AD/RHIC/RD–22

RHIC PROJECT

Brookhaven National Laboratory

The Improvement of the Vertical Dispersion Matching of the Beam Transport Line Between AGS and RHIC

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In the beam transport line from AGS to RHIC due to vertical bending of the central orbit in some places the vertical dispersion is not zero. But at the injection point of RHIC the dispersion functions η_y and η'_y should be zero so as to match the parameters of RHIC. Otherwise there will be a vertical phase space dilution. The related dilution factor can be expressed as follows:

$$\frac{\epsilon}{\epsilon_0} = \left[1 + \sqrt{\frac{\epsilon_c}{\epsilon_0}}\right]^2 \tag{1}$$

where

$$\epsilon_c = \gamma(D\delta)^2 + 2\alpha(D\delta)(D'\delta) + \beta(D'\delta)^2 \quad . \tag{2}$$

And $D = \eta - \eta_0$, $D' = \eta' - \eta'_0$, in which η_0 and η'_0 are the ideal values of the dispersion functions. And δ is the relative momentum deviation of the particles due to injection momentum mismatch or momentum spread of the injection beam.

In the original lattice of the beam transport line,[1] at the injection point $\eta_y = 0.228$ m, $\eta'_y = 0.006$. The corresponding phase space dilution factor will be about 112% for $\delta = 10^{-3}$. The lattice of the beam transport line has been modified to improve the vertical dispersion matching. An additional quadrupole QMI5' is installed 4.257 meters downstream of QMI4 and the strengths of the quadrupoles in M–line (QMI1 to QMI7) and quadrupoles in V–line are adjusted to match the required parameters at the injection point of RHIC and keep the beam envelop to be less than the allowable value. In the lattice there is a low β waist for foil SA between UQ5 and UQ6 which is the first variant described in reference 2.[2]

Two variants are described in this note. The main difference between the two lattices is the total phase shift. In the first variant, $MUX = 5.542$ and $MUY = 5.359$. The relations between the position error $x_2(y_2)$ and direction error $x'_2(y'_2)$ at the injection point of RHIC and the errors of the AGS ejection beam x_1, x'_1 (y_1, y'_1) are as follows:

$$x_2 = 0.14x_1 - 4.8x'_1 \ , \tag{3}$$

$$x'_2 = 0.26x_1 - 1.96x'_1 \ ; \tag{4}$$

$$y_2 = 0.46y_1 + 15.5y'_1 \ , \tag{5}$$

$$y'_2 = -0.07y_1 - 0.26y'_1 \ . \tag{6}$$

[1] J. Claus and H. Foelsche, Beam transfer from AGS to RHIC, AD/RHIC–47, 1988.

[2] Jianming Xu, The effect of the stripping foil SA on the injection beam of RHIC, AD/RHIC/RD–18, 1990.

In the second variant, $MUX = 5.867$ and $MUY = 5.499$. The corresponding relations are:

$$x_2 = 2.1x_1 - 13.7x_1' \ , \tag{7}$$
$$x_2' = -0.13x_1 + 1.36x_1' \ ; \tag{8}$$
$$y_2 = -2.47y_1 + 0.12y_1' \ , \tag{9}$$
$$y_2' = -0.053y_1 - 0.40y_1' \ . \tag{10}$$

In equations (3) to (10), x, y are expressed in meters and x', y' in radians. Comparing the above equations we can find that, the first variant is less sensitive to the AGS ejection beam horizontal position error x_1, and angular error x_1', which are caused by the instability of the AGS ejection system and the ejection beam energy error. These errors are the most dominant errors and are difficult to be cured by control system. Another difference is the β value at SA. In the first variant β_x and β_y are 6.14 meters and in the second variant they are 5.5 meters. The relative emittance growth at SA will be 8.2% for the first variant which is larger than 7.4% for the second variant. After overall study of the performance of the two variants we can select the lattice finally.

The parameters of the elements of the first variant are shown in Table 1. The Twiss parameters and the relative positions of the elements are shown in Table 2. The parameters of the elements of the second variant can be found from Table 3 and the Twiss parameters are shown in Table 4. Table 2 and 4 are the output of MAD in which the distances in rectangular bending magnets are the linear distance but not the arc length of the central orbit.

In the modified lattices at the Big Bend there is small vertical dispersion. The maximum value of η_y in the bending magnets is about 0.33 meters occurring in G1D magnet for both variants, which will increase the beam half height by 0.33 mm (if the momentum spread of the beam is 0.001). The maximum half beam height in the bending magnets of the Big Bend is about 5.9 mm ($\sqrt{38.7\epsilon_0} + 0.327\delta$) or 5.6 mm $(38.7\epsilon_0 + 0.327^2\delta^2)^{1/2}$ for the first variant and is 6.3 mm ($\sqrt{43.8\epsilon_0} + 0.327\delta$) or 5.9 mm $(43.8\epsilon_0 + 0.327^2\delta^2)^{1/2}$ for the second variant. In both variants the maximum beam height is less than half of the useful vertical aperture of the magnets.

Acknowledgments

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TABLE 1.

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LUKS:DRIFT,L=5.00000
LU01:DRIFT,L=0.374005
LU12:DRIFT,L=0.495300
LU231:DRIFT,L=0.477256
LU232:DRIFT,L=0.459994
LU233:DRIFT,L=0.459994
LU234:DRIFT,L=0.255379
LU34:DRIFT,L=15.139416
LU45:DRIFT,L=4.92404
LU56:DRIFT,L=5.933184
LU66':DRIFT,L=4.866622
LU6'7:DRIFT,L=6
LU78:DRIFT,L=11.599619
LU891:DRIFT,L=5.534764
LU892:DRIFT,L=0.609600
LU193:DRIFT,L=0.609600
LU293:DRIFT,L=0.609600
LU894:DRIFT,L=0.609600
LU895:DRIFT,L=8.364036
LU910:DRIFT,L=10.695975
LU011:DRIFT,L=5.106874
LU112:DRIFT,L=10.227535
LU100:DRIFT,L=1.000
LU800:DRIFT,L=8.000

LW01:DRIFT,L=17.524174
LW12:DRIFT,L=14.051700
LW231:DRIFT,L=6.111450
LW232:DRIFT,L=6.111450
LW34:DRIFT,L=14.0517
LW45:DRIFT,L=14.0517
LW56:DRIFT,L=14.0517
LW67:DRIFT,L=14.0517
LW78:DRIFT,L=14.0517

LV01:DRIFT,L=13.972064
LV12:DRIFT,L=14.457299
LV231:DRIFT,L=8.214856
LV232:DRIFT,L=5.991919
LV34:DRIFT,L=14.072442
LV45:DRIFT,L=19.581019
LV56:DRIFT,L=18.138067
LV60:DRIFT,L=0.532168

L112:DRIFT,L=9.955836
L113:DRIFT,L=4.624169
L114:DRIFT,L=1.284570
LHOL:DRIFT,L=0.715
LOS:DRIFT,L=0.45000
LHALL:DRIFT,L=0.517663

LM121:DRIFT,L=1.588065
LM122:DRIFT,L=1.314723
LM231:DRIFT,L=1.158010
LM232:DRIFT,L=0.639683
LM341:DRIFT,L=1.53305
LM342:DRIFT,L=0.582034
LM451:DRIFT,0.890697
LM452':DRIFT,L=1.961489
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LM561:DRIFT,L=1.399065
LM562:DRIFT,L=7.563012
LM671:DRIFT,L=1.043211
LM781:DRIFT,L=1.337782
LM782:DRIFT,L=1.000000
L0782:DRIFT,L=1.000000
L0891:DRIFT,L=1.00000
L0892:DRIFT,L=14.362796
L0893:DRIFT,L=0.500000
LM42:DRIFT,L=0.4200

SA:MONITOR,L=0.00

UQ1:QUADRUPOLE,TYPE=MQ,L=0.9525,K1=0.3298689
UQ2:QUADRUPOLE,TYPE=MQ,L=0.9525,K1=-0.3781077
UQ3:QUADRUPOLE,TYPE=MQ,L=0.4572,K1=0.1754144
UQ4:QUADRUPOLE,TYPE=MQ,L=0.72644,K1=-0.2020644
UQ5:QUADRUPOLE,TYPE=MQ,L=0.72644,K1=0.1790388
UQ6:QUADRUPOLE,TYPE=MQ,L=0.72644,K1=-0.1056577
UQ7:QUADRUPOLE,TYPE=MQ,L=0.72644,K1=-0.1731694
UQ8:QUADRUPOLE,TYPE=MQ,L=0.72644,K1=0.05680436
UQ9:QUADRUPOLE,TYPE=MQ,L=0.72644,K1=-0.1205281
UQ10:QUADRUPOLE,TYPE=MQ,L=0.72644,K1=0.2547567
UQ11:QUADRUPOLE,TYPE=MQ,L=0.72644,K1=-0.1911355
UQ12:QUAD,TYPE=MQ,L=0.72644,K1=0.1627298
UQ6':QUAD,TYPE=MQ,L=0.72644,K1=0.1752391
UQ9':QUAD,TYPE=MQ,L=0.72644,K1=0.07017759


VQ1D:QUAD,TYPE=VQ,L=0.740000,K1=-0.1484018
VQ2F:QUAD,TYPE=VQ,L=0.740000,K1=0.1227389
VQ3D:QUAD,TYPE=VQ,L=0.740000,K1=-0.1162181
VQ4F:QUAD,TYPE=VQ,L=0.740000,K1=0.119632
VQ5D:QUAD,TYPE=VQ,L=0.740000,K1=-0.09290377
VQ6F:QUAD,TYPE=VQ,L=0.740000,K1=0.130915

QMI1:QUAD,TYPE=Q,L=0.680000,K1=0.06123872
QMI2:QUAD,TYPE=Q,L=0.680000,K1=0.08244241
QMI3:QUAD,TYPE=Q,L=0.680000,K1=-0.221713
QMI4:QUAD,TYPE=Q,L=0.680000,K1=0.2378369
QMI5:QUAD,TYPE=Q,L=0.680000,K1=-0.1942819
QMI6:QUAD,TYPE=Q,L=0.680000,K1=0.1388596
QMI7:QUAD,TYPE=Q,L=0.680000,K1=-0.1645819
Q80:RBEND,L=0.617102,ANGLE=-1.545E-3,K1=-0.07867868,TILT
Q90:QUAD,L=0.411734,K1=-0.056282546
QMI5':QUAD,TYPE=Q,L=0.68000,K1=0.1346557

UD1:RBEND,TYPE=UD,L=2.080006,ANGLE=24.725E-3
UD2:RBEND,TYPE=UD,L=2.080006,ANGLE=24.725E-3
UD3:RBEND,TYPE=UD,L=2.080006,ANGLE=24.725E-3
U4F:RBEND,TYPE=UD,L=3.657600,ANGLE=34.906E-3,K1=0.018823143
U5D:RBEND,TYPE=UD,L=3.657600,ANGLE=34.906E-3,K1=-0.018823143
U6D:RBEND,TYPE=UD,L=3.657600,ANGLE=34.906E-3,K1=-0.018823143
U7F:RBEND,TYPE=UD,L=3.657600,ANGLE=34.906E-3,K1=0.018823143

W1D:RBEND,TYPE=WD,L=3.657600,ANGLE=43.633E-3,K1=-0.023528529
W2F:RBEND,TYPE=WD,L=3.657600,ANGLE=43.633E-3,K1=0.023528529
W3D:RBEND,TYPE=WD,L=3.657600,ANGLE=43.633E-3,K1=-0.023528529
W4F:RBEND,TYPE=WD,L=3.657600,ANGLE=43.633E-3,K1=0.023528529
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W5D:RBEND,TYPE=WD,L=3.657600,ANGLE=43.633E-3,K1=-0.023528529
W6F:RBEND,TYPE=WD,L=3.657600,ANGLE=43.633E-3,K1=0.023528529
W7D:RBEND,TYPE=WD,L=3.657600,ANGLE=43.633E-3,K1=-0.023528529
W8F:RBEND,TYPE=WD,L=3.657600,ANGLE=43.633E-3,K1=0.023528529
WP1:RBEND,TYPE=WD,L=1.828800,ANGLE=10E-3,TILT
WP2:RBEND,TYPE=WD,L=1.828800,ANGLE=-10E-3,TILT

SWM:RBEND,TYPE=WD,L=3.65726099,ANGLE=47.165E-3

G1D:RBEND,TYPE=GD,L=3.65726099,ANGLE=47.419E-3,K1=-0.0380886
G2F:RBEND,TYPE=GD,L=2.946220867,ANGLE=38.199E-3,K1=0.0380886
GD:RBEND,TYPE=GD,L=3.65726009,ANGLE=47.719E-3,K1=-0.0380886
GF:RBEND,TYPE=GD,L=3.65726009,ANGLE=47.719E-3,K1=0.0380886

BMI:RBEND,TYPE=MD,L=2.946111148,ANGLE=48.507E-3
SI0:RBEND,TYPE=SD,L=4.087567,ANGLE=50.407E-3,TILT
SI1:RBEND,TYPE=SD,L=3.499727936,ANGLE=-43.193E-3,TILT
SI2:RBEND,TYPE=SD,L=1.40000,ANGLE=-2.8E-3,TILT
KI:RBEND,L=3.250000,ANGLE=-1.324E-3,TILT

U1:LINE=(LUKS,LU01,UQ1,LU12,UQ2,LU231,UD1,LU232,UD2,LU233,UD3,&
    LU234,UQ3,LU34,UQ4,LU45,UQ5,LU56,3*LU100,SA,2*LU100,&
   UQ6,LU66',UQ6',LU6'7,UQ7,LU78,UQ8,LU891)
U2:LINE=(U4F,LU892,U5D,LU193,LU293,U6D,LU894,U7F,LU800,UQ9',LU895,&
     UQ9,LU910,UQ10,LU011,UQ11,LU112,UQ12)
U:LINE=(U1,U2)

W:LINE=(LW01,W1D,LW12,W2F,LW231,WP1,LW232,W3D,LW34,W4F,LW45,&
    W5D,LW56,W6F,LW67,W7D,LW78,W8F)

V1:LINE=(LV01,VQ1D,LV12,VQ2F,LV231,WP2)
V2:LINE=(LV232,VQ3D,LV34,VQ4F,LV45,VQ5D,&
      LV56,VQ6F,LV60,SWM)
PF:LINE=(LHOL,GF,LOS,GD,LHOL)
PD:LINE=(LHOL,GD,LOS,GF,LHOL)
PERIOD:LINE=(PF,PD)
Q:LINE=(L112,G1D,L113,G2F,L114,5*PERIOD,PF,LHOL,GD,LOS,GF,LHALL)

