**Proc** **Import** out = WORK.ARTR2

datafile= "F:\UnivariatePrescreening\Multicollinearity\ARTR2DensitySoils.csv"

dbms=CSV;

getnames=YES;

**run**;

**proc** **print** data=ARTR2;

**run**;

**proc** **reg** data=ARTR2;

model ARTR2= Veg Elevation maxClay minClay maxSand minSand maxDepth maxpH minpH maxDryValue minDryValue maxDryChroma minDryChroma maxMoistValue

minMoistValue maxMoistChroma minMoistChroma CarbonateStage BioticCrustClass Surface Subsurface Depth50 Depth100 Depth150 Depth200 MaxAWC TotalAWC

AWC25 AWC50 AWC100 / vif collin collinoint;

title1 'Test for multicollinearity';

**run**;

**proc** **reg** data=ARTR2;

model ARTR2= Veg Elevation maxClay minClay maxSand minSand maxpH minpH maxDryValue minDryValue maxDryChroma minDryChroma maxMoistValue

minMoistValue maxMoistChroma minMoistChroma CarbonateStage BioticCrustClass Surface Subsurface Depth50 Depth100 Depth150 Depth200

AWC25 AWC50 AWC100 / vif collin collinoint;

title1 'Test for multicollinearity';

**run**;

**proc** **sgscatter** data=artr2;

matrix MaxAWC TotalAWC awc25 awc50 awc100;

**run**;

**proc** **corr** data=artr2 nosimple;

var MaxAWC TotalAWC awc25 awc50 awc100;

**run**;

**proc** **sgscatter** data=artr2;

matrix minMoistChroma Surface awc100;

**run**;

**proc** **corr** data=artr2 nosimple;

var minMoistChroma Surface awc100;

**run**;

**proc** **reg** data=ARTR2;

model ARTR2= Veg Elevation maxClay minClay maxSand minSand maxDepth maxpH minpH maxDryValue minDryValue maxDryChroma minDryChroma maxMoistValue minMoistValue maxMoistChroma minMoistChroma CarbonateStage BioticCrustClass Surface Subsurface Depth50 Depth100 Depth150 Depth200 MaxAWC TotalAWC AWC25 AWC50 AWC100 / stb;

title1 'Standard Regression Coefficient';

title2 '(note extra column in output)';

**run**;

**proc** **reg** data=ARTR2;

model ARTR2\_log= Veg Elevation maxClay minClay maxSand minSand maxDepth maxpH minpH maxDryValue minDryValue maxDryChroma minDryChroma

maxMoistValue minMoistValue maxMoistChroma minMoistChroma CarbonateStage BioticCrustClass Surface Subsurface Depth50 Depth100 Depth150 Depth200

MaxAWC TotalAWC AWC25 AWC50 AWC100 / selection = stepwise slentry=**.10** slstay=**.10**;

title1 'Stepwise Selection';

**run**;

**data** artr2;

set artr2;

artr2\_log = log(artr2+**0.002**);

artr2\_sqrt = sqrt(artr2);

**run**;

**proc** **sgplot** data=artr2;

reg x=depth150 y=artr2\_sqrt;

**run**;

**proc** **freq** data=artr2;

table artr2;

**run**;