

Water-Data Report 2012

**06336600 BEAVER CREEK NEAR TROTTERS, ND**

Little Missouri Basin  
Beaver Subbasin

LOCATION.--Lat 47°09'47", long 103°59'32" referenced to North American Datum of 1927, in SW ¼ SW ¼ NE ¼ sec.33, T.143 N., R.105 W., Golden Valley County, ND, Hydrologic Unit 10110204, on left bank 100 ft upstream from bridge on county road, 2.4 mi east of Montana-North Dakota State line, 13 mi southwest of Trotters, 17 mi north of Beach, 20 mi upstream from Elk Creek, and 27 mi above mouth.

DRAINAGE AREA.--616 mi<sup>2</sup>.

**SURFACE-WATER RECORDS**

PERIOD OF RECORD.--DAILY DISCHARGE--October 1977 to current year (seasonal records only since 1984).

PERIOD OF RECORD.--DAILY GAGE HEIGHT--March 2000 to current year (seasonal records only).

REVISED RECORDS.--1982: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,371.96 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are poor.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 68 ft<sup>3</sup>/s, March 15, gage height, 3.86 ft; minimum daily discharge, 0.20 ft<sup>3</sup>/s, September 22, 23.

## 06336600 BEAVER CREEK NEAR TROTTERS, ND—Continued

**DISCHARGE, CUBIC FEET PER SECOND**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**  
**DAILY MEAN VALUES**  
[e, estimated]

