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08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 MODEL PAGE 1

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Pipe Stress Analysis and Design Program

Version: 6.20.09

Edition: Win

Developed and Maintained by

REBIS Industrial Workgroup Software
1600 Riviera Ave., Suite 300
Walnut Creek, CA 94596

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 MODEL PAGE 2

**
** AUTOPIPE SYSTEM INFORMATION **
**

SYSTEM NAME : 79319867_komplett

PROJECT ID : ASU KOSICE

DESCRIPTION :

PREPARED BY : _____
WEGSTEIN

CHECKED BY : _____
FRICKHOEFER

PIPING CODE : B31.3
VERTICAL AXIS : Z
AMBIENT TEMPERATURE : 20.0 deg C
COMPONENT LIBRARY : HANAU_AL
MATERIAL LIBRARY : AUTOB313
MODEL REVISION NUMBER : 0

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 MODEL PAGE 3

C O M P O N E N T D A T A L I S T I N G

*** SEGMENT A , LINE # 79319867

From A01 to A02, DX= 137.87 mm, DY= 24.31 mm, L= 140.00 mm Redu

COMPONENT DATA (Reducer):

Length= 140.00 mm, SIF= 1.00

PIPE DATA:

Pipe Id= 150MX6.0, Material= AL, Poisson= 0.300, Nom Size= 150 mm,
OD= 168.30 mm, Sch= NS, Wall Thk= 6.000 mm, Mill= 0.750 mm, Cor= 0 mm,
Pipe Density= 2707.12 kg/m3, Pipe Unit Wgt= 81.22 N/m, Insul Thk= 0 mm,
Lining Thk= 0 mm, Long Weld factor= 1.00, Circ Weld factor= 1.00,
Long Modulus= 0.06899 x10⁶ N/m, Hoop Modulus= 0.06899 x10⁶ N/m,
Shear Modulus= 0.02653 x10⁶ N/m, Sc= 103.4 N/mm2, Syc= 0 N/mm2

OPERATING DATA:

P1= 0 N/mm2, T1= -196.00 deg C, Expl= -3.84587 mm/m,
E1= 0.07646 x10⁶ N/m, Sh1= 71.00 N/mm2

POINT DATA:

A01, Coordinates, X= 0.00 mm, Y= 0.00 mm, Z= 0.00 mm

SUPPORT DATA:

A01, Anchor, KTX= Rigid, KTY= Rigid, KTZ= Rigid, KRX= Rigid, KRY= Rigid,
KRZ= Rigid

From A02 to A03, DX= 300.37 mm, DY= 52.96 mm, L= 305.00 mm Run

PIPE DATA:

Pipe Id= 100MX6.0, Nom Size= 100 mm, OD= 114.30 mm, Sch= 6.0

POINT DATA:

A02, Coordinates, X= 137.87 mm, Y= 24.31 mm, Z= 0.00 mm

From A03 to A04, DX= 317.12 mm Bend

COMPONENT DATA (Bend, TIP= A03, Near= A03 N, Far= A03 F):

Elbow, Radius= 152.00 mm, Bend angle= 10.00 deg, End flanges= 0,
Flex= 5.305, SIFI= 1.96, SIFO= 1.63

POINT DATA:

A03, Coordinates, X= 438.24 mm, Y= 77.27 mm, Z= 0.00 mm
A03 N, Coordinates, X= 425.14 mm, Y= 74.96 mm, Z= 0.00 mm
A03 F, Coordinates, X= 451.54 mm, Y= 77.27 mm, Z= 0.00 mm

From A04 to A05, DY= -2126.06 mm, DZ= -186.01 mm, L= 2134.18 mm Bend

COMPONENT DATA (Bend, TIP= A04, Near= A04 N, Far= A04 F):

Elbow, Radius= 151.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 5.305, SIFI= 1.96, SIFO= 1.63

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 MODEL PAGE 4

C O M P O N E N T D A T A L I S T I N G

POINT DATA:

A04, Coordinates, X= 755.36 mm, Y= 77.27 mm, Z= 0.00 mm
A04 N, Coordinates, X= 603.37 mm, Y= 77.27 mm, Z= 0.00 mm
A04 F, Coordinates, X= 755.36 mm, Y= -74.14 mm, Z= -13.25 mm

From A05 to A06, DX= -1551.68 mm, DZ= -135.75 mm, L= 1557.61 mm Bend

COMPONENT DATA (Bend, TIP= A05, Near= A05 N, Far= A05 F):
Elbow, Radius= 153.15 mm, Bend angle= 89.56 deg, End flanges= 0,
Flex= 5.265, SIFI= 1.95, SIFO= 1.63

POINT DATA:

A05, Coordinates, X= 755.36 mm, Y= -2048.79 mm, Z= -186.01 mm
A05 N, Coordinates, X= 755.36 mm, Y= -1897.38 mm, Z= -172.76 mm
A05 F, Coordinates, X= 603.95 mm, Y= -2048.79 mm, Z= -199.26 mm

From A06 to A07, DZ= -6139.28 mm Bend

COMPONENT DATA (Bend, TIP= A06, Near= A06 N, Far= A06 F):
Elbow, Radius= 151.99 mm, Bend angle= 85.00 deg, End flanges= 0,
Flex= 5.305, SIFI= 1.96, SIFO= 1.63

POINT DATA:

A06, Coordinates, X= -796.32 mm, Y= -2048.79 mm, Z= -321.76 mm
A06 N, Coordinates, X= -657.58 mm, Y= -2048.79 mm, Z= -309.62 mm
A06 F, Coordinates, X= -796.32 mm, Y= -2048.79 mm, Z= -461.03 mm

From A07 to A08, DZ= -1000.00 mm Run

POINT DATA:
A07, Coordinates, X= -796.32 mm, Y= -2048.79 mm, Z= -6461.04 mm

From A08 to A09, DX= -122.43 mm, DY= 478.75 mm, DZ= -470.00 mm,
L= 681.98 mm Bend

COMPONENT DATA (Bend, TIP= A08, Near= A08 N, Far= A08 F):
Elbow, Radius= 151.99 mm, Bend angle= 46.44 deg, End flanges= 0,
Flex= 5.305, SIFI= 1.96, SIFO= 1.63

POINT DATA:

A08, Coordinates, X= -796.32 mm, Y= -2048.79 mm, Z= -7461.04 mm
A08 N, Coordinates, X= -796.32 mm, Y= -2048.79 mm, Z= -7395.84 mm
A08 F, Coordinates, X= -808.02 mm, Y= -2003.02 mm, Z= -7505.97 mm

From A09 to A10, DZ= -6065.20 mm Bend

COMPONENT DATA (Bend, TIP= A09, Near= A09 N, Far= A09 F):
Elbow, Radius= 151.99 mm, Bend angle= 46.44 deg, End flanges= 0,
Flex= 5.305, SIFI= 1.96, SIFO= 1.63

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 MODEL PAGE 5

C O M P O N E N T D A T A L I S T I N G

POINT DATA:

A09, Coordinates, X= -918.75 mm, Y= -1570.04 mm, Z= -7931.04 mm
A09 N, Coordinates, X= -907.05 mm, Y= -1615.81 mm, Z= -7886.11 mm
A09 F, Coordinates, X= -918.75 mm, Y= -1570.04 mm, Z= -7996.24 mm

From A10 to A11, DZ= -5561.68 mm

Run

POINT DATA:

A10, Coordinates, X= -918.75 mm, Y= -1570.04 mm, Z= -13996.24 mm

From A11 to A12, DY= -1147.33 mm, DZ= -662.41 mm, L= 1324.82 mm

Bend

COMPONENT DATA (Bend, TIP= A11, Near= A11 N, Far= A11 F):

Elbow, Radius= 151.99 mm, Bend angle= 60.00 deg, End flanges= 0,
Flex= 5.305, SIFI= 1.96, SIFO= 1.63

POINT DATA:

A11, Coordinates, X= -918.75 mm, Y= -1570.04 mm, Z= -19557.92 mm
A11 N, Coordinates, X= -918.75 mm, Y= -1570.04 mm, Z= -19470.17 mm
A11 F, Coordinates, X= -918.75 mm, Y= -1646.04 mm, Z= -19601.80 mm

From A12 to A13, DX= 452.24 mm, DZ= -452.23 mm, L= 639.56 mm

Bend

COMPONENT DATA (Bend, TIP= A12, Near= A12 N, Far= A12 F):

Elbow, Radius= 151.99 mm, Bend angle= 69.30 deg, End flanges= 0,
Flex= 5.305, SIFI= 1.96, SIFO= 1.63

POINT DATA:

A12, Coordinates, X= -918.75 mm, Y= -2717.37 mm, Z= -20220.33 mm
A12 N, Coordinates, X= -918.75 mm, Y= -2626.40 mm, Z= -20167.81 mm
A12 F, Coordinates, X= -844.48 mm, Y= -2717.37 mm, Z= -20294.60 mm

From A13 to A14, DX= 5245.19 mm

Bend

COMPONENT DATA (Bend, TIP= A13, Near= A13 N, Far= A13 F):

