Resultados ACP

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23 de Agosto del 2023

Contents

Mantillo

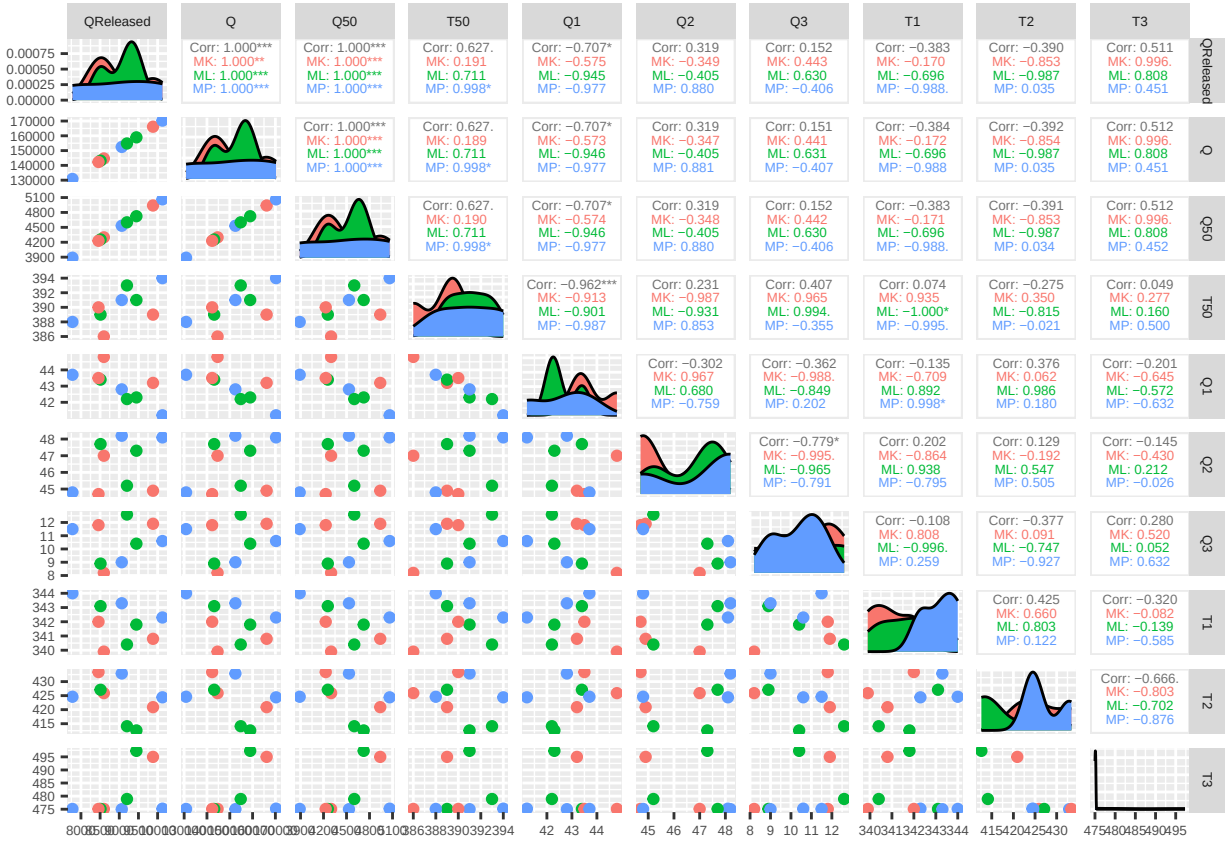
Datos de DSC de mantillo

```
df_mq
```

```
##   Total_OM_loss QReleased      Q  Q50 T50   Q1   Q2   Q3    T1    T2    T3
## 1           5.9      9880 166165 4940 389 43.2 44.9 11.9 340.8 420.9 495.0
## 2           5.9      9447 158951 4724 391 42.3 47.3 10.4 341.8 412.6 497.3
## 3           5.9     10126 170296 5063 394 41.2 48.1 10.6 342.3 424.4 475.2
## 4           5.9      8598 144661 4299 386 44.8 47.0  8.2 339.9 425.9 475.1
## 5           5.9      8512 143177 4256 389 43.4 47.7  8.9 343.1 427.1 475.1
## 6           5.9      9065 152476 4532 391 42.8 48.2  9.0 343.3 432.9 475.0
```

```
## 7           5.9      8459 142281 4229 390 43.5 44.7 11.8 342.0 433.4 475.1
## 8           5.9      9201 154813 4601 393 42.2 45.2 12.6 340.4 414.1 478.9
## 9           5.9      7779 130839 3889 388 43.7 44.8 11.5 344.0 424.6 475.1
##   Group
## 1    MK
## 2    ML
## 3    MP
## 4    MK
## 5    ML
## 6    MP
## 7    MK
## 8    ML
## 9    MP
```

