



8 Pilgrims Lane
Unloading Assessment
Long-Term - net load with base slab only

Job No.	Sheet No.	Rev.
Dirg. Ref.		
Made by ALP	Date 17-May-2013	Checked

Analysis Options
 Analysis: Mindlin - Horizontal displacements are calculated using Mindlin's theory. Displacements below load : Yes
 Soil above vertical load on horizontal plane : Yes
 Maximum allowable ratio between values of E: 1.5
 Horizontal right boundary level: 0.0 [m on]
 Displacements at area centroids calculated.

Soil Profiles/Soil Profile 1
 Layer Level at Number of Young's Modulus Poissons Non-Linear
 top displacement level curve

Level	TOP		Bottom	
	(m)	(KN/m ²)	(m)	(KN/m ²)
1	0.000	0.0000	0.0000	0.0000
2	79.000	50.0000	54000.0	0.2000
3	74.000	64.0000	69500.0	0.2000

Load Data

Load ref.	orientation	Centre of Load	Loaded plane	Angle of local x	Shape	Dimension	Loads	Load value	Number of rectangles
		(Global)	(Global)	W.r.t. Global X		Width X/Depth Y	Normal z	Tangential	
1	-10.000	15.000	-5.0000	23.0000	SOLI Profile 1				

Displacement Data

Ref. Type	Name	Direction	Line/Area for extrusion	first point	second point	No. of intervals across	Extrusion Depth	No. of intervals along	Show detailed results
				(m)	(m)	extrusion/line	(m)	extrusion	
1	Line 6 Pt. - Front	N/A	Y	0.0	79.900	5.3000	79.900	20	N/A
2	Line 6 Pt. - Rear	N/A	Y	0.0	79.900	5.3000	79.900	20	N/A
3	Line DB - Rear	N/A	X	-1.2000	17.800	76.000	17.800	30	N/A
4	Grid Overall	Global X	X	-5.0000	-5.0000	76.000	76.000	40	N/A

RESULTS FOR GRIDS

Analysis: Mindlin
 Maximum allowable ratio between values of E: 1.5
 Displacements at area centroids calculated.

