```
SC V10-70        Copyright © Trimble Navigation Ltd, 1996-2003
           Serial no 4043        08-Sep-09 16:49
           Angle Degrees         Dist US Feet          Press inch Hg
           Temp Fahrenheit       Coord N-E-Elv         H.obs Right

JOB        Job ID 8-4-09 sd-mh-che
           Atmos crn No          C and R crn Yes       Refrac cnst 0.20
           Elev Yes              Sea level crn No

NOTE    TS  Time Date 01/30/2009 Time 17:08:46

LOCELL  KI  Local Rad 20925604.474          Flat.     298.2572229329

SITE    KI  Prj Lat   <null>               Nrth Offset 0.000
            Prj Lng   <null>               East Offset 0.000
            Prj Hgt   1645.000             Scale      1.0000000000

SHFTGRD KI  File name <no text>

PROJ    KI  No Projection
            Orig Lat  <null>               Orig Nrth <null>
            Orig Lng  <null>               Orig East <null>
            Orig Hgt  <null>               Orig Elev <null>
            Orient 1  <null>               Orient 2  <null>
            Scale     <null>

DATUM   KI  None
            Srce Rad  20925604.474         Srce Flat 298.2572229329
            Rotn X    <null>               Rotn Y    <null>
            Rotn Z    <null>               Trans X   <null>
            Trans Y   <null>               Trans Z   <null>
            Scale     <null>

PLANE   KI  Orig Nrth <null>               Orig East <null>
            Trans N   <null>               Trans E   <null>
            Rotation  <null>               Scale     <null>

HGTADJ  KI  Inclined Plane
            Orig Nrth <null>               Slope N   <null>
            Orig East <null>               Slope E   <null>
            Hgt Const <null>
            Geoid     <no text>

COORD   NM  System Name         <no text>
            Zone Name           <no text>
            Datum Name          <no text>
            Coord System Option   <None>

F FILE  FC  File                          Used     No
            ID        00000               Name

COGO    NM  Azmth     From North          Dir      North-East

NOTE    NM  Following data imported from 6-13-08-opus-obs.job

LOCELL  KI  Local Rad 20925604.474          Flat.     298.2572229329

SITE    CB  Prj Lat   36°03'01.84216"N     Nrth Offset 0.000
            Prj Lng   114°59'53.92840"W    East Offset 0.000
            Prj Hgt   1648.363             Scale      1.0000786812

SHFTGRD CB  File name <no text>

PROJ    CB  Transverse Mercator
            Orig Lat  36°03'01.84216"N     Orig Nrth 18483.918
            Orig Lng  114°59'53.92840"W    Orig East 19186.597
            Orig Hgt  1643.256             Orig Elev 1738.580
            Orient 1  0°00'00"             Orient 2  0°00'00"
            Scale     1.0000000000

DATUM   CB  Molodensky
            Srce Rad  20925604.474         Srce Flat 298.2572229329
            Rotn X    0°00'00"             Rotn Y    0°00'00"
            Rotn Z    0°00'00"             Trans X   0.000
            Trans Y   0.000                Trans Z   0.000
            Scale     0.00000000

PLANE   CB  Orig Nrth 18728.937            Orig East 15068.999
            Trans N   -24.769              Trans E   -1.419
            Rotation  -0°20'39.273751"     Scale     1.00000000

HGTADJ  CB  Inclined Plane
            Orig Nrth 18483.893            Slope N   -1.180
            Orig East 19186.576            Slope E   4.045
            Hgt Const 95.308
            Geoid     <no text>

COORD   NM  System Name         <no text>
            Zone Name           <no text>
            Datum Name          <no text>
            Coord System Option   Keyed in

COGO    NM  Azmth     From North          Dir      North-East

NOTE    NM  Following data imported from 6-13-08-opus-obs.job

NOTE    TS  Time Date 01/30/2009 Time 15:55:57

COGO    NM  Azmth     From North          Dir      North-East

SURVEY  KI  Elev mask 10                   PDOP mask 6.0

SURVEY  KI  Elev mask 10                   PDOP mask 6.0
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SURVEY  KI  Elev mask 10                  PDOP mask 6.0

SURVEY EVENTKISurvey event Rover survey started

GPSANT  KI  Antenna ht 0.000              Measuremt True

GPSPOS  SI  Point ID 44501      Lat  36°03'10.29917"N Lng  114°59'31.59480"W
            Class Control       Hgt  1645.648         Code 1_30_09_BASE
            Obs  User Input     H.pr <null>           V.pr <null>

GPSANT  KI  Antenna ht 0.000              Measuremt True

GPSPOS  FD  Point ID 44501      Lat  36°03'10.29917"N Lng  114°59'31.59480"W
            Class Control       Hgt  1645.648         Code 1_30_09_BASE
            Obs  User Input     H.pr <null>           V.pr <null>

EQUIP   SI  Receiver  SPS851              Serial no <no text>
            Antenna   Zephyr - Model 2
            Meas To   Antenna Phase Center
            Tape adj  0.000               Serial no <no text>
            H.Offset  0.000               V.Offset  0.000

NOTE    NM  Receiver firmware version=0.000

GPSANT  KI  Antenna ht 4.245              Measuremt True

GPSREF  KI  Reference 44501

INIT    KI  Init event    Gained         Week         1516
            Init type     On the fly      seconds      518331.0
            Init counter  1               Point ID     <no text>
            Survey type   Real Time       Plate H.Dist <null>
            Plate V.Dist  <null>          Plate azimuth <null>

EQUIP   NM  Receiver  SPS881              Serial no 4813149404
            Antenna   R8 Model 2/SPS88x Internal
            Meas To   Bottom of antenna mount
            Tape adj  0.000               Serial no <no text>
            H.Offset  0.000               V.Offset  0.213

NOTE    NM  Receiver firmware version=3.710

GPSANT  KI  Antenna ht 6.562              Measuremt Uncorrected

GPSVEC  SO  Point ID Auto0057    DX   -6175.665       DY   1205.103
            Class Stake out      DZ   -2024.120       Code 106-1-30-09CHK
            Obs  L1 Fixed        H.pr 0.020           V.pr 0.025

GPSQC1  NM  Min SVs      9                PDOP max  1.0
            Relative DOPs  Yes            HDOP max  0.7
            Total GPS pos  3              VDOP max  0.8
            Monitor status Not monitored  RMS       12.3
            Horz SD                       Vert SD
            Start wk 1516 sec 518429.0    End wk 1516    sec 518454.0

GPSQC2  NM  Ttl satellites 9              Err Scale 0.0099999998
            VCV xx    0.0000153086        VCV xy    0.0000115193
            VCV xz   -0.0000102203        VCV yy    0.0000515362
            VCV yz   -0.0000091307        VCV zz    0.0000281475

PT DGN  SO  Name         106              To the Point

GRID D  SO  Delta N      -0.014           Delta E       -0.046
            Delta Elv    -0.043

SURVEY EVENTKISurvey event Survey ended

NOTE    TS  Time Date 01/30/2009 Time 17:01:35

SURVEY  KI  Elev mask 10                  PDOP mask 6.0

SURVEY  KI  Elev mask 10                  PDOP mask 6.0

SURVEY  KI  Elev mask 10                  PDOP mask 6.0

SURVEY EVENTKISurvey event Rover survey started

GPSANT  KI  Antenna ht 0.000              Measuremt True

GPSPOS  FD  Point ID 44501      Lat  36°03'10.29917"N Lng  114°59'31.59480"W
            Class Control       Hgt  1645.648         Code 1_30_09_BASE
            Obs  User Input     H.pr <null>           V.pr <null>

EQUIP   SI  Receiver  SPS851              Serial no <no text>
            Antenna   Zephyr - Model 2
            Meas To   Antenna Phase Center
            Tape adj  0.000               Serial no <no text>
            H.Offset  0.000               V.Offset  0.000

NOTE    NM  Receiver firmware version=0.000

GPSANT  KI  Antenna ht 4.245              Measuremt True

GPSREF  KI  Reference 44501

INIT    KI  Init event    Gained         Week         1516
            Init type     On the fly      seconds      522121.0
            Init counter  1               Point ID     <no text>
            Survey type   Real Time       Plate H.Dist <null>
            Plate V.Dist  <null>          Plate azimuth <null>
```

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EQUIP   NM  Receiver  SPS881              Serial no 4813149404
            Antenna   R8 Model 2/SPS88x Internal
            Meas To   Bottom of antenna mount
            Tape adj  0.000               Serial no <no text>
            H.Offset  0.000               V.Offset  0.213

NOTE    NM  Receiver firmware version=3.710

GPSANT  KI  Antenna ht 9.700              Measuremt Uncorrected

GPSVEC  SO  Point ID Auto0058     DX   -7029.868      DY   4145.283
            Class Stake out       DZ    1039.198      Code 101-1-30-09CHK
            Obs  L1 Fixed         H.pr 0.024          V.pr 0.038

GPSQC1  NM  Min SVs       12              PDOP max  1.4
            Relative DOPs  Yes            HDOP max  0.8
            Total GPS pos  4              VDOP max  1.2
            Monitor status Not monitored  RMS       12.0
            Horz SD                       Vert SD
            Start wk 1516 sec 522174.0    End wk 1516   sec 522177.0

GPSQC2  NM  Ttl satellites 12            Err Scale 0.0099999998
            VCV xx    0.0000606589        VCV xy    0.0000544312
            VCV xz   -0.0000263995        VCV yy    0.0000885777
            VCV yz   -0.0000315253        VCV zz    0.0000400671

PT DGN  SO  Name         101              To the Point

GRID D  SO  Delta N      -0.074           Delta E        -0.006
            Delta Elv     0.000

SURVEY  EVENTKISurvey event Survey ended

SURVEY  KI  Elev mask 10                  PDOP mask 6.0

SURVEY  KI  Elev mask 10                  PDOP mask 6.0

SURVEY  KI  Elev mask 10                  PDOP mask 6.0

SURVEY  EVENTKISurvey event Rover survey started

GPSANT  KI  Antenna ht 0.000              Measuremt True

GPSPOS  FD  Point ID 44501        Lat  36°03'10.29917"N Lng  114°59'31.59480"W
            Class Control         Hgt  1645.648        Code 1_30_09_BASE
            Obs  User Input       H.pr <null>          V.pr <null>

EQUIP   SI  Receiver  SPS851              Serial no <no text>
            Antenna   Zephyr - Model 2
            Meas To   Antenna Phase Center
            Tape adj  0.000               Serial no <no text>
            H.Offset  0.000               V.Offset  0.000

NOTE    NM  Receiver firmware version=0.000

GPSANT  KI  Antenna ht 4.245              Measuremt True

GPSREF  KI  Reference 44501

INIT    KI  Init event   Gained           Week         1516
            Init type    On the fly        seconds      522487.0
            Init counter 1                 Point ID     <no text>
            Survey type  Real Time         Plate H.Dist <null>
            Plate V.Dist <null>            Plate azimuth <null>

EQUIP   NM  Receiver  SPS881              Serial no 4813149404
            Antenna   R8 Model 2/SPS88x Internal
            Meas To   Bottom of antenna mount
            Tape adj  0.000               Serial no <no text>
            H.Offset  0.000               V.Offset  0.213

NOTE    NM  Receiver firmware version=3.710

GPSANT  KI  Antenna ht 9.700              Measuremt Uncorrected

GPSVEC  SO  Point ID Auto0059     DX   -7594.793      DY   3076.144
            Class Stake out       DZ    -564.129      Code 102-1-30-09CHK
            Obs  L1 Fixed         H.pr 0.025          V.pr 0.041

GPSQC1  NM  Min SVs        7              PDOP max  1.5
            Relative DOPs  Yes            HDOP max  0.8
            Total GPS pos  3              VDOP max  1.3
            Monitor status Not monitored  RMS       11.9
            Horz SD                       Vert SD
            Start wk 1516 sec 522535.0    End wk 1516   sec 522538.0

GPSQC2  NM  Ttl satellites 10           Err Scale 0.0099999998
            VCV xx    0.0000682628        VCV xy    0.0000617748
            VCV xz   -0.0000322563        VCV yy    0.0000946383
            VCV yz   -0.0000408528        VCV zz    0.000049765

PT DGN  SO  Name         102              To the Point

GRID D  SO  Delta N      -0.024           Delta E        -0.030
            Delta Elv    -0.001

SURVEY  EVENTKISurvey event Survey ended

SURVEY  KI  Elev mask 10                  PDOP mask 6.0

SURVEY  KI  Elev mask 10                  PDOP mask 6.0

SURVEY  KI  Elev mask 10                  PDOP mask 6.0
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SURVEY EVENTKISurvey event Rover survey started

GPSANT  KI  Antenna ht 0.000                Measuremt True

GPSPOS  FD  Point ID 44501        Lat  36°03'10.29917"N Lng  114°59'31.59480"W
            Class Control         Hgt  1645.648         Code 1_30_09_BASE
            Obs  User Input       H.pr <null>           V.pr <null>

EQUIP   SI  Receiver  SPS851             Serial no <no text>
            Antenna   Zephyr - Model 2
            Meas To   Antenna Phase Center
            Tape adj  0.000              Serial no <no text>
            H.Offset  0.000              V.Offset  0.000

NOTE    NM  Receiver firmware version=0.000

GPSANT  KI  Antenna ht 4.245              Measuremt True

GPSREF  KI  Reference 44501

INIT    KI  Init event    Gained         Week         1516
            Init type     On the fly     seconds      523108.0
            Init counter  1              Point ID     <no text>
            Survey type   Real Time      Plate H.Dist <null>
            Plate V.Dist  <null>         Plate azimuth <null>

SURVEY EVENTKISurvey event Survey ended

SURVEY  KI  Elev mask 10                  PDOP mask 6.0

SURVEY  KI  Elev mask 10                  PDOP mask 6.0

SURVEY  KI  Elev mask 10                  PDOP mask 6.0

SURVEY EVENTKISurvey event Rover survey started

GPSANT  KI  Antenna ht 0.000              Measuremt True

GPSPOS  FD  Point ID 44501        Lat  36°03'10.29917"N Lng  114°59'31.59480"W
            Class Control         Hgt  1645.648         Code 1_30_09_BASE
            Obs  User Input       H.pr <null>           V.pr <null>

EQUIP   SI  Receiver  SPS851             Serial no <no text>
            Antenna   Zephyr - Model 2
            Meas To   Antenna Phase Center
            Tape adj  0.000              Serial no <no text>
            H.Offset  0.000              V.Offset  0.000

NOTE    NM  Receiver firmware version=0.000

GPSANT  KI  Antenna ht 4.245              Measuremt True

GPSREF  KI  Reference 44501

INIT    KI  Init event    Gained         Week         1516
            Init type     On the fly     seconds      523481.0
            Init counter  3              Point ID     <no text>
            Survey type   Real Time      Plate H.Dist <null>
            Plate V.Dist  <null>         Plate azimuth <null>

EQUIP   NM  Receiver  SPS881             Serial no 4813149404
            Antenna   R8 Model 2/SPS88x Internal
            Meas To   Bottom of antenna mount
            Tape adj  0.000              Serial no <no text>
            H.Offset  0.000              V.Offset  0.213

NOTE    NM  Receiver firmware version=3.710

GPSANT  KI  Antenna ht 9.700              Measuremt Uncorrected

GPSVEC  SO  Point ID Auto0060     DX   -4430.889        DY   2648.948
            Class Stake out       DZ   679.259          Code 107-1-30-09CHK
            Obs  L1 Fixed         H.pr 0.020            V.pr 0.040

GPSQC1  NM  Min SVs      11                PDOP max  1.4
            Relative DOPs  Yes            HDOP max  0.6
            Total GPS pos  4              VDOP max  1.3
            Monitor status Not monitored  RMS       18.3
            Horz SD                       Vert SD
            Start wk 1516 sec 523520.0    End wk 1516   sec 523523.0

GPSQC2  NM  Ttl satellites 11            Err Scale 0.0099999998
            VCV xx    0.0000598084        VCV xy    0.0000569163
            VCV xz   -0.0000356114        VCV yy    0.0000798075
            VCV yz   -0.0000463645        VCV zz    0.0000480059

PT DGN  SO  Name         107             To the Point

GRID D  SO  Delta N      -0.027          Delta E       -0.003
            Delta Elv    -0.018

SURVEY EVENTKISurvey event Survey ended

NOTE    TS  Time Date 01/30/2009 Time 17:34:38

SURVEY  KI  Elev mask 10                  PDOP mask 6.0

SURVEY  KI  Elev mask 10                  PDOP mask 6.0

SURVEY  KI  Elev mask 10                  PDOP mask 6.0

SURVEY EVENTKISurvey event Rover survey started
```

```
GPSANT  KI  Antenna ht 0.000                    Measuremt True

GPSPOS  FD  Point ID 44501          Lat  36°03'10.29917"N Lng  114°59'31.59480"W
            Class Control           Hgt  1645.648          Code 1_30_09_BASE
            Obs  User Input         H.pr <null>           V.pr <null>

EQUIP   SI  Receiver  SPS851                    Serial no <no text>
            Antenna   Zephyr - Model 2
            Meas To   Antenna Phase Center
            Tape adj  0.000                      Serial no <no text>
            H.Offset  0.000                      V.Offset  0.000

NOTE    NM  Receiver firmware version=0.000

GPSANT  KI  Antenna ht 4.245                    Measuremt True

GPSREF  KI  Reference 44501

INIT    KI  Init event    Gained               Week         1516
            Init type     On the fly           seconds       524112.0
            Init counter  1                     Point ID     <no text>
            Survey type   Real Time            Plate H.Dist <null>
            Plate V.Dist  <null>               Plate azimuth <null>

EQUIP   NM  Receiver  SPS881                    Serial no 4813149404
            Antenna   R8 Model 2/SPS88x Internal
            Meas To   Bottom of antenna mount
            Tape adj  0.000                      Serial no <no text>
            H.Offset  0.000                      V.Offset  0.213

NOTE    NM  Receiver firmware version=3.710

GPSANT  KI  Antenna ht 9.700                    Measuremt Uncorrected

GPSVEC  SO  Point ID Auto0061     DX   -1876.101        DY   316.357
            Class Stake out       DZ   -689.516         Code 114-1-30-09CHK
            Obs  L1 Fixed         H.pr 0.018            V.pr 0.041

GPSQC1  NM  Min SVs       10                    PDOP max  1.4
            Relative DOPs  Yes                  HDOP max  0.6
            Total GPS pos  4                    VDOP max  1.3
            Monitor status Not monitored        RMS       6.4
            Horz SD                             Vert SD
            Start wk 1516 sec 524185.0          End wk 1516   sec 524188.0

GPSQC2  NM  Ttl satellites 10                   Err Scale 0.0099999998
            VCV xx    0.0000547966              VCV xy    0.0000549887
            VCV xz   -0.000040623               VCV yy    0.0000745709
            VCV yz   -0.0000524861              VCV zz    0.0000537973

PT DGN  SO  Name          114                   To the Point

GRID D  SO  Delta N       0.019                 Delta E       -0.012
            Delta Elv     -0.016

SURVEY EVENTKISurvey event Survey ended

SURVEY  KI  Elev mask 10                        PDOP mask 6.0

SURVEY  KI  Elev mask 10                        PDOP mask 6.0

SURVEY  KI  Elev mask 10                        PDOP mask 6.0

SURVEY EVENTKISurvey event Rover survey started

GPSANT  KI  Antenna ht 0.000                    Measuremt True

GPSPOS  FD  Point ID 44501          Lat  36°03'10.29917"N Lng  114°59'31.59480"W
            Class Control           Hgt  1645.648          Code 1_30_09_BASE
            Obs  User Input         H.pr <null>           V.pr <null>

EQUIP   SI  Receiver  SPS851                    Serial no <no text>
            Antenna   Zephyr - Model 2
            Meas To   Antenna Phase Center
            Tape adj  0.000                      Serial no <no text>
            H.Offset  0.000                      V.Offset  0.000

NOTE    NM  Receiver firmware version=0.000

GPSANT  KI  Antenna ht 4.245                    Measuremt True

GPSREF  KI  Reference 44501

INIT    KI  Init event    Gained               Week         1516
            Init type     On the fly           seconds       524691.0
            Init counter  1                     Point ID     <no text>
            Survey type   Real Time            Plate H.Dist <null>
            Plate V.Dist  <null>               Plate azimuth <null>

EQUIP   NM  Receiver  SPS881                    Serial no 4813149404
            Antenna   R8 Model 2/SPS88x Internal
            Meas To   Bottom of antenna mount
            Tape adj  0.000                      Serial no <no text>
            H.Offset  0.000                      V.Offset  0.213

NOTE    NM  Receiver firmware version=3.710

GPSANT  KI  Antenna ht 9.700                    Measuremt Uncorrected

GPSVEC  SO  Point ID Auto0062     DX   -5210.974        DY   2243.843
            Class Stake out       DZ   -236.928         Code 434-1-30-09HK
            Obs  L1 Fixed         H.pr 0.019            V.pr 0.039
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GPSQC1  NM  Min SVs        11             PDOP max  1.4
            Relative DOPs  Yes            HDOP max  0.6
            Total GPS pos  4              VDOP max  1.2
            Monitor status Not monitored  RMS       15.6
            Horz SD                       Vert SD
            Start wk 1516 sec 524787.0    End wk 1516   sec 524790.0

GPSQC2  NM  Ttl satellites 11            Err Scale 0.0099999998
            VCV xx    0.0000443369        VCV xy    0.0000438598
            VCV xz   -0.0000319083        VCV yy    0.0000719584
            VCV yz   -0.0000506138        VCV zz    0.000059802

PT DGN  SO  Name           434            To the Point

GRID D  SO  Delta N        0.093          Delta E        -0.124
            Delta Elv     -0.068

SURVEY EVENTKISurvey event Survey ended

SURVEY  KI  Elev mask 10                 PDOP mask 6.0

SURVEY  KI  Elev mask 10                 PDOP mask 6.0

SURVEY  KI  Elev mask 10                 PDOP mask 6.0

SURVEY EVENTKISurvey event Rover survey started

GPSANT  KI  Antenna ht 0.000             Measuremt True

GPSPOS  FD  Point ID 44501     Lat  36°03'10.29917"N Lng  114°59'31.59480"W
            Class Control      Hgt  1645.648      Code 1_30_09_BASE
            Obs  User Input    H.pr <null>        V.pr <null>

EQUIP   SI  Receiver  SPS851             Serial no <no text>
            Antenna   Zephyr - Model 2
            Meas To   Antenna Phase Center
            Tape adj  0.000              Serial no <no text>
            H.Offset  0.000              V.Offset  0.000

NOTE    NM  Receiver firmware version=0.000

GPSANT  KI  Antenna ht 4.245             Measuremt True

GPSREF  KI  Reference 44501

INIT    KI  Init event    Gained         Week        1516
            Init type     On the fly     seconds     525431.0
            Init counter  1              Point ID    <no text>
            Survey type   Real Time      Plate H.Dist <null>
            Plate V.Dist  <null>         Plate azimuth <null>

EQUIP   NM  Receiver  SPS881             Serial no 4813149404
            Antenna   R8 Model 2/SPS88x Internal
            Meas To   Bottom of antenna mount
            Tape adj  0.000              Serial no <no text>
            H.Offset  0.000              V.Offset  0.213

NOTE    NM  Receiver firmware version=3.710

GPSANT  KI  Antenna ht 9.700             Measuremt Uncorrected

GPSVEC  SO  Point ID Auto0063    DX   -6176.748       DY    1202.816
            Class Stake out      DZ   -2022.263       Code 106-130-09RECHK-
            Obs  L1 Fixed        H.pr 0.019           V.pr 0.036

F-CODE  SO  Code 106-130-09RECHK-TALL POLE

GPSQC1  NM  Min SVs        11             PDOP max  1.3
            Relative DOPs  Yes            HDOP max  0.6
            Total GPS pos  4              VDOP max  1.1
            Monitor status Not monitored  RMS       16.6
            Horz SD                       Vert SD
            Start wk 1516 sec 525539.0    End wk 1516   sec 525542.0

GPSQC2  NM  Ttl satellites 11            Err Scale 0.0099999998
            VCV xx    0.0000342392        VCV xy    0.0000311803
            VCV xz   -0.0000237039        VCV yy    0.0000573259
            VCV yz   -0.0000428138        VCV zz    0.0000610667

PT DGN  SO  Name           106            To the Point

GRID D  SO  Delta N       -0.026          Delta E        -0.031
            Delta Elv     -0.043

GPSVEC  SO  Point ID Auto0064    DX   -6101.761       DY    1541.958
            Class Stake out      DZ   -1554.326       Code ABCS-CP420-1-30-
            Obs  L1 Fixed        H.pr 0.020           V.pr 0.037

F-CODE  SO  Code ABCS-CP420-1-30-09CHK

GPSQC1  NM  Min SVs        7              PDOP max  1.3
            Relative DOPs  Yes            HDOP max  0.6
            Total GPS pos  3              VDOP max  1.2
            Monitor status Not monitored  RMS       17.0
            Horz SD                       Vert SD
            Start wk 1516 sec 525768.0    End wk 1516   sec 525771.0

GPSQC2  NM  Ttl satellites 7             Err Scale 0.0099999998
            VCV xx    0.0000322694        VCV xy    0.0000303883
            VCV xz   -0.0000233197        VCV yy    0.0000614759
            VCV yz   -0.0000492575        VCV zz    0.0000735323
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PT DGN  SO  Name          420               To the Point

GRID D  SO  Delta N       -0.001            Delta E        -0.004
            Delta Elv     -0.014

NOTE    TS  Time Date 01/30/2009 Time 18:06:59

SURVEY EVENTKISurvey event Survey ended

NOTE    TS  Time Date 05/01/2009 Time 13:43:55

NOTE    TS  Time Date 06/18/2009 Time 18:34:48

SURVEY  KI  Elev mask 10               PDOP mask 6.0

SURVEY  KI  Elev mask 10               PDOP mask 6.0

SURVEY  KI  Elev mask 10               PDOP mask 6.0

SURVEY EVENTKISurvey event Rover survey started

GPSANT  KI  Antenna ht 0.000           Measuremt True

GPSPOS  FD  Point ID 44501      Lat  36°03'10.29917"N Lng  114°59'31.59480"W
            Class Control       Hgt  1645.648         Code 1_30_09_BASE
            Obs  User Input     H.pr <null>           V.pr <null>

EQUIP   SI  Receiver  SPS851              Serial no <no text>
            Antenna   Zephyr - Model 2
            Meas To   Antenna Phase Center
            Tape adj  0.000               Serial no <no text>
            H.Offset  0.000               V.Offset  0.000

NOTE    NM  Receiver firmware version=0.000

GPSANT  KI  Antenna ht 4.245           Measuremt True

GPSREF  KI  Reference 44501

INIT    KI  Init event    Gained        Week         1536
            Init type     On the fly    seconds      437711.0
            Init counter  1             Point ID     <no text>
            Survey type   Real Time     Plate H.Dist <null>
            Plate V.Dist  <null>        Plate azimuth <null>

SURVEY EVENTKISurvey event Survey ended

SURVEY  KI  Elev mask 10               PDOP mask 6.0

SURVEY  KI  Elev mask 10               PDOP mask 6.0

SURVEY  KI  Elev mask 10               PDOP mask 6.0

SURVEY EVENTKISurvey event Rover survey started

GPSANT  KI  Antenna ht 0.000           Measuremt True

GPSPOS  FD  Point ID 44501      Lat  36°03'10.29917"N Lng  114°59'31.59480"W
            Class Control       Hgt  1645.648         Code 1_30_09_BASE
            Obs  User Input     H.pr <null>           V.pr <null>

EQUIP   SI  Receiver  SPS851              Serial no <no text>
            Antenna   Zephyr - Model 2
            Meas To   Antenna Phase Center
            Tape adj  0.000               Serial no <no text>
            H.Offset  0.000               V.Offset  0.000

NOTE    NM  Receiver firmware version=0.000

GPSANT  KI  Antenna ht 4.245           Measuremt True

GPSREF  KI  Reference 44501

INIT    KI  Init event    Gained        Week         1543
            Init type     On the fly    seconds      248553.0
            Init counter  1             Point ID     <no text>
            Survey type   Real Time     Plate H.Dist <null>
            Plate V.Dist  <null>        Plate azimuth <null>

EQUIP   NM  Receiver  SPS881              Serial no 4813149404
            Antenna   R8 Model 2/SPS88x Internal
            Meas To   Bottom of antenna mount
            Tape adj  0.000               Serial no <no text>
            H.Offset  0.000               V.Offset  0.213

NOTE    NM  Receiver firmware version=3.710

GPSANT  KI  Antenna ht 6.562           Measuremt Uncorrected

GPSVEC  SO  Point ID 83000      DX   -6113.656      DY   2077.939
            Class Stake out     DZ   -943.385       Code 8-4-09prechk
            Obs  L1 Fixed       H.pr 0.017          V.pr 0.032

GPSQC1  NM  Min SVs       14            PDOP max  1.1
            Relative DOPs  Yes          HDOP max  0.5
            Total GPS pos  6            VDOP max  1.0
            Monitor status Not monitored RMS      14.4
            Horz SD                     Vert SD
            Start wk 1543 sec 248652.0  End wk 1543   sec 248657.0
```

```
GPSQC2  NM  Ttl satellites 14               Err Scale 0.0099999998
            VCV xx    0.0000166497           VCV xy    0.00002074
            VCV xz   -0.000007975            VCV yy    0.0000777962
            VCV yz   -0.0000304744           VCV zz    0.0000254798

PT DGN  SO  Name          CP425              To the Point

GRID D  SO  Delta N       -0.041             Delta E        -0.073
            Delta Elv     -0.052

GPSVEC  SO  Point ID 83001      DX   -6115.730        DY   2070.607
            Class Stake out     DZ   -968.305         Code SDMH3-OUT-15+55.
            Obs  L1 Fixed       H.pr 0.018            V.pr 0.031

F-CODE  SO  Code SDMH3-OUT-15+55.89

GPSQC1  NM  Min SVs        9                 PDOP max  1.2
            Relative DOPs  Yes               HDOP max  0.6
            Total GPS pos  6                 VDOP max  1.0
            Monitor status Not monitored     RMS       18.7
            Horz SD                          Vert SD
            Start wk 1543 sec 248927.0       End wk 1543   sec 248932.0

GPSQC2  NM  Ttl satellites 14               Err Scale 0.0099999998
            VCV xx    0.0000167801           VCV xy    0.000020417
            VCV xz   -0.0000072046           VCV yy    0.0000797142
            VCV yz   -0.0000297131           VCV zz    0.000024459

PT DGN  SO  Name          37016              To the Point

GRID D  SO  Delta N        0.000             Delta E         0.056
            Delta Elv     -0.223

GPSVEC  SO  Point ID 83002      DX   -6112.101        DY   2069.087
            Class Stake out     DZ   -968.370         Code SDMH3-IN-15+59.8
            Obs  L1 Fixed       H.pr 0.018            V.pr 0.031

F-CODE  SO  Code SDMH3-IN-15+59.89

GPSQC1  NM  Min SVs        14                PDOP max  1.1
            Relative DOPs  Yes               HDOP max  0.5
            Total GPS pos  6                 VDOP max  1.0
            Monitor status Not monitored     RMS       21.2
            Horz SD                          Vert SD
            Start wk 1543 sec 248991.0       End wk 1543   sec 248996.0

