

Table A.1 – Hydrogeological characteristics of the surveyed water intake irrigation facilities of potential participants in the development of livestock breeding in Zhambyl region for 2014 and 2024.

| №<br>p/p                     | Region, district, rural<br>district | Geographic<br>coordinates   | Type of<br>water intake<br>structure | Hydrogeological characteristics<br>for 2014 |                    |               |                           | Hydrogeological characteristics<br>for 2024 |                    |               |                           | Note                           |
|------------------------------|-------------------------------------|-----------------------------|--------------------------------------|---|--------------------|---------------|---------------------------|---|--------------------|---------------|---------------------------|--------------------------------|
|                              |                                     |                             |                                      | depth<br>m                                  | static level,<br>m | debit,<br>l/s | minerali<br>zation<br>g/l | glu-<br>bina m                              | static level,<br>m | debit,<br>l/s | minerali<br>zation<br>g/l |                                |
| 1                            | 2                                   | 3                           | 4                                    | 5   | 6                  | 7             | 8                         | 9   | 10                 | 11            | 12                        | 13                             |
| <b>Merken district order</b> |                                     |                             |                                      |   |                    |               |                           |   |                    |               |                           |                                |
| 1                            | Merken district, Merken<br>GPP JSC  | E 72°57.823<br>N 43°28.264´ | The well                             | 70,0  | 33                 | 0,25          | 0,16                      | 68  | 30                 | 0,21          | 0,17                      |                                |
| 2                            | Merken district,<br>Zhyl bulak LLP  | E 73°09.321<br>N 43°24.103´ | The well                             | 120   | -                  | -             | -                         |   |                    |               |                           | Clogged with foreign<br>bodies |
| 3                            | Merken district,<br>Zhyl bulak LLP  | E 73°08.967<br>N 43°26.323´ | The well                             | 130   | 68                 | 5,2           | 0,28                      | 127   | 68                 | 4,2           | 0,2                       |                                |
| 4                            | Merken district,<br>Zhyl bulak LLP  | E 73°13.131<br>N 43°28.361´ | The well                             | -   | -                  | -             | -                         |   |                    |               |                           | Clogged with foreign<br>bodies |
| 5                            | Merken district,<br>Zhyl bulak LLP  | E 73°09.112<br>N 43°29.336´ | The well                             | 120   | 73                 | 2,3           | 0,18                      | 116   | 73                 | 2,1           | 0,18                      |                                |

Continuation of table A.1

| 1  | 2                               | 3                           | 4        | 5   | 6  | 7   | 8    | 9   | 10 | 11   | 12   | 13  |
|----|---------------------------------|-----------------------------|----------|-----|----|-----|------|-----|----|------|------|---|
| 6  | Merken district Zhylbulak LLP   | E 73°08.350<br>N 43°32.528′ | The well | 110 | 75 | 4,0 | 0,20 | 105 | 74 | 3,5  | 0,2  |   |
| 7  | Merken district KH "Kasankhan"  | E 73°04.591<br>N 43°33.986′ | The well | 90  | 62 | 3,5 | 0,14 | 85  | 60 | 3,2  | 0,14 |   |
| 8  | Merken district KH "Kasankhan"  | E:73°00.713<br>N:43°33.674′ | The well | 90  | 46 | 3,8 | 0,15 |     |    |      |      | Well in a 2-ton container, wind turbine+ solar panels                 |
| 9  | Merken district KH "Kasankhan"  | E:72°57.514<br>N:43°37.655′ | The well | 90  | 36 | 4,2 | 0,18 |     |    |      |      | The well is blocked, the wind turbine +solar panels are not installed |
| 10 | Merken district PC "Aspara"     | E:72°54.988<br>N:43°36.251  | The well | 80  | 34 | 3,8 | 0,24 |     |    |      |      | It is preserved, a sauna is attached to the pavilion of the well      |
| 11 | Merken district KH "Taldybulak" | E:72°40.184<br>N:43°39.420  | The well | 120 | 74 | 1,5 | 0,12 | 117 | 74 | 1,3  | 0,15 |   |
| 12 | Merken district KH "Akbidai"    | E:73°25′610<br>N:43°21′077  | The well | 100 | 70 | 4,5 | 0,18 | 100 | 68 | 0,56 | 0,17 |   |

