

Dispersion Report

Workspace: 72438-2FSRURegas-8R

Study: FSRU in rigassificazione

Equipment Item: 8R Linee mandata pompe HP Booster

72438-2FSRURegas-8R\FSRU in rigassificazione\8R Linee mandata pompe HP Booster

Material	GAS NATURALE	
East	0	m
North	0	m

Scenario (User defined source) : 200mm-59kg/s

72438-2FSRURegas-8R\FSRU in rigassificazione\8R Linee mandata pompe HP Booster\200mm-59kg/s

Material to track	GAS NATURALE
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Weather: Category 2/F

Wind speed [m/s]	2
Pasquill stability	F stable - night with moderate clouds and light/moderate wind
Atmospheric temperature [degC]	25
Relative humidity [fraction]	0,75
Solar radiation flux [kW/m2]	0,5
Mixing layer height [m]	100

Observer Release Data and Observer Mass Data

Observer number	Release type	Start time [s]	Start downwind distance [m]	Unit	Masses or mass rates		
					Release	Rainout	Final
1	Continuous	0	0	kg/s	59	0	59

2 Continuous 3600 0 kg/s 59 0 59

Time-varying Observer Dispersion Data (before along-wind-diffusion effects)

Dispersion data correspond to an averaging time of: 18,75 s

Observer number	Time [s]	Down wind distance [m]	C/Li ne height [m]	C/Lin e conc [ppm]	Effect ive width [m]	Effect ive depth [m]	C/Line vapour temperature [degC]	C/Li ne liquid fraction	Centr oid velocity [m/s]	C/Lin e cloud density [kg/m ³]
1	0	0	5	999.99 9,37	0,3573 17	0,1713 72	-160,343	0	236,89 1	2,0336 7
1	0,01	1,86186	4,999 85	737.96 4,65	0,6219 45	0,3099 1	-109,048	0	152,06 3	1,5729 3
1	0,02	3,19342	4,999 52	611.70 6,44	0,8323 46	0,4165 14	-82,6482	0	118,75 5	1,4374 2
1	0,03	4,28046	4,999 09	534.03 2,03	1,0118 6	0,5065 34	-65,8674	0	100,18 5	1,369
1	0,04	5,21783	4,998 58	480.05 0,86	1,1708 5	0,5860 3	-53,9784	0	88,041 1	1,3266 4
1	0,05	6,04963	4,998 02	439.75 9,91	1,3147 5	0,6579 22	-45,0165	0	79,353 6	1,2975 5
1	0,06	6,80641	4,997 43	408.10 3,50	1,4474 4	0,7241 92	-37,9664	0	72,741 2	1,2762 4
1	0,07	7,50488	4,996 8	382.36 5,09	1,5711 3	0,7859 66	-32,2739	0	67,497 5	1,2600 5
1	0,08	8,15677	4,996 15	360.88 6,35	1,6874 3	0,8440 47	-27,5909	0	63,209 6	1,2474 3
1	0,09	8,77015	4,995 48	342.60 1,44	1,7974 7	0,8990 11	-23,6846	0	59,620 6	1,2374 2
1	0,1	9,35126	4,994 8	326.78 0,74	1,9021 8	0,9513 12	-20,3878	0	56,559 7	1,2293 7
1	0,11	9,90435	4,994 11	312.91 8,63	2,0022 1	1,0012 8	-17,5789	0	53,911 5	1,2228 3
1	0,12	10,4319	4,993	300.65	2,0979	1,0491	-15,1675	0	51,593	1,2174



			41	8,03	8	2			6	8
1	0,13	10,9366	4,992 7	289.71 7,23	2,1899 3	1,0950 6	-13,0802	0	49,545 5	1,2130 5
1	0,14	11,4212	4,991 99	279.87 0,21	2,2785 2	1,1393 1	-11,258	0	47,717 9	1,2093 6
1	0,15	11,8881	4,991 28	270.94 2,52	2,3641 2	1,1820 7	-9,65451	0	46,073 7	1,2062 5
1	0,16	12,3399	4,990 56	262.78 6,02	2,4471 5	1,2235 5	-8,23151	0	44,582 1	1,2036 1
1	0,17	12,7775	4,989 84	255.30 0,38	2,5277 8	1,2638 3	-6,96157	0	43,221 8	1,2013 6
1	0,18	13,2018	4,989 12	248.40 2,37	2,6061 9	1,303	-5,82223	0	41,975 6	1,1994 3
1	0,19	13,6146	4,988 4	242.01 0,53	2,6826 3	1,3411 9	-4,7931	0	40,827	1,1977 6
1	0,2	14,0162	4,987 68	236.07 0,83	2,7572 2	1,3784 5	-3,85973	0	39,765 1	1,1963 1
1	0,212	14,4852	4,986 82	229.46 0,67	2,8445 5	1,4220 8	-2,84687	0	38,589 2	1,1948
1	0,226 4	15,0304	4,985 78	222.18 7,00	2,9463 9	1,4729 5	-1,76358	0	37,302 5	1,1932 8
1	0,243 68	15,6618	4,984 53	214.26 6,20	3,0648 2	1,5321 1	-0,620627	0	35,909 8	1,1917 8
1	0,264 416	16,3913	4,983 04	205.73 0,81	3,2014 5	1,6003 7	0,437891	0	34,418 9	1,1909 1
1	0,289 299	17,2313	4,981 24	196.63 3,61	3,3607 6	1,6799 5	1,7148	0	32,841	1,1893 6
1	0,319 159	18,1913	4,979 08	187.07 8,74	3,5441 8	1,7715 7	3,01381	0	31,195 9	1,1878 9
1	0,354 991	19,2822	4,976 48	177.17 4,95	3,7544 7	1,8766 2	4,3159	0	29,503 9	1,1865 5
1	0,397 989	20,5171	4,973 35	167.02 3,18	3,9951 4	1,9968 4	5,60521	0	27,783 1	1,1853 5
1	0,449 587	21,9083	4,969 58	156.74 1,61	4,2699	2,1340 8	6,8658	0	26,054 3	1,1843 2
1	0,511 504	23,4671	4,965 03	146.44 9,84	4,5830 7	2,2905 2	8,08384	0	24,337 9	1,1834 5
1	0,585	25,2079	4,959	136.26	4,9398	2,4687	9,24823	0	22,652	1,1827



