- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

The default error term in MANOVA has been changed from WITHIN CELLS to

WITHIN+RESIDUAL. Note that these are the same for all full factorial designs.

\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* A n a l y s i s o f V a r i a n c e \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

165 cases accepted.

0 cases rejected because of out-of-range factor values.

0 cases rejected because of missing data.

1 non-empty cell.

1 design will be processed.

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* A n a l y s i s o f V a r i a n c e -- Design 1 \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

EFFECT .. WITHIN CELLS Regression

Multivariate Tests of Significance (S = 3, M = 1/2, N = 77 1/2)

Test Name Value Approx. F Hypoth. DF Error DF Sig. of F

Pillais .33929 4.05512 15.00 477.00 .000

Hotellings .38686 4.01473 15.00 467.00 .000

Wilks .69630 4.05200 15.00 433.81 .000

Roys .14868

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Eigenvalues and Canonical Correlations

Root No. Eigenvalue Pct. Cum. Pct. Canon Cor. Sq. Cor

1 .17464 45.14311 45.14311 .38558 .14868

2 .13510 34.92338 80.06649 .34500 .11902

3 .07711 19.93351 100.00000 .26757 .07159

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Dimension Reduction Analysis

Roots Wilks L. F Hypoth. DF Error DF Sig. of F

1 TO 3 .69630 4.05200 15.00 433.81 .000

2 TO 3 .81790 4.17630 8.00 316.00 .000

3 TO 3 .92841 4.08707 3.00 159.00 .008

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

EFFECT .. WITHIN CELLS Regression (Cont.)

Univariate F-tests with (5,159) D. F.

Variable Sq. Mul. R Adj. R-sq. Hypoth. MS Error MS F Sig. of F

THGSDFC .10864 .08060 14869.32167 3836.62128 3.87563 .002

TCSDFB .13107 .10375 651.81285 135.88601 4.79676 .000

TPRSDFB .11193 .08400 128509.30137 32062.97794 4.00803 .002

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Raw canonical coefficients for DEPENDENT variables

Function No.

Variable 1 2 3

THGSDFC -.01142 -.01017 .01411

TCSDFB .07756 -.03772 -.07279

TPRSDFB .00297 .00227 .00422

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Standardized canonical coefficients for DEPENDENT variables

Function No.

Variable 1 2 3

THGSDFC -.73743 -.65693 .91123

TCSDFB .95497 -.46446 -.89625

TPRSDFB .55554 .42444 .79002

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Correlations between DEPENDENT and canonical variables

Function No.

Variable 1 2 3

THGSDFC .00951 -.88365 .46806

TCSDFB .63909 -.76826 -.03666

TPRSDFB .71407 .14767 .68433

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Variance in dependent variables explained by canonical variables

CAN. VAR. Pct Var DEP Cum Pct DEP Pct Var COV Cum Pct COV

1 30.61395 30.61395 4.55154 4.55154

2 46.42842 77.04237 5.52607 10.07761

3 22.95763 100.00000 1.64362 11.72123

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Raw canonical coefficients for COVARIATES

Function No.

COVARIATE 1 2 3

MEHGSWB -.72057 -.61331 -.44282

TURB -.01490 .00395 -.04659

DOCSWD .12290 -.04565 .03831

SRPRSWFB 15.97272 77.86417 98.95910

THGFSFC -.00412 -.00985 .00949

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Standardized canonical coefficients for COVARIATES

CAN. VAR.

COVARIATE 1 2 3

MEHGSWB -.32611 -.27757 -.20041

TURB -.16111 .04268 -.50364

DOCSWD 1.05314 -.39118 .32826

SRPRSWFB .10646 .51898 .65958

THGFSFC -.26750 -.63876 .61571

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Correlations between COVARIATES and canonical variables

CAN. VAR.

