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AutoPIPE 6.20 RESULT PAGE 2

**
** AUTOPIPE SYSTEM INFORMATION **
**

SYSTEM NAME : 79319914_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 : AUTODIN

MATERIAL LIBRARY : AUTOB313

MODEL REVISION NUMBER : 1

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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 # 79319914							
A01	T1	0.000	0.000	-66.300	0.000	0.000	0.000
A02 N	T1	0.000	0.000	-66.300	0.000	0.000	0.000
A02 F	T1	-0.537	0.461	-65.444	-0.020	-0.028	0.001
A04 N	T1	-4.642	3.950	-64.265	-0.026	-0.038	0.001
A04 F	T1	-5.198	4.463	-62.784	-0.050	-0.069	0.002
A06 N	T1	-2.445	2.507	-54.817	-0.058	-0.082	0.002
A06 F	T1	-1.967	3.051	-53.423	-0.071	-0.095	0.007
A08 N	T1	-1.563	5.503	-51.828	-0.073	-0.099	0.007
A08 F	T1	-0.207	6.326	-51.386	-0.077	-0.107	0.008
A10 N	T1	1.199	6.164	-51.660	-0.079	-0.108	0.008
A10 F	T1	2.356	5.376	-52.036	-0.087	-0.122	0.003
A12 N	T1	3.541	3.222	-52.732	-0.089	-0.124	0.003
A12 F	T1	4.580	1.941	-52.146	-0.100	-0.136	-0.002
A13	T1	15.945	-6.484	-34.319	-0.106	-0.141	-0.010
A15 N	T1	29.302	-16.541	-12.267	-0.092	-0.120	-0.019
A15 F	T1	29.759	-16.349	-11.031	-0.078	-0.105	-0.026
A17 N	T1	29.879	-15.722	-10.300	-0.077	-0.103	-0.027
A17 F	T1	29.623	-15.408	-8.859	-0.063	-0.082	-0.033
A19 N	T1	26.889	-17.176	-3.210	-0.054	-0.071	-0.036
A19 F	T1	26.162	-17.388	-2.630	-0.051	-0.055	-0.034
A20	T1	13.102	-19.412	0.036	-0.028	-0.036	-0.033
A21	T1	7.525	-20.205	0.872	-0.018	-0.030	-0.030
*** Segment A end *** Line # 79319914							
*** Segment B begin *** Line # 79319914							
A20	T1	13.102	-19.412	0.036	-0.028	-0.036	-0.033

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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
B01	T1	13.014	-18.819	0.111	-0.028	-0.036	-0.033
*** Segment B end *** Line # 79319914							
*** Segment C begin *** Line # 79319914							
A21	T1	7.525	-20.205	0.872	-0.018	-0.030	-0.030
C01 N	T1	4.660	-20.578	1.251	-0.013	-0.028	-0.028
C01 F	T1	3.390	-19.524	1.390	0.004	-0.014	-0.013
C02 N	T1	3.216	-16.342	1.305	0.008	-0.011	-0.011
C02 F	T1	2.042	-15.168	1.524	0.024	0.000	0.000
C03 N	T1	0.458	-15.124	1.898	0.026	0.001	0.001
C03 F	T1	-0.641	-13.884	1.959	0.041	0.011	0.013
C04	T1	-0.641	-13.884	1.959	0.041	0.011	0.013
*** Segment C end *** Line # 79319914							
*** Segment D begin *** Line #							
D00	T1	0.000	0.000	0.000	0.000	0.000	0.000
D01	T1	0.000	-0.069	0.000	0.000	0.000	0.000
D02	T1	0.000	-0.223	0.000	0.000	0.000	0.000
D03	T1	0.021	-0.992	0.090	0.046	0.019	0.003
D04	T1	0.012	-1.531	0.203	0.047	0.020	0.005
D05	T1	0.009	-1.646	0.228	0.047	0.020	0.005
D06	T1	0.003	-1.939	0.290	0.047	0.020	0.005
D07	T1	-0.003	-2.168	0.339	0.047	0.020	0.006
D08 N	T1	-0.018	-2.738	0.461	0.047	0.020	0.007
D08 F	T1	0.017	-3.450	0.001	0.047	0.020	0.009
D09	T1	0.018	-3.452	-0.011	0.047	0.020	0.009
D10	T1	0.034	-3.489	-0.182	0.047	0.020	0.009
D11	T1	0.000	-4.335	0.000	0.047	0.020	0.009

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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
D07	T1	-0.003	-2.168	0.339	0.047	0.020	0.006
G01	T1	-0.511	-2.166	0.238	0.047	0.020	0.006
*** Segment G end *** Line #							
*** Segment H begin *** Line #							
D14	T1	-0.556	-12.488	1.695	0.042	0.012	0.014
H01	T1	0.128	-12.529	1.732	0.042	0.012	0.012
*** Segment H end *** Line #							
*** Segment I begin *** Line #							
I00	T1	-0.200	-1.745	-0.282	0.045	-0.045	0.013
I01	T1	-0.100	-1.645	0.212	0.045	-0.045	0.013
*** Segment I end *** Line #							
*** Segment J begin *** Line #							
J00	T1	0.000	0.000	0.000	0.000	0.000	0.000
J01	T1	0.000	-0.077	0.000	0.000	0.000	0.000
J02	T1	0.000	-0.223	0.000	0.000	0.000	0.000
J03	T1	-0.053	-0.991	0.082	0.041	-0.039	0.016
J04	T1	-0.093	-1.529	0.189	0.044	-0.044	0.013
I01	T1	-0.100	-1.645	0.212	0.045	-0.045	0.013
J06	T1	-0.118	-1.938	0.272	0.045	-0.045	0.012
J07	T1	-0.130	-2.167	0.320	0.045	-0.046	0.011
J08 N	T1	-0.157	-2.736	0.439	0.046	-0.047	0.008
J08 F	T1	-0.174	-3.456	-0.016	0.052	-0.015	-0.048
J09	T1	-0.175	-3.459	-0.028	0.052	-0.015	-0.049
J10	T1	-0.187	-3.499	-0.199	0.052	-0.015	-0.049
J11	T1	0.000	-4.345	0.000	0.052	-0.015	-0.049
J12 N	T1	2.367	-11.616	1.641	0.048	-0.001	-0.074

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S U P P O R T F O R C E S								
(Force - N , Moment - Nm , Tran. - mm , Rot. - deg)								
Point/ Supp. ID	Connect/ Type	Load Combination	Dirn	L O C A L		G L O B A L		
				Force	Deform	Dirn	Force	Deform
D11		T1	down	165	0.000	X	-851	0.000
D11 1	Guide		left	851	0.000	Y		-4.335
Stiff	:RIGID					Z	-165	0.000
F07		T1	down	302	0.000	X		0.181
F07 1	V - Stop					Y		-0.001
Stiff	:RIGID					Z	-302	0.000
J11		T1	down	233	0.000	X	795	0.000
J11 1	Guide		rght	795	0.000	Y		-4.345
Stiff	:RIGID					Z	-233	0.000
K07		T1	down	290	0.000	X		-0.181
K07 1	V - Stop					Y		-0.001
Stiff	:RIGID					Z	-290	0.000

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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
A02 N	Anchor T1	27	-20	-21	39	-124	-193	0	230
D00	Anchor T1	608	8	219	647	158	40	-87	184
D11	Guide T1	[ID: D11 -851	1] 0	Mark: Undefined -165	867	0	Tag#: Undefined 0	0	0
F07	V - Stop T1	[ID: F07 0	1] 0	Mark: Undefined -302	302	0	Tag#: Undefined 0	0	0
F08	Anchor T1	-86	-94	283	310	30	-12	0	32
J00	Anchor T1	-574	199	239	653	148	-81	133	215
J11	Guide T1	[ID: J11 795	1] 0	Mark: Undefined -233	829	0	Tag#: Undefined 0	0	0
K07	V - Stop T1	[ID: K07 0	1] 0	Mark: Undefined -290	290	0	Tag#: Undefined 0	0	0
K08	Anchor T1	81	-93	269	296	30	11	-1	32

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Point name	Load combination	FORCES (N)				MOMENTS (Nm)			
		X	Y	Z	Result	X	Y	Z	Result
*** Segment A begin *** Line # 79319914									
A01	T1	0	0	0	0	0	0	0	0
A02 N-	T1	0	0	0	0	0	0	0	0
A02 N+	T1	-27	20	21	39	124	193	0	230
A02 F	T1	-27	20	21	39	123	191	0	227
A04 N	T1	-27	20	21	39	141	212	3	255
A04 F	T1	-27	20	21	39	139	209	3	251
A06 N	T1	-27	20	21	39	98	153	3	181
A06 F	T1	-27	20	21	39	96	145	9	174
A08 N	T1	-27	20	21	39	107	140	28	179
A08 F	T1	-27	20	21	39	110	130	41	176
A10 N	T1	-27	20	21	39	108	121	47	169
A10 F	T1	-27	20	21	39	103	113	48	161
A12 N	T1	-27	20	21	39	90	105	39	143
A12 F	T1	-27	20	21	39	79	95	36	129
A13	T1	-27	20	21	39	-13	-30	36	48
A15 N	T1	-27	20	21	39	-128	-183	36	226
A15 F	T1	-27	20	21	39	-130	-190	40	234
A17 N	T1	-27	20	21	39	-128	-193	45	236
A17 F	T1	-27	20	21	39	-129	-197	47	240
A19 N	T1	-27	20	21	39	-151	-203	26	255
A19 F	T1	-27	20	21	39	-153	-201	21	254
A20 -	T1	-27	20	21	39	-153	-130	-47	206
A20 +	T1	-27	20	21	39	-153	-130	-47	206
A21	T1	-27	20	21	39	-153	-100	-76	197
*** Segment A end *** Line # 79319914									

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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 B begin *** Line # 79319914									
A20	T1	0	0	0	0	0	0	0	0
B01	T1	0	0	0	0	0	0	0	0
*** Segment B end *** Line # 79319914									
*** Segment C begin *** Line # 79319914									
A21	T1	-27	20	21	39	-153	-100	-76	197
C01 N	T1	-27	20	21	39	-153	-84	-91	196
C01 F	T1	-27	20	21	39	-146	-77	-88	188
C02 N	T1	-27	20	21	39	-129	-77	-66	164
C02 F	T1	-27	20	21	39	-124	-73	-64	158
C03 N	T1	-27	20	21	39	-126	-67	-72	160
C03 F	T1	-27	20	21	39	-121	-63	-70	153
C04	T1	-27	20	21	39	-121	-63	-70	153
*** Segment C end *** Line # 79319914									
*** Segment D begin *** Line #									
D00	T1	-608	-8	-219	647	-158	-40	87	184
D01 -	T1	-608	-8	-219	647	-154	-40	76	176
D01 +	T1	-608	-8	-219	647	-154	-40	76	176
D02 -	T1	-608	-8	-219	647	-145	-40	51	159
D02 +	T1	-608	-8	-219	647	-145	-40	51	159
D03	T1	-608	-8	-219	647	-101	-40	-70	130
D04	T1	-608	-8	-219	647	-70	-40	-155	175
D05 -	T1	-608	-8	-219	647	-64	-40	-174	189
D05 +	T1	-608	-8	-219	647	-64	-40	-174	189
D06 -	T1	-608	-8	-219	647	-47	-40	-220	229
D06 +	T1	-522	86	-200	566	-95	-3	-192	215

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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
D07 -	T1	-522	86	-200	566	-83	-3	-223	238
D07 +	T1	-522	86	-200	566	-83	-3	-223	238
D08 N	T1	-522	86	-200	566	-53	-3	-301	305
D08 F	T1	-522	86	-200	566	-10	77	-380	388
D09	T1	-522	86	-200	566	-10	78	-380	388
D10	T1	-522	86	-200	566	-6	102	-380	394
D11 -	T1	-522	86	-200	566	38	102	-495	507
D11 +	T1	329	86	-35	342	38	102	-495	507
D12	T1	329	86	-35	342	102	102	94	172
D13	T1	329	86	-35	342	107	102	144	206
D14 -	T1	329	86	-35	342	113	102	202	253
D14 +	T1	27	-20	-21	39	113	63	60	143
D15	T1	27	-20	-21	39	117	63	65	148
C04	T1	27	-20	-21	39	121	63	70	153
*** Segment D end *** Line #									
*** Segment E begin *** Line #									
D05	T1	0	0	0	0	0	0	0	0
E01	T1	0	0	0	0	0	0	0	0
*** Segment E end *** Line #									
*** Segment F begin *** Line #									
D06	T1	-86	-94	-19	129	48	-37	-28	67
F01	T1	-86	-94	-19	129	33	-24	-28	49
F02 N	T1	-86	-94	-19	129	0	6	-28	28
F02 F	T1	-86	-94	-19	129	-5	10	-23	26
F03 N	T1	-86	-94	-19	129	-18	7	49	53
F03 F	T1	-86	-94	-19	129	-18	7	49	53

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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
F04 N	T1	-86	-94	-19	129	-6	7	-3	10
F04 F	T1	-86	-94	-19	129	-5	8	-13	16
F05 N	T1	-86	-94	-19	129	-5	9	-19	22
F05 F	T1	-86	-94	-19	129	0	5	-24	25
F06 N	T1	-86	-94	-19	129	24	-16	-24	38
F06 F	T1	-86	-94	-19	129	30	-22	-19	42
F07 -	T1	-86	-94	-19	129	30	-25	-5	39
F07 +	T1	-86	-94	283	310	30	-25	-5	39
F08	T1	-86	-94	283	310	30	-12	0	32
*** Segment F end *** Line #									
*** Segment G begin *** Line #									
D07	T1	0	0	0	0	0	0	0	0
G01	T1	0	0	0	0	0	0	0	0
*** Segment G end *** Line #									
*** Segment H begin *** Line #									
D14	T1	302	106	-14	320	0	39	142	147
H01	T1	302	106	-14	320	0	41	161	166
*** Segment H end *** Line #									
*** Segment I begin *** Line #									
I00	T1	0	0	0	0	0	0	0	0
I01	T1	0	0	0	0	0	0	0	0
*** Segment I end *** Line #									
*** Segment J begin *** Line #									
J00	T1	574	-199	-239	653	-148	81	-133	215
J01 -	T1	574	-199	-239	653	-143	81	-121	205
J01 +	T1	574	-199	-239	653	-143	81	-121	205

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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
J02	- T1	574	-199	-239	653	-134	81	-100	186
J02	+ T1	574	-199	-239	653	-134	81	-100	186
J03	T1	574	-199	-239	653	-87	81	15	120
J04	T1	574	-199	-239	653	-53	81	96	136
I01	- T1	574	-199	-239	653	-46	81	113	146
I01	+ T1	574	-199	-239	653	-46	81	113	146
J06	- T1	574	-199	-239	653	-28	81	157	179
J06	+ T1	493	-106	-218	549	-75	48	127	155
J07	- T1	493	-106	-218	549	-62	48	157	175
J07	+ T1	493	-106	-218	549	-62	48	157	175
J08 N	T1	493	-106	-218	549	-30	48	230	236
J08 F	T1	493	-106	-218	549	-12	-27	305	306
J09	T1	493	-106	-218	549	-13	-29	305	306
J10	T1	493	-106	-218	549	-17	-51	305	309
J11	- T1	493	-106	-218	549	31	-51	413	417
J11	+ T1	-302	-106	14	320	31	-51	413	417
J12 N	T1	-302	-106	14	320	3	-51	-158	166
J12 F	T1	-302	-106	14	320	0	-47	-203	209
J13	T1	-302	-106	14	320	0	-44	-177	182
H01	T1	-302	-106	14	320	0	-41	-161	166
*** Segment J end *** Line #									
*** Segment K begin *** Line #									
J06	T1	81	-93	-20	125	47	33	29	65
K01	T1	81	-93	-20	125	33	21	29	48
K02 N	T1	81	-93	-20	125	0	-8	29	30
K02 F	T1	81	-93	-20	125	-6	-12	25	28