Elbow, Radius= 151.98 mm, Bend angle= 45.00 deg, End flanges= 0,
Flex= 5.306, SIFI= 1.96, SIFO= 1.63

POINT DATA:

A13, Coordinates, X= -466.51 mm, Y= -2717.37 mm, Z= -20672.56 mm
A13 N, Coordinates, X= -511.02 mm, Y= -2717.37 mm, Z= -20628.05 mm
A13 F, Coordinates, X= -403.56 mm, Y= -2717.37 mm, Z= -20672.56 mm

*** SEGMENT B , LINE #

From A14 to B01, DX= 685.00 mm

Junc

PIPE DATA:

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 MODEL PAGE 6

C O M P O N E N T D A T A L I S T I N G

Pipe Id= 100MX6.0, Nom Size= 100 mm

OPERATING DATA:

T1= 20.00 deg C, Exp1= 0 mm/m, E1= 0.06899 x10⁶ N/m

POINT DATA:

A14, Coordinates, X= 4778.68 mm, Y= -2717.37 mm, Z= -20672.56 mm

From B01 to B02, DX= 0.12 mm, DY= -1404.37 mm, DZ= -0.20 mm, L= 1404.37 mm Bend

COMPONENT DATA (Bend, TIP= B01, Near= B01 N, Far= B01 F):

Elbow, Radius= 151.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 5.305, SIFI= 1.96, SIFO= 1.63

POINT DATA:

B01, Coordinates, X= 5463.68 mm, Y= -2717.37 mm, Z= -20672.56 mm
B01 N, Coordinates, X= 5311.70 mm, Y= -2717.37 mm, Z= -20672.56 mm
B01 F, Coordinates, X= 5463.69 mm, Y= -2869.35 mm, Z= -20672.58 mm

From B02 to B03, DX= 309.88 mm, DZ= -489.80 mm, L= 579.59 mm Bend

COMPONENT DATA (Bend, TIP= B02, Near= B02 N, Far= B02 F):

Elbow, Radius= 151.99 mm, Bend angle= 89.99 deg, End flanges= 0,
Flex= 5.305, SIFI= 1.96, SIFO= 1.63

POINT DATA:

B02, Coordinates, X= 5463.80 mm, Y= -4121.74 mm, Z= -20672.76 mm
B02 N, Coordinates, X= 5463.79 mm, Y= -3969.78 mm, Z= -20672.74 mm
B02 F, Coordinates, X= 5545.05 mm, Y= -4121.74 mm, Z= -20801.18 mm

From B03 to B04, DY= -500.00 mm Bend

COMPONENT DATA (Bend, TIP= B03, Near= B03 N, Far= B03 F):

Elbow, Radius= 151.99 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 5.305, SIFI= 1.96, SIFO= 1.63

POINT DATA:

B03, Coordinates, X= 5773.68 mm, Y= -4121.74 mm, Z= -21162.56 mm
B03 N, Coordinates, X= 5692.42 mm, Y= -4121.74 mm, Z= -21034.12 mm
B03 F, Coordinates, X= 5773.68 mm, Y= -4273.73 mm, Z= -21162.56 mm

*** SEGMENT C , LINE #

From C00 to C01, DX= 180.00 mm Run

PIPE DATA:

Pipe Id= 15MMX2,6, Material= NS, Nom Size= 15 mm, OD= 21.300 mm,
Sch= 2.6, Wall Thk= 2.600 mm, Mill= 0.325 mm,
Pipe Density= 7833.00 kg/m3, Pipe Unit Wgt= 11.73 N/m,

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 MODEL PAGE 7

C O M P O N E N T D A T A L I S T I N G

Long Modulus= 0.20345 x10⁶ N/m, Hoop Modulus= 0.20345 x10⁶ N/m,
Shear Modulus= 0.07825 x10⁶ N/m

OPERATING DATA:

T1= -196.00 deg C, Exp1= -2.52720 mm/m, E1= 0.07646 x10⁶ N/m,
Sh1= 143.00 N/mm2

POINT DATA:

C00, Coordinates, X= 5073.68 mm, Y= -7681.82 mm, Z= -21242.54 mm

SUPPORT DATA:

C00, Anchor, KTX= Rigid, KTY= Rigid, KTZ= Rigid, KRX= Rigid, KRY= Rigid,
KRZ= Rigid

From C01 to C02, DY= 473.50 mm, DZ= 473.50 mm, L= 669.63 mm Bend

COMPONENT DATA (Bend, TIP= C01, Near= C01 N, Far= C01 F):

Elbow, Radius= 42.59 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 1.303, SIFI= 1.00, SIFO= 1.00

POINT DATA:

C01, Coordinates, X= 5253.68 mm, Y= -7681.82 mm, Z= -21242.54 mm
C01 N, Coordinates, X= 5211.09 mm, Y= -7681.82 mm, Z= -21242.54 mm
C01 F, Coordinates, X= 5253.68 mm, Y= -7651.70 mm, Z= -21212.43 mm

From C02 to C03, DX= -100.00 mm Bend

COMPONENT DATA (Bend, TIP= C02, Near= C02 N, Far= C02 F):

Elbow, Radius= 42.59 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 1.303, SIFI= 1.00, SIFO= 1.00

POINT DATA:

C02, Coordinates, X= 5253.68 mm, Y= -7208.32 mm, Z= -20769.04 mm
C02 N, Coordinates, X= 5253.68 mm, Y= -7238.43 mm, Z= -20799.16 mm
C02 F, Coordinates, X= 5211.09 mm, Y= -7208.32 mm, Z= -20769.04 mm

From C03 to C04, DY= 672.36 mm Bend

COMPONENT DATA (Bend, TIP= C03, Near= C03 N, Far= C03 F):

Elbow, Radius= 42.59 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 1.303, SIFI= 1.00, SIFO= 1.00

POINT DATA:

C03, Coordinates, X= 5153.68 mm, Y= -7208.32 mm, Z= -20769.04 mm
C03 N, Coordinates, X= 5196.27 mm, Y= -7208.32 mm, Z= -20769.04 mm
C03 F, Coordinates, X= 5153.68 mm, Y= -7165.73 mm, Z= -20769.04 mm

From C04 to C05, DX= 410.58 mm, DZ= -72.40 mm, L= 416.91 mm Bend

COMPONENT DATA (Bend, TIP= C04, Near= C04 N, Far= C04 F):

Elbow, Radius= 42.59 mm, Bend angle= 90.00 deg, End flanges= 0,

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 MODEL PAGE 8

C O M P O N E N T D A T A L I S T I N G

Flex= 1.303, SIFI= 1.00, SIFO= 1.00

POINT DATA:

C04, Coordinates, X= 5153.68 mm, Y= -6535.96 mm, Z= -20769.04 mm
C04 N, Coordinates, X= 5153.68 mm, Y= -6578.55 mm, Z= -20769.04 mm
C04 F, Coordinates, X= 5195.62 mm, Y= -6535.96 mm, Z= -20776.44 mm

From C05 to C06, DZ= -440.97 mm

Bend

COMPONENT DATA (Bend, TIP= C05, Near= C05 N, Far= C05 F):

Elbow, Radius= 42.59 mm, Bend angle= 80.00 deg, End flanges= 0,
Flex= 1.303, SIFI= 1.00, SIFO= 1.00

POINT DATA:

C05, Coordinates, X= 5564.26 mm, Y= -6535.96 mm, Z= -20841.44 mm
C05 N, Coordinates, X= 5529.07 mm, Y= -6535.96 mm, Z= -20835.24 mm
C05 F, Coordinates, X= 5564.26 mm, Y= -6535.96 mm, Z= -20877.18 mm

From C06 to C07, DZ= -80.15 mm

Run

POINT DATA:

C06, Coordinates, X= 5564.26 mm, Y= -6535.96 mm, Z= -21282.41 mm

*** SEGMENT D , LINE #

From D00 to D01, DZ= 95.00 mm

Run

PIPE DATA:

Pipe Id= 100MX3, Material= NS, Nom Size= 100 mm, OD= 114.30 mm, Sch= 3.6,
Wall Thk= 3.600 mm, Mill= 0.450 mm, Pipe Density= 2707.10 kg/m3,
Pipe Unit Wgt= 33.24 N/m, Long Modulus= 0.06899 x10⁶ N/m,
Hoop Modulus= 0.06899 x10⁶ N/m, Shear Modulus= 0.02653 x10⁶ N/m

POINT DATA:

D00, Coordinates, X= 5697.80 mm, Y= -7042.31 mm, Z= -21633.56 mm

From D01 to D02, DZ= 100.00 mm

Redu

COMPONENT DATA (Reducer):

Length= 100.00 mm, SIF= 1.00

POINT DATA:

D01, Coordinates, X= 5697.80 mm, Y= -7042.31 mm, Z= -21538.56 mm

From D02 to D03, DZ= 76.00 mm

Run

PIPE DATA:

Pipe Id= 50MMXPB, Material= NS, Nom Size= 50 mm, OD= 60.300 mm, Sch= 2.9,

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 MODEL PAGE 9

C O M P O N E N T D A T A L I S T I N G

Wall Thk= 2.900 mm, Mill= 0.363 mm

POINT DATA:

