

**Water Security Agency**

|                          |   |                             |                      |
|--------------------------|---|-----------------------------|----------------------|
| <b>Land Location:</b>    | NE-14-07-36-25W3                                  | <b>NTS Map:</b>             | 73C/04               |
| <b>UTM Coordinates:</b>  | Z13 187369 E 5780239 N                            | <b>RM No.:</b>              | 351                  |
| <b>Ground Elevation:</b> |   | <b>Source:</b>              |                      |
| <b>Date Sampled:</b>     | 5-Nov-65  | <b>Time Sampled:</b>        |                      |
| <b>Sample Location:</b>  |   | <b>Sampled by:</b>          |                      |
| <b>Well name:</b>        | SWA Hearts Hill                                   | <b>Contractor:</b>          |                      |
| <b>Well owner:</b>       | Water Security Agency                             |                             |                      |
| <b>Address:</b>          | 111 Fairford Street East<br>Moose Jaw, SK S6H 7X9 | <b>Tel:</b>                 |                      |
| <b>Sample Depth:</b>     | 76.8  | <b>Date Drilled:</b>        |                      |
| <b>Depth to Water:</b>   |   | <b>Pump Setting:</b>        |                      |
| <b>Well Diameter:</b>    |   | <b>Pumping Rate:</b>        |                      |
| <b>WWRD #</b>            |   | <b>Construction method:</b> |                      |
| <b>Analysis No.:</b>     |   | <b>Formation:</b>           | Judith River         |
| <b>Laboratory:</b>       |   | <b>Aquifer name:</b>        | Judith River aquifer |

| Constituent                        | Concentration | Constituent         | Concentration |
|------------------------------------|---------------|---------------------|---------------|
| <b>Major Ions</b>                  |               | <b>Metals</b>       |               |
| Calcium (Ca)                       | 30            | Aluminum (Al)       |               |
| Magnesium (Mg)                     | 14            | Antimony (Sb)       |               |
| Sodium (Na)                        | 252           | As (arsenic) (µg/L) |               |
| Potassium (K)                      | 21            | Barium (Ba)         |               |
| Carbonate (CO3)                    |               | Beryllium (Be)      |               |
| Bicarbonate (HCO3)                 | 628           | Boron (B)           |               |
| Sulphate (SO4)                     | 175           | Cadmium (Cd)        |               |
| Chloride (Cl)                      | 6             | Chromium (Cr)       |               |
| Fluoride (F)                       |               | Cobalt (Co)         |               |
| Nitrate - Nitrate (NO3, NO2 + NO3) |               | Copper (Cu)         |               |
| Total Iron (Fe)                    | 2.35          | Lead (Pb)           |               |
| Manganese (Mn)                     |               | Molybdenum (Mo)     |               |
| pH (pH units)                      | 7.4           | Nickel (Ni)         |               |
| Conductivity (uS/cm)               | 1220          | Selenium (Se)       |               |
| Sum of Ions                        | 1126          | Silver (Ag)         |               |
| Total Dissolved Solids (TDS)       |               | Strontium (Sr)      |               |
| Error in Balance (%)               |               | Thallium (Tl)       |               |
| Hardness (as CaCO3)                | 133           | Tin (Sn)            |               |
| Total Alkalinity (as CaCO3)        | 515           | Titanium (Ti)       |               |
| Dissolved Organic Carbon (DOC)     |               | Uranium (U) (µg/L)  |               |
| Turbidity (NTU)                    |               | Vanadium (V)        |               |
| Perchlorate                        |               | Zinc (Zn)           |               |
| Iodine (I)                         |               |                     |               |

All values in mg/L, unless indicated otherwise

**Water Security Agency**

|                          |   |                             |                      |
|--------------------------|---|-----------------------------|----------------------|
| <b>Land Location:</b>    | NE-14-07-36-25W3                                  | <b>NTS Map:</b>             | 73C/04               |
| <b>UTM Coordinates:</b>  | Z13 187369 E 5780239 N                            | <b>RM No.:</b>              | 351                  |
| <b>Ground Elevation:</b> |   | <b>Source:</b>              |                      |
| <b>Date Sampled:</b>     | 30-Jun-70   | <b>Time Sampled:</b>        |                      |
| <b>Sample Location:</b>  |   | <b>Sampled by:</b>          |                      |
| <b>Well name:</b>        | SWA Hearts Hill                                   | <b>Contractor:</b>          |                      |
| <b>Well owner:</b>       | Water Security Agency                             |                             |                      |
| <b>Address:</b>          | 111 Fairford Street East<br>Moose Jaw, SK S6H 7X9 | <b>Tel:</b>                 |                      |
| <b>Sample Depth:</b>     | 76.8  | <b>Date Drilled:</b>        |                      |
| <b>Depth to Water:</b>   |   | <b>Pump Setting:</b>        |                      |
| <b>Well Diameter:</b>    |   | <b>Pumping Rate:</b>        |                      |
| <b>WWRD #</b>            |   | <b>Construction method:</b> |                      |
| <b>Analysis No.:</b>     |   | <b>Formation:</b>           | Judith River         |
| <b>Laboratory:</b>       |   | <b>Aquifer name:</b>        | Judith River aquifer |