Continuation of table A.1

| 1                      | 2                               | 3                          | 4        | 5   | 6  | 7    | 8    | 10  | 11  | 12  | 13   | 14  |
|------------------------|---------------------------------|----------------------------|----------|-----|----|------|------|-----|-----|-----|------|---|
| 13                     | Merken district<br>KH "Nart"    | E:73°06.718<br>N:43°19.017 | The well | 90  | 42 | 4,2  | -    |     |     |     |      | A new SLE was drilled with a diameter of 127 mm, Ngl =115 m, Nst=72 m, q=0.12 l/s |
| <b>Baizak district</b> |                                 |                            |          |     |    |      |      |     |     |     |      |   |
| 14                     | Baizak district,<br>KH "Yerdos" | E 43°33'237<br>N 72°06'701 | Mine     | 8   | 6  | 1,0  | 0,24 | 5,5 | 3,8 | 0,1 | 0,31 | Equipped with a motor pump  |
| 15                     | Baizak district,<br>KH "Yerdos" | E 43°33'869<br>N 72°07'820 | Mine     | 6   | 4  | 1,0  | 0,32 | 4   | 2   | 0,1 | 0,57 |   |
| 16                     | Baizak district,<br>KH "Yerdos" | E 43°32'382<br>N 72°07'449 | Mine     | 5,5 | 3  | 0,15 | 0,35 | 6   | 4,5 | 0,1 | 0,48 |   |
| 17                     | Baizak district,<br>KH "Yerdos" | E 43°32'602<br>N 72°05'475 | Mine     | 6   | 4  | 0,2  | 0,5  | 3,5 | 2,5 | 0,1 | 0,55 |   |
| 18                     | Baizak district,<br>KH "Yerdos" | E 43°33'339<br>N 72°06'571 | Mine     |     |    |      |      |     |     |     | 0,15 |   |
| 19                     | Baizak district,<br>KH "Yerdos" | E 43°28'952<br>N 72°02'024 | Mine     | 6   | 3  | 1,0  | 0,25 | 4,5 | 2   | 0,1 | 0,4  |   |
| 20                     | Baizak district,<br>KH "Yerdos" | E 43°26'711<br>N 72°01'442 | Mine     | 8   | 7  | 0,9  | 0,3  | 7,5 | 6   | 0,1 | 0,7  |   |

Continuation of table A.1

| 1  | 2                                       | 3                           | 4        | 5   | 6   | 7    | 8    | 9                      | 10  | 11  | 12   | 13  |
|----|---|-----------------------------|----------|-----|-----|------|------|------------------------|-----|-----|------|---|
| 21 | Baizak district,<br>KH "Yerdos"         | E 43°26'618<br>N 72°01'832  | Mine     | 5,5 | 3   | 0,8  | 0,35 | 4,5                    | 2,5 | 0,1 | 0,36 | Not used  |
| 22 | Baizak district,<br>KH "Yerdos"         | E 43°26'189<br>N 72°02'329  | Mine     | 9   | 5   | 2,0  | 0,2  | 6,8                    | 4,7 | 0,1 | 0,27 |   |
| 23 | Baizak district<br>Tuimekentsky village | E 43°15'923<br>N 71°039'888 | The well | 44  | 6   | 1,0  | 0,12 | 15 m to<br>the<br>pump | 5   | 1   | 0,19 |   |
| 24 | Baizak district<br>Tuimekentsky village | E 43°19'956<br>N 71°42'514  | Mine     | 7   | 5   | 0,1  | 0,36 | 10                     | 7   | 0,1 | 0,33 |   |
| 25 | Baizak district<br>Tuimekentsky village | E 43°20'721<br>N 71°43'194  | Mine     | 8   | 5,5 | 0,1  | 0,7  | 5                      | 4   | 0,1 | 1,17 |   |
| 26 | Baizak district<br>Tuimekentsky village | E 43°21'981<br>N 71°43'390  | Mine     | 8   | 4,5 | 0,15 | 0,43 | 6,2                    | 4   | 0,1 | 0,61 |   |
| 27 | Baizak district<br>Tuimekentsky village | E 43°25'757<br>N 71°47'881  | Mine     | 5   | 4   | 0,1  | 0,78 | 5,5                    | 4,5 | 0,1 | 1,5  |   |
| 28 | Baizak district<br>Tuimekentsky village | E 43°29'834<br>N 71°54'849  | Mine     | 8   | 5   | 0,1  | 0,38 | 7,5                    | 5,5 | 0,1 | 0,52 |   |
| 29 | Baizak district<br>Tuimekentsky village | E 43°31'588<br>N 71°57'073  | Mine     | 7   | 4   | 0,15 | 0,34 | 4                      | 2,5 | 0,1 | 0,32 | A well was drilled, $\varnothing$<br>110 mm, Ngl =30 m,<br>pumping with a motor<br>pump |