	805		51	1,38	6	3			8	4
1	0,674 966	27,1473	4,952 78	126.31 1,92	5,3452 5	2,6712 3	10,3472	0	21,021 1	1,1821 9
1	0,781 959	29,3018	4,944 52	116.71 6,05	5,8051 4	2,9009 5	11,373	0	19,461	1,1817 8
1	0,910 351	31,6932	4,934 27	107.53 6,90	6,3279 6	3,1621 1	12,3242	0	17,982	1,1814 9
1	1,064 42	34,3445	4,921 42	98.808, 27	6,9245 5	3,4601 2	13,2026	0	16,588 9	1,1813 2
1	1,249 31	37,2788	4,905 1	90.552, 99	7,6072 9	3,8011 8	14,0108	0	15,284 9	1,1812 3
1	1,471 17	40,5208	4,884 04	82.771, 28	8,3912 1	4,1927 9	14,7534	0	14,069 3	1,1812 1
1	1,570 6	41,8953	4,874 12	79.892, 94	8,7266 2	4,3603 6	15,0234	0	13,617 5	1,1812 2
1	1,570 6	41,8953	4,874 12	79.892, 94	8,7266 2	4,3603 6	15,0234	0	13,617 5	1,1812 2
1	1,737 4	44,1125	4,857 41	76.017, 71	9,0278 2	4,7538 4	15,3833	0	12,989 8	1,1812 5
1	2,056 88	48,1062	4,827 47	70.443, 14	9,6289 3	5,3775 1	15,8938	0	12,058 3	1,1813 1
1	2,440 26	52,5602	4,794 89	65.472, 18	10,382 3	5,9670 9	16,3417	0	11,219 1	1,1813 9
1	2,900 31	57,5358	4,758 34	60.917, 03	11,320 3	6,5069 7	16,7464	0	10,449 7	1,1814 8
1	3,452 37	63,0985	4,715 26	56.704, 86	12,481 4	6,9793 2	17,1158	0	9,7379 9	1,1815 9
1	4,114 84	69,3172	4,662 02	52.789, 46	13,910 8	7,3753 1	17,4552	0	9,0749 3	1,1817
1	4,909 81	76,2699	4,593 76	49.128, 23	15,661 8	7,6998 9	17,7692	0	8,4523 5	1,1818 1
1	5,863 77	84,0391	4,504 34	45.691, 98	17,797 5	7,9649 5	18,061	0	7,8647 9	1,1819 3
1	7,008 53	92,711	4,386 11	42.461, 17	20,393 3	8,1870 3	18,3329	0	7,3087 7	1,1820 6
1	8,382 23	102,375	4,229 46	39.422, 33	23,539 4	8,3859 4	18,5867	0	6,7822 7	1,1821 9
1	10,03	113,119	4,022	36.567,	27,344	8,5830	18,8235	0	6,2845	1,1823