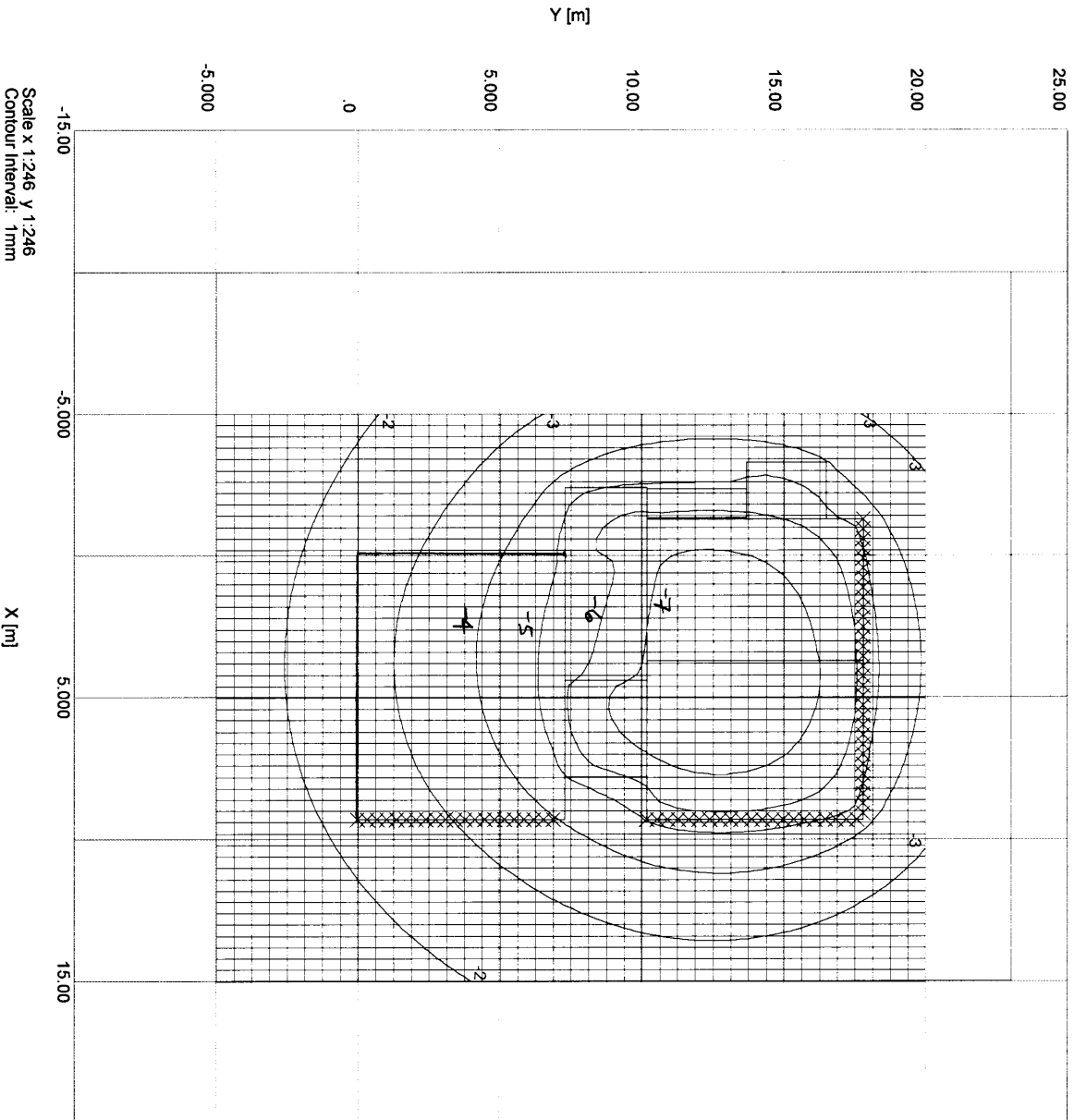
Type	Location	Z[level]			Displacement			No. of intervals across	Extrusion Depth	No. of intervals along	Show detailed results
		X	Y	Z	X	Y	Z				
6 Pt. - Front	9.3000	0.0	0.0	0.0	0.00000	0.00000	0.00000	40	20.000	Yes	Yes
	9.3000	0.36500	78.900	0.43190	-0.86576	-2.3979	-4.3167	40	N/A	Yes	Yes
	9.3000	0.75000	78.900	0.44226	-0.86244	-2.5109	-4.4577	40	N/A	Yes	Yes
	9.3000	1.13500	78.900	0.44571	-0.85920	-2.6169	-4.5984	40	N/A	Yes	Yes
	9.3000	1.46000	78.900	0.44657	-0.85427	-2.7009	-4.7288	40	N/A	Yes	Yes
	9.3000	1.82500	78.900	0.47760	-0.84930	-2.7694	-4.8498	40	N/A	Yes	Yes
	9.3000	2.19000	78.900	0.49010	-0.84172	-2.8188	-4.9584	40	N/A	Yes	Yes
	9.3000	2.55500	78.900	0.50312	-0.83172	-3.0984	-5.0548	40	N/A	Yes	Yes
	9.3000	2.92000	78.900	0.51694	-0.82291	-3.2750	-5.1394	40	N/A	Yes	Yes
	9.3000	3.28500	78.900	0.54586	-0.81449	-3.3723	-5.2051	40	N/A	Yes	Yes
	9.3000	3.65000	78.900	0.56155	-0.80525	-3.4706	-5.2552	40	N/A	Yes	Yes
	9.3000	4.01500	78.900	0.57889	-0.79511	-3.5700	-5.2914	40	N/A	Yes	Yes
9.3000	4.38000	78.900	0.59809	-0.78251	-3.6710	-5.3230	40	N/A	Yes	Yes	
9.3000	4.74500	78.900	0.61403	-0.77164	-3.7711	-5.3508	40	N/A	Yes	Yes	
9.3000	5.11000	78.900	0.63355	-0.75956	-3.8724	-5.3754	40	N/A	Yes	Yes	
9.3000	5.47500	78.900	0.65411	-0.74627	-3.9734	-5.3967	40	N/A	Yes	Yes	
9.3000	6.20500	78.900	0.67668	-0.72549	-4.0732	-5.4142	40	N/A	Yes	Yes	
9.3000	6.93500	78.900	0.72127	-0.68824	-4.2621	-5.4284	40	N/A	Yes	Yes	
9.3000	7.30000	78.900	0.74482	-0.65969	-4.3367	-5.4398	40	N/A	Yes	Yes	
9.3000	10.2000	76.000	-0.033985	-0.056821	-5.0730	-5.4542	40	N/A	Yes	Yes	
9.3000	10.5800	76.000	-0.031316	-0.053076	-5.2944	-5.4681	40	N/A	Yes	Yes	
9.3000	10.9600	76.000	-0.028647	-0.049331	-5.5158	-5.4819	40	N/A	Yes	Yes	
9.3000	11.3400	76.000	-0.024651	-0.041597	-5.5497	-5.4948	40	N/A	Yes	Yes	
