PROVIDING MORE EPCOR

# Gold Bar Wastewater Treatment Plant
## Plant Performance Report
## October 2019

| Digested Sludge: Total Monthly Volume (ML) | 71.17 |
|---|---|

## Volume of Flow (ML)

| DATE | Peak Flow (MLD) | Influent | Effluent | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Non UV Disinfected | | | UV Disinfected | | |
| | | | | | | | OUTFALL 10 | |
| | | RAW | OUTFALL 30 | OUTFALL 20 | MPW | EPEPS | FEC | FE |
| Tue-01 | 354.5 | 264.4 | 0.0 | 0.0 | 10.9 | 0.0 | 253.5 | 253.5 |
| Wed-02 | 352.5 | 261.7 | 0.0 | 0.0 | 10.8 | 0.0 | 250.9 | 250.9 |
| Thu-03 | 353.5 | 255.5 | 0.0 | 0.0 | 10.9 | 0.0 | 244.6 | 244.6 |
| Fri-04 | 365.2 | 265.1 | 0.0 | 0.0 | 11.1 | 0.0 | 254.0 | 254.0 |
| Sat-05 | 367.2 | 258.5 | 0.0 | 0.0 | 11.2 | 0.0 | 247.3 | 247.3 |
| Sun-06 | 372.9 | 254.8 | 0.0 | 0.0 | 11.2 | 0.0 | 243.6 | 243.6 |
| Mon-07 | 687.7 | 289.2 | 23.4 | 0.0 | 11.4 | 0.0 | 254.4 | 254.4 |
| Tue-08 | 630.7 | 288.7 | 12.9 | 0.0 | 11.2 | 0.0 | 264.6 | 264.6 |
| Wed-09 | 346.8 | 257.9 | 0.0 | 0.0 | 11.2 | 0.0 | 246.7 | 246.7 |
| Thu-10 | 337.0 | 253.4 | 0.0 | 0.0 | 11.9 | 0.0 | 241.5 | 241.5 |
| Fri-11 | 338.0 | 258.3 | 0.0 | 0.0 | 11.8 | 0.0 | 246.5 | 246.5 |
| Sat-12 | 378.3 | 251.8 | 0.0 | 0.0 | 11.5 | 0.0 | 240.3 | 240.3 |
| Sun-13 | 544.9 | 278.9 | 23.6 | 0.0 | 10.6 | 0.0 | 244.7 | 244.7 |
| Mon-14 | 582.9 | 419.0 | 86.0 | 0.0 | 11.3 | 0.0 | 321.7 | 321.7 |
| Tue-15 | 390.7 | 280.7 | 0.1 | 0.0 | 11.8 | 0.0 | 268.8 | 268.8 |
| Wed-16 | 352.9 | 266.1 | 0.0 | 0.0 | 11.5 | 0.0 | 254.6 | 254.6 |
| Thu-17 | 351.3 | 265.0 | 0.0 | 0.0 | 11.5 | 0.0 | 253.5 | 253.5 |
| Fri-18 | 342.9 | 264.2 | 0.0 | 0.0 | 12.1 | 0.0 | 252.1 | 252.1 |
| Sat-19 | 361.9 | 260.1 | 0.0 | 0.0 | 12.1 | 0.0 | 248.0 | 248.0 |
| Sun-20 | 367.7 | 260.3 | 0.0 | 0.0 | 11.6 | 0.0 | 248.7 | 248.7 |
| Mon-21 | 358.8 | 262.0 | 0.0 | 0.0 | 11.8 | 0.0 | 250.2 | 250.2 |
| Tue-22 | 436.2 | 268.9 | 0.0 | 0.0 | 11.8 | 0.0 | 257.1 | 257.1 |
| Wed-23 | 376.2 | 263.4 | 0.0 | 0.0 | 12.5 | 0.0 | 250.9 | 250.9 |
| Thu-24 | 339.7 | 260.8 | 0.0 | 0.0 | 11.2 | 0.0 | 249.6 | 249.6 |
| Fri-25 | 357.3 | 268.2 | 0.0 | 0.0 | 11.8 | 0.0 | 256.4 | 256.4 |
| Sat-26 | 373.1 | 260.7 | 0.0 | 0.0 | 11.8 | 0.0 | 248.9 | 248.9 |
| Sun-27 | 371.8 | 261.1 | 0.0 | 0.0 | 11.6 | 0.0 | 249.5 | 249.5 |
| Mon-28 | 356.4 | 262.2 | 0.0 | 0.0 | 11.7 | 0.0 | 250.5 | 250.5 |
| Tue-29 | 344.9 | 259.8 | 0.0 | 0.0 | 3.0 | 0.0 | 256.8 | 256.8 |
| Wed-30 | 345.1 | 262.5 | 0.0 | 0.0 | 5.9 | 0.0 | 256.6 | 256.6 |
| Thu 31 | 336.9 | 253.7 | 0.0 | 0.0 | 10.8 | 0.0 | 242.9 | 242.9 |
| Average | 396.18 | 270.03 | 5.21 | 0.00 | 11.49 | 0.00 | 253.33 | 253.33 |
| Minimum | 337.00 | 251.80 | 0.00 | 0.00 | 10.60 | 0.00 | 240.30 | 240.30 |
| Maximum | 687.70 | 419.00 | 86.00 | 0.00 | 12.50 | 0.00 | 321.70 | 321.70 |
| GeoMean | — | — | — | — | — | — | — | — |
| TOTAL | — | 8,337 | 146 | 0.00 | 342 | 0 | 7,849 | 7,849 |