	07		23	56	2	6				3
1	12,0088	125,04	3,74899	33.889,91	31,9365	8,80316	19,0442	0	5,81537	1,18247
1	14,3826	138,275	3,3906	31.372,35	37,467	9,08237	19,2508	0	5,37387	1,18261
1	17,2311	152,95	2,92284	29.013,35	44,1183	9,44886	19,4435	0	4,96223	1,18277
1	20,6493	169,213	2,31491	26.810,08	52,1057	9,93527	19,6227	0	4,58279	1,18294
1	24,7512	187,227	1,52743	24.758,68	61,679	10,5766	19,7879	0	4,23864	1,18314
1	29,6734	207,253	0,516615	22.846,36	73,0692	11,42	20,0191	0	3,93305	1,18308
1	29,9564	208,361	0,457114	22.750,14	73,7145	11,4709	20,0419	0	3,91823	1,18304
1	32,0713	216,497	0,01	22.072,27	78,467	11,8561	20,2008	0	3,81579	1,18277
1	32,0713	216,497	0	22.072,28	78,467	11,876	20,2005	0	3,81261	1,18277
1	35,5801	229,508	0	21.307,38	86,1403	11,733	20,4025	0	3,64401	1,18229
1	42,6681	254,298	0	19.988,73	101,018	11,5721	20,7593	0	3,3625	1,18143
1	51,1737	281,777	0	18.720,57	117,878	11,491	21,116	0	3,10223	1,18055
1	61,3805	312,187	0	17.523,46	136,868	11,4593	21,4694	0	2,86567	1,17965
1	73,6286	345,903	0	16.384,49	158,091	11,4715	21,8228	0	2,65379	1,17874
1	88,3263	383,477	0	15.110,05	181,536	11,6572	22,2104	0	2,46931	1,17774
1	105,964	425,674	0	13.617,41	206,962	12,0895	22,6356	0	2,32078	1,17678
1	127,128	473,636	0	11.927,22	233,795	12,7984	23,0773	0	2,21894	1,17567
1	152,526	529,255	0	10.073,65	261,022	13,8812	23,5101	0	2,17281	1,17476
1	172,7	573,204	0	8.771,7	279,09	14,892	23,7833	0	2,1771	1,1742

	54			9	6	8			8	4
2	3600	0	5	999.99 9,37	0,3573 17	0,1713 72	-160,343	0	236,89 1	2,0336 7
2	3600, 01	1,86186	4,999 85	737.96 4,65	0,6219 45	0,3099 1	-109,048	0	152,06 3	1,5729 3
2	3600, 02	3,19342	4,999 52	611.70 6,44	0,8323 46	0,4165 14	-82,6482	0	118,75 5	1,4374 2
2	3600, 03	4,28046	4,999 09	534.03 2,03	1,0118 6	0,5065 34	-65,8674	0	100,18 5	1,369
2	3600, 04	5,21783	4,998 58	480.05 0,86	1,1708 5	0,5860 3	-53,9784	0	88,041 1	1,3266 4
2	3600, 05	6,04963	4,998 02	439.75 9,91	1,3147 5	0,6579 22	-45,0165	0	79,353 6	1,2975 5
2	3600, 06	6,80641	4,997 43	408.10 3,50	1,4474 4	0,7241 92	-37,9664	0	72,741 2	1,2762 4
2	3600, 07	7,50488	4,996 8	382.36 5,09	1,5711 3	0,7859 66	-32,2739	0	67,497 5	1,2600 5
2	3600, 08	8,15677	4,996 15	360.88 6,35	1,6874 3	0,8440 47	-27,5909	0	63,209 6	1,2474 3
2	3600, 09	8,77015	4,995 48	342.60 1,44	1,7974 7	0,8990 11	-23,6846	0	59,620 6	1,2374 2
2	3600, 1	9,35126	4,994 8	326.78 0,74	1,9021 8	0,9513 12	-20,3878	0	56,559 7	1,2293 7
2	3600, 11	9,90435	4,994 11	312.91 8,63	2,0022 1	1,0012 8	-17,5789	0	53,911 5	1,2228 3
2	3600, 12	10,4319	4,993 41	300.65 8,03	2,0979 8	1,0491 2	-15,1675	0	51,593 6	1,2174 8
2	3600, 13	10,9366	4,992 7	289.71 7,23	2,1899 3	1,0950 6	-13,0802	0	49,545 5	1,2130 5
2	3600, 14	11,4212	4,991 99	279.87 0,21	2,2785 2	1,1393 1	-11,258	0	47,717 9	1,2093 6
2	3600, 15	11,8881	4,991 28	270.94 2,52	2,3641 2	1,1820 7	-9,65451	0	46,073 7	1,2062 5
2	3600, 16	12,3399	4,990 56	262.78 6,02	2,4471 5	1,2235 5	-8,23151	0	44,582 1	1,2036 1
2	3600, 17	12,7775	4,989 84	255.30 0,38	2,5277 8	1,2638 3	-6,96157	0	43,221 8	1,2013 6