| Day          | Oct | Nov | Dec | Jan | Feb | Mar   | Apr  | May   | Jun   | Jul  | Aug   | Sep   |
|--------------|-----|-----|-----|-----|-----|-------|------|-------|-------|------|-------|-------|
| 1            | --- | --- | --- | --- | --- | e9.2  | 16   | 13    | 12    | 3.2  | 1.4   | e0.55 |
| 2            | --- | --- | --- | --- | --- | e9.0  | 16   | 13    | 12    | 3.1  | 1.4   | e0.51 |
| 3            | --- | --- | --- | --- | --- | e9.2  | 15   | 13    | 11    | 3.0  | 1.6   | e0.48 |
| 4            | --- | --- | --- | --- | --- | e11   | 14   | 14    | 10    | 2.8  | 1.9   | e0.45 |
| 5            | --- | --- | --- | --- | --- | e13   | 14   | 13    | 9.1   | 2.6  | 1.9   | e0.43 |
| 6            | --- | --- | --- | --- | --- | e14   | 13   | 13    | 8.0   | 3.6  | 1.8   | e0.41 |
| 7            | --- | --- | --- | --- | --- | e14   | 13   | 12    | 7.7   | 4.0  | 1.6   | e0.39 |
| 8            | --- | --- | --- | --- | --- | e15   | 12   | 12    | 7.9   | 4.5  | 1.6   | e0.37 |
| 9            | --- | --- | --- | --- | --- | e18   | 12   | 12    | 7.4   | 4.2  | 1.6   | e0.35 |
| 10           | --- | --- | --- | --- | --- | e20   | 11   | 11    | 6.7   | 3.6  | 1.6   | e0.33 |
| 11           | --- | --- | --- | --- | --- | e24   | 11   | 11    | 6.2   | 3.1  | 1.6   | e0.31 |
| 12           | --- | --- | --- | --- | --- | 28    | 11   | 10    | 5.8   | 2.8  | 1.6   | e0.29 |
| 13           | --- | --- | --- | --- | --- | 36    | 11   | 9.6   | 5.6   | 2.7  | 1.9   | e0.27 |
| 14           | --- | --- | --- | --- | --- | 46    | 12   | 9.2   | 5.3   | 2.5  | 2.3   | e0.26 |
| 15           | --- | --- | --- | --- | --- | 53    | 11   | 8.5   | 5.3   | 2.4  | 2.1   | e0.25 |
| 16           | --- | --- | --- | --- | --- | 49    | 10   | 8.1   | 6.1   | 2.3  | 2.2   | e0.23 |
| 17           | --- | --- | --- | --- | --- | 43    | 10   | 7.6   | 5.7   | 2.2  | 2.3   | e0.22 |
| 18           | --- | --- | --- | --- | --- | 39    | 10   | 7.2   | 5.3   | 2.1  | 2.0   | e0.22 |
| 19           | --- | --- | --- | --- | --- | 36    | 11   | 7.2   | 5.2   | 2.0  | 2.0   | e0.21 |
| 20           | --- | --- | --- | --- | --- | 31    | 12   | 6.9   | 5.2   | 1.8  | 1.6   | e0.21 |
| 21           | --- | --- | --- | --- | --- | 28    | 12   | 6.7   | 5.1   | 1.8  | 1.8   | e0.21 |
| 22           | --- | --- | --- | --- | --- | 26    | 12   | 6.5   | 4.7   | 1.7  | 1.7   | e0.20 |
| 23           | --- | --- | --- | --- | --- | 24    | 12   | 6.6   | 4.4   | 1.7  | 1.5   | e0.20 |
| 24           | --- | --- | --- | --- | --- | 22    | 12   | 6.3   | 4.4   | 1.9  | 1.2   | e0.23 |
| 25           | --- | --- | --- | --- | --- | 20    | 12   | 6.1   | 4.6   | 2.3  | e1.0  | e0.27 |
| 26           | --- | --- | --- | --- | --- | 19    | 11   | 7.0   | 4.6   | 2.6  | e0.91 | e0.30 |
| 27           | --- | --- | --- | --- | --- | 19    | 10   | 9.7   | 4.2   | 2.7  | e0.82 | e0.35 |
| 28           | --- | --- | --- | --- | --- | 19    | 11   | 11    | 3.7   | 2.4  | e0.75 | e0.40 |
| 29           | --- | --- | --- | --- | --- | 18    | 12   | 11    | 3.6   | 2.4  | e0.70 | e0.45 |
| 30           | --- | --- | --- | --- | --- | 17    | 12   | 11    | 3.4   | 2.2  | e0.65 | e0.50 |
| 31           | --- | --- | --- | --- | --- | 17    | ---  | 12    | ---   | 1.7  | e0.59 | ---   |
| <b>Total</b> | --- | --- | --- | --- | --- | 746.4 | 361  | 305.2 | 190.2 | 81.9 | 47.62 | 9.85  |
| <b>Mean</b>  | --- | --- | --- | --- | --- | 24.1  | 12.0 | 9.85  | 6.34  | 2.64 | 1.54  | 0.33  |
| <b>Max</b>   | --- | --- | --- | --- | --- | 53    | 16   | 14    | 12    | 4.5  | 2.3   | 0.55  |
| <b>Min</b>   | --- | --- | --- | --- | --- | 9.0   | 10   | 6.1   | 3.4   | 1.7  | 0.59  | 0.20  |
| <b>Ac-ft</b> | --- | --- | --- | --- | --- | 1,480 | 716  | 605   | 377   | 162  | 94    | 20    |

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1978 - 2012, BY WATER YEAR (WY)**

|             | Oct    | Nov    | Dec    | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    |
|-------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>Mean</b> | 1.10   | 2.62   | 2.59   | 4.40   | 24.5   | 112    | 53.2   | 30.2   | 27.2   | 10.6   | 3.13   | 1.10   |
| <b>Max</b>  | 3.29   | 6.34   | 5.13   | 14.7   | 141    | 609    | 406    | 509    | 230    | 64.2   | 42.5   | 14.3   |
| <b>(WY)</b> | (1983) | (1983) | (1979) | (1983) | (1983) | (1978) | (1979) | (2011) | (2011) | (1997) | (2011) | (2011) |
| <b>Min</b>  | 0.01   | 0.01   | 0.03   | 0.00   | 0.00   | 1.21   | 1.11   | 1.05   | 0.12   | 0.00   | 0.00   | 0.00   |
| <b>(WY)</b> | (1982) | (1982) | (1982) | (1982) | (1989) | (1991) | (1991) | (1981) | (1992) | (1988) | (1985) | (1981) |

