# *Lake Thunderbird TMDL Monitoring Plan Implementation: Sample Year (SY) 2022- July Report*


**SY-2022 Monthly Report**

*Lake Thunderbird TMDL Monitoring Plan Implementation:*

*July 2022 Monitoring Report*

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Oklahoma Water Resources Board
Water Quality Programs Division
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## SUMMARY OF JULY WATER QUALITY SAMPLING

Sampling for July 2022 occurred during base flow conditions on the fifth. Water samples were collected at eight locations and discharge was measured at six locations. Samples were not collected at JB-1 due to construction activity, or LT-1 due to dry conditions. Mesonet shows no precipitation on the fifth, no precipitation in the 72 hours prior to sampling, and 0.07 inches of precipitation in the 72 hours after the sampling event. The total rainfall amount in Norman for the month of July was 1.19 inches. All water level gauges were operational for the month, except for JB-1 due to road construction. The gauge at LT-1 was removed in 2018 as a result of equipment malfunction. The equipment has not been replaced due to intermittent streamflow and dry conditions. Furthermore, this station is being reviewed for a possible location change.

## RESULTS

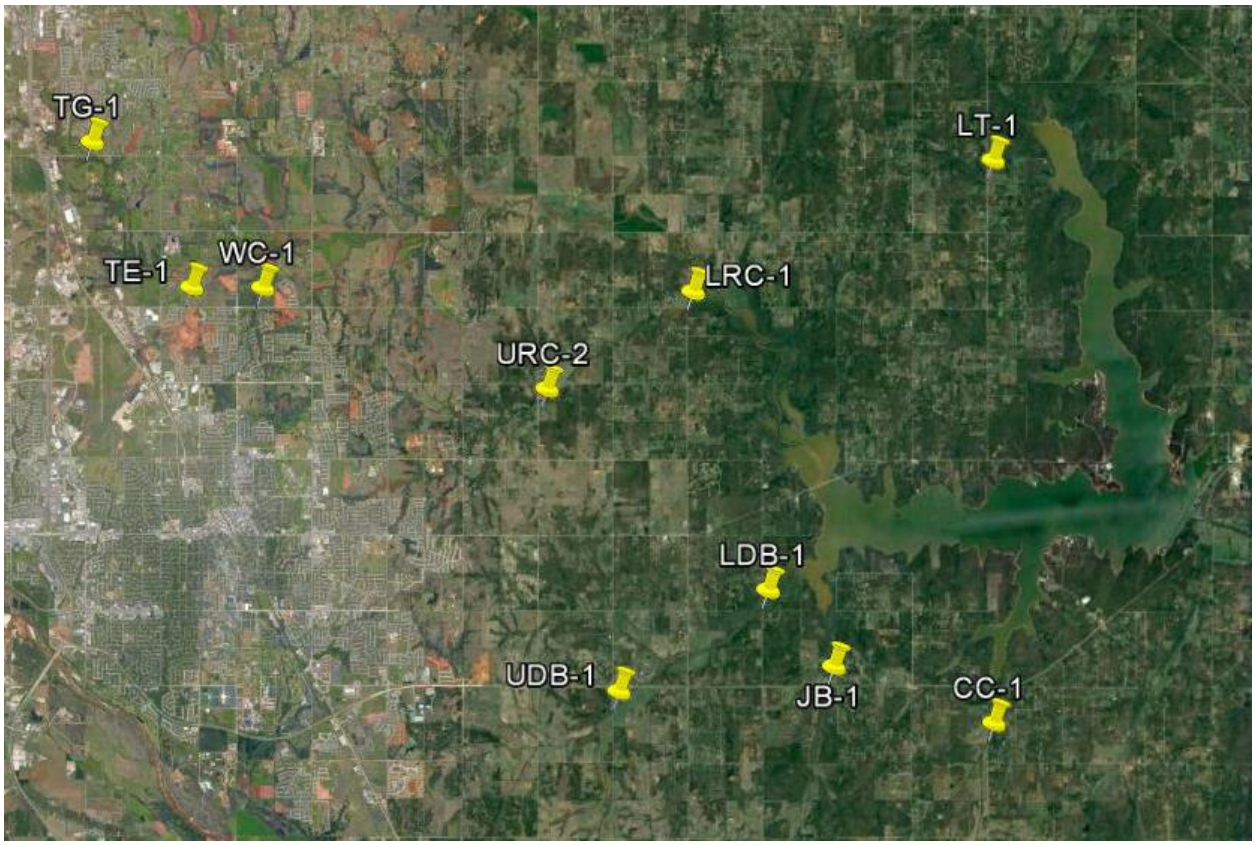



Figure 1 Monitoring Station Map

| Monitoring Location ID | Monitoring Location Name | Date | Time | Field Crew | Water Temperature (°C) | Dissolved Oxygen (DO) (mg/L) | pH | Specific Conductance (mS/cm) | Turbidity (NTU) | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| CC-1 | Clear Creek | 7/5/2022 | 10:24 | NH | 25.4 | 7.90 | 7.73 | 680 | 6 | Used RP4; abundance of filamentous algae |
| JB-1 | Jim Blue Creek | 7/5/2022 | 11:00 | NH | N/A | N/A | N/A | N/A | N/A | Under construction, did not sample |
| LDB-1 | Lower Dave Blue Creek | 7/5/2022 | 11:05 | NH | 28.5 | 6.15 | 8.19 | 694 | 14 | Fair amount of floating leaves; construction water truck pumping up water from bridge |
| LRC-1 | Lower Rock Creek | 7/5/2022 | 12:26 | NH | 27.8 | 8.46 | 7.98 | 721 | 4 | |
| LT-1 | Lake Laterals | 7/5/2022 | 11:45 | NH | N/A | N/A | N/A | N/A | N/A | No water at site, did not sample |
| TE-1 | Little River Tributary | 7/6/2022 | 9:46 | NH | 25.8 | 2.77 | 7.92 | 1183 | 3 | Level very low, completely dry downstream |
| TG-1 | Little River | 7/6/2022 | 12:46 | NH | 28.3 | 7.90 | 8.03 | 1245 | 2 | Fair amount of filamentous algae present |
| UDB-1 | Upper Dave Blue Creek | 7/5/2022 | 9:09 | NH | 24.7 | 4.80 | 7.73 | 948 | 5 | Low flow |
| URC-2 | Upper Rock Creek | 7/5/2022 | 14:01 | NH | 30.0 | 9.13 | 7.87 | 879 | 17 | Normal conditions; signs of cattle upstream and under bridge |
| WC-1 | Woodcrest Creek | 7/6/2022 | 8:49 | NH | 24.7 | 3.68 | 7.59 | 1020 | 6 | Water level slightly low; orifice had been clogged (stage had been fluctuating since 6/22) |

Table 1 Field Data Form

| Monitoring Location ID | Monitoring Location Name | Nitrate and Nitrite (mg/L) | Kjeldahl Nitrogen (mg/L) | Phosphorus (mg/L) | Total Suspended Solids (mg/L) |
|---|---|---|---|---|---|
| CC-1 | Clear Creek | 0.16 | 0.20 | 0.049 | <5.0 |
| JB-1 | Jim Blue Creek | N/A | N/A | N/A | N/A |
| LDB-1 | Lower Dave Blue Creek | <0.05 | 0.49 | 0.040 | 7.0 |
| LRC-1 | Lower Rock Creek | <0.05 | 0.22 | 0.035 | <5.0 |
| LT-1 | Lake Laterals | N/A | N/A | N/A | N/A |
| TE-1 | Little River Tributary | <0.05 | 0.33 | 0.064 | 5.0 |
| TG-1 | Little River | <0.05 | 0.36 | 0.032 | <5.0 |
| UDB-1 | Upper Dave Blue Creek | 0.08 | 0.20 | 0.029 | <5.0 |
| URC-2 | Upper Rock Creek | <0.05 | 0.65 | 0.086 | 14.0 |
| WC-1 | Woodcrest Creek | <0.05 | 0.35 | 0.072 | 15.0 |

Table 2 Laboratory Analysis Summary

| Monitoring Location Name | Nitrate and Nitrite (mg/L) | Kjeldahl Nitrogen (mg/L) | Phosphorus (mg/L) | Total Suspended Solids (mg/L) |
|---|---|---|---|---|
| Field Blank | <0.05 | <0.10 | <0.010 | <5.0 |
| Duplicate | 0.16 | 0.20 | 0.048 | <5.0 |
| Duplicate RPD | 0% | 0% | 2.06% | 0% |

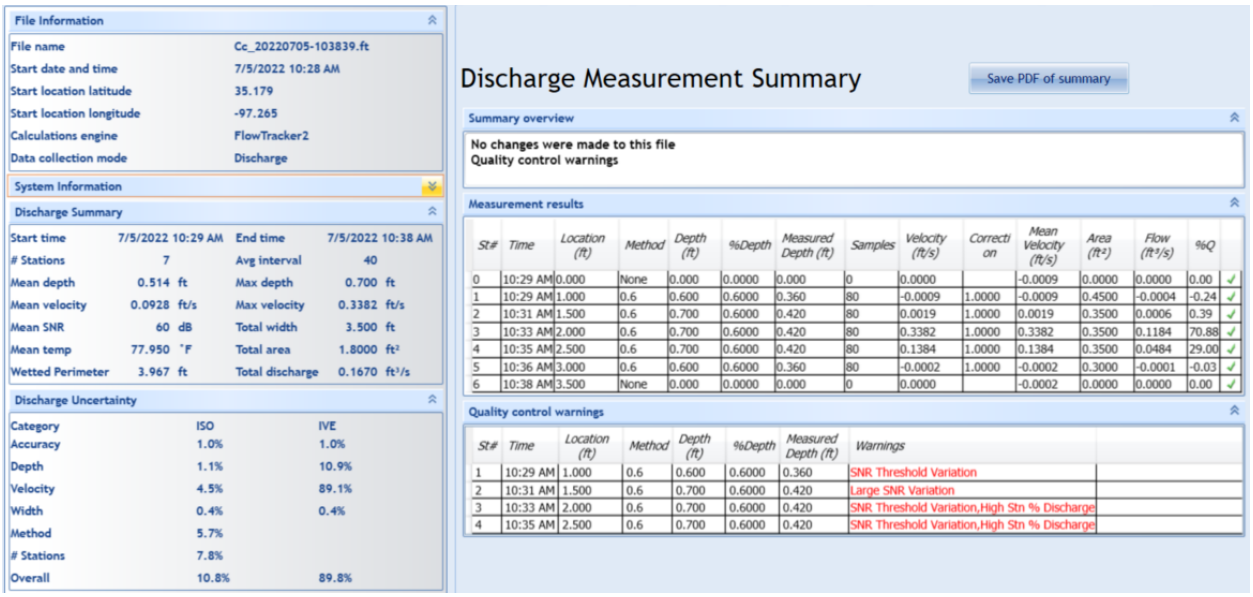
Table 3 QA/QC Data

Quality assurance/quality control (QA/QC) of the data includes a field blank and duplicate sample from each collection event and is qualified by the OWRB. Relative Percent Difference (RPD) of the duplicate sample can be categorized into four levels, where Level 1 likely has no QA issues and Level 4 has major QA issues and should be used with caution.

| Monitoring Location ID | Monitoring Location Name | Discharge (cfs) | Stream Stage (ft) |
|---|---|---|---|
| CC-1 | Clear Creek | 0.17 | 20.33 |
| JB-1 | Jim Blue Creek | N/A | N/A |
| LDB-1 | Lower Dave Blue Creek | 6.00 | 16.70 |
| LRC-1 | Lower Rock Creek | 0.22 | 3.36 |
| LT-1 | Lake Laterals | N/A | N/A |
| TE-1 | Little River Tributary | 0.00 | 10.53 |
| TG-1 | Little River | 0.54 | 8.71 |
| UDB-1 | Upper Dave Blue Creek | 0.31 | 17.15 |
| URC-2 | Upper Rock Creek | 0.04 | 11.08 |
| WC-1 | Woodcrest Creek | 0.03 | 7.29 |

Table 4 Station Discharge Summary

All rated stream discharges are provisional and subject to change.