| Constituent                        | Concentration | Constituent         | Concentration |
|------------------------------------|---------------|---------------------|---------------|
| <b>Major Ions</b>                  |               | <b>Metals</b>       |               |
| Calcium (Ca)                       | <1            | Aluminum (Al)       |               |
| Magnesium (Mg)                     |               | Antimony (Sb)       | 1             |
| Sodium (Na)                        | 265           | As (arsenic) (µg/L) |               |
| Potassium (K)                      | 46            | Barium (Ba)         |               |
| Carbonate (CO3)                    | 239           | Beryllium (Be)      |               |
| Bicarbonate (HCO3)                 | 52            | Boron (B)           |               |
| Sulphate (SO4)                     | 154           | Cadmium (Cd)        |               |
| Chloride (Cl)                      | 34            | Chromium (Cr)       |               |
| Fluoride (F)                       |               | Cobalt (Co)         |               |
| Nitrate - Nitrate (NO3, NO2 + NO3) | <2            | Copper (Cu)         |               |
| Total Iron (Fe)                    | 0.6           | Lead (Pb)           |               |
| Manganese (Mn)                     |               | Molybdenum (Mo)     |               |
| pH (pH units)                      | 10.35         | Nickel (Ni)         |               |
| Conductivity (uS/cm)               | 1520          | Selenium (Se)       |               |
| Sum of Ions                        | 791           | Silver (Ag)         |               |
| Total Dissolved Solids (TDS)       |               | Strontium (Sr)      |               |
| Error in Balance (%)               |               | Thallium (Tl)       |               |
| Hardness (as CaCO3)                | 4             | Tin (Sn)            |               |
| Total Alkalinity (as CaCO3)        | 441           | Titanium (Ti)       |               |
|                                    |               | Uranium (U) (µg/L)  |               |
| Dissolved Organic Carbon (DOC)     |               | Vanadium (V)        |               |
| Turbidity (NTU)                    |               | Zinc (Zn)           |               |
| Perchlorate                        |               |                     |               |
| Iodine (I)                         |               |                     |               |

All values in mg/L, unless indicated otherwise

**Water Security Agency**

|                          |   |                             |                      |
|--------------------------|---|-----------------------------|----------------------|
| <b>Land Location:</b>    | NE-14-07-36-25W3                                  | <b>NTS Map:</b>             | 73C/04               |
| <b>UTM Coordinates:</b>  | Z13 187369 E 5780239 N                            | <b>RM No.:</b>              | 351                  |
| <b>Ground Elevation:</b> |   | <b>Source:</b>              |                      |
| <b>Date Sampled:</b>     | 20-Jul-71   | <b>Time Sampled:</b>        |                      |
| <b>Sample Location:</b>  |   | <b>Sampled by:</b>          |                      |
| <b>Well name:</b>        | SWA Hearts Hill                                   | <b>Contractor:</b>          |                      |
| <b>Well owner:</b>       | Water Security Agency                             |                             |                      |
| <b>Address:</b>          | 111 Fairford Street East<br>Moose Jaw, SK S6H 7X9 | <b>Tel:</b>                 |                      |
| <b>Sample Depth:</b>     | 76.8  | <b>Date Drilled:</b>        |                      |
| <b>Depth to Water:</b>   |   | <b>Pump Setting:</b>        |                      |
| <b>Well Diameter:</b>    |   | <b>Pumping Rate:</b>        |                      |
| <b>WWRD #</b>            |   | <b>Construction method:</b> |                      |
| <b>Analysis No.:</b>     |   | <b>Formation:</b>           | Judith River         |
| <b>Laboratory:</b>       |   | <b>Aquifer name:</b>        | Judith River aquifer |

