2	12	38
0.5	1.1	-0.6	12	39
0.5	1.1	-0.6	12	40
0.66	1.1	-0.44	12	41
ND<0	1.1	-1.1	12	42
1.08	1.19	-0.11	12	43
1.13	1.19	-0.06	12	44
1.31	1.19	0.12	13	44
0.9	1.19	-0.29	13	45
0.5	1.19	-0.69	13	46
0.5	1.19	-0.69	13	47
0.66	1.19	-0.53	13	48
ND<0	1.19	-1.19	13	49
1.13	1.08	0.05	14	49
1.31	1.08	0.23	15	49
0.9	1.08	-0.18	15	50
0.5	1.08	-0.58	15	51
0.5	1.08	-0.58	15	52
0.66	1.08	-0.42	15	53
ND<0	1.08	-1.08	15	54
1.31	1.13	0.18	16	54
0.9	1.13	-0.23	16	55
0.5	1.13	-0.63	16	56
0.5	1.13	-0.63	16	57
0.66	1.13	-0.47	16	58
ND<0	1.13	-1.13	16	59
0.9	1.31	-0.41	16	60
0.5	1.31	-0.81	16	61
0.5	1.31	-0.81	16	62
0.66	1.31	-0.65	16	63
ND<0	1.31	-1.31	16	64
0.5	0.9	-0.4	16	65
0.5	0.9	-0.4	16	66
0.66	0.9	-0.24	16	67
ND<0	0.9	-0.9	16	68
0.5	0.5	0	16	68
0.66	0.5	0.16	17	68
ND<0	0.5	-0.5	17	69
0.66	0.5	0.16	18	69
ND<0	0.5	-0.5	18	70
ND<0	0.66	-0.66	18	71

S Statistic = 18 - 71 = -53

Tied Group	Value	Members
1	0	2
2	0.5	2

Time Period	Observations
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 = 36

B = 0

C = 0

D = 0

E = 4

F = 0

a = 6006

b = 19656

c = 364

Group Variance = 331.667

Z-Score = -2.8553

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

$|-2.8553| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: cis-1,2-Dichloroethene

Location: B-1-CW12

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
9.29	16.2	-6.91	0	1
10.5	16.2	-5.7	0	2
5.54	16.2	-10.66	0	3
5.9	16.2	-10.3	0	4
2.8	16.2	-13.4	0	5
4.2	16.2	-12	0	6
3.6	16.2	-12.6	0	7
5.3	16.2	-10.9	0	8
10.5	9.29	1.21	1	8
5.54	9.29	-3.75	1	9
5.9	9.29	-3.39	1	10
2.8	9.29	-6.49	1	11
4.2	9.29	-5.09	1	12
3.6	9.29	-5.69	1	13
5.3	9.29	-3.99	1	14
5.54	10.5	-4.96	1	15
5.9	10.5	-4.6	1	16
2.8	10.5	-7.7	1	17
4.2	10.5	-6.3	1	18
3.6	10.5	-6.9	1	19
5.3	10.5	-5.2	1	20
5.9	5.54	0.36	2	20
2.8	5.54	-2.74	2	21
4.2	5.54	-1.34	2	22
3.6	5.54	-1.94	2	23
5.3	5.54	-0.24	2	24
2.8	5.9	-3.1	2	25
4.2	5.9	-1.7	2	26
3.6	5.9	-2.3	2	27
5.3	5.9	-0.6	2	28
4.2	2.8	1.4	3	28
3.6	2.8	0.8	4	28
5.3	2.8	2.5	5	28
3.6	4.2	-0.6	5	29
5.3	4.2	1.1	6	29
5.3	3.6	1.7	7	29

S Statistic = 7 - 29 = -22

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

Probability of obtaining $S \geq |-22|$ is 0.024
0.024 < 0.1 indicating a trend

Mann-Kendall Trend Analysis

Parameter: cis-1,2-Dichloroethene

Location: B-5-CW03

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
1.08	1.19	-0.11	0	1
1.13	1.19	-0.06	0	2
1.31	1.19	0.12	1	2
0.9	1.19	-0.29	1	3
0.5	1.19	-0.69	1	4
0.5	1.19	-0.69	1	5
0.66	1.19	-0.53	1	6
ND<0	1.19	-1.19	1	7
1.13	1.08	0.05	2	7
1.31	1.08	0.23	3	7
0.9	1.08	-0.18	3	8
0.5	1.08	-0.58	3	9
0.5	1.08	-0.58	3	10
0.66	1.08	-0.42	3	11
ND<0	1.08	-1.08	3	12
1.31	1.13	0.18	4	12
0.9	1.13	-0.23	4	13
0.5	1.13	-0.63	4	14
0.5	1.13	-0.63	4	15
0.66	1.13	-0.47	4	16
ND<0	1.13	-1.13	4	17
0.9	1.31	-0.41	4	18
0.5	1.31	-0.81	4	19
0.5	1.31	-0.81	4	20
0.66	1.31	-0.65	4	21
ND<0	1.31	-1.31	4	22
0.5	0.9	-0.4	4	23
0.5	0.9	-0.4	4	24
0.66	0.9	-0.24	4	25
ND<0	0.9	-0.9	4	26
0.5	0.5	0	4	26
0.66	0.5	0.16	5	26
ND<0	0.5	-0.5	5	27
0.66	0.5	0.16	6	27
ND<0	0.5	-0.5	6	28
ND<0	0.66	-0.66	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: 1,2,3-Trichloropropane
Location: 3850N
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

98% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
12	ND<0	12	1	0
1	ND<0	1	2	0
0.99	ND<0	0.99	3	0
1	ND<0	1	4	0
1.4	ND<0	1.4	5	0
1.7	ND<0	1.7	6	0
2.6	ND<0	2.6	7	0
2.4	ND<0	2.4	8	0
2.3	ND<0	2.3	9	0
0.88	ND<0	0.88	10	0
0.5	ND<0	0.5	11	0
0.58	ND<0	0.58	12	0
0.23	ND<0	0.23	13	0
0.45	ND<0	0.45	14	0
ND<0	ND<0	0	14	0
2.26	ND<0	2.26	15	0
0.56	ND<0	0.56	16	0
0.046	ND<0	0.046	17	0
0.007	ND<0	0.007	18	0
0.085	ND<0	0.085	19	0
1	12	-11	19	1
0.99	12	-11.01	19	2
1	12	-11	19	3
1.4	12	-10.6	19	4
1.7	12	-10.3	19	5
2.6	12	-9.4	19	6
2.4	12	-9.6	19	7
2.3	12	-9.7	19	8
0.88	12	-11.12	19	9
0.5	12	-11.5	19	10
0.58	12	-11.42	19	11
0.23	12	-11.77	19	12
0.45	12	-11.55	19	13
ND<0	12	-12	19	14
2.26	12	-9.74	19	15
0.56	12	-11.44	19	16
0.046	12	-11.954	19	17
0.007	12	-11.993	19	18
0.085	12	-11.915	19	19
0.99	1	-0.01	19	20
1	1	0	19	20
1.4	1	0.4	20	20
1.7	1	0.7	21	20
2.6	1	1.6	22	20
2.4	1	1.4	23	20

2.3	1	1.3	24	20
0.88	1	-0.12	24	21
0.5	1	-0.5	24	22
0.58	1	-0.42	24	23
0.23	1	-0.77	24	24
0.45	1	-0.55	24	25
ND<0	1	-1	24	26
2.26	1	1.26	25	26
0.56	1	-0.44	25	27
0.046	1	-0.954	25	28
0.007	1	-0.993	25	29
0.085	1	-0.915	25	30
1	0.99	0.01	26	30
1.4	0.99	0.41	27	30
1.7	0.99	0.71	28	30
2.6	0.99	1.61	29	30
2.4	0.99	1.41	30	30
2.3	0.99	1.31	31	30
0.88	0.99	-0.11	31	31
0.5	0.99	-0.49	31	32
0.58	0.99	-0.41	31	33
0.23	0.99	-0.76	31	34
0.45	0.99	-0.54	31	35
ND<0	0.99	-0.99	31	36
2.26	0.99	1.27	32	36
0.56	0.99	-0.43	32	37
0.046	0.99	-0.944	32	38
0.007	0.99	-0.983	32	39
0.085	0.99	-0.905	32	40
1.4	1	0.4	33	40
1.7	1	0.7	34	40
2.6	1	1.6	35	40
2.4	1	1.4	36	40
2.3	1	1.3	37	40
0.88	1	-0.12	37	41
0.5	1	-0.5	37	42
0.58	1	-0.42	37	43
0.23	1	-0.77	37	44
0.45	1	-0.55	37	45
ND<0	1	-1	37	46
2.26	1	1.26	38	46
0.56	1	-0.44	38	47
0.046	1	-0.954	38	48
0.007	1	-0.993	38	49
0.085	1	-0.915	38	50
1.7	1.4	0.3	39	50
2.6	1.4	1.2	40	50
2.4	1.4	1	41	50
2.3	1.4	0.9	42	50
0.88	1.4	-0.52	42	51
0.5	1.4	-0.9	42	52
0.58	1.4	-0.82	42	53
0.23	1.4	-1.17	42	54
0.45	1.4	-0.95	42	55

