

Dispersion Report

Workspace: 72341-2FSRURegas

Study: FSRU in rigassificazione

Equipment Item: 8R Linee mandata pompe HP Booster

72341-2FSRURegas\FSRU in rigassificazione\8R Linee mandata pompe HP Booster

| Material | GAS NATURALE | |
|----------|--------------|---|
| East | 0 | m |
| North | 0 | m |

Scenario (Leak) : 40mm

72341-2FSRURegas\FSRU in rigassificazione\8R Linee mandata pompe HP Booster\40mm

| Material to track | GAS NATURALE |
|-------------------|--------------|
|-------------------|--------------|

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 | 80,4406 | 0 | 80,4406 |
| 2 | Continuous | 10,4687 | 0 | kg/s | 80,4406 | 0 | 80,4406 |

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] | Downwind distance [m] | C/Line height [m] | C/Line concentration [ppm] | Effective width [m] | Effective depth [m] | C/Line vapour temperature [degC] | C/Line liquid fraction | C/Line liquid temperature [degC] | Centroid velocity [m/s] | C/Line cloud density [kg/m3] |
|-----------------|----------------|-----------------------|-------------------|----------------------------|---------------------|---------------------|----------------------------------|------------------------|----------------------------------|-------------------------|------------------------------|
| 1 | 0 | 0 | 5 | 999.9 99,41 | 0,101 731 | 0,045 6076 | - 160,963 | 0,9508 43 | - 160,963 | 241,9 34 | 35,83 1 |
| 1 | 0,0013 7937 | 0,3304 71 | 4,99 999 | 988.0 69,85 | 0,129 794 | 0,058 1714 | - 162,839 | 0,9298 45 | - 162,839 | 237,1 23 | 22,92 34 |
| 1 | 0,0013 7937 | 0,3304 71 | 4,99 999 | 988.0 69,85 | 0,129 794 | 0,058 1713 | - 162,839 | 0,9298 45 | - 162,839 | 237,1 23 | 22,92 35 |
| 1 | 0,01 | 2,2073 | 4,99 959 | 882.6 91,22 | 0,314 029 | 0,140 884 | - 115,913 | 0,8449 53 | - 170,784 | 197,8 14 | 5,628 07 |
| 1 | 0,02 | 3,9913 1 | 4,99 855 | 770.2 72,16 | 0,476 222 | 0,215 332 | - 111,786 | 0,7656 8 | - 172,488 | 161,3 21 | 3,656 91 |
| 1 | 0,03 | 5,474 | 4,99 707 | 685.4 88,69 | 0,617 142 | 0,281 87 | - 111,977 | 0,6901 45 | - 173,078 | 136,8 76 | 2,999 2 |
| 1 | 0,04 | 6,7535 | 4,99 524 | 621.4 12,09 | 0,742 328 | 0,342 235 | - 113,125 | 0,6178 66 | - 173,341 | 119,9 06 | 2,679 95 |
| 1 | 0,05 | 7,8900 8 | 4,99 31 | 571.4 67,02 | 0,856 066 | 0,397 831 | -114,28 | 0,5492 36 | - 173,482 | 107,4 82 | 2,491 41 |
| 1 | 0,06 | 8,9177 2 | 4,99 068 | 531.3 70,02 | 0,961 223 | 0,449 702 | - 115,144 | 0,4846 42 | - 173,571 | 97,97 62 | 2,365 32 |
| 1 | 0,07 | 9,8596 3 | 4,98 798 | 498.3 63,94 | 1,059 68 | 0,498 582 | - 115,694 | 0,4240 68 | -173,64 | 90,44 46 | 2,273 68 |
| 1 | 0,08 | 10,731 7 | 4,98 501 | 470.6 31,80 | 1,152 71 | 0,545 | - 115,964 | 0,3673 58 | - 173,697 | 84,31 07 | 2,203 03 |
| 1 | 0,09 | 11,547 3 | 4,98 18 | 446.9 20,38 | 1,241 43 | 0,589 471 | - 115,928 | 0,3146 39 | - 173,749 | 79,20 08 | 2,145 5 |
| 1 | 0,1 | 12,315 | 4,97 | 426.3 | 1,326 | 0,632 | - | 0,2660 | - | 74,86 | 2,096 |

| | | | | | | | | | | | |
|---|--------|--------|------|-------|-------|-------|---------|--------|---------|-------|-------|
| | | 6 | 833 | 36,00 | 81 | 468 | 115,556 | 88 | 173,805 | 18 | 32 |
| 1 | 0,11 | 13,045 | 4,97 | 408.2 | 1,409 | 0,674 | - | 0,2206 | - | 71,11 | 2,054 |
| | | 5 | 463 | 12,89 | 27 | 134 | 115,035 | 08 | 173,862 | 41 | 04 |
| 1 | 0,12 | 13,740 | 4,97 | 392.1 | 1,489 | 0,714 | - | 0,1781 | - | 67,84 | 2,016 |
| | | 4 | 071 | 20,11 | 16 | 623 | 114,369 | 74 | 173,918 | 15 | 84 |
| 1 | 0,13 | 14,405 | 4,96 | 377.6 | 1,566 | 0,754 | - | 0,1389 | - | 64,95 | 1,983 |
| | | | 656 | 99,00 | 96 | 189 | 113,529 | 18 | 173,976 | 21 | 18 |
| 1 | 0,14 | 15,042 | 4,96 | 364.6 | 1,643 | 0,793 | - | 0,1030 | - | 62,37 | 1,951 |
| | | 2 | 219 | 81,86 | 05 | 034 | 112,485 | 58 | 174,037 | 82 | 96 |
| 1 | 0,15 | 15,654 | 4,95 | 352.8 | 1,717 | 0,831 | - | 0,0709 | - | 60,06 | 1,922 |
| | | 5 | 761 | 54,35 | 83 | 376 | 111,197 | 338 | 174,102 | 71 | 24 |
| 1 | 0,16 | 16,244 | 4,95 | 342.0 | 1,791 | 0,869 | - | 0,0431 | - | 57,97 | 1,893 |
| | | 9 | 282 | 35,49 | 8 | 501 | 109,594 | 117 | 174,174 | 59 | 11 |
| 1 | 0,17 | 16,814 | 4,94 | 332.0 | 1,865 | 0,907 | -107,6 | 0,0203 | - | 56,07 | 1,863 |
| | | 7 | 783 | 90,19 | 4 | 663 | | 25 | 174,256 | 23 | 8 |
| 1 | 0,18 | 17,366 | 4,94 | 322.8 | 1,939 | 0,946 | - | 0,0042 | - | 54,32 | 1,832 |
| | | 5 | 265 | 90,95 | 48 | 392 | 105,015 | 6931 | 174,334 | 73 | 95 |
| 1 | 0,1820 | 17,477 | 4,94 | 321.0 | 1,954 | 0,954 | - | 0,0020 | - | 53,98 | 1,826 |
| | 58 | 9 | 156 | 81,23 | 91 | 507 | 104,376 | 9271 | 174,361 | 57 | 22 |
| 1 | 0,1820 | 17,477 | 4,94 | 321.0 | 1,954 | 0,954 | - | 0 | | 53,98 | 1,827 |
| | 58 | 9 | 156 | 81,23 | 21 | 028 | 104,632 | | | 57 | 79 |
| 1 | 0,19 | 17,901 | 4,93 | 314.3 | 2,016 | 0,986 | -101,25 | 0 | | 52,71 | 1,797 |
| | | 6 | 728 | 37,09 | | 933 | | | | 81 | 18 |
| 1 | 0,2 | 18,421 | 4,93 | 306.3 | 2,092 | 1,027 | - | 0 | | 51,22 | 1,762 |
| | | 4 | 173 | 42,31 | 71 | 65 | 97,2322 | | | 57 | 38 |
| 1 | 0,212 | 19,026 | 4,92 | 297.4 | 2,183 | 1,075 | - | 0 | | 49,57 | 1,725 |
| | | 8 | 486 | 09,35 | 26 | 5 | 92,7311 | | | 12 | 27 |
| 1 | 0,2264 | 19,73 | 4,91 | 287.5 | 2,289 | 1,131 | - | 0 | | 47,75 | 1,686 |
| | | | 634 | 31,38 | 92 | 55 | 87,7396 | | | 75 | 26 |
| 1 | 0,2436 | 20,541 | 4,90 | 276.7 | 2,415 | 1,196 | - | 0 | | 45,79 | 1,645 |
| | 8 | 4 | 573 | 43,50 | 12 | 92 | 82,2717 | | | 54 | 91 |
| 1 | 0,2644 | 21,474 | 4,89 | 265.1 | 2,561 | 1,272 | - | 0 | | 43,70 | 1,604 |
| | 16 | | 249 | 05,55 | 66 | 88 | 76,3543 | | | 02 | 79 |
| 1 | 0,2892 | 22,537 | 4,87 | 252.7 | 2,732 | 1,360 | - | 0 | | 41,49 | 1,563 |
| | 99 | 5 | 593 | 28,64 | 37 | 69 | 70,0411 | | | 61 | 6 |
| 1 | 0,3191 | 23,746 | 4,85 | 239.7 | 2,930 | 1,461 | - | 0 | | 39,20 | 1,522 |
| | 59 | | 518 | 39,85 | 47 | 83 | 63,3961 | | | 91 | 94 |
| 1 | 0,3549 | 25,111 | 4,82 | 226.2 | 3,159 | 1,577 | - | 0 | | 36,87 | 1,483 |