**File Information**

| | |
|---|---|
| File name | Cc_20220705-103839.ft |
| Start date and time | 7/5/2022 10:28 AM |
| Start location latitude | 35.179 |
| Start location longitude | -97.265 |
| Calculations engine | FlowTracker2 |
| Data collection mode | Discharge |

System Information

**Discharge Summary**

| | | | |
|---|---|---|---|
| Start time | 7/5/2022 10:29 AM | End time | 7/5/2022 10:38 AM |
| # Stations | 7 | Avg interval | 40 |
| Mean depth | 0.514 ft | Max depth | 0.700 ft |
| Mean velocity | 0.0928 ft/s | Max velocity | 0.3382 ft/s |
| Mean SNR | 60 dB | Total width | 3.500 ft |
| Mean temp | 77.950 °F | Total area | 1.8000 ft² |
| Wetted Perimeter | 3.967 ft | Total discharge | 0.1670 ft³/s |

**Discharge Uncertainty**

| Category | ISO | IVE |
|---|---|---|
| Accuracy | 1.0% | 1.0% |
| Depth | 1.1% | 10.9% |
| Velocity | 4.5% | 89.1% |
| Width | 0.4% | 0.4% |
| Method | 5.7% | |
| # Stations | 7.8% | |
| Overall | 10.8% | 89.8% |

## Discharge Measurement Summary

Save PDF of summary

**Summary overview**

No changes were made to this file
Quality control warnings

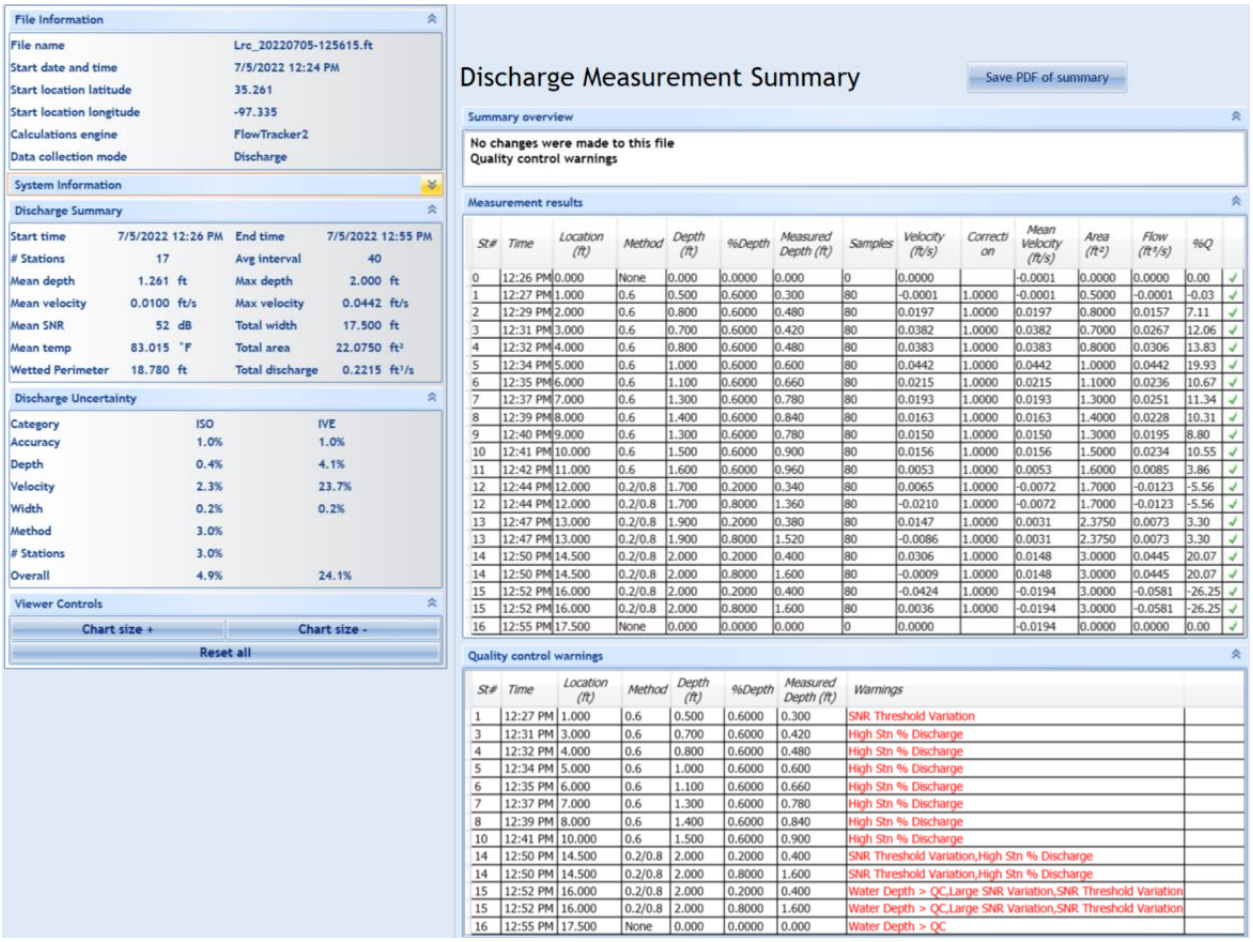
**Measurement results**

| St# | Time | Location (ft) | Method | Depth (ft) | %Depth | Measured Depth (ft) | Samples | Velocity (ft/s) | Correction | Mean Velocity (ft/s) | Area (ft²) | Flow (ft³/s) | %Q | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 10:29 AM | 0.000 | None | 0.000 | 0.0000 | 0.000 | 0 | 0.0000 | | -0.0009 | 0.0000 | 0.0000 | 0.00 | ✓ |
| 1 | 10:29 AM | 1.000 | 0.6 | 0.600 | 0.6000 | 0.360 | 80 | -0.0009 | 1.0000 | -0.0009 | 0.4500 | -0.0004 | -0.24 | ✓ |
| 2 | 10:31 AM | 1.500 | 0.6 | 0.700 | 0.6000 | 0.420 | 80 | 0.0019 | 1.0000 | 0.0019 | 0.3500 | 0.0006 | 0.39 | ✓ |
| 3 | 10:33 AM | 2.000 | 0.6 | 0.700 | 0.6000 | 0.420 | 80 | 0.3382 | 1.0000 | 0.3382 | 0.3500 | 0.1184 | 70.88 | ✓ |
| 4 | 10:35 AM | 2.500 | 0.6 | 0.700 | 0.6000 | 0.420 | 80 | 0.1384 | 1.0000 | 0.1384 | 0.3500 | 0.0484 | 29.00 | ✓ |
| 5 | 10:36 AM | 3.000 | 0.6 | 0.600 | 0.6000 | 0.360 | 80 | -0.0002 | 1.0000 | -0.0002 | 0.3000 | -0.0001 | -0.03 | ✓ |
| 6 | 10:38 AM | 3.500 | None | 0.000 | 0.0000 | 0.000 | 0 | 0.0000 | | -0.0002 | 0.0000 | 0.0000 | 0.00 | ✓ |

**Quality control warnings**

| St# | Time | Location (ft) | Method | Depth (ft) | %Depth | Measured Depth (ft) | Warnings |
|---|---|---|---|---|---|---|---|
| 1 | 10:29 AM | 1.000 | 0.6 | 0.600 | 0.6000 | 0.360 | SNR Threshold Variation |
| 2 | 10:31 AM | 1.500 | 0.6 | 0.700 | 0.6000 | 0.420 | Large SNR Variation |
| 3 | 10:33 AM | 2.000 | 0.6 | 0.700 | 0.6000 | 0.420 | SNR Threshold Variation,High Stn % Discharge |
| 4 | 10:35 AM | 2.500 | 0.6 | 0.700 | 0.6000 | 0.420 | SNR Threshold Variation,High Stn % Discharge |

Figure 2 Discharge Measurement Summary CC-1



**File Information**

| | |
|---|---|
| File name | Lrc_20220705-125615.ft |
| Start date and time | 7/5/2022 12:24 PM |
| Start location latitude | 35.261 |
| Start location longitude | -97.335 |
| Calculations engine | FlowTracker2 |
| Data collection mode | Discharge |

System Information

**Discharge Summary**

| | | | |
|---|---|---|---|
| Start time | 7/5/2022 12:26 PM | End time | 7/5/2022 12:55 PM |
| # Stations | 17 | Avg interval | 40 |
| Mean depth | 1.261 ft | Max depth | 2.000 ft |
| Mean velocity | 0.0100 ft/s | Max velocity | 0.0442 ft/s |
| Mean SNR | 52 dB | Total width | 17.500 ft |
| Mean temp | 83.015 °F | Total area | 22.0750 ft² |
| Wetted Perimeter | 18.780 ft | Total discharge | 0.2215 ft³/s |

**Discharge Uncertainty**

| Category | ISO | IVE |
|---|---|---|
| Accuracy | 1.0% | 1.0% |
| Depth | 0.4% | 4.1% |
| Velocity | 2.3% | 23.7% |
| Width | 0.2% | 0.2% |
| Method | 3.0% | |
| # Stations | 3.0% | |
| Overall | 4.9% | 24.1% |