06336600 BEAVER CREEK NEAR TROTTERS, ND—Continued

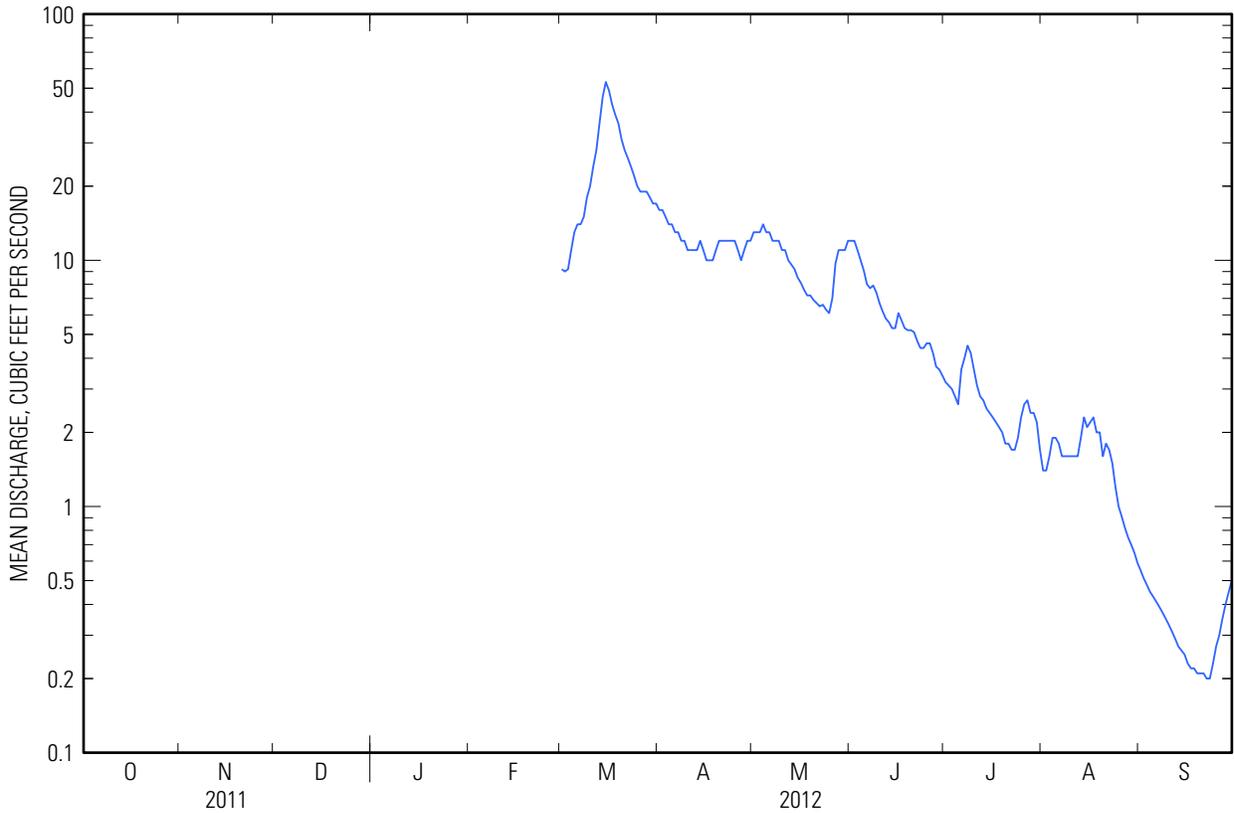
SUMMARY STATISTICS

| Water Years 1978 - 2012  |                     |              |
|--------------------------|---------------------|--------------|
| Annual mean              | <sup>a</sup> 33.3   |              |
| Highest annual mean      | <sup>a</sup> 79.7   | 1978         |
| Lowest annual mean       | <sup>a</sup> 2.77   | 1981         |
| Highest daily mean       | 2,500               | Mar 22, 1978 |
| Lowest daily mean        | 0.00                | Aug 1, 1981  |
| Annual seven-day minimum | 0.00                | Aug 10, 1981 |
| Maximum peak flow        | <sup>b</sup> 2,720  | Mar 29, 1978 |
| Maximum peak stage       | <sup>c</sup> 19.27  | Mar 22, 1978 |
| Annual runoff (ac-ft)    | <sup>a</sup> 24,110 |              |
| 10 percent exceeds       | 51                  |              |
| 50 percent exceeds       | 2.8                 |              |
| 90 percent exceeds       | 0.03                |              |

<sup>a</sup> Based on complete water years only (1978-83).

<sup>b</sup> Gage height, 18.61 ft.

<sup>c</sup> Backwater from ice.