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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
K03 N	T1	81	-93	-20	125	-18	-7	-47	51
K03 F	T1	81	-93	-20	125	-18	-7	-47	51
K04 N	T1	81	-93	-20	125	-6	-7	2	9
K04 F	T1	81	-93	-20	125	-4	-8	12	15
K05 N	T1	81	-93	-20	125	-4	-9	18	20
K05 F	T1	81	-93	-20	125	1	-5	23	24
K06 N	T1	81	-93	-20	125	25	15	23	37
K06 F	T1	81	-93	-20	125	30	21	18	41
K07 -	T1	81	-93	-20	125	30	24	3	39
K07 +	T1	81	-93	269	296	30	24	3	39
K08	T1	81	-93	269	296	30	11	-1	32

*** Segment K end *** Line #

*** Segment L begin *** Line #

J07	T1	0	0	0	0	0	0	0	0
L01	T1	0	0	0	0	0	0	0	0

*** Segment L end *** Line #

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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 # 79319914									
A01	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	
A02 N-	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	
A02 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		3.81 3.17	(18) SUST	0	71	
	Cold to T1	228	29	0	3.81 3.17	(17) DISP	4	147	
A02 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		3.81 3.17	(18) SUST	0	71	
	Cold to T1	225	1	28	3.81 3.17	(17) DISP	4	147	
A02 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	225	1	28	1.00 1.00	(17) DISP	1	147	
A04 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	253	2	28	1.00 1.00	(17) DISP	1	147	
A04 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.90 2.42	(18) SUST	0	71	
	Cold to T1	253	2	28	2.90 2.42	(17) DISP	3	147	
A04 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.90 2.42	(18) SUST	0	71	
	Cold to T1	249	28	3	2.90 2.42	(17) DISP	3	147	
A04 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	209	139	3	1.00 1.00	(17) DISP	1	147	
A06 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	153	98	3	1.00 1.00	(17) DISP	1	147	
A06 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.90 2.42	(18) SUST	0	71	
	Cold to T1	98	153	3	2.90 2.42	(17) DISP	2	147	
A06 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		2.90 2.42	(18) SUST	0	71	
	Cold to T1	96	29	143	2.90 2.42	(17) DISP	1	147	

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ASME B31.3b (2001) CODE COMPLIANCE									
Point name	Load combination	(Moments in Nm)			S.I.F		(Stress in N/mm2)		Code Stress
		In-Pl. Moment	Out-Pl. Moment	Torsion Moment	In	Out	Eq. Load no. type	Code Allow.	
A06 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	96	29	143	1.00	1.00	(17) DISP	1	147
A08 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	107	9	143	1.00	1.00	(17) DISP	1	147
A08 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.90	2.42	(18) SUST	0	71
	Cold to T1	36	102	143	2.90	2.42	(17) DISP	1	147
A08 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.90	2.42	(18) SUST	0	71
	Cold to T1	22	129	117	2.90	2.42	(17) DISP	2	147
A08 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	130	11	117	1.00	1.00	(17) DISP	1	147
A10 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	121	18	117	1.00	1.00	(17) DISP	1	147
A10 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.90	2.42	(18) SUST	0	71
	Cold to T1	37	117	117	2.90	2.42	(17) DISP	1	147
A10 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.90	2.42	(18) SUST	0	71
	Cold to T1	38	150	45	2.90	2.42	(17) DISP	2	147
A10 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	141	62	45	1.00	1.00	(17) DISP	1	147
A12 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	125	53	45	1.00	1.00	(17) DISP	1	147
A12 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.90	2.42	(18) SUST	0	71
	Cold to T1	125	53	45	2.90	2.42	(17) DISP	2	147
A12 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.90	2.42	(18) SUST	0	71
	Cold to T1	112	52	36	2.90	2.42	(17) DISP	2	147
A12 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	95	79	36	1.00	1.00	(17) DISP	1	147

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ASME B31.3b (2001) CODE COMPLIANCE									
Point name	Load combination	(Moments in Nm)			S.I.F		(Stress in N/mm2)		Code Stress
		In-Pl. Moment	Out-Pl. Moment	Torsion Moment	In	Out	Eq. Load no. type	Code Allow.	
A13	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	30	13	36	1.00	1.00	(17) DISP	0	147
A15 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	183	128	36	1.00	1.00	(17) DISP	1	147
A15 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.90	2.42	(18) SUST	0	71
	Cold to T1	128	183	36	2.90	2.42	(17) DISP	3	147
A15 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.90	2.42	(18) SUST	0	71
	Cold to T1	130	130	145	2.90	2.42	(17) DISP	2	147
A15 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	130	130	145	1.00	1.00	(17) DISP	1	147
A17 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	128	136	145	1.00	1.00	(17) DISP	1	147
A17 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.90	2.42	(18) SUST	0	71
	Cold to T1	19	186	145	2.90	2.42	(17) DISP	2	147
A17 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.90	2.42	(18) SUST	0	71
	Cold to T1	21	204	125	2.90	2.42	(17) DISP	2	147
A17 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	197	58	125	1.00	1.00	(17) DISP	1	147
A19 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	203	89	125	1.00	1.00	(17) DISP	1	147
A19 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.90	2.42	(18) SUST	0	71
	Cold to T1	203	89	125	2.90	2.42	(17) DISP	3	147
A19 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.90	2.42	(18) SUST	0	71
	Cold to T1	201	21	153	2.90	2.42	(17) DISP	3	147
A19 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	201	21	153	1.00	1.00	(17) DISP	1	147