| | | | | | | | | | | | |
|---|--------------|-------------|-------------|----------------|-------------|-------------|--------------|---|--|-------------|-------------|
| | 91 | 3 | 919 | 99,36 | 25 | 87 | 56,5045 | | | 03 | 43 |
| 1 | 0,3979 89 | 26,643 9 | 4,79 658 | 212.5 86,23 | 3,422 07 | 1,710 43 | - 49,4692 | 0 | | 34,51 22 | 1,445 64 |
| 1 | 0,4495 87 | 28,357 3 | 4,75 575 | 198.7 77,82 | 3,722 64 | 1,861 38 | - 42,4061 | 0 | | 32,16 58 | 1,410 06 |
| 1 | 0,5115 04 | 30,272 6 | 4,70 474 | 185.0 46,08 | 4,065 1 | 2,032 87 | - 35,4493 | 0 | | 29,85 97 | 1,377 14 |
| 1 | 0,5858 05 | 32,411 4 | 4,64 124 | 171.5 88,43 | 4,453 43 | 2,226 97 | - 28,7698 | 0 | | 27,62 55 | 1,347 4 |
| 1 | 0,6749 66 | 34,786 8 | 4,56 227 | 158.5 87,29 | 4,892 64 | 2,446 31 | - 22,5453 | 0 | | 25,49 13 | 1,321 26 |
| 1 | 0,7819 59 | 37,407 8 | 4,46 417 | 146.1 48,36 | 5,391 75 | 2,695 49 | - 16,9057 | 0 | | 23,47 22 | 1,298 89 |
| 1 | 0,9103 51 | 40,298 | 4,34 253 | 134.3 29,35 | 5,965 01 | 2,981 69 | - 11,9207 | 0 | | 21,57 51 | 1,280 18 |
| 1 | 1,0644 2 | 43,489 3 | 4,19 203 | 123.1 78,20 | 6,631 03 | 3,314 25 | - 7,60414 | 0 | | 19,80 63 | 1,264 82 |
| 1 | 1,2114 4 | 46,307 2 | 4,04 459 | 114.7 17,64 | 7,250 28 | 3,623 52 | - 4,59309 | 0 | | 18,47 71 | 1,254 59 |
| 1 | 1,2114 4 | 46,307 2 | 4,04 459 | 114.7 17,64 | 7,250 28 | 3,623 52 | - 4,59309 | 0 | | 18,47 71 | 1,254 59 |
| 1 | 1,2493 1 | 47,000 2 | 4,00 668 | 112.8 77,19 | 7,431 34 | 3,681 6 | - 3,96821 | 0 | | 18,18 31 | 1,252 53 |
| 1 | 1,4711 7 | 50,862 2 | 3,80 685 | 104.0 46,01 | 8,469 3 | 3,974 76 | - 1,11564 | 0 | | 16,74 87 | 1,243 33 |
| 1 | 1,7374 1 | 55,137 1 | 3,62 167 | 96.17 6,92 | 9,675 76 | 4,252 39 | 1,10741 | 0 | | 15,45 58 | 1,236 67 |
| 1 | 2,0568 8 | 59,877 2 | 3,45 576 | 89.00 7,57 | 11,07 8 | 4,524 43 | 3,19997 | 0 | | 14,27 43 | 1,230 36 |
| 1 | 2,4402 6 | 65,131 5 | 3,30 504 | 82.41 2,44 | 12,70 49 | 4,789 73 | 5,02479 | 0 | | 13,18 75 | 1,225 01 |
| 1 | 2,9003 1 | 70,953 8 | 3,16 032 | 76.30 2,12 | 14,59 47 | 5,054 39 | 6,63416 | 0 | | 12,18 28 | 1,220 44 |
| 1 | 3,4523 7 | 77,408 1 | 3,00 97 | 70.60 8,59 | 16,79 33 | 5,329 02 | 8,0668 | 0 | | 11,25 09 | 1,216 47 |
| 1 | 4,1148 4 | 84,560 4 | 2,84 251 | 65.29 3,05 | 19,35 48 | 5,622 95 | 9,34871 | 0 | | 10,38 62 | 1,213 02 |
| 1 | 4,9098 | 92,482 | 2,64 | 60.33 | 22,34 | 5,944 | 10,4991 | 0 | | 9,585 | 1,21 |

| | | | | | | | | | | | | |
|---|--------|--------|------|-------|-------|-------|---------|---|--|--|-------|-------|
| | 1 | 8 | 882 | 0,32 | 33 | 69 | | | | | 17 | |
| 1 | 5,8637 | 101,25 | 2,41 | 55.70 | 25,83 | 6,302 | 11,533 | 0 | | | 8,845 | 1,207 |
| | 7 | 3 | 861 | 2,49 | 4 | 35 | | | | | 24 | 36 |
| 1 | 7,0085 | 110,96 | 2,14 | 51.39 | 29,91 | 6,705 | 12,4632 | 0 | | | 8,163 | 1,205 |
| | 3 | 6 | 031 | 1,00 | 6 | 79 | | | | | 9 | 05 |
| 1 | 8,3822 | 121,72 | 1,80 | 47.38 | 34,69 | 7,164 | 13,2994 | 0 | | | 7,539 | 1,203 |
| | 3 | | 102 | 2,84 | 35 | 5 | | | | | 43 | 03 |
| 1 | 10,030 | 133,62 | 1,38 | 43.66 | 40,28 | 7,688 | 14,0485 | 0 | | | 6,970 | 1,201 |
| | 7 | 3 | 505 | 6,90 | 7 | 97 | | | | | 49 | 28 |
| 1 | 12,008 | 146,83 | 0,87 | 40.21 | 46,84 | 8,296 | 14,7166 | 0 | | | 6,453 | 1,199 |
| | 8 | 9 | 2623 | 7,73 | 25 | 44 | | | | | 92 | 79 |
| 1 | 14,382 | 161,54 | 0,23 | 37.01 | 54,52 | 9,004 | 15,2918 | 0 | | | 5,987 | 1,198 |
| | 6 | 7 | 9707 | 6,71 | 85 | 86 | | | | | 44 | 63 |
| 1 | 15,227 | 166,53 | 0,01 | 36.05 | 57,22 | 9,255 | 15,4347 | 0 | | | 5,848 | 1,198 |
| | 4 | 5 | | 1,35 | 38 | 42 | | | | | 61 | 42 |
| 1 | 15,227 | 166,53 | 0 | 36.05 | 57,22 | 9,269 | 15,4316 | 0 | | | 5,845 | 1,198 |
| | 4 | 5 | | 1,40 | 38 | 76 | | | | | 81 | 44 |
| 1 | 17,231 | 177,88 | 0 | 34.23 | 63,53 | 9,276 | 15,7841 | 0 | | | 5,548 | 1,197 |
| | 1 | | | 4,33 | 38 | 41 | | | | | 75 | 6 |
| 1 | 20,649 | 196,10 | 0 | 31.62 | 74,11 | 9,330 | 16,284 | 0 | | | 5,130 | 1,196 |
| | 3 | 2 | | 2,26 | 45 | 61 | | | | | 15 | 43 |
| 1 | 24,751 | 216,33 | 0 | 29.09 | 86,56 | 9,422 | 16,7599 | 0 | | | 4,735 | 1,195 |
| | 2 | 4 | | 8,71 | 41 | 89 | | | | | 84 | 32 |
| 1 | 29,673 | 238,78 | 0 | 26.68 | 101,2 | 9,541 | 17,209 | 0 | | | 4,368 | 1,194 |
| | 4 | 1 | | 6,69 | 41 | 56 | | | | | 5 | 28 |
| 1 | 35,580 | 263,64 | 0 | 24.40 | 118,5 | 9,675 | 17,6293 | 0 | | | 4,029 | 1,193 |
| | 1 | 6 | | 4,69 | 62 | 13 | | | | | 84 | 32 |
| 1 | 37,032 | 269,46 | 0 | 23.92 | 122,7 | 9,705 | 17,7178 | 0 | | | 3,959 | 1,193 |
| | 2 | 3 | | 1,22 | 78 | 19 | | | | | 26 | 11 |
| 1 | 42,668 | 290,94 | 0 | 22.27 | 138,9 | 9,805 | 18,0184 | 0 | | | 3,722 | 1,192 |
| | 1 | 4 | | 5,97 | 84 | 55 | | | | | 16 | 42 |
| 1 | 51,173 | 321,34 | 0 | 20.28 | 163,1 | 9,938 | 18,3805 | 0 | | | 3,441 | 1,191 |
| | 7 | | | 3,78 | 37 | 29 | | | | | 24 | 59 |
| 1 | 61,380 | 355,17 | 0 | 18.43 | 191,7 | 10,06 | 18,7156 | 0 | | | 3,186 | 1,190 |
| | 5 | 6 | | 7,31 | 01 | 19 | | | | | 68 | 82 |
| 1 | 73,628 | 392,8 | 0 | 16.74 | 225,4 | 10,16 | 19,0247 | 0 | | | 2,957 | 1,190 |
| | 6 | | | 0,57 | 58 | 59 | | | | | 5 | 1 |
| 1 | 88,326 | 434,68 | 0 | 15.19 | 265,3 | 10,24 | 19,3098 | 0 | | | 2,751 | 1,189 |