Covariate 1 2 3

MEHGSWB .21383 -.54424 -.05581

TURB .12070 -.03436 -.49853

DOCSWD .89202 -.39006 -.02465

SRPRSWFB .17194 .58138 .63984

THGFSFC -.49143 -.62010 .52590

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Variance in covariates explained by canonical variables

CAN. VAR. Pct Var DEP Cum Pct DEP Pct Var COV Cum Pct COV

1 3.35130 3.35130 22.54110 22.54110

2 2.79005 6.14136 23.44119 45.98230

3 1.34341 7.48476 18.76434 64.74664

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Regression analysis for WITHIN CELLS error term

--- Individual Univariate .9500 confidence intervals

Dependent variable .. THGSDFC Total Mercury in soil, ng/g

COVARIATE B Beta Std. Err. t-Value Sig. of t Lower -95% CL- Upper

MEHGSWB 8.3249619212 .0583236134 13.01079 .63985 .523 -17.37129 34.02121

TURB -.4581595593 -.0766757222 .46763 -.97974 .329 -1.38174 .46542

DOCSWD 1.2379978331 .1642236272 .72259 1.71327 .089 -.18912 2.66511

SRPRSWFB -729.014088213 -.0752188009 730.74707 -.99763 .320 -2172.23679 714.20861

THGFSFC .2697934873 .2708595317 .07772 3.47120 .001 .11629 .42330

Dependent variable .. TCSDFB Total Carbon in soil, %

COVARIATE B Beta Std. Err. t-Value Sig. of t Lower -95% CL- Upper

MEHGSWB -.1313361371 -.0048272300 2.44859 -.05364 .957 -4.96730 4.70462

TURB -.0524731180 -.0460712060 .08801 -.59623 .552 -.22629 .12134

DOCSWD .5172592600 .3599777161 .13599 3.80367 .000 .24868 .78584

SRPRSWFB -217.603366919 -.1177897997 137.52447 -1.58229 .116 -489.21368 54.00694

THGFSFC .0184815889 .0973427375 .01463 1.26350 .208 -.01041 .04737

Dependent variable .. TPRSDFB Total Phosphorus in soil, ug/g

COVARIATE B Beta Std. Err. t-Value Sig. of t Lower -95% CL- Upper

MEHGSWB -58.1340863187 -.1406245598 37.61239 -1.54561 .124 -132.41842 16.15025

TURB -2.3259241650 -.1344017216 1.35187 -1.72053 .087 -4.99586 .34401

DOCSWD 7.2080053887 .3301406611 2.08891 3.45060 .001 3.08241 11.33360

SRPRSWFB 4955.050171582 .1765251949 2112.48944 2.34560 .020 782.89152 9127.20882

THGFSFC .0188895259 .0065478976 .22469 .08407 .933 -.42487 .46265

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\* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* A n a l y s i s o f V a r i a n c e -- Design 1 \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \* \*

EFFECT .. CONSTANT

Multivariate Tests of Significance (S = 1, M = 1/2, N = 77 1/2)

Test Name Value Exact F Hypoth. DF Error DF Sig. of F

Pillais .38285 32.46501 3.00 157.00 .000

Hotellings .62035 32.46501 3.00 157.00 .000

Wilks .61715 32.46501 3.00 157.00 .000

Roys .38285

Note.. F statistics are exact.

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Eigenvalues and Canonical Correlations

Root No. Eigenvalue Pct. Cum. Pct. Canon Cor.

1 .62035 100.00000 100.00000 .61875

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

EFFECT .. CONSTANT (Cont.)

Univariate F-tests with (1,159) D. F.

Variable Hypoth. SS Error SS Hypoth. MS Error MS F Sig. of F

THGSDFC 134066.27420 610022.78315 134066.27420 3836.62128 34.94384 .000

TCSDFB 11699.90739 21605.87500 11699.90739 135.88601 86.10090 .000

TPRSDFB 1213727.52932 5098013.49316 1213727.52932 32062.97794 37.85449 .000

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

EFFECT .. CONSTANT (Cont.)

Raw discriminant function coefficients

Function No.

Variable 1

THGSDFC .00093

TCSDFB -.07382

TPRSDFB -.00208

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Standardized discriminant function coefficients

Function No.

Variable 1

THGSDFC .05770

TCSDFB -.86052

TPRSDFB -.37185

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Estimates of effects for canonical variables

Canonical Variable

Parameter 1

1 -2.58643

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

Correlations between DEPENDENT and canonical variables

Canonical Variable

Variable 1

THGSDFC -.59521

TCSDFB -.93430

TPRSDFB -.61950

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -