APPENDIX C: STATISTICAL ANALYSIS

Results for: POTW A

```
MTB > %ktau c2 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Inf TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      36   0  38354     53.6    322    37817  38067   38358  38628
Inf TR Hg  (ng/L  35   1  249.4     85.5  505.8     61.1   85.5   130.0  229.0

Variable          Maximum
Sample Date2        38895
Inf TR Hg  (ng/L   3080.0
```

Data Display

```
S_TAU    -27.0000
VAR_S    4956.33
Z_S      -0.369312
```

Data Display

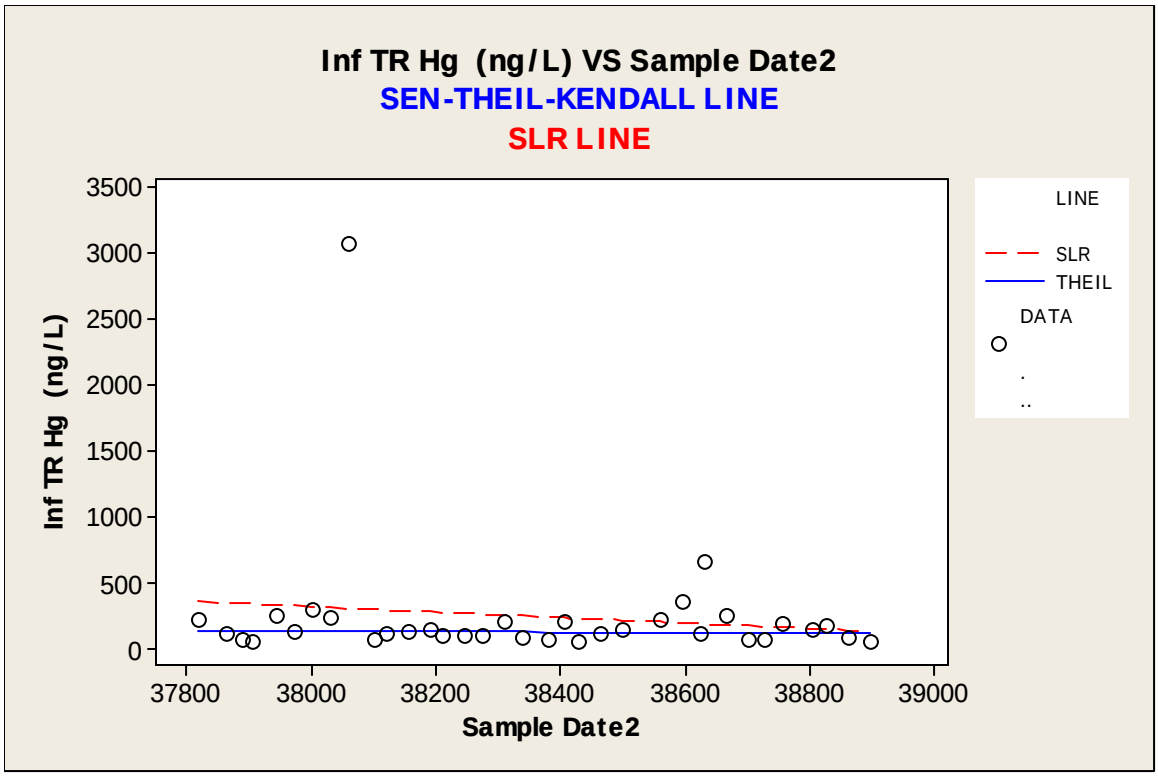
```
Row  CORRTYPE           CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.0453782  0.711895
  2  KENDALL'S TAU_B  -0.0454546  0.711895
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_    UPPER95
  1   835.571  -0.0993377  -0.0184049  0.0767196

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c4
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Inf TSS (mg/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Sample Date2	36	0	38354	53.6	322	37817	38067	38358	38628	38895
Inf TSS (mg/L)	36	0	183.6	15.9	95.2	71.0	135.5	159.0	217.8	641.0

Data Display

S_TAU	-76.0000
VAR_S	5385.33
Z_S	-1.02201

Data Display

Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	-0.120635	0.306776
2	KENDALL'S TAU_B	-0.121020	0.306776

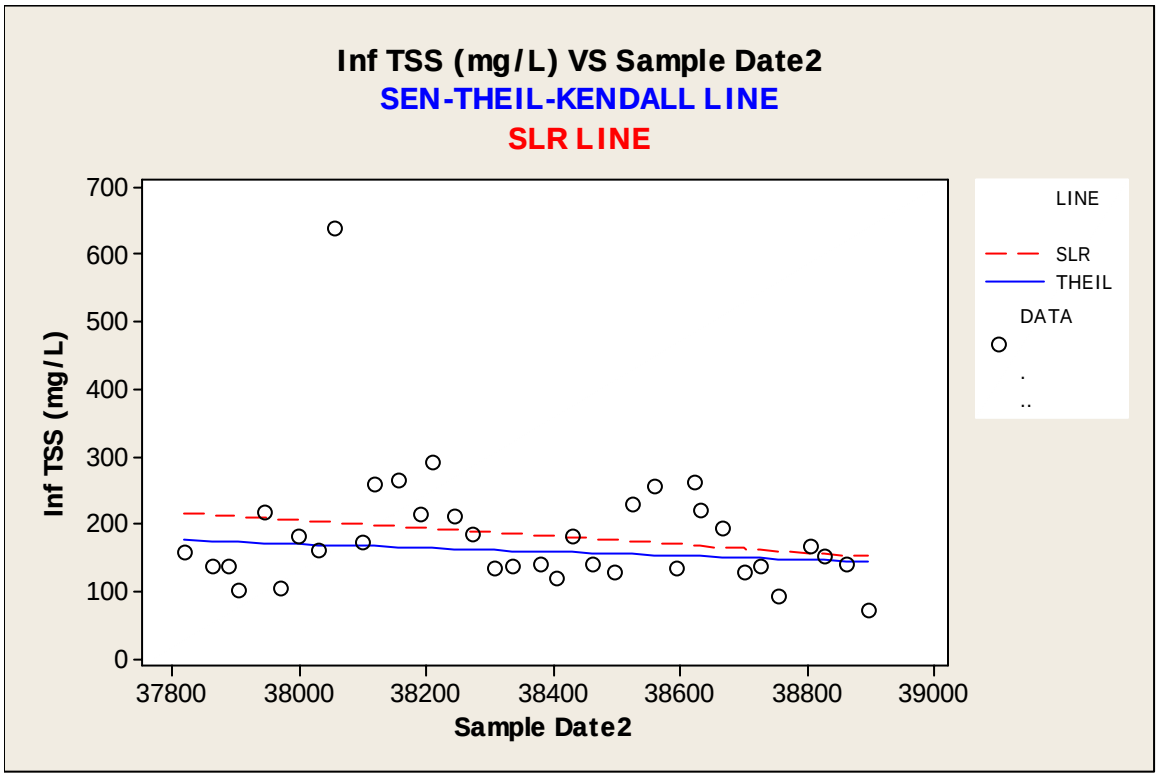
Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95

```
  1   1262.76  -0.101010  -0.0287757  0.0291480

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff TR Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean  StDev  Minimum     Q1  Median
Sample Date2      36   0   38354     53.6    322    37817  38067   38358
Eff TR Hg (ng/L)  33   3  10.582    0.638  3.666    4.900  7.800   9.500

Variable              Q3  Maximum
Sample Date2       38628    38895
Eff TR Hg (ng/L)  13.100   19.300
```

Data Display

```
S_TAU    -162.000
VAR_S    4163.33
Z_S      -2.49520
```

Data Display

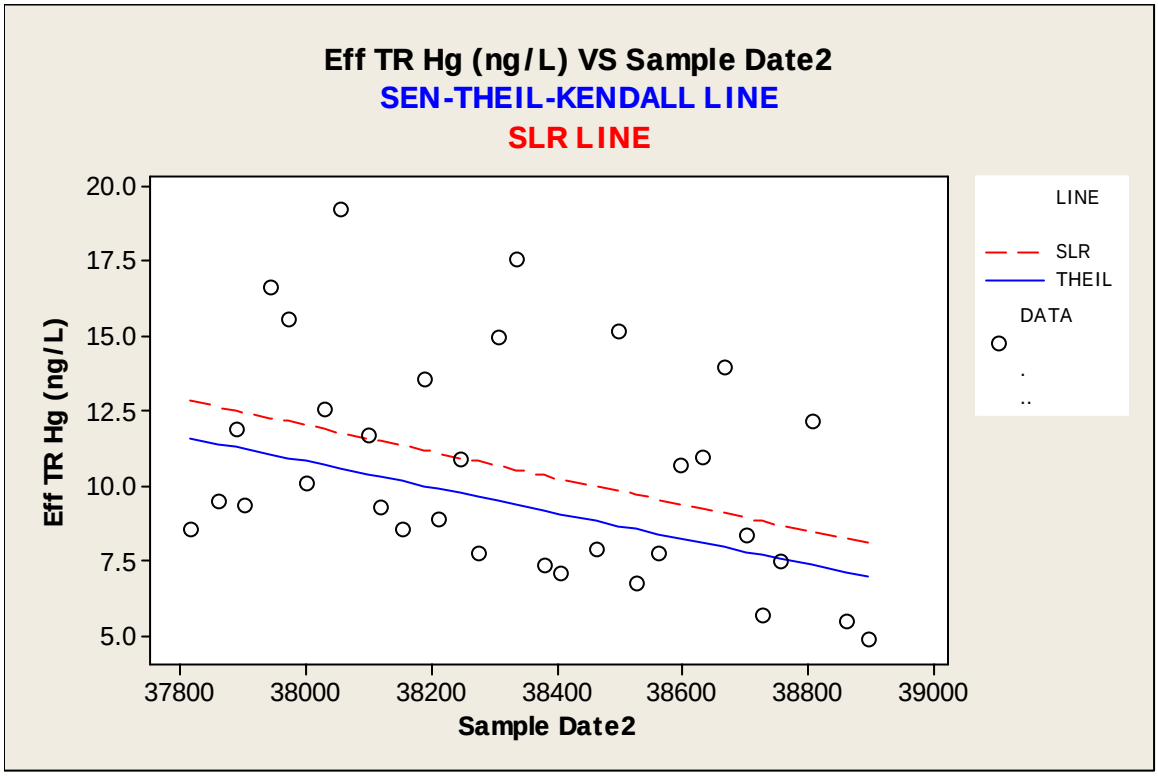
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  -0.306818  0.0125886
  2  KENDALL'S TAU_B  -0.307401  0.0125886
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_     UPPER95
  1   174.763  -0.0073077  -0.0043142  -0.0013142

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      36   0  38354     53.6    322    37817  38067   38358  38628
Eff Dissolved Hg   9  27  2.133    0.403  1.209    1.000  1.150   2.000  2.750

Variable          Maximum
Sample Date2        38895
Eff Dissolved Hg    4.800
```

Data Display

```
S_TAU    -16.0000
VAR_S    92.0000
Z_S      -1.56386
```

Data Display

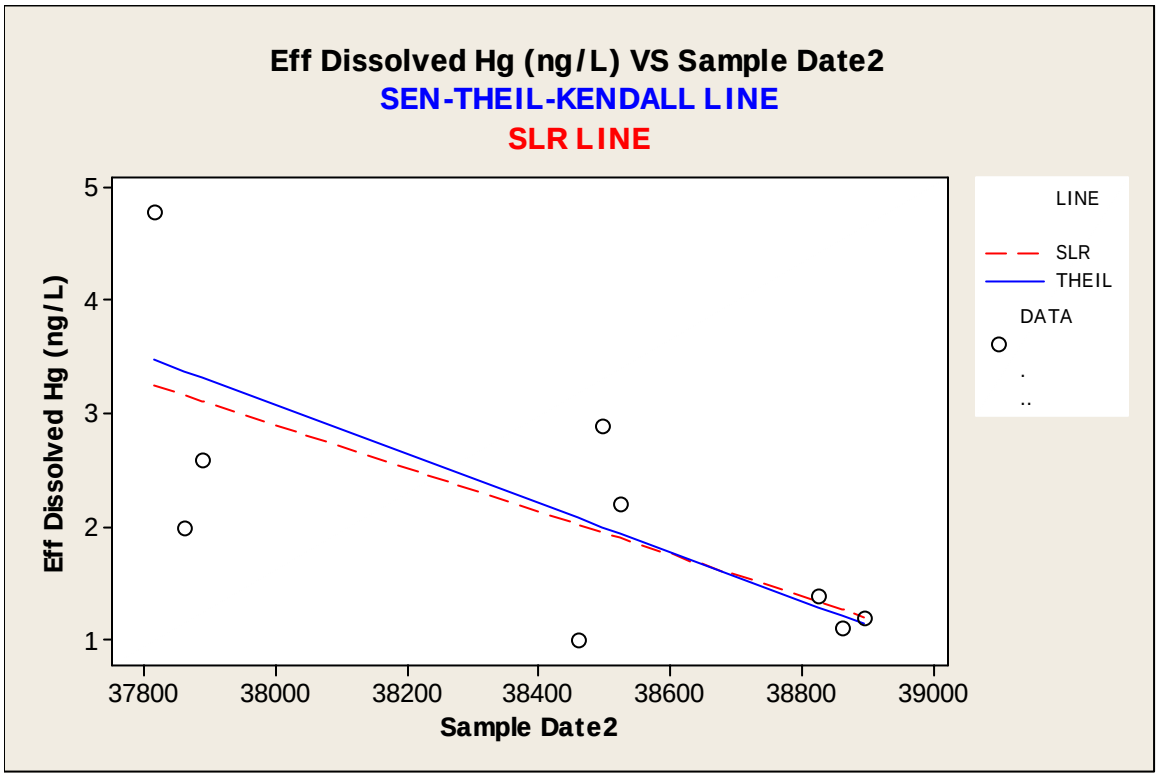
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.444444  0.117851
  2  KENDALL'S TAU_B  -0.444444  0.117851
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_     UPPER95
  1   85.4637  -0.0036723  -0.0021681  0.0003017

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c7
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff TSS (mg/L)

```
Variable         N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2    36   0  38354     53.6    322    37817  38067   38358  38628
Eff TSS (mg/L)  36   0  15.69     1.53   9.21     5.00  10.00   14.00  17.00

Variable        Maximum
Sample Date2      38895
Eff TSS (mg/L)    45.00
```

Data Display

```
S_TAU     127.000
VAR_S     5346.33
Z_S       1.72323
```

Data Display

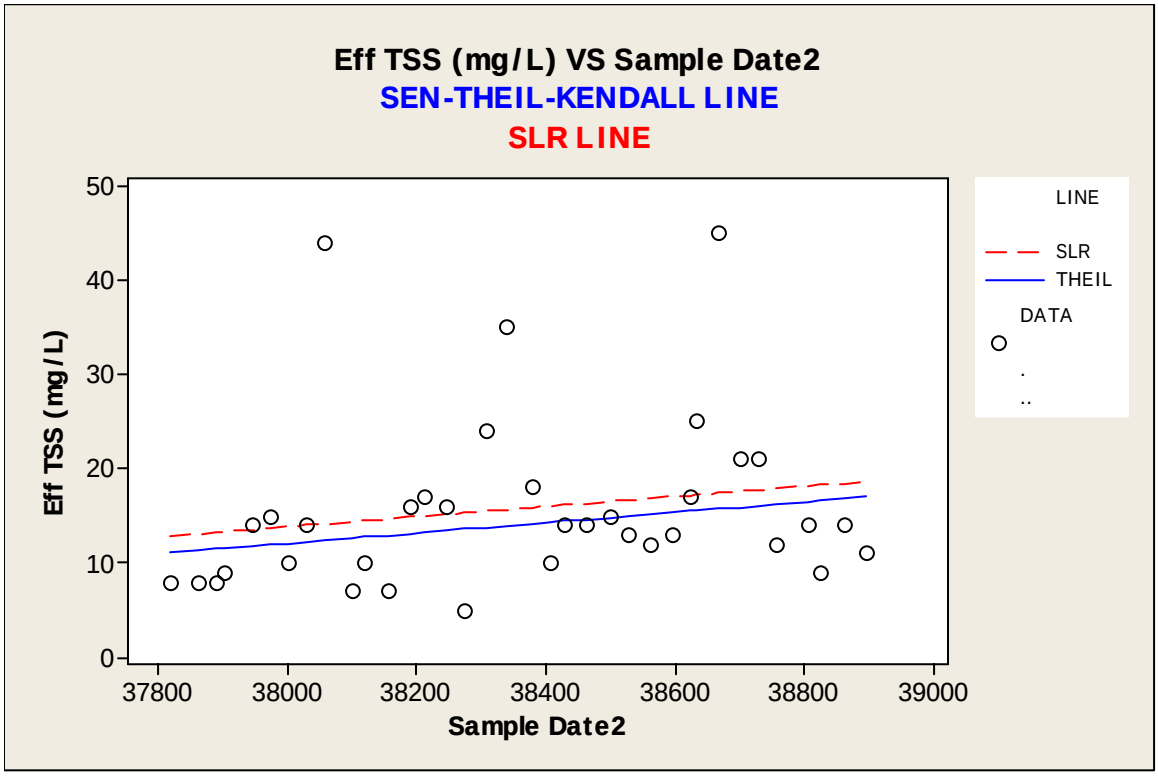
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.201587  0.0848475
  2  KENDALL'S TAU_B  0.206394  0.0848475
```

Data Display

```
Row  INTRCPT_  LOWER95     SLOPE_    UPPER95
  1  -195.841        0  0.0054707  0.0108460

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Biosolids Hg (mg/kg)

```
Variable           N  N*    Mean  SE Mean   StDev  Minimum      Q1  Median
Sample Date2      36   0   38354     53.6     322    37817   38067   38358
Biosolids Hg (mg  35   0  1.1567    0.0925  0.5472   0.5190  0.8280  1.0000

Variable             Q3  Maximum
```

```
Sample Date2       38628    38895
Biosolids Hg (mg  1.1680   3.1000

* ERROR * Specify columns of equal length.
* ERROR * Macro exiting...
MTB > %ktau c4 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Inf TR Hg (ng/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Inf TSS (mg/L)	36	0	183.6	15.9	95.2	71.0	135.5	159.0	217.8	641.0
Inf TR Hg (ng/L	35	1	249.4	85.5	505.8	61.1	85.5	130.0	229.0	3080.0

Data Display

S_TAU	125.000
VAR_S	4951.68
Z_S	1.76216

Data Display

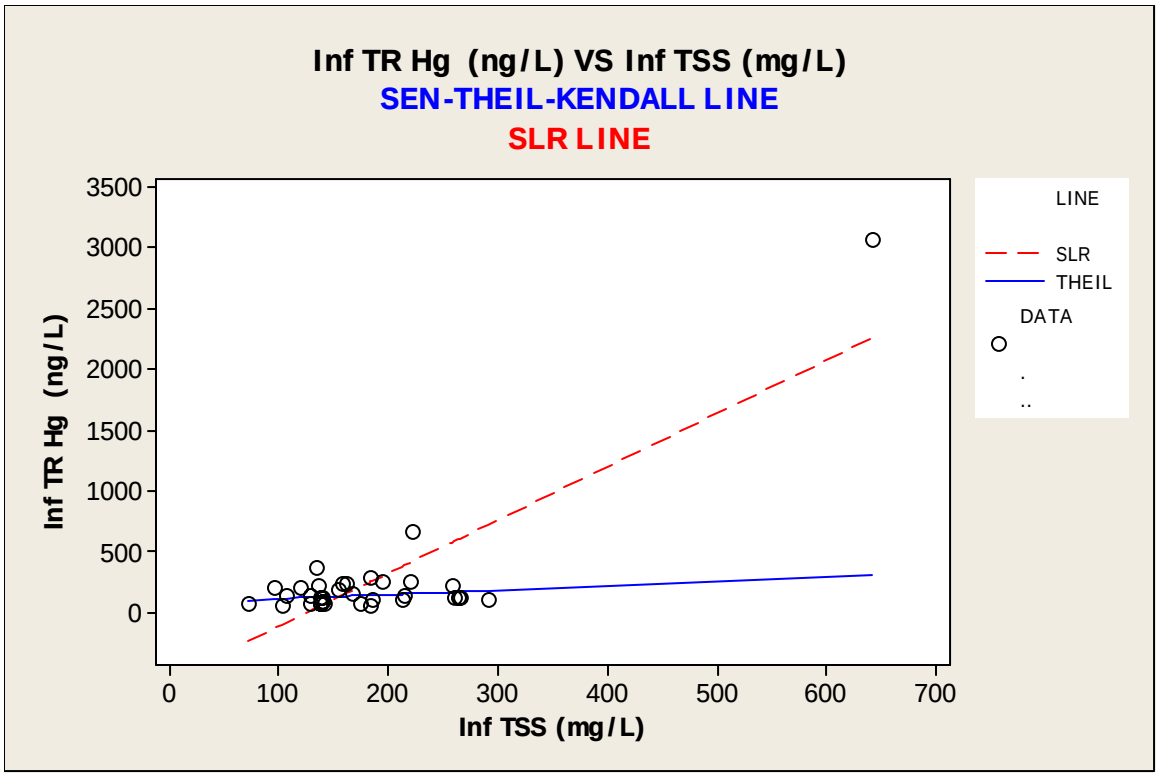
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.210084	0.0780422
2	KENDALL'S TAU_B	0.211149	0.0780422

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	74.9882	-0.03	0.350394	0.9

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT




```
MTB > %ktau c3 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TR Hg (ng/L), Eff TR Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean  StDev  Minimum     Q1  Median
Inf TR Hg  (ng/L  35   1   249.4     85.5  505.8     61.1   85.5   130.0
Eff TR Hg (ng/L)  33   3  10.582    0.638  3.666    4.900  7.800   9.500

Variable              Q3  Maximum
Inf TR Hg  (ng/L   229.0   3080.0
Eff TR Hg (ng/L)  13.100   19.300
```

Data Display

```
S_TAU    136.000
VAR_S    3798.67
Z_S      2.19037
```

Data Display

```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.274194  0.0284973
  2  KENDALL'S TAU_B  0.275304  0.0284973
```

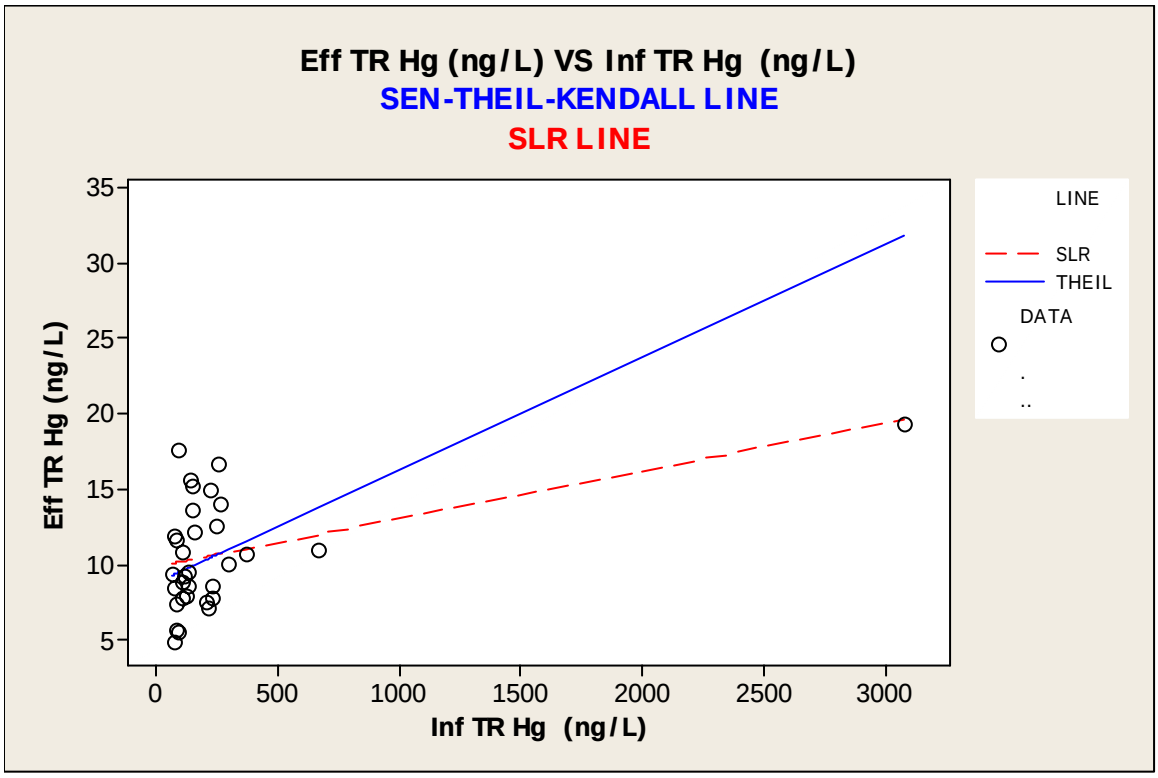
Data Display

```
Row  INTRCPT_    LOWER95     SLOPE_    UPPER95
```

```
  1   8.80372  0.0012492  0.0074627  0.0235131

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c3 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TR Hg (ng/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf TR Hg  (ng/L  35   1  249.4     85.5  505.8     61.1   85.5   130.0  229.0
Eff Dissolved Hg   9  27  2.133    0.403  1.209    1.000  1.150   2.000  2.750

Variable          Maximum
Inf TR Hg  (ng/L    3080.0
Eff Dissolved Hg     4.800
```

Data Display

```
S_TAU    10.0000
VAR_S    65.3333
Z_S      1.11346
```

Data Display

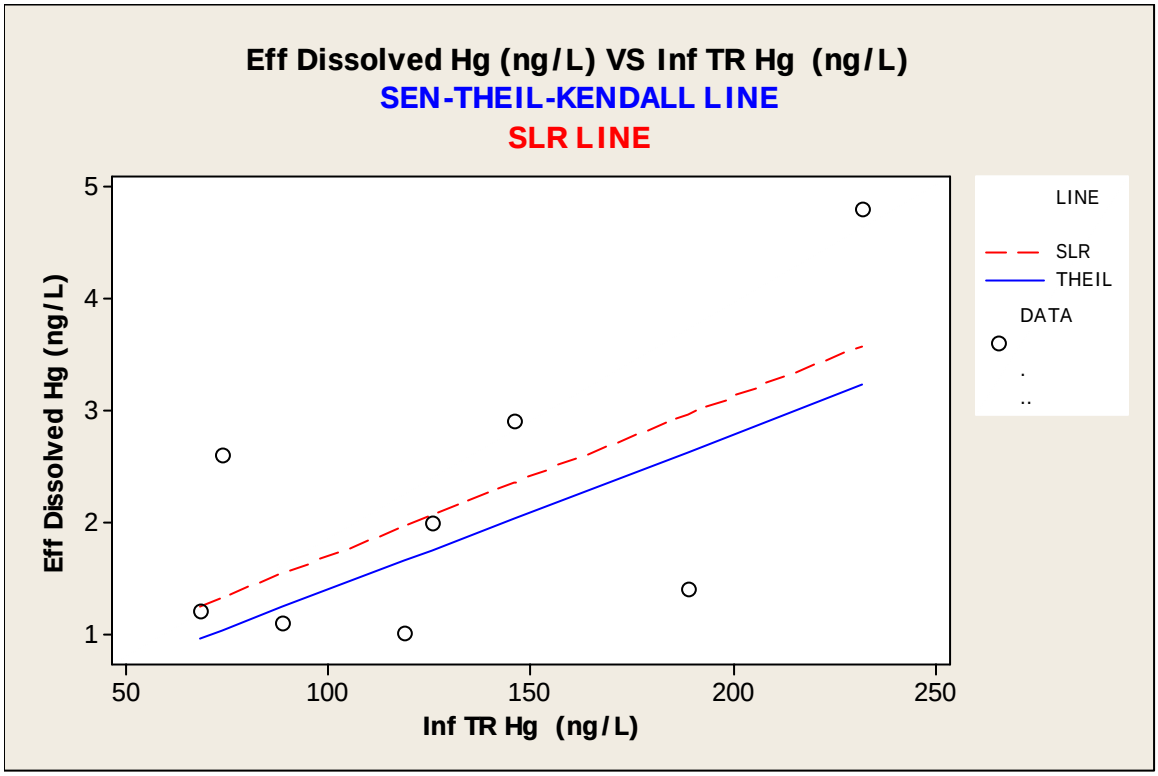
```
Row  CORRTYPE         CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.357143  0.265510
  2  KENDALL'S TAU_B  0.357143  0.265510
```

Data Display

```
Row    INTRCPT_     LOWER95     SLOPE_    UPPER95
  1  -0.0048904  -0.0095238  0.0139175  0.0336283

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c5 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TR Hg (ng/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean  StDev  Minimum     Q1  Median
Eff TR Hg (ng/L)  33   3  10.582    0.638  3.666    4.900  7.800   9.500
Eff Dissolved Hg   9  27   2.133    0.403  1.209    1.000  1.150   2.000

Variable              Q3  Maximum
Eff TR Hg (ng/L)  13.100   19.300
Eff Dissolved Hg   2.750    4.800
```

Data Display

```
S_TAU    12.0000
VAR_S    65.3333
Z_S      1.36090
```

Data Display

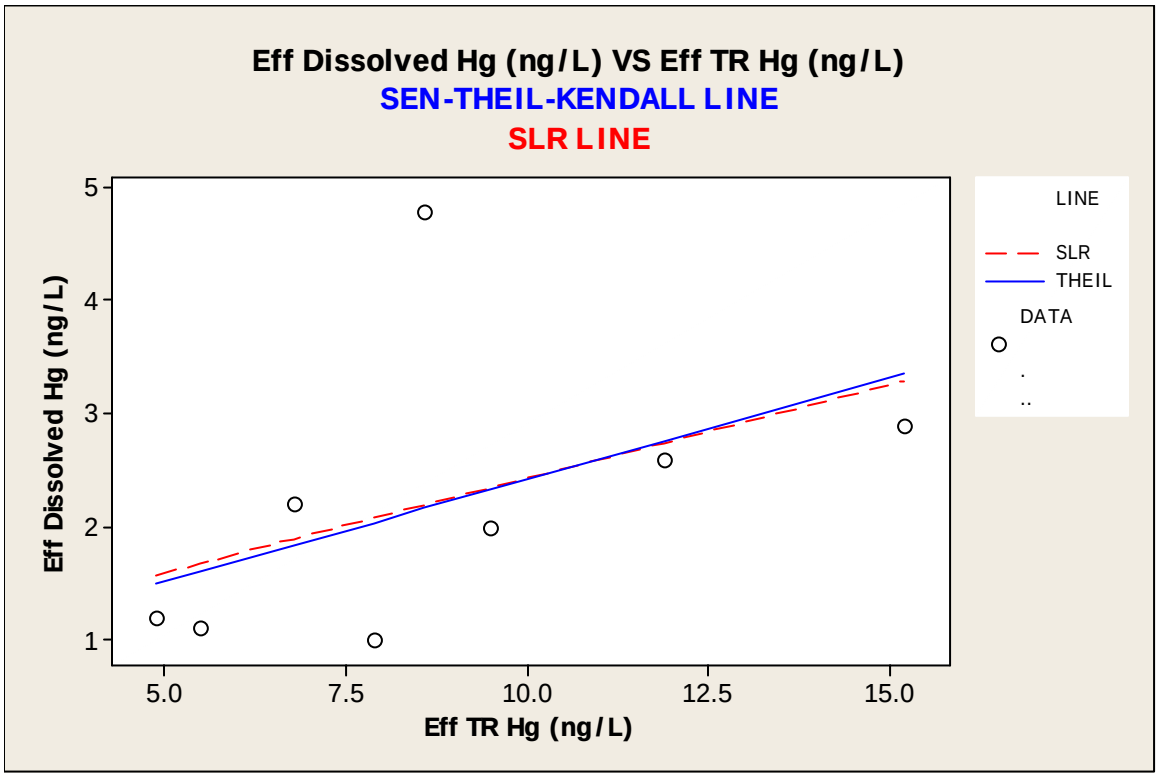
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A   0.428571  0.173546
  2  KENDALL'S TAU_B   0.428571  0.173546
```

Data Display

```
Row  INTRCPT_     LOWER95    SLOPE_  UPPER95
  1  0.617145  -0.0740741  0.179740    0.625

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c7 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff TR Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean  StDev  Minimum     Q1  Median
Eff TSS (mg/L)    36   0   15.69     1.53   9.21     5.00  10.00   14.00
Eff TR Hg (ng/L)  33   3  10.582    0.638  3.666    4.900  7.800   9.500

Variable              Q3  Maximum
Eff TSS (mg/L)     17.00    45.00
Eff TR Hg (ng/L)  13.100   19.300
```

Data Display

```
S_TAU     128.000
VAR_S     4133.42
Z_S       1.97537
```

Data Display

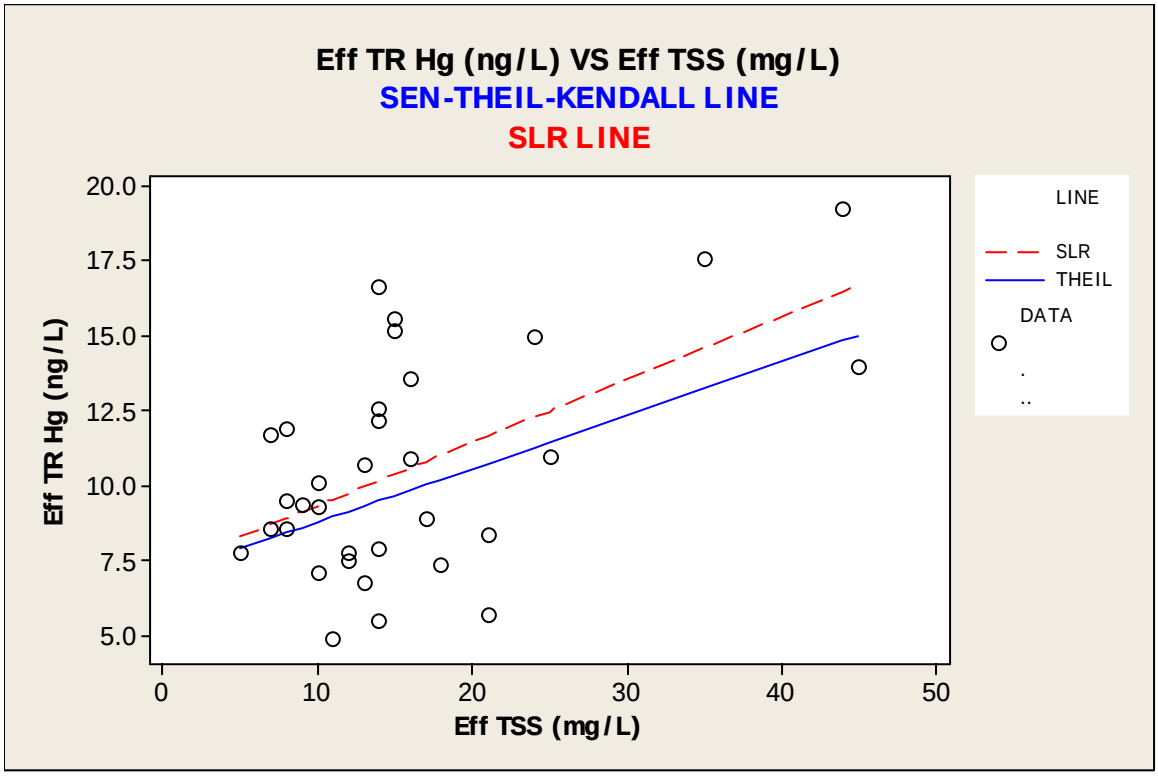
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A   0.242424  0.0482258
  2  KENDALL'S TAU_B   0.248109  0.0482258
```

Data Display

```
Row  INTRCPT_  LOWER95    SLOPE_  UPPER95
  1         7        0  0.178571      0.3

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c7 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff TSS (mg/L)    36   0  15.69     1.53   9.21     5.00  10.00   14.00  17.00
Eff Dissolved Hg   9  27  2.133    0.403  1.209    1.000  1.150   2.000  2.750

Variable          Maximum
```

```
Eff TSS (mg/L)      45.00
Eff Dissolved Hg    4.800
```

Data Display

```
S_TAU     -12.0000
VAR_S     87.3333
Z_S       -1.17707
```

Data Display

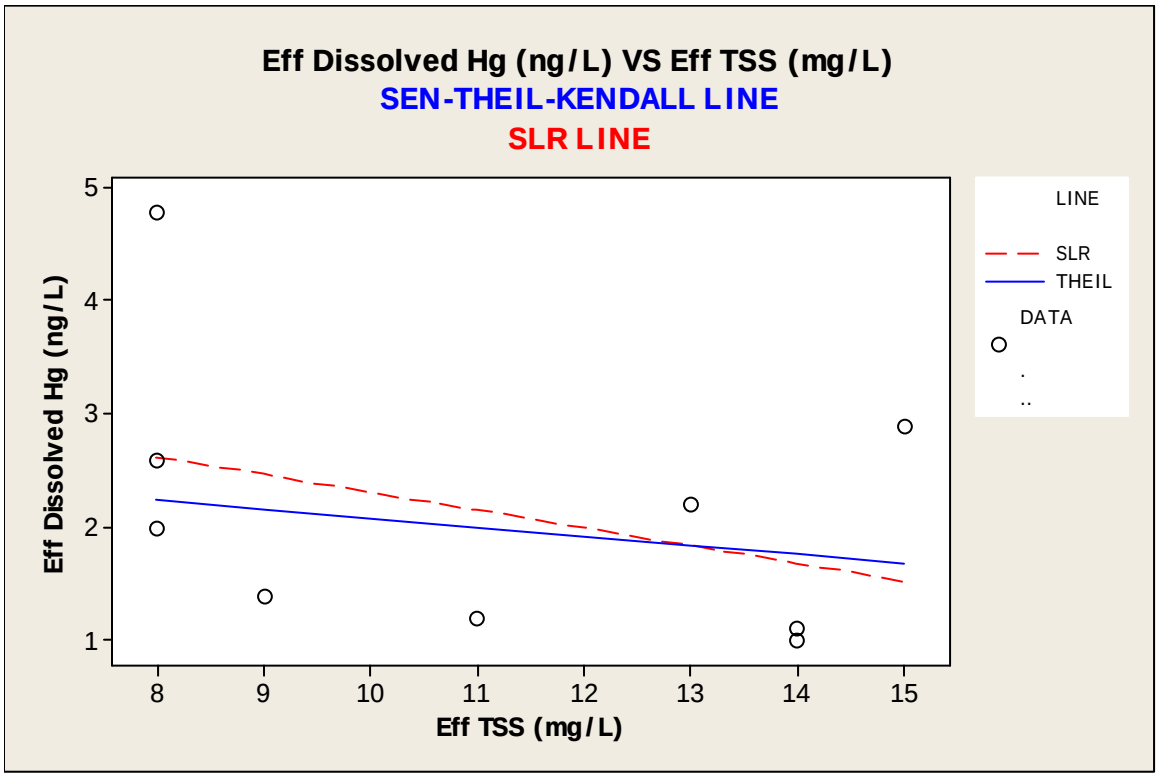
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.333333  0.239167
  2  KENDALL'S TAU_B  -0.353553  0.239167
```

Data Display

```
Row  INTRCPT_  LOWER95  SLOPE_    UPPER95
  1      2.88    -0.52   -0.08  0.0428571

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Biosolids Hg (mg/kg)

```
Variable           N  N*    Mean  SE Mean    StDev  Minimum      Q1  Median
Sample Date2      35   0   38338     52.8      313    37817   38056   38336
Biosolids Hg (mg  35   0  1.1567   0.0925  0.5472   0.5190  0.8280  1.0000

Variable             Q3  Maximum
Sample Date2      38623    38860
Biosolids Hg (mg  1.1680   3.1000
```

Data Display

```
S_TAU     -120.000
VAR_S     4948.67
Z_S       -1.69162
```

Data Display

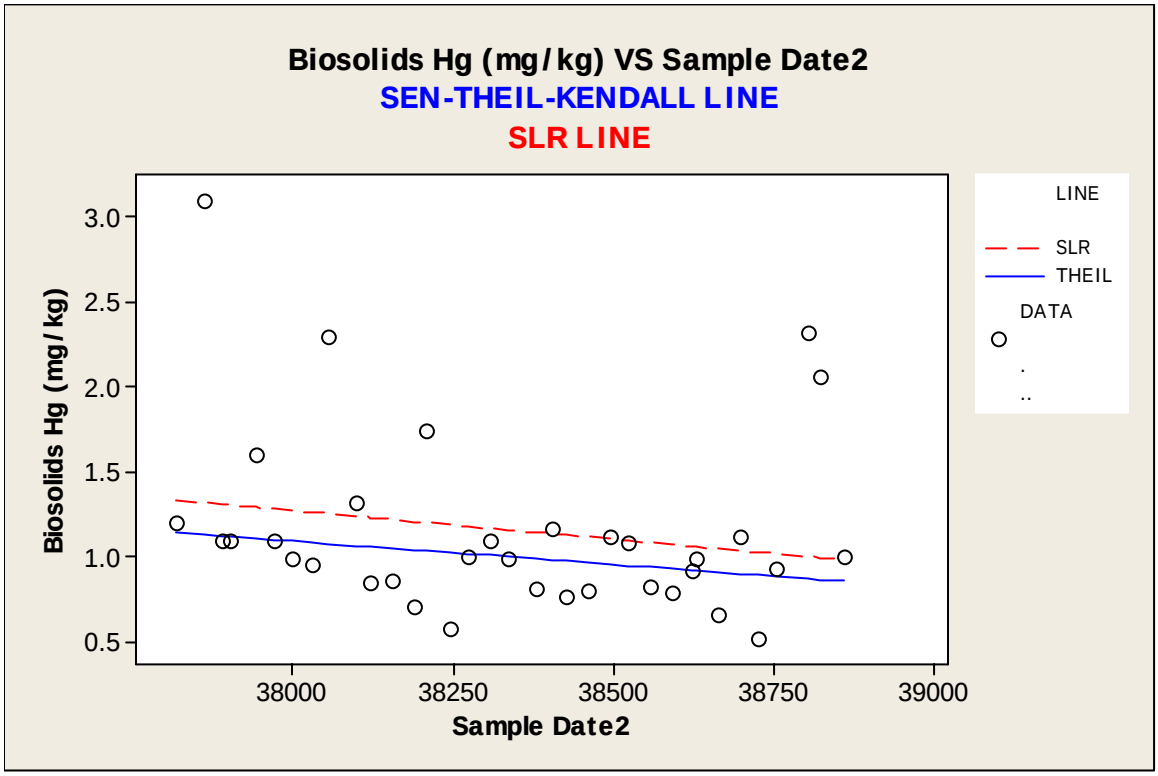
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  -0.201681  0.0907184
  2  KENDALL'S TAU_B  -0.202878  0.0907184
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_    UPPER95
  1   11.5455  -0.0006657  -0.0002751  0.0000229

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



```
MTB > %ktau c4 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Eff TR Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean  StDev  Minimum     Q1  Median
Inf TSS (mg/L)    36   0   183.6     15.9   95.2     71.0  135.5   159.0
Eff TR Hg (ng/L)  33   3  10.582    0.638  3.666    4.900  7.800   9.500

Variable             Q3  Maximum
Inf TSS (mg/L)    217.8    641.0
Eff TR Hg (ng/L)  13.100   19.300
```

Data Display

```
S_TAU    58.0000
VAR_S    4158.68
Z_S      0.883888
```

Data Display

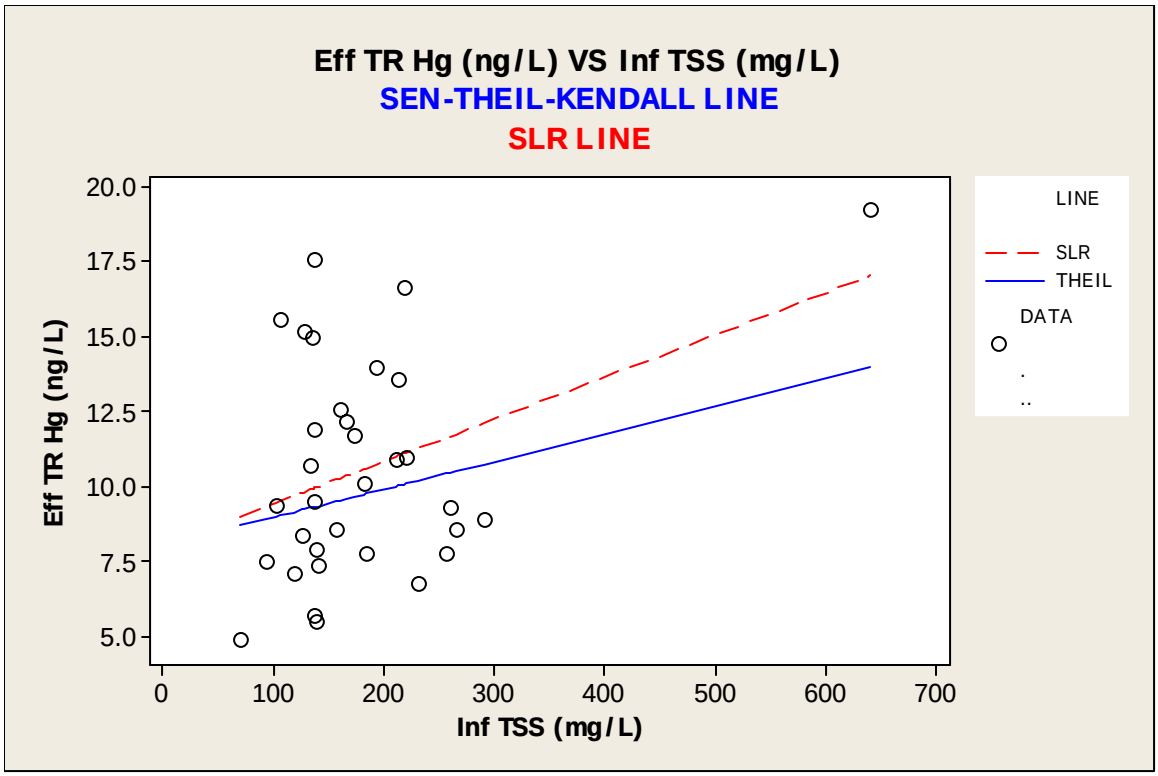
```
Row  CORRTYPE         CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.109848  0.376757
  2  KENDALL'S TAU_B  0.110476  0.376757
```

Data Display

```
Row  INTRCPT_  LOWER95     SLOPE_    UPPER95
  1   8.04862   -0.016  0.0092444  0.0256410

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Eff Dissolved Hg (ng/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Inf TSS (mg/L)	36	0	183.6	15.9	95.2	71.0	135.5	159.0	217.8	641.0
Eff Dissolved Hg	9	27	2.133	0.403	1.209	1.000	1.150	2.000	2.750	4.800

Data Display

S_TAU	2.00000
VAR_S	90.0000
Z_S	0.105409

Data Display

Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.0555556	0.916051
2	KENDALL'S TAU_B	0.0571662	0.916051

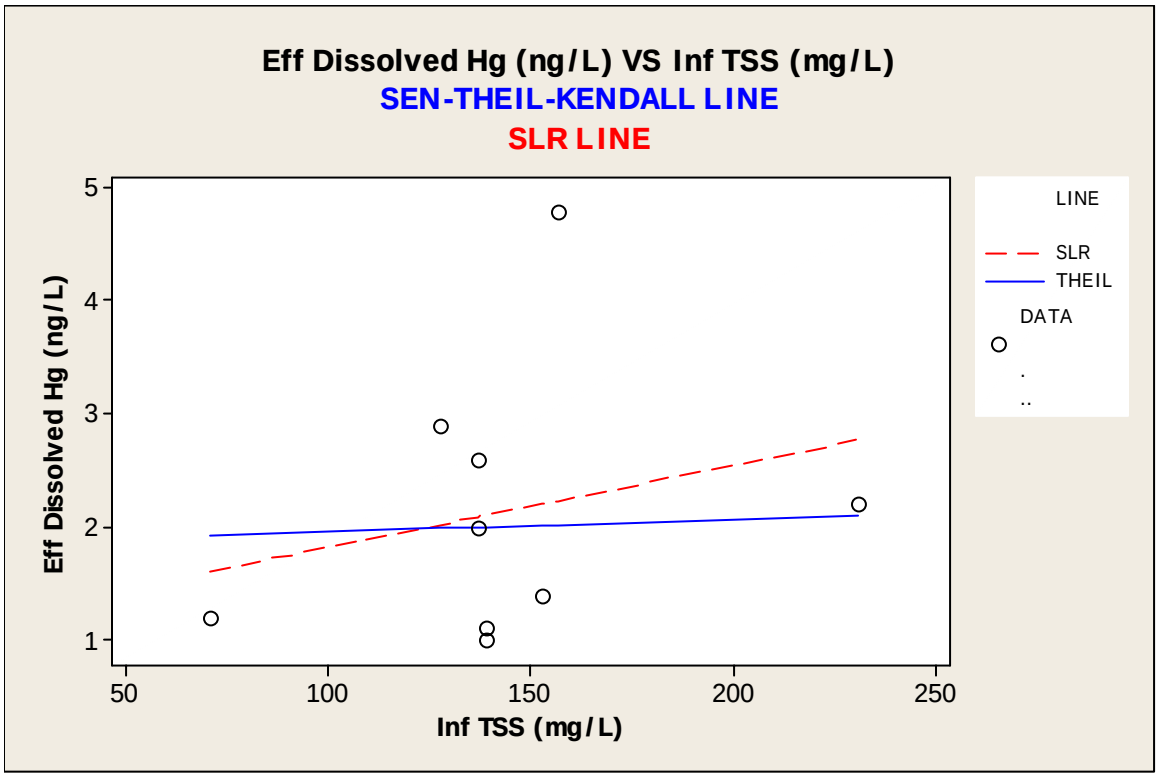
Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95

```
 1   1.85213    -0.06  0.0010638  0.0285714

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



Results for: POTW B

```
MTB > %ktau c2 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Inf TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      36   0  38342     53.5    321    37811  38058   38343  38625
Inf TR Hg  (ng/L  36   0  127.7     19.3  115.7     15.9   48.1    80.0  211.8

Variable          Maximum
Sample Date2        38875
Inf TR Hg  (ng/L    448.0
```

Data Display

```
S_TAU    66.0000
VAR_S    5390.00
Z_S      0.885358
```

Data Display

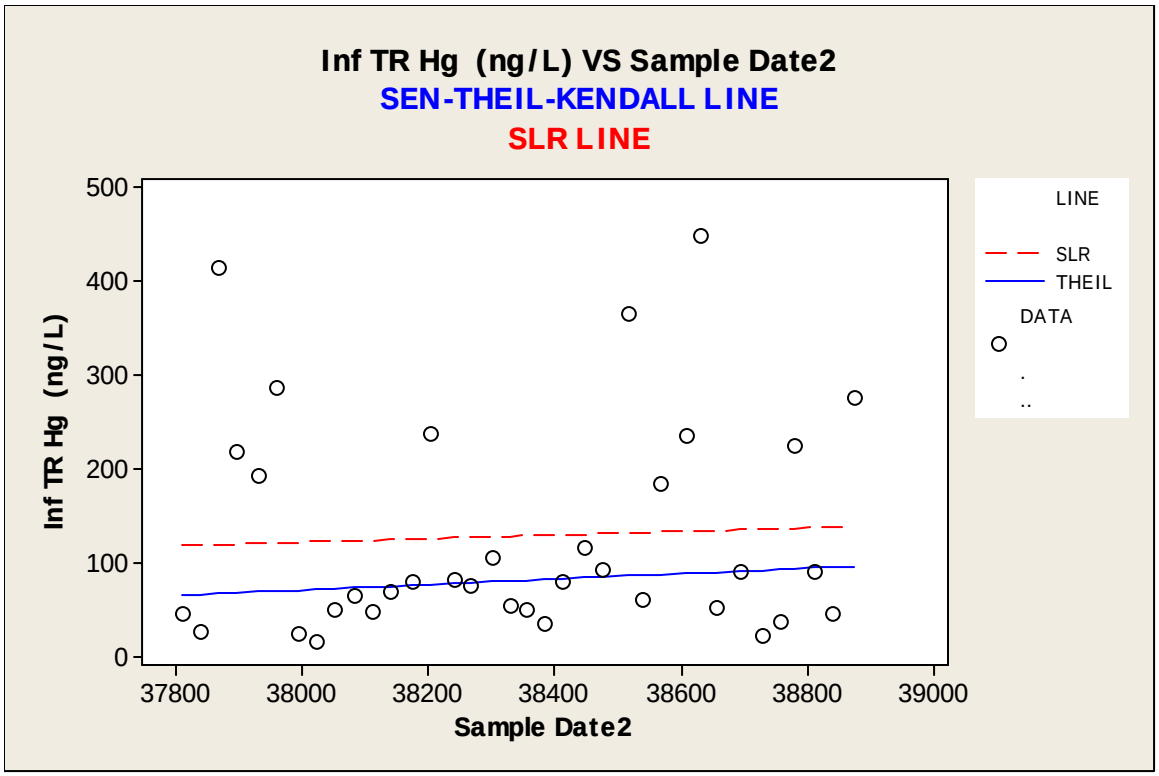
```
Row  CORRTYPE         CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.104762  0.375964
  2  KENDALL'S TAU_B  0.104762  0.375964
```

Data Display

```
Row  INTRCPT_     LOWER95     SLOPE_   UPPER95
  1  -1032.57  -0.0456522  0.0290149  0.111012

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c4
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Inf TSS (mg/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Sample Date2	36	0	38342	53.5	321	37811	38058	38343	38625	38875
Inf TSS (mg/L)	36	0	124.7	12.3	73.7	55.0	88.0	111.0	139.0	503.0

Data Display

```
S_TAU    -58.0000
VAR_S    5385.33
Z_S      -0.776727
```

Data Display

Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	-0.0920635	0.437320
2	KENDALL'S TAU_B	-0.0923572	0.437320

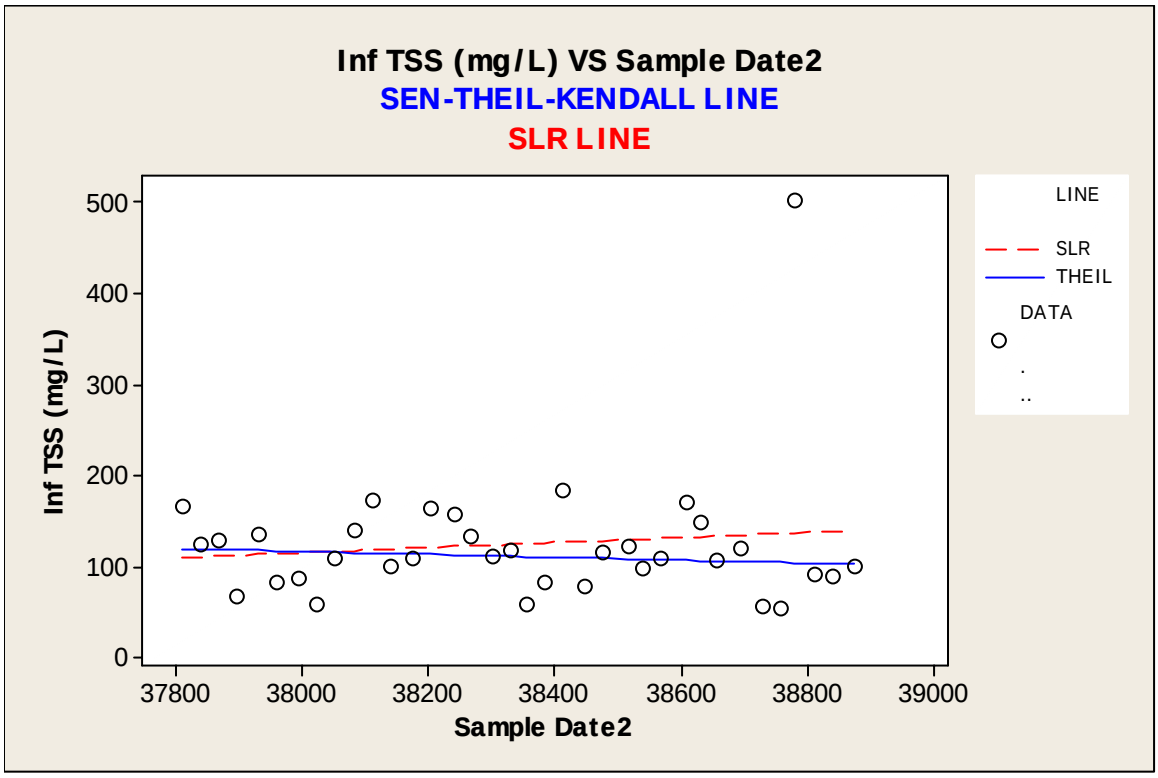
Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95

```
  1   723.563  -0.0601504  -0.0159759  0.0303797

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      36   0  38342     53.5    321    37811  38058   38343  38625
Eff TR Hg (ng/L)  36   0  2.931    0.193  1.157    1.400  2.143   2.665  3.438

Variable          Maximum
Sample Date2        38875
Eff TR Hg (ng/L)    7.110
```

Data Display

```
S_TAU     -25.0000
VAR_S    5387.00
Z_S       -0.326992
```

Data Display

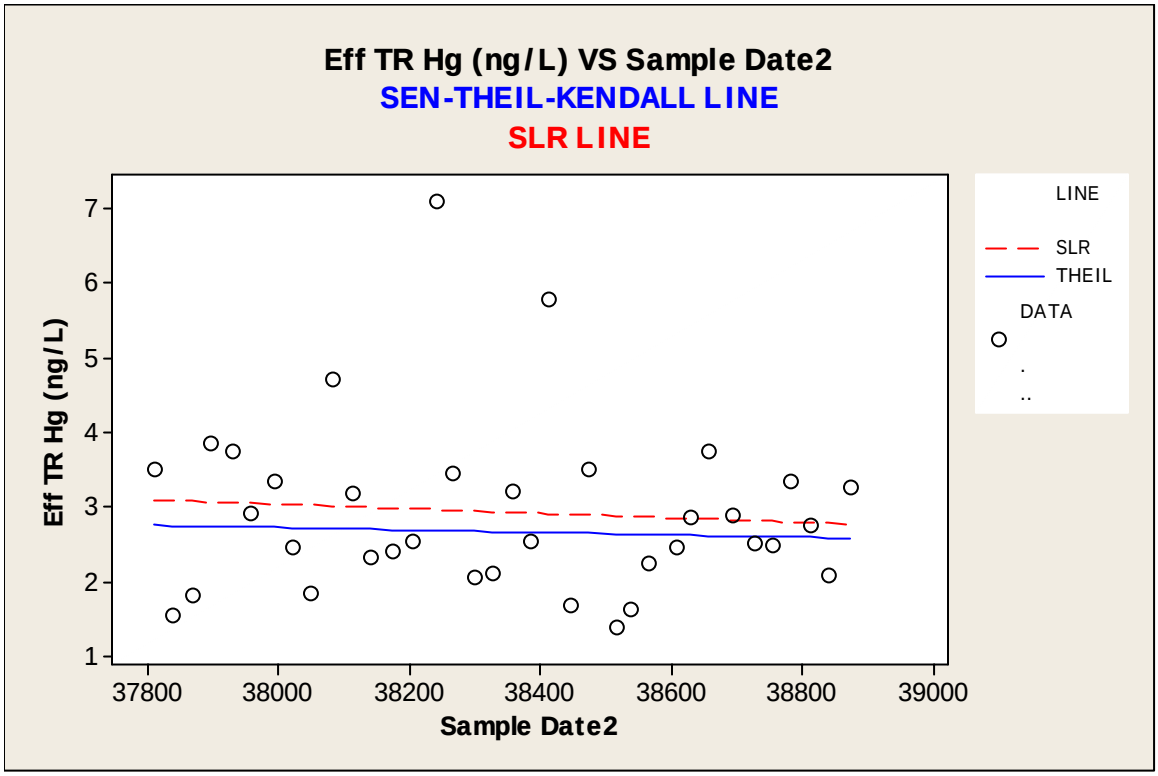
```
Row  CORRTYPE           CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.0396825  0.743674
  2  KENDALL'S TAU_B  -0.0397774  0.743674
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_    UPPER95
  1   8.96325  -0.0012052  -0.0001643  0.0009194

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      36   0  38342     53.5    321    37811  38058   38343  38625
Eff Dissolved Hg  36   0   3.31     2.31  13.83     0.52   0.93    0.99   1.07

Variable          Maximum
Sample Date2        38875
Eff Dissolved Hg    84.00
```

Data Display

```
S_TAU    89.0000
VAR_S    5379.67
Z_S      1.19979
```

Data Display

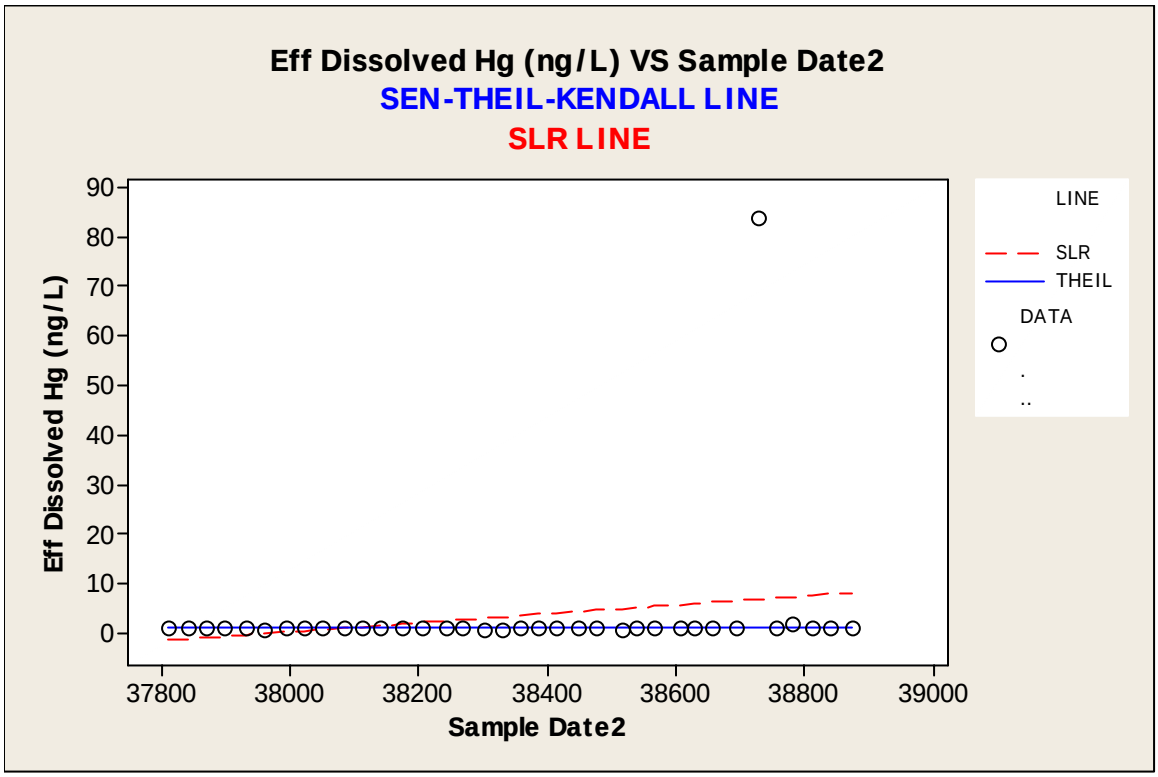
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A   0.141270  0.230221
  2  KENDALL'S TAU_B   0.142290  0.230221
```

Data Display

```
Row  INTRCPT_      LOWER95      SLOPE_     UPPER95
  1  -1.54326  -0.0000681  0.0000661  0.0002458

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c7
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff Turbidity (NTU)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      36   0  38342     53.5    321    37811  38058   38343  38625
Eff Turbidity (N  33   3  2.883    0.400  2.297    0.910  1.475   2.140  2.980

Variable          Maximum
Sample Date2        38875
Eff Turbidity (N   11.100
```

Data Display

```
S_TAU     -127.000
VAR_S     4162.33
Z_S       -1.95300
```

Data Display

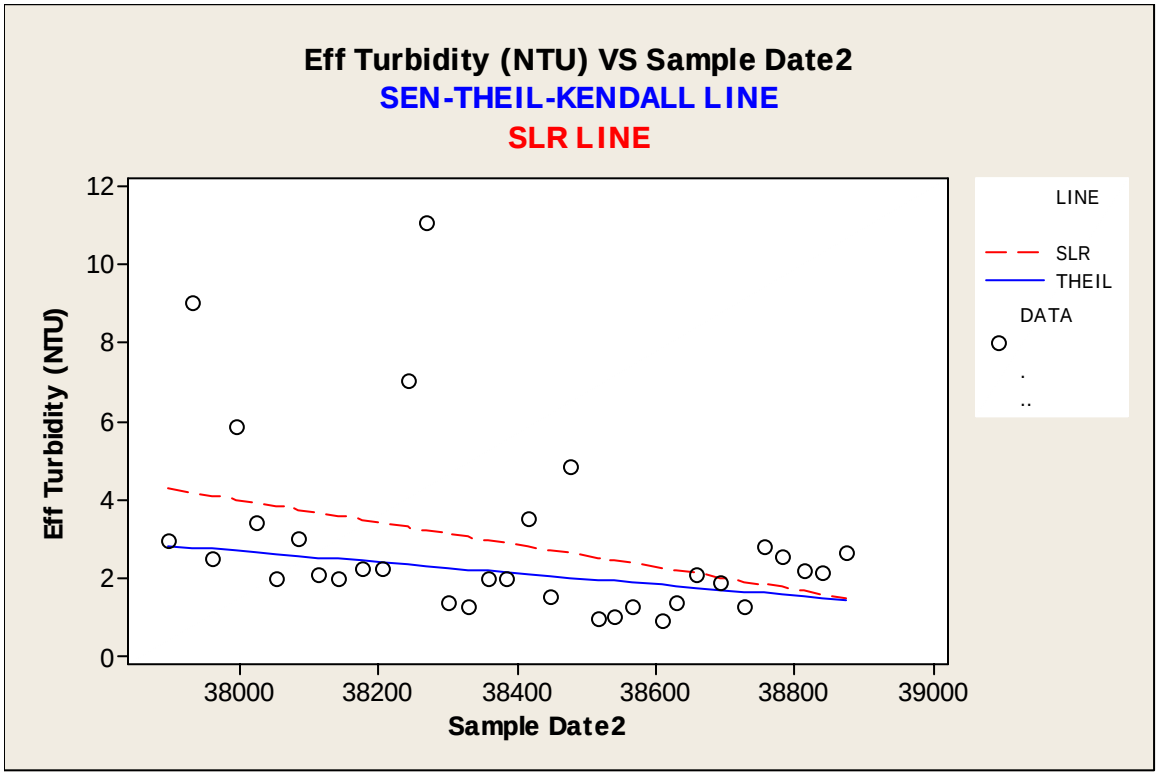
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  -0.240530  0.0508197
  2  KENDALL'S TAU_B  -0.241217  0.0508197
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_  UPPER95
  1   55.9742  -0.0028571  -0.0014025        0

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff TSS (mg/L)

```
Variable         N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2    36   0  38342     53.5    321    37811  38058   38343  38625
Eff TSS (mg/L)  36   0  3.450    0.398  2.389    1.000  2.000   3.000  4.000

Variable        Maximum
```

```
Sample Date2      38875
Eff TSS (mg/L)   12.000
```

Data Display

```
S_TAU     -12.0000
VAR_S     5249.33
Z_S       -0.151824
```

Data Display

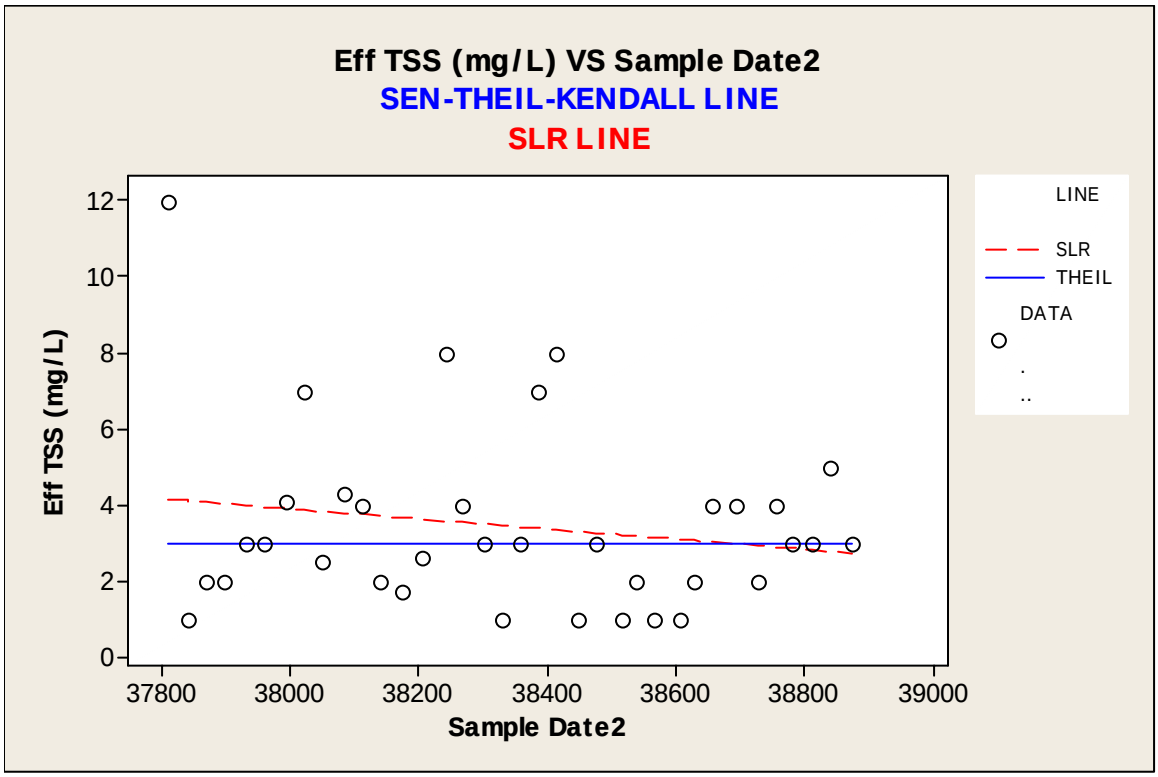
```
Row  CORRTYPE           CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.0190476  0.879326
  2  KENDALL'S TAU_B  -0.0202031  0.879326
```

Data Display

```
Row  INTRCPT_     LOWER95  SLOPE_    UPPER95
  1         3  -0.0017857       0  0.0014760

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Inf TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum    Q1  Median     Q3
Inf TSS (mg/L)    36   0  124.7     12.3   73.7     55.0  88.0   111.0  139.0
Inf TR Hg  (ng/L  36   0  127.7     19.3  115.7     15.9  48.1    80.0  211.8

Variable          Maximum
Inf TSS (mg/L)      503.0
Inf TR Hg  (ng/L    448.0
```

Data Display

```
S_TAU    164.000
VAR_S    5385.33
Z_S      2.22117
```

Data Display

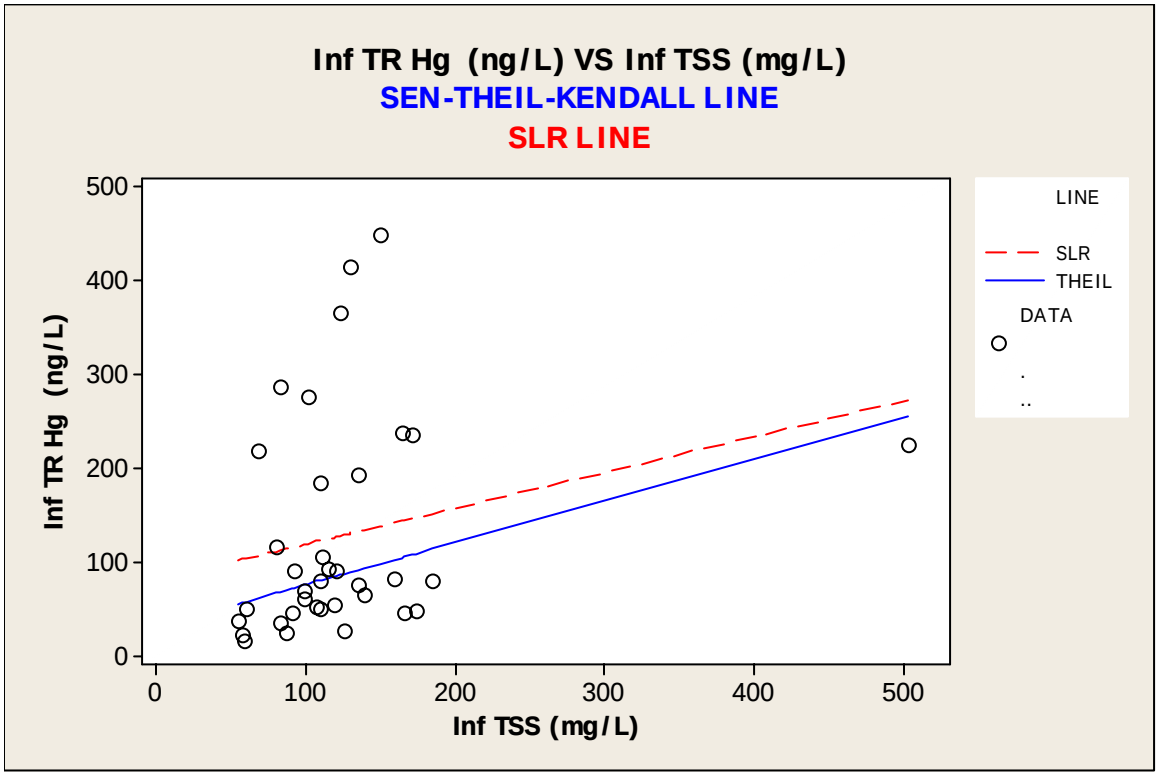
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A   0.260317  0.0263396
  2  KENDALL'S TAU_B   0.261148  0.0263396
```

Data Display

```
Row  INTRCPT_    LOWER95    SLOPE_  UPPER95
  1   30.2478  0.0512821  0.447768  1.12609

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



```
MTB > %ktau c4 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf TSS (mg/L)    36   0  124.7     12.3   73.7     55.0   88.0   111.0  139.0
Eff TR Hg (ng/L)  36   0  2.931    0.193  1.157    1.400  2.143   2.665  3.438

Variable          Maximum
Inf TSS (mg/L)      503.0
Eff TR Hg (ng/L)    7.110
```

Data Display

```
S_TAU    99.0000
VAR_S    5382.35
Z_S      1.33580
```

Data Display

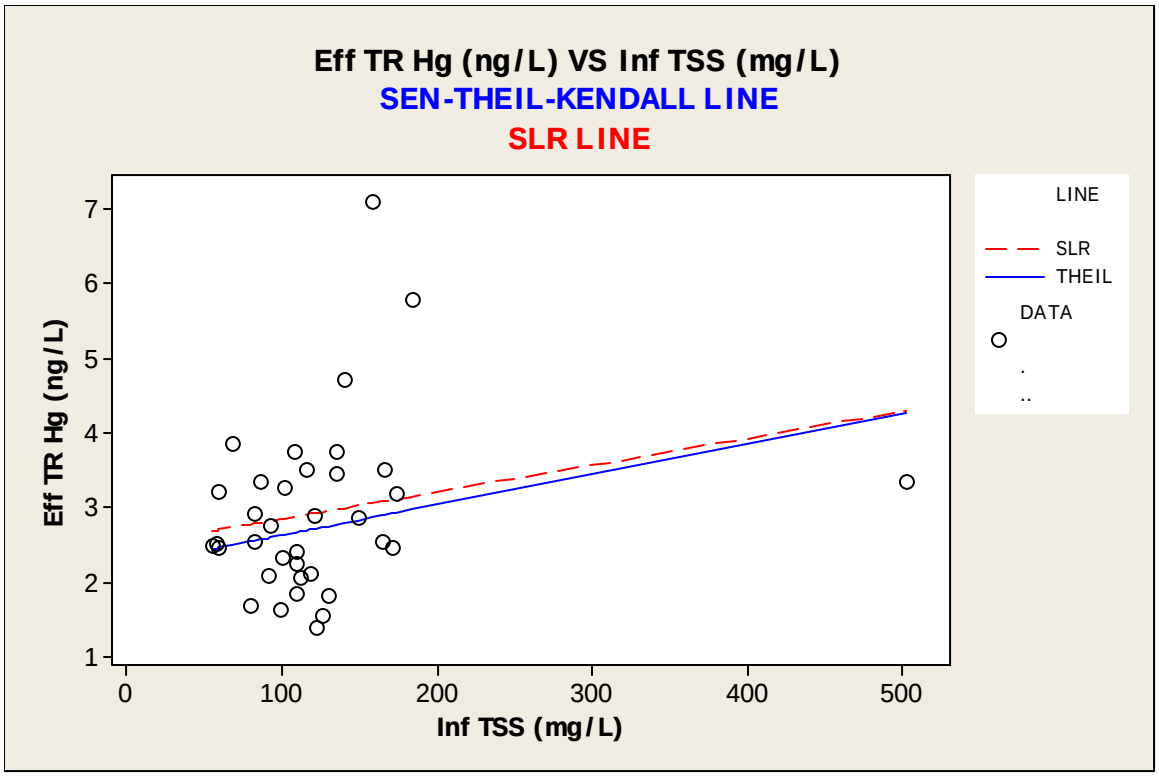
```
Row  CORRTYPE         CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.157143  0.181616
  2  KENDALL'S TAU_B  0.158021  0.181616
```

Data Display

```
Row  INTRCPT_     LOWER95     SLOPE_    UPPER95
  1   2.21105  -0.0012727  0.0040897  0.0158491

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c3 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TR Hg (ng/L), Eff TR Hg (ng/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Inf TR Hg (ng/L	36	0	127.7	19.3	115.7	15.9	48.1	80.0	211.8	448.0
Eff TR Hg (ng/L)	36	0	2.931	0.193	1.157	1.400	2.143	2.665	3.438	7.110

Data Display

S_TAU	13.0000
VAR_S	5387.00
Z_S	0.163496

Data Display

Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.0206349	0.870128
2	KENDALL'S TAU_B	0.0206842	0.870128

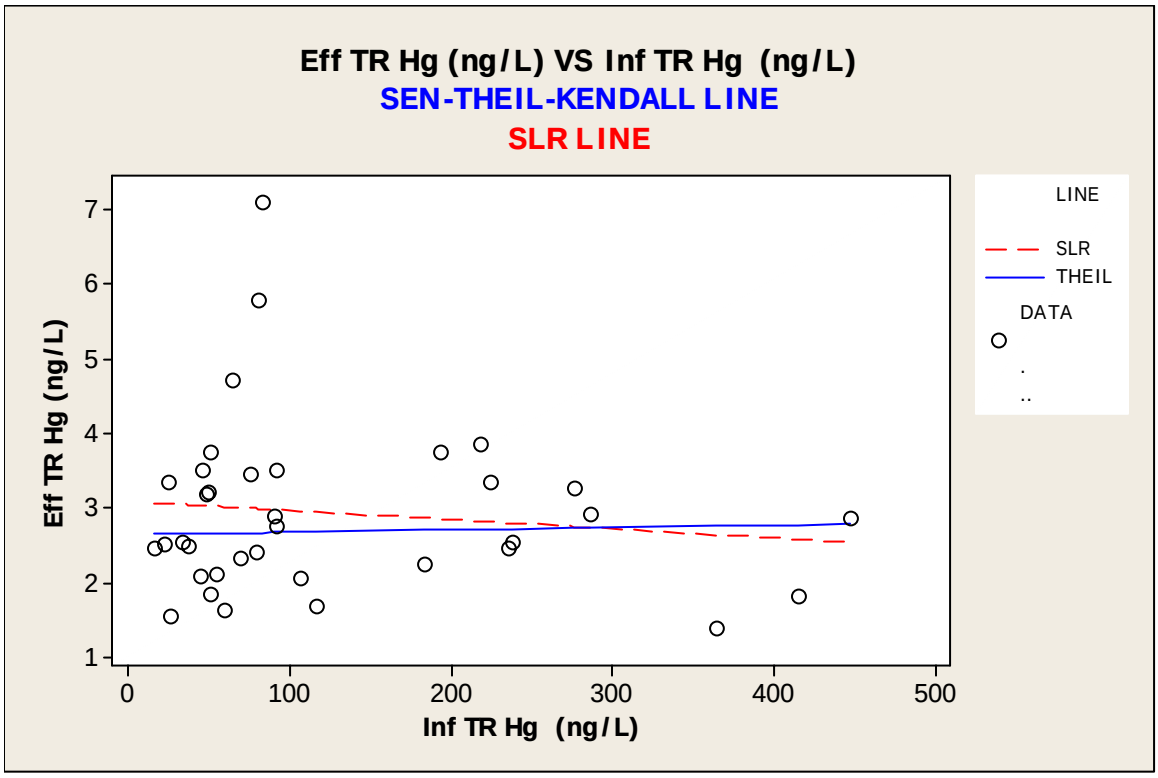
Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95

```
  1   2.64008  -0.0025483  0.0003117  0.0037121

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c3 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TR Hg (ng/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum    Q1  Median     Q3
Inf TR Hg  (ng/L  36   0  127.7     19.3  115.7     15.9  48.1    80.0  211.8
Eff Dissolved Hg  36   0   3.31     2.31  13.83     0.52  0.93    0.99   1.07

Variable          Maximum
Inf TR Hg  (ng/L     448.0
Eff Dissolved Hg    84.00
```

Data Display

```
S_TAU     -39.0000
VAR_S    5379.67
Z_S      -0.518091
```

Data Display

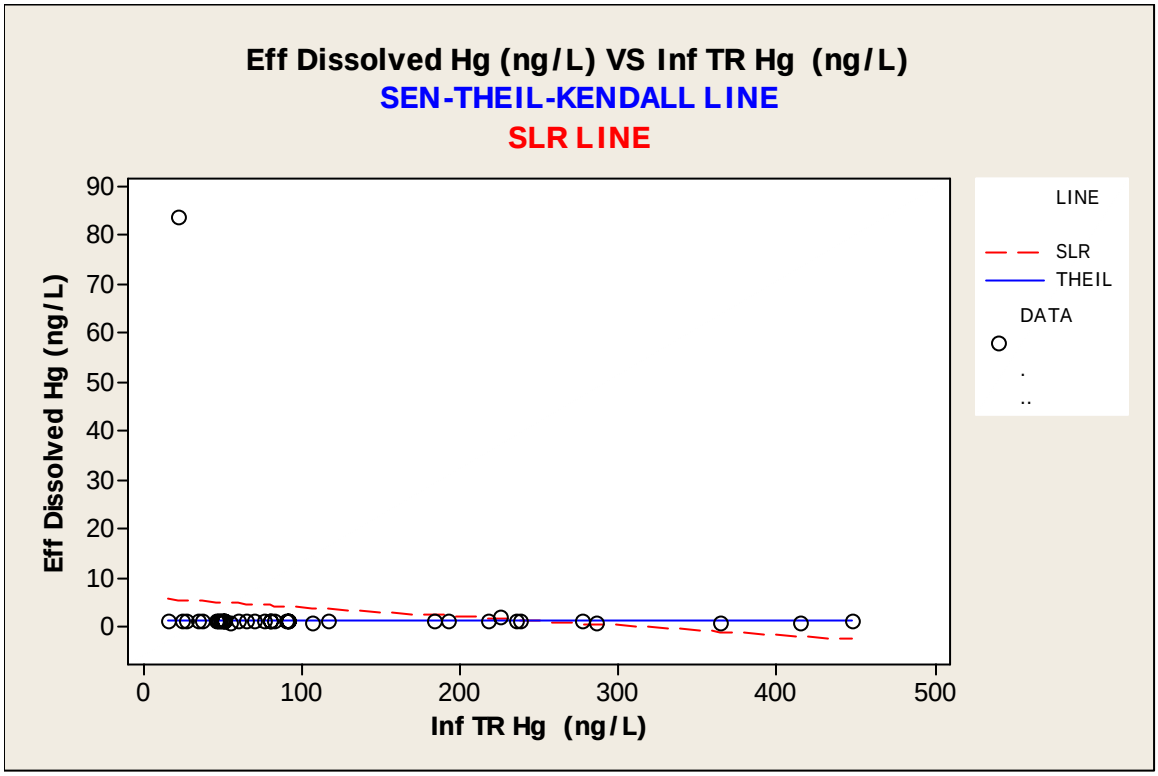
```
Row  CORRTYPE           CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.0619048  0.604395
  2  KENDALL'S TAU_B  -0.0623517  0.604395
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_    UPPER95
  1  0.998170  -0.0005587  -0.0001022  0.0004415

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c5 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TR Hg (ng/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff TR Hg (ng/L)  36   0  2.931    0.193  1.157    1.400  2.143   2.665  3.438
Eff Dissolved Hg  36   0   3.31     2.31  13.83     0.52   0.93    0.99   1.07

Variable           Maximum
Eff TR Hg (ng/L)     7.110
Eff Dissolved Hg    84.00
```

Data Display

```
S_TAU    207.000
VAR_S    5376.71
Z_S      2.80937
```

Data Display

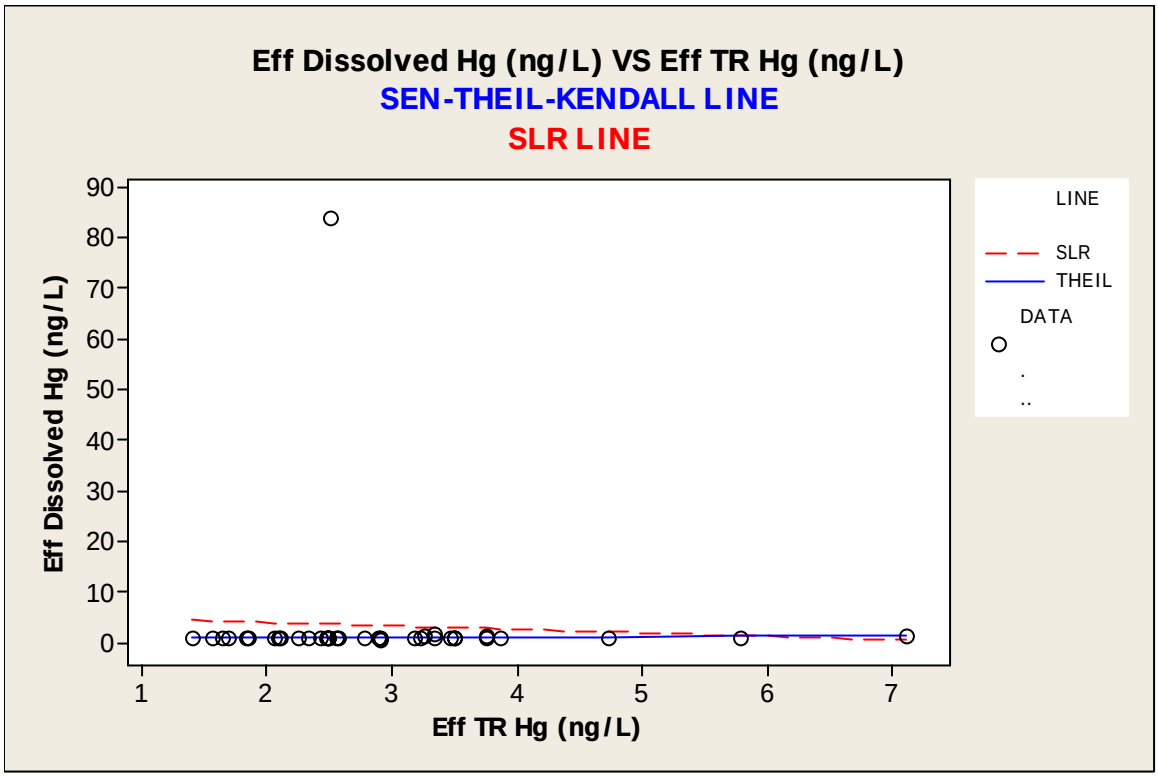
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.328571	0.0049639
2	KENDALL'S TAU_B	0.331735	0.0049639