| | | | | | | | | | | | |
|---|---------|----------|---------|------------|----------|-----------|----------|----------|----------|---------|---------|
| | 3 | 1 | | 1,57 | 21 | 34 | | | | 77 | 42 |
| 1 | 105,964 | 481,489 | 0 | 13.784,13 | 312,283 | 10,291 | 19,5736 | 0 | | 2,5671 | 1,18878 |
| 1 | 127,128 | 534,129 | 0 | 12.511,69 | 366,836 | 10,3033 | 19,8191 | 0 | | 2,40168 | 1,18816 |
| 1 | 152,526 | 593,365 | 0 | 11.371,43 | 430,061 | 10,279 | 20,0489 | 0 | | 2,25241 | 1,18756 |
| 1 | 183,003 | 660,189 | 0 | 10.358,60 | 502,03 | 10,2426 | 20,6637 | 0 | | 2,12167 | 1,18553 |
| 1 | 194,265 | 683,906 | 0 | 10.053,78 | 527,274 | 10,2323 | 20,8777 | 0 | | 2,08281 | 1,18481 |
| | | | | | | | | | | | |
| 2 | 10,4687 | 0 | 5 | 999.999,41 | 0,101731 | 0,0456076 | -160,963 | 0,950843 | -160,963 | 241,934 | 35,831 |
| 2 | 10,4701 | 0,330471 | 4,99999 | 988.069,85 | 0,129794 | 0,0581714 | -162,839 | 0,929845 | -162,839 | 237,123 | 22,9234 |
| 2 | 10,4701 | 0,330471 | 4,99999 | 988.069,85 | 0,129794 | 0,0581713 | -162,839 | 0,929845 | -162,839 | 237,123 | 22,9235 |
| 2 | 10,4787 | 2,2073 | 4,99959 | 882.691,22 | 0,314029 | 0,140884 | -115,913 | 0,844953 | -170,784 | 197,814 | 5,62807 |
| 2 | 10,4887 | 3,99131 | 4,99855 | 770.272,16 | 0,476222 | 0,215332 | -111,786 | 0,76568 | -172,488 | 161,321 | 3,65691 |
| 2 | 10,4987 | 5,474 | 4,99707 | 685.488,69 | 0,617142 | 0,28187 | -111,977 | 0,690145 | -173,078 | 136,876 | 2,9992 |
| 2 | 10,5087 | 6,7535 | 4,99524 | 621.412,09 | 0,742328 | 0,342235 | -113,125 | 0,617866 | -173,341 | 119,906 | 2,67995 |
| 2 | 10,5187 | 7,89008 | 4,9931 | 571.467,02 | 0,856066 | 0,397831 | -114,28 | 0,549236 | -173,482 | 107,482 | 2,49141 |
| 2 | 10,5287 | 8,91772 | 4,99068 | 531.370,02 | 0,961223 | 0,449702 | -115,144 | 0,484642 | -173,571 | 97,9762 | 2,36532 |
| 2 | 10,5387 | 9,85963 | 4,98798 | 498.363,94 | 1,05968 | 0,498582 | -115,694 | 0,424068 | -173,64 | 90,4446 | 2,27368 |
| 2 | 10,5487 | 10,7317 | 4,98501 | 470.631,80 | 1,15271 | 0,545 | -115,964 | 0,367358 | -173,697 | 84,3107 | 2,20303 |
| 2 | 10,5587 | 11,5473 | 4,9818 | 446.920,38 | 1,24143 | 0,589471 | -115,928 | 0,314639 | -173,749 | 79,2008 | 2,1455 |
| 2 | 10,5687 | 12,3156 | 4,97833 | 426.336,00 | 1,32681 | 0,632468 | -115,556 | 0,266088 | -173,805 | 74,8618 | 2,09632 |

| | | | | | | | | | | | |
|---|-------------|-------------|-------------|----------------|-------------|--------------|--------------|----------------|--------------|-------------|-------------|
| 2 | 10,578 7 | 13,045 5 | 4,97 463 | 408.2 12,89 | 1,409 27 | 0,674 134 | - 115,035 | 0,2206 08 | - 173,862 | 71,11 41 | 2,054 04 |
| 2 | 10,588 7 | 13,740 4 | 4,97 071 | 392.1 20,11 | 1,489 16 | 0,714 623 | - 114,369 | 0,1781 74 | - 173,918 | 67,84 15 | 2,016 84 |
| 2 | 10,598 7 | 14,405 | 4,96 656 | 377.6 99,00 | 1,566 96 | 0,754 189 | - 113,529 | 0,1389 18 | - 173,976 | 64,95 21 | 1,983 18 |
| 2 | 10,608 7 | 15,042 2 | 4,96 219 | 364.6 81,86 | 1,643 05 | 0,793 034 | - 112,485 | 0,1030 58 | - 174,037 | 62,37 82 | 1,951 96 |
| 2 | 10,618 7 | 15,654 5 | 4,95 761 | 352.8 54,35 | 1,717 83 | 0,831 376 | - 111,197 | 0,0709 338 | - 174,102 | 60,06 71 | 1,922 24 |
| 2 | 10,628 7 | 16,244 9 | 4,95 282 | 342.0 35,49 | 1,791 8 | 0,869 501 | - 109,594 | 0,0431 117 | - 174,174 | 57,97 59 | 1,893 11 |
| 2 | 10,638 7 | 16,814 7 | 4,94 783 | 332.0 90,19 | 1,865 4 | 0,907 663 | -107,6 | 0,0203 25 | - 174,256 | 56,07 23 | 1,863 8 |
| 2 | 10,648 7 | 17,366 5 | 4,94 265 | 322.8 90,95 | 1,939 48 | 0,946 392 | - 105,015 | 0,0042 6931 | - 174,334 | 54,32 73 | 1,832 95 |
| 2 | 10,650 8 | 17,477 9 | 4,94 156 | 321.0 81,23 | 1,954 91 | 0,954 507 | - 104,376 | 0,0020 9271 | - 174,361 | 53,98 57 | 1,826 22 |
| 2 | 10,650 8 | 17,477 9 | 4,94 156 | 321.0 81,23 | 1,954 21 | 0,954 028 | - 104,632 | 0 | | 53,98 57 | 1,827 79 |
| 2 | 10,658 7 | 17,901 6 | 4,93 728 | 314.3 37,09 | 2,016 | 0,986 933 | -101,25 | 0 | | 52,71 81 | 1,797 18 |
| 2 | 10,668 7 | 18,421 4 | 4,93 173 | 306.3 42,31 | 2,092 71 | 1,027 65 | - 97,2322 | 0 | | 51,22 57 | 1,762 38 |
| 2 | 10,680 7 | 19,026 8 | 4,92 486 | 297.4 09,35 | 2,183 26 | 1,075 5 | - 92,7311 | 0 | | 49,57 12 | 1,725 27 |
| 2 | 10,695 1 | 19,73 | 4,91 634 | 287.5 31,38 | 2,289 92 | 1,131 55 | - 87,7396 | 0 | | 47,75 75 | 1,686 26 |
| 2 | 10,712 4 | 20,541 4 | 4,90 573 | 276.7 43,50 | 2,415 12 | 1,196 92 | - 82,2717 | 0 | | 45,79 54 | 1,645 91 |
| 2 | 10,733 1 | 21,474 | 4,89 249 | 265.1 05,55 | 2,561 66 | 1,272 88 | - 76,3543 | 0 | | 43,70 02 | 1,604 79 |
| 2 | 10,758 | 22,537 5 | 4,87 593 | 252.7 28,64 | 2,732 37 | 1,360 69 | - 70,0411 | 0 | | 41,49 61 | 1,563 6 |
| 2 | 10,787 9 | 23,746 | 4,85 518 | 239.7 39,85 | 2,930 47 | 1,461 83 | - 63,3961 | 0 | | 39,20 91 | 1,522 94 |
| 2 | 10,823 7 | 25,111 3 | 4,82 919 | 226.2 99,36 | 3,159 25 | 1,577 87 | - 56,5045 | 0 | | 36,87 03 | 1,483 43 |