Correlacion y Covarianza



Covarianza

```
##              QReleased             Q          Q50          T50          Q1
## QReleased  558685.2778  9394215.542  279489.66667  1158.6944444 -547.7805556
## Q         9394215.5417 157963263.750 4699588.12500 19483.5416667 -9209.3083333
## Q50        279489.6667  4699588.125  139818.50000   579.6666667 -274.0458333
## T50           1158.6944    19483.542     579.66667     6.1111111   -2.4638889
## Q1            -547.7806    -9209.308    -274.04583    -2.4638889    1.0736111
```

```
## Q2            358.4708      6030.513     179.31250     0.8583333    -0.4704167
## Q3            175.3278      2944.067      87.74167     1.5569444    -0.5805556
## T1           -397.0403     -6698.717    -198.84167     0.2555556    -0.1944444
## T2          -2109.8319    -35605.704   -1057.42917    -4.9236111     2.8201389
## T3           3495.4500     58850.775    1749.67500     1.1125000    -1.9087500
##                    Q2           Q3            T1            T2          T3
## QReleased  358.4708333  175.3277778  -397.0402778  -2109.831944  3495.45000
## Q         6030.5125000 2944.0666667 -6698.7166667 -35605.704167 58850.77500
## Q50        179.3125000   87.7416667  -198.8416667  -1057.429167  1749.67500
## T50          0.8583333    1.5569444     0.2555556     -4.923611     1.11250
## Q1          -0.4704167   -0.5805556    -0.1944444      2.820139    -1.90875
## Q2           2.2650000   -1.8154167     0.4216667      1.400417    -1.99625
## Q3          -1.8154167    2.3952778    -0.2315278     -4.225694     3.96750
## T1           0.4216667   -0.2315278     1.9277778      4.268194    -4.05750
## T2           1.4004167   -4.2256944     4.2681944     52.361111   -44.09125
## T3          -1.9962500    3.9675000    -4.0575000    -44.091250    83.65250
```