9.3000	11.7200	76.000	-0.020745	-0.031751	-5.5855	-5.5069	40	N/A	Yes	Yes	
9.3000	12.1000	76.000	-0.016814	-0.017561	-5.6232	-5.5181	40	N/A	Yes	Yes	
9.3000	12.4800	76.000	-0.012011	-0.003368	-5.6622	-5.5285	40	N/A	Yes	Yes	
9.3000	13.2800	76.000	-0.002159	-0.002438	-5.6025	-5.5381	40	N/A	Yes	Yes	
9.3000	13.6200	76.000	-0.0027215	-0.019534	-5.5821	-5.5472	40	N/A	Yes	Yes	
9.3000	14.0000	76.000	0.0079230	-0.014413	-5.5492	-5.5558	40	N/A	Yes	Yes	
9.3000	14.3800	76.000	0.013223	-0.008989	-5.5041	-5.5631	40	N/A	Yes	Yes	
9.3000	14.7600	76.000	0.018527	-0.0028243	-5.4469	-5.5691	40	N/A	Yes	Yes	
9.3000	15.1400	76.000	0.024842	0.0093410	-5.2934	-5.5739	40	N/A	Yes	Yes	
9.3000	15.5200	76.000	0.031951	0.016239	-5.1957	-5.5767	40	N/A	Yes	Yes	
9.3000	15.9000	76.000	0.040412	0.023571	-5.0820	-5.5784	40	N/A	Yes	Yes	
9.3000	16.2800	76.000	0.049939	0.031356	-4.9432	-5.5789	40	N/A	Yes	Yes	
9.3000	16.6600	76.000	0.059919	0.039587	-4.7792	-5.5783	40	N/A	Yes	Yes	
9.3000	17.0400	76.000	0.069774	0.048294	-4.5981	-5.5766	40	N/A	Yes	Yes	
9.3000	17.4200	76.000	0.061724	0.057468	-4.3056	-5.5738	40	N/A	Yes	Yes	
9.3000	17.8000	76.000	-0.045698	0.035645	-4.4681	-5.5691	40	N/A	Yes	Yes	
9.3000	18.1800	76.000	-0.039578	0.020866	-4.8254	-5.5631	40	N/A	Yes	Yes	
9.3000	18.5600	76.000	-0.033523	0.0069251	-5.1819	-5.5561	40	N/A	Yes	Yes	
9.3000	18.9400	76.000	-0.027549	0.00069251	-5.5454	-5.5481	40	N/A	Yes	Yes	
9.3000	19.3200	76.000	-0.021314	0.0040381	-5.5067	-5.5391	40	N/A	Yes	Yes	
9.3000	19.7000	76.000	-0.0081917	0.0025282	-5.5514	-5.5291	40	N/A	Yes	Yes	
9.3000	20.0800	76.000	-0.004864	0.0015349	-5.5881	-5.5181	40	N/A	Yes	Yes	
9.3000	20.4600	76.000	-0.002455	0.0008454	-5.6407	-5.5061	40	N/A	Yes	Yes	
9.3000	20.8400	76.000	-0.0020229	0.0014551	-5.6609	-5.4931	40	N/A	Yes	Yes	

CLAYGATE & LONDON CLAY.
 $E' / \alpha = 0.8 \times E_u / \alpha_u$
 $\nu' = 0.2$

Job No.	Sheet No.	Rev.
Drg. Ref.		
Made by ALP	Date 17-May-2013	Checked

(-ve = Heave)

Settlement Contours : Grid 1 at 76.00m



Scale x 1:246 Y 1:246
Contour Interval: 1mm

INCUBATORS FEEDING LITERS

LOAD

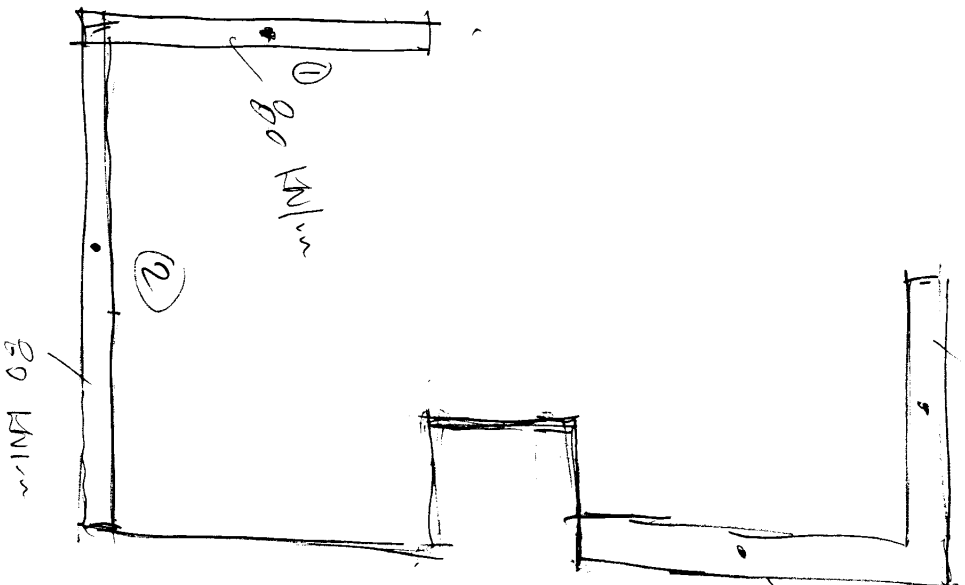
$$P_{IN} \text{ TL} = +75.7 \text{ m}^2 \text{ Deep. } 105 \text{ KN/m}$$

$$+78.6 \text{ Shallow}$$

Say 0.8m wide

$$50 \text{ (4)} = 100 \text{ KN/m}^2$$

$$105 \text{ KN/m} = 181 \text{ KN/m}^2$$



$$\textcircled{1} \text{ Centre } x = 0.4 \text{ m, } y = 2.65 \text{ m. } w_x = 0.8 ; w_y = 7.3 \text{ } \tau$$

$$\textcircled{2} \quad x = 4.65 \text{ m ; } y = 0.4 \quad w_x = 9.3 ; w_y = 0.8$$

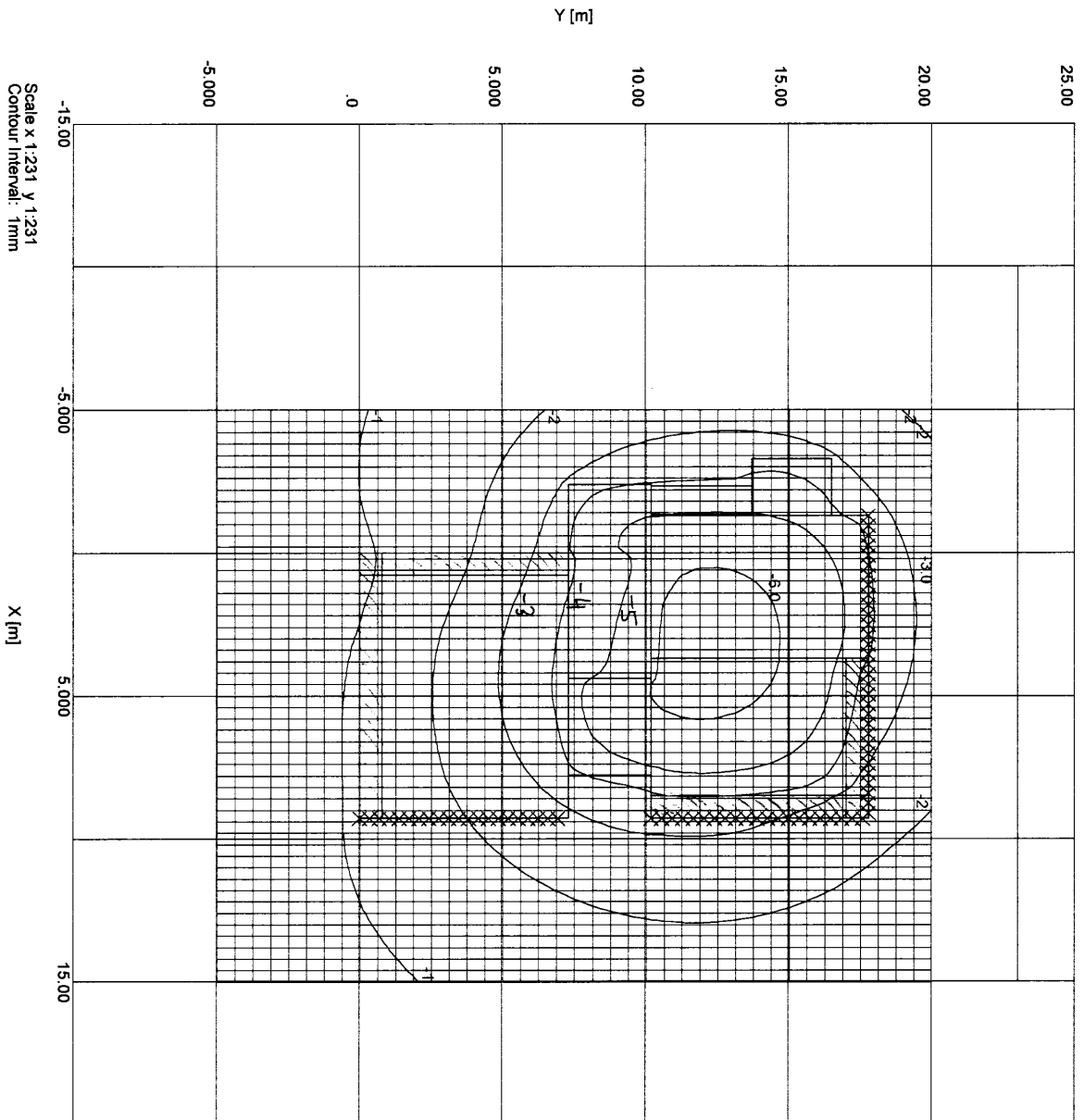
$$\textcircled{3} \quad x = 4.65 \text{ m, } y = 2.79 \text{ m} \quad w_x = 0.8, w_y = 7.6$$

121 KN/m²

$$\textcircled{4} \quad x = 6.5 \text{ m ; } y = 17.4 \quad w_x = 5.6 \quad w_y = 0.8$$

Job No.	Sheet No.	Rev.
Dwg. Ref.		
Made by	Date	Checked
ALP	10-Jul-2013	

Settlement Contours : Grid 1 at 76.00m





8 Pilgrims Lane
Pin Settle & Unloading Assessment
Short-Term

Job No.	Sheet No.	Rev.
Drg. Ref.		
Made by	Date	Checked
ALP	10-Jul-2013	

Analysis Options

Maximum horizontal (and vertical) displacements are calculated
 Soil above horizontal load on horizontal plane dampens displacements below load : Yes
 Soil above vertical load on horizontal plane dampens displacements below load : Yes
 Maximum allowable ratio between values of E: 1.5
 Maximum allowable ratio between values of E: 1.5
 Displacements at free corners calculated
 Displacements at free centroids calculated

Soil Profile/Soil Profile 1

Layer	Level at Top	Number of Intermidiate Levels	Young's Modulus	Poisson's ratio	Non-linear curve
1	6.000	6	6 32500	0.45000	None
2	79.000	50	32500	0.45000	None
3	74.000	64	75000	0.45500	None

Soil Zones

Zone	X coordinates	Y coordinates	Profile
1	-10.000	15.000	5.0000 23.000 Soil Profile 1

Load Data

Load	Orientation	Centre of Load	Angle of local x	Shape	Width x Depth	Dimension Ratio	Normal z	Load value	Number of Intervals	Calculate Detailed results
Ref.	Type	Name	Direction of Extent	W.r.t. global X	X (m)	Y (m)	z (m)	z (m)	along depth	along width
1	Horizontal	4.6500	78.900	0.0	Rectangular	9.3000	7.3000	-15.200	0.0	N/A
2	Horizontal	5.1000	8.7500	0.0	Rectangular	3.4000	2.9000	-17.200	0.0	N/A
3	Horizontal	6.7500	76.000	0.0	Rectangular	2.4000	2.9000	-17.200	0.0	N/A
4	Horizontal	-1.2000	8.7500	0.0	Rectangular	2.4000	2.9000	-17.200	0.0	N/A
5	Horizontal	6.5000	14.000	0.0	Rectangular	5.6000	7.6000	-72.200	0.0	N/A
6	Horizontal	1.2000	14.000	0.0	Rectangular	5.0000	7.6000	-72.200	0.0	N/A
7	Horizontal	-1.2000	14.000	0.0	Rectangular	5.0000	7.6000	-72.200	0.0	N/A
8	Horizontal	-2.3000	15.100	0.0	Rectangular	2.0000	2.8000	-49.400	0.0	N/A
9	Horizontal	0.40000	3.6500	0.0	Rectangular	0.80000	7.3000	100.00	0.0	N/A
10	Horizontal	4.6500	0.40000	0.0	Rectangular	9.3000	0.80000	100.00	0.0	N/A
11	Horizontal	4.6500	17.400	0.0	Rectangular	9.3000	1.0000	100.00	0.0	N/A
12	Horizontal	6.5000	17.400	0.0	Rectangular	5.6000	0.80000	100.00	0.0	N/A

Displacement Data

Ref.	Type	Name	Direction of Extent	Line/line for estimation	X (m)	Y (m)	Z (m)	No. of Intervals across	Extrusion depth	Extrusion width	Calculate Detailed results	
1	Line	6 PL - Front	N/A	9.3000	10.200	76.000	9.3000	17.800	76.000	20	N/A	Yes
2	Line	6 PL - Rear	N/A	-1.3000	17.800	76.000	9.3000	17.800	76.000	30	N/A	Yes
3	Line	DS - Rear	N/A	Global X	-5.0000	-5.0000	76.000	20.000	76.000	40	N/A	Yes
4	Grid	Overall	Global X	-5.0000	-5.0000	76.000	N/A	20.000	76.000	50	Yes	Yes

RESULTS FOR GRIDS

Analysis: Minimal
 Maximum allowable ratio between values of E: 1.5
 Maximum allowable ratio between values of E: 1.5
 Displacements at area centroids calculated.