GPSQC2  NM  Ttl satellites 14               Err Scale 0.0099999998
            VCV xx    0.000016603            VCV xy    0.0000200445
            VCV xz   -0.0000070148           VCV yy    0.0000793124
            VCV yz   -0.0000293925           VCV zz    0.0000241494

PT DGN  SO  Name          37017              To the Point

GRID D  SO  Delta N       -0.147             Delta E         0.124
            Delta Elv      0.142

GPSVEC  SO  Point ID 83003      DX   -6459.450        DY   2234.448
            Class Stake out     DZ   -967.826         Code SDMH2-IN-11+74.6
            Obs  L1 Fixed       H.pr 0.017            V.pr 0.029

F-CODE  SO  Code SDMH2-IN-11+74.66

GPSQC1  NM  Min SVs        14                PDOP max  1.1
            Relative DOPs  Yes               HDOP max  0.5
            Total GPS pos  6                 VDOP max  0.9
            Monitor status Not monitored     RMS       14.1
            Horz SD                          Vert SD
            Start wk 1543 sec 249320.0       End wk 1543   sec 249325.0

GPSQC2  NM  Ttl satellites 14               Err Scale 0.0099999998
            VCV xx    0.0000170198           VCV xy    0.00001866
            VCV xz   -0.0000059146           VCV yy    0.0000709359
            VCV yz   -0.0000239139           VCV zz    0.000019031

PT DGN  SO  Name          37007              To the Point

GRID D  SO  Delta N        0.466             Delta E        -0.406
            Delta Elv      0.179

GPSVEC  SO  Point ID 83004      DX   -6461.985        DY   2236.285
            Class Stake out     DZ   -966.764         Code SDMH2-OUT-11+70.
            Obs  L1 Fixed       H.pr 0.017            V.pr 0.028

F-CODE  SO  Code SDMH2-OUT-11+70.66

GPSQC1  NM  Min SVs        15                PDOP max  1.0
            Relative DOPs  Yes               HDOP max  0.5
            Total GPS pos  5                 VDOP max  0.9
            Monitor status Not monitored     RMS       21.4
            Horz SD                          Vert SD
            Start wk 1543 sec 249380.0       End wk 1543   sec 249385.0

GPSQC2  NM  Ttl satellites 15               Err Scale 0.0099999998
            VCV xx    0.0000166636           VCV xy    0.0000164638
            VCV xz   -0.0000053515           VCV yy    0.0000652897
            VCV yz   -0.0000234525           VCV zz    0.0000212377