M1:LINE=(QMI1,LM121,BMI,LM122,QMI2,LM231,BMI,LM232,QMI3,LM341,BMI,&
       LM342,QMI4,LM451,BMI,LM42,QMI5')
M2:LINE=(LM452',QMI5,LM561,BMI,LM562,QMI6,LM671,SI0,LM781,QMI7,&
      LM782,SI1,L0782,Q80,Q80,L0891,SI2,L0892,KI,L0893,Q90)
RHIC:LINE=(U,W,V1,V2,Q,M1,M2)
```

TABLE 2

DELTA(P)/P = 0.000000 SYMM = F

POS. NO.	ELEMENT NAME	SEQUENCE OCC. NO.	DIST [M]	I	BETAX [M]	ALFAX [1]	H O R I Z O N T A L MUX [2PI]	X(CO) [MM]	PX(CO) [.001]	DX [M]	DPX [1]	I	BETAY [M]	ALFAY [1]	V E R T I C A L MUY [2PI]	Y(CO) [MM]	PY(CO) [.001]	DY [M]	DPY [1]
BEGIN	RHIC	1	0.000		37.590	-4.778	0.000	0.000	0.000	-2.960	-0.295		8.050	1.053	0.000	0.000	0.000	0.000	0.000
BEGIN	U	1	0.000		37.590	-4.778	0.000	0.000	0.000	-2.960	-0.295		8.050	1.053	0.000	0.000	0.000	0.000	0.000
BEGIN	U1	1	0.000		37.590	-4.778	0.000	0.000	0.000	-2.960	-0.295		8.050	1.053	0.000	0.000	0.000	0.000	0.000
1	LUKS	1	5.000		101.218	-7.948	0.013	0.000	0.000	-4.435	-0.295		4.069	-0.257	0.169	0.000	0.000	0.000	0.000
2	LU01	1	5.374		107.252	-8.185	0.013	0.000	0.000	-4.545	-0.295		4.298	-0.355	0.183	0.000	0.000	0.000	0.000
3	UQ1	1	6.327		91.413	23.121	0.015	0.000	0.000	-4.149	1.106		6.799	-2.528	0.213	0.000	0.000	0.000	0.000
4	LU12	1	6.822		69.947	20.219	0.016	0.000	0.000	-3.601	1.106		9.570	-3.066	0.223	0.000	0.000	0.000	0.000
5	UQ2	1	7.774		54.816	-2.557	0.019	0.000	0.000	-3.122	-0.071		12.118	0.704	0.236	0.000	0.000	0.000	0.000
6	LU231	1	8.252		57.288	-2.622	0.020	0.000	0.000	-3.156	-0.071		11.475	0.645	0.243	0.000	0.000	0.000	0.000
7	UD1	1	10.332		68.791	-2.908	0.025	0.000	0.000	-3.279	-0.047		9.319	0.391	0.275	0.000	0.000	0.000	0.000
8	LU232	1	10.792		71.496	-2.972	0.026	0.000	0.000	-3.300	-0.047		8.985	0.334	0.283	0.000	0.000	0.000	0.000
9	UD2	1	12.872		84.452	-3.258	0.030	0.000	0.000	-3.371	-0.022		8.126	0.079	0.322	0.000	0.000	0.000	0.000
10	LU233	1	13.332		87.478	-3.321	0.031	0.000	0.000	-3.381	-0.022		8.079	0.022	0.331	0.000	0.000	0.000	0.000
11	UD3	1	15.412		101.887	-3.607	0.035	0.000	0.000	-3.401	0.003		8.518	-0.233	0.371	0.000	0.000	0.000	0.000
12	LU234	1	15.667		103.738	-3.642	0.035	0.000	0.000	-3.400	0.003		8.645	-0.265	0.376	0.000	0.000	0.000	0.000
13	UQ3	1	16.124		103.258	4.678	0.036	0.000	0.000	-3.336	0.274		9.240	-1.053	0.384	0.000	0.000	0.000	0.000
14	LU34	1	31.264		12.406	1.323	0.105	0.000	0.000	0.810	0.274		93.406	-4.507	0.470	0.000	0.000	0.000	0.000
15	UQ4	1	31.990		11.837	-0.511	0.115	0.000	0.000	1.056	0.410		90.003	9.023	0.472	0.000	0.000	0.000	0.000
16	LU45	1	36.914		19.452	-1.036	0.168	0.000	0.000	3.073	0.410		23.345	4.514	0.489	0.000	0.000	0.000	0.000
17	UQ5	1	37.640		19.137	1.455	0.174	0.000	0.000	3.222	-0.003		19.140	1.455	0.494	0.000	0.000	0.000	0.000
18	LU56	1	43.574		7.606	0.489	0.255	0.000	0.000	3.205	-0.003		7.605	0.489	0.576	0.000	0.000	0.000	0.000
19	LU100	1	44.574		6.791	0.326	0.278	0.000	0.000	3.201	-0.003		6.790	0.326	0.598	0.000	0.000	0.000	0.000
20	LU100	2	45.574		6.303	0.163	0.302	0.000	0.000	3.198	-0.003		6.302	0.163	0.623	0.000	0.000	0.000	0.000
21	LU100	3	46.574		6.140	0.000	0.328	0.000	0.000	3.195	-0.003		6.139	0.000	0.648	0.000	0.000	0.000	0.000
22	SA	1	46.574		6.140	0.000	0.328	0.000	0.000	3.195	-0.003		6.139	0.000	0.648	0.000	0.000	0.000	0.000
23	LU100	4	47.574		6.303	-0.163	0.353	0.000	0.000	3.192	-0.003		6.301	-0.163	0.674	0.000	0.000	0.000	0.000
24	LU100	5	48.574		6.791	-0.326	0.378	0.000	0.000	3.189	-0.003		6.790	-0.326	0.699	0.000	0.000	0.000	0.000
25	UQ6	1	49.300		7.756	-1.026	0.394	0.000	0.000	3.277	0.244		6.959	0.098	0.715	0.000	0.000	0.000	0.000
26	LU66'	1	54.167		24.016	-2.315	0.452	0.000	0.000	4.464	0.244		9.442	-0.608	0.818	0.000	0.000	0.000	0.000
27	UQ6'	1	54.893		25.158	0.792	0.457	0.000	0.000	4.434	-0.327		11.360	-2.114	0.829	0.000	0.000	0.000	0.000
28	LU6'7	1	60.893		17.984	0.404	0.502	0.000	0.000	2.473	-0.327		54.048	-5.001	0.868	0.000	0.000	0.000	0.000
29	UQ7	1	61.620		19.091	-1.973	0.509	0.000	0.000	2.346	-0.026		56.336	1.949	0.870	0.000	0.000	0.000	0.000
30	LU78	1	73.219		99.337	-4.945	0.551	0.000	0.000	2.045	-0.026		22.579	0.961	0.923	0.000	0.000	0.000	0.000
31	UQ8	1	73.946		103.565	-0.816	0.553	0.000	0.000	1.996	-0.110		21.884	0.006	0.928	0.000	0.000	0.000	0.000
32	LU891	1	79.480		113.095	-0.905	0.561	0.000	0.000	1.390	-0.110		23.222	-0.247	0.968	0.000	0.000	0.000	0.000
END	U1	1	79.480		113.095	-0.905	0.561	0.000	0.000	1.390	-0.110		23.222	-0.247	0.968	0.000	0.000	0.000	0.000
BEGIN	U2	1	79.480		113.095	-0.905	0.561	0.000	0.000	1.390	-0.110		23.222	-0.247	0.968	0.000	0.000	0.000	0.000
33	U4F	1	83.138		92.690	6.009	0.566	0.000	0.000	0.897	-0.154		32.337	-2.449	0.990	0.000	0.000	0.000	0.000
34	LU892	1	83.748		85.513	5.765	0.567	0.000	0.000	0.803	-0.154		35.402	-2.581	0.993	0.000	0.000	0.000	0.000
35	U5D	1	87.405		65.128	0.270	0.575	0.000	0.000	0.383	-0.080		45.688	0.010	1.007	0.000	0.000	0.000	0.000
36	LU193	1	88.015		64.806	0.260	0.577	0.000	0.000	0.335	-0.080		45.684	-0.003	1.009	0.000	0.000	0.000	0.000
37	LU293	1	88.624		64.495	0.250	0.578	0.000	0.000	0.286	-0.080		45.696	-0.016	1.011	0.000	0.000	0.000	0.000
38	U6D	1	92.282		80.237	-4.910	0.587	0.000	0.000	0.082	-0.033		35.446	2.578	1.025	0.000	0.000	0.000	0.000
39	LU894	1	92.892		86.340	-5.101	0.588	0.000	0.000	0.062	-0.033		32.383	2.446	1.028	0.000	0.000	0.000	0.000
40	U7F	1	96.549		101.557	1.295	0.594	0.000	0.000	-0.001	0.000		23.293	0.243	1.050	0.000	0.000	0.000	-0.000
41	LU800	1	104.549		82.530	1.084	0.608	0.000	0.000	0.000	0.000		22.318	-0.121	1.107	0.000	0.000	0.000	0.000
42	UQ9'	1	105.276		77.988	5.090	0.609	0.000	0.000	0.000	0.000		23.359	-1.330	1.112	0.000	0.000	0.000	0.000
43	LU895	1	113.640		16.979	2.204	0.646	0.000	0.000	0.000	0.000		53.898	-2.321	1.150	0.000	0.000	0.000	0.000
44	UQ9	1	114.366		14.928	0.679	0.654	0.000	0.000	0.000	0.000		53.834	2.407	1.152	0.000	0.000	0.000	0.000
45	LU910	1	125.062		11.603	-0.368	0.805	0.000	0.000	0.001	0.000		16.783	1.057	1.210	0.000	0.000	0.000	0.000
46	UQ10	1	125.789		10.649	1.622	0.815	0.000	0.000	0.001	0.000		17.534	-2.138	1.217	0.000	0.000	0.000	0.000
47	LU011	1	130.895		2.975	-0.119	0.996	0.000	0.000	0.000	0.000		47.651	-3.760	1.245	0.000	0.000	0.000	0.000
48	UQ11	1	131.622		3.656	-0.850	1.032	0.000	0.000	0.000	0.000		48.268	2.938	1.247	0.000	0.000	0.000	0.000

49	LU112	1	141.849	70.325	-5.668	1.142	0.000	0.000	0.000	0.000	9.042	0.897	1.329	0.000	0.000	0.000	0.000
50	UQ12	1	142.576	72.470	2.800	1.143	0.000	0.000	0.000	0.000	8.570	-0.229	1.342	0.000	0.000	0.000	0.000
END	U2	1	142.576	72.470	2.800	1.143	0.000	0.000	0.000	0.000	8.570	-0.229	1.342	0.000	0.000	0.000	0.000
END	U	1	142.576	72.470	2.800	1.143	0.000	0.000	0.000	0.000	8.570	-0.229	1.342	0.000	0.000	0.000	0.000
BEGIN	W	1	142.576	72.470	2.800	1.143	0.000	0.000	0.000	0.000	8.570	-0.229	1.342	0.000	0.000	0.000	0.000
51	LW01	1	160.100	11.795	0.662	1.246	0.000	0.000	0.000	0.000	54.309	-2.381	1.493	0.000	0.000	0.000	0.000
52	W1D	1	163.758	11.797	-0.663	1.299	0.000	0.000	0.081	0.046	54.301	2.383	1.503	0.000	0.000	0.000	0.000
53	LW12	1	177.809	54.521	-2.378	1.392	0.000	0.000	0.726	0.046	11.613	0.655	1.598	0.000	0.000	0.000	0.000
54	W2F	1	181.467	54.515	2.379	1.402	0.000	0.000	0.852	0.021	11.614	-0.655	1.651	0.000	0.000	0.000	0.000
55	LW231	1	187.578	29.999	1.632	1.426	0.000	0.000	0.980	0.021	24.210	-1.406	1.711	0.000	0.000	0.000	0.000
56	WP1	1	189.407	24.434	1.410	1.437	0.000	0.000	1.018	0.021	29.766	-1.631	1.722	0.000	0.000	0.009	0.010
57	LW232	1	195.519	11.764	0.663	1.496	0.000	0.000	1.146	0.021	54.302	-2.383	1.746	0.000	0.000	0.070	0.010
58	W3D	1	199.176	11.758	-0.661	1.549	0.000	0.000	1.493	0.174	54.310	2.381	1.756	0.000	0.000	0.094	0.003
59	LW34	1	213.228	54.451	-2.378	1.643	0.000	0.000	3.940	0.174	11.641	0.655	1.851	0.000	0.000	0.132	0.003
60	W4F	1	216.886	54.467	2.374	1.653	0.000	0.000	4.018	-0.133	11.641	-0.655	1.904	0.000	0.000	0.164	0.015
61	LW45	1	230.937	11.807	0.662	1.746	0.000	0.000	2.151	-0.133	54.305	-2.381	1.999	0.000	0.000	0.374	0.015
62	W5D	1	234.595	11.814	-0.664	1.799	0.000	0.000	2.069	0.087	54.296	2.383	2.009	0.000	0.000	0.369	-0.018
63	LW56	1	248.647	54.559	-2.378	1.892	0.000	0.000	3.286	0.087	11.613	0.655	2.103	0.000	0.000	0.115	-0.018
64	W6F	1	252.304	54.543	2.382	1.902	0.000	0.000	3.161	-0.154	11.614	-0.655	2.157	0.000	0.000	0.064	-0.011
65	LW67	1	266.356	11.764	0.663	1.996	0.000	0.000	1.003	-0.154	54.306	-2.383	2.252	0.000	0.000	-0.084	-0.011
66	W7D	1	270.013	11.758	-0.661	2.049	0.000	0.000	0.656	-0.041	54.315	2.381	2.262	0.000	0.000	-0.107	-0.002
67	LW78	1	284.065	54.452	-2.378	2.143	0.000	0.000	0.074	-0.041	11.641	0.656	2.356	0.000	0.000	-0.136	-0.002
68	W8F	1	287.723	54.467	2.374	2.153	0.000	0.000	-0.003	0.000	11.640	-0.655	2.410	0.000	0.000	-0.166	-0.015