D02, Coordinates, X= 5697.80 mm, Y= -7042.31 mm, Z= -21438.56 mm

From D03 to D04, DX= -193.19 mm, DY= 111.54 mm, L= 223.08 mm Bend

COMPONENT DATA (Bend, TIP= D03, Near= D03 N, Far= D03 F):

Elbow, Radius= 75.75 mm, Bend angle= 90.00 deg, End flanges= 0,
Flex= 6.187, SIFI= 2.17, SIFO= 1.81

POINT DATA:

D03, Coordinates, X= 5697.80 mm, Y= -7042.31 mm, Z= -21362.56 mm
D03 N, Coordinates, X= 5697.80 mm, Y= -7042.31 mm, Z= -21438.31 mm
D03 F, Coordinates, X= 5632.20 mm, Y= -7004.43 mm, Z= -21362.56 mm

From D04 to D05, DY= 46.93 mm Bend

COMPONENT DATA (Bend, TIP= D04, Near= D04 N, Far= D04 F):

Elbow, Radius= 75.99 mm, Bend angle= 60.00 deg, End flanges= 0,
Flex= 6.167, SIFI= 2.17, SIFO= 1.81

POINT DATA:

D04, Coordinates, X= 5504.61 mm, Y= -6930.77 mm, Z= -21362.56 mm
D04 N, Coordinates, X= 5542.60 mm, Y= -6952.71 mm, Z= -21362.56 mm
D04 F, Coordinates, X= 5504.61 mm, Y= -6886.90 mm, Z= -21362.56 mm

From D05 to D06, DY= 269.56 mm Valv

COMPONENT DATA (Valve):

NS, Rating= Non-standard, Length= 269.56 mm, Weight= 50 kg,
Surface factor= 0.00, End cond= Butt welded, SIF= 1.00, Without taper,
Offset= 0.000 mm

POINT DATA:

D05, Coordinates, X= 5504.61 mm, Y= -6883.84 mm, Z= -21362.56 mm

From D06 to D07, DY= 43.88 mm Run

POINT DATA:

D06, Coordinates, X= 5504.61 mm, Y= -6614.28 mm, Z= -21362.56 mm

From D07 to C07, DX= 59.65 mm, DY= 34.44 mm, L= 68.88 mm Bend

COMPONENT DATA (Bend, TIP= D07, Near= D07 N, Far= D07 F):

Elbow, Radius= 75.99 mm, Bend angle= 60.00 deg, End flanges= 0,
Flex= 6.167, SIFI= 2.17, SIFO= 1.81

PIPE DATA (D07 F to C07):

Pipe Id= 100X6, Material= AL, Nom Size= 50 mm, Sch= NS,

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 MODEL PAGE 10

C O M P O N E N T D A T A L I S T I N G

Wall Thk= 6.000 mm, Mill= 0.750 mm, Pipe Density= 2707.12 kg/m3,
Pipe Unit Wgt= 27.17 N/m, Long Modulus= 0.06899 x10⁶ N/m,
Hoop Modulus= 0.06899 x10⁶ N/m, Shear Modulus= 0.02653 x10⁶ N/m

OPERATING DATA (D07 F to C07):

Exp1= -3.84587 mm/m, Sh1= 71.00 N/mm2

POINT DATA:

D07, Coordinates, X= 5504.61 mm, Y= -6570.40 mm, Z= -21362.56 mm
D07 N, Coordinates, X= 5504.61 mm, Y= -6614.27 mm, Z= -21362.56 mm
D07 F, Coordinates, X= 5542.60 mm, Y= -6548.46 mm, Z= -21362.56 mm

From C07 to D09, DX= 59.64 mm, DY= 34.43 mm, L= 68.86 mm

Tee

COMPONENT DATA (Tee Header, Center= C07):

B16.9 welding tee, SIFI= 1.12, SIFO= 1.16

PIPE DATA:

Pipe Id= 50MMXPN, Material= NS, Nom Size= 50 mm, Sch= 2.9,
Wall Thk= 2.900 mm, Mill= 0.363 mm, Pipe Density= 2707.10 kg/m3,
Pipe Unit Wgt= 13.88 N/m, Long Modulus= 0.06899 x10⁶ N/m,
Hoop Modulus= 0.06899 x10⁶ N/m, Shear Modulus= 0.02653 x10⁶ N/m

OPERATING DATA:

Exp1= -2.52720 mm/m, Sh1= 143.00 N/mm2

POINT DATA:

C07, Coordinates, X= 5564.26 mm, Y= -6535.96 mm, Z= -21362.56 mm

From D09 to D10, DY= 106.74 mm

Bend

COMPONENT DATA (Bend, TIP= D09, Near= D09 N, Far= D09 F):

Elbow, Radius= 75.99 mm, Bend angle= 60.00 deg, End flanges= 0,
Flex= 6.167, SIFI= 2.17, SIFO= 1.81

POINT DATA:

D09, Coordinates, X= 5623.90 mm, Y= -6501.53 mm, Z= -21362.56 mm
D09 N, Coordinates, X= 5585.90 mm, Y= -6523.47 mm, Z= -21362.56 mm
D09 F, Coordinates, X= 5623.90 mm, Y= -6457.65 mm, Z= -21362.56 mm

From D10 to D11, DY= 100.00 mm

Redu

COMPONENT DATA (Reducer):

Length= 100.00 mm, SIF= 1.00

POINT DATA:

D10, Coordinates, X= 5623.90 mm, Y= -6394.79 mm, Z= -21362.56 mm

From D11 to D12, DY= 350.00 mm

Valv

COMPONENT DATA (Valve):

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 MODEL PAGE 11

C O M P O N E N T D A T A L I S T I N G

NS, Rating= 40, Length= 350.00 mm, Weight= 60 kg, Surface factor= 0.00,
End cond= Butt welded, SIF= 1.00, Without taper, Offset= 0.000 mm

PIPE DATA:

Pipe Id= 100MX3, Material= NS, Nom Size= 100 mm, OD= 114.30 mm, Sch= 3.6,
Wall Thk= 3.600 mm, Mill= 0.450 mm

POINT DATA:

D11, Coordinates, X= 5623.90 mm, Y= -6294.79 mm, Z= -21362.56 mm

From D12 to D13, DY= 62.96 mm

Run

POINT DATA:

D12, Coordinates, X= 5623.90 mm, Y= -5944.79 mm, Z= -21362.56 mm

From D13 to D14, DX= 149.78 mm, DY= 249.87 mm, DZ= 200.00 mm, L= 353.37 mm Bend

COMPONENT DATA (Bend, TIP= D13, Near= D13 N, Far= D13 F):

Elbow, Radius= 151.99 mm, Bend angle= 45.00 deg, End flanges= 0,
Flex= 9.239, SIFI= 2.84, SIFO= 2.36

POINT DATA:

D13, Coordinates, X= 5623.90 mm, Y= -5881.83 mm, Z= -21362.56 mm
D13 N, Coordinates, X= 5623.90 mm, Y= -5944.79 mm, Z= -21362.56 mm
D13 F, Coordinates, X= 5650.59 mm, Y= -5837.31 mm, Z= -21326.93 mm

From D14 to D15, DY= 362.96 mm

Bend

COMPONENT DATA (Bend, TIP= D14, Near= D14 N, Far= D14 F):

Elbow, Radius= 151.99 mm, Bend angle= 45.00 deg, End flanges= 0,
Flex= 9.239, SIFI= 2.84, SIFO= 2.36

POINT DATA:

D14, Coordinates, X= 5773.68 mm, Y= -5631.96 mm, Z= -21162.56 mm
D14 N, Coordinates, X= 5747.00 mm, Y= -5676.48 mm, Z= -21198.19 mm
D14 F, Coordinates, X= 5773.68 mm, Y= -5569.00 mm, Z= -21162.56 mm

From D15 to D16, DY= 160.00 mm

Run

COMPONENT DATA (Run):

Rigid, Include weight= Yes, Include expansion= Yes

POINT DATA:

D15, Coordinates, X= 5773.68 mm, Y= -5269.00 mm, Z= -21162.56 mm

From D16 to B04, DY= 487.26 mm

Run

PIPE DATA:

Pipe Id= 100X6, Material= AL, Nom Size= 50 mm, OD= 60.300 mm, Sch= NS,
Wall Thk= 6.000 mm, Mill= 0.750 mm, Pipe Density= 2707.12 kg/m3,

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 MODEL PAGE 12

C O M P O N E N T D A T A L I S T I N G

Pipe Unit Wgt= 27.17 N/m, Long Modulus= 0.06899×10^6 N/m,
Hoop Modulus= 0.06899×10^6 N/m, Shear Modulus= 0.02653×10^6 N/m

OPERATING DATA:

Exp1= -3.84587 mm/m, Sh1= 71.00 N/mm2

POINT DATA:

D16, Coordinates, X= 5773.68 mm, Y= -5109.00 mm, Z= -21162.56 mm

Number of points in the system: 91

Weight of Empty Pipes + Weight of Contents = Total Weight of System
306.3 kg + 0.0 kg = 306.3 kg