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	0.834142	0.0208333	0.0584835	0.1

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT




```
MTB > %ktau c7 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Turbidity (NTU), Eff TR Hg (ng/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Eff Turbidity (N	33	3	2.883	0.400	2.297	0.910	1.475	2.140	2.980	11.100
Eff TR Hg (ng/L)	36	0	2.931	0.193	1.157	1.400	2.143	2.665	3.438	7.110

Data Display

```
S_TAU     287.000
VAR_S     4160.34
Z_S       4.43406
```

Data Display

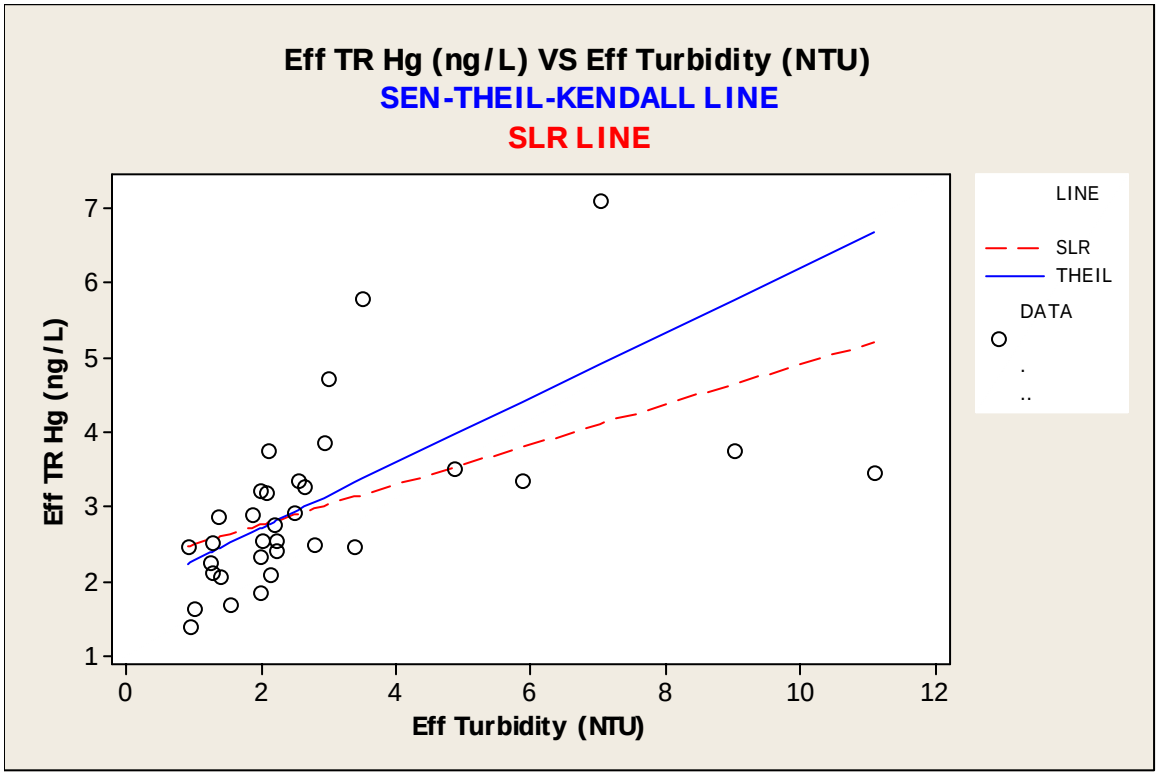
```
Row  CORRTYPE          CORR_VAL     P_VALUE
  1  KENDALL'S TAU_A   0.543561   0.0000092
  2  KENDALL'S TAU_B   0.546147   0.0000092
```

Data Display

```
Row  INTRCPT_    LOWER95     SLOPE_    UPPER95
  1   1.83562   0.196165   0.436624   0.846667

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c8 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff TSS (mg/L)    36   0  3.450    0.398  2.389    1.000  2.000   3.000  4.000
Eff TR Hg (ng/L)  36   0  2.931    0.193  1.157    1.400  2.143   2.665  3.438

Variable          Maximum
```

```
Eff TSS (mg/L)     12.000
Eff TR Hg (ng/L)    7.110
```

Data Display

```
S_TAU     289.000
VAR_S     5246.67
Z_S       3.97604
```

Data Display

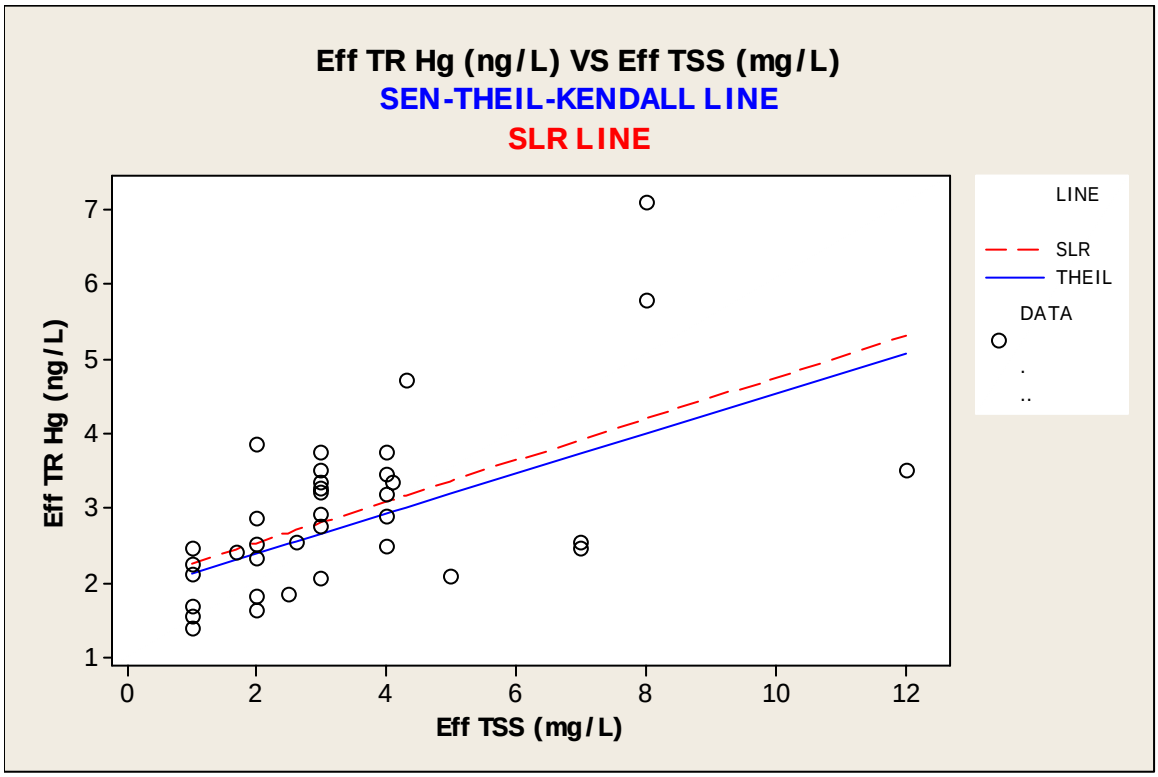
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A   0.458730  0.0000701
  2  KENDALL'S TAU_B   0.487719  0.0000701
```

Data Display

```
Row  INTRCPT_    LOWER95    SLOPE_  UPPER95
  1   1.86365  0.0833333  0.267115      0.5

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c7 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Turbidity (NTU), Eff Dissolved Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff Turbidity (N  33   3  2.883    0.400  2.297    0.910  1.475   2.140  2.980
Eff Dissolved Hg  36   0   3.31     2.31  13.83     0.52   0.93    0.99   1.07

Variable          Maximum
Eff Turbidity (N   11.100
Eff Dissolved Hg    84.00
```

Data Display

```
S_TAU    144.000
VAR_S    4154.71
Z_S      2.21853
```

Data Display

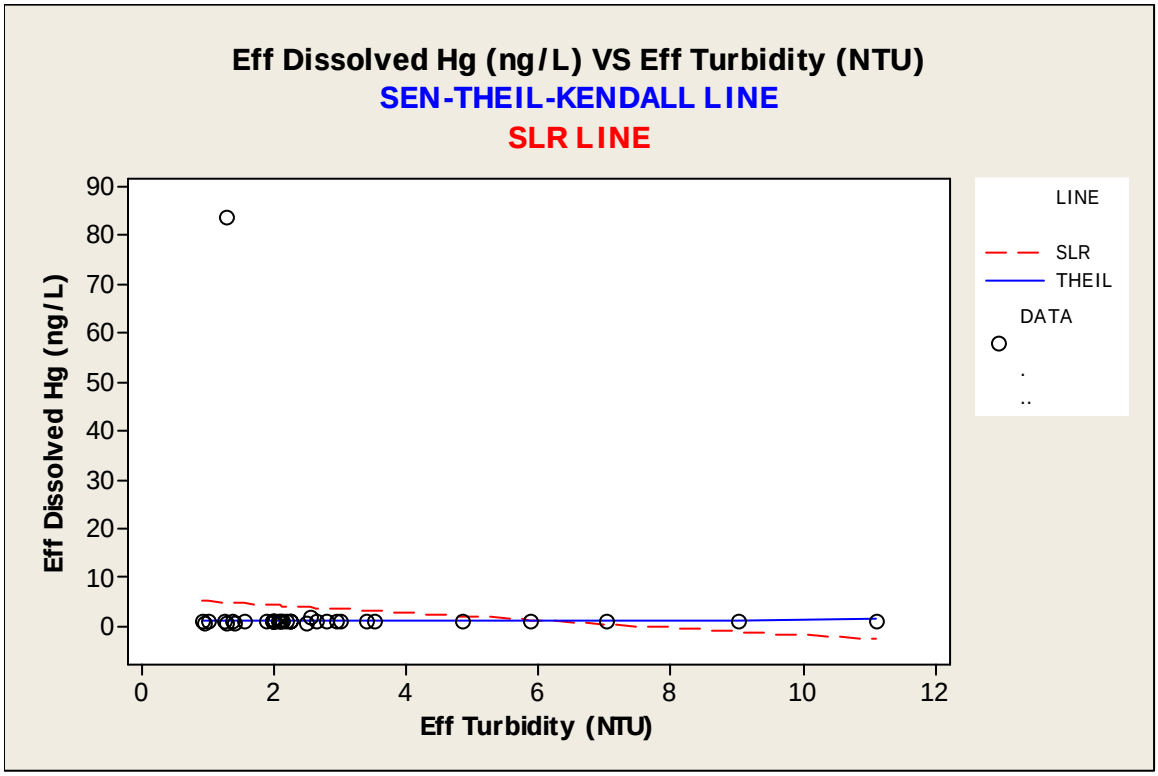
```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.272727  0.0265185
  2  KENDALL'S TAU_B  0.275337  0.0265185
```

Data Display

```
Row  INTRCPT_    LOWER95     SLOPE_    UPPER95
  1  0.935344  0.0025974  0.0302130  0.0588235

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c8 c6
```

```
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff TSS (mg/L)    36   0  3.450    0.398  2.389    1.000  2.000   3.000  4.000
Eff Dissolved Hg  36   0   3.31     2.31  13.83     0.52   0.93    0.99   1.07

Variable          Maximum
Eff TSS (mg/L)     12.000
Eff Dissolved Hg    84.00
```

Data Display

```
S_TAU    158.000
VAR_S    5240.02
Z_S      2.16887
```

Data Display

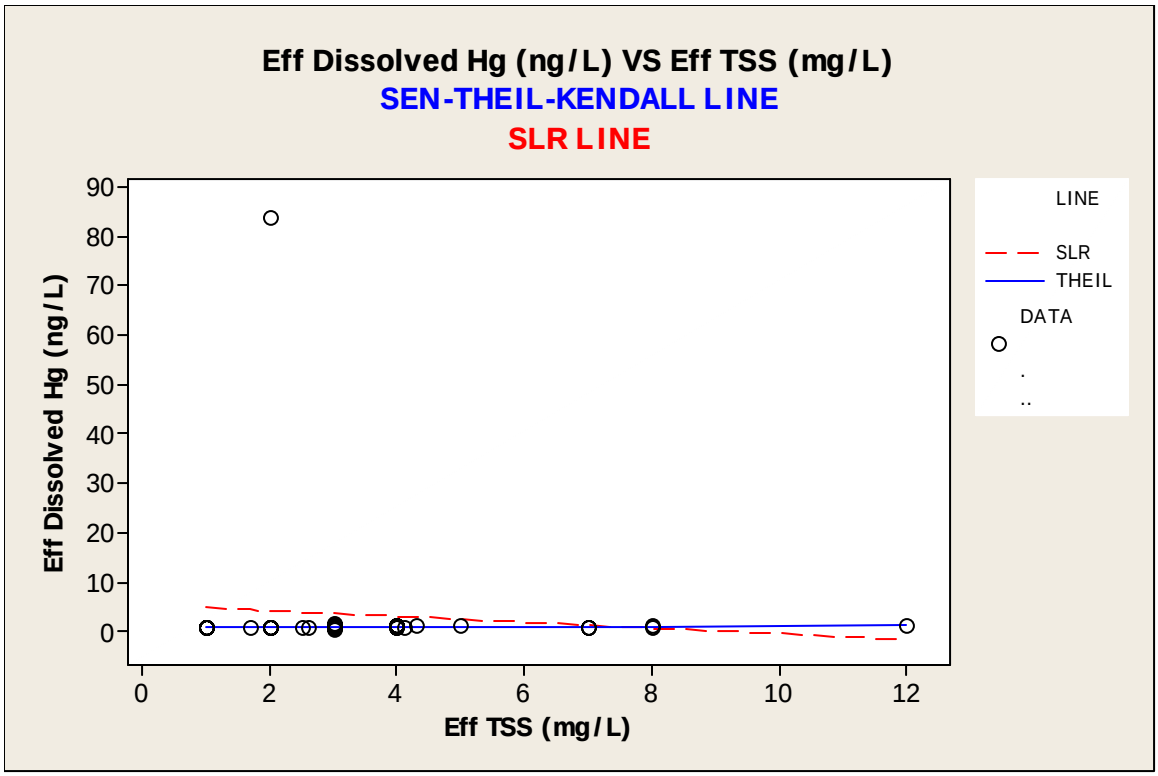
```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.250794  0.0300927
  2  KENDALL'S TAU_B  0.267927  0.0300927
```

Data Display

```
Row  INTRCPT_  LOWER95  SLOPE_  UPPER95
  1      0.96        0    0.01    0.032

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c10 c11
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Biosolids Sample Date2, Biosolids Hg (mg/kg)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Biosolids Sample	232	0	38454	20.2	308	37803	38198	38563	38655	38895
Biosolids Hg (mg	232	0	1.806	0.228	3.476	0.114	0.470	0.860	1.956	38.000

Data Display

S_TAU	2887.00
VAR_S	1396277
Z_S	2.44236

Data Display

Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.107740	0.0145914
2	KENDALL'S TAU_B	0.107879	0.0145914

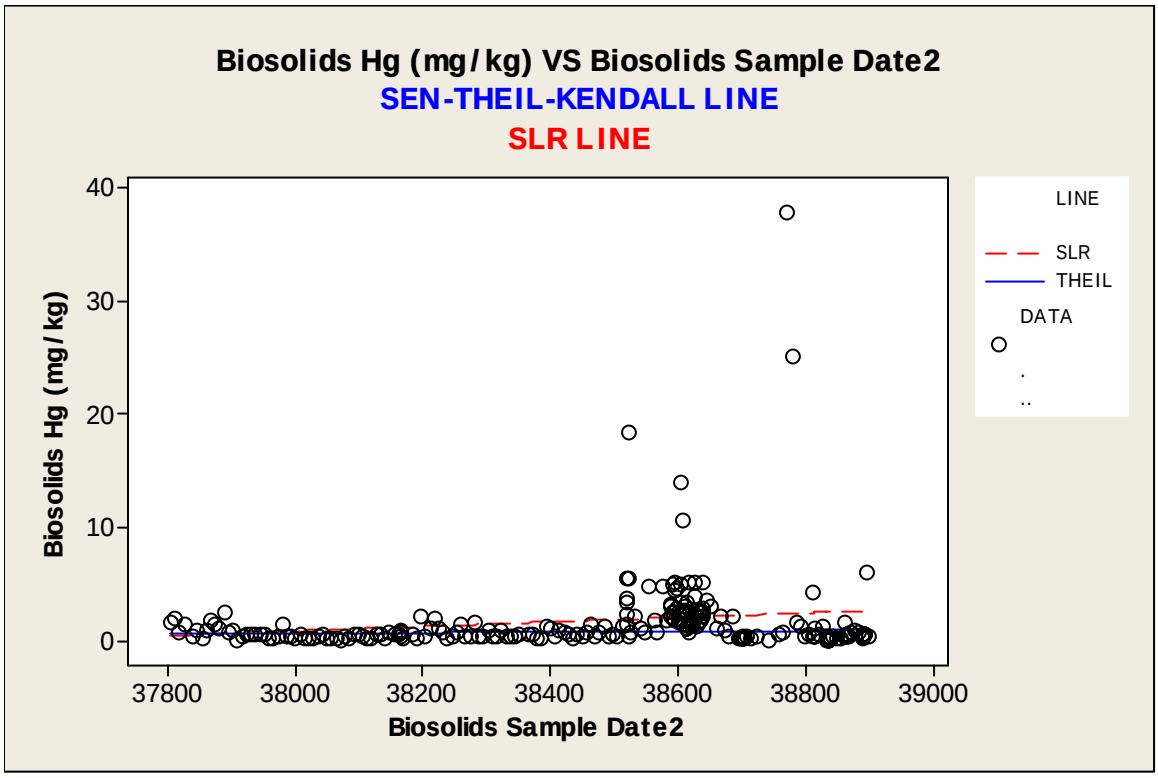
Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95

```
  1   -11.6621   0.0000567   0.0003247   0.0006857

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum    Q1  Median     Q3
Inf TSS (mg/L)    36   0  124.7     12.3   73.7     55.0  88.0   111.0  139.0
Eff Dissolved Hg  36   0   3.31     2.31  13.83     0.52  0.93    0.99   1.07

Variable          Maximum
Inf TSS (mg/L)      503.0
Eff Dissolved Hg    84.00
```

Data Display

```
S_TAU    63.0000
VAR_S    5375.06
Z_S      0.845668
```

Data Display

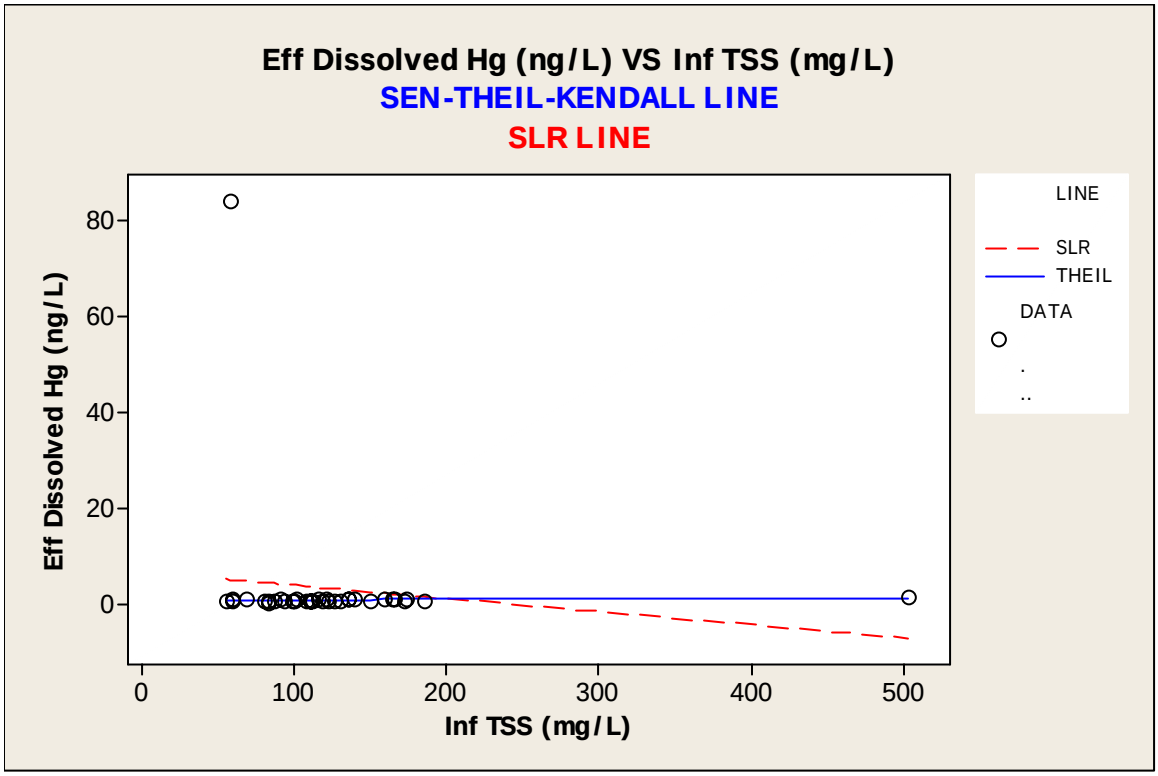
```
Row  CORRTYPE         CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.100000  0.397738
  2  KENDALL'S TAU_B  0.101043  0.397738
```

Data Display

```
Row  INTRCPT_     LOWER95     SLOPE_    UPPER95
  1  0.944432  -0.0006173  0.0004105  0.0016667

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c7 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Turbidity (NTU), Eff TSS (mg/L)

```
Variable          N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff Turbidity (N  33   3  2.883    0.400  2.297    0.910  1.475   2.140  2.980
Eff TSS (mg/L)    36   0  3.450    0.398  2.389    1.000  2.000   3.000  4.000

Variable          Maximum
Eff Turbidity (N   11.100
Eff TSS (mg/L)     12.000
```

Data Display

```
S_TAU    253.000
VAR_S    4045.34
Z_S      3.96208
```

Data Display

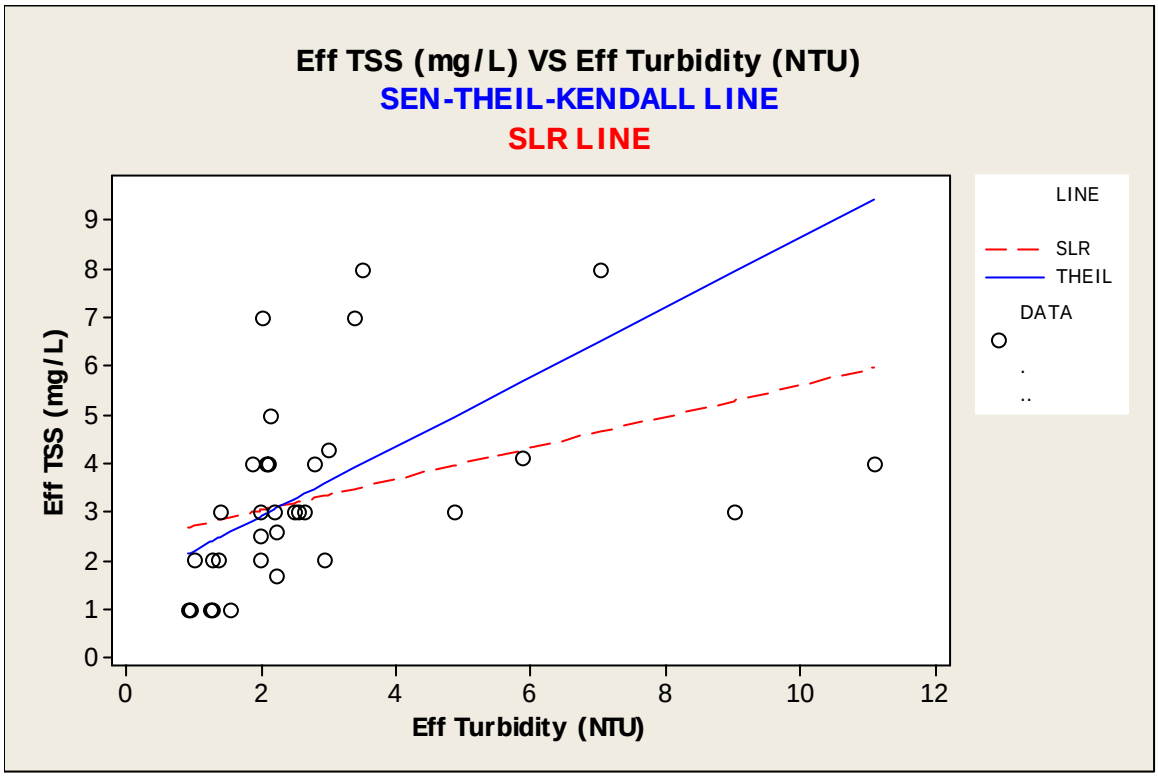
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.479167	0.0000743
2	KENDALL'S TAU_B	%ktau	0.0000743

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	1.46705	0.257732	0.716329	1.39860

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT



Results for: POTW C

```
MTB > %ktau c2 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Inf TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      36   0  38342     53.5    321    37811  38058   38343  38625
Inf TR Hg  (ng/L  36   0   71.2     13.4   80.1     18.5   37.2    49.8   69.8

Variable          Maximum
Sample Date2        38875
Inf TR Hg  (ng/L    481.0
```

Data Display

```
S_TAU    40.0000
VAR_S    5390.00
Z_S      0.531215
```

Data Display

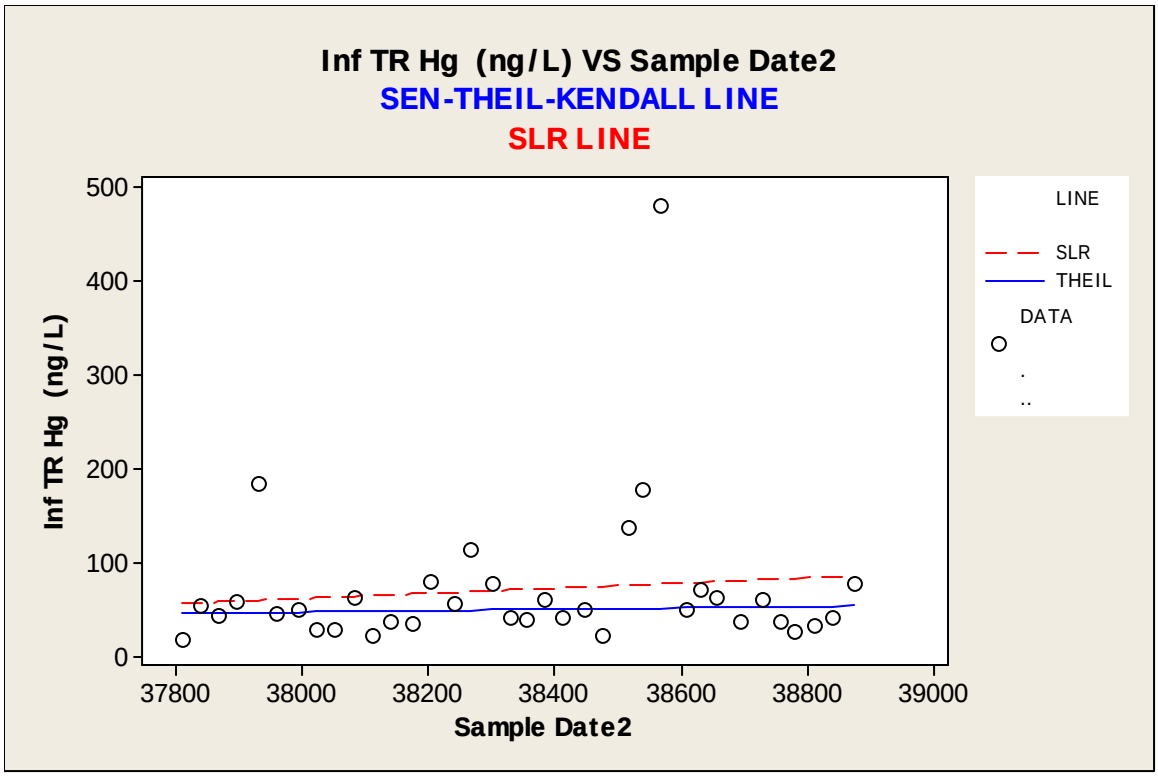
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.0634921  0.595270
  2  KENDALL'S TAU_B  0.0634921  0.595270
```

Data Display

```
Row  INTRCPT_     LOWER95     SLOPE_    UPPER95
  1  -235.913  -0.0179555  0.0074502  0.0380952

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c4
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Inf TSS (mg/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Sample Date2	36	0	38342	53.5	321	37811	38058	38343	38625	38875
Inf TSS (mg/L)	36	0	108.47	8.16	48.99	54.00	77.75	97.00	119.00	291.00

Data Display

```
S_TAU    -27.0000
VAR_S    5383.00
Z_S      -0.354373
```

Data Display

Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	-0.0428571	0.723059
2	KENDALL'S TAU_B	-0.0430972	0.723059

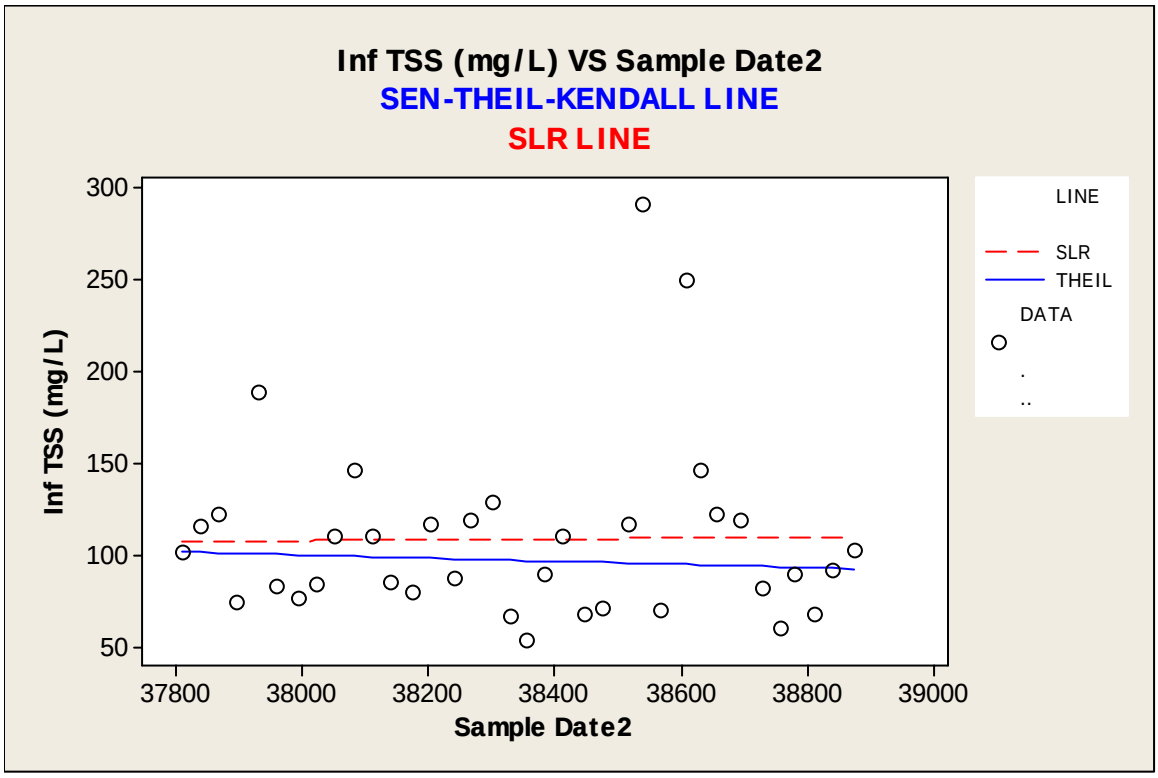
Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95

```
  1   423.027  -0.0419162  -0.0085029  0.0222743

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      36   0  38342     53.5    321    37811  38058   38343  38625
Eff TR Hg (ng/L)  36   0  2.484    0.127  0.760    0.509  1.985   2.385  2.965

Variable          Maximum
Sample Date2        38875
Eff TR Hg (ng/L)    4.520
```

Data Display

```
S_TAU     -34.0000
VAR_S    5390.00
Z_S      -0.449490
```

Data Display

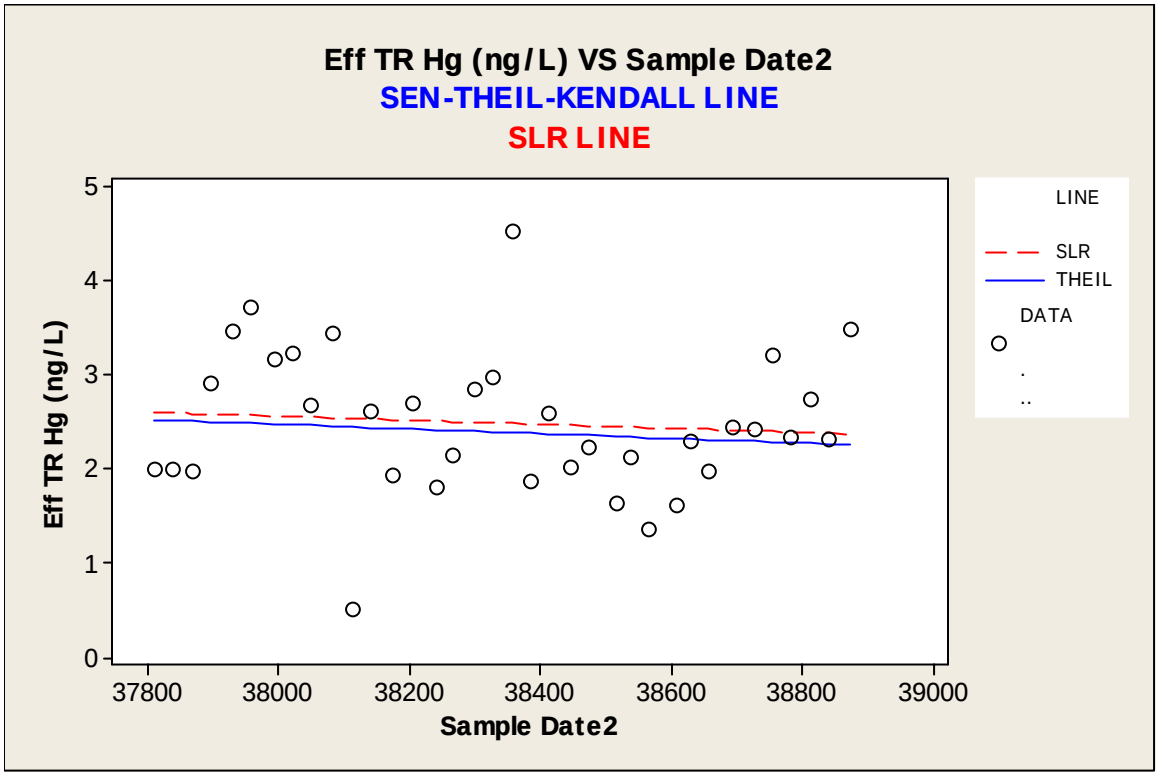
```
Row  CORRTYPE           CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.0539683  0.653079
  2  KENDALL'S TAU_B  -0.0539683  0.653079
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_    UPPER95
  1   11.9756  -0.0010406  -0.0002501  0.0005634

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff Dissolved Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean   StDev  Minimum      Q1  Median
Sample Date2      36   0   38342     53.5     321    37811   38058   38343
Eff Dissolved Hg  36   0  0.9920    0.0309  0.1852   0.4150  0.8680  0.9715

Variable             Q3  Maximum
Sample Date2      38625    38875
Eff Dissolved Hg  1.0675   1.3800
```

Data Display

```
S_TAU     -44.0000
VAR_S    5383.33
Z_S      -0.586061
```

Data Display

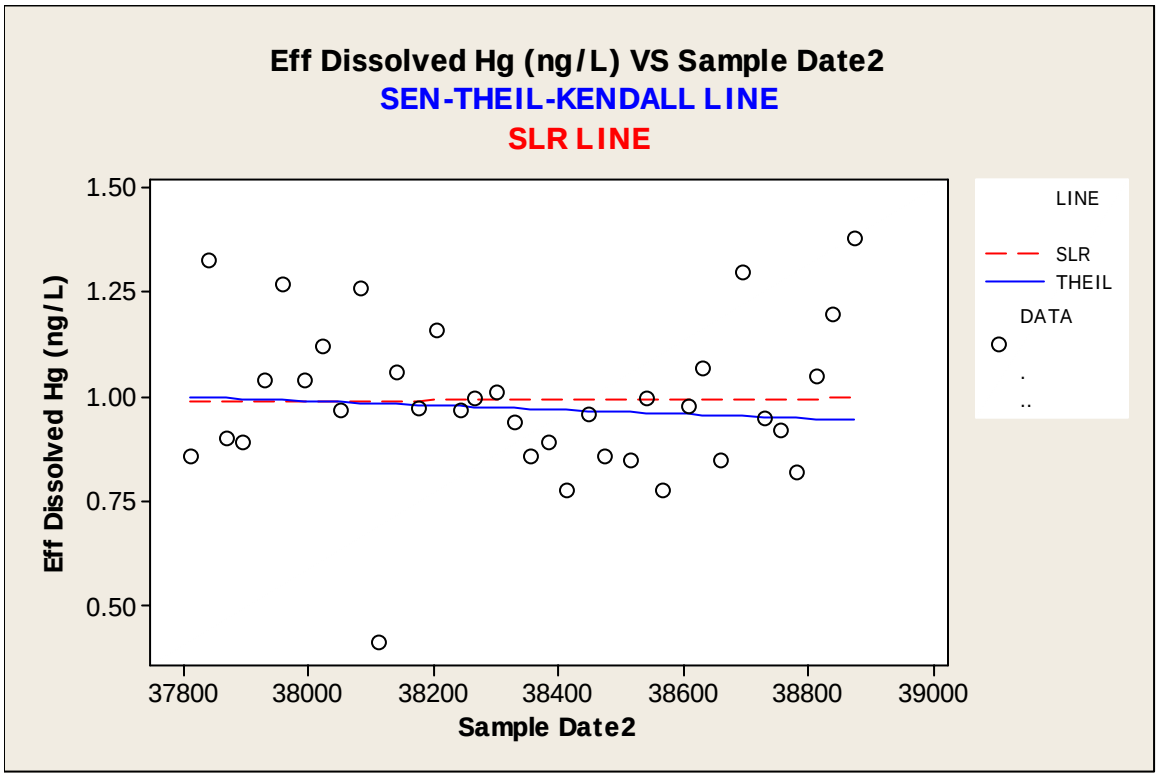
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	-0.0698413	0.557835
2	KENDALL'S TAU_B	-0.0701762	0.557835

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	2.95432	-0.0002419	-0.0000517	0.0001515

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT




```
MTB > %ktau c2 c7
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff Turbidity (NTU)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Sample Date2	36	0	38342	53.5	321	37811	38058	38343	38625	38875
Eff Turbidity (N	33	3	2.852	0.164	0.943	1.260	2.080	2.890	3.390	5.460

Data Display

```
S_TAU     -113.000
VAR_S     4164.33
Z_S       -1.73558
```

Data Display

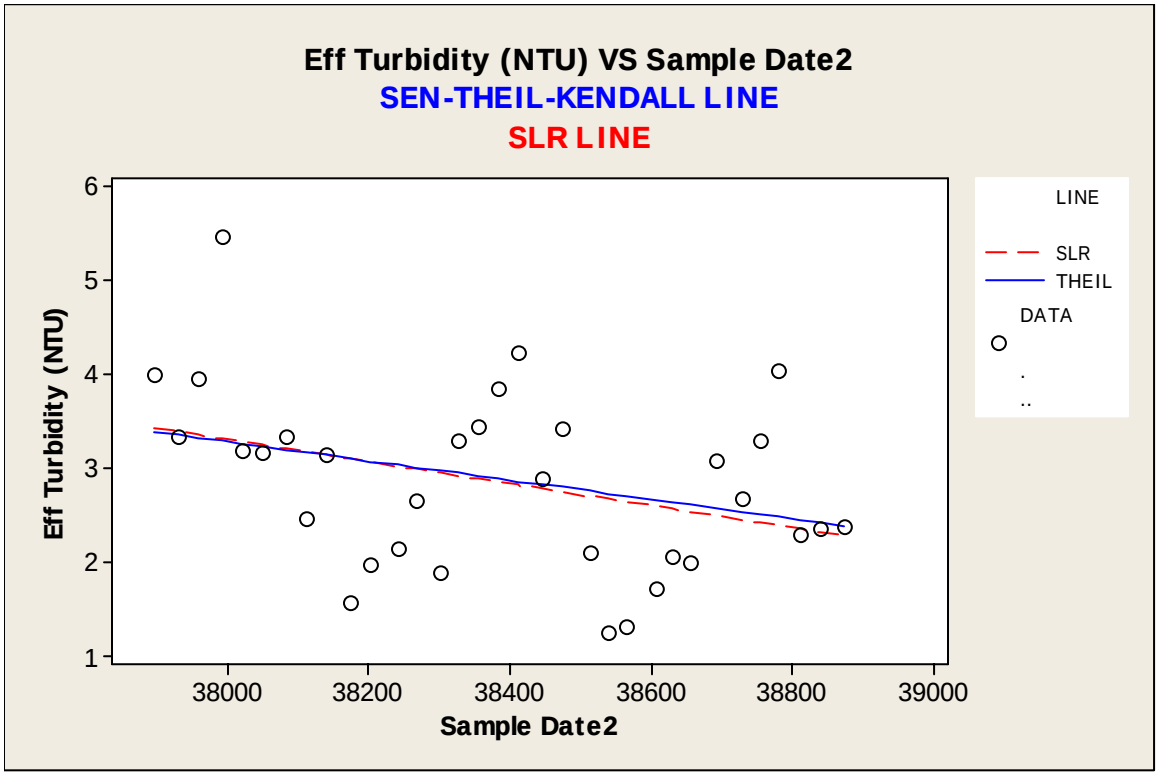
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  -0.214015  0.0826377
  2  KENDALL'S TAU_B  -0.214218  0.0826377
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_     UPPER95
  1   42.0391  -0.0022086  -0.0010199  0.0001643

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff TSS (mg/L)

```
Variable         N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2    36   0  38342     53.5    321    37811  38058   38343  38625
Eff TSS (mg/L)  36   0  4.289    0.243  1.461    1.800  3.225   4.000  5.000

Variable        Maximum
```

```
Sample Date2      38875
Eff TSS (mg/L)    8.000
```

Data Display

```
S_TAU    89.0000
VAR_S    5111.00
Z_S      1.23092
```

Data Display

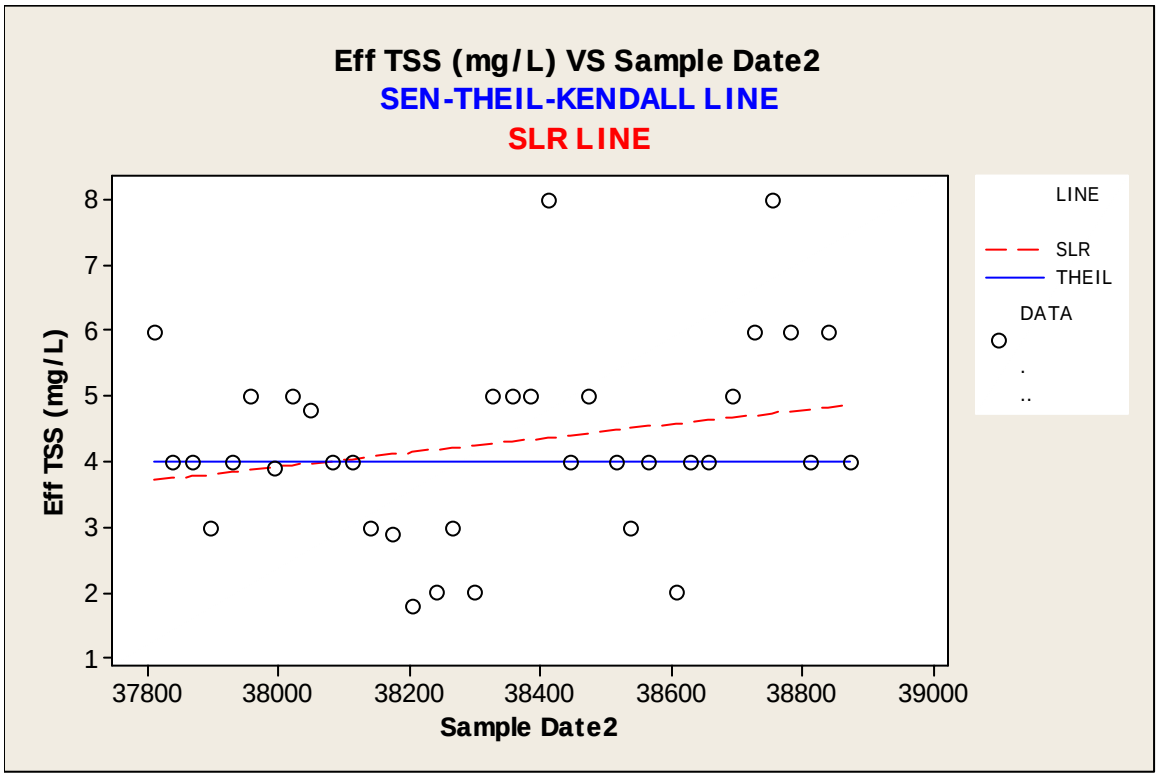
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A   0.141270   0.218353
  2  KENDALL'S TAU_B   0.154459   0.218353
```

Data Display

```
Row  INTRCPT_  LOWER95  SLOPE_    UPPER95
  1         4        0       0  0.0021882

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c3 c4
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TR Hg (ng/L), Inf TSS (mg/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median
Inf TR Hg (ng/L	36	0	71.2	13.4	80.1	18.5	37.2	49.8
Inf TSS (mg/L)	36	0	108.47	8.16	48.99	54.00	77.75	97.00

Variable	Q3	Maximum
Inf TR Hg (ng/L	69.8	481.0
Inf TSS (mg/L)	119.00	291.00

Data Display

S_TAU	189.000
VAR_S	5383.00
Z_S	2.56239

Data Display

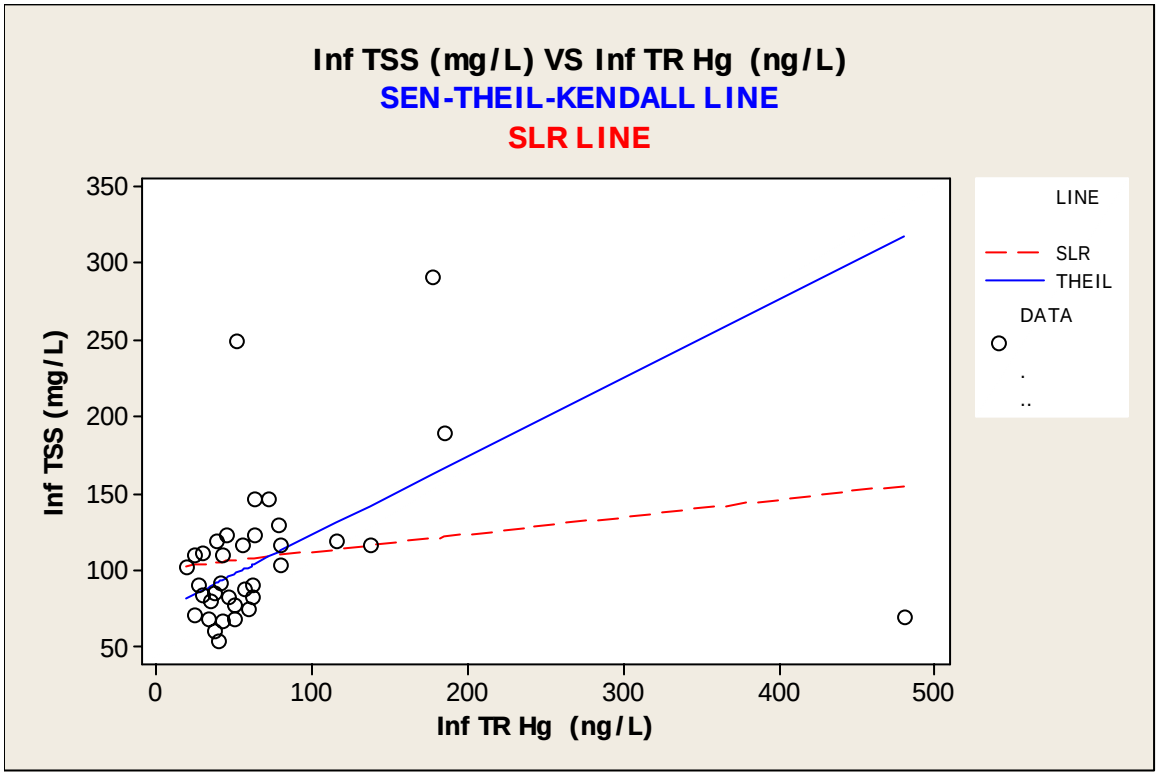
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.300000	0.0103954
2	KENDALL'S TAU_B	0.301681	0.0103954

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	71.6289	0.124113	0.509972	0.862208

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT



```
MTB > %ktau c3 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TR Hg (ng/L), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf TR Hg  (ng/L  36   0   71.2     13.4   80.1     18.5   37.2    49.8   69.8
Eff TR Hg (ng/L)  36   0  2.484    0.127  0.760    0.509  1.985   2.385  2.965

Variable          Maximum
Inf TR Hg  (ng/L    481.0
Eff TR Hg (ng/L)    4.520
```

Data Display

```
S_TAU    -20.0000
VAR_S    5390.00
Z_S      -0.258797
```

Data Display

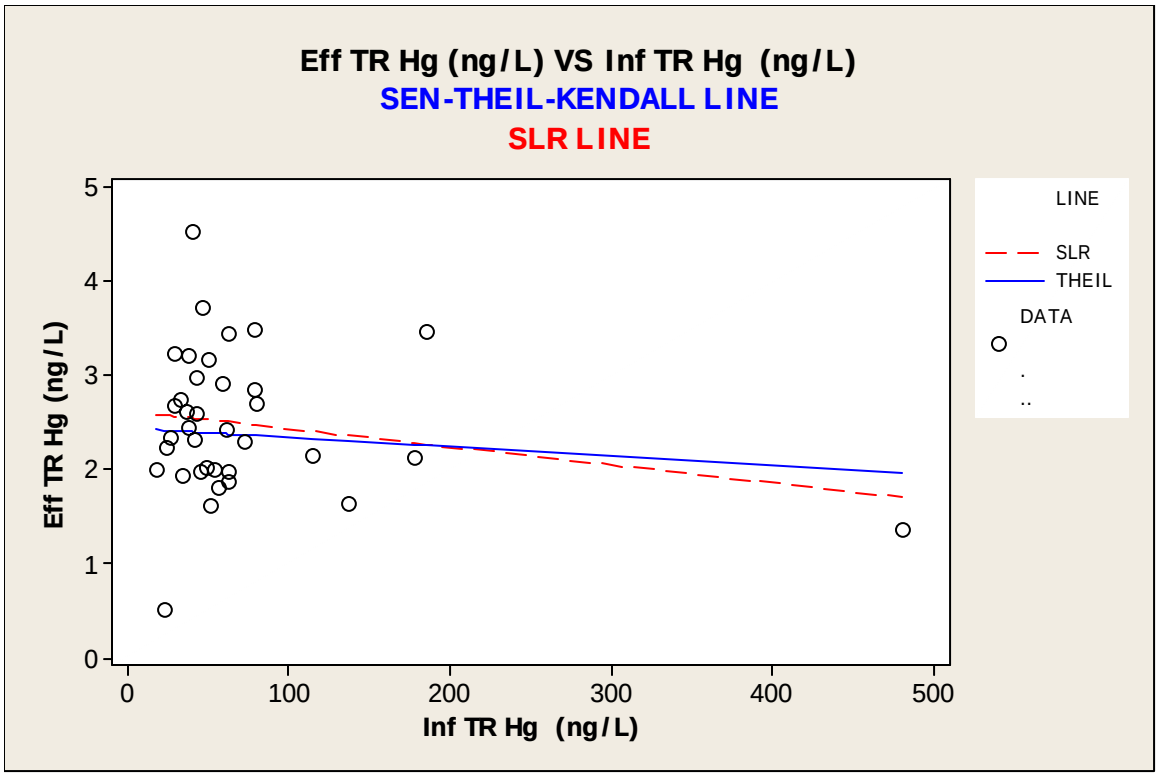
```
Row  CORRTYPE           CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.0317460  0.795792
  2  KENDALL'S TAU_B  -0.0317460  0.795792
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_    UPPER95
  1   2.43533  -0.0054328  -0.0010117  0.0080167

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c3 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TR Hg (ng/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean   StDev  Minimum      Q1  Median
Inf TR Hg  (ng/L  36   0    71.2     13.4    80.1     18.5    37.2    49.8
Eff Dissolved Hg  36   0  0.9920   0.0309  0.1852   0.4150  0.8680  0.9715

Variable              Q3  Maximum
Inf TR Hg  (ng/L    69.8    481.0
Eff Dissolved Hg  1.0675   1.3800
```

Data Display

```
S_TAU    78.0000
VAR_S    5383.33
Z_S      1.04946
```

Data Display

```
Row  CORRTYPE         CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.123810  0.293967
  2  KENDALL'S TAU_B  0.124403  0.293967
```

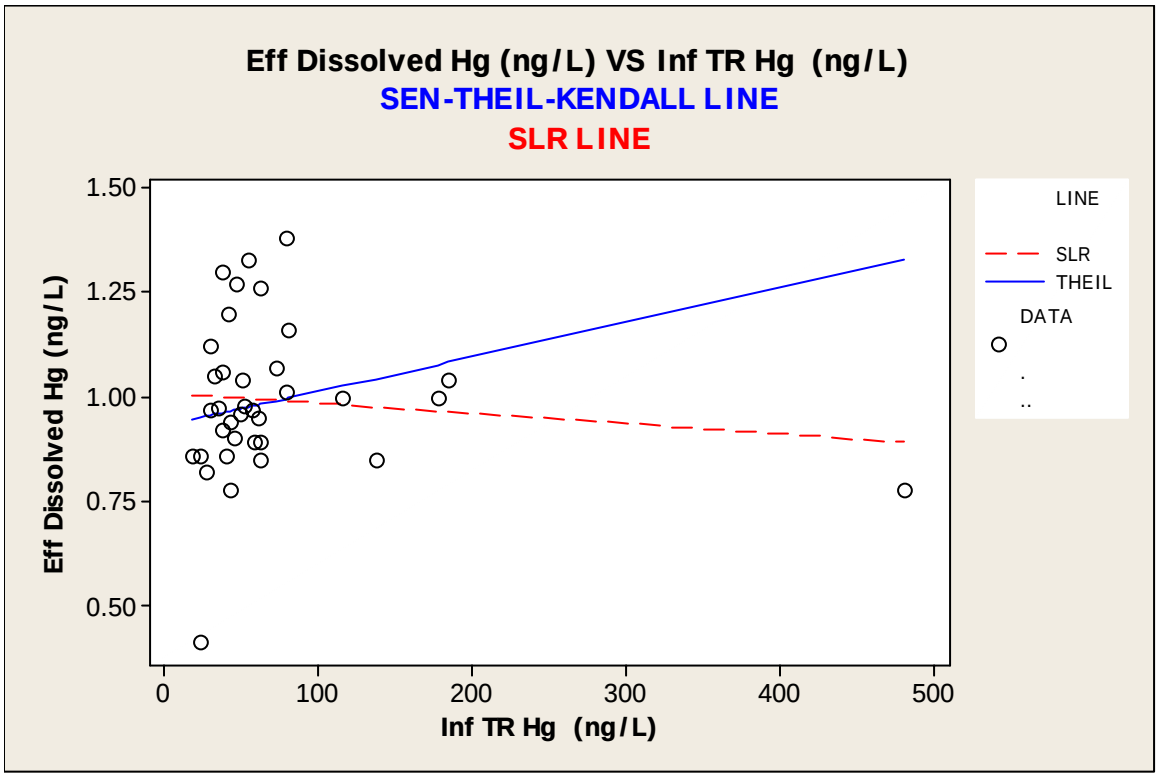
Data Display

```
Row  INTRCPT_     LOWER95     SLOPE_    UPPER95
```

```
  1  0.930647  -0.0004412  0.0008212  0.0032787

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c5 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TR Hg (ng/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean   StDev  Minimum      Q1  Median
Eff TR Hg (ng/L)  36   0   2.484    0.127   0.760    0.509   1.985   2.385
Eff Dissolved Hg  36   0  0.9920   0.0309  0.1852   0.4150  0.8680  0.9715

Variable              Q3  Maximum
Eff TR Hg (ng/L)   2.965    4.520
Eff Dissolved Hg  1.0675   1.3800
```

Data Display

```
S_TAU    200.000
VAR_S    5383.33
Z_S      2.71224
```

Data Display

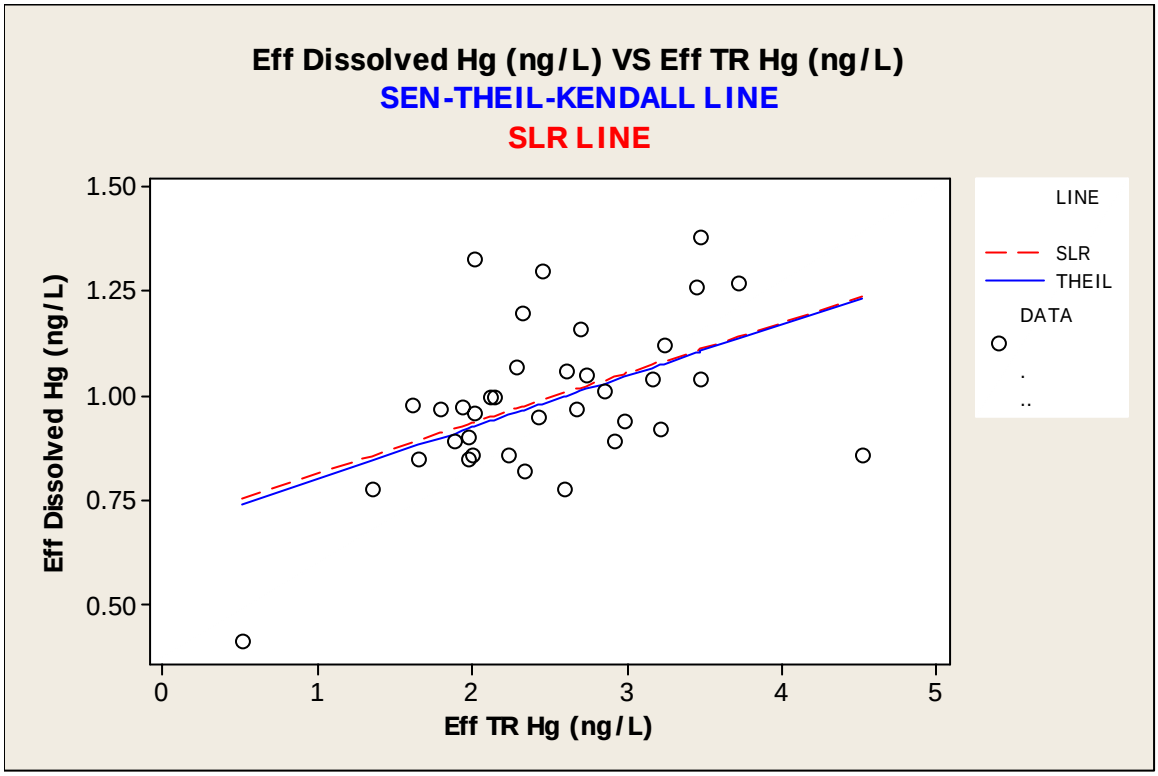
```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.317460  0.0066831
  2  KENDALL'S TAU_B  0.318983  0.0066831
```

Data Display

```
Row  INTRCPT_    LOWER95    SLOPE_   UPPER95
  1  0.678536  0.0384615  0.122836  0.209790

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c7 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Turbidity (NTU), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff Turbidity (N  33   3  2.852    0.164  0.943    1.260  2.080   2.890  3.390
Eff TR Hg (ng/L)  36   0  2.484    0.127  0.760    0.509  1.985   2.385  2.965

Variable           Maximum
Eff Turbidity (N     5.460
Eff TR Hg (ng/L)     4.520
```

Data Display

```
S_TAU     205.000
VAR_S     4164.33
Z_S       3.16124
```

Data Display

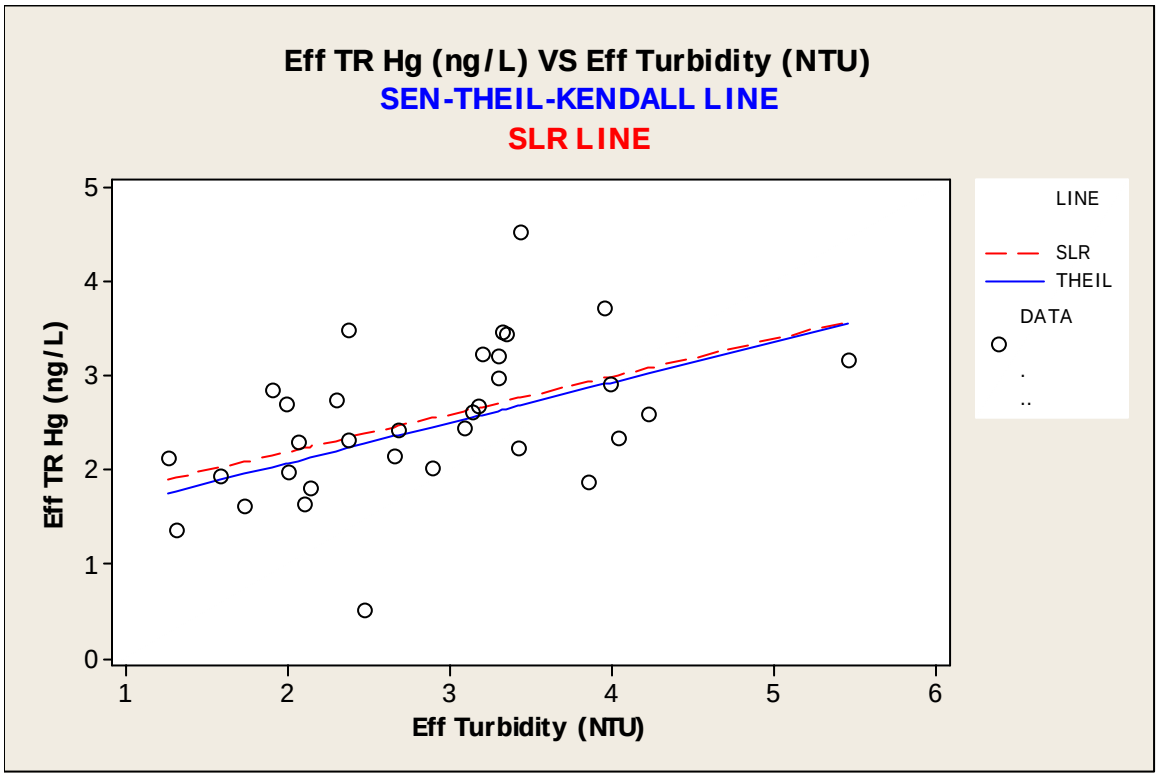
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.388258	0.0015710
2	KENDALL'S TAU_B	0.388626	0.0015710

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	1.21576	0.180328	0.427072	0.737931

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT




```
MTB > %ktau c8 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff TR Hg (ng/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Eff TSS (mg/L)	36	0	4.289	0.243	1.461	1.800	3.225	4.000	5.000	8.000
Eff TR Hg (ng/L)	36	0	2.484	0.127	0.760	0.509	1.985	2.385	2.965	4.520

Data Display

```
S_TAU     97.0000
VAR_S     5111.00
Z_S       1.34282
```

Data Display

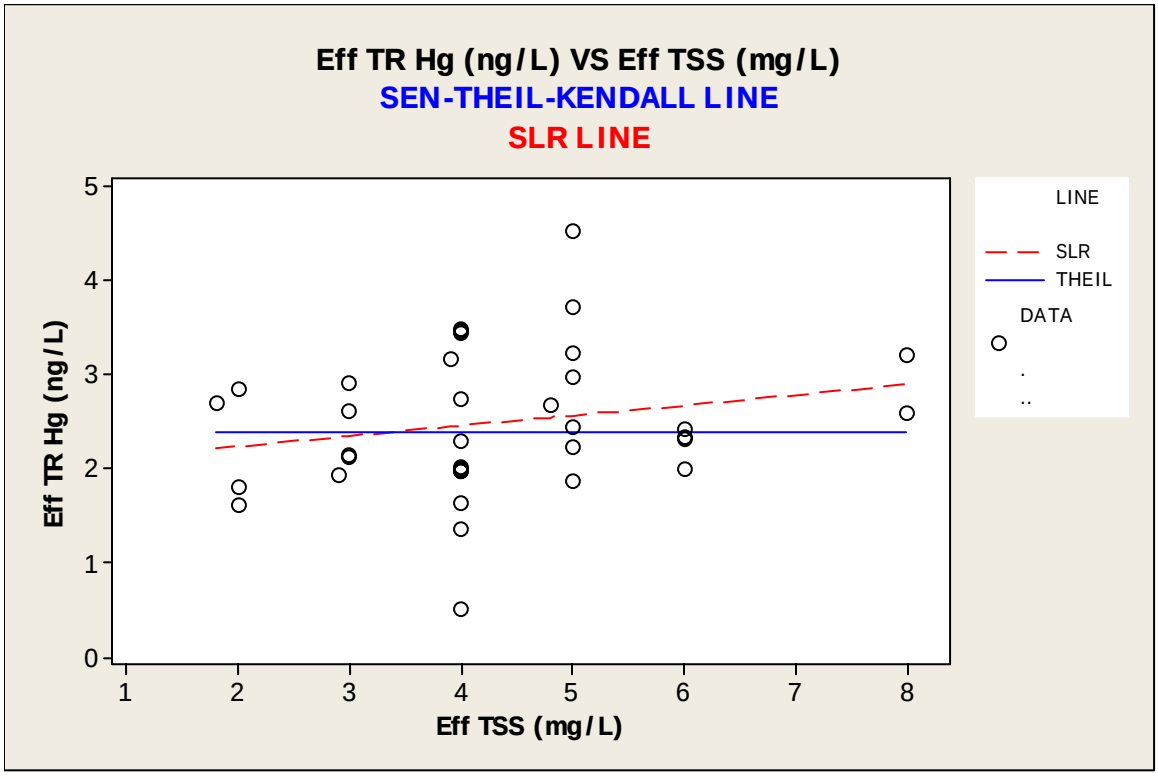
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.153968  0.179330
  2  KENDALL'S TAU_B  0.168343  0.179330
```

Data Display

```
Row  INTRCPT_  LOWER95  SLOPE_  UPPER95
  1     2.385        0       0    0.155

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c7 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Turbidity (NTU), Eff Dissolved Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean   StDev  Minimum      Q1  Median
Eff Turbidity (N  33   3   2.852    0.164   0.943    1.260   2.080   2.890
Eff Dissolved Hg  36   0  0.9920   0.0309  0.1852   0.4150  0.8680  0.9715

Variable             Q3  Maximum
```

```
Eff Turbidity (N   3.390    5.460
Eff Dissolved Hg  1.0675   1.3800
```

Data Display

```
S_TAU     -47.0000
VAR_S     4160.34
Z_S       -0.713171
```

Data Display

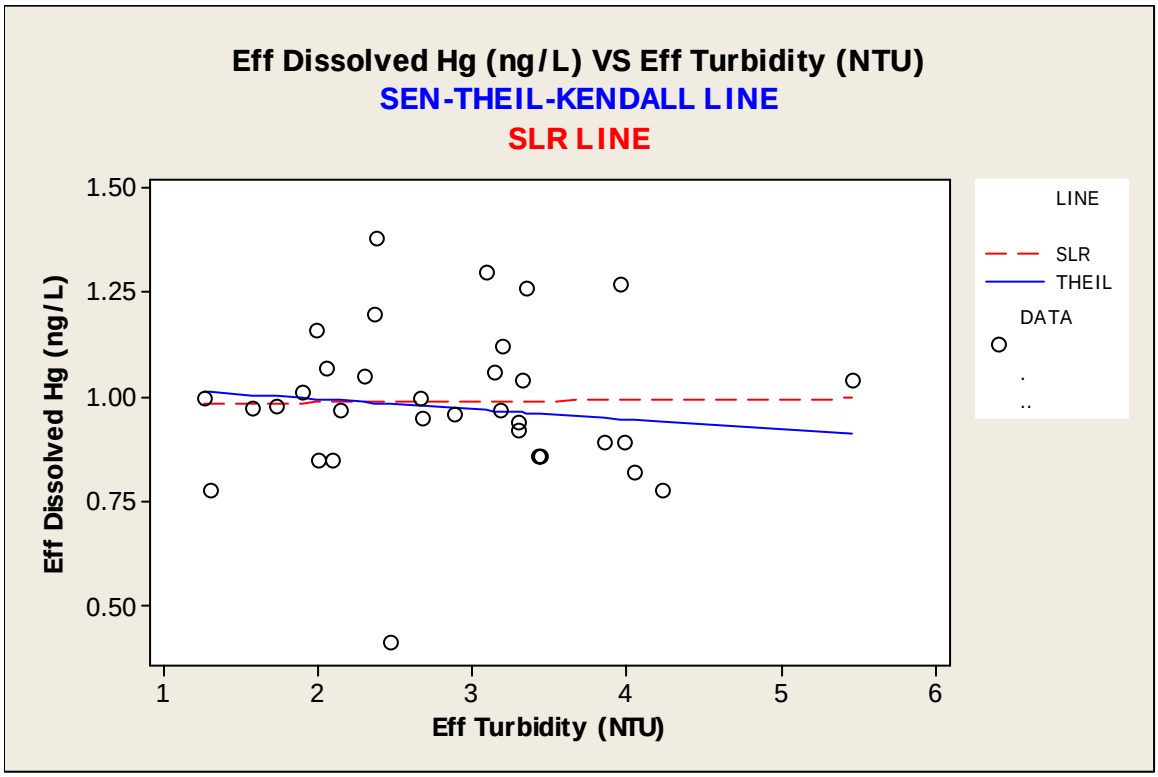
```
Row  CORRTYPE           CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.0890152  0.475740
  2  KENDALL'S TAU_B  -0.0894390  0.475740
```

Data Display

```
Row  INTRCPT_    LOWER95      SLOPE_    UPPER95
  1   1.04370  -0.084375  -0.0244651  0.0439216

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c8 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean   StDev  Minimum      Q1  Median
Eff TSS (mg/L)    36   0   4.289    0.243   1.461    1.800   3.225   4.000
Eff Dissolved Hg  36   0  0.9920   0.0309  0.1852   0.4150  0.8680  0.9715

Variable              Q3  Maximum
Eff TSS (mg/L)     5.000    8.000
Eff Dissolved Hg  1.0675   1.3800
```

Data Display

```
S_TAU     -97.0000
VAR_S     5105.34
Z_S       -1.34357
```

Data Display

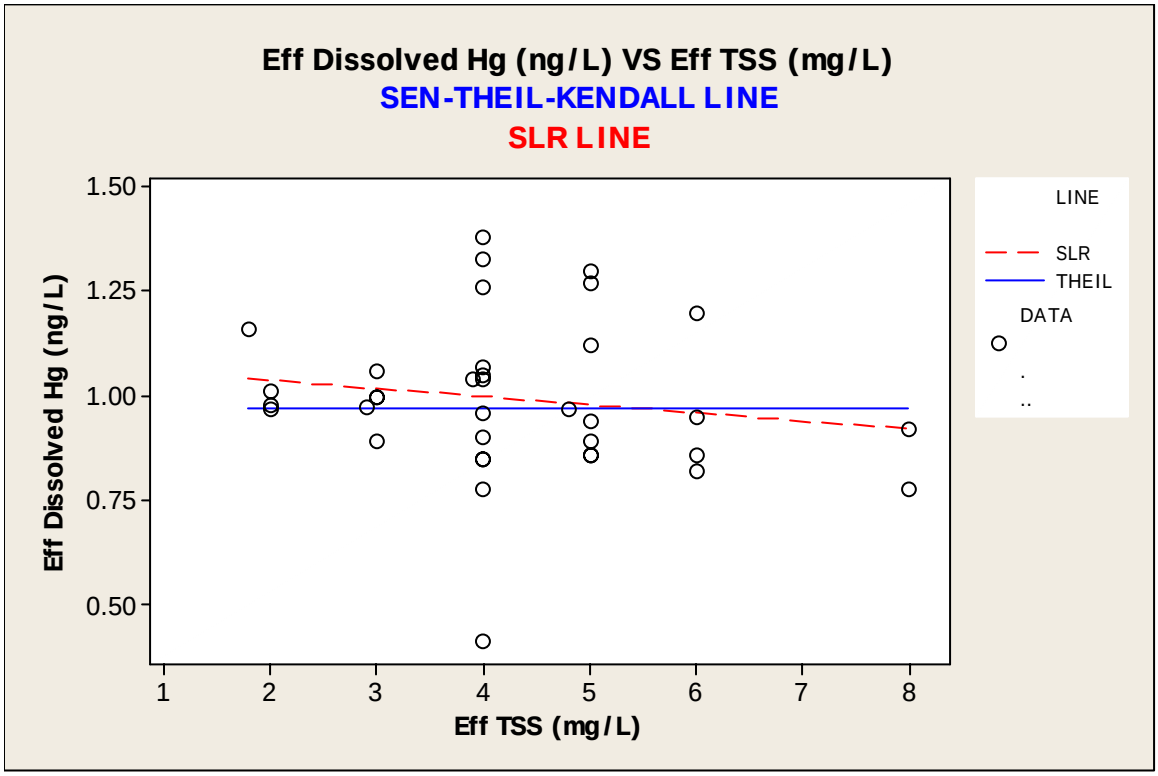
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.153968  0.179089
  2  KENDALL'S TAU_B  -0.169151  0.179089
```

Data Display

```
Row  INTRCPT_  LOWER95  SLOPE_  UPPER95
  1    0.9715    -0.03       0        0

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



```
MTB > %ktau c10 c11
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Biosolids Sample Date2, Biosolids Hg (mg/kg)

```
Variable            N  N*    Mean  SE Mean   StDev  Minimum      Q1  Median
Biosolids Sample  135   0   38330     26.9     313    37809   38054   38327
Biosolids Hg (mg  135   0  0.6939   0.0310  0.3601   0.2058  0.4800  0.6000

Variable              Q3  Maximum
Biosolids Sample   38600    38894
Biosolids Hg (mg  0.8200   3.2000
```

Data Display

```
S_TAU    -534.000
VAR_S    276240
Z_S      -1.01411
```

Data Display

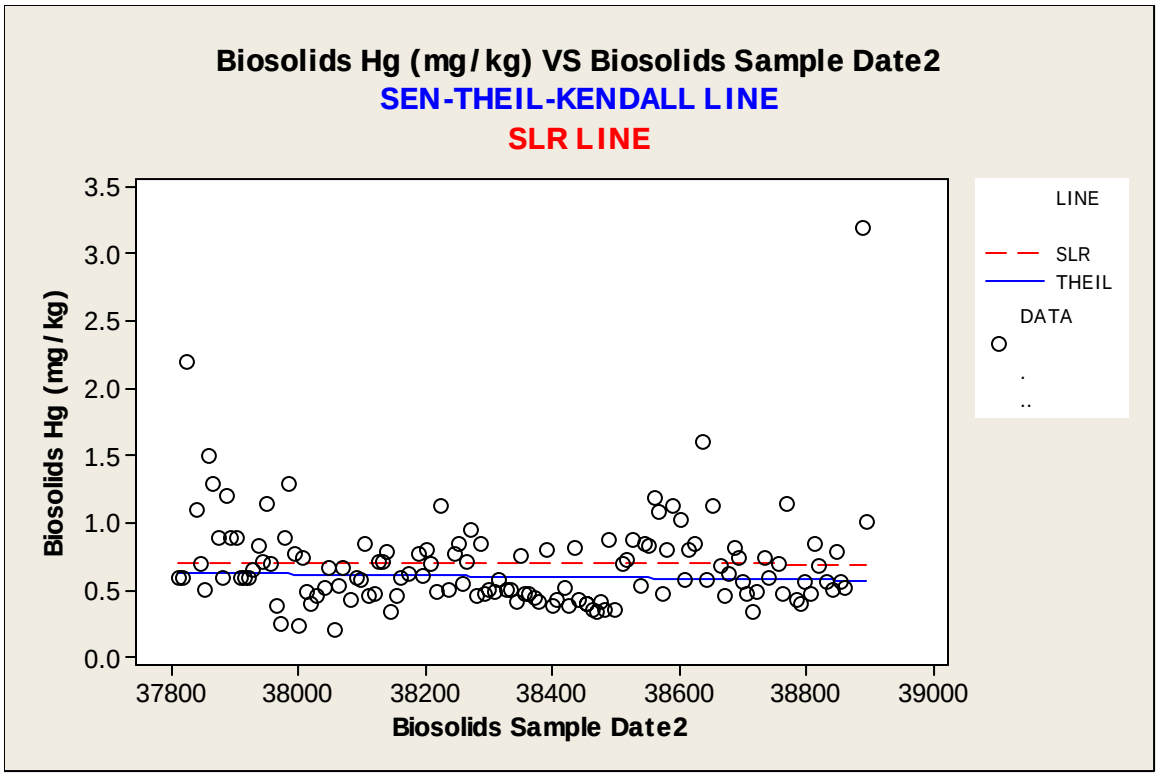
```
Row  CORRTYPE           CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.0590381  0.310532
  2  KENDALL'S TAU_B  -0.0593407  0.310532
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_    UPPER95
  1   2.60760  -0.0001955  -0.0000524  0.0000680

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Eff TR Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean  StDev  Minimum     Q1  Median
Inf TSS (mg/L)    36   0  108.47     8.16  48.99    54.00  77.75   97.00
Eff TR Hg (ng/L)  36   0   2.484    0.127  0.760    0.509  1.985   2.385

Variable             Q3  Maximum
Inf TSS (mg/L)   119.00   291.00
Eff TR Hg (ng/L)  2.965    4.520
```

Data Display

```
S_TAU     -95.0000
VAR_S     5383.00
Z_S       -1.28120
```

Data Display

```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.150794  0.200125
  2  KENDALL'S TAU_B  -0.151638  0.200125
```

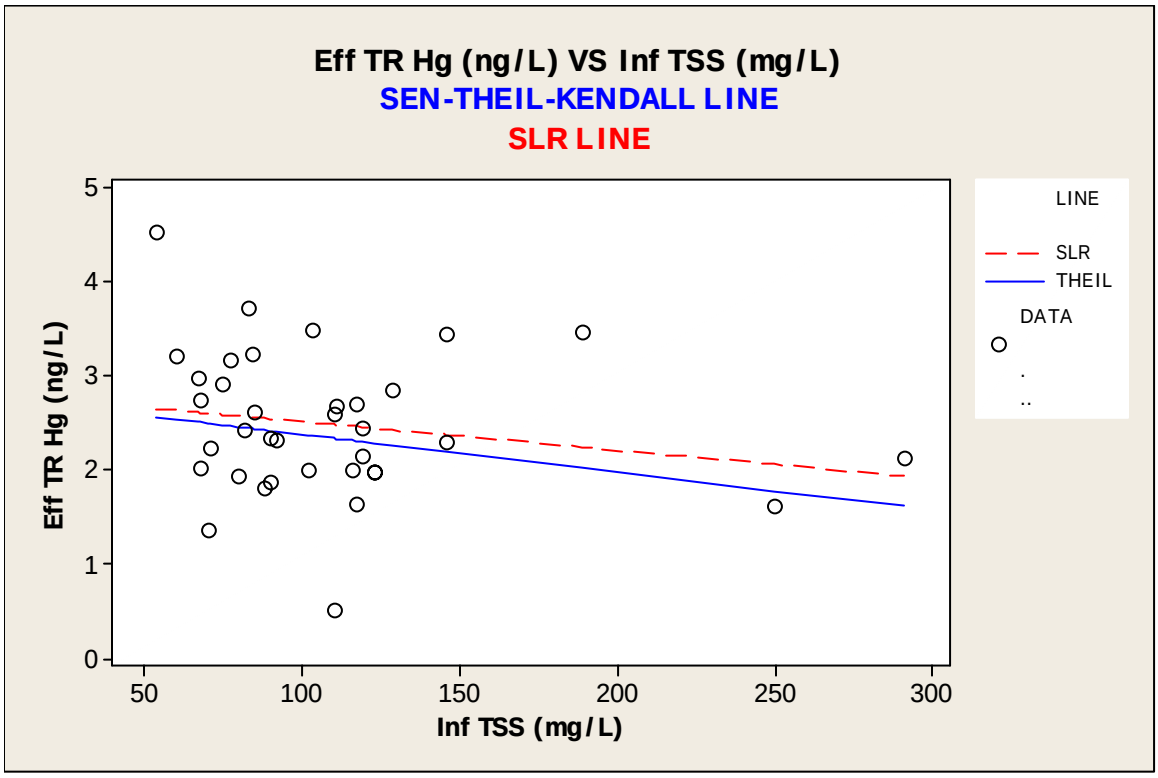
Data Display

```
Row  INTRCPT_  LOWER95      SLOPE_    UPPER95
```

```
  1   2.77113   -0.011  -0.0039807  0.0026744

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean   StDev  Minimum      Q1  Median
Inf TSS (mg/L)    36   0  108.47     8.16   48.99    54.00   77.75   97.00
Eff Dissolved Hg  36   0  0.9920   0.0309  0.1852   0.4150  0.8680  0.9715

Variable              Q3  Maximum
Inf TSS (mg/L)    119.00   291.00
Eff Dissolved Hg  1.0675   1.3800
```

Data Display

```
S_TAU    103.000
VAR_S    5376.40
Z_S      1.39109
```

Data Display

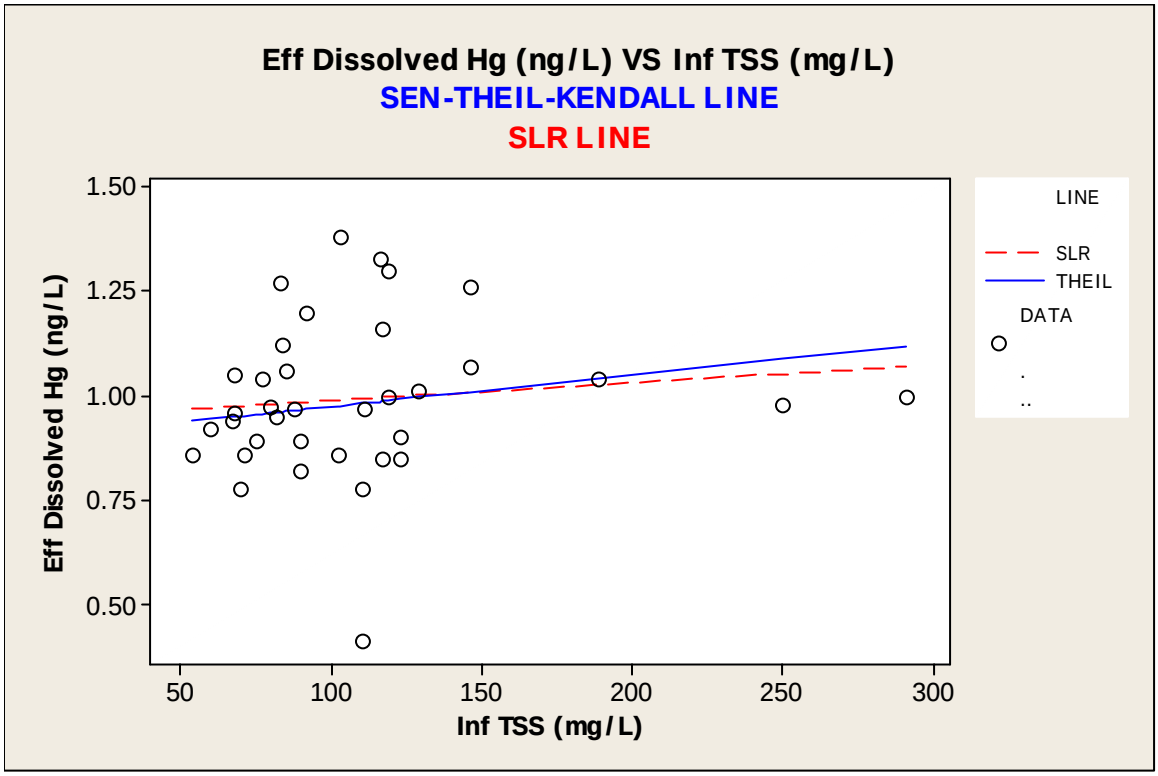
```
Row  CORRTYPE         CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.163492  0.164199
  2  KENDALL'S TAU_B  0.165197  0.164199
```

Data Display

```
Row  INTRCPT_     LOWER95     SLOPE_  UPPER95
  1  0.897570  -0.0002242  0.0007622   0.0025

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c7 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Turbidity (NTU), Eff TSS (mg/L)

```
Variable          N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff Turbidity (N  33   3  2.852    0.164  0.943    1.260  2.080   2.890  3.390
Eff TSS (mg/L)    36   0  4.289    0.243  1.461    1.800  3.225   4.000  5.000

Variable          Maximum
Eff Turbidity (N    5.460
Eff TSS (mg/L)      8.000
```

Data Display

```
S_TAU    204.000
VAR_S    3978.15
Z_S      3.21851
```

Data Display

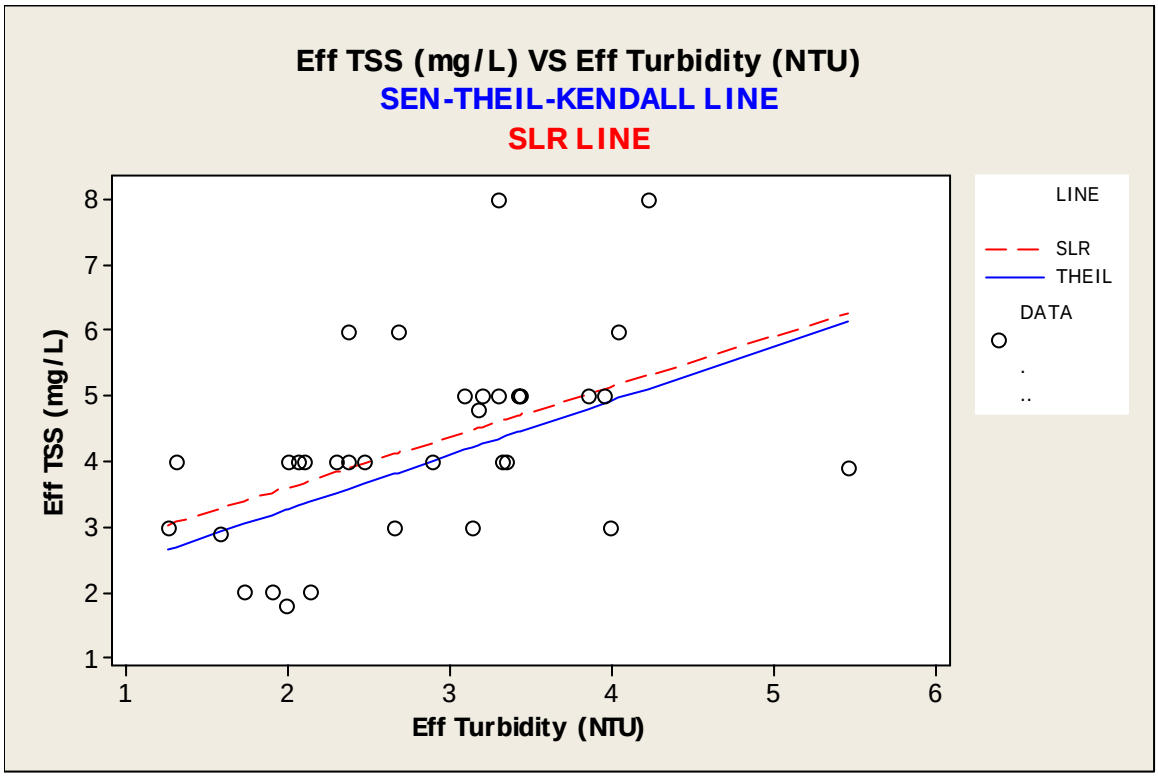
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.386364	0.0012886
2	KENDALL'S TAU_B	0.419374	0.0012886

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	1.60162	0	0.829890	1.33333

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT



Results for: POTW D