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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	
A20 -	Max P						(3a) HOOP	0	71
	Max P	0	0		2.32	2.76	(18) SUST	0	71
	Cold to T1	47	130	153	2.32	2.76	(17) DISP	2	147
A20 +	Max P						(3a) HOOP	0	71
	Max P	0	0		2.32	2.76	(18) SUST	0	71
	Cold to T1	47	130	153	2.32	2.76	(17) DISP	2	147
A21	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	100	76	153	1.00	1.00	(17) DISP	1	147
*** Segment A end *** Line # 79319914									
*** Segment B begin *** Line # 79319914									
*** Segment B end *** Line # 79319914									
*** Segment C begin *** Line # 79319914									
A21	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	100	76	153	1.00	1.00	(17) DISP	1	147
C01 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	84	91	153	1.00	1.00	(17) DISP	1	147
C01 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.90	2.42	(18) SUST	0	71
	Cold to T1	91	84	153	2.90	2.42	(17) DISP	2	147
C01 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.90	2.42	(18) SUST	0	71
	Cold to T1	88	146	77	2.90	2.42	(17) DISP	2	147
C01 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	146	88	77	1.00	1.00	(17) DISP	1	147
C02 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	129	66	77	1.00	1.00	(17) DISP	1	147
C02 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.90	2.42	(18) SUST	0	71
	Cold to T1	94	110	77	2.90	2.42	(17) DISP	2	147
C02 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.90	2.42	(18) SUST	0	71
	Cold to T1	91	73	106	2.90	2.42	(17) DISP	2	147

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ASME B31.3b (2001) CODE COMPLIANCE									
Point name	Load combination	(Moments in Nm)			S.I.F		(Stress in N/mm2)		Code Stress
		In-Pl. Moment	Out-Pl. Moment	Torsion Moment	In	Out	Eq. Load no. type	Code Allow.	
C02 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	73	91	106	1.00	1.00	(17) DISP	1	147
C03 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	67	100	106	1.00	1.00	(17) DISP	1	147
C03 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.90	2.42	(18) SUST	0	71
	Cold to T1	100	67	106	2.90	2.42	(17) DISP	2	147
C03 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.90	2.42	(18) SUST	0	71
	Cold to T1	96	101	63	2.90	2.42	(17) DISP	2	147
C03 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	121	70	63	1.00	1.00	(17) DISP	1	147
C04	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	121	70	63	1.00	1.00	(17) DISP	1	147
*** Segment C end *** Line # 79319914									
*** Segment D begin *** Line #									
D02	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	145	51	40	1.00	1.00	(17) DISP	14	147
D03	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	101	70	40	1.00	1.00	(17) DISP	11	147
D04	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	70	155	40	1.00	1.00	(17) DISP	0	147
D05 -	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	64	174	40	1.00	1.00	(17) DISP	0	147
D05 +	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	64	174	40	1.00	1.00	(17) DISP	0	147
D06 -	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	47	220	40	1.00	1.00	(17) DISP	1	147

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ASME B31.3b (2001) CODE COMPLIANCE									
Point name	Load combination	(Moments in Nm)			S.I.F		(Stress in N/mm2)		
		In-Pl. Moment	Out-Pl. Moment	Torsion Moment	In	Out	Eq. Load no. type	Code Stress	Code Allow.
D06	+ Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	95	192	3	1.00	1.00	(17) DISP	0	147
D07	- Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	214	106	3	1.00	1.00	(17) DISP	1	147
D07	+ Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	214	106	3	1.00	1.00	(17) DISP	1	147
D08 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	53	301	3	1.00	1.00	(17) DISP	1	147
D08 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	53	301	3	1.00	1.00	(17) DISP	1	147
D08 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	10	77	380	1.00	1.00	(17) DISP	1	147
D08 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	77	10	380	1.00	1.00	(17) DISP	1	147
D09	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	78	10	380	1.00	1.00	(17) DISP	1	147
D11	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	38	495	102	1.00	1.00	(17) DISP	1	147
D12	- Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	102	94	102	1.00	1.00	(17) DISP	0	147
D12	+ Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	102	94	102	1.00	1.00	(17) DISP	2	147
D13	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	107	144	102	1.00	1.00	(17) DISP	1	147
D14	- Max P						(3a) HOOP	0	71
	Max P	0	0		3.10	3.80	(18) SUST	0	71
	Cold to T1	202	113	102	3.10	3.80	(17) DISP	5	147