## Liquid Stream Quality

| DATE | pH@25°C | | | | TSS (mg/L) | | | | | | BOD$_5$/cBOD$_5$ (mg/L) | | | | | | TP (mg/L) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | OUTFALL 10 | | | | | | OUTFALL 10 | | | | | | | |
| | RAW | OUTFALL 30 | OUTFALL 20 | OUTFALL 10 FEC | RAW | OUTFALL 30 | OUTFALL 20 | EPEPS | FEC | FE | RAW | OUTFALL 30 | OUTFALL 20 | EPEPS | FEC | FE | RAW | OUTFALL 30 | OUTFALL 20 | EPEPS | FEC | FE |
| | | | | | | | | | | | BOD$_5$ | BOD$_5$ | BOD$_5$ | BOD$_5$ | cBOD$_5$ | cBOD$_5$ | | | | | | |
| Tue-01 | 7.6 | | | 7.7 | 260 | | | | 5.6 | 5.6 | 234 | | | | 3.0 | | 8.26 | | | | 0.42 | |
| Wed-02 | 7.6 | | | 7.8 | 256 | | | | 5.8 | 5.8 | 235 | | | | 3.0 | | 8.33 | | | | 0.37 | |
| Thu-03 | 7.6 | | | 7.6 | 283 | | | | 6.3 | 6.3 | 288 | | | | 4.0 | | 8.95 | | | | 0.35 | |
| Fri-04 | 7.7 | | | 7.7 | 236 | | | | 5.2 | 5.2 | 285 | | | | 4.0 | | 8.70 | | | | 0.34 | |
| Sat-05 | 7.6 | | | 7.7 | 240 | | | | 4.9 | 4.9 | 272 | | | | 4.0 | | 8.57 | | | | 0.31 | |
| Sun-06 | 7.6 | | | 7.6 | 237 | | | | 4.7 | 4.7 | 273 | | | | 3.0 | | 8.56 | | | | 0.32 | |
| Mon-07 | 7.5 | 7.7 | | 7.7 | 303 | 92 | | | 4.6 | 4.6 | 251 | 119 | | | 3.0 | | 6.46 | 4.06 | | | 0.31 | |
| Tue-08 | 7.5 | 7.5 | | 7.6 | 260 | 62 | | | 4.1 | 4.1 | 293 | 79 | | | 3.0 | | 5.78 | 2.04 | | | 0.25 | |
| Wed-09 | 7.5 | | | 7.7 | 298 | | | | 4.0 | 4.0 | 299 | | | | 2.0 | | 6.74 | | | | 0.25 | |
| Thu-10 | 7.6 | | | 7.7 | 292 | | | | 3.2 | 3.2 | 303 | | | | 3.0 | | 7.42 | | | | 0.28 | |
| Fri-11 | 7.6 | | | 7.7 | 266 | | | | 3.9 | 3.9 | 257 | | | | 3.0 | | 7.00 | | | | 0.28 | |
| Sat-12 | 7.5 | | | 7.7 | 292 | | | | 4.6 | 4.6 | 272 | | | | 3.0 | | 6.77 | | | | 0.25 | |
| Sun-13 | 7.5 | 7.5 | | 7.8 | 296 | 64 | | | 4.1 | 4.1 | 290 | 154 | | | 3.0 | | 6.27 | 3.86 | | | 0.26 | |
| Mon-14 | 7.5 | 7.5 | | 7.4 | 180 | 65 | | | 4.0 | 4.0 | 158 | 102 | | | 3.0 | | 3.99 | 2.96 | | | 0.21 | |
| Tue-15 | 7.5 | | | 7.6 | 268 | | | | 4.6 | 4.6 | 253 | | | | 3.0 | | 5.82 | | | | 0.24 | |
| Wed-16 | 7.6 | | | 7.6 | 250 | | | | 4.2 | 4.2 | 307 | | | | 4.0 | | 6.89 | | | | 0.17 | |
| Thu-17 | 7.5 | | | 7.7 | 266 | | | | 5.0 | 5.0 | 174 | | | | 3.0 | | 7.16 | | | | 0.27 | |
| Fri-18 | 7.7 | | | 7.8 | 288 | | | | 4.9 | 4.9 | 333 | | | | 3.0 | | 7.34 | | | | 0.26 | |
| Sat-19 | 7.7 | | | 7.6 | 280 | | | | 4.3 | 4.3 | 286 | | | | 3.0 | | 7.43 | | | | 0.25 | |
| Sun-20 | 7.8 | | | 7.8 | 260 | | | | 3.8 | 3.8 | 277 | | | | 3.0 | | 7.31 | | | | 0.26 | |
| Mon-21 | 7.6 | | | 7.7 | 332 | | | | 4.1 | 4.1 | 302 | | | | 3.0 | | 7.39 | | | | 0.26 | |
| Tue-22 | 7.5 | | | 7.7 | 368 | | | | 4.1 | 4.1 | 275 | | | | 3.0 | | 7.21 | | | | 0.29 | |
| Wed-23 | 7.5 | | | 7.7 | 344 | | | | 4.5 | 4.5 | 296 | | | | 3.0 | | 11.4 | | | | 0.29 | |
| Thu-24 | 7.6 | | | 7.6 | 292 | | | | 5.3 | 5.3 | 309 | | | | 3.0 | | 7.51 | | | | 0.26 | |
| Fri-25 | 7.5 | | | 7.5 | 388 | | | | 5.2 | 5.2 | 292 | | | | 3.0 | | 7.80 | | | | 0.30 | |
| Sat-26 | 7.6 | | | 7.6 | 320 | | | | 5.9 | 5.9 | 313 | | | | 3.0 | | 7.68 | | | | 0.32 | |
| Sun-27 | 7.6 | | | 7.6 | 272 | | | | 5.4 | 5.4 | 305 | | | | 3.0 | | 7.38 | | | | 0.35 | |
| Mon-28 | 7.6 | | | 7.7 | 296 | | | | 4.7 | 4.7 | 338 | | | | 4.0 | | 7.20 | | | | 0.23 | |
| Tue-29 | 7.4 | | | 7.7 | 276 | | | | 4.1 | 4.1 | 310 | | | | 3.0 | | 7.49 | | | | 0.28 | |
| Wed-30 | 7.6 | | | 7.6 | 314 | | | | 4.2 | 4.2 | 325 | | | | 3.0 | | 7.61 | | | | 0.28 | |
| Thu 31 | 7.6 | | | 7.6 | 264 | | | | 3.4 | 3.4 | 331 | | | | 3.0 | | 7.72 | | | | 0.26 | |
| Average | 7.6 | 7.6 | — | 7.7 | 283 | 71 | — | — | 4.6 | 4.6 | 282 | 114 | — | — | 3.1 | — | 7.42 | 3.23 | — | — | 0.28 | — |
| Minimum | 7.4 | 7.5 | — | 7.4 | 180 | 62 | — | — | 3.2 | 3.2 | 158 | 79 | — | — | 2.0 | — | 3.99 | 2.04 | — | — | 0.17 | — |
| Maximum | 7.8 | 7.7 | — | 7.8 | 388 | 92 | — | — | 6.3 | 6.3 | 338 | 154 | — | — | 4.0 | — | 11.4 | 4.06 | — | — | 0.42 | — |
| GeoMean | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| TOTAL | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

| DATE | NH3-N (mg/L) | | | | | | TKN (mg/L) | | | | $NO_2$+$NO_3$ (mg/L) | | | | Chloride (mg/L) | | | | E. coli (Counts/100 mL) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | OUTFALL 10 | | | | | | | | | | | | | | | | | |
| | RAW | OUTFALL 30 | OUTFALL 20 | EPEPS | FEC | FE | RAW | OUTFALL 30 | OUTFALL 20 | OUTFALL 10 FEC | RAW | OUTFALL 30 | OUTFALL 20 | OUTFALL 10 FEC | RAW | OUTFALL 30 | OUTFALL 20 | OUTFALL 10 FEC | RAW | OUTFALL 30 | OUTFALL 20 | OUTFALL 10 FEC |
| Tue-01 | 36.5 | | | | 2.89 | | 65.3 | | | 4.52 | | | | 11.0 | 79.8 | | | 86 | | | | 2 |
| Wed-02 | 45.4 | | | | 3.29 | | 64.4 | | | 5.38 | < 0.01 | | | 11.6 | 82.8 | | | 86 | | | | 3 |
| Thu-03 | 44.8 | | | | 2.81 | | 63.2 | | | 4.93 | | | | 12.9 | 80.2 | | | 87 | | | | 1 |
| Fri-04 | 45.0 | | | | 2.63 | | 60.8 | | | 4.63 | | | | 13.0 | 76.2 | | | 85 | | | | 4 |
| Sat-05 | 45.1 | | | | 3.47 | | 62.4 | | | 4.94 | | | | 12.7 | 70.6 | | | 82 | | | | 3 |
| Sun-06 | 48.3 | | | | 4.38 | | 62.2 | | | 5.77 | | | | 12.0 | 67.4 | | | 76 | | | | < 1 |
| Mon-07 | 32.1 | 28.6 | | | 1.93 | | 51.9 | 38.4 | | 3.76 | | 0.23 | | 10.8 | 70.0 | 72 | | 74 | | 2.9 | | 5 |
| Tue-08 | 33.9 | 18.2 | | | 0.77 | | 50.5 | 20.8 | | 2.35 | | 0.08 | | 7.0 | 66.0 | 49 | | 71 | | 1.9 | | 4 |
| Wed-09 | 37.0 | | | | 1.25 | | 54.8 | | | 2.85 | < 0.01 | | | 7.3 | 67.6 | | | 73 | | | | 6 |
| Thu-10 | 37.5 | | | | 1.26 | | 58.4 | | | 3.00 | | | | 8.1 | 74.9 | | | 78 | | | | < 1 |
| Fri-11 | 37.3 | | | | 0.99 | | 54.6 | | | 2.78 | | | | 8.5 | 75.4 | | | 94 | | | | 4 |
| Sat-12 | 35.7 | | | | 1.21 | | 54.1 | | | 3.00 | | | | 8.9 | 74.8 | | | 94 | | | | 4 |
| Sun-13 | 34.0 | 26.8 | | | 1.58 | | 50.6 | 36.4 | | 3.18 | | 0.33 | | 9.0 | 69.6 | 63 | | 78 | | 9.9 | | 3 |
| Mon-14 | 21.6 | 22.2 | | | 1.08 | | 30.7 | 29.9 | | 2.32 | | 0.33 | | 5.8 | 45.6 | 48 | | 60 | | 2.5 | | 12 |
| Tue-15 | 34.4 | | | | 2.07 | | 48.9 | | | 3.38 | | | | 6.7 | 71.7 | | | 61 | | | | 1 |
| Wed-16 | 37.0 | | | | 2.21 | | 57.2 | | | 3.40 | < 0.01 | | | 7.4 | 83.5 | | | 80 | | | | 5 |
| Thu-17 | 41.1 | | | | 3.38 | | 58.3 | | | 4.83 | | | | 9.6 | 82.3 | | | 85 | | | | 1 |
| Fri-18 | 40.5 | | | | 3.57 | | 61.7 | | | 5.44 | | | | 10.4 | 80.7 | | | 87 | | | | 1 |
| Sat-19 | 43.5 | | | | 3.46 | | 59.2 | | | 5.21 | | | | 10.6 | 79.5 | | | 85 | | | | 2 |
| Sun-20 | 40.7 | | | | 3.50 | | 66.4 | | | 5.42 | | | | 10.7 | 73.9 | | | 93 | | | | 1 |
| Mon-21 | 43.3 | | | | 2.99 | | 64.1 | | | 4.91 | | | | 10.1 | 78.9 | | | 78 | | | | 4 |
| Tue-22 | 40.7 | | | | 2.57 | | 60.1 | | | 4.32 | | | | 11.0 | 79.7 | | | 81 | 3 | | | 3 |
| Wed-23 | 39.0 | | | | 2.93 | | 61.1 | | | 4.61 | < 0.01 | | | 9.3 | 77.3 | | | 82 | | | | 5 |
| Thu-24 | 44.0 | | | | 2.03 | | 63.4 | | | 4.42 | | | | 11.1 | 82.5 | | | 81 | | | | 2 |
| Fri-25 | 40.2 | | | | 3.23 | | 59.3 | | | 4.88 | | | | 11.6 | 81.2 | | | 87 | | | | 9 |
| Sat-26 | 44.6 | | | | 3.48 | | 59.2 | | | 5.11 | | | | 9.9 | 75.0 | | | 84 | | | | 2 |
| Sun-27 | 42.5 | | | | 4.42 | | 60.9 | | | 5.88 | | | | 9.4 | 74.0 | | | 78 | | | | 3 |
| Mon-28 | 42.4 | | | | 4.70 | | 57.4 | | | 4.78 | | | | 8.6 | 76.3 | | | 75 | | | | 4 |
| Tue-29 | 43.2 | | | | 3.30 | | 61.6 | | | 5.31 | | | | 8.3 | 83.0 | | | 82 | 2 | | | 9 |
| Wed-30 | 42.2 | | | | 3.36 | | 63.5 | | | 5.30 | < 0.01 | | | 8.6 | 79.6 | | | 87 | | | | 6 |
| Thu 31 | 44.6 | | | | 3.64 | | 63.5 | | | 5.25 | | | | 8.1 | 79.4 | | | 86 | | | | 4 |
| Average | 39.9 | 24.0 | — | — | 2.72 | — | 58.4 | 31.4 | — | 4.38 | 0.01 | 0.24 | — | 9.7 | 75 | 55 | — | 81 | — | — | — | — |
| Minimum | 21.6 | 18.2 | — | — | 0.77 | — | 30.7 | 20.8 | — | 2.32 | < 0.01 | 0.08 | — | 5.8 | 45.6 | 48 | — | 60.4 | 2 | 2 | — | < 1 |
| Maximum | 48.3 | 28.6 | — | — | 4.70 | — | 66.4 | 38.4 | — | 5.88 | < 0.01 | 0.33 | — | 13.0 | 84 | 72 | — | 94 | 3 | 10 | — | 12 |
| GeoMean | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| TOTAL | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3 | 3 | — | 3 |