**Viewer Controls**

Chart size + | Chart size -
Reset all

## Discharge Measurement Summary

Save PDF of summary

**Summary overview**

No changes were made to this file
Quality control warnings

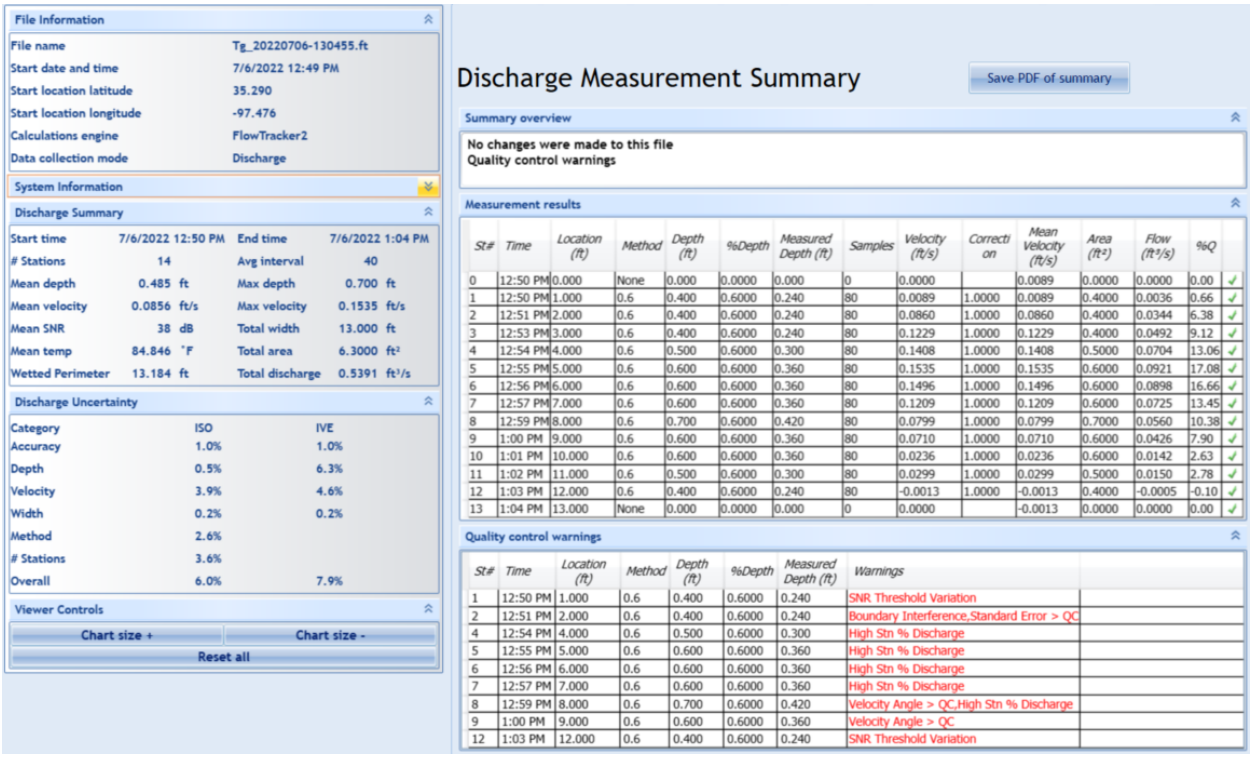
**Measurement results**

| St# | Time | Location (ft) | Method | Depth (ft) | %Depth | Measured Depth (ft) | Samples | Velocity (ft/s) | Correction | Mean Velocity (ft/s) | Area (ft²) | Flow (ft³/s) | %Q | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 12:26 PM | 0.000 | None | 0.000 | 0.0000 | 0.000 | 0 | 0.0000 | | -0.0001 | 0.0000 | 0.0000 | 0.00 | ✓ |
| 1 | 12:27 PM | 1.000 | 0.6 | 0.500 | 0.6000 | 0.300 | 80 | -0.0001 | 1.0000 | -0.0001 | 0.5000 | -0.0001 | -0.03 | ✓ |
| 2 | 12:29 PM | 2.000 | 0.6 | 0.800 | 0.6000 | 0.480 | 80 | 0.0197 | 1.0000 | 0.0197 | 0.8000 | 0.0157 | 7.11 | ✓ |
| 3 | 12:31 PM | 3.000 | 0.6 | 0.700 | 0.6000 | 0.420 | 80 | 0.0382 | 1.0000 | 0.0382 | 0.7000 | 0.0267 | 12.06 | ✓ |
| 4 | 12:32 PM | 4.000 | 0.6 | 0.800 | 0.6000 | 0.480 | 80 | 0.0383 | 1.0000 | 0.0383 | 0.8000 | 0.0306 | 13.83 | ✓ |
| 5 | 12:34 PM | 5.000 | 0.6 | 1.000 | 0.6000 | 0.600 | 80 | 0.0442 | 1.0000 | 0.0442 | 1.0000 | 0.0442 | 19.93 | ✓ |
| 6 | 12:35 PM | 6.000 | 0.6 | 1.100 | 0.6000 | 0.660 | 80 | 0.0215 | 1.0000 | 0.0215 | 1.1000 | 0.0236 | 10.67 | ✓ |
| 7 | 12:37 PM | 7.000 | 0.6 | 1.300 | 0.6000 | 0.780 | 80 | 0.0193 | 1.0000 | 0.0193 | 1.3000 | 0.0251 | 11.34 | ✓ |
| 8 | 12:39 PM | 8.000 | 0.6 | 1.400 | 0.6000 | 0.840 | 80 | 0.0163 | 1.0000 | 0.0163 | 1.4000 | 0.0228 | 10.31 | ✓ |
| 9 | 12:40 PM | 9.000 | 0.6 | 1.300 | 0.6000 | 0.780 | 80 | 0.0150 | 1.0000 | 0.0150 | 1.3000 | 0.0195 | 8.80 | ✓ |
| 10 | 12:41 PM | 10.000 | 0.6 | 1.500 | 0.6000 | 0.900 | 80 | 0.0156 | 1.0000 | 0.0156 | 1.5000 | 0.0234 | 10.55 | ✓ |
| 11 | 12:42 PM | 11.000 | 0.6 | 1.600 | 0.6000 | 0.960 | 80 | 0.0053 | 1.0000 | 0.0053 | 1.6000 | 0.0085 | 3.86 | ✓ |
| 12 | 12:44 PM | 12.000 | 0.2/0.8 | 1.700 | 0.2000 | 0.340 | 80 | 0.0065 | 1.0000 | -0.0072 | 1.7000 | -0.0123 | -5.56 | ✓ |
| 12 | 12:44 PM | 12.000 | 0.2/0.8 | 1.700 | 0.8000 | 1.360 | 80 | -0.0210 | 1.0000 | -0.0072 | 1.7000 | -0.0123 | -5.56 | ✓ |
| 13 | 12:47 PM | 13.000 | 0.2/0.8 | 1.900 | 0.2000 | 0.380 | 80 | 0.0147 | 1.0000 | 0.0031 | 2.3750 | 0.0073 | 3.30 | ✓ |
| 13 | 12:47 PM | 13.000 | 0.2/0.8 | 1.900 | 0.8000 | 1.520 | 80 | -0.0086 | 1.0000 | 0.0031 | 2.3750 | 0.0073 | 3.30 | ✓ |
| 14 | 12:50 PM | 14.500 | 0.2/0.8 | 2.000 | 0.2000 | 0.400 | 80 | 0.0306 | 1.0000 | 0.0148 | 3.0000 | 0.0445 | 20.07 | ✓ |
| 14 | 12:50 PM | 14.500 | 0.2/0.8 | 2.000 | 0.8000 | 1.600 | 80 | -0.0009 | 1.0000 | 0.0148 | 3.0000 | 0.0445 | 20.07 | ✓ |
| 15 | 12:52 PM | 16.000 | 0.2/0.8 | 2.000 | 0.2000 | 0.400 | 80 | -0.0424 | 1.0000 | -0.0194 | 3.0000 | -0.0581 | -26.25 | ✓ |
| 15 | 12:52 PM | 16.000 | 0.2/0.8 | 2.000 | 0.8000 | 1.600 | 80 | 0.0036 | 1.0000 | -0.0194 | 3.0000 | -0.0581 | -26.25 | ✓ |
| 16 | 12:55 PM | 17.500 | None | 0.000 | 0.0000 | 0.000 | 0 | 0.0000 | | -0.0194 | 0.0000 | 0.0000 | 0.00 | ✓ |

**Quality control warnings**

| St# | Time | Location (ft) | Method | Depth (ft) | %Depth | Measured Depth (ft) | Warnings | |
|---|---|---|---|---|---|---|---|---|
| 1 | 12:27 PM | 1.000 | 0.6 | 0.500 | 0.6000 | 0.300 | SNR Threshold Variation | |
| 3 | 12:31 PM | 3.000 | 0.6 | 0.700 | 0.6000 | 0.420 | High Stn % Discharge | |
| 4 | 12:32 PM | 4.000 | 0.6 | 0.800 | 0.6000 | 0.480 | High Stn % Discharge | |
| 5 | 12:34 PM | 5.000 | 0.6 | 1.000 | 0.6000 | 0.600 | High Stn % Discharge | |
| 6 | 12:35 PM | 6.000 | 0.6 | 1.100 | 0.6000 | 0.660 | High Stn % Discharge | |
| 7 | 12:37 PM | 7.000 | 0.6 | 1.300 | 0.6000 | 0.780 | High Stn % Discharge | |
| 8 | 12:39 PM | 8.000 | 0.6 | 1.400 | 0.6000 | 0.840 | High Stn % Discharge | |
| 10 | 12:41 PM | 10.000 | 0.6 | 1.500 | 0.6000 | 0.900 | High Stn % Discharge | |
| 14 | 12:50 PM | 14.500 | 0.2/0.8 | 2.000 | 0.2000 | 0.400 | SNR Threshold Variation,High Stn % Discharge | |
| 14 | 12:50 PM | 14.500 | 0.2/0.8 | 2.000 | 0.8000 | 1.600 | SNR Threshold Variation,High Stn % Discharge | |
| 15 | 12:52 PM | 16.000 | 0.2/0.8 | 2.000 | 0.2000 | 0.400 | Water Depth > QC,Large SNR Variation,SNR Threshold Variation | |
| 15 | 12:52 PM | 16.000 | 0.2/0.8 | 2.000 | 0.8000 | 1.600 | Water Depth > QC,Large SNR Variation,SNR Threshold Variation | |
| 16 | 12:55 PM | 17.500 | None | 0.000 | 0.0000 | 0.000 | Water Depth > QC | |

Figure 3 Discharge Measurement Summary LRC-1



**File Information**

| | |
|---|---|
| File name | Tg_20220706-130455.ft |
| Start date and time | 7/6/2022 12:49 PM |
| Start location latitude | 35.290 |
| Start location longitude | -97.476 |
| Calculations engine | FlowTracker2 |
| Data collection mode | Discharge |

System Information

**Discharge Summary**

| | | | |
|---|---|---|---|
| Start time | 7/6/2022 12:50 PM | End time | 7/6/2022 1:04 PM |
| # Stations | 14 | Avg interval | 40 |
| Mean depth | 0.485 ft | Max depth | 0.700 ft |
| Mean velocity | 0.0856 ft/s | Max velocity | 0.1535 ft/s |
| Mean SNR | 38 dB | Total width | 13.000 ft |
| Mean temp | 84.846 °F | Total area | 6.3000 ft² |
| Wetted Perimeter | 13.184 ft | Total discharge | 0.5391 ft³/s |

**Discharge Uncertainty**

| Category | ISO | IVE |
|---|---|---|
| Accuracy | 1.0% | 1.0% |
| Depth | 0.5% | 6.3% |
| Velocity | 3.9% | 4.6% |
| Width | 0.2% | 0.2% |
| Method | 2.6% | |
| # Stations | 3.6% | |
| Overall | 6.0% | 7.9% |