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|---|-------------|-------------|-------------|----------------|-------------|-------------|--------------|---|--|-------------|-------------|
| 2 | 10,866 7 | 26,643 9 | 4,79 658 | 212.5 86,23 | 3,422 07 | 1,710 43 | - 49,4692 | 0 | | 34,51 22 | 1,445 64 |
| 2 | 10,918 3 | 28,357 3 | 4,75 575 | 198.7 77,82 | 3,722 64 | 1,861 38 | - 42,4061 | 0 | | 32,16 58 | 1,410 06 |
| 2 | 10,980 2 | 30,272 6 | 4,70 474 | 185.0 46,08 | 4,065 1 | 2,032 87 | - 35,4493 | 0 | | 29,85 97 | 1,377 14 |
| 2 | 11,054 5 | 32,411 4 | 4,64 124 | 171.5 88,43 | 4,453 43 | 2,226 97 | - 28,7698 | 0 | | 27,62 55 | 1,347 4 |
| 2 | 11,143 7 | 34,786 8 | 4,56 227 | 158.5 87,29 | 4,892 64 | 2,446 31 | - 22,5453 | 0 | | 25,49 13 | 1,321 26 |
| 2 | 11,250 7 | 37,407 8 | 4,46 417 | 146.1 48,36 | 5,391 75 | 2,695 49 | - 16,9057 | 0 | | 23,47 22 | 1,298 89 |
| 2 | 11,379 | 40,298 | 4,34 253 | 134.3 29,35 | 5,965 01 | 2,981 69 | - 11,9207 | 0 | | 21,57 51 | 1,280 18 |
| 2 | 11,533 1 | 43,489 3 | 4,19 203 | 123.1 78,20 | 6,631 03 | 3,314 25 | - 7,60414 | 0 | | 19,80 63 | 1,264 82 |
| 2 | 11,680 1 | 46,307 2 | 4,04 459 | 114.7 17,64 | 7,250 28 | 3,623 52 | - 4,59309 | 0 | | 18,47 71 | 1,254 59 |
| 2 | 11,680 1 | 46,307 2 | 4,04 459 | 114.7 17,64 | 7,250 28 | 3,623 52 | - 4,59309 | 0 | | 18,47 71 | 1,254 59 |
| 2 | 11,718 | 47,000 2 | 4,00 668 | 112.8 77,19 | 7,431 34 | 3,681 6 | - 3,96821 | 0 | | 18,18 31 | 1,252 53 |
| 2 | 11,939 9 | 50,862 2 | 3,80 685 | 104.0 46,01 | 8,469 3 | 3,974 76 | - 1,11564 | 0 | | 16,74 87 | 1,243 33 |
| 2 | 12,206 1 | 55,137 1 | 3,62 167 | 96.17 6,92 | 9,675 76 | 4,252 39 | 1,10741 | 0 | | 15,45 58 | 1,236 67 |
| 2 | 12,525 6 | 59,877 2 | 3,45 576 | 89.00 7,57 | 11,07 8 | 4,524 43 | 3,19997 | 0 | | 14,27 43 | 1,230 36 |
| 2 | 12,909 | 65,131 5 | 3,30 504 | 82.41 2,44 | 12,70 49 | 4,789 73 | 5,02479 | 0 | | 13,18 75 | 1,225 01 |
| 2 | 13,369 | 70,953 8 | 3,16 032 | 76.30 2,12 | 14,59 47 | 5,054 39 | 6,63416 | 0 | | 12,18 28 | 1,220 44 |
| 2 | 13,921 1 | 77,408 1 | 3,00 97 | 70.60 8,59 | 16,79 33 | 5,329 02 | 8,0668 | 0 | | 11,25 09 | 1,216 47 |
| 2 | 14,583 5 | 84,560 4 | 2,84 251 | 65.29 3,05 | 19,35 48 | 5,622 95 | 9,34871 | 0 | | 10,38 62 | 1,213 02 |
| 2 | 15,378 5 | 92,482 8 | 2,64 882 | 60.33 0,32 | 22,34 33 | 5,944 69 | 10,4991 | 0 | | 9,585 17 | 1,21 |

| | | | | | | | | | | | |
|---|-------------|-------------|--------------|---------------|-------------|-------------|---------|---|--|-------------|-------------|
| 2 | 16,332 5 | 101,25 3 | 2,41 861 | 55.70 2,49 | 25,83 4 | 6,302 35 | 11,533 | 0 | | 8,845 24 | 1,207 36 |
| 2 | 17,477 2 | 110,96 6 | 2,14 031 | 51.39 1,00 | 29,91 6 | 6,705 79 | 12,4632 | 0 | | 8,163 9 | 1,205 05 |
| 2 | 18,850 9 | 121,72 | 1,80 102 | 47.38 2,84 | 34,69 35 | 7,164 5 | 13,2994 | 0 | | 7,539 43 | 1,203 03 |
| 2 | 20,499 4 | 133,62 3 | 1,38 505 | 43.66 6,90 | 40,28 7 | 7,688 97 | 14,0485 | 0 | | 6,970 49 | 1,201 28 |
| 2 | 22,477 5 | 146,83 9 | 0,87 2623 | 40.21 7,73 | 46,84 25 | 8,296 44 | 14,7166 | 0 | | 6,453 92 | 1,199 79 |
| 2 | 24,851 3 | 161,54 7 | 0,23 9707 | 37.01 6,71 | 54,52 85 | 9,004 86 | 15,2918 | 0 | | 5,987 44 | 1,198 63 |
| 2 | 25,696 | 166,53 5 | 0,01 | 36.05 1,35 | 57,22 38 | 9,255 42 | 15,4347 | 0 | | 5,848 61 | 1,198 42 |
| 2 | 25,696 | 166,53 5 | 0 | 36.05 1,40 | 57,22 38 | 9,269 76 | 15,4316 | 0 | | 5,845 81 | 1,198 44 |
| 2 | 27,699 8 | 177,88 | 0 | 34.23 4,33 | 63,53 38 | 9,276 41 | 15,7841 | 0 | | 5,548 75 | 1,197 6 |
| 2 | 31,118 2 | 196,10 | 0 | 31.62 2,26 | 74,11 45 | 9,330 61 | 16,284 | 0 | | 5,130 15 | 1,196 43 |
| 2 | 35,219 9 | 216,33 4 | 0 | 29.09 8,71 | 86,56 41 | 9,422 89 | 16,7599 | 0 | | 4,735 84 | 1,195 32 |
| 2 | 40,142 1 | 238,78 1 | 0 | 26.68 6,69 | 101,2 41 | 9,541 56 | 17,209 | 0 | | 4,368 5 | 1,194 28 |
| 2 | 46,048 8 | 263,64 6 | 0 | 24.40 4,69 | 118,5 62 | 9,675 13 | 17,6293 | 0 | | 4,029 84 | 1,193 32 |
| 2 | 47,500 9 | 269,46 3 | 0 | 23.92 1,22 | 122,7 78 | 9,705 19 | 17,7178 | 0 | | 3,959 26 | 1,193 11 |
| 2 | 53,136 8 | 290,94 4 | 0 | 22.27 5,97 | 138,9 84 | 9,805 55 | 18,0184 | 0 | | 3,722 16 | 1,192 42 |
| 2 | 61,642 4 | 321,34 | 0 | 20.28 3,78 | 163,1 37 | 9,938 29 | 18,3805 | 0 | | 3,441 24 | 1,191 59 |
| 2 | 71,849 2 | 355,17 6 | 0 | 18.43 7,31 | 191,7 01 | 10,06 19 | 18,7156 | 0 | | 3,186 68 | 1,190 82 |
| 2 | 84,097 3 | 392,8 | 0 | 16.74 0,57 | 225,4 58 | 10,16 59 | 19,0247 | 0 | | 2,957 5 | 1,190 1 |
| 2 | 98,795 | 434,68 1 | 0 | 15.19 1,57 | 265,3 21 | 10,24 34 | 19,3098 | 0 | | 2,751 77 | 1,189 42 |



| | | | | | | | | | | | | |
|---|--------|--------|---|-------|-------|-------|---------|---|--|--|-------|-------|
| 2 | 116,43 | 481,48 | 0 | 13.78 | 312,2 | 10,29 | 19,5736 | 0 | | | 2,567 | 1,188 |
| | 2 | 9 | | 4,13 | 83 | 1 | | | | | 1 | 78 |
| 2 | 137,59 | 534,12 | 0 | 12.51 | 366,8 | 10,30 | 19,8191 | 0 | | | 2,401 | 1,188 |
| | 7 | 9 | | 1,69 | 36 | 33 | | | | | 68 | 16 |
| 2 | 162,99 | 593,36 | 0 | 11.37 | 430,0 | 10,27 | 20,0489 | 0 | | | 2,252 | 1,187 |
| | 5 | 5 | | 1,43 | 61 | 9 | | | | | 41 | 56 |
| 2 | 193,47 | 660,18 | 0 | 10.35 | 502,0 | 10,24 | 20,6637 | 0 | | | 2,121 | 1,185 |
| | 2 | 9 | | 8,60 | 3 | 26 | | | | | 67 | 53 |
| 2 | 204,73 | 683,90 | 0 | 10.05 | 527,2 | 10,23 | 20,8777 | 0 | | | 2,082 | 1,184 |
| | 4 | 6 | | 3,78 | 74 | 23 | | | | | 81 | 81 |