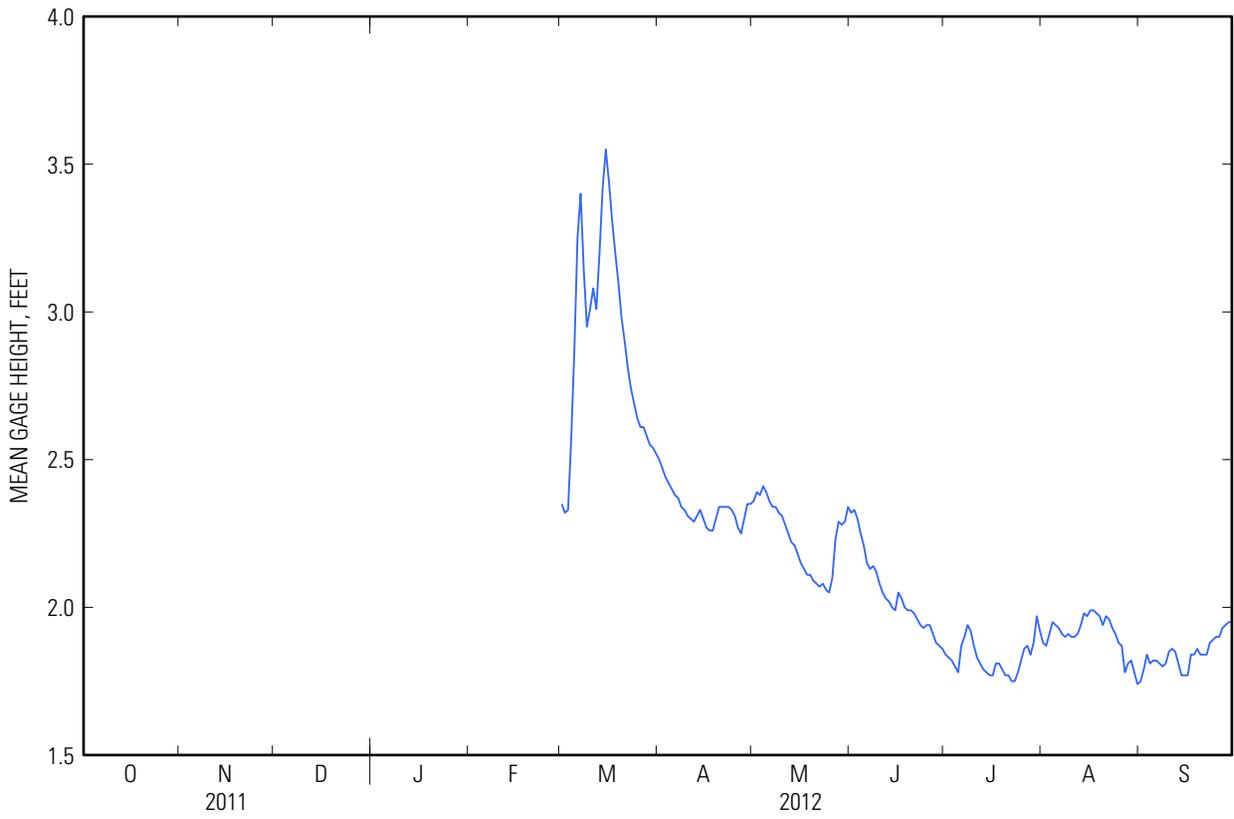


## 06336600 BEAVER CREEK NEAR TROTTERS, ND—Continued

**GAGE HEIGHT, FEET**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**  
**DAILY MEAN VALUES**

| Day         | Oct | Nov | Dec | Jan | Feb | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  |
|-------------|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|
| 1           | --- | --- | --- | --- | --- | 2.35 | 2.50 | 2.36 | 2.32 | 1.84 | 1.88 | 1.75 |
| 2           | --- | --- | --- | --- | --- | 2.32 | 2.47 | 2.39 | 2.33 | 1.83 | 1.87 | 1.79 |
| 3           | --- | --- | --- | --- | --- | 2.33 | 2.44 | 2.38 | 2.30 | 1.82 | 1.91 | 1.84 |
| 4           | --- | --- | --- | --- | --- | 2.57 | 2.42 | 2.41 | 2.25 | 1.80 | 1.95 | 1.81 |
| 5           | --- | --- | --- | --- | --- | 2.87 | 2.40 | 2.39 | 2.21 | 1.78 | 1.94 | 1.82 |
| 6           | --- | --- | --- | --- | --- | 3.25 | 2.38 | 2.36 | 2.15 | 1.87 | 1.93 | 1.82 |
| 7           | --- | --- | --- | --- | --- | 3.40 | 2.37 | 2.34 | 2.13 | 1.90 | 1.91 | 1.81 |
| 8           | --- | --- | --- | --- | --- | 3.14 | 2.34 | 2.34 | 2.14 | 1.94 | 1.90 | 1.80 |
| 9           | --- | --- | --- | --- | --- | 2.95 | 2.33 | 2.32 | 2.12 | 1.92 | 1.91 | 1.81 |
| 10          | --- | --- | --- | --- | --- | 3.01 | 2.31 | 2.31 | 2.08 | 1.87 | 1.90 | 1.85 |
| 11          | --- | --- | --- | --- | --- | 3.08 | 2.30 | 2.28 | 2.05 | 1.83 | 1.90 | 1.86 |
| 12          | --- | --- | --- | --- | --- | 3.01 | 2.29 | 2.25 | 2.03 | 1.81 | 1.91 | 1.85 |
| 13          | --- | --- | --- | --- | --- | 3.20 | 2.31 | 2.22 | 2.02 | 1.79 | 1.94 | 1.81 |
| 14          | --- | --- | --- | --- | --- | 3.42 | 2.33 | 2.21 | 2.00 | 1.78 | 1.98 | 1.77 |
| 15          | --- | --- | --- | --- | --- | 3.55 | 2.30 | 2.18 | 1.99 | 1.77 | 1.97 | 1.77 |