| Constituent                        | Concentration | Constituent         | Concentration |
|------------------------------------|---------------|---------------------|---------------|
| <b>Major Ions</b>                  |               | <b>Metals</b>       |               |
| Calcium (Ca)                       | 15            | Aluminum (Al)       |               |
| Magnesium (Mg)                     | 1.7           | Antimony (Sb)       |               |
| Sodium (Na)                        | 270           | As (arsenic) (µg/L) |               |
| Potassium (K)                      | 48            | Barium (Ba)         |               |
| Carbonate (CO3)                    | 53            | Beryllium (Be)      |               |
| Bicarbonate (HCO3)                 | 508           | Boron (B)           |               |
| Sulphate (SO4)                     | 185           | Cadmium (Cd)        |               |
| Chloride (Cl)                      | 8             | Chromium (Cr)       |               |
| Fluoride (F)                       | 0.06          | Cobalt (Co)         |               |
| Nitrate - Nitrate (NO3, NO2 + NO3) | <1            | Copper (Cu)         |               |
| Total Iron (Fe)                    | 0.2           | Lead (Pb)           |               |
| Manganese (Mn)                     |               | Molybdenum (Mo)     |               |
| pH (pH units)                      | 8.85          | Nickel (Ni)         |               |
| Conductivity (uS/cm)               | 1300          | Selenium (Se)       |               |
| Sum of Ions                        | 1089          | Silver (Ag)         |               |
| Total Dissolved Solids (TDS)       |               | Strontium (Sr)      |               |
| Error in Balance (%)               |               | Thallium (Tl)       |               |
| Hardness (as CaCO3)                | 45            | Tin (Sn)            |               |
| Total Alkalinity (as CaCO3)        | 504           | Titanium (Ti)       |               |
|                                    |               | Uranium (U) (µg/L)  |               |
| Dissolved Organic Carbon (DOC)     |               | Vanadium (V)        |               |
| Turbidity (NTU)                    |               | Zinc (Zn)           |               |
| Perchlorate                        |               |                     |               |
| Iodine (I)                         |               |                     |               |

All values in mg/L, unless indicated otherwise

**Water Security Agency**

|                          |   |                             |                      |
|--------------------------|---|-----------------------------|----------------------|
| <b>Land Location:</b>    | NE-14-07-36-25W3                                  | <b>NTS Map:</b>             | 73C/04               |
| <b>UTM Coordinates:</b>  | Z13 187369 E 5780239 N                            | <b>RM No.:</b>              | 351                  |
| <b>Ground Elevation:</b> |   | <b>Source:</b>              |                      |
| <b>Date Sampled:</b>     | 17-Aug-78   | <b>Time Sampled:</b>        |                      |
| <b>Sample Location:</b>  |   | <b>Sampled by:</b>          |                      |
| <b>Well name:</b>        | SWA Hearts Hill                                   | <b>Contractor:</b>          |                      |
| <b>Well owner:</b>       | Water Security Agency                             |                             |                      |
| <b>Address:</b>          | 111 Fairford Street East<br>Moose Jaw, SK S6H 7X9 | <b>Tel:</b>                 |                      |
| <b>Sample Depth:</b>     | 76.8  | <b>Date Drilled:</b>        |                      |
| <b>Depth to Water:</b>   |   | <b>Pump Setting:</b>        |                      |
| <b>Well Diameter:</b>    |   | <b>Pumping Rate:</b>        |                      |
| <b>WWRD #</b>            |   | <b>Construction method:</b> |                      |
| <b>Analysis No.:</b>     |   | <b>Formation:</b>           | Judith River         |
| <b>Laboratory:</b>       |   | <b>Aquifer name:</b>        | Judith River aquifer |