ND<0	1.4	-1.4	42	56
2.26	1.4	0.86	43	56
0.56	1.4	-0.84	43	57
0.046	1.4	-1.354	43	58
0.007	1.4	-1.393	43	59
0.085	1.4	-1.315	43	60
2.6	1.7	0.9	44	60
2.4	1.7	0.7	45	60
2.3	1.7	0.6	46	60
0.88	1.7	-0.82	46	61
0.5	1.7	-1.2	46	62
0.58	1.7	-1.12	46	63
0.23	1.7	-1.47	46	64
0.45	1.7	-1.25	46	65
ND<0	1.7	-1.7	46	66
2.26	1.7	0.56	47	66
0.56	1.7	-1.14	47	67
0.046	1.7	-1.654	47	68
0.007	1.7	-1.693	47	69
0.085	1.7	-1.615	47	70
2.4	2.6	-0.2	47	71
2.3	2.6	-0.3	47	72
0.88	2.6	-1.72	47	73
0.5	2.6	-2.1	47	74
0.58	2.6	-2.02	47	75
0.23	2.6	-2.37	47	76
0.45	2.6	-2.15	47	77
ND<0	2.6	-2.6	47	78
2.26	2.6	-0.34	47	79
0.56	2.6	-2.04	47	80
0.046	2.6	-2.554	47	81
0.007	2.6	-2.593	47	82
0.085	2.6	-2.515	47	83
2.3	2.4	-0.1	47	84
0.88	2.4	-1.52	47	85
0.5	2.4	-1.9	47	86
0.58	2.4	-1.82	47	87
0.23	2.4	-2.17	47	88
0.45	2.4	-1.95	47	89
ND<0	2.4	-2.4	47	90
2.26	2.4	-0.14	47	91
0.56	2.4	-1.84	47	92
0.046	2.4	-2.354	47	93
0.007	2.4	-2.393	47	94
0.085	2.4	-2.315	47	95
0.88	2.3	-1.42	47	96
0.5	2.3	-1.8	47	97
0.58	2.3	-1.72	47	98
0.23	2.3	-2.07	47	99
0.45	2.3	-1.85	47	100
ND<0	2.3	-2.3	47	101
2.26	2.3	-0.04	47	102
0.56	2.3	-1.74	47	103

0.046	2.3	-2.254	47	104
0.007	2.3	-2.293	47	105
0.085	2.3	-2.215	47	106
0.5	0.88	-0.38	47	107
0.58	0.88	-0.3	47	108
0.23	0.88	-0.65	47	109
0.45	0.88	-0.43	47	110
ND<0	0.88	-0.88	47	111
2.26	0.88	1.38	48	111
0.56	0.88	-0.32	48	112
0.046	0.88	-0.834	48	113
0.007	0.88	-0.873	48	114
0.085	0.88	-0.795	48	115
0.58	0.5	0.08	49	115
0.23	0.5	-0.27	49	116
0.45	0.5	-0.05	49	117
ND<0	0.5	-0.5	49	118
2.26	0.5	1.76	50	118
0.56	0.5	0.06	51	118
0.046	0.5	-0.454	51	119
0.007	0.5	-0.493	51	120
0.085	0.5	-0.415	51	121
0.23	0.58	-0.35	51	122
0.45	0.58	-0.13	51	123
ND<0	0.58	-0.58	51	124
2.26	0.58	1.68	52	124
0.56	0.58	-0.02	52	125
0.046	0.58	-0.534	52	126
0.007	0.58	-0.573	52	127
0.085	0.58	-0.495	52	128
0.45	0.23	0.22	53	128
ND<0	0.23	-0.23	53	129
2.26	0.23	2.03	54	129
0.56	0.23	0.33	55	129
0.046	0.23	-0.184	55	130
0.007	0.23	-0.223	55	131
0.085	0.23	-0.145	55	132
ND<0	0.45	-0.45	55	133
2.26	0.45	1.81	56	133
0.56	0.45	0.11	57	133
0.046	0.45	-0.404	57	134
0.007	0.45	-0.443	57	135
0.085	0.45	-0.365	57	136
2.26	ND<0	2.26	58	136
0.56	ND<0	0.56	59	136
0.046	ND<0	0.046	60	136
0.007	ND<0	0.007	61	136
0.085	ND<0	0.085	62	136
0.56	2.26	-1.7	62	137
0.046	2.26	-2.214	62	138

0.007	2.26	-2.253	62	139
0.085	2.26	-2.175	62	140
0.046	0.56	-0.514	62	141
0.007	0.56	-0.553	62	142
0.085	0.56	-0.475	62	143
0.007	0.046	-0.039	62	144
0.085	0.046	0.039	63	144
0.085	0.007	0.078	64	144

S Statistic = 64 - 144 = -80

Tied Group	Value	Members
1	0	2
2	1	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
12/2/2010	1
10/6/2011	1
4/12/2012	1
10/10/2012	1

There are 0 time periods with multiple data

A = 36

B = 0

C = 0

D = 0

E = 4

F = 0

a = 19740

b = 71820

c = 840

Group Variance = 1094.67

Z-Score = -2.38774

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

$|-2.38774| > 2.32634$ indicating a trend

Mann-Kendall Trend Analysis
Parameter: 1,2,3-Trichloropropane
Location: 3872Q
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
0.59	0.62	-0.03	0	1
0.42	0.62	-0.2	0	2
0.33	0.62	-0.29	0	3
0.3	0.62	-0.32	0	4
0.23	0.62	-0.39	0	5
0.086	0.62	-0.534	0	6
0.088	0.62	-0.532	0	7
ND<0	0.62	-0.62	0	8
0.42	0.59	-0.17	0	9
0.33	0.59	-0.26	0	10
0.3	0.59	-0.29	0	11
0.23	0.59	-0.36	0	12
0.086	0.59	-0.504	0	13
0.088	0.59	-0.502	0	14
ND<0	0.59	-0.59	0	15
0.33	0.42	-0.09	0	16
0.3	0.42	-0.12	0	17
0.23	0.42	-0.19	0	18
0.086	0.42	-0.334	0	19
0.088	0.42	-0.332	0	20
ND<0	0.42	-0.42	0	21
0.3	0.33	-0.03	0	22
0.23	0.33	-0.1	0	23
0.086	0.33	-0.244	0	24
0.088	0.33	-0.242	0	25
ND<0	0.33	-0.33	0	26
0.23	0.3	-0.07	0	27
0.086	0.3	-0.214	0	28
0.088	0.3	-0.212	0	29
ND<0	0.3	-0.3	0	30
0.086	0.23	-0.144	0	31
0.088	0.23	-0.142	0	32
ND<0	0.23	-0.23	0	33
0.088	0.086	0.002	1	33
ND<0	0.086	-0.086	1	34
ND<0	0.088	-0.088	1	35

S Statistic = 1 - 35 = -34

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

Probability of obtaining $S \geq |-34|$ is $5e-005$
 $5e-005 < 0.1$ indicating a trend

Mann-Kendall Trend Analysis
Parameter: 1,2,3-Trichloropropane
Location: A-1-CW08
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
34	24	10	1	0
58.8	24	34.8	2	0
12	24	-12	2	1
36	24	12	3	1
67.6	24	43.6	4	1
97	24	73	5	1
87	24	63	6	1
58.8	34	24.8	7	1
12	34	-22	7	2
36	34	2	8	2
67.6	34	33.6	9	2
97	34	63	10	2
87	34	53	11	2
12	58.8	-46.8	11	3
36	58.8	-22.8	11	4
67.6	58.8	8.8	12	4
97	58.8	38.2	13	4
87	58.8	28.2	14	4
36	12	24	15	4
67.6	12	55.6	16	4
97	12	85	17	4
87	12	75	18	4
67.6	36	31.6	19	4
97	36	61	20	4
87	36	51	21	4
97	67.6	29.4	22	4
87	67.6	19.4	23	4
87	97	-10	23	5