```
MTB > %ktau c2 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Inf TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      34   0  38373     51.9    303    37881  38105   38374  38636
Inf TR Hg  (ng/L  34   0  181.7     21.3  124.0     14.0  100.0   155.0  230.0

Variable          Maximum
Sample Date2        38875
Inf TR Hg  (ng/L    620.0
```

Data Display

```
S_TAU    -180.000
VAR_S    4529.33
Z_S      -2.65972
```

Data Display

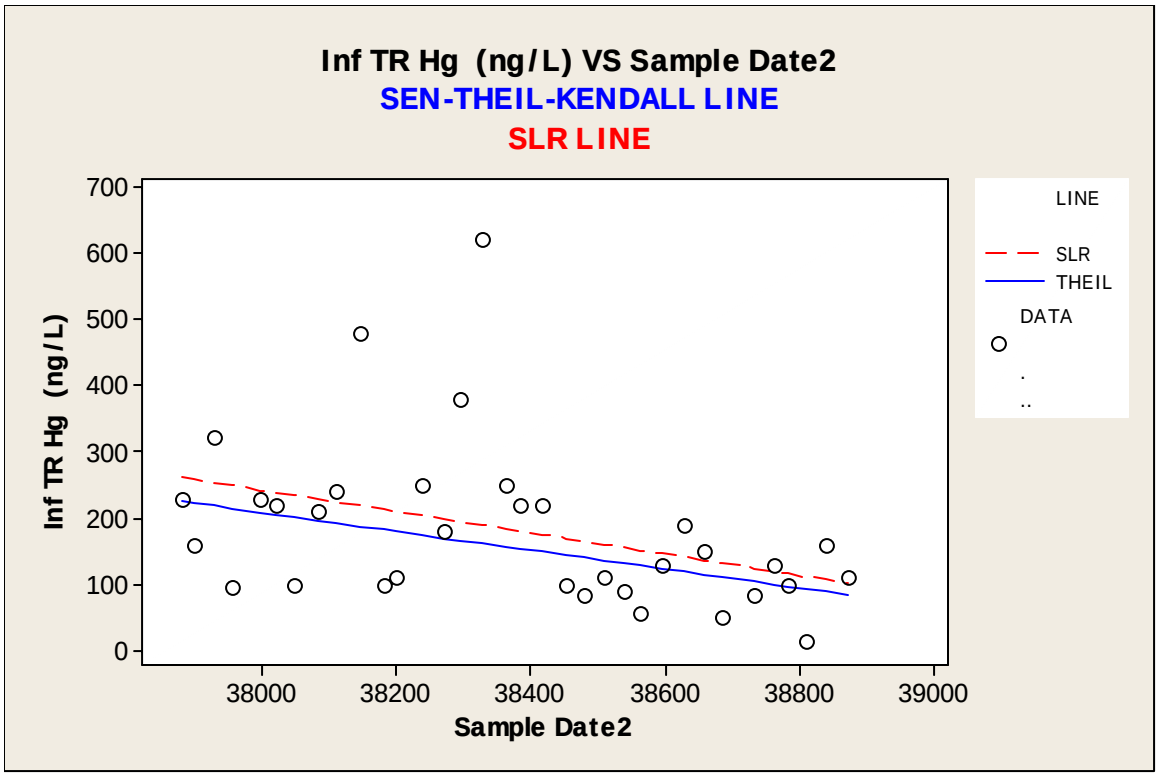
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  -0.320856  0.0078206
  2  KENDALL'S TAU_B  -0.325830  0.0078206
```

Data Display

```
Row  INTRCPT_    LOWER95     SLOPE_     UPPER95
  1   5598.12  -0.237467  -0.141844  -0.0352113

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c4
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Inf TSS (mg/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Sample Date2	34	0	38373	51.9	303	37881	38105	38374	38636	38875
Inf TSS (mg/L)	33	1	282.5	21.0	120.6	64.0	215.0	270.0	340.0	650.0

Data Display

S_TAU	-80.0000
VAR_S	4156.67
Z_S	-1.22533

Data Display

Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	-0.151515	0.220449
2	KENDALL'S TAU_B	-0.152676	0.220449

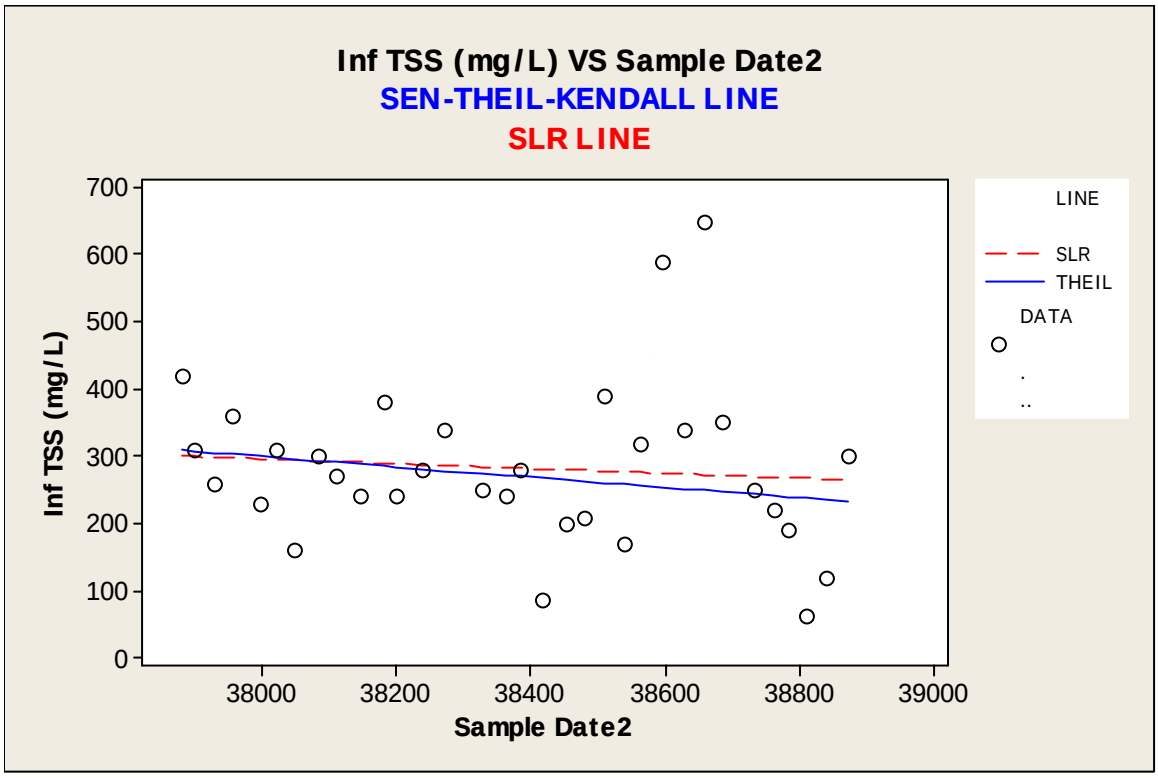
Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95

```
  1   3222.62  -0.201913  -0.0769233  0.0440529

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      34   0  38373     51.9    303    37881  38105   38374  38636
Eff TR Hg (ng/L)  34   0  2.171    0.165  0.962    1.100  1.575   1.850  2.500

Variable          Maximum
Sample Date2        38875
Eff TR Hg (ng/L)    5.500
```

Data Display

```
S_TAU     -92.0000
VAR_S     4514.67
Z_S       -1.35434
```

Data Display

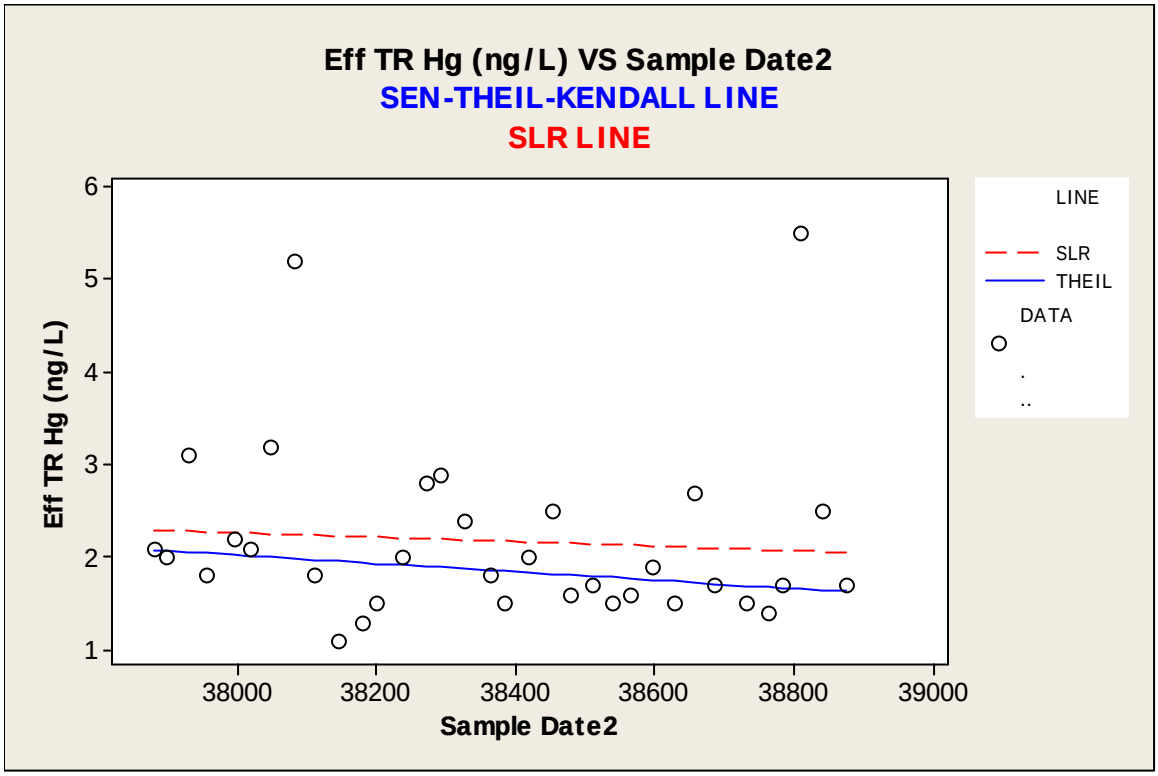
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.163993  0.175627
  2  KENDALL'S TAU_B  -0.167774  0.175627
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_     UPPER95
  1   19.0068  -0.0009885  -0.0004471  0.0003226

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff TSS (mg/L)

```
Variable         N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2    34   0  38373     51.9    303    37881  38105   38374  38636
Eff TSS (mg/L)  32   2  6.969    0.801  4.533    2.000  4.650   5.800  7.300

Variable        Maximum
Sample Date2      38875
Eff TSS (mg/L)   22.000
```

Data Display

```
S_TAU    22.0000
VAR_S    3796.00
Z_S      0.340844
```

Data Display

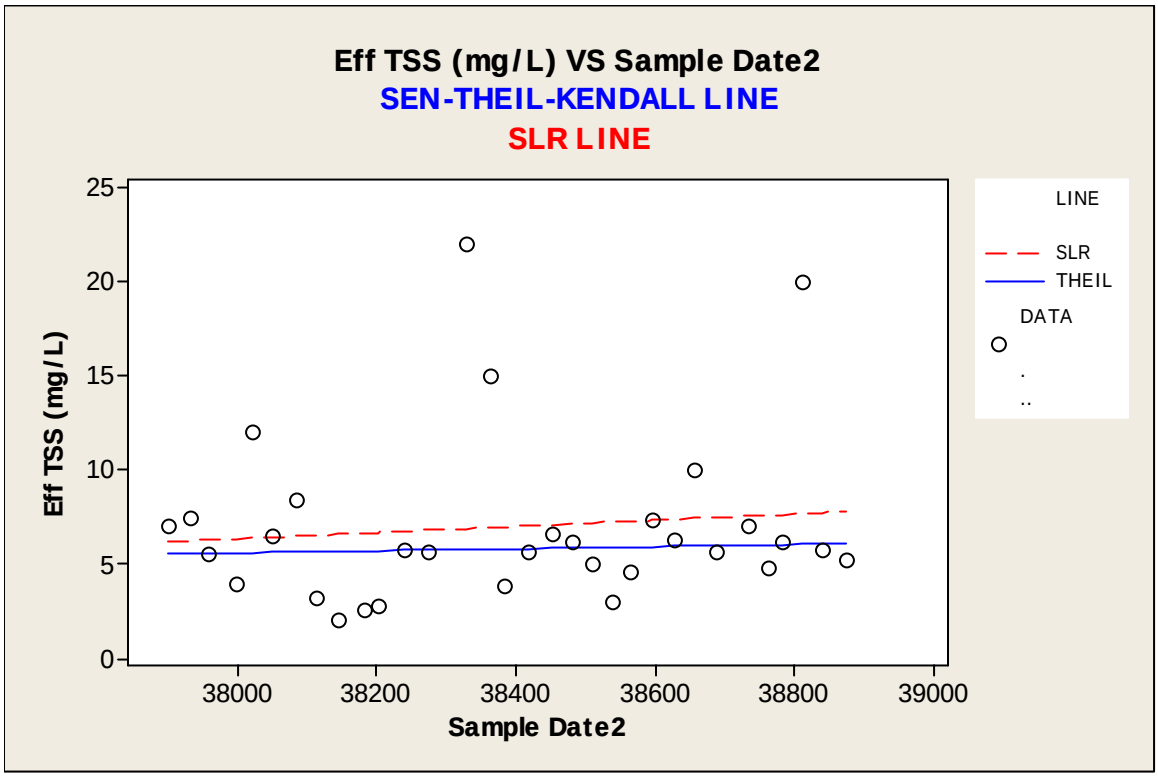
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.0443548  0.733221
  2  KENDALL'S TAU_B  0.0446256  0.733221
```

Data Display

```
Row  INTRCPT_     LOWER95     SLOPE_    UPPER95
  1  -15.7845  -0.0024339  0.0005621  0.0043836

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Inf TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf TSS (mg/L)    33   1  282.5     21.0  120.6     64.0  215.0   270.0  340.0
Inf TR Hg  (ng/L  34   0  181.7     21.3  124.0     14.0  100.0   155.0  230.0

Variable          Maximum
Inf TSS (mg/L)      650.0
Inf TR Hg  (ng/L    620.0
```

Data Display

```
S_TAU     9.00000
VAR_S     4135.92
Z_S       0.124395
```

Data Display

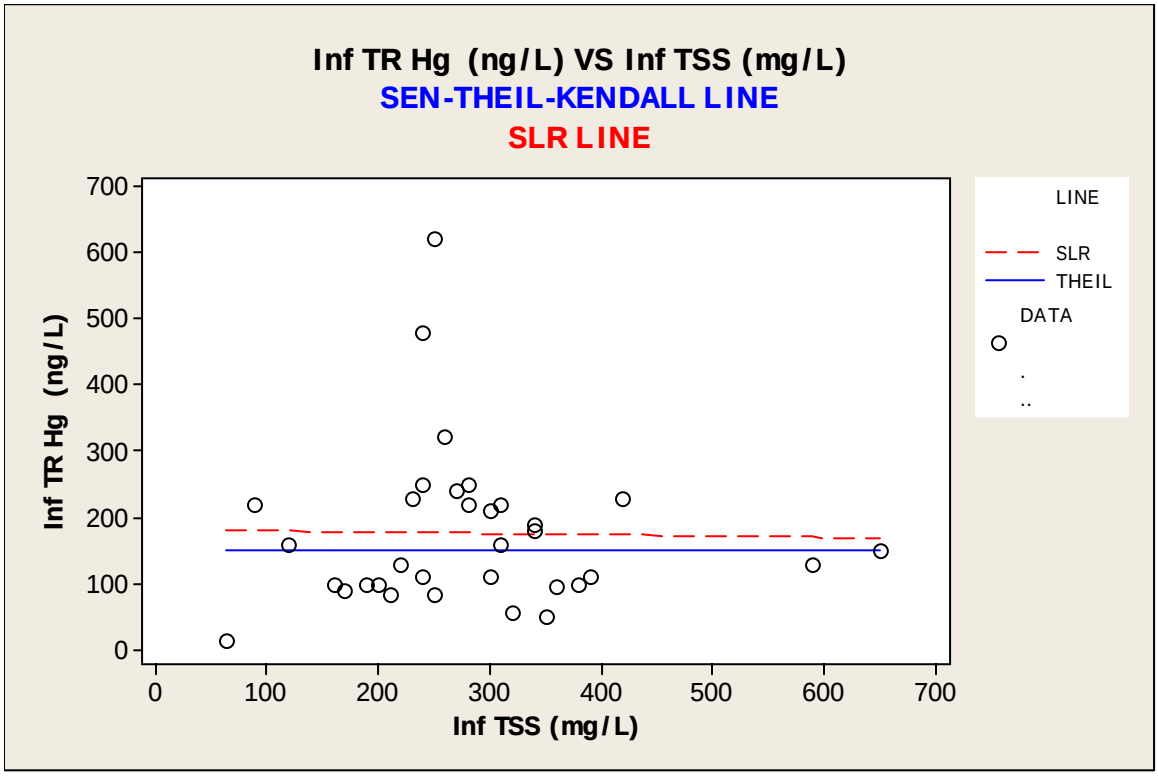
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.0170455  0.901002
  2  KENDALL'S TAU_B  0.0174594  0.901002
```

Data Display

```
Row  INTRCPT_  LOWER95  SLOPE_   UPPER95
  1       150  -0.2625       0  0.232082

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c3 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TR Hg (ng/L), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf TR Hg  (ng/L  34   0  181.7     21.3  124.0     14.0  100.0   155.0  230.0
Eff TR Hg (ng/L)  34   0  2.171    0.165  0.962    1.100  1.575   1.850  2.500

Variable          Maximum
```

```
Inf TR Hg  (ng/L    620.0
Eff TR Hg (ng/L)    5.500
```

Data Display

```
S_TAU    98.0000
VAR_S    4494.43
Z_S      1.44689
```

Data Display

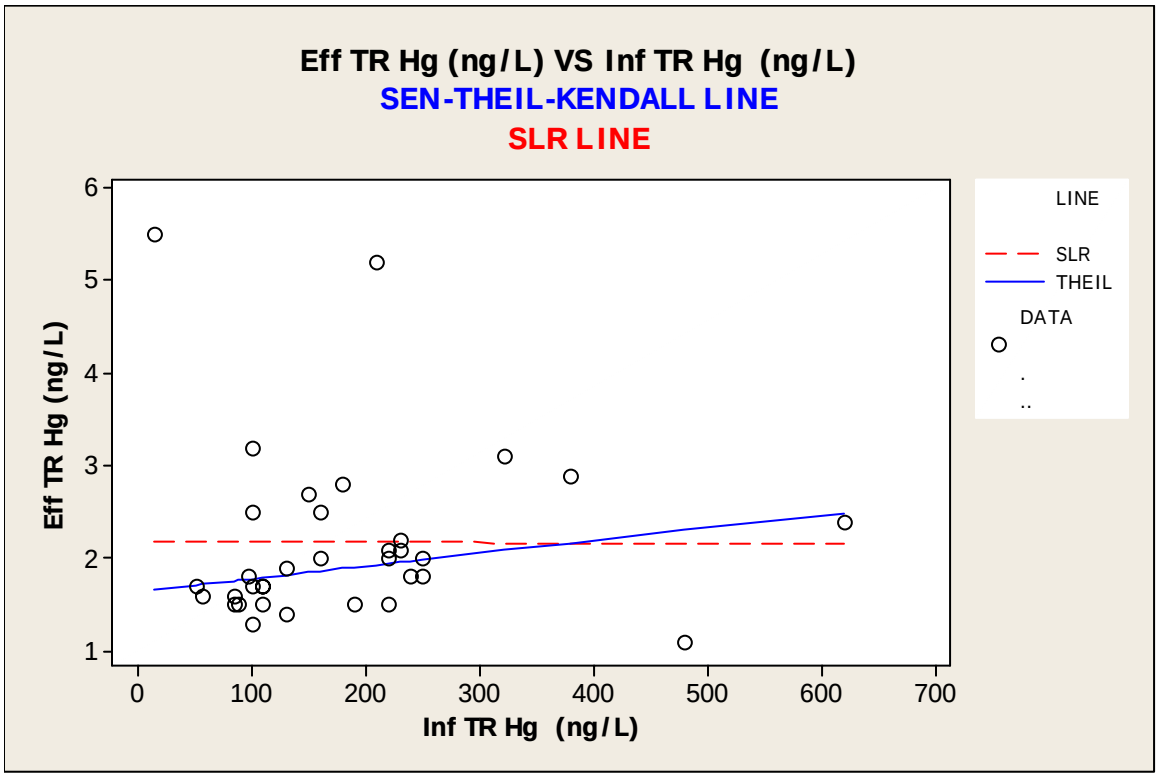
```
Row  CORRTYPE         CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.174688  0.147929
  2  KENDALL'S TAU_B  0.181486  0.147929
```

Data Display

```
Row  INTRCPT_  LOWER95     SLOPE_    UPPER95
  1   1.63725        0  0.0013725  0.0033333

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c6 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff TSS (mg/L)    32   2  6.969    0.801  4.533    2.000  4.650   5.800  7.300
Eff TR Hg (ng/L)  34   0  2.171    0.165  0.962    1.100  1.575   1.850  2.500

Variable          Maximum
Eff TSS (mg/L)     22.000
Eff TR Hg (ng/L)    5.500
```

Data Display

```
S_TAU    236.000
VAR_S    3761.63
Z_S      3.83160
```

Data Display

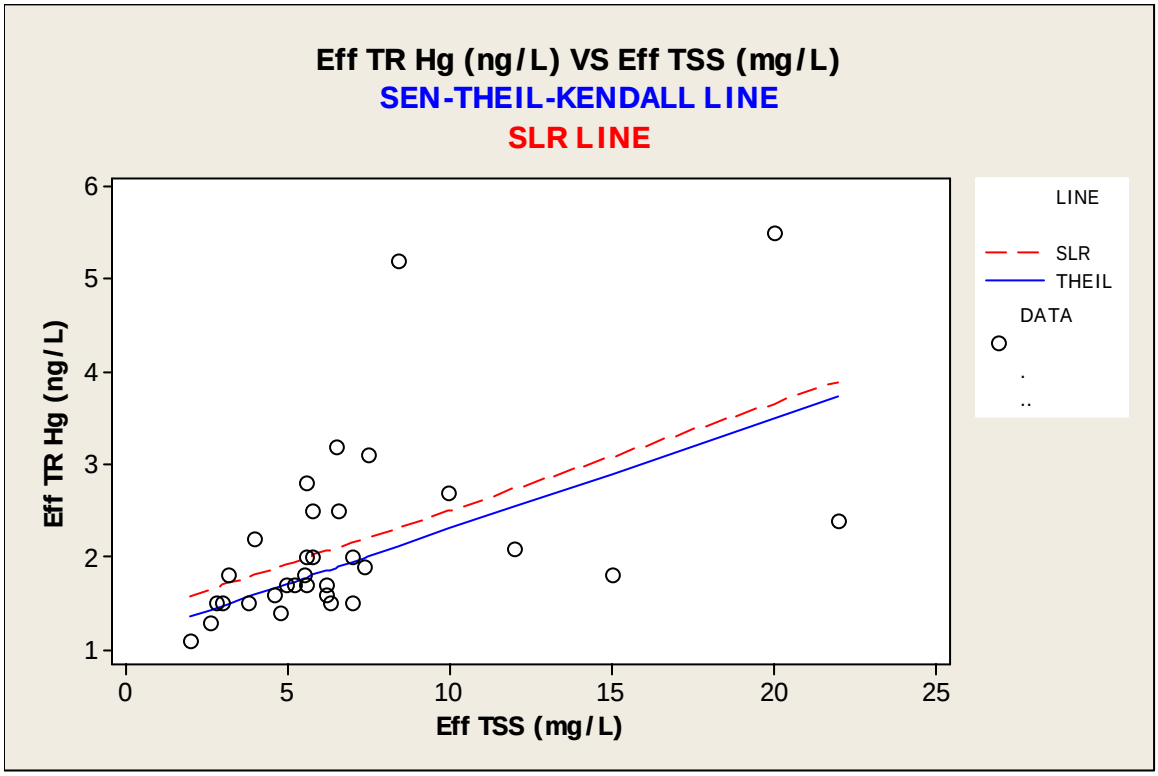
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A   0.475806  0.0001273
  2  KENDALL'S TAU_B   0.490730  0.0001273
```

Data Display

```
Row  INTRCPT_    LOWER95    SLOPE_   UPPER95
  1   1.10676  0.0476190  0.119524  0.220238

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



```
MTB > %ktau c8 c9
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Biosolids Sample Date2, Biosolids Hg (mg/kg)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Biosolids Sample  34   0  38360     52.4    305    37872  38103   38341  38637
Biosolids Hg (mg  34   0  1.348    0.109  0.636    0.035  0.800   1.200  2.000

Variable          Maximum
Biosolids Sample    38873
Biosolids Hg (mg    2.700
```

Data Display

```
S_TAU    8.00000
VAR_S    4502.00
Z_S      0.104327
```

Data Display

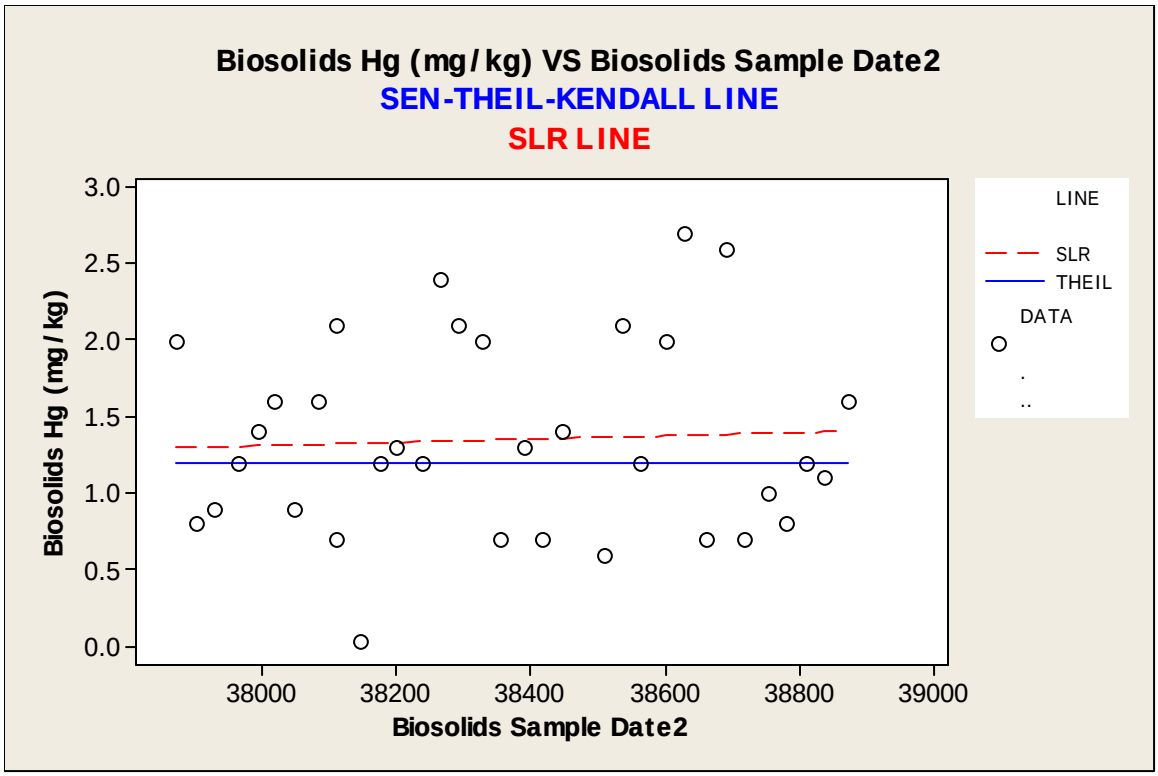
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.0142602  0.916910
  2  KENDALL'S TAU_B  0.0146991  0.916910
```

Data Display

```
Row  INTRCPT_     LOWER95  SLOPE_    UPPER95
  1       1.2  -0.0005510       0  0.0008929

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Eff TR Hg (ng/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Inf TSS (mg/L)	33	1	282.5	21.0	120.6	64.0	215.0	270.0	340.0	650.0
Eff TR Hg (ng/L)	34	0	2.171	0.165	0.962	1.100	1.575	1.850	2.500	5.500

Data Display

S_TAU	-29.0000
VAR_S	4121.38
Z_S	-0.436151

Data Display

Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	-0.0549242	0.662727
2	KENDALL'S TAU_B	-0.0567038	0.662727

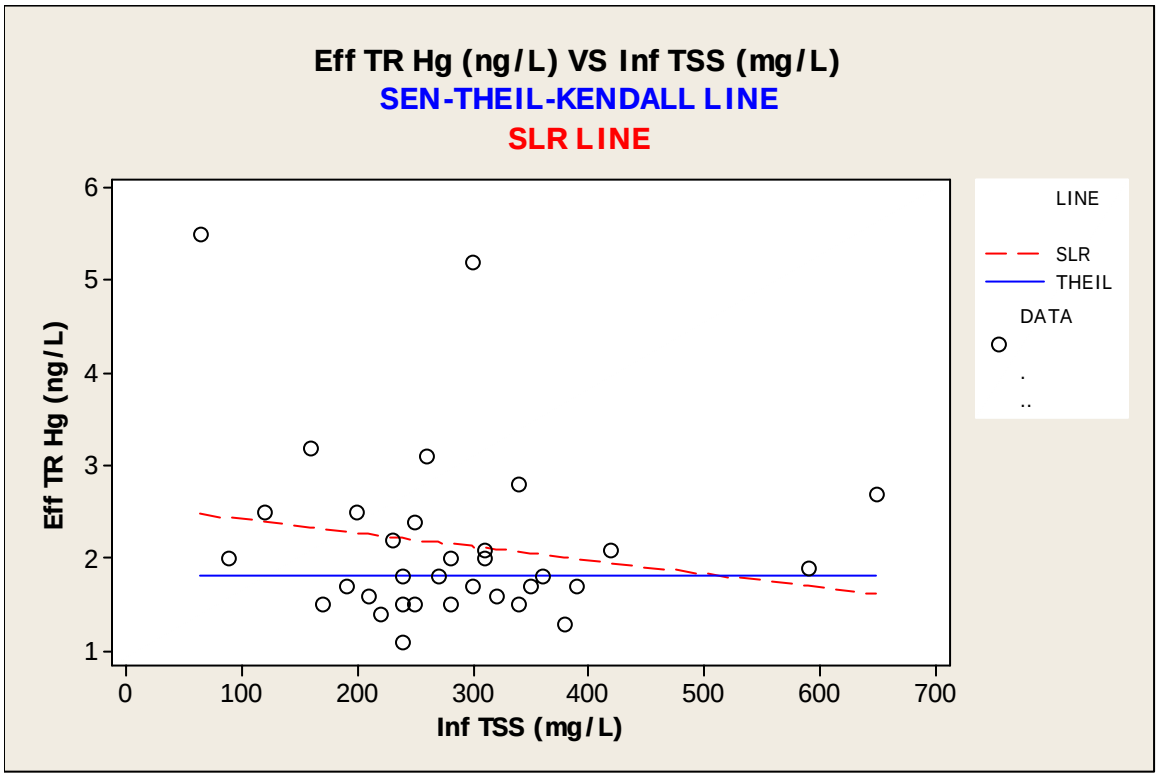
Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95

```
 1       1.8    -0.003       0  0.0013333

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



Results for: POTW E

```
MTB > %ktau c2 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Inf TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      34   0  38373     51.9    303    37881  38105   38374  38636
Inf TR Hg  (ng/L  32   2  101.9     11.9   67.6     24.0   64.5    84.5  117.5

Variable          Maximum
Sample Date2        38875
Inf TR Hg  (ng/L    370.0
```

Data Display

```
S_TAU    20.0000
VAR_S    3794.00
Z_S      0.308464
```

Data Display

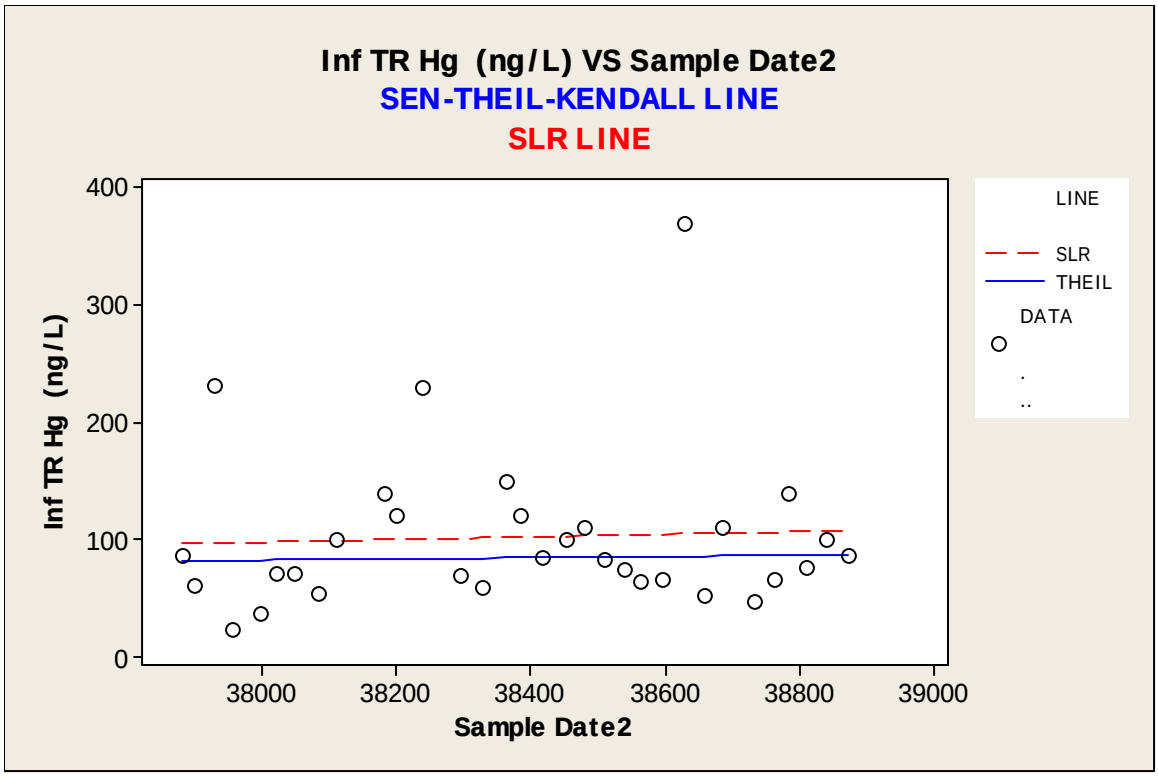
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.0403226  0.757729
  2  KENDALL'S TAU_B  0.0406518  0.757729
```

Data Display

```
Row  INTRCPT_     LOWER95     SLOPE_    UPPER95
  1  -113.508  -0.0411622  0.0051563  0.0558723

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c4
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Inf TSS (mg/L)

```
Variable         N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2    34   0  38373     51.9    303    37881  38105   38374  38636
Inf TSS (mg/L)  33   1  266.9     15.9   91.4     26.0  220.0   260.0  330.0

Variable        Maximum
Sample Date2      38875
Inf TSS (mg/L)    440.0
```

Data Display

```
S_TAU    -10.0000
VAR_S    4145.33
Z_S      -0.139786
```

Data Display

```
Row  CORRTYPE           CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.0189394  0.888829
  2  KENDALL'S TAU_B  -0.0192330  0.888829
```

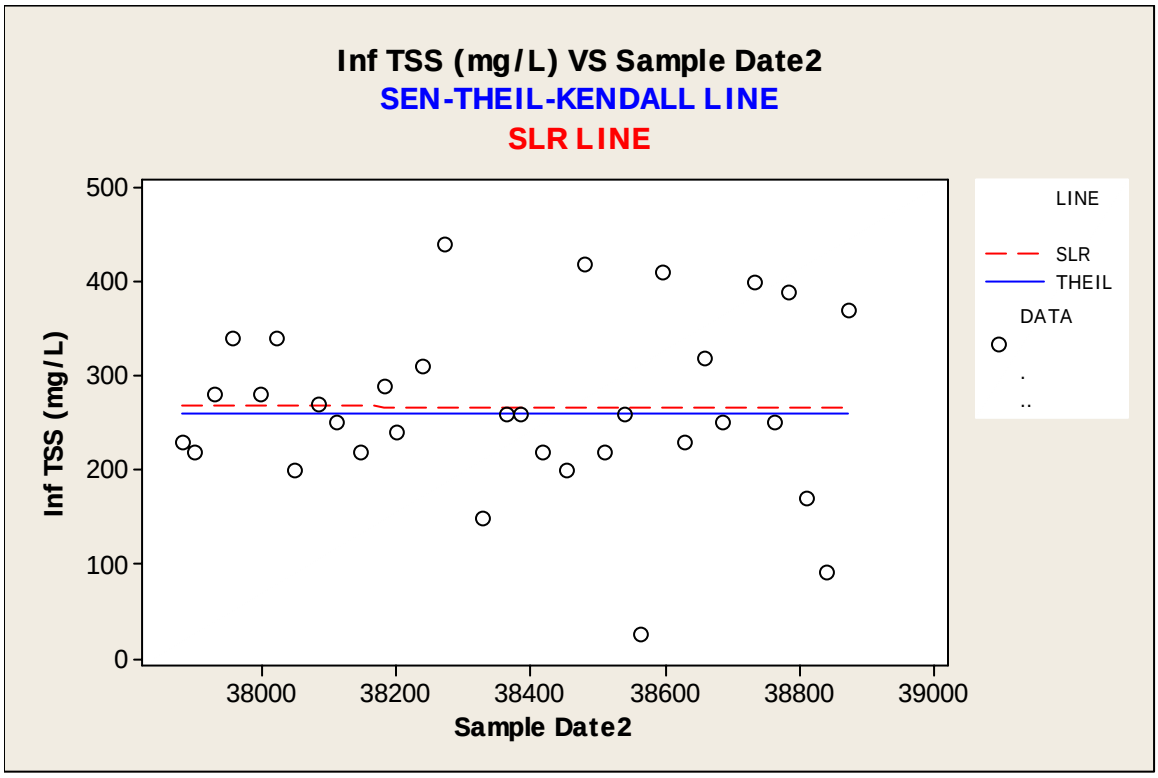
Data Display

```
Row  INTRCPT_    LOWER95  SLOPE_   UPPER95
```

```
  1       260  -0.113060       0  0.109290

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      34   0  38373     51.9    303    37881  38105   38374  38636
Eff TR Hg (ng/L)  34   0  2.076    0.117  0.684    1.200  1.475   1.950  2.525

Variable          Maximum
Sample Date2        38875
Eff TR Hg (ng/L)    3.700
```

Data Display

```
S_TAU     -57.0000
VAR_S     4515.67
Z_S       -0.833349
```

Data Display

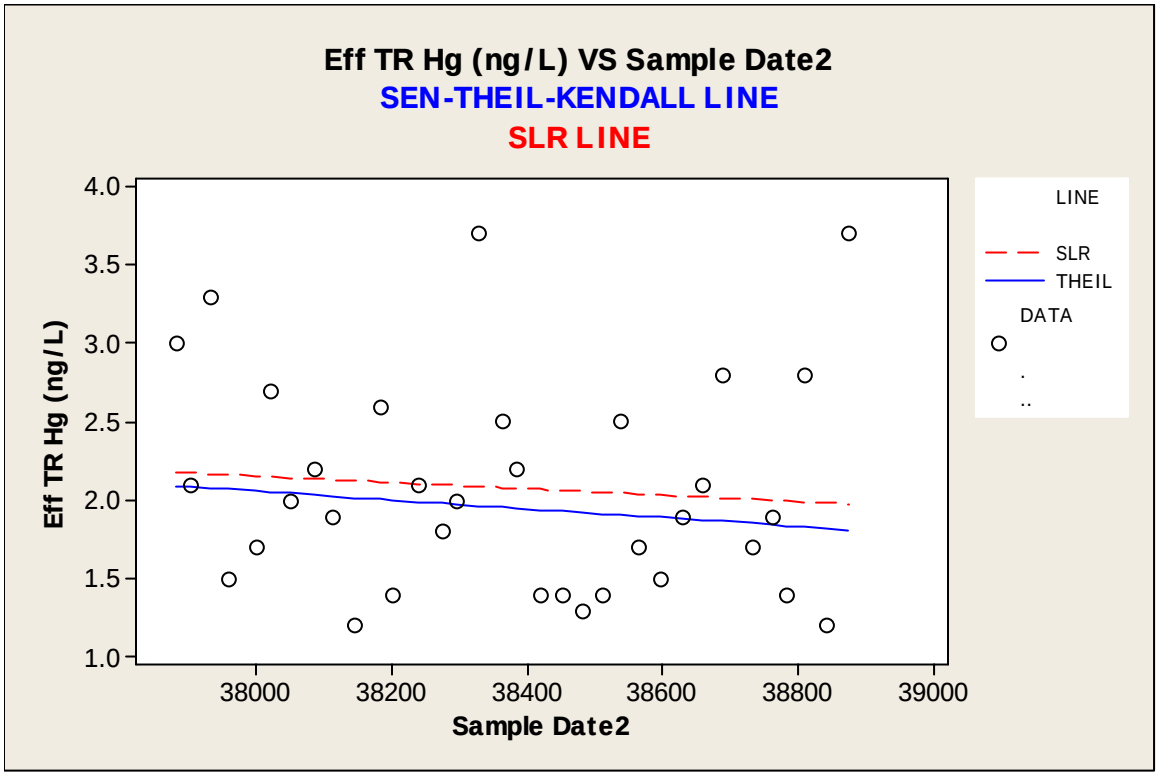
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.101604  0.404648
  2  KENDALL'S TAU_B  -0.104044  0.404648
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_     UPPER95
  1   12.6990  -0.0011429  -0.0002801  0.0005495

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff TSS (mg/L)

```
Variable         N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2    34   0  38373     51.9    303    37881  38105   38374  38636
Eff TSS (mg/L)  33   1  6.097    0.362  2.079    2.000  5.300   5.600  7.200

Variable        Maximum
Sample Date2      38875
Eff TSS (mg/L)   11.000
```

Data Display

```
S_TAU    92.0000
VAR_S    4141.33
Z_S      1.41407
```

Data Display

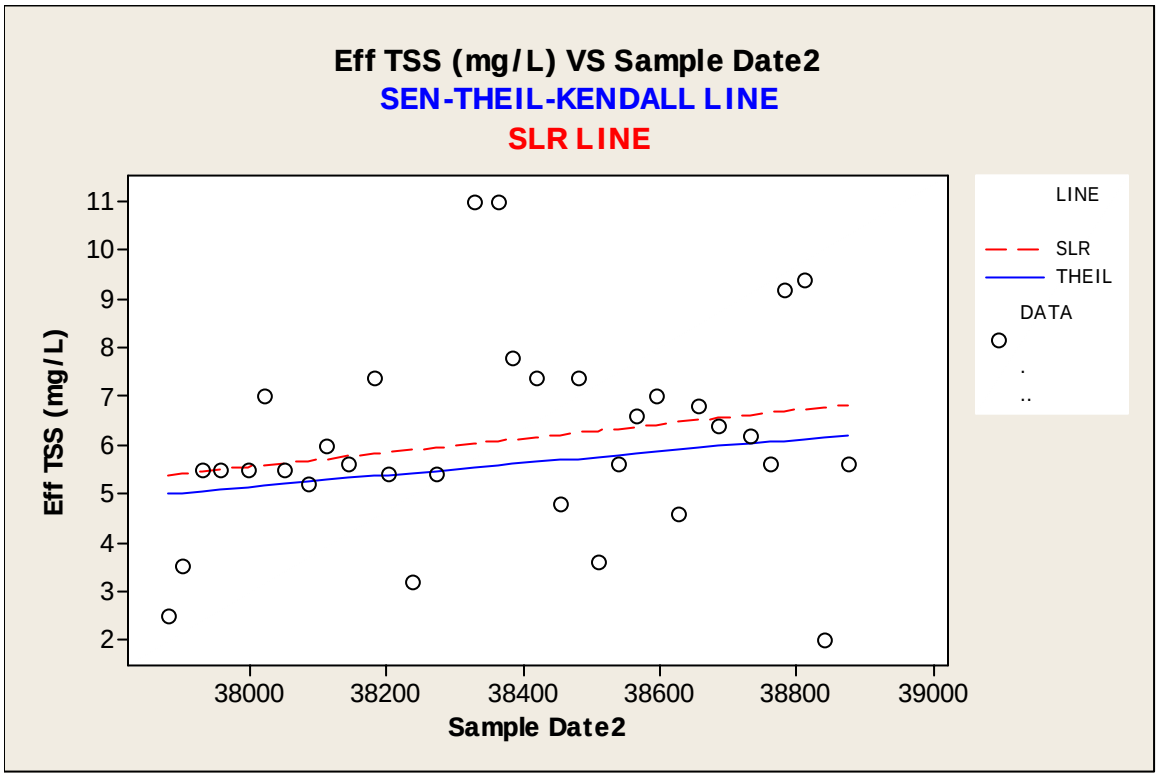
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A   0.174242   0.157341
  2  KENDALL'S TAU_B   0.177291   0.157341
```

Data Display

```
Row  INTRCPT_      LOWER95      SLOPE_     UPPER95
  1  -40.8788   -0.0005208   0.0012109   0.0036364

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Inf TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf TSS (mg/L)    33   1  266.9     15.9   91.4     26.0  220.0   260.0  330.0
Inf TR Hg  (ng/L  32   2  101.9     11.9   67.6     24.0   64.5    84.5  117.5

Variable          Maximum
Inf TSS (mg/L)      440.0
Inf TR Hg  (ng/L    370.0
```

Data Display

```
S_TAU     12.0000
VAR_S     3438.22
Z_S       0.187597
```

Data Display

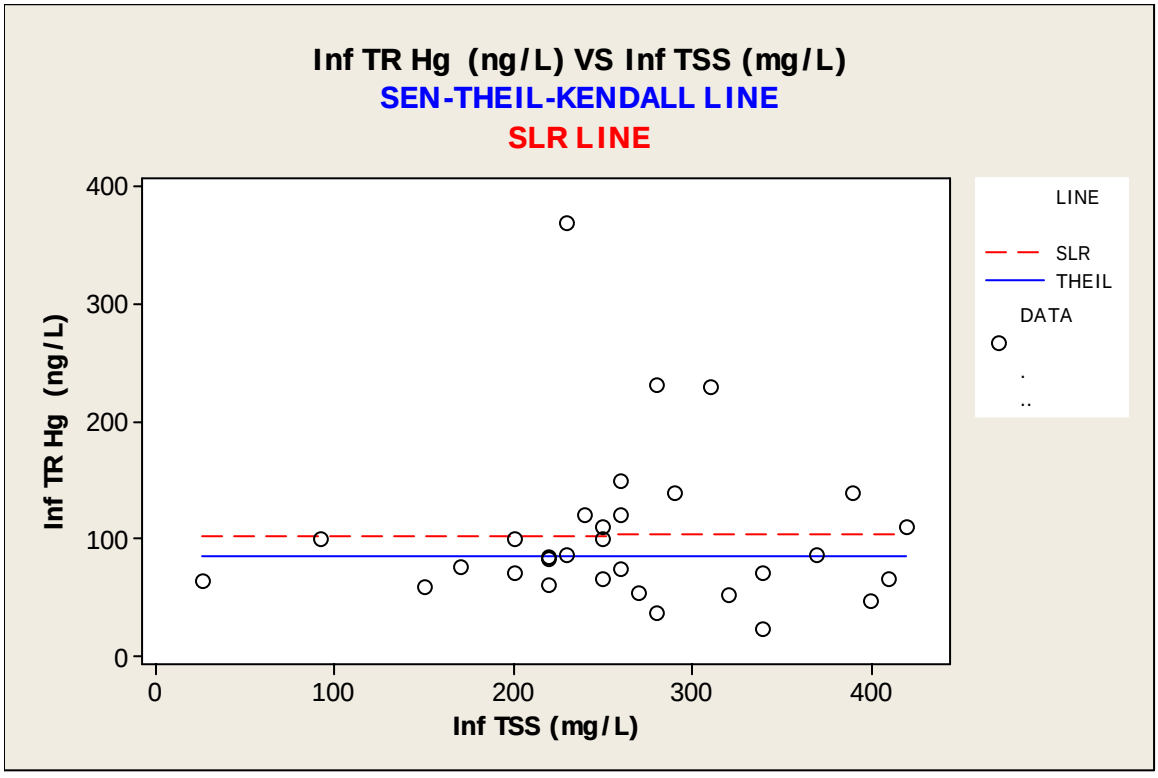
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.0258065  0.851193
  2  KENDALL'S TAU_B  0.0264030  0.851193
```

Data Display

```
Row  INTRCPT_    LOWER95  SLOPE_  UPPER95
  1        85  -0.126087       0      0.2

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c3 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TR Hg (ng/L), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf TR Hg  (ng/L  32   2  101.9     11.9   67.6     24.0   64.5    84.5  117.5
Eff TR Hg (ng/L)  34   0  2.076    0.117  0.684    1.200  1.475   1.950  2.525

Variable          Maximum
```

```
Inf TR Hg  (ng/L    370.0
Eff TR Hg (ng/L)    3.700
```

Data Display

```
S_TAU    21.0000
VAR_S    3760.74
Z_S      0.326132
```

Data Display

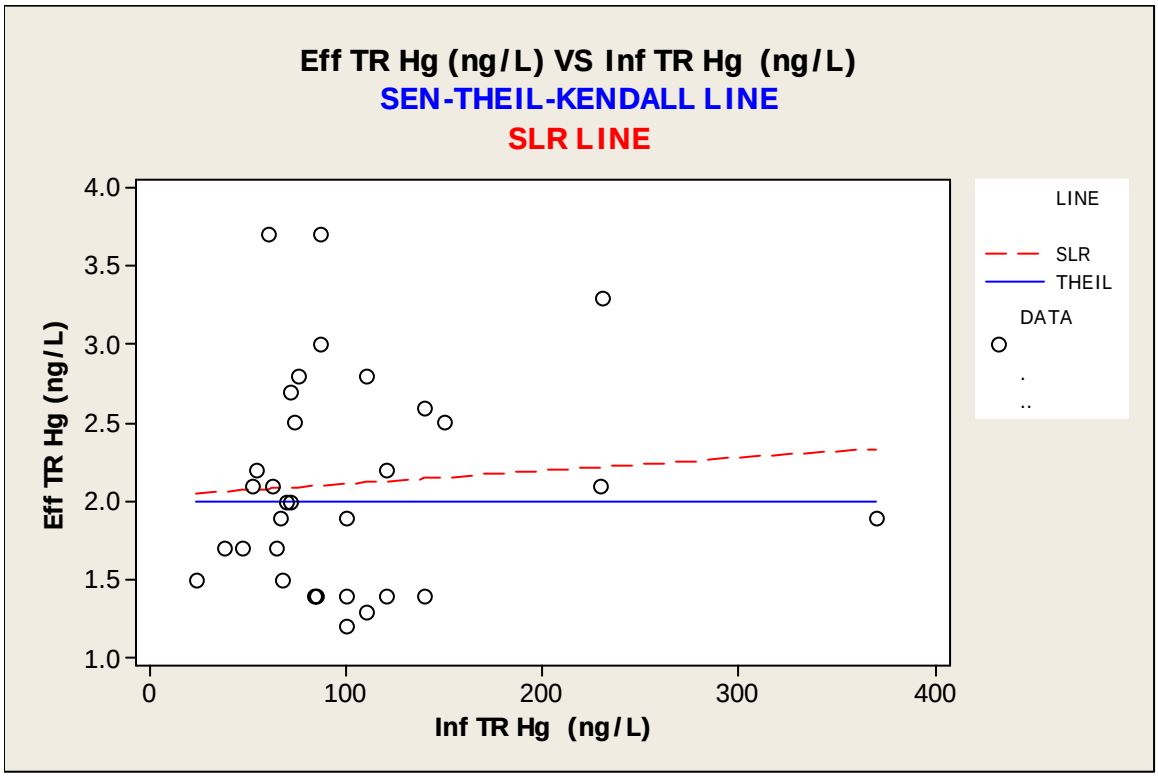
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.0423387  0.744324
  2  KENDALL'S TAU_B  0.0438025  0.744324
```

Data Display

```
Row  INTRCPT_     LOWER95  SLOPE_    UPPER95
  1         2  -0.0035714       0  0.0066667

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c6 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff TSS (mg/L)    33   1  6.097    0.362  2.079    2.000  5.300   5.600  7.200
Eff TR Hg (ng/L)  34   0  2.076    0.117  0.684    1.200  1.475   1.950  2.525

Variable          Maximum
Eff TSS (mg/L)     11.000
Eff TR Hg (ng/L)    3.700
```

Data Display

```
S_TAU    65.0000
VAR_S    4108.53
Z_S      0.998474
```

Data Display

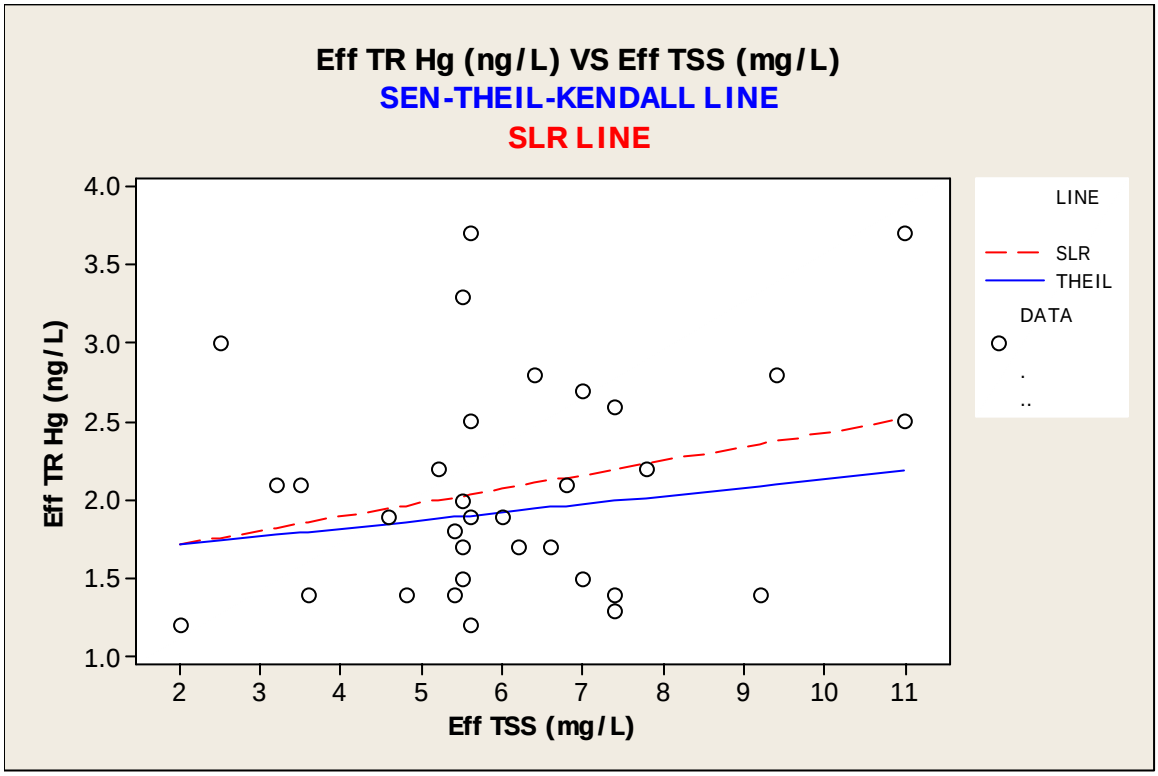
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A   0.123106   0.318050
  2  KENDALL'S TAU_B   0.128335   0.318050
```

Data Display

```
Row  INTRCPT_  LOWER95     SLOPE_   UPPER95
  1   1.60780    -0.05  0.0521779  0.181818

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



```
MTB > %ktau c8 c9
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Biosolids Sample Date2, Biosolids Hg (mg/kg)

```
Variable           N  N*    Mean  SE Mean   StDev  Minimum      Q1  Median
Biosolids Sample  34   0   38373     52.5     306    37871   38105   38372
Biosolids Hg (mg  34   0  0.3303   0.0164  0.0954   0.1300  0.2575  0.3200

Variable             Q3  Maximum
Biosolids Sample   38636    38886
Biosolids Hg (mg  0.3925   0.6000
```

Data Display

```
S_TAU    -91.0000
VAR_S    4533.67
Z_S      -1.33665
```

Data Display

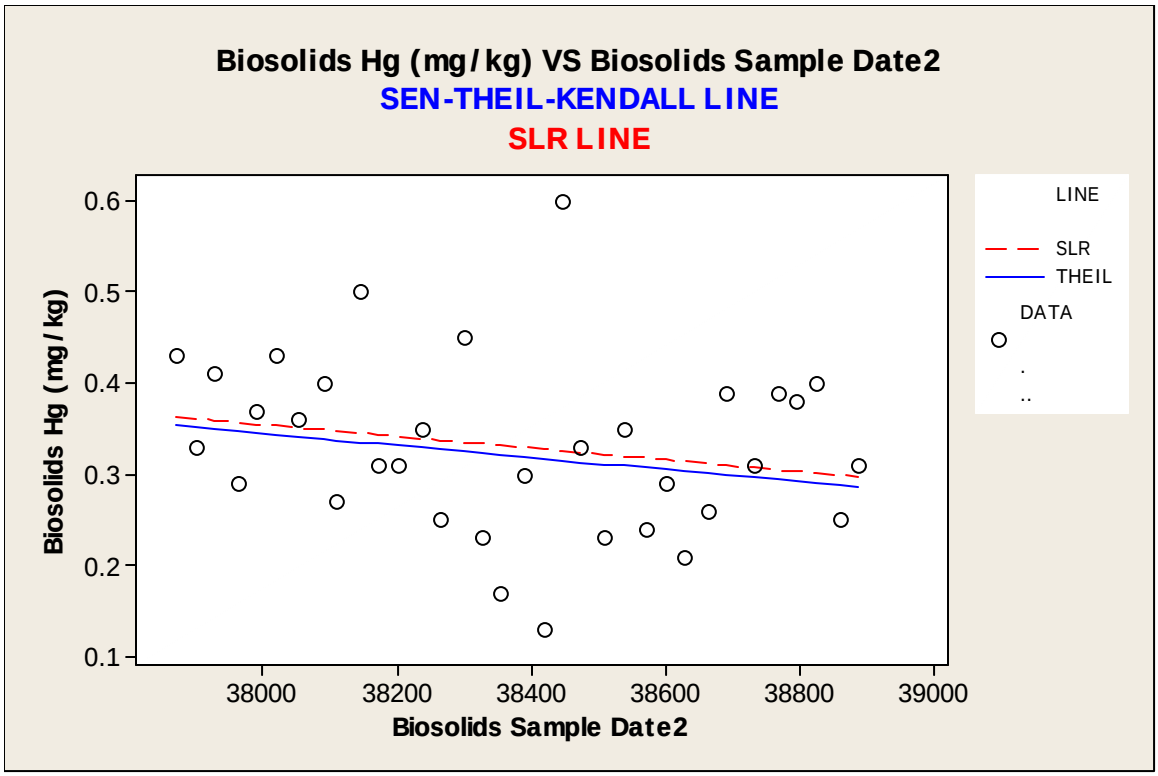
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.162210  0.181337
  2  KENDALL'S TAU_B  -0.164273  0.181337
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_    UPPER95
  1   2.86960  -0.0001681  -0.0000664  0.0000376

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Eff TR Hg (ng/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Inf TSS (mg/L)	33	1	266.9	15.9	91.4	26.0	220.0	260.0	330.0	440.0
Eff TR Hg (ng/L)	34	0	2.076	0.117	0.684	1.200	1.475	1.950	2.525	3.700

Data Display

S_TAU	14.0000
VAR_S	4112.43
Z_S	0.202719

Data Display

Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.0265152	0.839355
2	KENDALL'S TAU_B	0.0275873	0.839355

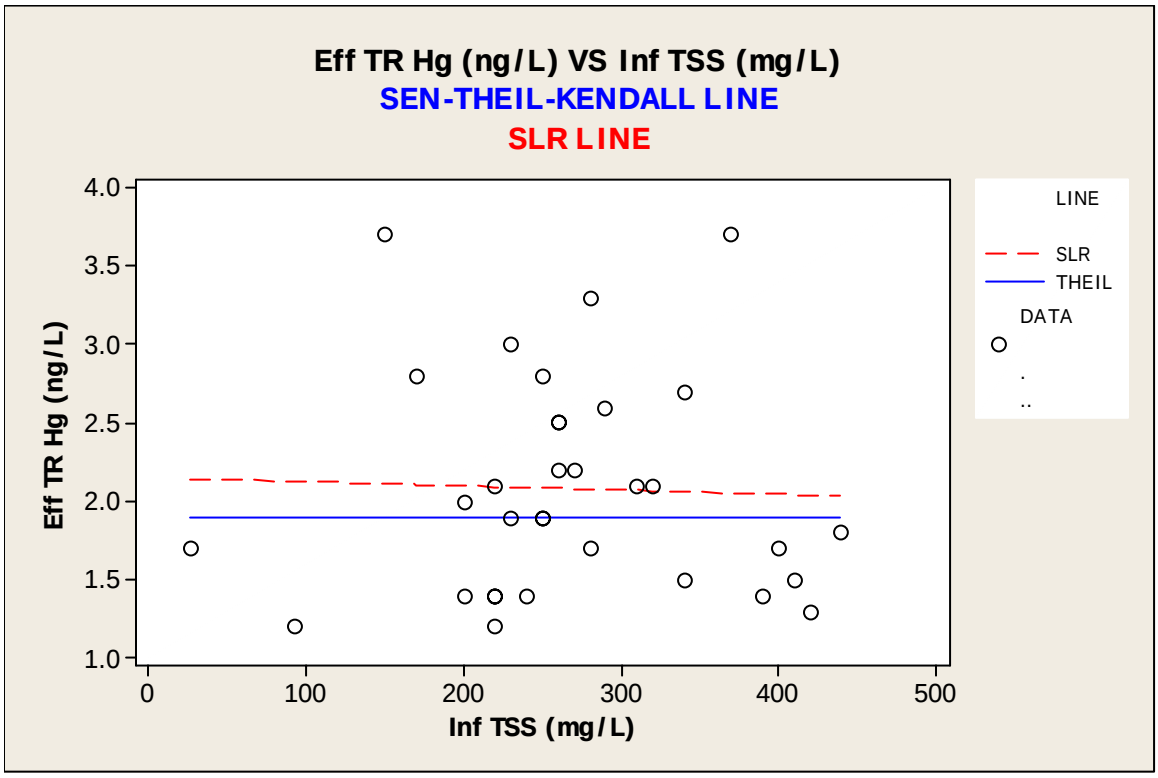
Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95

```
 1       1.9   -0.0025        0   0.0026596

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



Results for: POTW F

```
MTB > %ktau c2 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf Sample Date2, Inf TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf Sample Date2  28   0  38463     47.4    251    38048  38245   38461  38684
Inf TR Hg  (ng/L  28   0  180.1     11.3   60.0     74.7  136.0   168.5  212.5

Variable          Maximum
Inf Sample Date2    38881
Inf TR Hg  (ng/L    319.0
```

Data Display

```
S_TAU    -175.000
VAR_S    2559.00
Z_S      -3.43965
```

Data Display

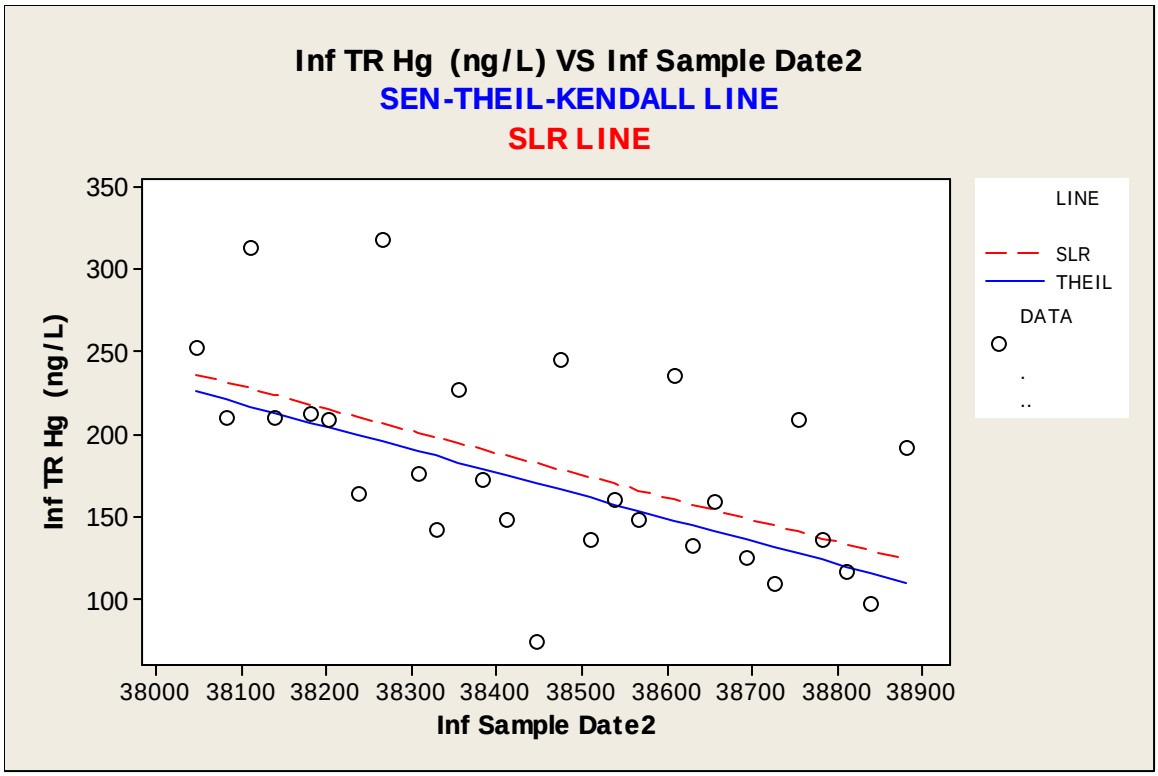
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  -0.462963  0.0005825
  2  KENDALL'S TAU_B  -0.464811  0.0005825
```

Data Display

```
Row  INTRCPT_    LOWER95     SLOPE_     UPPER95
  1   5509.52  -0.196081  -0.138869  -0.0737327

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c4
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf Sample Date2, Inf TSS (mg/L)

```
Variable           N  N*    Mean  SE Mean  StDev  Minimum      Q1  Median
Inf Sample Date2  28   0   38463     47.4    251    38048   38245   38461
Inf TSS (mg/L)    27   1  253.96     5.03  26.13   226.00  235.00  248.00

Variable              Q3  Maximum
Inf Sample Date2   38684    38881
Inf TSS (mg/L)    265.00   350.00
```

Data Display

```
S_TAU     -153.000
VAR_S     2295.00
Z_S       -3.17287
```

Data Display

```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  -0.435897  0.0015094
  2  KENDALL'S TAU_B  -0.439672  0.0015094
```

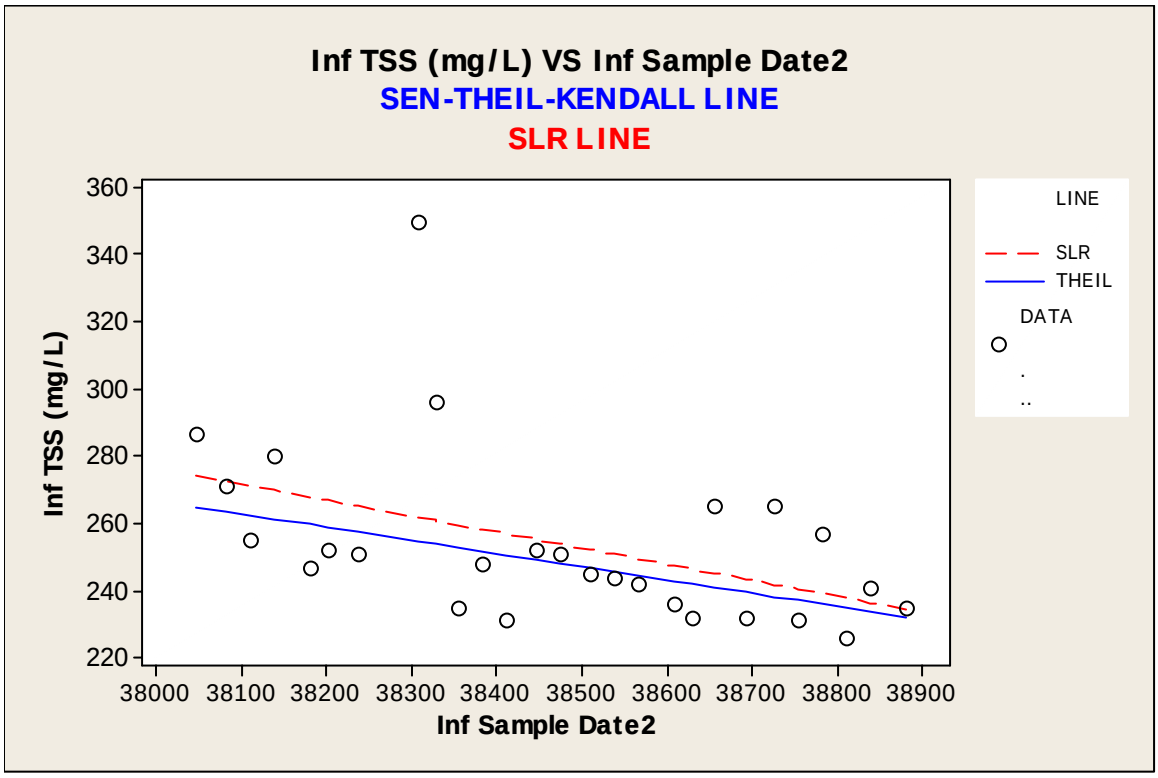
Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_     UPPER95
```

```
  1   1764.26  -0.0714286  -0.0394089  -0.0205479

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Inf TR Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean  StDev  Minimum      Q1  Median
Inf TSS (mg/L)    27   1  253.96     5.03  26.13   226.00  235.00  248.00
Inf TR Hg  (ng/L  28   0   180.1     11.3   60.0     74.7   136.0   168.5

Variable              Q3  Maximum
Inf TSS (mg/L)    265.00   350.00
Inf TR Hg  (ng/L   212.5    319.0
```

Data Display

```
S_TAU    56.0000
VAR_S    2292.05
Z_S      1.14882
```

Data Display

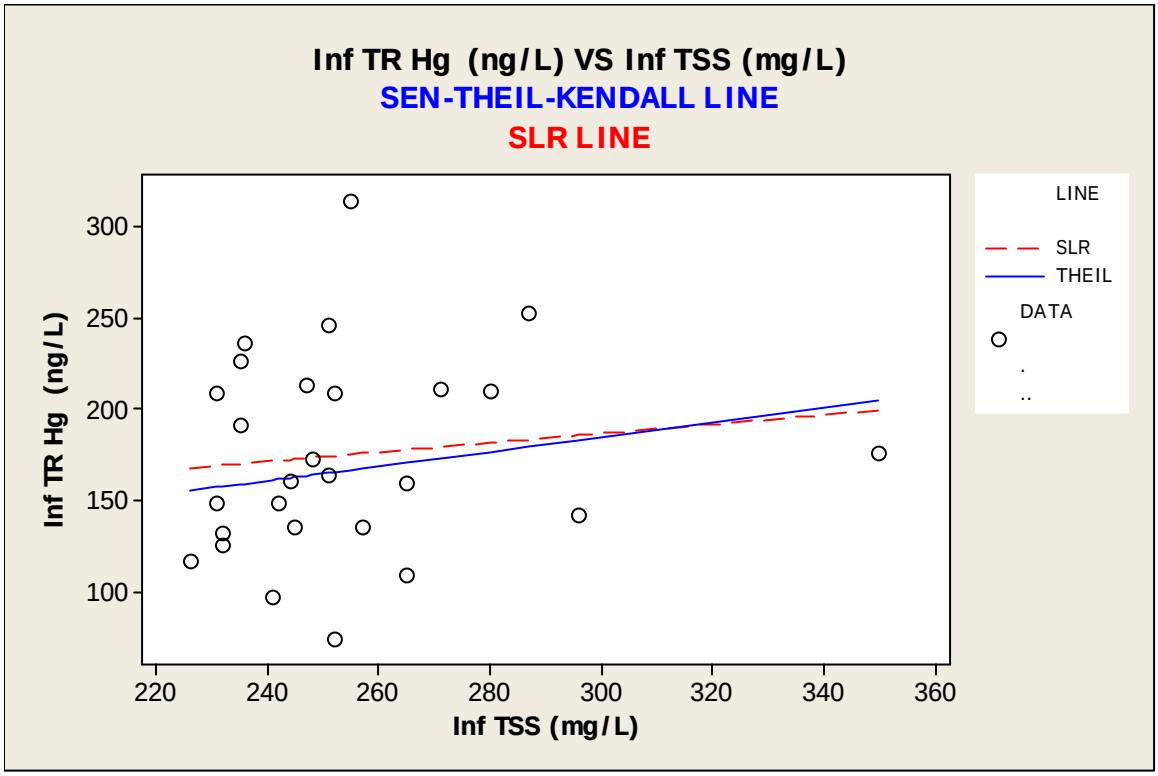
```
Row  CORRTYPE         CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.159544  0.250632
  2  KENDALL'S TAU_B  0.161618  0.250632
```

Data Display

```
Row  INTRCPT_    LOWER95  SLOPE_  UPPER95
  1      64.8  -0.443038     0.4     1.75

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c6 c7
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Sample Date2, Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff Sample Date2  28   0  38464     47.5    251    38048  38244   38468  38689
Eff TR Hg (ng/L)  28   0  2.353    0.205  1.084    1.100  1.860   2.100  2.585

Variable          Maximum
Eff Sample Date2    38881
Eff TR Hg (ng/L)    6.540
```

Data Display

```
S_TAU    5.00000
VAR_S    2561.00
Z_S      0.0790415
```

Data Display

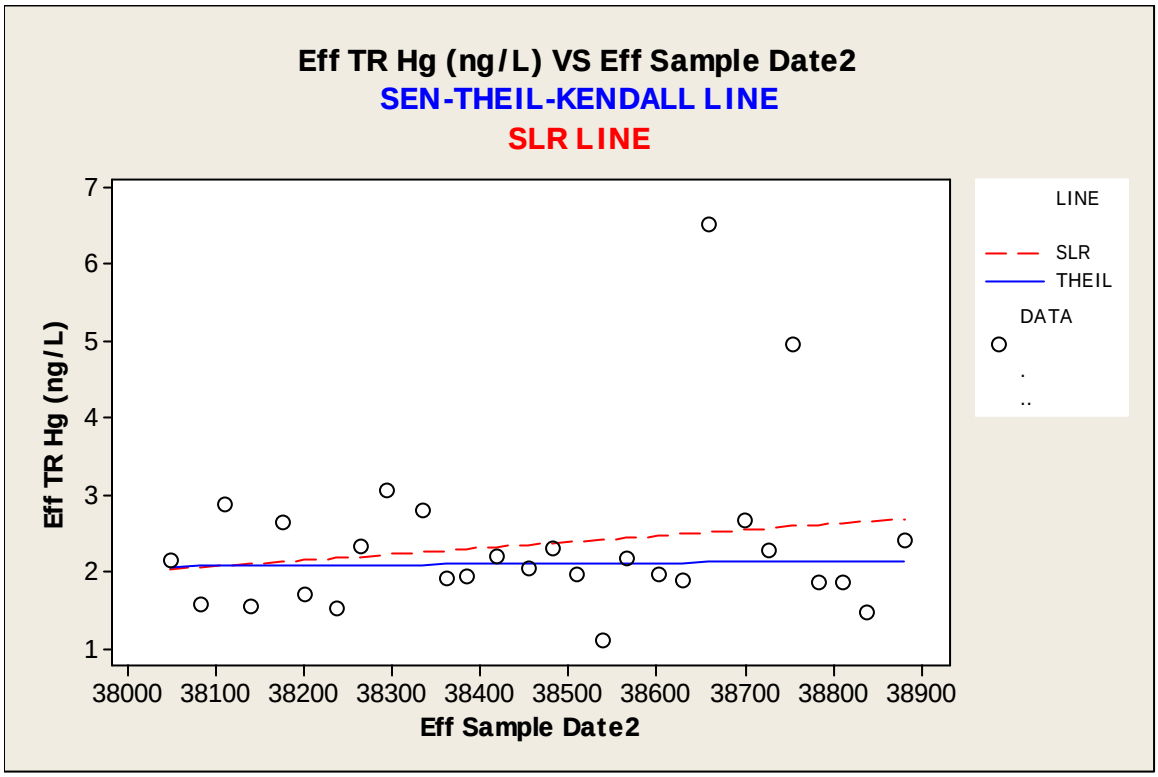
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.0132275  0.937000
  2  KENDALL'S TAU_B  0.0132450  0.937000
```

Data Display

```
Row  INTRCPT_     LOWER95     SLOPE_    UPPER95
  1  -1.44199  -0.0008723  0.0000921  0.0011725

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c6 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Sample Date2, Eff TSS (mg/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff Sample Date2  28   0  38464     47.5    251    38048  38244   38468  38689
Eff TSS (mg/L)    28   0  5.050    0.241  1.278    2.800  4.325   4.750  5.475

Variable          Maximum
Eff Sample Date2    38881
Eff TSS (mg/L)      9.100
```

Data Display

```
S_TAU     -6.00000
VAR_S     2550.67
Z_S       -0.0990018
```

Data Display

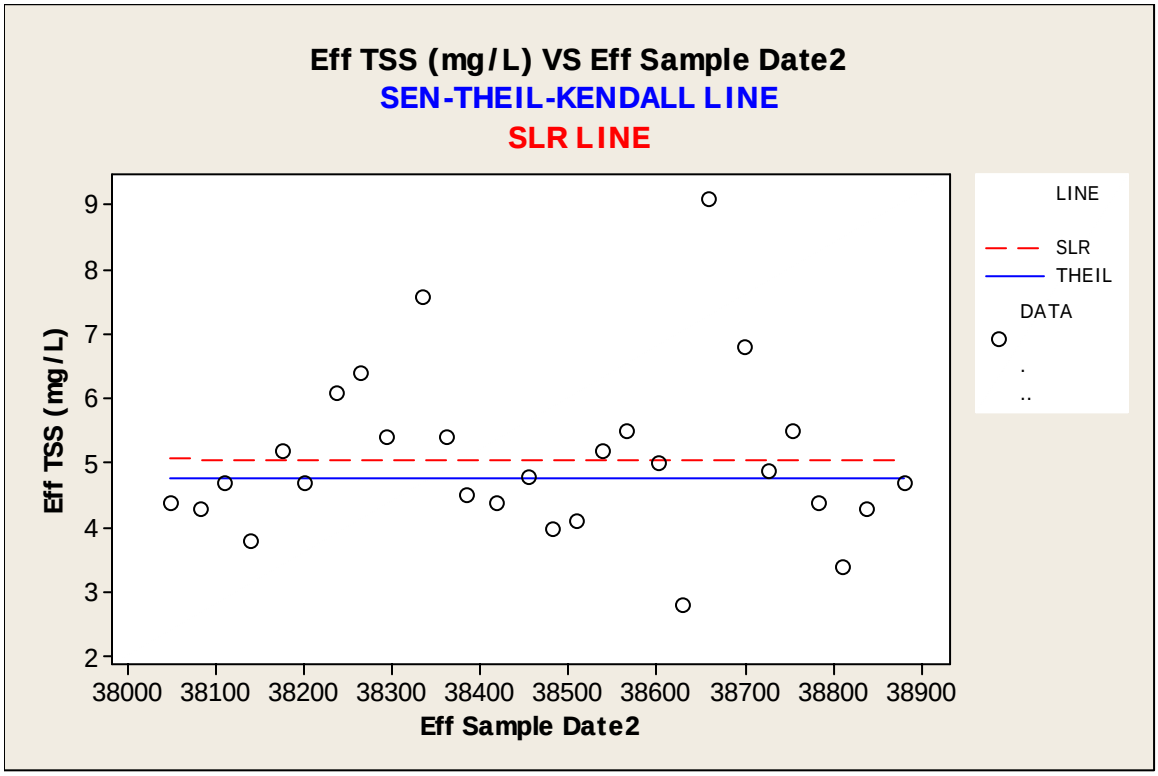
```
Row  CORRTYPE           CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  -0.0158730  0.921137
  2  KENDALL'S TAU_B  -0.0160872  0.921137
```

Data Display

```
Row  INTRCPT_     LOWER95  SLOPE_    UPPER95
  1      4.75  -0.0018571       0  0.0013514

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c10 c11
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Biosolids Sample Date2, Biosolids Hg (mg/kg)

```
Variable           N  N*    Mean  SE Mean    StDev  Minimum      Q1  Median
Biosolids Sample  28   0   38459     47.3      250    38047   38239   38458
Biosolids Hg (mg  28   0  1.3835   0.0729  0.3857   0.8600  1.0585  1.3570

Variable             Q3  Maximum
```

```
Biosolids Sample   38680    38869
Biosolids Hg (mg  1.5425   2.4830
```

Data Display

```
S_TAU     -109.000
VAR_S     2561.00
Z_S       -2.13412
```

Data Display

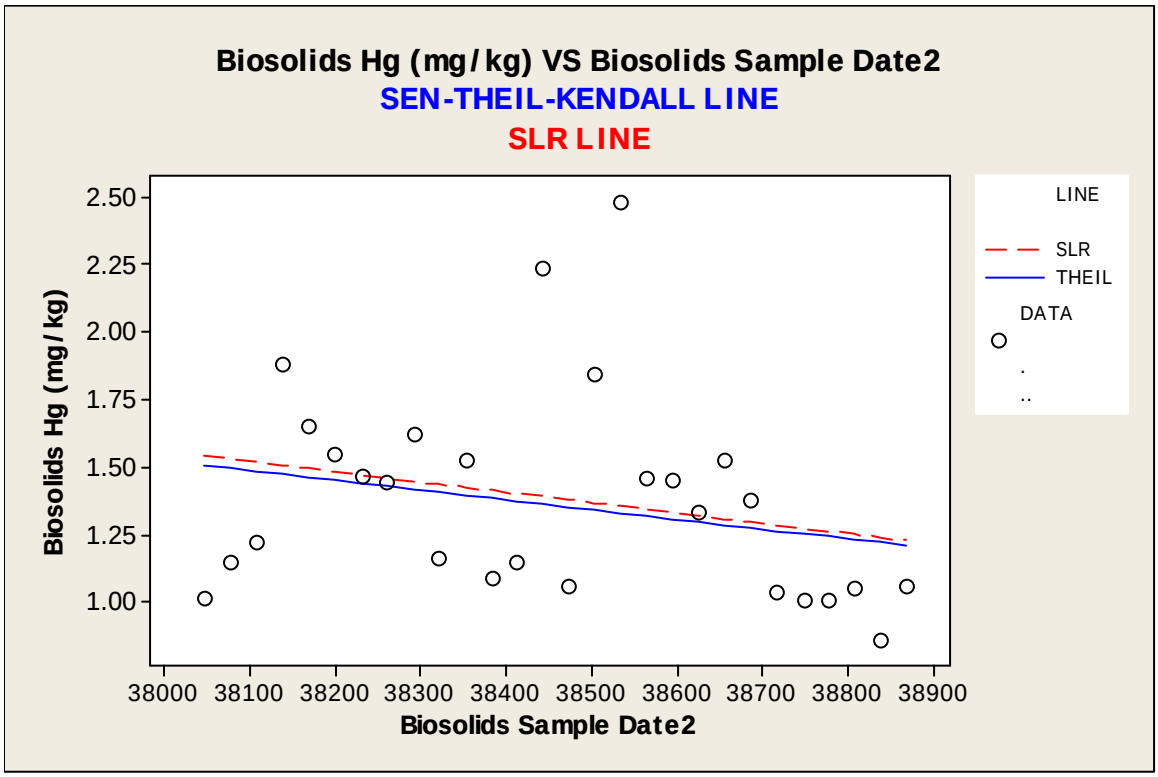
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  -0.288360  0.0328329
  2  KENDALL'S TAU_B  -0.288742  0.0328329
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_     UPPER95
  1   15.2058  -0.0009788  -0.0003601  -0.0000150

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c8 c7
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff TSS (mg/L)    28   0  5.050    0.241  1.278    2.800  4.325   4.750  5.475
Eff TR Hg (ng/L)  28   0  2.353    0.205  1.084    1.100  1.860   2.100  2.585

Variable          Maximum
Eff TSS (mg/L)      9.100
Eff TR Hg (ng/L)    6.540
```

Data Display

```
S_TAU    141.000
VAR_S    2549.69
Z_S      2.77258
```

Data Display

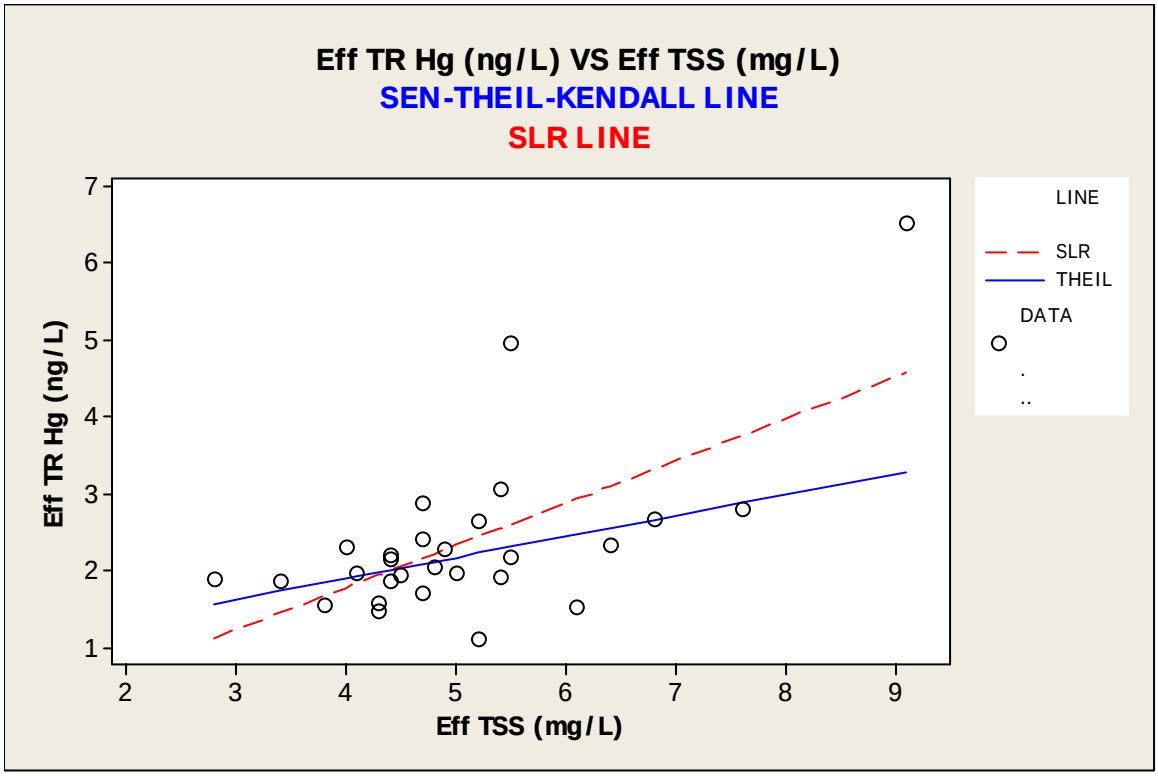
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A   0.373016  0.0055614
  2  KENDALL'S TAU_B   0.378551  0.0055614
```