| Constituent                        | Concentration | Constituent         | Concentration |
|------------------------------------|---------------|---------------------|---------------|
| Major Ions                         |               | Metals              |               |
| Calcium (Ca)                       | 30            | Aluminum (Al)       |               |
| Magnesium (Mg)                     | 4             | Antimony (Sb)       |               |
| Sodium (Na)                        | 280           | As (arsenic) (µg/L) |               |
| Potassium (K)                      | 19            | Barium (Ba)         |               |
| Carbonate (CO3)                    |               | Beryllium (Be)      |               |
| Bicarbonate (HCO3)                 | 595           | Boron (B)           |               |
| Sulphate (SO4)                     | 175           | Cadmium (Cd)        |               |
| Chloride (Cl)                      | 24            | Chromium (Cr)       |               |
| Fluoride (F)                       | 0.2           | Cobalt (Co)         |               |
| Nitrate - Nitrate (NO3, NO2 + NO3) | 0.39          | Copper (Cu)         |               |
| Total Iron (Fe)                    | 0.91          | Lead (Pb)           |               |
| Manganese (Mn)                     | 0.03          | Molybdenum (Mo)     |               |
| pH (pH units)                      | 8.24          | Nickel (Ni)         |               |
| Conductivity (uS/cm)               | 1302          | Selenium (Se)       |               |
| Sum of Ions                        | 1127          | Silver (Ag)         |               |
| Total Dissolved Solids (TDS)       |               | Strontium (Sr)      |               |
| Error in Balance (%)               |               | Thallium (Tl)       |               |
| Hardness (as CaCO3)                | 90            | Tin (Sn)            |               |
| Total Alkalinity (as CaCO3)        | 488           | Titanium (Ti)       |               |
|                                    |               | Uranium (U) (µg/L)  |               |
| Dissolved Organic Carbon (DOC)     |               | Vanadium (V)        |               |
| Turbidity (NTU)                    |               | Zinc (Zn)           |               |
| Perchlorate                        |               |                     |               |
| Iodine (I)                         |               |                     |               |

All values in mg/L, unless indicated otherwise

**Water Security Agency**

|                          |   |                             |                      |
|--------------------------|---|-----------------------------|----------------------|
| <b>Land Location:</b>    | NE-14-07-36-25W3                                  | <b>NTS Map:</b>             | 73C/04               |
| <b>UTM Coordinates:</b>  | Z13 187369 E 5780239 N                            | <b>RM No.:</b>              | 351                  |
| <b>Ground Elevation:</b> |   | <b>Source:</b>              |                      |
| <b>Date Sampled:</b>     | 26-Oct-83   | <b>Time Sampled:</b>        |                      |
| <b>Sample Location:</b>  |   | <b>Sampled by:</b>          |                      |
| <b>Well name:</b>        | SWA Hearts Hill                                   | <b>Contractor:</b>          |                      |
| <b>Well owner:</b>       | Water Security Agency                             |                             |                      |
| <b>Address:</b>          | 111 Fairford Street East<br>Moose Jaw, SK S6H 7X9 | <b>Tel:</b>                 |                      |
| <b>Sample Depth:</b>     | 76.8  | <b>Date Drilled:</b>        |                      |
| <b>Depth to Water:</b>   |   | <b>Pump Setting:</b>        |                      |
| <b>Well Diameter:</b>    |   | <b>Pumping Rate:</b>        |                      |
| <b>WWRD #</b>            |   | <b>Construction method:</b> |                      |
| <b>Analysis No.:</b>     |   | <b>Formation:</b>           | Judith River         |
| <b>Laboratory:</b>       |   | <b>Aquifer name:</b>        | Judith River aquifer |

| Constituent                        | Concentration | Constituent         | Concentration |
|------------------------------------|---------------|---------------------|---------------|
| <b>Major Ions</b>                  |               | <b>Metals</b>       |               |
| Calcium (Ca)                       | 36            | Aluminum (Al)       |               |
| Magnesium (Mg)                     | 14            | Antimony (Sb)       |               |
| Sodium (Na)                        | 252           | As (arsenic) (µg/L) |               |
| Potassium (K)                      | 7.4           | Barium (Ba)         |               |
| Carbonate (CO3)                    |               | Beryllium (Be)      |               |
| Bicarbonate (HCO3)                 | 622           | Boron (B)           |               |
| Sulphate (SO4)                     | 186           | Cadmium (Cd)        |               |
| Chloride (Cl)                      | 9             | Chromium (Cr)       |               |
| Fluoride (F)                       | 0.25          | Cobalt (Co)         |               |
| Nitrate - Nitrate (NO3, NO2 + NO3) | <0.02         | Copper (Cu)         |               |
| Total Iron (Fe)                    | 0.39          | Lead (Pb)           |               |
| Manganese (Mn)                     | 0.069         | Molybdenum (Mo)     |               |
| pH (pH units)                      | 8.11          | Nickel (Ni)         |               |
| Conductivity (uS/cm)               | 1220          | Selenium (Se)       |               |
| Sum of Ions                        | 1126          | Silver (Ag)         |               |
| Total Dissolved Solids (TDS)       |               | Strontium (Sr)      |               |
| Error in Balance (%)               |               | Thallium (Tl)       |               |
| Hardness (as CaCO3)                | 145           | Tin (Sn)            |               |
| Total Alkalinity (as CaCO3)        | 510           | Titanium (Ti)       |               |
| Dissolved Organic Carbon (DOC)     |               | Uranium (U) (µg/L)  |               |
| Turbidity (NTU)                    |               | Vanadium (V)        |               |
| Perchlorate                        |               | Zinc (Zn)           |               |
| Iodine (I)                         |               |                     |               |