END	W	1	287.723	54.467	2.374	2.153	0.000	0.000	-0.003	0.000	11.640	-0.655	2.410	0.000	0.000	-0.166	-0.015
BEGIN	V1	1	287.723	54.467	2.374	2.153	0.000	0.000	-0.003	0.000	11.640	-0.655	2.410	0.000	0.000	-0.166	-0.015
69	LV01	1	301.695	11.914	0.672	2.245	0.000	0.000	0.001	0.000	53.922	-2.371	2.504	0.000	0.000	-0.370	-0.015
70	VQ1D	1	302.435	11.928	-0.692	2.255	0.000	0.000	0.001	0.000	53.044	3.524	2.506	0.000	0.000	-0.366	0.026
71	LV12	1	316.892	57.826	-2.483	2.348	0.000	0.000	0.006	0.000	4.023	-0.133	2.733	0.000	0.000	0.011	0.026
72	VQ2F	1	317.632	57.604	2.775	2.350	0.000	0.000	0.006	0.000	4.648	-0.729	2.761	0.000	0.000	0.031	0.028
73	LV231	1	325.847	22.200	1.534	2.387	0.000	0.000	0.005	0.000	38.872	-3.437	2.866	0.000	0.000	0.260	0.028
74	WP2	1	327.676	17.091	1.259	2.402	0.000	0.000	0.004	0.000	52.545	-4.040	2.872	0.000	0.000	0.302	0.018
END	V1	1	327.676	17.091	1.259	2.402	0.000	0.000	0.004	0.000	52.545	-4.040	2.872	0.000	0.000	0.302	0.018
BEGIN	V2	1	327.676	17.091	1.259	2.402	0.000	0.000	0.004	0.000	52.545	-4.040	2.872	0.000	0.000	0.302	0.018
75	LV232	1	333.668	7.435	0.353	2.491	0.000	0.000	0.003	0.000	112.788	-6.015	2.884	0.000	0.000	0.410	0.018
76	VQ3D	1	334.408	7.458	-0.385	2.507	0.000	0.000	0.003	0.000	114.467	3.795	2.885	0.000	0.000	0.410	-0.017
77	LV34	1	348.480	48.784	-2.552	2.639	0.000	0.000	0.003	0.000	34.306	1.901	2.921	0.000	0.000	0.164	-0.017
78	VQ4F	1	349.220	49.353	1.799	2.642	0.000	0.000	0.003	0.000	33.739	-1.119	2.925	0.000	0.000	0.156	-0.003
79	LV45	1	368.801	11.813	0.118	2.792	0.000	0.000	-0.002	0.000	103.173	-2.427	2.979	0.000	0.000	0.089	-0.003
80	VQ5D	1	369.541	12.291	-0.775	2.802	0.000	0.000	-0.002	0.000	101.519	4.623	2.980	0.000	0.000	0.085	-0.009
81	LV56	1	387.679	83.264	-3.138	2.898	0.000	0.000	-0.009	0.000	6.314	0.626	3.107	0.000	0.000	-0.086	-0.009
82	VQ6F	1	388.419	81.931	4.896	2.899	0.000	0.000	-0.009	0.001	5.930	-0.095	3.127	0.000	0.000	-0.096	-0.018
83	LV60	1	388.951	76.806	4.734	2.901	0.000	0.000	-0.009	0.001	6.079	-0.185	3.141	0.000	0.000	-0.106	-0.018
84	SWM	1	392.609	46.267	3.620	2.910	0.000	0.000	0.079	0.048	9.695	-0.802	3.220	0.000	0.000	-0.172	-0.018
END	V2	1	392.609	46.267	3.620	2.910	0.000	0.000	0.079	0.048	9.695	-0.802	3.220	0.000	0.000	-0.172	-0.018
BEGIN	Q	1	392.609	46.267	3.620	2.910	0.000	0.000	0.079	0.048	9.695	-0.802	3.220	0.000	0.000	-0.172	-0.018
85	L112	1	402.564	4.405	0.585	3.033	0.000	0.000	0.554	0.048	42.475	-2.490	3.301	0.000	0.000	-0.353	-0.018
86	G1D	1	406.222	5.983	-1.088	3.174	0.000	0.000	0.981	0.196	38.723	3.334	3.315	0.000	0.000	-0.327	0.032
87	L113	1	410.846	23.847	-2.775	3.237	0.000	0.000	1.886	0.196	14.577	1.887	3.346	0.000	0.000	-0.181	0.032
88	G2F	1	413.792	32.603	0.138	3.253	0.000	0.000	2.183	0.000	9.224	0.124	3.389	0.000	0.000	-0.114	0.016
89	L114	1	415.077	32.301	0.098	3.260	0.000	0.000	2.183	0.000	9.087	-0.017	3.411	0.000	0.000	-0.094	0.016
BEGIN	PERIOD	1	415.077	32.301	0.098	3.260	0.000	0.000	2.183	0.000	9.087	-0.017	3.411	0.000	0.000	-0.094	0.016
BEGIN	PF	1	415.077	32.301	0.098	3.260	0.000	0.000	2.183	0.000	9.087	-0.017	3.411	0.000	0.000	-0.094	0.016
90	LHOL	1	415.792	32.177	0.075	3.263	0.000	0.000	2.184	0.000	9.168	-0.096	3.424	0.000	0.000	-0.082	0.016
91	GF	1	419.449	18.356	3.040	3.285	0.000	0.000	1.735	-0.235	17.365	-2.511	3.475	0.000	0.000	-0.042	0.007
92	LOS	1	419.899	15.733	2.789	3.289	0.000	0.000	1.629	-0.235	19.710	-2.700	3.479	0.000	0.000	-0.039	0.007
93	GD	1	423.556	5.957	0.324	3.357	0.000	0.000	1.218	0.001	29.639	0.466	3.501	0.000	0.000	-0.005	0.010
94	LHOL	2	424.271	5.589	0.191	3.376	0.000	0.000	1.219	0.001	28.994	0.436	3.505	0.000	0.000	0.002	0.010
END	PF	1	424.271	5.589	0.191	3.376	0.000	0.000	1.219	0.001	28.994	0.436	3.505	0.000	0.000	0.002	0.010
BEGIN	PD	1	424.271	5.589	0.191	3.376	0.000	0.000	1.219	0.001	28.994	0.436	3.505	0.000	0.000	0.002	0.010
95	LHOL	3	424.986	5.410	0.059	3.397	0.000	0.000	1.220	0.001	28.391	0.407	3.509	0.000	0.000	0.010	0.010

96	GD	2	428.643	11.006	-1.841	3.483	0.000	0.000	1.639	0.238	14.578	2.701	3.535	0.000	0.000	0.043 0.007
97	LOS	2	429.093	12.744	-2.020	3.489	0.000	0.000	1.746	0.238	12.262	2.445	3.540	0.000	0.000	0.046 0.007
98	GF	2	432.751	22.008	-0.068	3.521	0.000	0.000	2.201	0.000	4.018	0.177	3.636	0.000	0.000	0.084 0.015
99	LHOL	4	433.466	22.129	-0.101	3.527	0.000	0.000	2.201	0.000	3.896	-0.006	3.665	0.000	0.000	0.095 0.015
END	PD	1	433.466	22.129	-0.101	3.527	0.000	0.000	2.201	0.000	3.896	-0.006	3.665	0.000	0.000	0.095 0.015
END	PERIOD	1	433.466	22.129	-0.101	3.527	0.000	0.000	2.201	0.000	3.896	-0.006	3.665	0.000	0.000	0.095 0.015
BEGIN	PERIOD	2	433.466	22.129	-0.101	3.527	0.000	0.000	2.201	0.000	3.896	-0.006	3.665	0.000	0.000	0.095 0.015
BEGIN	PF	2	433.466	22.129	-0.101	3.527	0.000	0.000	2.201	0.000	3.896	-0.006	3.665	0.000	0.000	0.095 0.015
100	LHOL	5	434.181	22.296	-0.133	3.532	0.000	0.000	2.202	0.000	4.036	-0.190	3.694	0.000	0.000	0.106 0.015
101	GF	3	437.838	13.928	2.019	3.562	0.000	0.000	1.749	-0.237	12.422	-2.477	3.789	0.000	0.000	0.195 0.035
102	LOS	3	438.288	12.185	1.855	3.568	0.000	0.000	1.643	-0.237	14.767	-2.736	3.794	0.000	0.000	0.211 0.035
103	GD	3	441.945	6.613	-0.081	3.641	0.000	0.000	1.227	0.000	28.733	-0.407	3.820	0.000	0.000	0.278 0.000
104	LHOL	6	442.660	6.806	-0.190	3.658	0.000	0.000	1.227	0.000	29.335	-0.436	3.824	0.000	0.000	0.277 0.000
END	PF	2	442.660	6.806	-0.190	3.658	0.000	0.000	1.227	0.000	29.335	-0.436	3.824	0.000	0.000	0.277 0.000
BEGIN	PD	2	442.660	6.806	-0.190	3.658	0.000	0.000	1.227	0.000	29.335	-0.436	3.824	0.000	0.000	0.277 0.000
105	LHOL	7	443.375	7.155	-0.299	3.674	0.000	0.000	1.228	0.000	29.980	-0.465	3.828	0.000	0.000	0.277 0.000
106	GD	4	447.032	16.871	-2.796	3.733	0.000	0.000	1.646	0.238	19.895	2.734	3.850	0.000	0.000	0.208-0.036
107	LOS	4	447.482	19.493	-3.031	3.737	0.000	0.000	1.754	0.238	17.520	2.543	3.854	0.000	0.000	0.192-0.036
108	GF	4	451.140	32.378	0.126	3.758	0.000	0.000	2.208	0.000	9.182	0.109	3.905	0.000	0.000	0.100-0.016
109	LHOL	8	451.855	32.213	0.104	3.762	0.000	0.000	2.208	0.000	9.083	0.030	3.917	0.000	0.000	0.088-0.016
END	PD	2	451.855	32.213	0.104	3.762	0.000	0.000	2.208	0.000	9.083	0.030	3.917	0.000	0.000	0.088-0.016
END	PERIOD	2	451.855	32.213	0.104	3.762	0.000	0.000	2.208	0.000	9.083	0.030	3.917	0.000	0.000	0.088-0.016
BEGIN	PERIOD	3	451.855	32.213	0.104	3.762	0.000	0.000	2.208	0.000	9.083	0.030	3.917	0.000	0.000	0.088-0.016
BEGIN	PF	3	451.855	32.213	0.104	3.762	0.000	0.000	2.208	0.000	9.083	0.030	3.917	0.000	0.000	0.088-0.016
110	LHOL	9	452.570	32.081	0.081	3.765	0.000	0.000	2.208	0.000	9.096	-0.049	3.930	0.000	0.000	0.077-0.016
111	GF	5	456.227	18.272	3.032	3.787	0.000	0.000	1.752	-0.239	16.774	-2.393	3.982	0.000	0.000	0.032-0.009
112	LOS	5	456.677	15.656	2.781	3.792	0.000	0.000	1.645	-0.239	19.010	-2.574	3.986	0.000	0.000	0.028-0.009
113	GD	5	460.334	5.916	0.321	3.859	0.000	0.000	1.224	-0.001	28.381	0.465	4.009	0.000	0.000	-0.010-0.010
114	LHOL	10	461.049	5.551	0.188	3.879	0.000	0.000	1.224	-0.001	27.738	0.434	4.013	0.000	0.000	-0.017-0.010
END	PF	3	461.049	5.551	0.188	3.879	0.000	0.000	1.224	-0.001	27.738	0.434	4.013	0.000	0.000	-0.017-0.010
BEGIN	PD	3	461.049	5.551	0.188	3.879	0.000	0.000	1.224	-0.001	27.738	0.434	4.013	0.000	0.000	-0.017-0.010
115	LHOL	11	461.764	5.378	0.055	3.900	0.000	0.000	1.223	-0.001	27.139	0.404	4.017	0.000	0.000	-0.025-0.010
116	GD	6	465.422	11.012	-1.849	3.986	0.000	0.000	1.635	0.236	13.902	2.575	4.045	0.000	0.000	-0.054-0.005
117	LOS	6	465.872	12.757	-2.029	3.993	0.000	0.000	1.741	0.236	11.695	2.328	4.050	0.000	0.000	-0.056-0.005
118	GF	6	469.529	22.089	-0.074	4.025	0.000	0.000	2.191	0.000	3.969	0.129	4.149	0.000	0.000	-0.090-0.014
119	LHOL	12	470.244	22.219	-0.107	4.030	0.000	0.000	2.190	0.000	3.915	-0.054	4.178	0.000	0.000	-0.100-0.014
END	PD	3	470.244	22.219	-0.107	4.030	0.000	0.000	2.190	0.000	3.915	-0.054	4.178	0.000	0.000	-0.100-0.014
END	PERIOD	3	470.244	22.219	-0.107	4.030	0.000	0.000	2.190	0.000	3.915	-0.054	4.178	0.000	0.000	-0.100-0.014
BEGIN	PERIOD	4	470.244	22.219	-0.107	4.030	0.000	0.000	2.190	0.000	3.915	-0.054	4.178	0.000	0.000	-0.100-0.014
BEGIN	PF	4	470.244	22.219	-0.107	4.030	0.000	0.000	2.190	0.000	3.915	-0.054	4.178	0.000	0.000	-0.100-0.014
120	LHOL	13	470.959	22.395	-0.139	4.035	0.000	0.000	2.190	0.000	4.123	-0.237	4.207	0.000	0.000	-0.110-0.014
121	GF	7	474.616	14.014	2.028	4.065	0.000	0.000	1.738	-0.237	13.025	-2.594	4.298	0.000	0.000	-0.197-0.035
122	LOS	7	475.066	12.263	1.864	4.071	0.000	0.000	1.631	-0.237	15.480	-2.861	4.303	0.000	0.000	-0.212-0.035
123	GD	7	478.723	6.654	-0.078	4.143	0.000	0.000	1.216	0.000	29.989	-0.404	4.328	0.000	0.000	-0.277 0.001
124	LHOL	14	479.438	6.843	-0.186	4.160	0.000	0.000	1.215	0.000	30.586	-0.431	4.332	0.000	0.000	-0.276 0.001