Data Display

```
Row  INTRCPT_    LOWER95    SLOPE_   UPPER95
  1  0.804147  0.0666667  0.272811  0.516667

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



Results for: POTW G

```
MTB > %ktau c2 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf Sample Date2, Inf TR Hg (ng/L)

```
Variable            N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf Sample Date2  298   0  38353     18.3    316    37809  38074   38356  38624
Inf TR Hg  (ng/L  298   0  122.8     10.4  180.2     20.0   50.0    70.0  120.0

Variable          Maximum
Inf Sample Date2    38895
Inf TR Hg  (ng/L   1910.0
```

Data Display

```
S_TAU    5419.00
VAR_S    2928365
Z_S      3.16611
```

Data Display

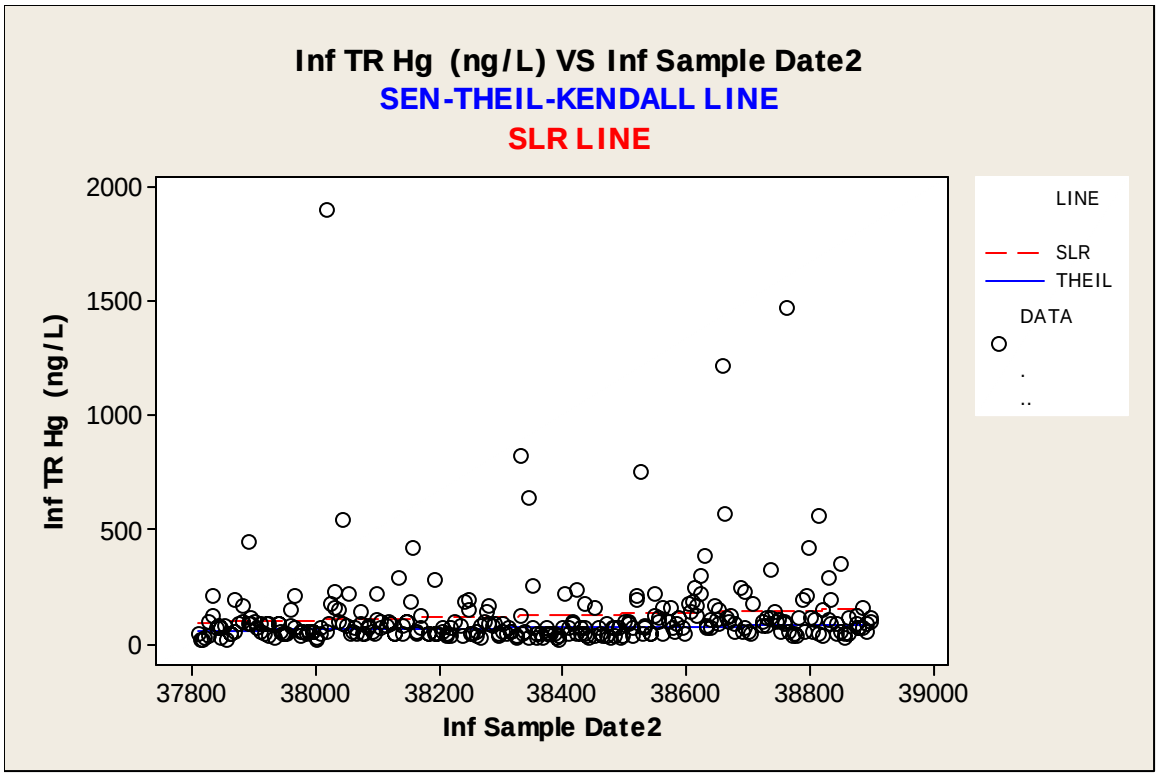
```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.122455  0.0015449
  2  KENDALL'S TAU_B  0.127178  0.0015449
```

Data Display

```
Row  INTRCPT_  LOWER95     SLOPE_    UPPER95
  1  -784.243        0  0.0222717  0.0405954

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c4
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf Sample Date2, Inf TSS (mg/L)

```
Variable            N  N*    Mean  SE Mean  StDev  Minimum      Q1  Median
Inf Sample Date2  298   0   38353     18.3    316    37809   38074   38356
Inf TSS (mg/L)    297   0  245.80     5.44  93.81    96.00  185.00  228.00

Variable              Q3  Maximum
Inf Sample Date2   38624    38895
Inf TSS (mg/L)    292.00   822.00

* ERROR * Specify columns of equal length.
* ERROR * Macro exiting...
MTB > %ktau c2 c4
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf Sample Date2, Inf TSS (mg/L)

```
Variable            N  N*    Mean  SE Mean  StDev  Minimum      Q1  Median
Inf Sample Date2  297   0   38351     18.3    315    37809   38073   38355
Inf TSS (mg/L)    297   0  245.80     5.44  93.81    96.00  185.00  228.00

Variable              Q3  Maximum
Inf Sample Date2   38622    38894
Inf TSS (mg/L)    292.00   822.00
```

Data Display

```
S_TAU     81.0000
VAR_S     2924978
Z_S       0.0467766
```

Data Display

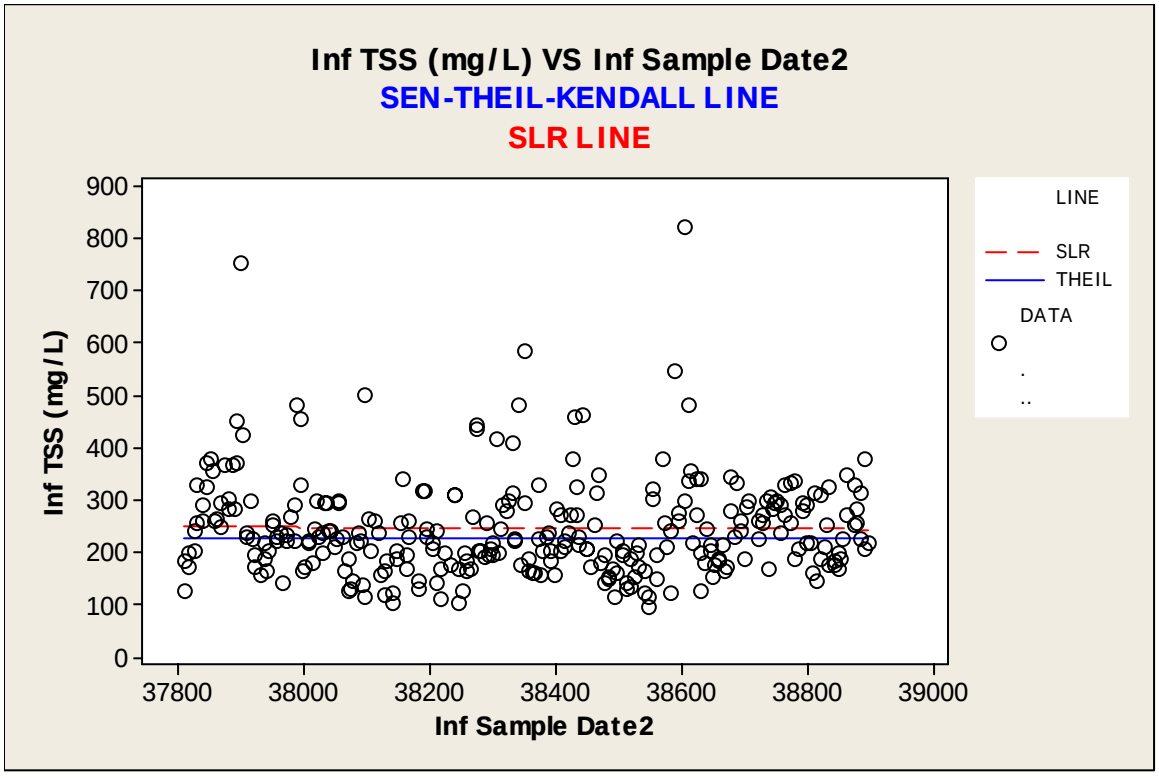
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.0018428  0.962691
  2  KENDALL'S TAU_B  0.0018501  0.962691
```

Data Display

```
Row  INTRCPT_     LOWER95  SLOPE_    UPPER95
  1       228  -0.0275387       0  0.0292208

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c6 c7
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Sample Date2, Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff Sample Date2  74   0  38370     38.4    330    37804  38089   38363  38638
Eff TR Hg (ng/L)  74   0  2.870    0.214  1.843    1.200  2.000   2.450  3.100

Variable          Maximum
```

```
Eff Sample Date2    39071
Eff TR Hg (ng/L)   13.600
```

Data Display

```
S_TAU    125.000
VAR_S    45741.7
Z_S      0.579783
```

Data Display

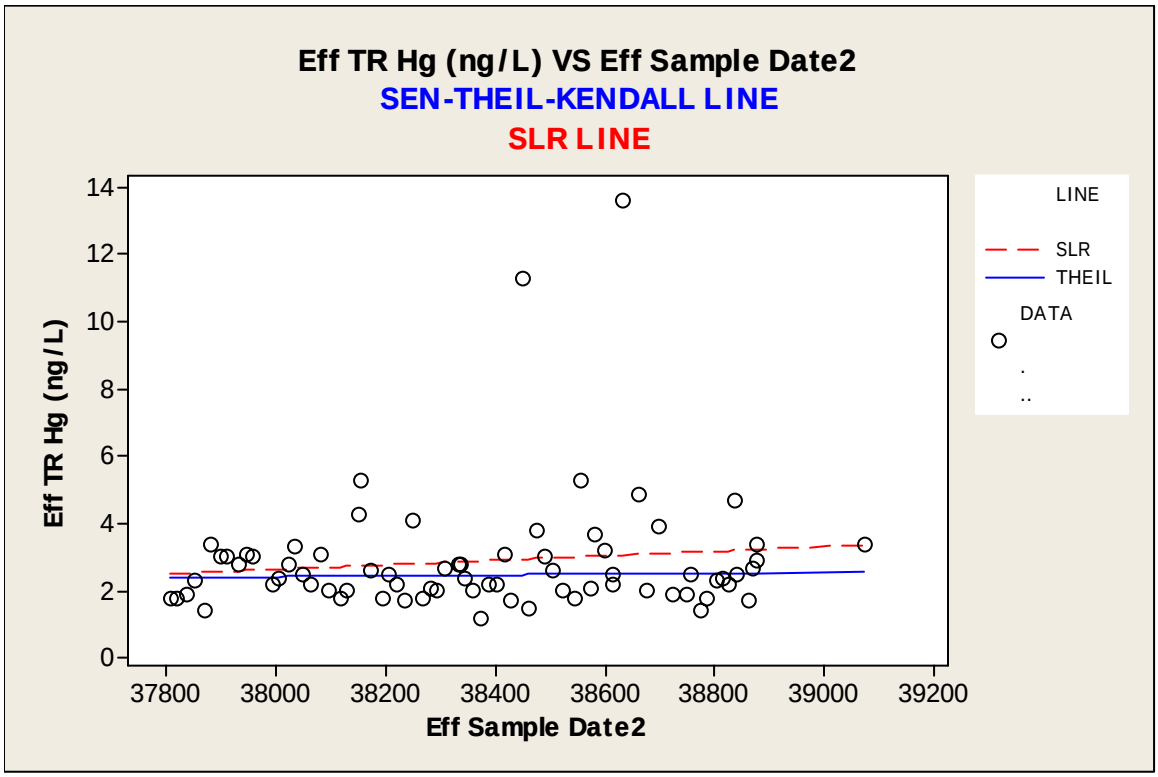
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.0462792  0.562061
  2  KENDALL'S TAU_B  0.0471604  0.562061
```

Data Display

```
Row  INTRCPT_     LOWER95     SLOPE_    UPPER95
  1  -2.63793  -0.0004255  0.0001326  0.0007463

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c9 c7
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Turbidity (NTU), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median      Q3
Eff Turbidity (N  74   0  8.801    0.984  8.463    2.000  3.948   6.315  10.668
Eff TR Hg (ng/L)  74   0  2.870    0.214  1.843    1.200  2.000   2.450   3.100

Variable          Maximum
Eff Turbidity (N   50.340
Eff TR Hg (ng/L)   13.600
```

Data Display

```
S_TAU    783.000
VAR_S    45739.7
Z_S      3.65645
```

Data Display

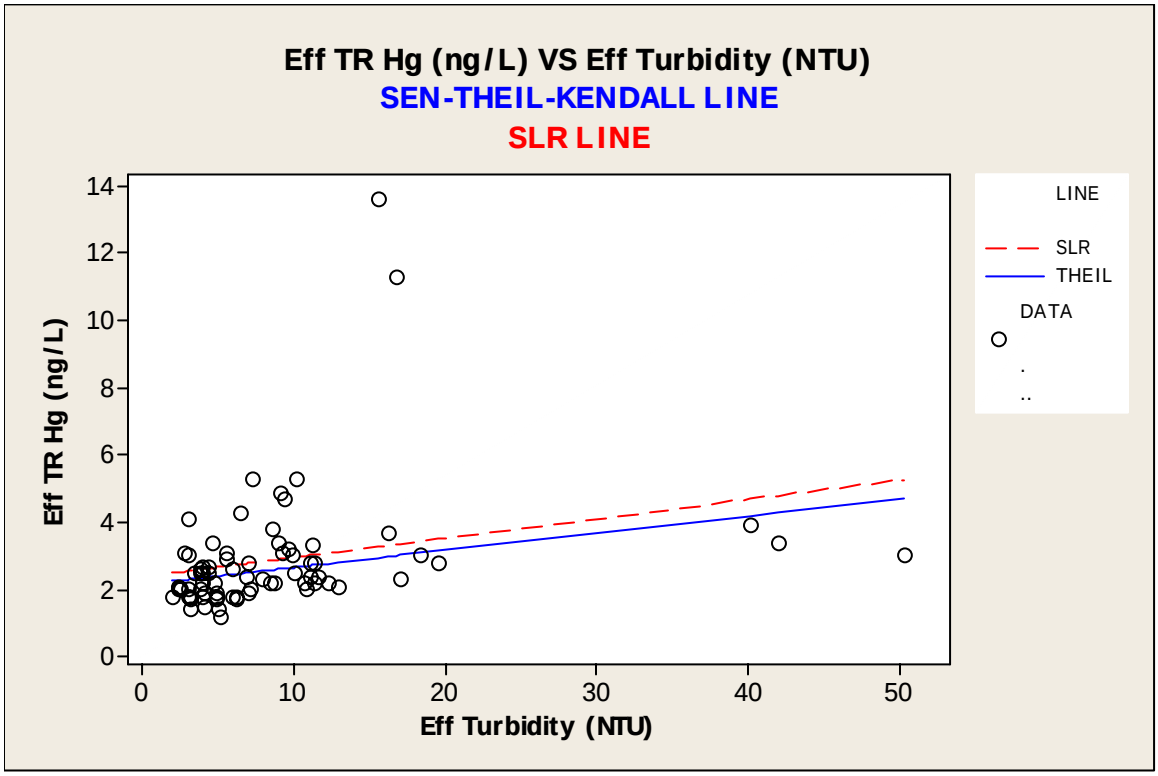
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A   0.289893  0.0002557
  2  KENDALL'S TAU_B   0.295522  0.0002557
```

Data Display

```
Row  INTRCPT_    LOWER95     SLOPE_    UPPER95
  1   2.12560  0.0258065  0.0513699  0.0902935

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



```
MTB > %ktau c10 c7
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff TSS (mg/L)    74   0  4.968    0.440  3.789    0.800  2.900   4.000  5.650
Eff TR Hg (ng/L)  74   0  2.870    0.214  1.843    1.200  2.000   2.450  3.100

Variable          Maximum
Eff TSS (mg/L)     22.400
Eff TR Hg (ng/L)   13.600
```

Data Display

```
S_TAU    439.000
VAR_S    45622.9
Z_S      2.05061
```

Data Display

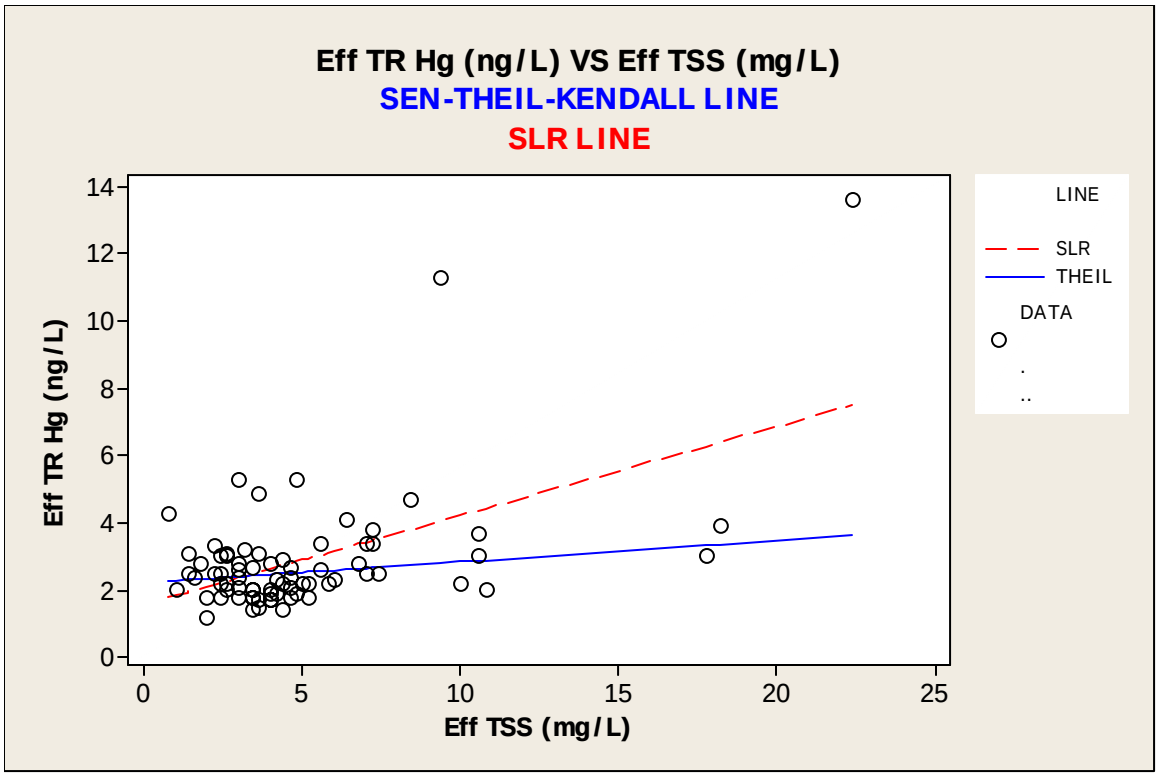
```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.162532  0.0403052
  2  KENDALL'S TAU_B  0.168040  0.0403052
```

Data Display

```
Row  INTRCPT_  LOWER95  SLOPE_   UPPER95
  1       2.2        0  0.0625  0.142857

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c12 c13
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Biosolids Sample Date2, Biosolids Hg (mg/kg)

```
Variable            N  N*    Mean  SE Mean   StDev  Minimum      Q1  Median
Biosolids Sample  148   0   38351     25.9     315    37811   38077   38352
Biosolids Hg (mg  148   0  0.3609   0.0127  0.1551   0.1200  0.2600  0.3400

Variable              Q3  Maximum
Biosolids Sample   38633    38894
Biosolids Hg (mg  0.4200   1.1100
```

Data Display

```
S_TAU     -294.000
VAR_S     363342
Z_S       -0.486082
```

Data Display

```
Row  CORRTYPE           CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.0270270  0.626909
  2  KENDALL'S TAU_B  -0.0273508  0.626909
```

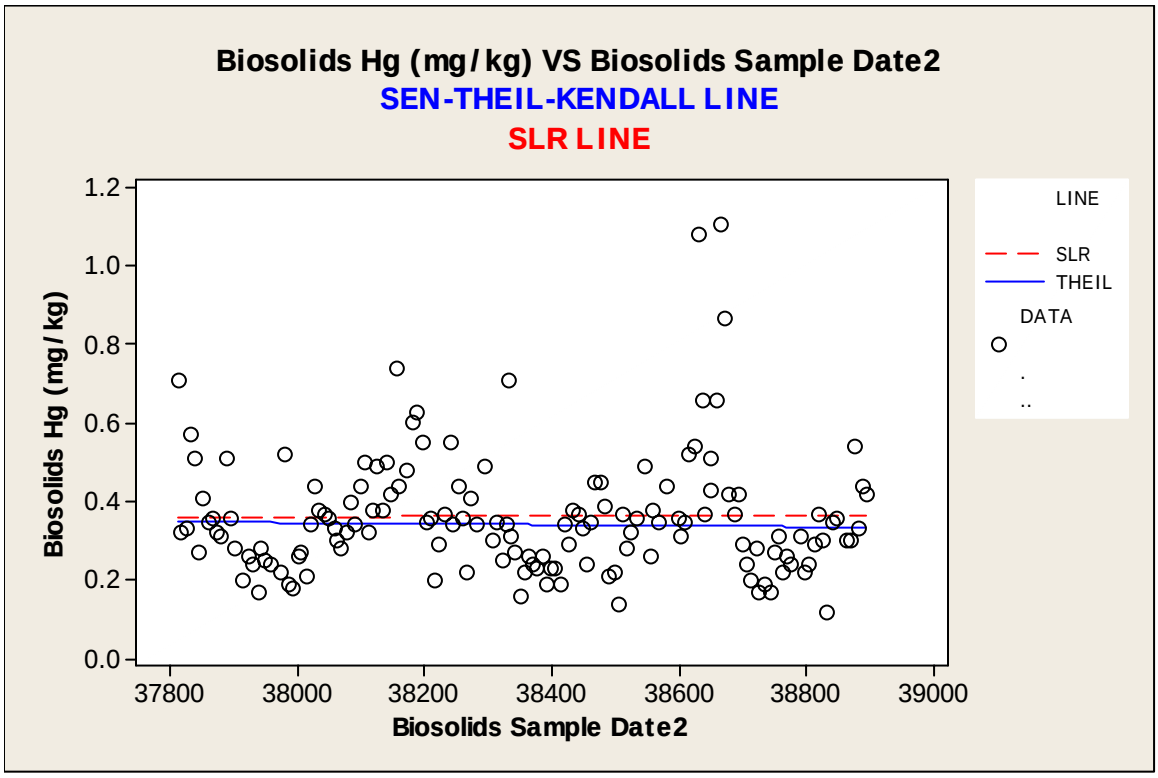
Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_    UPPER95
```

```
  1  0.826390  -0.0000777  -0.0000127  0.0000433

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Inf TR Hg (ng/L)

```
Variable            N  N*    Mean  SE Mean  StDev  Minimum      Q1  Median
Inf TSS (mg/L)    297   0  245.80     5.44  93.81    96.00  185.00  228.00
Inf TR Hg  (ng/L  297   0   122.9     10.5  180.5     20.0    50.0    70.0

Variable              Q3  Maximum
Inf TSS (mg/L)    292.00   822.00
Inf TR Hg  (ng/L   120.0   1910.0
```

Data Display

```
S_TAU    6296.00
VAR_S    2898386
Z_S      3.69758
```

Data Display

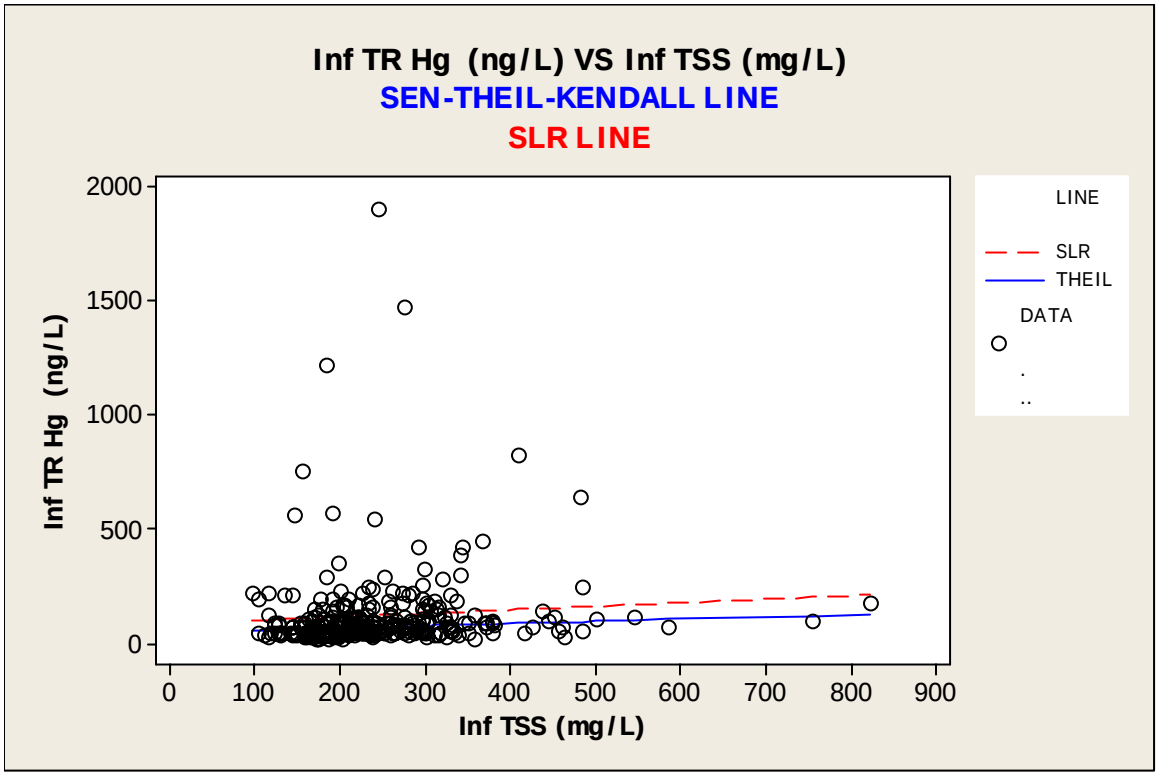
```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.143234  0.0002177
  2  KENDALL'S TAU_B  0.149354  0.0002177
```

Data Display

```
Row  INTRCPT_  LOWER95     SLOPE_   UPPER95
  1   48.3407        0  0.0949969  0.161290

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c6 c9
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Sample Date2, Eff Turbidity (NTU)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median      Q3
Eff Sample Date2  74   0  38370     38.4    330    37804  38089   38363   38638
Eff Turbidity (N  74   0  8.801    0.984  8.463    2.000  3.948   6.315  10.668

Variable          Maximum
Eff Sample Date2    39071
Eff Turbidity (N   50.340
```

Data Display

```
S_TAU     -289.000
VAR_S     45915.0
Z_S       -1.34405
```

Data Display

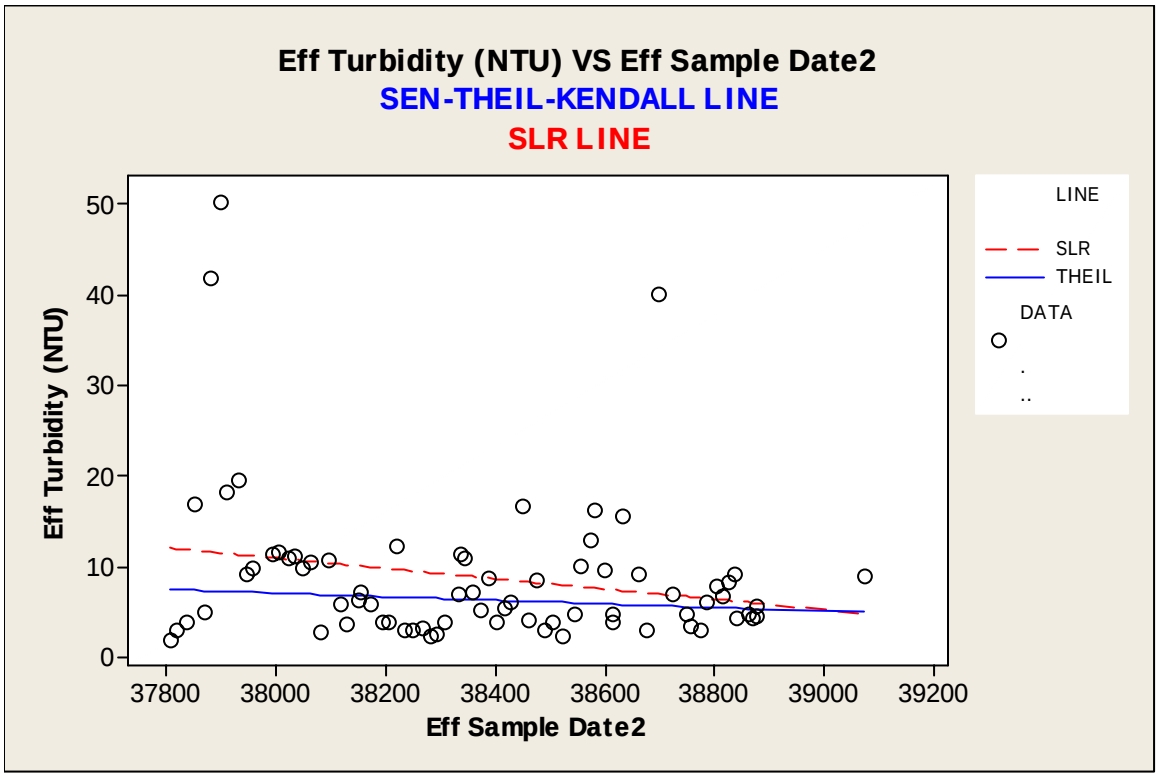
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.106997  0.178932
  2  KENDALL'S TAU_B  -0.107037  0.178932
```

Data Display

```
Row  INTRCPT_     LOWER95  SLOPE_    UPPER95
  1    83.041  -0.0057977  -0.002  0.0009124

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c9 c10
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Turbidity (NTU), Eff TSS (mg/L)

```
Variable           N  N*    Mean  SE Mean  StDev  Minimum     Q1  Median      Q3
Eff Turbidity (N  74   0  8.801    0.984  8.463    2.000  3.948   6.315  10.668
Eff TSS (mg/L)    74   0  4.968    0.440  3.789    0.800  2.900   4.000   5.650

Variable          Maximum
Eff Turbidity (N   50.340
Eff TSS (mg/L)     22.400
```

Data Display

```
S_TAU     602.000
VAR_S     45793.4
Z_S       2.80849
```

Data Display

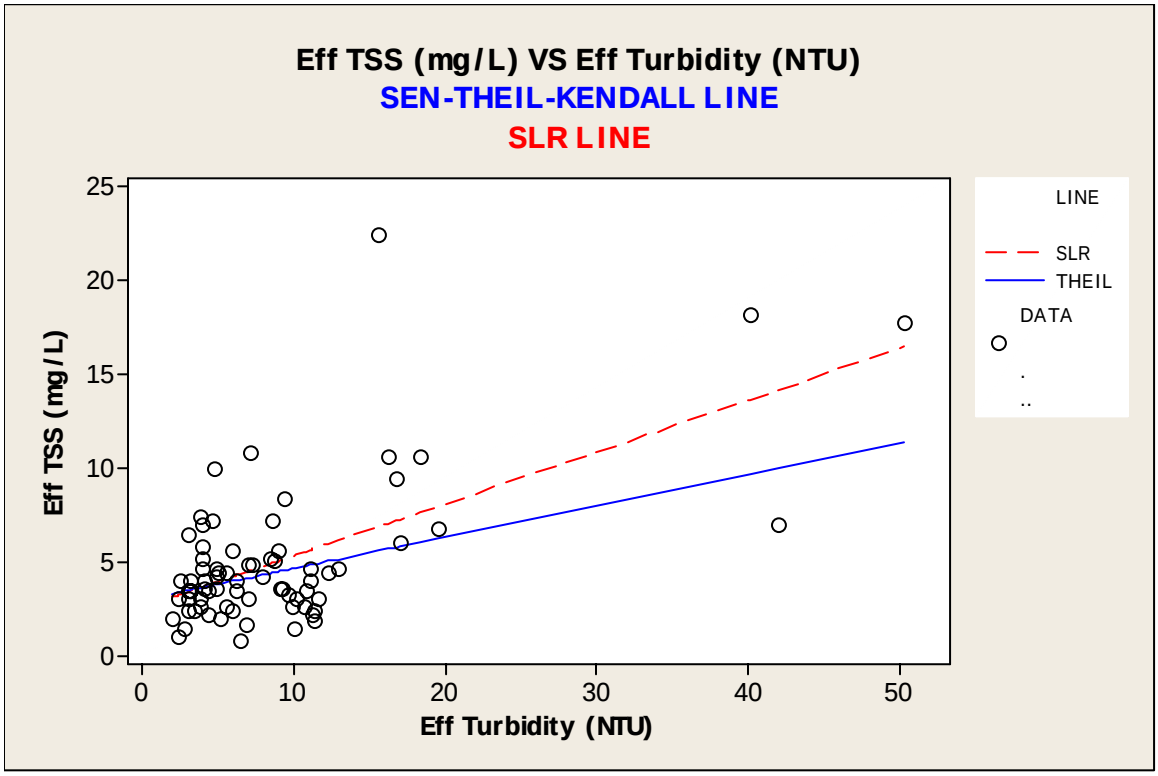
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.222880  0.0049774
  2  KENDALL'S TAU_B  0.226211  0.0049774
```

Data Display

```
Row  INTRCPT_    LOWER95    SLOPE_   UPPER95
  1    2.9475  0.0512821  0.166667  0.292125

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c6 c10
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Sample Date2, Eff TSS (mg/L)

```
Variable           N  N*    Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff Sample Date2  74   0  38370     38.4    330    37804  38089   38363  38638
Eff TSS (mg/L)    74   0  4.968    0.440  3.789    0.800  2.900   4.000  5.650

Variable          Maximum
```

```
Eff Sample Date2    39071
Eff TSS (mg/L)     22.400
```

Data Display

```
S_TAU    240.000
VAR_S    45795.3
Z_S      1.11683
```

Data Display

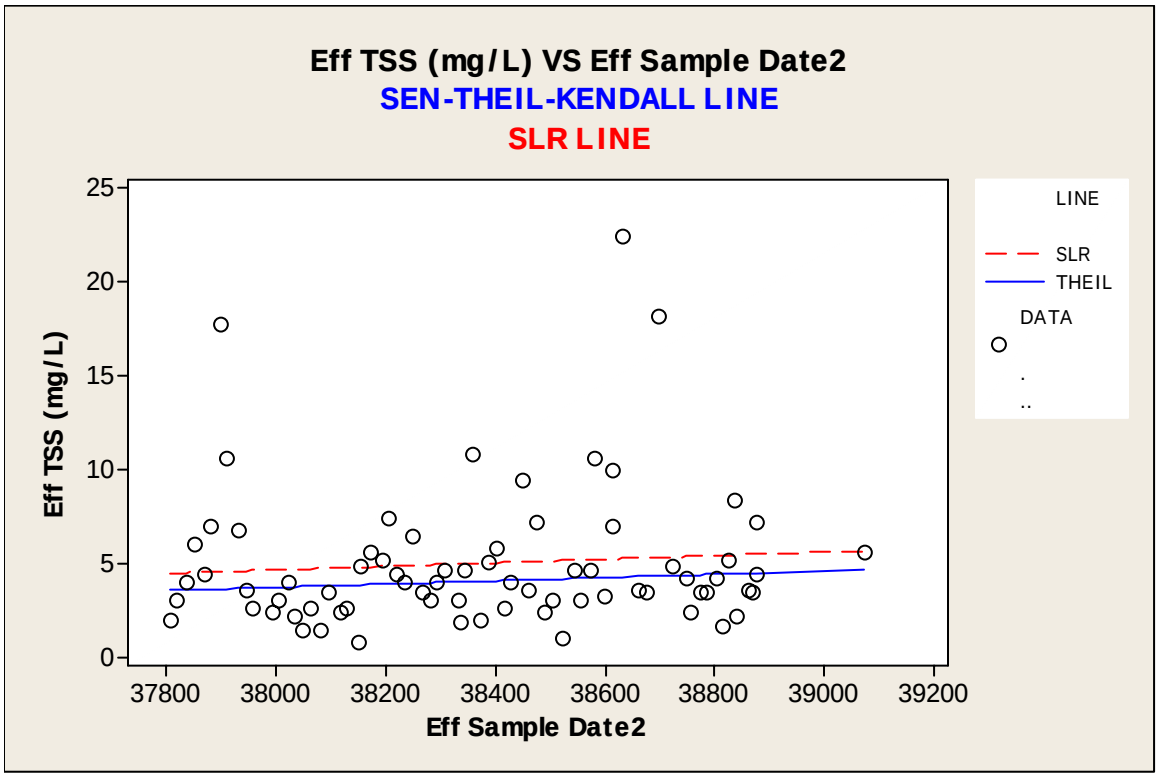
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.0888560  0.264067
  2  KENDALL'S TAU_B  0.0901503  0.264067
```

Data Display

```
Row  INTRCPT_     LOWER95     SLOPE_    UPPER95
  1  -28.8943  -0.0006397  0.0008574  0.0022069

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c7 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TR Hg (ng/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff TR Hg (ng/L)  74   0  2.870    0.214  1.843    1.200  2.000   2.450  3.100
Eff Dissolved Hg  12  62  1.367    0.148  0.514    0.800  0.925   1.250  1.775

Variable          Maximum
Eff TR Hg (ng/L)   13.600
Eff Dissolved Hg    2.300
```

Data Display

```
S_TAU    16.0000
VAR_S    207.758
Z_S      1.04067
```

Data Display

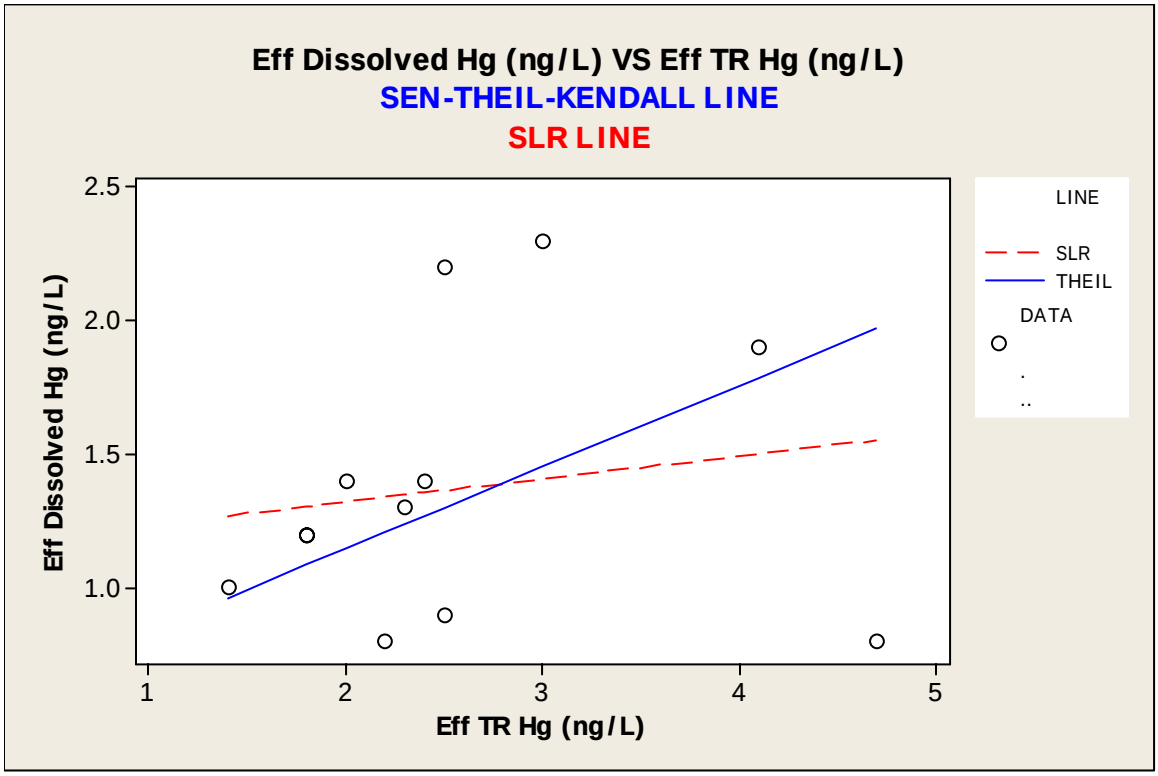
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A   0.242424   0.298029
  2  KENDALL'S TAU_B   0.251976   0.298029
```

Data Display

```
Row  INTRCPT_    LOWER95    SLOPE_   UPPER95
  1  0.534783  -0.137931  0.304348       0.9

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



```
MTB > %ktau c10 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff TSS (mg/L)    74   0  4.968    0.440  3.789    0.800  2.900   4.000  5.650
Eff Dissolved Hg  12  62  1.367    0.148  0.514    0.800  0.925   1.250  1.775

Variable          Maximum
Eff TSS (mg/L)     22.400
Eff Dissolved Hg    2.300
```

Data Display

```
S_TAU    -1.00000
VAR_S    205.182
Z_S      0
```

Data Display

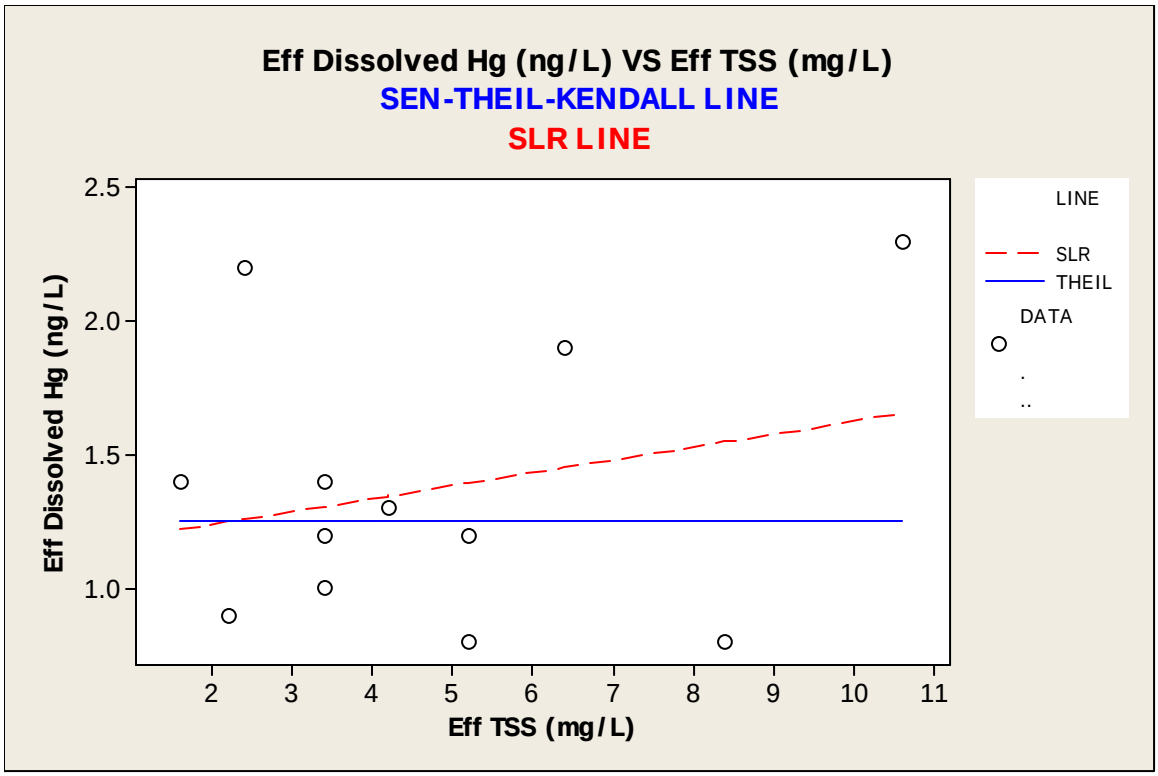
```
Row  CORRTYPE           CORR_VAL  P_VALUE
  1  KENDALL'S TAU_A  -0.0151515        1
  2  KENDALL'S TAU_B  -0.0160005        1
```

Data Display

```
Row  INTRCPT_    LOWER95  SLOPE_  UPPER95
  1      1.25  -0.111111       0  0.15625

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c9 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Turbidity (NTU), Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median      Q3
Eff Turbidity (N  74   0  8.801    0.984  8.463    2.000  3.948   6.315  10.668
Eff Dissolved Hg  12  62  1.367    0.148  0.514    0.800  0.925   1.250   1.775

Variable          Maximum
Eff Turbidity (N   50.340
Eff Dissolved Hg    2.300
```

Data Display

```
S_TAU    -1.00000
VAR_S    209.667
Z_S      0
```

Data Display

```
Row  CORRTYPE           CORR_VAL  P_VALUE
  1  KENDALL'S TAU_A  -0.0151515        1
  2  KENDALL'S TAU_B  -0.0155081        1
```

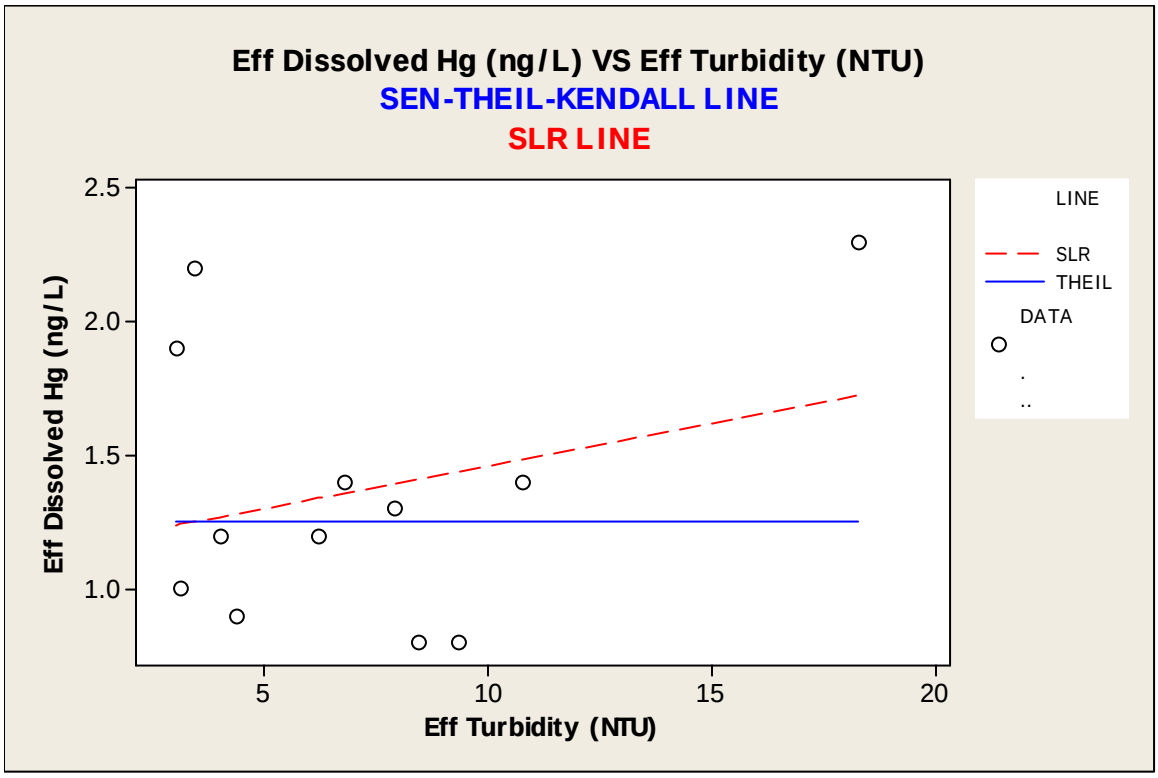
Data Display

```
Row  INTRCPT_    LOWER95  SLOPE_    UPPER95
```

```
  1      1.25  -0.175159       0  0.0781929

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c6 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Sample Date2, Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff Sample Date2  74   0  38370     38.4    330    37804  38089   38363  38638
Eff Dissolved Hg  12  62  1.367    0.148  0.514    0.800  0.925   1.250  1.775

Variable          Maximum
Eff Sample Date2    39071
Eff Dissolved Hg    2.300
```

Data Display

```
S_TAU     -33.0000
VAR_S     209.667
Z_S       -2.20996
```

Data Display

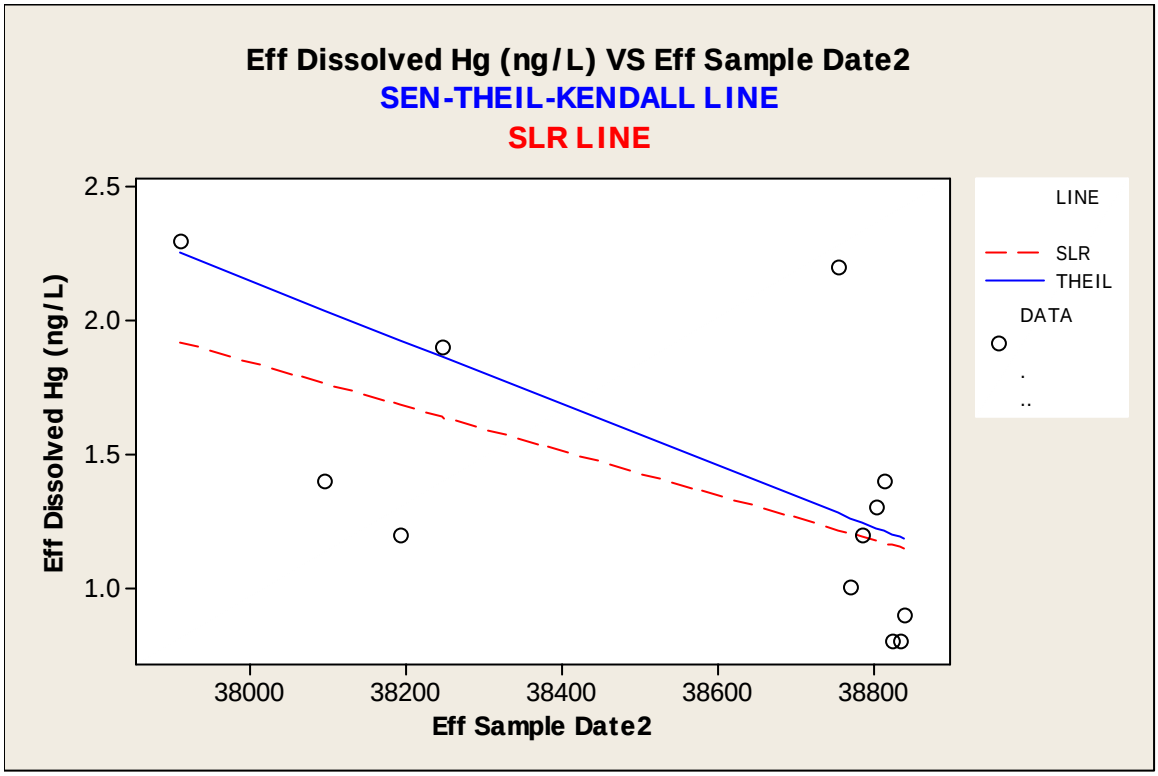
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  -0.500000  0.0271076
  2  KENDALL'S TAU_B  -0.511766  0.0271076
```

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	45.8592	-0.0037736	-0.0011504	-0.0001181

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT



Results for: POTW H

```
MTB > %ktau c2 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Inf Flow Weighted Influent TR Hg

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median
Sample Date2	34	0	38351	56.1	327	37830	38058	38332
Inf Flow Weighte	32	2	126.95	9.54	53.97	70.64	81.32	110.77

Variable	Q3	Maximum
Sample Date2	38650	38896
Inf Flow Weighte	146.96	251.25

Data Display

```
S_TAU    56.0000
VAR_S    3802.67
Z_S      0.891905
```

Data Display

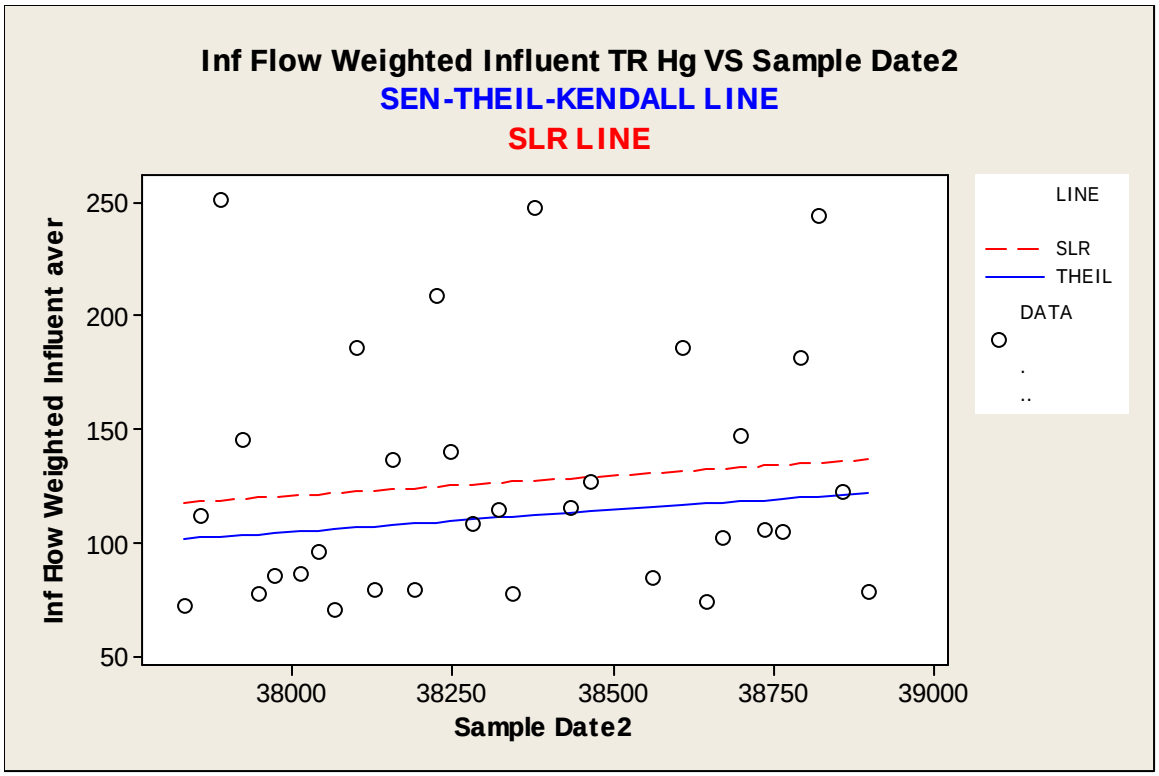
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.112903	0.372444
2	KENDALL'S TAU_B	0.112903	0.372444

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	-616.655	-0.0203927	0.0189924	0.0759988

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT




```
MTB > %ktau c2 c4
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Inf Flow Weighted Influent TSS

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Sample Date2	34	0	38351	56.1	327	37830	38058	38332	38650	38896
Inf Flow Weighte	34	0	279.8	11.4	66.6	168.5	233.7	272.3	320.4	464.8

Data Display

S_TAU	-73.0000
VAR_S	4550.33
Z_S	-1.06736

Data Display

Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	-0.130125	0.285809
2	KENDALL'S TAU_B	-0.130125	0.285809

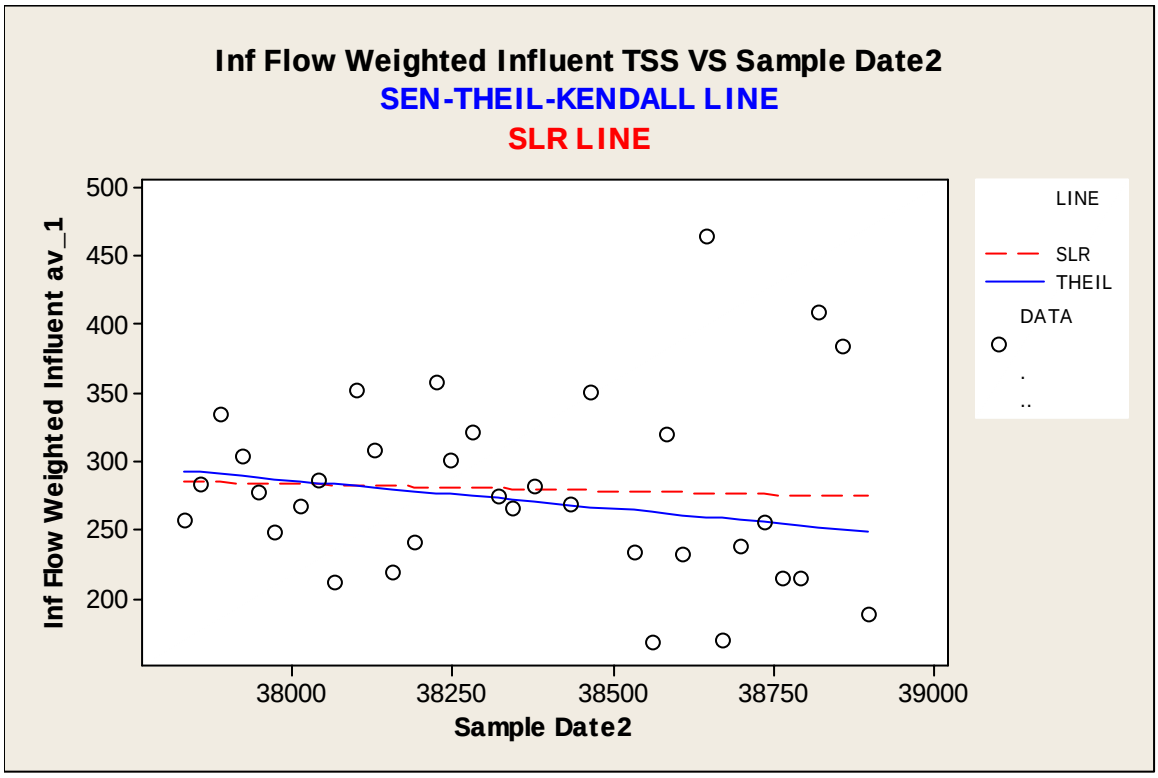
Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95

```
  1   1854.64  -0.104371  -0.0412794  0.0488236

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      34   0  38351     56.1    327    37830  38058   38332  38650
Eff TR Hg (ng/L)  33   1  4.079    0.443  2.547    1.800  2.300   3.100  4.550

Variable          Maximum
Sample Date2        38896
Eff TR Hg (ng/L)   11.200
```

Data Display

```
S_TAU     -40.0000
VAR_S     4156.67
Z_S       -0.604912
```

Data Display

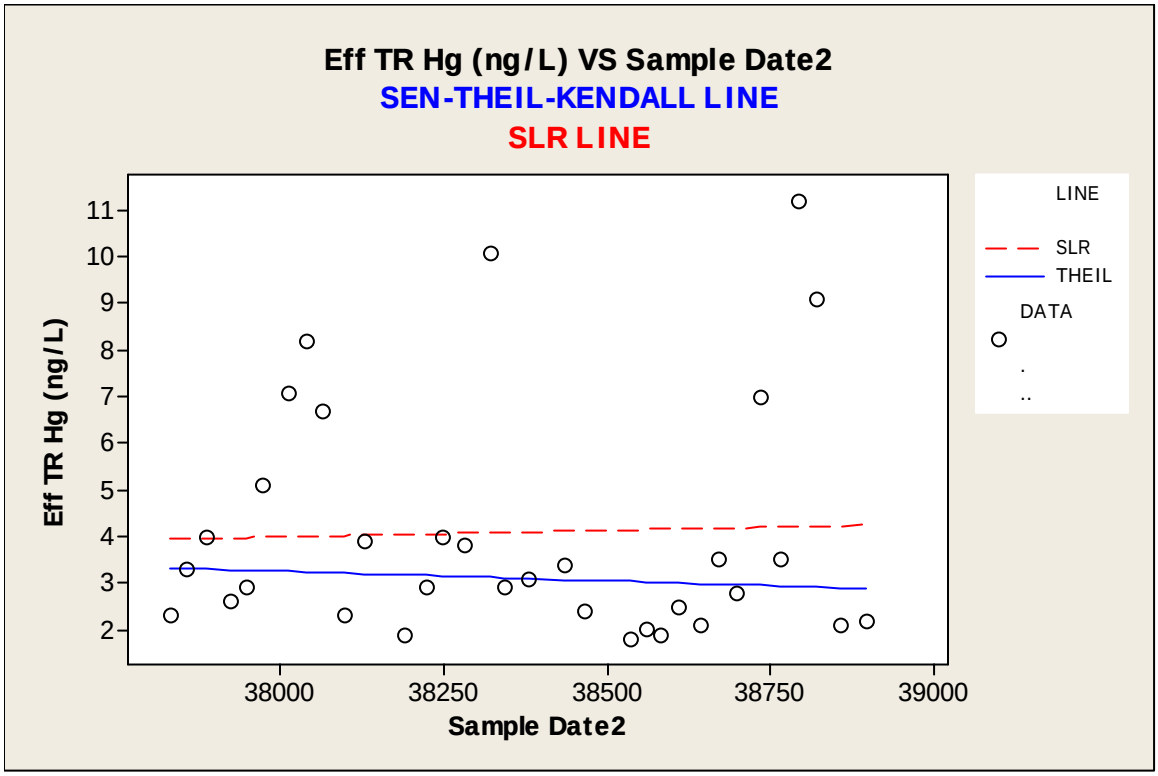
```
Row  CORRTYPE           CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.0757576  0.545238
  2  KENDALL'S TAU_B  -0.0763381  0.545238
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_    UPPER95
  1   18.9333  -0.0020080  -0.0004129  0.0012016

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff Dissolved Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean   StDev  Minimum      Q1  Median
Sample Date2      34   0   38351     56.1     327    37830   38058   38332
Eff Dissolved Hg   8  26  1.0875   0.0515  0.1458   1.0000  1.0000  1.0000

Variable             Q3  Maximum
Sample Date2      38650    38896
Eff Dissolved Hg  1.1750   1.4000
```

Data Display

```
S_TAU    -12.0000
VAR_S    48.6667
Z_S      -1.57680
```

Data Display

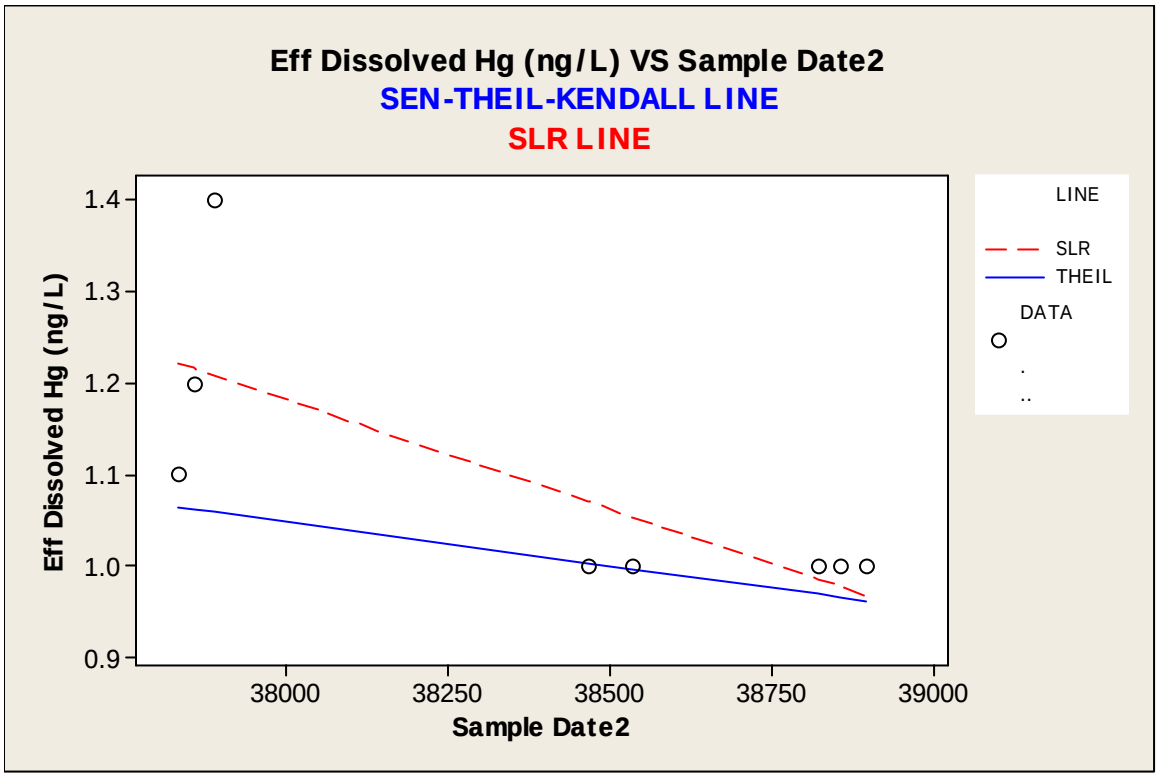
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.428571  0.114841
  2  KENDALL'S TAU_B  -0.534522  0.114841
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_  UPPER95
  1   4.68372  -0.0002950  -0.0000957        0

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c7
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff Turbidity (NTU)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      34   0  38351     56.1    327    37830  38058   38332  38650
Eff Turbidity (N  29   5  3.951    0.676  3.639    0.810  2.000   2.600  4.800

Variable          Maximum
Sample Date2        38896
Eff Turbidity (N   15.500
```

Data Display

```
S_TAU     54.0000
VAR_S     2810.67
Z_S       0.999703
```

Data Display

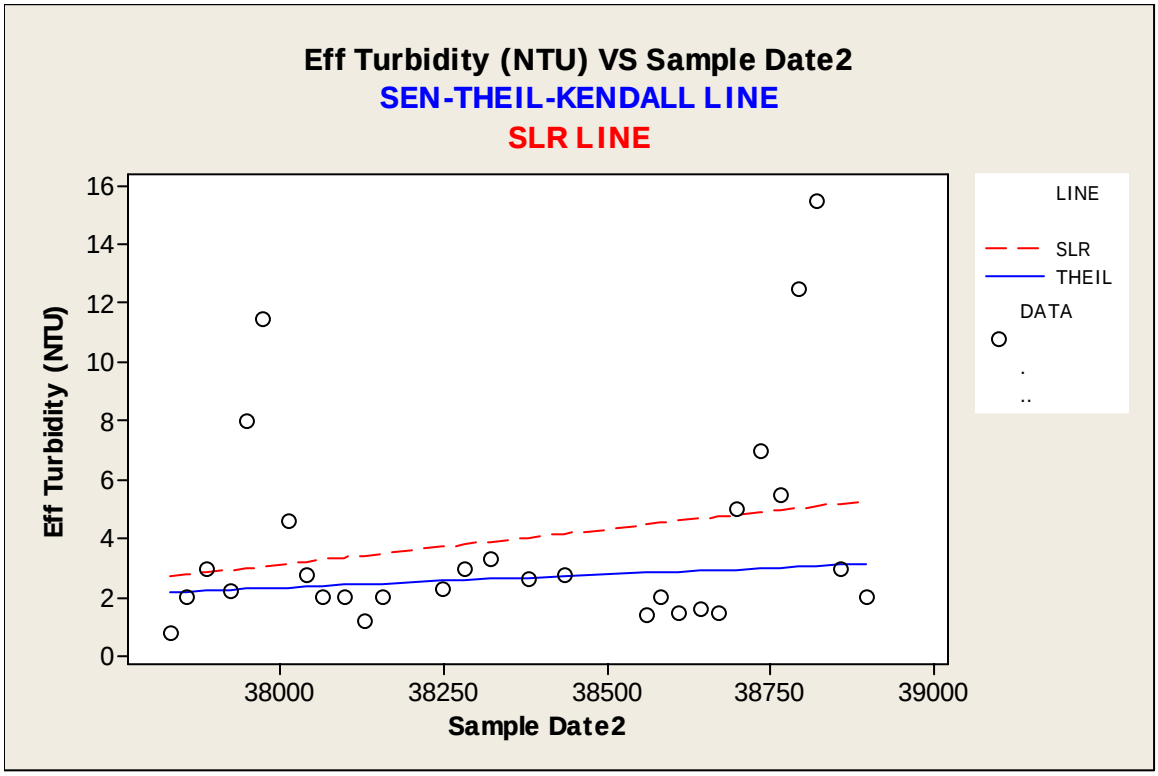
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A   0.133005   0.317454
  2  KENDALL'S TAU_B   0.136055   0.317454
```

Data Display

```
Row  INTRCPT_      LOWER95      SLOPE_     UPPER95
  1  -31.8119   -0.0008511   0.0008980   0.0036036

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff TSS (mg/L)

```
Variable          N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2     34   0  38351     56.1    327    37830  38058   38332  38650
Eff TSS (mg/L)   33   1  4.288    0.944  5.425    1.000  1.000   2.000  4.650

Variable        Maximum
```

```
Sample Date2      38896
Eff TSS (mg/L)   24.900
```

Data Display

```
S_TAU     -45.0000
VAR_S     3755.00
Z_S       -0.718038
```

Data Display

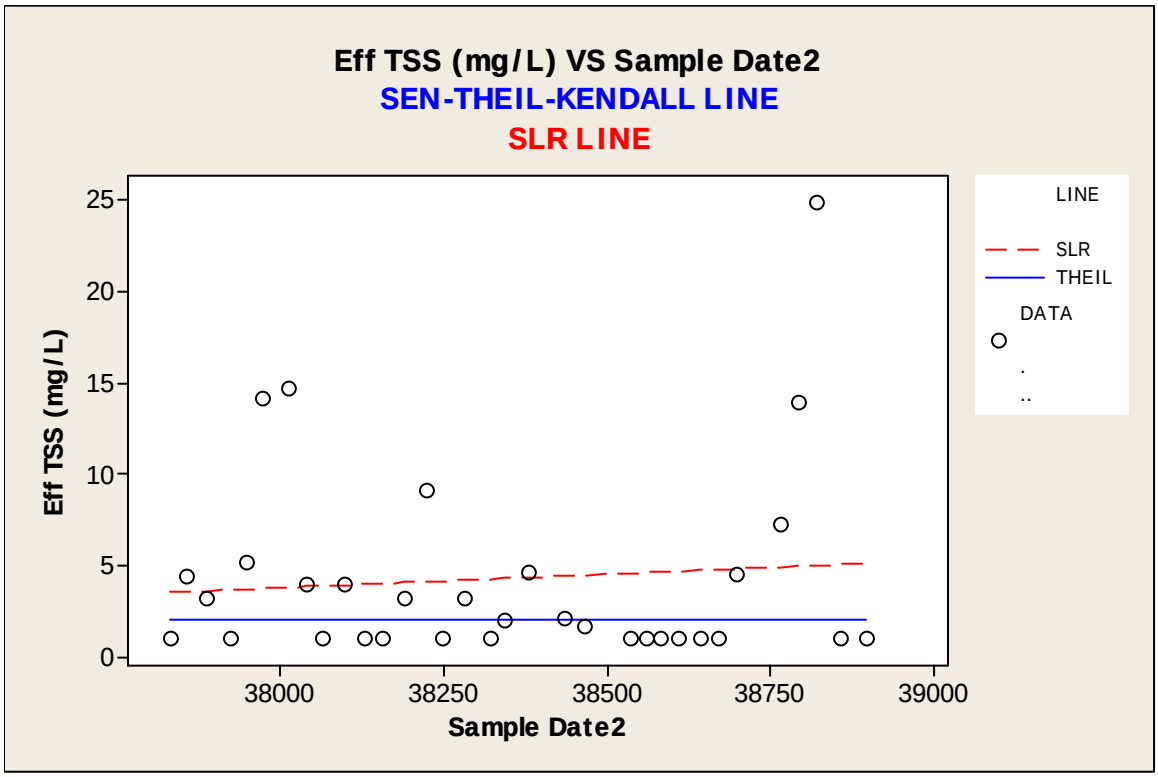
```
Row  CORRTYPE           CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.0852273  0.472734
  2  KENDALL'S TAU_B  -0.0954453  0.472734
```

Data Display

```
Row  INTRCPT_     LOWER95  SLOPE_  UPPER95
  1         2  -0.0033195       0        0

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c3 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf Flow Weighted Influent TR Hg, Eff TR Hg (ng/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median
Inf Flow Weighte	32	2	126.95	9.54	53.97	70.64	81.32	110.77
Eff TR Hg (ng/L)	33	1	4.079	0.443	2.547	1.800	2.300	3.100

Variable	Q3	Maximum
Inf Flow Weighte	146.96	251.25
Eff TR Hg (ng/L)	4.550	11.200

Data Display

S_TAU	52.0000
VAR_S	3454.00
Z_S	0.867779

Data Display

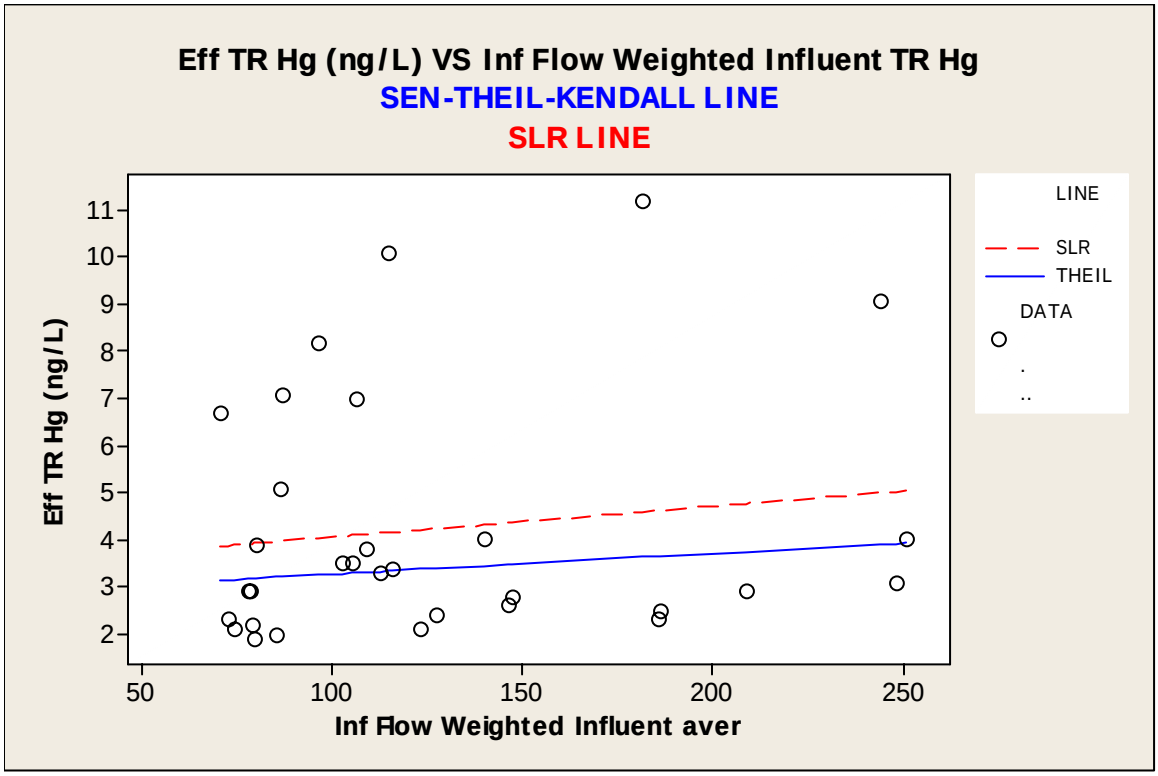
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.111828	0.385515
2	KENDALL'S TAU_B	0.112679	0.385515

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	2.82009	-0.0077321	0.0044038	0.0143803

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT



```
MTB > %ktau c3 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf Flow Weighted Influent TR Hg, Eff Dissolved Hg

```
Variable           N  N*    Mean  SE Mean   StDev  Minimum      Q1  Median
Inf Flow Weighte  32   2  126.95     9.54   53.97    70.64   81.32  110.77
Eff Dissolved Hg   8  26  1.0875   0.0515  0.1458   1.0000  1.0000  1.0000

Variable              Q3  Maximum
Inf Flow Weighte  146.96   251.25
Eff Dissolved Hg  1.1750   1.4000
```

Data Display

```
S_TAU    1.00000
VAR_S    35.6667
Z_S      0
```

Data Display

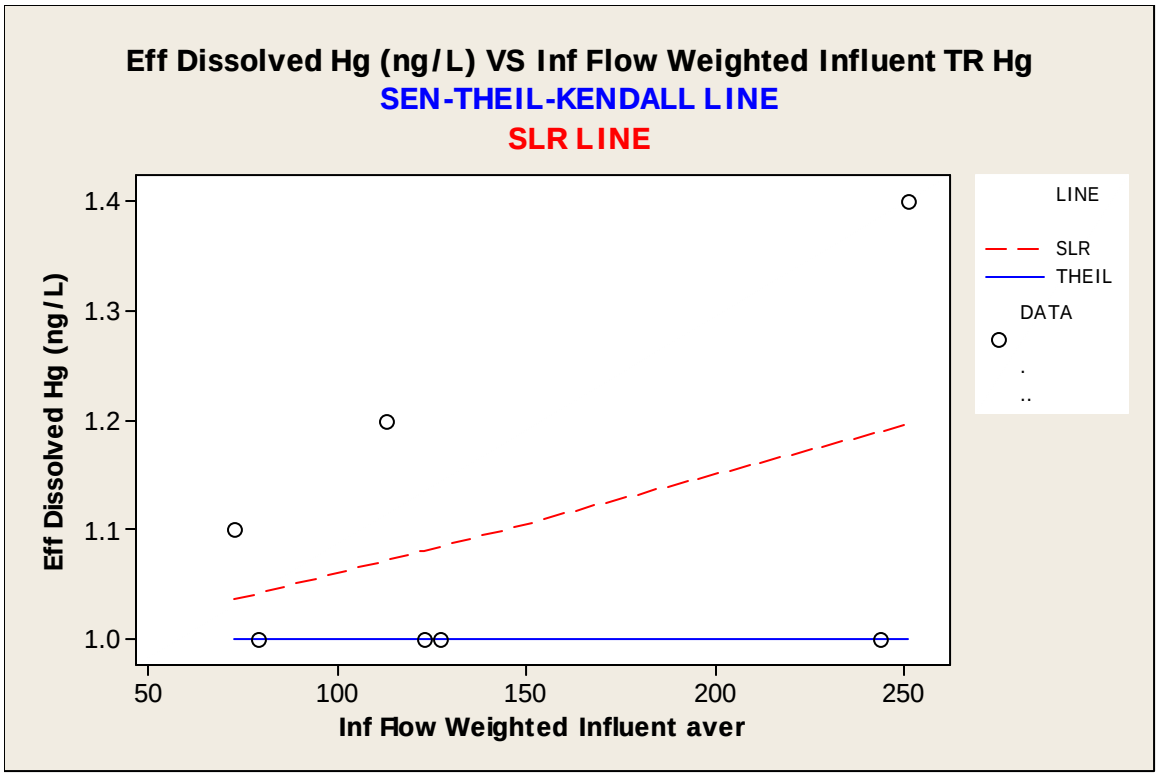
```
Row  CORRTYPE          CORR_VAL  P_VALUE
  1  KENDALL'S TAU_A  0.0476190        1
  2  KENDALL'S TAU_B  0.0563436        1
```

Data Display

```
Row  INTRCPT_     LOWER95  SLOPE_    UPPER95
  1         1  -0.0018277       0  0.0025011

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c3 c4
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf Flow Weighted Influent TSS, Inf Flow Weighted Influent TR Hg

```
Variable           N  N*    Mean  SE Mean  StDev  Minimum     Q1  Median
Inf Flow Weighte  32   2  126.95     9.54  53.97    70.64  81.32  110.77
Inf Flow Weighte  34   0   279.8     11.4   66.6    168.5  233.7   272.3

Variable              Q3  Maximum
Inf Flow Weighte  146.96   251.25
Inf Flow Weighte   320.4    464.8
```

Data Display

```
S_TAU    124.000
VAR_S    3802.67
Z_S      1.99462
```

Data Display

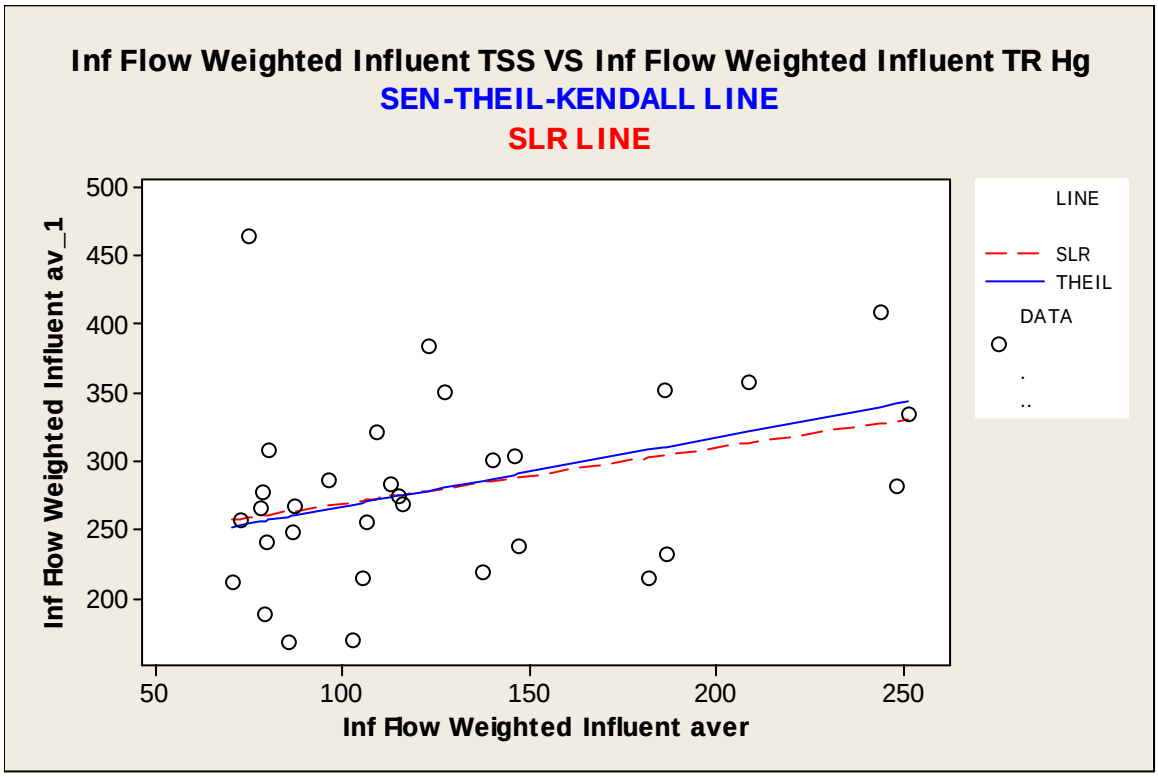
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A       0.25  0.0460839
  2  KENDALL'S TAU_B       0.25  0.0460839
```

Data Display

```
Row  INTRCPT_    LOWER95    SLOPE_   UPPER95
  1   216.335  0.0269592  0.505594  0.944083

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c5 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TR Hg (ng/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean   StDev  Minimum      Q1  Median
Eff TR Hg (ng/L)  33   1   4.079    0.443   2.547    1.800   2.300   3.100
Eff Dissolved Hg   8  26  1.0875   0.0515  0.1458   1.0000  1.0000  1.0000

Variable             Q3  Maximum
Eff TR Hg (ng/L)   4.550   11.200
Eff Dissolved Hg  1.1750   1.4000
```

Data Display

```
S_TAU    10.0000
VAR_S    48.6667
Z_S      1.29011
```

Data Display

```
Row  CORRTYPE         CORR_VAL    P_VALUE
```

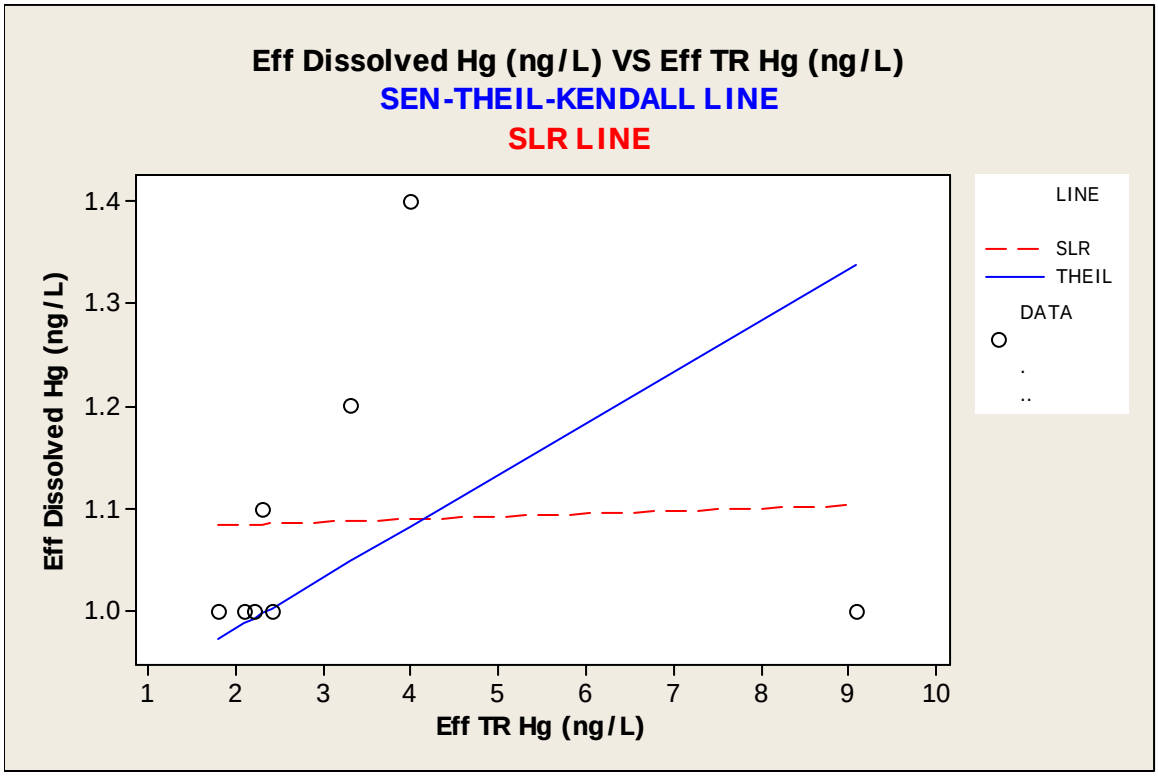
```
  1  KENDALL'S TAU_A  0.357143  0.197013
  2  KENDALL'S TAU_B  0.445435  0.197013
```

Data Display

```
Row  INTRCPT_  LOWER95  SLOPE_   UPPER95
  1    0.8825        0    0.05  0.210526

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c7 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Turbidity (NTU), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff Turbidity (N  29   5  3.951    0.676  3.639    0.810  2.000   2.600  4.800
Eff TR Hg (ng/L)  33   1  4.079    0.443  2.547    1.800  2.300   3.100  4.550

Variable          Maximum
Eff Turbidity (N   15.500
Eff TR Hg (ng/L)   11.200
```