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 MODEL PAGE 13

C O O R D I N A T E S D A T A L I S T I N G

POINT NAME	----- X	----- Y	----- Z
*** SEGMENT A , LINE # 79319867			
A01	0.00	0.00	0.00
A02	137.87	24.31	0.00
A03 N	425.14	74.96	0.00
A03	438.24	77.27	0.00
A03 F	451.54	77.27	0.00
A04 N	603.37	77.27	0.00
A04	755.36	77.27	0.00
A04 F	755.36	-74.14	-13.25
A05 N	755.36	-1897.38	-172.76
A05	755.36	-2048.79	-186.01
A05 F	603.95	-2048.79	-199.26
A06 N	-657.58	-2048.79	-309.62
A06	-796.32	-2048.79	-321.76
A06 F	-796.32	-2048.79	-461.03
A07	-796.32	-2048.79	-6461.04
A08 N	-796.32	-2048.79	-7395.84
A08	-796.32	-2048.79	-7461.04
A08 F	-808.02	-2003.02	-7505.97
A09 N	-907.05	-1615.81	-7886.11
A09	-918.75	-1570.04	-7931.04
A09 F	-918.75	-1570.04	-7996.24
A10	-918.75	-1570.04	-13996.24
A11 N	-918.75	-1570.04	-19470.17
A11	-918.75	-1570.04	-19557.92
A11 F	-918.75	-1646.04	-19601.80
A12 N	-918.75	-2626.40	-20167.81
A12	-918.75	-2717.37	-20220.33
A12 F	-844.48	-2717.37	-20294.60
A13 N	-511.02	-2717.37	-20628.05
A13	-466.51	-2717.37	-20672.56
A13 F	-403.56	-2717.37	-20672.56
A14	4778.68	-2717.37	-20672.56
*** SEGMENT B , LINE #			
A14	4778.68	-2717.37	-20672.56
B01 N	5311.70	-2717.37	-20672.56
B01	5463.68	-2717.37	-20672.56
B01 F	5463.69	-2869.35	-20672.58
B02 N	5463.79	-3969.78	-20672.74
B02	5463.80	-4121.74	-20672.76
B02 F	5545.05	-4121.74	-20801.18
B03 N	5692.42	-4121.74	-21034.12
B03	5773.68	-4121.74	-21162.56
B03 F	5773.68	-4273.73	-21162.56
B04	5773.68	-4621.74	-21162.56
*** SEGMENT C , LINE #			
C00	5073.68	-7681.82	-21242.54
C01 N	5211.09	-7681.82	-21242.54
C01	5253.68	-7681.82	-21242.54
C01 F	5253.68	-7651.70	-21212.43

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 MODEL PAGE 14

COORDINATES DATA LISTING

POINT NAME	-----COORDINATE (mm)----- X	Y	Z
C02 N	5253.68	-7238.43	-20799.16
C02	5253.68	-7208.32	-20769.04
C02 F	5211.09	-7208.32	-20769.04
C03 N	5196.27	-7208.32	-20769.04
C03	5153.68	-7208.32	-20769.04
C03 F	5153.68	-7165.73	-20769.04
C04 N	5153.68	-6578.55	-20769.04
C04	5153.68	-6535.96	-20769.04
C04 F	5195.62	-6535.96	-20776.44
C05 N	5529.07	-6535.96	-20835.24
C05	5564.26	-6535.96	-20841.44
C05 F	5564.26	-6535.96	-20877.18
C06	5564.26	-6535.96	-21282.41
C07	5564.26	-6535.96	-21362.56

*** SEGMENT D , LINE #

D00	5697.80	-7042.31	-21633.56
D01	5697.80	-7042.31	-21538.56
D02	5697.80	-7042.31	-21438.56
D03 N	5697.80	-7042.31	-21438.31
D03	5697.80	-7042.31	-21362.56
D03 F	5632.20	-7004.43	-21362.56
D04 N	5542.60	-6952.71	-21362.56
D04	5504.61	-6930.77	-21362.56
D04 F	5504.61	-6886.90	-21362.56
D05	5504.61	-6883.84	-21362.56
D06	5504.61	-6614.28	-21362.56
D07 N	5504.61	-6614.27	-21362.56
D07	5504.61	-6570.40	-21362.56
D07 F	5542.60	-6548.46	-21362.56
C07	5564.26	-6535.96	-21362.56
D09 N	5585.90	-6523.47	-21362.56
D09	5623.90	-6501.53	-21362.56
D09 F	5623.90	-6457.65	-21362.56
D10	5623.90	-6394.79	-21362.56
D11	5623.90	-6294.79	-21362.56
D12	5623.90	-5944.79	-21362.56
D13 N	5623.90	-5944.79	-21362.56
D13	5623.90	-5881.83	-21362.56
D13 F	5650.59	-5837.31	-21326.93
D14 N	5747.00	-5676.48	-21198.19
D14	5773.68	-5631.96	-21162.56
D14 F	5773.68	-5569.00	-21162.56
D15	5773.68	-5269.00	-21162.56
D16	5773.68	-5109.00	-21162.56
B04	5773.68	-4621.74	-21162.56

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 MODEL PAGE 15

P I P E D A T A L I S T I N G

Pipe ID/ Material	Nom/ Sch	O.D. mm	-----Thickness(mm)----- W.Th. Corr Mill Insu Ling	Spec Grav	Weight(N/m) Pipe Other Total	ZL/ ZC
150MX6.0 AL	150 NS	168.30	6.000 0 0.75 0 0	0	81.22 0 81.22	1.00 1.00
100MX6.0 AL	100 6.0	114.30	6.000 0 0.75 0 0	0	54.19 0 54.19	1.00 1.00
15MMX2,6 NS	15 2.6	21.300	2.600 0 0.32 0 0	0	11.73 0 11.73	1.00 1.00
100MX3 NS	100 3.6	114.30	3.600 0 0.45 0 0	0	33.24 0 33.24	1.00 1.00
50MMXPN NS	50 2.9	60.300	2.900 0 0.36 0 0	0	13.88 0 13.88	1.00 1.00
100X6 AL	50 NS	60.300	6.000 0 0.75 0 0	0	27.17 0 27.17	1.00 1.00
40MMX1 NS	40 2.6	48.300	2.600 0 0.32 0 0	0	9.91 0 9.91	1.00 1.00
100MXPN NS	100 3.6	114.30	3.600 0 0.45 0 0	0	33.24 0 33.24	1.00 1.00
50MMX3 NS	50 2.9	60.300	2.900 0 0.36 0 0	0	13.88 0 13.88	1.00 1.00
25MMXPN NS	25 NS	33.400	3.700 0 0.46 0 0	0	9.17 0 9.17	1.00 1.00
15MMXPN NS	15 2.0	21.300	2.000 0 0.25 0 0	0	3.22 0 3.22	1.00 1.00

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 MODEL PAGE 16

M A T E R I A L D A T A L I S T I N G

Material Name	Pipe ID	Density kg/m3	Pois. Ratio	Temper. deg C	Modulus x10 ⁶ N/ Axial Hoop Shear			Expans. mm/m
AL	150MX6.0	2707.1	0.30	20.0 -196.0	0.06899 0.07646	0.06899	0.02653	-3.8459
AL	100MX6.0	2707.1	0.30	20.0 -196.0	0.06899 0.07646	0.06899	0.02653	-3.8459
NS	15MMX2,6	7833.0	0.30	20.0 -196.0	0.20345 0.07646	0.20345	0.07825	-2.5272
NS	100MX3	2707.1	0.30	20.0 -196.0	0.06899 0.07646	0.06899	0.02653	-2.5272
NS	50MMXPN	2707.1	0.30	20.0 -196.0	0.06899 0.07646	0.06899	0.02653	-2.5272
AL	100X6	2707.1	0.30	20.0 -196.0	0.06899 0.07646	0.06899	0.02653	-3.8459

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 MODEL PAGE 17

M A T E R I A L A L L O W A B L E D A T A L I S T I N G

Material Name	Pipe ID	Temper. deg C	Allow. N/mm2	Yield N/mm2
AL	150MX6.0	20.0 -196.0	103.42 71.00	0.00
AL	100MX6.0	20.0 -196.0 20.0	103.42 71.00 71.00	0.00
NS	15MMX2,6	20.0 -196.0	103.42 143.00	0.00
NS	100MX3	20.0 -196.0	103.42 143.00	0.00
NS	50MMXPN	20.0 -196.0	103.42 143.00	0.00
AL	100X6	20.0 -196.0	103.42 71.00	0.00

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 MODEL PAGE 18

TEMPERATURE AND PRESSURE DATA

	-----C A S E 1-----			-----C A S E 2-----			-----C A S E 3-----		
POINT	PRESS.	TEMPER	EXPAN.	PRESS.	TEMPER	EXPAN.	PRESS.	TEMPER	EXPAN.
NAME	N/mm2	deg C	mm/m	N/mm2	deg C	mm/m	N/mm2	deg C	mm/m