END	PF	4	479.438	6.843	-0.186	4.160	0.000	0.000	1.215	0.000	30.586	-0.431	4.332	0.000	0.000	-0.276 0.001
BEGIN	PD	4	479.438	6.843	-0.186	4.160	0.000	0.000	1.215	0.000	30.586	-0.431	4.332	0.000	0.000	-0.276 0.001
125	LHOL	15	480.153	7.187	-0.294	4.176	0.000	0.000	1.215	0.000	31.223	-0.459	4.336	0.000	0.000	-0.276 0.001
126	GD	8	483.811	16.864	-2.787	4.235	0.000	0.000	1.627	0.235	20.553	2.860	4.357	0.000	0.000	-0.205 0.036
127	LOS	8	484.261	19.478	-3.021	4.239	0.000	0.000	1.733	0.235	18.070	2.659	4.360	0.000	0.000	-0.189 0.036
128	GF	8	487.918	32.294	0.132	4.260	0.000	0.000	2.183	0.000	9.215	0.157	4.410	0.000	0.000	-0.095 0.017
129	LHOL	16	488.633	32.121	0.110	4.264	0.000	0.000	2.184	0.000	9.048	0.077	4.423	0.000	0.000	-0.083 0.017
END	PD	4	488.633	32.121	0.110	4.264	0.000	0.000	2.184	0.000	9.048	0.077	4.423	0.000	0.000	-0.083 0.017
END	PERIOD	4	488.633	32.121	0.110	4.264	0.000	0.000	2.184	0.000	9.048	0.077	4.423	0.000	0.000	-0.083 0.017
BEGIN	PERIOD	5	488.633	32.121	0.110	4.264	0.000	0.000	2.184	0.000	9.048	0.077	4.423	0.000	0.000	-0.083 0.017
BEGIN	PF	5	488.633	32.121	0.110	4.264	0.000	0.000	2.184	0.000	9.048	0.077	4.423	0.000	0.000	-0.083 0.017
130	LHOL	17	489.348	31.980	0.087	4.267	0.000	0.000	2.184	0.000	8.994	-0.002	4.435	0.000	0.000	-0.071 0.017
131	GF	9	493.005	18.185	3.022	4.290	0.000	0.000	1.735	-0.235	16.160	-2.277	4.489	0.000	0.000	-0.021 0.011
132	LOS	9	493.455	15.577	2.772	4.294	0.000	0.000	1.629	-0.235	18.286	-2.449	4.493	0.000	0.000	-0.016 0.011
133	GD	9	497.112	5.874	0.319	4.362	0.000	0.000	1.218	0.001	27.130	0.459	4.517	0.000	0.000	0.025 0.010

134	LHOL	18	497.827	5.515	0.184	4.382	0.000	0.000	1.219	0.001	26.496	0.427	4.521	0.000	0.000	0.032 0.010
END	PF	5	497.827	5.515	0.184	4.382	0.000	0.000	1.219	0.001	26.496	0.427	4.521	0.000	0.000	0.032 0.010
BEGIN	PD	5	497.827	5.515	0.184	4.382	0.000	0.000	1.219	0.001	26.496	0.427	4.521	0.000	0.000	0.032 0.010
135	LHOL	19	498.542	5.347	0.050	4.403	0.000	0.000	1.220	0.001	25.908	0.395	4.526	0.000	0.000	0.040 0.010
136	GD	10	502.200	11.020	-1.857	4.490	0.000	0.000	1.639	0.238	13.263	2.450	4.555	0.000	0.000	0.065 0.003
137	LOS	10	502.650	12.774	-2.039	4.496	0.000	0.000	1.746	0.238	11.164	2.213	4.560	0.000	0.000	0.066 0.003
138	GF	10	506.307	22.176	-0.080	4.528	0.000	0.000	2.201	0.000	3.952	0.081	4.663	0.000	0.000	0.095 0.013
139	LHOL	20	507.022	22.314	-0.113	4.533	0.000	0.000	2.202	0.000	3.965	-0.101	4.692	0.000	0.000	0.104 0.013
END	PD	5	507.022	22.314	-0.113	4.533	0.000	0.000	2.202	0.000	3.965	-0.101	4.692	0.000	0.000	0.104 0.013
END	PERIOD	5	507.022	22.314	-0.113	4.533	0.000	0.000	2.202	0.000	3.965	-0.101	4.692	0.000	0.000	0.104 0.013
BEGIN	PF	6	507.022	22.314	-0.113	4.533	0.000	0.000	2.202	0.000	3.965	-0.101	4.692	0.000	0.000	0.104 0.013
140	LHOL	21	507.737	22.498	-0.145	4.538	0.000	0.000	2.202	0.000	4.239	-0.283	4.719	0.000	0.000	0.114 0.013
141	GF	11	511.394	14.102	2.038	4.568	0.000	0.000	1.750	-0.237	13.649	-2.710	4.807	0.000	0.000	0.198 0.034
142	LOS	11	511.844	12.342	1.874	4.573	0.000	0.000	1.643	-0.237	16.211	-2.985	4.812	0.000	0.000	0.213 0.034
143	GD	11	515.501	6.695	-0.075	4.645	0.000	0.000	1.227	0.000	31.233	-0.395	4.836	0.000	0.000	0.276 -0.002
144	LHOL	22	516.216	6.880	-0.183	4.662	0.000	0.000	1.227	0.000	31.817	-0.422	4.839	0.000	0.000	0.275 -0.002
END	PF	6	516.216	6.880	-0.183	4.662	0.000	0.000	1.227	0.000	31.817	-0.422	4.839	0.000	0.000	0.275 -0.002
145	LHOL	23	516.931	7.218	-0.290	4.678	0.000	0.000	1.228	0.000	32.439	-0.448	4.843	0.000	0.000	0.274 -0.002
146	GD	12	520.589	16.854	-2.779	4.737	0.000	0.000	1.646	0.238	21.171	2.984	4.863	0.000	0.000	0.201 -0.036
147	LOS	12	521.039	19.459	-3.012	4.741	0.000	0.000	1.754	0.238	18.580	2.773	4.867	0.000	0.000	0.185 -0.036
148	GF	12	524.696	32.205	0.138	4.762	0.000	0.000	2.208	0.000	9.217	0.204	4.916	0.000	0.000	0.090 -0.018
149	LHALL	1	525.214	32.070	0.122	4.765	0.000	0.000	2.208	0.000	9.036	0.146	4.925	0.000	0.000	0.081 -0.018
END	Q	1	525.214	32.070	0.122	4.765	0.000	0.000	2.208	0.000	9.036	0.146	4.925	0.000	0.000	0.081 -0.018
BEGIN	M1	1	525.214	32.070	0.122	4.765	0.000	0.000	2.208	0.000	9.036	0.146	4.925	0.000	0.000	0.081 -0.018
150	QMI1	1	525.894	31.022	1.404	4.768	0.000	0.000	2.177	-0.092	9.145	-0.307	4.937	0.000	0.000	0.070 -0.015
151	LM121	1	527.482	26.803	1.252	4.777	0.000	0.000	2.031	-0.092	10.423	-0.498	4.963	0.000	0.000	0.046 -0.015
152	BMI	1	530.428	20.258	0.970	4.797	0.000	0.000	1.832	-0.043	14.366	-0.839	5.002	0.000	0.000	0.003 -0.015
153	LM122	1	531.742	17.872	0.844	4.808	0.000	0.000	1.776	-0.043	16.777	-0.995	5.015	0.000	0.000	-0.017 -0.015
154	QMI2	1	532.422	16.124	1.694	4.815	0.000	0.000	1.713	-0.141	18.868	-2.119	5.021	0.000	0.000	-0.027 -0.016
155	LM231	1	533.580	12.523	1.416	4.828	0.000	0.000	1.549	-0.141	24.167	-2.456	5.030	0.000	0.000	-0.046 -0.016
156	BMI	2	536.527	6.265	0.709	4.882	0.000	0.000	1.204	-0.093	41.091	-3.282	5.045	0.000	0.000	-0.093 -0.016
157	LM232	1	537.166	5.455	0.556	4.899	0.000	0.000	1.145	-0.093	45.407	-3.465	5.047	0.000	0.000	-0.103 -0.016
158	QMI3	1	537.846	5.340	-0.381	4.920	0.000	0.000	1.140	0.078	45.434	3.427	5.049	0.000	0.000	-0.109 0.000
159	LM341	1	539.379	7.011	-0.709	4.960	0.000	0.000	1.260	0.078	35.585	2.997	5.056	0.000	0.000	-0.108 0.000
160	BMI	3	542.325	13.048	-1.341	5.010	0.000	0.000	1.561	0.127	20.297	2.186	5.073	0.000	0.000	-0.108 0.000
161	LM342	1	542.907	14.682	-1.465	5.016	0.000	0.000	1.634	0.127	17.849	2.020	5.078	0.000	0.000	-0.108 0.000
162	QMI4	1	543.587	15.071	0.914	5.023	0.000	0.000	1.630	-0.140	17.068	-0.830	5.084	0.000	0.000	-0.114 -0.018
163	LM451	1	544.478	13.539	0.806	5.033	0.000	0.000	1.505	-0.140	18.626	-0.918	5.092	0.000	0.000	-0.129 -0.018
164	BMI	4	547.424	9.851	0.447	5.074	0.000	0.000	1.165	-0.091	24.845	-1.190	5.114	0.000	0.000	-0.181 -0.017
165	LM42	1	547.844	9.497	0.396	5.081	0.000	0.000	1.126	-0.091	25.862	-1.231	5.117	0.000	0.000	-0.188 -0.017
166	QMI5'	1	548.524	8.457	1.102	5.093	0.000	0.000	1.030	-0.191	29.297	-3.924	5.121	0.000	0.000	-0.206 -0.035
END	M1	1	548.524	8.457	1.102	5.093	0.000	0.000	1.030	-0.191	29.297	-3.924	5.121	0.000	0.000	-0.206 -0.035
BEGIN	M2	1	548.524	8.457	1.102	5.093	0.000	0.000	1.030	-0.191	29.297	-3.924	5.121	0.000	0.000	-0.206 -0.035
167	LM452'	1	550.486	5.141	0.588	5.141	0.000	0.000	0.656	-0.191	46.845	-5.022	5.129	0.000	0.000	-0.275 -0.035
168	QMI5	1	551.166	4.893	-0.212	5.163	0.000	0.000	0.554	-0.111	49.441	1.320	5.131	0.000	0.000	-0.286 0.002
169	LM561	1	552.565	5.905	-0.511	5.205	0.000	0.000	0.399	-0.111	45.856	1.242	5.136	0.000	0.000	-0.284 0.002
170	BMI	5	555.511	10.767	-1.140	5.265	0.000	0.000	0.142	-0.063	38.918	1.110	5.147	0.000	0.000	-0.277 0.002
171	LM562	1	563.074	40.228	-2.755	5.325	0.000	0.000	-0.332	-0.063	25.411	0.676	5.186	0.000	0.000	-0.260 0.002
172	QMI6	1	563.754	41.386	1.090	5.327	0.000	0.000	-0.364	-0.030	26.145	-1.779	5.190	0.000	0.000	-0.267 -0.022
173	LM671	1	564.797	39.169	1.035	5.331	0.000	0.000	-0.395	-0.030	30.031	-1.945	5.196	0.000	0.000	-0.290 -0.022
174	SI0	1	568.885	31.505	0.838	5.350	0.000	0.000	-0.516	-0.029	48.589	-2.596	5.213	0.000	0.000	-0.279 0.028
175	LM781	1	570.223	29.360	0.766	5.357	0.000	0.000	-0.555	-0.029	55.821	-2.810	5.217	0.000	0.000	-0.242 0.028
176	QMI7	1	570.903	30.582	-2.609	5.361	0.000	0.000	-0.596	-0.093	55.381	3.439	5.219	0.000	0.000	-0.214 0.054
177	LM782	1	571.903	36.054	-2.864	5.365	0.000	0.000	-0.690	-0.093	48.734	3.208	5.222	0.000	0.000	-0.160 0.054
178	SI1	1	575.402	59.139	-3.726	5.378	0.000	0.000	-1.016	-0.093	29.124	2.397	5.237	0.000	0.000	-0.048 0.010
179	L0782	1	576.402	66.843	-3.978	5.380	0.000	0.000	-1.109	-0.093	24.562	2.166	5.243	0.000	0.000	-0.038 0.010
180	Q80	1	577.019	69.767	-0.713	5.381	0.000	0.000	-1.150	-0.038	22.668	0.934	5.247	0.000	0.000	-0.033 0.007
181	Q80	2	577.636	68.567	2.637	5.383	0.000	0.000	-1.156	0.018	22.209	-0.184	5.251	0.000	0.000	-0.029 0.004
182	L0891	1	578.636	63.410	2.521	5.385	0.000	0.000	-1.138	0.018	22.623	-0.230	5.258	0.000	0.000	-0.025 0.004
183	SI2	1	580.036	56.579	2.359	5.389	0.000	0.000	-1.112	0.018	23.359	-0.296	5.268	0.000	0.000	-0.021 0.001

184	LØ892	1	594.399	12.754	Ø.693	5.479	Ø.ØØØ	Ø.ØØØ	-Ø.852	Ø.Ø18	41.451	-Ø.964	5.345	Ø.ØØØ	Ø.ØØØ	-Ø.ØØ2	Ø.ØØ1
185	KI	1	597.649	9.478	Ø.316	5.527	Ø.ØØØ	Ø.ØØØ	-Ø.793	Ø.Ø18	48.209	-1.115	5.356	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
186	LØ893	1	598.149	9.192	Ø.258	5.535	Ø.ØØØ	Ø.ØØØ	-Ø.784	Ø.Ø18	49.336	-1.139	5.358	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
187	Q9Ø	1	598.561	9.Ø86	Ø.ØØØ	5.542	Ø.ØØØ	Ø.ØØØ	-Ø.781	Ø.ØØØ	49.8Ø6	Ø.ØØØ	5.359	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