Data Display

```
S_TAU    155.000
VAR_S    2538.47
Z_S      3.05657
```

Data Display

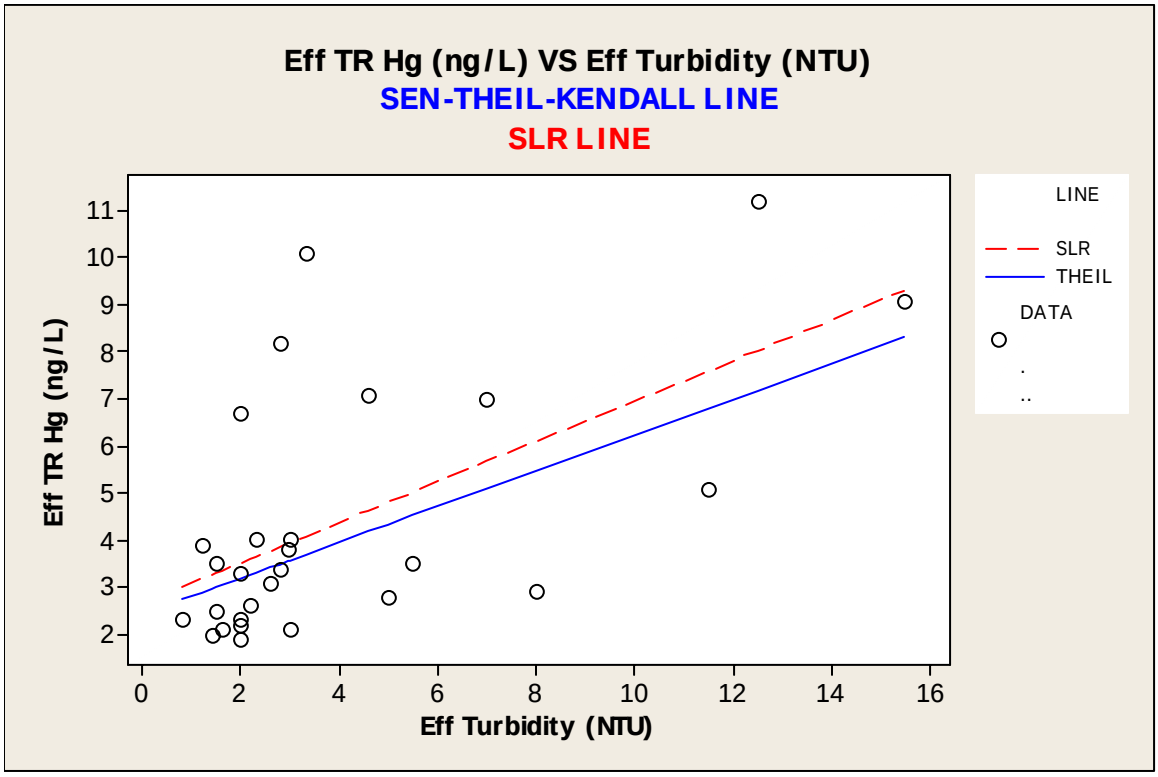
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.410053	0.0022388
2	KENDALL'S TAU_B	0.419517	0.0022388

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	2.42698	0.125	0.378896	0.776256

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT




```
MTB > %ktau c8 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff Dissolved Hg (ng/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median
Eff TSS (mg/L)	33	1	4.288	0.944	5.425	1.000	1.000	2.000
Eff Dissolved Hg	8	26	1.0875	0.0515	0.1458	1.0000	1.0000	1.0000

Variable	Q3	Maximum
Eff TSS (mg/L)	4.650	24.900
Eff Dissolved Hg	1.1750	1.4000

Data Display

```
S_TAU    5.00000
VAR_S    42.6190
Z_S      0.612714
```

Data Display

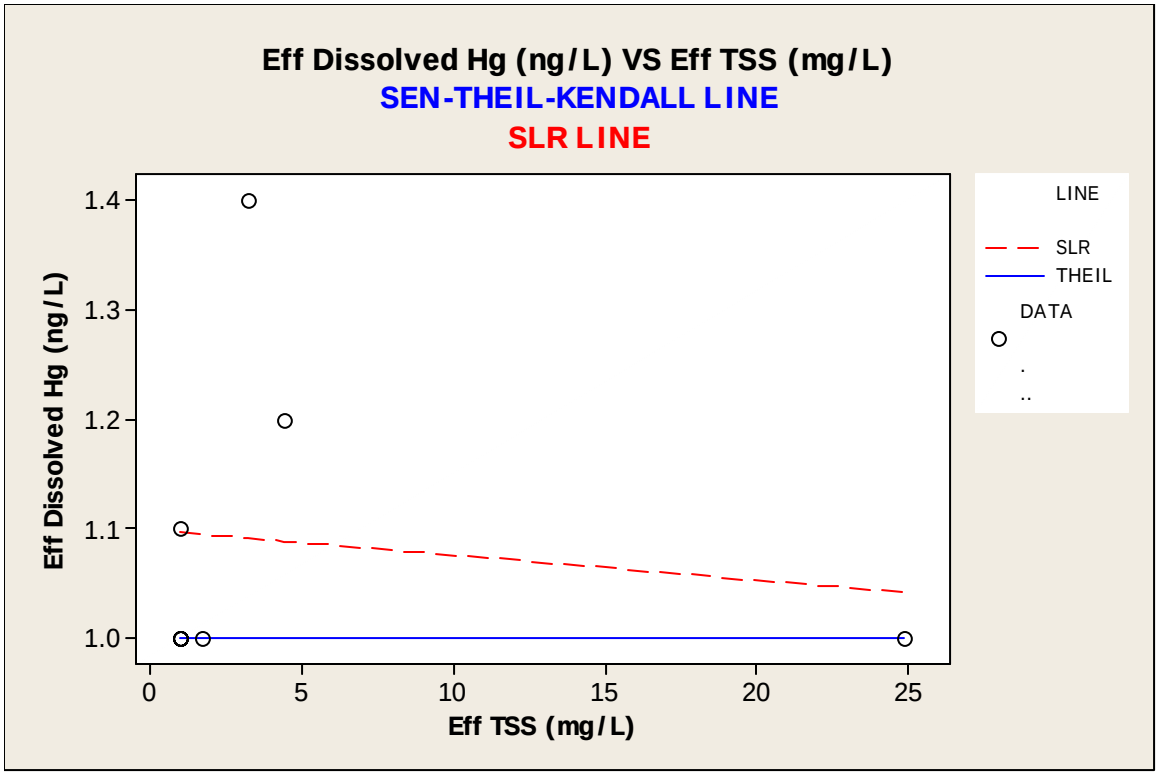
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A   0.178571   0.540065
  2  KENDALL'S TAU_B   0.251259   0.540065
```

Data Display

```
Row  INTRCPT_  LOWER95  SLOPE_    UPPER95
  1         1        0       0  0.0588235

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c8 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff TSS (mg/L)    33   1  4.288    0.944  5.425    1.000  1.000   2.000  4.650
Eff TR Hg (ng/L)  33   1  4.079    0.443  2.547    1.800  2.300   3.100  4.550
```

```
Variable          Maximum
Eff TSS (mg/L)     24.900
Eff TR Hg (ng/L)   11.200
```

Data Display

```
S_TAU    152.000
VAR_S    3459.88
Z_S      2.56712
```

Data Display

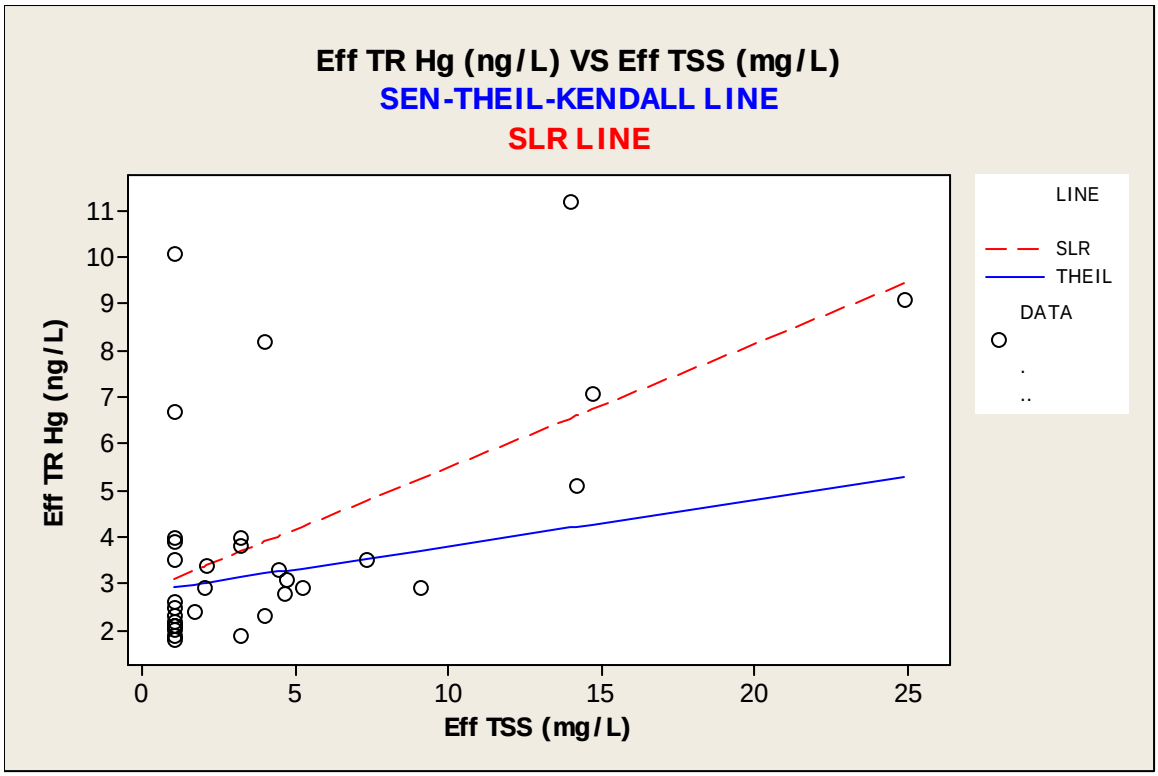
```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.306452  0.0102547
  2  KENDALL'S TAU_B  0.342753  0.0102547
```

Data Display

```
Row  INTRCPT_  LOWER95     SLOPE_   UPPER95
  1   2.79509        0  0.0999546  0.233577

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c10 c11
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Biosolids Sample Date2, Biosolids Hg (mg/kg)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median
Biosolids Sample	36	0	38349	53.0	318	37830	38073	38338
Biosolids Hg (mg	36	0	1.1542	0.0793	0.4758	0.2100	0.9000	1.1000

Variable	Q3	Maximum
Biosolids Sample	38634	38875
Biosolids Hg (mg	1.2625	2.5000

Data Display

S_TAU	251.000
VAR_S	5359.00
Z_S	3.41506

Data Display

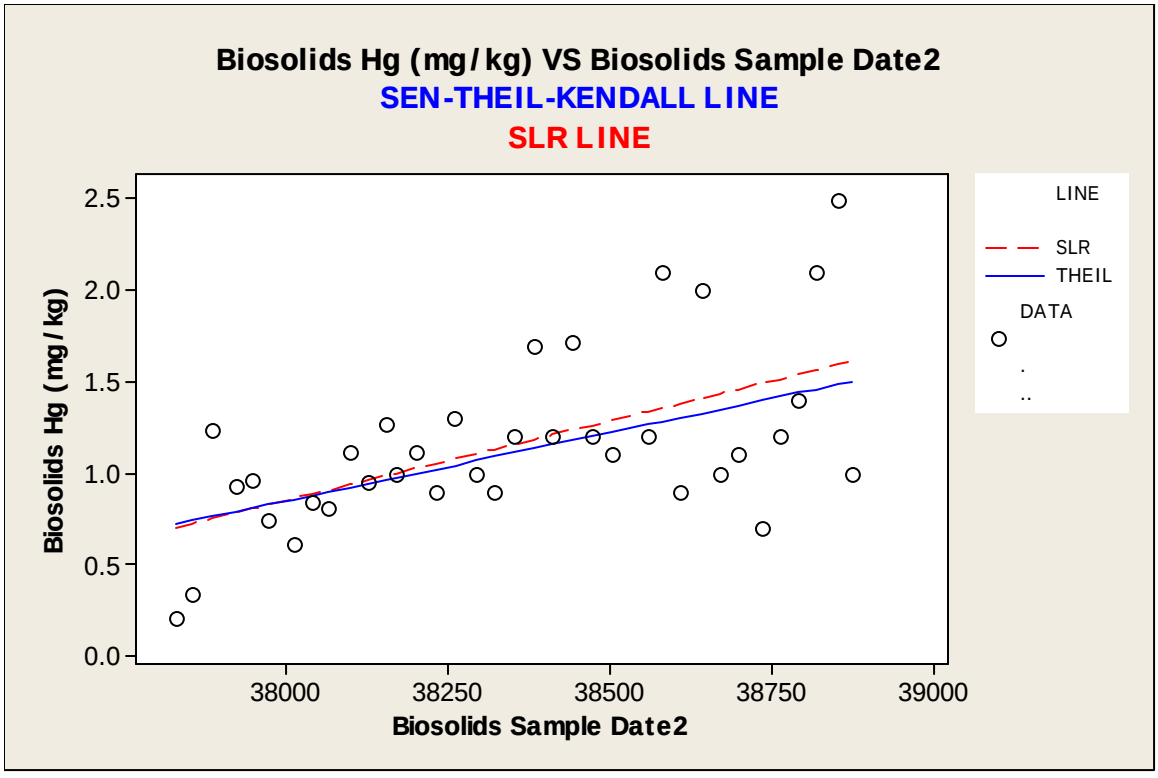
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.398413	0.0006377
2	KENDALL'S TAU_B	0.405224	0.0006377

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	-27.4986	0.0002970	0.0007460	0.0013312

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT



```
MTB > %ktau c4 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf Flow Weighted Influent TSS, Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf Flow Weighte  34   0  279.8     11.4   66.6    168.5  233.7   272.3  320.4
Eff TR Hg (ng/L)  33   1  4.079    0.443  2.547    1.800  2.300   3.100  4.550

Variable          Maximum
Inf Flow Weighte    464.8
Eff TR Hg (ng/L)   11.200
```

Data Display

```
S_TAU    -8.00000
VAR_S    4156.67
Z_S      -0.108574
```

Data Display

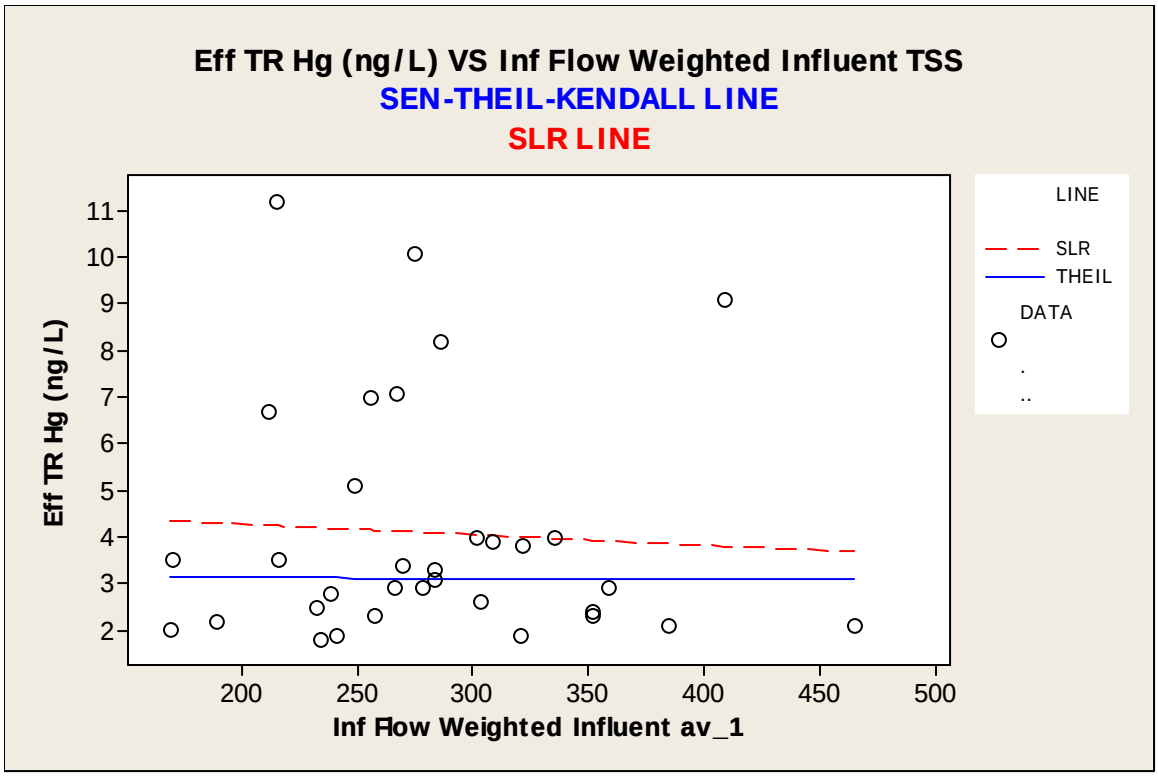
```
Row  CORRTYPE           CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.0151515  0.913540
  2  KENDALL'S TAU_B  -0.0152676  0.913540
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_    UPPER95
  1   3.14986  -0.0081229  -0.0001814  0.0091452

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf Flow Weighted Influent TSS, Eff Dissolved Hg

```
Variable           N  N*    Mean  SE Mean   StDev  Minimum      Q1  Median
Inf Flow Weighte  34   0   279.8     11.4    66.6    168.5   233.7   272.3
Eff Dissolved Hg   8  26  1.0875   0.0515  0.1458   1.0000  1.0000  1.0000

Variable             Q3  Maximum
Inf Flow Weighte  320.4    464.8
Eff Dissolved Hg  1.1750   1.4000
```

Data Display

```
S_TAU    0
VAR_S    48.6667
Z_S      0
```

Data Display

```
Row  CORRTYPE         CORR_VAL  P_VALUE
  1  KENDALL'S TAU_A         0        1
  2  KENDALL'S TAU_B         0        1
```

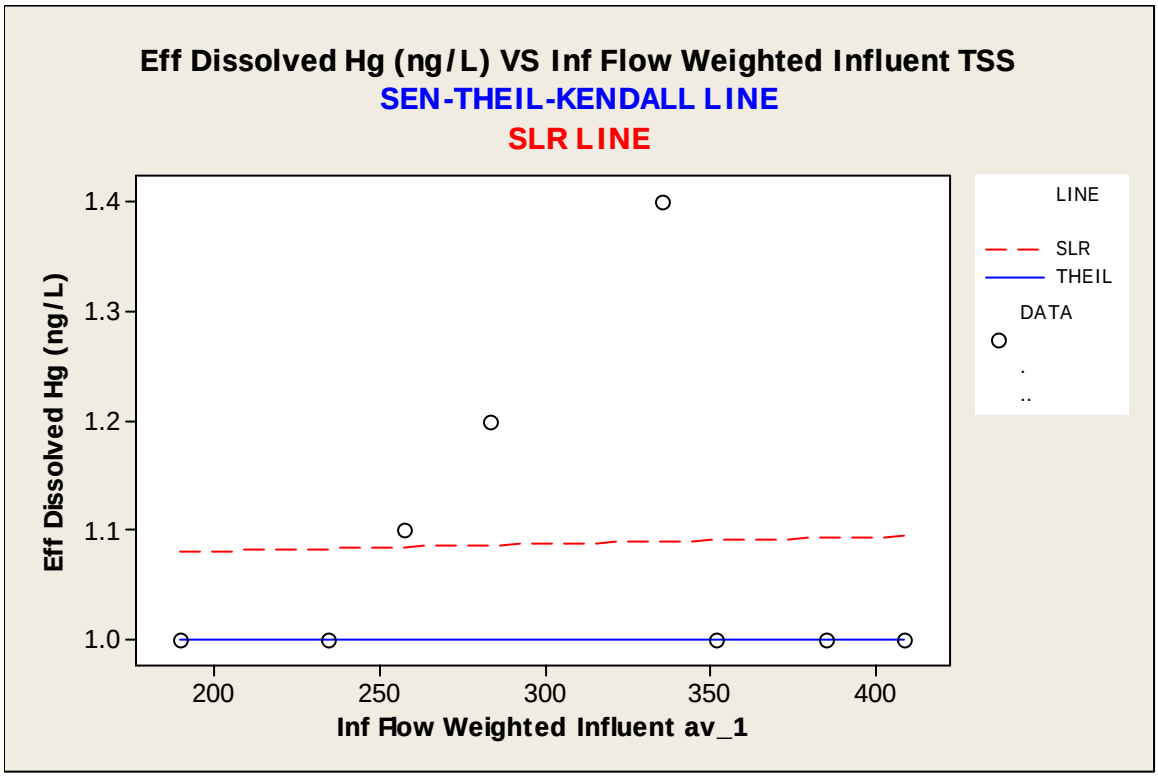
Data Display

```
Row  INTRCPT_     LOWER95  SLOPE_    UPPER95
```

```
  1         1  -0.0010584       0  0.0027357

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c7 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Turbidity (NTU), Eff Dissolved Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean   StDev  Minimum      Q1  Median
Eff Turbidity (N  29   5   3.951    0.676   3.639    0.810   2.000   2.600
Eff Dissolved Hg   8  26  1.0875   0.0515  0.1458   1.0000  1.0000  1.0000

Variable              Q3  Maximum
Eff Turbidity (N   4.800   15.500
Eff Dissolved Hg  1.1750   1.4000
```

Data Display

```
S_TAU     -2.00000
VAR_S     23.0667
Z_S       -0.208213
```

Data Display

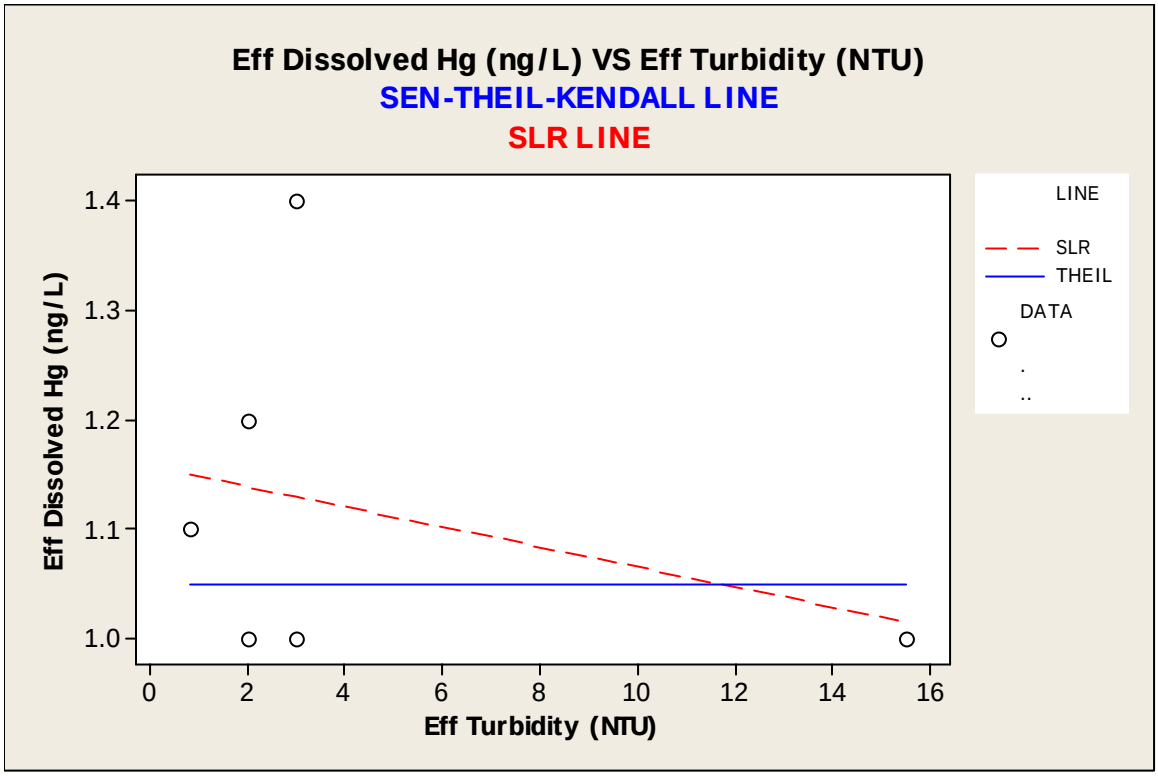
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.133333  0.835063
  2  KENDALL'S TAU_B  -0.160128  0.835063
```

Data Display

```
Row  INTRCPT_     LOWER95  SLOPE_   UPPER95
  1      1.05  -0.0456621       0  0.136986

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c8 c7
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff Turbidity (NTU)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff TSS (mg/L)    33   1  4.288    0.944  5.425    1.000  1.000   2.000  4.650
Eff Turbidity (N  29   5  3.951    0.676  3.639    0.810  2.000   2.600  4.800

Variable          Maximum
Eff TSS (mg/L)     24.900
Eff Turbidity (N   15.500
```

Data Display

```
S_TAU    197.000
VAR_S    2201.86
Z_S      4.17697
```

Data Display

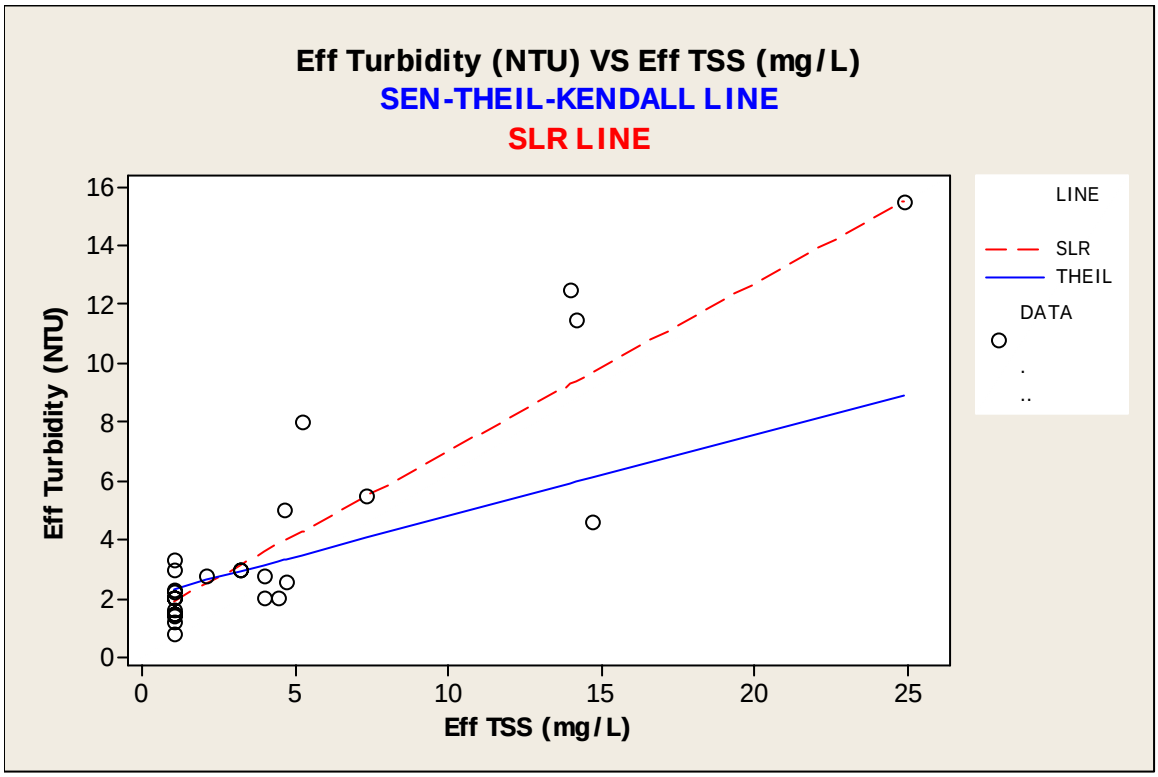
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.521164	0.0000295
2	KENDALL'S TAU_B	0.613949	0.0000295

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	2.02230	0.0810811	0.275936	0.556485

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT



Results for: POTW I

```
MTB > %ktau c2 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Inf TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      37   0  38344     52.3    318    37810  38069   38334  38629
Inf TR Hg  (ng/L  34   3  209.0     30.0  175.0     56.2  121.5   152.5  183.3

Variable          Maximum
Sample Date2        38874
Inf TR Hg  (ng/L    861.0
```

Data Display

```
S_TAU    -186.000
VAR_S    4547.33
Z_S      -2.74343
```

Data Display

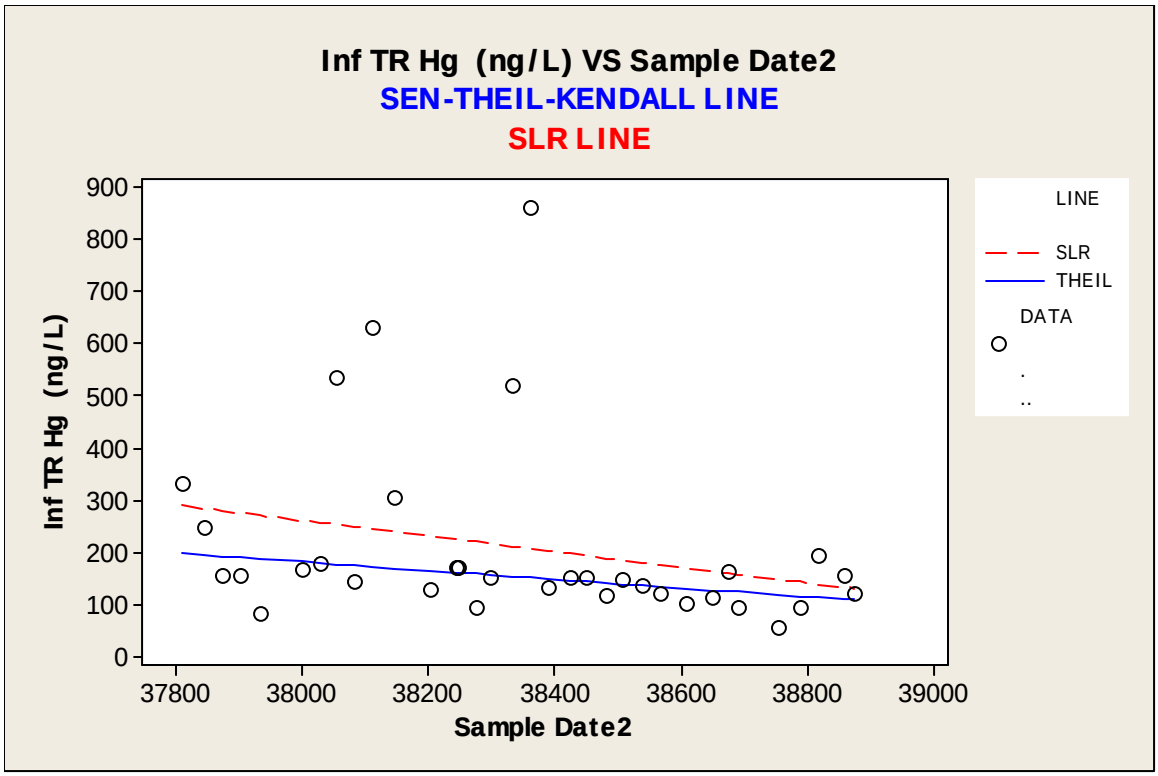
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  -0.331551  0.0060802
  2  KENDALL'S TAU_B  -0.332441  0.0060802
```

Data Display

```
Row  INTRCPT_    LOWER95      SLOPE_     UPPER95
  1   3333.48  -0.164835  -0.0829493  -0.0290828

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c4
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Inf TSS (mg/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3
Sample Date2	37	0	38344	52.3	318	37810	38069	38334	38629
Inf TSS (mg/L)	37	0	190.24	7.32	44.52	108.00	161.00	194.00	229.00

Variable	Maximum
Sample Date2	38874
Inf TSS (mg/L)	272.00

Data Display

```
S_TAU     -3.00000
VAR_S     5839.00
Z_S       -0.0261734
```

Data Display

Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	-0.0045045	0.979119
2	KENDALL'S TAU_B	-0.0045284	0.979119

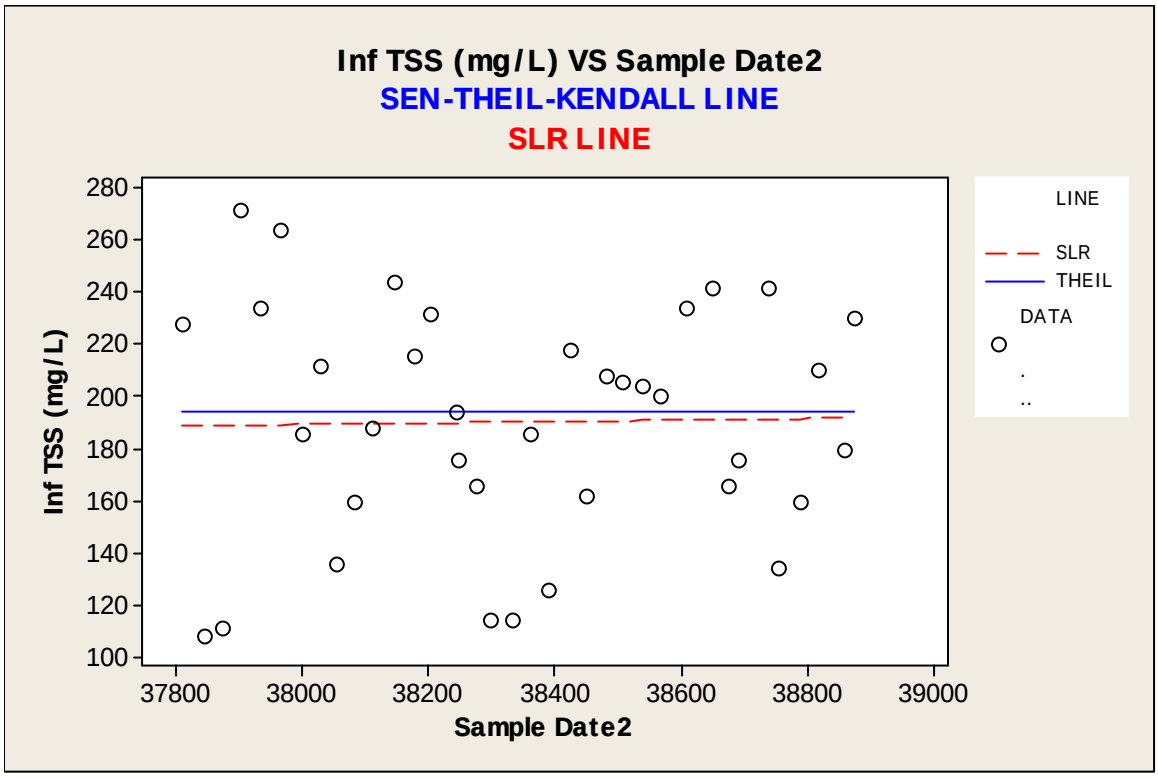
Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95

```
  1       194  -0.0610329       0  0.0534934

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      37   0  38344     52.3    318    37810  38069   38334  38629
Eff TR Hg (ng/L)  33   4   7.98     1.04   5.99     3.80   4.65    5.60   8.05

Variable          Maximum
Sample Date2        38874
Eff TR Hg (ng/L)    29.40
```

Data Display

```
S_TAU     -30.0000
VAR_S     4158.67
Z_S       -0.449698
```

Data Display

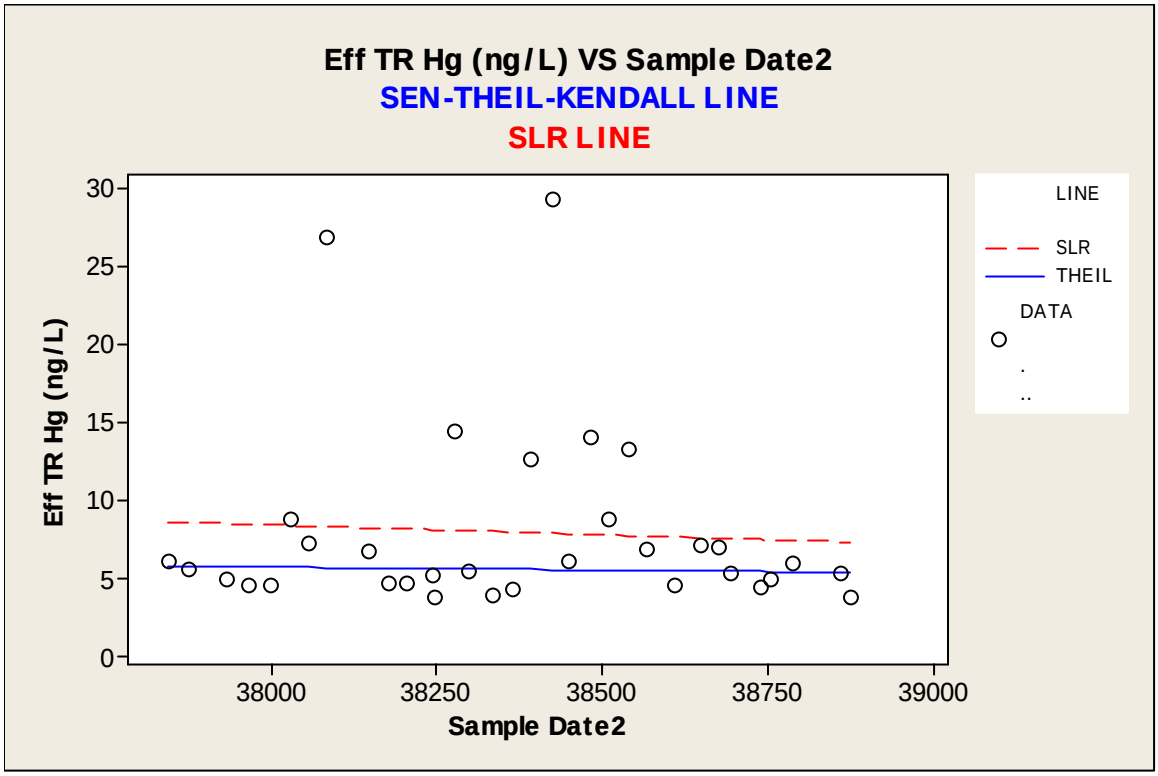
```
Row  CORRTYPE           CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.0568182  0.652928
  2  KENDALL'S TAU_B  -0.0571438  0.652928
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_    UPPER95
  1   19.8482  -0.0029781  -0.0003714  0.0019391

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      37   0  38344     52.3    318    37810  38069   38334  38629
Eff Dissolved Hg   9  28  2.878    0.220  0.659    2.100  2.200   2.700  3.600

Variable          Maximum
Sample Date2        38874
Eff Dissolved Hg    3.700
```

Data Display

```
S_TAU    -16.0000
VAR_S    90.0000
Z_S      -1.58114
```

Data Display

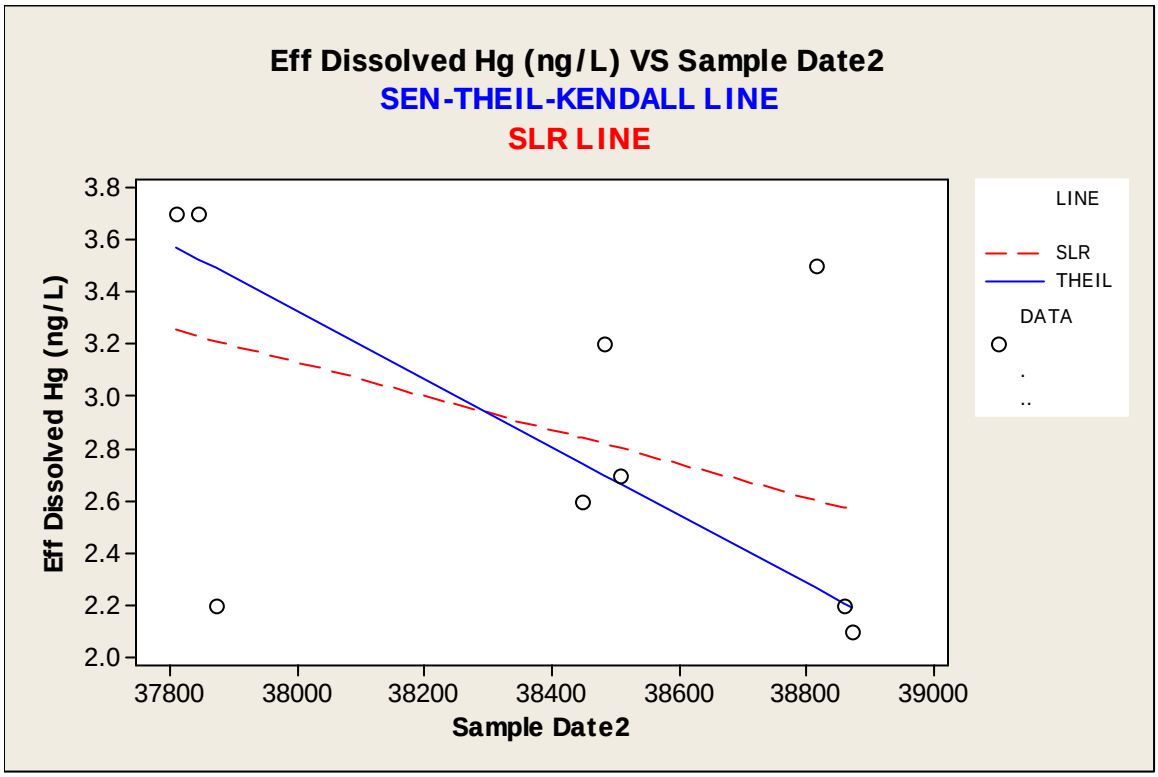
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.444444  0.113846
  2  KENDALL'S TAU_B  -0.457330  0.113846
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_     UPPER95
  1   52.7453  -0.0018212  -0.0013005  0.0006944

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff TSS (mg/L)

```
Variable         N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median      Q3
Sample Date2    37   0  38344     52.3    318    37810  38069   38334   38629
Eff TSS (mg/L)  37   0  8.589    0.876  5.329    2.400  4.800   6.600  12.500

Variable        Maximum
Sample Date2      38874
Eff TSS (mg/L)   21.000
```

Data Display

```
S_TAU     111.000
VAR_S     5838.33
Z_S       1.43962
```

Data Display

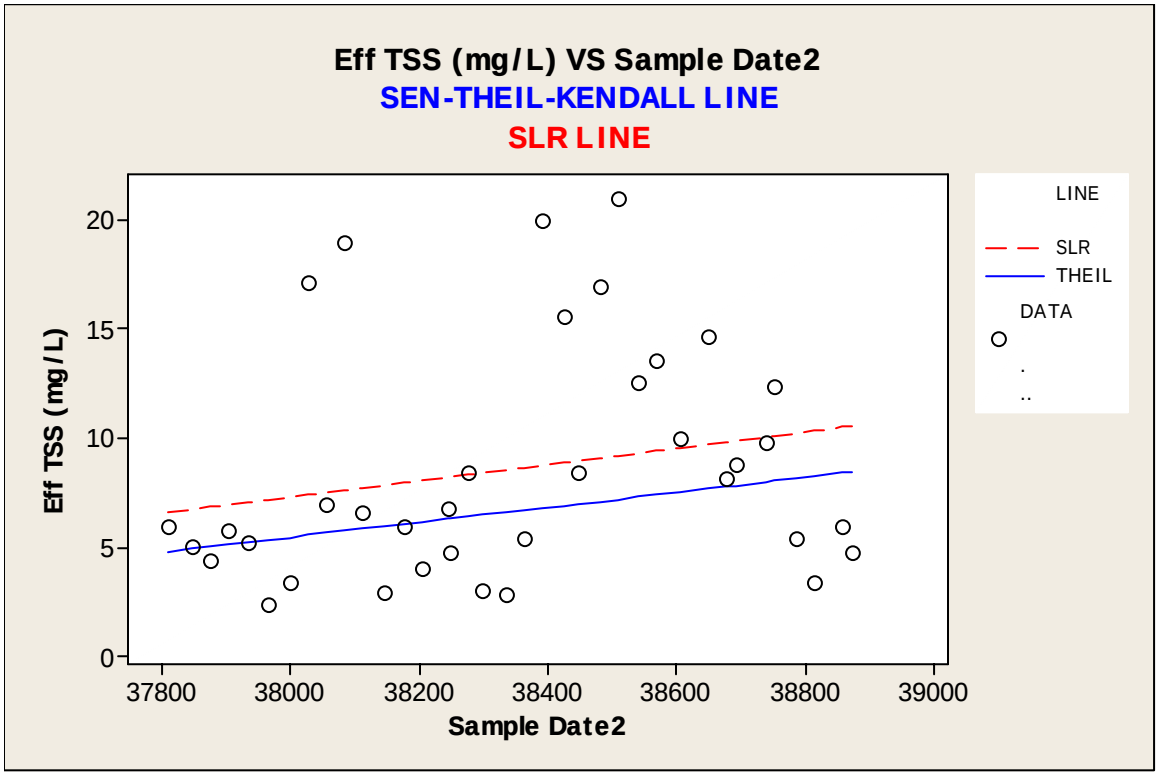
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A   0.166667   0.149975
  2  KENDALL'S TAU_B   0.167550   0.149975
```

Data Display

```
Row  INTRCPT_      LOWER95      SLOPE_     UPPER95
  1  -124.349   -0.0010593   0.0034160   0.0083507

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c3 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TR Hg (ng/L), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf TR Hg  (ng/L  34   3  209.0     30.0  175.0     56.2  121.5   152.5  183.3
Eff TR Hg (ng/L)  33   4   7.98     1.04   5.99     3.80   4.65    5.60   8.05

Variable          Maximum
```

```
Inf TR Hg  (ng/L    861.0
Eff TR Hg (ng/L)    29.40
```

Data Display

```
S_TAU     -32.0000
VAR_S     3134.69
Z_S       -0.553687
```

Data Display

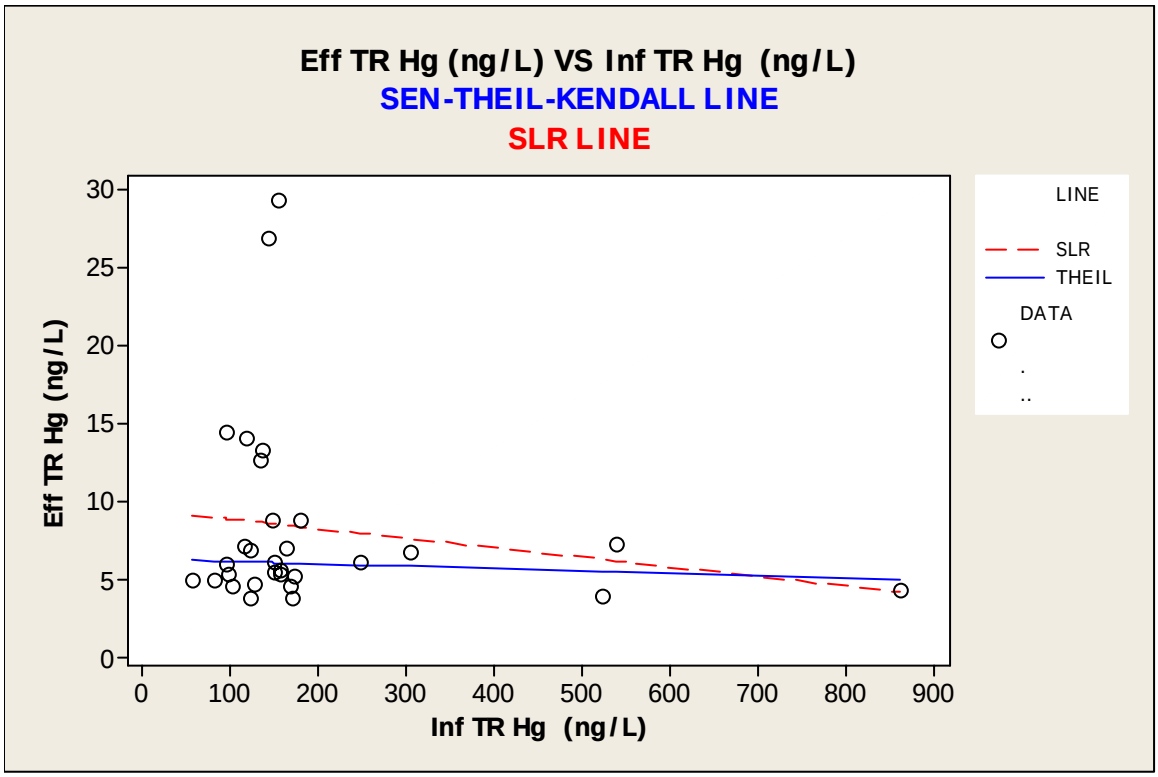
```
Row  CORRTYPE           CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.0735632  0.579793
  2  KENDALL'S TAU_B  -0.0741600  0.579793
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_    UPPER95
  1   6.33162  -0.0131016  -0.0015493  0.0061927

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c3 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TR Hg (ng/L), Eff Dissolved Hg (ng/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3
Inf TR Hg (ng/L	34	3	209.0	30.0	175.0	56.2	121.5	152.5	183.3
Eff Dissolved Hg	9	28	2.878	0.220	0.659	2.100	2.200	2.700	3.600

Variable	Maximum
Inf TR Hg (ng/L	861.0
Eff Dissolved Hg	3.700

Data Display

S_TAU	14.0000
VAR_S	89.0556
Z_S	1.37757

Data Display

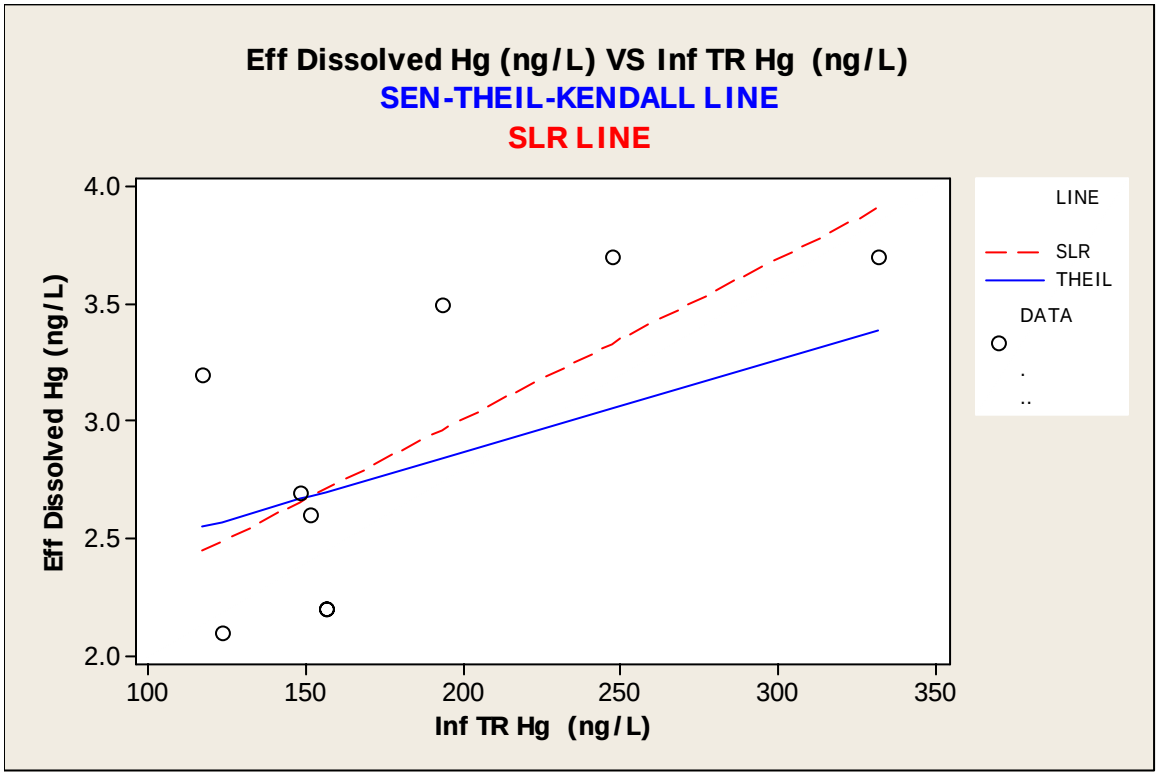
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.388889	0.168337
2	KENDALL'S TAU_B	0.405840	0.168337

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	2.09211	-0.0176471	0.0038968	0.0164835

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT



```
MTB > %ktau c8 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median      Q3
Eff TSS (mg/L)    37   0  8.589    0.876  5.329    2.400  4.800   6.600  12.500
Eff TR Hg (ng/L)  33   4   7.98     1.04   5.99     3.80   4.65    5.60    8.05

Variable          Maximum
Eff TSS (mg/L)     21.000
Eff TR Hg (ng/L)    29.40
```

Data Display

```
S_TAU    246.000
VAR_S    4154.71
Z_S      3.80098
```

Data Display

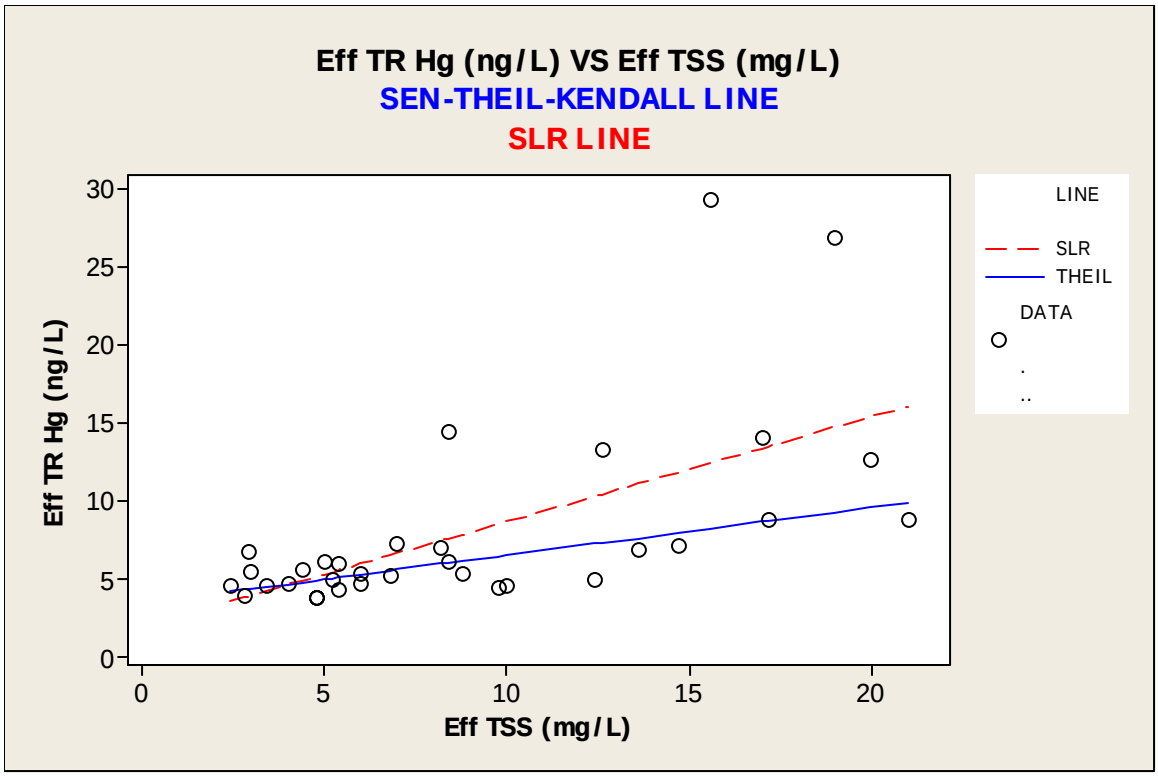
```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.465909  0.0001441
  2  KENDALL'S TAU_B  0.470364  0.0001441
```

Data Display

```
Row  INTRCPT_   LOWER95    SLOPE_  UPPER95
  1   3.44283  0.166667  0.308167   0.5625

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c8 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median      Q3
Eff TSS (mg/L)    37   0  8.589    0.876  5.329    2.400  4.800   6.600  12.500
Eff Dissolved Hg   9  28  2.878    0.220  0.659    2.100  2.200   2.700   3.600

Variable          Maximum
Eff TSS (mg/L)     21.000
Eff Dissolved Hg    3.700
```

Data Display

```
S_TAU    3.00000
VAR_S    89.0556
Z_S      0.211933
```

Data Display

```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.0833333  0.832159
  2  KENDALL'S TAU_B  0.0869657  0.832159
```

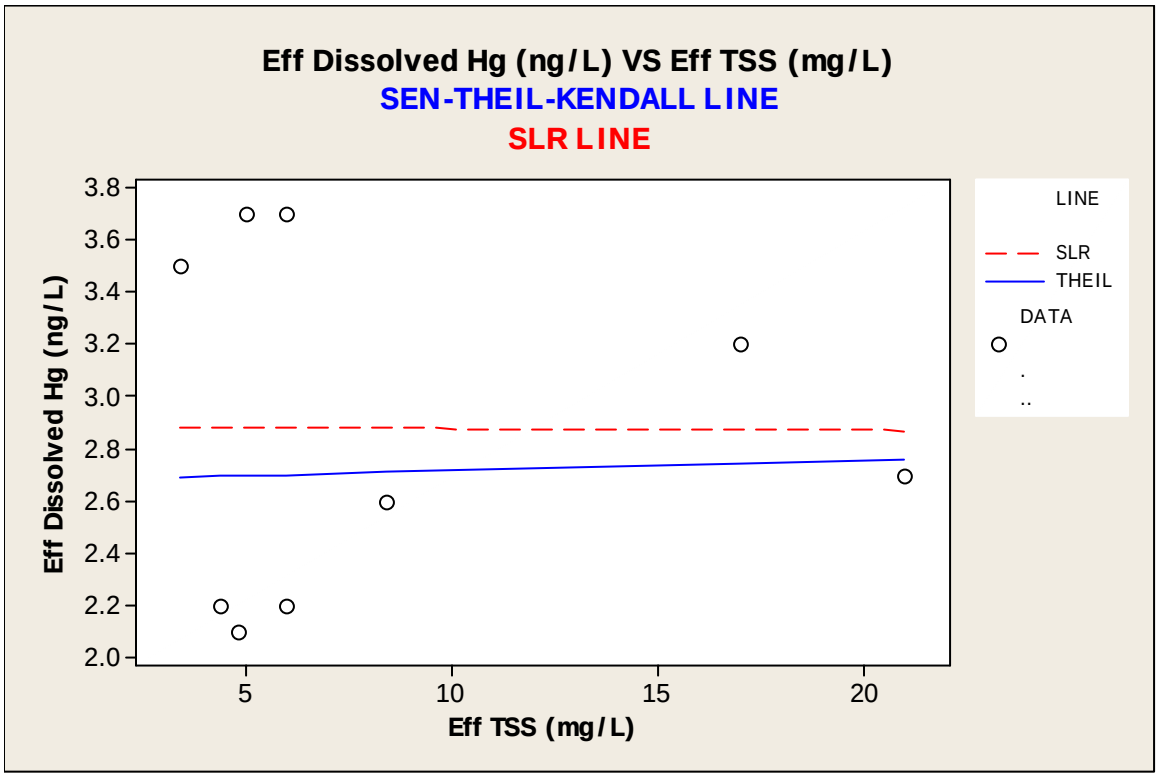
Data Display

```
Row  INTRCPT_  LOWER95     SLOPE_    UPPER95
```

```
  1   2.67619   -0.125  0.0039683  0.0909091

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c10 c11
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Biosolids Sample Date2, Biosolids Hg (mg/kg)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Biosolids Sample  31   7  38407     58.5    326    37816  38152   38442  38686
Biosolids Hg (mg  31   7  0.513    0.111  0.619    0.025  0.149   0.404  0.641

Variable          Maximum
Biosolids Sample    38898
Biosolids Hg (mg    3.350
```

Data Display

```
S_TAU     -310.000
VAR_S     3460.67
Z_S       -5.25265
```

Data Display

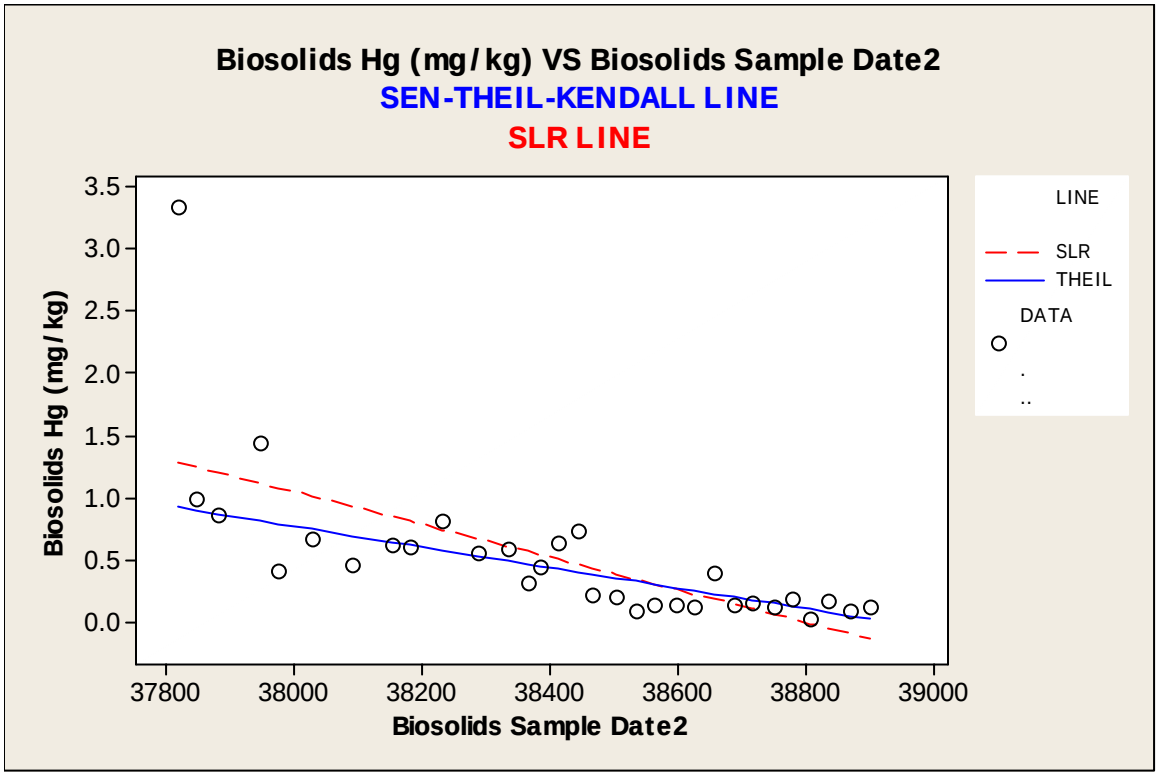
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  -0.666667  0.0000001
  2  KENDALL'S TAU_B  -0.667385  0.0000001
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_     UPPER95
  1   32.2472  -0.0010971  -0.0008283  -0.0005962

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Inf TR Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean  StDev  Minimum      Q1  Median
Inf TSS (mg/L)    37   0  190.24     7.32  44.52   108.00  161.00  194.00
Inf TR Hg  (ng/L  34   3   209.0     30.0  175.0     56.2   121.5   152.5

Variable             Q3  Maximum
Inf TSS (mg/L)    229.00   272.00
Inf TR Hg  (ng/L   183.3    861.0
```

Data Display

```
S_TAU     -36.0000
VAR_S     4541.37
Z_S       -0.519368
```

Data Display

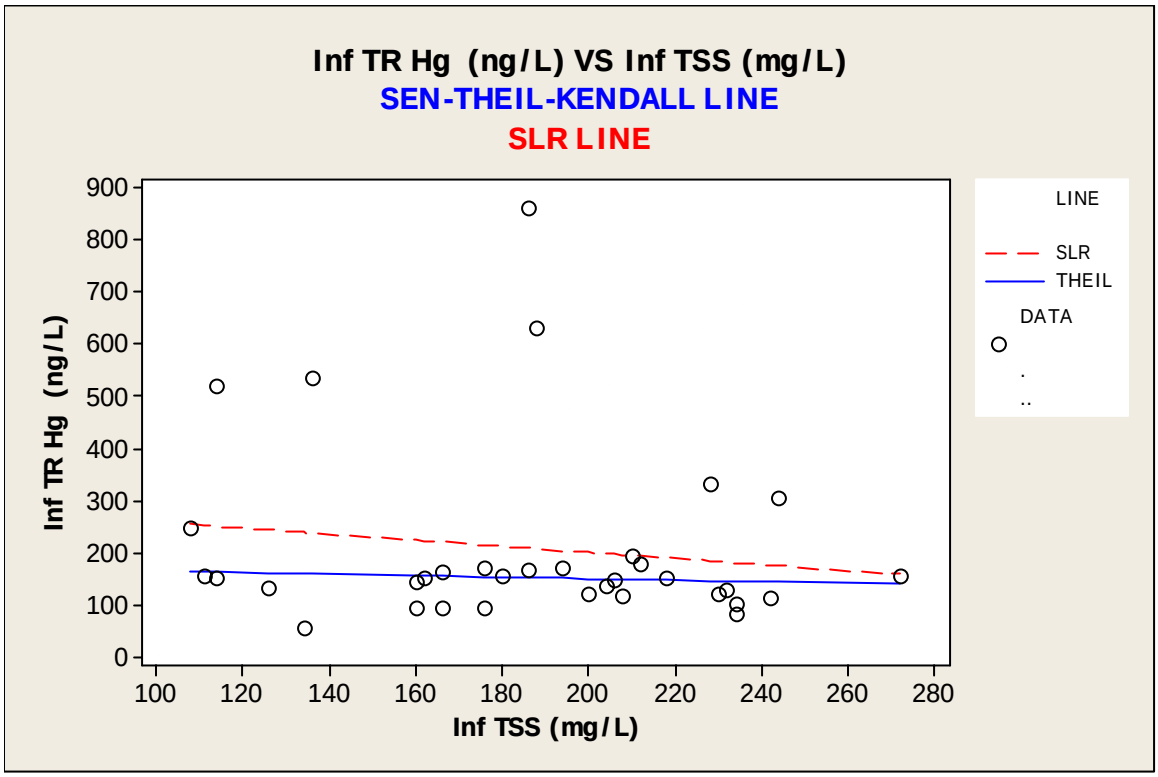
```
Row  CORRTYPE           CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.0641711  0.603504
  2  KENDALL'S TAU_B  -0.0646903  0.603504
```

Data Display

```
Row  INTRCPT_    LOWER95     SLOPE_  UPPER95
  1   180.957  -0.736842  -0.152174    0.375

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Eff TR Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean  StDev  Minimum      Q1  Median
Inf TSS (mg/L)    37   0  190.24     7.32  44.52   108.00  161.00  194.00
Eff TR Hg (ng/L)  33   4    7.98     1.04   5.99     3.80    4.65    5.60

Variable              Q3  Maximum
Inf TSS (mg/L)    229.00   272.00
Eff TR Hg (ng/L)    8.05    29.40
```

Data Display

```
S_TAU     -57.0000
VAR_S     4151.75
Z_S       -0.869106
```

Data Display

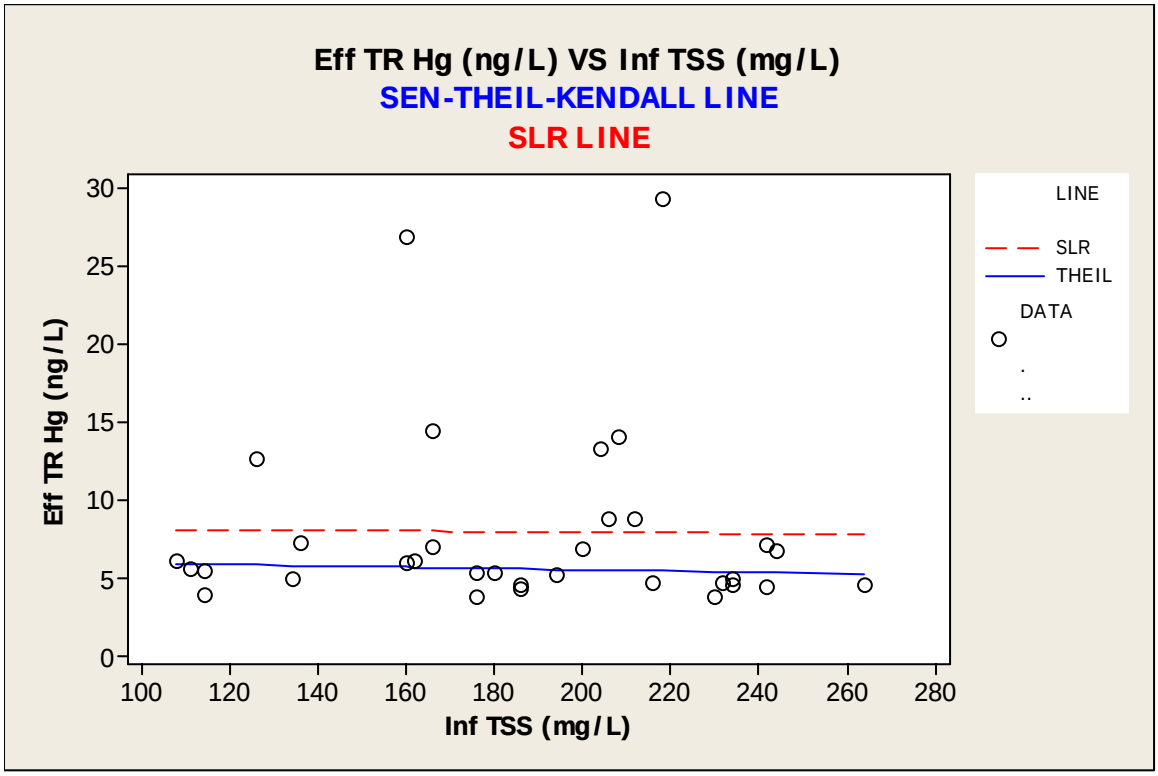
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.107955  0.384789
  2  KENDALL'S TAU_B  -0.109300  0.384789
```

Data Display

```
Row  INTRCPT_  LOWER95      SLOPE_    UPPER95
  1   6.41806  -0.0175  -0.0043981  0.0090909

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean  StDev  Minimum      Q1  Median
Inf TSS (mg/L)    37   0  190.24     7.32  44.52   108.00  161.00  194.00
Eff Dissolved Hg   9  28   2.878    0.220  0.659    2.100   2.200   2.700

Variable             Q3  Maximum
```

```
Inf TSS (mg/L)    229.00   272.00
Eff Dissolved Hg   3.600    3.700
```

Data Display

```
S_TAU    4.00000
VAR_S    90.0000
Z_S      0.316228
```

Data Display

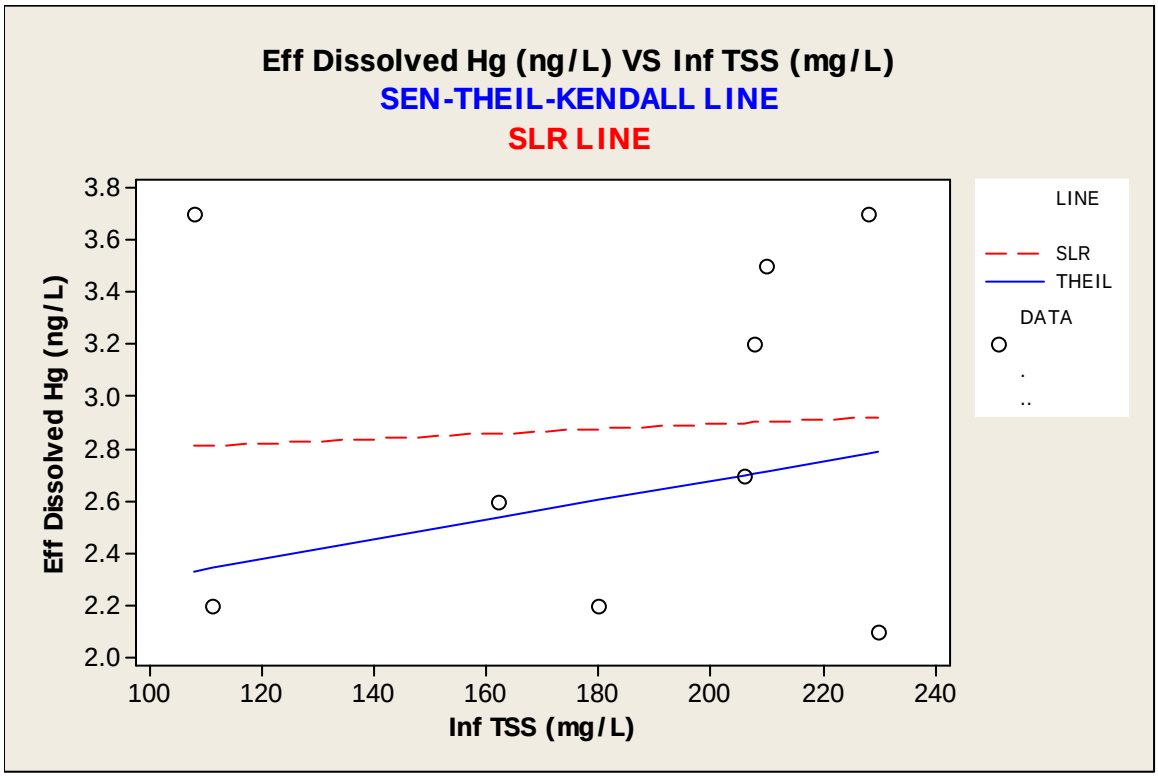
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A   0.111111   0.751830
  2  KENDALL'S TAU_B   0.114332   0.751830
```

Data Display

```
Row  INTRCPT_     LOWER95     SLOPE_    UPPER95
  1   1.92380  -0.0131148  0.0037679  0.0192308

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c5 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TR Hg (ng/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff TR Hg (ng/L)  33   4   7.98     1.04   5.99     3.80   4.65    5.60   8.05
Eff Dissolved Hg   9  28  2.878    0.220  0.659    2.100  2.200   2.700  3.600

Variable          Maximum
Eff TR Hg (ng/L)    29.40
Eff Dissolved Hg    3.700
```

Data Display

```
S_TAU    15.0000
VAR_S    42.3810
Z_S      2.15052
```

Data Display

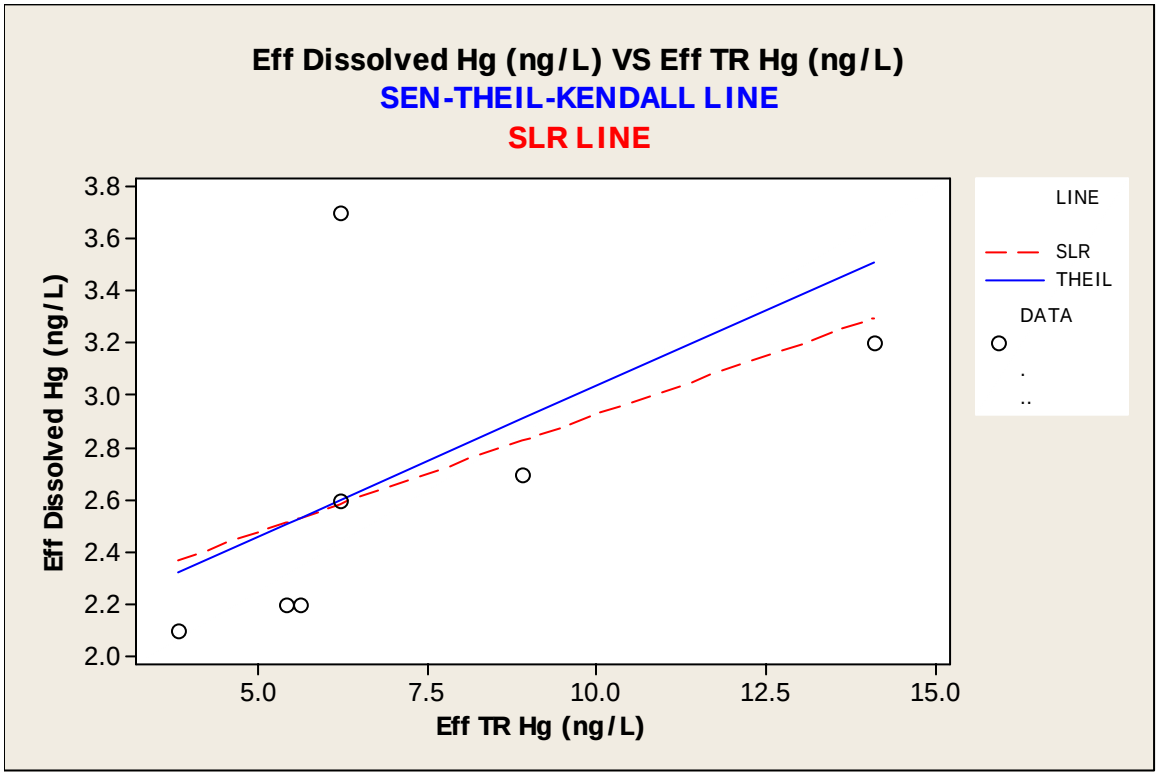
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A   0.714286  0.0315144
  2  KENDALL'S TAU_B   0.750000  0.0315144
```

Data Display

```
Row  INTRCPT_  LOWER95    SLOPE_   UPPER95
  1   1.88736        0  0.114943  0.666667

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



Results for: POTW J

```
MTB > %ktau c2 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Inf TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      35   1  38360     52.0    308    37817  38093   38366  38604
Inf TR Hg  (ng/L  35   1  187.9     22.9  135.3     76.4   95.2   154.0  219.0

Variable          Maximum
Sample Date2        38870
Inf TR Hg  (ng/L    783.0
```

Data Display

```
S_TAU    -51.0000
VAR_S    4956.33
Z_S      -0.710215
```

Data Display

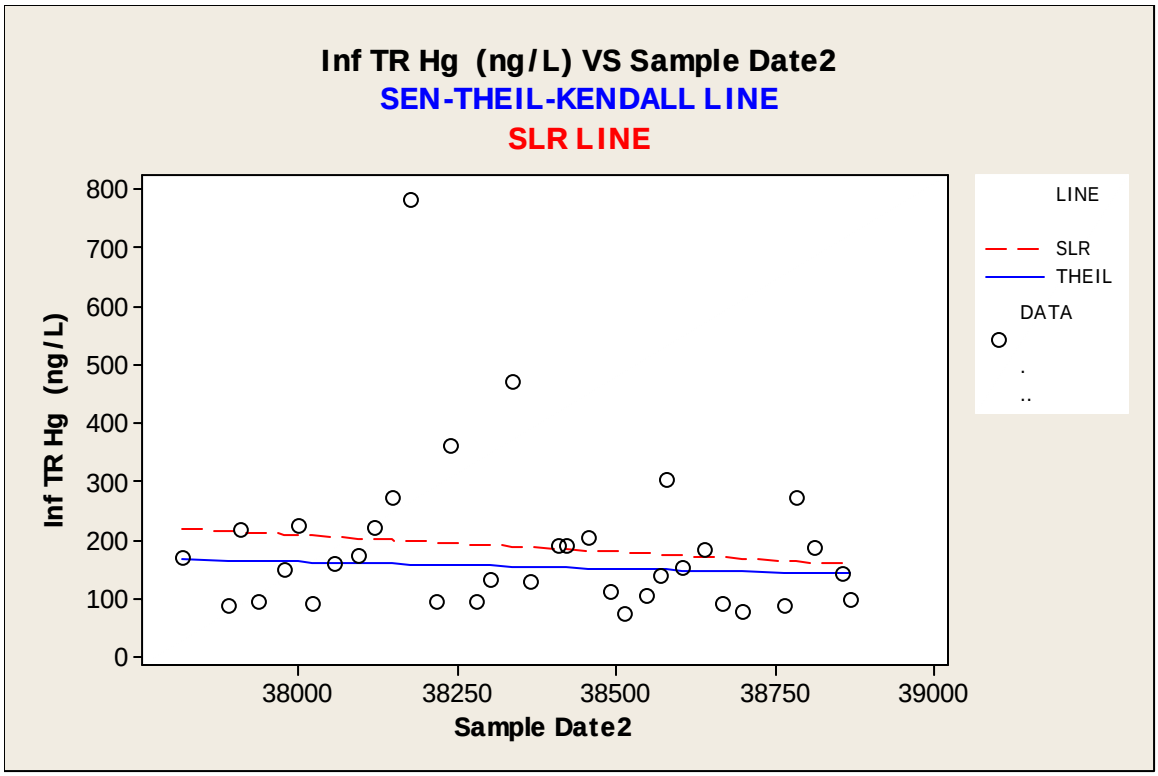
```
Row  CORRTYPE           CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.0857143  0.477571
  2  KENDALL'S TAU_B  -0.0858587  0.477571
```

Data Display

```
Row  INTRCPT_    LOWER95      SLOPE_    UPPER95
  1   1071.45  -0.109890  -0.0239130  0.0542484

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c4
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Inf TSS (mg/L)

```
Variable         N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2    35   1  38360     52.0    308    37817  38093   38366  38604
Inf TSS (mg/L)  33   3  295.0     10.0   57.5    156.0  257.0   292.0  323.5

Variable        Maximum
Sample Date2      38870
Inf TSS (mg/L)    457.0
```

Data Display

```
S_TAU    22.0000
VAR_S    4158.67
Z_S      0.325643
```

Data Display

```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.0416667  0.744694
  2  KENDALL'S TAU_B  0.0419054  0.744694
```

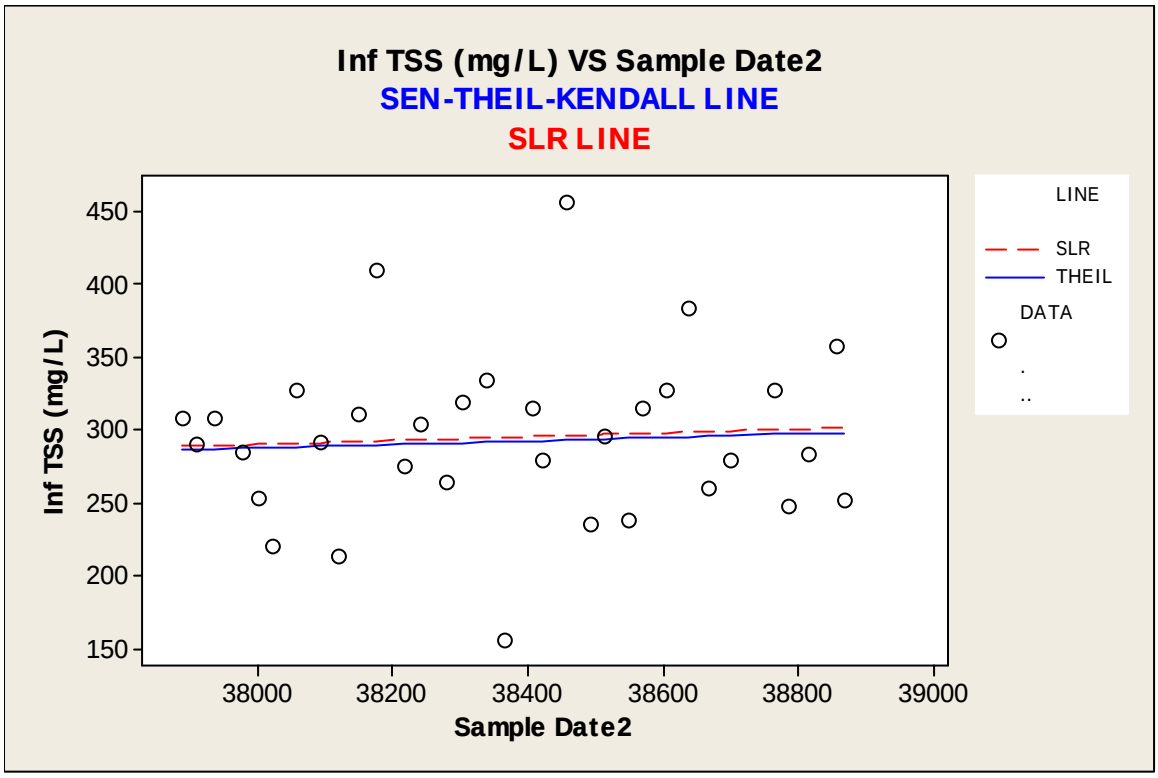
Data Display

```
Row  INTRCPT_     LOWER95     SLOPE_    UPPER95
```

```
  1   -176.890   -0.0521739   0.0122215   0.0650636

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      35   1  38360     52.0    308    37817  38093   38366  38604
Eff TR Hg (ng/L)  35   1  7.983    0.335  1.979    4.400  6.400   7.700  9.400

Variable          Maximum
Sample Date2        38870
Eff TR Hg (ng/L)   12.500
```

Data Display

```
S_TAU     -182.000
VAR_S     4950.67
Z_S       -2.57245
```

Data Display

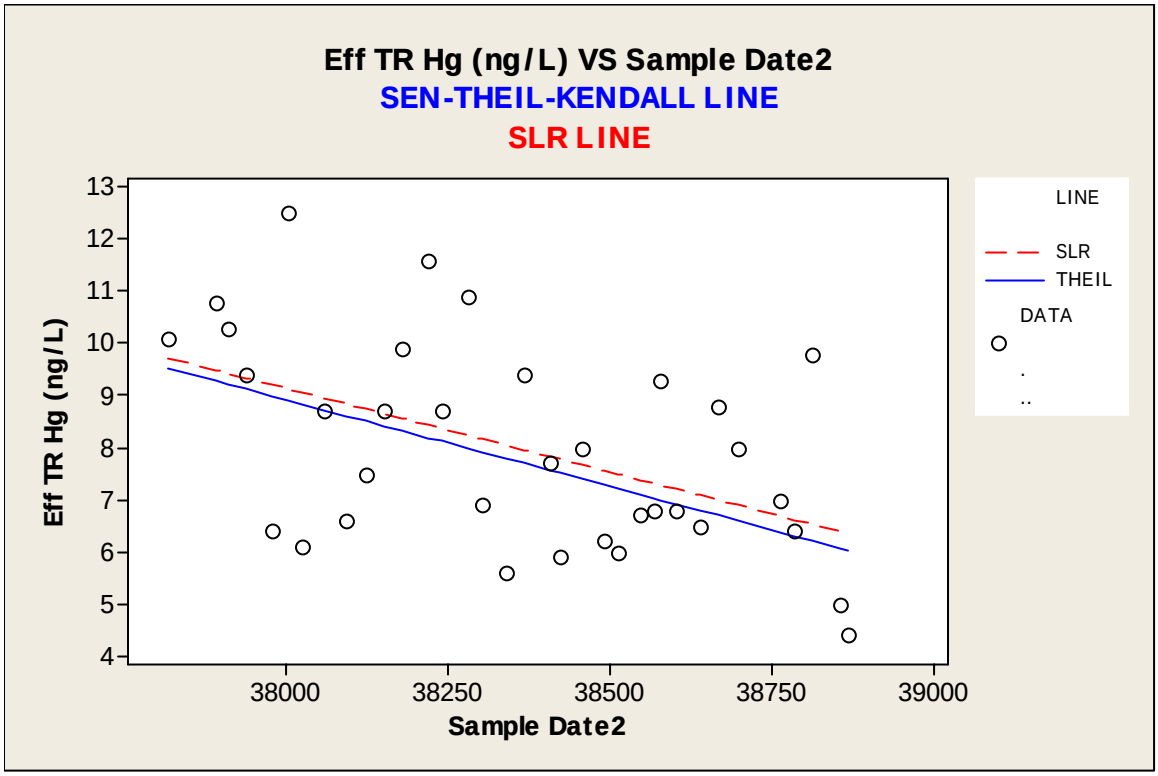
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  -0.305882  0.0100982
  2  KENDALL'S TAU_B  -0.307698  0.0100982
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_     UPPER95
  1   134.981  -0.0054404  -0.0033175  -0.0010025

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c7
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff Turbidity (NTU)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median      Q3
Sample Date2      35   1  38360     52.0    308    37817  38093   38366   38604
Eff Turbidity (N  32   4  8.613    0.625  3.534    4.000  6.425   8.000  10.600

Variable          Maximum
Sample Date2        38870
Eff Turbidity (N   20.000
```