Viewer Controls

Chart size + | Chart size - | Reset all

## Discharge Measurement Summary

Save PDF of summary

**Summary overview**

No changes were made to this file
Quality control warnings

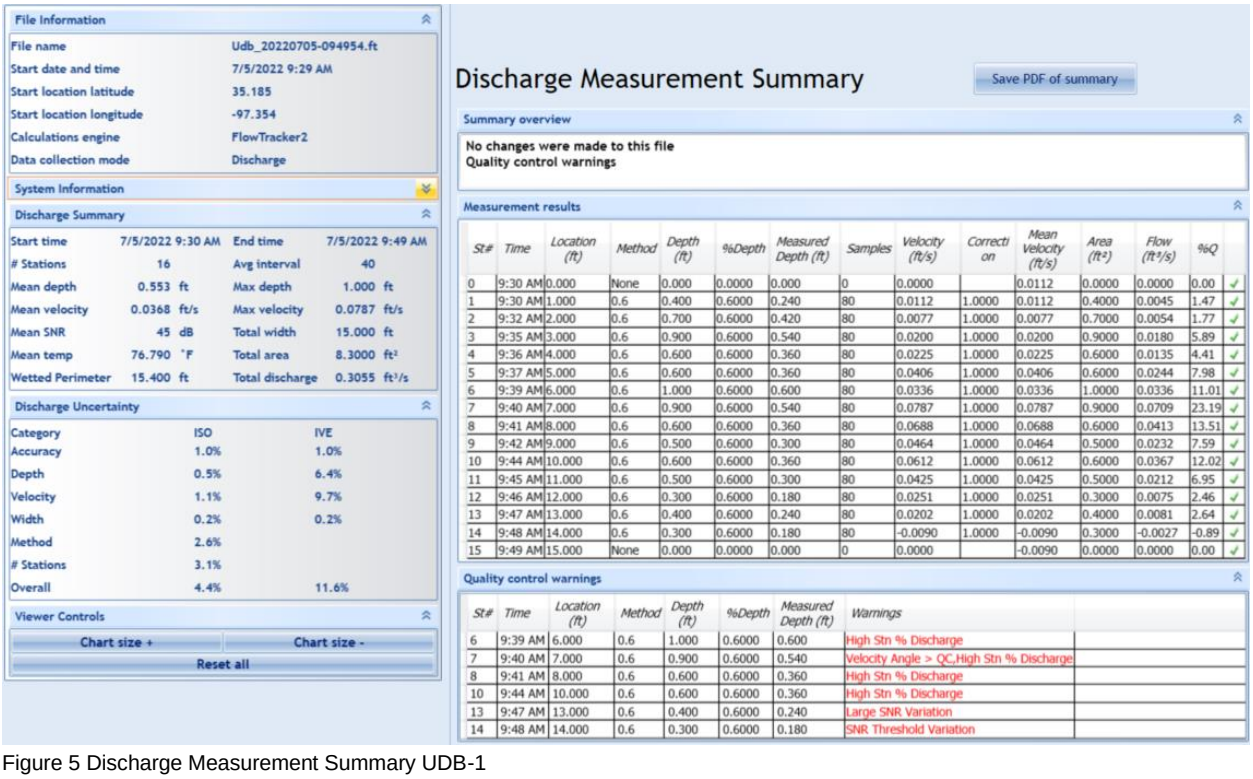
**Measurement results**

| St# | Time | Location (ft) | Method | Depth (ft) | %Depth | Measured Depth (ft) | Samples | Velocity (ft/s) | Correction | Mean Velocity (ft/s) | Area (ft²) | Flow (ft³/s) | %Q | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 12:50 PM | 0.000 | None | 0.000 | 0.0000 | 0.000 | 0 | 0.0000 | | 0.0089 | 0.0000 | 0.0000 | 0.00 | ✓ |
| 1 | 12:50 PM | 1.000 | 0.6 | 0.400 | 0.6000 | 0.240 | 80 | 0.0089 | 1.0000 | 0.0089 | 0.4000 | 0.0036 | 0.66 | ✓ |
| 2 | 12:51 PM | 2.000 | 0.6 | 0.400 | 0.6000 | 0.240 | 80 | 0.0860 | 1.0000 | 0.0860 | 0.4000 | 0.0344 | 6.38 | ✓ |
| 3 | 12:53 PM | 3.000 | 0.6 | 0.400 | 0.6000 | 0.240 | 80 | 0.1229 | 1.0000 | 0.1229 | 0.4000 | 0.0492 | 9.12 | ✓ |
| 4 | 12:54 PM | 4.000 | 0.6 | 0.500 | 0.6000 | 0.300 | 80 | 0.1408 | 1.0000 | 0.1408 | 0.5000 | 0.0704 | 13.06 | ✓ |
| 5 | 12:55 PM | 5.000 | 0.6 | 0.600 | 0.6000 | 0.360 | 80 | 0.1535 | 1.0000 | 0.1535 | 0.6000 | 0.0921 | 17.08 | ✓ |
| 6 | 12:56 PM | 6.000 | 0.6 | 0.600 | 0.6000 | 0.360 | 80 | 0.1496 | 1.0000 | 0.1496 | 0.6000 | 0.0898 | 16.66 | ✓ |
| 7 | 12:57 PM | 7.000 | 0.6 | 0.600 | 0.6000 | 0.360 | 80 | 0.1209 | 1.0000 | 0.1209 | 0.6000 | 0.0725 | 13.45 | ✓ |
| 8 | 12:59 PM | 8.000 | 0.6 | 0.700 | 0.6000 | 0.420 | 80 | 0.0799 | 1.0000 | 0.0799 | 0.7000 | 0.0560 | 10.38 | ✓ |
| 9 | 1:00 PM | 9.000 | 0.6 | 0.600 | 0.6000 | 0.360 | 80 | 0.0710 | 1.0000 | 0.0710 | 0.6000 | 0.0426 | 7.90 | ✓ |
| 10 | 1:01 PM | 10.000 | 0.6 | 0.600 | 0.6000 | 0.360 | 80 | 0.0236 | 1.0000 | 0.0236 | 0.6000 | 0.0142 | 2.63 | ✓ |
| 11 | 1:02 PM | 11.000 | 0.6 | 0.500 | 0.6000 | 0.300 | 80 | 0.0299 | 1.0000 | 0.0299 | 0.5000 | 0.0150 | 2.78 | ✓ |
| 12 | 1:03 PM | 12.000 | 0.6 | 0.400 | 0.6000 | 0.240 | 80 | -0.0013 | 1.0000 | -0.0013 | 0.4000 | -0.0005 | -0.10 | ✓ |
| 13 | 1:04 PM | 13.000 | None | 0.000 | 0.0000 | 0.000 | 0 | 0.0000 | | -0.0013 | 0.0000 | 0.0000 | 0.00 | ✓ |

**Quality control warnings**

| St# | Time | Location (ft) | Method | Depth (ft) | %Depth | Measured Depth (ft) | Warnings |
|---|---|---|---|---|---|---|---|
| 1 | 12:50 PM | 1.000 | 0.6 | 0.400 | 0.6000 | 0.240 | SNR Threshold Variation |
| 2 | 12:51 PM | 2.000 | 0.6 | 0.400 | 0.6000 | 0.240 | Boundary Interference,Standard Error > QC |
| 4 | 12:54 PM | 4.000 | 0.6 | 0.500 | 0.6000 | 0.300 | High Stn % Discharge |
| 5 | 12:55 PM | 5.000 | 0.6 | 0.600 | 0.6000 | 0.360 | High Stn % Discharge |
| 6 | 12:56 PM | 6.000 | 0.6 | 0.600 | 0.6000 | 0.360 | High Stn % Discharge |
| 7 | 12:57 PM | 7.000 | 0.6 | 0.600 | 0.6000 | 0.360 | High Stn % Discharge |
| 8 | 12:59 PM | 8.000 | 0.6 | 0.700 | 0.6000 | 0.420 | Velocity Angle > QC,High Stn % Discharge |
| 9 | 1:00 PM | 9.000 | 0.6 | 0.600 | 0.6000 | 0.360 | Velocity Angle > QC |
| 12 | 1:03 PM | 12.000 | 0.6 | 0.400 | 0.6000 | 0.240 | SNR Threshold Variation |

Figure 4 Discharge Measurement Summary TG-1



**File Information**

| | |
|---|---|
| File name | Udb_20220705-094954.ft |
| Start date and time | 7/5/2022 9:29 AM |
| Start location latitude | 35.185 |
| Start location longitude | -97.354 |
| Calculations engine | FlowTracker2 |
| Data collection mode | Discharge |

System Information

**Discharge Summary**

| | | | |
|---|---|---|---|
| Start time | 7/5/2022 9:30 AM | End time | 7/5/2022 9:49 AM |
| # Stations | 16 | Avg interval | 40 |
| Mean depth | 0.553 ft | Max depth | 1.000 ft |
| Mean velocity | 0.0368 ft/s | Max velocity | 0.0787 ft/s |
| Mean SNR | 45 dB | Total width | 15.000 ft |
| Mean temp | 76.790 °F | Total area | 8.3000 ft² |
| Wetted Perimeter | 15.400 ft | Total discharge | 0.3055 ft³/s |

**Discharge Uncertainty**

| Category | ISO | IVE |
|---|---|---|
| Accuracy | 1.0% | 1.0% |
| Depth | 0.5% | 6.4% |
| Velocity | 1.1% | 9.7% |
| Width | 0.2% | 0.2% |
| Method | 2.6% | |
| # Stations | 3.1% | |
| Overall | 4.4% | 11.6% |