S Statistic = 23 - 5 = 18

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

Probability of obtaining S >= |18| is 0.032

0.032 < 0.1 indicating a trend

Mann-Kendall Trend Analysis
Parameter: 1,2,3-Trichloropropane
Location: B-1-CW13
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

98% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
51	ND<0	51	1	0
ND<0	ND<0	0	1	0
0.64	ND<0	0.64	2	0
ND<0	ND<0	0	2	0
0.83	ND<0	0.83	3	0
5.11	ND<0	5.11	4	0
9.9	ND<0	9.9	5	0
0.6	ND<0	0.6	6	0
2.6	ND<0	2.6	7	0
34	ND<0	34	8	0
9.7	ND<0	9.7	9	0
6.5	ND<0	6.5	10	0
5.5	ND<0	5.5	11	0
12.9	ND<0	12.9	12	0
3.37	ND<0	3.37	13	0
22.4	ND<0	22.4	14	0
35.8	ND<0	35.8	15	0
17	ND<0	17	16	0
57	ND<0	57	17	0
25	ND<0	25	18	0
17	ND<0	17	19	0
ND<0	51	-51	19	1
0.64	51	-50.36	19	2
ND<0	51	-51	19	3
0.83	51	-50.17	19	4
5.11	51	-45.89	19	5
9.9	51	-41.1	19	6
0.6	51	-50.4	19	7
2.6	51	-48.4	19	8
34	51	-17	19	9
9.7	51	-41.3	19	10
6.5	51	-44.5	19	11
5.5	51	-45.5	19	12
12.9	51	-38.1	19	13
3.37	51	-47.63	19	14
22.4	51	-28.6	19	15
35.8	51	-15.2	19	16
17	51	-34	19	17
57	51	6	20	17
25	51	-26	20	18
17	51	-34	20	19
0.64	ND<0	0.64	21	19
ND<0	ND<0	0	21	19
0.83	ND<0	0.83	22	19
5.11	ND<0	5.11	23	19

9.9	ND<0	9.9	24	19
0.6	ND<0	0.6	25	19
2.6	ND<0	2.6	26	19
34	ND<0	34	27	19
9.7	ND<0	9.7	28	19
6.5	ND<0	6.5	29	19
5.5	ND<0	5.5	30	19
12.9	ND<0	12.9	31	19
3.37	ND<0	3.37	32	19
22.4	ND<0	22.4	33	19
35.8	ND<0	35.8	34	19
17	ND<0	17	35	19
57	ND<0	57	36	19
25	ND<0	25	37	19
17	ND<0	17	38	19
ND<0	0.64	-0.64	38	20
0.83	0.64	0.19	39	20
5.11	0.64	4.47	40	20
9.9	0.64	9.26	41	20
0.6	0.64	-0.04	41	21
2.6	0.64	1.96	42	21
34	0.64	33.36	43	21
9.7	0.64	9.06	44	21
6.5	0.64	5.86	45	21
5.5	0.64	4.86	46	21
12.9	0.64	12.26	47	21
3.37	0.64	2.73	48	21
22.4	0.64	21.76	49	21
35.8	0.64	35.16	50	21
17	0.64	16.36	51	21
57	0.64	56.36	52	21
25	0.64	24.36	53	21
17	0.64	16.36	54	21
0.83	ND<0	0.83	55	21
5.11	ND<0	5.11	56	21
9.9	ND<0	9.9	57	21
0.6	ND<0	0.6	58	21
2.6	ND<0	2.6	59	21
34	ND<0	34	60	21
9.7	ND<0	9.7	61	21
6.5	ND<0	6.5	62	21
5.5	ND<0	5.5	63	21
12.9	ND<0	12.9	64	21
3.37	ND<0	3.37	65	21
22.4	ND<0	22.4	66	21
35.8	ND<0	35.8	67	21
17	ND<0	17	68	21
57	ND<0	57	69	21
25	ND<0	25	70	21
17	ND<0	17	71	21
5.11	0.83	4.28	72	21
9.9	0.83	9.07	73	21
0.6	0.83	-0.23	73	22
2.6	0.83	1.77	74	22

34	0.83	33.17	75	22
9.7	0.83	8.87	76	22
6.5	0.83	5.67	77	22
5.5	0.83	4.67	78	22
12.9	0.83	12.07	79	22
3.37	0.83	2.54	80	22
22.4	0.83	21.57	81	22
35.8	0.83	34.97	82	22
17	0.83	16.17	83	22
57	0.83	56.17	84	22
25	0.83	24.17	85	22
17	0.83	16.17	86	22
9.9	5.11	4.79	87	22
0.6	5.11	-4.51	87	23
2.6	5.11	-2.51	87	24
34	5.11	28.89	88	24
9.7	5.11	4.59	89	24
6.5	5.11	1.39	90	24
5.5	5.11	0.39	91	24
12.9	5.11	7.79	92	24
3.37	5.11	-1.74	92	25
22.4	5.11	17.29	93	25
35.8	5.11	30.69	94	25
17	5.11	11.89	95	25
57	5.11	51.89	96	25
25	5.11	19.89	97	25
17	5.11	11.89	98	25
0.6	9.9	-9.3	98	26
2.6	9.9	-7.3	98	27
34	9.9	24.1	99	27
9.7	9.9	-0.2	99	28
6.5	9.9	-3.4	99	29
5.5	9.9	-4.4	99	30
12.9	9.9	3	100	30
3.37	9.9	-6.53	100	31
22.4	9.9	12.5	101	31
35.8	9.9	25.9	102	31
17	9.9	7.1	103	31
57	9.9	47.1	104	31
25	9.9	15.1	105	31
17	9.9	7.1	106	31
2.6	0.6	2	107	31
34	0.6	33.4	108	31
9.7	0.6	9.1	109	31
6.5	0.6	5.9	110	31
5.5	0.6	4.9	111	31
12.9	0.6	12.3	112	31
3.37	0.6	2.77	113	31
22.4	0.6	21.8	114	31
35.8	0.6	35.2	115	31
17	0.6	16.4	116	31
57	0.6	56.4	117	31
25	0.6	24.4	118	31
17	0.6	16.4	119	31

34	2.6	31.4	120	31
9.7	2.6	7.1	121	31
6.5	2.6	3.9	122	31
5.5	2.6	2.9	123	31
12.9	2.6	10.3	124	31
3.37	2.6	0.77	125	31
22.4	2.6	19.8	126	31
35.8	2.6	33.2	127	31
17	2.6	14.4	128	31
57	2.6	54.4	129	31
25	2.6	22.4	130	31
17	2.6	14.4	131	31
9.7	34	-24.3	131	32
6.5	34	-27.5	131	33
5.5	34	-28.5	131	34
12.9	34	-21.1	131	35
3.37	34	-30.63	131	36
22.4	34	-11.6	131	37
35.8	34	1.8	132	37
17	34	-17	132	38
57	34	23	133	38
25	34	-9	133	39
17	34	-17	133	40
6.5	9.7	-3.2	133	41
5.5	9.7	-4.2	133	42
12.9	9.7	3.2	134	42
3.37	9.7	-6.33	134	43
22.4	9.7	12.7	135	43
35.8	9.7	26.1	136	43
17	9.7	7.3	137	43
57	9.7	47.3	138	43
25	9.7	15.3	139	43
17	9.7	7.3	140	43
5.5	6.5	-1	140	44
12.9	6.5	6.4	141	44
3.37	6.5	-3.13	141	45
22.4	6.5	15.9	142	45
35.8	6.5	29.3	143	45
17	6.5	10.5	144	45
57	6.5	50.5	145	45
25	6.5	18.5	146	45
17	6.5	10.5	147	45
12.9	5.5	7.4	148	45
3.37	5.5	-2.13	148	46
22.4	5.5	16.9	149	46
35.8	5.5	30.3	150	46
17	5.5	11.5	151	46
57	5.5	51.5	152	46
25	5.5	19.5	153	46
17	5.5	11.5	154	46
3.37	12.9	-9.53	154	47