Data Display

```
S_TAU     -102.000
VAR_S     3796.00
Z_S       -1.63930
```

Data Display

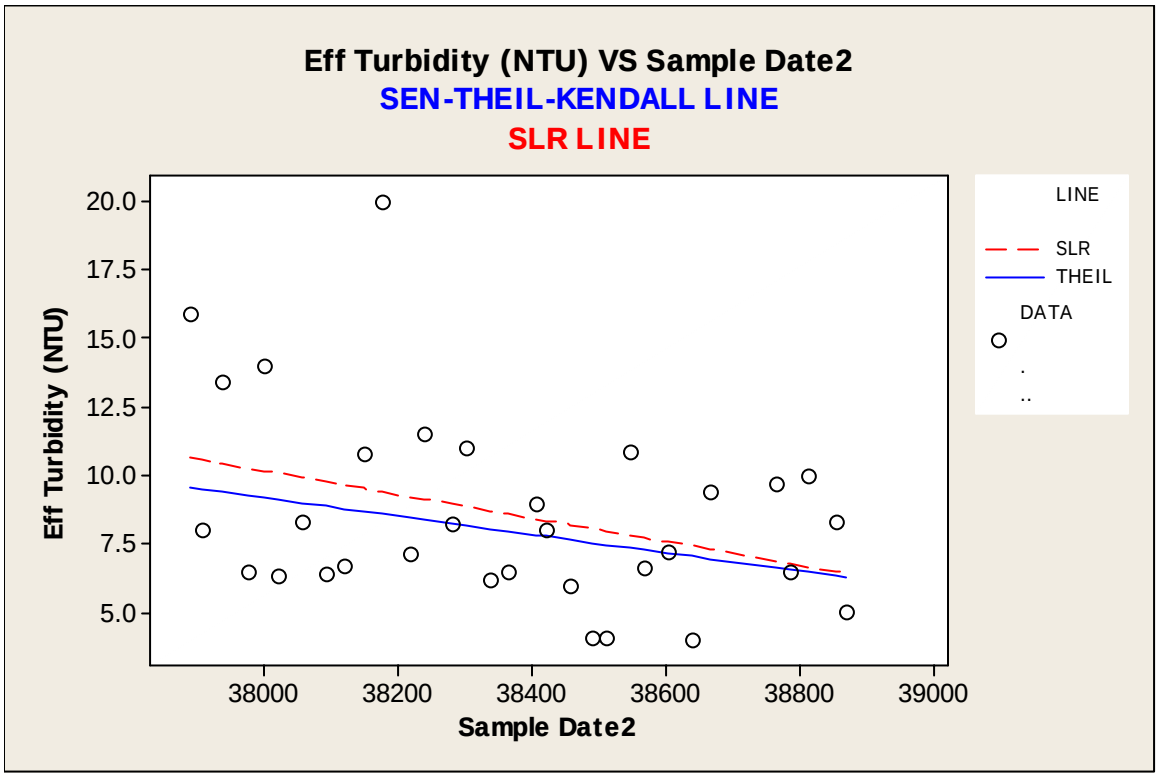
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.205645  0.101151
  2  KENDALL'S TAU_B  -0.206900  0.101151
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_     UPPER95
  1   136.223  -0.0073634  -0.0033433  0.0003168

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff TSS (mg/L)

```
Variable         N  N*    Mean  SE Mean  StDev  Minimum      Q1  Median      Q3
Sample Date2    35   1   38360     52.0    308    37817   38093   38366   38604
Eff TSS (mg/L)  33   3  15.455     0.764  4.388    9.000  12.000  15.000  18.500

Variable        Maximum
Sample Date2      38870
Eff TSS (mg/L)   25.000
```

Data Display

```
S_TAU     -129.000
VAR_S     4098.33
Z_S       -1.99943
```

Data Display

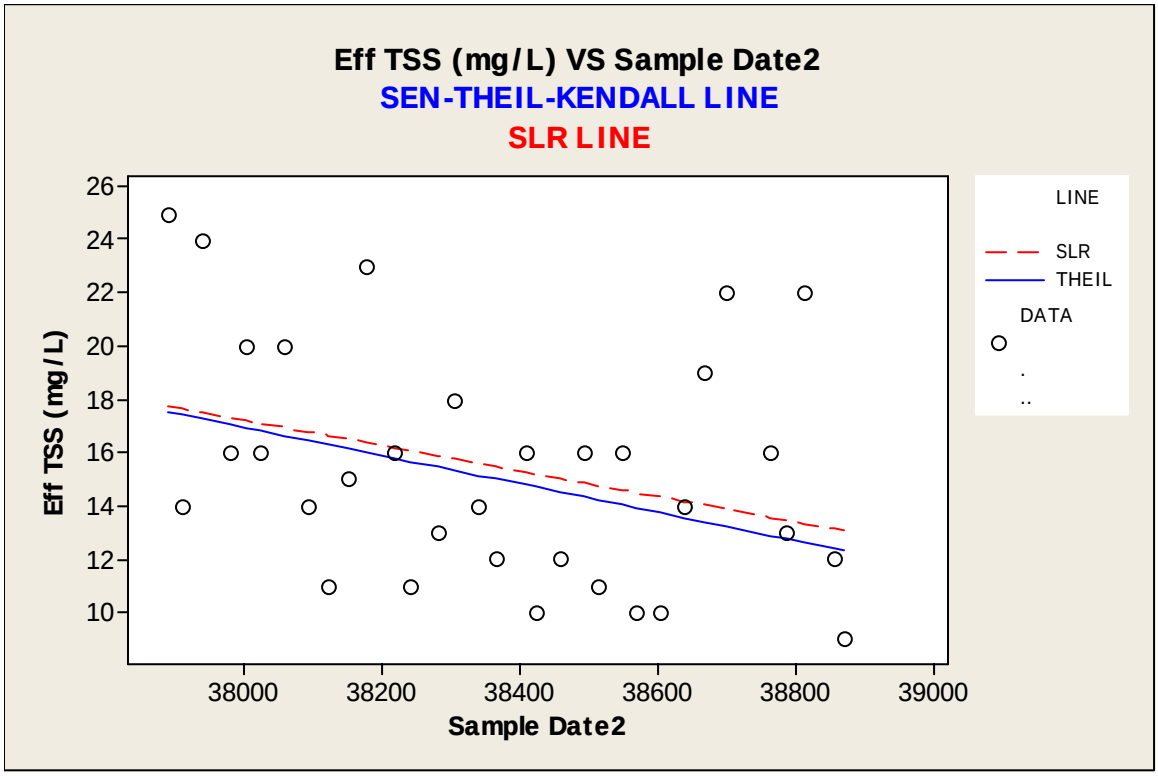
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  -0.244318  0.0455618
  2  KENDALL'S TAU_B  -0.253874  0.0455618
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_  UPPER95
  1   218.535  -0.0102041  -0.0053051        0

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c3 c4
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TR Hg (ng/L), Inf TSS (mg/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf TR Hg  (ng/L  35   1  187.9     22.9  135.3     76.4   95.2   154.0  219.0
Inf TSS (mg/L)    33   3  295.0     10.0   57.5    156.0  257.0   292.0  323.5

Variable          Maximum
```

```
Inf TR Hg  (ng/L    783.0
Inf TSS (mg/L)      457.0
```

Data Display

```
S_TAU    84.0000
VAR_S    4156.69
Z_S      1.28737
```

Data Display

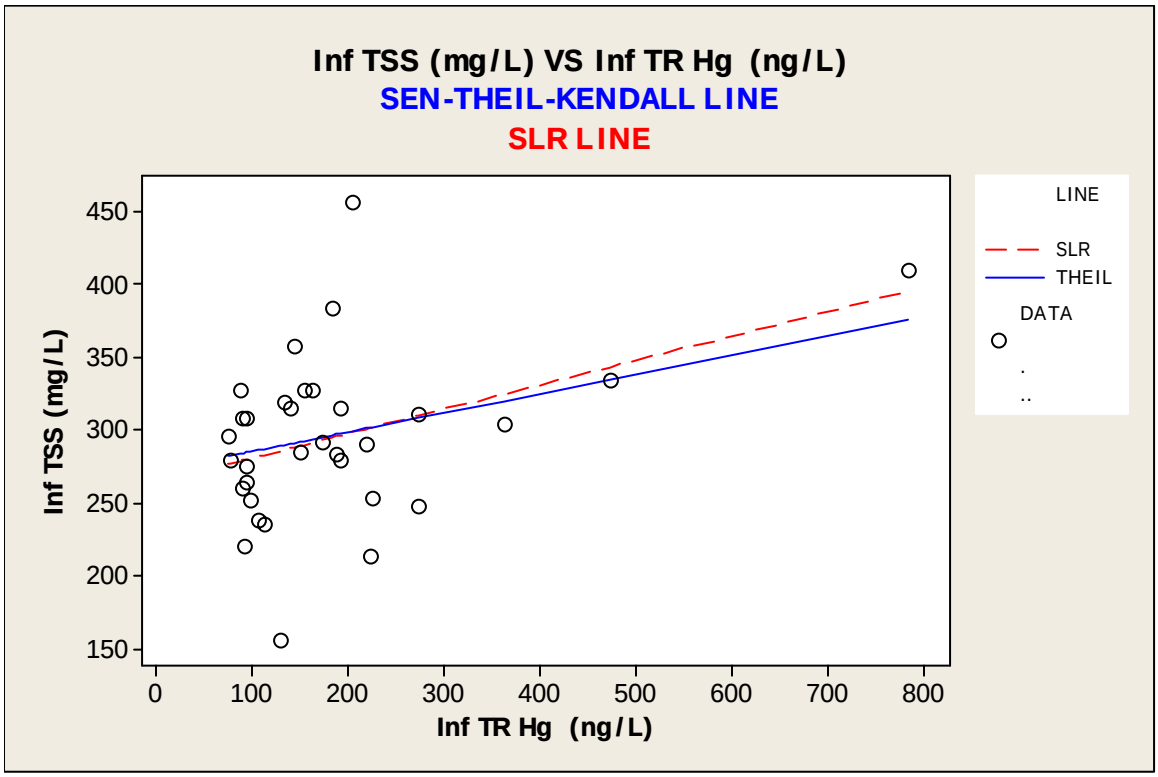
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A   0.159091   0.197964
  2  KENDALL'S TAU_B   0.160307   0.197964
```

Data Display

```
Row  INTRCPT_     LOWER95    SLOPE_   UPPER95
  1   272.013  -0.0710059  0.133249  0.276786

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c3 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TR Hg (ng/L), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf TR Hg  (ng/L  35   1  187.9     22.9  135.3     76.4   95.2   154.0  219.0
Eff TR Hg (ng/L)  35   1  7.983    0.335  1.979    4.400  6.400   7.700  9.400

Variable          Maximum
Inf TR Hg  (ng/L    783.0
Eff TR Hg (ng/L)   12.500
```

Data Display

```
S_TAU    38.0000
VAR_S    4948.69
Z_S      0.525965
```

Data Display

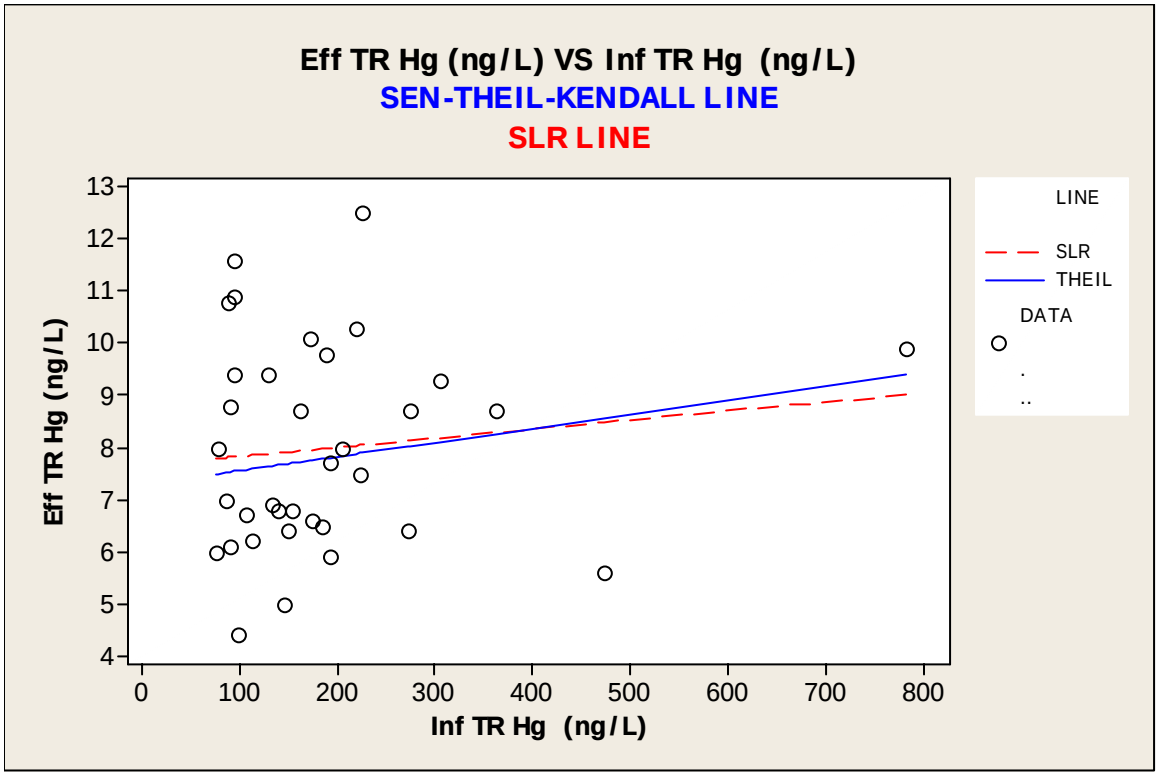
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.0638655  0.598913
  2  KENDALL'S TAU_B  0.0643528  0.598913
```

Data Display

```
Row  INTRCPT_     LOWER95     SLOPE_    UPPER95
  1   7.28502  -0.0046030  0.0026947  0.0101626

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



```
MTB > % ktau c5 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TR Hg (ng/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff TR Hg (ng/L)  35   1  7.983    0.335  1.979    4.400  6.400   7.700  9.400
Eff Dissolved Hg   9  27  2.667    0.585  1.755    1.100  1.450   1.900  4.050

Variable          Maximum
Eff TR Hg (ng/L)   12.500
Eff Dissolved Hg    6.200
```

Data Display

```
S_TAU    24.0000
VAR_S    92.0000
Z_S      2.39792
```

Data Display

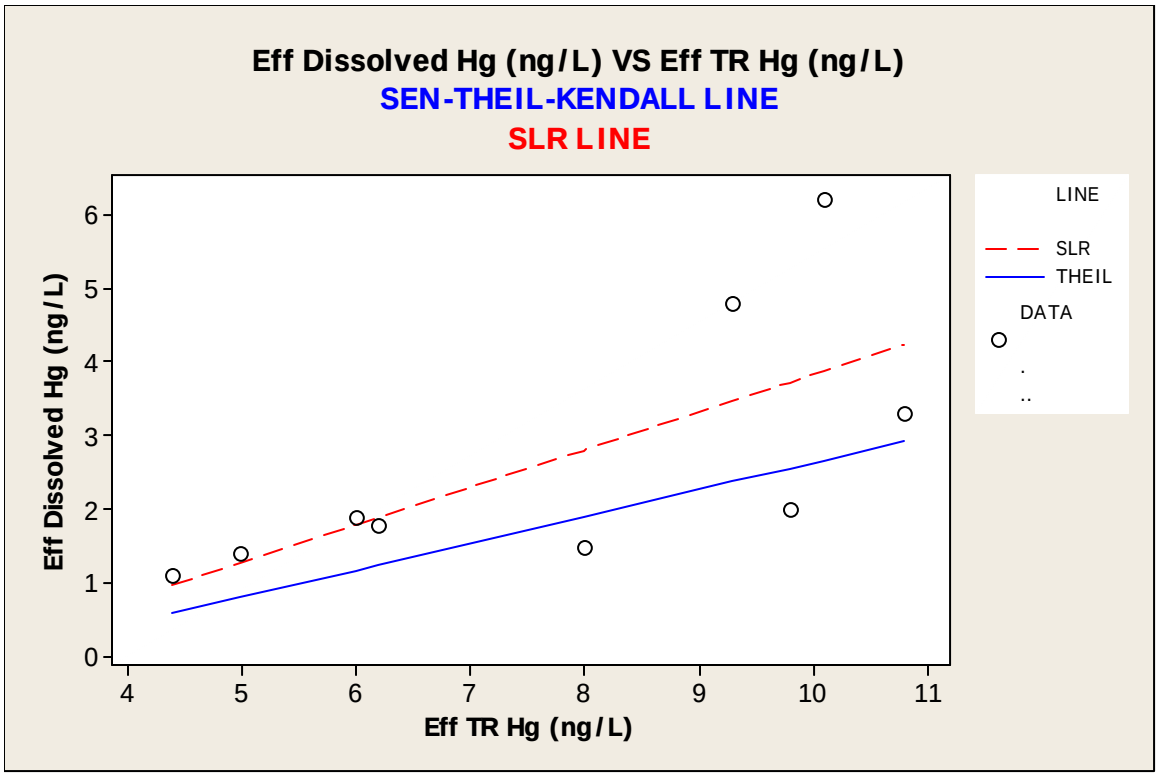
```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.666667  0.0164887
  2  KENDALL'S TAU_B  0.666667  0.0164887
```

Data Display

```
Row  INTRCPT_    LOWER95    SLOPE_   UPPER95
  1  -1.03056  0.0555556  0.366319  0.941176

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c7 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Turbidity (NTU), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median      Q3
Eff Turbidity (N  32   4  8.613    0.625  3.534    4.000  6.425   8.000  10.600
Eff TR Hg (ng/L)  35   1  7.983    0.335  1.979    4.400  6.400   7.700   9.400

Variable           Maximum
Eff Turbidity (N    20.000
Eff TR Hg (ng/L)    12.500
```

Data Display

```
S_TAU    215.000
VAR_S    3789.41
Z_S      3.47639
```

Data Display

```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A   0.433468  0.0005082
  2  KENDALL'S TAU_B   0.438776  0.0005082
```

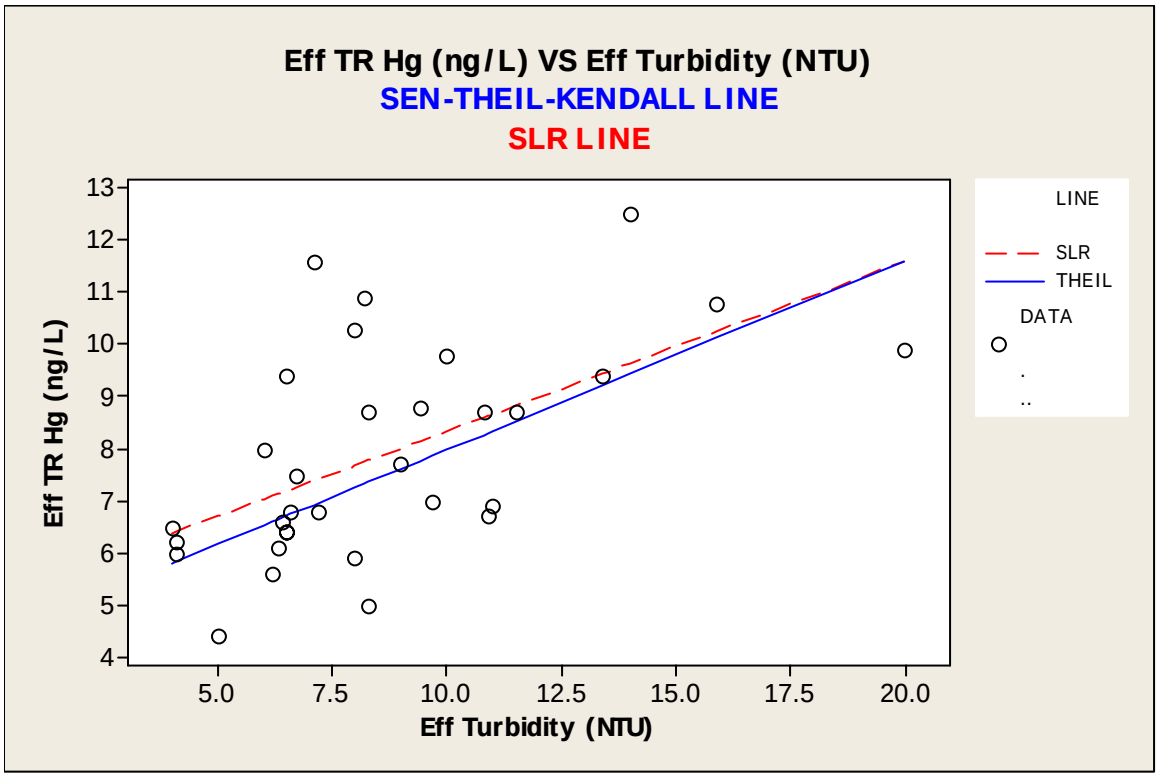
Data Display

```
Row  INTRCPT_    LOWER95    SLOPE_    UPPER95
```

```
  1   4.34516  0.145833  0.363105  0.555556

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c8 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff TR Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean  StDev  Minimum      Q1  Median
Eff TSS (mg/L)    33   3  15.455    0.764  4.388    9.000  12.000  15.000
Eff TR Hg (ng/L)  35   1   7.983    0.335  1.979    4.400   6.400   7.700

Variable              Q3  Maximum
Eff TSS (mg/L)    18.500   25.000
Eff TR Hg (ng/L)   9.400   12.500
```

Data Display

```
S_TAU    193.000
VAR_S    4091.19
Z_S      3.00176
```

Data Display

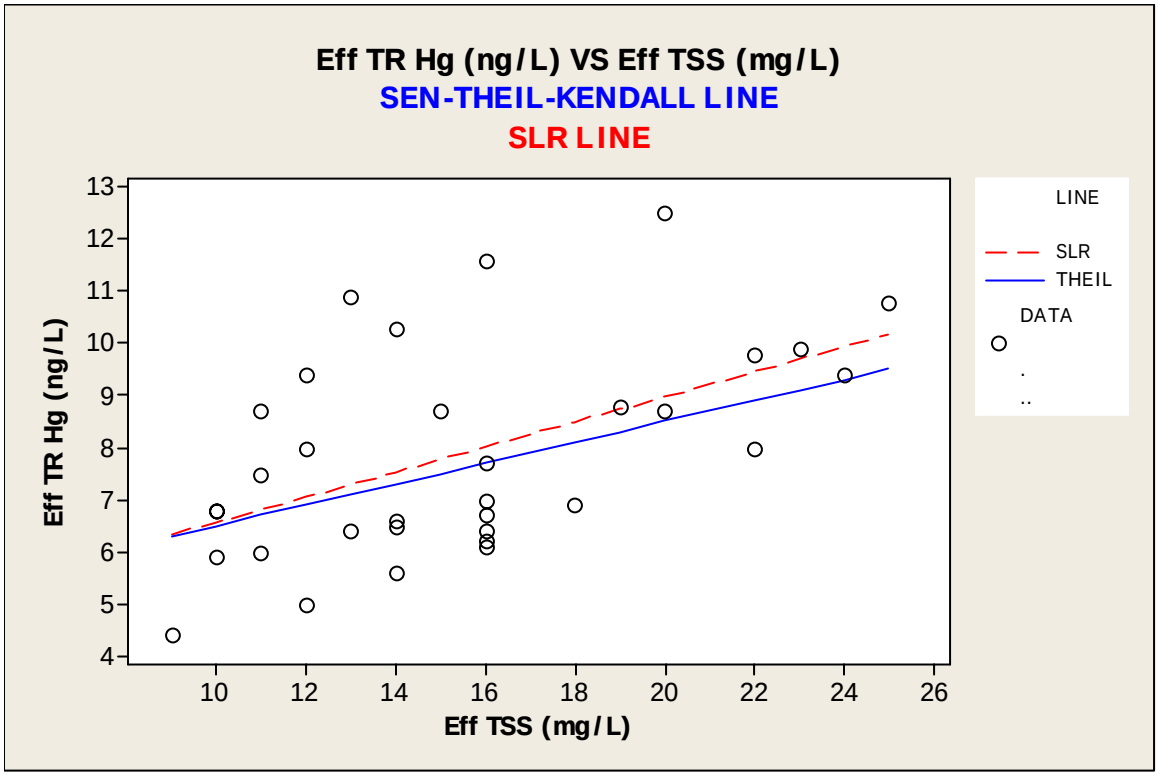
```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.365530  0.0026842
  2  KENDALL'S TAU_B  0.382370  0.0026842
```

Data Display

```
Row  INTRCPT_  LOWER95  SLOPE_   UPPER95
  1       4.5     0.04     0.2  0.333333

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c8 c7
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff Turbidity (NTU)

```
Variable           N  N*    Mean  SE Mean  StDev  Minimum      Q1  Median
Eff TSS (mg/L)    33   3  15.455    0.764  4.388    9.000  12.000  15.000
Eff Turbidity (N  32   4   8.613    0.625  3.534    4.000   6.425   8.000

Variable             Q3  Maximum
Eff TSS (mg/L)    18.500   25.000
Eff Turbidity (N  10.600   20.000
```

Data Display

```
S_TAU    196.000
VAR_S    3730.47
Z_S      3.19266
```

Data Display

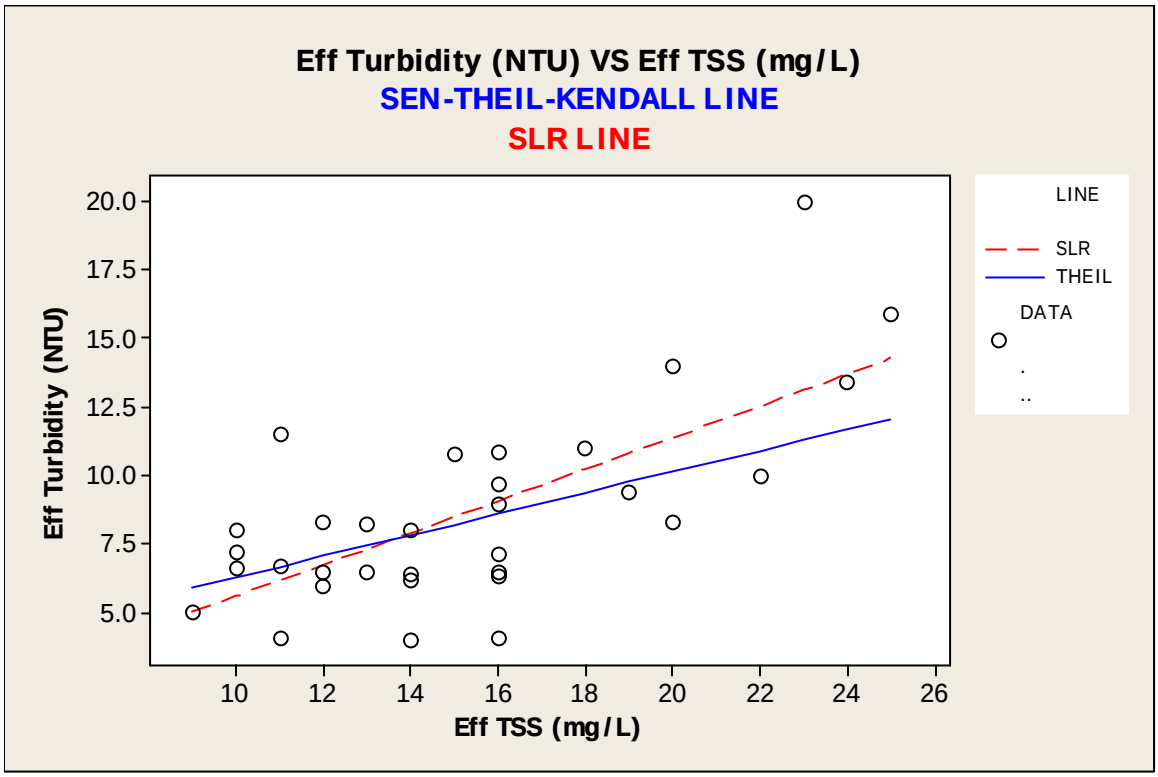
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.395161	0.0014097
2	KENDALL'S TAU_B	0.413738	0.0014097

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	2.41511	0.1	0.385165	0.616667

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT




```
MTB > %ktau c7 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Turbidity (NTU), Eff Dissolved Hg (ng/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Eff Turbidity (N	32	4	8.613	0.625	3.534	4.000	6.425	8.000	10.600	20.000
Eff Dissolved Hg	9	27	2.667	0.585	1.755	1.100	1.450	1.900	4.050	6.200

Data Display

```
S_TAU     6.00000
VAR_S     43.3333
Z_S       0.759555
```

Data Display

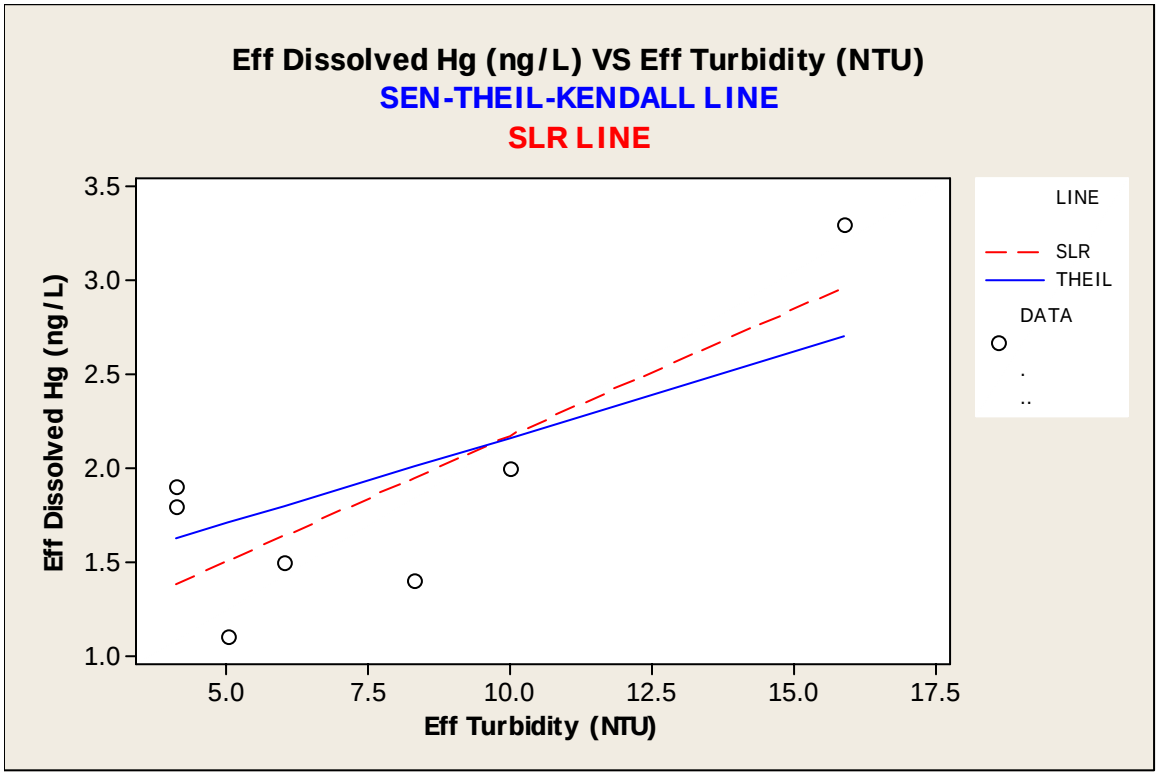
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A   0.285714   0.447521
  2  KENDALL'S TAU_B   0.292770   0.447521
```

Data Display

```
Row  INTRCPT_     LOWER95     SLOPE_    UPPER95
  1   1.25455   -0.157895  0.0909091   0.220339

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c10 c11
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Biosolids Sample Date2, Biosolids Hg (mg/kg)

```
Variable           N  N*    Mean  SE Mean    StDev  Minimum      Q1  Median
Biosolids Sample  36   0   38353     53.5      321    37816   38070   38355
Biosolids Hg (mg  36   0  1.3108   0.0780  0.4677   0.8400  0.9525  1.2000

Variable             Q3  Maximum
```

```
Biosolids Sample   38635    38887
Biosolids Hg (mg  1.4000   3.2200
```

Data Display

```
S_TAU     -153.000
VAR_S     5332.33
Z_S       -2.08154
```

Data Display

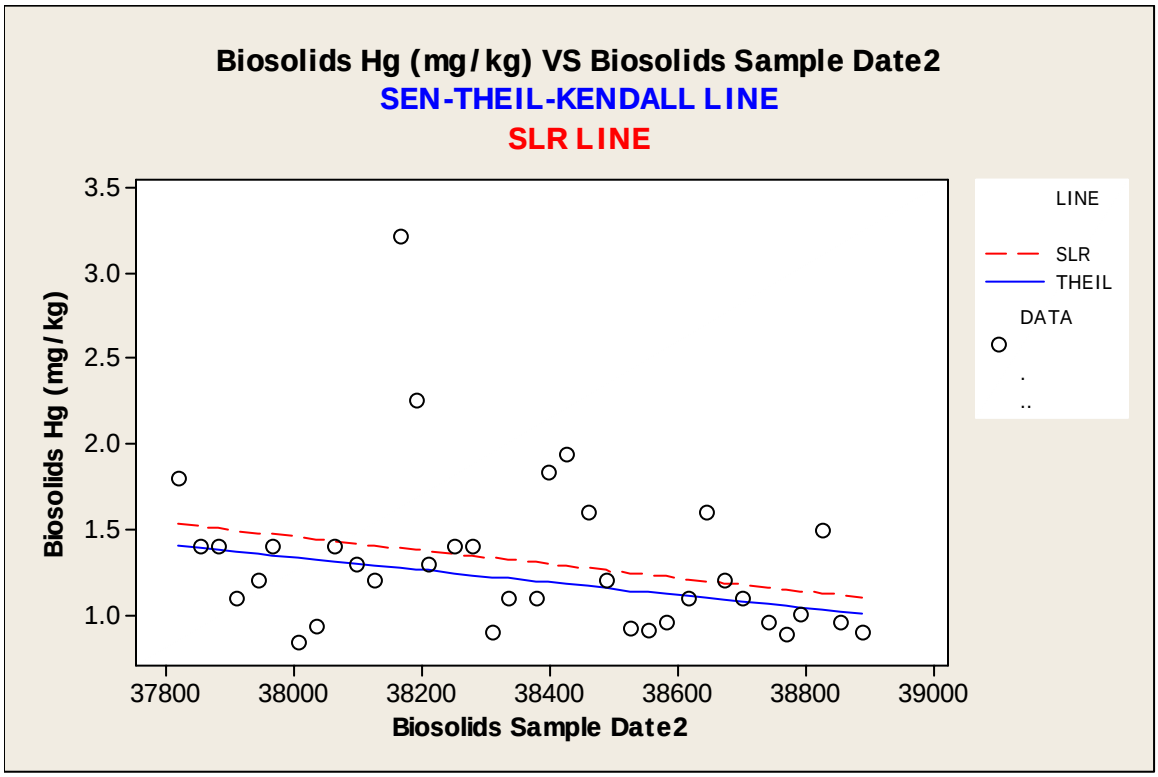
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  -0.242857  0.0373844
  2  KENDALL'S TAU_B  -0.249898  0.0373844
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_  UPPER95
  1   15.6085  -0.0006696  -0.0003757        0

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c3 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TR Hg (ng/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf TR Hg  (ng/L  35   1  187.9     22.9  135.3     76.4   95.2   154.0  219.0
Eff Dissolved Hg   9  27  2.667    0.585  1.755    1.100  1.450   1.900  4.050

Variable          Maximum
Inf TR Hg  (ng/L    783.0
Eff Dissolved Hg    6.200
```

Data Display

```
S_TAU    6.00000
VAR_S    92.0000
Z_S      0.521286
```

Data Display

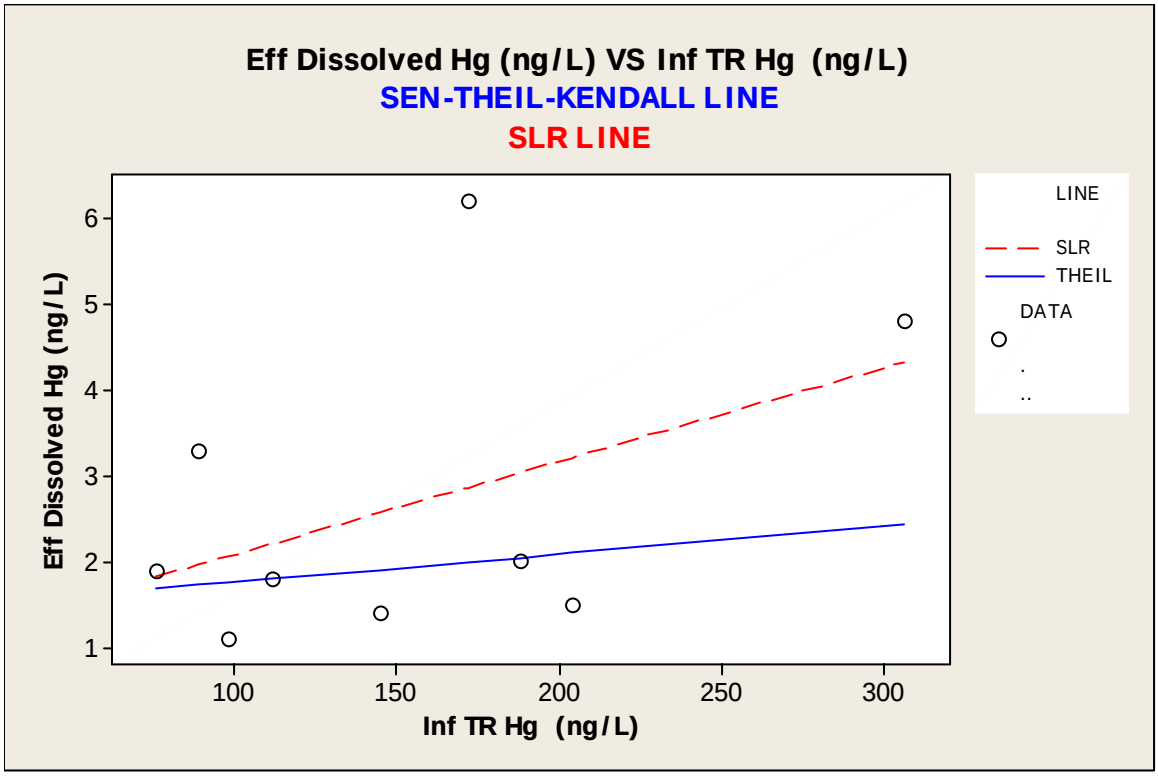
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A   0.166667   0.602168
  2  KENDALL'S TAU_B   0.166667   0.602168
```

Data Display

```
Row  INTRCPT_     LOWER95     SLOPE_    UPPER95
  1   1.43485  -0.0131579  0.0032079  0.0237288

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



```
MTB > %ktau c4 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf TSS (mg/L)    33   3  295.0     10.0   57.5    156.0  257.0   292.0  323.5
Eff TR Hg (ng/L)  35   1  7.983    0.335  1.979    4.400  6.400   7.700  9.400

Variable          Maximum
Inf TSS (mg/L)      457.0
Eff TR Hg (ng/L)   12.500
```

Data Display

```
S_TAU    -25.0000
VAR_S    4151.08
Z_S      -0.372504
```

Data Display

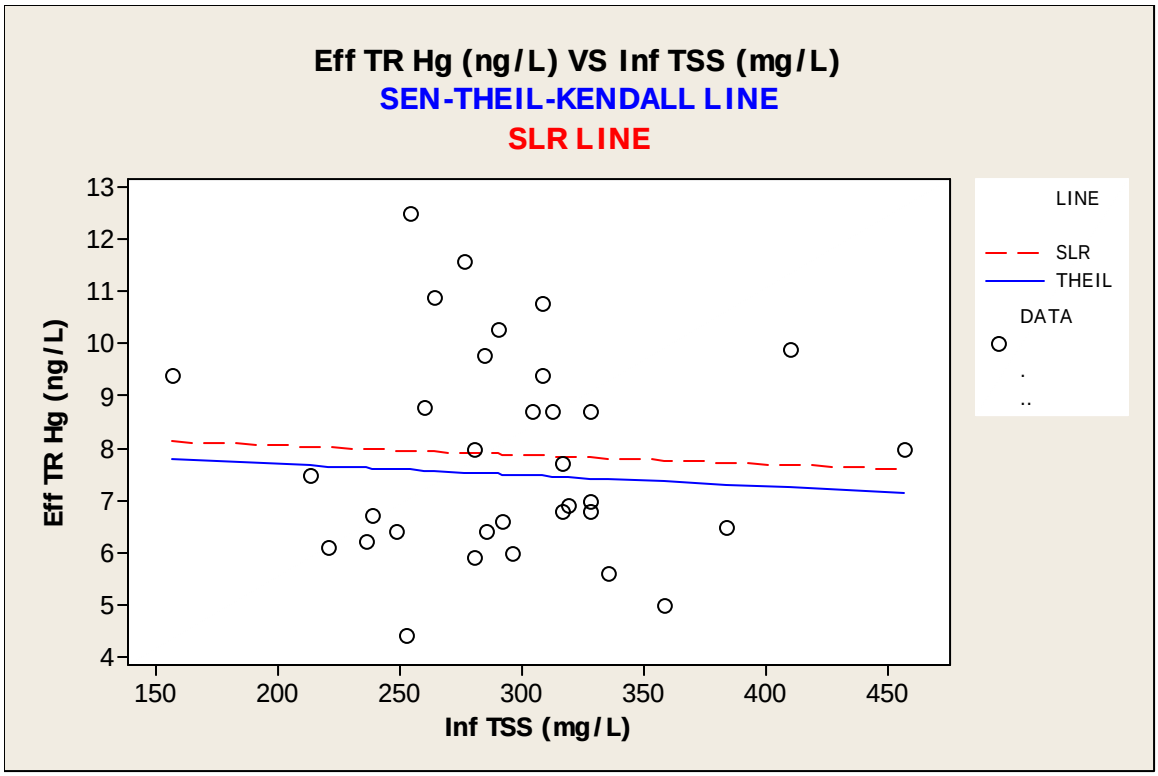
```
Row  CORRTYPE           CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.0473485  0.709518
  2  KENDALL'S TAU_B  -0.0479387  0.709518
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_    UPPER95
  1   8.11259  -0.0172414  -0.0020979  0.0083333

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Eff Dissolved Hg (ng/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Inf TSS (mg/L)	33	3	295.0	10.0	57.5	156.0	257.0	292.0	323.5	457.0
Eff Dissolved Hg	9	27	2.667	0.585	1.755	1.100	1.450	1.900	4.050	6.200

Data Display

S_TAU	1.00000
VAR_S	44.3333
Z_S	0

Data Display

Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.0476190	1
2	KENDALL'S TAU_B	0.0476190	1

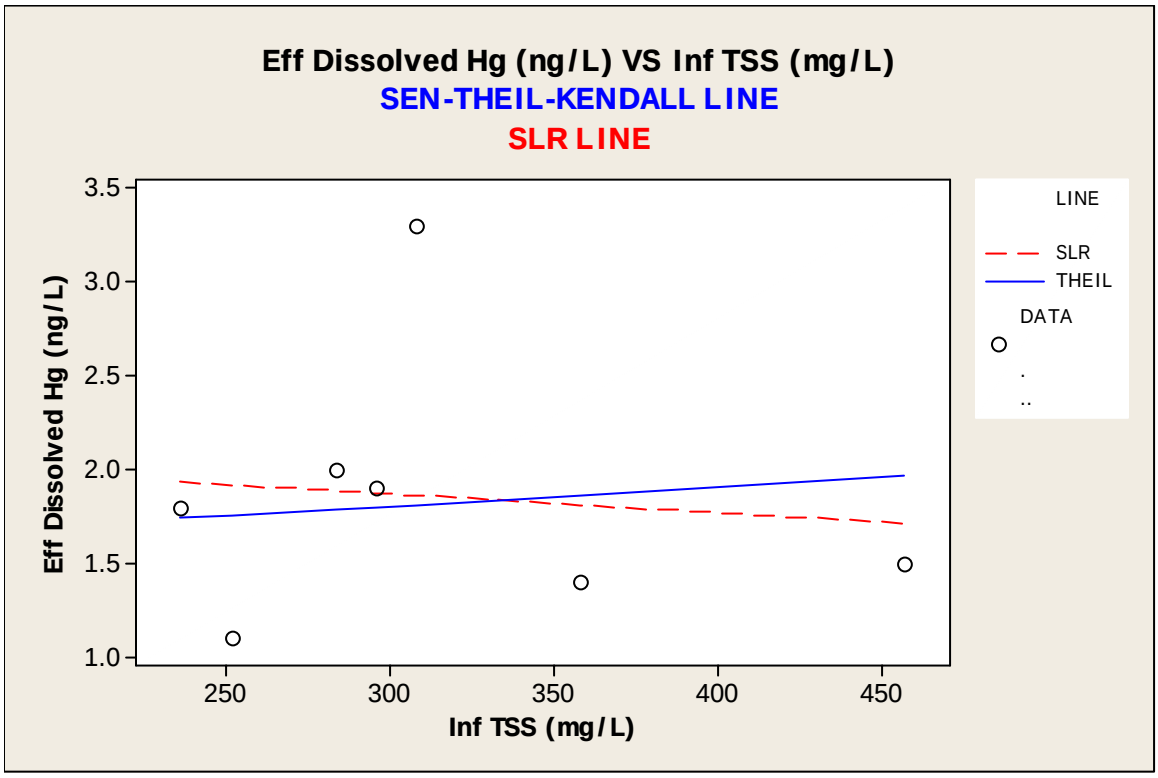
Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95

```
  1   1.50101  -0.0083333  0.0010101  0.028125

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c8 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean  StDev  Minimum      Q1  Median
Eff TSS (mg/L)    33   3  15.455    0.764  4.388    9.000  12.000  15.000
Eff Dissolved Hg   9  27   2.667    0.585  1.755    1.100   1.450   1.900

Variable              Q3  Maximum
Eff TSS (mg/L)    18.500   25.000
Eff Dissolved Hg   4.050    6.200
```

Data Display

```
S_TAU    14.0000
VAR_S    43.3333
Z_S      1.97484
```

Data Display

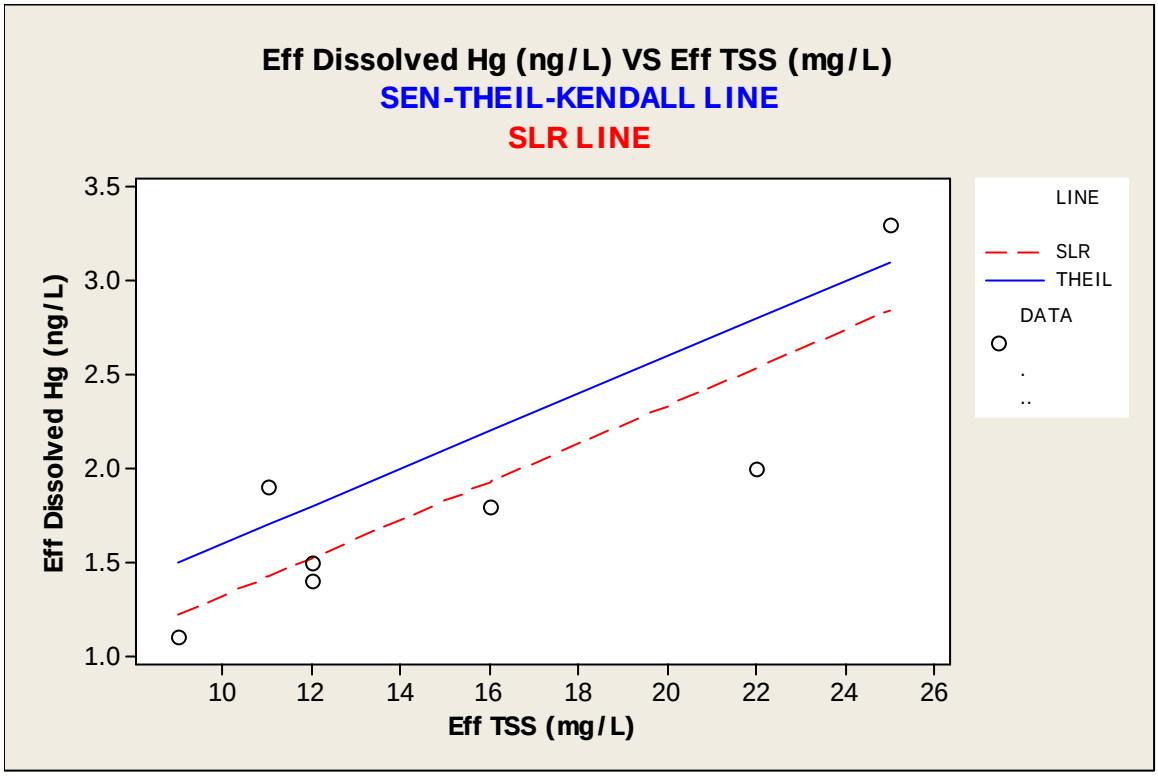
```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.666667  0.0482861
  2  KENDALL'S TAU_B  0.683130  0.0482861
```

Data Display

```
Row  INTRCPT_  LOWER95  SLOPE_   UPPER95
  1       0.6        0     0.1  0.146154

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      35   1  38360     52.0    308    37817  38093   38366  38604
Eff Dissolved Hg   9  27  2.667    0.585  1.755    1.100  1.450   1.900  4.050

Variable          Maximum
Sample Date2        38870
Eff Dissolved Hg    6.200
```

Data Display

```
S_TAU    -16.0000
VAR_S    92.0000
Z_S      -1.56386
```

Data Display

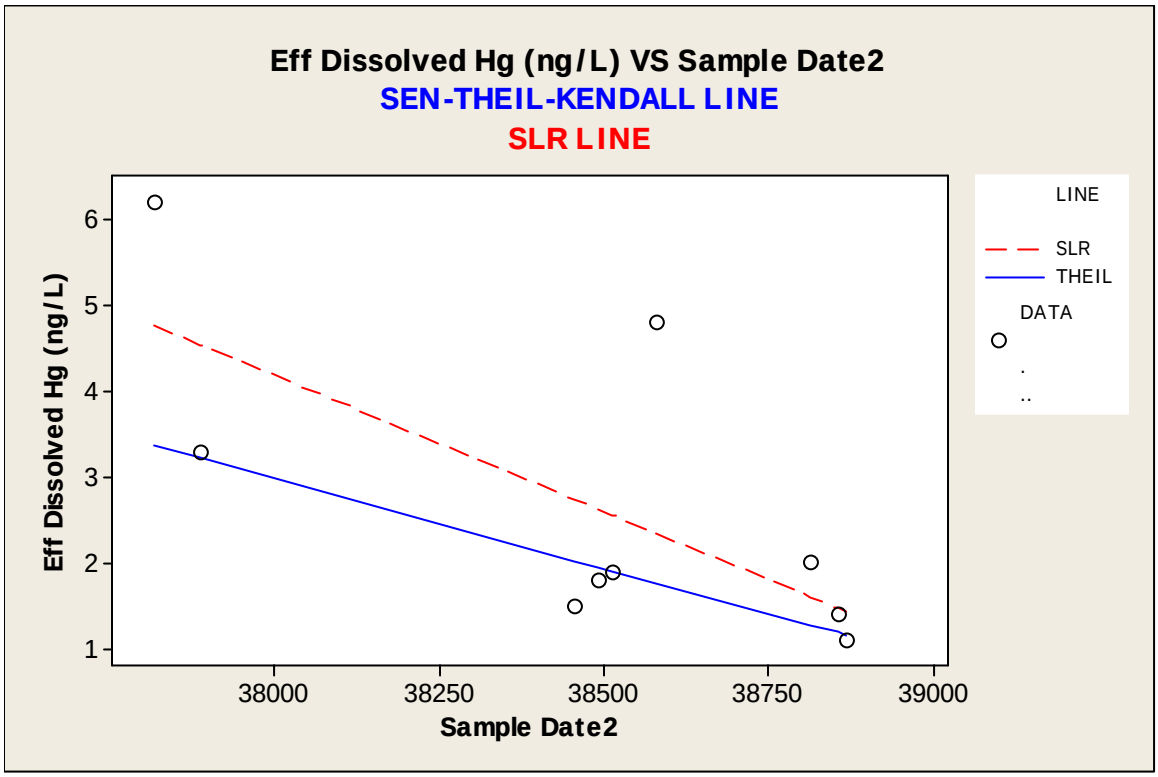
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	-0.444444	0.117851
2	KENDALL'S TAU_B	-0.444444	0.117851

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	82.8878	-0.0065185	-0.0021029	0.0006211

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT



Results for: POTW K

```
MTB > %ktau c2 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Inf TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      34   1  38354     52.9    308    37848  38084   38352  38613
Inf TR Hg  (ng/L  34   1  115.0     14.3   83.7     35.0   67.5    92.4  129.5

Variable          Maximum
Sample Date2        38870
Inf TR Hg  (ng/L    443.0
```

Data Display

```
S_TAU    -96.0000
VAR_S    4549.33
Z_S      -1.40848
```

Data Display

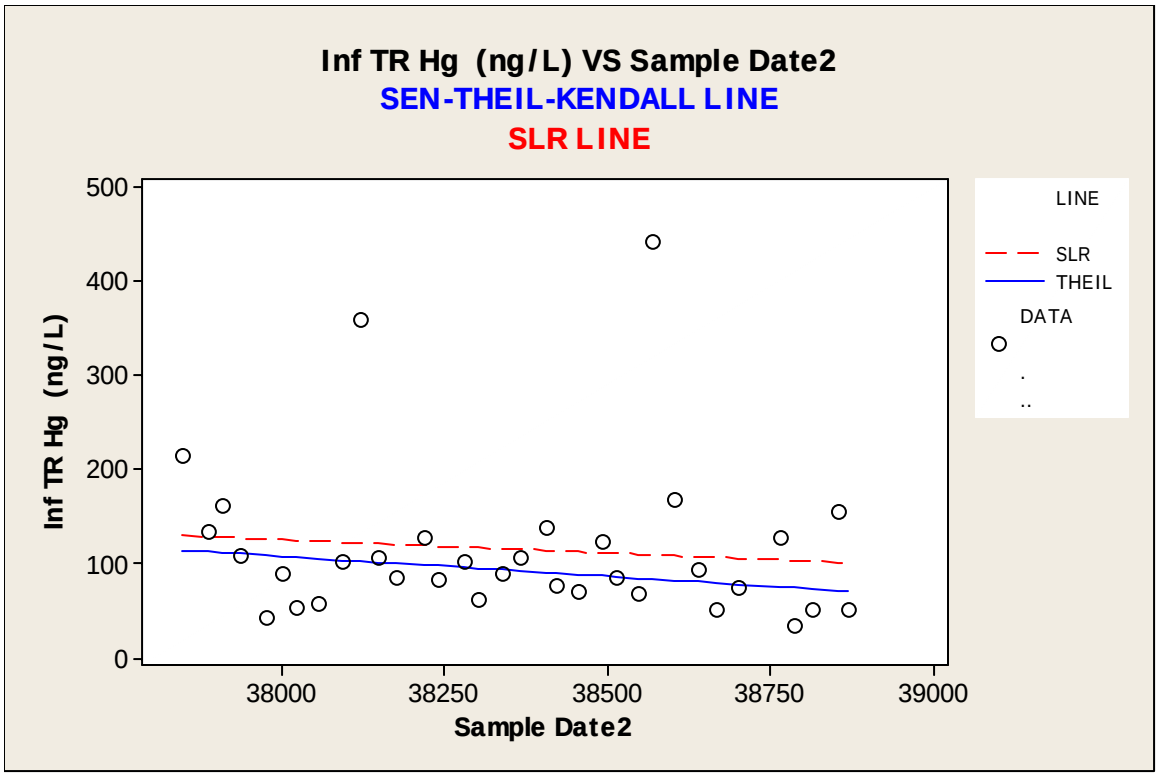
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.171123  0.158990
  2  KENDALL'S TAU_B  -0.171276  0.158990
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_    UPPER95
  1   1715.63  -0.0873626  -0.0423246  0.0229746

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c4
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Inf TSS (mg/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Sample Date2	34	1	38354	52.9	308	37848	38084	38352	38613	38870
Inf TSS (mg/L)	33	2	202.5	10.4	59.8	118.0	170.0	194.0	215.0	430.0

Data Display

```
S_TAU     -40.0000
VAR_S     4161.33
Z_S       -0.604572
```

Data Display

Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	-0.0757576	0.545463
2	KENDALL'S TAU_B	-0.0760462	0.545463

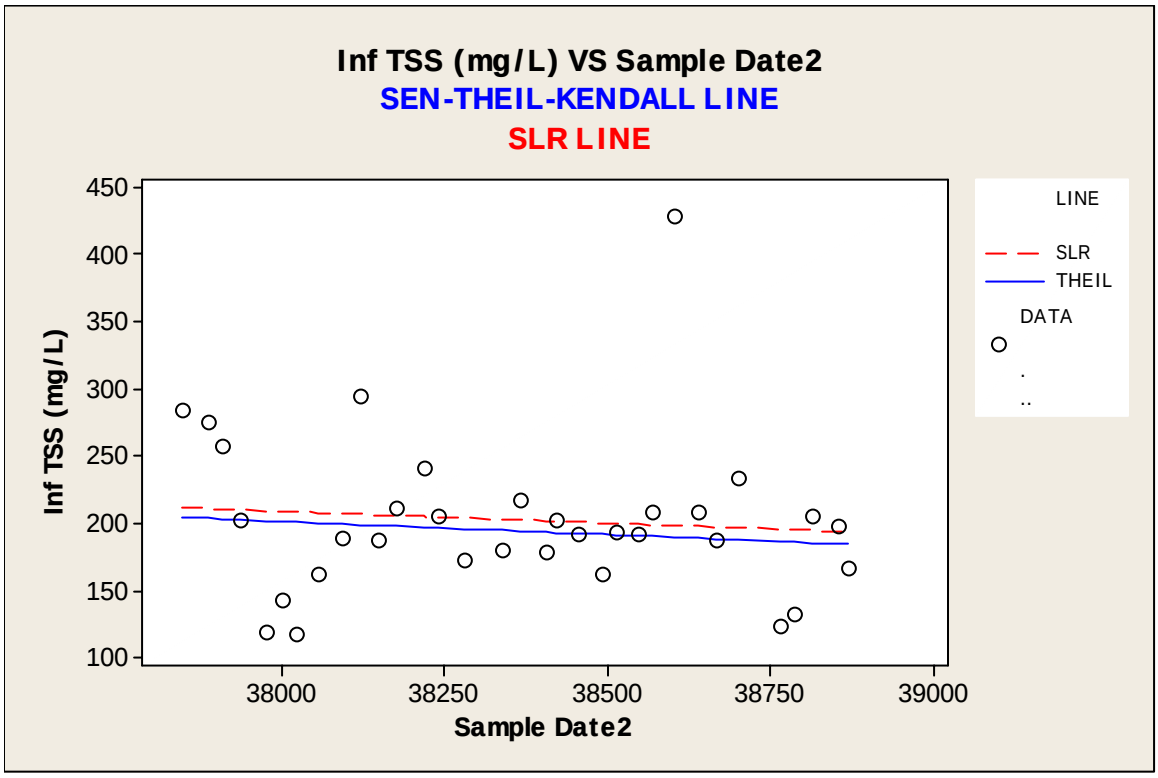
Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95

```
  1   954.102  -0.0807453  -0.0198119  0.0399160

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      34   1  38354     52.9    308    37848  38084   38352  38613
Eff TR Hg (ng/L)  33   2  7.824    0.981  5.637    3.400  4.950   7.100  8.850

Variable          Maximum
Sample Date2        38870
Eff TR Hg (ng/L)   36.600
```

Data Display

```
S_TAU     -188.000
VAR_S     4159.33
Z_S       -2.89954
```

Data Display

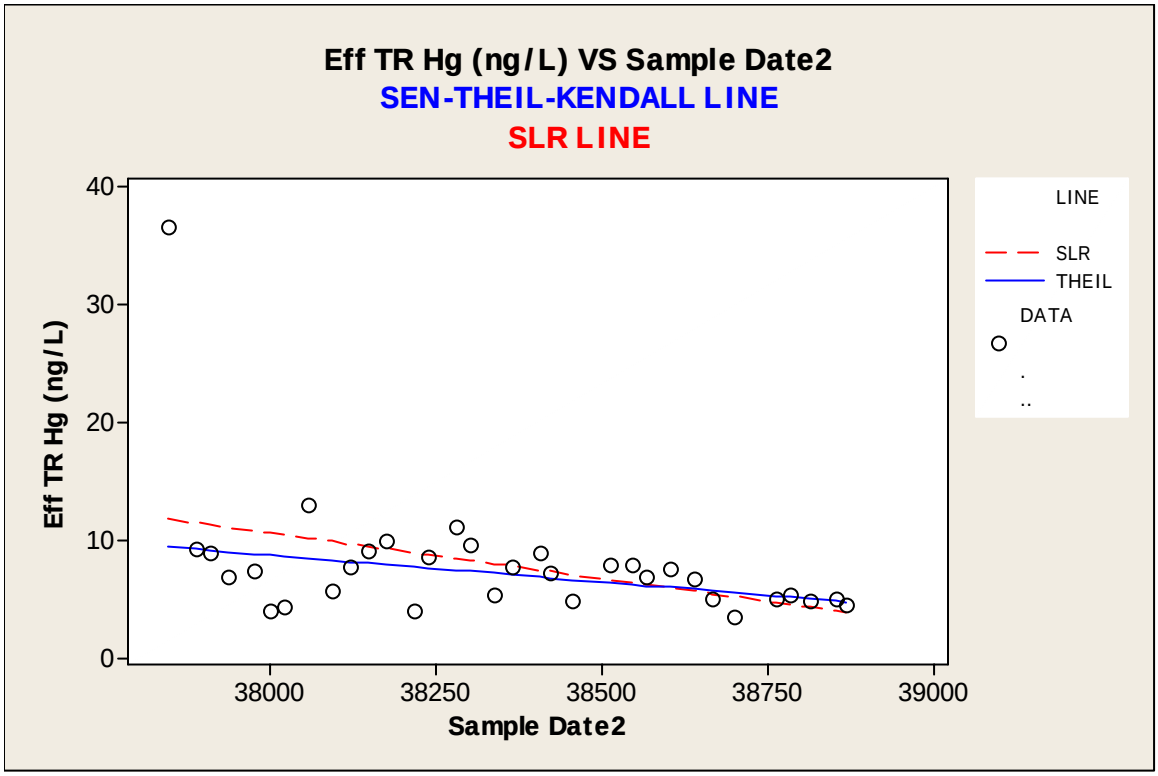
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  -0.356061  0.0037371
  2  KENDALL'S TAU_B  -0.358101  0.0037371
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_     UPPER95
  1   182.202  -0.0076190  -0.0045673  -0.0015306

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c7
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff Turbidity (NTU)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      34   1  38354     52.9    308    37848  38084   38352  38613
Eff Turbidity (N  32   3  4.660    0.264  1.494    2.660  3.475   4.540  5.635

Variable          Maximum
Sample Date2        38870
Eff Turbidity (N    9.680
```

Data Display

```
S_TAU     -76.0000
VAR_S     3802.67
Z_S       -1.21623
```

Data Display

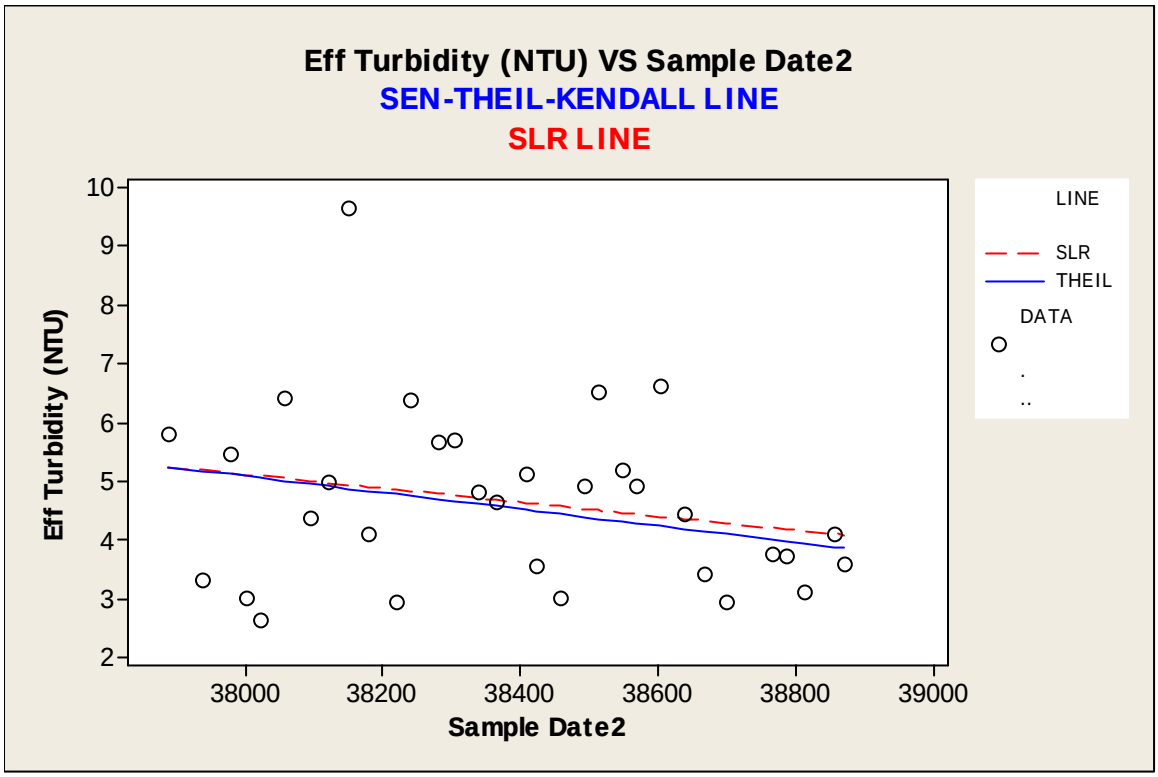
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.153226  0.223896
  2  KENDALL'S TAU_B  -0.153226  0.223896
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_     UPPER95
  1   58.6375  -0.0032143  -0.0014093  0.0005539

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff TSS (mg/L)

```
Variable          N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median      Q3
Sample Date2     34   1  38354     52.9    308    37848  38084   38352   38613
Eff TSS (mg/L)   32   3  8.938    0.571  3.232    3.000  6.250   8.500  11.750

Variable         Maximum
Sample Date2       38870
Eff TSS (mg/L)    15.000
```

Data Display

```
S_TAU     -20.0000
VAR_S     3758.67
Z_S       -0.309911
```

Data Display

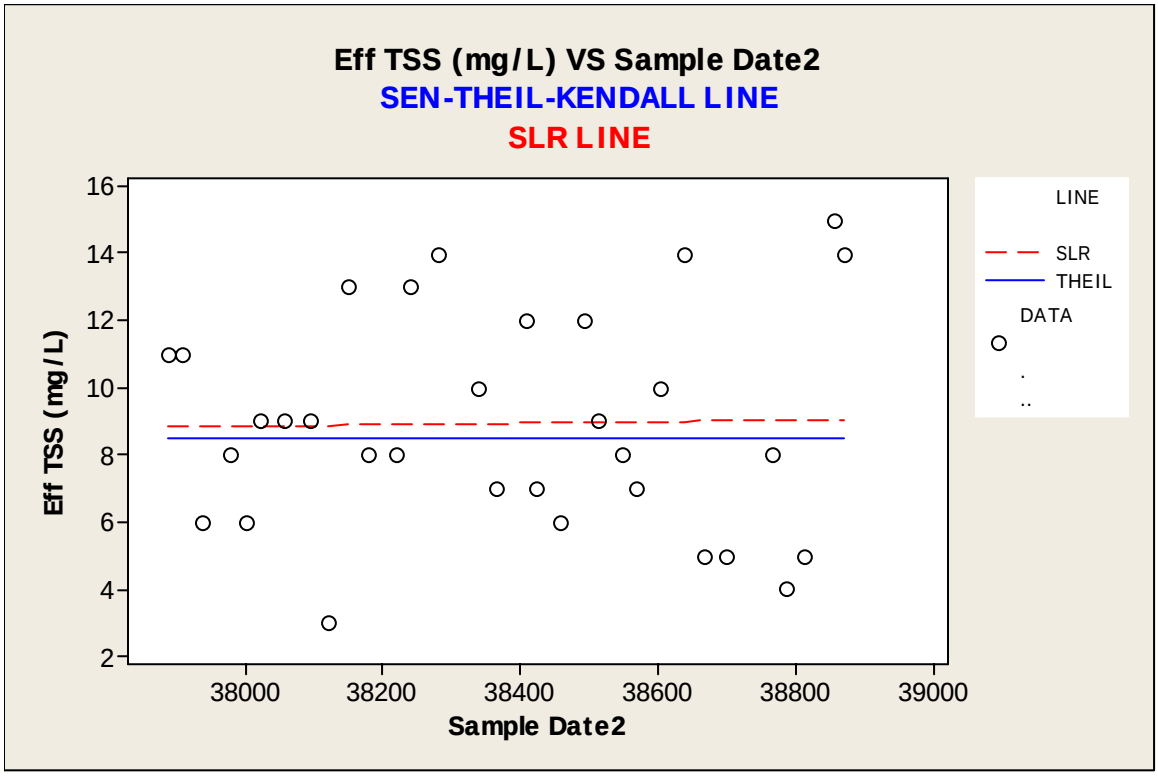
```
Row  CORRTYPE           CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  -0.0403226  0.756629
  2  KENDALL'S TAU_B  -0.0416898  0.756629
```

Data Display

```
Row  INTRCPT_     LOWER95  SLOPE_    UPPER95
  1       8.5  -0.0052840       0  0.0034542

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Inf TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf TSS (mg/L)    33   2  202.5     10.4   59.8    118.0  170.0   194.0  215.0
Inf TR Hg  (ng/L  34   1  115.0     14.3   83.7     35.0   67.5    92.4  129.5

Variable          Maximum
```

```
Inf TSS (mg/L)      430.0
Inf TR Hg  (ng/L    443.0
```

Data Display

```
S_TAU    199.000
VAR_S    4160.34
Z_S      3.06973
```

Data Display

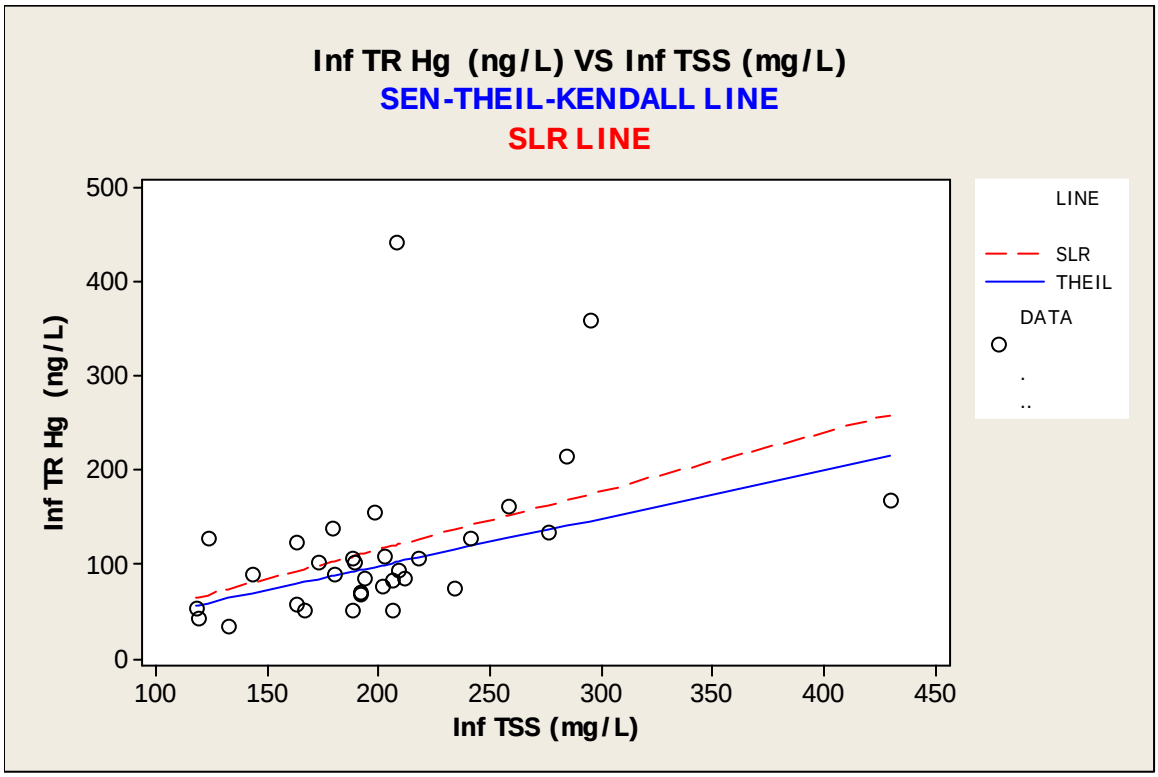
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A   0.376894  0.0021425
  2  KENDALL'S TAU_B   0.378689  0.0021425
```

Data Display

```
Row  INTRCPT_   LOWER95    SLOPE_   UPPER95
  1  -3.90402  0.254348  0.507237  0.853211

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > % ktau c3 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TR Hg (ng/L), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf TR Hg  (ng/L  34   1  115.0     14.3   83.7     35.0   67.5    92.4  129.5
Eff TR Hg (ng/L)  33   2  7.824    0.981  5.637    3.400  4.950   7.100  8.850

Variable          Maximum
Inf TR Hg  (ng/L    443.0
Eff TR Hg (ng/L)   36.600
```

Data Display

```
S_TAU    87.0000
VAR_S    4158.34
Z_S      1.33364
```

Data Display

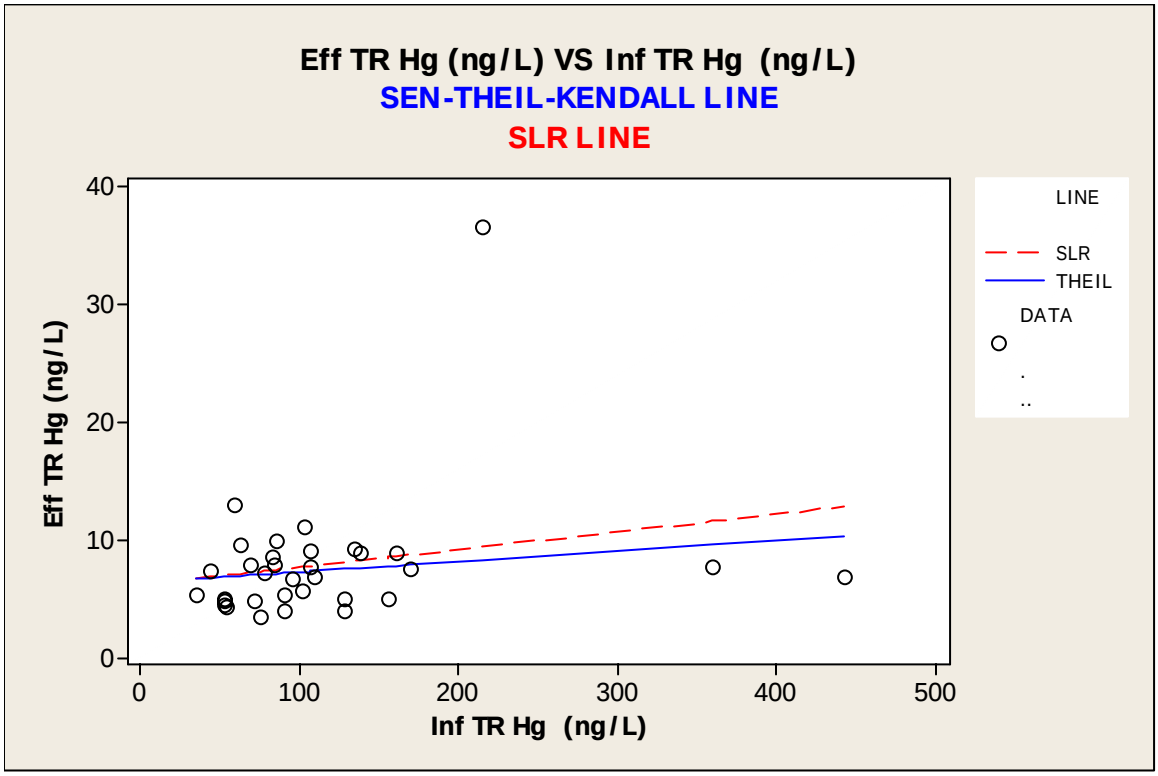
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A   0.164773  0.182322
  2  KENDALL'S TAU_B   0.165874  0.182322
```

Data Display

```
Row  INTRCPT_     LOWER95     SLOPE_    UPPER95
  1   6.30300  -0.0045249  0.0088261  0.0323944

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



```
MTB > %ktau c7 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Turbidity (NTU), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff Turbidity (N  32   3  4.660    0.264  1.494    2.660  3.475   4.540  5.635
Eff TR Hg (ng/L)  33   2  7.824    0.981  5.637    3.400  4.950   7.100  8.850

Variable          Maximum
Eff Turbidity (N    9.680
Eff TR Hg (ng/L)   36.600
```

Data Display

```
S_TAU    305.000
VAR_S    3455.67
Z_S      5.17139
```

Data Display

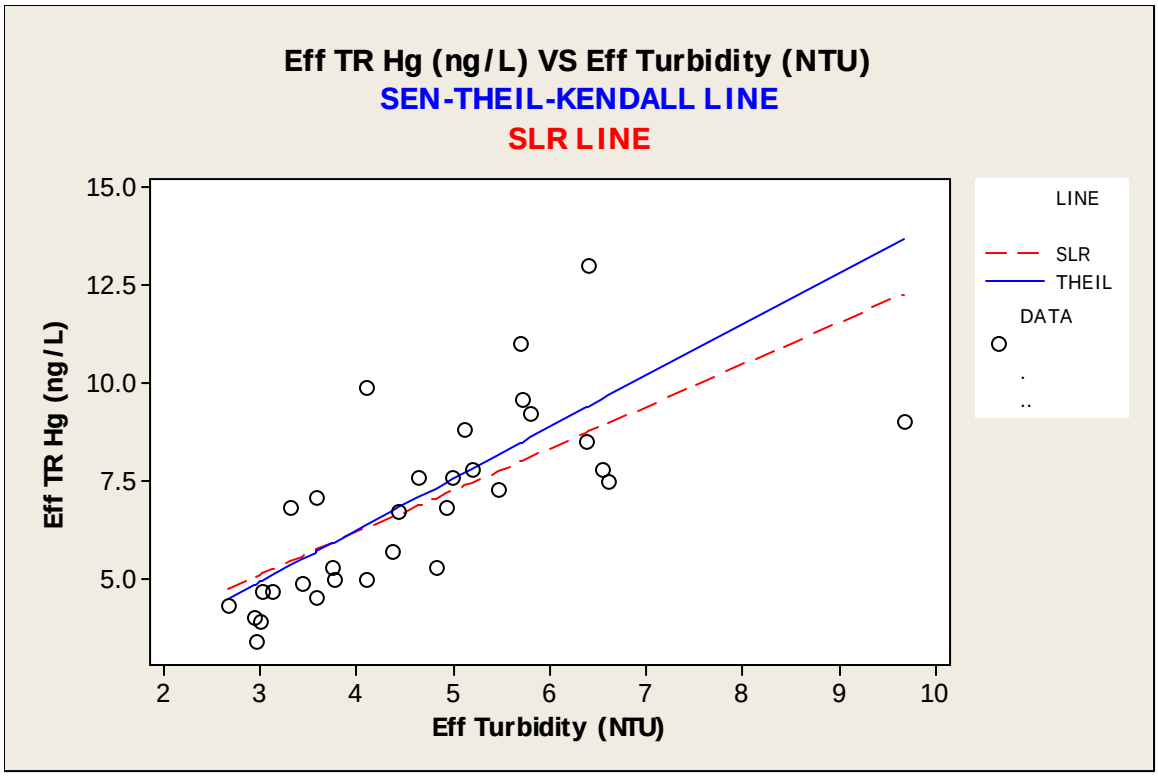
```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.655914  0.0000002
  2  KENDALL'S TAU_B  0.660187  0.0000002
```

Data Display

```
Row  INTRCPT_   LOWER95   SLOPE_  UPPER95
  1  0.966423  0.877193  1.31387  1.82203

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c8 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff TR Hg (ng/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Eff TSS (mg/L)	32	3	8.938	0.571	3.232	3.000	6.250	8.500	11.750	15.000
Eff TR Hg (ng/L)	33	2	7.824	0.981	5.637	3.400	4.950	7.100	8.850	36.600

Data Display

S_TAU	128.000
VAR_S	3413.07
Z_S	2.17386

Data Display

Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.275269	0.0297157
2	KENDALL'S TAU_B	0.286787	0.0297157

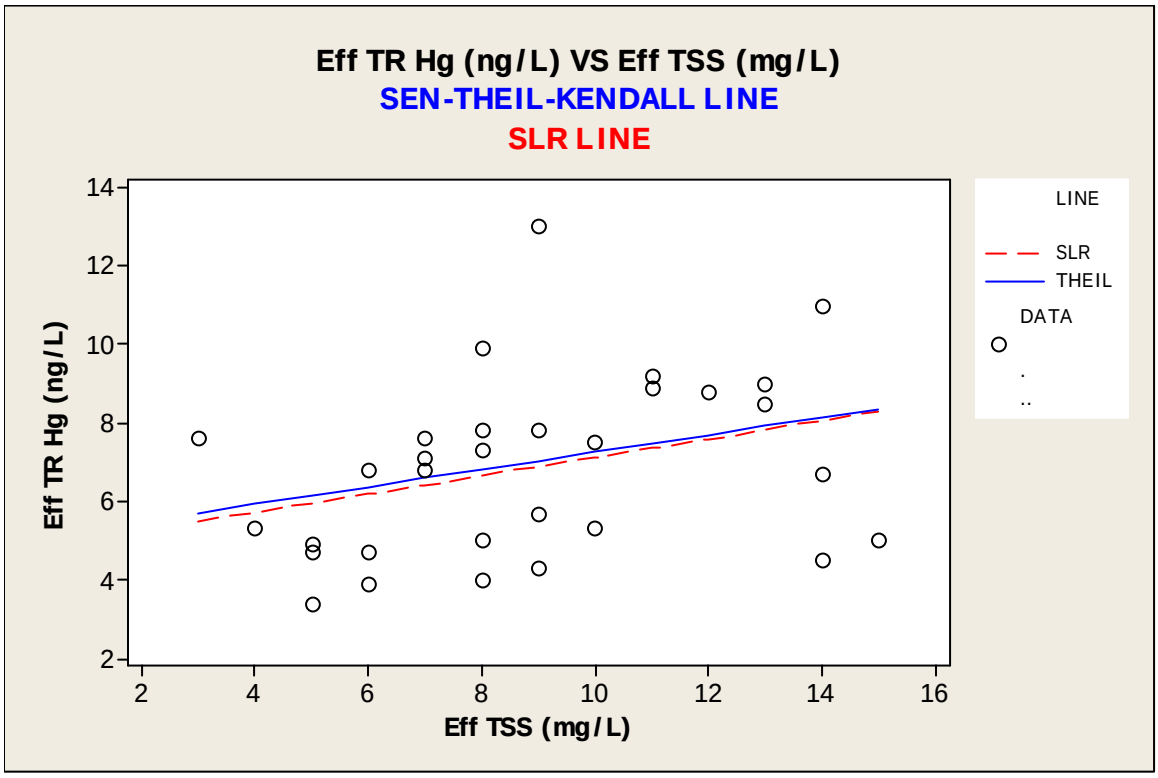
Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95

```
  1   5.02222        0  0.222222      0.5

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c7 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Turbidity (NTU), Eff TSS (mg/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median      Q3
Eff Turbidity (N  32   3  4.660    0.264  1.494    2.660  3.475   4.540   5.635
Eff TSS (mg/L)    32   3  8.938    0.571  3.232    3.000  6.250   8.500  11.750

Variable          Maximum
Eff Turbidity (N    9.680
Eff TSS (mg/L)     15.000
```

Data Display

```
S_TAU    150.000
VAR_S    3418.67
Z_S      2.54834
```

Data Display

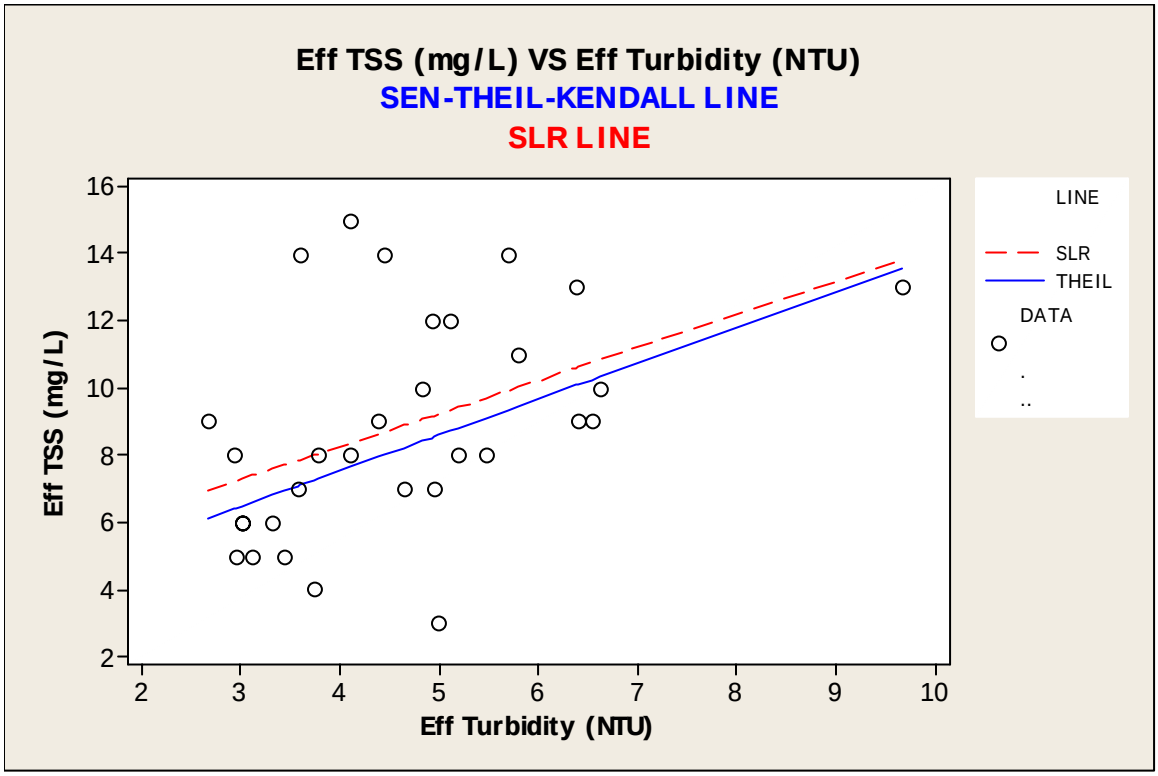
```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.322581  0.0108236
  2  KENDALL'S TAU_B  0.333903  0.0108236
```

Data Display

```
Row  INTRCPT_   LOWER95   SLOPE_  UPPER95
  1   3.27660  0.219298  1.06383  1.79856

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c10 c11
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Biosolids Sample Date2, Biosolids Hg (mg/kg)

```
Variable          N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Biosolids Sample  35   0  38368     52.7    312    37851  38096   38376  38642
Biosolids Hg (mg  35   0  1.599    0.114  0.675    1.000  1.200   1.400  1.750

Variable          Maximum
Biosolids Sample    38887
Biosolids Hg (mg    4.440
```