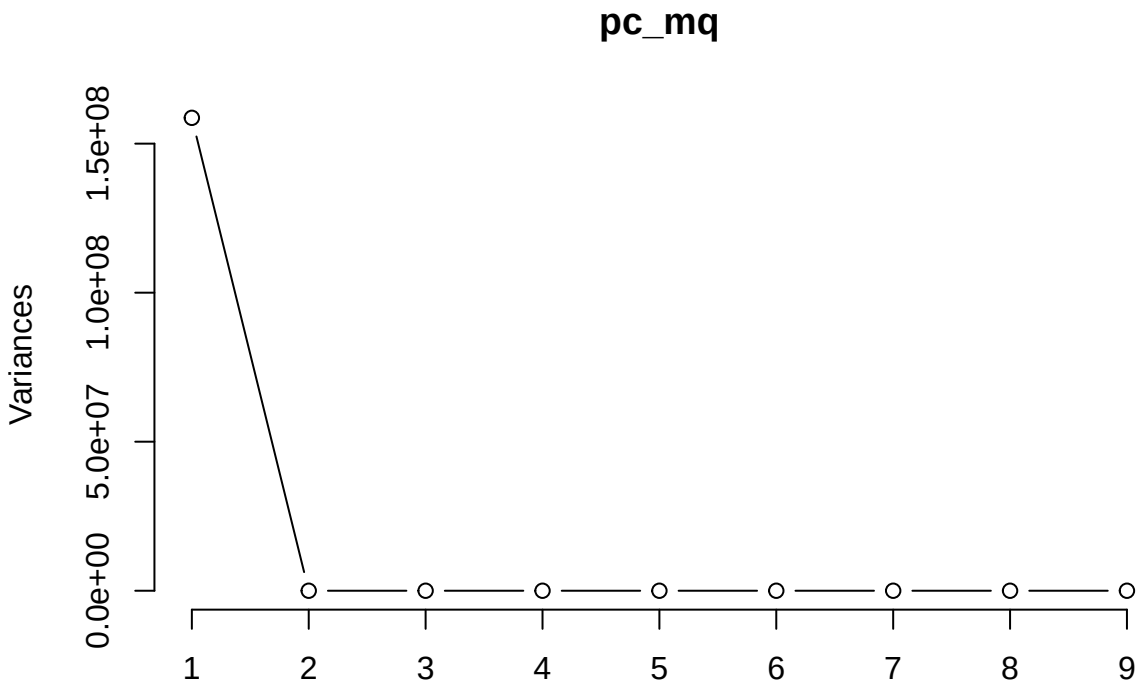
Correlación

```
##            QReleased          Q        Q50         T50         Q1         Q2
## QReleased  1.0000000  0.9999974  0.9999996  0.62708328 -0.7072932  0.3186663
## Q          0.9999974  1.0000000  0.9999987  0.62708984 -0.7071727  0.3188174
## Q50        0.9999996  0.9999987  1.0000000  0.62709873 -0.7073224  0.3186355
## T50        0.6270833  0.6270898  0.6270987  1.00000000 -0.9619168  0.2307075
## Q1        -0.7072932 -0.7071727 -0.7073224 -0.96191685  1.0000000 -0.3016651
## Q2         0.3186663  0.3188174  0.3186355  0.23070754 -0.3016651  1.0000000
## Q3         0.1515616  0.1513532  0.1516162  0.40694441 -0.3620282 -0.7794069
## T1        -0.3825802 -0.3838708 -0.3829981  0.07445549 -0.1351586  0.2017933
## T2        -0.3900855 -0.3915048 -0.3908090 -0.27524487  0.3761340  0.1285934
## T3         0.5113050  0.5119584  0.5116060  0.04920401 -0.2014123 -0.1450245
##                  Q3          T1         T2          T3
## QReleased  0.1515616 -0.38258018 -0.3900855  0.51130497
## Q          0.1513532 -0.38387080 -0.3915048  0.51195840
## Q50        0.1516162 -0.38299807 -0.3908090  0.51160597
## T50        0.4069444  0.07445549 -0.2752449  0.04920401
## Q1        -0.3620282 -0.13515856  0.3761340 -0.20141235
## Q2        -0.7794069  0.20179327  0.1285934 -0.14502450
## Q3         1.0000000 -0.10774489 -0.3773251  0.28028479
## T1        -0.1077449  1.00000000  0.4248262 -0.31951451
## T2        -0.3773251  0.42482619  1.0000000 -0.66620597
## T3         0.2802848 -0.31951451 -0.6662060  1.00000000
```

Resúmen estadístico de ACP

```
## Importance of components:
##                           PC1   PC2   PC3   PC4   PC5   PC6    PC7     PC8
## Standard deviation     12596 9.318 4.777 2.248 1.764 1.329 0.1955 0.06972
## Proportion of Variance     1 0.000 0.000 0.000 0.000 0.000 0.0000 0.00000
## Cumulative Proportion      1 1.000 1.000 1.000 1.000 1.000 1.0000 1.00000
##                              PC9
## Standard deviation     8.169e-13
## Proportion of Variance 0.000e+00
## Cumulative Proportion  1.000e+00
```

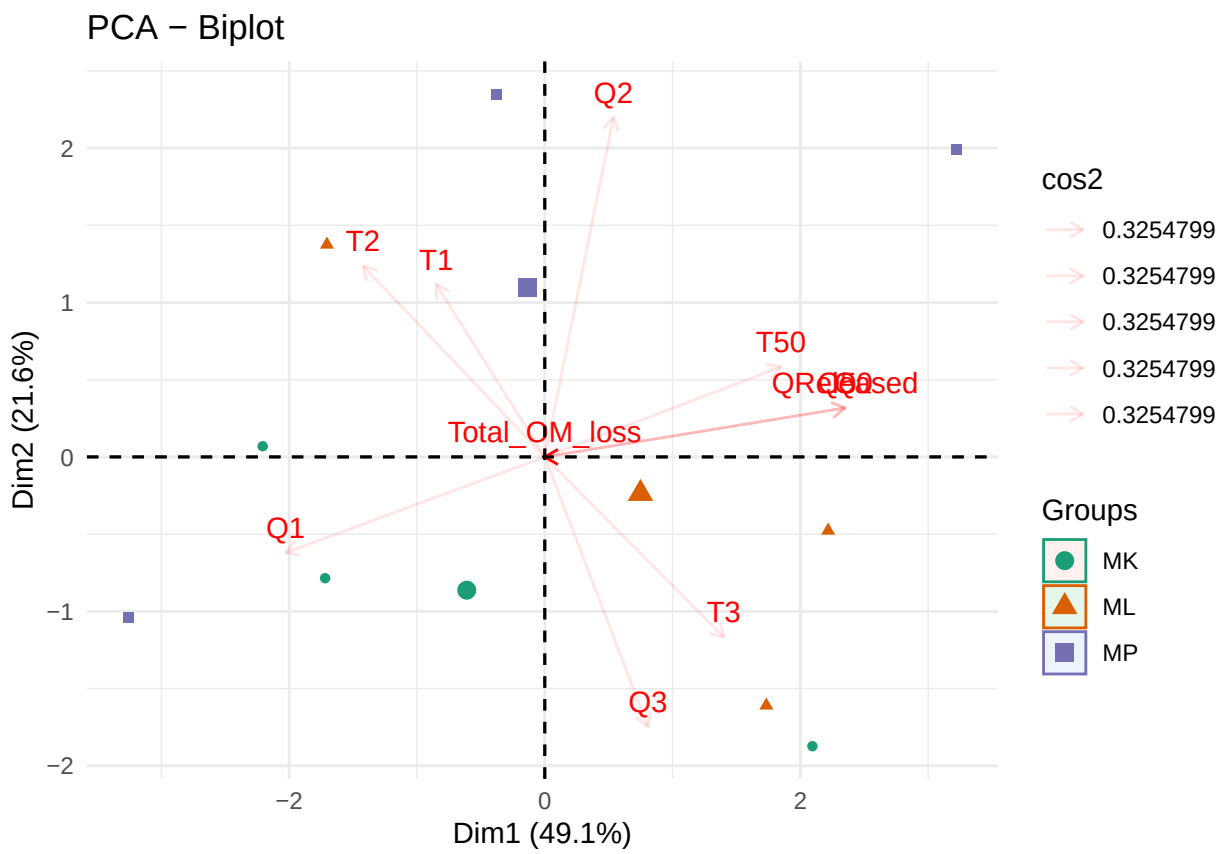
Screeplot



Estructura de componentes principales

```
## List of 5
##  $ sdev    : num [1:9] 12596.1 9.32 4.78 2.25 1.76 ...
##  $ rotation: num [1:11, 1:9] -4.44e-16 5.93e-02 9.98e-01 2.97e-02 1.23e-04 ...
##   ..- attr(*, "dimnames")=List of 2
##   .. ..$ : chr [1:11] "Total_OM_loss" "QReleased" "Q" "Q50" ...
##   .. ..$ : chr [1:9] "PC1" "PC2" "PC3" "PC4" ...
##  $ center  : Named num [1:11] 5.9 9007.4 151517.7 4503.7 390.1 ...
##   ..- attr(*, "names")= chr [1:11] "Total_OM_loss" "QReleased" "Q" "Q50" ...
##  $ scale   : logi FALSE
##  $ x       : num [1:9, 1:9] 14680 7450 18820 -6872 -8359 ...
##   ..- attr(*, "dimnames")=List of 2
##   .. ..$ : NULL
##   .. ..$ : chr [1:9] "PC1" "PC2" "PC3" "PC4" ...
##  - attr(*, "class")= chr "prcomp"
```

Biplot de ACP



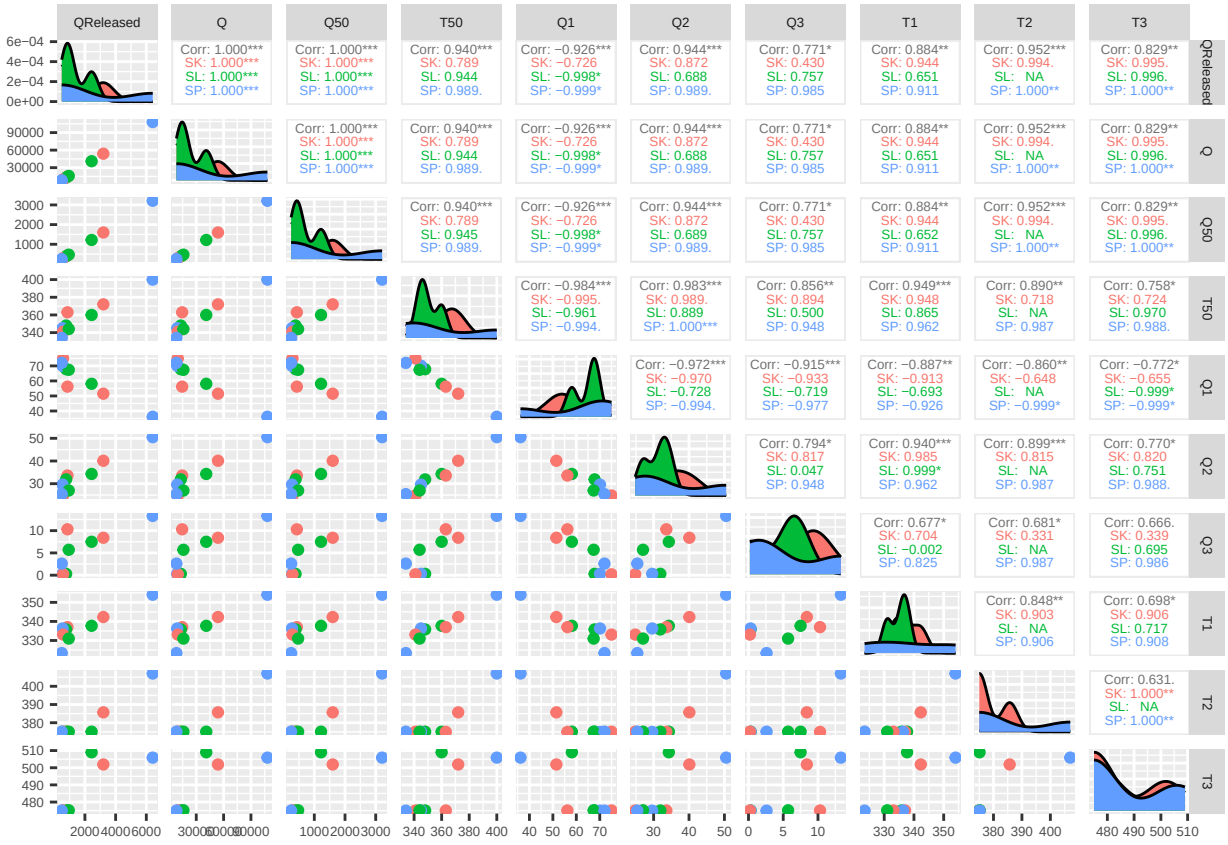
Suelo

Datos de DSC de suelo

```
##   Total_OM_loss QReleased      Q  Q50 T50   Q1   Q2   Q3    T1    T2    T3
## 1           5.9      3200  53861 1600 372 51.5 40.1  8.4 342.3 385.7 501.9
## 2           5.9      2437  41008 1219 360 58.1 34.3  7.5 337.7 375.1 509.0
## 3           5.9      6418 108087 3209 400 36.2 50.5 13.3 354.0 407.0 505.9
## 4           5.9       864  14531  432 363 56.2 33.6 10.3 337.0 375.0 475.1
## 5           5.9       777  13073  389 348 67.8 31.9  0.3 335.8 375.1 475.1
## 6           5.9       543   9141  272 345 70.1 29.6  0.3 336.3 375.0 475.0
## 7           5.9       579   9738  290 341 75.0 24.8  0.2 333.1 375.1 475.1
## 8           5.9       947  15926  473 344 67.4 27.0  5.7 331.0 375.1 475.2
## 9           5.9       491   8257  245 334 72.0 25.4  2.6 323.4 375.1 475.0
##   Group
## 1    SK
## 2    SL
## 3    SP
## 4    SK
## 5    SL
## 6    SP
## 7    SK
## 8    SL
```

9 SP

Correlacion y Covarianza



Covarianza

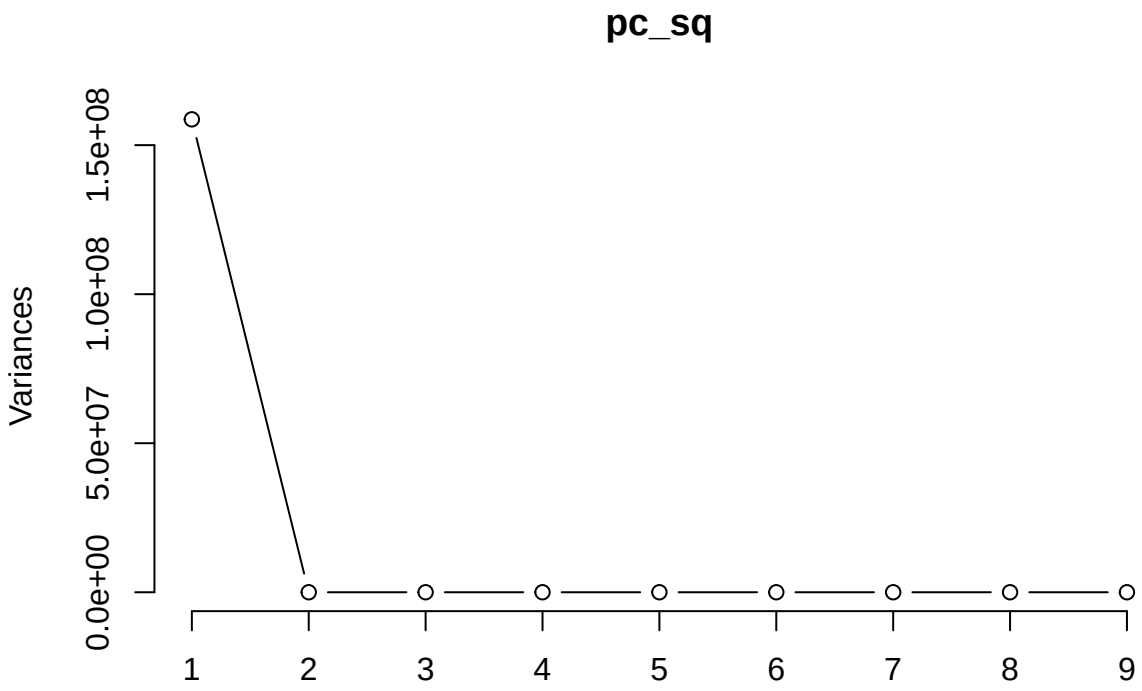
```
##              QReleased           Q         Q50         T50          Q1
## QReleased  3890743.69   65527800.5  1945327.194  37616.1667 -22570.14722
## Q         65527800.51 1103617580.0 32763148.514 633521.8333 -380109.64444
## Q50        1945327.19   32763148.5   972641.444  18808.2917  -11284.54722
## T50          37616.17     633521.8    18808.292    411.7500    -246.68333
## Q1          -22570.15    -380109.6   -11284.547   -246.6833     152.57861
## Q2           15187.24     255783.0     7593.757    162.6667     -97.92972
## Q3            7352.50     123814.8     3675.575     83.9000     -54.60000
## T1           14522.08     244587.3     7261.979    160.4250     -91.21208
## T2           20263.79     341313.9    10131.300    194.9375    -114.64500
## T3           25118.91     422974.4    12560.299    236.4042    -146.49306
##                    Q2           Q3          T1          T2          T3
## QReleased  15187.24444   7352.50000  14522.07917  20263.78750  25118.91111
## Q         255782.95139 123814.77500 244587.25833 341313.91250 422974.37222
## Q50         7593.75694   3675.57500   7261.97917  10131.30000  12560.29861
## T50          162.66667     83.90000    160.42500    194.93750    236.40417
## Q1           -97.92972    -54.60000    -91.21208   -114.64500   -146.49306
## Q2            66.55944     31.28625     63.89167     79.10625     96.47736
```

```
## Q3           31.28625     23.35250     27.24000     35.47875     49.46625
## T1           63.89167     27.24000     69.38000     76.22875     89.32167
## T2           79.10625     35.47875     76.22875    116.39750    104.62875
## T3           96.47736     49.46625     89.32167    104.62875    235.98778
```