END	M2	1	598.561	9.Ø86	Ø.ØØØ	5.542	Ø.ØØØ	Ø.ØØØ	-Ø.781	Ø.ØØØ	49.8Ø6	Ø.ØØØ	5.359	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
END	RHIC	1	598.561	9.Ø86	Ø.ØØØ	5.542	Ø.ØØØ	Ø.ØØØ	-Ø.781	Ø.ØØØ	49.8Ø6	Ø.ØØØ	5.359	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ

TOTAL LENGTH =	598.56Ø988		
MUX	=	5.542287	MUY = 5.359Ø61
DMUX	=	-7.6Ø9122	DMUY = -6.733145
BETAX(MAX)	=	113.Ø94778	BETAY(MAX) = 114.466661
DX(MAX)	=	4.545331	DY(MAX) = Ø.41ØØ81

TABLE 3

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LUKS:DRIFT,L=5.00000
LU01:DRIFT,L=0.374005
LU12:DRIFT,L=0.495300
LU231:DRIFT,L=0.477256
LU232:DRIFT,L=0.459994
LU233:DRIFT,L=0.459994
LU234:DRIFT,L=0.255379
LU34:DRIFT,L=15.139416
LU45:DRIFT,L=4.92404
LU56:DRIFT,L=5.933184
LU66':DRIFT,L=4.866622
LU6'7:DRIFT,L=6
LU78:DRIFT,L=11.599619
LU891:DRIFT,L=5.534764
LU892:DRIFT,L=0.609600
LU193:DRIFT,L=0.609600
LU293:DRIFT,L=0.609600
LU894:DRIFT,L=0.609600
LU895:DRIFT,L=8.364036
LU910:DRIFT,L=10.695975
LU011:DRIFT,L=5.106874
LU112:DRIFT,L=10.227535
LU100:DRIFT,L=1.000
LU800:DRIFT,L=8.000
LU450:DRIFT,L=4.500

LW01:DRIFT,L=17.524174
LW12:DRIFT,L=14.051700
LW231:DRIFT,L=6.111450
LW232:DRIFT,L=6.111450
LW34:DRIFT,L=14.0517
LW45:DRIFT,L=14.0517
LW56:DRIFT,L=14.0517
LW67:DRIFT,L=14.0517
LW78:DRIFT,L=14.0517

LV01:DRIFT,L=13.972064
LV12:DRIFT,L=14.457299
LV231:DRIFT,L=8.214856
LV232:DRIFT,L=5.991919
LV34:DRIFT,L=14.072442
LV45:DRIFT,L=19.581019
LV56:DRIFT,L=18.138067
LV60:DRIFT,L=0.532168

L112:DRIFT,L=9.955836
L113:DRIFT,L=4.624169
L114:DRIFT,L=1.284570
LHOL:DRIFT,L=0.715
LOS:DRIFT,L=0.45000
LHALL:DRIFT,L=0.517663

LM121:DRIFT,L=1.588065
LM122:DRIFT,L=1.314723
LM231:DRIFT,L=1.158010
LM232:DRIFT,L=0.639683
LM341:DRIFT,L=1.53305
LM342:DRIFT,L=0.582034
LM451:DRIFT,0.890697
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LM452':DRIFT,L=1.961489

LM561:DRIFT,L=1.399065
LM562:DRIFT,L=7.563012
LM671:DRIFT,L=1.043211
LM781:DRIFT,L=1.337782
LM782:DRIFT,L=1.000000
L0782:DRIFT,L=1.000000
L0891:DRIFT,L=1.00000
L0892:DRIFT,L=14.362796
L0893:DRIFT,L=0.500000
LM42:DRIFT,L=0.4200

SA:MONITOR,L=0.00

UQ1:QUADRUPOLE,TYPE=MQ,L=0.9525,K1=0.3325605
UQ2:QUADRUPOLE,TYPE=MQ,L=0.9525,K1=-0.3973553
UQ3:QUADRUPOLE,TYPE=MQ,L=0.4572,K1=0.1901247
UQ4:QUADRUPOLE,TYPE=MQ,L=0.72644,K1=-0.2057149
UQ5:QUADRUPOLE,TYPE=MQ,L=0.72644,K1=0.1759136
UQ6:QUADRUPOLE,TYPE=MQ,L=0.72644,K1=-0.09937573
UQ7:QUADRUPOLE,TYPE=MQ,L=0.72644,K1=-0.1916022
UQ8:QUADRUPOLE,TYPE=MQ,L=0.72644,K1=0.06067053
UQ9:QUADRUPOLE,TYPE=MQ,L=0.72644,K1=-0.153695
UQ10:QUADRUPOLE,TYPE=MQ,L=0.72644,K1=0.3463872
UQ11:QUADRUPOLE,TYPE=MQ,L=0.72644,K1=-0.1944525
UQ12:QUAD,TYPE=MQ,L=0.72644,K1=0.1878129
UQ6':QUAD,TYPE=MQ,L=0.72644,K1=0.1828273
UQ9':QUAD,L=0.72644,K1=0.1036447

VQ1D:QUAD,TYPE=VQ,L=0.740000,K1=-0.1450692
VQ2F:QUAD,TYPE=VQ,L=0.740000,K1=0.08769835
VQ3D:QUAD,TYPE=VQ,L=0.740000,K1=-0.1188912
VQ4F:QUAD,TYPE=VQ,L=0.740000,K1=0.1151624
VQ5D:QUAD,TYPE=VQ,L=0.740000,K1=-0.0847683
VQ6F:QUAD,TYPE=VQ,L=0.740000,K1=0.1461783

QMI1:QUAD,TYPE=Q,L=0.680000,K1=0.09212881
QMI2:QUAD,TYPE=Q,L=0.680000,K1=0.01670717
QMI3:QUAD,TYPE=Q,L=0.680000,K1=-0.2323485
QMI4:QUAD,TYPE=Q,L=0.680000,K1=0.2448847
QMI5:QUAD,TYPE=Q,L=0.680000,K1=-0.2089878
QMI6:QUAD,TYPE=Q,L=0.680000,K1=0.1756531
QMI7:QUAD,TYPE=Q,L=0.680000,K1=-0.1813151
Q80:RBEND,L=0.617102,ANGLE=-1.545E-3,K1=-0.07867868,TILT
Q90:QUAD,L=0.411734,K1=-0.056282546
QMI5':QUAD,L=0.68000,K1=0.1631553

UD1:RBEND,L=2.080006,ANGLE=24.725E-3
UD2:RBEND,L=2.080006,ANGLE=24.725E-3
UD3:RBEND,L=2.080006,ANGLE=24.725E-3

U4F:RBEND,L=3.657600,ANGLE=34.906E-3,K1=0.018823143
U5D:RBEND,L=3.657600,ANGLE=34.906E-3,K1=-0.018823143
U6D:RBEND,L=3.657600,ANGLE=34.906E-3,K1=-0.018823143
U7F:RBEND,L=3.657600,ANGLE=34.906E-3,K1=0.018823143

W1D:RBEND,L=3.657600,ANGLE=43.633E-3,K1=-0.023528529
W2F:RBEND,L=3.657600,ANGLE=43.633E-3,K1=0.023528529
W3D:RBEND,L=3.657600,ANGLE=43.633E-3,K1=-0.023528529
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W4F:RBEND,L=3.657600,ANGLE=43.633E-3,K1=0.023528529
W5D:RBEND,L=3.657600,ANGLE=43.633E-3,K1=-0.023528529
W6F:RBEND,L=3.657600,ANGLE=43.633E-3,K1=0.023528529
W7D:RBEND,L=3.657600,ANGLE=43.633E-3,K1=-0.023528529
W8F:RBEND,L=3.657600,ANGLE=43.633E-3,K1=0.023528529
WP1:RBEND,L=1.828800,ANGLE=10E-3,TILT
WP2:RBEND,L=1.828800,ANGLE=-10E-3,TILT
WP3:RBEND,L=2.000,ANGLE=45E-3,TILT
WP4:RBEND,L=2.000,ANGLE=-45E-3,TILT
VP1:RBEND,L=2.000,ANGLE=5.200E-3,TILT
VP2:RBEND,L=2.000,ANGLE=-5.20E-3,TILT

SWM:RBEND,L=3.65726099,ANGLE=47.165E-3

G1D:RBEND,L=3.65726099,ANGLE=47.419E-3,K1=-0.0380886
G2F:RBEND,L=2.946220867,ANGLE=38.199E-3,K1=0.0380886
GD:RBEND,L=3.65726009,ANGLE=47.719E-3,K1=-0.0380886
GF:RBEND,L=3.65726009,ANGLE=47.719E-3,K1=0.0380886

BMI:RBEND,L=2.946111148,ANGLE=48.507E-3
SI0:RBEND,L=4.087567,ANGLE=50.407E-3,TILT
SI1:RBEND,L=3.499727936,ANGLE=-43.193E-3,TILT
SI2:RBEND,L=1.40000,ANGLE=-2.8E-3,TILT
KI:RBEND,L=3.250000,ANGLE=-1.324E-3,TILT

U1:LINE=(LUKS,LU01,UQ1,LU12,UQ2,LU231,UD1,LU232,UD2,LU233,UD3,&
    LU234,UQ3,LU34,UQ4,LU45,UQ5,LU56,3*LU100,SA,2*LU100,&
   UQ6,LU66',UQ6',LU6'7,UQ7,LU78,UQ8,LU891)
U2:LINE=(U4F,LU892,U5D,LU193,LU293,U6D,LU894,U7F,LU800,UQ9',LU895,&
     UQ9,LU910,UQ10,LU011,UQ11,LU112,UQ12)
U:LINE=(U1,U2)

W:LINE=(LW01,W1D,LW12,W2F,LW231,WP1,LW232,W3D,LW34,W4F,LW45,&
    W5D,LW56,W6F,LW67,W7D,LW78,W8F)
DROP:LINE=(LW5546,WP3,LWP,WP4,LW5546)
W1:LINE=(LW01,W1D,LW12,W2F,LW231,LW182,LW232,W3D,LW34,W4F,LW45,&
      W5D,LW50,WP3,LW905,WP4,LW50,W6F,LW50,WP3,LW905,WP4,LW50,&
        W7D,LW78,W8F)
V3:LINE=(LW50,VP1,LV114,VQ1D,LV12,VQ2F,LV231,LV182,LV232,VQ3D,&
       LV34,VQ4F,LV170,VP2,LV258,VQ5D,LV56,VQ6F,LV60,SWM)
PITCH:LINE=(W1,V3)
V4:LINE=(LV100,VP1,LV10972,VQ1D,LV12,VQ2F,LV160345,VQ3D,LV34,VQ4F,&
    LV45,VQ5D,LV150817,VP2,LV10563,VQ6F,LV60,SWM)

V1:LINE=(LV01,VQ1D,LV12,VQ2F,LV231,WP2)
V2:LINE=(LV232,VQ3D,LV34,VQ4F,LV45,VQ5D,LV56,VQ6F,LV60,SWM)
PF:LINE=(LHOL,GF,LOS,GD,LHOL)
PD:LINE=(LHOL,GD,LOS,GF,LHOL)
PERIOD:LINE=(PF,PD)
Q:LINE=(L112,G1D,L113,G2F,L114,5*PERIOD,PF,LHOL,GD,LOS,GF,LHALL)

M1:LINE=(QMI1,LM121,BMI,LM122,QMI2,LM231,BMI,LM232,QMI3,LM341,BMI,&
       LM342,QMI4,LM451,BMI,LM42,QMI5')
M2:LINE=(LM452',QMI5,LM561,BMI,LM562,QMI6,LM671,SI0,LM781,QMI7,&
      LM782,SI1,L0782,Q80,Q80,L0891,SI2,L0892,KI,L0893,Q90)
RHIC:LINE=(U,W,V1,V2,Q,M1,M2)
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TABLE 4

DELTA(P)/P = Ø.ØØØØØØ SYMM = F

POS. NO.	ELEMENT NAME	SEQUENCE OCC. NO.	DIST [M]	I	BETAX [M]	ALFAX [1]	HORIZONTAL MUX [2PI]	X(CO) [MM]	PX(CO) [.ØØ1]	DX [M]	DPX [1]	I	BETAY [M]	ALFAY [1]	VERTICAL MUY [2PI]	Y(CO) [MM]	PY(CO) [.ØØ1]	DY [M]	DPY [1]
BEGIN	RHIC	1	Ø.ØØØ		37.59Ø	-4.778	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	-2.96Ø	-Ø.295		8.Ø5Ø	1.Ø53	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
BEGIN	U	1	Ø.ØØØ		37.59Ø	-4.778	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	-2.96Ø	-Ø.295		8.Ø5Ø	1.Ø53	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
BEGIN	U1	1	Ø.ØØØ		37.59Ø	-4.778	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	-2.96Ø	-Ø.295		8.Ø5Ø	1.Ø53	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
1	LUKS	1	5.ØØØ		1Ø1.218	-7.948	Ø.Ø13	Ø.ØØØ	Ø.ØØØ	-4.435	-Ø.295		4.Ø69	-Ø.257	Ø.169	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
2	LUØ1	1	5.374		1Ø7.252	-8.185	Ø.Ø13	Ø.ØØØ	Ø.ØØØ	-4.545	-Ø.295		4.298	-Ø.355	Ø.183	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
3	UQ1	1	6.327		91.177	23.328	Ø.Ø15	Ø.ØØØ	Ø.ØØØ	-4.144	1.117		6.813	-2.546	Ø.213	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
4	LU12	1	6.822		69.536	2Ø.366	Ø.Ø16	Ø.ØØØ	Ø.ØØØ	-3.591	1.117		9.6Ø5	-3.Ø9Ø	Ø.223	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
5	UQ2	1	7.774		55.Ø55	-3.379	Ø.Ø19	Ø.ØØØ	Ø.ØØØ	-3.129	-Ø.118		11.992	Ø.893	Ø.236	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
6	LU231	1	8.252		58.332	-3.487	Ø.Ø2Ø	Ø.ØØØ	Ø.ØØØ	-3.185	-Ø.118		11.174	Ø.821	Ø.243	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
7	UD1	1	1Ø.332		73.811	-3.956	Ø.Ø25	Ø.ØØØ	Ø.ØØØ	-3.4Ø4	-Ø.Ø93		8.4Ø1	Ø.512	Ø.277	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
8	LU232	1	1Ø.792		77.498	-4.Ø6Ø	Ø.Ø26	Ø.ØØØ	Ø.ØØØ	-3.447	-Ø.Ø93		7.961	Ø.443	Ø.286	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
9	UD2	1	12.872		95.36Ø	-4.529	Ø.Ø3Ø	Ø.ØØØ	Ø.ØØØ	-3.615	-Ø.Ø68		6.765	Ø.132	Ø.332	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
1Ø	LU233	1	13.332		99.574	-4.633	Ø.Ø3Ø	Ø.ØØØ	Ø.ØØØ	-3.646	-Ø.Ø68		6.675	Ø.Ø63	Ø.343	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
11	UD3	1	15.412		119.819	-5.1Ø2	Ø.Ø34	Ø.ØØØ	Ø.ØØØ	-3.763	-Ø.Ø44		7.Ø6Ø	-Ø.248	Ø.392	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
12	LU234	1	15.667		122.439	-5.159	Ø.Ø34	Ø.ØØØ	Ø.ØØØ	-3.774	-Ø.Ø44		7.196	-Ø.286	Ø.397	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