| 16          | --- | --- | --- | --- | --- | 3.44 | 2.27 | 2.15 | 2.05 | 1.77 | 1.99 | 1.77 |
| 17          | --- | --- | --- | --- | --- | 3.31 | 2.26 | 2.13 | 2.03 | 1.81 | 1.99 | 1.84 |
| 18          | --- | --- | --- | --- | --- | 3.20 | 2.26 | 2.11 | 2.00 | 1.81 | 1.98 | 1.84 |
| 19          | --- | --- | --- | --- | --- | 3.10 | 2.30 | 2.11 | 1.99 | 1.79 | 1.97 | 1.86 |
| 20          | --- | --- | --- | --- | --- | 2.98 | 2.34 | 2.09 | 1.99 | 1.77 | 1.94 | 1.84 |
| 21          | --- | --- | --- | --- | --- | 2.90 | 2.34 | 2.08 | 1.98 | 1.77 | 1.97 | 1.84 |
| 22          | --- | --- | --- | --- | --- | 2.81 | 2.34 | 2.07 | 1.96 | 1.75 | 1.96 | 1.84 |
| 23          | --- | --- | --- | --- | --- | 2.74 | 2.34 | 2.08 | 1.94 | 1.75 | 1.93 | 1.88 |
| 24          | --- | --- | --- | --- | --- | 2.69 | 2.33 | 2.06 | 1.93 | 1.78 | 1.91 | 1.89 |
| 25          | --- | --- | --- | --- | --- | 2.64 | 2.31 | 2.05 | 1.94 | 1.82 | 1.88 | 1.90 |
| 26          | --- | --- | --- | --- | --- | 2.61 | 2.27 | 2.10 | 1.94 | 1.86 | 1.87 | 1.90 |
| 27          | --- | --- | --- | --- | --- | 2.61 | 2.25 | 2.23 | 1.91 | 1.87 | 1.78 | 1.93 |
| 28          | --- | --- | --- | --- | --- | 2.58 | 2.30 | 2.29 | 1.88 | 1.84 | 1.81 | 1.94 |
| 29          | --- | --- | --- | --- | --- | 2.55 | 2.35 | 2.28 | 1.87 | 1.88 | 1.82 | 1.95 |
| 30          | --- | --- | --- | --- | --- | 2.54 | 2.35 | 2.29 | 1.86 | 1.97 | 1.78 | 1.95 |
| 31          | --- | --- | --- | --- | --- | 2.52 | ---  | 2.34 | ---  | 1.92 | 1.74 | ---  |
| <b>Mean</b> | --- | --- | --- | --- | --- | 2.89 | 2.34 | 2.23 | 2.05 | 1.83 | 1.91 | 1.84 |
| <b>Max</b>  | --- | --- | --- | --- | --- | 3.55 | 2.50 | 2.41 | 2.33 | 1.97 | 1.99 | 1.95 |
| <b>Min</b>  | --- | --- | --- | --- | --- | 2.32 | 2.25 | 2.05 | 1.86 | 1.75 | 1.74 | 1.75 |