2	3600,18	13,2018	4,98912	248.402,37	2,60619	1,303	-5,82223	0	41,9756	1,19943
2	3600,19	13,6146	4,9884	242.010,53	2,68263	1,34119	-4,7931	0	40,827	1,19776
2	3600,2	14,0162	4,98768	236.070,83	2,75722	1,37845	-3,85973	0	39,7651	1,19631
2	3600,21	14,4852	4,98682	229.460,67	2,84455	1,42208	-2,84687	0	38,5892	1,19482
2	3600,23	15,0304	4,98578	222.187,00	2,94639	1,47295	-1,76358	0	37,3025	1,19328
2	3600,24	15,6618	4,98453	214.266,20	3,06482	1,53211	-0,620627	0	35,9098	1,19178
2	3600,26	16,3913	4,98304	205.730,81	3,20145	1,60037	0,437891	0	34,4189	1,19091
2	3600,29	17,2313	4,98124	196.633,61	3,36076	1,67995	1,7148	0	32,841	1,18936
2	3600,32	18,1913	4,97908	187.078,74	3,54418	1,77157	3,01381	0	31,1959	1,18789
2	3600,35	19,2822	4,97648	177.174,95	3,75447	1,87662	4,3159	0	29,5039	1,18655
2	3600,4	20,5171	4,97335	167.023,18	3,99514	1,99684	5,60521	0	27,7831	1,18535
2	3600,45	21,9083	4,96958	156.741,61	4,2699	2,13408	6,8658	0	26,0543	1,18432
2	3600,51	23,4671	4,96503	146.449,84	4,58307	2,29052	8,08384	0	24,3379	1,18345
2	3600,59	25,2079	4,95951	136.261,38	4,93986	2,46873	9,24823	0	22,6528	1,18274
2	3600,67	27,1473	4,95278	126.311,92	5,34525	2,67123	10,3472	0	21,0211	1,18219
2	3600,78	29,3018	4,94452	116.716,05	5,80514	2,90095	11,373	0	19,461	1,18178
2	3600,91	31,6932	4,93427	107.536,90	6,32796	3,16211	12,3242	0	17,982	1,18149
2	3601,06	34,3445	4,92142	98.808,27	6,92455	3,46012	13,2026	0	16,5889	1,18132
2	3601,25	37,2788	4,9051	90.552,99	7,60729	3,80118	14,0108	0	15,2849	1,18123



2	3601, 47	40,5208	4,884 04	82.771, 28	8,3912 1	4,1927 9	14,7534	0	14,069 3	1,1812 1
2	3601, 57	41,8953	4,874 12	79.892, 94	8,7266 2	4,3603 6	15,0234	0	13,617 5	1,1812 2
2	3601, 57	41,8953	4,874 12	79.892, 94	8,7266 2	4,3603 6	15,0234	0	13,617 5	1,1812 2
2	3601, 74	44,1125	4,857 41	76.017, 71	9,0278 2	4,7538 4	15,3833	0	12,989 8	1,1812 5
2	3602, 06	48,1062	4,827 47	70.443, 14	9,6289 3	5,3775 1	15,8938	0	12,058 3	1,1813 1
2	3602, 44	52,5602	4,794 89	65.472, 18	10,382 3	5,9670 9	16,3417	0	11,219 1	1,1813 9
2	3602, 9	57,5358	4,758 34	60.917, 03	11,320 3	6,5069 7	16,7464	0	10,449 7	1,1814 8
2	3603, 45	63,0985	4,715 26	56.704, 86	12,481 4	6,9793 2	17,1158	0	9,7379 9	1,1815 9
2	3604, 11	69,3172	4,662 02	52.789, 46	13,910 8	7,3753 1	17,4552	0	9,0749 3	1,1817 3
2	3604, 91	76,2699	4,593 76	49.128, 23	15,661 8	7,6998 9	17,7692	0	8,4523 5	1,1818 1
2	3605, 86	84,0391	4,504 34	45.691, 98	17,797 5	7,9649 5	18,061	0	7,8647 9	1,1819 3
2	3607, 01	92,711	4,386 11	42.461, 17	20,393 3	8,1870 3	18,3329	0	7,3087 7	1,1820 6
2	3608, 38	102,375	4,229 46	39.422, 33	23,539 4	8,3859 4	18,5867	0	6,7822 7	1,1821 9
2	3610, 03	113,119	4,022 23	36.567, 56	27,344 2	8,5830 6	18,8235	0	6,2845	1,1823 3
2	3612, 01	125,04	3,748 99	33.889, 91	31,936 5	8,8031 6	19,0442	0	5,8153 7	1,1824 7
2	3614, 38	138,275	3,390 6	31.372, 35	37,467 35	9,0823 7	19,2508	0	5,3738 7	1,1826 1
2	3617, 23	152,95	2,922 84	29.013, 35	44,118 3	9,4488 6	19,4435	0	4,9622 3	1,1827 7
2	3620, 65	169,213	2,314 91	26.810, 08	52,105 7	9,9352	19,6227	0	4,5827 9	1,1829 4
2	3624, 75	187,227	1,527 43	24.758, 68	61,679	10,576 6	19,7879	0	4,2386 4	1,1831 4