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 | 80,4406 | 0 | 80,4406 |
| 2 | Continuous | 10,4687 | 0 | kg/s | 80,4406 | 0 | 80,4406 |

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/Line height [m] | C/Line conc [ppm] | Effective width [m] | Effective depth [m] | C/Line vapour temperature [degC] | C/Line liquid fraction | C/Line liquid temperature [degC] | Centroid velocity [m/s] | C/Line cloud density [kg/m3] |
|-----------------|------------|------------------------|-------------------|-------------------|---------------------|---------------------|----------------------------------|------------------------|----------------------------------|-------------------------|------------------------------|
| 1 | 0 | 0 | 5 | 999.999,41 | 0,101785 | 0,0455832 | -160,963 | 0,950843 | -160,963 | 241,934 | 35,831 |
| 1 | 0,00138339 | 0,331479 | 4,99999 | 988.071,41 | 0,129826 | 0,058125 | -162,84 | 0,929871 | -162,84 | 237,183 | 22,9304 |
| 1 | 0,00138339 | 0,331479 | 4,99999 | 988.071,41 | 0,129826 | 0,0581248 | -162,84 | 0,929871 | -162,84 | 237,183 | 22,9305 |

| | | | | | | | | | | | |
|---|--------------|---------------|-------------|----------------|--------------|--------------|--------------|----------------|--------------|-------------|-------------|
| 1 | 0,01 | 2,2102 3 | 4,99 959 | 882.7 49,78 | 0,313 428 | 0,140 49 | - 116,066 | 0,8451 73 | -170,78 | 198,3 74 | 5,638 27 |
| 1 | 0,02 | 4,0013 2 | 4,99 855 | 769.6 77,17 | 0,475 641 | 0,214 922 | - 111,751 | 0,7658 58 | - 172,502 | 162,1 31 | 3,654 31 |
| 1 | 0,03 | 5,4926 708 | 4,99 708 | 684.0 13,18 | 0,617 025 | 0,281 71 | - 111,746 | 0,6900 92 | - 173,105 | 137,7 65 | 2,991 2 |
| 1 | 0,04 | 6,7810 5 | 4,99 525 | 619.0 76,27 | 0,742 981 | 0,342 525 | - 112,715 | 0,6174 02 | - 173,378 | 120,8 16 | 2,668 79 |
| 1 | 0,05 | 7,9265 6 | 4,99 313 | 568.3 53,20 | 0,857 716 | 0,398 723 | - 113,705 | 0,5482 12 | - 173,527 | 108,3 91 | 2,478 03 |
| 1 | 0,06 | 8,9627 4 | 4,99 072 | 527.5 65,52 | 0,964 067 | 0,451 319 | - 114,411 | 0,4829 56 | - 173,625 | 98,87 51 | 2,350 16 |
| 1 | 0,07 | 9,9122 4 | 4,98 804 | 493.9 49,78 | 1,063 87 | 0,501 021 | - 114,808 | 0,4216 55 | - 173,699 | 91,33 13 | 2,257 04 |
| 1 | 0,08 | 10,793 3 | 4,98 511 | 465.6 53,07 | 1,158 5 | 0,548 399 | - 114,918 | 0,3641 77 | - 173,764 | 85,17 94 | 2,184 94 |
| 1 | 0,09 | 11,617 7 | 4,98 193 | 441.4 29,99 | 1,249 932 | 0,593 932 | - 114,716 | 0,3107 05 | - 173,822 | 80,05 08 | 2,126 06 |
| 1 | 0,1 | 12,395 7 | 4,97 852 | 420.3 60,56 | 1,336 38 | 0,638 108 | - 114,186 | 0,2613 19 | - 173,885 | 75,68 95 | 2,075 67 |
| 1 | 0,11 | 13,133 6 | 4,97 489 | 401.8 21,45 | 1,420 88 | 0,680 977 | - 113,501 | 0,2151 23 | - 173,947 | 71,92 61 | 2,032 28 |
| 1 | 0,12 | 13,836 6 | 4,97 104 | 385.3 40,88 | 1,502 98 | 0,722 767 | - 112,661 | 0,1720 51 | - 174,008 | 68,63 73 | 1,993 97 |
| 1 | 0,13 | 14,509 3 | 4,96 697 | 370.5 56,80 | 1,583 19 | 0,763 741 | -111,63 | 0,1323 11 | - 174,071 | 65,73 14 | 1,959 16 |
| 1 | 0,14 | 15,154 5 | 4,96 27 | 357.2 00,10 | 1,661 89 | 0,804 099 | - 110,376 | 0,0961 622 | - 174,137 | 63,14 12 | 1,926 74 |
| 1 | 0,15 | 15,775 822 | 4,95 822 | 345.0 49,19 | 1,739 53 | 0,844 089 | - 108,847 | 0,0640 46 | - 174,208 | 60,81 34 | 1,895 72 |
| 1 | 0,16 | 16,373 3 | 4,95 355 | 333.9 26,32 | 1,816 59 | 0,883 993 | - 106,967 | 0,0366 465 | - 174,286 | 58,70 6 | 1,865 2 |
| 1 | 0,17 | 16,950 9 | 4,94 87 | 323.6 91,16 | 1,893 6 | 0,924 112 | - 104,635 | 0,0149 063 | -174,37 | 56,78 61 | 1,834 33 |
| 1 | 0,1788 89 | 17,448 5 | 4,94 423 | 315.2 38,75 | 1,962 79 | 0,960 428 | - 101,986 | 0,0020 9329 | - 174,451 | 55,21 45 | 1,805 33 |
| 1 | 0,1788 89 | 17,448 5 | 4,94 423 | 315.2 38,75 | 1,962 11 | 0,959 962 | - 102,239 | 0 | | 55,21 45 | 1,806 83 |

| | | | | | | | | | | | |
|---|--------|--------|------|-------|-------|-------|---------|---------|--|-------|-------|
| 1 | 0,18 | 17,509 | 4,94 | 314.2 | 1,971 | 0,964 | -101,73 | 0 | | 55,02 | 1,802 |
| | | 7 | 366 | 21,19 | 19 | 808 | | | | 61 | 27 |
| 1 | 0,19 | 18,047 | 4,93 | 305.4 | 2,052 | 1,007 | - | 0 | | 53,40 | 1,763 |
| | | 1 | 84 | 31,92 | 08 | 85 | 97,3191 | | | 65 | 93 |
| 1 | 0,2 | 18,566 | 4,93 | 297.2 | 2,131 | 1,050 | - | 0 | | 51,90 | 1,729 |
| | | 6 | 296 | 27,48 | 73 | 04 | 93,1911 | | | 64 | 78 |
| 1 | 0,212 | 19,171 | 4,92 | 288.0 | 2,225 | 1,099 | - | 0 | | 50,24 | 1,693 |
| | | 8 | 624 | 53,52 | 98 | 71 | 88,5631 | | | 26 | 34 |
| 1 | 0,2264 | 19,878 | 4,91 | 277.8 | 2,337 | 1,158 | - | 0 | | 48,41 | 1,654 |
| | | 3 | 798 | 80,63 | 54 | 14 | 83,4165 | | | 38 | 94 |
| 1 | 0,2436 | 20,697 | 4,90 | 266.7 | 2,469 | 1,226 | - | 0 | | 46,43 | 1,615 |
| | | 8 | 776 | 42,87 | 14 | 58 | 77,7644 | | | 1 | 12 |
| 1 | 0,2644 | 21,640 | 4,89 | 254.7 | 2,623 | 1,306 | - | 0 | | 44,31 | 1,574 |
| | | 16 | 4 | 508 | 16,94 | 76 | 4 | 71,6422 | | 25 | 55 |
| 1 | 0,2892 | 22,718 | 4,87 | 241.9 | 2,804 | 1,399 | - | 0 | | 42,08 | 1,533 |
| | | 99 | 1 | 931 | 14,07 | 67 | 07 | 65,1045 | | 21 | 88 |
| 1 | 0,3191 | 23,944 | 4,85 | 228.4 | 3,015 | 1,506 | -58,217 | 0 | | 39,76 | 1,493 |
| | | 59 | 8 | 969 | 60,73 | 68 | 4 | | | 56 | 73 |
| 1 | 0,3549 | 25,331 | 4,83 | 214.5 | 3,260 | 1,630 | - | 0 | | 37,39 | 1,454 |
| | | 91 | 3 | 526 | 26,48 | 73 | 3 | 51,0749 | | 51 | 75 |
| 1 | 0,3979 | 26,890 | 4,80 | 200.2 | 3,544 | 1,772 | - | 0 | | 35,00 | 1,417 |
| | | 89 | 5 | 487 | 88,50 | 31 | 99 | 43,7913 | | 26 | 54 |
| 1 | 0,4495 | 28,633 | 4,76 | 185.9 | 3,871 | 1,937 | - | 0 | | 32,62 | 1,382 |
| | | 87 | 5 | 715 | 33,83 | 49 | 06 | 36,5081 | | 01 | 68 |
| 1 | 0,5115 | 30,573 | 4,72 | 171.6 | 4,248 | 2,125 | - | 0 | | 30,27 | 1,350 |
| | | 04 | 5 | 047 | 40,51 | 49 | 72 | 29,3954 | | 7 | 75 |
| 1 | 0,5858 | 32,728 | 4,66 | 157.5 | 4,683 | 2,343 | -22,643 | 0 | | 27,99 | 1,322 |
| | | 05 | 8 | 298 | 63,81 | 61 | 22 | | | 78 | 29 |
| 1 | 0,6749 | 35,112 | 4,59 | 143.8 | 5,187 | 2,595 | - | 0 | | 25,80 | 1,297 |
| | | 66 | 5 | 25 | 53,58 | 66 | 08 | 16,4429 | | 57 | 72 |
| 1 | 0,7819 | 37,740 | 4,50 | 130.6 | 5,775 | 2,888 | - | 0 | | 23,71 | 1,277 |
| | | 59 | 5 | 648 | 32,21 | 67 | 9 | 10,9337 | | 88 | 18 |
| 1 | 0,9103 | 40,639 | 4,40 | 117.9 | 6,468 | 3,235 | - | 0 | | 21,74 | 1,260 |
| | | 51 | 2 | 216 | 81,86 | 98 | 38 | 6,16258 | | 86 | 43 |
| 1 | 1,0644 | 43,830 | 4,27 | 105.9 | 7,295 | 3,648 | - | 0 | | 19,90 | 1,246 |
| | | 2 | 7 | 614 | 68,30 | 05 | 27 | 2,10051 | | 44 | 98 |
| 1 | 1,119 | 44,900 | 4,23 | 102.4 | 7,581 | 3,791 | - | 0 | | 19,36 | 1,243 |
| | | 9 | 154 | 12,36 | 26 | 34 | 0,98349 | | | 2 | 43 |

