APPENDIX D

SAS CODES

Crest vs. Ditch

```
proc sort data=Jbaysoil;
  by type pit year cvsd horizion;
  run;

/*P*/
proc mixed data=Jbaysoil;
  where (type='H');
  class year cvsd pit horizion;
  model p=year cvsd year*cvsd horizion horizion*year
            horizion*cvsd horizion*year*cvsd;
  random pit(year) cvsd*pit(year);
  repeated / subject=cvsd*pit(year) type=AR(1);
  lsmeans year*cvsd*horizion ;
  lsmeans year*horizion;
  lsmeans horizion*cvsd;
title 'P type = H';
  run;
```

Natural Bays

```
proc sort data=natural;by soiltype bay pit horizon;
proc mixed covtest data=natural;by soiltype;
class bay pit horizon;
model p= bay|horizon/ddfm=satterthwaite;
random pit;
repeated/ subject=pit type=AR(1);
lsmeans bay*horizon;
run;
```

DvsND

```
/* comparing Natural Bay to Drained bay*/
data new; set NaturalBay JBay;
proc sort data=new;
by soiltype dvsnd bay pit year horizon;
 proc mixed covtest data=new;by soiltype;
class horizon dvsnd bay pit year cvsd;
model p= dvsnd horizon horizon*dvsnd year(dvsnd)
horizon*year(dvsnd)/ddfm=satterwaite;where cvsd='C';
random bay(dvsnd) pit*year(dvsnd);
repeated/ subject=pit*year(dvsnd) type=AR(1);
lsmeans horizon*dvsnd ;
lsmeans year(dvsnd);
lsmeans horizon*year(dvsnd);
lsmeans horizon;
run
```