06336600 BEAVER CREEK NEAR TROTTERS, ND—Continued



## 06336600 BEAVER CREEK NEAR TROTTERS, ND—Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1978 to current year (discontinued).

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

Part 1 of 5

[ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; SiO<sub>2</sub>, silicon dioxide; ft<sup>3</sup>/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

| Date       | Sample start time | Barometric pressure, mm Hg (00025) | Discharge, instantaneous, ft <sup>3</sup> /s (00061) | pH, water, unfiltered, field, standard units (00400) | pH, water, unfiltered, laboratory, standard units (00403) | Specific conductance, water, unfiltered, laboratory, µS/cm at 25°C (90095) | Specific conductance, water, unfiltered, laboratory, µS/cm at 25°C (00095) | Temperature, water, °C (00010) | Dissolved solids, water, filtered, sum of constituents, mg/L (70301) | Dissolved solids, water, tons per day (70302) |
|------------|-------------------|------------------------------------|--|--|---|--|--|--------------------------------|--|---|
| 03-22-2012 | 1225              | 696                                | 26   | 8.4  | 8.2   | 2,870  | 2,950  | 6.9                            | 1,780  | 125   |
| 08-14-2012 | 1240              | --                                 | 2.3  | 8.3  | 8.3   | 3,310  | 2,310  | 23.0                           | 2,050  | 12.7  |