4

| | | | | | | | | | | | |
|---|--------|--------|------|-------|-------|-------|---------|---|--|-------|-------|
| 1 | 1,119 | 44,900 | 4,23 | 102.4 | 7,581 | 3,791 | - | 0 | | 19,36 | 1,243 |
| | | 9 | 154 | 12,36 | 26 | 34 | 0,98349 | 4 | | 2 | 43 |
| 1 | 1,2493 | 47,353 | 4,13 | 95.95 | 8,168 | 4,085 | 0,81841 | 0 | | 18,35 | 1,238 |
| | 1 | | 028 | 1,80 | 31 | 1 | 9 | | | 96 | 05 |
| 1 | 1,4711 | 51,279 | 3,98 | 88.18 | 9,147 | 4,424 | 3,105 | 0 | | 17,13 | 1,231 |
| | 7 | 6 | 532 | 5,27 | 16 | 09 | | | | 38 | 11 |
| 1 | 1,7374 | 55,689 | 3,85 | 81.48 | 10,28 | 4,696 | 4,97077 | 0 | | 16,06 | 1,225 |
| | | 5 | 027 | 6,60 | 7 | 19 | | | | 47 | 62 |
| 1 | 2,0568 | 60,658 | 3,72 | 75.48 | 11,61 | 4,920 | 6,56424 | 0 | | 15,09 | 1,221 |
| | 8 | 6 | 502 | 1,26 | 26 | 59 | | | | 83 | 06 |
| 1 | 2,4402 | 66,265 | 3,60 | 69.99 | 13,15 | 5,109 | 7,95905 | 0 | | 14,20 | 1,217 |
| | 6 | 1 | 606 | 1,82 | 33 | 91 | | | | 85 | 17 |
| 1 | 2,9003 | 72,599 | 3,48 | 64.89 | 14,94 | 5,280 | 9,2047 | 0 | | 13,37 | 1,213 |
| | 1 | 3 | 674 | 3,29 | 37 | 31 | | | | 73 | 77 |
| 1 | 3,4523 | 79,758 | 3,36 | 60.12 | 17,02 | 5,443 | 10,3294 | 0 | | 12,59 | 1,210 |
| | 7 | | 006 | 2,25 | 49 | 87 | | | | 57 | 77 |
| 1 | 4,1148 | 87,846 | 3,21 | 55.64 | 19,44 | 5,609 | 11,3506 | 0 | | 11,85 | 1,208 |
| | 4 | 4 | 977 | 7,49 | 49 | 32 | | | | 91 | 11 |
| 1 | 4,9098 | 96,989 | 3,05 | 51.44 | 22,26 | 5,785 | 12,2823 | 0 | | 11,16 | 1,205 |
| | 1 | 8 | 946 | 3,24 | 12 | 88 | | | | 43 | 72 |
| 1 | 5,8637 | 107,32 | 2,87 | 47.49 | 25,54 | 5,980 | 13,1339 | 0 | | 10,50 | 1,203 |
| | 7 | 6 | 3 | 7,58 | 08 | 75 | | | | 96 | 58 |
| 1 | 7,0085 | 119,01 | 2,65 | 43.80 | 29,36 | 6,200 | 13,9132 | 0 | | 9,894 | 1,201 |
| | 3 | | 414 | 3,40 | 19 | 61 | | | | 49 | 65 |
| 1 | 8,3822 | 132,19 | 2,39 | 40.36 | 33,81 | 6,449 | 14,6245 | 0 | | 9,319 | 1,199 |
| | 3 | 6 | 619 | 4,92 | 17 | 67 | | | | 84 | 92 |
| 1 | 10,030 | 147,08 | 2,09 | 37.17 | 38,99 | 6,736 | 15,2752 | 0 | | 8,784 | 1,198 |
| | 7 | 8 | 107 | 0,45 | 59 | 29 | | | | 61 | 35 |
| 1 | 12,008 | 163,92 | 1,72 | 34.20 | 45,03 | 7,069 | 15,8715 | 0 | | 8,288 | 1,196 |
| | 8 | 6 | 943 | 9,23 | 64 | 36 | | | | 27 | 93 |
| 1 | 14,382 | 183,01 | 1,30 | 31.46 | 52,07 | 7,460 | 16,4204 | 0 | | 7,829 | 1,195 |
| | 6 | 1 | 001 | 5,39 | 73 | 08 | | | | 89 | 64 |
| 1 | 17,231 | 204,67 | 0,78 | 28.92 | 60,28 | 7,918 | 16,9271 | 0 | | 7,409 | 1,194 |
| | 1 | 5 | 9757 | 9,05 | 04 | 35 | | | | 63 | 45 |
| 1 | 20,649 | 229,32 | 0,18 | 26.58 | 69,83 | 8,456 | 17,3973 | 0 | | 7,027 | 1,193 |
| | 3 | 8 | 3236 | 5,85 | 08 | | | | | 21 | 36 |

| | | | | | | | | | | | |
|---|-------------|---------------|-------------|----------------|--------------|---------------|--------------|--------------|--------------|-------------|-------------|
| 1 | 21,631 8 | 236,18 2 | 0,01 | 26.01 5,45 | 72,52 19 | 8,608 04 | 17,5125 | 0 | | 6,935 02 | 1,193 09 |
| 1 | 21,631 8 | 236,18 2 | 0 | 26.01 5,45 | 72,52 19 | 8,619 35 | 17,5126 | 0 | | 6,933 96 | 1,193 09 |
| 1 | 24,751 2 | 257,28 9 | 0 | 24.70 1,00 | 80,89 55 | 8,478 55 | 17,7852 | 0 | | 6,663 33 | 1,192 38 |
| 1 | 26,643 4 | 269,74 0 | | 23.92 1,22 | 85,88 83 | 8,438 64 | 17,9452 | 0 | | 6,515 57 | 1,191 96 |
| 1 | 29,673 4 | 289,08 5 | 0 | 22.69 8,58 | 93,75 07 | 8,430 29 | 18,1933 | 0 | | 6,303 46 | 1,191 32 |
| 1 | 35,580 1 | 325,27 1 | 0 | 20.47 4,72 | 108,7 71 | 8,529 76 | 18,6366 | 0 | | 5,963 97 | 1,190 19 |
| 1 | 42,668 1 | 366,45 6 | 0 | 18.09 2,02 | 126,3 87 | 8,768 92 | 19,0997 | 0 | | 5,661 3 | 1,189 04 |
| 1 | 51,173 7 | 413,48 1 | 0 | 15.63 6,80 | 147,1 32 | 9,141 33 | 19,5633 | 0 | | 5,408 06 | 1,187 9 |
| 1 | 51,570 8 | 415,62 5 | 0 | 15.53 2,27 | 148,0 93 | 9,160 07 | 19,5828 | 0 | | 5,398 52 | 1,187 85 |
| 2 | 10,468 7 | 0 | 5 | 999.9 99,41 | 0,101 785 | 0,045 5832 | - 160,963 | 0,9508 43 | - 160,963 | 241,9 34 | 35,83 1 |
| 2 | 10,470 1 | 0,3314 79 | 4,99 999 | 988.0 71,41 | 0,129 826 | 0,058 125 | -162,84 | 0,9298 71 | -162,84 | 237,1 83 | 22,93 04 |
| 2 | 10,470 1 | 0,3314 79 | 4,99 999 | 988.0 71,41 | 0,129 826 | 0,058 1248 | -162,84 | 0,9298 71 | -162,84 | 237,1 83 | 22,93 05 |
| 2 | 10,478 7 | 2,2102 3 | 4,99 959 | 882.7 49,78 | 0,313 428 | 0,140 49 | - 116,066 | 0,8451 73 | -170,78 | 198,3 74 | 5,638 27 |
| 2 | 10,488 7 | 4,0013 2 | 4,99 855 | 769.6 77,17 | 0,475 641 | 0,214 922 | - 111,751 | 0,7658 58 | - 172,502 | 162,1 31 | 3,654 31 |
| 2 | 10,498 7 | 5,4926 708 | 4,99 708 | 684.0 13,18 | 0,617 025 | 0,281 71 | - 111,746 | 0,6900 92 | - 173,105 | 137,7 65 | 2,991 2 |
| 2 | 10,508 7 | 6,7810 5 | 4,99 525 | 619.0 76,27 | 0,742 981 | 0,342 525 | - 112,715 | 0,6174 02 | - 173,378 | 120,8 16 | 2,668 79 |
| 2 | 10,518 7 | 7,9265 6 | 4,99 313 | 568.3 53,20 | 0,857 716 | 0,398 723 | - 113,705 | 0,5482 12 | - 173,527 | 108,3 91 | 2,478 03 |
| 2 | 10,528 7 | 8,9627 4 | 4,99 072 | 527.5 65,52 | 0,964 067 | 0,451 319 | - 114,411 | 0,4829 56 | - 173,625 | 98,87 51 | 2,350 16 |
| 2 | 10,538 | 9,9122 | 4,98 | 493.9 | 1,063 | 0,501 | - | 0,4216 | - | 91,33 | 2,257 |