2	3629,67	207,253	0,516615	22.846,36	73,0692	11,42	20,0191	0	3,93305	1,18308
2	3629,96	208,361	0,457114	22.750,14	73,7145	11,4709	20,0419	0	3,91823	1,18304
2	3632,07	216,497	0,01	22.072,27	78,467	11,8561	20,2008	0	3,81579	1,18277
2	3632,07	216,497	0	22.072,28	78,467	11,876	20,2005	0	3,81261	1,18277
2	3635,58	229,508	0	21.307,38	86,1403	11,733	20,4025	0	3,64401	1,18229
2	3642,67	254,298	0	19.988,73	101,018	11,5721	20,7593	0	3,3625	1,18143
2	3651,17	281,777	0	18.720,57	117,878	11,491	21,116	0	3,10223	1,18055
2	3661,38	312,187	0	17.523,46	136,868	11,4593	21,4694	0	2,86567	1,17965
2	3673,63	345,903	0	16.384,49	158,091	11,4715	21,8228	0	2,65379	1,17874
2	3688,33	383,477	0	15.110,05	181,536	11,6572	22,2104	0	2,46931	1,17774
2	3705,96	425,674	0	13.617,41	206,962	12,0895	22,6356	0	2,32078	1,1767
2	3727,13	473,636	0	11.927,22	233,795	12,7984	23,0773	0	2,21894	1,17567
2	3752,53	529,255	0	10.073,65	261,022	13,8812	23,5101	0	2,17281	1,17476
2	3772,75	573,204	0	8.771,9	279,096	14,8928	23,7833	0	2,17718	1,17424

Weather: Category 5/D

Wind speed [m/s]	5
Pasquill stability	D neutral - little sun and high wind or overcast/windy night
Atmospheric temperature [degC]	25
Relative humidity [fraction]	0,75
Solar radiation flux [kW/m2]	0,5
Mixing layer height [m]	800

Observer Release Data and Observer Mass Data

Observer number	Release type	Start time [s]	Start downwind distance [m]	Unit	Masses or mass rates		
					Release	Rainout	Final
1	Continuous	0	0	kg/s	59	0	59
2	Continuous	3600	0	kg/s	59	0	59

Time-varying Observer Dispersion Data (before along-wind-diffusion effects)

Dispersion data correspond to an averaging time of: 18,75 s

Observer number	Time [s]	Down wind distance [m]	C/Li ne height [m]	C/Li ne conc [ppm]	Effect ive width [m]	Effect ive depth [m]	C/Line vapour temperature [degC]	C/Li ne liquid fraction	Centr oid velocity [m/s]	C/Li ne cloud density [kg/m3]
1	0	0	5	999.99	0,3574	0,1713	-160,343	0	236,89	2,0336
				9,37	67				1	7
1	0,01	1,86262	4,999	734.70	0,6244	0,3110	-108,452	0	152,15	1,5696
			85	1,19	74	08			2	6
1	0,02	3,19488	4,999	606.20	0,8385	0,4194	-81,5824	0	118,79	1,4330
			53	0,38	77	13			3	7



1	0,03	4,28207	4,999 1	526.91 3,65	1,0225 2	0,5116 23	-64,4434	0	100,17	1,3640 6
1	0,04	5,21901	4,998 6	471.69 0,40	1,1864 7	0,5935 91	-52,273	0	87,978 6	1,3213 2
1	0,05	6,04991	4,998 06	430.39 1,66	1,3357 6	0,6681 8	-43,089	0	79,247 3	1,2919 9
1	0,06	6,8054	4,997 48	397.89 7,68	1,4741 3	0,7373 09	-35,8696	0	72,596 8	1,2705 8
1	0,07	7,50225	4,996 88	371.44 7,18	1,6037 4	0,8020 65	-30,0544	0	67,319 7	1,2544
1	0,08	8,1522	4,996 26	349.35 3,21	1,7261 4	0,8632 26	-25,2888	0	63,002 3	1,2418 8
1	0,09	8,76336	4,995 63	330.52 9,55	1,8424 5	0,9213 49	-21,3324	0	59,387 3	1,2320 6
1	0,1	9,34203	4,994 99	314.23 2,16	1,9535 6	0,9768 8	-18,011	0	56,303 3	1,2242 4
1	0,11	9,89246	4,994 34	299.94 3,59	2,0601 2	1,0301 4	-15,1958	0	53,633 7	1,2179 6
1	0,12	10,4172	4,993 69	287.29 6,01	2,1625 7	1,0813 5	-12,7902	0	51,297 8	1,2128 8
1	0,13	10,9189	4,993 03	276.00 0,70	2,2613 4	1,1307 3	-10,7168	0	49,230 6	1,2087 2
1	0,14	11,4004	4,992 38	265.82 7,60	2,3568 9	1,1784 9	-8,91351	0	47,385 9	1,2052 9
1	0,15	11,864	4,991 72	256.59 9,28	2,4495 7	1,2248 3	-7,33207	0	45,725 7	1,2024 4
1	0,16	12,3124	4,991 07	248.16 5,73	2,5398 1	1,2699 4	-5,93299	0	44,219 4	1,2000 5
1	0,17	12,7463	4,990 42	240.42 6,14	2,6277 3	1,3139	-4,68815	0	42,846	1,1980 3
1	0,18	13,1669	4,989 76	233.28 9,62	2,7135 5	1,3568 1	-3,57349	0	41,587 3	1,1963 1
1	0,19	13,5757	4,989 11	226.67 7,21	2,7975	1,3987 8	-2,56894	0	40,427 4	1,1948 4
1	0,2	13,9733	4,988 47	220.52 9,39	2,8797 1	1,4398 8	-1,65914	0	39,354 6	1,1935 8
1	0,212	14,4374	4,987 69	213.68 8,07	2,9763 2	1,4881 8	-0,673707	0	38,166 9	1,1922 9