Correlación

```
##             QReleased          Q        Q50        T50         Q1         Q2
## QReleased  1.0000000  0.9999999  0.9999999  0.9398129 -0.9263418  0.9437519
## Q          0.9999999  1.0000000  0.9999999  0.9398001 -0.9263023  0.9437510
## Q50        0.9999999  0.9999999  1.0000000  0.9398448 -0.9263198  0.9437902
## T50        0.9398129  0.9398001  0.9398448  1.0000000 -0.9841837  0.9826004
## Q1        -0.9263418 -0.9263023 -0.9263198 -0.9841837  1.0000000 -0.9717686
## Q2         0.9437519  0.9437510  0.9437902  0.9826004 -0.9717686  1.0000000
## Q3         0.7713510  0.7712523  0.7712270  0.8556152 -0.9147009  0.7935640
## T1         0.8838841  0.8839086  0.8840187  0.9491571 -0.8865197  0.9402043
## T2         0.9522094  0.9522980  0.9521754  0.8904443 -0.8602733  0.8987401
## T3         0.8289718  0.8288196  0.8290464  0.7583917 -0.7720145  0.7697963
##                   Q3         T1         T2         T3
## QReleased  0.7713510  0.8838841  0.9522094  0.8289718
## Q          0.7712523  0.8839086  0.9522980  0.8288196
## Q50        0.7712270  0.8840187  0.9521754  0.8290464
## T50        0.8556152  0.9491571  0.8904443  0.7583917
## Q1        -0.9147009 -0.8865197 -0.8602733 -0.7720145
## Q2         0.7935640  0.9402043  0.8987401  0.7697963
## Q3         1.0000000  0.6767422  0.6805026  0.6663425
## T1         0.6767422  1.0000000  0.8482616  0.6980635
## T2         0.6805026  0.8482616  1.0000000  0.6312981
## T3         0.6663425  0.6980635  0.6312981  1.0000000
```

```
## Importance of components:
##                           PC1   PC2   PC3   PC4   PC5   PC6    PC7     PC8
## Standard deviation     12596 9.318 4.777 2.248 1.764 1.329 0.1955 0.06972
## Proportion of Variance     1 0.000 0.000 0.000 0.000 0.000 0.0000 0.00000
## Cumulative Proportion      1 1.000 1.000 1.000 1.000 1.000 1.0000 1.00000
##                              PC9
## Standard deviation     8.169e-13
## Proportion of Variance 0.000e+00
## Cumulative Proportion  1.000e+00
```



Estructura de componentes principales

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##   ..- attr(*, "dimnames")=List of 2
##   .. ..$ : chr [1:11] "Total_OM_loss" "QReleased" "Q" "Q50" ...
##   .. ..$ : chr [1:9] "PC1" "PC2" "PC3" "PC4" ...
##  $ center  : Named num [1:11] 5.9 9007.4 151517.7 4503.7 390.1 ...
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##  $ scale   : logi FALSE
##  $ x       : num [1:9, 1:9] 14680 7450 18820 -6872 -8359 ...
##   ..- attr(*, "dimnames")=List of 2
##   .. ..$ : NULL
##   .. ..$ : chr [1:9] "PC1" "PC2" "PC3" "PC4" ...
##  - attr(*, "class")= chr "prcomp"
```

Biplot de ACP