13	UQ3	1	16.124		122.278	5.5Ø8	Ø.Ø34	Ø.ØØØ	Ø.ØØØ	-3.719	Ø.283		7.786	-1.Ø22	Ø.4Ø7	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
14	LU34	1	31.264		14.24Ø	1.628	Ø.Ø94	Ø.ØØØ	Ø.ØØØ	Ø.567	Ø.283		98.919	-4.998	Ø.499	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
15	UQ4	1	31.99Ø		13.443	-Ø.491	Ø.1Ø2	Ø.ØØØ	Ø.ØØØ	Ø.8Ø8	Ø.385		95.444	9.6Ø7	Ø.5ØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
16	LU45	1	36.914		2Ø.518	-Ø.946	Ø.15Ø	Ø.ØØØ	Ø.ØØØ	2.7Ø3	Ø.385		24.533	4.794	Ø.516	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
17	UQ5	1	37.64Ø		2Ø.ØØ9	1.624	Ø.156	Ø.ØØØ	Ø.ØØØ	2.854	Ø.Ø27		2Ø.ØØ9	1.624	Ø.522	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
18	LU56	1	43.574		7.136	Ø.545	Ø.238	Ø.ØØØ	Ø.ØØØ	3.Ø15	Ø.Ø27		7.136	Ø.545	Ø.6Ø4	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
19	LU1ØØ	1	44.574		6.227	Ø.364	Ø.262	Ø.ØØØ	Ø.ØØØ	3.Ø42	Ø.Ø27		6.227	Ø.364	Ø.628	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
2Ø	LU1ØØ	2	45.574		5.682	Ø.182	Ø.289	Ø.ØØØ	Ø.ØØØ	3.Ø69	Ø.Ø27		5.682	Ø.182	Ø.655	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
21	LU1ØØ	3	46.574		5.5ØØ	Ø.ØØØ	Ø.318	Ø.ØØØ	Ø.ØØØ	3.Ø96	Ø.Ø27		5.5ØØ	Ø.ØØØ	Ø.684	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
22	SA	1	46.574		5.5ØØ	Ø.ØØØ	Ø.318	Ø.ØØØ	Ø.ØØØ	3.Ø96	Ø.Ø27		5.5ØØ	Ø.ØØØ	Ø.684	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
23	LU1ØØ	4	47.574		5.682	-Ø.182	Ø.346	Ø.ØØØ	Ø.ØØØ	3.123	Ø.Ø27		5.682	-Ø.182	Ø.712	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
24	LU1ØØ	5	48.574		6.227	-Ø.364	Ø.373	Ø.ØØØ	Ø.ØØØ	3.15Ø	Ø.Ø27		6.227	-Ø.364	Ø.739	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
25	UQ6	1	49.3ØØ		7.2Ø4	-1.ØØ5	Ø.391	Ø.ØØØ	Ø.ØØØ	3.253	Ø.257		6.511	-Ø.Ø2Ø	Ø.757	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
26	LU66'	1	54.167		23.588	-2.362	Ø.452	Ø.ØØØ	Ø.ØØØ	4.5Ø5	Ø.257		1Ø.341	-Ø.767	Ø.858	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
27	UQ6'	1	54.893		24.742	Ø.825	Ø.456	Ø.ØØØ	Ø.ØØØ	4.473	-Ø.344		12.643	-2.5Ø3	Ø.869	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
28	LU6'7	1	6Ø.893		17.291	Ø.417	Ø.5Ø3	Ø.ØØØ	Ø.ØØØ	2.41Ø	-Ø.344		63.361	-5.95Ø	Ø.9Ø3	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
29	UQ7	1	61.62Ø		18.488	-2.12Ø	Ø.51Ø	Ø.ØØØ	Ø.ØØØ	2.279	-Ø.Ø2Ø		65.534	3.Ø6Ø	Ø.9Ø4	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
3Ø	LU78	1	73.219		1Ø7.678	-5.569	Ø.552	Ø.ØØØ	Ø.ØØØ	2.Ø44	-Ø.Ø2Ø		15.824	1.226	Ø.963	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
31	UQ8	1	73.946		112.341	-Ø.782	Ø.553	Ø.ØØØ	Ø.ØØØ	1.997	-Ø.11Ø		14.6Ø2	Ø.475	Ø.971	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
32	LU891	1	79.48Ø		121.439	-Ø.862	Ø.56Ø	Ø.ØØØ	Ø.ØØØ	1.391	-Ø.11Ø		11.913	Ø.Ø11	1.Ø4Ø	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
END	U1	1	79.48Ø		121.439	-Ø.862	Ø.56Ø	Ø.ØØØ	Ø.ØØØ	1.391	-Ø.11Ø		11.913	Ø.Ø11	1.Ø4Ø	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
BEGIN	U2	1	79.48Ø		121.439	-Ø.862	Ø.56Ø	Ø.ØØØ	Ø.ØØØ	1.391	-Ø.11Ø		11.913	Ø.Ø11	1.Ø4Ø	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
33	U4F	1	83.138		98.813	6.521	Ø.565	Ø.ØØØ	Ø.ØØØ	Ø.898	-Ø.154		16.286	-1.3Ø4	1.Ø84	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
34	LU892	1	83.748		91.Ø26	6.252	Ø.566	Ø.ØØØ	Ø.ØØØ	Ø.8Ø4	-Ø.154		17.937	-1.4Ø5	1.Ø89	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
35	U5D	1	87.4Ø5		68.54Ø	Ø.4Ø5	Ø.574	Ø.ØØØ	Ø.ØØØ	Ø.384	-Ø.Ø8Ø		24.44Ø	-Ø.22Ø	1.116	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
36	LU193	1	88.Ø15		68.Ø52	Ø.394	Ø.575	Ø.ØØØ	Ø.ØØØ	Ø.335	-Ø.Ø8Ø		24.724	-Ø.246	1.12Ø	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
37	LU293	1	88.624		67.578	Ø.384	Ø.577	Ø.ØØØ	Ø.ØØØ	Ø.286	-Ø.Ø8Ø		25.Ø4Ø	-Ø.272	1.124	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
38	U6D	1	92.282		83.Ø15	-4.954	Ø.585	Ø.ØØØ	Ø.ØØØ	Ø.Ø83	-Ø.Ø33		21.419	1.177	1.148	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
39	LU894	1	92.892		89.169	-5.141	Ø.586	Ø.ØØØ	Ø.ØØØ	Ø.Ø62	-Ø.Ø33		2Ø.Ø25	1.1Ø9	1.153	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
4Ø	U7F	1	96.549		1Ø3.919	1.452	Ø.592	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ		17.557	-Ø.379	1.186	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
41	LU8ØØ	1	1Ø4.549		82.594	1.213	Ø.6Ø6	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ		27.787	-Ø.9ØØ	1.245	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
42	UQ9'	1	1Ø5.276		76.475	7.Ø56	Ø.6Ø7	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ		3Ø.725	-3.218	1.249	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
43	LU895	1	113.64Ø		4.9ØØ	1.5Ø1	Ø.678	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ		11Ø.423	-6.31Ø	1.271	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
44	UQ9	1	114.366		3.367	Ø.665	Ø.7Ø7	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ		11Ø.577	6.1Ø5	1.273	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ

45	LU91Ø	1	125.Ø62	38.159	-3.918	1.Ø11	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	19.578	2.4Ø3	1.3Ø9	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
46	UQ1Ø	1	125.789	36.835	5.628	1.Ø14	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	19.642	-2.496	1.316	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
47	LUØ11	1	130.895	2.486	1.Ø98	1.1Ø3	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	54.731	-4.375	1.34Ø	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
48	UQ11	1	131.622	1.528	Ø.266	1.165	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	55.423	3.456	1.342	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
49	LU112	1	141.849	69.388	-6.9Ø1	1.434	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	9.16Ø	1.Ø67	1.417	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
5Ø	UQ12	1	142.576	72.47Ø	2.8ØØ	1.435	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	8.57Ø	-Ø.229	1.431	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
END	U2	1	142.576	72.47Ø	2.8ØØ	1.435	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	8.57Ø	-Ø.229	1.431	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
END	U	1	142.576	72.47Ø	2.8ØØ	1.435	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	8.57Ø	-Ø.229	1.431	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
BEGIN	W	1	142.576	72.47Ø	2.8ØØ	1.435	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	8.57Ø	-Ø.229	1.431	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
51	LWØ1	1	16Ø.1ØØ	11.795	Ø.662	1.538	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	54.3Ø9	-2.381	1.582	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
52	W1D	1	163.758	11.797	-Ø.663	1.591	Ø.ØØØ	Ø.ØØØ	Ø.Ø82	Ø.Ø46	54.3ØØ	2.383	1.592	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
53	LW12	1	177.8Ø9	54.521	-2.378	1.684	Ø.ØØØ	Ø.ØØØ	Ø.728	Ø.Ø46	11.613	Ø.655	1.686	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
54	W2F	1	181.467	54.515	2.379	1.694	Ø.ØØØ	Ø.ØØØ	Ø.853	Ø.Ø21	11.613	-Ø.655	1.74Ø	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
55	LW231	1	187.578	29.999	1.632	1.718	Ø.ØØØ	Ø.ØØØ	Ø.981	Ø.Ø21	24.21Ø	-1.4Ø7	1.8ØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ
56	WP1	1	189.4Ø7	24.434	1.41Ø	1.729	Ø.ØØØ	Ø.ØØØ	1.Ø19	Ø.Ø21	29.766	-1.631	1.81Ø	Ø.ØØØ	Ø.ØØØ	Ø.ØØ9	Ø.Ø1Ø
57	LW232	1	195.519	11.764	Ø.663	1.788	Ø.ØØØ	Ø.ØØØ	1.146	Ø.Ø21	54.3Ø2	-2.383	1.835	Ø.ØØØ	Ø.ØØØ	Ø.Ø7Ø	Ø.Ø1Ø
58	W3D	1	199.176	11.758	-Ø.661	1.841	Ø.ØØØ	Ø.ØØØ	1.494	Ø.174	54.311	2.381	1.845	Ø.ØØØ	Ø.ØØØ	Ø.Ø94	Ø.ØØ3
59	LW34	1	213.228	54.451	-2.378	1.935	Ø.ØØØ	Ø.ØØØ	3.94Ø	Ø.174	11.641	Ø.655	1.939	Ø.ØØØ	Ø.ØØØ	Ø.132	Ø.ØØ3
6Ø	W4F	1	216.886	54.467	2.374	1.945	Ø.ØØØ	Ø.ØØØ	4.Ø18	-Ø.133	11.641	-Ø.655	1.993	Ø.ØØØ	Ø.ØØØ	Ø.164	Ø.Ø15
61	LW45	1	23Ø.937	11.8Ø8	Ø.662	2.Ø38	Ø.ØØØ	Ø.ØØØ	2.151	-Ø.133	54.3Ø4	-2.381	2.Ø87	Ø.ØØØ	Ø.ØØØ	Ø.374	Ø.Ø15
62	W5D	1	234.595	11.814	-Ø.664	2.Ø91	Ø.ØØØ	Ø.ØØØ	2.Ø68	Ø.Ø87	54.295	2.383	2.Ø97	Ø.ØØØ	Ø.ØØØ	Ø.369	-Ø.Ø18
63	LW56	1	248.647	54.559	-2.378	2.184	Ø.ØØØ	Ø.ØØØ	3.285	Ø.Ø87	11.613	Ø.655	2.192	Ø.ØØØ	Ø.ØØØ	Ø.115	-Ø.Ø18
64	W6F	1	252.3Ø4	54.543	2.382	2.195	Ø.ØØØ	Ø.ØØØ	3.16Ø	-Ø.153	11.614	-Ø.655	2.246	Ø.ØØØ	Ø.ØØØ	Ø.Ø64	-Ø.Ø11
65	LW67	1	266.356	11.764	Ø.663	2.288	Ø.ØØØ	Ø.ØØØ	1.ØØ3	-Ø.153	54.3Ø7	-2.383	2.34Ø	Ø.ØØØ	Ø.ØØØ	-Ø.Ø84	-Ø.Ø11
66	W7D	1	27Ø.Ø13	11.758	-Ø.661	2.341	Ø.ØØØ	Ø.ØØØ	Ø.656	-Ø.Ø41	54.316	2.381	2.35Ø	Ø.ØØØ	Ø.ØØØ	-Ø.1Ø7	-Ø.ØØ2
67	LW78	1	284.Ø65	54.452	-2.378	2.435	Ø.ØØØ	Ø.ØØØ	Ø.Ø74	-Ø.Ø41	11.642	Ø.656	2.445	Ø.ØØØ	Ø.ØØØ	-Ø.136	-Ø.ØØ2
68	W8F	1	287.723	54.467	2.374	2.445	Ø.ØØØ	Ø.ØØØ	-Ø.ØØ3	Ø.ØØØ	11.64Ø	-Ø.655	2.499	Ø.ØØØ	Ø.ØØØ	-Ø.166	-Ø.Ø15
END	W	1	287.723	54.467	2.374	2.445	Ø.ØØØ	Ø.ØØØ	-Ø.ØØ3	Ø.ØØØ	11.64Ø	-Ø.655	2.499	Ø.ØØØ	Ø.ØØØ	-Ø.166	-Ø.Ø15
BEGIN	V1	1	287.723	54.467	2.374	2.445	Ø.ØØØ	Ø.ØØØ	-Ø.ØØ3	Ø.ØØØ	11.64Ø	-Ø.655	2.499	Ø.ØØØ	Ø.ØØØ	-Ø.166	-Ø.Ø15
69	LVØ1	1	3Ø1.695	11.914	Ø.672	2.537	Ø.ØØØ	Ø.ØØØ	Ø.ØØ1	Ø.ØØØ	53.921	-2.371	2.593	Ø.ØØØ	Ø.ØØØ	-Ø.37Ø	-Ø.Ø15