PT DGN  SO  Name          37006              To the Point

GRID D  SO  Delta N        0.635             Delta E        -0.795
            Delta Elv     -0.167
```

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GPSVEC  SO  Point ID 83005        DX  -6493.975      DY   2280.681
            Class Stake out       DZ  -931.156       Code SDMH1-IN-11+05.7
            Obs  L1 Fixed         H.pr 0.017         V.pr 0.028

GPSQC1  NM  Min SVs      14           PDOP max  1.0
            Relative DOPs  Yes        HDOP max  0.5
            Total GPS pos  6          VDOP max  0.9
            Monitor status Not monitored  RMS      18.9
            Horz SD                  Vert SD
            Start wk 1543 sec 249436.0   End wk 1543   sec 249441.0

GPSQC2  NM  Ttl satellites 14        Err Scale 0.0099999998
            VCV xx    0.000016223    VCV xy    0.0000144601
            VCV xz   -0.0000046722   VCV yy    0.0000614704
            VCV yz   -0.0000233005   VCV zz    0.0000222931

PT DGN  SO  Name         37004       To the Point

GRID D  SO  Delta N      0.458       Delta E       -0.525
            Delta Elv    0.139

GPSVEC  SO  Point ID 83006        DX  -6495.394      DY   2283.150
            Class Stake out       DZ  -928.673       Code SDMH1-OUT-11+01.
            Obs  L1 Fixed         H.pr 0.018         V.pr 0.029

F-CODE  SO  Code SDMH1-OUT-11+01.7

GPSQC1  NM  Min SVs      9            PDOP max  1.1
            Relative DOPs  Yes        HDOP max  0.6
            Total GPS pos  5          VDOP max  0.9
            Monitor status Not monitored  RMS      19.6
            Horz SD                  Vert SD
            Start wk 1543 sec 249480.0   End wk 1543   sec 249485.0

GPSQC2  NM  Ttl satellites 14        Err Scale 0.0099999998
            VCV xx    0.0000164666   VCV xy    0.0000153467
            VCV xz   -0.0000049029   VCV yy    0.0000703863
            VCV yz   -0.0000266567   VCV zz    0.0000239591

PT DGN  SO  Name         37003       To the Point

GRID D  SO  Delta N      0.740       Delta E       -0.322
            Delta Elv   -0.198

GPSVEC  SO  Point ID 83007        DX  -6113.684      DY   2077.946
            Class Stake out       DZ  -943.389       Code 8-4-09postchk
            Obs  L1 Fixed         H.pr 0.017         V.pr 0.028

GPSQC1  NM  Min SVs      14           PDOP max  1.0
            Relative DOPs  Yes        HDOP max  0.5
            Total GPS pos  5          VDOP max  0.9
            Monitor status Not monitored  RMS      17.3
            Horz SD                  Vert SD
            Start wk 1543 sec 249805.0   End wk 1543   sec 249810.0

GPSQC2  NM  Ttl satellites 14        Err Scale 0.0099999998
            VCV xx    0.0000135144   VCV xy    0.0000106614
            VCV xz   -0.0000028473   VCV yy    0.0000636185
            VCV yz   -0.0000239619   VCV zz    0.0000213675

PT DGN  SO  Name         CP425       To the Point

GRID D  SO  Delta N     -0.035       Delta E       -0.045
            Delta Elv   -0.055

SURVEY  EVENTKISurvey event Survey ended

NOTE    TS  Time Date 08/05/2009 Time 11:27:43

NOTE    TS  Time Date 08/11/2009 Time 07:49:18

SURVEY  KI  Elev mask 10              PDOP mask 6.0

SURVEY  KI  Elev mask 10              PDOP mask 6.0

SURVEY  KI  Elev mask 10              PDOP mask 6.0

SURVEY  EVENTKISurvey event Rover survey started

GPSANT  KI  Antenna ht 0.000         Measuremt True

GPSPOS  FD  Point ID 44501        Lat  36°03'10.29917"N Lng  114°59'31.59480"W
            Class Control         Hgt  1645.648      Code 1_30_09_BASE
            Obs  User Input       H.pr <null>        V.pr <null>

EQUIP   SI  Receiver  SPS851          Serial no <no text>
            Antenna   Zephyr - Model 2
            Meas To   Antenna Phase Center
            Tape adj  0.000           Serial no <no text>
            H.Offset  0.000           V.Offset  0.000

NOTE    NM  Receiver firmware version=0.000

GPSANT  KI  Antenna ht 4.245         Measuremt True

GPSREF  KI  Reference 44501

INIT    KI  Init event    Gained      Week        1544
            Init type     On the fly  seconds     226183.0
            Init counter  1           Point ID    <no text>
            Survey type   Real Time   Plate H.Dist <null>
            Plate V.Dist  <null>      Plate azimuth <null>
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```
EQUIP   NM  Receiver  SPS881              Serial no 4813149404
            Antenna   R8 Model 2/SPS88x Internal
            Meas To   Bottom of antenna mount
            Tape adj  0.000               Serial no <no text>
            H.Offset  0.000               V.Offset  0.213

NOTE    NM  Receiver firmware version=3.710

GPSANT  KI  Antenna ht 6.562              Measuremt Uncorrected

GPSVEC  SO  Point ID 83008      DX   -6414.209      DY   2243.253
            Class Stake out     DZ   -906.927       Code 8-11-09PRECHK
            Obs  L1 Fixed       H.pr 0.021          V.pr 0.026

GPSQC1  NM  Min SVs       11             PDOP max  1.1
            Relative DOPs  Yes           HDOP max  0.7
            Total GPS pos  5             VDOP max  0.8
            Monitor status Not monitored RMS       15.1
            Horz SD                      Vert SD
            Start wk 1544 sec 226363.0   End wk 1544   sec 226368.0

GPSQC2  NM  Ttl satellites 11            Err Scale 0.0099999998
            VCV xx    0.000026417        VCV xy    0.0000194898
            VCV xz   -0.0000047689       VCV yy    0.000047835
            VCV yz   -0.0000148775       VCV zz    0.0000292304

PT DGN  SO  Name          CP426          To the Point

GRID D  SO  Delta N      0.043           Delta E       -0.029
            Delta Elv    0.024

GPSVEC  SO  Point ID 83009      DX   -6500.559      DY   2352.780
            Class Stake out     DZ   -852.994       Code SDHW1-OUT-10+00
            Obs  L1 Fixed       H.pr 0.021          V.pr 0.026

GPSQC1  NM  Min SVs        7             PDOP max  1.1
            Relative DOPs  Yes           HDOP max  0.7
            Total GPS pos  5             VDOP max  0.8
            Monitor status Not monitored RMS       23.9
            Horz SD                      Vert SD
            Start wk 1544 sec 226633.0   End wk 1544   sec 226638.0

GPSQC2  NM  Ttl satellites 11            Err Scale 0.0099999998
            VCV xx    0.0000261904       VCV xy    0.0000187287
            VCV xz   -0.000004728        VCV yy    0.0000469137
            VCV yz   -0.0000156276       VCV zz    0.0000304619

PT DGN  SO  Name          37000          To the Point

GRID D  SO  Delta N     -0.341           Delta E        0.109
            Delta Elv    4.015

GPSVEC  SO  Point ID 83010      DX   -6414.175      DY   2243.220
            Class Stake out     DZ   -906.918       Code 8-11-09POSTCHK
            Obs  L1 Fixed       H.pr 0.020          V.pr 0.025

GPSQC1  NM  Min SVs       11             PDOP max  1.0
            Relative DOPs  Yes           HDOP max  0.6
            Total GPS pos  5             VDOP max  0.8
            Monitor status Not monitored RMS       19.6
            Horz SD                      Vert SD
            Start wk 1544 sec 226730.0   End wk 1544   sec 226735.0

GPSQC2  NM  Ttl satellites 11            Err Scale 0.0099999998
            VCV xx    0.0000237988       VCV xy    0.0000174465
            VCV xz   -0.0000022687       VCV yy    0.0000447693
            VCV yz   -0.0000162524       VCV zz    0.0000263527

PT DGN  SO  Name          CP426          To the Point

GRID D  SO  Delta N      0.045           Delta E       -0.074
            Delta Elv    0.005

SURVEY  EVENTKISurvey event Survey ended

NOTE    TS  Time Date 08/11/2009 Time 08:51:30
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