All values in mg/L, unless indicated otherwise

**Water Security Agency**

|                          |   |                             |                      |
|--------------------------|---|-----------------------------|----------------------|
| <b>Land Location:</b>    | NE-14-07-36-25W3                                  | <b>NTS Map:</b>             | 73C/04               |
| <b>UTM Coordinates:</b>  | Z13 187369 E 5780239 N                            | <b>RM No.:</b>              | 351                  |
| <b>Ground Elevation:</b> |   | <b>Source:</b>              |                      |
| <b>Date Sampled:</b>     | 7-Nov-05  | <b>Time Sampled:</b>        |                      |
| <b>Sample Location:</b>  |   | <b>Sampled by:</b>          |                      |
| <b>Well name:</b>        | SWA Hearts Hill                                   | <b>Contractor:</b>          |                      |
| <b>Well owner:</b>       | Water Security Agency                             |                             |                      |
| <b>Address:</b>          | 111 Fairford Street East<br>Moose Jaw, SK S6H 7X9 | <b>Tel:</b>                 |                      |
| <b>Sample Depth:</b>     | 76.8  | <b>Date Drilled:</b>        |                      |
| <b>Depth to Water:</b>   |   | <b>Pump Setting:</b>        |                      |
| <b>Well Diameter:</b>    |   | <b>Pumping Rate:</b>        |                      |
| <b>WWRD #</b>            |   | <b>Construction method:</b> |                      |
| <b>Analysis No.:</b>     |   | <b>Formation:</b>           | Judith River         |
| <b>Laboratory:</b>       |   | <b>Aquifer name:</b>        | Judith River aquifer |

| Constituent                        | Concentration | Constituent         | Concentration |
|------------------------------------|---------------|---------------------|---------------|
| <b>Major Ions</b>                  |               | <b>Metals</b>       |               |
| Calcium (Ca)                       | 11            | Aluminum (Al)       | 0.0054        |
| Magnesium (Mg)                     | 5.4           | Antimony (Sb)       | < 0.0002      |
| Sodium (Na)                        | 283           | As (arsenic) (µg/L) | 0.001         |
| Potassium (K)                      | 7.9           | Barium (Ba)         | 0.08          |
| Carbonate (CO3)                    | 12            | Beryllium (Be)      | < 0.0001      |
| Bicarbonate (HCO3)                 | 582           | Boron (B)           | 0.44          |
| Sulphate (SO4)                     | 170           | Cadmium (Cd)        | < 0.0005      |
| Chloride (Cl)                      | 8             | Chromium (Cr)       | < 0.005       |
| Fluoride (F)                       | 0.17          | Cobalt (Co)         | 0.0002        |
| Nitrate - Nitrate (NO3, NO2 + NO3) | <0.04         | Copper (Cu)         | < 0.0002      |
| Total Iron (Fe)                    | 0.17          | Lead (Pb)           | < 0.0001      |
| Manganese (Mn)                     | 0.029         | Molybdenum (Mo)     | 0.0028        |
| pH (pH units)                      | 8.47          | Nickel (Ni)         | 0.0051        |
| Conductivity (uS/cm)               | 1240          | Selenium (Se)       | < 0.0001      |
| Sum of Ions                        | 1079          | Silver (Ag)         | < 0.0001      |
| Total Dissolved Solids (TDS)       | 815           | Strontium (Sr)      | 0.25          |
| Error in Balance (%)               |               | Thallium (Tl)       | < 0.0002      |
| Hardness (as CaCO3)                | 50            | Tin (Sn)            | < 0.0001      |
| Total Alkalinity (as CaCO3)        | 497           | Titanium (Ti)       |               |
|                                    |               | Uranium (U) (µg/L)  | 0.0007        |
| Dissolved Organic Carbon (DOC)     |               | Vanadium (V)        | 0.0001        |
| Turbidity (NTU)                    | 1.3           | Zinc (Zn)           | < 0.005       |
| Perchlorate                        |               |                     |               |
| Iodine (I)                         | 0.00981       |                     |               |

All values in mg/L, unless indicated otherwise