22.4	12.9	9.5	155	47
35.8	12.9	22.9	156	47
17	12.9	4.1	157	47
57	12.9	44.1	158	47
25	12.9	12.1	159	47
17	12.9	4.1	160	47
22.4	3.37	19.03	161	47
35.8	3.37	32.43	162	47
17	3.37	13.63	163	47
57	3.37	53.63	164	47
25	3.37	21.63	165	47
17	3.37	13.63	166	47
35.8	22.4	13.4	167	47
17	22.4	-5.4	167	48
57	22.4	34.6	168	48
25	22.4	2.6	169	48
17	22.4	-5.4	169	49
17	35.8	-18.8	169	50
57	35.8	21.2	170	50
25	35.8	-10.8	170	51
17	35.8	-18.8	170	52
57	17	40	171	52
25	17	8	172	52
17	17	0	172	52
25	57	-32	172	53
17	57	-40	172	54
17	25	-8	172	55

S Statistic = 172 - 55 = 117

Tied Group	Value	Members
1	0	3
2	17	2

Time Period	Observations
8/30/2000	1
2/6/2001	1
8/8/2001	1
3/19/2002	1
7/16/2002	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
6/3/2008	1
12/10/2008	1
12/20/2010	1
10/7/2011	1
4/16/2012	1
10/12/2012	1

There are 0 time periods with multiple data

A = 84

B = 0

C = 6

D = 0

E = 8

F = 0

a = 22638

b = 83160

c = 924

Group Variance = 1253

Z-Score = 3.27705

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

|3.27705| > 2.32634 indicating a trend

Mann-Kendall Trend Analysis
Parameter: 1,2,3-Trichloropropane
Location: B-5-CW03
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
8.8	5.6	3.2	1	0
8.7	5.6	3.1	2	0
21	5.6	15.4	3	0
27.7	5.6	22.1	4	0
30.6	5.6	25	5	0
50.6	5.6	45	6	0
43.6	5.6	38	7	0
25.3	5.6	19.7	8	0
63.6	5.6	58	9	0
36.5	5.6	30.9	10	0
50	5.6	44.4	11	0
50	5.6	44.4	12	0
64	5.6	58.4	13	0
21	5.6	15.4	14	0
8.7	8.8	-0.1	14	1
21	8.8	12.2	15	1
27.7	8.8	18.9	16	1
30.6	8.8	21.8	17	1
50.6	8.8	41.8	18	1
43.6	8.8	34.8	19	1
25.3	8.8	16.5	20	1
63.6	8.8	54.8	21	1
36.5	8.8	27.7	22	1
50	8.8	41.2	23	1
50	8.8	41.2	24	1
64	8.8	55.2	25	1
21	8.8	12.2	26	1
21	8.7	12.3	27	1
27.7	8.7	19	28	1
30.6	8.7	21.9	29	1
50.6	8.7	41.9	30	1
43.6	8.7	34.9	31	1
25.3	8.7	16.6	32	1
63.6	8.7	54.9	33	1
36.5	8.7	27.8	34	1
50	8.7	41.3	35	1
50	8.7	41.3	36	1
64	8.7	55.3	37	1
21	8.7	12.3	38	1
27.7	21	6.7	39	1
30.6	21	9.6	40	1
50.6	21	29.6	41	1
43.6	21	22.6	42	1
25.3	21	4.3	43	1

63.6	21	42.6	44	1
36.5	21	15.5	45	1
50	21	29	46	1
50	21	29	47	1
64	21	43	48	1
21	21	0	48	1
30.6	27.7	2.9	49	1
50.6	27.7	22.9	50	1
43.6	27.7	15.9	51	1
25.3	27.7	-2.4	51	2
63.6	27.7	35.9	52	2
36.5	27.7	8.8	53	2
50	27.7	22.3	54	2
50	27.7	22.3	55	2
64	27.7	36.3	56	2
21	27.7	-6.7	56	3
50.6	30.6	20	57	3
43.6	30.6	13	58	3
25.3	30.6	-5.3	58	4
63.6	30.6	33	59	4
36.5	30.6	5.9	60	4
50	30.6	19.4	61	4
50	30.6	19.4	62	4
64	30.6	33.4	63	4
21	30.6	-9.6	63	5
43.6	50.6	-7	63	6
25.3	50.6	-25.3	63	7
63.6	50.6	13	64	7
36.5	50.6	-14.1	64	8
50	50.6	-0.6	64	9
50	50.6	-0.6	64	10
64	50.6	13.4	65	10
21	50.6	-29.6	65	11
25.3	43.6	-18.3	65	12
63.6	43.6	20	66	12
36.5	43.6	-7.1	66	13
50	43.6	6.4	67	13
50	43.6	6.4	68	13
64	43.6	20.4	69	13
21	43.6	-22.6	69	14
63.6	25.3	38.3	70	14
36.5	25.3	11.2	71	14
50	25.3	24.7	72	14
50	25.3	24.7	73	14
64	25.3	38.7	74	14
21	25.3	-4.3	74	15
36.5	63.6	-27.1	74	16
50	63.6	-13.6	74	17
50	63.6	-13.6	74	18
64	63.6	0.4	75	18
21	63.6	-42.6	75	19

50	36.5	13.5	76	19
50	36.5	13.5	77	19
64	36.5	27.5	78	19
21	36.5	-15.5	78	20
50	50	0	78	20
64	50	14	79	20
21	50	-29	79	21
64	50	14	80	21
21	50	-29	80	22
21	64	-43	80	23

S Statistic = $80 - 23 = 57$

Tied Group	Value	Members
1	21	2
2	50	2

Time Period	Observations
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
12/10/2008	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 = 36

B = 0

C = 0

D = 0

E = 4

F = 0

a = 7350

b = 24570

c = 420

Group Variance = 406.333

Z-Score = 2.77809

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

$|2.77809| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis
Parameter: 1,2,3-Trichloropropane
Location: MW-03
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
0.044	0.23	-0.186	0	1
0.081	0.23	-0.149	0	2
0.15	0.23	-0.08	0	3
1.86	0.23	1.63	1	3
6.9	0.23	6.67	2	3
4.23	0.23	4	3	3
2.34	0.23	2.11	4	3
2.81	0.23	2.58	5	3
1.9	0.23	1.67	6	3
2.4	0.23	2.17	7	3
2.6	0.23	2.37	8	3
6.2	0.23	5.97	9	3
0.081	0.044	0.037	10	3
0.15	0.044	0.106	11	3
1.86	0.044	1.816	12	3
6.9	0.044	6.856	13	3
4.23	0.044	4.186	14	3
2.34	0.044	2.296	15	3
2.81	0.044	2.766	16	3
1.9	0.044	1.856	17	3
2.4	0.044	2.356	18	3
2.6	0.044	2.556	19	3
6.2	0.044	6.156	20	3
0.15	0.081	0.069	21	3
1.86	0.081	1.779	22	3
6.9	0.081	6.819	23	3
4.23	0.081	4.149	24	3
2.34	0.081	2.259	25	3
2.81	0.081	2.729	26	3
1.9	0.081	1.819	27	3
2.4	0.081	2.319	28	3
2.6	0.081	2.519	29	3
6.2	0.081	6.119	30	3
1.86	0.15	1.71	31	3
6.9	0.15	6.75	32	3
4.23	0.15	4.08	33	3
2.34	0.15	2.19	34	3
2.81	0.15	2.66	35	3
1.9	0.15	1.75	36	3
2.4	0.15	2.25	37	3
2.6	0.15	2.45	38	3
6.2	0.15	6.05	39	3
6.9	1.86	5.04	40	3

4.23	1.86	2.37	41	3
2.34	1.86	0.48	42	3
2.81	1.86	0.95	43	3
1.9	1.86	0.04	44	3
2.4	1.86	0.54	45	3
2.6	1.86	0.74	46	3
6.2	1.86	4.34	47	3
4.23	6.9	-2.67	47	4
2.34	6.9	-4.56	47	5
2.81	6.9	-4.09	47	6
1.9	6.9	-5	47	7
2.4	6.9	-4.5	47	8
2.6	6.9	-4.3	47	9
6.2	6.9	-0.7	47	10
2.34	4.23	-1.89	47	11
2.81	4.23	-1.42	47	12
1.9	4.23	-2.33	47	13
2.4	4.23	-1.83	47	14
2.6	4.23	-1.63	47	15
6.2	4.23	1.97	48	15
2.81	2.34	0.47	49	15
1.9	2.34	-0.44	49	16
2.4	2.34	0.06	50	16
2.6	2.34	0.26	51	16
6.2	2.34	3.86	52	16
1.9	2.81	-0.91	52	17
2.4	2.81	-0.41	52	18
2.6	2.81	-0.21	52	19
6.2	2.81	3.39	53	19
2.4	1.9	0.5	54	19
2.6	1.9	0.7	55	19
6.2	1.9	4.3	56	19
2.6	2.4	0.2	57	19
6.2	2.4	3.8	58	19
6.2	2.6	3.6	59	19