Type	X	Y	Z	Displacement	U	V	W
	(m)	(m)	(m)	(m)	(m)	(m)	(m)
6 PL - Front	9.3000	0.36500	78.900	0.0578887	-0.22809	-2.8680	-5.3651
9.3000	0.36500	8.7500	76.000	-0.39723	0.18975	-5.3651	
9.3000	0.36500	8.7500	78.900	-0.034493	-0.53026	-6.6207	
9.3000	0.36500	14.000	76.000	-0.28769	-0.24658	-5.5382	
9.3000	1.2000	14.000	76.000	0.13551	-0.30307	-6.0086	
9.3000	-1.8500	11.950	76.000	0.47910	-0.064831	-4.6975	
9.3000	0.40000	3.6500	78.600	0.068083	0.086274	-1.1705	
9.3000	0.40000	0.40000	78.600	0.070886	-0.082251	-0.35765	
9.3000	14.000	14.000	75.700	-0.63722	-0.20366	-3.1510	
9.3000	17.400	17.400	78.900	0.0020022	-0.1503	-0.80319	
9.3000	0.36500	0.36500	78.900	-0.037922	-0.18458	-0.79133	
9.3000	0.73000	78.900	78.900	-0.010986	-0.26469	-0.95939	
9.3000	1.09500	78.900	78.900	0.04613	-0.2531	-1.2432	
9.3000	1.46000	78.900	78.900	0.088430	-0.2434	-1.5797	
9.3000	1.82500	78.900	78.900	0.068990	-0.22443	-1.5797	
9.3000	2.19000	78.900	78.900	0.097929	-0.21691	-1.7105	
9.3000	2.55500	78.900	78.900	0.10174	-0.2149	-1.8421	
9.3000	2.92000	78.900	78.900	0.10556	-0.2129	-1.9737	
9.3000	3.28500	78.900	78.900	0.11133	-0.20551	-2.0601	
9.3000	3.6500	78.900	78.900	0.11596	-0.22769	-2.1690	
9.3000	4.01500	78.900	78.900	0.12369	-0.24996	-2.2754	
9.3000	4.38000	78.900	78.900	0.13142	-0.27223	-2.3775	
9.3000	4.74500	78.900	78.900	0.13802	-0.29580	-2.4812	
9.3000	5.11000	78.900	78.900	0.14326	-0.32070	-2.5805	
9.3000	5.47500	78.900	78.900	0.14824	-0.34670	-2.6770	
9.3000	5.84000	78.900	78.900	0.15294	-0.37384	-2.7709	
9.3000	6.20500	78.900	78.900	0.15742	-0.40244	-2.8689	
9.3000	6.57000	78.900	78.900	0.21825	-0.31434	-2.9413	
9.3000	6.93500	78.900	78.900	0.24109	-0.21517	-3.0139	
9.3000	7.30000	78.900	78.900	0.26393	-0.11600	-3.0864	
9.3000	10.2000	10.2000	76.000	-0.60190	0.091220	-3.2410	
9.3000	10.580	10.580	76.000	-0.61632	0.040594	-3.2412	
9.3000	10.960	10.960	76.000	-0.63074	-0.010481	-3.2414	
9.3000	11.340	11.340	76.000	-0.64516	-0.061849	-3.2416	
9.3000	11.720	11.720	76.000	-0.61248	-0.059928	-3.2489	
9.3000	12.100	12.100	76.000	-0.61248	-0.059928	-3.2489	
9.3000	12.480	12.480	76.000	-0.60656	-0.085979	-3.2376	
9.3000	12.860	12.860	76.000	-0.60064	-0.112030	-3.2263	
9.3000	13.240	13.240	76.000	-0.59472	-0.138081	-3.2150	
9.3000	13.620	13.620	76.000	-0.58880	-0.164132	-3.2037	
9.3000	14.000	14.000	76.000	-0.58288	-0.190183	-3.1924	
9.3000	14.380	14.380	76.000	-0.57696	-0.216234	-3.1811	
9.3000	14.760	14.760	76.000	-0.57104	-0.242285	-3.1698	