*** SEGMENT A , LINE # 79319867

A01	0	-196	-3.846
A14	0	-196	-3.846

*** SEGMENT B , LINE #

A14	0	20.00	0.000
B04	0	20.00	0.000

*** SEGMENT C , LINE #

C00	0	-196	-2.527
C07	0	-196	-2.527

*** SEGMENT D , LINE #

D00	0	-196	-2.527
D07 F	0	-196	-3.846
C07	0	-196	-2.527
D16	0	-196	-3.846
B04	0	-196	-3.846

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 MODEL PAGE 19

H O T M O D U L U S (x10⁶ N/)

POINT

NAME	CASE 1	CASE 2	CASE 3
------	--------	--------	--------

*** SEGMENT A , LINE # 79319867

A01	0.07646		
A14	0.07646		

*** SEGMENT B , LINE #

A14	0.06899		
B04	0.06899		

*** SEGMENT C , LINE #

C00	0.07646*		
C07	0.07646*		

*** SEGMENT D , LINE #

D00	0.07646*		
D07 F	0.07646		
C07	0.07646*		
D16	0.07646		
B04	0.07646		

* Non-standard material

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 MODEL PAGE 20

H O T A L L O W A B L E S (N/mm2)								
-----C A S E 1-----			-----C A S E 2-----			-----C A S E 3-----		
POINT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT
NAME	ALLOW	USED	USED	ALLOW	USED	USED	ALLOW	USED
-----	-----	-----	-----	-----	-----	-----	-----	-----

*** SEGMENT A , LINE # 79319867

A01 71.00*

A14 71.00*

*** SEGMENT B , LINE #

A14 71.00*

B04 71.00*

*** SEGMENT C , LINE #

C00 143.00*

C07 143.00*

*** SEGMENT D , LINE #

D00 143.00*

D07 F 71.00*

C07 143.00*

D16 71.00*

B04 71.00*

< User-defined code allowable

* Non-code material

79319867_komplett

08/12/2005 ASU KOSICE

12:18 PM

REBIS

AutoPIPE 6.20 MODEL PAGE 21

THERMAL ANCHOR MOVEMENTS AND DISPLACEMENTS

POINT NAME	LOAD CASE	DX (mm)	DY (mm)	DZ (mm)	RX (deg)	RY (deg)	RZ (deg)
A01	Thermal 1	-6.90	-1.20	-86.70	0.000	0.000	0.000

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 RESULT PAGE 1

D I S P L A C E M E N T S

Point name	Load combination	TRANSLATIONS (mm)			ROTATIONS (deg)		
		X	Y	Z	X	Y	Z
*** Segment A begin *** Line # 79319867							
A01	T1	-6.900	-1.200	-86.700	0.000	0.000	0.000
A02	T1	-7.430	-1.293	-86.700	0.000	0.000	0.000
A03 N	T1	-8.535	-1.487	-86.695	-0.002	-0.002	0.000
A03 F	T1	-8.637	-1.496	-86.694	-0.002	-0.003	0.000
A04 N	T1	-9.221	-1.495	-86.685	-0.003	-0.004	0.001
A04 F	T1	-9.800	-0.911	-86.605	-0.007	-0.009	0.002
A05 N	T1	-9.675	6.072	-85.661	-0.014	-0.022	0.003
A05 F	T1	-9.073	6.638	-85.580	-0.016	-0.025	0.004
A06 N	T1	-4.168	6.512	-85.770	-0.023	-0.031	0.004
A06 F	T1	-3.543	6.437	-85.268	-0.026	-0.037	0.005
A07	T1	1.536	2.569	-62.192	-0.046	-0.058	0.004
A08 N	T1	2.505	1.802	-58.597	-0.048	-0.060	0.004
A08 F	T1	2.665	1.532	-58.225	-0.049	-0.062	0.003
A09 N	T1	3.438	-0.294	-57.209	-0.050	-0.063	0.003
A09 F	T1	3.603	-0.569	-56.839	-0.052	-0.064	0.003
A10	T1	10.724	-6.334	-33.764	-0.057	-0.070	0.003
A11 N	T1	17.175	-11.579	-12.712	-0.052	-0.064	0.002
A11 F	T1	17.322	-11.404	-12.139	-0.050	-0.062	0.002
A12 N	T1	17.956	-8.120	-9.119	-0.048	-0.059	0.002
A12 F	T1	17.802	-7.874	-8.481	-0.047	-0.057	0.001
A13 N	T1	16.849	-8.137	-6.869	-0.046	-0.056	0.001
A13 F	T1	16.479	-8.170	-6.594	-0.046	-0.055	0.001
A14	T1	-3.451	-8.004	-2.027	-0.035	-0.048	0.004

*** Segment A end *** Line # 79319867

*** Segment B begin *** Line #

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 RESULT PAGE 2

D I S P L A C E M E N T S

Point name	Load combination	TRANSLATIONS (mm)			ROTATIONS (deg)		
		X	Y	Z	X	Y	Z
A14	T1	-3.451	-8.004	-2.027	-0.035	-0.048	0.004
B01 N	T1	-3.451	-7.965	-1.580	-0.033	-0.048	0.005
B01 F	T1	-3.436	-7.951	-1.366	-0.032	-0.048	0.006
B02 N	T1	-3.300	-7.951	-0.763	-0.031	-0.048	0.008
B02 F	T1	-3.171	-8.006	-0.616	-0.029	-0.048	0.009
B03 N	T1	-2.977	-8.101	-0.493	-0.029	-0.048	0.009
B03 F	T1	-2.843	-8.150	-0.351	-0.027	-0.048	0.010
B04	T1	-2.779	-8.150	-0.187	-0.027	-0.048	0.011
*** Segment B end *** Line #							
*** Segment C begin *** Line #							
C00	T1	0.000	0.000	0.000	0.000	0.000	0.000
C01 N	T1	-0.347	0.009	0.007	0.004	-0.006	0.007
C01 F	T1	-0.464	-0.063	-0.061	0.006	-0.009	0.011
C02 N	T1	-0.752	-1.190	-1.023	0.017	-0.022	0.033
C02 F	T1	-0.674	-1.301	-1.107	0.018	-0.024	0.035
C03 N	T1	-0.637	-1.310	-1.113	0.018	-0.024	0.035
C03 F	T1	-0.556	-1.444	-1.117	0.019	-0.025	0.037
C04 N	T1	-0.983	-2.928	-0.915	0.017	-0.039	0.043
C04 F	T1	-1.116	-3.003	-0.855	0.015	-0.040	0.042
C05 N	T1	-1.916	-2.761	-0.463	0.003	-0.043	0.037
C05 F	T1	-1.973	-2.738	-0.330	0.001	-0.043	0.035
C06	T1	-1.664	-2.781	0.694	-0.015	-0.046	0.020
C07	T1	-1.598	-2.804	0.896	-0.019	-0.048	0.018
*** Segment C end *** Line #							
*** Segment D begin *** Line #							
D00	T1	-1.523	-1.554	1.857	-0.019	-0.048	0.018

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 RESULT PAGE 3

D I S P L A C E M E N T S

Point name	Load combination	TRANSLATIONS (mm)			ROTATIONS (deg)		
		X	Y	Z	X	Y	Z
D01	T1	-1.603	-1.524	1.617	-0.019	-0.048	0.018
D02	T1	-1.687	-1.491	1.364	-0.019	-0.048	0.018
D03 N	T1	-1.687	-1.491	1.364	-0.019	-0.048	0.018
D03 F	T1	-1.597	-1.583	1.105	-0.019	-0.048	0.018
D04 N	T1	-1.386	-1.741	1.013	-0.019	-0.048	0.018
D04 F	T1	-1.310	-1.919	0.959	-0.019	-0.048	0.018
D05	T1	-1.311	-1.927	0.958	-0.019	-0.048	0.018
D06	T1	-1.394	-2.608	0.871	-0.019	-0.048	0.018
D07 N	T1	-1.394	-2.608	0.871	-0.019	-0.048	0.018
D07 F	T1	-1.511	-2.762	0.882	-0.019	-0.048	0.018
C07	T1	-1.598	-2.804	0.896	-0.019	-0.048	0.018
D09 N	T1	-1.656	-2.829	0.910	-0.019	-0.048	0.018
D09 F	T1	-1.772	-2.984	0.920	-0.020	-0.048	0.016
D10	T1	-1.789	-3.143	0.898	-0.021	-0.048	0.016
D11	T1	-1.817	-3.395	0.862	-0.021	-0.048	0.016
D12	T1	-1.914	-4.280	0.734	-0.021	-0.048	0.016
D13 N	T1	-1.914	-4.280	0.734	-0.021	-0.048	0.016
D13 F	T1	-2.040	-4.531	0.627	-0.022	-0.048	0.015
D14 N	T1	-2.434	-4.863	0.321	-0.022	-0.048	0.015
D14 F	T1	-2.559	-5.114	0.212	-0.023	-0.048	0.014
D15	T1	-2.633	-5.872	0.091	-0.023	-0.048	0.014
D16	T1	-2.673	-6.276	0.026	-0.023	-0.048	0.014
B04	T1	-2.779	-8.150	-0.187	-0.027	-0.048	0.011

*** Segment D end *** Line #

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 RESULT PAGE 4

R E S T R A I N T R E A C T I O N S

Point name	Load combination	FORCES (N)				MOMENTS (Nm)			
		X	Y	Z	Result	X	Y	Z	Result
A01	Anchor T1	1	-1	-1	2	-13	-19	3	23
C00	Anchor T1	-1	1	1	2	1	-1	1	2