S Statistic = 59 - 19 = 40

Tied Group	Value	Members
Time Period		Observations
3/30/2006		1
6/20/2006		1
9/28/2006		1
12/11/2006		1
6/26/2007		1
12/19/2007		1
6/12/2008		1
12/17/2008		1

6/30/2009	1
4/19/2011	1
10/10/2011	1
4/16/2012	1
10/12/2012	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 = 2.37935

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

|2.37935| > 1.97737 indicating a trend

Mann-Kendall Trend Analysis
Parameter: 1,2,3-Trichloropropane
Location: MW-04
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
0.022	0.028	-0.006	0	1
0.02	0.028	-0.008	0	2
0.15	0.028	0.122	1	2
0.49	0.028	0.462	2	2
0.27	0.028	0.242	3	2
0.42	0.028	0.392	4	2
0.97	0.028	0.942	5	2
0.82	0.028	0.792	6	2
1.2	0.028	1.172	7	2
1.3	0.028	1.272	8	2
0.02	0.022	-0.002	8	3
0.15	0.022	0.128	9	3
0.49	0.022	0.468	10	3
0.27	0.022	0.248	11	3
0.42	0.022	0.398	12	3
0.97	0.022	0.948	13	3
0.82	0.022	0.798	14	3
1.2	0.022	1.178	15	3
1.3	0.022	1.278	16	3
0.15	0.02	0.13	17	3
0.49	0.02	0.47	18	3
0.27	0.02	0.25	19	3
0.42	0.02	0.4	20	3
0.97	0.02	0.95	21	3
0.82	0.02	0.8	22	3
1.2	0.02	1.18	23	3
1.3	0.02	1.28	24	3
0.49	0.15	0.34	25	3
0.27	0.15	0.12	26	3
0.42	0.15	0.27	27	3
0.97	0.15	0.82	28	3
0.82	0.15	0.67	29	3
1.2	0.15	1.05	30	3
1.3	0.15	1.15	31	3
0.27	0.49	-0.22	31	4
0.42	0.49	-0.07	31	5
0.97	0.49	0.48	32	5
0.82	0.49	0.33	33	5
1.2	0.49	0.71	34	5
1.3	0.49	0.81	35	5
0.42	0.27	0.15	36	5
0.97	0.27	0.7	37	5

0.82	0.27	0.55	38	5
1.2	0.27	0.93	39	5
1.3	0.27	1.03	40	5
0.97	0.42	0.55	41	5
0.82	0.42	0.4	42	5
1.2	0.42	0.78	43	5
1.3	0.42	0.88	44	5
0.82	0.97	-0.15	44	6
1.2	0.97	0.23	45	6
1.3	0.97	0.33	46	6
1.2	0.82	0.38	47	6
1.3	0.82	0.48	48	6
1.3	1.2	0.1	49	6

S Statistic = 49 - 6 = 43

Tied Group	Value	Members
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 = 0

B = 0

C = 0

D = 0

E = 0

F = 0

a = 2970

b = 8910

c = 220

Group Variance = 165

Z-Score = 3.2697

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

|3.2697| > 1.97737 indicating a trend

Mann-Kendall Trend Analysis
Parameter: 1,2,3-Trichloropropane
Location: MW-08
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
0.068	0.028	0.04	1	0
0.092	0.028	0.064	2	0
0.11	0.028	0.082	3	0
0.24	0.028	0.212	4	0
0.3	0.028	0.272	5	0
0.78	0.028	0.752	6	0
2.3	0.028	2.272	7	0
1.9	0.028	1.872	8	0
1.7	0.028	1.672	9	0
1.5	0.028	1.472	10	0
0.092	0.068	0.024	11	0
0.11	0.068	0.042	12	0
0.24	0.068	0.172	13	0
0.3	0.068	0.232	14	0
0.78	0.068	0.712	15	0
2.3	0.068	2.232	16	0
1.9	0.068	1.832	17	0
1.7	0.068	1.632	18	0
1.5	0.068	1.432	19	0
0.11	0.092	0.018	20	0
0.24	0.092	0.148	21	0
0.3	0.092	0.208	22	0
0.78	0.092	0.688	23	0
2.3	0.092	2.208	24	0
1.9	0.092	1.808	25	0
1.7	0.092	1.608	26	0
1.5	0.092	1.408	27	0
0.24	0.11	0.13	28	0
0.3	0.11	0.19	29	0
0.78	0.11	0.67	30	0
2.3	0.11	2.19	31	0
1.9	0.11	1.79	32	0
1.7	0.11	1.59	33	0
1.5	0.11	1.39	34	0
0.3	0.24	0.06	35	0
0.78	0.24	0.54	36	0
2.3	0.24	2.06	37	0
1.9	0.24	1.66	38	0
1.7	0.24	1.46	39	0
1.5	0.24	1.26	40	0
0.78	0.3	0.48	41	0
2.3	0.3	2	42	0

1.9	0.3	1.6	43	0
1.7	0.3	1.4	44	0
1.5	0.3	1.2	45	0
2.3	0.78	1.52	46	0
1.9	0.78	1.12	47	0
1.7	0.78	0.92	48	0
1.5	0.78	0.72	49	0
1.9	2.3	-0.4	49	1
1.7	2.3	-0.6	49	2
1.5	2.3	-0.8	49	3
1.7	1.9	-0.2	49	4
1.5	1.9	-0.4	49	5
1.5	1.7	-0.2	49	6

S Statistic = 49 - 6 = 43

Tied Group	Value	Members
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Time Period	Observations
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3/27/2006	1
6/20/2006	1
9/28/2006	1
12/11/2006	1
6/26/2007	1
12/20/2007	1
6/11/2008	1
4/18/2011	1
10/10/2011	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 = 2970

b = 8910

c = 220

Group Variance = 165

Z-Score = 3.2697

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

|3.2697| > 1.97737 indicating a trend

Mann-Kendall Trend Analysis
Parameter: 1,2,3-Trichloropropane
Location: 3830Q
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
0.53	0.36	0.17	1	0
0.26	0.36	-0.1	1	1
ND<0	0.36	-0.36	1	2
0.25	0.36	-0.11	1	3
ND<0	0.36	-0.36	1	4
ND<0	0.36	-0.36	1	5
ND<0	0.36	-0.36	1	6
ND<0	0.36	-0.36	1	7
0.26	0.53	-0.27	1	8
ND<0	0.53	-0.53	1	9
0.25	0.53	-0.28	1	10
ND<0	0.53	-0.53	1	11
ND<0	0.53	-0.53	1	12
ND<0	0.53	-0.53	1	13
ND<0	0.53	-0.53	1	14
ND<0	0.26	-0.26	1	15
0.25	0.26	-0.01	1	16
ND<0	0.26	-0.26	1	17
ND<0	0.26	-0.26	1	18
ND<0	0.26	-0.26	1	19
ND<0	0.26	-0.26	1	20
0.25	ND<0	0.25	2	20
ND<0	ND<0	0	2	20
ND<0	ND<0	0	2	20
ND<0	ND<0	0	2	20
ND<0	ND<0	0	2	20
ND<0	0.25	-0.25	2	21
ND<0	0.25	-0.25	2	22
ND<0	0.25	-0.25	2	23
ND<0	0.25	-0.25	2	24
ND<0	ND<0	0	2	24
ND<0	ND<0	0	2	24
ND<0	ND<0	0	2	24
ND<0	ND<0	0	2	24
ND<0	ND<0	0	2	24
ND<0	ND<0	0	2	24