Viewer Controls

Chart size + | Chart size - | Reset all

## Discharge Measurement Summary

Save PDF of summary

**Summary overview**

No changes were made to this file
Quality control warnings

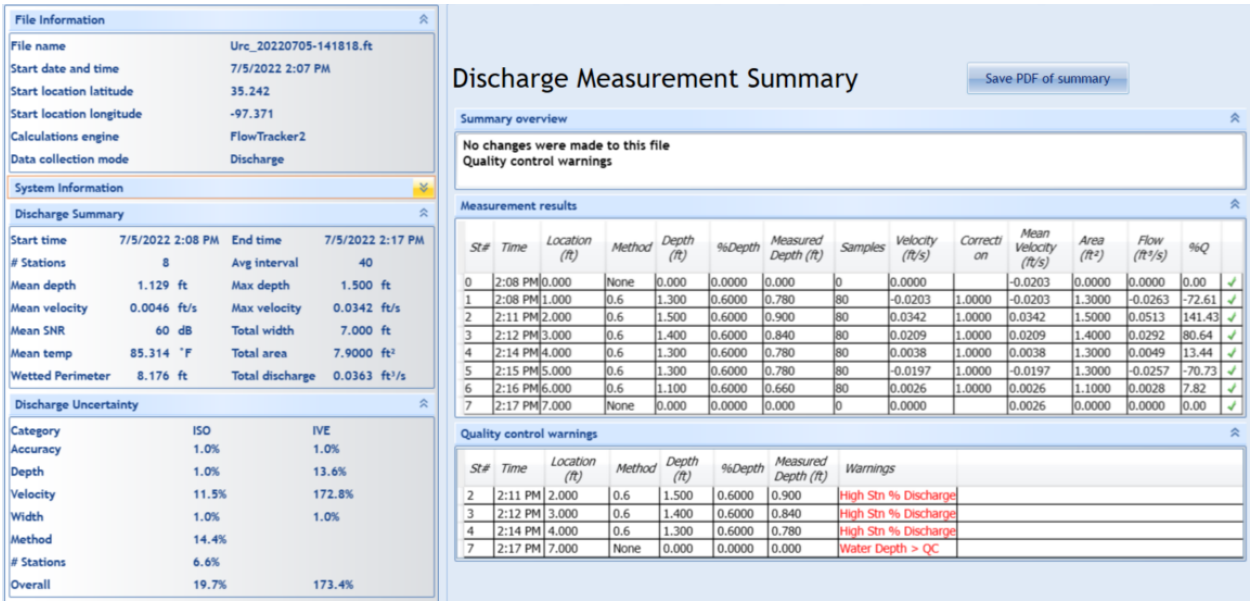
**Measurement results**

| St# | Time | Location (ft) | Method | Depth (ft) | %Depth | Measured Depth (ft) | Samples | Velocity (ft/s) | Correction | Mean Velocity (ft/s) | Area (ft²) | Flow (ft³/s) | %Q | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 9:30 AM | 0.000 | None | 0.000 | 0.0000 | 0.000 | 0 | 0.0000 | | 0.0112 | 0.0000 | 0.0000 | 0.00 | ✓ |
| 1 | 9:30 AM | 1.000 | 0.6 | 0.400 | 0.6000 | 0.240 | 80 | 0.0112 | 1.0000 | 0.0112 | 0.4000 | 0.0045 | 1.47 | ✓ |
| 2 | 9:32 AM | 2.000 | 0.6 | 0.700 | 0.6000 | 0.420 | 80 | 0.0077 | 1.0000 | 0.0077 | 0.7000 | 0.0054 | 1.77 | ✓ |
| 3 | 9:35 AM | 3.000 | 0.6 | 0.900 | 0.6000 | 0.540 | 80 | 0.0200 | 1.0000 | 0.0200 | 0.9000 | 0.0180 | 5.89 | ✓ |
| 4 | 9:36 AM | 4.000 | 0.6 | 0.600 | 0.6000 | 0.360 | 80 | 0.0225 | 1.0000 | 0.0225 | 0.6000 | 0.0135 | 4.41 | ✓ |
| 5 | 9:37 AM | 5.000 | 0.6 | 0.600 | 0.6000 | 0.360 | 80 | 0.0406 | 1.0000 | 0.0406 | 0.6000 | 0.0244 | 7.98 | ✓ |
| 6 | 9:39 AM | 6.000 | 0.6 | 1.000 | 0.6000 | 0.600 | 80 | 0.0336 | 1.0000 | 0.0336 | 1.0000 | 0.0336 | 11.01 | ✓ |
| 7 | 9:40 AM | 7.000 | 0.6 | 0.900 | 0.6000 | 0.540 | 80 | 0.0787 | 1.0000 | 0.0787 | 0.9000 | 0.0709 | 23.19 | ✓ |
| 8 | 9:41 AM | 8.000 | 0.6 | 0.600 | 0.6000 | 0.360 | 80 | 0.0688 | 1.0000 | 0.0688 | 0.6000 | 0.0413 | 13.51 | ✓ |
| 9 | 9:42 AM | 9.000 | 0.6 | 0.500 | 0.6000 | 0.300 | 80 | 0.0464 | 1.0000 | 0.0464 | 0.5000 | 0.0232 | 7.59 | ✓ |
| 10 | 9:44 AM | 10.000 | 0.6 | 0.600 | 0.6000 | 0.360 | 80 | 0.0612 | 1.0000 | 0.0612 | 0.6000 | 0.0367 | 12.02 | ✓ |
| 11 | 9:45 AM | 11.000 | 0.6 | 0.500 | 0.6000 | 0.300 | 80 | 0.0425 | 1.0000 | 0.0425 | 0.5000 | 0.0212 | 6.95 | ✓ |
| 12 | 9:46 AM | 12.000 | 0.6 | 0.300 | 0.6000 | 0.180 | 80 | 0.0251 | 1.0000 | 0.0251 | 0.3000 | 0.0075 | 2.46 | ✓ |
| 13 | 9:47 AM | 13.000 | 0.6 | 0.400 | 0.6000 | 0.240 | 80 | 0.0202 | 1.0000 | 0.0202 | 0.4000 | 0.0081 | 2.64 | ✓ |
| 14 | 9:48 AM | 14.000 | 0.6 | 0.300 | 0.6000 | 0.180 | 80 | -0.0090 | 1.0000 | -0.0090 | 0.3000 | -0.0027 | -0.89 | ✓ |
| 15 | 9:49 AM | 15.000 | None | 0.000 | 0.0000 | 0.000 | 0 | 0.0000 | | -0.0090 | 0.0000 | 0.0000 | 0.00 | ✓ |

**Quality control warnings**

| St# | Time | Location (ft) | Method | Depth (ft) | %Depth | Measured Depth (ft) | Warnings |
|---|---|---|---|---|---|---|---|
| 6 | 9:39 AM | 6.000 | 0.6 | 1.000 | 0.6000 | 0.600 | High Stn % Discharge |
| 7 | 9:40 AM | 7.000 | 0.6 | 0.900 | 0.6000 | 0.540 | Velocity Angle > QC,High Stn % Discharge |
| 8 | 9:41 AM | 8.000 | 0.6 | 0.600 | 0.6000 | 0.360 | High Stn % Discharge |
| 10 | 9:44 AM | 10.000 | 0.6 | 0.600 | 0.6000 | 0.360 | High Stn % Discharge |
| 13 | 9:47 AM | 13.000 | 0.6 | 0.400 | 0.6000 | 0.240 | Large SNR Variation |
| 14 | 9:48 AM | 14.000 | 0.6 | 0.300 | 0.6000 | 0.180 | SNR Threshold Variation |

Figure 5 Discharge Measurement Summary UDB-1



## Discharge Measurement Summary

Save PDF of summary

**File Information**

| | |
|---|---|
| File name | Urc_20220705-141818.ft |
| Start date and time | 7/5/2022 2:07 PM |
| Start location latitude | 35.242 |
| Start location longitude | -97.371 |
| Calculations engine | FlowTracker2 |
| Data collection mode | Discharge |

**System Information**

**Discharge Summary**

| | | | |
|---|---|---|---|
| Start time | 7/5/2022 2:08 PM | End time | 7/5/2022 2:17 PM |
| # Stations | 8 | Avg interval | 40 |
| Mean depth | 1.129 ft | Max depth | 1.500 ft |
| Mean velocity | 0.0046 ft/s | Max velocity | 0.0342 ft/s |
| Mean SNR | 60 dB | Total width | 7.000 ft |
| Mean temp | 85.314 °F | Total area | 7.9000 ft² |
| Wetted Perimeter | 8.176 ft | Total discharge | 0.0363 ft³/s |

**Discharge Uncertainty**

| Category | ISO | IVE |
|---|---|---|
| Accuracy | 1.0% | 1.0% |
| Depth | 1.0% | 13.6% |
| Velocity | 11.5% | 172.8% |
| Width | 1.0% | 1.0% |
| Method | 14.4% | |
| # Stations | 6.6% | |
| Overall | 19.7% | 173.4% |

**Summary overview**

No changes were made to this file
Quality control warnings

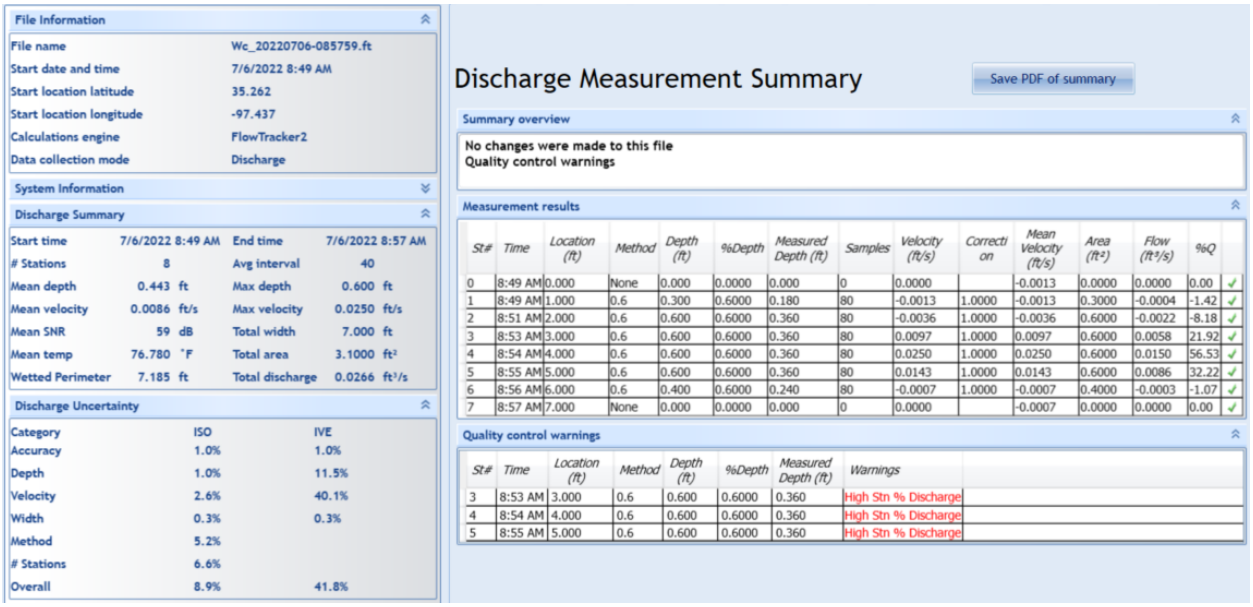
**Measurement results**

| St# | Time | Location (ft) | Method | Depth (ft) | %Depth | Measured Depth (ft) | Samples | Velocity (ft/s) | Correction | Mean Velocity (ft/s) | Area (ft²) | Flow (ft³/s) | %Q | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 2:08 PM | 0.000 | None | 0.000 | 0.0000 | 0.000 | 0 | 0.0000 | | -0.0203 | 0.0000 | 0.0000 | 0.00 | ✓ |
| 1 | 2:08 PM | 1.000 | 0.6 | 1.300 | 0.6000 | 0.780 | 80 | -0.0203 | 1.0000 | -0.0203 | 1.3000 | -0.0263 | -72.61 | ✓ |
| 2 | 2:11 PM | 2.000 | 0.6 | 1.500 | 0.6000 | 0.900 | 80 | 0.0342 | 1.0000 | 0.0342 | 1.5000 | 0.0513 | 141.43 | ✓ |
| 3 | 2:12 PM | 3.000 | 0.6 | 1.400 | 0.6000 | 0.840 | 80 | 0.0209 | 1.0000 | 0.0209 | 1.4000 | 0.0292 | 80.64 | ✓ |
| 4 | 2:14 PM | 4.000 | 0.6 | 1.300 | 0.6000 | 0.780 | 80 | 0.0038 | 1.0000 | 0.0038 | 1.3000 | 0.0049 | 13.44 | ✓ |
| 5 | 2:15 PM | 5.000 | 0.6 | 1.300 | 0.6000 | 0.780 | 80 | -0.0197 | 1.0000 | -0.0197 | 1.3000 | -0.0257 | -70.73 | ✓ |
| 6 | 2:16 PM | 6.000 | 0.6 | 1.100 | 0.6000 | 0.660 | 80 | 0.0026 | 1.0000 | 0.0026 | 1.1000 | 0.0028 | 7.82 | ✓ |
| 7 | 2:17 PM | 7.000 | None | 0.000 | 0.0000 | 0.000 | 0 | 0.0000 | | 0.0026 | 0.0000 | 0.0000 | 0.00 | ✓ |

**Quality control warnings**

| St# | Time | Location (ft) | Method | Depth (ft) | %Depth | Measured Depth (ft) | Warnings |
|---|---|---|---|---|---|---|---|
| 2 | 2:11 PM | 2.000 | 0.6 | 1.500 | 0.6000 | 0.900 | High Stn % Discharge |
| 3 | 2:12 PM | 3.000 | 0.6 | 1.400 | 0.6000 | 0.840 | High Stn % Discharge |
| 4 | 2:14 PM | 4.000 | 0.6 | 1.300 | 0.6000 | 0.780 | High Stn % Discharge |
| 7 | 2:17 PM | 7.000 | None | 0.000 | 0.0000 | 0.000 | Water Depth > QC |

Figure 6 Discharge Measurement Summary URC-2



## Discharge Measurement Summary

Save PDF of summary

**File Information**

| | |
|---|---|
| File name | Wc_20220706-085759.ft |
| Start date and time | 7/6/2022 8:49 AM |
| Start location latitude | 35.262 |
| Start location longitude | -97.437 |
| Calculations engine | FlowTracker2 |
| Data collection mode | Discharge |

**System Information**

**Discharge Summary**

| | | | |
|---|---|---|---|
| Start time | 7/6/2022 8:49 AM | End time | 7/6/2022 8:57 AM |
| # Stations | 8 | Avg interval | 40 |
| Mean depth | 0.443 ft | Max depth | 0.600 ft |
| Mean velocity | 0.0086 ft/s | Max velocity | 0.0250 ft/s |
| Mean SNR | 59 dB | Total width | 7.000 ft |
| Mean temp | 76.780 °F | Total area | 3.1000 ft² |
| Wetted Perimeter | 7.185 ft | Total discharge | 0.0266 ft³/s |

**Discharge Uncertainty**

| Category | ISO | IVE |
|---|---|---|
| Accuracy | 1.0% | 1.0% |
| Depth | 1.0% | 11.5% |
| Velocity | 2.6% | 40.1% |
| Width | 0.3% | 0.3% |
| Method | 5.2% | |
| # Stations | 6.6% | |
| Overall | 8.9% | 41.8% |