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

Part 2 of 5

[ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; SiO<sub>2</sub>, silicon dioxide; ft<sup>3</sup>/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

| Date       | Sample start time | Hardness, water, mg/L as CaCO <sub>3</sub> (00900) | Calcium, water, filtered, mg/L (00915) | Magnesium, water, filtered, mg/L (00925) | Potassium, water, filtered, mg/L (00935) | Sodium adsorption ratio, water, number (00931) | Sodium fraction of cations, water, percent in equivalents of major cations (00932) | Sodium, water, filtered, mg/L (00930) | ANC, water, unfiltered, fixed endpoint (pH 4.5) titration, laboratory, mg/L as CaCO <sub>3</sub> (90410) | Fluoride, water, filtered, mg/L (00950) |
|------------|-------------------|--|--|--|--|--|--|---------------------------------------|--|---|
| 03-22-2012 | 1225              | 960  | 147                                    | 144                                      | 10.1                                     | 4.9  | 44   | 347                                   | 325  | 0.22                                    |
| 08-14-2012 | 1240              | 909  | 125                                    | 145                                      | 13.0                                     | 7.8  | 56   | 538                                   | 360  | .27                                     |

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

Part 3 of 5

[ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; SiO<sub>2</sub>, silicon dioxide; ft<sup>3</sup>/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

| Date       | Sample start time | Silica, water, filtered, mg/L as SiO <sub>2</sub> (00955) | Sulfate, water, filtered, mg/L (00945) | Aluminum, water, filtered, µg/L (01106) | Barium, water, filtered, µg/L (01005) | Beryllium, water, filtered, µg/L (01010) | Cadmium, water, filtered, µg/L (01025) | Chromium, water, filtered, µg/L (01030) | Copper, water, filtered, µg/L (01040) | Iron, water, filtered, µg/L (01046) |
|------------|-------------------|---|--|---|---------------------------------------|--|--|---|---------------------------------------|-------------------------------------|
| 03-22-2012 | 1225              | 5.47  | 1,410                                  | < 50                                    | 25.2                                  | < 5.00                                   | < 5.00                                 | < 5.0                                   | < 5.0                                 | 272                                 |
| 08-14-2012 | 1240              | 6.89  | 1,620                                  | < 50                                    | 23.3                                  | < 5.00                                   | < 5.00                                 | < 5.0                                   | < 5.0                                 | 122                                 |

## 06336600 BEAVER CREEK NEAR TROTTERS, ND—Continued

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2011 TO SEPTEMBER 2012**

Part 4 of 5

[ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; SiO<sub>2</sub>, silicon dioxide; ft<sup>3</sup>/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

| Date       | Sample start time | Lead, water, filtered, µg/L (01049) | Manganese, water, filtered, µg/L (01056) | Nickel, water, filtered, µg/L (01065) | Silver, water, filtered, µg/L (01075) | Thallium, water, filtered, µg/L (01057) | Zinc, water, filtered, µg/L (01090) | Antimony, water, filtered, µg/L (01095) | Arsenic, water, filtered, µg/L (01000) | Boron, water, filtered, µg/L (01020) |
|------------|-------------------|-------------------------------------|--|---------------------------------------|---------------------------------------|---|-------------------------------------|---|--|--------------------------------------|
| 03-22-2012 | 1225              | < 5.00                              | 65.0                                     | 6.8                                   | < 5.00                                | < 5.00                                  | 7.6                                 | < 5.00                                  | < 5.0                                  | 917                                  |
| 08-14-2012 | 1240              | < 5.00                              | 62.0                                     | < 5.0                                 | < 5.00                                | < 5.00                                  | < 5.0                               | < 5.00                                  | < 5.0                                  | 961                                  |

**WATER-QUALITY DATA**  
**WATER YEAR OCTOBER 2011 TO**  
**SEPTEMBER 2012**

Part 5 of 5

[ANC, acid neutralizing capacity; CaCO<sub>3</sub>, calcium carbonate; SiO<sub>2</sub>, silicon dioxide; ft<sup>3</sup>/s, cubic feet per second; mg/L, milligrams per liter; mm Hg, millimeters of mercury; °C, degrees Celsius; µS/cm, microsiemens per centimeter; µg/L, micrograms per liter; <, less than]

| Date       | Sample start time | Selenium, water, filtered, µg/L (01145) |
|------------|-------------------|---|
| 03-22-2012 | 1225              | < 5.0                                   |
| 08-14-2012 | 1240              | < 5.0                                   |