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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	71	
D14	+ Max P						(18) SUST	0	71	
	Max P	0	0		3.10	3.80	(17) DISP	3	147	
	Cold to T1	60	113	63	3.10	3.80				
							(3a) HOOP	0	71	
D15	Max P						(18) SUST	0	71	
	Max P	0	0		1.00	1.00	(17) DISP	1	147	
	Cold to T1	117	65	63	1.00	1.00				
*** Segment D end *** Line #										
*** Segment E begin *** Line #										
*** Segment E end *** Line #										
*** Segment F begin *** Line #										
							(3a) HOOP	0	71	
D06	Max P						(18) SUST	0	71	
	Max P	0	0		1.00	1.00	(17) DISP	16	147	
	Cold to T1	48	37	28	1.00	1.00				
							(3a) HOOP	0	71	
F01	Max P						(18) SUST	0	71	
	Max P	0	0		1.00	1.00	(17) DISP	12	147	
	Cold to T1	24	33	28	1.00	1.00				
							(3a) HOOP	0	71	
F02 N-	Max P						(18) SUST	0	71	
	Max P	0	0		1.00	1.00	(17) DISP	7	147	
	Cold to T1	6	0	28	1.00	1.00				
							(3a) HOOP	0	71	
F02 N+	Max P						(18) SUST	0	71	
	Max P	0	0		2.08	1.74	(17) DISP	8	147	
	Cold to T1	6	0	28	2.08	1.74				
							(3a) HOOP	0	71	
F02 F-	Max P						(18) SUST	0	71	
	Max P	0	0		2.08	1.74	(17) DISP	11	147	
	Cold to T1	10	22	9	2.08	1.74				
							(3a) HOOP	0	71	
F02 F+	Max P						(18) SUST	0	71	
	Max P	0	0		1.00	1.00	(17) DISP	6	147	
	Cold to T1	10	22	9	1.00	1.00				
							(3a) HOOP	0	71	
F03 N-	Max P						(18) SUST	0	71	
	Max P	0	0		1.00	1.00	(17) DISP	13	147	
	Cold to T1	7	51	9	1.00	1.00				
							(3a) HOOP	0	71	
F03 N+	Max P						(18) SUST	0	71	
	Max P	0	0		2.08	1.74	(17) DISP	27	147	
	Cold to T1	51	7	9	2.08	1.74				
							(3a) HOOP	0	71	
F03 F-	Max P						(18) SUST	0	71	
	Max P	0	0		2.08	1.74	(17) DISP	27	147	
	Cold to T1	52	9	7	2.08	1.74				

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		ASME B31.3b (2001)			CODE COMPLIANCE		(Stress in N/mm2)			
		(Moments in Nm)			S.I.F		Eq. Load		Code	Code
Point	Load	In-Pl.	Out-Pl.	Torsion	In	Out	no.	type	Stress	Allow.
name	combination	Moment	Moment	Moment						
F03 F+	Max P						(3a)	HOOP	0	71
	Max P	0	0	1.00	1.00		(18)	SUST	0	71
	Cold to T1	18	49	7	1.00	1.00	(17)	DISP	13	147
F04 N-	Max P						(3a)	HOOP	0	71
	Max P	0	0	1.00	1.00		(18)	SUST	0	71
	Cold to T1	6	3	7	1.00	1.00	(17)	DISP	2	147
F04 N+	Max P						(3a)	HOOP	0	71
	Max P	0	0	2.08	1.74		(18)	SUST	0	71
	Cold to T1	3	6	7	2.08	1.74	(17)	DISP	3	147
F04 F-	Max P						(3a)	HOOP	0	71
	Max P	0	0	2.08	1.74		(18)	SUST	0	71
	Cold to T1	13	8	5	2.08	1.74	(17)	DISP	8	147
F04 F+	Max P						(3a)	HOOP	0	71
	Max P	0	0	1.00	1.00		(18)	SUST	0	71
	Cold to T1	8	13	5	1.00	1.00	(17)	DISP	4	147
F05 N-	Max P						(3a)	HOOP	0	71
	Max P	0	0	1.00	1.00		(18)	SUST	0	71
	Cold to T1	9	19	5	1.00	1.00	(17)	DISP	5	147
F05 N+	Max P						(3a)	HOOP	0	71
	Max P	0	0	2.08	1.74		(18)	SUST	0	71
	Cold to T1	9	19	5	2.08	1.74	(17)	DISP	10	147
F05 F-	Max P						(3a)	HOOP	0	71
	Max P	0	0	2.08	1.74		(18)	SUST	0	71
	Cold to T1	5	0	24	2.08	1.74	(17)	DISP	7	147
F05 F+	Max P						(3a)	HOOP	0	71
	Max P	0	0	1.00	1.00		(18)	SUST	0	71
	Cold to T1	5	0	24	1.00	1.00	(17)	DISP	6	147
F06 N-	Max P						(3a)	HOOP	0	71
	Max P	0	0	1.00	1.00		(18)	SUST	0	71
	Cold to T1	16	24	24	1.00	1.00	(17)	DISP	9	147
F06 N+	Max P						(3a)	HOOP	0	71
	Max P	0	0	2.08	1.74		(18)	SUST	0	71
	Cold to T1	16	24	24	2.08	1.74	(17)	DISP	15	147
F06 F-	Max P						(3a)	HOOP	0	71
	Max P	0	0	2.08	1.74		(18)	SUST	0	71
	Cold to T1	22	19	30	2.08	1.74	(17)	DISP	16	147
F06 F+	Max P						(3a)	HOOP	0	71
	Max P	0	0	1.00	1.00		(18)	SUST	0	71
	Cold to T1	22	19	30	1.00	1.00	(17)	DISP	10	147