**Summary overview**

No changes were made to this file
Quality control warnings

**Measurement results**

| St# | Time | Location (ft) | Method | Depth (ft) | %Depth | Measured Depth (ft) | Samples | Velocity (ft/s) | Correction | Mean Velocity (ft/s) | Area (ft²) | Flow (ft³/s) | %Q | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 8:49 AM | 0.000 | None | 0.000 | 0.0000 | 0.000 | 0 | 0.0000 | | -0.0013 | 0.0000 | 0.0000 | 0.00 | ✓ |
| 1 | 8:49 AM | 1.000 | 0.6 | 0.300 | 0.6000 | 0.180 | 80 | -0.0013 | 1.0000 | -0.0013 | 0.3000 | -0.0004 | -1.42 | ✓ |
| 2 | 8:51 AM | 2.000 | 0.6 | 0.600 | 0.6000 | 0.360 | 80 | -0.0036 | 1.0000 | -0.0036 | 0.6000 | -0.0022 | -8.18 | ✓ |
| 3 | 8:53 AM | 3.000 | 0.6 | 0.600 | 0.6000 | 0.360 | 80 | 0.0097 | 1.0000 | 0.0097 | 0.6000 | 0.0058 | 21.92 | ✓ |
| 4 | 8:54 AM | 4.000 | 0.6 | 0.600 | 0.6000 | 0.360 | 80 | 0.0250 | 1.0000 | 0.0250 | 0.6000 | 0.0150 | 56.53 | ✓ |
| 5 | 8:55 AM | 5.000 | 0.6 | 0.600 | 0.6000 | 0.360 | 80 | 0.0143 | 1.0000 | 0.0143 | 0.6000 | 0.0086 | 32.22 | ✓ |
| 6 | 8:56 AM | 6.000 | 0.6 | 0.400 | 0.6000 | 0.240 | 80 | -0.0007 | 1.0000 | -0.0007 | 0.4000 | -0.0003 | -1.07 | ✓ |
| 7 | 8:57 AM | 7.000 | None | 0.000 | 0.0000 | 0.000 | 0 | 0.0000 | | -0.0007 | 0.0000 | 0.0000 | 0.00 | ✓ |

**Quality control warnings**

| St# | Time | Location (ft) | Method | Depth (ft) | %Depth | Measured Depth (ft) | Warnings |
|---|---|---|---|---|---|---|---|
| 3 | 8:53 AM | 3.000 | 0.6 | 0.600 | 0.6000 | 0.360 | High Stn % Discharge |
| 4 | 8:54 AM | 4.000 | 0.6 | 0.600 | 0.6000 | 0.360 | High Stn % Discharge |
| 5 | 8:55 AM | 5.000 | 0.6 | 0.600 | 0.6000 | 0.360 | High Stn % Discharge |