Data Display

```
S_TAU    -156.000
VAR_S    4868.67
Z_S      -2.22140
```

Data Display

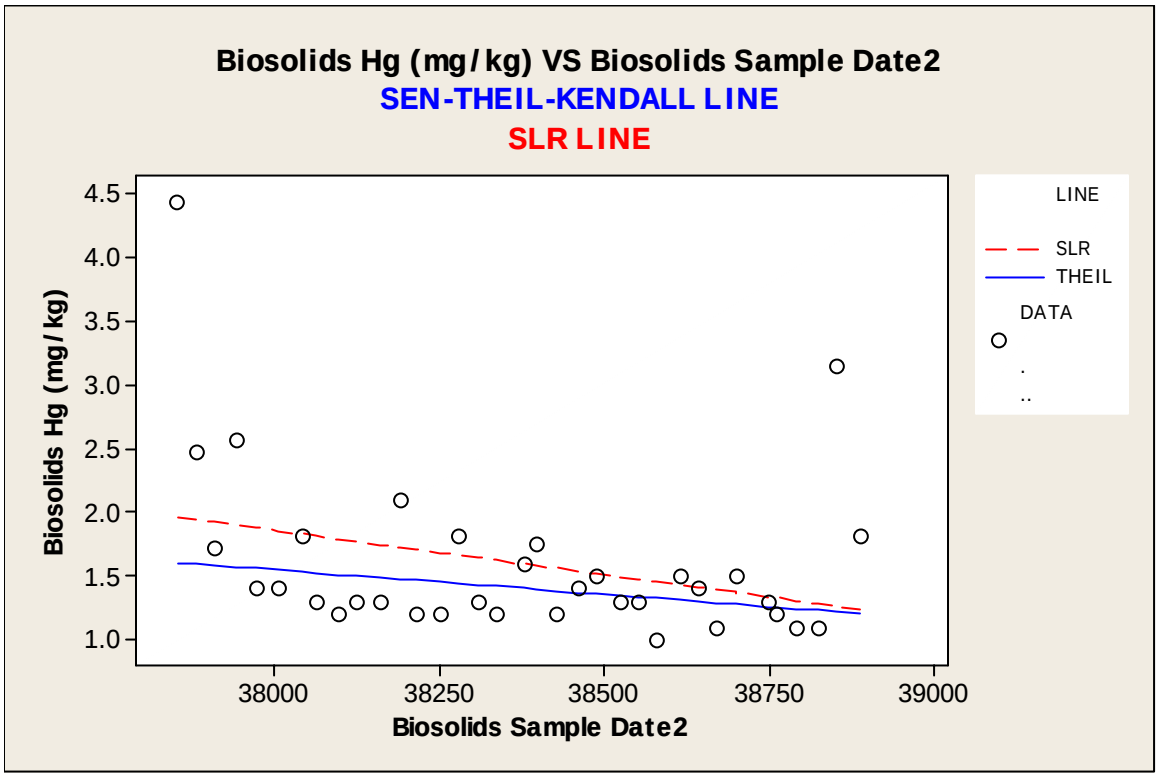
```
Row  CORRTYPE          CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  -0.262185  0.0263239
  2  KENDALL'S TAU_B  -0.273697  0.0263239
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_  UPPER95
  1   16.2456  -0.0009119  -0.0003868        0

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c3 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TR Hg (ng/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf TR Hg  (ng/L  34   1  115.0     14.3   83.7     35.0   67.5    92.4  129.5
Eff Dissolved Hg   8  27  3.750    0.850  2.405    1.600  2.375   3.200  3.825

Variable          Maximum
Inf TR Hg  (ng/L     443.0
Eff Dissolved Hg    9.400
```

Data Display

```
S_TAU     9.00000
VAR_S     64.3333
Z_S       0.997406
```

Data Display

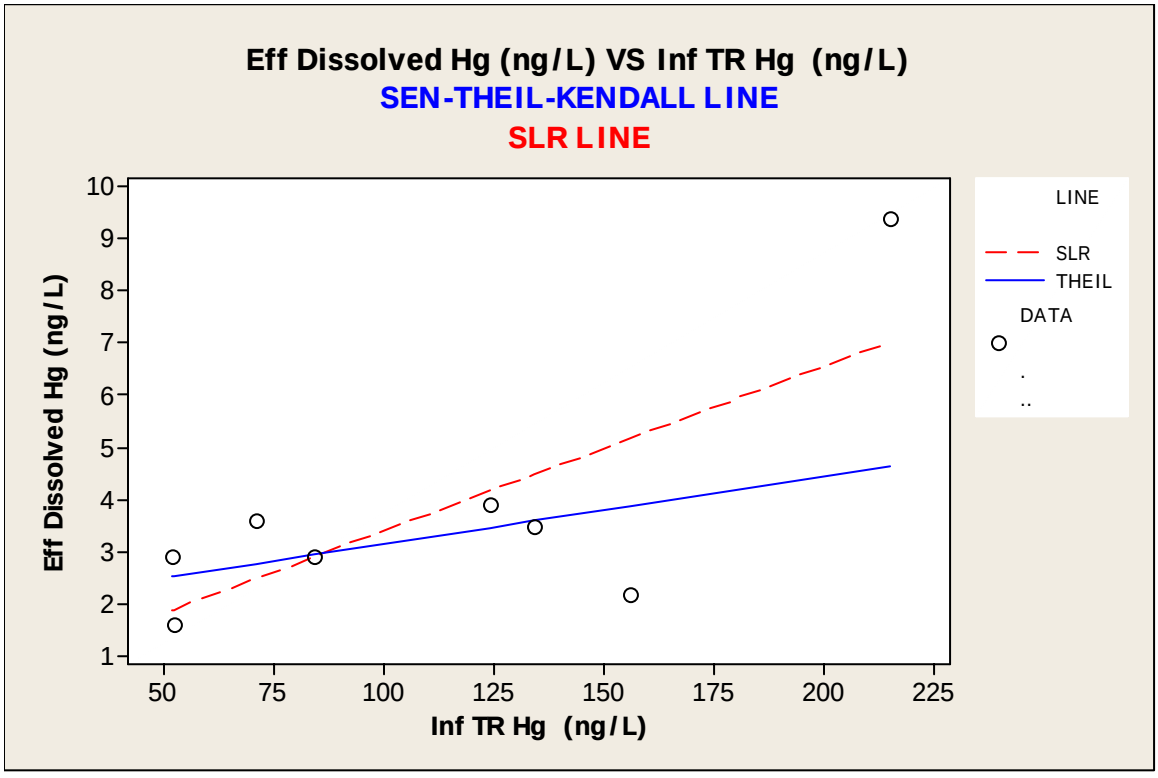
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A   0.321429  0.318567
  2  KENDALL'S TAU_B   0.327327  0.318567
```

Data Display

```
Row  INTRCPT_      LOWER95      SLOPE_     UPPER95
  1   1.85107  -0.0164706  0.0129518  0.0479115

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c5
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf TSS (mg/L)    33   2  202.5     10.4   59.8    118.0  170.0   194.0  215.0
Eff TR Hg (ng/L)  33   2  7.824    0.981  5.637    3.400  4.950   7.100  8.850

Variable          Maximum
```

```
Inf TSS (mg/L)      430.0
Eff TR Hg (ng/L)   36.600
```

Data Display

```
S_TAU    81.0000
VAR_S    3793.70
Z_S      1.29885
```

Data Display

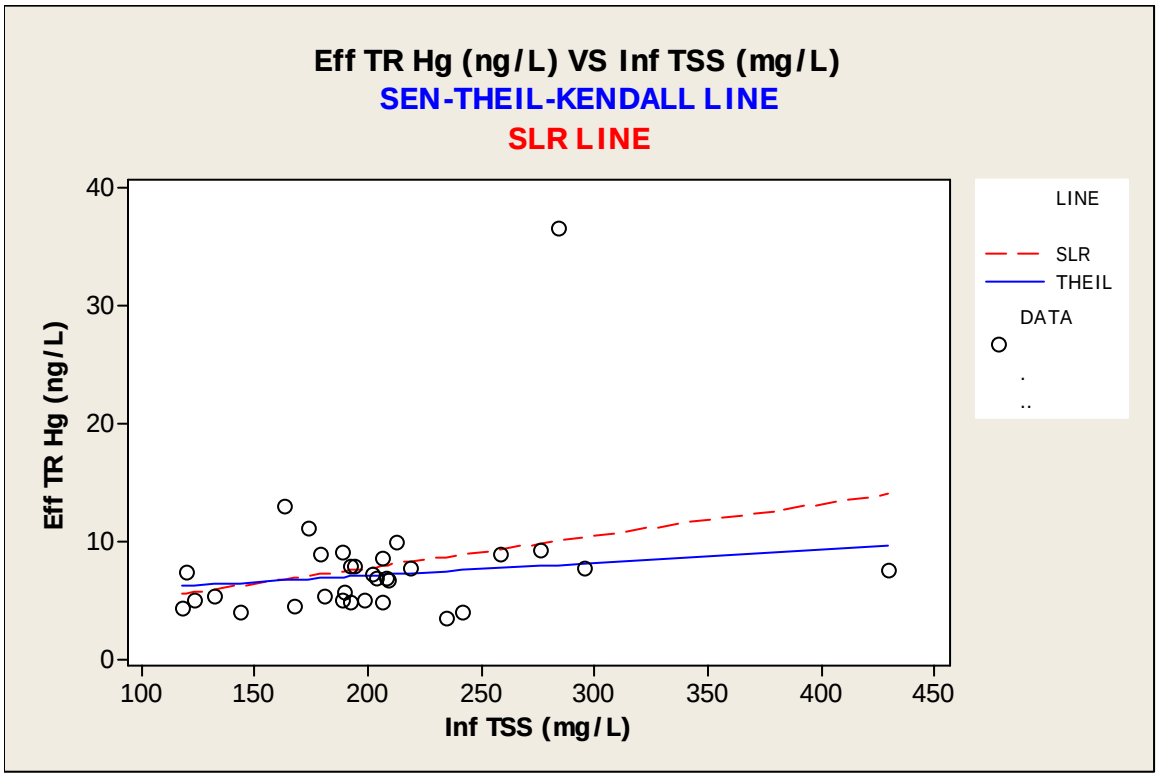
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A   0.163306  0.193996
  2  KENDALL'S TAU_B   0.164802  0.193996
```

Data Display

```
Row  INTRCPT_     LOWER95     SLOPE_   UPPER95
  1   4.84107  -0.0054945  0.0107598   0.0325

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Eff Dissolved Hg (ng/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3
Inf TSS (mg/L)	33	2	202.5	10.4	59.8	118.0	170.0	194.0	215.0
Eff Dissolved Hg	8	27	3.750	0.850	2.405	1.600	2.375	3.200	3.825

Variable	Maximum
Inf TSS (mg/L)	430.0
Eff Dissolved Hg	9.400

Data Display

S_TAU	5.00000
VAR_S	64.3333
Z_S	0.498703

Data Display

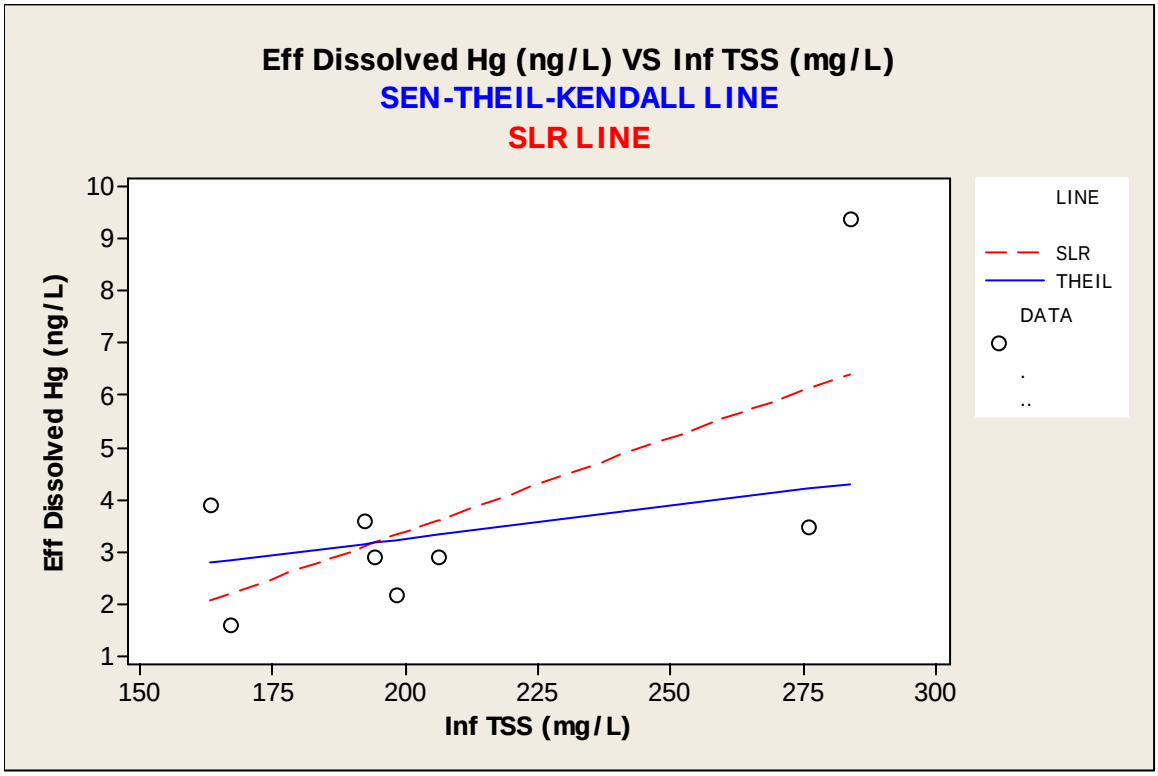
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.178571	0.617989
2	KENDALL'S TAU_B	0.181848	0.617989

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	0.726667	-0.0485714	0.0126190	0.0722222

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT



```
MTB > %ktau c5 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TR Hg (ng/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff TR Hg (ng/L)  33   2  7.824    0.981  5.637    3.400  4.950   7.100  8.850
Eff Dissolved Hg   8  27  3.750    0.850  2.405    1.600  2.375   3.200  3.825

Variable          Maximum
Eff TR Hg (ng/L)   36.600
Eff Dissolved Hg    9.400
```

Data Display

```
S_TAU    11.0000
VAR_S    42.3810
Z_S      1.53608
```

Data Display

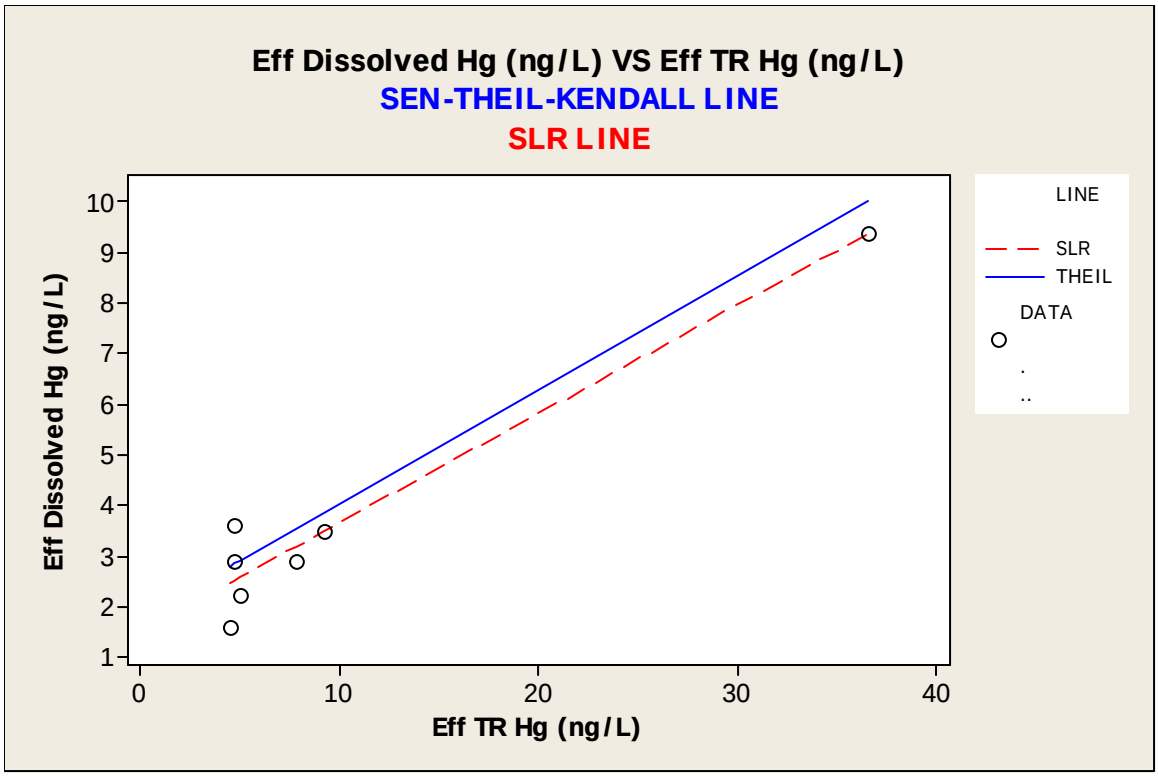
```
Row  CORRTYPE         CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.523810  0.124518
  2  KENDALL'S TAU_B  0.550000  0.124518
```

Data Display

```
Row  INTRCPT_     LOWER95    SLOPE_   UPPER95
  1   1.77153  -0.0222222  0.225694  0.428571

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c8 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff Dissolved Hg (ng/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Eff TSS (mg/L)	32	3	8.938	0.571	3.232	3.000	6.250	8.500	11.750	15.000
Eff Dissolved Hg	8	27	3.750	0.850	2.405	1.600	2.375	3.200	3.825	9.400

Data Display

S_TAU	-4.00000
VAR_S	43.3333
Z_S	-0.455733

Data Display

Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	-0.190476	0.648582
2	KENDALL'S TAU_B	-0.195180	0.648582

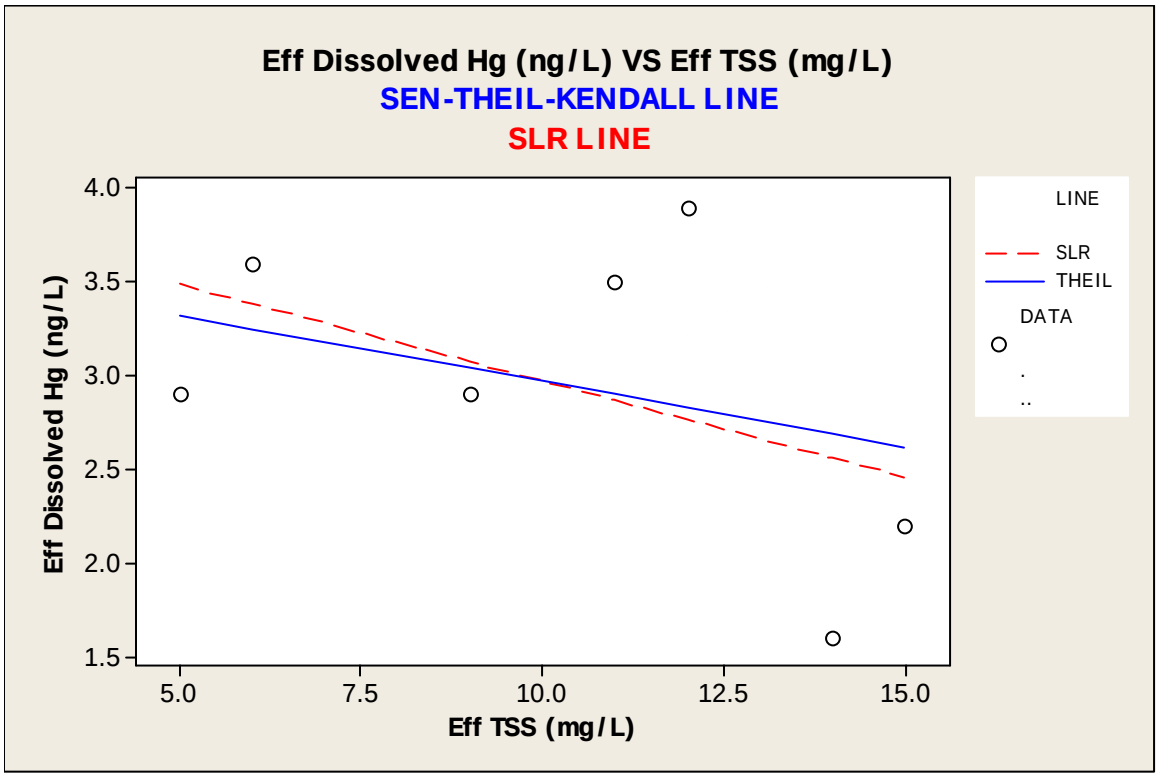
Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95

```
  1      3.67   -0.325   -0.07  0.333333

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c7 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Turbidity (NTU), Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff Turbidity (N  32   3  4.660    0.264  1.494    2.660  3.475   4.540  5.635
Eff Dissolved Hg   8  27  3.750    0.850  2.405    1.600  2.375   3.200  3.825

Variable          Maximum
Eff Turbidity (N    9.680
Eff Dissolved Hg    9.400
```

Data Display

```
S_TAU    0
VAR_S    43.3333
Z_S      0
```

Data Display

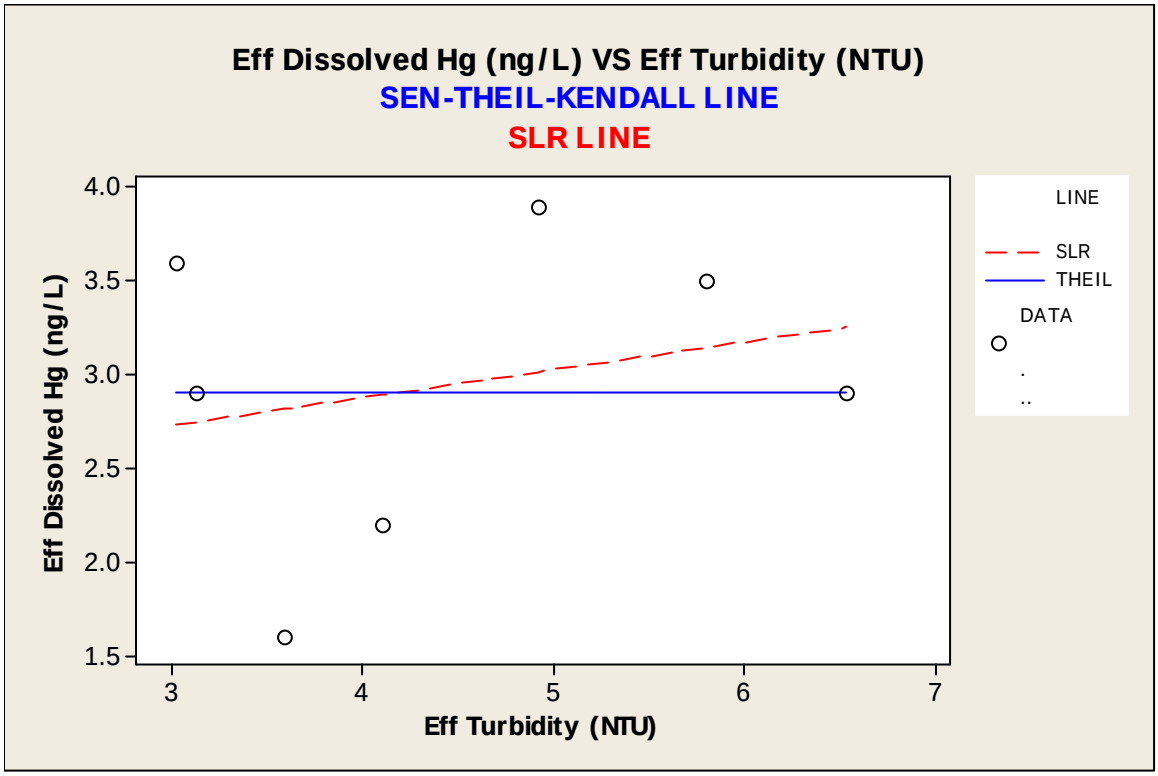
```
Row  CORRTYPE         CORR_VAL  P_VALUE
  1  KENDALL'S TAU_A         0        1
  2  KENDALL'S TAU_B         0        1
```

Data Display

```
Row  INTRCPT_   LOWER95  SLOPE_   UPPER95
  1       2.9  -1.29630       0  0.859729

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c6
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Sample Date2, Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Sample Date2      34   1  38354     52.9    308    37848  38084   38352  38613
Eff Dissolved Hg   8  27  3.750    0.850  2.405    1.600  2.375   3.200  3.825

Variable          Maximum
Sample Date2        38870
Eff Dissolved Hg    9.400
```

Data Display

```
S_TAU    -21.0000
VAR_S    64.3333
Z_S      -2.49351
```

Data Display

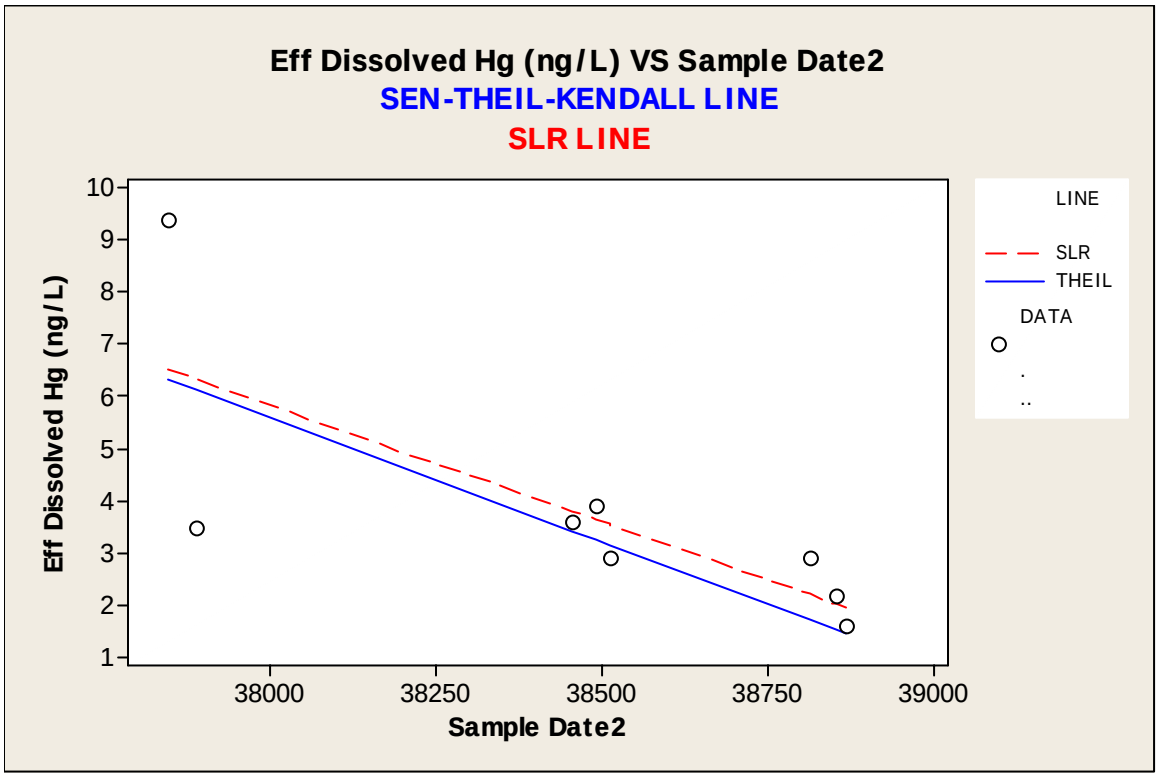
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	-0.750000	0.0126485
2	KENDALL'S TAU_B	-0.763763	0.0126485

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	186.336	-0.0125	-0.0047565	-0.00096

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT



Results for: POTW L

```
MTB > %ktau c2 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf Sample Date2, Inf TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf Sample Date2  37   0  38327     53.3    324    37831  38035   38322  38612
Inf TR Hg  (ng/L  37   0  281.0     54.7  332.8     56.0  126.5   185.0  310.0

Variable          Maximum
Inf Sample Date2    38873
Inf TR Hg  (ng/L   2040.0
```

Data Display

```
S_TAU    -103.000
VAR_S    5843.00
Z_S      -1.33439
```

Data Display

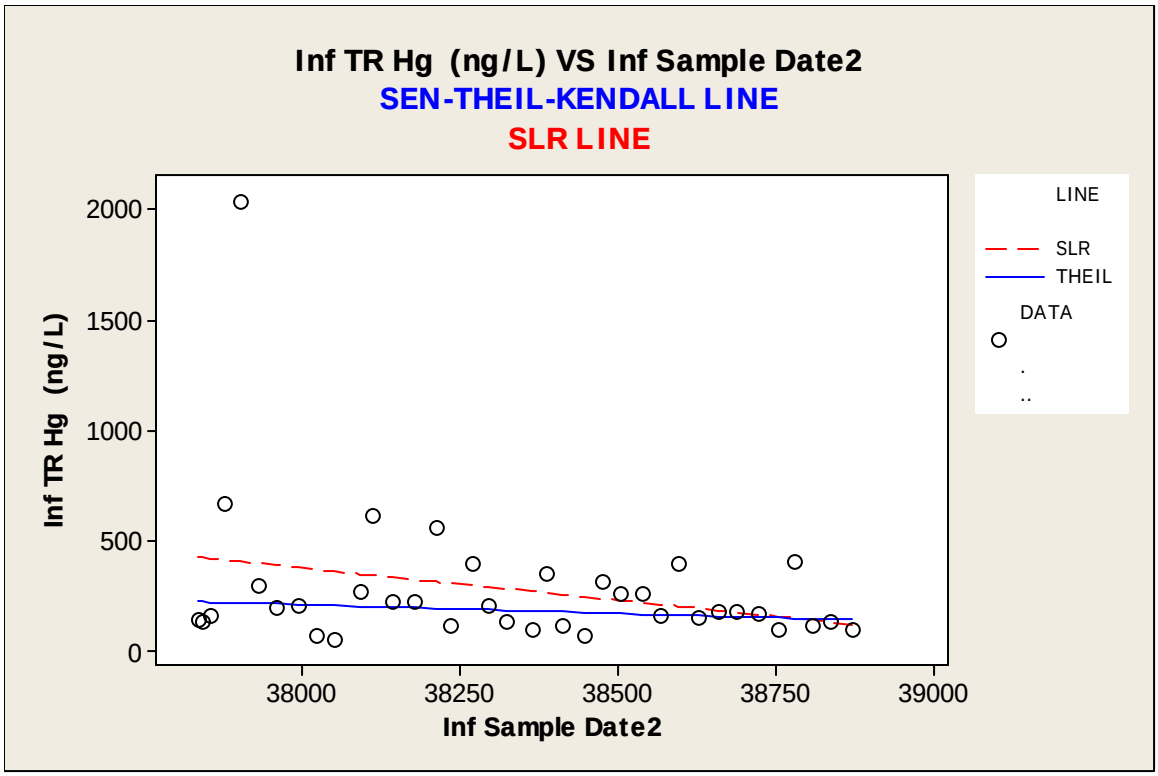
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.154655  0.182077
  2  KENDALL'S TAU_B  -0.155004  0.182077
```

Data Display

```
Row  INTRCPT_    LOWER95      SLOPE_    UPPER95
  1   3226.26  -0.239130  -0.0793607  0.0494505

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c2 c4
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf Sample Date2, Inf TSS (mg/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median
Inf Sample Date2	37	0	38327	53.3	324	37831	38035	38322
Inf TSS (mg/L)	37	0	202.03	8.99	54.70	89.00	177.00	196.00

Variable	Q3	Maximum
Inf Sample Date2	38612	38873
Inf TSS (mg/L)	221.00	422.00

Data Display

```
S_TAU     -69.0000
VAR_S     5841.00
Z_S       -0.889744
```

Data Display

Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	-0.103604	0.373603
2	KENDALL'S TAU_B	-0.103995	0.373603

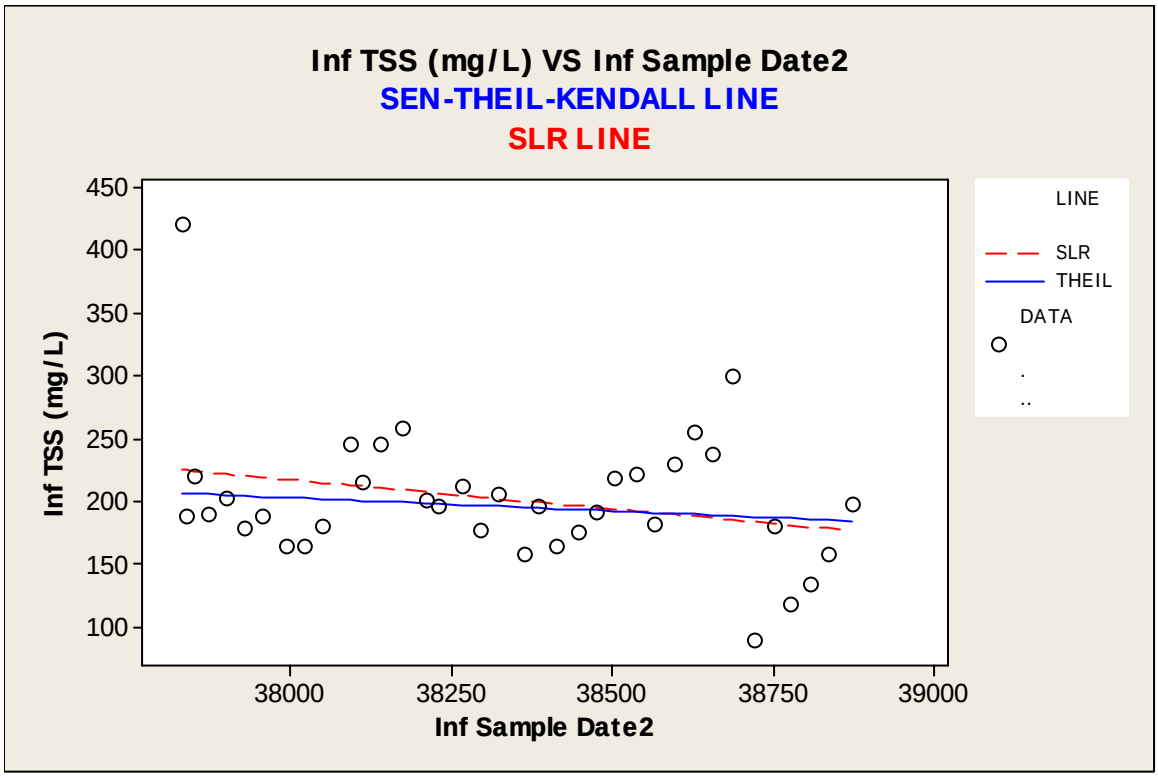
Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95

```
  1   1010.24  -0.0701754  -0.0212473  0.0254545

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c3
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Inf TR Hg (ng/L)

```
Variable           N  N*    Mean  SE Mean  StDev  Minimum      Q1  Median
Inf TSS (mg/L)    37   0  202.03     8.99  54.70    89.00  177.00  196.00
Inf TR Hg  (ng/L  37   0   281.0     54.7  332.8     56.0   126.5   185.0

Variable              Q3  Maximum
Inf TSS (mg/L)    221.00   422.00
Inf TR Hg  (ng/L   310.0   2040.0
```

Data Display

```
S_TAU    128.000
VAR_S    5838.02
Z_S      1.66215
```

Data Display

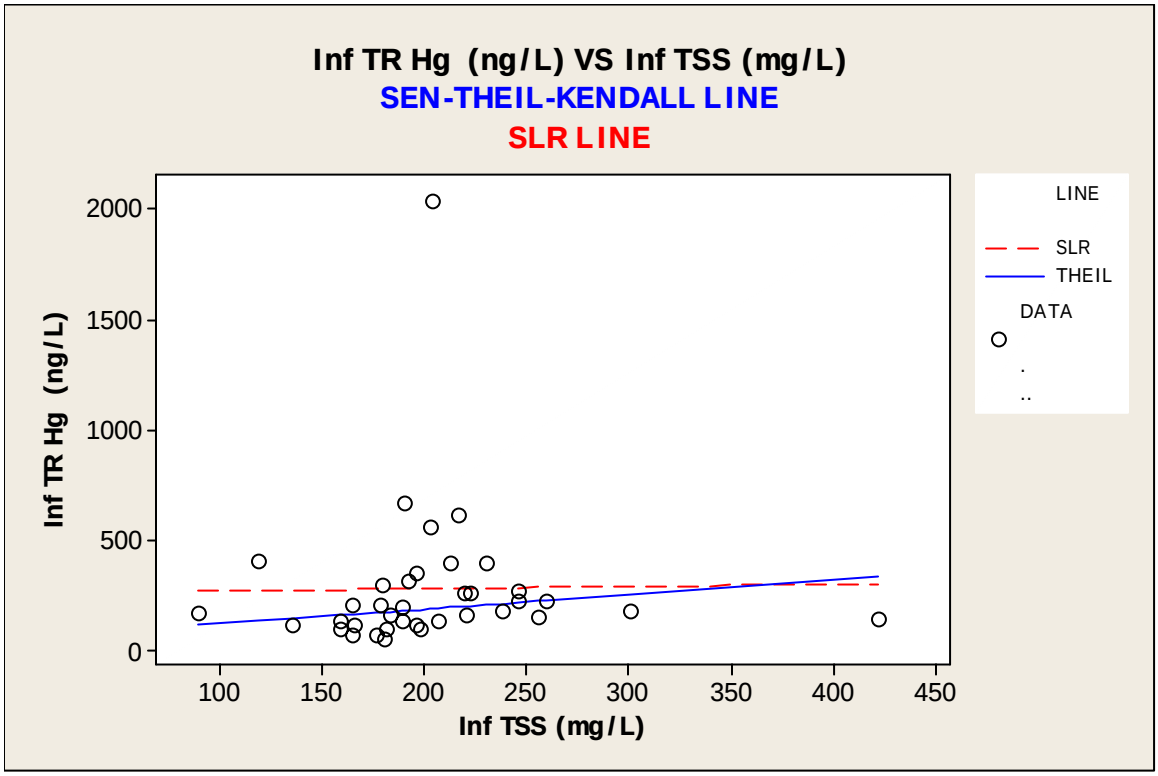
```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.192192  0.0964822
  2  KENDALL'S TAU_B  0.193354  0.0964822
```

Data Display

```
Row  INTRCPT_     LOWER95    SLOPE_  UPPER95
  1   55.3271  -0.0930931  0.661596  1.70968

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c6 c7
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Sample Date2, Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff Sample Date2  36   1  38333     54.5    327    37832  38029   38343  38621
Eff TR Hg (ng/L)  37   0  30.48     5.47  33.30    10.40  15.65   20.20  31.35

Variable          Maximum
Eff Sample Date2    38874
Eff TR Hg (ng/L)   205.00
```

Data Display

```
S_TAU     -44.0000
VAR_S    5388.00
Z_S      -0.585807
```

Data Display

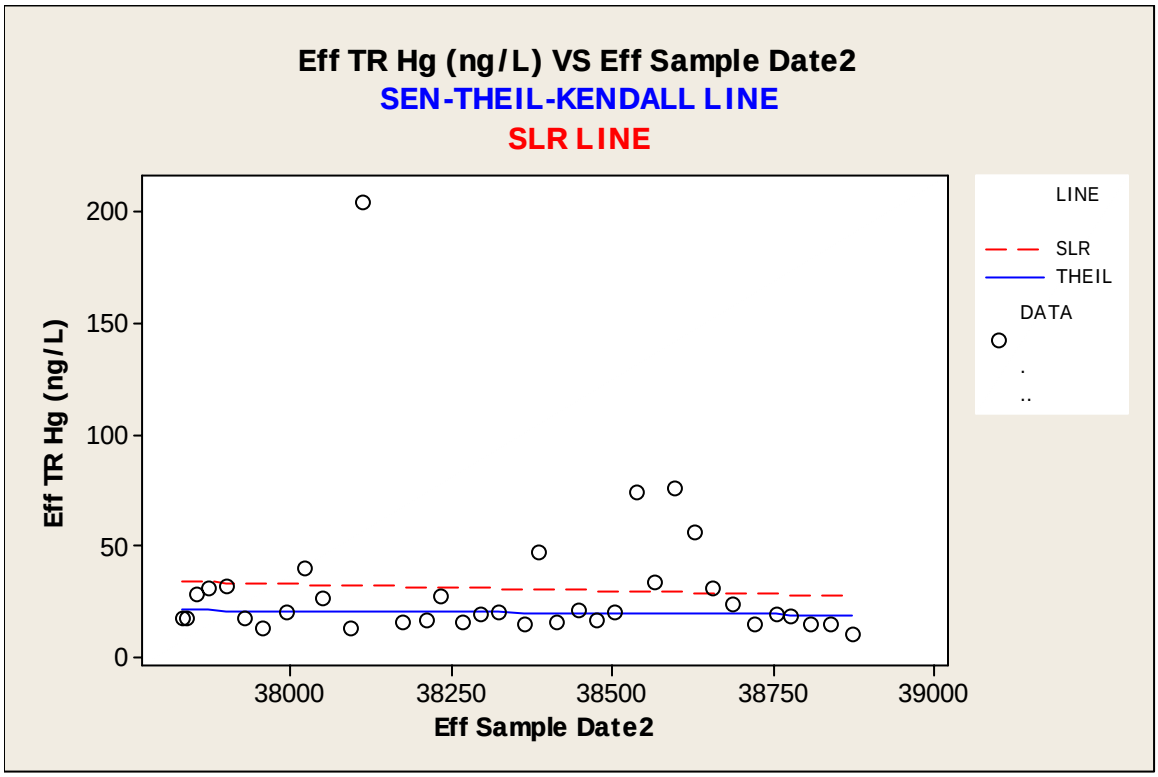
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	-0.0698413	0.558005
2	KENDALL'S TAU_B	-0.0699524	0.558005

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	98.5241	-0.0111905	-0.0020492	0.0066667

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT




```
MTB > %ktau c6 c10
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Sample Date2, Eff TSS (mg/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Eff Sample Date2	36	1	38333	54.5	327	37832	38029	38343	38621	38874
Eff TSS (mg/L)	37	0	8.551	0.694	4.222	3.000	6.450	7.500	9.775	29.000

Data Display

```
S_TAU     -81.0000
VAR_S     5359.00
Z_S       -1.09282
```

Data Display

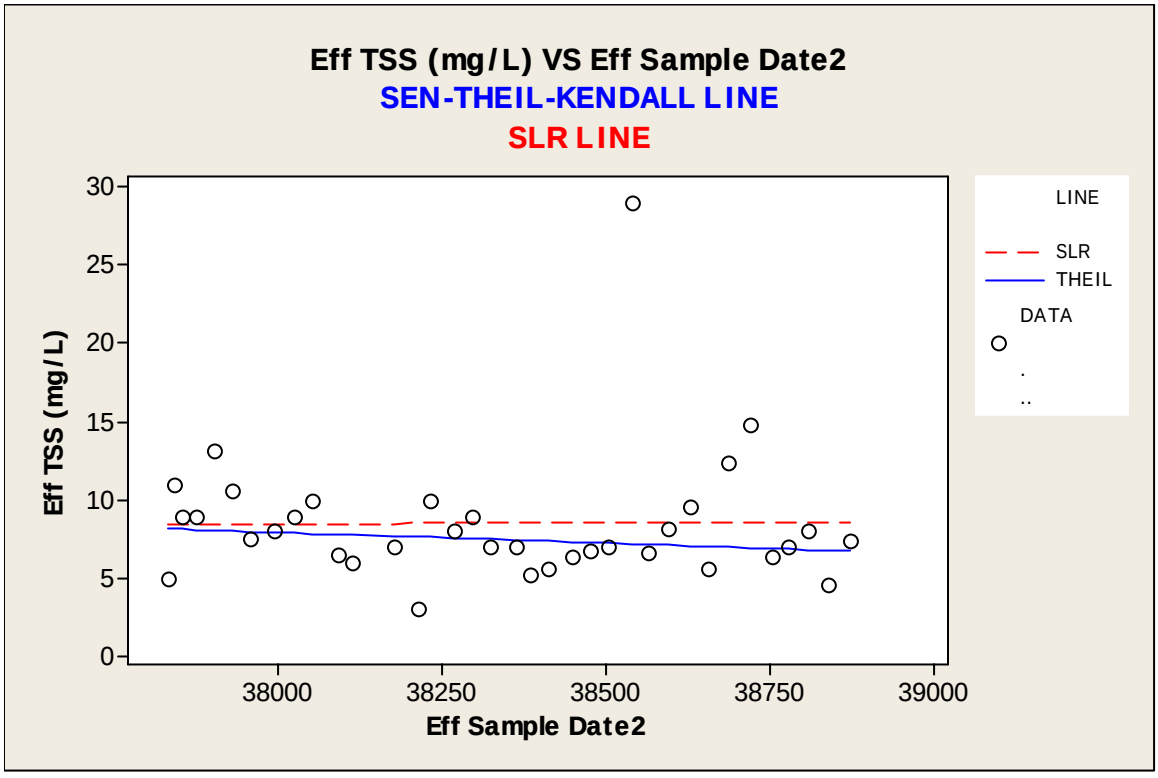
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.128571  0.274473
  2  KENDALL'S TAU_B  -0.130769  0.274473
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_     UPPER95
  1   60.5040  -0.0040466  -0.0013837  0.0011869

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > % ktau c12 c13
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Biosolids Sample Date2, Biosolids Hg (mg/kg)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Biosolids Sample  37   0  38327     53.2    324    37831  38036   38322  38612
Biosolids Hg (mg  37   0  1.483    0.295  1.796    0.157  0.787   1.040  1.390

Variable          Maximum
Biosolids Sample    38873
```

```
Biosolids Hg (mg    9.150
```

Data Display

```
S_TAU     -15.0000
VAR_S     5841.00
Z_S       -0.183183
```

Data Display

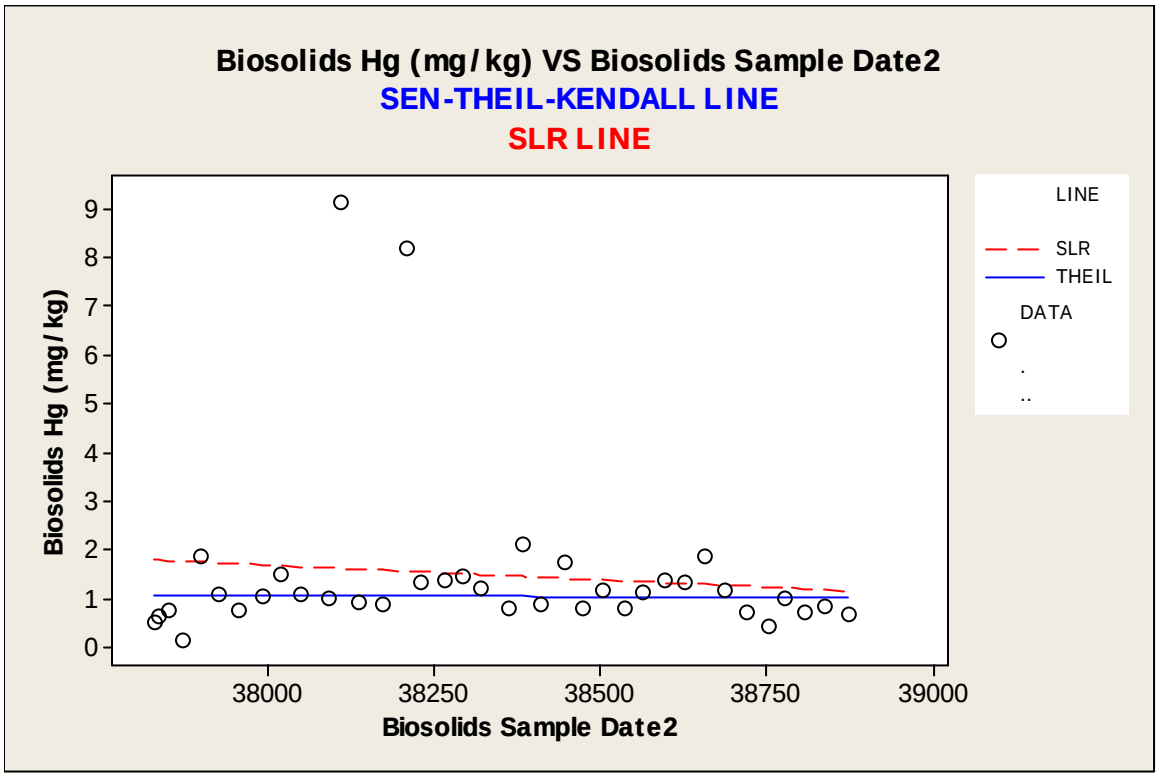
```
Row  CORRTYPE           CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.0225225  0.854655
  2  KENDALL'S TAU_B  -0.0226075  0.854655
```

Data Display

```
Row  INTRCPT_     LOWER95      SLOPE_    UPPER95
  1   3.55756  -0.0005306  -0.0000657  0.0004918

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c3 c7
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TR Hg (ng/L), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf TR Hg  (ng/L  37   0  281.0     54.7  332.8     56.0  126.5   185.0  310.0
Eff TR Hg (ng/L)  37   0  30.48     5.47  33.30    10.40  15.65   20.20  31.35

Variable          Maximum
Inf TR Hg  (ng/L   2040.0
Eff TR Hg (ng/L)   205.00
```

Data Display

```
S_TAU    101.000
VAR_S    5841.01
Z_S      1.30845
```

Data Display

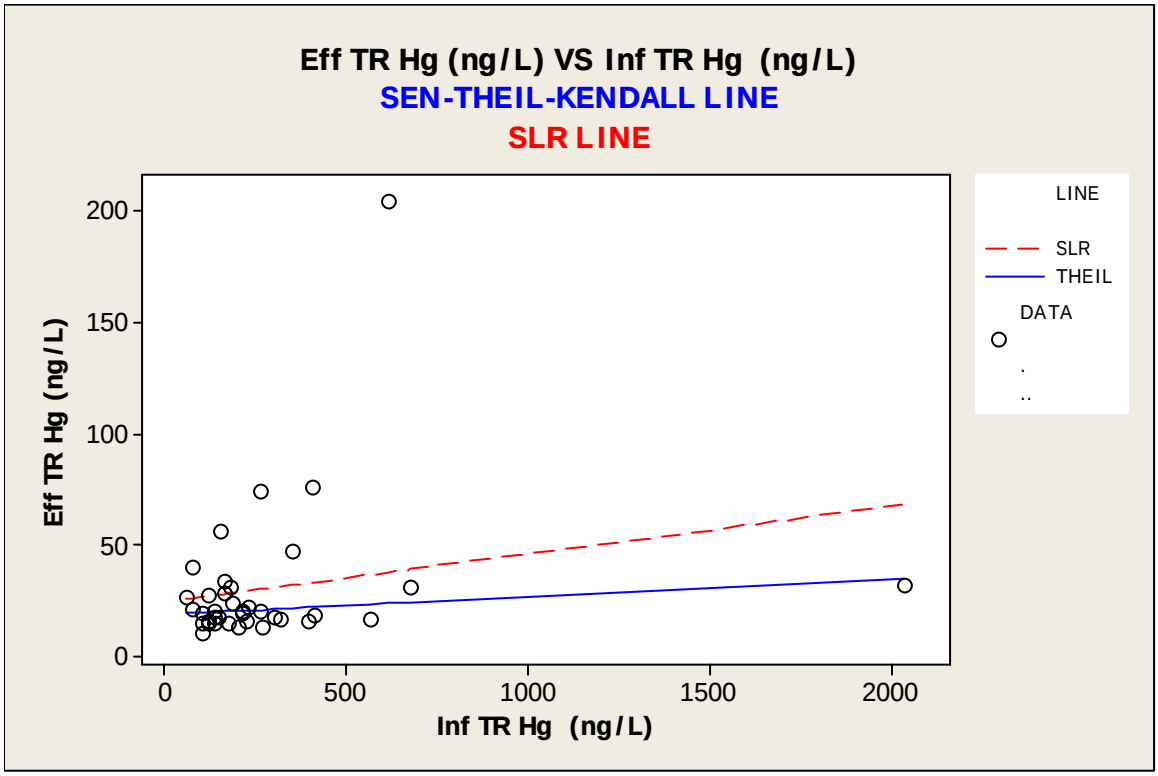
```
Row  CORRTYPE         CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.151652  0.190722
  2  KENDALL'S TAU_B  0.152223  0.190722
```

Data Display

```
Row  INTRCPT_     LOWER95     SLOPE_    UPPER95
  1   18.7503  -0.0078947  0.0078364  0.0348889

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c7
```

```
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Eff TR Hg (ng/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median
Inf TSS (mg/L)	37	0	202.03	8.99	54.70	89.00	177.00	196.00
Eff TR Hg (ng/L)	37	0	30.48	5.47	33.30	10.40	15.65	20.20

Variable	Q3	Maximum
Inf TSS (mg/L)	221.00	422.00
Eff TR Hg (ng/L)	31.35	205.00

Data Display

```
S_TAU    154.000
VAR_S    5839.02
Z_S      2.00227
```

Data Display

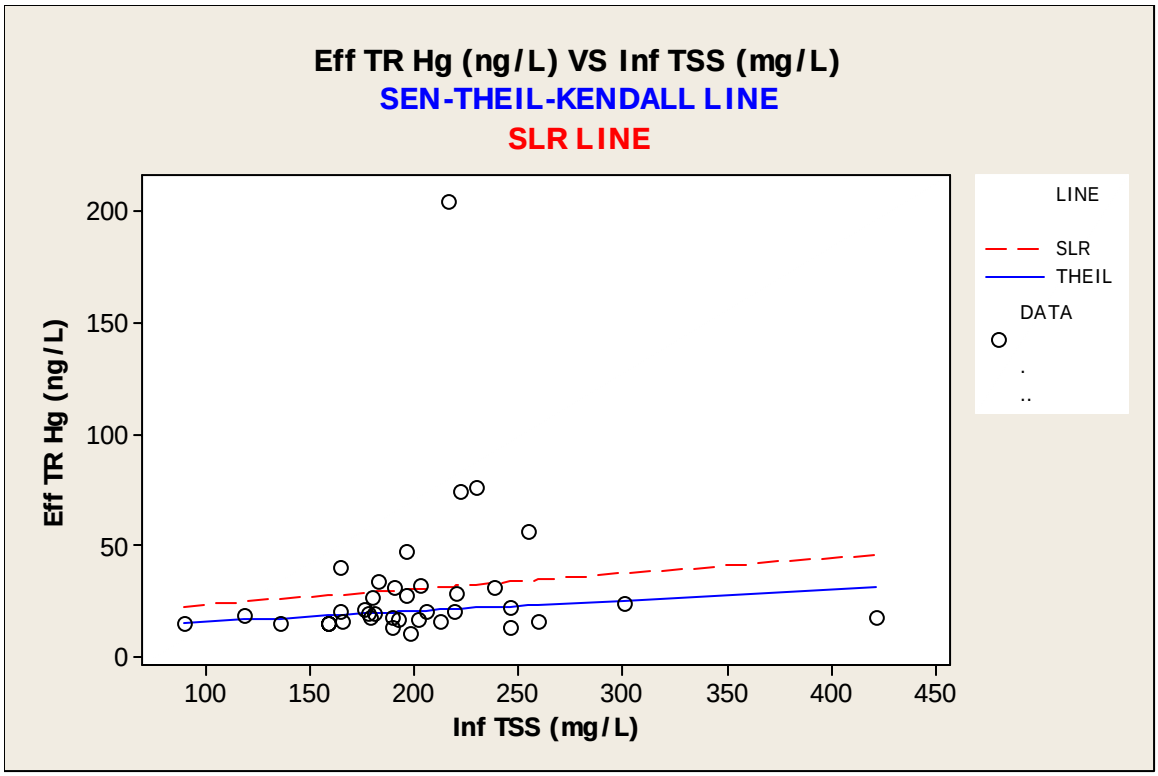
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.231231	0.0452562
2	KENDALL'S TAU_B	0.232453	0.0452562

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	10.7626	0	0.0481501	0.163529

```
 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c10 c7
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff TR Hg (ng/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Eff TSS (mg/L)	37	0	8.551	0.694	4.222	3.000	6.450	7.500	9.775	29.000
Eff TR Hg (ng/L)	37	0	30.48	5.47	33.30	10.40	15.65	20.20	31.35	205.00

Data Display

S_TAU	88.0000
VAR_S	5812.07
Z_S	1.14118

Data Display

Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.132132	0.253795
2	KENDALL'S TAU_B	0.134572	0.253795

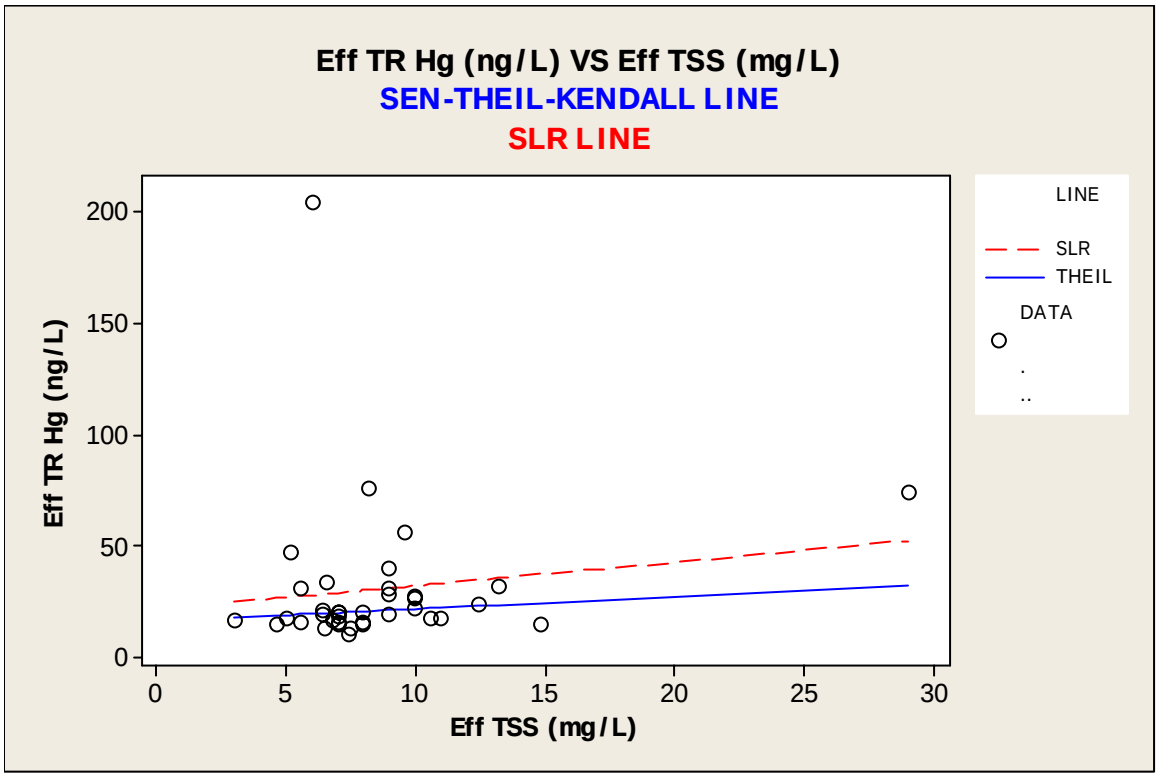
Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95

```
  1   16.0542  -0.285714  0.552778  1.90323

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c9 c7
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Turbidity (NTU), Eff TR Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff Turbidity (N  34   3  5.347    0.333  1.939    3.100  4.068   5.015  6.125
Eff TR Hg (ng/L)  37   0  30.48     5.47  33.30    10.40  15.65   20.20  31.35

Variable          Maximum
Eff Turbidity (N   12.700
Eff TR Hg (ng/L)   205.00
```

Data Display

```
S_TAU    89.0000
VAR_S    4546.34
Z_S      1.30512
```

Data Display

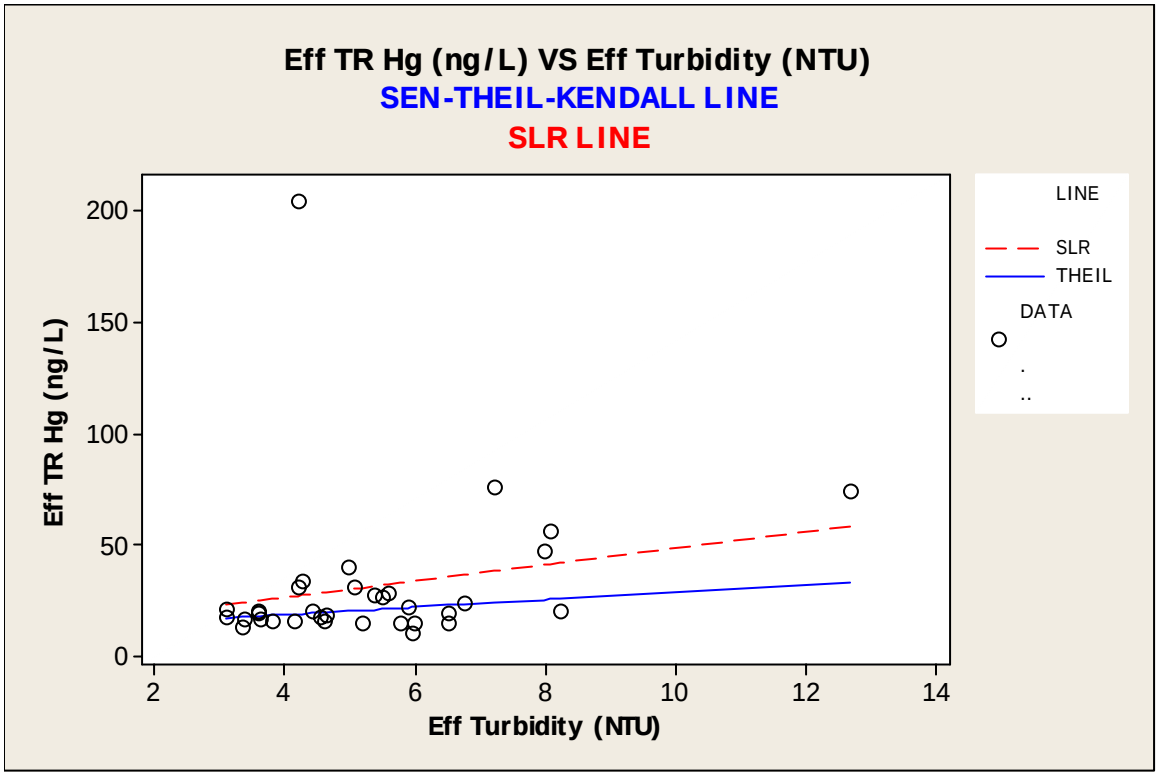
```
Row  CORRTYPE         CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.158645  0.191851
  2  KENDALL'S TAU_B  0.159213  0.191851
```

Data Display

```
Row  INTRCPT_    LOWER95   SLOPE_  UPPER95
  1   11.7714  -0.519031  1.69065  5.52901

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c9 c10
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Turbidity (NTU), Eff TSS (mg/L)

```
Variable          N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff Turbidity (N  34   3  5.347    0.333  1.939    3.100  4.068   5.015  6.125
Eff TSS (mg/L)    37   0  8.551    0.694  4.222    3.000  6.450   7.500  9.775

Variable          Maximum
Eff Turbidity (N   12.700
Eff TSS (mg/L)     29.000
```

Data Display

```
S_TAU    213.000
VAR_S    4516.41
Z_S      3.15456
```

Data Display

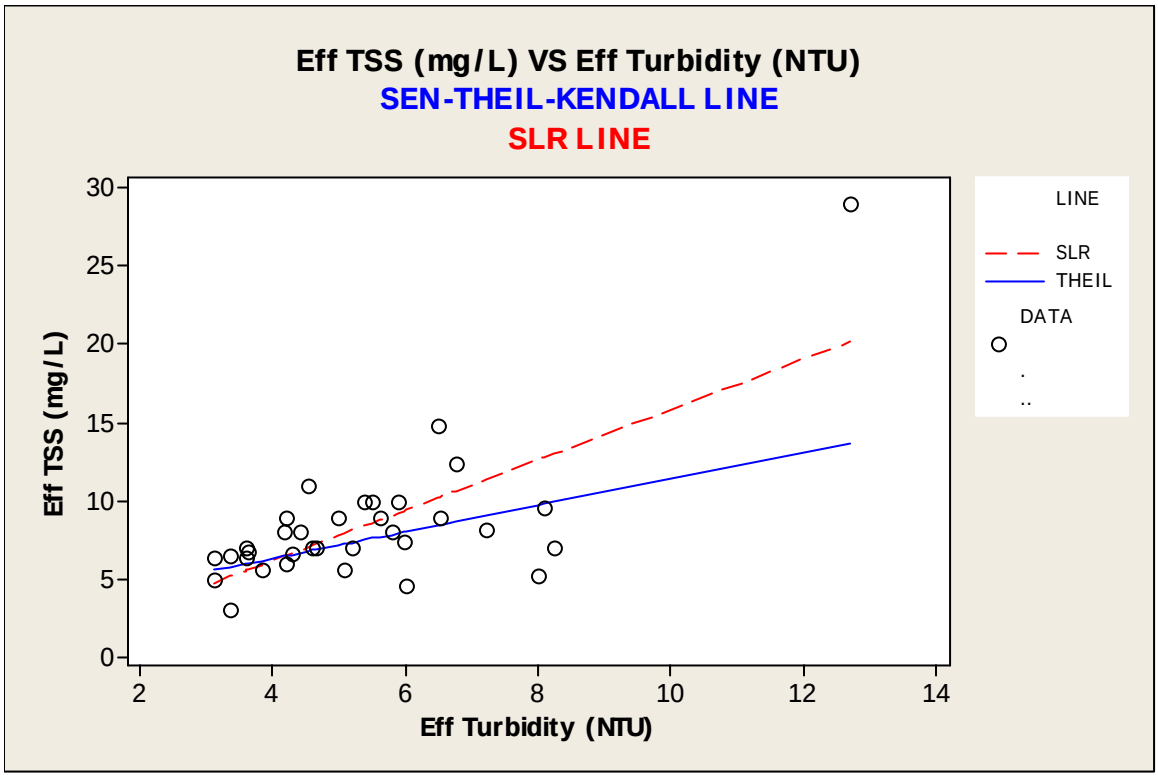
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.379679	0.0016074
2	KENDALL'S TAU_B	0.388043	0.0016074

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	2.95	0.317460	0.847458	1.6

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT




```
MTB > %ktau c6 c9
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Sample Date2, Eff Turbidity (NTU)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Eff Sample Date2	36	1	38333	54.5	327	37832	38029	38343	38621	38874
Eff Turbidity (N	34	3	5.347	0.333	1.939	3.100	4.068	5.015	6.125	12.700

Data Display

```
S_TAU     110.000
VAR_S     4163.33
Z_S       1.68930
```

Data Display

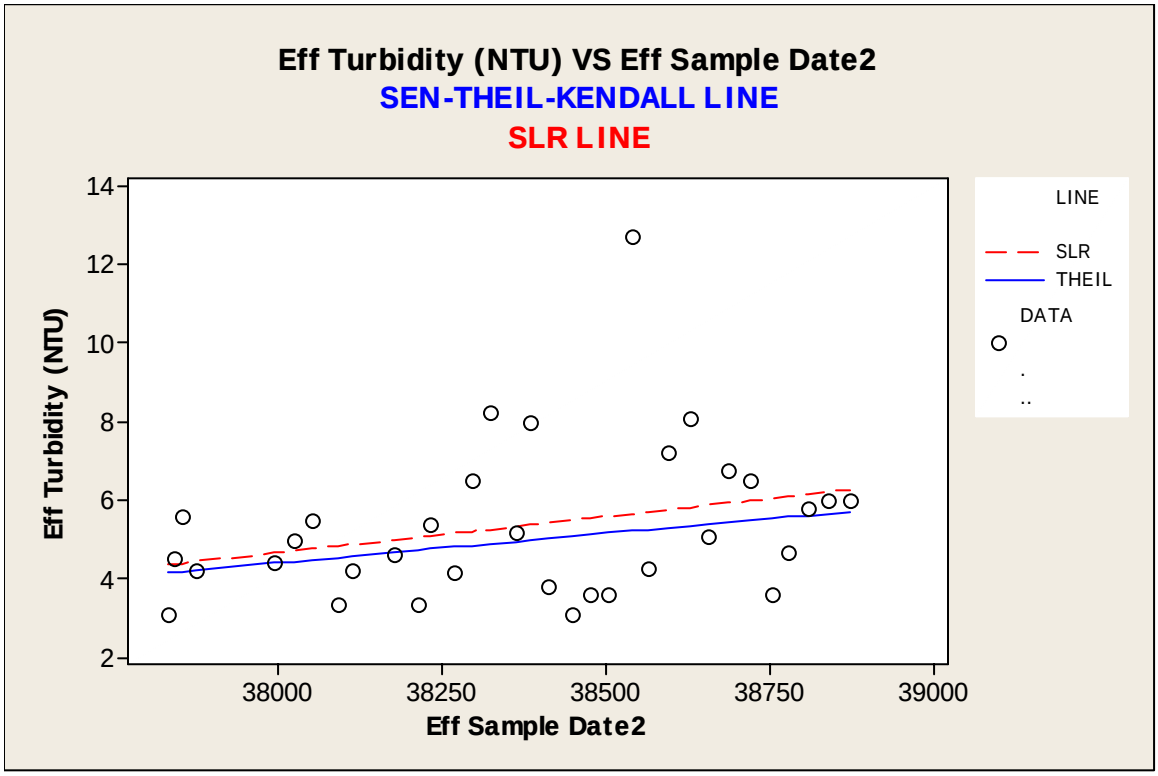
```
Row  CORRTYPE          CORR_VAL     P_VALUE
  1  KENDALL'S TAU_A   0.208333   0.0911626
  2  KENDALL'S TAU_B   0.208729   0.0911626
```

Data Display

```
Row  INTRCPT_      LOWER95      SLOPE_     UPPER95
  1  -52.0888   -0.0004359   0.0014865   0.0033844

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c3 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TR Hg (ng/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Inf TR Hg  (ng/L  37   0  281.0     54.7  332.8     56.0  126.5   185.0  310.0
Eff Dissolved Hg  15  22   8.41     1.28   4.94     2.10   4.32    6.40  11.50

Variable          Maximum
```

```
Inf TR Hg  (ng/L   2040.0
Eff Dissolved Hg    19.80
```

Data Display

```
S_TAU     -14.0000
VAR_S     407.333
Z_S       -0.644122
```

Data Display

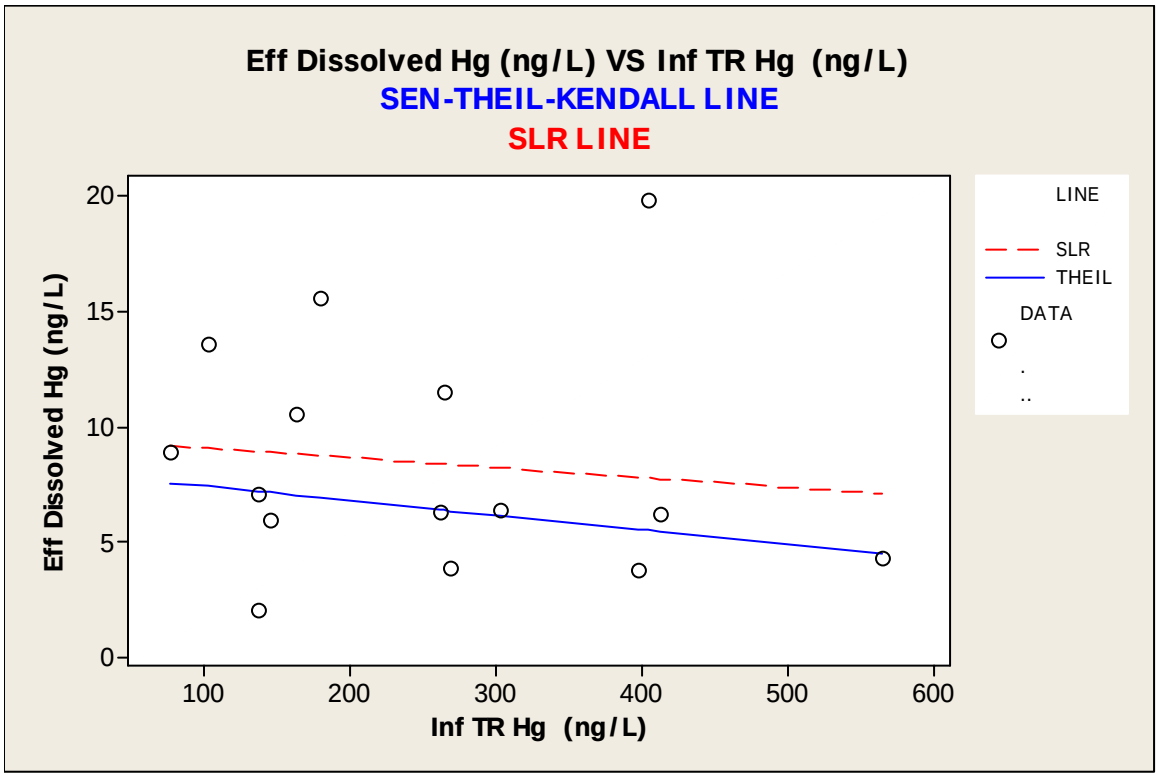
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  -0.133333  0.519496
  2  KENDALL'S TAU_B  -0.133973  0.519496
```

Data Display

```
Row  INTRCPT_     LOWER95    SLOPE_    UPPER95
  1   8.05584  -0.0242424  -0.00632  0.0161111

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c4 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Inf TSS (mg/L), Eff Dissolved Hg (ng/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median
Inf TSS (mg/L)	37	0	202.03	8.99	54.70	89.00	177.00	196.00
Eff Dissolved Hg	15	22	8.41	1.28	4.94	2.10	4.32	6.40

Variable	Q3	Maximum
Inf TSS (mg/L)	221.00	422.00
Eff Dissolved Hg	11.50	19.80

Data Display

S_TAU	5.00000
VAR_S	408.333
Z_S	0.197949

Data Display

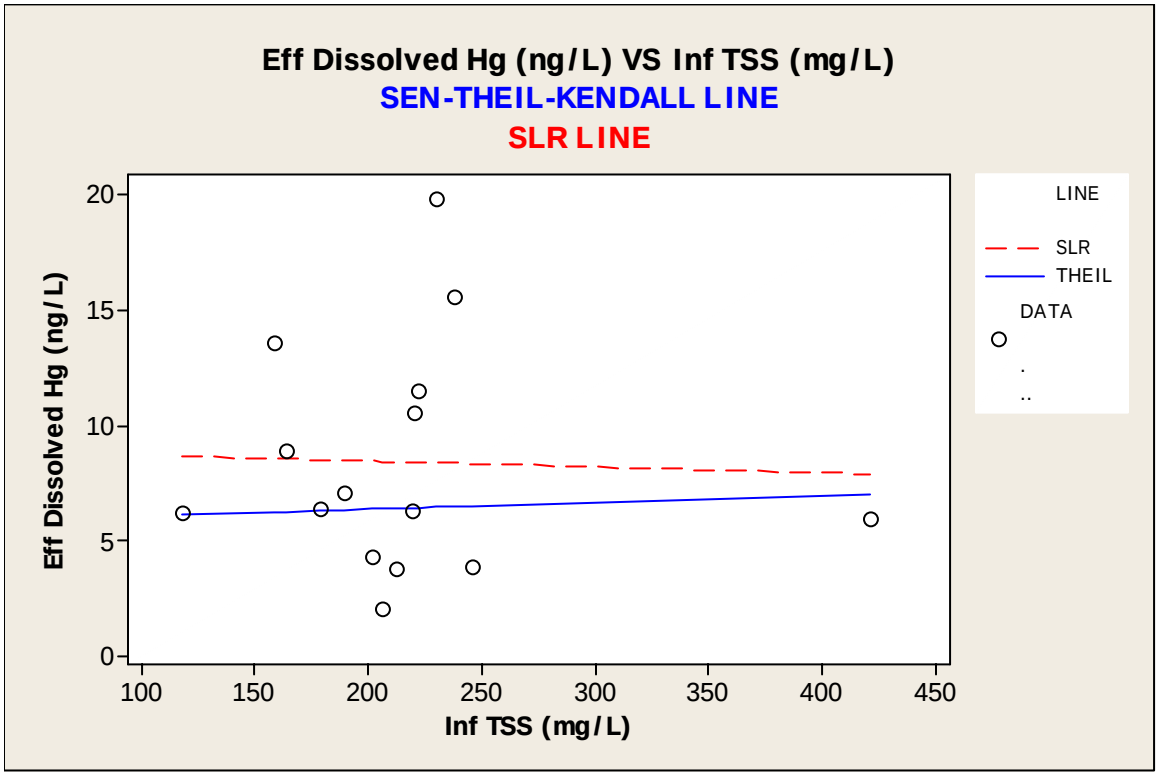
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.0476190	0.843085
2	KENDALL'S TAU_B	0.0476190	0.843085

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	5.77443	-0.0476364	0.0029508	0.118605

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT



```
MTB > %ktau c7 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TR Hg (ng/L), Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff TR Hg (ng/L)  37   0  30.48     5.47  33.30    10.40  15.65   20.20  31.35
Eff Dissolved Hg  15  22   8.41     1.28   4.94     2.10   4.32    6.40  11.50

Variable          Maximum
Eff TR Hg (ng/L)   205.00
Eff Dissolved Hg    19.80
```

Data Display

```
S_TAU    49.0000
VAR_S    408.333
Z_S      2.37538
```

Data Display

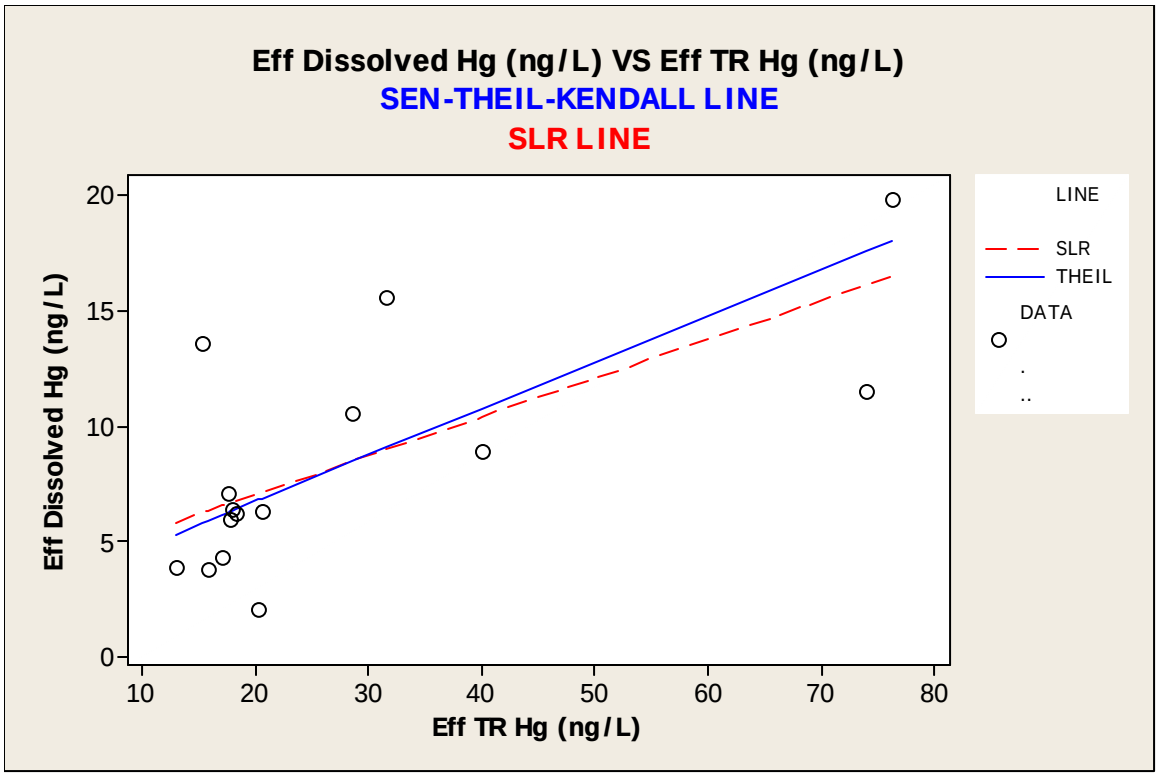
```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.466667  0.0175307
  2  KENDALL'S TAU_B  0.466667  0.0175307
```

Data Display

```
Row  INTRCPT_    LOWER95    SLOPE_   UPPER95
  1   2.73204  0.0809735  0.200435  0.428571

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c10 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff TSS (mg/L), Eff Dissolved Hg (ng/L)

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Eff TSS (mg/L)	37	0	8.551	0.694	4.222	3.000	6.450	7.500	9.775	29.000
Eff Dissolved Hg	15	22	8.41	1.28	4.94	2.10	4.32	6.40	11.50	19.80

Data Display

S_TAU	26.0000
VAR_S	398.667
Z_S	1.25209

Data Display

Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.247619	0.210538
2	KENDALL'S TAU_B	0.256310	0.210538

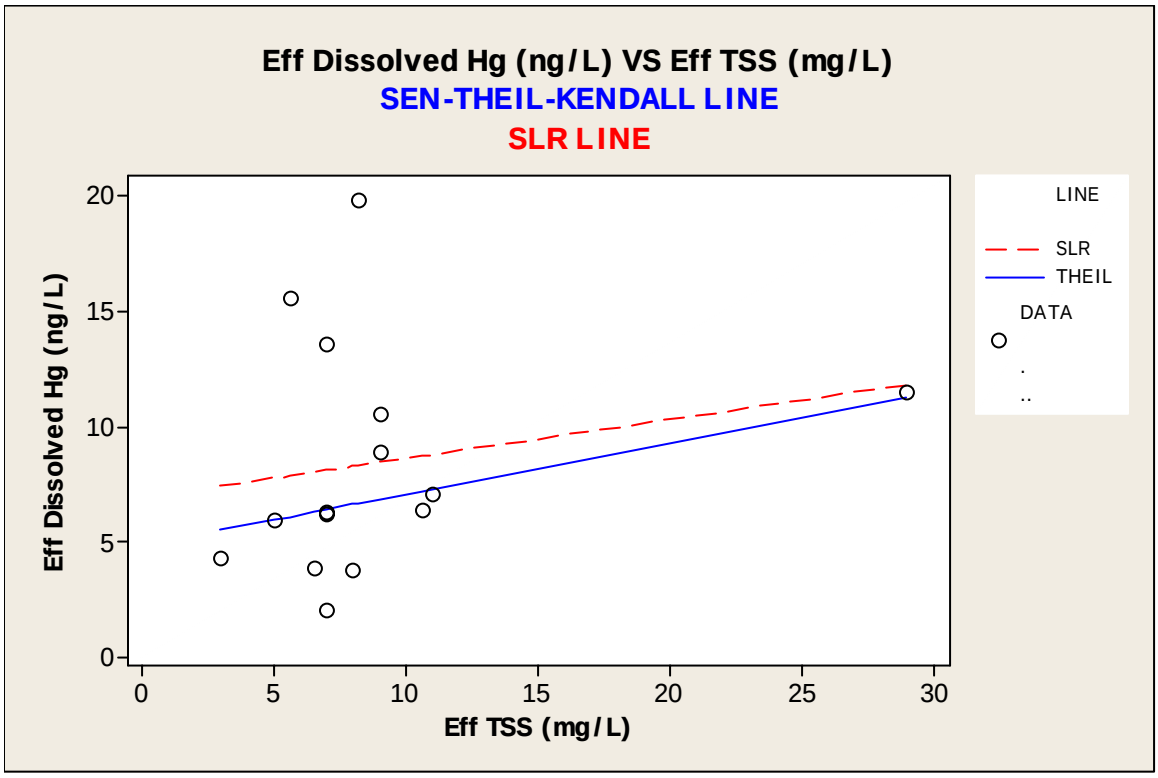
Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95

```
  1      4.86    -0.12    0.22  1.04667

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c9 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Turbidity (NTU), Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff Turbidity (N  34   3  5.347    0.333  1.939    3.100  4.068   5.015  6.125
Eff Dissolved Hg  15  22   8.41     1.28   4.94     2.10   4.32    6.40  11.50

Variable          Maximum
Eff Turbidity (N   12.700
Eff Dissolved Hg    19.80
```

Data Display

```
S_TAU    39.0000
VAR_S    333.667
Z_S      2.08031
```

Data Display

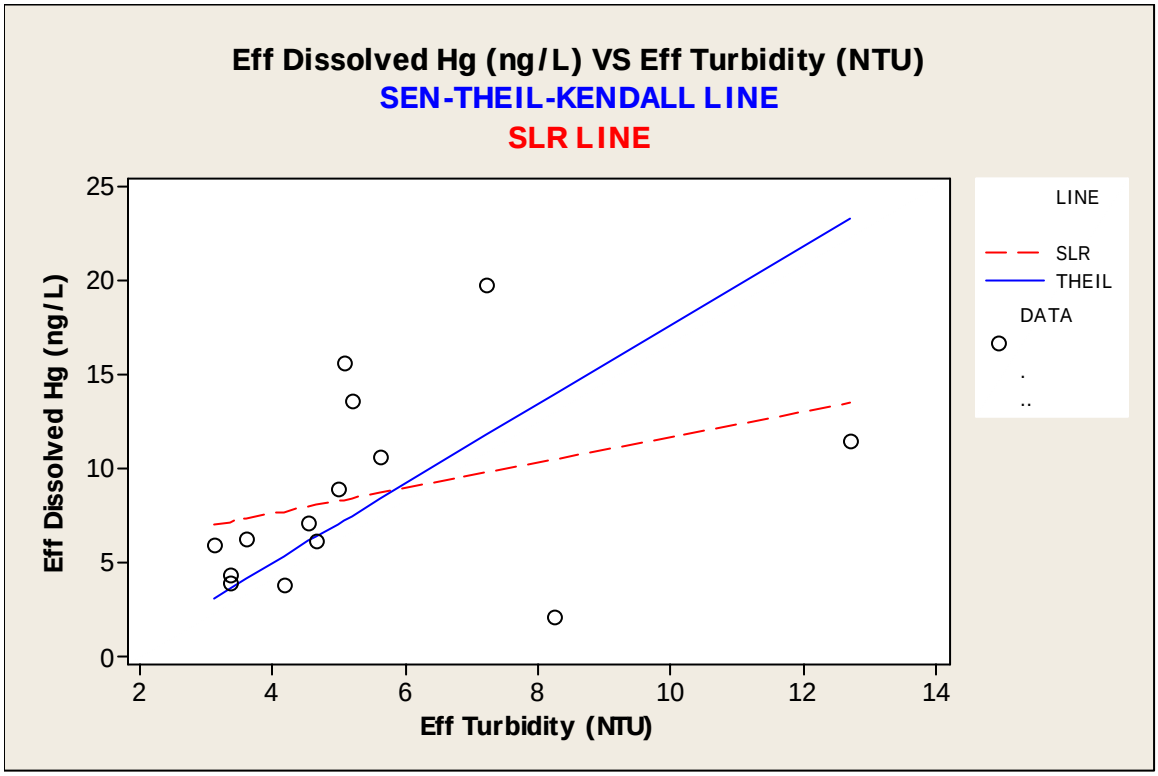
```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.428571  0.0374975
  2  KENDALL'S TAU_B  0.428571  0.0374975
```

Data Display

```
Row  INTRCPT_   LOWER95   SLOPE_  UPPER95
  1  -3.39947  0.142857  2.10291   4.5625

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT




```
MTB > %ktau c6 c8
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Eff Sample Date2, Eff Dissolved Hg (ng/L)

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
Eff Sample Date2  36   1  38333     54.5    327    37832  38029   38343  38621
Eff Dissolved Hg  15  22   8.41     1.28   4.94     2.10   4.32    6.40  11.50

Variable          Maximum
Eff Sample Date2    38874
Eff Dissolved Hg    19.80
```

Data Display