Continuation of table A.1

| 1  | 2   | 3                          | 4        | 5   | 6   | 7    | 8    | 9   | 10  | 11  | 12   | 13  |
|----|---|----------------------------|----------|-----|-----|------|------|-----|-----|-----|------|---|
| 30 | Baizak district<br>Tuimekentsky village     | E 43°28'946<br>N 71°57'346 | Mine     | 5   | 4   | 0,1  | 0,75 | 4,5 | 2,5 | 0,1 | 0,72 |   |
| 31 | Baizak district<br>Tuimekentsky village     | E 43°28'913<br>N 71°57'352 | The well | 50  | 8   | 0,5  | 0,4  | 48  | 9   | 0,3 | 0,4  |   |
| 32 | Baizak district<br>Tuimekentsky village     | E 43°26'790<br>N 71°57'620 | Mine     | 4,0 | 2,0 | 0,1  | 0,46 | 5   | 2   | 0,1 | 0,48 |   |
| 33 | Baizak district<br>Tuimekentsky village     | E 43°26'123<br>N 71°56'981 | Mine     | 7,5 | 4,0 | 0,1  | 0,26 | 6,5 | 3,5 | 0,1 | 0,28 | A well has been drilled<br>ø 110 mm, Ngl=27 m,<br>Nst=9m    |
| 34 | Baizak district<br>Tuimekentsky village     | E 43°26'263<br>N 71°55'567 | Mine     | 7,5 | 5,5 | 0,1  | 0,35 | 5,5 | 4   | 0,1 | 0,72 |   |
| 35 | Baizak district<br>Tuimekentsky village     | E 43°26'940<br>N 71°56'817 | Mine     | 7,0 | 5,0 | 0,08 | 0,6  | 6,5 | 5,5 | 0,1 | 0,71 |   |
| 36 | Baizak district<br>Tuimekentsky village     | E 43°18'558<br>N 71°43'838 | Mine     | 8,0 | 7,0 | 0,09 | 0,21 | 9,5 | 7   | 0,1 | 0,31 |   |
| 37 | Baizak district<br>of Sukhambaevsky village | E 43°14'502<br>N 71°47'532 | Mine     | 6,0 | 5,5 | 0,08 | 0,3  | 5,8 | 4,5 | 0,1 | 0,51 |   |
| 38 | Baizak district<br>of Sukhambaevsky village | E 43°15'465<br>N 71°49'813 | Mine     | 8,5 | 5,5 | 0,3  | 0,33 | 6,5 | 4   | 0,1 | 0,49 | The well was cleaned<br>in 2022,<br>not used, low flow rate |
| 39 | Baizak district<br>s/o Sastereksky          | E 43°17'069<br>N 71°46'121 | Mine     | 9,0 | 8,0 | 0,08 | 0,64 | 8   | 5,8 | 0,1 | 0,7  |   |