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 RESULT PAGE 5

G L O B A L F O R C E S & M O M E N T S

Point name	Load combination	FORCES (N)				MOMENTS (Nm)			
		X	Y	Z	Result	X	Y	Z	Result
*** Segment A begin *** Line # 79319867									
A01	T1	-1	1	1	2	13	19	-3	23
A02	T1	-1	1	1	2	13	19	-3	23
A03 N	T1	-1	1	1	2	13	19	-3	23
A03 F	T1	-1	1	1	2	13	19	-3	23
A04 N	T1	-1	1	1	2	13	19	-4	23
A04 F	T1	-1	1	1	2	13	20	-4	24
A05 N	T1	-1	1	1	2	15	19	-1	25
A05 F	T1	-1	1	1	2	16	19	-1	25
A06 N	T1	-1	1	1	2	15	17	0	23
A06 F	T1	-1	1	1	2	15	17	1	23
A07	T1	-1	1	1	2	9	9	1	13
A08 N	T1	-1	1	1	2	8	8	1	11
A08 F	T1	-1	1	1	2	7	8	1	11
A09 N	T1	-1	1	1	2	6	7	0	10
A09 F	T1	-1	1	1	2	6	7	0	9
A10	T1	-1	1	1	2	0	-1	0	1
A11 N	T1	-1	1	1	2	-6	-7	0	10
A11 F	T1	-1	1	1	2	-6	-8	0	10
A12 N	T1	-1	1	1	2	-6	-8	1	10
A12 F	T1	-1	1	1	2	-6	-8	2	10
A13 N	T1	-1	1	1	2	-6	-8	1	10
A13 F	T1	-1	1	1	2	-6	-8	1	10
A14	T1	-1	1	1	2	-6	-1	-5	8

*** Segment A end *** Line # 79319867

*** Segment B begin *** Line #

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 RESULT PAGE 6

G L O B A L F O R C E S & M O M E N T S

Point name	Load combination	FORCES (N)				MOMENTS (Nm)			
		X	Y	Z	Result	X	Y	Z	Result
A14	T1	-1	1	1	2	-6	-1	-5	8
B01 N	T1	-1	1	1	2	-6	0	-5	8
B01 F	T1	-1	1	1	2	-6	0	-5	8
B02 N	T1	-1	1	1	2	-4	0	-4	6
B02 F	T1	-1	1	1	2	-4	0	-4	6
B03 N	T1	-1	1	1	2	-4	0	-4	6
B03 F	T1	-1	1	1	2	-4	0	-4	6
B04	T1	-1	1	1	2	-4	0	-3	5
*** Segment B end *** Line #									
*** Segment C begin *** Line #									
C00	T1	1	-1	-1	2	-1	1	-1	2
C01 N	T1	1	-1	-1	2	-1	1	-1	2
C01 F	T1	1	-1	-1	2	-1	1	-1	1
C02 N	T1	1	-1	-1	2	0	0	-1	1
C02 F	T1	1	-1	-1	2	0	0	-1	1
C03 N	T1	1	-1	-1	2	0	0	-1	1
C03 F	T1	1	-1	-1	2	0	0	-1	1
C04 N	T1	1	-1	-1	2	1	0	0	1
C04 F	T1	1	-1	-1	2	1	0	0	1
C05 N	T1	1	-1	-1	2	1	0	1	1
C05 F	T1	1	-1	-1	2	1	0	1	1
C06	T1	1	-1	-1	2	1	0	1	1
C07	T1	1	-1	-1	2	1	1	1	2
*** Segment C end *** Line #									
*** Segment D begin *** Line #									
D00	T1	0	0	0	0	0	0	0	0

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 RESULT PAGE 7

G L O B A L F O R C E S & M O M E N T S

Point name	Load combination	FORCES (N)				MOMENTS (Nm)			
		X	Y	Z	Result	X	Y	Z	Result
D01	T1	0	0	0	0	0	0	0	0
D02	T1	0	0	0	0	0	0	0	0
D03 N	T1	0	0	0	0	0	0	0	0
D03 F	T1	0	0	0	0	0	0	0	0
D04 N	T1	0	0	0	0	0	0	0	0
D04 F	T1	0	0	0	0	0	0	0	0
D05	T1	0	0	0	0	0	0	0	0
D06	T1	0	0	0	0	0	0	0	0
D07 N	T1	0	0	0	0	0	0	0	0
D07 F	T1	0	0	0	0	0	0	0	0
C07 -	T1	0	0	0	0	0	0	0	0
C07 +	T1	1	-1	-1	2	1	1	1	2
D09 N	T1	1	-1	-1	2	1	1	1	2
D09 F	T1	1	-1	-1	2	1	1	1	2
D10	T1	1	-1	-1	2	1	1	1	2
D11	T1	1	-1	-1	2	2	1	1	2
D12	T1	1	-1	-1	2	2	1	1	3
D13 N	T1	1	-1	-1	2	2	1	1	3
D13 F	T1	1	-1	-1	2	2	0	2	3
D14 N	T1	1	-1	-1	2	2	0	2	3
D14 F	T1	1	-1	-1	2	2	0	2	3
D15	T1	1	-1	-1	2	3	0	2	4
D16	T1	1	-1	-1	2	3	0	3	4
B04	T1	1	-1	-1	2	4	0	3	5

*** Segment D end *** Line #

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 RESULT PAGE 8

ASME B31.3b (2001) CODE COMPLIANCE									
			(Moments in Nm)			(Stress in N/mm2)			
Point	Load	In-Pl.	Out-Pl.	Torsion	S.I.F	Eq. Load	Code	Code	
name	combination	Moment	Moment	Moment	In Out	no. type	Stress	Allow.	
*** Segment A begin *** Line # 79319867									
A01	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	16	3	16	1.00 1.00	(17) DISP	0	147	
A02	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	16	3	16	1.00 1.00	(17) DISP	0	147	
A03 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	17	3	16	1.00 1.00	(17) DISP	0	147	
A03 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.96 1.63	(18) SUST	0	71	
	Cold to T1	3	17	16	1.96 1.63	(17) DISP	1	147	
A03 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.96 1.63	(18) SUST	0	71	
	Cold to T1	3	19	13	1.96 1.63	(17) DISP	1	147	
A03 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	19	3	13	1.00 1.00	(17) DISP	0	147	
A04 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	19	4	13	1.00 1.00	(17) DISP	0	147	
A04 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.96 1.63	(18) SUST	0	71	
	Cold to T1	5	19	13	1.96 1.63	(17) DISP	1	147	
A04 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.96 1.63	(18) SUST	0	71	
	Cold to T1	5	13	19	1.96 1.63	(17) DISP	1	147	
A04 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	13	5	19	1.00 1.00	(17) DISP	0	147	
A05 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	15	3	19	1.00 1.00	(17) DISP	0	147	
A05 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.95 1.63	(18) SUST	0	71	
	Cold to T1	4	15	19	1.95 1.63	(17) DISP	1	147	

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 RESULT PAGE 9

ASME B31.3b (2001) CODE COMPLIANCE									
		(Moments in Nm)			(Stress in N/mm2)				
Point	Load	In-Pl.	Out-Pl.	Torsion	S.I.F		Eq. Load	Code	Code
name	combination	Moment	Moment	Moment	In	Out	no. type	Stress	Allow.

A05 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.95	1.63	(18) SUST	0	71
	Cold to T1	4	19	15	1.95	1.63	(17) DISP	1	147
A05 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	19	2	15	1.00	1.00	(17) DISP	0	147
A06 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	17	1	15	1.00	1.00	(17) DISP	0	147
A06 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.96	1.63	(18) SUST	0	71
	Cold to T1	17	1	15	1.96	1.63	(17) DISP	1	147
A06 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.96	1.63	(18) SUST	0	71
	Cold to T1	17	15	1	1.96	1.63	(17) DISP	1	147
A06 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	17	15	1	1.00	1.00	(17) DISP	0	147
A07	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	9	9	1	1.00	1.00	(17) DISP	0	147
A08 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	8	8	1	1.00	1.00	(17) DISP	0	147
A08 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.96	1.63	(18) SUST	0	71
	Cold to T1	9	6	1	1.96	1.63	(17) DISP	0	147
A08 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.96	1.63	(18) SUST	0	71
	Cold to T1	9	4	4	1.96	1.63	(17) DISP	0	147
A08 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	9	4	4	1.00	1.00	(17) DISP	0	147
A09 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	8	4	4	1.00	1.00	(17) DISP	0	147
A09 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.96	1.63	(18) SUST	0	71
	Cold to T1	8	4	4	1.96	1.63	(17) DISP	0	147