Figure 7 Discharge Measurement Summary WC-1

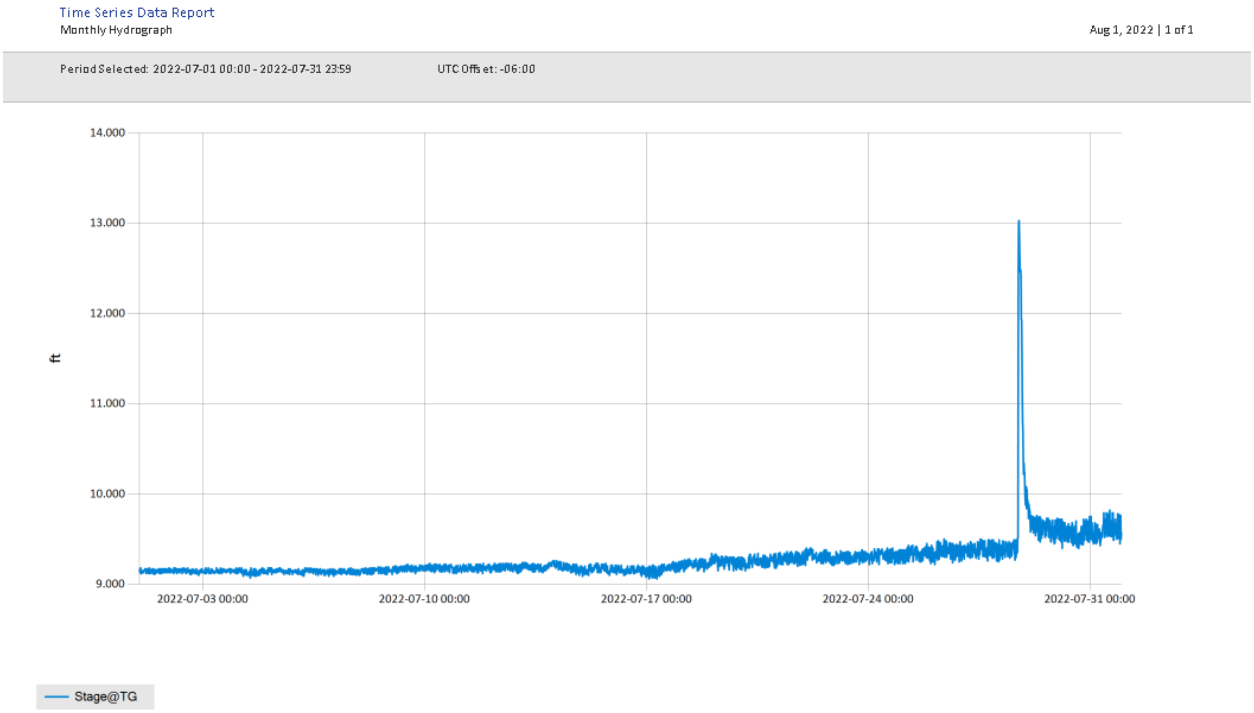



Figure 8 Monthly Hydrograph TG-1

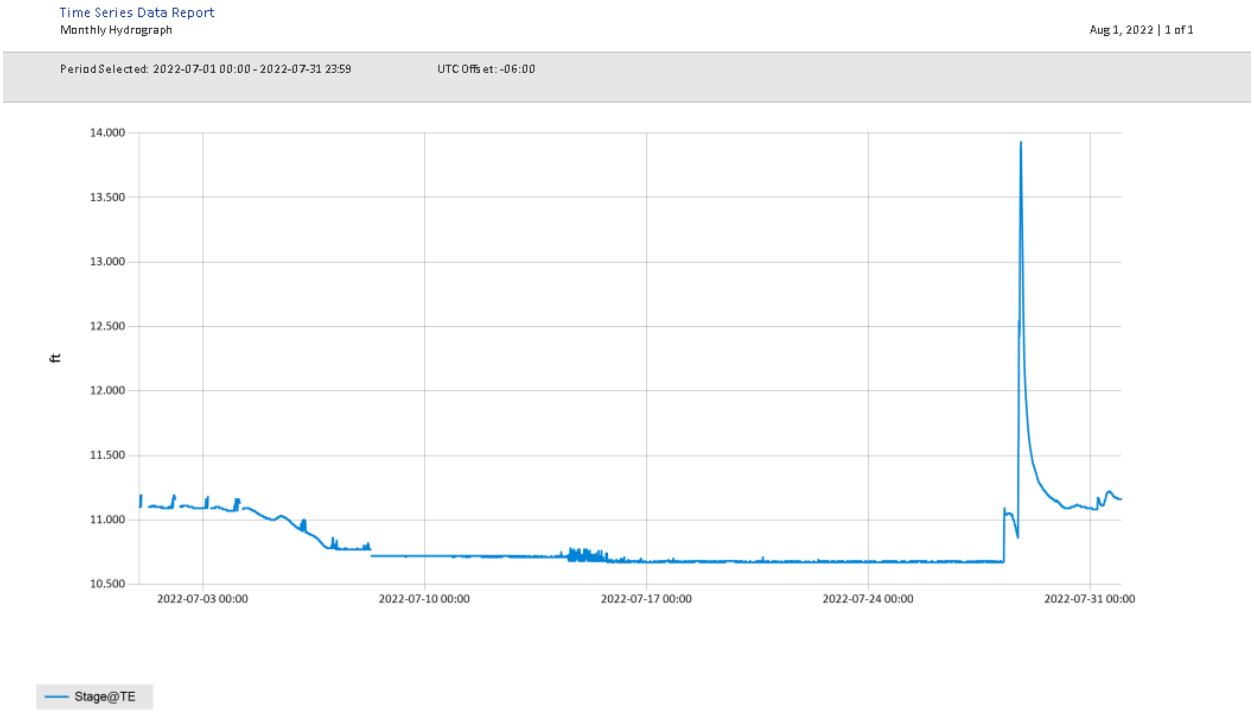



Figure 9 Monthly Hydrograph TE-1

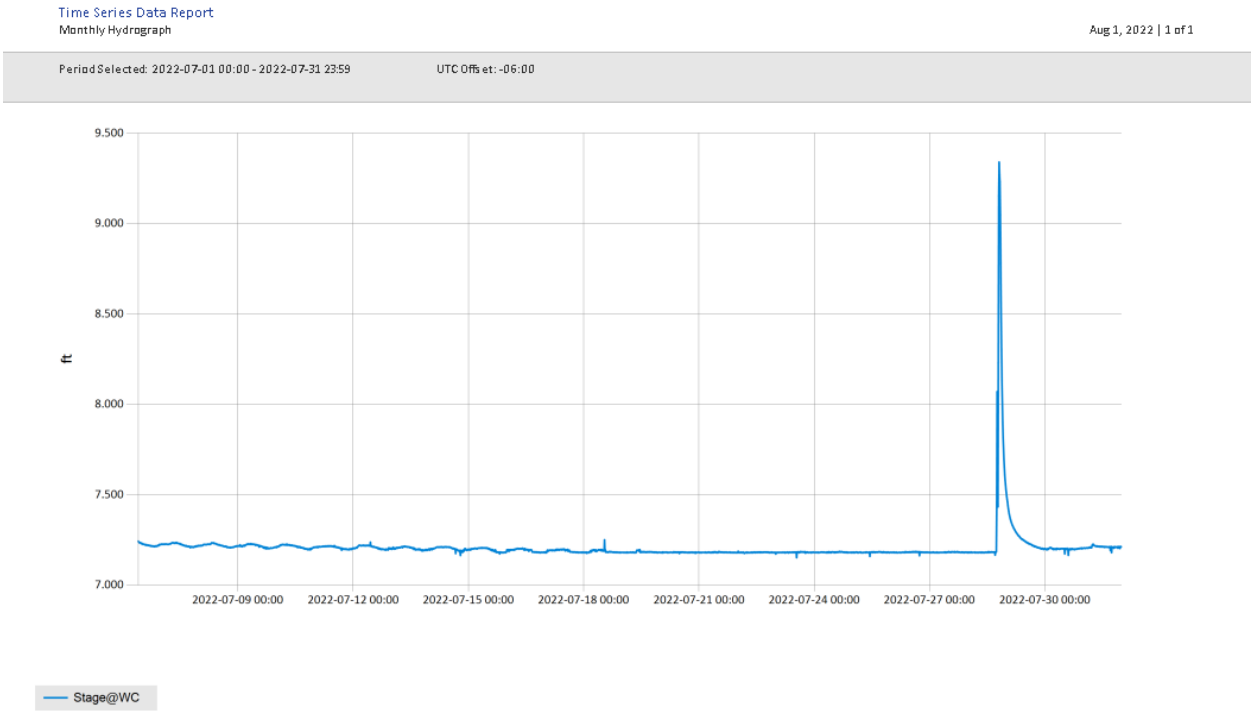



Figure 10 Monthly Hydrograph WC-1

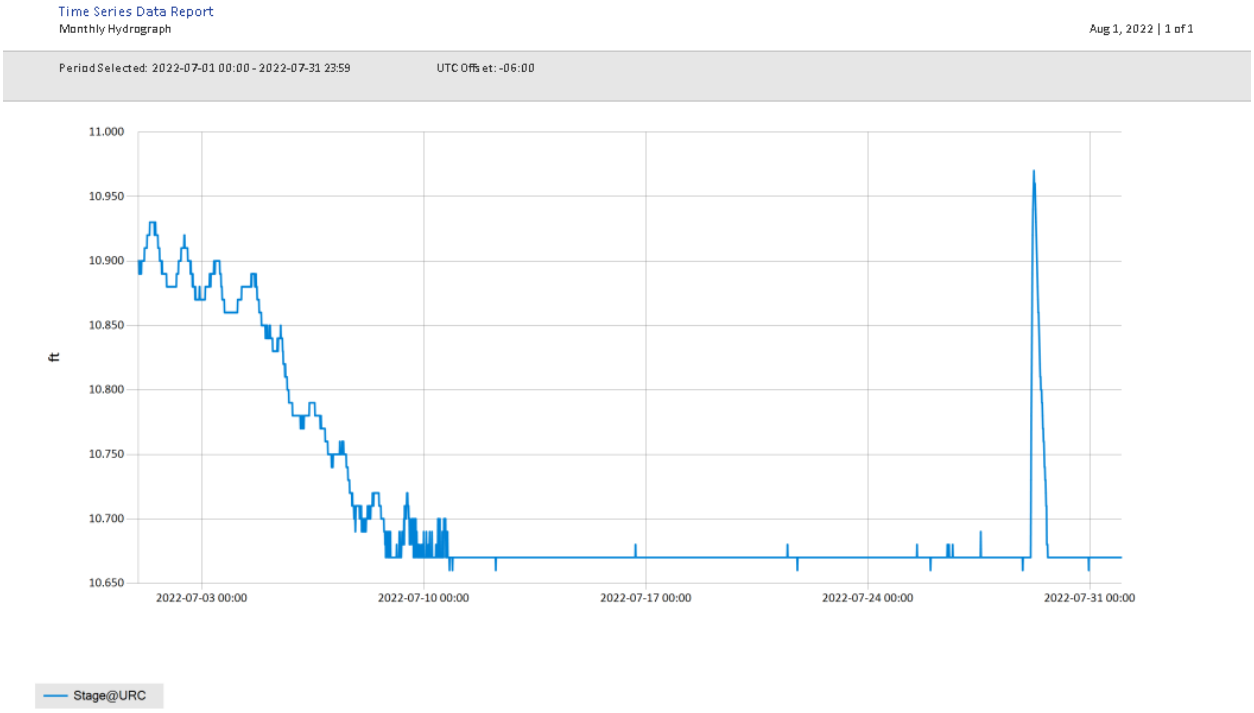



Figure 11 Monthly Hydrograph URC-2

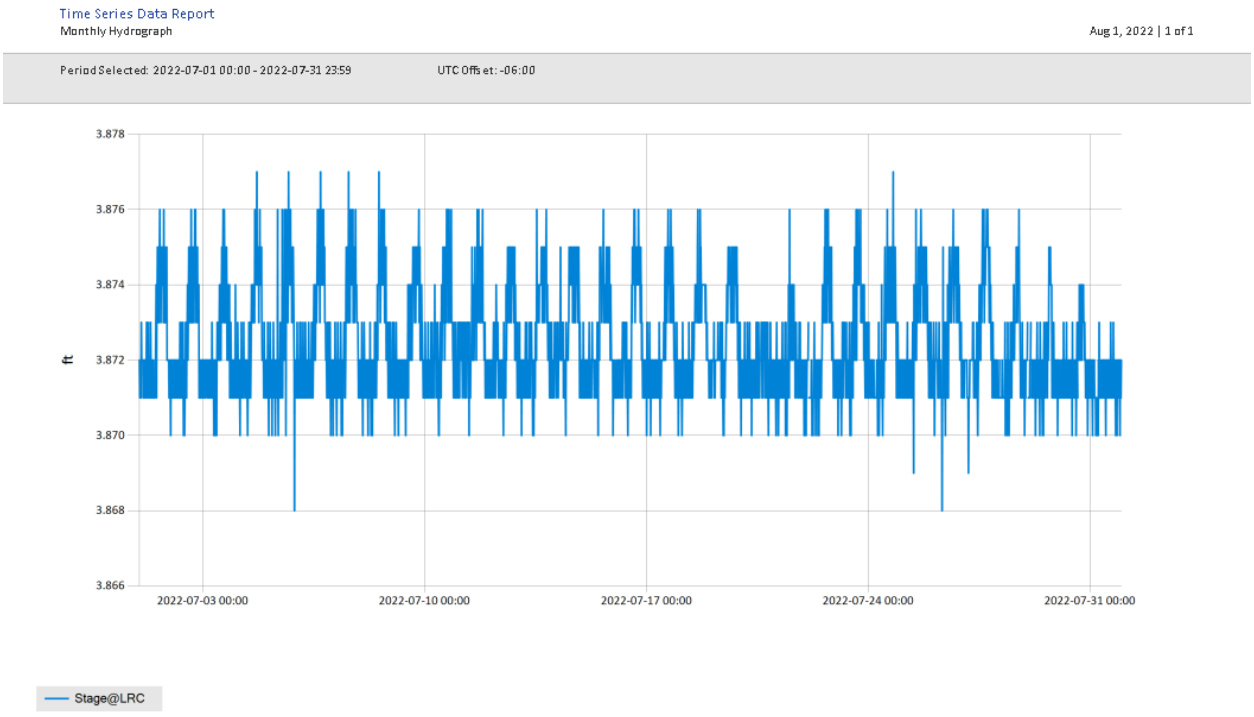



Figure 12 Monthly Hydrograph LRC-1

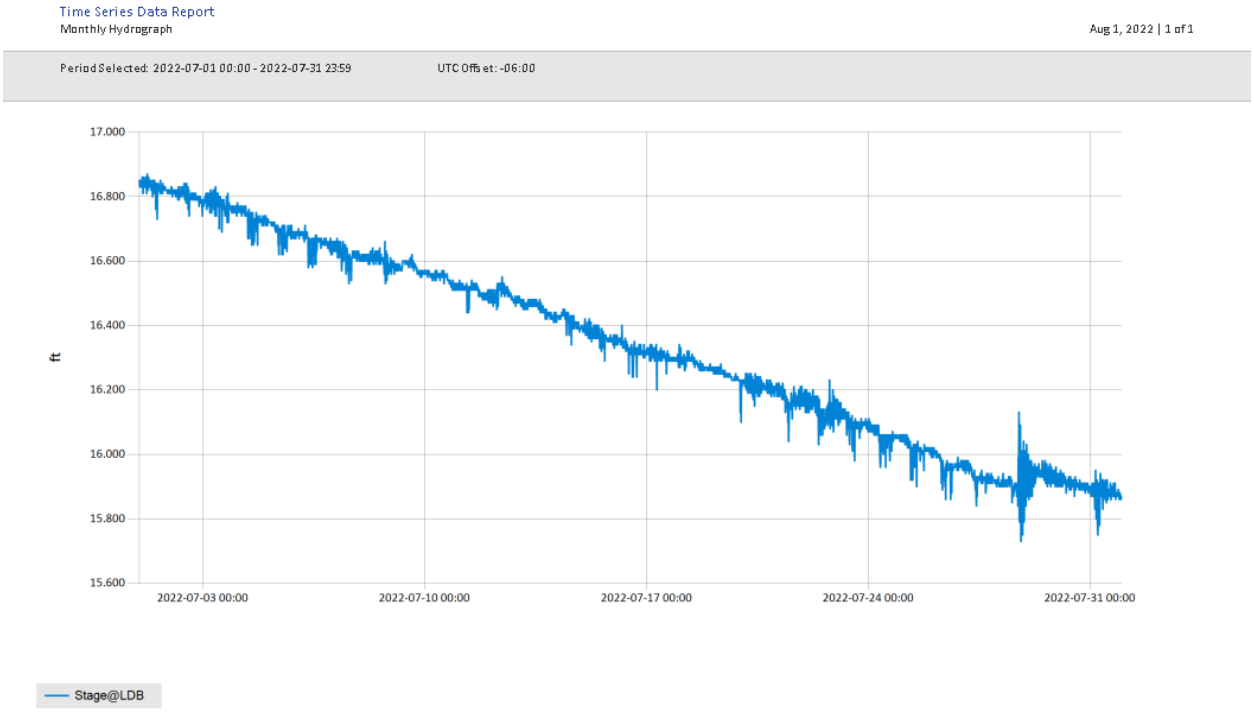



Figure 13 Monthly Hydrograph LDB-1

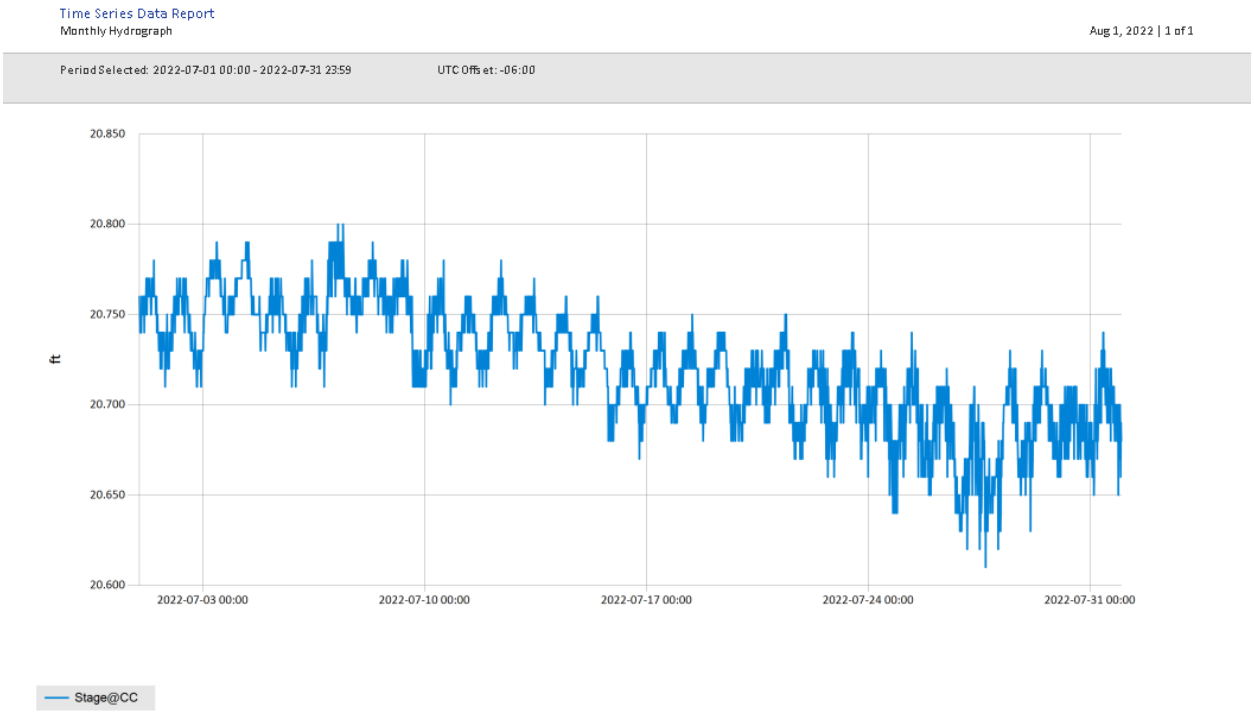



Figure 14 Monthly Hydrograph CC-1

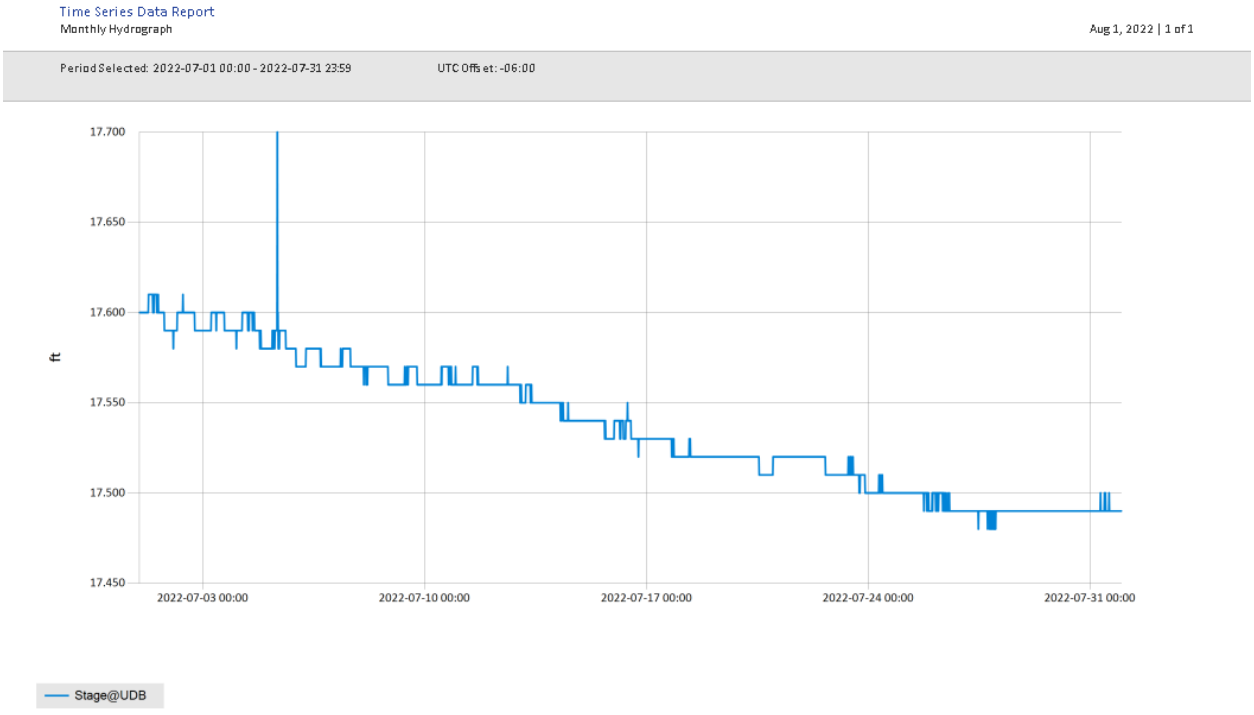



Figure 15 Monthly Hydrograph UDB-1

MESONET CLIMATOLOGICAL DATA SUMMARY — July 2022 — Time Zone: Midnight-Midnight CST

(NRMN) Norman — Nearest City: 2.1 NW Norman — County: Cleveland

Latitude: 35-14-09 — Longitude: 97-27-53 — Elevation: 1171 feet

| DAY | TEMPERATURE ( °F ) MAX | MIN | AVG | DEWPT | DEG DAYS HDD | CDD | HUMIDITY (%) MAX | MIN | AVG | RAIN (in) | PRESSURE (in) STN | MSL | WIND SPEED (mph) DIR | AVG | MAX | SOLAR ($MJ/m^2$) | 4" SOIL TEMPERATURES SOD | BARE | MAX | MIN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 96 | 73 | 85.0 | 66.6 | 0 | 20 | 80 | 32 | 56 | 0.00 | 28.71 | 29.95 | S | 8.8 | 20.5 | 28.56 | 78.8 | 88.6 | 95 | 82 |
| 2 | 96 | 73 | 85.1 | 68.6 | 0 | 20 | 85 | 38 | 60 | 0.00 | 28.69 | 29.94 | SSE | 7.8 | 23.3 | 27.39 | 79.8 | 89.4 | 96 | 83 |
| 3 | 98 | 75 | 85.3 | 69.6 | 0 | 22 | 83 | 37 | 61 | 0.00 | 28.74 | 29.99 | SSE | 6.6 | 25.4 | 24.06 | 80.8 | 90.2 | 97 | 85 |
| 4 | 99 | 76 | 87.7 | 65.0 | 0 | 22 | 80 | 26 | 50 | 0.00 | 28.73 | 29.97 | SSE | 9.3 | 25.2 | 28.49 | 81.1 | 90.0 | 96 | 84 |
| 5 | 100 | 79 | 89.3 | 64.3 | 0 | 24 | 60 | 31 | 45 | 0.00 | 28.68 | 29.93 | S | 10.3 | 25.8 | 27.92 | 81.4 | 90.5 | 96 | 85 |
| 6 | 102 | 79 | 90.5 | 65.5 | 0 | 26 | 59 | 30 | 45 | 0.00 | 28.65 | 29.90 | SSE | 10.2 | 26.7 | 27.59 | 82.1 | 91.2 | 97 | 85 |
| 7 | 104 | 78 | 91.1 | 64.3 | 0 | 26 | 62 | 27 | 43 | 0.00 | 28.66 | 29.91 | S | 8.9 | 26.0 | 27.60 | 82.7 | 91.7 | 98 | 86 |
| 8 | 104 | 76 | 88.6 | 64.8 | 0 | 25 | 75 | 27 | 47 | 0.07 | 28.74 | 29.98 | S | 6.5 | 33.2 | 22.83 | 82.6 | 91.2 | 97 | 86 |
| 9 | 98 | 77 | 87.1 | 67.8 | 0 | 22 | 79 | 32 | 55 | 0.00 | 28.83 | 30.08 | NE | 8.3 | 20.5 | 28.88 | 82.8 | 91.2 | 97 | 86 |
| 10 | 97 | 70 | 83.4 | 65.5 | 0 | 18 | 88 | 31 | 58 | 0.00 | 28.78 | 30.03 | NE | 5.5 | 18.4 | 29.00 | 82.7 | 91.2 | 98 | 85 |
| 11 | 100 | 68 | 85.5 | 65.2 | 0 | 19 | 90 | 25 | 55 | 0.00 | 28.67 | 29.91 | SE | 5.5 | 16.7 | 28.71 | 82.1 | 91.2 | 98 | 84 |
| 12 | 95 | 70 | 83.7 | 66.5 | 0 | 17 | 85 | 43 | 58 | 0.00 | 28.74 | 29.98 | NE | 7.8 | 19.6 | 26.62 | 82.1 | 90.6 | 96 | 85 |
| 13 | 97* | 71* | 84.5* | 58.8* | 0* | 19* | 69* | 25* | 44* | 0.00* | 28.79* | 30.04* | E * | 6.4* | 17.4* | NA | 82.7* | 90.6* | 96* | 85* |