| | | | | | | | | | | | |
|---|--------|--------|------|-------|-------|-------|---------|--------|---------|-------|-------|
| | 7 | 4 | 804 | 49,78 | 87 | 021 | 114,808 | 55 | 173,699 | 13 | 04 |
| 2 | 10,548 | 10,793 | 4,98 | 465.6 | 1,158 | 0,548 | - | 0,3641 | - | 85,17 | 2,184 |
| | 7 | 3 | 511 | 53,07 | 5 | 399 | 114,918 | 77 | 173,764 | 94 | 94 |
| 2 | 10,558 | 11,617 | 4,98 | 441.4 | 1,249 | 0,593 | - | 0,3107 | - | 80,05 | 2,126 |
| | 7 | 7 | 193 | 29,99 | | 932 | 114,716 | 05 | 173,822 | 08 | 06 |
| 2 | 10,568 | 12,395 | 4,97 | 420.3 | 1,336 | 0,638 | - | 0,2613 | - | 75,68 | 2,075 |
| | 7 | 7 | 852 | 60,56 | 38 | 108 | 114,186 | 19 | 173,885 | 95 | 67 |
| 2 | 10,578 | 13,133 | 4,97 | 401.8 | 1,420 | 0,680 | - | 0,2151 | - | 71,92 | 2,032 |
| | 7 | 6 | 489 | 21,45 | 88 | 977 | 113,501 | 23 | 173,947 | 61 | 28 |
| 2 | 10,588 | 13,836 | 4,97 | 385.3 | 1,502 | 0,722 | - | 0,1720 | - | 68,63 | 1,993 |
| | 7 | 6 | 104 | 40,88 | 98 | 767 | 112,661 | 51 | 174,008 | 73 | 97 |
| 2 | 10,598 | 14,509 | 4,96 | 370.5 | 1,583 | 0,763 | -111,63 | 0,1323 | - | 65,73 | 1,959 |
| | 7 | 3 | 697 | 56,80 | 19 | 741 | | 11 | 174,071 | 14 | 16 |
| 2 | 10,608 | 15,154 | 4,96 | 357.2 | 1,661 | 0,804 | - | 0,0961 | - | 63,14 | 1,926 |
| | 7 | 5 | 27 | 00,10 | 89 | 099 | 110,376 | 622 | 174,137 | 12 | 74 |
| 2 | 10,618 | 15,775 | 4,95 | 345.0 | 1,739 | 0,844 | - | 0,0640 | - | 60,81 | 1,895 |
| | 7 | | 822 | 49,19 | 53 | 089 | 108,847 | 46 | 174,208 | 34 | 72 |
| 2 | 10,628 | 16,373 | 4,95 | 333.9 | 1,816 | 0,883 | - | 0,0366 | - | 58,70 | 1,865 |
| | 7 | 3 | 355 | 26,32 | 59 | 993 | 106,967 | 465 | 174,286 | 6 | 2 |
| 2 | 10,638 | 16,950 | 4,94 | 323.6 | 1,893 | 0,924 | - | 0,0149 | -174,37 | 56,78 | 1,834 |
| | 7 | 9 | 87 | 91,16 | 6 | 112 | 104,635 | 063 | | 61 | 33 |
| 2 | 10,647 | 17,448 | 4,94 | 315.2 | 1,962 | 0,960 | - | 0,0020 | - | 55,21 | 1,805 |
| | 6 | 5 | 423 | 38,75 | 79 | 428 | 101,986 | 9329 | 174,451 | 45 | 33 |
| 2 | 10,647 | 17,448 | 4,94 | 315.2 | 1,962 | 0,959 | - | 0 | | 55,21 | 1,806 |
| | 6 | 5 | 423 | 38,75 | 11 | 962 | 102,239 | | | 45 | 83 |
| 2 | 10,648 | 17,509 | 4,94 | 314.2 | 1,971 | 0,964 | -101,73 | 0 | | 55,02 | 1,802 |
| | 7 | 7 | 366 | 21,19 | 19 | 808 | | | | 61 | 27 |
| 2 | 10,658 | 18,047 | 4,93 | 305.4 | 2,052 | 1,007 | - | 0 | | 53,40 | 1,763 |
| | 7 | 1 | 84 | 31,92 | 08 | 85 | 97,3191 | | | 65 | 93 |
| 2 | 10,668 | 18,566 | 4,93 | 297.2 | 2,131 | 1,050 | - | 0 | | 51,90 | 1,729 |
| | 7 | 6 | 296 | 27,48 | 73 | 04 | 93,1911 | | | 64 | 78 |
| 2 | 10,680 | 19,171 | 4,92 | 288.0 | 2,225 | 1,099 | - | 0 | | 50,24 | 1,693 |
| | 7 | 8 | 624 | 53,52 | 98 | 71 | 88,5631 | | | 26 | 34 |
| 2 | 10,695 | 19,878 | 4,91 | 277.8 | 2,337 | 1,158 | - | 0 | | 48,41 | 1,654 |
| | 1 | 3 | 798 | 80,63 | 54 | 14 | 83,4165 | | | 38 | 94 |
| 2 | 10,712 | 20,697 | 4,90 | 266.7 | 2,469 | 1,226 | - | 0 | | 46,43 | 1,615 |
| | 4 | 5 | 776 | 42,87 | 14 | 58 | 77,7644 | | | 1 | 12 |
| 2 | 10,733 | 21,640 | 4,89 | 254.7 | 2,623 | 1,306 | - | 0 | | 44,31 | 1,574 |