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 RESULT PAGE 10

ASME B31.3b (2001) CODE COMPLIANCE									
		(Moments in Nm)			(Stress in N/mm2)				
Point	Load	In-Pl.	Out-Pl.	Torsion	S.I.F		Eq. Load	Code	Code
name	combination	Moment	Moment	Moment	In	Out	no. type	Stress	Allow.
A09 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.96	1.63	(18) SUST	0	71
	Cold to T1	8	5	0	1.96	1.63	(17) DISP	0	147
A09 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	7	6	0	1.00	1.00	(17) DISP	0	147
A10	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	1	0	0	1.00	1.00	(17) DISP	0	147
A11 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	7	6	0	1.00	1.00	(17) DISP	0	147
A11 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.96	1.63	(18) SUST	0	71
	Cold to T1	6	7	0	1.96	1.63	(17) DISP	0	147
A11 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.96	1.63	(18) SUST	0	71
	Cold to T1	6	4	6	1.96	1.63	(17) DISP	0	147
A11 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	6	4	6	1.00	1.00	(17) DISP	0	147
A12 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	6	5	6	1.00	1.00	(17) DISP	0	147
A12 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.96	1.63	(18) SUST	0	71
	Cold to T1	1	8	6	1.96	1.63	(17) DISP	0	147
A12 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.96	1.63	(18) SUST	0	71
	Cold to T1	1	9	5	1.96	1.63	(17) DISP	0	147
A12 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	8	3	5	1.00	1.00	(17) DISP	0	147
A13 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	8	3	5	1.00	1.00	(17) DISP	0	147
A13 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.96	1.63	(18) SUST	0	71
	Cold to T1	8	3	5	1.96	1.63	(17) DISP	0	147

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 RESULT PAGE 11

ASME B31.3b (2001) CODE COMPLIANCE									
Point name	Load combination	(Moments in Nm)			S.I.F		(Stress in N/mm2)		Code Stress Allow.
		In-Pl. Moment	Out-Pl. Moment	Torsion Moment	In	Out	Eq. Load no. type	Code	
A13 F-	Max P						(3a) HOOP	0	71
	Max P	0	0	1.96	1.63		(18) SUST	0	71
	Cold to T1	8	1	6	1.96	1.63	(17) DISP	0	147
A13 F+	Max P						(3a) HOOP	0	71
	Max P	0	0	1.00	1.00		(18) SUST	0	71
	Cold to T1	8	1	6	1.00	1.00	(17) DISP	0	147
A14	Max P						(3a) HOOP	0	71
	Max P	0	0	1.00	1.00		(18) SUST	0	71
	Cold to T1	1	5	6	1.00	1.00	(17) DISP	0	147
*** Segment A end *** Line # 79319867									
*** Segment B begin *** Line #									
A14	Max P						(3a) HOOP	0	71
	Max P	0	0	1.00	1.00		(18) SUST	0	71
	Cold to T1	1	5	6	1.00	1.00	(17) DISP	0	147
B01 N-	Max P						(3a) HOOP	0	71
	Max P	0	0	1.00	1.00		(18) SUST	0	71
	Cold to T1	0	5	6	1.00	1.00	(17) DISP	0	147
B01 N+	Max P						(3a) HOOP	0	71
	Max P	0	0	1.96	1.63		(18) SUST	0	71
	Cold to T1	5	0	6	1.96	1.63	(17) DISP	0	147
B01 F-	Max P						(3a) HOOP	0	71
	Max P	0	0	1.96	1.63		(18) SUST	0	71
	Cold to T1	5	6	0	1.96	1.63	(17) DISP	0	147
B01 F+	Max P						(3a) HOOP	0	71
	Max P	0	0	1.00	1.00		(18) SUST	0	71
	Cold to T1	6	5	0	1.00	1.00	(17) DISP	0	147
B02 N-	Max P						(3a) HOOP	0	71
	Max P	0	0	1.00	1.00		(18) SUST	0	71
	Cold to T1	4	4	0	1.00	1.00	(17) DISP	0	147
B02 N+	Max P						(3a) HOOP	0	71
	Max P	0	0	1.96	1.63		(18) SUST	0	71
	Cold to T1	6	1	0	1.96	1.63	(17) DISP	0	147
B02 F-	Max P						(3a) HOOP	0	71
	Max P	0	0	1.96	1.63		(18) SUST	0	71
	Cold to T1	5	0	1	1.96	1.63	(17) DISP	0	147
B02 F+	Max P						(3a) HOOP	0	71
	Max P	0	0	1.00	1.00		(18) SUST	0	71
	Cold to T1	0	5	1	1.00	1.00	(17) DISP	0	147

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 RESULT PAGE 12

ASME B31.3b (2001) CODE COMPLIANCE									
		(Moments in Nm)			(Stress in N/mm2)				
Point	Load	In-Pl.	Out-Pl.	Torsion	S.I.F		Eq. Load	Code	Code
name	combination	Moment	Moment	Moment	In	Out	no. type	Stress	Allow.
B03 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	0	6	1	1.00	1.00	(17) DISP	0	147
B03 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.96	1.63	(18) SUST	0	71
	Cold to T1	6	0	1	1.96	1.63	(17) DISP	0	147
B03 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.96	1.63	(18) SUST	0	71
	Cold to T1	6	1	0	1.96	1.63	(17) DISP	0	147
B03 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	4	4	0	1.00	1.00	(17) DISP	0	147
B04	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	4	3	0	1.00	1.00	(17) DISP	0	147
*** Segment B end *** Line #									
*** Segment C begin *** Line #									
C00	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	1	1	1	1.00	1.00	(17) DISP	3	165
C01 N-	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	1	1	1	1.00	1.00	(17) DISP	3	165
C01 N+	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	2	0	1	1.00	1.00	(17) DISP	3	165
C01 F-	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	1	1	0	1.00	1.00	(17) DISP	2	165
C01 F+	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	1	1	0	1.00	1.00	(17) DISP	2	165
C02 N-	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	0	1	0	1.00	1.00	(17) DISP	1	165
C02 N+	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	1	0	0	1.00	1.00	(17) DISP	1	165

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 RESULT PAGE 13

ASME B31.3b (2001) CODE COMPLIANCE									
		(Moments in Nm)			(Stress in N/mm2)				
Point name	Load combination	In-Pl. Moment	Out-Pl. Moment	Torsion Moment	S.I.F		Eq. Load no. type	Code Stress	Code Allow.
					In	Out			
C02 F-	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	1	0	0	1.00	1.00	(17) DISP	1	165
C02 F+	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	0	1	0	1.00	1.00	(17) DISP	1	165
C03 N-	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	0	1	0	1.00	1.00	(17) DISP	1	165
C03 N+	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	1	0	0	1.00	1.00	(17) DISP	1	165
C03 F-	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	1	0	0	1.00	1.00	(17) DISP	1	165
C03 F+	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	0	1	0	1.00	1.00	(17) DISP	1	165
C04 N-	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	1	0	0	1.00	1.00	(17) DISP	1	165
C04 N+	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	0	1	0	1.00	1.00	(17) DISP	1	165
C04 F-	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	0	0	1	1.00	1.00	(17) DISP	1	165
C04 F+	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	0	0	1	1.00	1.00	(17) DISP	1	165
C05 N-	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	0	1	1	1.00	1.00	(17) DISP	1	165
C05 N+	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	0	1	1	1.00	1.00	(17) DISP	1	165
C05 F-	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	0	1	1	1.00	1.00	(17) DISP	2	165

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 RESULT PAGE 14

ASME B31.3b (2001) CODE COMPLIANCE									
			(Moments in Nm)			(Stress in N/mm2)			
Point	Load	In-Pl.	Out-Pl.	Torsion	S.I.F		Eq. Load	Code	Code
name	combination	Moment	Moment	Moment	In	Out	no. type	Stress	Allow.
							(3a) HOOP	0	103
C05 F+	Max P				1.00	1.00	(18) SUST	0	103
	Max P	0	0						
	Cold to T1	0	1	1	1.00	1.00	(17) DISP	2	165
							(3a) HOOP	0	103
C06	Max P				1.00	1.00	(18) SUST	0	103
	Max P	0	0						
	Cold to T1	0	1	1	1.00	1.00	(17) DISP	2	165
							(3a) HOOP	0	103
C07	Max P				1.12	1.16	(18) SUST	0	103
	Max P	0	0						
	Cold to T1	0	1	1	1.12	1.16	(17) DISP	2	165
*** Segment C end *** Line #									
*** Segment D begin *** Line #									
							(3a) HOOP	0	103
D00	Max P				1.00	1.00	(18) SUST	0	103
	Max P	0	0						
	Cold to T1	0	0	0	1.00	1.00	(17) DISP	0	165
							(3a) HOOP	0	103
D01	Max P				1.00	1.00	(18) SUST	0	103
	Max P	0	0						
	Cold to T1	0	0	0	1.00	1.00	(17) DISP	0	165
							(3a) HOOP	0	103
D02	Max P				1.00	1.00	(18) SUST	0	103
	Max P	0	0						
	Cold to T1	0	0	0	1.00	1.00	(17) DISP	0	165
							(3a) HOOP	0	103
D03 N-	Max P				1.00	1.00	(18) SUST	0	103
	Max P	0	0						
	Cold to T1	0	0	0	1.00	1.00	(17) DISP	0	165
							(3a) HOOP	0	103
D03 N+	Max P				2.17	1.81	(18) SUST	0	103
	Max P	0	0						
	Cold to T1	0	0	0	2.17	1.81	(17) DISP	0	165
							(3a) HOOP	0	103
D03 F-	Max P				2.17	1.81	(18) SUST	0	103
	Max P	0	0						
	Cold to T1	0	0	0	2.17	1.81	(17) DISP	0	165
							(3a) HOOP	0	103
D03 F+	Max P				1.00	1.00	(18) SUST	0	103
	Max P	0	0						
	Cold to T1	0	0	0	1.00	1.00	(17) DISP	0	165
							(3a) HOOP	0	103
D04 N-	Max P				1.00	1.00	(18) SUST	0	103
	Max P	0	0						
	Cold to T1	0	0	0	1.00	1.00	(17) DISP	0	165
							(3a) HOOP	0	103
D04 N+	Max P				2.17	1.81	(18) SUST	0	103
	Max P	0	0						
	Cold to T1	0	0	0	2.17	1.81	(17) DISP	0	165