1	0,226 4	14,9764	4,986 76	206.15 8,09	3,0886 9	1,5443 7	0,240198	0	36,867 2	1,1916
1	0,243 68	15,6002	4,985 66	197.95 7,45	3,2211 6	1,6106	1,39734	0	35,460 6	1,1901 7
1	0,264 416	16,3198	4,984 34	189.12 2,07	3,3758	1,6879 2	2,60832	0	33,955 4	1,1887 8
1	0,289 299	17,1456	4,982 76	179.72 0,51	3,5558 2	1,7779 3	3,85718	0	32,365 3	1,1874 5
1	0,319 159	18,09	4,980 87	169.83 1,48	3,7651 6	1,8825 9	5,12785	0	30,705 5	1,1862 3
1	0,354 991	19,164	4,978 62	159.56 3,91	4,0081 4	2,0040 8	6,40211	0	28,996	1,1851 3
1	0,397 989	20,3774	4,975 93	149.04 2,32	4,2897 6	2,1448 9	7,66208	0	27,259	1,1841 8
1	0,449 587	21,7426	4,972 72	138.38 4,61	4,6164 5	2,3082 4	8,89298	0	25,514 8	1,1833 9
1	0,511 504	23,2696	4,968 87	127.71 6,95	4,9958 8	2,4979 5	10,0813	0	23,785	1,1827 6
1	0,585 805	24,9694	4,964 23	117.15 4,69	5,4379	2,7189 6	11,2167	0	22,088 9	1,1822 9
1	0,674 966	26,8596	4,958 62	106.78 5,83	5,9558 5	2,9779 4	12,2934	0	20,441 2	1,1819 6
1	0,781 959	28,9622	4,951 77	96.687, 29	6,5669 4	3,2834 9	13,3074	0	18,855 1	1,1817 6
1	0,910 351	31,2931	4,943 3	86.941, 59	7,2918 5	3,6459 4	14,2553	0	17,344 1	1,1816 7
1	1,064 42	33,8603	4,932 7	77.625, 85	8,1551 2	4,0775 8	15,1343	0	15,920 7	1,1816 9
1	1,184 77	35,7226	4,924 05	71.740, 87	8,8158 8	4,4079 6	15,6765	0	15,030 8	1,1817 4
1	1,184 77	35,7226	4,924 05	71.740, 87	8,8158 8	4,4079 6	15,6765	0	15,030 8	1,1817 4
1	1,249 31	36,68	4,919 33	69.321, 42	9,1244 5	4,5622 5	15,897	0	14,654 1	1,1817 7
1	1,471 17	39,815	4,903 35	63.166, 25	10,03	5,0150 3	16,4519	0	13,668	1,1818 6
1	1,641 6	42,094	4,891 46	59.680, 43	10,632 5	5,3162 6	16,7623	0	13,098 8	1,1819 2



1	1,641 6	42,094	4,891 46	59.680, 43	10,632 5	5,3162 6	16,7623	0	13,098 8	1,1819 2
1	1,737 4	43,3361	4,884 9	58.039, 60	10,819 2	5,5527 8	16,9076	0	12,837	1,1819 5
1	2,056 88	47,3219	4,863 4	53.739, 97	11,461 8	6,1902 5	17,2859	0	12,140 3	1,1820 4
1	2,440 26	51,8522	4,837 71	49.995, 50	12,263	6,7370 7	17,6129	0	11,52	1,1821 3
1	2,900 31	57,0149	4,806 06	46.604, 60	13,253 7	7,1977 6	17,9073	0	10,947 2	1,1822 1
1	3,452 37	62,9059	4,766 02	43.465, 21	14,470 4	7,5761	18,1788	0	10,406 3	1,1822 9
1	4,114 84	69,6271	4,714 53	40.534, 69	15,956 7	7,8724 1	18,4318	0	9,8900 4	1,1823 6
1	4,909 81	77,2921	4,647 76	37.778, 52	17,763 7	8,0948 9	18,6699	0	9,3936 6	1,1824 3
1	5,863 77	86,0203	4,560 91	35.185, 18	19,951 8	8,2510 7	18,8949	0	8,9152 4	1,1824 9
1	7,008 53	95,9483	4,448 17	32.744, 31	22,590 7	8,3545 8	19,1085	0	8,4534 9	1,1825 3
1	8,382 23	107,247	4,302 81	30.440, 83	25,758 9	8,4267 5	19,3129	0	8,0073 1	1,1825 7
1	10,03 07	120,088	4,117 1	28.282, 18	29,551 1	8,4788 6	19,5088	0	7,5778 6	1,1825 8
1	12,00 88	134,666	3,882 04	26.268, 71	34,075 2	8,5251	19,6975	0	7,1672 6	1,1825 7
1	14,38 26	151,198	3,588 82	24.272, 97	39,425 2	8,6628 3	20,0219	0	6,7726 2	1,1820 6
1	16,44 51	164,877	3,337 85	22.750, 14	43,837 7	8,8961 8	20,4521	0	6,4981 9	1,1810 3
1	17,23 11	169,936	3,246 43	22.211, 71	45,445 6	9,0051 4	20,6046	0	6,4079 5	1,1806 6
1	20,64 93	191,153	2,883 98	20.089, 19	52,004	9,5563 7	21,2024	0	6,0892 8	1,1792 3
1	24,75 12	215,546	2,508 49	17.938, 44	59,167 4	10,296 4	21,7975	0	5,8206 1	1,1778 4
1	29,67 34	243,645	2,142 17	15.781, 98	66,752 4	11,238 5	22,3725	0	5,6142 1	1,1765 3