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ASME B31.3b (2001) CODE COMPLIANCE										
Point name	Load combination	(Moments in Nm)			S.I.F		(Stress in N/mm2)		Code Stress	Code Allow.
		In-Pl. Moment	Out-Pl. Moment	Torsion Moment	In	Out	Eq. Load no. type			
F07	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	25	5	30	1.00	1.00	(17) DISP	10	147	
F08	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	12	0	30	1.00	1.00	(17) DISP	8	147	
*** Segment F end *** Line #										
*** Segment G begin *** Line #										
D07	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	
G01	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	
*** Segment G end *** Line #										
*** Segment H begin *** Line #										
D14	Max P						(3a) HOOP	0	71	
	Max P	0	0		3.10	3.80	(18) SUST	0	71	
	Cold to T1	142	39	0	3.10	3.80	(17) DISP	3	147	
H01	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	41	161	0	1.00	1.00	(17) DISP	1	147	
*** Segment H end *** Line #										
*** Segment I begin *** Line #										
*** Segment I end *** Line #										
*** Segment J begin *** Line #										
J02	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	134	100	81	1.00	1.00	(17) DISP	16	147	
J03	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	87	15	81	1.00	1.00	(17) DISP	10	147	
J04	Max P						(3a) HOOP	0	71	
	Max P	0	0		1.00	1.00	(18) SUST	0	71	
	Cold to T1	53	96	81	1.00	1.00	(17) DISP	1	147	

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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.	
I01	- Max P					(3a) HOOP	0	71	
	Max P	0	0		2.45 2.93	(18) SUST	0	71	
	Cold to T1	46	113	81	2.45 2.93	(17) DISP	4	147	
I01	+ Max P					(3a) HOOP	0	71	
	Max P	0	0		2.45 2.93	(18) SUST	0	71	
	Cold to T1	46	113	81	2.45 2.93	(17) DISP	4	147	
J06	- Max P					(3a) HOOP	0	71	
	Max P	0	0		2.45 2.93	(18) SUST	0	71	
	Cold to T1	28	157	81	2.45 2.93	(17) DISP	5	147	
J06	+ Max P					(3a) HOOP	0	71	
	Max P	0	0		2.45 2.93	(18) SUST	0	71	
	Cold to T1	75	127	48	2.45 2.93	(17) DISP	5	147	
J07	- Max P					(3a) HOOP	0	71	
	Max P	0	0		2.45 2.93	(18) SUST	0	71	
	Cold to T1	149	78	48	2.45 2.93	(17) DISP	5	147	
J07	+ Max P					(3a) HOOP	0	71	
	Max P	0	0		2.45 2.93	(18) SUST	0	71	
	Cold to T1	149	78	48	2.45 2.93	(17) DISP	5	147	
J08 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	30	230	48	1.00 1.00	(17) DISP	3	147	
J08 N+	Max P					(3a) HOOP	0	71	
	Max P	0	0		4.12 3.43	(18) SUST	0	71	
	Cold to T1	30	230	48	4.12 3.43	(17) DISP	9	147	
J08 F-	Max P					(3a) HOOP	0	71	
	Max P	0	0		4.12 3.43	(18) SUST	0	71	
	Cold to T1	12	27	305	4.12 3.43	(17) DISP	3	147	
J08 F+	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	27	12	305	1.00 1.00	(17) DISP	3	147	
J09	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	29	13	305	1.00 1.00	(17) DISP	3	147	
J11	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	31	413	51	1.00 1.00	(17) DISP	5	147	
J12 N-	Max P					(3a) HOOP	0	71	
	Max P	0	0		1.00 1.00	(18) SUST	0	71	
	Cold to T1	3	158	51	1.00 1.00	(17) DISP	2	147	

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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.
J12 N+	Max P						(3a) HOOP	0	71
	Max P	0	0	3.14	2.61		(18) SUST	0	71
	Cold to T1	158	3	51	3.14	2.61	(17) DISP	5	147
J12 F-	Max P						(3a) HOOP	0	71
	Max P	0	0	3.14	2.61		(18) SUST	0	71
	Cold to T1	203	47	0	3.14	2.61	(17) DISP	7	147
J12 F+	Max P						(3a) HOOP	0	71
	Max P	0	0	1.00	1.00		(18) SUST	0	71
	Cold to T1	47	203	0	1.00	1.00	(17) DISP	2	147
J13 -	Max P						(3a) HOOP	0	71
	Max P	0	0	1.00	1.00		(18) SUST	0	71
	Cold to T1	44	177	0	1.00	1.00	(17) DISP	2	147
J13 +	Max P						(3a) HOOP	0	71
	Max P	0	0	1.00	1.00		(18) SUST	0	71
	Cold to T1	44	177	0	1.00	1.00	(17) DISP	2	147
H01	Max P						(3a) HOOP	0	71
	Max P	0	0	1.00	1.00		(18) SUST	0	71
	Cold to T1	41	161	0	1.00	1.00	(17) DISP	1	147
*** Segment J end *** Line #									
*** Segment K begin *** Line #									
J06	Max P						(3a) HOOP	0	71
	Max P	0	0	2.45	2.93		(18) SUST	0	71
	Cold to T1	47	33	29	2.45	2.93	(17) DISP	22	147
K01	Max P						(3a) HOOP	0	71
	Max P	0	0	1.00	1.00		(18) SUST	0	71
	Cold to T1	21	33	29	1.00	1.00	(17) DISP	12	147
K02 N-	Max P						(3a) HOOP	0	71
	Max P	0	0	1.00	1.00		(18) SUST	0	71
	Cold to T1	8	0	29	1.00	1.00	(17) DISP	7	147
K02 N+	Max P						(3a) HOOP	0	71
	Max P	0	0	2.08	1.74		(18) SUST	0	71
	Cold to T1	8	0	29	2.08	1.74	(17) DISP	8	147
K02 F-	Max P						(3a) HOOP	0	71
	Max P	0	0	2.08	1.74		(18) SUST	0	71
	Cold to T1	12	24	10	2.08	1.74	(17) DISP	12	147
K02 F+	Max P						(3a) HOOP	0	71
	Max P	0	0	1.00	1.00		(18) SUST	0	71
	Cold to T1	12	24	10	1.00	1.00	(17) DISP	7	147