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 RESULT PAGE 15

ASME B31.3b (2001) CODE COMPLIANCE									
			(Moments in Nm)			(Stress in N/mm2)			
Point	Load	In-Pl.	Out-Pl.	Torsion	S.I.F		Eq. Load	Code	Code
name	combination	Moment	Moment	Moment	In	Out	no. type	Stress	Allow.
D04 F-	Max P						(3a) HOOP	0	103
	Max P	0	0		2.17	1.81	(18) SUST	0	103
	Cold to T1	0	0	0	2.17	1.81	(17) DISP	0	165
D04 F+	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	0	0	0	1.00	1.00	(17) DISP	0	165
D05	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	0	0	0	1.00	1.00	(17) DISP	0	165
D06	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	0	0	0	1.00	1.00	(17) DISP	0	165
D07 N-	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	0	0	0	1.00	1.00	(17) DISP	0	165
D07 N+	Max P						(3a) HOOP	0	103
	Max P	0	0		2.17	1.81	(18) SUST	0	103
	Cold to T1	0	0	0	2.17	1.81	(17) DISP	0	165
D07 F-	Max P						(3a) HOOP	0	103
	Max P	0	0		2.17	1.81	(18) SUST	0	103
	Cold to T1	0	0	0	2.17	1.81	(17) DISP	0	165
D07 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	0	0	0	1.00	1.00	(17) DISP	0	147
C07 -	Max P						(3a) HOOP	0	71
	Max P	0	0		1.12	1.16	(18) SUST	0	71
	Cold to T1	0	0	0	1.12	1.16	(17) DISP	0	147
C07 +	Max P						(3a) HOOP	0	103
	Max P	0	0		1.12	1.16	(18) SUST	0	103
	Cold to T1	0	1	1	1.12	1.16	(17) DISP	0	165
D09 N-	Max P						(3a) HOOP	0	103
	Max P	0	0		1.00	1.00	(18) SUST	0	103
	Cold to T1	0	1	1	1.00	1.00	(17) DISP	0	165
D09 N+	Max P						(3a) HOOP	0	103
	Max P	0	0		2.17	1.81	(18) SUST	0	103
	Cold to T1	1	0	1	2.17	1.81	(17) DISP	0	165
D09 F-	Max P						(3a) HOOP	0	103
	Max P	0	0		2.17	1.81	(18) SUST	0	103
	Cold to T1	1	1	1	2.17	1.81	(17) DISP	0	165

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 RESULT PAGE 16

ASME B31.3b (2001) CODE COMPLIANCE									
		(Moments in Nm)			(Stress in N/mm2)				
Point	Load	In-Pl.	Out-Pl.	Torsion	S.I.F		Eq. Load	Code	Code
name	combination	Moment	Moment	Moment	In	Out	no. type	Stress	Allow.
D09 F+	Max P						(3a) HOOP	0	103
	Max P	0	0	1.00	1.00		(18) SUST	0	103
	Cold to T1	1	1	1 1.00	1.00		(17) DISP	0	165
D10	Max P						(3a) HOOP	0	103
	Max P	0	0	1.00	1.00		(18) SUST	0	103
	Cold to T1	1	1	1 1.00	1.00		(17) DISP	0	165
D11	Max P						(3a) HOOP	0	103
	Max P	0	0	1.00	1.00		(18) SUST	0	103
	Cold to T1	2	1	1 1.00	1.00		(17) DISP	0	165
D12	Max P						(3a) HOOP	0	103
	Max P	0	0	1.00	1.00		(18) SUST	0	103
	Cold to T1	2	1	1 1.00	1.00		(17) DISP	0	165
D13 N-	Max P						(3a) HOOP	0	103
	Max P	0	0	1.00	1.00		(18) SUST	0	103
	Cold to T1	2	1	1 1.00	1.00		(17) DISP	0	165
D13 N+	Max P						(3a) HOOP	0	103
	Max P	0	0	2.84	2.36		(18) SUST	0	103
	Cold to T1	1	2	1 2.84	2.36		(17) DISP	0	165
D13 F-	Max P						(3a) HOOP	0	103
	Max P	0	0	2.84	2.36		(18) SUST	0	103
	Cold to T1	1	2	2 2.84	2.36		(17) DISP	0	165
D13 F+	Max P						(3a) HOOP	0	103
	Max P	0	0	1.00	1.00		(18) SUST	0	103
	Cold to T1	2	0	2 1.00	1.00		(17) DISP	0	165
D14 N-	Max P						(3a) HOOP	0	103
	Max P	0	0	1.00	1.00		(18) SUST	0	103
	Cold to T1	2	1	2 1.00	1.00		(17) DISP	0	165
D14 N+	Max P						(3a) HOOP	0	103
	Max P	0	0	2.84	2.36		(18) SUST	0	103
	Cold to T1	1	2	2 2.84	2.36		(17) DISP	0	165
D14 F-	Max P						(3a) HOOP	0	103
	Max P	0	0	2.84	2.36		(18) SUST	0	103
	Cold to T1	1	3	0 2.84	2.36		(17) DISP	0	165
D14 F+	Max P						(3a) HOOP	0	103
	Max P	0	0	1.00	1.00		(18) SUST	0	103
	Cold to T1	2	2	0 1.00	1.00		(17) DISP	0	165
D15	Max P						(3a) HOOP	0	103
	Max P	0	0	1.00	1.00		(18) SUST	0	103
	Cold to T1	3	2	0 1.00	1.00		(17) DISP	0	165

REBIS
AutoPIPE 6.20 RESULT PAGE 17

*** Segment D end *** Line #

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 RESULT PAGE 18

S Y S T E M S U M M A R Y

Maximum displacements (mm)

Maximum X :	17.956	Point : A12 N	Load Comb.: T1
Maximum Y :	-11.579	Point : A11 N	Load Comb.: T1
Maximum Z :	-86.700	Point : A01	Load Comb.: T1
Max. total:	87.187	Point : A04 N	Load Comb.: T1

Maximum rotations (deg)

Maximum X :	-0.057	Point : A10	Load Comb.: T1
Maximum Y :	-0.070	Point : A10	Load Comb.: T1
Maximum Z :	0.043	Point : C04 N	Load Comb.: T1
Max. total:	0.090	Point : A10	Load Comb.: T1

Maximum restraint forces (N)

Maximum X :	-1	Point : C00	Load Comb.: T1
Maximum Y :	1	Point : C00	Load Comb.: T1
Maximum Z :	1	Point : C00	Load Comb.: T1
Max. total:	2	Point : C00	Load Comb.: T1

Maximum restraint moments (Nm)

Maximum X :	-13	Point : A01	Load Comb.: T1
Maximum Y :	-19	Point : A01	Load Comb.: T1
Maximum Z :	3	Point : A01	Load Comb.: T1
Max. total:	23	Point : A01	Load Comb.: T1

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 RESULT PAGE 19

S Y S T E M S U M M A R Y

Maximum pipe forces (N)

Maximum X :	1	Point : C00	Load Comb.: T1
Maximum Y :	-1	Point : C07	Load Comb.: T1
Maximum Z :	1	Point : A01	Load Comb.: T1
Max. total:	2	Point : C07	Load Comb.: T1

Maximum pipe moments (Nm)

Maximum X :	16	Point : A05 F	Load Comb.: T1
Maximum Y :	20	Point : A04 F	Load Comb.: T1
Maximum Z :	-5	Point : B01 N	Load Comb.: T1
Max. total:	25	Point : A05 N	Load Comb.: T1

79319867_komplett

08/12/2005 ASU KOSICE

12:18 PM

REBIS

AutoPIPE 6.20 RESULT PAGE 20

S Y S T E M S U M M A R Y

Maximum displacement stress

Point	:	C00
Stress	N/mm2	: 3
Allowable	N/mm2	: 165
Ratio	:	0.02
Load combination	:	Cold to T1

79319867_komplett
08/12/2005 ASU KOSICE
12:18 PM

REBIS
AutoPIPE 6.20 RESULT PAGE 21

S Y S T E M S U M M A R Y

Maximum displacement stress ratio

Point : C00
Stress N/mm2 : 3
Allowable N/mm2 : 165
Ratio : 0.02
Load combination : Cold to T1

* * * The system satisfies ASME B31.3 code requirements * * *
* * * for the selected options * * *