TABLE III Pipeline Information

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Pipe. |  |  |  |  | (km) | (mm) |
| PL1 | 0.1 | 9.6 | 0.3 | 9 | 55.31 | 311 |
| PL2 | 0.1 | 9 | 0.3 | 9 | 35.83 | 311 |
| PL3 | 0.1 | 9 | 0.3 | 9.6 | 65.14 | 260 |
| PL4 | 0.1 | 9.6 | 0.7 | 9 | 32.34 | 208 |
| PL5 | 0.1 | 9 | 0.3 | 4.5 | 45.48 | 208 |
| PL6 | 0.1 | 9 | 0.3 | 4.5 | 51.75 | 208 |
| PL7 | 0.1 | 8.7 | 6 | 0.5 | 228.27 | 491 |
| PL8 | 0.1 | 8.7 | 6 | 0.4 | 219.58 | 440 |
| PL9 | 0.1 | 11.5 | 6.5 | 0.6 | 123.3 | 441 |
| PL10 | 0.1 | 14 | 8 | 1 | 84.77 | 441 |
| PL11 | 0.1 | 11 | 8 | 1.1 | 77.2 | 441 |
| PL12 | 0.1 | 11 | 9.5 | 0.2 | 139.47 | 441 |
| PL13 | 0.1 | 10 | 9.2 | 4.9 | 70.8 | 441 |
| PL14 | 0.1 | 10 | 7.5 | 0.8 | 67.66 | 441 |
| PL15 | 0.1 | 8.9 | 5 | 1.1 | 111.14 | 441 |
| PL16 | 0.1 | 11.4 | 4.9 | 3 | 108.56 | 392 |
| PL17 | 0.1 | 12 | 8.5 | 0.5 | 154.48 | 311 |
| PL18 | 0.1 | 8.5 | 6 | 2.6 | 159.93 | 260 |

TABLE IV Valve Pressure Limits & Coefficients

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Valve |  |  |  |  |
| VIS2 | 0.1 | 4.11 | 212.64 | 0.037 |
| VDS5 | 0.1 | 4.54 | 53.66 | 0.046 |
| VDS6 | 0.1 | 4.91 | 85.57 | 0.042 |
| VDS7 | 0.1 | 1.33 | 527.98 | 0.012 |
| VDS8 | 0.1 | 3.12 | 267.52 | 0.020 |
| VDS9 | 0.1 | 1.97 | 261.13 | 0.021 |
| VDS10 | 0.1 | 1.56 | 398.08 | 0.017 |
| VDS11 | 0.1 | 4.32 | 85.57 | 0.043 |
| VDS12 | 0.1 | 1.99 | 312.62 | 0.019 |
| VDS13 | 0.1 | 4.74 | 191.82 | 0.022 |
| VDS14 | 0.1 | 4.06 | 88.39 | 0.054 |
| VDS15 | 0.1 | 11.15 | 87.89 | 0.011 |

Note: VIS2 refers to the valve in station IS2 and so on for others in a similar manner.