7Ø	VQ1D	1	3Ø2.435	11.9Ø6	-Ø.661	2.548	Ø.ØØØ	Ø.ØØØ	Ø.ØØ1	Ø.ØØØ	53.141	3.397	2.595	Ø.ØØØ	Ø.ØØØ	-Ø.366	Ø.Ø25
71	LV12	1	316.892	56.264	-2.4Ø7	2.642	Ø.ØØØ	Ø.ØØØ	Ø.ØØ8	Ø.ØØØ	4.24Ø	-Ø.Ø14	2.8Ø2	Ø.ØØØ	Ø.ØØØ	-Ø.ØØ2	Ø.Ø25
72	VQ2F	1	317.632	57.12Ø	1.27Ø	2.644	Ø.ØØØ	Ø.ØØØ	Ø.ØØ8	Ø.ØØØ	4.599	-Ø.48Ø	2.829	Ø.ØØØ	Ø.ØØØ	Ø.Ø16	Ø.Ø26
73	LV231	1	325.847	39.344	Ø.894	2.672	Ø.ØØØ	Ø.ØØØ	Ø.ØØ7	Ø.ØØØ	3Ø.531	-2.677	2.95Ø	Ø.ØØØ	Ø.ØØØ	Ø.227	Ø.Ø26
74	WP2	1	327.676	36.223	Ø.812	2.679	Ø.ØØØ	Ø.ØØØ	Ø.ØØ7	Ø.ØØØ	41.216	-3.166	2.959	Ø.ØØØ	Ø.ØØØ	Ø.264	Ø.Ø16
END	V1	1	327.676	36.223	Ø.812	2.679	Ø.ØØØ	Ø.ØØØ	Ø.ØØ7	Ø.ØØØ	41.216	-3.166	2.959	Ø.ØØØ	Ø.ØØØ	Ø.264	Ø.Ø16
BEGIN	V2	1	327.676	36.223	Ø.812	2.679	Ø.ØØØ	Ø.ØØØ	Ø.ØØ7	Ø.ØØØ	41.216	-3.166	2.959	Ø.ØØØ	Ø.ØØØ	Ø.264	Ø.Ø16
75	LV232	1	333.668	28.133	Ø.538	2.7Ø9	Ø.ØØØ	Ø.ØØØ	Ø.ØØ7	Ø.ØØØ	88.76Ø	-4.769	2.974	Ø.ØØØ	Ø.ØØØ	Ø.358	Ø.Ø16
76	VQ3D	1	334.4Ø8	29.199	-2.Ø1Ø	2.714	Ø.ØØØ	Ø.ØØØ	Ø.ØØ7	Ø.ØØ1	9Ø.ØØ4	3.124	2.976	Ø.ØØØ	Ø.ØØØ	Ø.358	-Ø.Ø16
77	LV34	1	348.48Ø	119.951	-4.439	2.752	Ø.ØØØ	Ø.ØØØ	Ø.Ø14	Ø.ØØ1	25.753	1.442	3.Ø23	Ø.ØØØ	Ø.ØØØ	Ø.132	-Ø.Ø16
78	VQ4F	1	349.22Ø	118.934	5.785	2.753	Ø.ØØØ	Ø.ØØØ	Ø.Ø14	-Ø.ØØ1	25.254	-Ø.753	3.Ø28	Ø.ØØØ	Ø.ØØØ	Ø.124	-Ø.ØØ5
79	LV45	1	368.8Ø1	3.493	Ø.111	2.958	Ø.ØØØ	Ø.ØØØ	Ø.ØØ1	-Ø.ØØ1	78.529	-1.968	3.1ØØ	Ø.ØØØ	Ø.ØØØ	Ø.Ø23	-Ø.ØØ5
8Ø	VQ5D	1	369.541	3.65Ø	-Ø.326	2.991	Ø.ØØØ	Ø.ØØØ	Ø.ØØØ	-Ø.ØØ1	77.797	2.943	3.1Ø2	Ø.ØØØ	Ø.ØØØ	Ø.Ø18	-Ø.ØØ6
81	LV56	1	387.679	115.169	-5.822	3.164	Ø.ØØØ	Ø.ØØØ	-Ø.Ø12	-Ø.ØØ1	11.897	Ø.691	3.2Ø3	Ø.ØØØ	Ø.ØØØ	-Ø.Ø99	-Ø.ØØ6
82	VQ6F	1	388.419	114.519	6.676	3.165	Ø.ØØØ	Ø.ØØØ	-Ø.Ø12	Ø.ØØ1	11.867	-Ø.649	3.213	Ø.ØØØ	Ø.ØØØ	-Ø.1Ø8	-Ø.Ø18
83	LV6Ø	1	388.951	1Ø7.526	6.465	3.166	Ø.ØØØ	Ø.ØØØ	-Ø.Ø12	Ø.ØØ1	12.592	-Ø.713	3.22Ø	Ø.ØØØ	Ø.ØØØ	-Ø.117	-Ø.Ø18
84	SWM	1	392.6Ø9	65.577	5.Ø1Ø	3.173	Ø.ØØØ	Ø.ØØØ	Ø.Ø77	Ø.Ø48	19.377	-1.14Ø	3.258	Ø.ØØØ	Ø.ØØØ	-Ø.181	-Ø.Ø18
END	V2	1	392.6Ø9	65.577	5.Ø1Ø	3.173	Ø.ØØØ	Ø.ØØØ	Ø.Ø77	Ø.Ø48	19.377	-1.14Ø	3.258	Ø.ØØØ	Ø.ØØØ	-Ø.181	-Ø.Ø18
BEGIN	Q	1	392.6Ø9	65.577	5.Ø1Ø	3.173	Ø.ØØØ	Ø.ØØØ	Ø.Ø77	Ø.Ø48	19.377	-1.14Ø	3.258	Ø.ØØØ	Ø.ØØØ	-Ø.181	-Ø.Ø18
85	L112	1	4Ø2.564	5.271	1.Ø48	3.263	Ø.ØØØ	Ø.ØØØ	Ø.553	Ø.Ø48	53.836	-2.321	3.3Ø8	Ø.ØØØ	Ø.ØØØ	-Ø.356	-Ø.Ø18
86	G1D	1	4Ø6.222	4.19Ø	-Ø.7Ø3	3.423	Ø.ØØØ	Ø.ØØØ	Ø.98Ø	Ø.196	43.769	4.587	3.319	Ø.ØØØ	Ø.ØØØ	-Ø.327	Ø.Ø32
87	L113	1	41Ø.846	18.322	-2.353	3.512	Ø.ØØØ	Ø.ØØØ	1.886	Ø.196	12.116	2.258	3.351	Ø.ØØØ	Ø.ØØØ	-Ø.177	Ø.Ø32
88	G2F	1	413.792	26.674	-Ø.163	3.532	Ø.ØØØ	Ø.ØØØ	2.183	Ø.ØØØ	5.ØØ5	Ø.414	3.416	Ø.ØØØ	Ø.ØØØ	-Ø.1Ø7	Ø.Ø17
89	L114	1	415.Ø77	27.156	-Ø.212	3.539	Ø.ØØØ	Ø.ØØØ	2.183	Ø.ØØØ	4.329	Ø.113	3.461	Ø.ØØØ	Ø.ØØØ	-Ø.Ø85	Ø.Ø17
BEGIN	PERIOD	1	415.Ø77	27.156	-Ø.212	3.539	Ø.ØØØ	Ø.ØØØ	2.183	Ø.ØØØ	4.329	Ø.113	3.461	Ø.ØØØ	Ø.ØØØ	-Ø.Ø85	Ø.Ø17
BEGIN	PF	1	415.Ø77	27.156	-Ø.212	3.539	Ø.ØØØ	Ø.ØØØ	2.183	Ø.ØØØ	4.329	Ø.113	3.461	Ø.ØØØ	Ø.ØØØ	-Ø.Ø85	Ø.Ø17
9Ø	LHOL	1	415.792	27.479	-Ø.24Ø	3.544	Ø.ØØØ	Ø.ØØØ	2.184	Ø.ØØØ	4.287	-Ø.Ø54	3.487	Ø.ØØØ	Ø.ØØØ	-Ø.Ø73	Ø.Ø17
91	GF	1	419.449	17.349	2.523	3.568	Ø.ØØØ	Ø.ØØØ	1.735	-Ø.235	11.Ø97	-2.112	3.585	Ø.ØØØ	Ø.ØØØ	-Ø.Ø24	Ø.Ø1Ø
92	LOS	1	419.899	15.164	2.332	3.573	Ø.ØØØ	Ø.ØØØ	1.629	-Ø.235	13.Ø97	-2.333	3.591	Ø.ØØØ	Ø.ØØØ	-Ø.Ø2Ø	Ø.Ø1Ø
93	GD	1	423.556	7.538	Ø.Ø97	3.633	Ø.ØØØ	Ø.ØØØ	1.219	Ø.ØØ1	24.816	-Ø.3Ø4	3.621	Ø.ØØØ	Ø.ØØØ	Ø.Ø2Ø	Ø.Ø1Ø

94	LHOL	2	424.271	7.468	0.001	3.648	0.000	0.000	1.220	0.001	25.273	-0.335	3.625	0.000	0.000	0.028	0.010
END	PF	1	424.271	7.468	0.001	3.648	0.000	0.000	1.220	0.001	25.273	-0.335	3.625	0.000	0.000	0.028	0.010
BEGIN	PD	1	424.271	7.468	0.001	3.648	0.000	0.000	1.220	0.001	25.273	-0.335	3.625	0.000	0.000	0.028	0.010
95	LHOL	3	424.986	7.535	-0.095	3.664	0.000	0.000	1.220	0.001	25.775	-0.367	3.630	0.000	0.000	0.035	0.010
96	GD	2	428.643	15.140	-2.327	3.724	0.000	0.000	1.640	0.238	17.040	2.332	3.655	0.000	0.000	0.062	0.003
97	LOS	2	429.093	17.320	-2.518	3.729	0.000	0.000	1.747	0.238	15.017	2.162	3.660	0.000	0.000	0.063	0.003
98	GF	2	432.751	27.426	0.240	3.753	0.000	0.000	2.203	0.000	8.244	-0.008	3.718	0.000	0.000	0.093	0.014
99	LHOL	4	433.466	27.103	0.212	3.757	0.000	0.000	2.203	0.000	8.317	-0.095	3.732	0.000	0.000	0.103	0.014
END	PD	1	433.466	27.103	0.212	3.757	0.000	0.000	2.203	0.000	8.317	-0.095	3.732	0.000	0.000	0.103	0.014
END	PERIOD	1	433.466	27.103	0.212	3.757	0.000	0.000	2.203	0.000	8.317	-0.095	3.732	0.000	0.000	0.103	0.014
BEGIN	PERIOD	2	433.466	27.103	0.212	3.757	0.000	0.000	2.203	0.000	8.317	-0.095	3.732	0.000	0.000	0.103	0.014
BEGIN	PF	2	433.466	27.103	0.212	3.757	0.000	0.000	2.203	0.000	8.317	-0.095	3.732	0.000	0.000	0.103	0.014
100	LHOL	5	434.181	26.819	0.185	3.762	0.000	0.000	2.203	0.000	8.515	-0.182	3.745	0.000	0.000	0.113	0.014
101	GF	3	437.838	14.822	2.520	3.789	0.000	0.000	1.751	-0.237	17.359	-2.631	3.798	0.000	0.000	0.198	0.034
102	LOS	3	438.288	12.654	2.297	3.794	0.000	0.000	1.644	-0.237	19.819	-2.836	3.802	0.000	0.000	0.213	0.034
103	GD	3	441.945	4.998	0.141	3.877	0.000	0.000	1.228	0.000	30.794	0.367	3.824	0.000	0.000	0.277	-0.001
104	LHOL	6	442.660	4.900	-0.004	3.900	0.000	0.000	1.228	0.000	30.288	0.340	3.828	0.000	0.000	0.276	-0.001
END	PF	2	442.660	4.900	-0.004	3.900	0.000	0.000	1.228	0.000	30.288	0.340	3.828	0.000	0.000	0.276	-0.001
BEGIN	PD	2	442.660	4.900	-0.004	3.900	0.000	0.000	1.228	0.000	30.288	0.340	3.828	0.000	0.000	0.276	-0.001
105	LHOL	7	443.375	5.011	-0.150	3.923	0.000	0.000	1.228	0.000	29.820	0.314	3.831	0.000	0.000	0.275	-0.001
106	GD	4	447.032	12.764	-2.319	4.006	0.000	0.000	1.647	0.238	15.816	2.837	3.856	0.000	0.000	0.203	-0.036
107	LOS	4	447.482	14.952	-2.544	4.011	0.000	0.000	1.754	0.238	13.378	2.580	3.861	0.000	0.000	0.187	-0.036
108	GF	4	451.140	27.056	-0.185	4.038	0.000	0.000	2.208	0.000	4.497	0.245	3.947	0.000	0.000	0.092	-0.018
109	LHOL	8	451.855	27.340	-0.212	4.042	0.000	0.000	2.208	0.000	4.267	0.076	3.973	0.000	0.000	0.079	-0.018
END	PD	2	451.855	27.340	-0.212	4.042	0.000	0.000	2.208	0.000	4.267	0.076	3.973	0.000	0.000	0.079	-0.018
END	PERIOD	2	451.855	27.340	-0.212	4.042	0.000	0.000	2.208	0.000	4.267	0.076	3.973	0.000	0.000	0.079	-0.018
BEGIN	PERIOD	3	451.855	27.340	-0.212	4.042	0.000	0.000	2.208	0.000	4.267	0.076	3.973	0.000	0.000	0.079	-0.018
BEGIN	PF	3	451.855	27.340	-0.212	4.042	0.000	0.000	2.208	0.000	4.267	0.076	3.973	0.000	0.000	0.079	-0.018
110	LHOL	9	452.570	27.663	-0.239	4.046	0.000	0.000	2.208	0.000	4.279	-0.092	4.000	0.000	0.000	0.067	-0.018
111	GF	5	456.227	17.450	2.542	4.071	0.000	0.000	1.752	-0.239	11.494	-2.203	4.095	0.000	0.000	0.014	-0.012
112	LOS	5	456.677	15.249	2.349	4.075	0.000	0.000	1.644	-0.239	13.580	-2.432	4.101	0.000	0.000	0.008	-0.012
113	GD	5	460.334	7.547	0.104	4.135	0.000	0.000	1.224	-0.001	25.782	-0.314	4.130	0.000	0.000	-0.035	-0.010
114	LHOL	10	461.049	7.467	0.008	4.150	0.000	0.000	1.223	-0.001	26.253	-0.345	4.134	0.000	0.000	-0.043	-0.010
END	PF	3	461.049	7.467	0.008	4.150	0.000	0.000	1.223	-0.001	26.253	-0.345	4.134	0.000	0.000	-0.043	-0.010
BEGIN	PD	3	461.049	7.467	0.008	4.150	0.000	0.000	1.223	-0.001	26.253	-0.345	4.134	0.000	0.000	-0.043	-0.010
115	LHOL	11	461.764	7.524	-0.088	4.166	0.000	0.000	1.222	-0.001	26.768	-0.375	4.139	0.000	0.000	-0.050	-0.010
116	GD	6	465.422	15.054	-2.310	4.227	0.000	0.000	1.634	0.236	17.632	2.431	4.163	0.000	0.000	-0.073	-0.001
117	LOS	6	465.872	17.218	-2.499	4.231	0.000	0.000	1.740	0.236	15.523	2.255	4.168	0.000	0.000	-0.073	-0.001
118	GF	6	469.529	27.242	0.240	4.256	0.000	0.000	2.189	0.000	8.346	0.028	4.224	0.000	0.000	-0.098	-0.013
119	LHOL	12	470.244	26.919	0.212	4.260	0.000	0.000	2.189	0.000	8.367	-0.058	4.238	0.000	0.000	-0.108	-0.013
END	PD	3	470.244	26.919	0.212	4.260	0.000	0.000	2.189	0.000	8.367	-0.058	4.238	0.000	0.000	-0.108	-0.013
END	PERIOD	3	470.244	26.919	0.212	4.260	0.000	0.000	2.189	0.000	8.367	-0.058	4.238	0.000	0.000	-0.108	-0.013
BEGIN	PERIOD	4	470.244	26.919	0.212	4.260	0.000	0.000	2.189	0.000	8.367	-0.058	4.238	0.000	0.000	-0.108	-0.013
BEGIN	PF	4	470.244	26.919	0.212	4.260	0.000	0.000	2.189	0.000	8.367	-0.058	4.238	0.000	0.000	-0.108	-0.013
120	LHOL	13	470.959	26.636	0.184	4.264	0.000	0.000	2.188	0.000	8.510	-0.143	4.252	0.000	0.000	-0.117	-0.013
121	GF	7	474.616	14.722	2.501	4.291	0.000	0.000	1.736	-0.236	16.944	-2.539	4.305	0.000	0.000	-0.199	-0.034
122	LOS	7	475.066	12.570	2.280	4.297	0.000	0.000	1.630	-0.236	19.318	-2.737	4.309	0.000	0.000	-0.214	-0.034
123	GD	7	478.723	4.990	0.135	4.380	0.000	0.000	1.215	0.000	29.813	0.375	4.331	0.000	0.000	-0.275	0.002
124	LHOL	14	479.438	4.902	-0.011	4.403	0.000	0.000	1.215	0.000	29.296	0.348	4.335	0.000	0.000	-0.273	0.002
END	PF	4	479.438	4.902	-0.011	4.403	0.000	0.000	1.215	0.000	29.296	0.348	4.335	0.000	0.000	-0.273	0.002
BEGIN	PD	4	479.438	4.902	-0.011	4.403	0.000	0.000	1.215	0.000	29.296	0.348	4.335	0.000	0.000	-0.273	0.002