9.3000	15.140	15.140	76.000	-0.56512	-0.268336	-3.1585	
9.3000	15.520	15.520	76.000	-0.55920	-0.294387	-3.1472	
9.3000	15.900	15.900	76.000	-0.55328	-0.320438	-3.1359	
9.3000	16.280	16.280	76.000	-0.54736	-0.346489	-3.1246	
9.3000	16.660	16.660	76.000	-0.54144	-0.372540	-3.1133	
9.3000	17.040	17.040	76.000	-0.53552	-0.398591	-3.1020	
9.3000	17.420	17.420	76.000	-0.52960	-0.424642	-3.0907	
9.3000	17.800	17.800	76.000	-0.52368	-0.450693	-3.0794	
9.3000	18.180	18.180	76.000	-0.51776	-0.476744	-3.0681	
9.3000	18.560	18.560	76.000	-0.51184	-0.502795	-3.0568	
9.3000	18.940	18.940	76.000	-0.50592	-0.528846	-3.0455	
9.3000	19.320	19.320	76.000	-0.50000	-0.554897	-3.0342	
9.3000	19.700	19.700	76.000	-0.49408	-0.580948	-3.0229	
9.3000	20.080	20.080	76.000	-0.48816	-0.606999	-3.0116	
9.3000	20.460	20.460	76.000	-0.48224	-0.633050	-3.0003	
9.3000	20.840	20.840	76.000	-0.47632	-0.659101	-2.9890	
9.3000	21.220	21.220	76.000	-0.47040	-0.685152	-2.9777	
9.3000	21.600	21.600	76.000	-0.46448	-0.711203	-2.9664	
9.3000	21.980	21.980	76.000	-0.45856	-0.737254	-2.9551	
9.3000	22.360	22.360	76.000	-0.45264	-0.763305	-2.9438	
9.3000	22.740	22.740	76.000	-0.44672	-0.789356	-2.9325	
9.3000	23.120	23.120	76.000	-0.44080	-0.815407	-2.9212	
9.3000	23.500	23.500	76.000	-0.43488	-0.841458	-2.9099	
9.3000	23.880	23.880	76.000	-0.42896	-0.867509	-2.8986	
9.3000	24.260	24.260	76.000	-0.42304	-0.893560	-2.8873	
9.3000	24.640	24.640	76.000	-0.41712	-0.919611	-2.8760	
9.3000	25.020	25.020	76.000	-0.41120	-0.945662	-2.8647	
9.3000	25.400	25.400	76.000	-0.40528	-0.971713	-2.8534	
9.3000	25.780	25.780	76.000	-0.39936	-0.997764	-2.8421	
9.3000	26.160	26.160	76.000	-0.39344	-1.023815	-2.8308	
9.3000	26.540	26.540	76.000	-0.38752	-1.049866	-2.8195	
9.3000	26.920	26.920	76.000	-0.38160	-1.075917	-2.8082	
9.3000	27.300	27.300	76.000	-0.37568	-1.101968	-2.7969	
9.3000	27.680	27.680	76.000	-0.36976	-1.128019	-2.7856	
9.3000	28.060	28.060	76.000	-0.36384	-1.154070	-2.7743	
9.3000	28.440	28.440	76.000	-0.35792	-1.180121	-2.7630	
9.3000	28.820	28.820	76.000	-0.35200	-1.206172	-2.7517	
9.3000	29.200	29.200	76.000	-0.34608	-1.232223	-2.7404	
9.3000	29.580	29.580	76.000	-0.34016	-1.258274	-2.7291	
9.3000	29.960	29.960	76.000	-0.33424	-1.284325	-2.7178	
9.3000	30.340	30.340	76.000	-0.32832	-1.310376	-2.7065	
9.3000	30.720	30.720	76.000	-0.32240	-1.336427	-2.6952	
9.3000	31.100	31.100	76.000	-0.31648	-1.362478	-2.6839	
9.3000	31.480	31.480	76.000	-0.31056	-1.388529	-2.6726	
9.3000	31.860						