| 14 | 102 | 70 | 87.7 | 60.1 | 0 | 21 | 68 | 22 | 42 | 0.00 | 28.79 | 30.03 | ESE | 6.8 | 20.1 | 28.58 | 82.4 | 90.3 | 97 | 84 |
| 15 | 100 | 74 | 87.5 | 61.6 | 0 | 22 | 71 | 25 | 45 | 0.00 | 28.80 | 30.04 | S | 7.5 | 19.7 | 28.31 | 83.3 | 91.1 | 97 | 85 |
| 16 | 101 | 77 | 88.5 | 61.3 | 0 | 24 | 61 | 23 | 42 | 0.00 | 28.72 | 29.97 | S | 7.6 | 20.2 | 27.22 | 83.7 | 91.3 | 97 | 86 |
| 17 | 105 | 79 | 91.3 | 64.4 | 0 | 27 | 64 | 23 | 44 | 0.00 | 28.63 | 29.87 | S | 6.3 | 18.7 | 23.84 | 84.1 | 91.6 | 97 | 86 |
| 18 | 101 | 78 | 89.3 | 67.6 | 0 | 24 | 80 | 27 | 51 | 0.00 | 28.64 | 29.89 | NE | 8.0 | 18.8 | 27.90 | 85.3 | 92.5 | 99 | 87 |
| 19 | 110 | 75 | 93.3 | 59.1 | 0 | 28 | 59 | 13 | 35 | 0.00 | 28.55 | 29.79 | SSW | 6.3 | 20.4 | 27.55 | 84.9 | 92.7 | 100 | 86 |
| 20 | 98 | 82 | 89.5 | 65.5 | 0 | 25 | 76 | 32 | 46 | 0.00 | 28.59 | 29.83 | S | 6.5 | 20.0 | 11.87 | 84.1 | 91.2 | 94 | 89 |
| 21 | 95 | 77 | 85.7 | 67.3 | 0 | 21 | 82 | 36 | 56 | 0.00 | 28.69 | 29.94 | SSW | 7.5 | 29.1 | 16.69 | 82.9 | 89.2 | 92 | 86 |
| 22 | 100 | 77 | 86.0 | 67.0 | 0 | 23 | 73 | 28 | 56 | 0.00 | 28.73 | 29.98 | S | 8.3 | 31.9 | 23.82 | 83.5 | 89.4 | 95 | 84 |
| 23 | 101 | 75 | 88.2 | 64.2 | 0 | 23 | 75 | 26 | 48 | 0.00 | 28.72 | 29.97 | SSE | 9.0 | 23.0 | 26.95 | 84.3 | 90.3 | 96 | 85 |
| 24 | 103 | 79 | 90.7 | 64.0 | 0 | 26 | 61 | 26 | 43 | 0.00 | 28.71 | 29.96 | SSE | 9.2 | 22.4 | 26.82 | 85.0 | 91.5 | 97 | 86 |
| 25 | 104 | 78 | 91.0 | 62.4 | 0 | 26 | 58 | 25 | 40 | 0.00 | 28.69 | 29.94 | S | 8.5 | 21.2 | 27.11 | 85.5 | 92.2 | 98 | 86 |
| 26 | 104 | 79 | 91.1 | 60.9 | 0 | 26 | 55 | 24 | 38 | 0.00 | 28.68 | 29.92 | S | 9.0 | 24.4 | 26.04 | 85.6 | 92.1 | 98 | 87 |
| 27 | 105 | 79 | 92.0 | 61.7 | 0 | 27 | 57 | 24 | 38 | 0.00 | 28.66 | 29.91 | S | 9.2 | 22.6 | 26.08 | 85.8 | 92.3 | 98 | 87 |
| 28 | 103 | 75 | 85.1 | 67.0 | 0 | 24 | 93 | 27 | 59 | 1.03 | 28.69 | 29.94 | S | 7.6 | 41.2 | 18.64 | 85.0 | 90.2 | 97 | 86 |
| 29 | 88 | 73 | 78.8 | 71.3 | 0 | 15 | 93 | 57 | 79 | 0.00 | 28.80 | 30.05 | ENE | 8.7 | 20.5 | 17.98 | 83.0 | 83.3 | 86 | 81 |
| 30 | 90 | 73 | 80.0 | 69.2 | 0 | 16 | 94 | 46 | 72 | 0.00 | 28.82 | 30.07 | ENE | 6.4 | 16.7 | 18.40 | 82.3 | 83.6 | 91 | 79 |
| 31 | 89 | 74 | 81.3 | 70.0 | 0 | 17 | 94 | 49 | 70 | 0.09 | 28.77 | 30.02 | SSE | 7.9 | 19.7 | 8.19 | 81.3 | 82.0 | 85 | 80 |
| | 99* | 75* | 87.2* | 65.1* | <- Monthly Averages -> | | | | | | 28.71* | 29.96* | S * | 7.8* | 41.2* | 24.65* | 83.0* | 90.1* | 96* | 85* |

Temperature - Highest: 110*
Lowest: 68*

Degree Days - Total HDD: 0*
Total CDD: 695*

Rainfall: Monthly Total: 1.19* in.
Greatest 24 Hr: 1.03* in.

Humidity - Highest: 94*
Lowest: 13*

Number of Days With:

| | | | |
|---|---|---|---|
| Tmax ≥ 90: | 29* | Rainfall ≥ 0.01 inch: | 3* |
| Tmax ≤ 32: | 0* | Rainfall ≥ 0.10 inch: | 1* |
| Tmin ≤ 32: | 0* | Avg Wind Speed ≥ 10 mph: | 2* |
| Tmin ≤ 0: | 0* | Max Wind Speed ≥ 30 mph: | 3* |



* Denotes incomplete record

Figure 16 July Mesonet Data