* Contact Laboratory for information about the quality assurance associated with the results

| Enhanced Primary Treatment (EPT) Usage | | | | | |
|---|---|---|---|---|---|
| Total Bypass (hrs) | EPT Usage (hrs) | % Usage | Total Bypass YTD (hrs) | EPT Usage YTD (hrs) | % Usage |
| 29 | 29 | 100% | 648 | 648 | 100% |

**Report Comments**

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| | |

**AEP** Ref #**

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** AEP - Alberta Environment & Parks

| | |
|---|---|
| RAW | Untreated Influent into the plant |
| INF | Untreated Wastewater from collection system |
| INFs | Influent, screened at the Headworks Diversion Structure |
| PE | Primary Effluent from conventional primaries |
| PE 30 | Primary Effluent from conventional primaries discharged via Outfall 30 |
| EPT | Enhanced Primary Treatment |
| EPE | Enhanced Primary Effluent |
| EPEPS | Enhanced Primary Effluent and Pump Station |
| FE | Final Effluent from secondary treatment process (with biological nutrient removal). |

| | |
|---|---|
| FEC | Combined pre-UV disinfection (FE+EPEPS) |
| OUTFALL 10 | UV-disinfected, discharged via OUTFALL 10 |
| OUTFALL 20 | Combined Bypass (RAW + PE + EPE) |
| OUTFALL 30 | Combined Bypass (INF + INFS + PE30 + EPE) |
| MPW | Membrane Product Water (Effluent re-use water) |
| ML | Megalitre (1,000,000 Litre) |
| MPN | Most Probable Number |
| NR | No Result |
| NS | No Sample |
| INS | Insufficient Sample |

**Alfredo Suarez**
Senior Manager, Operations

**Shane Harnish**
Senior Manager, Analytical Operations