1	35,58 01	276,335	1,807 14	13.663, 29	74,530 5	12,399 9	22,9058	0	5,4754 9	1,1753 7
1	39,82 43	299,447	1,625 63	12.391, 11	79,301 6	13,246 1	23,2069	0	5,4247 1	1,1747 5
2	3600	0	5	999.99 9,37	0,3574 67	0,1713	-160,343	0	236,89 1	2,0336 7
2	3600, 01	1,86262	4,999 85	734.70 1,19	0,6244 74	0,3110 08	-108,452	0	152,15 2	1,5696 6
2	3600, 02	3,19488	4,999 53	606.20 0,38	0,8385 77	0,4194 13	-81,5824	0	118,79 3	1,4330 7
2	3600, 03	4,28207	4,999 1	526.91 3,65	1,0225 2	0,5116 23	-64,4434	0	100,17	1,3640 6
2	3600, 04	5,21901	4,998 6	471.69 0,40	1,1864 7	0,5935 91	-52,273	0	87,978 6	1,3213 2
2	3600, 05	6,04991	4,998 06	430.39 1,66	1,3357 6	0,6681 8	-43,089	0	79,247 3	1,2919 9
2	3600, 06	6,8054	4,997 48	397.89 7,68	1,4741 3	0,7373 09	-35,8696	0	72,596 8	1,2705 8
2	3600, 07	7,50225	4,996 88	371.44 7,18	1,6037 4	0,8020 65	-30,0544	0	67,319 7	1,2544
2	3600, 08	8,1522	4,996 26	349.35 3,21	1,7261 4	0,8632 26	-25,2888	0	63,002 3	1,2418 8
2	3600, 09	8,76336	4,995 63	330.52 9,55	1,8424 5	0,9213 49	-21,3324	0	59,387 3	1,2320 6
2	3600, 1	9,34203	4,994 99	314.23 2,16	1,9535 6	0,9768 8	-18,011	0	56,303 3	1,2242 4
2	3600, 11	9,89246	4,994 34	299.94 3,59	2,0601 2	1,0301 4	-15,1958	0	53,633 7	1,2179 6
2	3600, 12	10,4172	4,993 69	287.29 6,01	2,1625 7	1,0813 5	-12,7902	0	51,297	1,2128 8
2	3600, 13	10,9189	4,993 03	276.00 0,70	2,2613 4	1,1307 3	-10,7168	0	49,230 6	1,2087 2
2	3600, 14	11,4004	4,992 38	265.82 7,60	2,3568 9	1,1784 9	-8,91351	0	47,385 9	1,2052 9
2	3600, 15	11,864	4,991 72	256.59 9,28	2,4495 7	1,2248 3	-7,33207	0	45,725 7	1,2024 4
2	3600,	12,3124	4,991	248.16	2,5398	1,2699	-5,93299	0	44,219	1,2000



	16		07	5,73	1	4			4	5
2	3600, 17	12,7463	4,990 42	240.42 6,14	2,6277 3	1,3139	-4,68815	0	42,846	1,1980 3
2	3600, 18	13,1669	4,989 76	233.28 9,62	2,7135 5	1,3568 1	-3,57349	0	41,587 3	1,1963 1
2	3600, 19	13,5757	4,989 11	226.67 7,21	2,7975	1,3987 8	-2,56894	0	40,427 4	1,1948 4
2	3600, 2	13,9733	4,988 47	220.52 9,39	2,8797 1	1,4398 8	-1,65914	0	39,354 6	1,1935 8
2	3600, 21	14,4374	4,987 69	213.68 8,07	2,9763 2	1,4881 8	-0,673707	0	38,166 9	1,1922 9
2	3600, 23	14,9764	4,986 76	206.15 8,09	3,0886 9	1,5443 7	0,240198	0	36,867 2	1,1916
2	3600, 24	15,6002	4,985 66	197.95 7,45	3,2211 6	1,6106	1,39734	0	35,460 6	1,1901 7
2	3600, 26	16,3198	4,984 34	189.12 2,07	3,3758	1,6879 2	2,60832	0	33,955 4	1,1887 8
2	3600, 29	17,1456	4,982 76	179.72 0,51	3,5558 2	1,7779 3	3,85718	0	32,365 3	1,1874 5
2	3600, 32	18,09	4,980 87	169.83 1,48	3,7651 6	1,8825 9	5,12785	0	30,705 5	1,1862 3
2	3600, 35	19,164	4,978 62	159.56 3,91	4,0081 4	2,0040 8	6,40211	0	28,996	1,1851 3
2	3600, 4	20,3774	4,975 93	149.04 2,32	4,2897 6	2,1448 9	7,66208	0	27,259	1,1841 8
2	3600, 45	21,7426	4,972 72	138.38 4,61	4,6164 5	2,3082 4	8,89298	0	25,514 8	1,1833 9
2	3600, 51	23,2696	4,968 87	127.71 6,95	4,9958 8	2,4979 5	10,0813	0	23,785	1,1827 6
2	3600, 59	24,9694	4,964 23	117.15 4,69	5,4379	2,7189 6	11,2167	0	22,088 9	1,1822 9
2	3600, 67	26,8596	4,958 62	106.78 5,83	5,9558 5	2,9779 4	12,2934	0	20,441 2	1,1819 6
2	3600, 78	28,9622	4,951 77	96.687, 29	6,5669 4	3,2834 9	13,3074	0	18,855 1	1,1817 6
2	3600, 91	31,2931	4,943 3	86.941, 59	7,2918 5	3,6459 4	14,2553	0	17,344 1	1,1816 7
2	3601,	33,8603	4,932	77.625,	8,1551	4,0775	15,1343	0	15,920	1,1816