S Statistic = 2 - 24 = -22

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

Probability of obtaining $S \geq |-22|$ is 0.024
0.024 < 0.1 indicating a trend

Mann-Kendall Trend Analysis
Parameter: 1,2,3-Trichloropropane
Location: 3872Q
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
0.3	0.33	-0.03	0	1
0.23	0.33	-0.1	0	2
0.086	0.33	-0.244	0	3
0.088	0.33	-0.242	0	4
ND<0	0.33	-0.33	0	5
0.23	0.3	-0.07	0	6
0.086	0.3	-0.214	0	7
0.088	0.3	-0.212	0	8
ND<0	0.3	-0.3	0	9
0.086	0.23	-0.144	0	10
0.088	0.23	-0.142	0	11
ND<0	0.23	-0.23	0	12
0.088	0.086	0.002	1	12
ND<0	0.086	-0.086	1	13
ND<0	0.088	-0.088	1	14

S Statistic = 1 - 14 = -13

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

Probability of obtaining S >= |-13| is 0.0166

0.0166 < 0.1 indicating a trend

Mann-Kendall Trend Analysis

Parameter: 1,2,3-Trichloropropane

Location: MW-04

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
0.27	0.49	-0.22	0	1
0.42	0.49	-0.07	0	2
0.97	0.49	0.48	1	2
0.82	0.49	0.33	2	2
1.2	0.49	0.71	3	2
1.3	0.49	0.81	4	2
0.42	0.27	0.15	5	2
0.97	0.27	0.7	6	2
0.82	0.27	0.55	7	2
1.2	0.27	0.93	8	2
1.3	0.27	1.03	9	2
0.97	0.42	0.55	10	2
0.82	0.42	0.4	11	2
1.2	0.42	0.78	12	2
1.3	0.42	0.88	13	2
0.82	0.97	-0.15	13	3
1.2	0.97	0.23	14	3
1.3	0.97	0.33	15	3
1.2	0.82	0.38	16	3
1.3	0.82	0.48	17	3
1.3	1.2	0.1	18	3

S Statistic = 18 - 3 = 15

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

Probability of obtaining $S \geq |15|$ is 0.03

0.03 < 0.1 indicating a trend

Mann-Kendall Trend Analysis
Parameter: 1,2,3-Trichloropropane
Location: MW-05
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
6.78	3.72	3.06	1	0
4.33	3.72	0.61	2	0
4.14	3.72	0.42	3	0
1.8	3.72	-1.92	3	1
0.83	3.72	-2.89	3	2
0.7	3.72	-3.02	3	3
0.8	3.72	-2.92	3	4
4.33	6.78	-2.45	3	5
4.14	6.78	-2.64	3	6
1.8	6.78	-4.98	3	7
0.83	6.78	-5.95	3	8
0.7	6.78	-6.08	3	9
0.8	6.78	-5.98	3	10
4.14	4.33	-0.19	3	11
1.8	4.33	-2.53	3	12
0.83	4.33	-3.5	3	13
0.7	4.33	-3.63	3	14
0.8	4.33	-3.53	3	15
1.8	4.14	-2.34	3	16
0.83	4.14	-3.31	3	17
0.7	4.14	-3.44	3	18
0.8	4.14	-3.34	3	19
0.83	1.8	-0.97	3	20
0.7	1.8	-1.1	3	21
0.8	1.8	-1	3	22
0.7	0.83	-0.13	3	23
0.8	0.83	-0.03	3	24
0.8	0.7	0.1	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: 1,4-Dioxane

Location: C-1-CW02

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
ND<0	ND<0	0	0	0
ND<0	ND<0	0	0	0
ND<0	ND<0	0	0	0
ND<0	ND<0	0	0	0
ND<0	ND<0	0	0	0
ND<0	ND<0	0	0	0
1.2	ND<0	1.2	1	0
1.1	ND<0	1.1	2	0
ND<0	ND<0	0	2	0
1	ND<0	1	3	0
ND<0	ND<0	0	3	0
ND<0	ND<0	0	3	0
ND<0	ND<0	0	3	0
ND<0	ND<0	0	3	0
ND<0	ND<0	0	3	0
ND<0	ND<0	0	3	0
ND<0	ND<0	0	3	0
1.2	ND<0	1.2	4	0
1.1	ND<0	1.1	5	0
ND<0	ND<0	0	5	0
1	ND<0	1	6	0
ND<0	ND<0	0	6	0
ND<0	ND<0	0	6	0
ND<0	ND<0	0	6	0
ND<0	ND<0	0	6	0
ND<0	ND<0	0	6	0
ND<0	ND<0	0	6	0
1.2	ND<0	1.2	7	0
1.1	ND<0	1.1	8	0
ND<0	ND<0	0	8	0
1	ND<0	1	9	0
ND<0	ND<0	0	9	0
ND<0	ND<0	0	9	0
ND<0	ND<0	0	9	0
ND<0	ND<0	0	9	0
ND<0	ND<0	0	9	0

ND<0	ND<0	0	9	0
ND<0	ND<0	0	9	0
1.2	ND<0	1.2	10	0
1.1	ND<0	1.1	11	0
ND<0	ND<0	0	11	0
1	ND<0	1	12	0
ND<0	ND<0	0	12	0
ND<0	ND<0	0	12	0
ND<0	ND<0	0	12	0
ND<0	ND<0	0	12	0
ND<0	ND<0	0	12	0
1.2	ND<0	1.2	13	0
1.1	ND<0	1.1	14	0
ND<0	ND<0	0	14	0
1	ND<0	1	15	0
ND<0	ND<0	0	15	0
ND<0	ND<0	0	15	0
ND<0	ND<0	0	15	0
ND<0	ND<0	0	15	0
1.2	ND<0	1.2	16	0
1.1	ND<0	1.1	17	0
ND<0	ND<0	0	17	0
1	ND<0	1	18	0
ND<0	ND<0	0	18	0
ND<0	ND<0	0	18	0
ND<0	ND<0	0	18	0
1.2	ND<0	1.2	19	0
1.1	ND<0	1.1	20	0
ND<0	ND<0	0	20	0
1	ND<0	1	21	0
ND<0	ND<0	0	21	0
ND<0	ND<0	0	21	0
ND<0	ND<0	0	21	0
1.2	ND<0	1.2	22	0
1.1	ND<0	1.1	23	0
ND<0	ND<0	0	23	0
1	ND<0	1	24	0
ND<0	ND<0	0	24	0
ND<0	ND<0	0	24	0
1.2	ND<0	1.2	25	0
1.1	ND<0	1.1	26	0
ND<0	ND<0	0	26	0
1	ND<0	1	27	0
ND<0	ND<0	0	27	0
1.2	ND<0	1.2	28	0
1.1	ND<0	1.1	29	0
ND<0	ND<0	0	29	0
1	ND<0	1	30	0

1.2	ND<0	1.2	31	0
1.1	ND<0	1.1	32	0
ND<0	ND<0	0	32	0
1	ND<0	1	33	0
1.1	1.2	-0.1	33	1
ND<0	1.2	-1.2	33	2
1	1.2	-0.2	33	3
ND<0	1.1	-1.1	33	4
1	1.1	-0.1	33	5
1	ND<0	1	34	5

S Statistic = 34 - 5 = 29

Tied Group	Value	Members
1	0	12

Time Period	Observations
12/10/2004	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
4/13/2012	1

There are 0 time periods with multiple data

A = 3828

B = 0

C = 1320

D = 0

E = 132

F = 0

a = 7350

b = 24570

c = 420

Group Variance = 195.667

Z-Score = 2.0017

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

|2.0017| > 1.97737 indicating a trend

Mann-Kendall Trend Analysis

Parameter: 1,4-Dioxane

Location: C-1-CW03

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
3	3.9	-0.9	0	1
3.3	3.9	-0.6	0	2
2.5	3.9	-1.4	0	3
3	3.9	-0.9	0	4
ND<0	3.9	-3.9	0	5
ND<0	3.9	-3.9	0	6
ND<0	3.9	-3.9	0	7
ND<0	3.9	-3.9	0	8
ND<0	3.9	-3.9	0	9
ND<0	3.9	-3.9	0	10
0.9	3.9	-3	0	11
ND<0	3.9	-3.9	0	12
1.7	3.9	-2.2	0	13
3.3	3	0.3	1	13
2.5	3	-0.5	1	14
3	3	0	1	14
ND<0	3	-3	1	15
ND<0	3	-3	1	16
ND<0	3	-3	1	17
ND<0	3	-3	1	18
ND<0	3	-3	1	19
ND<0	3	-3	1	20
0.9	3	-2.1	1	21
ND<0	3	-3	1	22
1.7	3	-1.3	1	23
2.5	3.3	-0.8	1	24
3	3.3	-0.3	1	25
ND<0	3.3	-3.3	1	26
ND<0	3.3	-3.3	1	27
ND<0	3.3	-3.3	1	28
ND<0	3.3	-3.3	1	29
ND<0	3.3	-3.3	1	30
ND<0	3.3	-3.3	1	31
0.9	3.3	-2.4	1	32
ND<0	3.3	-3.3	1	33
1.7	3.3	-1.6	1	34
3	2.5	0.5	2	34
ND<0	2.5	-2.5	2	35
ND<0	2.5	-2.5	2	36
ND<0	2.5	-2.5	2	37
ND<0	2.5	-2.5	2	38
ND<0	2.5	-2.5	2	39
ND<0	2.5	-2.5	2	40
0.9	2.5	-1.6	2	41