Continuation of table A.1

| 1                      | 2                                    | 3                           | 4        | 5    | 6     | 7    | 8    | 9    | 10   | 11    | 12   | 13        |
|------------------------|--------------------------------------|-----------------------------|----------|------|-------|------|------|------|------|-------|------|-----------|
| <b>Talas district</b>  |                                      |                             |          |      |       |      |      |      |      |       |      |           |
| 40                     | Talas district<br>A. TOO.Sagintayeva | E 44°09'926<br>N 70°09'386  | Mine     | 16,0 | 13,5, | 0,85 | 1,65 | 12,5 | 10,5 | 0,3   | 2,09 |           |
| 41                     | Talas district<br>A. LLPSagintayeva  | E 43°46'842<br>N 70°39'511  | Mine     | 5,0  | 3,0   | 0,9  | 1,66 | 4,7  | 3    |       |      | Abandoned |
| 42                     | Talas district<br>A. LLPSagintayeva  | E 43°43'427<br>N 70°46'739  | Mine     | 17,0 | 16,0  | 0,08 | 1,05 | 20   | 18   |       | 4,45 |           |
| 43                     | Talas district<br>A. LLPSagintayeva  | E 43°45'597<br>N 70°41'705  | The well | 14,0 | 9,5   | 1,6  | 1,7  | 12,5 | 9    | 1     | 1,57 |           |
| 44                     | Talas district<br>A. LLPSagintayeva  | E 43°45'875<br>N 70°39'752  | The well | 24,0 | 12,0  | 1,6  | 0,92 | 22   | 13   |       |      | Not used  |
| 45                     | Talas district<br>A. LLPSagintayeva  | E 43°45'638<br>N 70°36'403  | Mine     | 12,5 | 12,0  | 0,09 | 0,76 |      | 12   |       |      | Abandoned |
| <b>Sarysu district</b> |                                      |                             |          |      |       |      |      |      |      |       |      |           |
| 46                     | Sarysu district,<br>KH "Nurlan"      | E 70°18.823<br>N 44°06.594  | Mine     | 7    | 6     | 0,1  | 0,76 |      |      |       |      | Abandoned |
| 47                     | Sarysu district,<br>KH "Tanat"       | E 70°13.026<br>N 44°06.078  | Mine     | 7    | 5     | 0,1  | 0,74 | 7,5  | 7    |       |      | Not used  |
| 48                     | Sarysu district,<br>Zhummyker farm   | E 70°06.415<br>N :44°08.611 | Mine     | 5    | 4,5   | 0,06 | 0,76 | 5    | 4,6  | 0,045 | 1,16 | Not used  |

Continuation of table A.1

| 1  | 2                                      | 3                           | 4                     | 5   | 6   | 7    | 8    | 9    | 10  | 11   | 12   | 13                            |
|----|--|-----------------------------|-----------------------|-----|-----|------|------|------|-----|------|------|-------------------------------|
| 49 | Sarysu district,<br>KH "Kalau"         | E 70°12.850<br>N:44°04.291  | Mine                  | 6   | 5   | 0,08 | 0,50 |      |     |      |      | Filled to a depth of 5.5<br>m |
| 50 | Sarysu district,<br>KH "Nurlan"        | E 70°19.764<br>N:44°03.810  | Mine                  | 7,5 | 5,5 | 0,9  | 1,79 |      |     |      |      | Filled in                     |
| 51 | Sarysu district,<br>Seksenbaevtar farm | E:69°55.441<br>N:43°50.056  | Mine                  | 11  | 9   | 0,9  | 0,78 | 7,5  | 6,5 | 0,1  | 0,8  |                               |
| 52 | Sarysu district,<br>KH "Altai"         | E:69°58.554<br>N:43°53.684  | The well is<br>2 pcs. | 120 | 2   | 5,6  | 0,34 | ≈120 | 0,5 | 4,8  | 0,31 | Pump at a depth<br>of 25 m    |
| 53 | Sarysu district,<br>Kasymkhan farm     | E:69°53.952<br>N:43°46.664  | Mine                  | 5,5 | 4   | 0,08 | 0,63 |      |     |      |      | Abandoned                     |
| 54 | Sarysu district,<br>Almas farm         | E:69°53.878<br>N:43°46.722  | Mine                  | 6   | 4   | 0,14 | 0,61 | 11   | 9   | 0,1  | 0,97 |                               |
| 55 | Sarysu district,<br>Sholpan-ata farm   | E:69°52.464<br>N:43°45.946  | The well              | 150 | 4   | 4,0  | 0,35 | ≈150 | 4   | 0,29 | 0,29 | Pump at a depth<br>of 30 m    |
| 56 | Sarysu district,<br>Ernar farm         | E 69°53.627<br>N::43°45.939 | Mine                  | 6   | 4   | 0,8  | 0,43 | 5,8  | 4   | 0,3  | 0,51 |                               |
| 57 | Sarysu district,<br>farm "Shalkar"     | E:70°00.731<br>N:43°53.440´ | The well              | 140 | 3   | 2,8  | 0,30 | ≈100 | 5   | 2,5  | 0,28 | Pump at a depth<br>of 20 m    |
| 58 | Sarysu district,<br>farm "Shalkima"    | E:70°02.885<br>N:43°41.074´ | The well              | 120 | 11  | 2,0  | 0,42 | ≈100 | 13  | 1,5  | 0,34 | Pump at a depth<br>of 40 m    |