TABLE V Pump Coefficients

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Pump | (10-‍5 h2/m5) | (10-‍2 h/m2) | (m) | (10-8 %h3/m9) | (10-4 %h2/m6) | (10-2 %h/m3) | (%) |  |
| PIS2-1 | -3.57 | 4.80 | 202.91 | -1.60 | -1.50 | 20.26 | 16.82 | 0 |
| PIS2-2 | -11.20 | 8.47 | 525.09 | -1.60 | -1.50 | 20.26 | 16.82 | 0 |
| PIS2-3 | -7.33 | 5.51 | 493.68 | -1.60 | -1.50 | 20.26 | 16.82 | 0 |
| PIS2-4 | -2.60 | -6.48 | 566.67 | -1.60 | -1.50 | 20.26 | 16.82 | 0 |
| PDS5-1 | 0 | -27.40 | 237.10 | 6.42 | -1.40 | 11.48 | 34.86 | 0 |
| PDS5-2 | 0 | -1.47 | 535.54 | 0.13 | -3.10 | 25.76 | 0 | 0 |
| PDS5-3 | 0 | -1.47 | 535.54 | 0.13 | -3.10 | 25.76 | 0 | 0 |
| PDS6-1 | -20.90 | 26.65 | 240.35 | 2.62 | -1.20 | 17.99 | 0.95 | 0 |
| PDS6-2 | -9.62 | 7.17 | 649.80 | 2.62 | -1.20 | 17.99 | 0.95 | 0 |
| PDS6-3 | -22.70 | 28.26 | 565.59 | 2.62 | -1.20 | 17.99 | 0.95 | 0 |
| PDS6-4 | -9.44 | 6.01 | 654.45 | 2.62 | -1.20 | 17.99 | 0.95 | 0 |
| PDS7-1 | -8.67 | -18.65 | 877.83 | 30.00 | -6.00 | 38.01 | -7.28 | 0 |
| PDS7-2 | -8.67 | -18.57 | 878.26 | 0 | -2.00 | 24.18 | 0.34 | 1 |
| PDS7-3 | -8.68 | -18.57 | 879.82 | 0 | -6.00 | 41.47 | 8.00 | 0 |
| PDS7-4 | -8.68 | -18.57 | 876.20 | 0 | -6.00 | 41.47 | 8.00 | 1 |
| PDS8-1 | -18.64 | 22.24 | 254.50 | 2.97 | -1.40 | 18.83 | 0.42 | 0 |
| PDS8-2 | 0 | -21.44 | 785.69 | 2.97 | -1.40 | 18.83 | 0.42 | 1 |
| PDS8-3 | -18.64 | 22.24 | 254.50 | 2.97 | -1.40 | 18.83 | 0.42 | 0 |
| PDS8-4 | -18.64 | 22.24 | 254.50 | 2.97 | -1.40 | 18.83 | 0.42 | 1 |
| PDS9-1 | 0 | -10.35 | 268.69 | -5.22 | -2.63 | 82.44 | 3.52 | 0 |
| PDS9-2 | 0 | -2.72 | 391.75 | -5.22 | -2.63 | 82.44 | 3.52 | 0 |
| PDS9-3 | 0 | -2.72 | 391.75 | -5.22 | -2.63 | 82.44 | 3.52 | 0 |
| PDS9-4 | 0 | -5.29 | 413.21 | -5.22 | -2.63 | 82.44 | 3.52 | 0 |
| PDS10-1 | -13.45 | 16.25 | 183.81 | 0.60 | -1.13 | 20.43 | 9.33 | 0 |
| PDS10-2 | -12.18 | 5.86 | 473.53 | 0.60 | -1.13 | 20.43 | 9.33 | 0 |
| PDS10-3 | -5.09 | -5.16 | 518.09 | 0.60 | -1.13 | 20.43 | 9.33 | 0 |
| PDS10-4 | -5.09 | -5.16 | 518.09 | 0.60 | -1.13 | 20.43 | 9.33 | 0 |
| PDS12-1 | -8.96 | 7.53 | 199.49 | 10.40 | -2.90 | 26.42 | 3.20 | 0 |
| PDS12-2 | -1.53 | 2.49 | 422.90 | 10.40 | -2.90 | 26.42 | 3.20 | 0 |
| PDS12-3 | -4.25 | -2.05 | 439.26 | 10.40 | -2.90 | 26.42 | 3.20 | 0 |
| PDS12-4 | -2.51 | -1.43 | 430.89 | 10.40 | -2.90 | 26.42 | 3.20 | 0 |
| PDS13-1 | -10.95 | 10.38 | 261.62 | 7.49 | -2.30 | 24.12 | -1.72 | 0 |
| PDS13-2 | -19.10 | 16.68 | 497.89 | 7.49 | -2.30 | 24.12 | -1.72 | 1 |
| PDS13-3 | -19.69 | 14.27 | 526.64 | 7.49 | -2.30 | 24.12 | -1.72 | 0 |
| PDS13-4 | -19.10 | 16.68 | 497.89 | 7.49 | -2.30 | 24.12 | -1.72 | 1 |
| PDS14-1 | 0 | -25.40 | 333.00 | 8.65 | -1.99 | 19.60 | 4.94 | 0 |
| PDS14-2 | 0 | -50.71 | 665.79 | 8.65 | -1.99 | 19.60 | 4.94 | 0 |
| PDS14-3 | 0 | -50.71 | 665.79 | 8.65 | -1.99 | 19.60 | 4.94 | 0 |
| PDS14-4 | 0 | -50.71 | 665.79 | 8.65 | -1.99 | 19.60 | 4.94 | 0 |
| PDS15-1 | 0 | -11.10 | 286.00 | -5.00 | -6.50 | 43.63 | 7.95 | 0 |
| PDS15-2 | 0 | -22.15 | 571.31 | -5.00 | -6.50 | 43.63 | 7.95 | 0 |
| PDS15-3 | 0 | -62.10 | 667.76 | -5.00 | -6.50 | 43.63 | 7.95 | 0 |
| PDS15-4 | 0 | 535.07 | -942.03 | -5.00 | -6.50 | 43.63 | 7.95 | 1 |

Note: PIS2-1 refers to the 1st pump in pump station IS2 and so on for others in a similar manner.