ND<0	2.5	-2.5	2	42
1.7	2.5	-0.8	2	43
ND<0	3	-3	2	44
ND<0	3	-3	2	45
ND<0	3	-3	2	46
ND<0	3	-3	2	47
ND<0	3	-3	2	48
ND<0	3	-3	2	49
0.9	3	-2.1	2	50
ND<0	3	-3	2	51
1.7	3	-1.3	2	52
ND<0	ND<0	0	2	52
ND<0	ND<0	0	2	52
ND<0	ND<0	0	2	52
ND<0	ND<0	0	2	52
ND<0	ND<0	0	2	52
0.9	ND<0	0.9	3	52
ND<0	ND<0	0	3	52
1.7	ND<0	1.7	4	52
ND<0	ND<0	0	4	52
ND<0	ND<0	0	4	52
ND<0	ND<0	0	4	52
ND<0	ND<0	0	4	52
0.9	ND<0	0.9	5	52
ND<0	ND<0	0	5	52
1.7	ND<0	1.7	6	52
ND<0	ND<0	0	6	52
ND<0	ND<0	0	6	52
ND<0	ND<0	0	6	52
0.9	ND<0	0.9	7	52
ND<0	ND<0	0	7	52
1.7	ND<0	1.7	8	52
ND<0	ND<0	0	8	52
ND<0	ND<0	0	8	52
0.9	ND<0	0.9	9	52
ND<0	ND<0	0	9	52
1.7	ND<0	1.7	10	52
ND<0	ND<0	0	10	52
0.9	ND<0	0.9	11	52
ND<0	ND<0	0	11	52
1.7	ND<0	1.7	12	52
0.9	ND<0	0.9	13	52
ND<0	ND<0	0	13	52
1.7	ND<0	1.7	14	52
ND<0	0.9	-0.9	14	53
1.7	0.9	0.8	15	53
1.7	ND<0	1.7	16	53

S Statistic = 16 - 53 = -37

Tied Group	Value	Members
1	3	2
2	0	7

Time Period	Observations
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
4/13/2012	1

There are 0 time periods with multiple data

A = 816

B = 0

C = 210

D = 0

E = 44

F = 0

a = 6006

b = 19656

c = 364

Group Variance = 288.333

Z-Score = -2.12009

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

$|-2.12009| > 1.97737$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: 1,4-Dioxane

Location: C-1-CW08

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
1	ND<0	1	1	0
1.2	ND<0	1.2	2	0
ND<0	ND<0	0	2	0
ND<0	ND<0	0	2	0
ND<0	ND<0	0	2	0
ND<0	ND<0	0	2	0
ND<0	ND<0	0	2	0
ND<0	ND<0	0	2	0
2	ND<0	2	3	0
2	ND<0	2	4	0
2.8	ND<0	2.8	5	0
3	ND<0	3	6	0
ND<0	ND<0	0	6	0
1	ND<0	1	7	0
1.2	ND<0	1.2	8	0
ND<0	ND<0	0	8	0
ND<0	ND<0	0	8	0
ND<0	ND<0	0	8	0
ND<0	ND<0	0	8	0
ND<0	ND<0	0	8	0
ND<0	ND<0	0	8	0
2	ND<0	2	9	0
2	ND<0	2	10	0
2.8	ND<0	2.8	11	0
3	ND<0	3	12	0
1	ND<0	1	13	0
1.2	ND<0	1.2	14	0
ND<0	ND<0	0	14	0
ND<0	ND<0	0	14	0
ND<0	ND<0	0	14	0
ND<0	ND<0	0	14	0
ND<0	ND<0	0	14	0
ND<0	ND<0	0	14	0
2	ND<0	2	15	0
2	ND<0	2	16	0
2.8	ND<0	2.8	17	0
3	ND<0	3	18	0
1.2	1	0.2	19	0
ND<0	1	-1	19	1

ND<0	1	-1	19	2
ND<0	1	-1	19	3
ND<0	1	-1	19	4
ND<0	1	-1	19	5
ND<0	1	-1	19	6
ND<0	1	-1	19	7
2	1	1	20	7
2	1	1	21	7
2.8	1	1.8	22	7
3	1	2	23	7
ND<0	1.2	-1.2	23	8
ND<0	1.2	-1.2	23	9
ND<0	1.2	-1.2	23	10
ND<0	1.2	-1.2	23	11
ND<0	1.2	-1.2	23	12
ND<0	1.2	-1.2	23	13
ND<0	1.2	-1.2	23	14
2	1.2	0.8	24	14
2	1.2	0.8	25	14
2.8	1.2	1.6	26	14
3	1.2	1.8	27	14
ND<0	ND<0	0	27	14
ND<0	ND<0	0	27	14
ND<0	ND<0	0	27	14
ND<0	ND<0	0	27	14
ND<0	ND<0	0	27	14
2	ND<0	2	28	14
2	ND<0	2	29	14
2.8	ND<0	2.8	30	14
3	ND<0	3	31	14
ND<0	ND<0	0	31	14
ND<0	ND<0	0	31	14
ND<0	ND<0	0	31	14
ND<0	ND<0	0	31	14
2	ND<0	2	32	14
2	ND<0	2	33	14
2.8	ND<0	2.8	34	14
3	ND<0	3	35	14
ND<0	ND<0	0	35	14
ND<0	ND<0	0	35	14
ND<0	ND<0	0	35	14
ND<0	ND<0	0	35	14
2	ND<0	2	36	14
2	ND<0	2	37	14
2.8	ND<0	2.8	38	14
3	ND<0	3	39	14
ND<0	ND<0	0	39	14
ND<0	ND<0	0	39	14
ND<0	ND<0	0	39	14
2	ND<0	2	40	14

2	ND<0	2	41	14
2.8	ND<0	2.8	42	14
3	ND<0	3	43	14
ND<0	ND<0	0	43	14
ND<0	ND<0	0	43	14
2	ND<0	2	44	14
2	ND<0	2	45	14
2.8	ND<0	2.8	46	14
3	ND<0	3	47	14
ND<0	ND<0	0	47	14
2	ND<0	2	48	14
2	ND<0	2	49	14
2.8	ND<0	2.8	50	14
3	ND<0	3	51	14
2	ND<0	2	52	14
2	ND<0	2	53	14
2.8	ND<0	2.8	54	14
3	ND<0	3	55	14
2	2	0	55	14
2.8	2	0.8	56	14
3	2	1	57	14
2.8	2	0.8	58	14
3	2	1	59	14
3	2.8	0.2	60	14

S Statistic = 60 - 14 = 46

Tied Group	Value	Members
1	0	10
2	2	2

Time Period	Observations
12/9/2004	1
12/19/2005	1
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
4/17/2012	1

There are 0 time periods with multiple data

A = 2268
B = 0
C = 720
D = 0
E = 92
F = 0
a = 8880
b = 30240
c = 480
Group Variance = 367.333
Z-Score = 2.34791
Comparison Level at $1.0 - (0.05 / 2) = 97.5\%$ confidence level = 1.97737 (two-tailed)
|2.34791| > 1.97737 indicating a trend