| | | | | | | | | | | | |
|---|--------|--------|------|-------|-------|-------|---------|---|--|-------|-------|
| | 1 | 4 | 508 | 16,94 | 76 | 4 | 71,6422 | | | 25 | 55 |
| 2 | 10,758 | 22,718 | 4,87 | 241.9 | 2,804 | 1,399 | - | 0 | | 42,08 | 1,533 |
| | | 1 | 931 | 14,07 | 67 | 07 | 65,1045 | | | 21 | 88 |
| 2 | 10,787 | 23,944 | 4,85 | 228.4 | 3,015 | 1,506 | -58,217 | 0 | | 39,76 | 1,493 |
| | 9 | 8 | 969 | 60,73 | 68 | 4 | | | | 56 | 73 |
| 2 | 10,823 | 25,331 | 4,83 | 214.5 | 3,260 | 1,630 | - | 0 | | 37,39 | 1,454 |
| | 7 | 3 | 526 | 26,48 | 73 | 3 | 51,0749 | | | 51 | 75 |
| 2 | 10,866 | 26,890 | 4,80 | 200.2 | 3,544 | 1,772 | - | 0 | | 35,00 | 1,417 |
| | 7 | 5 | 487 | 88,50 | 31 | 99 | 43,7913 | | | 26 | 54 |
| 2 | 10,918 | 28,633 | 4,76 | 185.9 | 3,871 | 1,937 | - | 0 | | 32,62 | 1,382 |
| | 3 | 5 | 715 | 33,83 | 49 | 06 | 36,5081 | | | 01 | 68 |
| 2 | 10,980 | 30,573 | 4,72 | 171.6 | 4,248 | 2,125 | - | 0 | | 30,27 | 1,350 |
| | 2 | 5 | 047 | 40,51 | 49 | 72 | 29,3954 | | | 7 | 75 |
| 2 | 11,054 | 32,728 | 4,66 | 157.5 | 4,683 | 2,343 | -22,643 | 0 | | 27,99 | 1,322 |
| | 5 | 8 | 298 | 63,81 | 61 | 22 | | | | 78 | 29 |
| 2 | 11,143 | 35,112 | 4,59 | 143.8 | 5,187 | 2,595 | - | 0 | | 25,80 | 1,297 |
| | 7 | 5 | 25 | 53,58 | 66 | 08 | 16,4429 | | | 57 | 72 |
| 2 | 11,250 | 37,740 | 4,50 | 130.6 | 5,775 | 2,888 | - | 0 | | 23,71 | 1,277 |
| | 7 | 5 | 648 | 32,21 | 67 | 9 | 10,9337 | | | 88 | 18 |
| 2 | 11,379 | 40,639 | 4,40 | 117.9 | 6,468 | 3,235 | - | 0 | | 21,74 | 1,260 |
| | | 2 | 216 | 81,86 | 98 | 38 | 6,16258 | | | 86 | 43 |
| 2 | 11,533 | 43,830 | 4,27 | 105.9 | 7,295 | 3,648 | - | 0 | | 19,90 | 1,246 |
| | 1 | 7 | 614 | 68,30 | 05 | 27 | 2,10051 | | | 44 | 98 |
| 2 | 11,587 | 44,900 | 4,23 | 102.4 | 7,581 | 3,791 | - | 0 | | 19,36 | 1,243 |
| | 7 | 9 | 154 | 12,36 | 26 | 34 | 0,98349 | | | 2 | 43 |
| | | | | | | | 4 | | | | |
| 2 | 11,587 | 44,900 | 4,23 | 102.4 | 7,581 | 3,791 | - | 0 | | 19,36 | 1,243 |
| | 7 | 9 | 154 | 12,36 | 26 | 34 | 0,98349 | | | 2 | 43 |
| | | | | | | | 4 | | | | |
| 2 | 11,718 | 47,353 | 4,13 | 95.95 | 8,168 | 4,085 | 0,81841 | 0 | | 18,35 | 1,238 |
| | | | 028 | 1,80 | 31 | 1 | 9 | | | 96 | 05 |
| 2 | 11,939 | 51,279 | 3,98 | 88.18 | 9,147 | 4,424 | 3,105 | 0 | | 17,13 | 1,231 |
| | 9 | 6 | 532 | 5,27 | 16 | 09 | | | | 38 | 11 |
| 2 | 12,206 | 55,689 | 3,85 | 81.48 | 10,28 | 4,696 | 4,97077 | 0 | | 16,06 | 1,225 |
| | 1 | 5 | 027 | 6,60 | 7 | 19 | | | | 47 | 62 |
| 2 | 12,525 | 60,658 | 3,72 | 75.48 | 11,61 | 4,920 | 6,56424 | 0 | | 15,09 | 1,221 |
| | 6 | 6 | 502 | 1,26 | 26 | 59 | | | | 83 | 06 |
| 2 | 12,909 | 66,265 | 3,60 | 69.99 | 13,15 | 5,109 | 7,95905 | 0 | | 14,20 | 1,217 |

| | | | | | | | | | | | |
|---|--------|--------|------|-------|-------|-------|---------|---|--|-------|-------|
| | | 1 | 606 | 1,82 | 33 | 91 | | | | 85 | 17 |
| 2 | 13,369 | 72,599 | 3,48 | 64.89 | 14,94 | 5,280 | 9,2047 | 0 | | 13,37 | 1,213 |
| | | 3 | 674 | 3,29 | 37 | 31 | | | | 73 | 77 |
| 2 | 13,921 | 79,758 | 3,36 | 60.12 | 17,02 | 5,443 | 10,3294 | 0 | | 12,59 | 1,210 |
| | 1 | | 006 | 2,25 | 49 | 87 | | | | 57 | 77 |
| 2 | 14,583 | 87,846 | 3,21 | 55.64 | 19,44 | 5,609 | 11,3506 | 0 | | 11,85 | 1,208 |
| | 5 | 4 | 977 | 7,49 | 49 | 32 | | | | 91 | 11 |
| 2 | 15,378 | 96,989 | 3,05 | 51.44 | 22,26 | 5,785 | 12,2823 | 0 | | 11,16 | 1,205 |
| | 5 | 8 | 946 | 3,24 | 12 | 88 | | | | 43 | 72 |
| 2 | 16,332 | 107,32 | 2,87 | 47.49 | 25,54 | 5,980 | 13,1339 | 0 | | 10,50 | 1,203 |
| | 5 | 6 | 3 | 7,58 | 08 | 75 | | | | 96 | 58 |
| 2 | 17,477 | 119,01 | 2,65 | 43.80 | 29,36 | 6,200 | 13,9132 | 0 | | 9,894 | 1,201 |
| | 2 | | 414 | 3,40 | 19 | 61 | | | | 49 | 65 |
| 2 | 18,850 | 132,19 | 2,39 | 40.36 | 33,81 | 6,449 | 14,6245 | 0 | | 9,319 | 1,199 |
| | 9 | 6 | 619 | 4,92 | 17 | 67 | | | | 84 | 92 |
| 2 | 20,499 | 147,08 | 2,09 | 37.17 | 38,99 | 6,736 | 15,2752 | 0 | | 8,784 | 1,198 |
| | 4 | 8 | 107 | 0,45 | 59 | 29 | | | | 61 | 35 |
| 2 | 22,477 | 163,92 | 1,72 | 34.20 | 45,03 | 7,069 | 15,8715 | 0 | | 8,288 | 1,196 |
| | 5 | 6 | 943 | 9,23 | 64 | 36 | | | | 27 | 93 |
| 2 | 24,851 | 183,01 | 1,30 | 31.46 | 52,07 | 7,460 | 16,4204 | 0 | | 7,829 | 1,195 |
| | 3 | 1 | 001 | 5,39 | 73 | 08 | | | | 89 | 64 |
| 2 | 27,699 | 204,67 | 0,78 | 28.92 | 60,28 | 7,918 | 16,9271 | 0 | | 7,409 | 1,194 |
| | 8 | 5 | 9757 | 9,05 | 04 | 35 | | | | 63 | 45 |
| 2 | 31,118 | 229,32 | 0,18 | 26.58 | 69,83 | 8,456 | 17,3973 | 0 | | 7,027 | 1,193 |
| | | 8 | 3236 | 5,85 | 08 | | | | | 21 | 36 |
| 2 | 32,100 | 236,18 | 0,01 | 26.01 | 72,52 | 8,608 | 17,5125 | 0 | | 6,935 | 1,193 |
| | 5 | 2 | | 5,45 | 19 | 04 | | | | 02 | 09 |
| 2 | 32,100 | 236,18 | 0 | 26.01 | 72,52 | 8,619 | 17,5126 | 0 | | 6,933 | 1,193 |
| | 5 | 2 | | 5,45 | 19 | 35 | | | | 96 | 09 |
| 2 | 35,219 | 257,28 | 0 | 24.70 | 80,89 | 8,478 | 17,7852 | 0 | | 6,663 | 1,192 |
| | 9 | 9 | | 1,00 | 55 | 55 | | | | 33 | 38 |
| 2 | 37,112 | 269,74 | 0 | 23.92 | 85,88 | 8,438 | 17,9452 | 0 | | 6,515 | 1,191 |
| | 1 | | | 1,22 | 83 | 64 | | | | 57 | 96 |
| 2 | 40,142 | 289,08 | 0 | 22.69 | 93,75 | 8,430 | 18,1933 | 0 | | 6,303 | 1,191 |
| | 1 | 5 | | 8,58 | 07 | 29 | | | | 46 | 32 |
| 2 | 46,048 | 325,27 | 0 | 20.47 | 108,7 | 8,529 | 18,6366 | 0 | | 5,963 | 1,190 |
| | 8 | 1 | | 4,72 | 71 | 76 | | | | 97 | 19 |
| 2 | 53,136 | 366,45 | 0 | 18.09 | 126,3 | 8,768 | 19,0997 | 0 | | 5,661 | 1,189 |



| | 8 | 6 | | 2,02 | 87 | 92 | | | | 3 | 04 |
|---|--------|--------|---|-------|-------|-------|---------|---|--|-------|-------|
| 2 | 61,642 | 413,48 | 0 | 15.63 | 147,1 | 9,141 | 19,5633 | 0 | | 5,408 | 1,187 |
| | 4 | 1 | | 6,80 | 32 | 33 | | | | 06 | 9 |
| 2 | 62,039 | 415,62 | 0 | 15.53 | 148,0 | 9,160 | 19,5828 | 0 | | 5,398 | 1,187 |
| | 5 | 5 | | 2,27 | 93 | 07 | | | | 52 | 85 |