	06		7	85	2	8			7	9
2	3601, 18	35,7226	4,924 05	71.740, 87	8,8158 8	4,4079 6	15,6765	0	15,030 8	1,1817 4
2	3601, 18	35,7226	4,924 05	71.740, 87	8,8158 8	4,4079 6	15,6765	0	15,030 8	1,1817 4
2	3601, 25	36,68	4,919 33	69.321, 42	9,1244 5	4,5622 5	15,897	0	14,654 1	1,1817 7
2	3601, 47	39,815	4,903 35	63.166, 25	10,03	5,0150 3	16,4519	0	13,668	1,1818 6
2	3601, 64	42,094	4,891 46	59.680, 43	10,632 5	5,3162 6	16,7623	0	13,098 8	1,1819 2
2	3601, 64	42,094	4,891 46	59.680, 43	10,632 5	5,3162 6	16,7623	0	13,098 8	1,1819 2
2	3601, 74	43,3361	4,884 9	58.039, 60	10,819 2	5,5527 8	16,9076	0	12,837	1,1819 5
2	3602, 06	47,3219	4,863 4	53.739, 97	11,461 8	6,1902 5	17,2859	0	12,140 3	1,1820 4
2	3602, 44	51,8522	4,837 71	49.995, 50	12,263	6,7370 7	17,6129	0	11,52	1,1821 3
2	3602, 9	57,0149	4,806 06	46.604, 60	13,253 7	7,1977 6	17,9073	0	10,947 2	1,1822 1
2	3603, 45	62,9059	4,766 02	43.465, 21	14,470 4	7,5761	18,1788	0	10,406 3	1,1822 9
2	3604, 11	69,6271	4,714 53	40.534, 69	15,956 7	7,8724 1	18,4318	0	9,8900 4	1,1823 6
2	3604, 91	77,2921	4,647 76	37.778, 52	17,763 7	8,0948 9	18,6699	0	9,3936 6	1,1824 3
2	3605, 86	86,0203	4,560 91	35.185, 18	19,951 8	8,2510 7	18,8949	0	8,9152 4	1,1824 9
2	3607, 01	95,9483	4,448 17	32.744, 31	22,590 7	8,3545 8	19,1085	0	8,4534 9	1,1825 3
2	3608, 38	107,247	4,302 81	30.440, 83	25,758 9	8,4267 5	19,3129	0	8,0073 1	1,1825 7
2	3610, 03	120,088	4,117 1	28.282, 18	29,551 1	8,4788 6	19,5088	0	7,5778 6	1,1825 8
2	3612, 01	134,666	3,882 04	26.268, 71	34,075 2	8,5251	19,6975	0	7,1672 6	1,1825 7
2	3614, 01	151,198	3,588	24.272,	39,425	8,6628	20,0219	0	6,7726	1,1820



	38		82	97	2	3			2	6
2	3616,45	164,877	3,33785	22.750,14	43,8377	8,89618	20,4521	0	6,49819	1,18103
2	3617,23	169,936	3,24643	22.211,71	45,4456	9,00514	20,6046	0	6,40795	1,18066
2	3620,65	191,153	2,88398	20.089,19	52,004	9,55637	21,2024	0	6,08928	1,17923
2	3624,75	215,546	2,50849	17.938,44	59,1674	10,2964	21,7975	0	5,82061	1,17784
2	3629,67	243,645	2,14217	15.781,98	66,7524	11,2385	22,3725	0	5,61421	1,17653
2	3635,58	276,335	1,80714	13.663,29	74,5305	12,3999	22,9058	0	5,47549	1,17537
2	3639,82	299,447	1,62563	12.391,11	79,3016	13,2461	23,2069	0	5,42471	1,17475