125	LHOL	15	480.153	5.022	-0.157	4.426	0.000	0.000	1.215	0.000	28.818	0.320	4.339	0.000	0.000	-0.272	0.002
126	GD	8	483.811	12.851	-2.336	4.509	0.000	0.000	1.627	0.236	15.229	2.738	4.365	0.000	0.000	-0.199	0.036
127	LOS	8	484.261	15.055	-2.562	4.514	0.000	0.000	1.733	0.236	12.878	2.487	4.370	0.000	0.000	-0.183	0.036
128	GF	8	487.918	27.240	-0.185	4.540	0.000	0.000	2.183	0.000	4.406	0.208	4.458	0.000	0.000	-0.086	0.018
129	LHOL	16	488.633	27.524	-0.212	4.545	0.000	0.000	2.184	0.000	4.230	0.039	4.485	0.000	0.000	-0.073	0.018
END	PD	4	488.633	27.524	-0.212	4.545	0.000	0.000	2.184	0.000	4.230	0.039	4.485	0.000	0.000	-0.073	0.018
END	PERIOD	4	488.633	27.524	-0.212	4.545	0.000	0.000	2.184	0.000	4.230	0.039	4.485	0.000	0.000	-0.073	0.018
BEGIN	PERIOD	5	488.633	27.524	-0.212	4.545	0.000	0.000	2.184	0.000	4.230	0.039	4.485	0.000	0.000	-0.073	0.018
BEGIN	PF	5	488.633	27.524	-0.212	4.545	0.000	0.000	2.184	0.000	4.230	0.039	4.485	0.000	0.000	-0.073	0.018

130	LHOL	17	489.348	27.846	-0.239	4.549	0.000	0.000	2.184	0.000	4.296	-0.131	4.512	0.000	0.000	-0.060	0.018
131	GF	9	493.005	17.549	2.560	4.573	0.000	0.000	1.735	-0.235	11.925	-2.296	4.606	0.000	0.000	-0.003	0.014
132	LOS	9	493.455	15.333	2.366	4.577	0.000	0.000	1.630	-0.235	14.098	-2.532	4.611	0.000	0.000	0.004	0.014
133	GD	9	497.112	7.555	0.111	4.637	0.000	0.000	1.219	0.001	26.776	-0.320	4.639	0.000	0.000	0.050	0.010
134	LHOL	18	497.827	7.465	0.015	4.653	0.000	0.000	1.220	0.001	27.255	-0.350	4.643	0.000	0.000	0.058	0.010
END	PF	5	497.827	7.465	0.015	4.653	0.000	0.000	1.220	0.001	27.255	-0.350	4.643	0.000	0.000	0.058	0.010
BEGIN	PD	5	497.827	7.465	0.015	4.653	0.000	0.000	1.220	0.001	27.255	-0.350	4.643	0.000	0.000	0.058	0.010
135	LHOL	19	498.542	7.512	-0.081	4.668	0.000	0.000	1.221	0.001	27.776	-0.379	4.647	0.000	0.000	0.065	0.010
136	GD	10	502.200	14.966	-2.293	4.729	0.000	0.000	1.640	0.238	18.212	2.532	4.671	0.000	0.000	0.084	-0.001
137	LOS	10	502.650	17.114	-2.481	4.733	0.000	0.000	1.747	0.238	16.016	2.349	4.675	0.000	0.000	0.083	-0.001
138	GF	10	506.307	27.058	0.240	4.758	0.000	0.000	2.203	0.000	8.425	0.066	4.731	0.000	0.000	0.103	0.012
139	LHOL	20	507.022	26.735	0.212	4.763	0.000	0.000	2.203	0.000	8.392	-0.020	4.744	0.000	0.000	0.112	0.012
END	PD	5	507.022	26.735	0.212	4.763	0.000	0.000	2.203	0.000	8.392	-0.020	4.744	0.000	0.000	0.112	0.012
END	PERIOD	5	507.022	26.735	0.212	4.763	0.000	0.000	2.203	0.000	8.392	-0.020	4.744	0.000	0.000	0.112	0.012
BEGIN	PF	6	507.022	26.735	0.212	4.763	0.000	0.000	2.203	0.000	8.392	-0.020	4.744	0.000	0.000	0.112	0.012
140	LHOL	21	507.737	26.453	0.184	4.767	0.000	0.000	2.204	0.000	8.481	-0.105	4.758	0.000	0.000	0.120	0.012
141	GF	11	511.394	14.623	2.483	4.794	0.000	0.000	1.751	-0.238	16.498	-2.445	4.812	0.000	0.000	0.199	0.033
142	LOS	11	511.844	12.488	2.263	4.799	0.000	0.000	1.644	-0.238	18.784	-2.635	4.816	0.000	0.000	0.214	0.033
143	GD	11	515.501	4.983	0.128	4.883	0.000	0.000	1.228	0.000	28.810	0.379	4.839	0.000	0.000	0.272	-0.002
144	LHOL	22	516.216	4.905	-0.018	4.907	0.000	0.000	1.228	0.000	28.288	0.351	4.843	0.000	0.000	0.270	-0.002
END	PF	6	516.216	4.905	-0.018	4.907	0.000	0.000	1.228	0.000	28.288	0.351	4.843	0.000	0.000	0.270	-0.002
145	LHOL	23	516.931	5.035	-0.164	4.930	0.000	0.000	1.228	0.000	27.807	0.323	4.847	0.000	0.000	0.268	-0.002
146	GD	12	520.589	12.939	-2.353	5.011	0.000	0.000	1.647	0.238	14.658	2.636	4.874	0.000	0.000	0.194	-0.036
147	LOS	12	521.039	15.159	-2.580	5.017	0.000	0.000	1.754	0.238	12.395	2.392	4.879	0.000	0.000	0.178	-0.036
148	GF	12	524.696	27.424	-0.184	5.043	0.000	0.000	2.208	0.000	4.339	0.170	4.970	0.000	0.000	0.081	-0.019
149	LHALL	1	525.214	27.625	-0.204	5.046	0.000	0.000	2.208	0.000	4.227	0.047	4.990	0.000	0.000	0.071	-0.019
END	Q	1	525.214	27.625	-0.204	5.046	0.000	0.000	2.208	0.000	4.227	0.047	4.990	0.000	0.000	0.071	-0.019
BEGIN	M1	1	525.214	27.625	-0.204	5.046	0.000	0.000	2.208	0.000	4.227	0.047	4.990	0.000	0.000	0.071	-0.019
150	QMI1	1	525.894	26.752	1.470	5.050	0.000	0.000	2.161	-0.138	4.454	-0.387	5.015	0.000	0.000	0.059	-0.015
151	LM121	1	527.482	22.380	1.283	5.060	0.000	0.000	1.942	-0.138	6.334	-0.797	5.063	0.000	0.000	0.036	-0.015
152	BMI	1	530.428	15.851	0.935	5.085	0.000	0.000	1.609	-0.089	13.249	-1.548	5.115	0.000	0.000	-0.008	-0.015
153	LM122	1	531.742	13.598	0.779	5.099	0.000	0.000	1.491	-0.089	17.761	-1.884	5.129	0.000	0.000	-0.028	-0.015
154	QMI2	1	532.422	12.493	0.841	5.108	0.000	0.000	1.425	-0.106	20.594	-2.292	5.135	0.000	0.000	-0.039	-0.015
155	LM231	1	533.580	10.729	0.683	5.124	0.000	0.000	1.303	-0.106	26.308	-2.643	5.143	0.000	0.000	-0.056	-0.015
156	BMI	2	536.527	7.893	0.280	5.176	0.000	0.000	1.063	-0.057	44.436	-3.503	5.156	0.000	0.000	-0.102	-0.015
157	LM232	1	537.166	7.591	0.193	5.189	0.000	0.000	1.026	-0.057	49.040	-3.694	5.159	0.000	0.000	-0.111	-0.015
158	QMI3	1	537.846	8.220	-1.151	5.203	0.000	0.000	1.042	0.105	48.762	4.088	5.161	0.000	0.000	-0.116	0.003
159	LM341	1	539.379	12.414	-1.585	5.227	0.000	0.000	1.203	0.105	37.081	3.531	5.166	0.000	0.000	-0.111	0.003
160	BMI	3	542.325	24.200	-2.418	5.254	0.000	0.000	1.583	0.153	19.365	2.475	5.184	0.000	0.000	-0.103	0.003
161	LM342	1	542.907	27.110	-2.582	5.258	0.000	0.000	1.672	0.153	16.609	2.261	5.189	0.000	0.000	-0.101	0.003
162	QMI4	1	543.587	27.533	1.984	5.262	0.000	0.000	1.681	-0.129	15.426	-0.456	5.196	0.000	0.000	-0.105	-0.014
163	LM451	1	544.478	24.141	1.824	5.267	0.000	0.000	1.566	-0.129	16.300	-0.526	5.205	0.000	0.000	-0.118	-0.014
164	BMI	4	547.424	14.950	1.296	5.292	0.000	0.000	1.259	-0.080	20.037	-0.741	5.231	0.000	0.000	-0.159	-0.014
165	LM42	1	547.844	13.893	1.221	5.296	0.000	0.000	1.226	-0.080	20.673	-0.773	5.234	0.000	0.000	-0.165	-0.014
166	QMI5'	1	548.524	11.374	2.391	5.305	0.000	0.000	1.126	-0.211	23.414	-3.359	5.239	0.000	0.000	-0.181	-0.033
END	M1	1	548.524	11.374	2.391	5.305	0.000	0.000	1.126	-0.211	23.414	-3.359	5.239	0.000	0.000	-0.181	-0.033
BEGIN	M2	1	548.524	11.374	2.391	5.305	0.000	0.000	1.126	-0.211	23.414	-3.359	5.239	0.000	0.000	-0.181	-0.033
167	LM452'	1	550.486	4.267	1.233	5.350	0.000	0.000	0.712	-0.211	38.609	-4.388	5.250	0.000	0.000	-0.246	-0.033
168	QMI5	1	551.166	3.189	0.404	5.380	0.000	0.000	0.600	-0.119	40.822	1.239	5.252	0.000	0.000	-0.257	0.003
169	LM561	1	552.565	2.771	-0.106	5.458	0.000	0.000	0.434	-0.119	37.476	1.152	5.258	0.000	0.000	-0.253	0.003
170	BMI	5	555.511	6.561	-1.181	5.580	0.000	0.000	0.155	-0.070	31.146	0.994	5.272	0.000	0.000	-0.244	0.003
171	LM562	1	563.074	45.296	-3.941	5.652	0.000	0.000	-0.377	-0.070	19.762	0.511	5.321	0.000	0.000	-0.221	0.003
172	QMI6	1	563.754	46.954	1.569	5.654	0.000	0.000	-0.409	-0.023	20.707	-1.940	5.327	0.000	0.000	-0.228	-0.024
173	LM671	1	564.797	43.760	1.492	5.658	0.000	0.000	-0.433	-0.023	25.004	-2.179	5.334	0.000	0.000	-0.252	-0.024
174	SI0	1	568.885	32.695	1.211	5.675	0.000	0.000	-0.527	-0.023	46.653	-3.119	5.353	0.000	0.000	-0.245	0.027
175	LM781	1	570.223	29.591	1.110	5.682	0.000	0.000	-0.557	-0.023	55.410	-3.427	5.357	0.000	0.000	-0.209	0.027
176	QMI7	1	570.903	30.582	-2.609	5.686	0.000	0.000	-0.596	-0.093	55.400	3.440	5.359	0.000	0.000	-0.183	0.051
177	LM782	1	571.903	36.054	-2.864	5.691	0.000	0.000	-0.690	-0.093	48.751	3.209	5.362	0.000	0.000	-0.131	0.051
178	SI1	1	575.402	59.139	-3.726	5.703	0.000	0.000	-1.016	-0.093	29.134	2.398	5.377	0.000	0.000	-0.028	0.008
179	L0782	1	576.402	66.843	-3.978	5.705	0.000	0.000	-1.109	-0.093	24.570	2.166	5.383	0.000	0.000	-0.020	0.008

180	Q80	1	577.019	69.767	-0.713	5.707	0.000	0.000	-1.150	-0.038	22.675	0.935	5.387	0.000	0.000	-0.015	0.006
181	Q80	2	577.636	68.567	2.637	5.708	0.000	0.000	-1.156	0.018	22.216	-0.184	5.391	0.000	0.000	-0.013	0.003
182	L0891	1	578.636	63.410	2.521	5.710	0.000	0.000	-1.138	0.018	22.630	-0.230	5.399	0.000	0.000	-0.009	0.003
183	SI2	1	580.036	56.579	2.359	5.714	0.000	0.000	-1.112	0.018	23.367	-0.295	5.408	0.000	0.000	-0.007	0.001
184	L0892	1	594.399	12.754	0.693	5.804	0.000	0.000	-0.852	0.018	41.453	-0.964	5.485	0.000	0.000	0.002	0.001
185	KI	1	597.649	9.478	0.316	5.852	0.000	0.000	-0.793	0.018	48.209	-1.115	5.496	0.000	0.000	0.002	-0.001
186	L0893	1	598.149	9.192	0.258	5.860	0.000	0.000	-0.784	0.018	49.336	-1.138	5.498	0.000	0.000	0.002	-0.001
187	Q90	1	598.561	9.086	0.000	5.867	0.000	0.000	-0.781	0.000	49.806	0.000	5.499	0.000	0.000	0.001	-0.001
END	M2	1	598.561	9.086	0.000	5.867	0.000	0.000	-0.781	0.000	49.806	0.000	5.499	0.000	0.000	0.001	-0.001
END	RHIC	1	598.561	9.086	0.000	5.867	0.000	0.000	-0.781	0.000	49.806	0.000	5.499	0.000	0.000	0.001	-0.001

TOTAL LENGTH =	598.560988	MUX	=	5.867354	MUY = 5.499109
		DMUX	=	-13.176525	DMUY = -9.095082
		BETAX(MAX)	=	122.439281	BETAY(MAX) = 110.576508
		DX(MAX)	=	4.545331	DY(MAX) = 0.374381