```
S_TAU    17.0000
VAR_S    408.333
Z_S      0.791795
```

Data Display

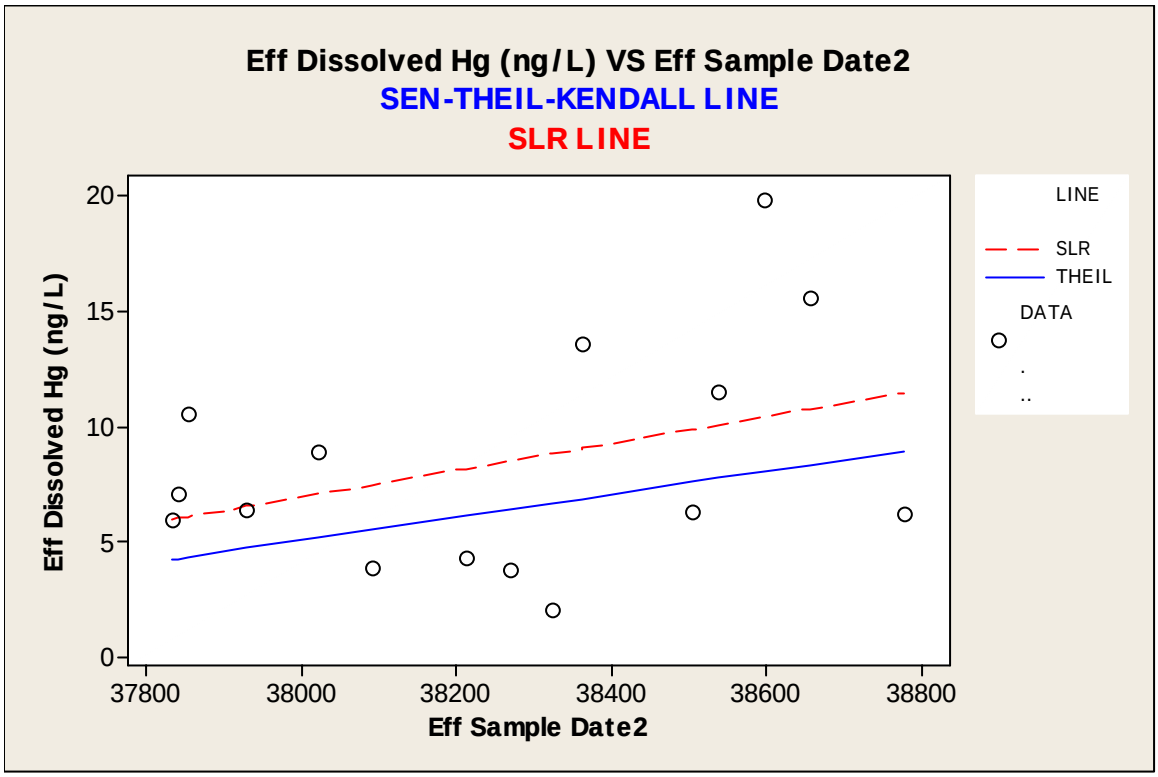
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.161905	0.428480
2	KENDALL'S TAU_B	0.161905	0.428480

Data Display

Row	INTRCPT_	LOWER95	SLOPE_	UPPER95
1	-183.830	-0.0065697	0.0049710	0.0154211

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT



Dentists per Flow

Results for: 4.5A

```
MTB > %ktau3 c3 c2
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau3.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Dentist per MGD, Median Influent Mercury Concent

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Dentist per MGD	47	0	5.337	0.660	4.523	0.643	2.380	3.333	5.882	17.073
Median Influent	47	0	126.10	8.51	58.37	33.45	80.00	120.00	161.00	246.50

Data Display

```
S_TAU    434.000
VAR_S    11866.7
Z_S      3.97487
```

Data Display

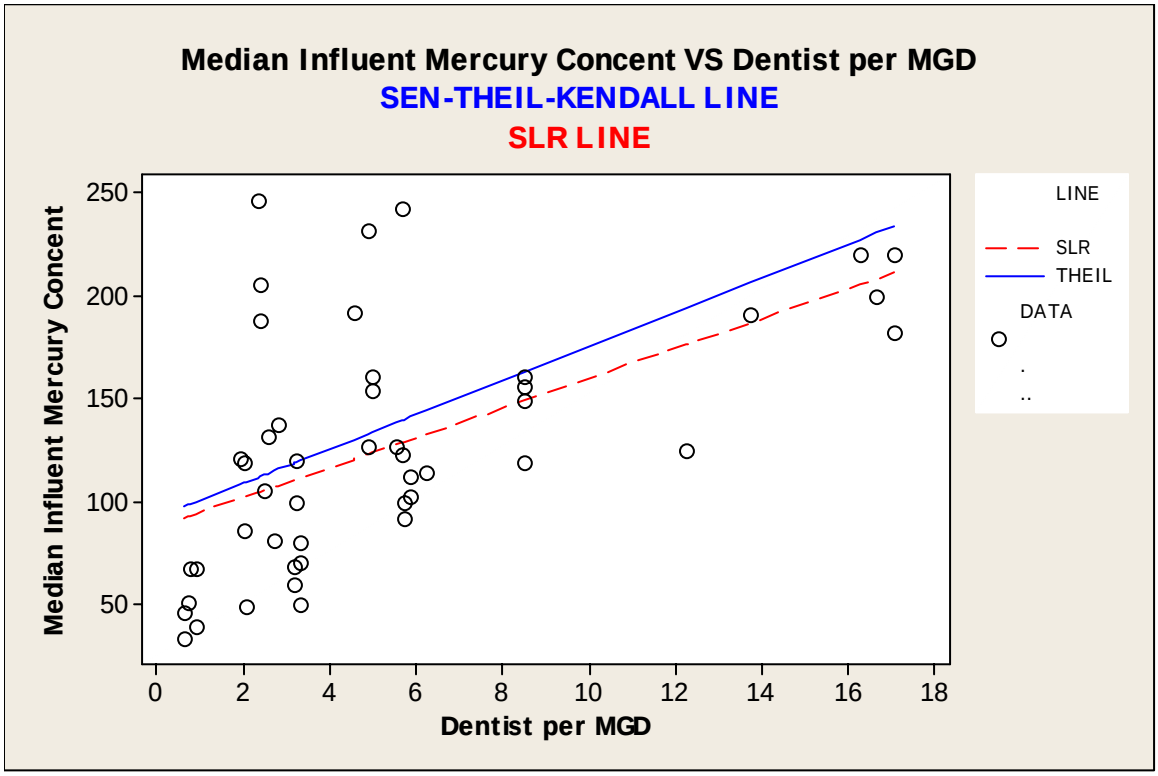
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.401480	0.0000704
2	KENDALL'S TAU_B	0.405428	0.0000704

Data Display

Row	INTRCPT_	LWR95	SLOPE_	UPPR95
1	92.3174	5.23973	8.30477	10.9172

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT



Results for: 4.5B

```
MTB > %ktau3 c3 c2
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau3.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Dentist per MGD, Median Effluent Mercury Concent

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Dentist per MGD	47	0	5.337	0.660	4.523	0.643	2.380	3.333	5.882	17.073
Median Effluent	47	0	6.76	1.15	7.86	1.87	2.45	3.10	7.40	45.15

Data Display

S_TAU	338.000
VAR_S	11866.7
Z_S	3.09360

Data Display

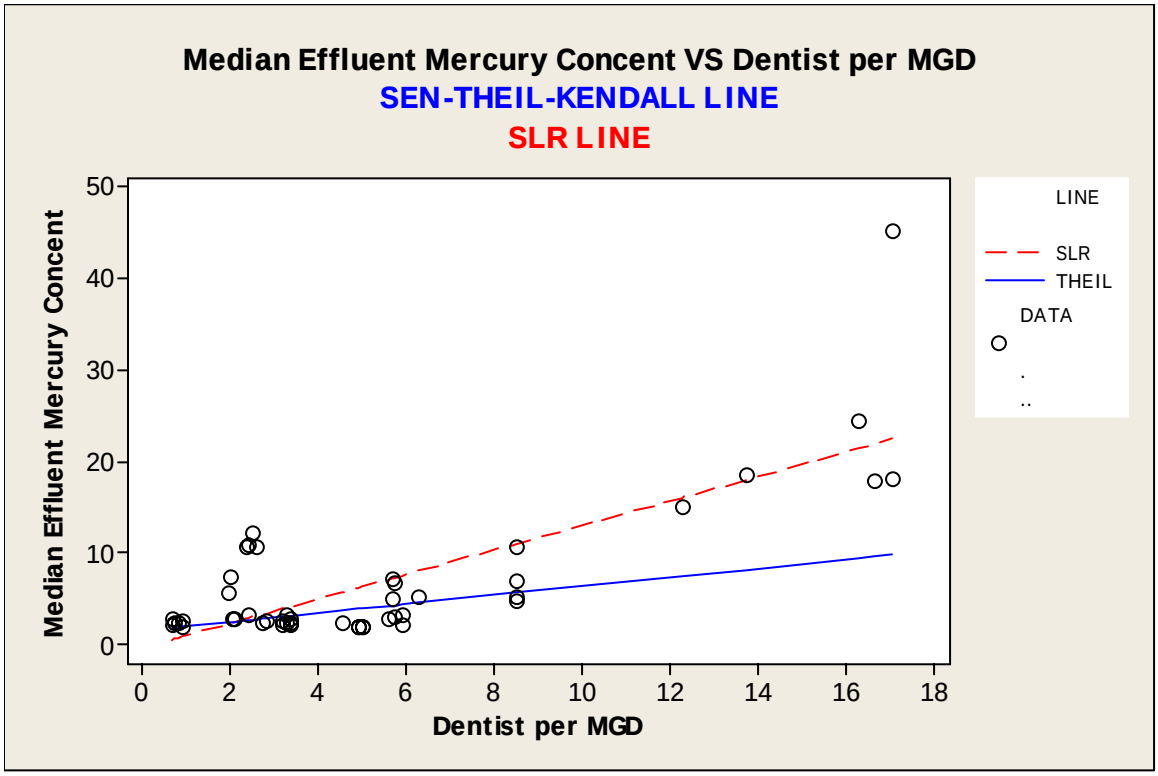
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.312673	0.0019774
2	KENDALL'S TAU_B	0.315748	0.0019774

Data Display

Row	INTRCPT_	LWR95	SLOPE_	UPPR95
1	1.48284	0.128028	0.485149	0.912371

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT



Results for: 4.5C

```
MTB > %ktau3 c3 c2
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau3.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Dentist per MGD, Median Biosolids Mercury Concen

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median
Dentist per MGD	47	0	5.337	0.660	4.523	0.643	2.380	3.333
Median Biosolids	47	0	0.8299	0.0609	0.4177	0.1225	0.5430	0.8355

Variable	Q3	Maximum
Dentist per MGD	5.882	17.073
Median Biosolids	1.0750	2.2385

Data Display

```
S_TAU    170.000
VAR_S    11866.7
Z_S      1.55139
```

Data Display

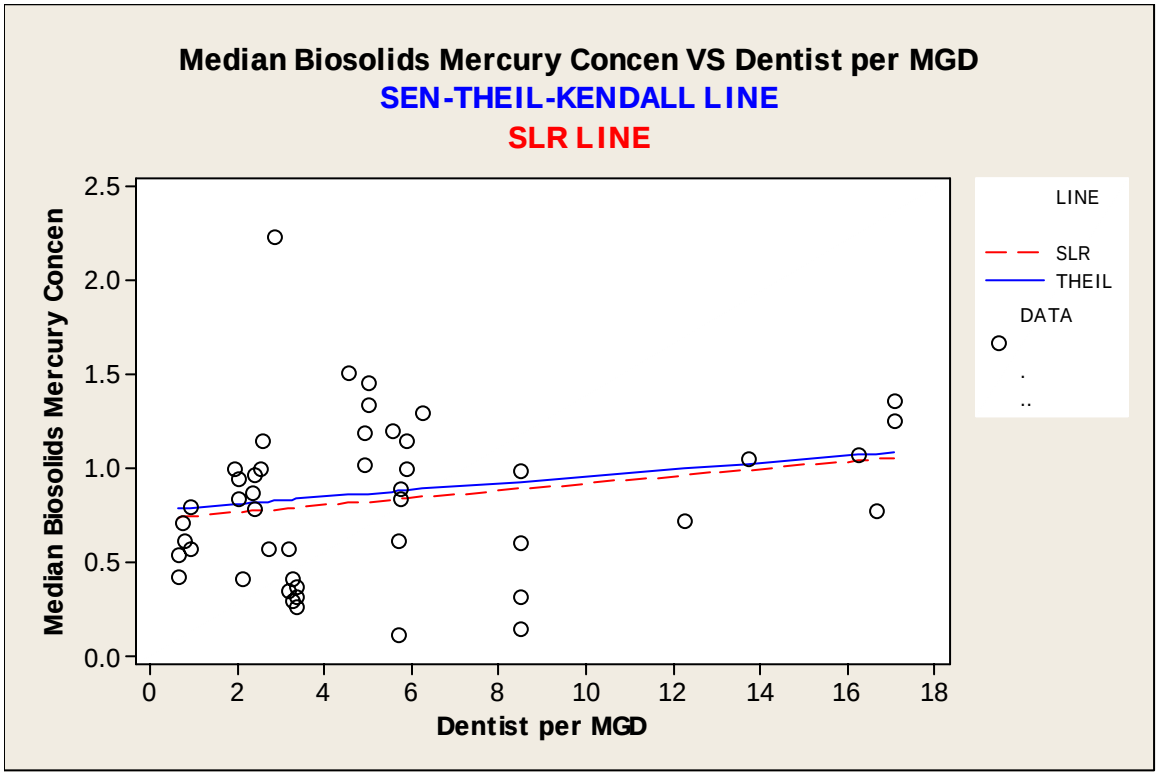
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.157262	0.120808
2	KENDALL'S TAU_B	0.158808	0.120808

Data Display

Row	INTRCPT_	LWR95	SLOPE_	UPPR95
1	0.774886	-0.0046393	0.0181841	0.0506811

```
 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



Number of Dentists without Separators per Flow

Results for: 4.6A

```
MTB > %ktau3 c3 c2
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau3.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Number of Dentis, Median Influent

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Number of Dentis	35	0	1.330	0.275	1.626	0.000	0.000	0.604	2.487	4.900
Median Influent	35	0	118.3	10.1	59.7	33.5	67.9	119.0	156.0	246.5

Data Display

```
S_TAU    18.0000
VAR_S    4741.90
Z_S      0.246873
```

Data Display

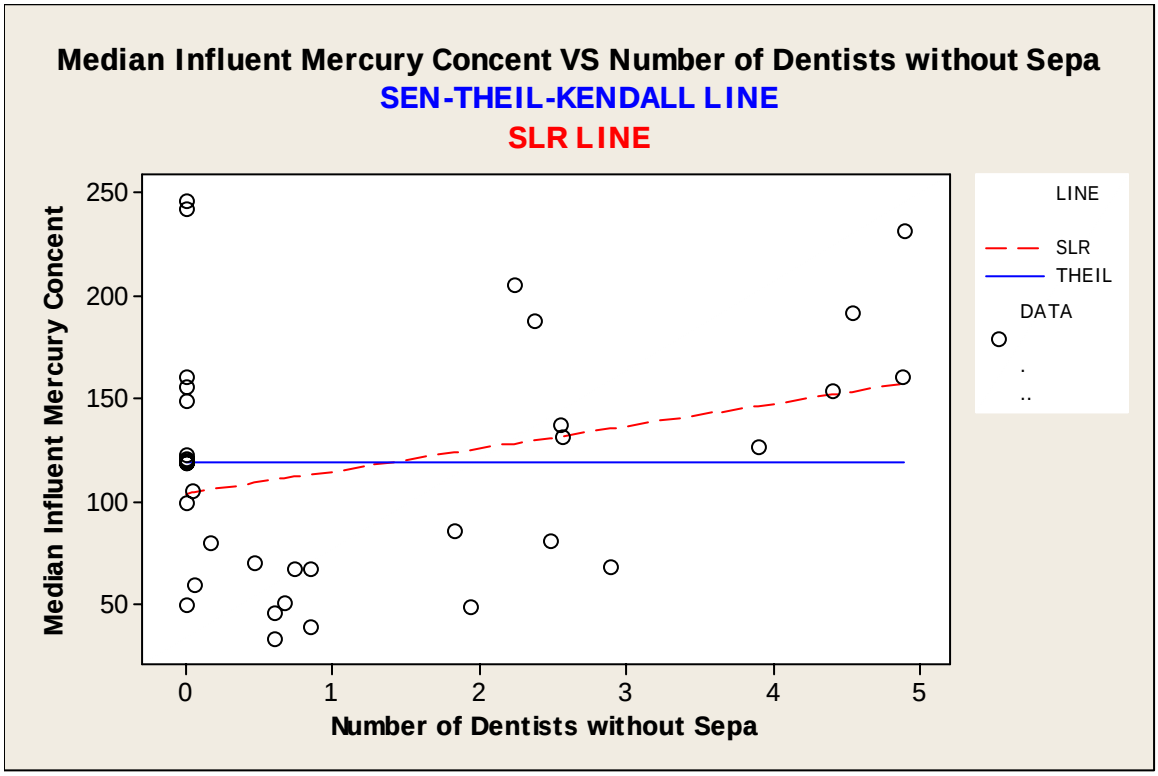
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.0302521	0.805007
2	KENDALL'S TAU_B	0.0321988	0.805007

Data Display

Row	INTRCPT_	LWR95	SLOPE_	UPPR95
1	119	-8.84063	0	8.46834

```
 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



Results for: 4.6B

```
MTB > %ktau3 c3 c2
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau3.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Number of Dentis, Median Effluent

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Number of Dentis	35	0	1.330	0.275	1.626	0.000	0.000	0.604	2.487	4.900
Median Effluent	35	0	4.429	0.533	3.155	1.870	2.350	2.800	5.700	12.250

Data Display

```
S_TAU    -197.000
VAR_S    4741.90
Z_S      -2.84630
```

Data Display

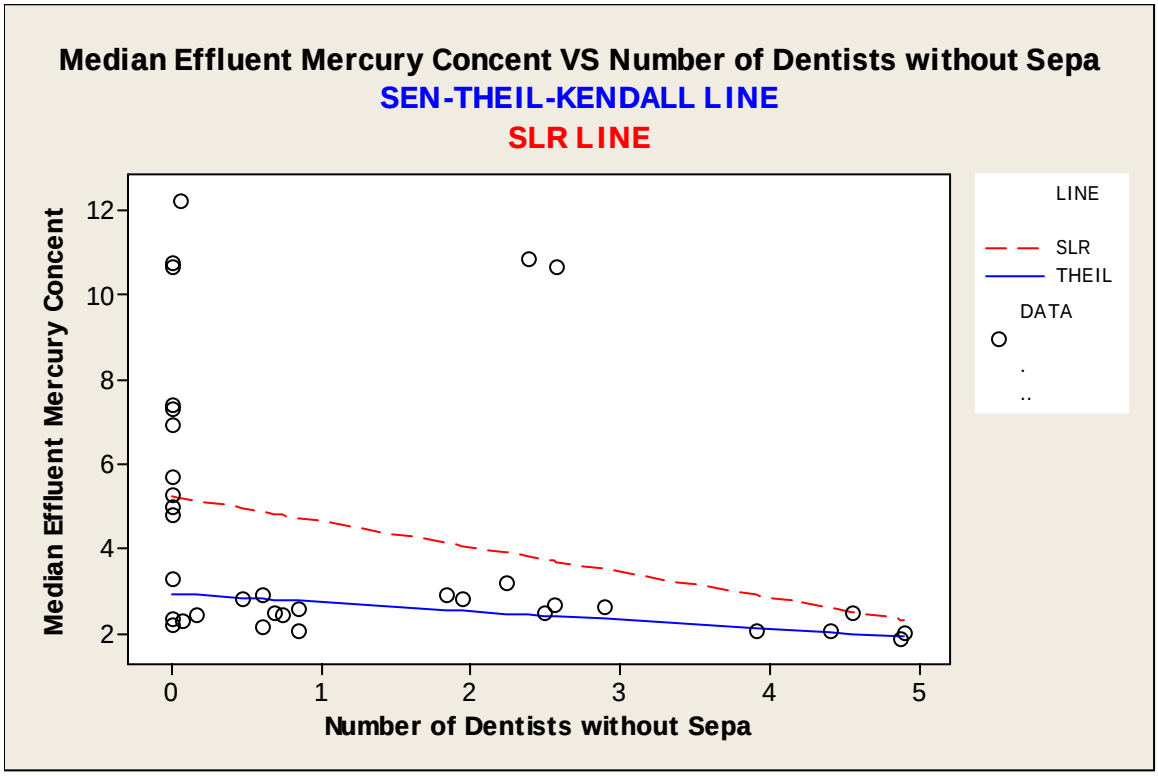
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	-0.331092	0.0044231
2	KENDALL'S TAU_B	-0.352398	0.0044231

Data Display

Row	INTRCPT_	LWR95	SLOPE_	UPPR95
1	2.92739	-0.699563	-0.210818	0

```
 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



Results for: 4.6C

```
MTB > %ktau3 c3 c2
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau3.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Number of Dentis, Median Biosolids

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median
Number of Dentis	35	0	1.330	0.275	1.626	0.000	0.000	0.604
Median Biosolids	35	0	0.7537	0.0753	0.4453	0.1225	0.4200	0.6200

Variable	Q3	Maximum
Number of Dentis	2.487	4.900
Median Biosolids	0.9950	2.2385

Data Display

```
S_TAU    255.000
VAR_S    4741.90
Z_S      3.68857
```

Data Display

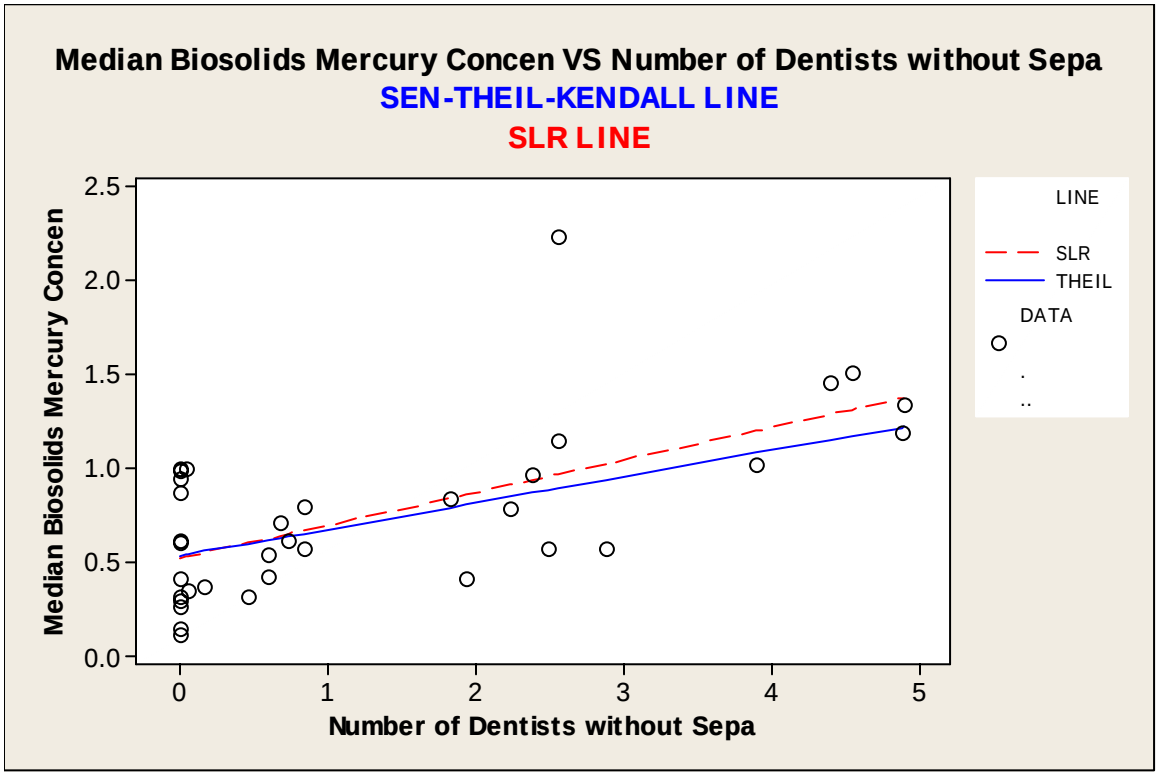
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.428571	0.0002255
2	KENDALL'S TAU_B	0.456150	0.0002255

Data Display

Row	INTRCPT_	LWR95	SLOPE_	UPPR95
1	0.535615	0.0520695	0.139645	0.2067

```
 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



Average Plant Flow

Results for: 4.7A

```
MTB > %ktau3 c3 c2
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau3.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Average Plant Fl, Median Influent

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Average Plant Fl	12	0	58.42	9.47	32.82	3.00	35.75	48.00	94.25	102.00
Median Influent	12	0	119.2	12.7	44.0	49.8	81.1	119.5	154.8	185.0

Data Display

S_TAU	5.00000
VAR_S	211.667
Z_S	0.274937

Data Display

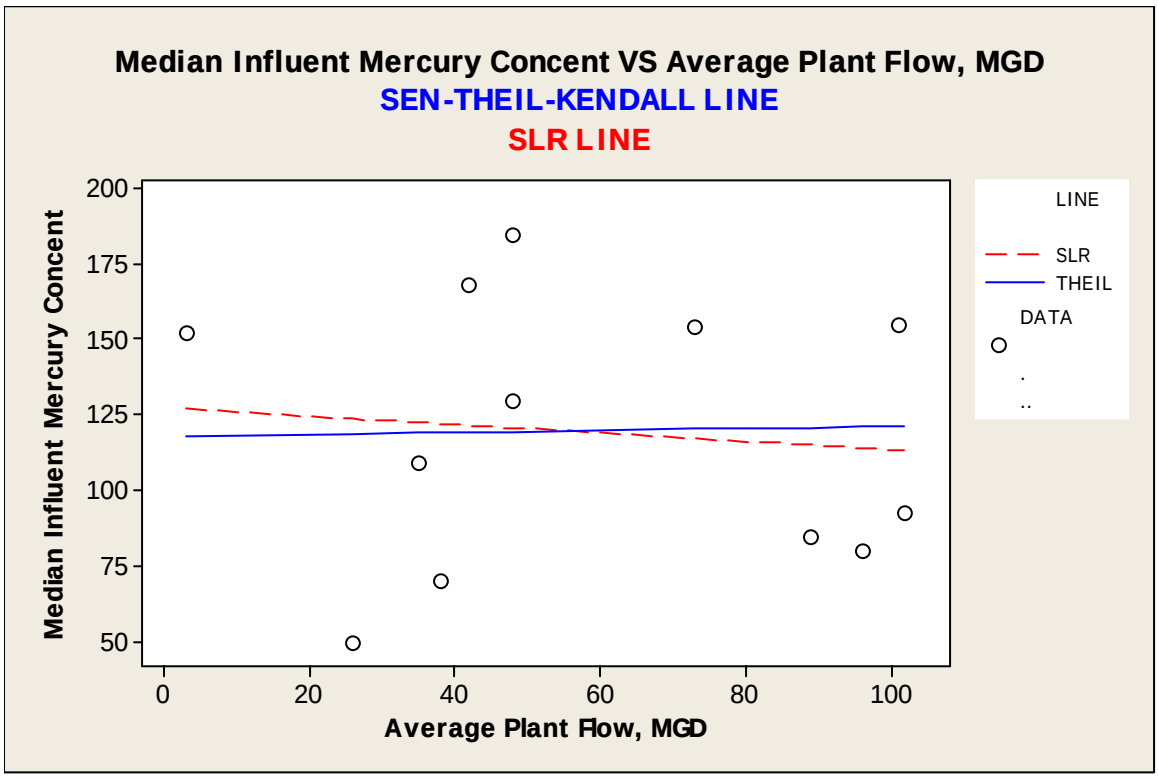
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.0757576	0.783364
2	KENDALL'S TAU_B	0.0763381	0.783364

Data Display

Row	INTRCPT_	LWR95	SLOPE_	UPPR95
1	118.019	-0.790698	0.0306122	1.34921

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT



Results for: 4.7B

```
MTB > %ktau3 c3 c2
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau3.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Average Flow, Median Biosolids Mercury Concen

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Average Flow	12	0	58.42	9.47	32.82	3.00	35.75	48.00	94.25	102.00
Median Biosolids	12	0	0.902	0.113	0.393	0.320	0.453	1.020	1.200	1.400

Data Display

S_TAU	20.0000
VAR_S	210.682
Z_S	1.30900

Data Display

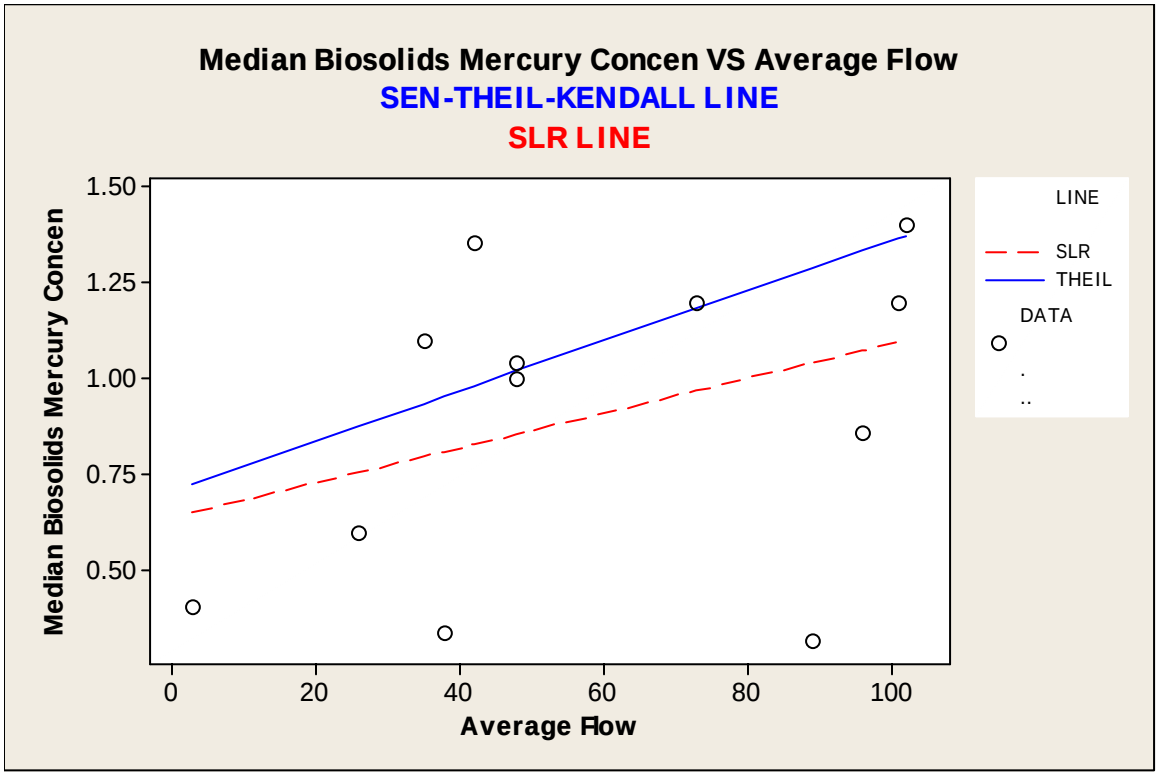
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.303030	0.190534
2	KENDALL'S TAU_B	0.307692	0.190534

Data Display

Row	INTRCPT_	LWR95	SLOPE_	UPPR95
1	0.7064	-0.0026610	0.0065333	0.0141333

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT



Results for: 4.7C

```
MTB > %ktau3 c3 c2
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau3.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Average Plant Fl, Median Effluent

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Average Plant Fl	12	0	58.42	9.47	32.82	3.00	35.75	48.00	94.25	102.00
Median Effluent	12	0	5.55	1.53	5.31	1.85	2.17	2.88	7.55	20.20

Data Display

```
S_TAU    -7.00000
VAR_S    211.667
Z_S      -0.412406
```

Data Display

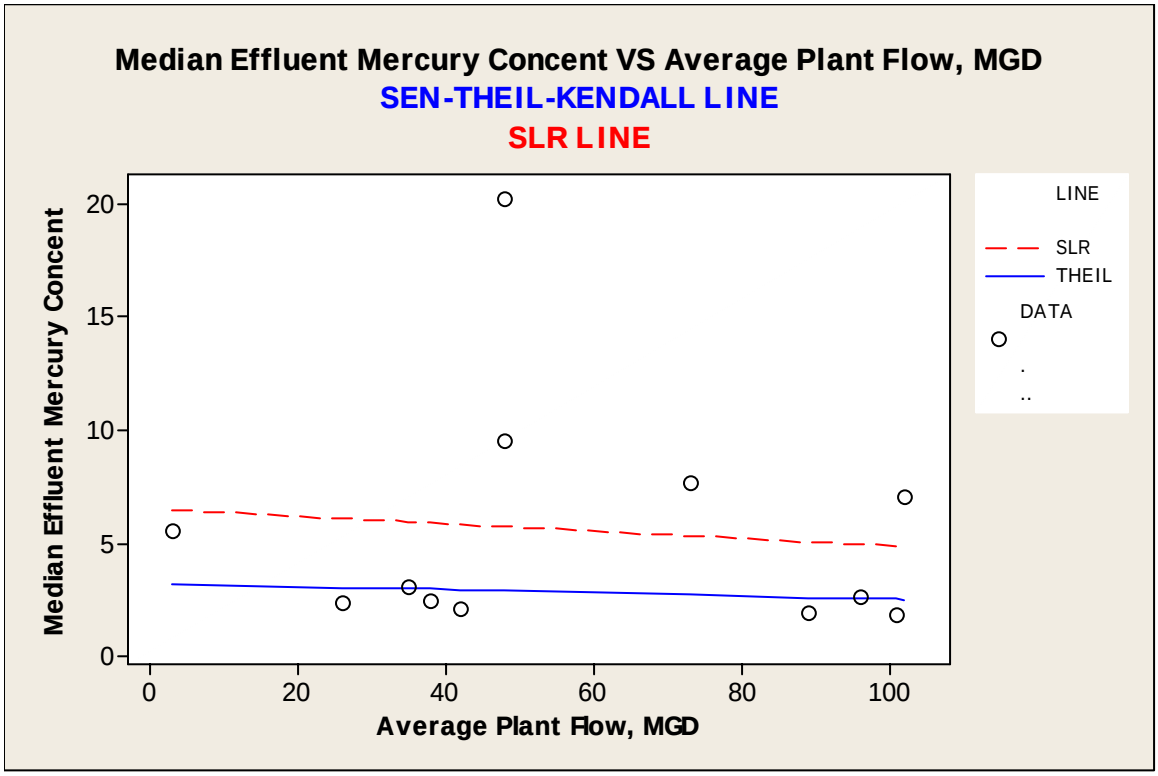
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	-0.106061	0.680042
2	KENDALL'S TAU_B	-0.106873	0.680042

Data Display

Row	INTRCPT_	LWR95	SLOPE_	UPPR95
1	3.21936	-0.078125	-0.0070180	0.0833333

**** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***

SCATTER PLOT



Non-Industrial Flow
Results for: 4.8A

```
MTB > %ktau c3 c2
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: % Non-Industrial Flow, Median Influent Mercury Concent

```
Variable          N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
% Non-Industrial  9   0  89.44     5.33  16.00    48.00  89.00   96.00  97.50
Median Influent   9   0  123.5     15.4   46.2     49.8   81.2   130.0  161.3

Variable          Maximum
% Non-Industrial    99.00
Median Influent     185.0
```

Data Display

```
S_TAU    13.0000
VAR_S    91.0000
Z_S      1.25794
```

Data Display

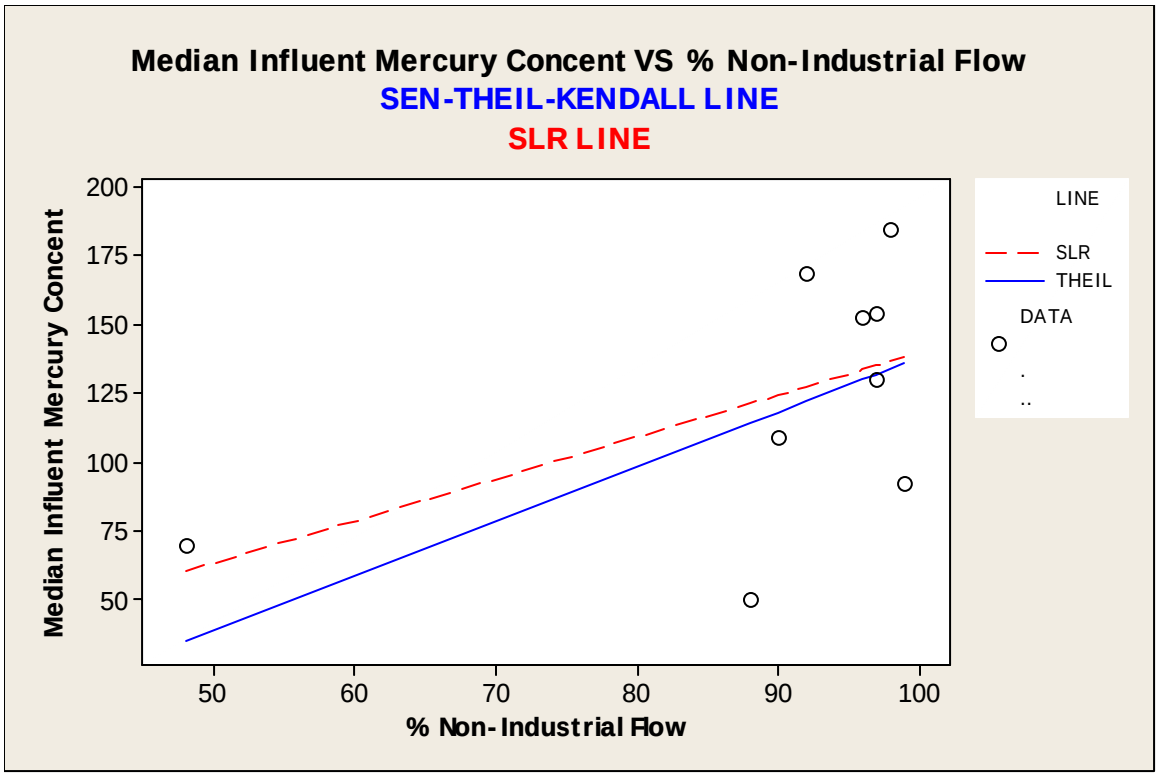
```
Row  CORRTYPE         CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A  0.361111  0.208413
  2  KENDALL'S TAU_B  0.366234  0.208413
```

Data Display

```
Row  INTRCPT_  LOWER95   SLOPE_  UPPER95
  1  -59.9545     -2.9  1.97869  11.5833

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT


Median Influent Mercury Concent VS % Non-Industrial Flow
SEN-THEIL-KENDALL LINE
SLR LINE
Median Influent Mercury Concent
200
175
150
125
100
75
50
50
60
70
80
90
100
% Non-Industrial Flow
LINE
SLR
THEIL
DATA

Results for: 4.8B

```
MTB > %ktau c3 c2
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: % Non-Industrial Flow, Median Effluent Mercury Concent

```
Variable          N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
% Non-Industrial  9   0  89.44     5.33  16.00    48.00  89.00   96.00  97.50
Median Effluent   9   0   6.68     1.91   5.74     2.10   2.42    5.60   8.60

Variable          Maximum
% Non-Industrial    99.00
Median Effluent     20.20
```

Data Display

```
S_TAU    21.0000
VAR_S    91.0000
Z_S      2.09657
```

Data Display

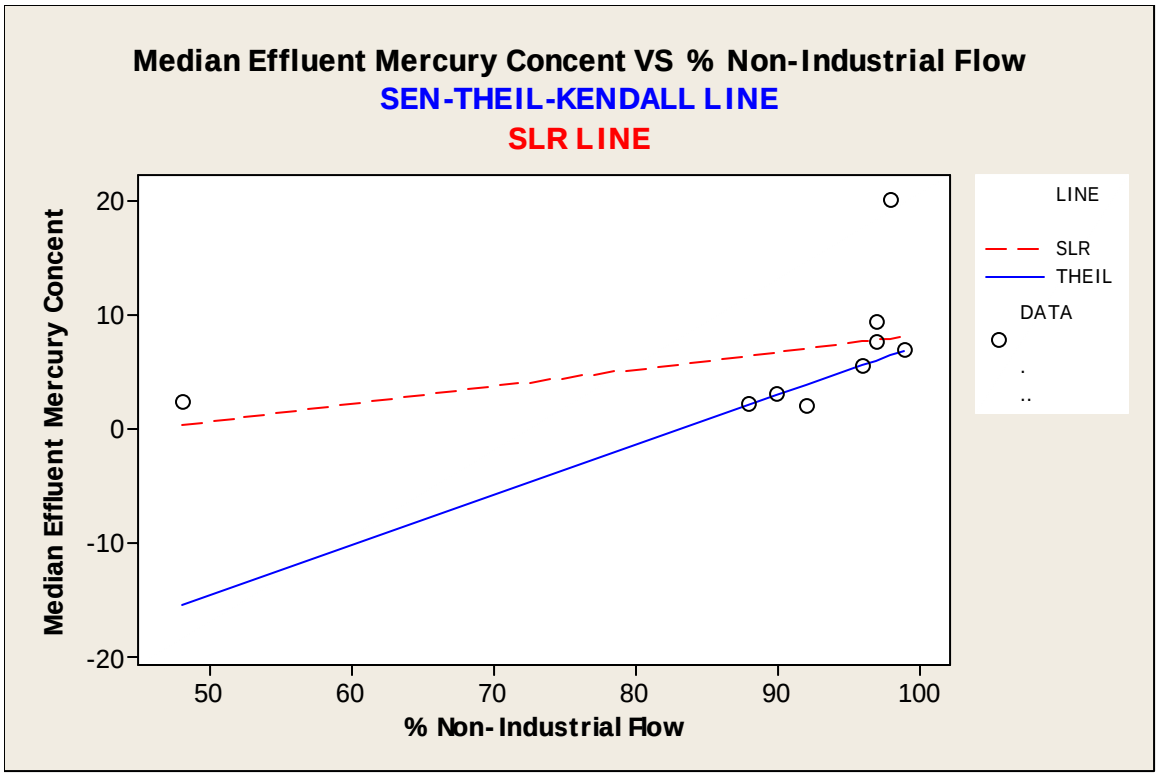
```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.583333  0.0360317
  2  KENDALL'S TAU_B  0.591608  0.0360317
```

Data Display

```
Row  INTRCPT_    LOWER95    SLOPE_  UPPER95
  1  -36.3079  0.0154762  0.436540     1.48

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT


Median Effluent Mercury Concent VS % Non-Industrial Flow
SEN-THEIL-KENDALL LINE
SLR LINE
Median Effluent Mercury Concent
20
10
0
-10
-20
50
60
70
80
90
100
% Non-Industrial Flow
LINE
SLR
THEIL
DATA

Results for: 4.8C

```
MTB > %ktau c3 c2
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: % Non-Industrial Flow, Median Biosolids Mercury Concen

```
Variable          N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
% Non-Industrial  9   0  89.44     5.33  16.00    48.00  89.00   96.00  97.50
Median Biosolids  9   0  0.936    0.133  0.400    0.320  0.502   1.040  1.279

Variable          Maximum
% Non-Industrial    99.00
Median Biosolids    1.400
```

Data Display

```
S_TAU    17.0000
VAR_S    91.0000
Z_S      1.67726
```

Data Display

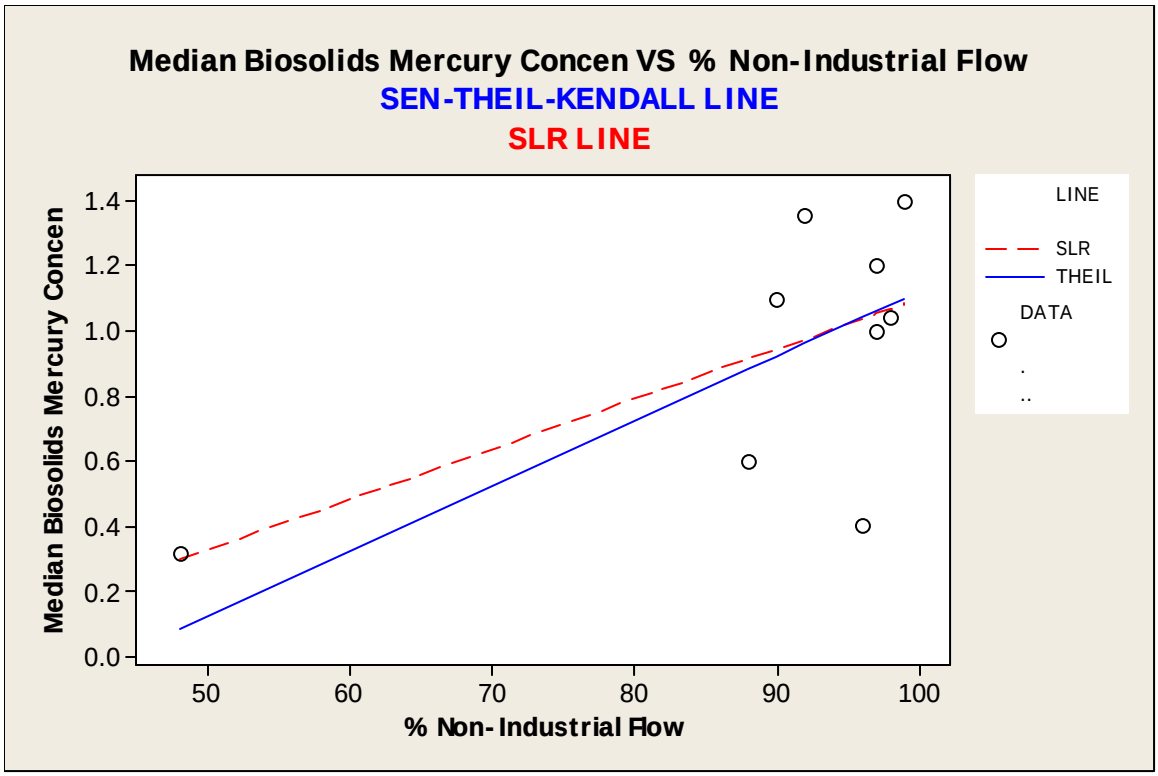
```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.472222  0.0934925
  2  KENDALL'S TAU_B  0.478921  0.0934925
```

Data Display

```
Row   INTRCPT_  LOWER95     SLOPE_  UPPER95
  1  -0.867899  -0.0075  0.0198739   0.1285

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT


Median Biosolids Mercury Concen VS % Non-Industrial Flow
SEN-THEIL-KENDALL LINE
SLR LINE
Median Biosolids Mercury Concen
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
50
60
70
80
90
100
% Non-Industrial Flow
LINE
SLR
THEIL
DATA

Results for: 4.8D

```
MTB > %ktau c3 c2
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: % Non-Industrial Flow, Median Influent Mercury Concent

```
Variable          N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
% Non-Industrial  6   0  86.83     7.87  19.27    48.00  79.50   94.00  97.25
Median Influent   6   0  139.8     17.4   42.5     70.0   99.2   153.3  172.6

Variable          Maximum
% Non-Industrial    98.00
Median Influent     185.0
```

Data Display

```
S_TAU    11.0000
VAR_S    28.3333
Z_S      1.87867
```

Data Display

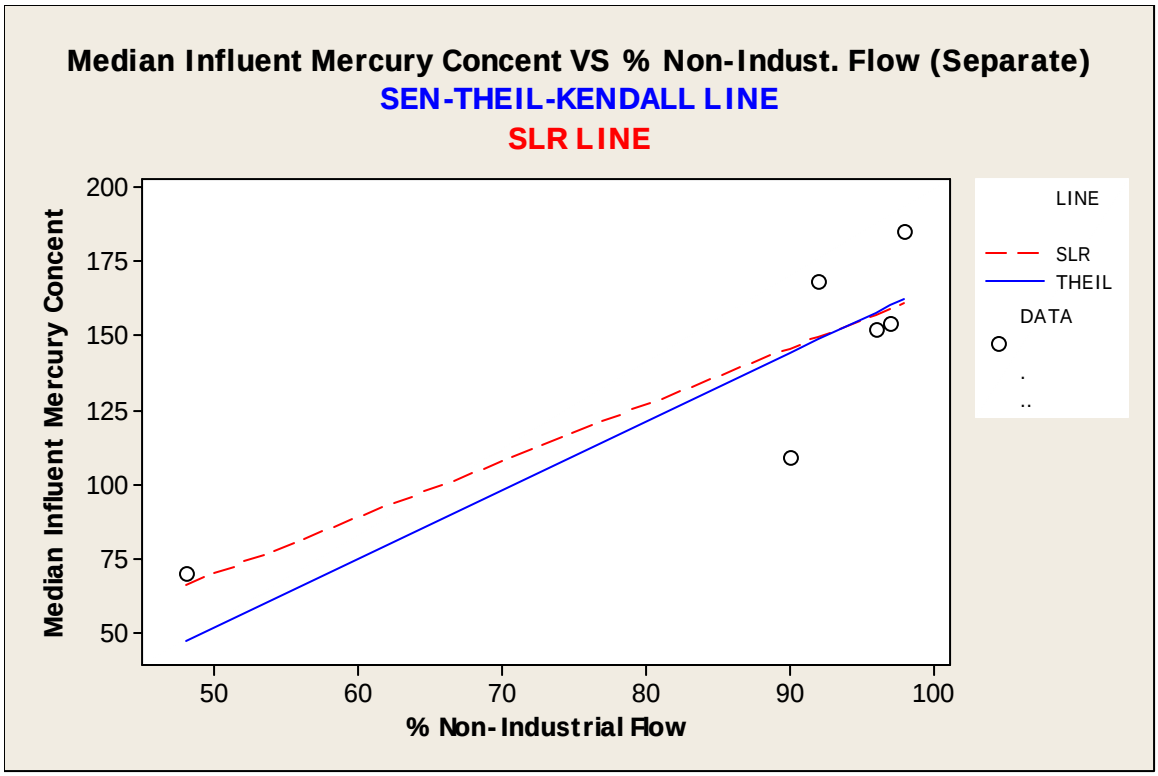
```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.733333  0.0602892
  2  KENDALL'S TAU_B  0.733333  0.0602892
```

Data Display

```
Row  INTRCPT_  LOWER95  SLOPE_  UPPER95
  1    -62.95     -2.9     2.3  29.7612

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT


Median Influent Mercury Concent VS % Non-Indust. Flow (Separate)
SEN-THEIL-KENDALL LINE
SLR LINE
Median Influent Mercury Concent
200
175
150
125
100
75
50
50
60
70
80
90
100
% Non-Industrial Flow
LINE
SLR
THEIL
DATA

Results for: 4.8E

```
MTB > %ktau c3 c2
Saving file as: '\\fileserv\Homes\andersos\My Documents\Mercury\NACWA
project\Biosolids Hg vs % Non-industrial Flow.mgf'
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: % Non-Industrial Flow, Median Effluent Mercury Concent

```
Variable          N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
% Non-Industrial  6   0  86.83     7.87  19.27    48.00  79.50   94.00  97.25
Median Effluent   6   0   6.86     2.81   6.88     2.10   2.36    4.35  10.83

Variable          Maximum
% Non-Industrial    98.00
Median Effluent     20.20
```

Data Display

```
S_TAU    11.0000
VAR_S    28.3333
Z_S      1.87867
```

Data Display

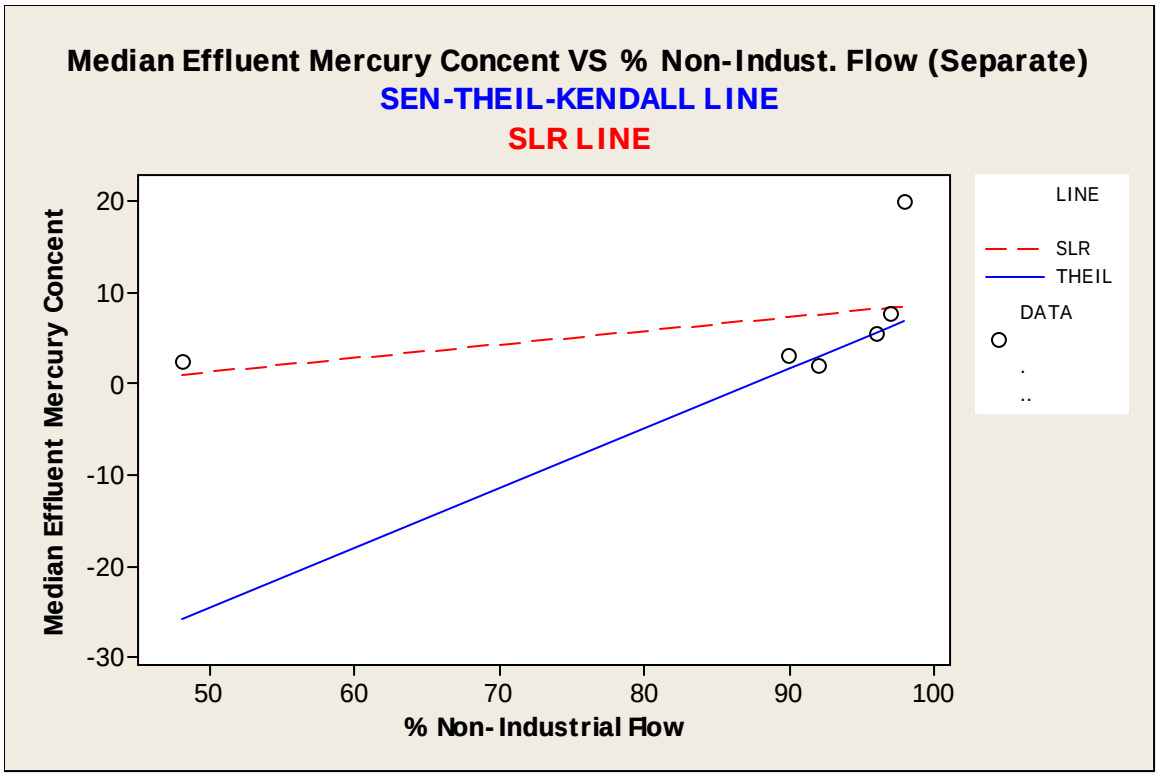
```
Row  CORRTYPE         CORR_VAL    P_VALUE
  1  KENDALL'S TAU_A  0.733333  0.0602892
  2  KENDALL'S TAU_B  0.733333  0.0602892
```

Data Display

```
Row  INTRCPT_     LOWER95    SLOPE_  UPPER95
  1  -57.4214  -0.0079545  0.657143      7.3

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT


Median Effluent Mercury Concent VS % Non-Indust. Flow (Separate)
SEN-THEIL-KENDALL LINE
SLR LINE
Median Effluent Mercury Concent
20
10
0
-10
-20
-30
50
60
70
80
90
100
% Non-Industrial Flow
LINE
SLR
THEIL
DATA

Results for: 4.8F

```
MTB > %ktau c3 c2
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: % Non-Industrial Flow, Median Biosolids Mercury Concen

```
Variable          N  N*   Mean  SE Mean  StDev  Minimum     Q1  Median     Q3
% Non-Industrial  6   0  86.83     7.87  19.27    48.00  79.50   94.00  97.25
Median Biosolids  6   0  0.904    0.177  0.434    0.320  0.383   1.070  1.239

Variable          Maximum
% Non-Industrial    98.00
Median Biosolids    1.357
```

Data Display

```
S_TAU    3.00000
VAR_S    28.3333
Z_S      0.375735
```

Data Display

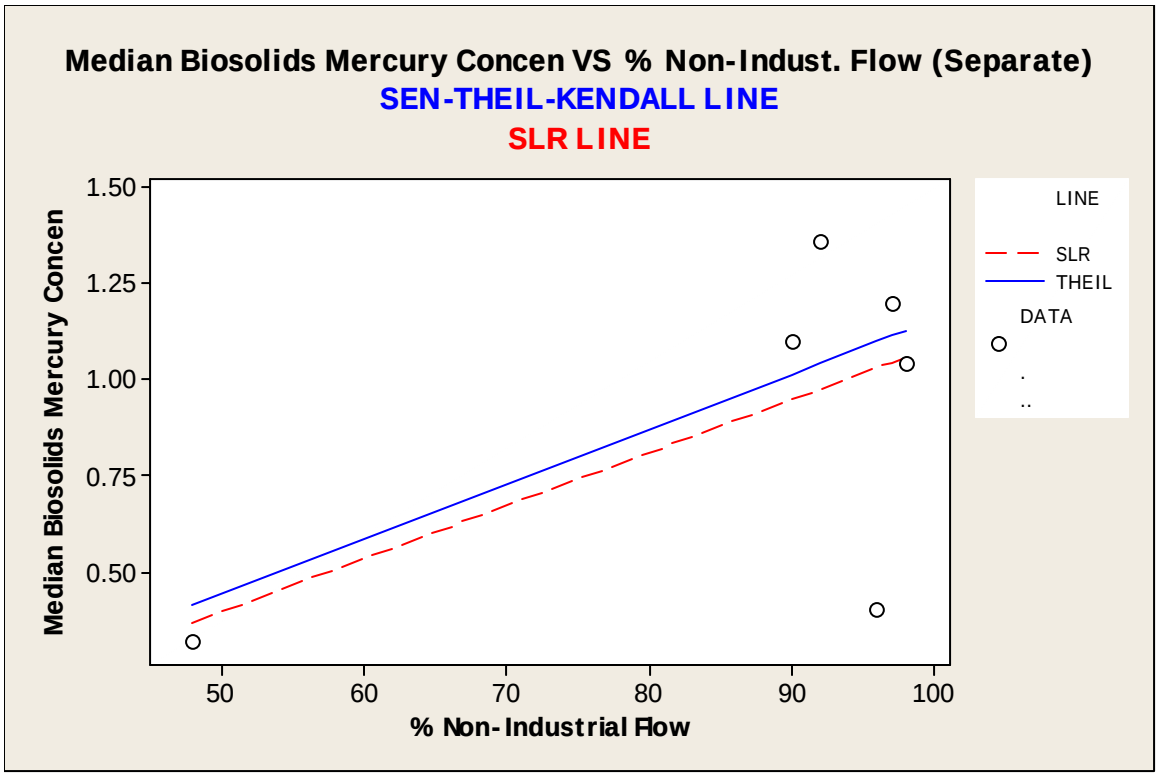
```
Row  CORRTYPE          CORR_VAL   P_VALUE
  1  KENDALL'S TAU_A        0.2  0.707114
  2  KENDALL'S TAU_B        0.2  0.707114
```

Data Display

```
Row   INTRCPT_  LOWER95     SLOPE_  UPPER95
  1  -0.272857    -0.16  0.0142857    0.318

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



Population Density

Results for: 4.12A

```
MTB > %ktau3 c3 c2
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau3.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Persons per mi2, Median Influent Mercury Concent

```
Variable           N  N*   Mean  SE Mean  StDev  Minimum    Q1  Median     Q3
Persons per mi2   12   0   3433      519   1798     1375  2238    2960   3825
Median Influent   12   0  119.2     12.7   44.0     49.8  81.1   119.5  154.8

Variable          Maximum
Persons per mi2      7335
Median Influent     185.0
```

Data Display

```
S_TAU     -14.0000
VAR_S     210.667
Z_S       -0.895665
```

Data Display

```
Row   CORRTYPE          CORR_VAL    P_VALUE
```

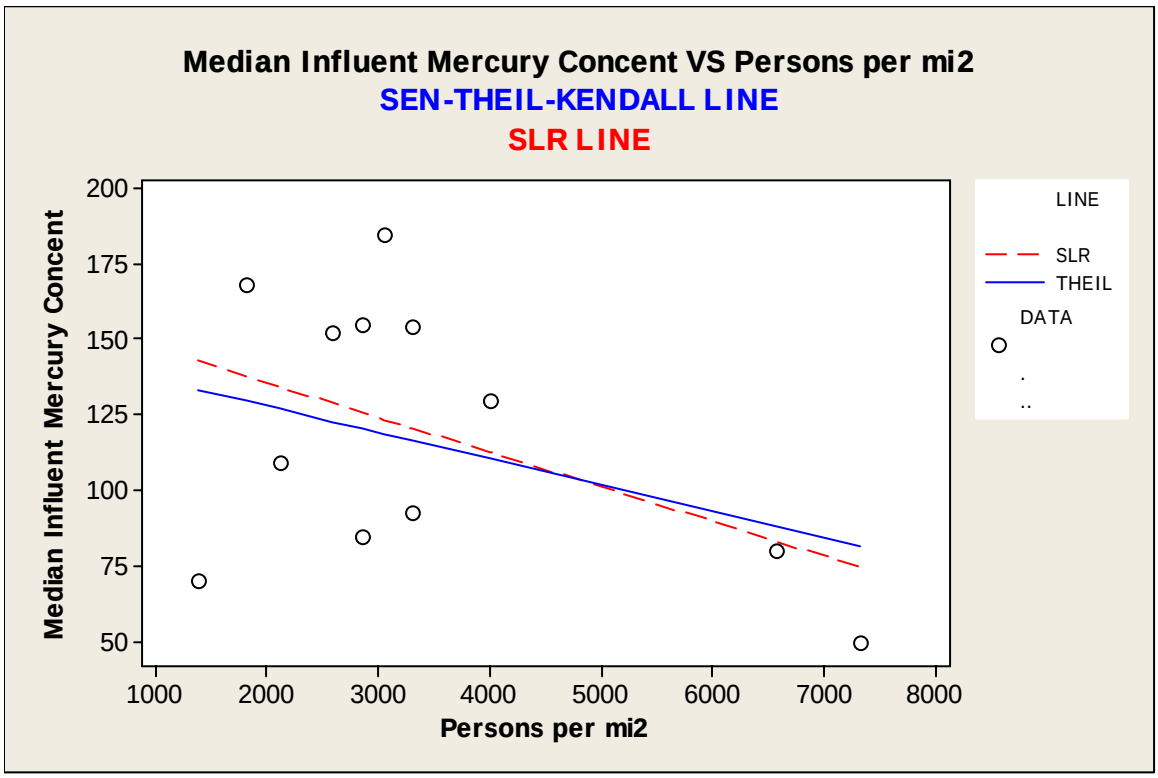
```
  1  KENDALL'S TAU_A  -0.212121  0.370432
  2  KENDALL'S TAU_B  -0.215410  0.370432
```

Data Display

```
Row  INTRCPT_       LWR95      SLOPE_     UPPR95
  1   145.462  -0.0219298  -0.0087747  0.0132850

 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



Results for: 4.12B

```
MTB > %ktau3 c3 c2
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau3.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Persons per mi2, Median Effluent Mercury Concent

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Persons per mi2	12	0	3433	519	1798	1375	2238	2960	3825	7335
Median Effluent	12	0	5.55	1.53	5.31	1.85	2.17	2.88	7.55	20.20

Data Display

```
S_TAU    12.0000
VAR_S    210.667
Z_S      0.757870
```

Data Display

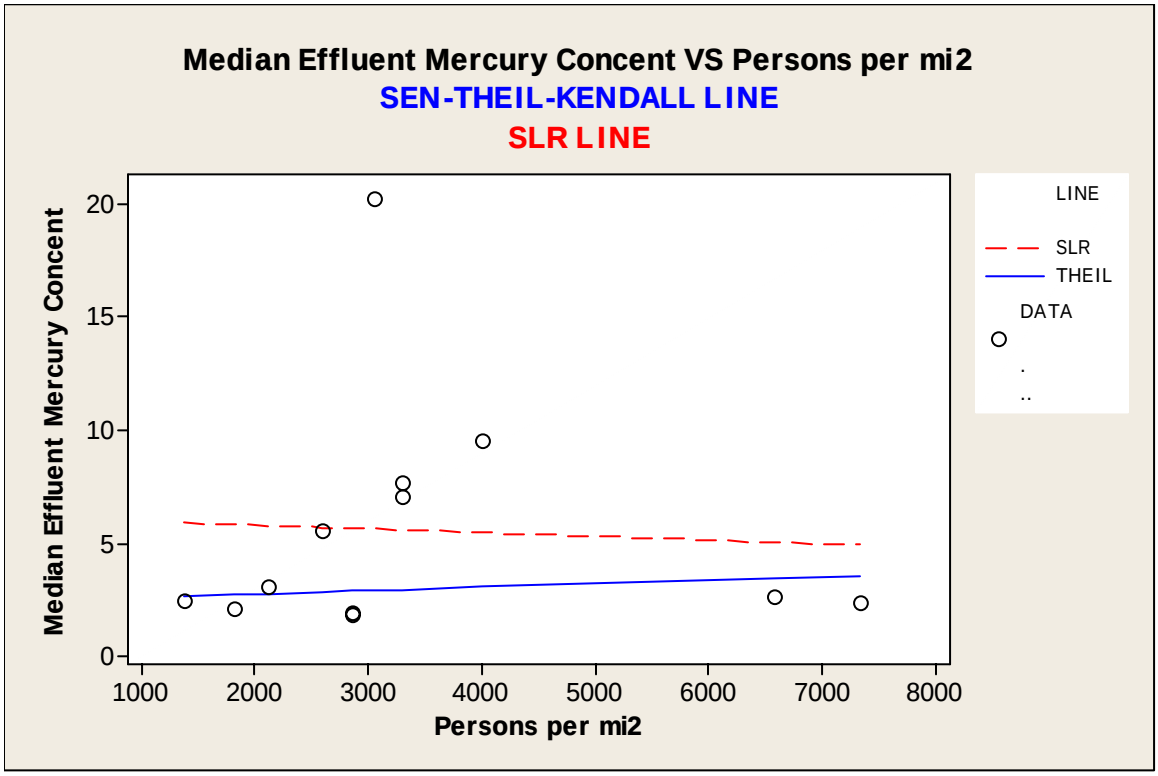
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	0.181818	0.448529
2	KENDALL'S TAU_B	0.184637	0.448529

Data Display

Row	INTRCPT_	LWR95	SLOPE_	UPPR95
1	2.42110	-0.0004040	0.0001559	0.0033914

```
 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



Results for: 4.12C

```
MTB > %ktau3 c3 c2
Executing from file: C:\Program Files\MINITAB 14\MACROS\ktau3.MAC
Executing from file: C:\Program Files\MINITAB 14\MACROS\TIESBOTH.MAC
```

Descriptive Statistics: Persons per mi2, Median Biosolids Mercury Concen

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Persons per mi2	12	0	3253	447	1548	1375	2238	2960	3825	7357
Median Biosolids	12	0	0.902	0.113	0.393	0.320	0.453	1.020	1.200	1.400

Data Display

```
S_TAU    -3.00000
VAR_S    209.697
Z_S      -0.138113
```

Data Display

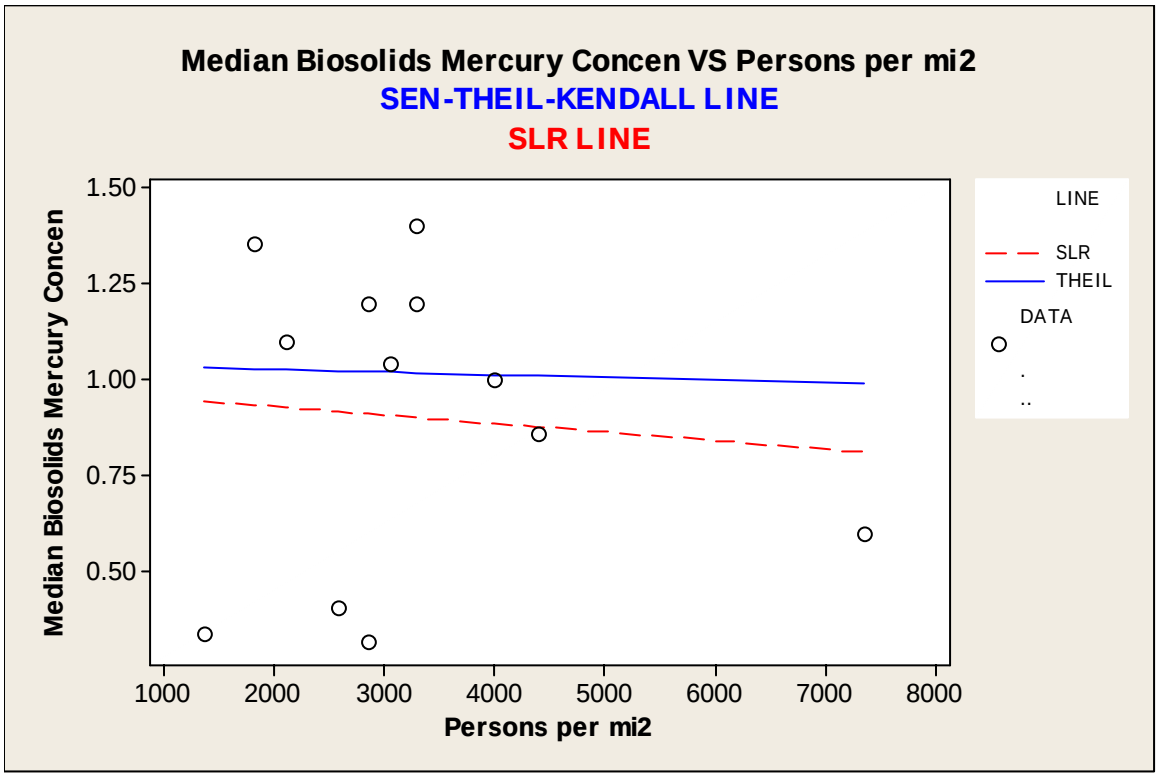
Row	CORRTYPE	CORR_VAL	P_VALUE
1	KENDALL'S TAU_A	-0.0454545	0.890151
2	KENDALL'S TAU_B	-0.0465130	0.890151

Data Display

Row	INTRCPT_	LWR95	SLOPE_	UPPR95
1	1.03993	-0.0001507	-0.0000067	0.0003520

```
 **** APPROXIMATE 95% CONFIDENCE INTERVAL ON THE SLOPE***
```

SCATTER PLOT



APPENDIX D: STUDY PLAN

1.0 SCOPE OF WORK

The effect of practical and reasonable measures of controlling significant sources of mercury to the POTW collection system on ability of POTWs to comply with anticipated effluent limitations will be studied. Dental offices are thought to be a significant source of mercury to the wastewater. One key factor that may affect removal process and resulting effluent mercury concentration is whether the mercury is in the dissolved or particulate form. Most of the particulates are expected to settle in the collection system or be removed during treatment processes. The dissolved form is expected to pass through the treatment system, impacting effluent concentrations.

This study presents an opportunity to build a database depicting baseline levels and trends that may occur as the mercury control programs progress. The study design should allow us to determine the potential for environmental benefit and compliance attainability.

Influents, effluents and biosolids from five POTWs in the United States and Canada already having implemented regulations requiring dental clinics to install amalgam removal equipment will be evaluated on the monthly basis over the three year period. One POTW that does not have this regulatory requirement will be used as the control site.

Total recoverable mercury and Total Suspended Solids analyses will be performed on the monthly basis on all influent and effluent samples. For the first quarter of the study additional dissolved mercury analyses will be performed to establish specific ratios of particulate and dissolved forms for each POTW. For the remainder of the study, dissolved mercury will be performed as a check, on the quarterly basis, however the frequency may be increased if a major changes are observed in a ratio of total and dissolved mercury in any of the participating POTWs.

Biosolids samples will be analyzed on a monthly basis for total recoverable mercury, and Total Solids.

Statistical evaluation of results, conclusions and study report will be prepared upon completion of the study.

2.0 PLANT OPERATIONS

2.1 Plant Conditions

This study is designed to evaluate mercury concentrations during normal plant operating conditions. Prior to the start of the study, each POTW will provide monthly averages for the previous two years (24 monthly averages total) of the following operational data:

- Effluent flow
- Total suspended solids
- Turbidity

HRSD will perform statistical evaluation of the data to establish 95 % confidence intervals that reflect normal operating conditions. These intervals will be used to ensure samples are collected during normal plant operating conditions.

2.2 Flow Information

In order to facilitate approximate mass balance calculations, the following information will be provided with each sample collected:

- Influent flows
- Effluent flows
- Sludge volumes
- Mean cell residence times

2.3 Septage/ Solids Handling

Since septage received by POTWs may have a significant impact on mercury concentrations, participating facilities need to provide the following information regarding septage and solids handing operations:

- Is septage accepted at the plant?
- Location septage is received at the plant in relation to the influent sample point
- Approximate contribution of septage haulers in gallons
- Type of solids handing operations is used at the plant

3.0 SAMPLING

The following sampling information pertains to the collection of total recoverable and dissolved mercury in influent/effluent samples and total recoverable mercury in biosolids. Protocols for both grab and composite sampling are provided for reference. Because of differences between each treatment facility operation, either single or multiple grab, or composite samples could be collected throughout the study. However, once the decision is made on sampling protocol, it is preferable that the same protocol is used for the duration of the study to ensure consistency in the data.

HRSD can provide all necessary support for clean sample collection, including detailed instructions (SOPs) and rental, or purchase of the equipment. Facilities are welcome to use either of these clean protocols or any other clean procedure that will produce uncontaminated representative samples.

3.1 Sampling Equipment

3.1.1 Equipment Construction (grab/composite)

3.1.1.1 Samplers will be custom configured in a "closed sampler design" using appropriate materials to reduce contamination. This design significantly reduces contamination issues by minimizing exposure to human and atmospheric inputs.

3.1.1.2 HRSD can assemble sampling equipment specifically designed for each individual sample location.

3.1.2 Sample Bottles

3.1.2.1 Only borosilicate glass sample bottles outfitted with special fluoropolymer transfer caps will be used.

3.1.3 Sample Tubing

3.1.3.1 PFA Teflon tubing will be used for influent and effluent sample collection.

3.1.3.2 Masterflex® #96410-15 silicon tubing will be used as peristaltic sample pump tubing for grab and dissolved mercury collection.

3.1.3.3 3/8" X ½" silicon tubing will be used for composite sample collection.

3.1.4 Sample Pump

3.1.4.1 (dissolved/grab mercury) Only a Masterflex® portable peristaltic pump model #07571-00 can be used for sample collection. The sample bottles have been specifically designed to work with this pump. The Masterflex® Pump has a variable speed control to allow for dissolved filtering. Though the flow through the filter should not exceed 500ml/minute, it can be set to the maximum pump speed for total recoverable sampling.

3.1.4.2 (composite mercury) Almost any type of automated composite sampler can be modified and used for clean sampling, but HRSD's protocols have been written for Isco model 3700/3710.

3.1.5 Filter

3.1.5.1 Gelman # 28145-12 0.45 micron high capacity inline filter will be used to determine dissolved Hg concentrations.

3.1.6 Equipment Rental/Purchase

3.1.6.1 HRSD can provide all field equipment necessary to collect samples. Each facility will need three sets of equipment to facilitate a rapid turn-around of clean equipment. A reasonable rental charge will apply. Rental fees are currently under development.

3.1.6.2 Participating facilities will have the option to purchase equipment at cost instead of renting. Equipment costs will be made available at a later date.

3.2 Clean Techniques for Sample Handling

A two-person crew will be necessary for sample collection. "Clean hands"/ "dirty hands" techniques will be practiced. The individual designated as clean hands only touches the clean sample bottles and associated tubing. "Dirty hands" provides support through operating the sample pump and lowering the pump tubing to the sample point.

3.3 Collection/Preservation

Influent/effluent samples can be collected as either a grab or composite. When collecting grab samples, consideration should be given to the time of day samples are collected (i.e. high flow/low flow) and the number of grabs collected in a 24 hour period. Composite samples can either be time weighted or flow proportional. Flow proportional samples typically provide the most representative sample.

Samples will be shipped overnight to HRSD on ice where the laboratory will preserve the sample. HRSD standard operating procedures (SOPs) for the collection of clean grab mercury samples are included in Appendix A. Clean composite procedures are provided in Appendix B.

3.3.1 Total Recoverable Mercury

3.3.1.1 One effluent and one influent sample will be collected during each of the sampling events.

3.3.1.2 Samples will be double bagged and immediately place on ice and kept at or below $4^{o}C$.

3.3.2 Dissolved Mercury

3.3.2.1 One effluent and one influent sample will be collected during each month of the first quarter of the study. Sampling will be reduced to once per quarter (semi-annual?) after this first round.

3.3.2.2 Samples for dissolved mercury will be filtered in-line during grab sample collection. Composite samples will be filtered within one hour after the sample sequence is complete. Filtration flow rates will be 500 ml/minute.

3.3.2.3 Samples will be double bagged and immediately placed on ice and kept at or below $4^{o}C$

3.3.2.4 All equipment used for sample collection will be returned to HRSD for re-cleaning.

3.3.3 Biosolids

3.3.3.1 Each participating facility is responsible for developing representative sample collection procedures that minimizes contamination.

3.3.3.2 New and/or acid washed plastic sample containers are recommended for each collection event.

3.3.3.3 Designated sample points should be identified for this study.

3.3.3.4 Representative samples should be collected immediately after discharge from the dewatering unit.

3.4 **QA/QC**

3.4.1 Equipment Blanks

3.4.1.1 Sampling equipment will be checked for contamination prior to shipment to POTW's. Equipment blanks will be collected and analyzed by HRSD. Only equipment determined to be mercury free will be shipped for use in sampling.

3.4.1.2 Equipment blanks will be checked on 10% of bottles and tubing with each cleaning batch.

3.4.2 Field Blanks

3.4.2.1 A corresponding field blank will be collected with each effluent sample.

3.4.2.2 Field blanks will be collected prior to effluent samples for grab samples. Field blanks will be processed through the same equipment as the effluent samples.

3.4.2.3 Field blanks for composite samples will be colleted simultaneously using a separate sampler.

3.4.3 Field Duplicates

3.4.3.1 Field duplicates of final effluent will be collected initially during the first three consecutive sampling events to determine if collection protocols assure representative samples. For the remainder of the study field duplicates will be collected once per year for each plant.

3.4.3.2 The relative percent difference (RPD) for the duplicates will be calculated using statistical approach.

3.4.3.3 If during the study the RPD for duplicates is outside of the acceptance criteria, both duplicates will be reanalyzed to assure that the problem is not analytical.

3.4.3.4 If it is determined that the sampling procedure produced non-representative samples, the plant in question may need to re-sample. An additional field duplicate may be required to determine that the problem was corrected.

3.4.4 Documentation

3.4.4.1 HRSD will provide a chain of custody record with each sample kit.

3.4.4.2 All samples submitted to HRSD need to be accompanied by a chain of custody record.

3.4.4.3 HRSD will provide codes for each sampling site and facility.

3.5 Plant Conditions at Time of Sampling

It is important that samples collected during this study are representative of the process streams sampled. Therefore, sampling should not be conducted if the following conditions are observed:

- Atypical plant flows.
- Unusual loss of solids in the effluent.
- Plant upset conditions.
- The plant is receiving an unusual industrial discharge.
- Significant diversions of flow.
- Atypical applications of chemical treatments.

3.6 Sample Point Selection

Selection of representative sample sites is critical to the success of this study. All selected sample sites need to be in areas that are well mixed. All operation recycle and added chemicals should be documented.

3.7 Sampling Schedule

Influent and Effluent samples will be collected on a monthly basis, with a target completion date by the 15th of each month.

3.8 Shipping Information

Please refer to sampling procedures found in Appendix A for information regarding shipping.

4.0 ANALYTICAL PROCEDURES

4.1 Analytical Methods

Influent and effluent samples will be analyzed for total recoverable and dissolved mercury and total suspended solids. Biosolids will be analyzed for total recoverable mercury and for total solids. Table 1 lists the analytical methods and method detection limits (MDLs) that will be used for the aqueous and solids samples in this study:

Table 1. Analytical Methods and Report Limits

Parameter	Reference Method	MDL (ng/L)
Hg (total recoverable and dissolved)	EPA Method 1631, Rev. E	0.3
Hg (total recoverable and dissolved)	EPA Method 245.7	0.7
Hg Total Recoverable	EPA Method 245.2	30
Hg Total Recoverable	EPA Method 245.5 or	0.06 mg/L (TS values used for

	SW-846 7471A	conversion to mg/Kg)
TSS	SM 2540D	1 mg/L

All effluent samples will be analyzed using EPA Method 1631 Rev. E. (Appendix B). Influent samples which may greatly vary in concentration, will be analyzed using the least sensitive method that yields a quantifiable result (Appendix C and D)
HRSD's Central Environmental Laboratory (CEL) will provide analytical services for the aqueous samples collected for this study. Raw influents and final effluents will be analyzed using clean techniques and protocols for sample handling and analysis.
Participating POTWs will analyze solid samples for mercury using EPA Method 245.5 or SW-846 7471A.

4.2 **Analytical Schedule**

4.2.1.1 Influent and effluent samples will be analyzed by the CEL within 14 days of receipt and always prior to the holding time expiration for any specific parameter.

4.2.1.2 Solid samples will be analyzed by POTWs by the end of the month in which sampling took place and always prior to the holding time expiration for any specific parameter .

4.3 Analytical Protocols

The following protocols will apply to all analyses performed by HRSD on influent and effluent samples:

4.3.1 Clean Protocols: Throughout sample handling and analyses for mercury clean techniques will be used including the following:

4.3.1.1 All sample preservation, preparation and analysis will be performed in special clean areas

4.3.1.2 All labware used in the analytical process will be free from contamination.

4.3.1.3 Appropriate measures will be taken, including use of class 100 clean benches to limit potential contamination of samples and clean labware.

4.3.1.4 Wherever necessary steps will be taken to minimize or eliminate potential sources of contamination introduced by analysts, such as wearing of jewelry, use of certain cosmetics, soap, hand creams, etc.

4.3.1.5 Only new or freshly laundered lab coats and new, powder-free gloves will be used.

4.3.2 Solids samples analyzed by participating POTWs should at a minimum meet the following criteria:

4.3.2.1 Sample preservation should consist of cooling and storing samples at $4^{o}C$.

4.3.2.2 All labware used in the analytical process should be free from detectable contamination.

4.3.2.3 Solid reagents used in analyses should not contain more than 0.05 ppm Hg.

4.3.2.4 Necessary steps should be taken to minimize or eliminate potential sources of contamination introduced by the analytical processs.

4.4 Quality Assurance Protocols

4.4.1 The QA/QC protocols as required by specific EPA methods used in the study will be employed. A summary of mandatory QC samples and their acceptance criteria are listed in Table 2.

4.4.2 The CEL Quality Assurance Manual complying with general EPA requirements pertaining to analytical processes and the EPA Good Laboratory Practices document will be followed for all other quality issues related to analyses conducted by CEL for this study.

Table 2. Quality Control Measures

QC Parameter	Method 1631	Method 245.7	Method 245.2	Method 245.5 or 7471A	Method SM 2540D
Instrument Calibration	Daily or as needed, whichever is more frequent	Daily or as needed, whichever is more frequent	Daily or as needed, whichever is more frequent	Daily or as needed, whichever is more frequent	Daily or as needed, whichever is more frequent
Acceptance Criteria	≥0.995	≥0.995	≥0.995	≥0.995	
Replicates	10% of sample batch	10% of sample batch	10% of sample batch	Each sample analyzed in triplicate	10% of sample batch
Acceptance Criteria	20% RPD for sample values >RL	20% RPD for sample values >RL	20% RPD for sample values >RL	Use Grubbs Test to establish outliers	20% RPD
Quality Control Sample (QCS)	1/Calibration	1/Calibration	1/Calibration	1/Calibration	NA
Acceptance Criteria	77-123% or Sample Specified Range	76-111% or Sample Specified Range	90-110%	90-110%	
Laboratory Reagent Blanks (LRB)	3/sample batch	3/sample batch	3/sample batch	1/sample batch*	1/batch
Acceptance Criteria	≤0.2ng/L	≤0.6ng/L	≤100ng/L	≤ML	+/-0.0005g of Initial Weight
Laboratory Fortified Blank (LFB)	NA	NA	2/sample batch	1/sample batch*	NA
Acceptance Criteria			85-115%	85-115%	
Matrix Spike (MS)	10% of sample batch	10% of sample batch	10% of sample batch	10% of samples or 1 per batch*, whichever is greater	NA
Acceptance Criteria	71-125%	76-111%	70-130%	85-115% or within established control limits	
Matrix Spike Duplicate (MSD)	10% of sample batch	10% of sample batch	10% of sample batch	10% of samples or 1 per batch*, whichever is greater	NA
Acceptance Criteria	71-125%R and RPD≤24%	76-111%R and RPD≤18%	70-120%R and RPD≤20%	85-115% or within established control limits; RPD≤20%	
Instrument Performance Check (IPC)	Prior to analysis of each analytical batch, after every 10 samples and at end of each run	Prior to analysis of each analytical batch, after every 10 samples and at end of each run	Prior to analysis of each analytical batch, after every 10 samples and at end of each run	Prior to analysis of each analytical batch, after every 10 samples and at end of each run	NA
Acceptance Criteria	77-123%	76-111%	Initial IPC 95-105%; all others 90-110%	80-120%	
Continuing Calibration Blank (CCB)	3/batch minimum, immediately following IPC	Immediately following IPC		Immediately following IPC	NA
Acceptance Criteria	≤0.2ng/L	≤0.6ng/L	≤100ng/L	≤ML	

*Batch defined as 20 samples

4.5 Documentation

4.5.1 Chain-of-Custody

4.5.1.1 Sample chain-of-custody forms will be verified and maintained as a part of auxiliary analytical records.

4.5.1.2 Sample information on the container labels and on chain-of custody forms will be checked for correctness. Appropriate corrective actions will be initiated as necessary.

4.5.1.3 Any corrective action taken will be thoroughly documented.

4.5.2 Digestion Logs

4.5.2.1 Digestion Logs will contain the following information for each sample batch:

- Digestion batch number
- Analyst identification
- Reference Method
- Digestion initiation and completion times and dates
- Standard preparation and expiration dates
- Standard and spike concentrations
- Unique sample identifying codes
- pH verification

4.5.3 Analytical Runs

4.5.3.1 Each analytical run will contain the following information:

- Run number
- Reference method
- Digestion number
- Sample preparation time and date
- Analyst identification
- Data validation signature and date

4.5.4 Instrument Maintenance

4.5.4.1 Daily, monthly, quarterly, and yearly maintenance will be documented in the instrument logbook along with any repairs performed by service engineers.

4.5.5 Corrective Actions

4.5.5.1 Any corrective actions taken will be documented in instrument and/digestion logs, analytical runs or analytical reports as appropriate.

4.5.5.2 POTW personnel will be contacted immediately if any of the unusual conditions occur including:

- Improper chain-of-custody
- Poor sample condition (i.e., leaking container, not double bagged)
- Unusual physical appearance (i.e., more solids than usual)

4.6 Data Validation

4.6.1.1 Upon generation, data will be reviewed to determine if project data quality objectives and reference method specified criteria are met.

4.6.1.2 Documentation of sample chain-of-custody, sample preparation, analytical specifications, quality control and other information will be used to judge validity of results.

4.6.1.3 Data deemed invalid will be clearly marked, with reason provided and they will not be used in statistical evaluations. When the result is determined invalid, every possible attempt will be made to correct a problem and obtain a subsequent valid result.

4.6.1.4 Data validation will be treated as a multi-tiered process that begins with the sample collection and continues with receipt by the laboratory, analysis, review by appropriate personnel and final data review by the project/lab manager.

4.7 Analytical Reports

4.7.1 Each analytical report will contain the following information:

- Laboratory Identification
- Sample Identification
- Sample Date
- Analyte(s)
- Reference Method
- Units
- Results
- Report Limit (lowest calibration standard)
- Analyst identification
- Date and Time (military format) of analysis
- Any relevant notes
- Authorization signature and date

Format outline for analytical report can be found in Appendix E

4.7.2 Quality Assurance Summary will be provided for each sampling event and will include:

- Method Detection Limit (MDL)
- Average Laboratory Reagent Blank (LRB) value
- Matrix Spike (MS) True and Obtained Values
- Matrix Spike Percent Recovery
- Relative Percent Difference (RPD) for MS/MS Duplicate
- Validating person's signature and date

Format outline for Quality Assurance Summary can be found in Appendix E.

4.7.3 Analytical reports will be submitted to AMSA workgroup by the 15th of the month following sampling.

5.0 Data Handling

5.1 HRSD will enter all data generated for this study into specially developed spreadsheets.

5.2 Data will be tracked throughout the study for completeness and correlation between influent, effluent and solids concentrations.

5.3 Statistical data evaluation for each sample stream, POTWs and for the whole project will be performed as needed.

5.4 A summary report will be submitted to the Mercury Workgroup Research Project Subcommittee within 30 days following completion of the project.

Contact Information

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