Mann-Kendall Trend Analysis

Parameter: 1,4-Dioxane

Location: MW-06

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
ND<0	ND<0	0	0	0
ND<0	ND<0	0	0	0
ND<0	ND<0	0	0	0
ND<0	ND<0	0	0	0
ND<0	ND<0	0	0	0
1.2	ND<0	1.2	1	0
1.7	ND<0	1.7	2	0
1.1	ND<0	1.1	3	0
ND<0	ND<0	0	3	0
ND<0	ND<0	0	3	0
ND<0	ND<0	0	3	0
ND<0	ND<0	0	3	0
ND<0	ND<0	0	3	0
ND<0	ND<0	0	3	0
1.2	ND<0	1.2	4	0
1.7	ND<0	1.7	5	0
1.1	ND<0	1.1	6	0
ND<0	ND<0	0	6	0
ND<0	ND<0	0	6	0
ND<0	ND<0	0	6	0
ND<0	ND<0	0	6	0
ND<0	ND<0	0	6	0
ND<0	ND<0	0	6	0
1.2	ND<0	1.2	7	0
1.7	ND<0	1.7	8	0
1.1	ND<0	1.1	9	0
ND<0	ND<0	0	9	0
ND<0	ND<0	0	9	0
ND<0	ND<0	0	9	0
ND<0	ND<0	0	9	0
ND<0	ND<0	0	9	0
1.2	ND<0	1.2	10	0
1.7	ND<0	1.7	11	0
1.1	ND<0	1.1	12	0
ND<0	ND<0	0	12	0
ND<0	ND<0	0	12	0
ND<0	ND<0	0	12	0
ND<0	ND<0	0	12	0
1.2	ND<0	1.2	13	0

1.7	ND<0	1.7	14	0
1.1	ND<0	1.1	15	0
ND<0	ND<0	0	15	0
ND<0	ND<0	0	15	0
ND<0	ND<0	0	15	0
1.2	ND<0	1.2	16	0
1.7	ND<0	1.7	17	0
1.1	ND<0	1.1	18	0
ND<0	ND<0	0	18	0
ND<0	ND<0	0	18	0
1.2	ND<0	1.2	19	0
1.7	ND<0	1.7	20	0
1.1	ND<0	1.1	21	0
ND<0	ND<0	0	21	0
1.2	ND<0	1.2	22	0
1.7	ND<0	1.7	23	0
1.1	ND<0	1.1	24	0
1.2	ND<0	1.2	25	0
1.7	ND<0	1.7	26	0
1.1	ND<0	1.1	27	0
1.7	1.2	0.5	28	0
1.1	1.2	-0.1	28	1
1.1	1.7	-0.6	28	2

S Statistic = 28 - 2 = 26

Tied Group	Value	Members
1	0	9

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 = 1656
 B = 0
 C = 504
 D = 0
 E = 72
 F = 0

a = 3828
b = 11880
c = 264
Group Variance = 120.667
Z-Score = 2.27586
Comparison Level at $1.0 - (0.05 / 2) = 97.5\%$ confidence level = 1.97737 (two-tailed)
|2.27586| > 1.97737 indicating a trend

Mann-Kendall Trend Analysis

Parameter: 1,4-Dioxane

Location: 3830S

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
ND<0	ND<0	0	0	0
2.2	ND<0	2.2	1	0
2.1	ND<0	2.1	2	0
2.3	ND<0	2.3	3	0
2.5	ND<0	2.5	4	0
ND<0	ND<0	0	4	0
ND<0	ND<0	0	4	0
ND<0	ND<0	0	4	0
2.2	ND<0	2.2	5	0
2.1	ND<0	2.1	6	0
2.3	ND<0	2.3	7	0
2.5	ND<0	2.5	8	0
ND<0	ND<0	0	8	0
ND<0	ND<0	0	8	0
2.2	ND<0	2.2	9	0
2.1	ND<0	2.1	10	0
2.3	ND<0	2.3	11	0
2.5	ND<0	2.5	12	0
ND<0	ND<0	0	12	0
2.2	ND<0	2.2	13	0
2.1	ND<0	2.1	14	0
2.3	ND<0	2.3	15	0
2.5	ND<0	2.5	16	0
2.2	ND<0	2.2	17	0
2.1	ND<0	2.1	18	0
2.3	ND<0	2.3	19	0
2.5	ND<0	2.5	20	0
2.1	2.2	-0.1	20	1
2.3	2.2	0.1	21	1
2.5	2.2	0.3	22	1
2.3	2.1	0.2	23	1
2.5	2.1	0.4	24	1
2.5	2.3	0.2	25	1

S Statistic = 25 - 1 = 24

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

Probability of obtaining $S \geq |24|$ is 0.01386
 $0.01386 < 0.05$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: 1,4-Dioxane

Location: C-1-CW08

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% 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
ND<0	ND<0	0	0	0
2	ND<0	2	1	0
2	ND<0	2	2	0
2.8	ND<0	2.8	3	0
3	ND<0	3	4	0
ND<0	ND<0	0	4	0
ND<0	ND<0	0	4	0
ND<0	ND<0	0	4	0
2	ND<0	2	5	0
2	ND<0	2	6	0
2.8	ND<0	2.8	7	0
3	ND<0	3	8	0
ND<0	ND<0	0	8	0
ND<0	ND<0	0	8	0
2	ND<0	2	9	0
2	ND<0	2	10	0
2.8	ND<0	2.8	11	0
3	ND<0	3	12	0
ND<0	ND<0	0	12	0
2	ND<0	2	13	0
2	ND<0	2	14	0
2.8	ND<0	2.8	15	0
3	ND<0	3	16	0
2	ND<0	2	17	0
2	ND<0	2	18	0
2.8	ND<0	2.8	19	0
3	ND<0	3	20	0
2	2	0	20	0
2.8	2	0.8	21	0
3	2	1	22	0
2.8	2	0.8	23	0
3	2	1	24	0
3	2.8	0.2	25	0

S Statistic = 25 - 0 = 25

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

Probability of obtaining $S \geq |25|$ is 0.00983
 $0.00983 < 0.1$ indicating a trend

Mann-Kendall Trend Analysis

Parameter: 1,4-Dioxane

Location: MW-08

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
ND<0	ND<0	0	0	0
ND<0	ND<0	0	0	0
1.8	ND<0	1.8	1	0
2.8	ND<0	2.8	2	0
2.3	ND<0	2.3	3	0
8.8	ND<0	8.8	4	0
ND<0	ND<0	0	4	0
1.8	ND<0	1.8	5	0
2.8	ND<0	2.8	6	0
2.3	ND<0	2.3	7	0
8.8	ND<0	8.8	8	0
1.8	ND<0	1.8	9	0
2.8	ND<0	2.8	10	0
2.3	ND<0	2.3	11	0
8.8	ND<0	8.8	12	0
2.8	1.8	1	13	0
2.3	1.8	0.5	14	0
8.8	1.8	7	15	0
2.3	2.8	-0.5	15	1
8.8	2.8	6	16	1
8.8	2.3	6.5	17	1

S Statistic = 17 - 1 = 16

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

Probability of obtaining S >= |16| is 0.0204

0.0204 < 0.1 indicating a trend

Mann-Kendall Trend Analysis

Parameter: Chromium

Location: MW-06

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

90% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
7.93	10.2	-2.27	0	1
7.57	10.2	-2.63	0	2
3.98	10.2	-6.22	0	3
3	10.2	-7.2	0	4
ND<0	10.2	-10.2	0	5
4	10.2	-6.2	0	6
3	10.2	-7.2	0	7
ND<0	10.2	-10.2	0	8
ND<0	10.2	-10.2	0	9
5	10.2	-5.2	0	10
7.57	7.93	-0.36	0	11
3.98	7.93	-3.95	0	12
3	7.93	-4.93	0	13
ND<0	7.93	-7.93	0	14
4	7.93	-3.93	0	15
3	7.93	-4.93	0	16
ND<0	7.93	-7.93	0	17
ND<0	7.93	-7.93	0	18
5	7.93	-2.93	0	19
3.98	7.57	-3.59	0	20
3	7.57	-4.57	0	21
ND<0	7.57	-7.57	0	22
4	7.57	-3.57	0	23
3	7.57	-4.57	0	24
ND<0	7.57	-7.57	0	25
ND<0	7.57	-7.57	0	26
5	7.57	-2.57	0	27
3	3.98	-0.98	0	28
ND<0	3.98	-3.98	0	29
4	3.98	0.02	1	29
3	3.98	-0.98	1	30
ND<0	3.98	-3.98	1	31
ND<0	3.98	-3.98	1	32
5	3.98	1.02	2	32
ND<0	3	-3	2	33
4	3	1	3	33
3	3	0	3	33
ND<0	3	-3	3	34
ND<0	3	-3	3	35
5	3	2	4	35
4	ND<0	4	5	35
3	ND<0	3	6	35