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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.
K03 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	7	49	10	1.00	1.00	(17) DISP	12	147
K03 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.08	1.74	(18) SUST	0	71
	Cold to T1	49	7	10	2.08	1.74	(17) DISP	26	147
K03 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.08	1.74	(18) SUST	0	71
	Cold to T1	50	9	7	2.08	1.74	(17) DISP	26	147
K03 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	18	47	7	1.00	1.00	(17) DISP	13	147
K04 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	6	2	7	1.00	1.00	(17) DISP	2	147
K04 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.08	1.74	(18) SUST	0	71
	Cold to T1	2	6	7	2.08	1.74	(17) DISP	3	147
K04 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.08	1.74	(18) SUST	0	71
	Cold to T1	12	8	4	2.08	1.74	(17) DISP	7	147
K04 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	8	12	4	1.00	1.00	(17) DISP	4	147
K05 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	9	18	4	1.00	1.00	(17) DISP	5	147
K05 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.08	1.74	(18) SUST	0	71
	Cold to T1	9	18	4	2.08	1.74	(17) DISP	9	147
K05 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.08	1.74	(18) SUST	0	71
	Cold to T1	5	1	23	2.08	1.74	(17) DISP	6	147
K05 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	5	1	23	1.00	1.00	(17) DISP	6	147
K06 N-	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	15	25	23	1.00	1.00	(17) DISP	9	147

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ASME B31.3b (2001) CODE COMPLIANCE									
Point name	Load combination	(Moments in Nm)			S.I.F		(Stress in N/mm2)		
		In-Pl. Moment	Out-Pl. Moment	Torsion Moment	In	Out	Eq. Load no. type	Code Stress	Code Allow.
K06 N+	Max P						(3a) HOOP	0	71
	Max P	0	0		2.08	1.74	(18) SUST	0	71
	Cold to T1	15	25	23	2.08	1.74	(17) DISP	14	147
K06 F-	Max P						(3a) HOOP	0	71
	Max P	0	0		2.08	1.74	(18) SUST	0	71
	Cold to T1	21	18	30	2.08	1.74	(17) DISP	15	147
K06 F+	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	21	18	30	1.00	1.00	(17) DISP	10	147
K07	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	24	3	30	1.00	1.00	(17) DISP	10	147
K08	Max P						(3a) HOOP	0	71
	Max P	0	0		1.00	1.00	(18) SUST	0	71
	Cold to T1	11	1	30	1.00	1.00	(17) DISP	8	147
*** Segment K end *** Line #									
*** Segment L begin *** Line #									
J07	Max P						(3a) HOOP	0	71
	Max P	0	0		2.45	2.93	(18) SUST	0	71
	Cold to T1	0	0	0	2.45	2.93	(17) DISP	0	147
L01	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
*** Segment L end *** Line #									

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

Maximum displacements (mm)

Maximum X :	29.879	Point : A17 N	Load Comb.: T1
Maximum Y :	-20.578	Point : C01 N	Load Comb.: T1
Maximum Z :	-66.300	Point : A01	Load Comb.: T1
Max. total:	66.300	Point : A01	Load Comb.: T1

Maximum rotations (deg)

Maximum X :	0.162	Point : K05 N	Load Comb.: T1
Maximum Y :	-0.141	Point : A13	Load Comb.: T1
Maximum Z :	0.214	Point : F02 F	Load Comb.: T1
Max. total:	0.271	Point : F04 N	Load Comb.: T1

Maximum restraint forces (N)

Maximum X :	-851	Point : D11	Load Comb.: T1
Maximum Y :	199	Point : J00	Load Comb.: T1
Maximum Z :	-302	Point : F07	Load Comb.: T1
Max. total:	867	Point : D11	Load Comb.: T1

Maximum restraint moments (Nm)

Maximum X :	158	Point : D00	Load Comb.: T1
Maximum Y :	-193	Point : A02 N	Load Comb.: T1
Maximum Z :	133	Point : J00	Load Comb.: T1
Max. total:	230	Point : A02 N	Load Comb.: T1

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

Maximum pipe forces (N)

Maximum X :	-608	Point : D00	Load Comb.: T1
Maximum Y :	-199	Point : J00	Load Comb.: T1
Maximum Z :	283	Point : F07	Load Comb.: T1
Max. total:	653	Point : J00	Load Comb.: T1

Maximum pipe moments (Nm)

Maximum X :	-158	Point : D00	Load Comb.: T1
Maximum Y :	212	Point : A04 N	Load Comb.: T1
Maximum Z :	-495	Point : D11	Load Comb.: T1
Max. total:	507	Point : D11	Load Comb.: T1

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

Maximum displacement stress

Point : F03 F
Stress N/mm2 : 27
Allowable N/mm2 : 147
Ratio : 0.18
Load combination : Cold to T1

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

Maximum displacement stress ratio

Point	:	F03 F
Stress	N/mm2	: 27
Allowable	N/mm2	: 147
Ratio	:	0.18
Load combination	:	Cold to T1

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